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# Command & Control PC (C2PC)

# Version 5.8.0.0

## User's Guide

### Document Version 1.0

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## C2PC User's Guide—CHANGE RECORD SHEET

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# CHAPTER 1: GENERAL DESCRIPTION

## 1.0 INTRODUCTION

Command and Control PC (C2PC) is a client application that displays tactical track data from a UB data server or a Serial port. C2PC includes the following features:

?? Full Active-X modular architecture with full cartographic and track API support.

?? Multiple map windows can be displayed on the screen at once. Each map window can be set to display a different area of interest, various digital map products, and various filtered views of the track database.

?? Support for CADRG, ADRG, DTED I, ETOP, NITF, GeoTiff, VPF, BSB I, II, and III Skewed, WVS, WDB I, and WDB II.

?? Tactical unit/target database and editor.

?? Support for five projections, including two polar projections.

?? Single point configuration for units of measure and accuracy.

?? Track database add, edit, delete.

?? Many plot options are available to determine which tracks display in the map window. Tracks can be toggled on/off according to threat status, track category, echelon level, track type, and timelate.

?? Multiple database support. Display multiple track databases simultaneously.

?? Sites database.

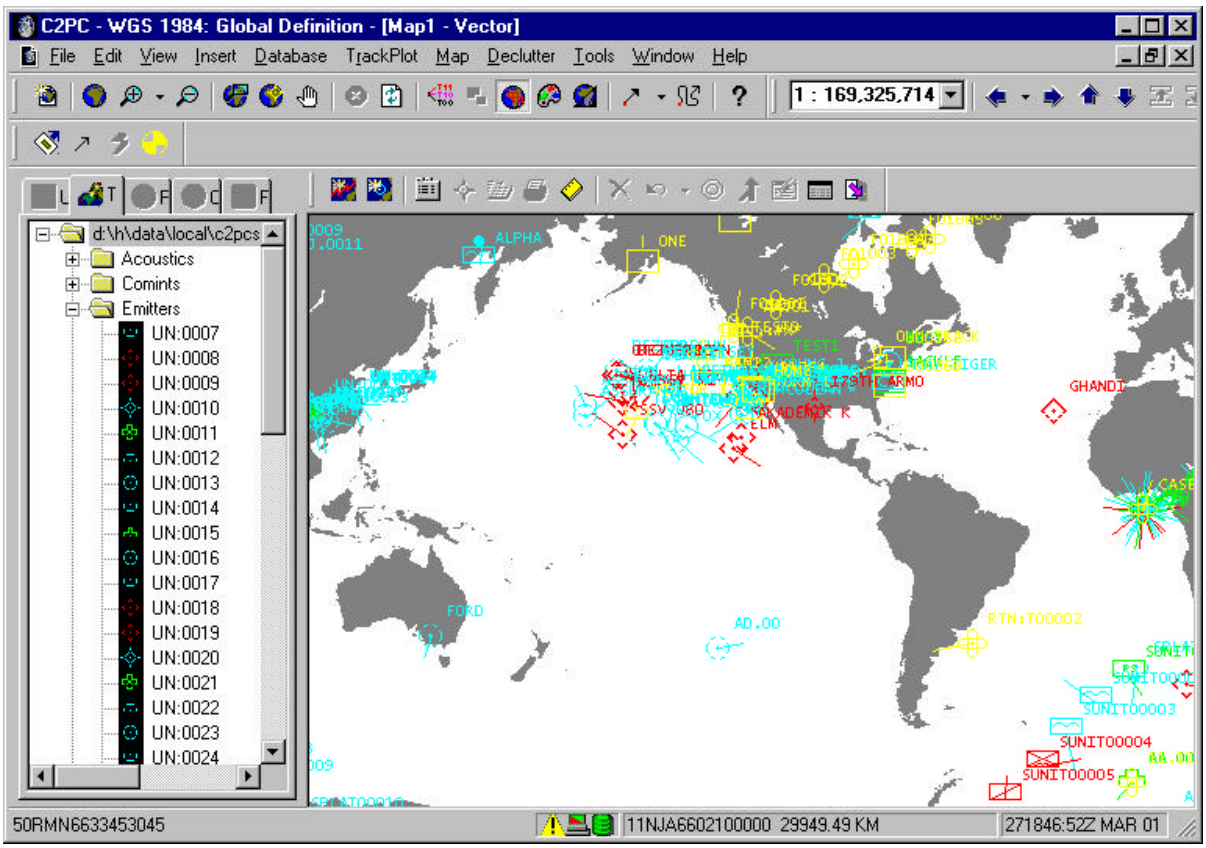
?? Formations database and editor.

?? Full overlay editor, including export/import to UB.

?? Route database and editor.

?? Maps are Active-X documents that can be embedded in other applications like Microsoft (MS) Powerpoint, or that can be activated in place.

Application features are accessed using menus and menu options from the C2PC Main Window, shown below. This guide explains how to use these menus and menu options.




*C2PC Main Window*

## 1.1 GRAPHICAL INTERFACE VARIATIONS

C2PC runs under Windows NT and Windows 98 operating systems. The C2PC menus, menu options, windows, and the use of the C2PC software is the same for either operating system. The appearance of the graphical interface, however, varies slightly between the various operating systems.

## 1.2 ABOUT C2PC

There are three components which make up C2PC - a UB host machine, the C2PC Client, and the C2PC Gateway.

The UB host machine is the central source which feeds information to the Gateway and Client. A UB host machine is required for C2PC to receive automatic updates to

track information. It also provides the overlays and opnotes that may be imported into C2PC. It receives any quick reports, opnotes, or overlays sent out by C2PC and processes them appropriately.

The Gateway is the C2PC component which processes track information received from and sent to the UB host. The Gateway must be up and running for the Client to receive track updates. The workings of the Gateway are transparent to the user.

The Client is the C2PC component that displays the map window and C2PC menu structure. Each C2PC workstation must contain a Client to run C2PC.

C2PC is designed to be used in a variety of ways, including the following:

?? UB host present, Gateway and Client on the same workstation.

?? UB host present, Gateway on a server, up to 512 Clients on their own workstations using the central Gateway.

?? Gateway and Client on same workstation, UB host accessed via remote access dial-up line.

?? UB host present, Client up and running, Gateway not connected. In this case, the Client can display an archived track picture, but will not receive track updates. The Client will be able to import and send opnotes and import overlays.

?? Client operating independently of the UB host and Gateway. In this case, the Client can display an archived track picture, but will not receive track updates and will not be able to import opnotes or overlays. Any opnotes or overlays that have already been imported can still be viewed. The Client cannot communicate with the UB host, so no quick reports or opnotes can be sent.

?? Gateway configured with the Serial interface.

## 1.3 USING THIS GUIDE

The *Command and Control PC User's Guide for Windows NT/Windows 98* is the main reference source for information about how to operate C2PC. The user guide explains how to install/configure C2PC, and how to use the C2PC software features. The guide identifies the major C2PC windows and window options, defines elements contained in those windows, explains how those elements are used, and describes procedures used to control the map window.

## Manual Organization

Chapters of the user guide contain the following information:

**Chapter 1: General Description**
This chapter contains an introduction to C2PC, summarizes user guide contents and explains manual conventions.

**Chapter 2: Installation**
This chapter explains how to install the C2PC software.

**Chapter 3: Getting Started**
This chapter provides an introduction to the C2PC Main window features. It also explains various procedures for using these features.

**Chapter 4: Using the Menubar**
This chapter contains a summary of the C2PC Main window options. Many of the menu options have additional windows that you can select to do further procedures; these are shown and described.

**Chapter 5: The Gateway**
This chapter contains information about the C2PC Gateway.

**Chapter 6: Using C2PC**
This chapter contains a summary of the more common procedures you can use involving the C2PC Main window options.

## Manual Conventions

The following conventions are used in the text of this manual:

| | |
|---|---|
| Menu commands | Displayed in Initial Caps.<br>Example: File menu |
| Menu options | Displayed in Initial Caps.<br>Example: New option |
| Buttons | Displayed in Initial Caps.<br>Example: Cancel button<br>Exception: OK button |
| Window names | Displayed in Initial Caps.<br>Example: Selected Tracks window |

| | |
|---|---|
| Menu: Menu option notation methods | An alternate way of representing, “From the View menu, select Whole World,” is:<br>VIEW : WHOLE WORLD |

# CHAPTER 2: INSTALLATION

## 2.0 GENERAL

C2PC is delivered on CD-ROM. Use the setup installation program on the CD-ROM to install the software. The procedure is a simple process in which you are guided by a series of windows. This chapter describes the type of information needed to do an initial installation.

The chapter contains an Installation Worksheet and explains how to complete it before doing an installation.

## 2.1 SYSTEM REQUIREMENTS

To run C2PC in either a Windows NT or Windows 98 environment, you need the following software and hardware configuration:

- Windows NT 4.0 X86 version with System Patch 5, or Windows 98.
- Minimum: P5-120 with 64 MB RAM. VGA Video Card supporting 256 colors.
- Recommended: 400 mhz Pentium Pro with 256 MB RAM, SVGA Video Card supporting 65K colors, SCSI-3 disk controller and disks.
- Network adapter.
- TCP/IP Protocol Installed.
- TCP/IP Network access to Tdbm of a system running UB 2.2.X/3.0.X, or UB version 3.0.2.5 or greater.
- Hard disk. The amount of free space needed will vary, depending on your particular installation. The amount of hard disk space required will be displayed during the install process.
- CD ROM drive.
- One free Serial port to run the Serial interface.

## 2.2 INSTALLATION TYPES

C2PC comes packaged two different ways - as a Windows Installshield installation or as a DII NT COE compliant segment. The Windows Installshield version will install under Windows NT 4.0 and Windows 98.

The DII NT COE compliant segment version must be installed from the DII NT COE Kernel. Follow the installation instructions provided with the DII NT COE Kernel to install the C2PC segments.

Use the C2PC setup program to perform any of the following types of installations:

?? Gateway installation or Client installation

?? Gateway and Client installation

?? Client and/or Gateway upgrade from previous release.

?? Other components can also be installed (Alerts, Tbmd, etc.)

## Installing C2PC - Windows Installshield Version

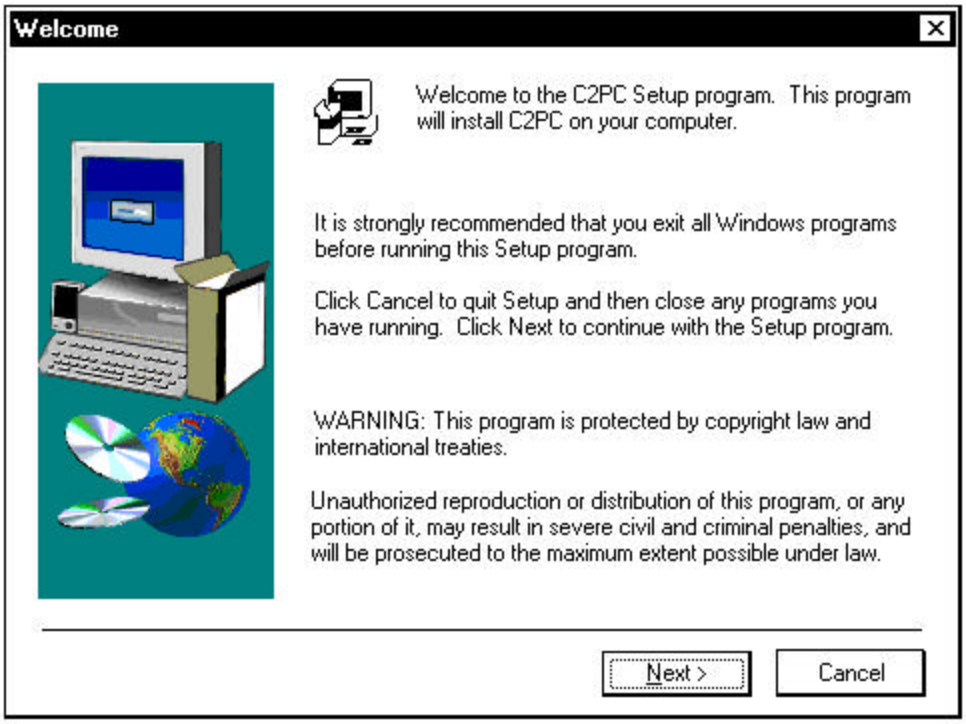
**Note:** It is not necessary to uninstall previous versions of C2PC prior to installing the current release. Be sure to exit from any running versions of the C2PC Client, Gateway, and any other open C2PC options. Some C2PC options such as the Alert Server, Message Router, and C2PCNetwork appear as tray icons, and these should be shut down before installing C2PC.

Before reinstalling, the Gateway must be closed. It is not enough to exit the Gateway Manager. Right click on the Gateway tray icon and select Stop Gateway. Exit the Gateway tray by right clicking on the icon and selecting Close.

To install C2PC software perform the following steps:

1. Complete the Installation Worksheet (provided at the end of this chapter) specific to your installation type.
2. Start Windows NT or Windows 98.
3. Log in to an account with administrative privileges.
4. Open the Windows Explorer.
5. Place the CD-ROM disk in your CD drive.
6. The C2PC Installation will automatically start on those systems configured to autorun from the CD drive.
7. If the Installation does not start, change the directory to the "C2PC" directory on the installation CD and run 'setup.exe' from the Windows Explorer.

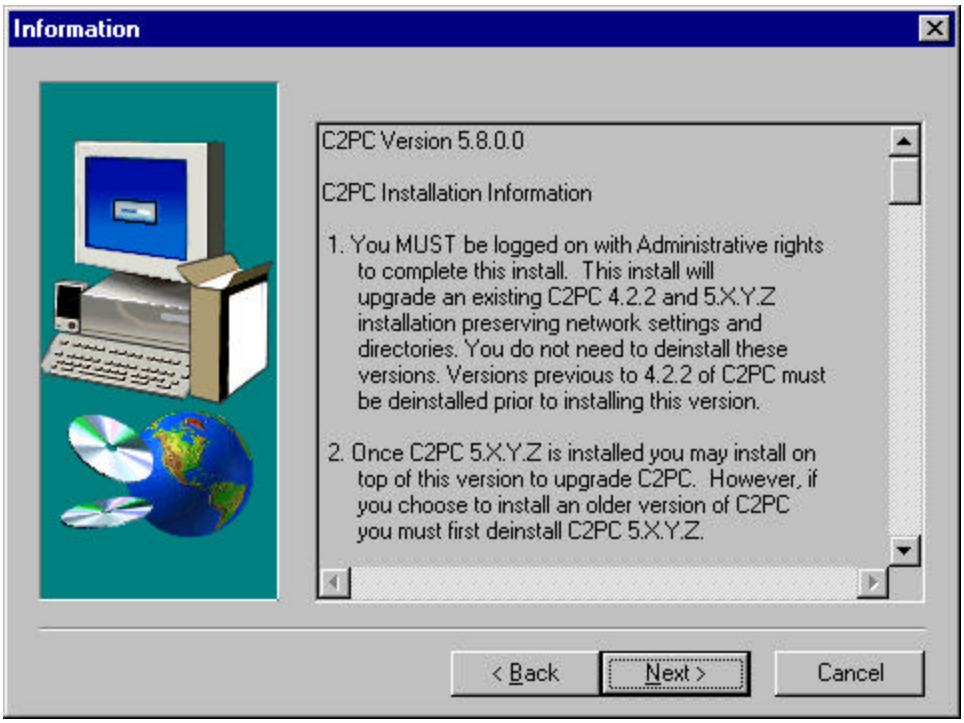
   The Installation Welcome window appears.




*Installation Welcome Window*

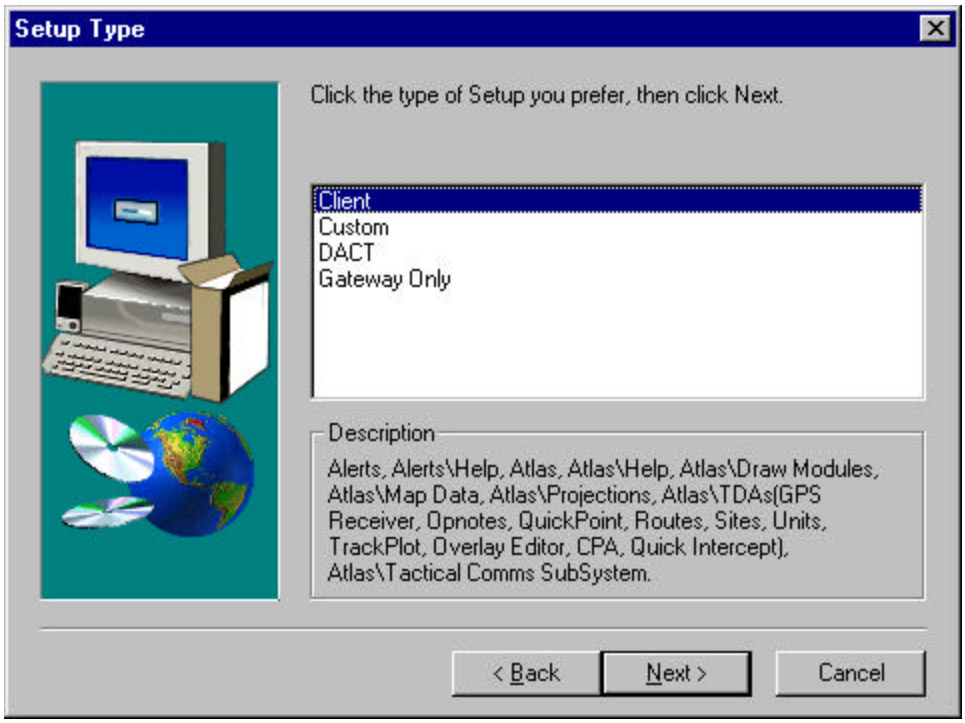
The Installation Welcome window provides the recommendation that you exit out of all Windows programs before running the C2PC installation.

8. Click Next to display the C2PC Version window.




This window gives you some installation information.

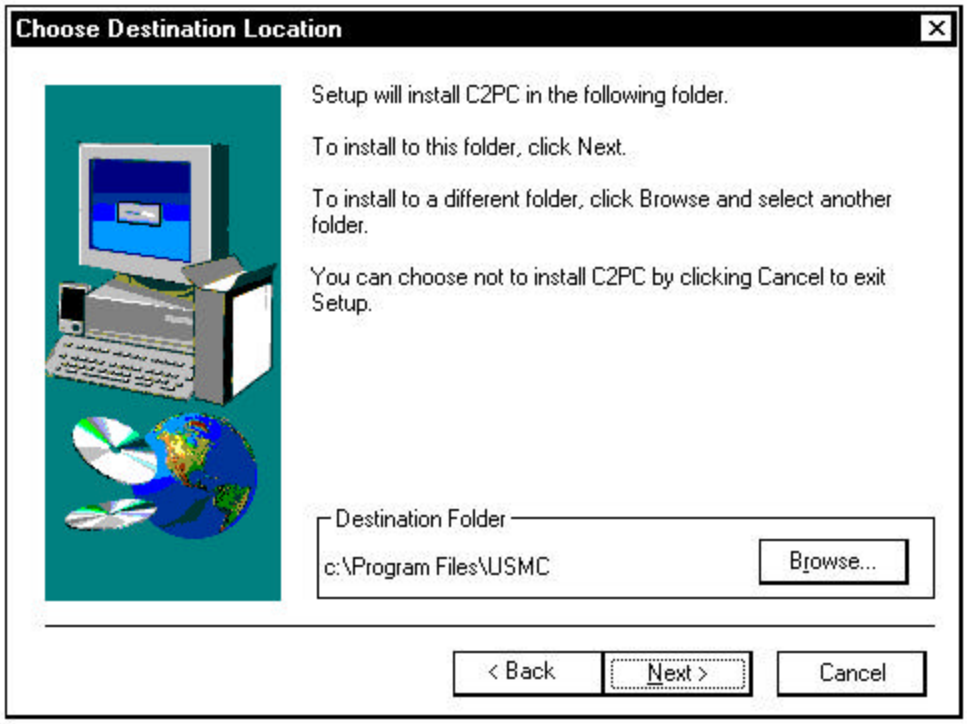
9. Click Next to display the Setup Type window.




The Setup Type window allows you to choose a setup type from some standard choices, or allows you to choose a Custom/Full setup. Select the setup type you want and click Next to continue.

At this point, it is possible that your workstation will need to be restarted before the install can continue. If this is the case, the Setup Complete window will appear. Your installation is not complete at this point. Choose the Yes, I want to restart my computer now knob and click the Finish button to restart your workstation. After the workstation is restarted, the installation will continue at the next step.

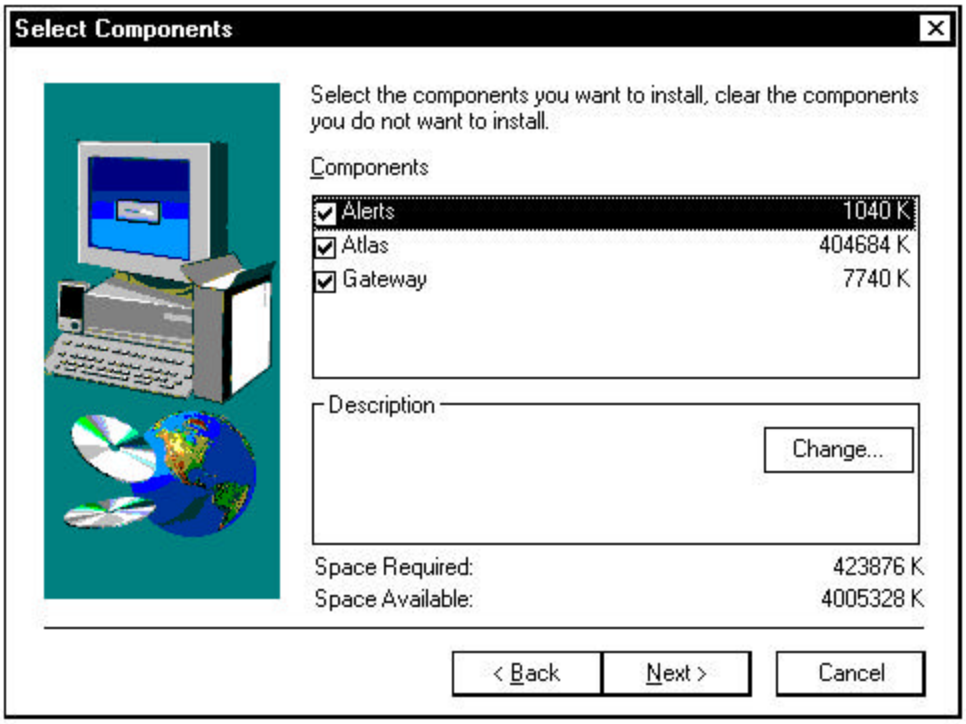
10. The Choose Destination Location window appears unless there is a C2PC version 5.1.0.0 or higher already installed on your workstation. If a C2PC version 5.1.0.0 or higher is already installed on your workstation, this window will be skipped during the installation.




The Choose Destination Location window displays the name of the location where C2PC will be installed on your workstation. To choose a different location, click the Browse button and locate the path where you want it installed.

Note: If C2PC version 5.1.0.0 or higher is already installed, the new install will place C2PC in the same location as the previously installed version. To change the installation location, you must completely uninstall C2PC and re-install.

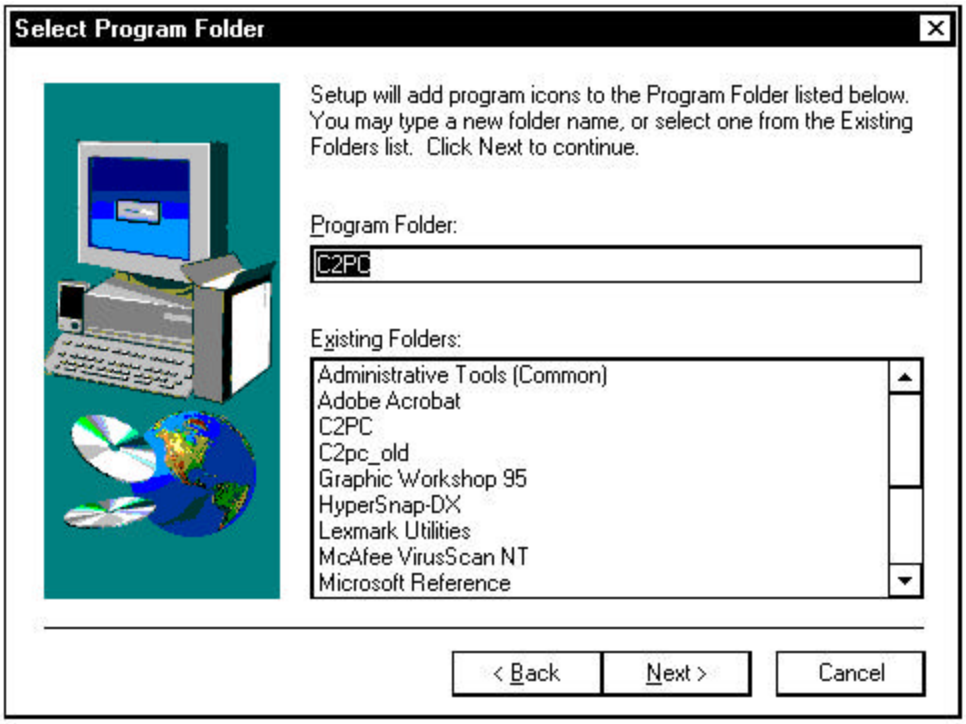
11. Click Next to continue. If the Custom / Full setup type was chosen earlier, the Select Installation Components window appears. If any other setup type was chosen, this window is skipped during installation.




The Select Installation Components window provides choices of components to install. Use the checkboxes to choose the components you wish to install. The amount of space required and the amount of space available is listed.

Components may have selectable sub-components. Highlight a component in the list to see if sub-components exist. If sub-components of the selected component exist, the Change button will become available. If there are no sub-components, the Change button is dim. Click the Change button to view a window containing the sub-components. Use the checkboxes for the sub-components to choose the sub-components you wish to install.

12. Click Next to display the Select Program Folder window.

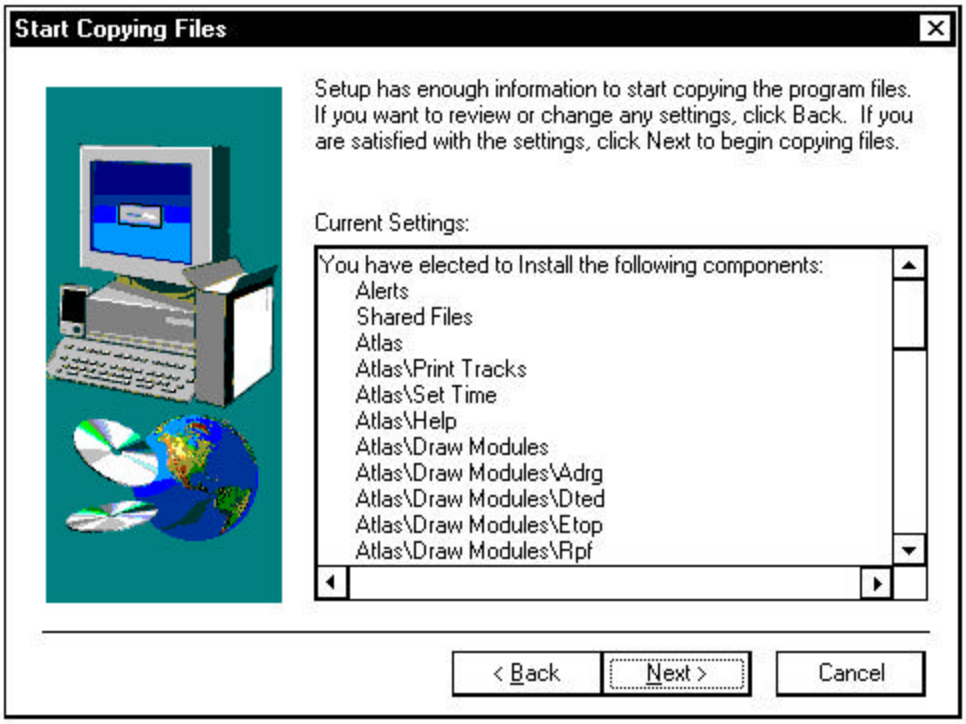



The C2PC components will be place in a C2PC folder unless you specify a different folder. Click Next to continue.

13. A series of windows will appear, requesting information from the Installation Worksheet. Enter appropriate information into these windows and click the Next button to continue.

    If this is a reinstall, a dialog may appear to let you know that some of the components are already up to date. At this point you have the option of reinstalling all components or only installing those components that are not up to date.

14. After you have entered appropriate information into the series of windows, the Start Copying Files window appears.

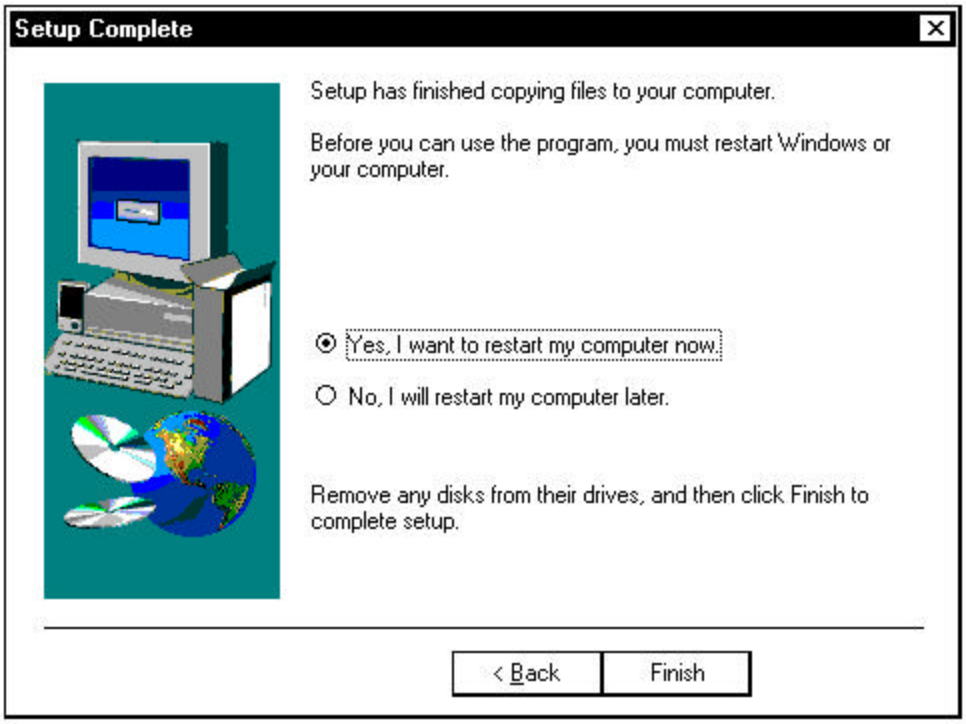



The Start Copying Files window displays the current list of items that will be installed, uninstalled, or updated. In addition, any currently installed components that will remain unmodified are also listed. Click Next to start copying the files to your disk.

As each component is installed, it will be displayed in a progress bar dialog.

When the install is complete, a window appears which displays a list of C2PC program icons that are now in your C2PC directory. Click the Close box to continue.

15. When all of the files are copied to your disk, the Setup Complete window appears.




The Setup Complete window gives you the option of restarting your computer now or later. You should restart the computer before using C2PC to make sure it works properly after install. Click the Finish button to complete the installation.

Every time the install process is performed, a text file is created in the install target directory (default c:\h) called C2PCInstallList#.txt. This file contains a list of all components installed, uninstalled, updated, etc. for the installation. The # in this file name increments for each new install until C2PC is uninstalled with the Add/Remove Programs option from the Control Panel.

## Installing C2PC - DII COE Compliant Segment Version

The C2PC DII NT COE compliant segment version must be installed from the DII NT COE Kernel. Follow the installation instructions provided with the DII NT COE Kernel to install the C2PC segments.

## 2.3 CHANGING INSTALLATION SETTINGS

After installing the Gateway and Client, the settings entered during the install process can be changed. To change the settings for the Client, start up the Client and make appropriate changes using the Options dialog from the Tools menu. Disconnect and then reconnect the Client to the Gateway to make the setting changes active.

To change the settings for the Gateway, start up the Gateway and make appropriate changes using the Options dialog from the Tools menu.

The Gateway is installed with no Master Password and two User IDs. One User ID is "c2pc" with a blank password, which has add, edit, and delete track capabilities. The other is "readonly" with a blank password, which has read only track capabilities. For security reasons, you should create passwords for your User IDs.

## 2.4 REINSTALLING/CHANGING INSTALLED COMPONENTS

At any point after C2PC has been installed, the installation process can be performed again. This might be done if you wish to install additional C2PC components or if you suspect there might be a problem with your installed C2PC and want to start with a fresh copy on your disk.

To reinstall C2PC, follow the installation procedures as outlined above. If a different setup type is chosen from the previous installation, any additional components found under the new setup type will be added to your installed version of C2PC. No components will be removed from your previous installation, even if those components are not found under the new setup type. The only way to remove components is by using the Uninstall All setup type and then reinstalling only those components you want.

## 2.5 UNINSTALLING C2PC

### Uninstalling via Control Panel

Under normal circumstances, the uninstallation features of Windows 98 or Windows NT may be used to remove C2PC from your PC. This process is as follows:

1. Make sure that no part of C2PC is currently running - the uninstall process cannot remove the files associated with a running process. Make sure to turn off all C2PC Tray icons such as Alerts, Message Router, C2PCNetwork, and the Gateway.

2. From the Windows 98/NT 4.0 main taskbar, click the "Start" button.

3. Choose Settings:Control Panel. The control panel window is displayed

4. Double-click on the "Add/Remove Programs" icon. The Add/Remove Properties window appears.

5. Highlight C2PC in the scroll list and click the Add/Remove button. Answer "Yes" when the remove confirmation window appears.

6. Highlight Atl Registration Object in the scroll list and click the Add/Remove button. Answer "Yes" when the remove confirmation window appears.

7. Click OK to close the Add/Remove Programs window.

C2PC has now been removed from your system. Files that were created by the application and were not part of the original installation will remain on your system. You may now safely delete these files, which will be located under the original installation root (default is c:\Program Files\USMC).

## Uninstalling by hand

While the manual deinstallation of C2PC is strongly discouraged, unforeseen situations may arise that require this to be done. Before deleting the C2PC files from your system, several steps must be taken to ensure that the system registry is properly cleaned.

**The following process should be followed exactly**.

Make sure that no part of C2PC is currently running. (One way to be absolutely sure of this is to reboot your system immediately prior to beginning the uninstall process).

1. Open a Cmd or Dos prompt window.

2. In this window, ‘cd’ to the <installation_root>\c2pccl\bin directory. (If you have only a gateway installed on this machine skip ahead to step 5.)

3. Run all of the .exe programs in this directory from the command line with the ‘/UnRegServer’ command-line option (e.g. ‘C:> c2pcovlyEdit.exe /UnRegServer <CR>’).

4. Run the RegSvr32.exe program on all of the .dll’s in this directory specifying the ‘/u’ command line option (e.g. C:> RegSvr32 /u adrgpx.dll). The program RegSvr32.exe is placed in the \h directory as part of the C2PC installation process.

5. ‘cd’ to the <installation_root>\c2pcgw\bin directory.

6. Run all of the .exe programs in this directory from the command line with the '/UnRegServer' command-line option (e.g. 'C:> DecMsgMgr.exe /UnRegServer <CR>').

7. Run the RegSvr32.exe program on all of the .dll's in this directory specifying the '/u' command line option (e.g. 'C:> RegSvr32 /u dbNotify.DLL'). The program 'RegSvr32.exe' is placed in the \h directory as part of the C2PC installation process.

8. 'cd' to the <installation_root>\c2pcsh\bin directory.

9. Run all of the .exe programs in this directory from the command line with the '/UnRegServer' command-line option (e.g. 'C:> Tracks.exe /UnRegServer <CR>').

10. Run the RegSvr32.exe program on all of the .dll's in this directory specifying the '/u' command line option (e.g. 'C:> RegSvr32 /u DBNotify.DLL'). The program 'RegSvr32.exe' is placed in the \h directory as part of the C2PC installation process.

11. 'cd' to the <installation_root>\c2pcal\bin directory.

12. Run all of the .exe programs in this directory from the command line with the '/UnRegServer' command-line option (e.g. 'C:> C2PCNotifier.exe /UnRegServer <CR>').

13. Run the RegSvr32.exe program on all of the .dll's in this directory specifying the '/u' command line option (e.g. 'C:> RegSvr32 /u AlertResources.dll'). The program 'RegSvr32.exe' is placed in the \h directory as part of the C2PC installation process.

14. All of the C2PC components have now been unregistered. You may now delete the contents of c2pccl\bin, c2pcgw\bin, c2pcsh\bin and c2cpal\bin as necessary.

15. The contents of the data directories c2pccl\data, c2pcgw\data, and c2pcsh\data may be deleted.

16. The contents of <installation_root>\data\local may now be deleted.

17. You may now remove the <installation_root> directory and any remaining sub-directories.

C2PC has now been removed from your system.

## 2.6 COMPLETING THE INSTALLATION WORKSHEETS

A sample of the Gateway and Client worksheets are shown at the end of this chapter. Use the samples as you follow the instructions in this section. Make copies and use those worksheets whenever you do an installation. Save those forms as a record of your responses.

Descriptions provided in this section relate to what you will be asked and what you will see when you use the setup program.

UNIX paths are case sensitive.

### Gateway Worksheet

#### 1. Destination Directory

Enter the full directory path name where you want the Gateway software to reside.

You are provided with a suggested default directory name. Click Next to accept this suggestion, or click Browse to select a directory and name of your own.

For example: c:\h\

#### 2. C2PC Gateway tcp-udp Port Number

Enter the C2PC Gateway tcp-udp port number. For example: 2702.

This is the port number for the connection between the Client and the Gateway.

A normal value appears in the window for this item. To accept this value, click Next. To enter a new port number, delete the normal value, and use the keyboard to enter the new number.

#### 3. JMCIS/GCCS Tdbm tcp-udp Host IP Address

Enter the IP address for the JMCIS/GCCS Data Server.

The format of the IP address is: xxx.xxx.xxx.xxx

#### 4. Tdbm tcp/udp Port Number

Enter the Tdbm tcp/udp port number. For example: 2000. This value can be found in the Unix services file. Use 2000 unless you are certain of another value.

This is the port number for the connection from the gateway to the UNIX machine.

A normal value appears in the window for this item. To accept the suggested value, click Next. To enter a new port number, delete the normal value, and use the keyboard to enter the new number.

### 5. Gateway Connection Option

Enter the gateway connection option. This is either Tdbm, Client Gateway, or Serial.

### 6. Install and Configure for UB Version

If Tdbm is selected as the gateway connection option, click on one of the selections to identify the UB data server version you are using:

UB2.2X/3.0.1.X - Systems based on UB 2.2.X or UB 3.0.1.X (7K tracks)

UB3.0.2.X - Systems based on UB 3.0.2.3 (11K tracks) and later

## Client Worksheet

### 1. Destination Directory

Enter the full directory path name where you want the Client software to reside.

You are provided with a suggested default directory name. Click Next to accept this suggestion, or click Browse to select a directory and name of your own.

For example: C:\h\

### 2. C2PC Gateway tcp-udp Port Number

Enter the C2PC Gateway tcp-udp port number. For example: 2701.

This is the port number for the connection between the Client and the Gateway.

A normal value appears in the window for this item. To accept this value, click Next. To enter a new port number, delete the normal value, and use the keyboard to enter the new number.

### 3. JMCIS/GCCS Tdbm Host IP Address

Enter the IP address for the JMCIS/GCCS Data Server. This is the location where the Client will obtain opnotes and overlays.

The format of the IP address is: xxx.xxx.xxx.xxx

### 4. IP Address for computer running C2PC Gateway

Enter the IP address for the NT/Win98 computer running the Gateway program.

The form for the IP address is: xxx.xxx.xxx.xxx

**5. Subnet Mask for this computer**

Enter the Subnet Mask for this computer.

The form for the IP address is: xxx.xxx.xxx.xxx

**6. Input Opnote Directory Location**

Enter the full directory path to the UB incoming opnotes. This is the fully qualified path to the UNIX files for the UB Input Opnote Directory. The path name is case sensitive.

A suggested value is: /h/data/global/UB/Messages/Input/Opnotes

Click Next to accept this suggestion, or enter the full path name for a Input Opnote Directory that you select.

**7. Overlay Directory Location**

Enter the full directory path to the UB overlays. This is the fully qualified path to the UNIX files for the UB Overlay Directory. The path name is case sensitive.

A suggested value is: /h/data/local/UB/Overlays

Click Next to accept the suggestion value, or enter the full path name for an Overlay Directory that you select.

**8. Screen Kilo Directory Location**

Enter the full directory path to the UB screen kilo formations. This is the fully qualified path to the UNIX files for the UB Screen Kilo Directory. The path name is case sensitive.

A suggested value is: /h/data/local/UB/ScreenKilos

Click Next to accept the suggestion value, or enter the full path name for a Screen Kilo Directory that you select.

**9. Four Whiskey Directory Location**

Enter the full directory path to the UB Four Whiskey formations. This is the fully qualified path to the UNIX files for the UB Four Whiskey Directory. The path name is case sensitive.

A suggested value is: /h/data/local/UB/FourWhiskeys

Click Next to accept the suggestion value, or enter the full path name for a Four Whiskey Directory that you select.

# GATEWAY INSTALLATION WORKSHEET

| Use this worksheet during Gateway installation, or when reconfiguring variables. Use the information from Your Response column as the response to prompts when you run the setup program. | | |
|---|---|---|
| **Prompt** | **Format or Suggested Response** | **Your response** |
| **1. Destination Directory** | c:\h\ | |
| **2. C2PC Gateway tcp-udp Port Number** | For example: 2701 | |
| **3. JMCIS/GCCS Tdbm Host IP Address** | Format: xxx.xxx.xxx.xxx | |
| **4. Tdbm tcp/udp Port Number** | For example: 2000 | |
| **5. Gateway Connection Option** | Tdbm, Client Gateway, or Serial | |
| **6. Install and configure for UB Version** | UB 2.1.X, UB 2.2.X/3.0.1.X (7K tracks) systems or UB 3.0.2.X (11K tracks) systems | |

# CLIENT INSTALLATION WORKSHEET

| Use this worksheet during Client installation, or when reconfiguring variables. Use the information from Your Response column as the response to prompts when you run the setup program. | | |
|---|---|---|
| **Prompt** | **Format or Suggested Response** | **Your response** |
| **1. Destination Directory** | c:\h\ | |
| **2. C2PC Gateway tcp/udp Port Number** | For example: 2701 | |
| **3. JMCIS/GCCS Tdbm Host IP Address** | Format: xxx.xxx.xxx.xxx | |
| **4. IP Address for computer running C2PC Gateway** | Format: xxx.xxx.xxx.xxx | |
| **5. Subnet Mask for this computer** | Format: xxx.xxx.xxx.xxx | |
| **6. Input Opnote Directory Location** | Default: h/data/global/UB/Messages/Input/Opnotes | |
| **7. Overlay Directory Location** | Default: h/data/local/UB/Overlays | |
| **8. Screen Kilo Directory** | Default: h/data/local/UB/ScreenKilos | |

| | | |
|---|---|---|
| **9. Four Whiskey Directory** | Default: h/data/local/UB/FourWhiskeys | |

# CHAPTER 3: GETTING STARTED

## 3.0 GENERAL

This chapter explains how to start the C2PC software and provides some general information about how to use the system.

## 3.1 STARTING C2PC

After installing the system, use the following procedures for starting C2PC.

Note that C2PC communicates with the UB host over the Network interface to send opnotes. Make sure the Network interface is up and running at the UB host machine.

Before starting C2PC, make sure your system time is set correctly. Your system time must match that of the Tdbm host machine or track updates will not appear in the map window at the correct time. To reset the system time, double-click the time icon in the status bar in the bottom right part of the window to display a Date/Time Properties window, and set the time in that window.

C2PC can be started and operated in a variety of ways, as explained in Section 1.2 - About C2PC. Assuming you are starting the Gateway and Client from your workstation, and assuming C2PC was loaded in the default location, start C2PC as follows:

1. Click the Start button, then choose Programs:C2PC:C2PC Gateway Manager.

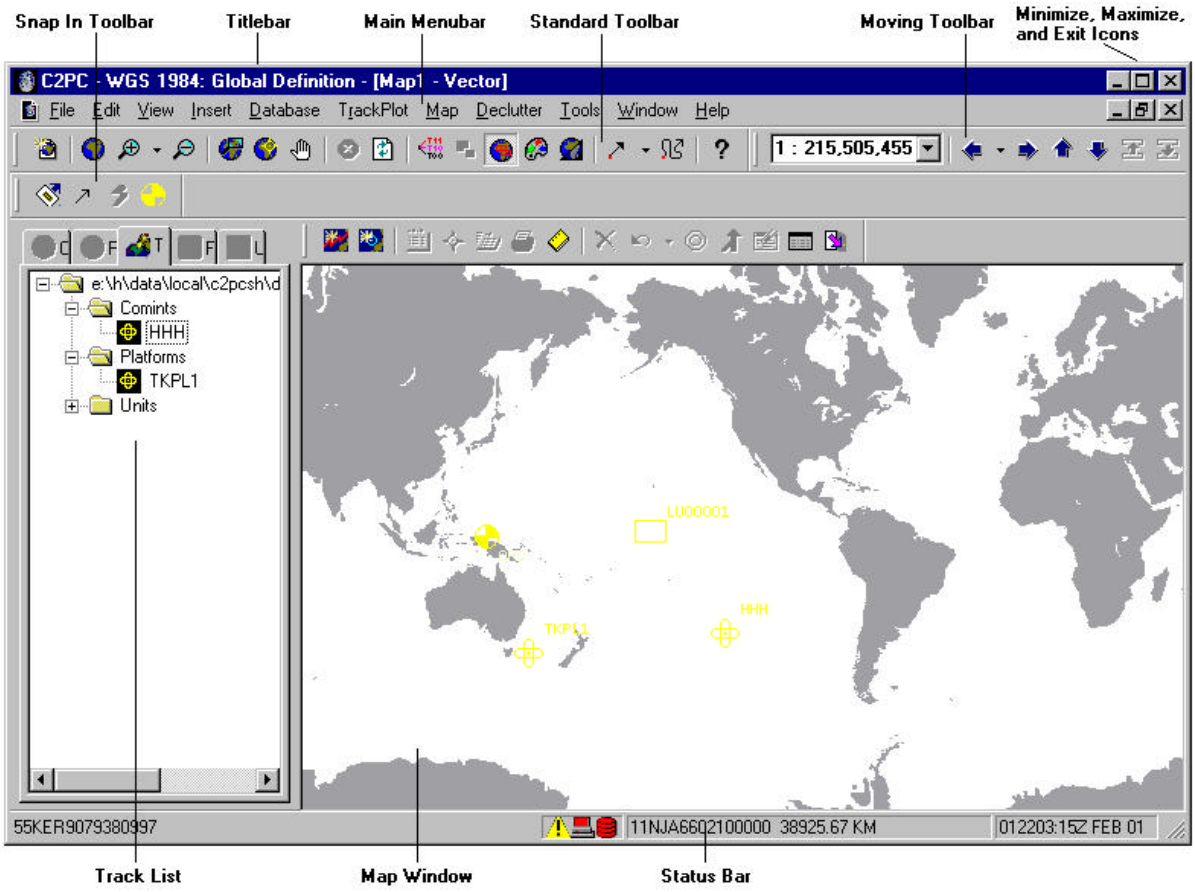
   C2PC Gateway appears in the status bar at the bottom of the window.

2. Click the Start button, then choose Programs:C2PC:C2PC Client.

   The C2PC Main window appears and displays a map.

## 3.2 C2PC MAIN WINDOW

The C2PC Main window is shown below.




*C2PC Main Window*

The C2PC Main window consists of:

- Titlebar
- Main menubar
- Toolbars
- Map window
- Tracks, Overlays, Routes, Units, or Formations List
- Status bar

**Titlebar**

Displays "C2PC," followed by the datum used for the map, followed by the map name and type. Move the window by dragging its Titlebar.

Note that when the C2PC Main window first appears, the window is maximized to fill the screen. The window cannot be moved when it is maximized. If the window is changed from its maximized state (by using the minimize button, WINDOW: CASCADE or TILE options, etc.) it can be moved.

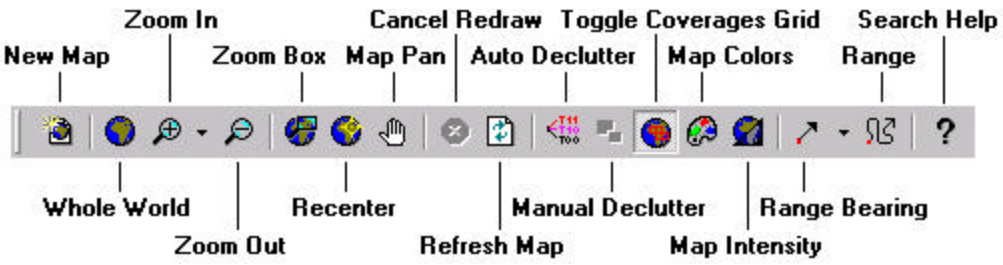
### Main Menubar

The Main menubar displays a set of menu names. Click a name to display a menu of related options. Click a menu option to select it. For information about the menu names, see the "Using the Menubar" chapter later in this manual.

### Toolbars

There are three main Toolbars that may be displayed in the C2PC Main window - the Standard, Moving, and Snap In toolbars. They can be toggled on or off with the MAP:TOOLBARS option.

The Standard Toolbar appears as follows.




*Standard Toolbar*

The Standard Toolbar contains the New Map, Whole World, Zoom In, Zoom Out, Zoom Box, Recenter, Map Pan, Cancel Redraw, Refresh Map, Auto Declutter, Manual Declutter, Toggle Coverages Grid, Map Colors, Map Intensity, Range Bearing, Range, and Search Help buttons. Use these buttons as quick access to functions that are available from the menus in the Main menubar. The only exception is the Map Pan button, which does not have an equivalent menu option.

Use the Map Pan button to pan the map in any direction. Click on the Map Pan button to change the pointer to a hand symbol, then click and drag on the map to pan the map view in any direction. The Map Pan hand symbol remains selected until the Map Pan button is clicked again. Click the right mouse button on the Map Pan button to choose a Map Pan percentage value. If you choose 0, the Map Pan option is deactivated. If you choose 1/8, you may pan to 1/8 the size of the window in any direction. Choosing 1/4 allows panning to 1/4 of the

window size, and choosing 1/2 allows panning to 1/2 of the window size.

The Moving Toolbar appears as follows.

*Moving Toolbar*

The Moving Toolbar displays the current scale of the map along with a group of arrow options, and Next Up and Next Down options.

The current viewing scale of the map is shown. This scale can be changed by using the down arrow button to select a new scale. Available scales range from 1 : 10K to 1 : 100M.

The Left, Right, Up, and Down arrow buttons can be used to move the display of the map in the direction chosen. When one of these buttons is chosen, part or all of the current map moves off the screen, and the other side of the map is filled with new map data. As a default setting, 1/4 of the current map moves off the screen. The percentage of the move can be selected from 1/4, 1/2, 1, or 2. To change the percentage of the map that is moved when an arrow button is clicked, click the down arrow between the Left and Right arrow buttons to display a pull-down menu with the different percentage choices available. A checkmark appears before the currently selected percentage. Select a new percentage from the list and the newly chosen percentage becomes the new default value for the arrows. The next time you click an arrow button, the map will be moved by the newly selected percentage.

If more than one map overlaps the center point of the current field of view, the Next Up and Next Down options can be used to view a different map. When the next map is displayed, it is shown at its natural scale. For example, if you are viewing a vector map and there are two raster maps that both overlap the current map's center point, clicking the Next Down button will display the larger of the two raster maps. Clicking the Next Down button again will display the smaller raster map.

The Snap In toolbar only appears if an option or options which contain other toolbar options is loaded into C2PC (for example, the Quick Point option). Use any buttons on the Snap In toolbar as quick access to functions that are available from the menus in the Main menubar.

To select one of the Standard, Moving, or Snap In Toolbar options, place the pointer over the appropriate button icon and click.

If you place the pointer over a button without clicking the mouse button, the button name appears in a pop-up window next to the icon. A short description of the button's function appears in the left corner of the Status bar.

There is a context menu associated with toolbars. Click the right mouse button on any toolbar to display the toolbar context menu.

The toolbar context menu displays Standard, Moving and Snapin toggle choices. Click any of these options to toggle the chosen toolbar on/off. If an injector is turned on, a cascading menu appears for that injector with toolbar choices for that injector listed on the cascading menu. Click any of these cascading toolbar choices to toggle those toolbars on/off. A Command Profile option also appears. This option works the same as the Command Profile option from the Tools menu. Refer to that documentation for complete details about the Command Profile option.

### Map Window

The Map window displays a map of the world. The map that appears is the map that was displayed the last time C2PC was used. Options in the menus and toolbar can be used to scale in or out to any location of interest. Tracks contained within the system may be displayed on the map.

The map may be displayed in any of the projections provided with C2PC (use MAP:PROJECTION to view the different choices and choose another projection). Additionally, raster maps may be displayed.

Multiple map windows can be open at one time. Use the FILE:NEW command, or click the New Map button in the Toolbar to open additional map windows.

When multiple map windows are displayed, the active map is the map with the solid titlebar. The active window is always at the front of any other windows. Click on any map window to make it the active

window, or choose the map name from the Window menu to make it the active window. A command selected from the menu or Toolbar affects only the active map.

Each map displayed in a window can have different plot settings. For example, one map can be set to show all tracks, while another map can be set to display only hostile tracks.

Map windows can be resized and repositioned. When multiple map windows are open, drag a map window by its Titlebar to reposition it on the screen. Use the Cascade, Tile Horizontally, and Tile Vertically commands from the Window menu to arrange the multiple map windows on the screen.

Each map window can display the same or a different map. Use the options from the Map menu to change the map view for any displayed map. Each map can have different color settings.

The map window is redrawn whenever a change is made to the map view. Maps are redrawn incrementally instead of all at once. This allows you to see the map change gradually as it is redrawn. For most map view changes, this redraw process is very rapid. For some complex map redraws, such as the drawing of certain raster maps, the process is a bit slower and the incremental redraw allows you to watch as the map is being redrawn.

### Tracks, Overlays, Routes, Units, or Formations List

If Units, TrackPlot, Routes, Overlays, or Formations are toggled on from the Tools menu, a tree view list appears to the left of the map window. This list shows all objects for the option which is toggled on. For example, if TrackPlot is toggled on, this list shows all tracks currently being displayed.

If Tbmd is installed, there can also be a list displayed for this if Tbmd is toggled on from the Tools menu.

There is a tab at the top of the list for the toggle choices. Click on any of these tabs to quickly switch to one of the other choices.

### Status Bar

The Status Bar is at the bottom of the C2PC window. There are separate areas of status information listed along this bar as follows:

The left portion of the Status Bar displays the current position of the pointer. The position may be displayed as a Lat/Lng, Military Grid Reference System (MGRS), or UTM value. Status information is also

displayed here. For example, if a raster map is being drawn, the percentage of the map that is drawn is shown.

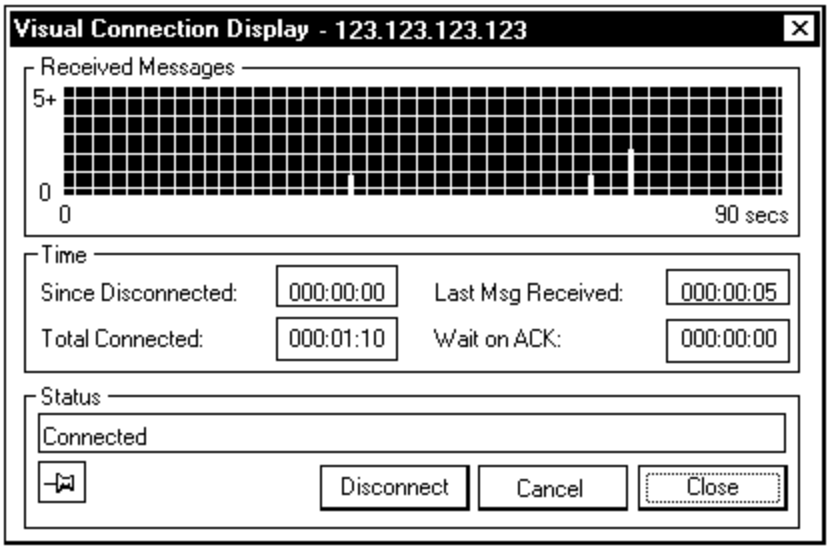
The next portion of the Status Bar contains up to three icons, indicating whether any alerts have been received, and whether the Gateway and data source are up or down.

If any alerts have been received, an alerts icon appears in the color of the highest priority alert. You may double-click on the Alerts icon to display the Alerts window. This window is discussed in detail in Chapter 6 in the Alerts Server section of this manual.

If the Gateway is connected to the Client, the Gateway icon displays in green. While connecting, this icon displays in yellow. If disconnected, this displays in red. The Gateway icon also displays the current full edit or read only status. After logging on to the Gateway, if the bottom half of the Gateway icon displays in red, the Client is set to read only status. If the entire Gateway icon displays in green, the Client is set to full edit status. If the mouse pointer is moved over this icon and the Gateway is connected, a Gateway Up, Synched message and the IP address of the Gateway is displayed. If the mouse pointer is moved over this icon when the icon is yellow, a Gateway Up, Not Synched message appears and the IP address of the Gateway is displayed. If the mouse pointer is moved over this icon when the icon is red, a Gateway Down message appears.

If the Gateway is down or the track source is down, Data Source icon displays in red. If the data source is up and the Gateway is up, this icon displays in green.

You may double-click on either the Gateway or Data Source icon to display a Visual Connection Display window.




The Visual Connection Display window displays information about the Client-Gateway connection. The IP address of the Gateway is listed in the titlebar. There are three boxes of information in this window - Received Messages, Time, and Status.

The Received Messages box displays a scrolling graph with either a line or a histogram graph style to indicate the time and the number of messages that were received. The graph style is set at the Gateway. The graph displays at either 90 second or 181 second intervals, or can be disabled. This update interval is also set at the Gateway. To locate the graph settings from the C2PC Gateway window, go to the Tools:Options:Connection tab, then click the Settings button to view the Reconnection window.

The Time box displays four fields with time information about the Client-Gateway connection.

**Since Disconnected** - If the Client is disconnected from the Gateway, the Since Disconnected field displays the elapsed time since the Client was disconnected.

**Total Connected** - If the Client is connected to the Gateway, the Total Connected field displays the amount of time since the Client was connected.

**Last Msg Received** - This displays the elapsed time since the last message was received from the Gateway.

**Wait on ACK** - If the Network Type connection is set to SR Combat Net Radio (set at Gateway), this field displays the amount of time that has elapsed while waiting for an acknowledgement message

from the Gateway after the Client has sent a message to the Gateway.

The Status box at the bottom of the window usually displays a Connected / Not Connected message. If the Client-Gateway connection has been severed unexpectedly and the Gateway is set to auto-reconnect, this message area will display status information about the auto-reconnect process.

There is a Keep Window Visible icon at the bottom left of the Status box that looks like a pin. This icon can be toggled to either keep the Visual Connection Display window on top of the Client window at all times (pin icon looks like it is stuck down) or that can allow it to disappear behind the Client window (side view of pin icon).

Use the Disconnect / Connect button to either connect or disconnect from the Gateway, depending on the current connection status. This button works the same as the Connect to Gateway and Disconnect from Gateway options from the TrackPlot menu.

The Cancel button is usually dim and unavailable. It becomes available only when the Client-Gateway connection has been severed unexpectedly and the Gateway is set to auto-reconnect. During the auto-reconnect process, the Cancel button is available to cancel the reconnect process if you wish.

To close the Visual Connection Display window, click the Close box in the top right of the window.

The next portion of the Status Bar contains a box showing the current map center and width.

The far right portion of the Status Bar displays the current date and time.

## 3.3 GENERAL OPERATIONS

Most of the C2PC user operations are performed through options located on the Main menubar. There are some general operations that do not correspond with a particular menu option, and these include the following:

?? Positioning the toolbar

?? Map window manipulation

?? Using keyboard shortcuts

?? Positions and units of measure

?? Date-time groups (DTG)

?? Sortable columns

?? Selecting tracks and other objects

?? The mouse pointer

?? Context menu (right click on map or on tree lists)

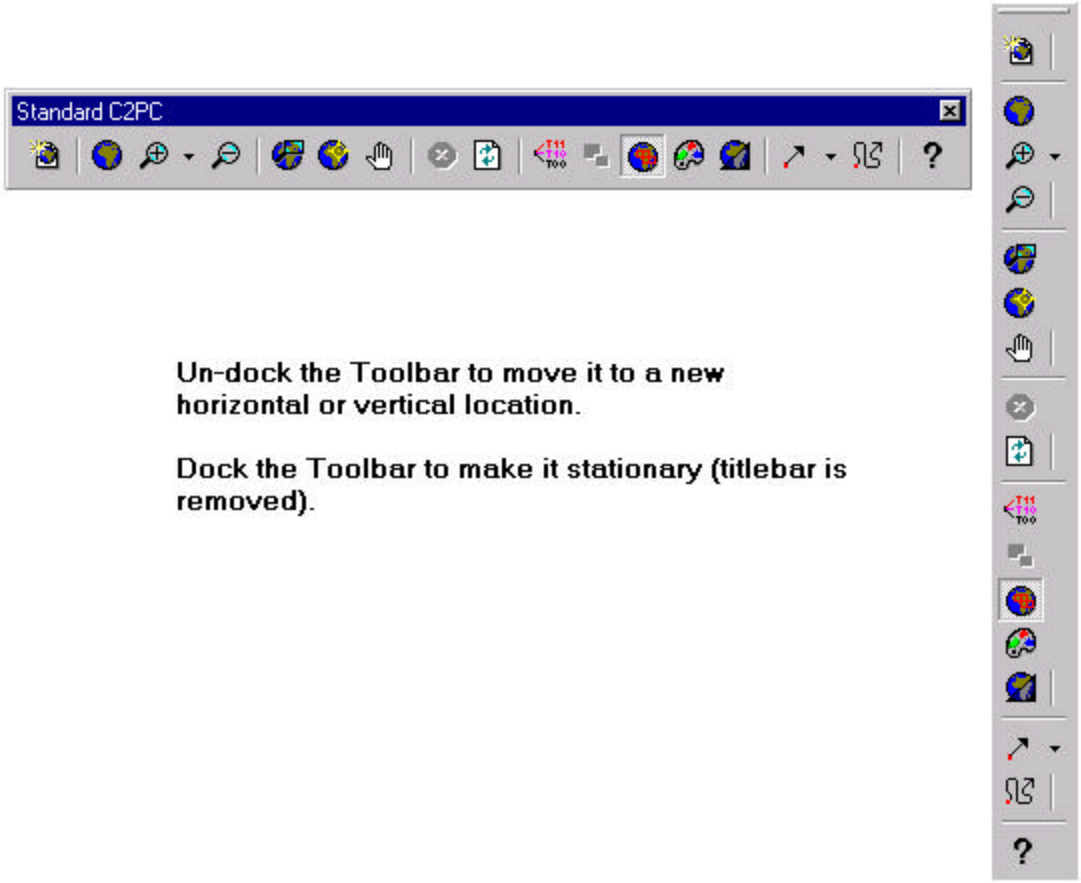
**NOTE:** C2PC uses the standard WINDOWS interface conventions such as selecting a menu item from a cascading menu, the Control menu, minimizing and maximizing buttons, resizing a window by dragging a corner, and dragging a selection rectangle. If you are unfamiliar with these, please see the *WINDOWS User's Guide* that came with your system.

## Positioning the Toolbars

When the C2PC application is first brought up, the main Toolbar is located in its horizontal docking position just below the Main menubar.

To move the Toolbar, place the cursor on the bar on the left side of the toolbar, press the left mouse button, and drag the Toolbar to a new location. The Toolbar can be dragged to a new location along the docking strip or it can be dragged to any other area on the screen. When the Toolbar is moved from the docking strip, a titlebar appears. Use the titlebar to drag the Toolbar when in an undocked position.

Dragging the Toolbar into the left or right side of the map window causes the Toolbar to be displayed vertically and creates a new docking strip on the side of the map window to contain the Toolbar.




*Positioning the Toolbar*

This same procedure can be done for any of the toolbars that appear within C2PC.

## Map Window Manipulation

Multiple map windows may be displayed on the screen at the same time. Any map window may be resized or repositioned.

When C2PC is first brought up, one map window is displayed. To open additional map windows, use FILE:NEW. This option is discussed in more detail in the “Using the Menubar” chapter.

The map window is redrawn whenever a change is made to the map view. Maps are redrawn incrementally instead of all at once. This allows you to see the map change gradually as it is redrawn. For most map view changes, this redraw process if very rapid. For some complex map redraws, such as the drawing of certain raster maps, the process is a bit slower and the incremental redraw allows you to watch as the map is being redrawn.

### Procedure: Resizing a Map Window

A map window may be resized when it is not in the maximized state. A window in a maximized state can be changed by using the minimize button, WINDOW: CASCADE or TILE options, or through some other operations.

To resize a map window, do one of the following:

?? Move the pointer to one of the sides or a corner of the Map window. The pointer changes shape to display a line with an arrow on both ends. Drag the window in or out to resize it.

?? Click the minimize button on the map window to minimize the map window into an icon. The icon is displayed at the bottom of the application window. Double-click the minimized icon to reopen the map window to its full size.

### Procedure: Moving a Map Window

When multiple map windows are open, you can drag a map window by its titlebar to reposition it on the screen.

### Procedure: Giving a Map Window Focus

If multiple map windows are open, the window with the solid Titlebar has focus; windows with dimmed Titlebars do not.

Click anywhere on a map window to give it focus. When a map window has focus, it appears at the front of the windows, thereby allowing you to make selections and use other window features.

## Using Keyboard Equivalents

Instead of selecting the option using the menu, some of the menu options have an assigned control key sequence to allow you to use the keyboard to choose the option. When an option has a keyboard equivalent, it is written to the right of the option in the appropriate menu.

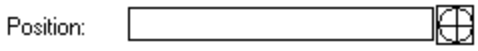
The menus can be displayed using the Alt key with the underlined letter in the menu name. For example, entering Alt+F from the keyboard will display the File menu. When a menu is displayed, the up and down arrow keys are available to move the highlight up and down through the menus. For cascading menus, the right arrow key can be used to view cascading options. The Enter key can be used to select a highlighted menu option.

## Positions and Units of Measure

Positions and other units of measure within C2PC can be set to display in user-defined units. For example, positions can be displayed as lat/lng, MGRS, or UTM values. Use TOOLS:OPTIONS to set the units of measure used within C2PC. When values are set with this option, any field that displays units of the type set will display in the chosen units. Units that can be set include altitude/depth, speed, position, and distance. In addition, the number of decimal places of precision can be set for these units.

### Auto-Selecting Position

When a position field displays a crosshair button to the right of the field, the position can automatically be entered into the field by clicking in the map window.




Perform the following steps to automatically enter a position in a position field:

1. Click the crosshair button to the right of the Position field.
2. Click a position in the map window.

Note that when the crosshair button is clicked, a crosshair cursor appears on the screen and the dialog window disappears to allow you to see more of the map. When a position is clicked on the map, the dialog window reappears.

## Date-Time Groups (DTG)

One field that is common in many C2PC windows is the Date-Time Group (DTG) field. To enter a DTG value in one of these fields, use the following format:

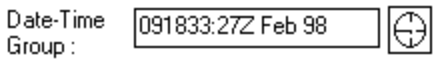
DDHHMM:SSZ MON YY

where DD=day, HH=hour, MM=minutes, SS=seconds, Z is a letter representing the time zone (Z for Zulu time, U for Local time), MON=3-character month code, YY=2-digit year.

Example: 021803:25Z FEB 01

### Auto-Selecting DTG

The current DTG can automatically be entered into a DTG field when the circle with crosshairs button is displayed next to the field.




To enter the current DTG into the field, click on the circle with crosshairs button.

### Quick DTG Entry

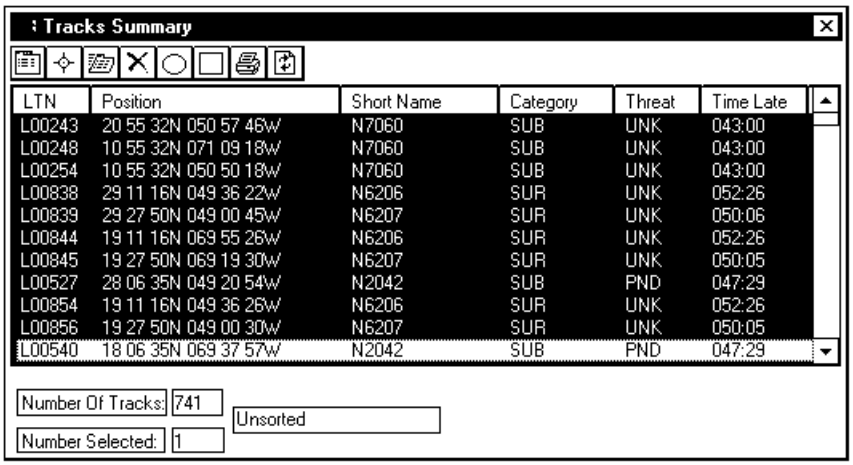
In DTG fields, the @ symbol can be entered to automatically insert the current date and time into the field.

The @ symbol can also be used in combination with the + or - signs to add or subtract minutes from the current time. For example, entering @+10 in a DTG field would display the current time plus 10 minutes in the DTG field.

## Sortable Columns

Many windows within C2PC display lists of information. Most of the windows containing lists can be sorted or reverse sorted by any column.

As an example, the Tracks Summary window displays a list of all selected tracks.




| LTN | Position | Short Name | Category | Threat | Time Late |
|---|---|---|---|---|---|
| L00243 | 20 55 32N 050 57 46W | N7060 | SUB | UNK | 043:00 |
| L00248 | 10 55 32N 071 09 18W | N7060 | SUB | UNK | 043:00 |
| L00254 | 10 55 32N 050 50 18W | N7060 | SUB | UNK | 043:00 |
| L00838 | 29 11 16N 049 36 22W | N6206 | SUR | UNK | 052:26 |
| L00839 | 29 27 50N 049 00 45W | N6207 | SUR | UNK | 050:06 |
| L00844 | 19 11 16N 069 55 26W | N6206 | SUR | UNK | 052:26 |
| L00845 | 19 27 50N 069 19 30W | N6207 | SUR | UNK | 050:05 |
| L00527 | 28 06 35N 049 20 54W | N2042 | SUB | PND | 047:29 |
| L00854 | 19 11 16N 049 36 26W | N6206 | SUR | UNK | 052:26 |
| L00856 | 19 27 50N 049 00 30W | N6207 | SUR | UNK | 050:05 |
| L00540 | 18 06 35N 069 37 57W | N2042 | SUB | PND | 047:29 |

The Tracks Summary window in this example is sorted by the LTN column. Click on any other column heading to sort by that column. Click again on that column heading to reverse sort on that column.

## Selecting Tracks and Other Objects

There are several ways you can select one or more tracks to perform actions, such as obtaining amplified track information. These same selecting procedures can also be used to select other objects, such as overlays, sites, and routes.

- Click the tracks individually, or in combination with the Shift or Control (CTRL) key.
  - When a track is clicked, it is selected and any previously selected tracks are deselected.
  - Hold the Shift key down when clicking on a track to select it and all previously selected tracks remain selected.
  - Hold the Control (CTRL) key down when clicking on a selected track to deselect it. Hold the Control key down when clicking on a deselected track to select it. When using the Control key to select / deselect tracks, all previously selected tracks remain selected.
- Use a selection box to include a group of tracks, and add or remove tracks with the Shift or Control (CTRL) key.
- Use the TRACKPLOT : SELECT ALL option.

Double-clicking on a track selects the track and performs an action on it:

- Double-clicking the left mouse button provides amplified information for the track.

You can deselect all tracks by clicking anywhere on the map where there are no track symbols or labels.

**Procedure: Selecting One Track**

1. Click on the track.
   - Position the cursor on the track's symbol or label and click the left mouse button.
   - The symbol and label change to white, indicating the track is selected.
2. To select a different track, click on that track.
   - The track's symbol and label change. (In NTDS mode, they change to white. In Mil2525 mode, it may change to a different color.)
   - The previously selected track is deselected and returns to its original color.

**Procedure: Selecting Multiple Tracks that are Contiguous**

1. Form a "selection box" to select the tracks.
   - Position the cursor where you want a corner of the box.

- Hold the left mouse button while dragging the cursor diagonally, surrounding the tracks with a box.
- Release the mouse button. The tracks change color (white in NTDS mode), indicating they are selected.

2. To modify the list of selected tracks, use the Shift or Control (CTRL) keys.
   a. To add a track to the list, hold down the Shift or Control key and click on the track.
   b. To remove a track from the list, hold down the Control key and click on the track.

**Procedure: Selecting Multiple Tracks that are Not Contiguous**

1. Click on the first track.
2. To add a track to the group, hold down the Shift or Control key and click on the track.
3. To remove a track from the group, hold down the Control key and click on the track.

**Procedure: Selecting Tightly-clustered Tracks**

When tracks are tightly clustered on the display, it is difficult to select one or more tracks individually. Use one of the following methods to select the tracks:

- Use Zoom In or Zoom Box to magnify the map area so the tracks can be selected individually.
- Use Declutter to spread out the track labels so they do not overlap. Click on the track labels rather than the track symbols to select the tracks.

**Procedure: Select All Tracks**

1. Use TRACKS : SELECT ALL to select all tracks.
   - The tracks change color (white in NTDS mode).
   - The Selected Tracks window opens and all tracks appear in the scroll list.

## The Mouse Pointer

During most C2PC operations, the mouse pointer displays as an arrow on the screen. When the pointer is dragged over certain C2PC objects, the pointer changes to indicate what action will take place when the object is clicked.

When the pointer is over a tool in a toolbar, a label appears below the pointer displaying the name of the tool.

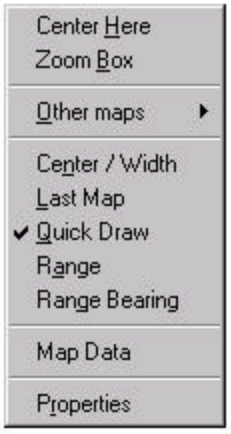
When a small white square appears below the pointer, this indicates the pointer is over an object in the map window that will become selected if the left mouse button is clicked.

When a small crosshair with arrows on all four ends appears below the pointer, this indicates the pointer is over a move point for an object in the map window. If the left mouse button is held down and the mouse is moved, the object or dragpoint will move to a new location.

When three dots appear below the pointer, this indicates the pointer is over an object that is still drawing and C2PC needs to wait to determine the pointer.

## Context Menu

Clicking the right mouse button on the map window displays the Context menu.




*Context Menu*

Most of the options in the Context menu perform the same functions as options accessible from the standard toolbar, the Map menu, and the Tools menu. Use the Context menu for quick access to those options. Those options that perform new functions are discussed here.

**Center Here**
Use this option to center the map at the point where you clicked to bring up the Context menu.

**Other maps**
This option only appears on the menu if you are in Quick Draw mode. Click Map:Quick Draw to turn on Quick Draw mode.

The Other Maps option displays a cascading menu showing all the maps contained within the system that can be found at the point where you clicked to bring up the Context menu. If the View All checkbox is turned on in the Tools:Options:Defaults tab, all maps including inactive maps are shown. If the View All checkbox is turned off, only active maps are shown.

Choose a map in the list to display that map in the map window. If a raster map is chosen, it will display in its natural scale.

**Properties**

This option brings up the Center/Width window when the pointer is on an area of the map where there are no objects beneath it. Refer to the Center/Width option from the Map menu for details about this option. If the pointer is over an object, this option may display additional information about the object. Refer to the documentation for the particular object for details.

Note that different Context menus are available from the Units, TrackPlot, Overlays, and Formations tree lists, and from various other options within C2PC. The options on these special context menus are discussed under the options where they are found in this User's Guide.

# CHAPTER 4: USING THE MENUBAR

## 4.0 GENERAL

This chapter describes the C2PC Menubar options. These options are used to access system features and windows to control data shown in the C2PC Main window.

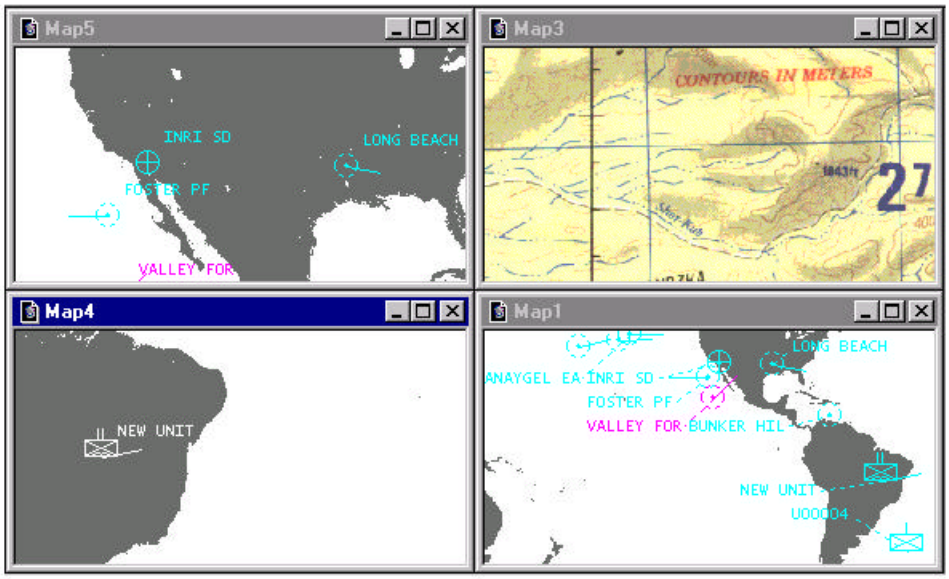
## 4.1 FILE MENU

Use the File menu to open, close or save map windows, to print maps, insert and view objects, or to exit C2PC and return to the previously active software window.

*File Menu*

### NEW MAP (CTRL + N)

Use this option to open a new map window. Multiple map windows may be open at the same time. Each window may display the same or a different map. The figure below shows four map windows open at once.




*Multiple Windows*

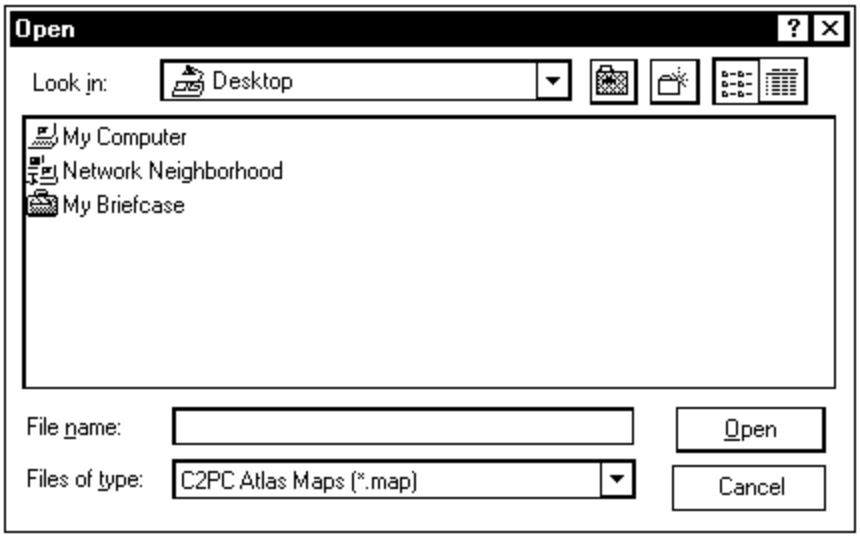
Use the FILE:NEW MAP command, or click the New Map button in the Toolbar to open a new map window. When a new map window is opened, it appears on top of the previously opened window. Use the Cascade and Tile commands in the Window menu to arrange multiple maps on the screen.

Each geographic map window in a multiple map display can have different plot settings. For example, one map can show tracks for a whole world view, while another map can be zoomed into a specific map location, and be showing tracks for that location. Each map also can have different color settings.

**NOTE**: A command selected from the menu or Toolbar affects only the window with focus.

## OPEN MAP (CTRL + O)

Use the Open Map option to open a map file. Map files may be saved with the Save Map or Map Save As options. Choose the Open Map option to display the Open window.



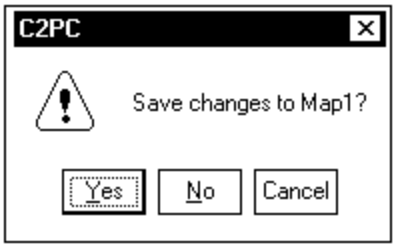

The Open window displays the contents of the map directory. The map directory is the default directory for map files.

To open a map file, click on a file from the displayed list and click the Open button. The map displays as the active map window.

To view map files in other directories, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

## CLOSE MAP

Use this option to close the active map window. If changes have been made to the map, the Save Changes to Map window appears.




Click the OK button to save the changes and close the window. When this map is opened again, the newly saved map will display.

If you don't want to save changes to the map, click No to close the map without saving changes. When the map is opened again, the previously saved map will display.

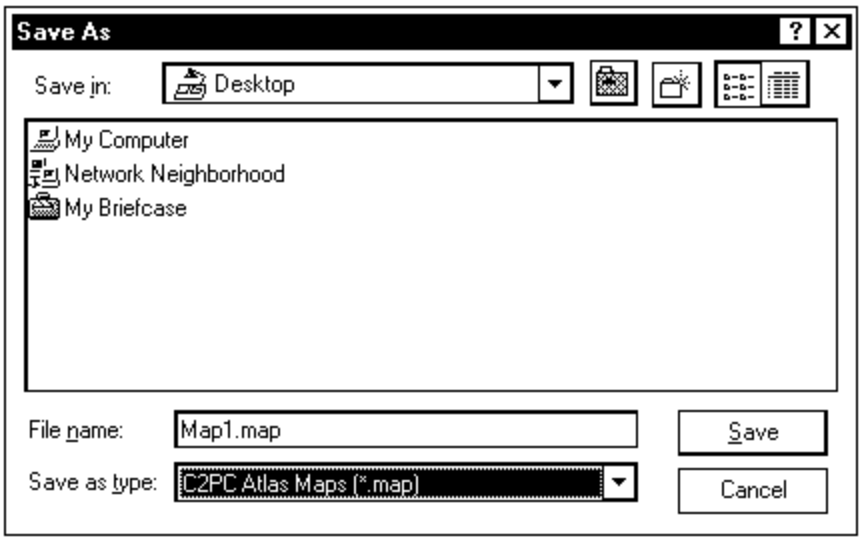
If you decide not to close the map, click Cancel to keep the map open.

## SAVE MAP (CTRL + S)

Use this option to save the currently displayed map to a file. If the currently displayed map has already been saved with the Map Save As option, this option will overwrite the previously saved file. If the currently displayed map has not yet been saved, the Save As window will appear. Refer to the Map Save As option below for complete instructions for using this window.

## MAP SAVE AS

Use this option to save the currently displayed map to a file. Choose this option to display the Save As window.




The Save As window displays the contents of the map directory. The map directory is the default directory for map files.

Enter a name for the map file in the File name field and click the Save button to save the map file. Map files have an extension of .map. If you do not add this to your file name, it will be added automatically.

To save the map file to a different directory, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

When a map is saved, the following elements are retained:

?? The current map center, width, and scale.

?? The map projection.

?? All active map features.

?? Map colors and intensity.

?? Declutter mode on/off state.

?? Quick Draw on/off state.

?? Any raster maps that are present within the Map Data option are retained. The activation state of each map is retained, as well as the priority, min scale, and max scale.

?? The Toggle Coverages Grid button state.

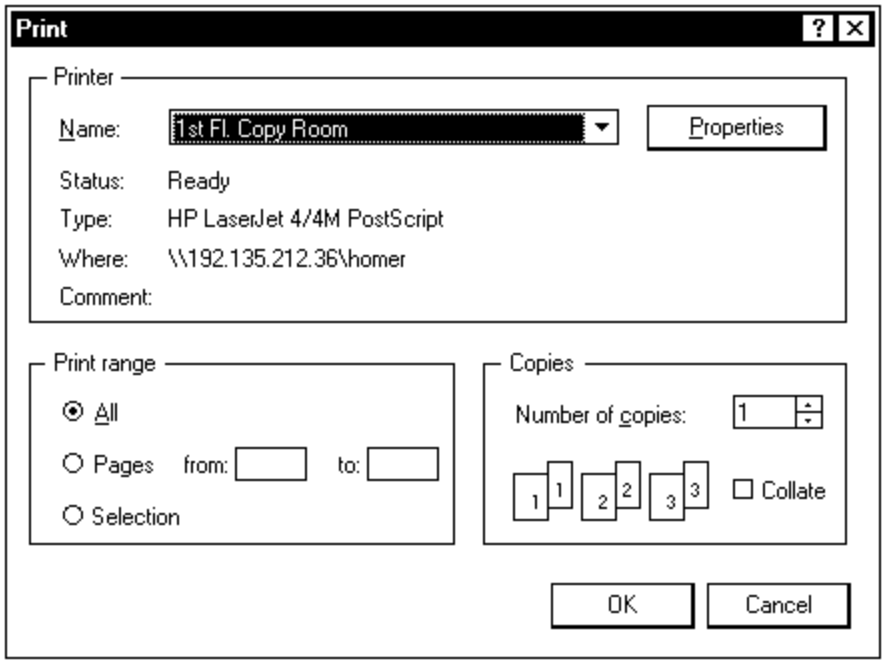
?? Active overlays and routes (optional).

?? Quick Points and Quick Range/Bearings (optional).

Quick Points, Quick Range/Bearings, and active overlays and routes are only saved if appropriate checkboxes are turned on from the Save View tab found under Tools:Options. Saving overlays and routes greatly increases the file size of .map files.

## PRINT MAP (Ctrl + P)

Use this option to print the currently displayed map window. The printout includes the map background and all objects displayed on the map including tracks, overlays, and other objects. Select the Print Map option to display the Print window.



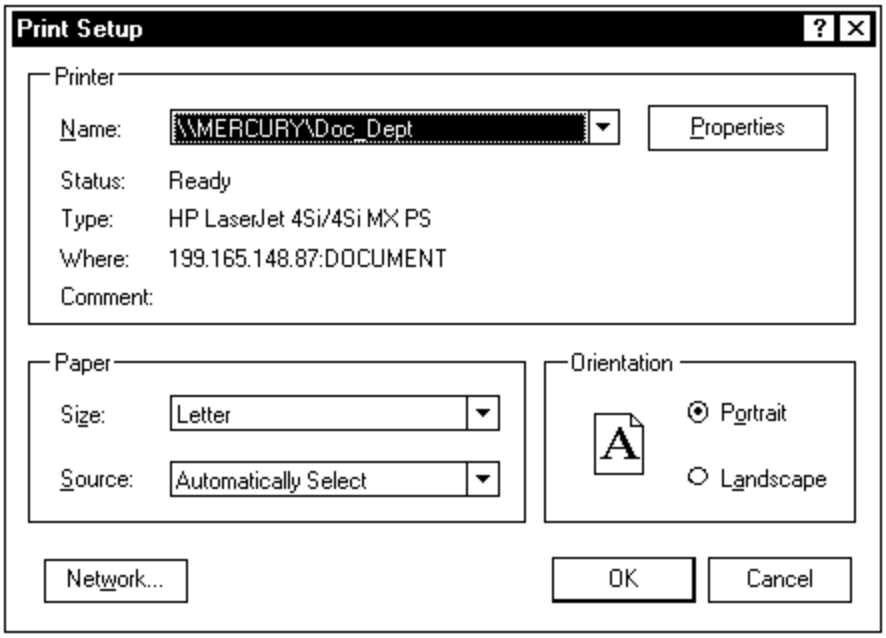

The Print window is the standard printing window used for most applications. Use the down arrow in the Name field to locate the printer where you want to print. Click the Properties button to display the Properties window. From the Properties window, choose either Portrait or Landscape Orientation and enter the number of copies you want in the Number of copies field. Click the OK button to print the map on your printer. Note that it may take two to three minutes to print.

## PRINT PREVIEW

Use the Print Preview option to display a window showing the information that will be sent to the printer if you use the Print option to print the map. The Print Preview window shows a small-scale version of each page and allows you to zoom in or out, go forward or backward through pages, and view two pages at once. You may also print directly from the Print Preview window. Click the Close button from the Print Preview window to exit this option.

## PRINT SETUP

Use the Print Setup option to choose the printer setup options. This option allows you to choose a network or printer location, choose a printer, choose paper size, choose paper orientation, as well as other print settings. Select the Print Setup option to display the Print Setup window.



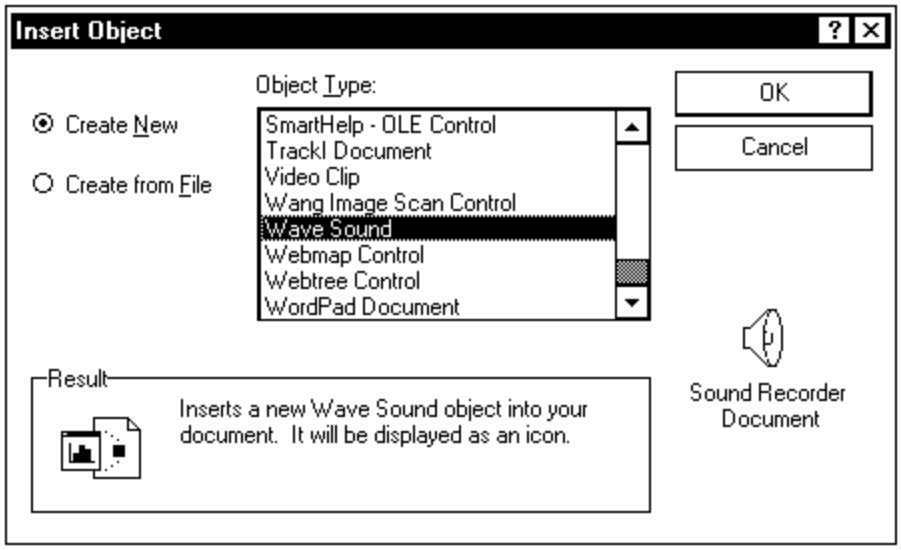

The Print Setup window is the standard print setup window used for most applications. Use the down arrow in the Name field to locate the printer where you want to print. Click the Network button to choose the network or printer where you wish to print. Choose a paper size and source and choose the page orientation.

Click the Properties button to display the Properties window. From the Properties window, change any of the Page Setup or Advanced printer settings as needed. Click the OK button to accept any new printer settings or click the Cancel button to cancel them and change back to the old settings.

## INSERT NEW OBJECT

Many different types of files can be inserted into the C2PC map window. For example, Microsoft Word files, Wave Sound files, and Bitmap Image files can all be inserted into the map window.

To insert a file, choose the Insert New Object option to display the Insert Object window.




To insert an object, perform the following steps.

1. Select an object type from the scroll list.
2. Click either the Create New or Create From File knob. If the Create New knob is selected, a new file of the type selected will be inserted into the map window. If the Create From File knob is selected, you must enter a pathname or use the Browse button to choose a file that has already been created to import into the map window.

When your choices have been selected, you can view what the result will be in the Result box. This tells you ahead of time what will happen when you click the OK button.

When everything is set as you want it, click the OK button to insert the object into the map window. The file is inserted into the center of the map window as an icon.

Click on the icon to display a small white drag box in the icon. Use the drag box to drag the icon to another part of the map window if you wish.

Double click the icon to open the file.

To delete an object, select the object and press the Delete key from the keyboard.

## OBJECT

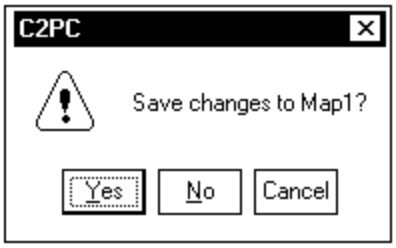
This option is only active when an object has been inserted into the map window, and that object is selected. When an object is selected, options will appear here to allow you to perform various operations on that object. The available options will change depending on the type of object selected.

## RECENT FILE

If other files have been opened recently from within C2PC, the last nine files are listed here. You may choose any of these files from the menu to display them in the map window.

## EXIT

Use this option to exit the C2PC Client. If changes have been made to any maps, the Save Changes to Map window appears.




Click the OK button to save the changes and exit C2PC. When C2PC is opened again, the newly saved map will display.

If you don't want to save changes to the map, click No to exit C2PC without saving changes. When C2PC is opened again, the previously saved map will display.

Refer to the documentation for the File:Save As option for complete details about exactly what is saved with saved maps.

If you decide not to exit C2PC, click Cancel to remain in C2PC.

## 4.2 MAP MENU

The Map menu options allow you to:

?? Change the map view.

?? Change projections.

?? Change the map color and intensity.

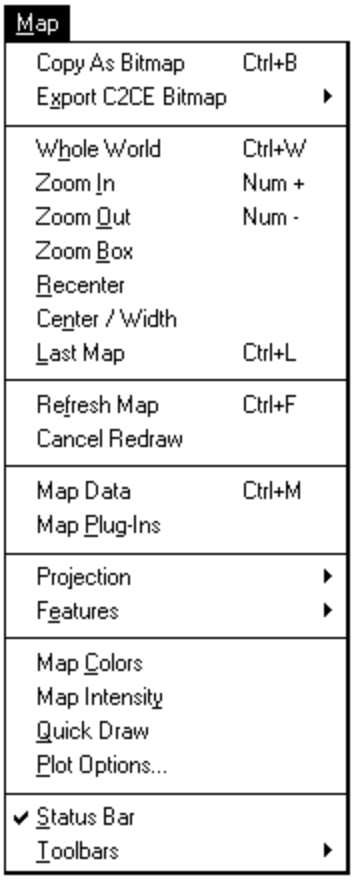
?? Show political boundaries, rivers, roads, and grid lines.

?? Display raster maps.

?? Declutter the map.

?? Set plot options.

?? Toggle the toolbar and the status bar on or off.




*Map Menu*

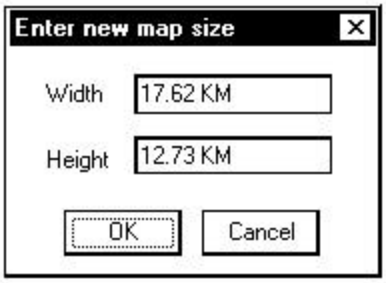
## COPY AS BITMAP (Ctrl + B)

Use the Copy As Bitmap option to copy the currently displayed map to the clipboard. The map can then be pasted into another application.

## EXPORT C2CE BITMAP

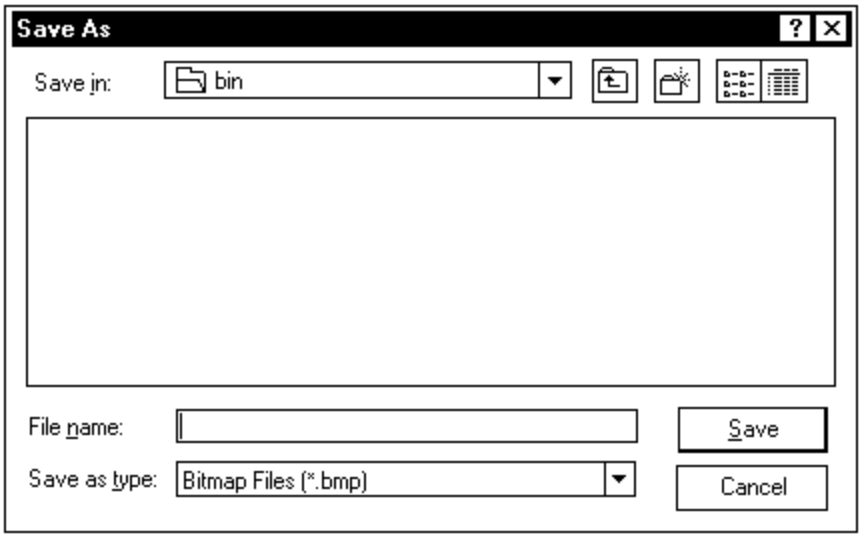
Use this option to create a georeferenced bitmap of the currently displayed map to be used with the C2CE software. (C2CE is a software application that is separate from C2PC.) Note that C2PC must be set to Flexible Draw mode for this option to be active. (Use the Map:Quick Draw option to toggle between Quick Draw and Flexible Draw mode.)

The Export C2CE Bitmap option contains a cascading menu with 16 Colors and 256 Colors choices. You may save the map in either of these color depths. Choose either 16 Colors or 256 Colors from the Export C2CE Bitmap option to display the Enter new map size window.




The Enter new map size window displays the width and height values for the currently displayed map. This option will only save maps when the width times the height is less than 625 KM. As long as the width and height are within this specification, you can use the displayed values or you can enter new values for these fields. If you enter new values, the new map will be created around the current center point of the map.

When the Width and Height field values are set as you want them, click the OK button to display the Save As window.




The Save As window displays the contents of the bin directory. The bin directory is the default directory for C2CE bitmap files.

Enter a name for the C2CE bitmap file in the File name field and click the Save button to save the currently displayed map. C2CE bitmap files have an extension of .bmp. If you do not add this to your file name, it will be added automatically. When a C2CE bitmap file is saved, two files are saved - a bitmap file (a .bmp file) and a file containing georeferencing data for the map (a .dat file).

To save the C2CE files to a different directory, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

When the saved C2CE files are opened within the C2CE software application, the saved C2PC map is displayed, and position data for the map is available.

## WHOLE WORLD (CTRL + W)

Expands the map in the active window to a view of the entire world.

## ZOOM IN (Num +)

Magnifies the view in the active map window by zooming closer around the center of the active map window.

As a default value, each time you choose Zoom In, the map window is magnified by a factor of 1.5. The factor of the zoom can be selected from 1.5, 2, 4, 6, 8, or 10. To change the factor of the zoom, click the down arrow button to the right of the Zoom In button in the toolbar to display a pull-down menu with the different choices available. A checkmark appears before the currently selected zoom factor. Select a new zoom factor from the list and the newly chosen zoom factor becomes the new default value for the Zoom In and Zoom Out buttons, and for the Zoom In and Zoom Out options from the Map menu. The next time you choose Zoom In or Zoom Out, the map will be magnified by the newly selected zoom factor.

## ZOOM OUT (Num -)

Reduces the magnification of the view in the active map window by zooming out around the center of the active map window.

As a default value, each time you choose Zoom Out, the map window is magnified by a factor of 1.5. The factor of the zoom can be selected from 1.5, 2, 4, 6, 8, or 10. To change the factor of the zoom, click the down arrow button to the right of the Zoom In button in the toolbar to display a pull-down menu with the different choices available. A checkmark appears before the currently selected zoom factor. Select a new zoom factor from the list and the newly chosen zoom factor becomes the new default value for the Zoom In and Zoom Out buttons, and for the Zoom In and Zoom Out options from the Map menu. The next time you choose Zoom In or Zoom Out, the map will be magnified by the newly selected zoom factor.

## ZOOM BOX

Forms a rectangle guide that lets you zoom in on a particular area of interest. When a zoom box is drawn on the screen, the map zooms in to the width of the zoom box, with the map centered on the middle of the zoom box.

To use the Zoom Box option, perform the following steps:

1. Choose Zoom Box, using one of these methods:
   - Menu : MAP : ZOOM BOX.
   - Toolbar : Zoom Box button.
2. Move the pointer over the Map window; the pointer changes to a crosshair with a rectangle attached.
3. Place the pointer at the upper left corner of the area of interest, hold down the left mouse button, and drag down diagonally to draw a box around the area of interest. Release the mouse button when you have enclosed the area with the selection rectangle.

   When a zoom box is drawn on the screen, the map zooms in to the width of the zoom box, with the map centered in the middle of the zoom box. (Click Zoom Out or Whole World to zoom back out.)

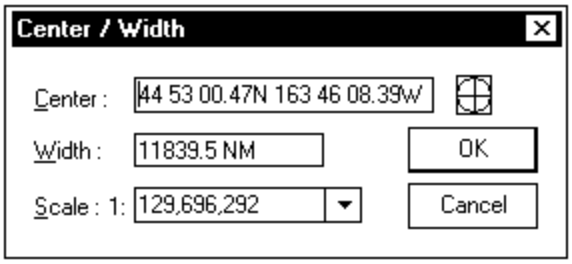
**Note**: The Zoom Box option in C2PC draws a scale box from a corner, while the Zoom Box option in UB draws a scale box from the center point.

## RECENTER

Recenters the map around a chosen cursor location. Choose Recenter to display a + symbol at the current center point of the map. Click another point on the map. The map recenters around the chosen point.

## CENTER/WIDTH

Centers the map around a chosen position and changes the map width to a specified value. Choose the Center/Width option to display the Center/Width window.




To change the center/width of the map, enter a position value in the Center field, and enter either a width value in the Width field or a map scale value in the Scale field.

Enter the position from the keyboard or enter the position automatically as follows:

1. Click the crosshair button to the right of the Position field.
2. Click a position in the map window.

The Width and the Scale field are both used for the same purpose - to determine the viewing distance for the map around the chosen center point.

Click OK to accept the values and the map changes to display the selected view.

## LAST MAP (Ctrl + L)

Redisplays the previous map. If you have changed the map view, the Last Map option will change the map back to the previous map view.

## REFRESH MAP (Ctrl + F)

Refreshes the map. During most operations this option is not needed, as the map is automatically refreshed whenever the map view changes. This option is used most often after the Cancel Redraw option is used, as that option sometimes leaves the map in a non-refreshed state.

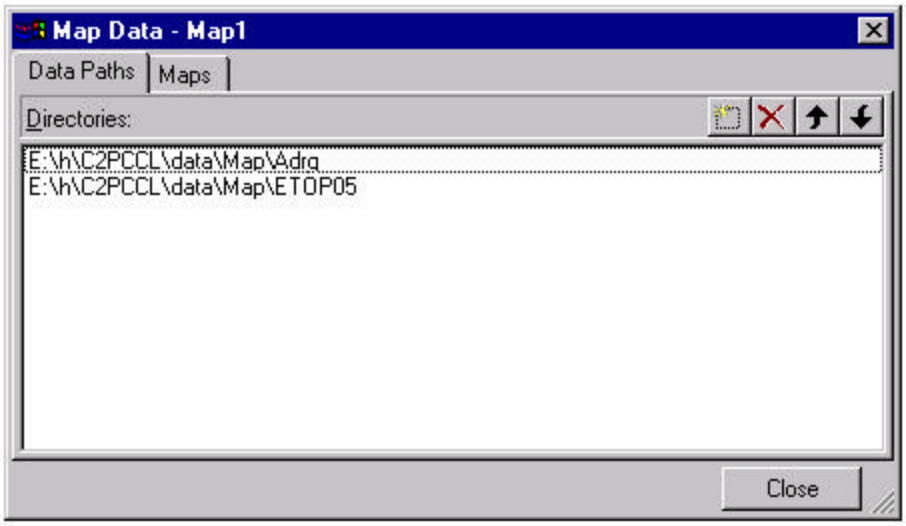
## CANCEL REDRAW (Esc)

Cancels any operation that is causing the map to be redrawn. For example, if a raster map is being drawn that will take several minutes to complete, you may click the Cancel Redraw option to immediately stop the map drawing process. For some map types, this may cause the map to display part of one map type and part of another. Use the Refresh Map option to redraw the map as only one type.

# MAP DATA

Use the Map Data option to locate specific raster maps and make them available to the C2PC system. Choose the Map Data option to display the Map Data window.

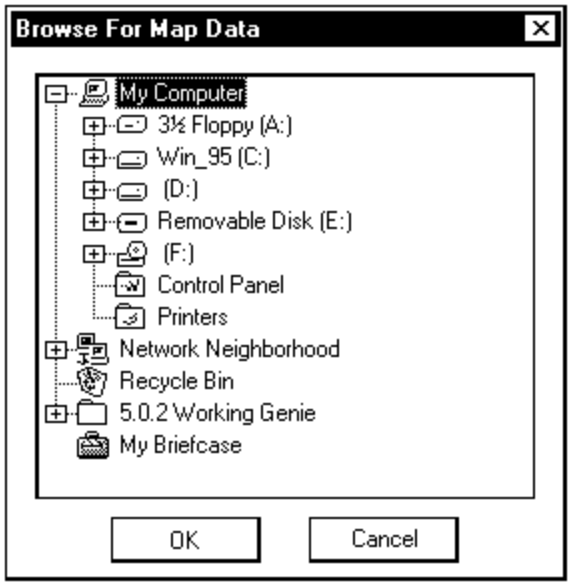
## Data Paths Folder




The Map Data window contains two tabs to allow you to view different map data information. The Data Paths tab is the first tab, while the second tab is either Maps or Datasets, depending on which Map Data View Mode toggle was chosen from Tools:Options. If the Map Data View Mode is set to Tree View, the Maps tab appears. If the Map Data View Mode is set to List View, the Datasets tab appears. The tab that was open the last time this option was used is the default tab. The first time this option is used, the Data Paths tab appears.

In order for C2PC to display a raster map, the map must be stored on your local hard disk, or on another disk that is accessible to your workstation. The Data Paths folder displays a list of all selected paths to map data. Raster maps contained within the selected paths are accessible to C2PC.

To add a new path to the list, click the New button from the toolbar (or click the Insert key from the keyboard) or double-click the line after the last path in the list. A blinking cursor appears, and you may enter the pathname directly into the field. You may also click the ... button that appears on the right side of the field to browse for a path.




To browse for map data, click on the various available workstations, disks, and paths until you locate the path that contains map data that you wish to view. The OK button in the Browse For Map Data window is dim and unavailable unless a path is selected which contains map data. Click the OK button to accept a path. When the OK button is clicked, you are returned to the Map Data window, and the chosen path appears in the list in the Data Paths folder.

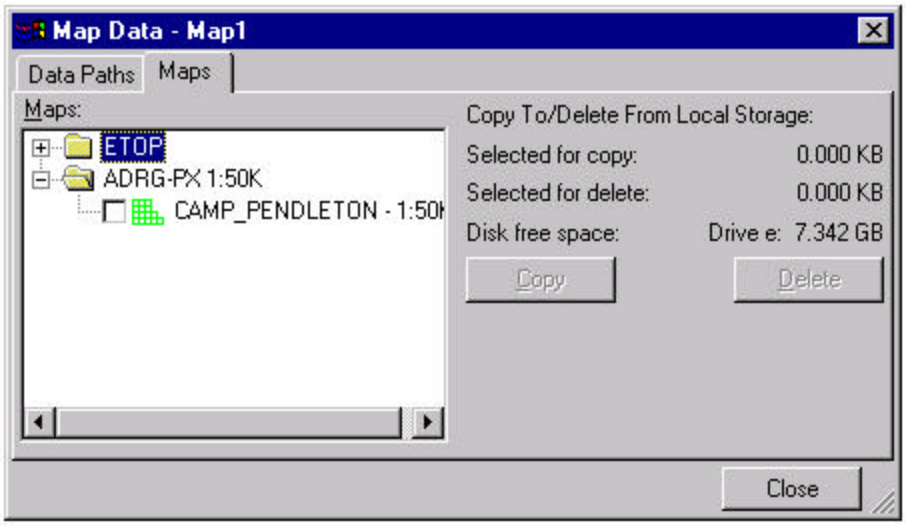
To delete a path from the list under the Data Paths tab, select the path you wish to delete and click the Delete button from the toolbar (or click the Delete key from the keyboard). The path disappears from the list.

If the same map name is located in more than one of the open paths, the path listed higher in the list takes precedence. Use the arrow buttons from the toolbar to reorganize the list in the order you want. To move a path up one position in the list, select the map and click the up arrow button. To move a path down one position in the list, select the map and click the down arrow button.

There is a pop-up menu associated with the Data Paths folder. To access the pop-up menu, click the right mouse button to display the Refresh pop-up option. Choose this option (or click the F5 button) to bring in any new maps for the selected path. For example, if your CD drive is selected as a path and you change CDs in the drive, choosing the Refresh option will bring in the maps from the new CD.

### Maps Folder

If the Map Data View Mode toggle from Tools:Options is set to Tree View, the Maps tab is available. Click the Maps tab to display additional information.




The Maps tab displays a list of map types and maps available for display. The map list that appears in the left portion of this window is organized in a tree structure, with two levels of information displayed. The top level of the map list shows the map types. The next level shows the individual maps within the map types.

For some map types, a scale is displayed in the list. For these map types, all available maps of the same scale are grouped in the same folder.

The individual maps are not listed for a map type when the plus sign (+) button appears to the left of the map type in the list. Click on the plus sign button to display the maps contained within that map type folder. The plus sign button changes to a minus sign (-) when maps are listed for the map type. Click a minus sign button to turn off the listing of the maps.

For individual maps, there is a checkbox and a grid displayed in front of the map name in the list. Click the checkbox on to activate the map in the map window. Note that DTED, ETOP, and TIFF map types cannot be activated in Quick Draw mode and the checkbox is disabled. (Use the Map:Quick Draw option to toggle between Quick Draw and Flexible Draw mode.) Note that maps can also be activated / deactivated from the Datasets tab.

When a map is activated, a coverage grid appears in the map window to show where the map is located. The coverage grid appears in green in the map window if the map is located in your local map directory (h / data / local / C2PCCL / Data / Map / ) or red if it is located elsewhere. For ADRG maps, the coverage grid is one solid rectangle with a grid pattern inside. For RPF maps, the grid pattern is made up of individual cells which each represent an independent area of the map. Each cell for RPF maps is also filled with a grid pattern.

In the map list, the little grid that displays in front of the map name appears in green if the map can be copied and deleted from local storage. The grid displays in grey if the copy and delete functions are unavailable for the map. Currently ADRG, BSB, and RPF maps can be copied and deleted from local storage. For inactive map types, there is a red X through the grid. To activate/deactivate map types, use the Map:Map Plug-Ins option.

When a map is copied to local storage, it is copied from its current location and pasted into your local map directory (h/data/local/C2PCCL/Data/Map/). Use the following steps to copy the map to local storage:

1) Highlight the map name to turn on the coverage grid for the map in the map window.

2) For ADRG maps, click directly on the coverage grid to highlight the grid. For BSB and RPF maps, drag a box around the entire grid to highlight it. You can also choose to copy individual cells in an RPF map by clicking directly on the cell. Hold the CTRL key down and continue clicking other cells to copy multiple cells.

   Important disk space information is listed in right part of the Map Data window. When a coverage grid is highlighted in the map window, the Selected for copy field displays the size of the selected map. The Disk free space field displays the amount of free space that will remain on your hard disk after the copy process.

3) When a red coverage grid is highlighted in the map window, the Copy button becomes available. Click the Copy button to copy the highlighted map to your local map directory.

   For large maps, the copy process may take a minute or two. A window will appear to show you the time remaining for the copy process. You may click a Cancel button from this window at any time to cancel the copy process.

   When the copy process is complete, the map will be located in your local directory and the coverage grid in the map window will display in green.

To delete a map from local storage, perform the following steps:

1) Highlight the map name to turn on the coverage grid for the map in the map window. If the coverage grid is green, then it is in your local map directory and can be deleted.

2) For ADRG maps, click directly on the coverage grid to highlight the grid. For BSB and RPF maps, drag a box around the entire grid to highlight it. You can also choose to delete individual cells in an RPF map by clicking

directly on the cell. Hold the CTRL key down and continue clicking other cells to copy multiple cells.

Important disk space information is listed in right part of the Map Data window. When a coverage grid is highlighted in the map window, the Selected for delete field displays the size of the selected map. The Disk free space field displays the amount of free space that will be on your hard disk after the delete process.

3) When a green coverage grid is highlighted in the map window, the Delete button becomes available. Click the Delete button to delete the highlighted map from your local map directory.

### *Maps Folder Pop-Up Menu*

There is a pop-up menu associated with the map list. To access the pop-up menu, move the mouse pointer over a map in the list and click the right mouse button. Pop-up options include Go To Map, Open Map, Activate All, Deactivate All, and Properties.

#### *Go To Map*

Use the Go To Map pop-up option to zoom in directly on a selected map at its natural scale. The Go To Map function can also be performed by double-clicking on a map or by selecting a map and pressing the Enter key.

#### *Open Map*

Select a map in the list and choose the Open Map option to turn on the checkbox for the map and view the raster map.

#### *Activate All*

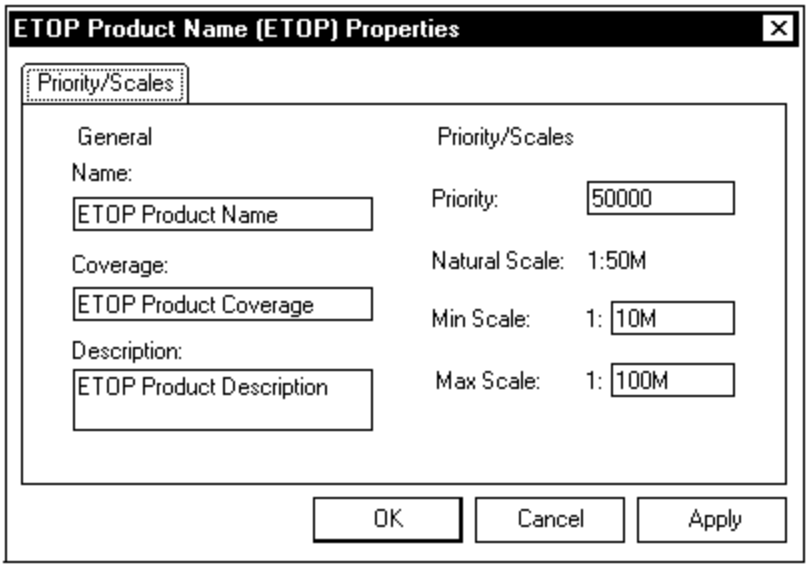
Click on a folder and choose the Activate All option to turn on the checkboxes for all maps within that folder. Click on a map and choose the Activate All option to turn on the checkbox for the selected map.

#### *Deactivate All*

Click on a folder and choose the Deactivate All option to turn off the checkboxes for all maps within that folder. Click on a map and choose the Deactivate All option to turn off the checkbox for the selected map.

*Properties*

Move the mouse pointer over an individual map in the list, click the right mouse button, and choose the Properties pop-up option (or press Alt + Enter) to view a Properties window which displays information about the selected map.




The Properties window allows you to view and edit some of the map settings. The following fields appear:

**Name**
This displays the map name.

**Coverage**
This displays the map coverage type (ADRG-PX, BSB, DTED, etc.).

**Description**
This displays a description of the map.

**Priority**
This is the display priority for the map (Natural Scale / 1000). If two active maps overlap in the map window, the map with the lowest priority number will display on top. For example, a priority 1 map will display on top of a priority 2 map.

**Natural Scale**
The natural scale is the scale at which the map is intended to be viewed. This field is for display purposes only and cannot be edited.

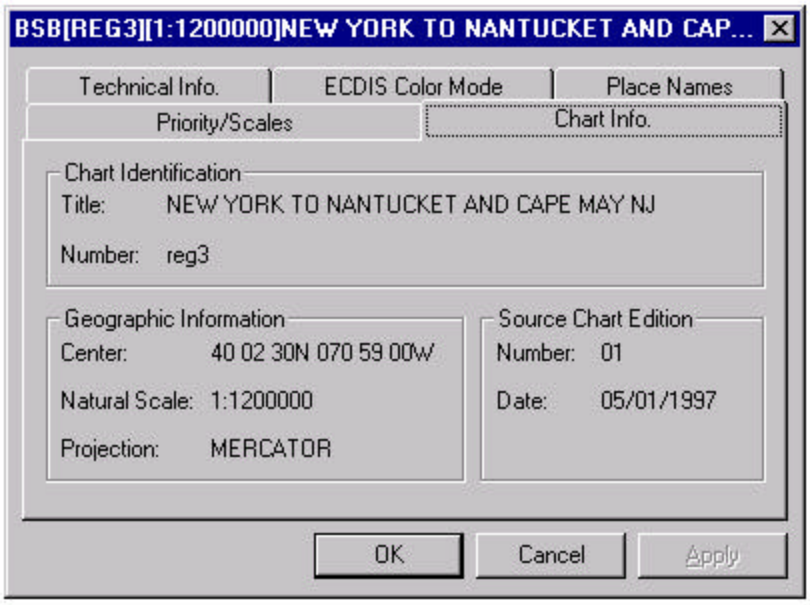
**Min Scale**

This is the minimum map scale at which the map will appear in the map window. If the scale is lower than this value, the map will not appear. Scale decreases as the width of the displayed map decreases.

**Max Scale**

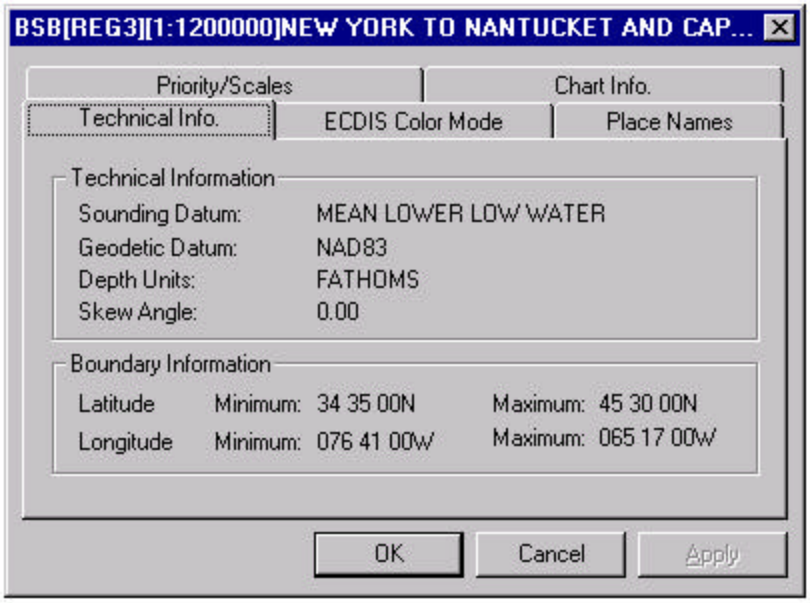
This is the maximum scale at which the map will appear in the map window. If the scale is higher than this value, the map will not appear.

For BSB maps, there are four additional tabs of information about the selected map - Chart Info, Technical Info, ECDIS Color Mode, and Place Names tabs. The Chart Info tab appears as follows.



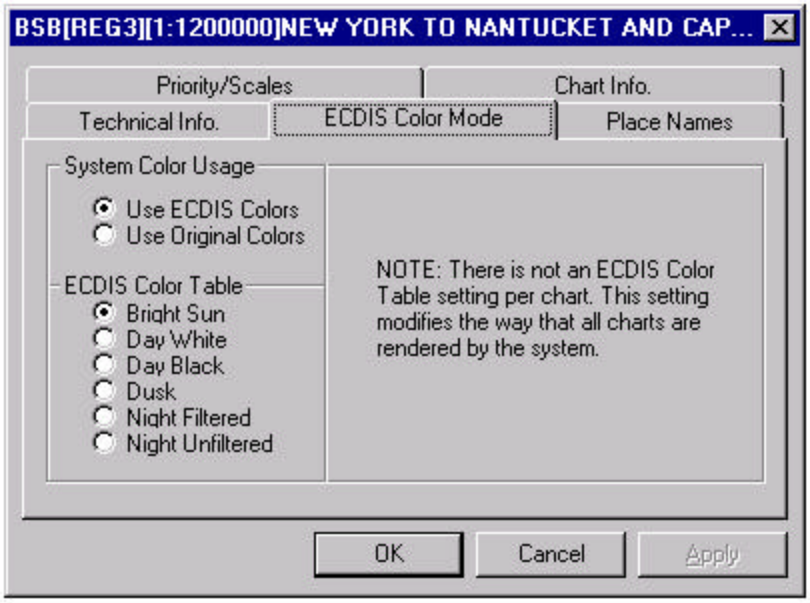

The Chart Info tab displays some general information about the map. This information is for viewing purposes only and cannot be edited.

Click the Technical Info tab to display the following information.



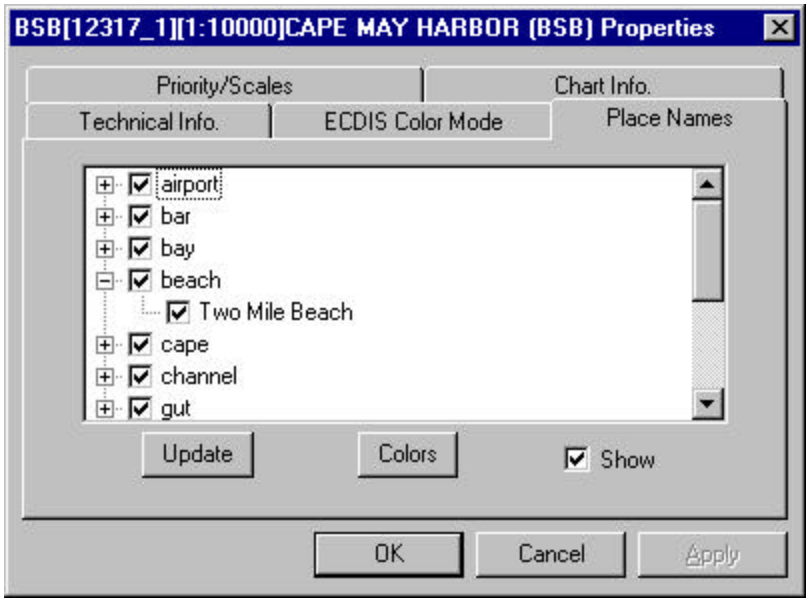

The Technical Info tab displays some technical information about the map. This information is for viewing purposes only and cannot be edited.

Click the ECDIS Color Mode tab to display the following information.




This tab allows you to adjust the colors for the map. In the System Color Usage box, click either the Use ECDIS Colors or the Use Original Colors knob. If the User Original Colors knob is clicked, the map colors are not adjustable. If the Use ECDIS Colors knob is clicked, the ECDIS Color Table knobs become available and you may choose one of those knobs to adjust the colors to the desired level.

Click the Place Names tab to view the following information.




If the selected map contains place names, they are displayed in a tree list. Click any checkbox in the place name tree list to turn on that location on the map. Note that you must click the main checkbox for a place name category before any sub-checkboxes will take effect (for example, the main heliport checkbox and any heliport sub-checkboxes must be clicked on before the sub-checkboxes will display on the map). Click the Apply or OK button for checkbox changes to take effect in the map window.

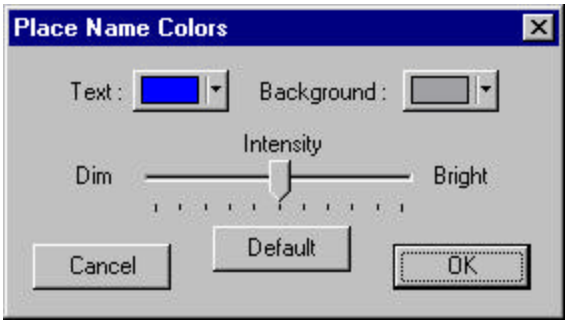
If the main place name checkbox and a sub-checkbox are both clicked on, click the right mouse button on the name of the sub-place name to display a Go To pop-up option. The Go To option displays a cascading menu showing all the maps that contain the selected place name. Choose a map from the list and the map in the map window will recenter around the selected place name, using the selected map.

To activate or deactivate all place names in the list, click the right mouse button in the white area of the list to display a pop-up menu with Activate All and Deactivate All options. Choose the Activate All pop-up option to activate all place names in the list or choose the Deactivate All option to deactivate all place names in the list.

To activate or deactivate all place names for a particular category, click the right mouse button on a main category in the list to display a pop-up menu with Activate All Placenames and Deactivate All Placenames options. Choose the Activate All Placenames option to activate all place names for the chosen category or choose the Deactivate All Placenames option to deactivate all place names for that category.

Click the Update button to refresh the placenames list in the event an updated BSB dataset is used.

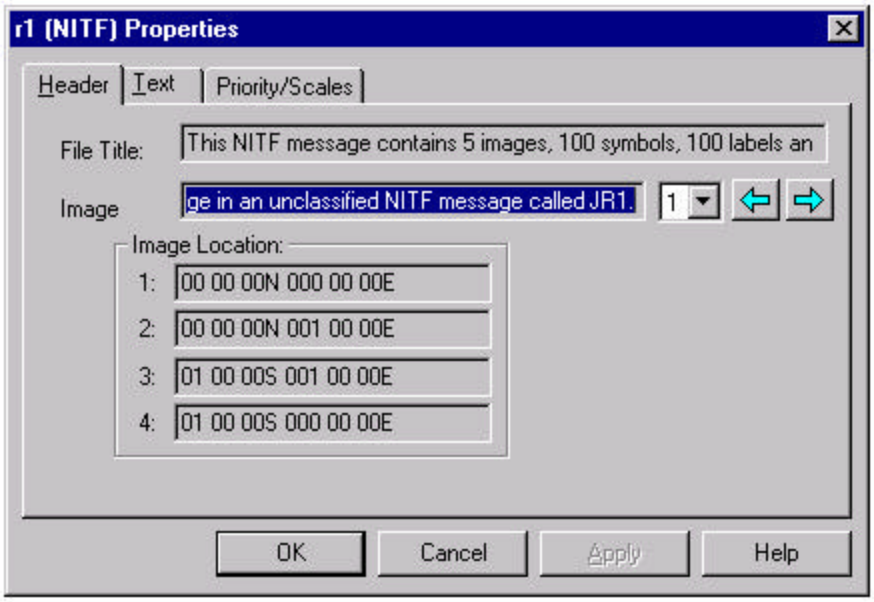
Click the Colors button to display the Place Name Colors window.




Use the Place Name Colors window to change the color of the text and background, and the intensity of place names that display in the map window. Click the Text box to view a list of text color choices and choose a different color for place name text. Click the Background box to view a list of background color choices and choose a different color for place name backgrounds. Move the Intensity slider to the left to dim the background intensity or to the right to brighten the background intensity. Click the Default button to return the Intensity to its default setting. After making any changes, click the OK button to accept the changes or click the Cancel button to discard changes. Clicking either button returns you to the Place Names tab. Note that changes made here do not take effect until the Apply or OK button is clicked from the Properties window.

The Show checkbox must be turned on for place names to appear in the map window.

For NITF maps, there are two additional tabs of information about the selected map - the Header and Text tabs. The Header tab appears as follows.



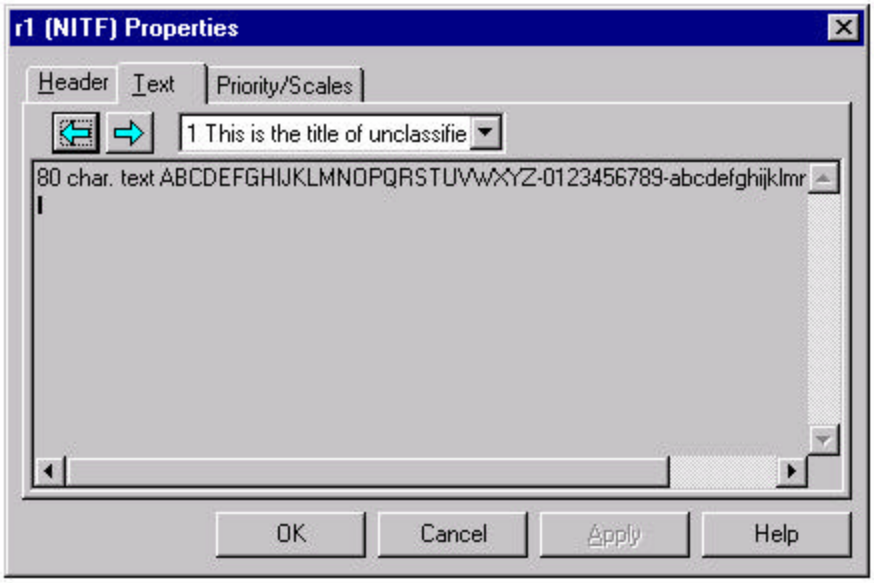

The Header tab displays the following fields.

**File Title**
This displays the title of the map.

**Image**
This displays the name of the currently selected image. There can be multiple images contained within a map. The box to the left of this field displays the number of the currently selected image. If there is more than one image for the map, use the down arrow button to view all the image numbers and choose a different one. Use the arrow buttons to scroll through the different image numbers for the map.

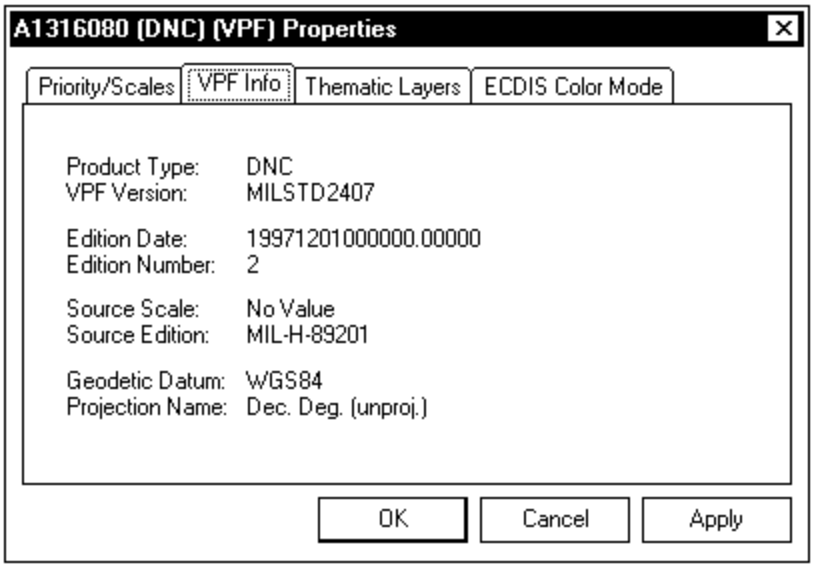
**Image Location**
This displays the positions of the four corners of the currently selected image.

Click the Text tab to view the following information.



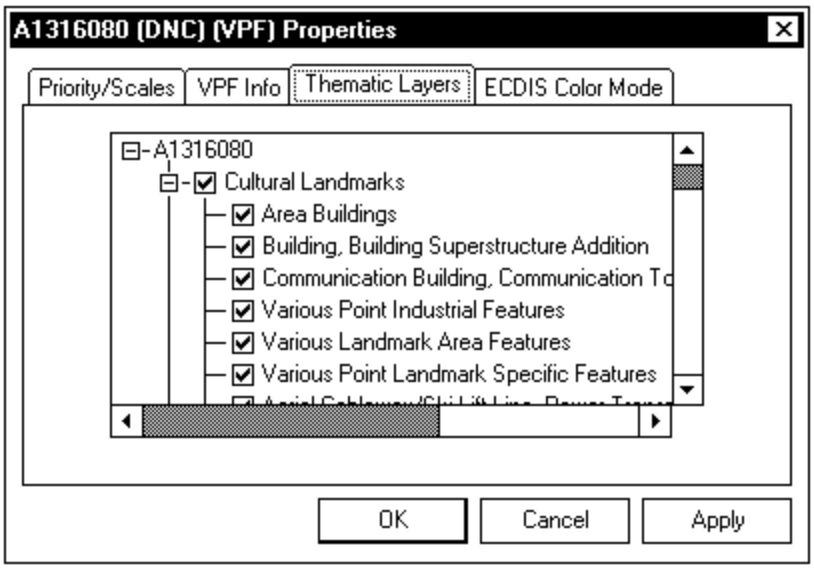

The Text tab displays text information about the map. Multiple pages of text may be associated with a map. If there is more than one image contained in a map, there may be a separate page of text describing each image. The field at the top of the window displays title information about the text that is currently in view in the main box in this window. If there is more than one page of text for the map, use the down arrow button to view all the text titles and choose a different one. Use the arrow buttons to scroll through the different pages of text for the map.

For VPF maps, there are three additional tabs of information about the selected map, including VPF Info, Thematic Layers, and ECDIS Color Mode tabs. The VPF Info tab appears as follows.



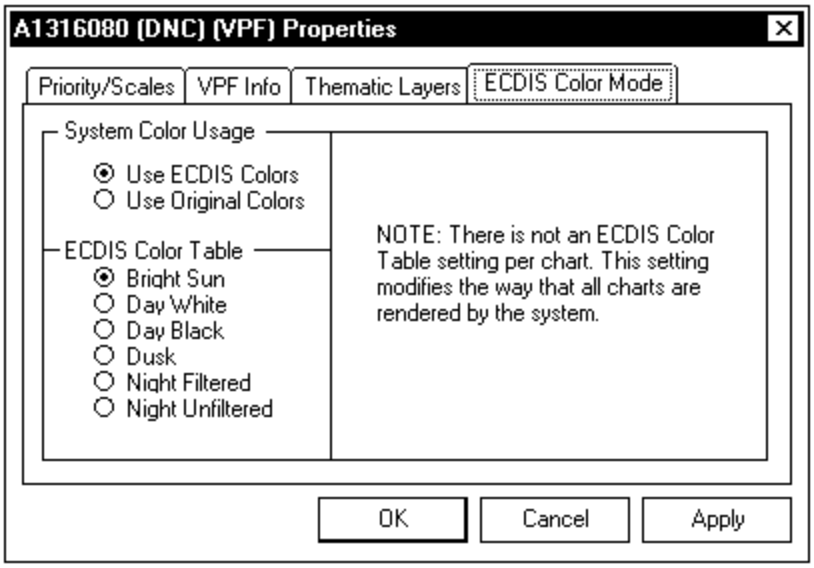

The VPF Info tab displays some general information about the map. This information is for viewing purposes only and cannot be edited.

Click the Thematic Layers tab to view the following information.




The Thematic Layers folder displays a list of checkboxes for different map features that can be turned on/off. To turn on a feature, you must click on the top level checkbox, then click on the checkbox for the feature you want to see. If either checkbox is turned off, the feature will not appear.

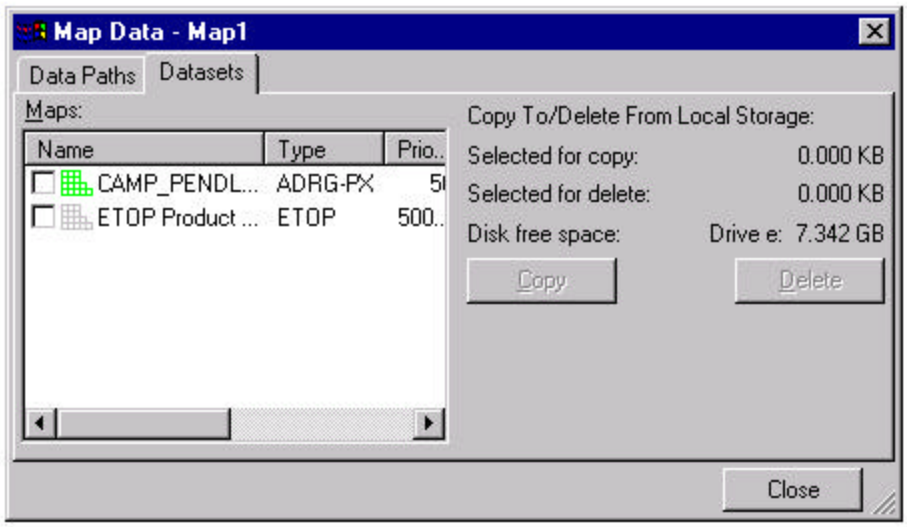
Click the ECDIS Color Mode tab to view the following information.




This tab allows you to adjust the colors for the map. In the System Color Usage box, click either the Use ECDIS Colors or the Use Original Colors knob. If the User Original Colors knob is clicked, the map colors are not adjustable. If the Use ECDIS Colors knob is clicked, the ECDIS Color Table knobs become available and you may choose one of those knobs to adjust the colors to the desired level.

## Datasets Folder

If the Map Data View Mode toggle from Tools:Options is set to List View, the Datasets tab is available. Click the Datasets tab to display additional information.




The Datasets window displays the list of available maps. Use this window to activate, deactivate, and edit the maps.

The list of maps may be sorted by any column. Click on any column header to resort the list by the chosen header. Click again on that column header to reverse the sort on that column.

The checkbox shows the active/inactive state of the maps. Click any checkbox to turn on a map, or leave the checkbox blank to turn off a map. DTED, ETOP, and TIFF maps cannot be activated in Quick Draw mode, and their checkboxes will be disabled when in Quick Draw mode. (Use the Map:Quick Draw option to toggle between Quick Draw mode and Flexible Draw mode.) Note that maps can also be activated/deactivated from the Maps tab.

For inactive map types, there is a red X through the icon to the left of the map name. To activate/deactivate map types, use the Map:Map Plug-Ins option.

Multiple maps can be selected and activated/deactivated at once. The following map selecting methods can be used:

?? Click on one map name in the list to select the map and deselect all other selected maps.

?? Hold down the CTRL key and click on a selected map name to deselect the map.

?? Click on one map name to select it, hold the SHIFT key down, then click on another map name further up or further down the list to select all maps in the list from the first to the second selected map.

?? Hold down the CTRL key, then click on multiple map names to select each of those maps at the same time.

?? Press CTRL A to select all the maps in the list.

For all selected maps, click the space bar to toggle the checkboxes on/off.

When a map is activated, a coverage grid appears in the map window to show where the map is located. The coverage grid appears in green in the map window if the map is located in your local map directory (h/data/local/C2PCCL/Data/Map/) or red if it is located elsewhere. For ADRG maps, the coverage grid is one solid rectangle with a grid pattern inside. For RPF maps, the grid pattern is made up of individual cells which each represent an independent area of the map. Each cell for RPF maps is also filled with a grid pattern.

In the map list, the little grid that displays in front of the map name appears in green if the map can be copied and deleted from local storage. The grid displays in grey if the copy and delete functions are unavailable for the map. Currently ADRG, BSB, and RPF maps can be copied and deleted from local storage. For inactive map

types, there is a red X through the grid. To activate/deactivate map types, use the Map:Map Plug-Ins option.

When a map is copied to local storage, it is copied from its current location and pasted into your local map directory (h/data/local/C2PCCL/Data/Map/). Use the following steps to copy the map to local storage:

1) Highlight the map name to turn on the coverage grid for the map in the map window.

2) For ADRG maps, click directly on the coverage grid to highlight the grid. For BSB and RPF maps, drag a box around the entire grid to highlight it. You can also choose to copy individual cells in an RPF map by clicking directly on the cell. Hold the CTRL key down and continue clicking other cells to copy multiple cells.

   Important disk space information is listed in right part of the Map Data window. When a coverage grid is highlighted in the map window, the Selected for copy field displays the size of the selected map. The Disk free space field displays the amount of free space that will remain on your hard disk after the copy process.

3) When a red coverage grid is highlighted in the map window, the Copy button becomes available. Click the Copy button to copy the highlighted map to your local map directory.

   For large maps, the copy process may take a minute or two. A window will appear to show you the time remaining for the copy process. You may click a Cancel button from this window at any time to cancel the copy process.

   When the copy process is complete, the map will be located in your local directory and the coverage grid in the map window will display in green.

To delete a map from local storage, perform the following steps:

1) Highlight the map name to turn on the coverage grid for the map in the map window. If the coverage grid is green, then it is in your local map directory and can be deleted.

2) For ADRG maps, click directly on the coverage grid to highlight the grid. For BSB and RPF maps, drag a box around the entire grid to highlight it. You can also choose to delete individual cells in an RPF map by clicking directly on the cell. Hold the CTRL key down and continue clicking other cells to copy multiple cells.

   Important disk space information is listed in right part of the Map Data window. When a coverage grid is highlighted in the map window, the

Selected for delete field displays the size of the selected map. The Disk free space field displays the amount of free space that will be on your hard disk after the delete process.

3) When a green coverage grid is highlighted in the map window, the Delete button becomes available. Click the Delete button to delete the highlighted map from your local map directory.

### *Datasets Folder Pop-Up Menu*

There is a pop-up menu associated with Datasets tab. To access the pop-up menu, click the right mouse button in the Map Data window with the Datasets tab selected. Pop-up options include Sort By, Go to NIMA website, Go to Map, Open Map, Activate All, Deactivate All, and Properties.

*Sort By*

Use this option to sort the list of maps by any of the columns. Select this option and choose a column heading from the cascading menu to sort the list by that column. Note that you can also click directly on the column heading to sort by that column.

There are two additional sort choices that do not match the column headings - Availability and Activity. Sorting by Activity moves all the maps with checkboxes activated to the top of the list. Sorting by Availability moves all inactive maps to the top.

*Go to NIMA Website*

This option is currently disabled and is not available.

*Go to Map*

Use this option to zoom in directly on the selected map at its natural scale. The Go To Map function can also be performed by double-clicking on a map or by selecting a map and pressing the Enter key.

*Open Map*

Select a map in the list and choose the Open Map option to turn on the checkbox for the map and view the raster map.

*Activate All*

Click on a folder and choose the Activate All option to turn on the checkboxes for all maps within that folder. Click on a map and choose the Activate All option to turn on the checkbox for the selected map.

*Deactivate All*

Click on a folder and choose the Deactivate All option to turn off the checkboxes for all maps within that folder. Click on a map and choose the Deactivate All option to turn off the checkbox for the selected map.

*Properties*

Use this option (or press Alt + Enter) to view a Properties window which displays information about the selected map. The Properties window can also be displayed from the pop-up menu in the Maps tab. Refer to the documentation for the Maps tab above for a complete description of the Properties window.

To exit from the Map Data window, click the Close button.

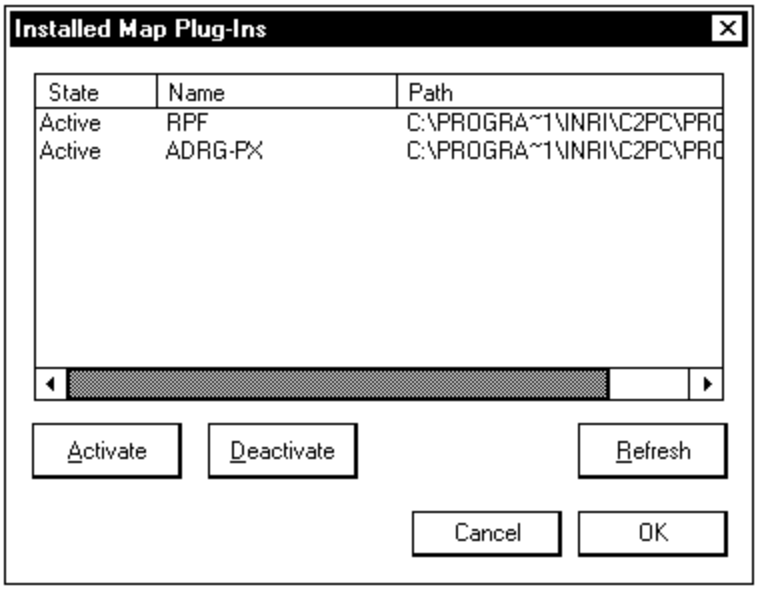
### Viewing Raster Maps in the Map Window

The methods for viewing a raster map in the map window differ depending on whether you are in Quick Draw or Flexible Draw mode. Refer to the documentation for the Map:Quick Draw option for all the details about viewing raster maps in each of these viewing modes.

There is a context menu associated with raster maps in the map window. To access the context menu, move the mouse pointer over a raster map in the map window and click the right mouse button. The context menu contains the standard context menu options, but the Properties option works differently for raster maps. When the Properties option is chosen, the Properties window for the selected map appears.

## MAP PLUG-INS

Use the Map Plug-Ins option to view and activate plug-in map types. Choose the Map Plug-Ins option from the Map menu to display the Installed Map Plug-Ins window.




The Installed Map Plug-Ins window displays a list of map plug-ins currently available for use by C2PC. C2PC provides the ADRG-PX, BSB, DTED, ETOP, NITF, RPF, TIFF, Vector, and VPF map types. Additional map plug-ins will be provided in future releases of C2PC. (Note that C2PC is set to display maps in ADRG-PX format, but not in ADRG format. A utility is provided with C2PC to convert ADRG maps to ADRG-PX format. Refer to Chapter 6 of this User's Guide for instructions on using this utility.)

To install a new map plug-in type, follow the installation instructions provided with the raster map type. Once a new raster map plug-in is properly installed, it will appear in the Installed Map Plug-Ins window. If a raster map type is installed while this window is open, click the Refresh button to display it in the window.

The State column displays the active/inactive state of each of the map plug-ins. A map plug-in must be in the active state for any specific maps of that type to appear in the map window. Select a map plug-in and click the Activate button to activate the map plug-in.

Select a map plug-in and click the Deactivate button to deactivate the map plug-in. Before a map plug-in can be deleted or replaced in your system, it must be deactivated.

Click the OK button to save any changes in the settings in this window and exit. Click the Cancel button to discard any changes and exit.

## PROJECTION

The Projection menu option displays a cascading menu to allow you to set the projection of the map to one of the following:

?? Polyconic

?? Mercator

?? Transverse Mercator

?? Cylindrical Equidistant

?? Polar Stereographic

A checkmark appears before the currently selected projection. To change projections, click on the projection without the checkmark.

## FEATURES

The Features menu option allows you to toggle on or off some display features for the map. The Features option displays a cascading menu containing the following features:

?? Pol Boundaries

?? Rivers

?? Roads

?? Grid Lines

A checkmark appears before the features that are turned on. You may turn on any or all features. By default, all features are turned off. Features that are turned on will display as follows in the map window:

**Pol Boundaries**
Displays political boundaries between countries. The Pol Boundaries option contains a cascading menu with Without Country Names and With Country Names choices. Both choices display the political boundaries, and the With Country Names choice also displays country names.

The color of political boundaries is set with the MAP:MAP COLORS option.

**Rivers**
Displays rivers on the map. Rivers map data is available for the entire world. Note that rivers will only be displayed when the map scale is at

or below the River Scale setting from Tools:Options, under the Defaults tab.

The color of rivers is set with the MAP:MAP COLORS option.

**Roads**

Displays roads on the map. Roads appear in red on the map. Roads map data is available for then entire world. Note that roads will only be displayed when the map scale is at or below the Roads Scale setting from Tools:Options, under the Defaults tab.

The color of roads is set with the MAP:MAP COLORS option.

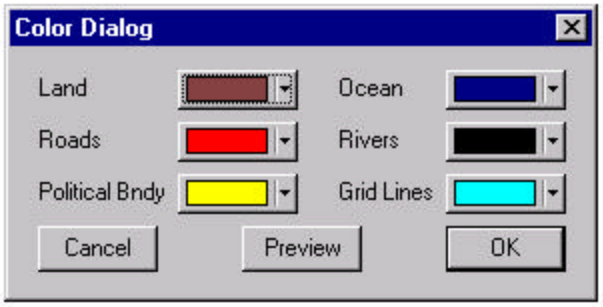
**Grid Lines**

Displays grid lines on the map. Five latitude and five longitude grid lines are usually displayed, approximately equally spaced across the screen. For some zoom factors, three or four latitude and longitude grid lines are displayed. For very long range map views, the grid lines display only lat/lng hours. For scaled in map views, the grid lines display lat/lng hours and minutes. When the map is scaled in very close, lat/lng hours, minutes, and seconds appear. The color of grid lines is set with the MAP:MAP COLORS option.

**NOTE:** The display of features slows system performance.

## MAP COLORS

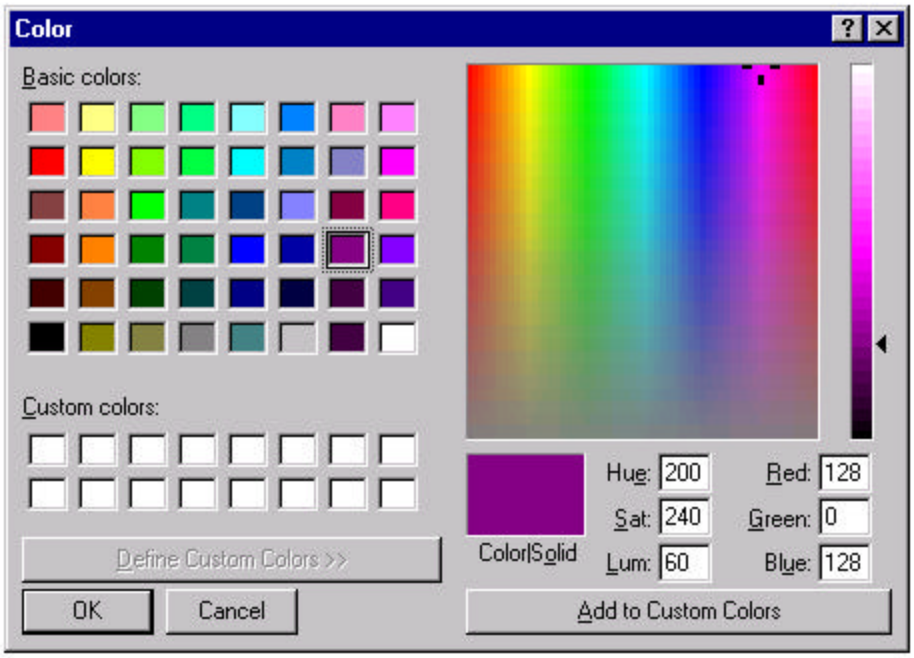
Allows you to modify the color of the active map, by redefining the colors representing the land, ocean, roads, rivers, political boundaries, and grid lines. Choose the Map Colors option to display the Color Dialog window.




The Color Dialog window displays the currently selected colors for land, ocean, roads, rivers, political boundaries, and grid lines. (Note that roads, rivers, political boundaries, and grid lines can be toggled on or off with the Features option from

the Map menu.) To change the colors for any of these types, click on the color or down arrow to display a dialog with additional color choices.

From this dialog, click the color you want. The color in the map window is not immediately changed when you choose a new color. If you click the Other button from the color choices dialog, the Color window appears.




There are three ways to choose a color from the Color window:

1) Click directly on a choice from among the Basic colors or Custom colors. The Basic colors are displayed in the upper left part of the Map Colors window. The Custom colors are displayed below and are available as user-definable color choices.

2) Click directly on a choice from the extended colors palette in the upper right part of the Map Colors window.

3) Enter numeric values in the Hue, Sat, Lum, Red, Green, and Blue fields to define the exact color. Black is defined by setting a value of zero (0) for each

of the Red, Green, and Blue fields. White is defined by a setting of 255 for each of the Red, Green, and Blue fields.

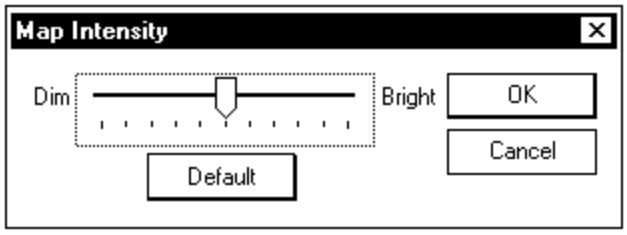
There are 16 boxes available for you to save custom colors. To save a custom color, use the extended color palette or enter numeric values in the fields to create a custom color. Click the Add to Custom Colors button to save the color to one of the custom color boxes. To use the color again, simply click on the color in the Custom color box.

The currently chosen color is displayed in the Color|Solid box. If you are using 256 color display mode for your workstation, this box will be split in half. The left portion of the box shows the amount of white and black in the specified color. The right portion of the box shows the currently chosen color. To adjust the white/black in the chosen color, use the slider at the right of the extended colors palette in the upper right part of the Map Colors window. When the color is set as you want it, click the OK button to accept the color or click the Cancel button to discard it. When clicking either of these buttons, you are returned to the Color Dialog window.

From the Color Dialog window, click the Preview button to view any changes in the map window. Color changes are not permanently saved until you click the OK button. Click the OK button to permanently save any color changes or click the Cancel button to revert to the same colors that were in use before you brought up the Color Dialog window.

## MAP INTENSITY

Use the Map Intensity option to dim or brighten the map. Select the Map Intensity option to display the Map Intensity window.




Move the slide bar to the left to dim the map and to the right to brighten the map. Click the OK button to accept any changes or click the Cancel button to discard them. Click the Default button to change the map intensity back to its default setting.

## QUICK DRAW

There are two methods available for automatically redrawing maps - Quick Draw and Flexible Draw. The Quick Draw toggle allows you to switch between the two methods. If Quick Draw is on, a checkmark appears before the Quick Draw option name in the menu. If Flexible Draw is on, no checkmark appears.

There are many operations that cause the map to be redrawn. For example, if a different map view or scale is selected, the map is automatically redrawn. For most operations, this map redraw process works very quickly in either Quick Draw or Flexible Draw mode. There are some redraw operations that take longer, such as redrawing some raster maps. The Quick Draw method greatly speeds up the drawing process for operations such as this.

When Quick Draw is on, the following things happen when a raster map is available:

?? Maps automatically redraw much faster.

?? The Map:Projection option is disabled when a raster map is displayed.

?? When the right mouse button is used in the map window to display the pop-up menu, an Other Maps option appears. Use this option to display another map from a cascading list of available maps. Only maps which are supported in Quick Draw will be displayed. These include ADRG-PX, BSB, NITF, and RPF maps.

?? The Next Up and Next Down buttons are available in the toolbar. When more than one map is overlapping the center point in the map window, use these options to change the view to the next map up or down.

?? When viewing the vector map, you must use either the Other Maps pop-up option or the Next Up or Next Down buttons to view a raster map.

When Flexible Draw is on, the following things happen when a raster map is available:

?? Maps automatically redraw slower, but this is not noticeable with most maps.

?? The Map:Projection option is available to allow you to switch between different map projections.

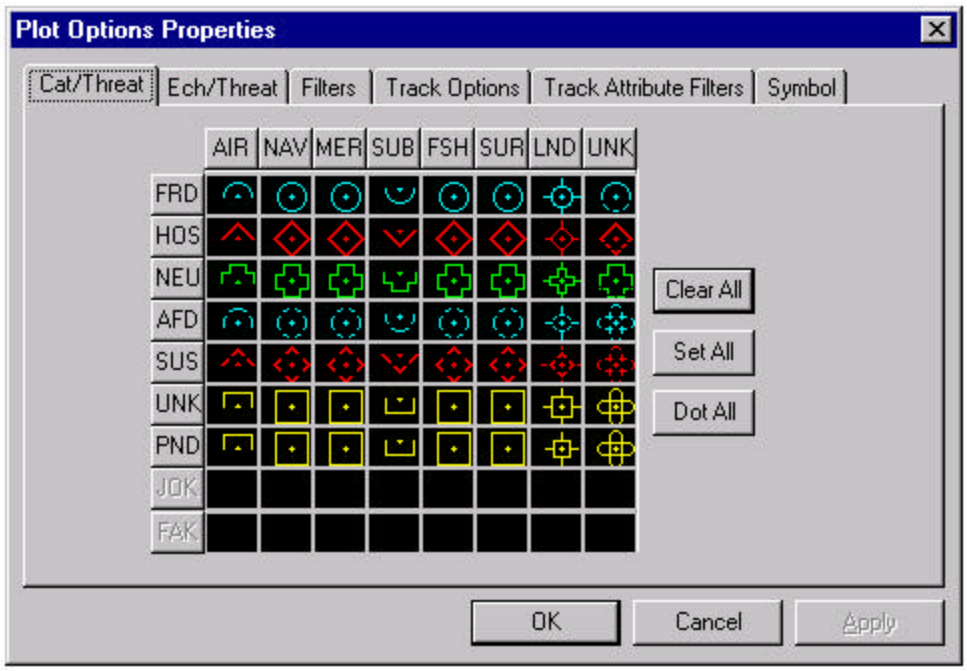
?? When viewing the vector map, the map view will automatically switch to a raster map view when the center point is over a raster map and the scale is

reduced to a scale between the minimum and maximum scale for the raster map.

## PLOT OPTIONS

Use this option to determine the way tracks plot in the map window. Tracks can be set to automatically appear or not based on some of their attributes. The size of track symbols can be set to appear larger or smaller. Other track features that can be turned on or off include AOUs, speed leaders, track annotations, and range circles.

Choose Plot Options to display the Plot Options Properties window.

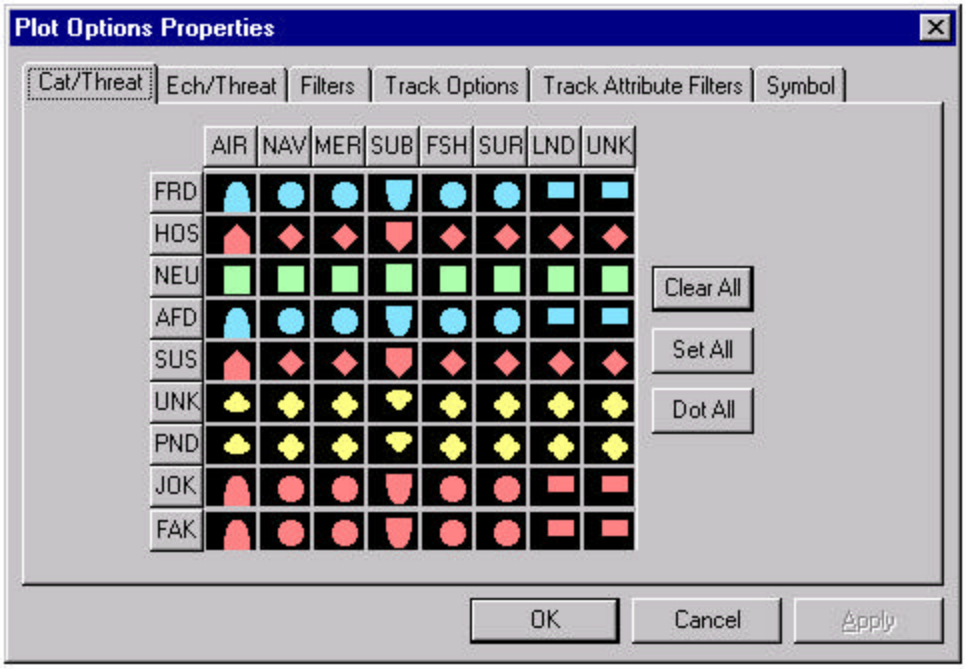



*Plot Options Properties Window - Cat/Threat Folder (NTDS)*

The Plot Options Properties window contains six separate folders - Cat/Threat, Ech/Threat, Filters, Track Options, Track Attribute Filters, and Symbol. Click on one of these tabs to view the plot settings available in that folder.

### Cat/Threat

The Cat/Threat folder allows you to use track category and track threat to determine which tracks to display. This view is the default view after selecting Plot Options.




*Plot Options Properties Window - Cat/Threat Folder (Mil 2525A)*

Note that the symbols that display in this window appear differently depending on whether NTDS or Mil 2525A is the symbol mode. (Symbol mode is set through Tools:Options.)

The display choices are to display the track symbol, display the track as a dot, or turn off display of the track. Note that these display options do not affect tracks which are part of a track group.

Use the Track Category buttons across the top and the Threat buttons on the left to specify the type of tracks you want displayed. Click a Track Category button to toggle a column of selections, click a Threat button to toggle a row of selections, or click an individual checkbox to toggle an individual selection. Clicking a row, column or individual selection toggles the selection between display on, display as dot, and do not display.

Click the Clear All button to toggle all checkboxes off. Click the Set All button to toggle all checkboxes on. Click the Dot All button to change all the track symbols to dots.

The following is a description of the Cat/Threat view data items:

**Track Category Buttons**

From the Cat/Threat view, the buttons across the top of the Plot Options Properties window are:

AIR - Aircraft

NAV - Naval

MER - Merchant

SUB - Submarine

FSH - Fishing Vessel

SUR - Surface Track

LND - Land Unit

UNK - Unknown

**Threat Buttons**

From the Cat/Threat view, the buttons down the left side of the Plot Options Properties window are:

FRD - Friendly, plotted as light blue

HOS - Hostile, plotted as red

NEU - Neutral, plotted as green

AFD - Assumed Friendly, plotted as light blue

SUS - Suspect (Assumed Hostile), plotted as red

UNK - Unknown (Evaluated), plotted as yellow

PND - Pending (Unknown, Unevaluated), plotted as yellow

JOK - Joker, plotted as red (JOK threat type is only available in Mil 2525A symbol mode)

FAK - Faker, plotted as red (FAK threat type is only available in Mil 2525A symbol mode)

### *Apply, OK, and Cancel Buttons*

Click the Apply button to accept any changes to the checkbox settings and remain in the Plot Options Properties window. Any changes made to the checkboxes are reflected in the display of tracks in the map window and to tracks in the track list.

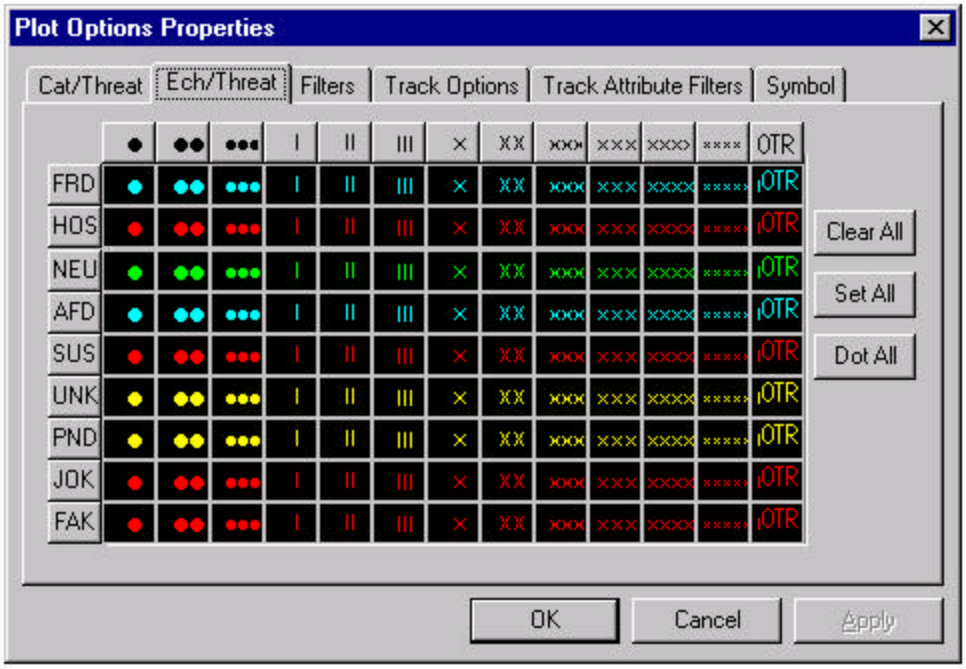
Click the OK button to accept any changes to the checkbox settings and exit the Plot Options Properties window.

Click the Cancel button to discard all changes made since the last time the Apply button was clicked and exit the Plot Options Properties window.

Note that if the map is saved, all changes to plot settings will be retained in the system, even if C2PC is turned off and restarted.

## Ech/Threat

The Ech / Threat folder allows you to use echelon level and track threat to determine which tracks to display.




*Plot Options Properties Window - Ech/Threat Folder*

Use the Echelon buttons across the top and the Threat buttons on the left to specify the type of tracks you want displayed. Note that these display options do not affect tracks which are part of a track group. Click an Echelon button to toggle a column of selections, click a Threat button to toggle a row of selections, or click an individual checkbox to toggle an individual selection. Clicking a row, column or individual selection toggles the selection between display on, display as dot, and do not display.

Click the Clear All button to toggle all checkboxes off. Click the Set All button to toggle all checkboxes on. Click the Dot All button to change all the symbols to dots.

The following is a description of the Ech / Threat view data items:

### Echelon Buttons

From the Ech/Threat view, the buttons across the top of the Plot Options Properties window represent:

Squad

Section

Platoon/Detachment

Company/Battery/Troop

Battalion/Squadron

Regiment/Group

Brigade

Division

Corps

Army

Army Group/Front

Region

### Threat Buttons

From the Ech/Threat view, the buttons down the left side of the Plot Options Properties window are:

FRD - Friendly, plotted as light blue

HOS - Hostile, plotted as red

NEU - Neutral, plotted as green

AFD - Assumed Friendly, plotted as light blue

SUS - Suspect (Assumed Hostile), plotted as red

UNK - Unknown (Evaluated), plotted as yellow

PND - Pending (Unknown, Unevaluated), plotted as yellow

JOK - Joker, plotted as red (JOK threat type is only available in Mil 2525A symbol mode)

FAK - Faker, plotted as red (FAK threat type is only available in Mil 2525A symbol mode)

### *Apply, OK, and Cancel Buttons*

Click the Apply button to accept any changes to the checkbox settings and remain in the Plot Options Properties window. Any changes made to the checkboxes are reflected in the display of tracks in the map window and in the track list.

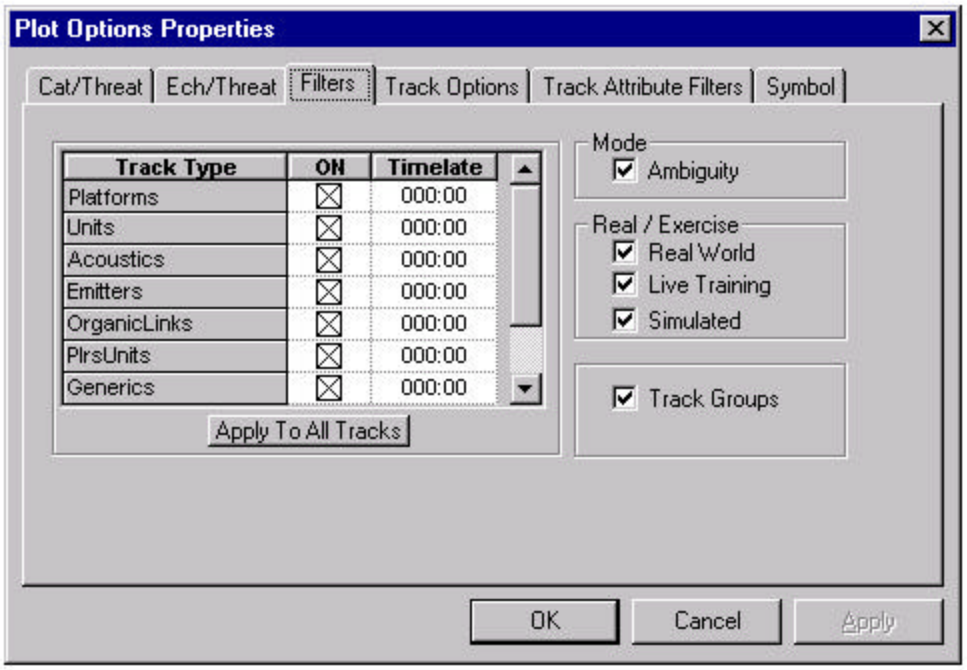
Click the OK button to accept any changes to the checkbox settings and exit the Plot Options Properties window.

Click the Cancel button to discard all changes made since the last time the Apply button was clicked and exit the Plot Options Properties window.

Note that if the map is saved, all changes to plot settings will be retained in the system, even if C2PC is turned off and restarted.

## Filters

The Filters folder contains groups of checkboxes which allow you to turn on or off certain categories of tracks and track display features.




*Plot Options Properties Window - Filters Folder*

The checkboxes in the Filters folder are broken up into different groups. The groups include Track Types, Mode, Real/Exercise, and Track Groups.

### *Track Types*

Click the ON checkboxes in the Track Types box to select track types for display. Available track types are Platforms, Units, Acoustics, Emitters, OrganicLinks, PlrsUnits, and Generics. Note that these display options do not affect tracks which are part of a track group.

For any of the track types, a timelate can be entered in the Timelate column. To enter a timelate, enter the number of hours (0-999). If greater than zero, only those tracks with a timelate lower than this number will be displayed. If zero is entered, tracks will display regardless of the DTG of their last report.

For either the ON or the Timelate column, you may use the Apply To All Tracks button to apply the last setting entered to all the track types. For example, if you click a the Units ON checkbox to off, then clicking the Apply To All Tracks button would change all the checkboxes in the ON column to off. Example 2: If you set the Platforms Timelate to 002:00, then click the Apply To All Tracks button, all the Timelates are changed to 002:00.

### *Mode*

Click on the Ambiguity checkbox to display ambiguous tracks. Ambiguous tracks are those tracks that don't correlate with any existing tracks and that don't contain enough information to be classified as a new track.

### *Real/Exercise*

Click any of the checkboxes to select track types for display. Available track types are Real World, Live Training, and Simulated. Note that these display options do not affect tracks which are part of a track group.

### *Track Groups*

Click on the Track Groups checkbox to display track groups.

Click on the Component Tracks checkbox to display unit component tracks.

If in NTDS mode only, a Speedleader checkbox is available. Click this checkbox to display speed leaders.

### *Apply, OK, and Cancel Buttons*

Click the Apply button to accept any changes to the settings and remain in the Plot Options Properties window. Any changes are reflected in the display of tracks in the map window and in the track list.

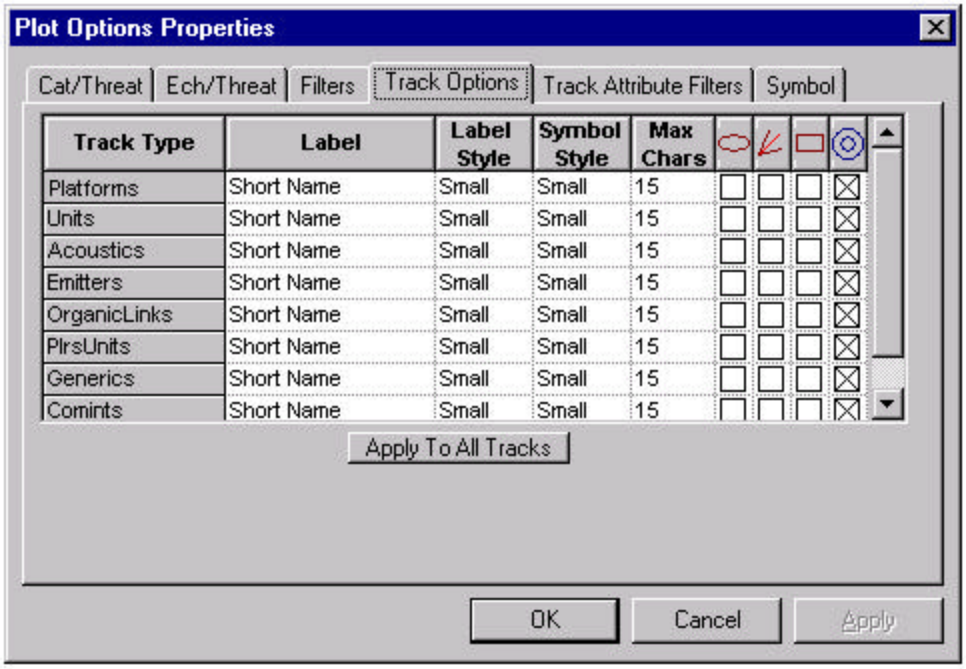
Click the OK button to accept any changes to the checkbox settings and exit the Plot Options Properties window.

Click the Cancel button to discard all changes made since the last time the Apply button was clicked and exit the Plot Options Properties window.

Note that if the map is saved, all changes to plot settings will be retained in the system, even if C2PC is turned off and restarted.

## Track Options

The Track Options folder allows you to set track label features, AOU on/off, and range circle on/off on a track type basis.




*Plot Options Properties Window - Track Options Folder*

The Track Options folder displays a table, with track types displayed in the far left column and various track type settings displayed in other columns.

### *Label*

The Label column displays the label type that appears for tracks of the chosen track type in the map window. To change the label type for a particular track type, click the appropriate label cell to display a down arrow in the cell. Click the down arrow to display all the available label type choices and choose the label type you want from the list.

### *Label Style*

The Label Style column displays the label style that appears for tracks of the chosen track type in the map window. To change the label style for a particular track type, click the appropriate label style cell to display a down arrow in the cell. Click the down arrow to display all the available label style choices and choose the label style you want from the list.

### *Symbol Style*

The Symbol Style column displays the symbol style that appears for tracks of the chosen track type in the map window. To change the symbol style for a particular track type, click the appropriate symbol style cell to display a down arrow in the cell. Click the down arrow to display all the available symbol style choices and choose the symbol style you want from the list.

### *Max Chars*

The Max Chars column displays the maximum number of characters that will display for the track labels of tracks of the chosen track type in the map window. To change the maximum number of characters, click the appropriate cell to display a down arrow in the cell. Click the down arrow to display all the available choices and choose the number you want from the list.

### *AOU checkboxes*

Click any of the Area of Uncertainty (AOU) checkboxes to toggle the display of the selected AOU type on or off for the chosen track type. When turned on, AOUs appear in the map window for tracks of the chosen track type (for tracks that contain AOUs). In the order they appear in this window, the different AOU types are ellipse, line of bearing (LOB), and bearing box.

### *Range Circle checkbox*

The Range Circle column is the last column in the table. Click the range circle checkbox for a particular track type to toggle the display of range circles on or off for that track type. When turned on, range circles appear in the map window for the chosen track type (for tracks that contain range circles).

Apply to All Tracks

For any change you make to a cell in any of the columns, you may use the Apply To All Tracks button to apply the last change made to all cells in the column for all the

track types. For example, if you change one of the cells in the Label column to Flag, then click the Apply to All Tracks button, all the cells in the Label column change to Flag.

### *Apply, OK, and Cancel Buttons*

Click the Apply button to accept any changes to the values in the Track Options folder and remain in the Plot Options Properties window. Any changes made are reflected in the display of tracks in the map window and in the track list.

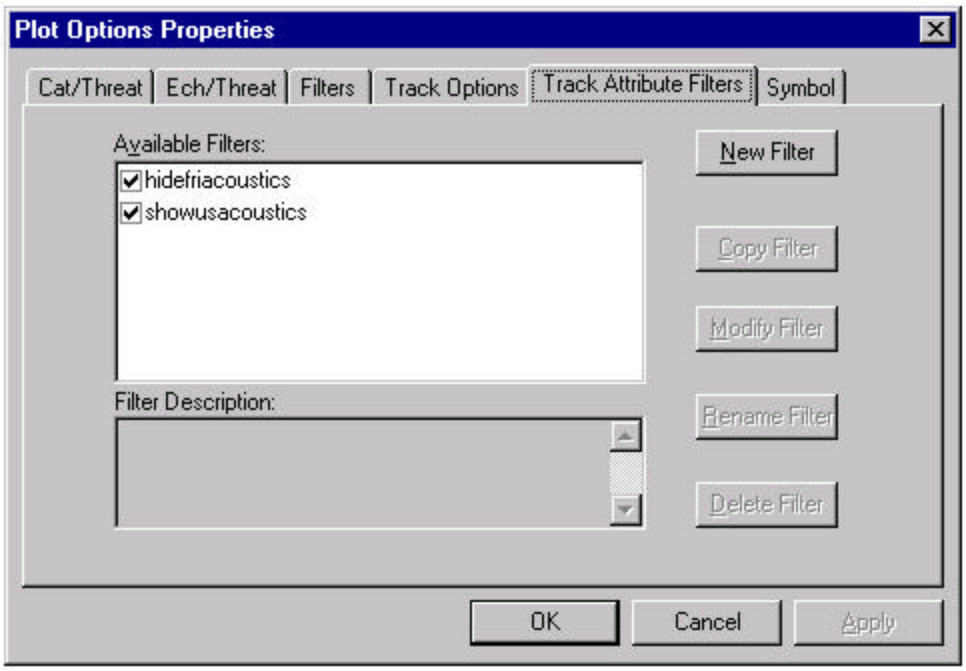
Click the OK button to accept any changes to the settings and exit the Plot Options Properties window.

Click the Cancel button to discard all changes made since the last time the Apply button was clicked and exit the Plot Options Properties window.

Note that if the map is saved, all changes to plot settings will be retained in the system, even if C2PC is turned off and restarted.

## Track Attribute Filters

The Track Attribute Filters folder allows you to set filters for specific track types and their attributes.

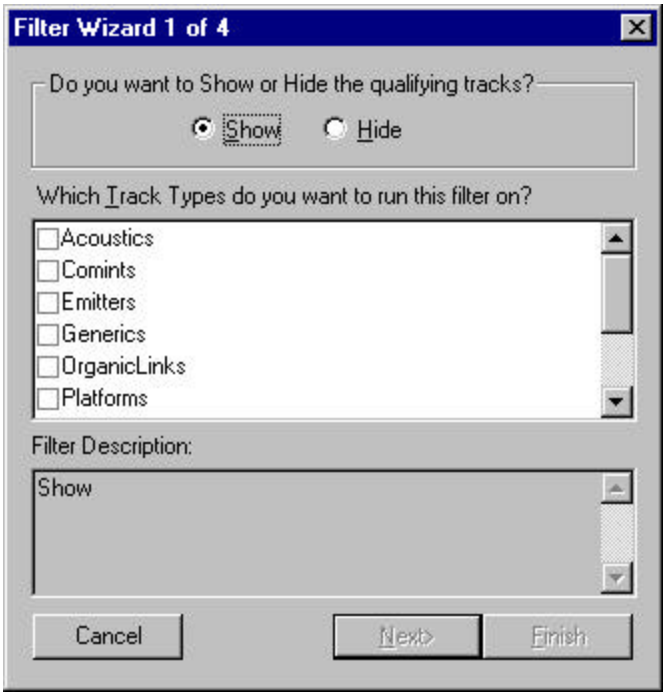



*Plot Options Properties Window - Track Attribute Filters Folder*

The Available Filters box displays a list of filters that have already been set. If the checkbox for a filter is turned on, that filter is active. If the checkbox is turned off, the filter is inactive. Select a filter from the Available Filters box to display a description of the filter in the Filter Description box.

### *Set a New Filter*

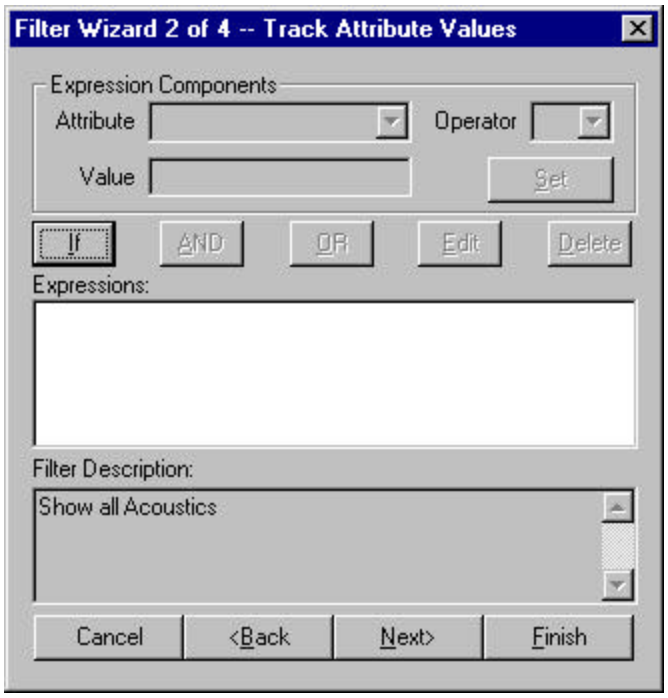
To set a new filter, click the New Filter button to display the Track Attribute Filter Wizard 1 of 4 window.




On the Track Attribute Filter Wizard 1 of 4 window, click on the checkboxes for the track types you wish to filter and click either the Show or Hide button to specify whether those tracks should be shown or hidden with this filter.

When at least one track type is chosen, the Next and Finish buttons become active. If you are finished designing the filter, you may click the Finish button to save the filter and return to the Track Attribute Filters tab. If a name is not specified for the filter, the filter will be called Filter. If there is already a filter called Filter, it will be called Filter1, etc.

To continue designing the filter, click the Next button to display the Track Attribute Filter Wizard 2 of 4 window.




The Track Attribute Filter Wizard 2 of 4 window allows you to further filter the track types you have selected by their attributes. Click the If button to activate the Attribute field.

**Attribute**

Click the down arrow for the Attribute field to display a list of attributes that can be used for filtering. Select an attribute from the list to activate the Operator field.

**Operator**

Click the down arrow for the Operator field to display a list of actions that can be taken for the selected attribute. Choices include less than (<), less than or equal to (<=), equal (=), greater than (>), or greater than or equal to (>=). Choose an operator from the list to activate the Value field.

**Value**

Enter the value to use for this expression. For example, if you want to hide or show all friendly tracks, choose an attribute of Threat, an operator of =, and a value of FRD. Enter a value in this field to activate the Set button.

**Set button**

Click the Set button to accept the expression entered in the Attribute, Operator, and Value fields. The expression appears in the Expressions box.

When at least one expression is set in the Track Attribute Filter Wizard 2 of 4 window, the If button becomes inactive, and the AND, OR, Edit, and Delete buttons become active.

Use the AND button to add an additional expression to the filter that must also be true for the filter to take effect. After clicking the AND button, the Attribute field becomes active. Enter another expression into the fields as described above.

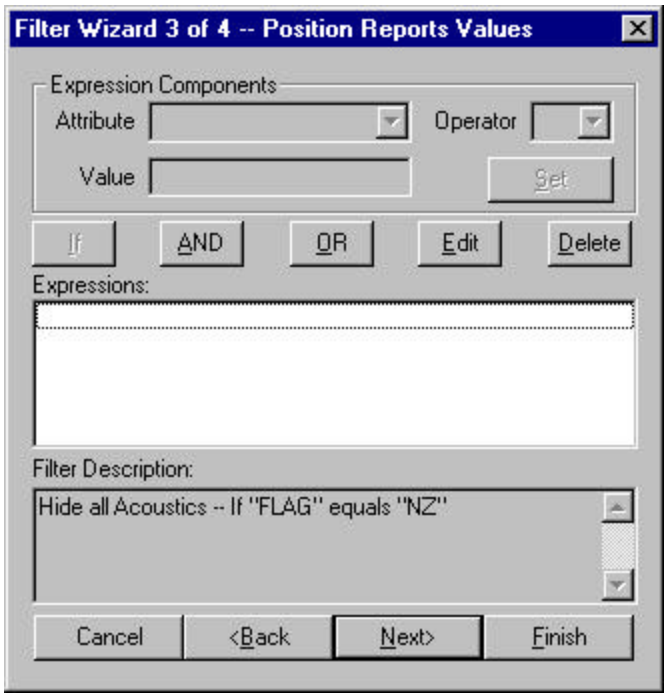
Use the OR button to add an additional expression to the filter that can be true instead of the previous expression for the filter to take effect. After clicking the OR button, the Attribute field becomes active. Enter another expression into the fields as described above.

When a combination of AND and OR expressions are part of a filter, the AND statements will be evaluated first, followed by the OR statements. For example, if there are two AND statements followed by an OR statement in a filter, both AND statements must be true or the OR statement must be true for the filter to take effect. Instead of constructing complicated AND/OR combinations for a filter, multiple simpler filters can be constructed to achieve the same results.

To edit an existing expression, select the expression in the Expressions box and click the Edit button. All of the fields in the Expression Components box become active. Modify any of the fields as appropriate and click the Set button to change the expression.

To delete an existing expression, select the expression in the Expressions box and click the Delete button. The selected expression is immediately deleted.

After all expressions have been entered as you appropriate, click the Next button to display the Position Reports Values Wizard 3 of 4 window.




The Position Reports Values Wizard 3 of 4 window allows you to further filter the track types you have selected by their position reports values. Click the If, AND, or OR button to activate the Attribute field.

**Attribute**

Click the down arrow for the Attribute field to display a list of attributes that can be used for filtering. Select an attribute from the list to activate the Operator field.

**Operator**

Click the down arrow for the Operator field to display a list of actions that can be taken for the selected attribute. Choices include less than (<), less than or equal to (<=), equal (=), greater than (>), or greater than or equal to (>=). Choose an operator from the list to activate the Value field.

**Value**

Enter the value to use for this expression. For example, if you want to show all tracks with a speed greater than 10 knots, choose an attribute of Speed, an operator of >, and a value of 10. Enter a value in this field to activate the Set button.

**Set button**

Click the Set button to accept the expression entered in the Attribute, Operator, and Value fields. The expression appears in the Expressions box.

When at least one expression is set in the Position Reports Values Wizard 3 of 4 window, the If button becomes inactive, and the AND, OR, Edit, and Delete buttons become active.

Use the AND button to add an additional expression to the filter that must also be true for the filter to take effect. After clicking the AND button, the Attribute field becomes active. Enter another expression into the fields as described above.

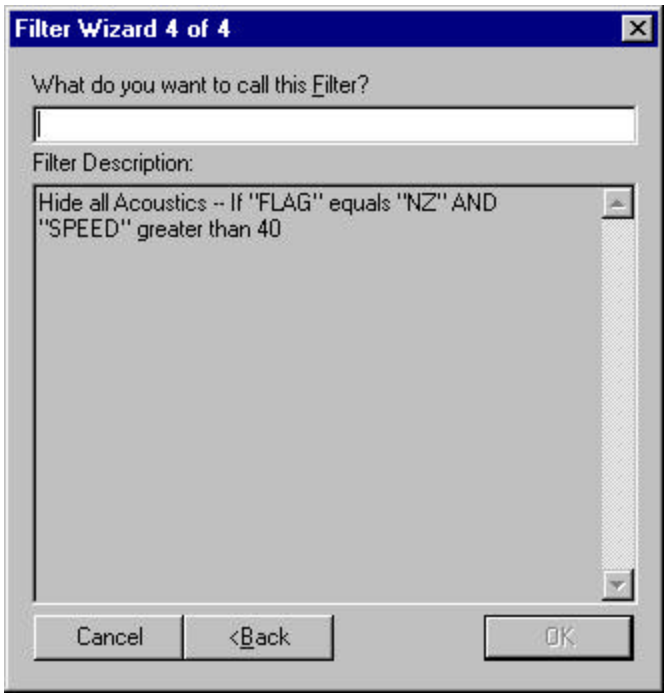
Use the OR button to add an additional expression to the filter that can be true instead of the previous expression for the filter to take effect. After clicking the OR button, the Attribute field becomes active. Enter another expression into the fields as described above.

When a combination of AND and OR expressions are part of a filter, the AND statements will be evaluated first, followed by the OR statements. For example, if there are two AND statements followed by an OR statement in a filter, both AND statements must be true or the OR statement must be true for the filter to take effect. Instead of constructing complicated AND/OR combinations for a filter, multiple simpler filters can be constructed to achieve the same results.

To edit an existing expression, select the expression in the Expressions box and click the Edit button. All of the fields in the Expression Components box become active. Modify any of the fields as appropriate and click the Set button to change the expression.

To delete an existing expression, select the expression in the Expressions box and click the Delete button. The selected expression is immediately deleted.

After all expressions have been entered as you appropriate, click the Next button to display the Filter Wizard 4 of 4 window.




Enter a name for the filter in the field at the top of the window. The complete filter description is shown in the Filter Description box. Click the OK button to save the filter and return to the Track Attribute Filters tab.

### *Copy a Filter*

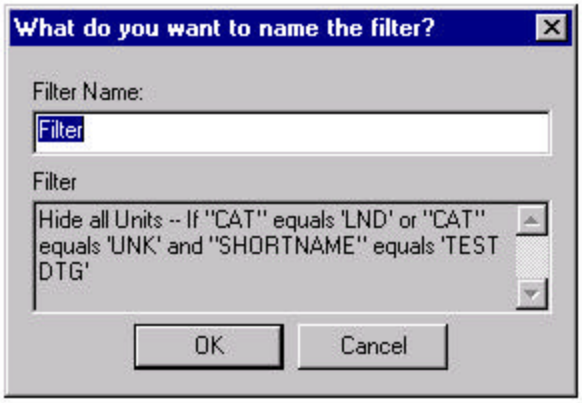
To copy a filter, select a filter from the list under the Track Attribute Filters tab and click the Copy Filter button. An exact copy of the selected filter is created, with the same name plus a 1 added to the end of the name.

### *Modify a Filter*

To modify an existing filter, select the filter from the list under the Track Attribute Filters tab and click the Modify button. The Track Attribute Filter Wizard 2 of 3 window appears for the selected filter. Follow the instructions under the Set a New Filter documentation to modify anything in the filter you wish to change.

### *Rename a Filter*

To rename an existing filter, select the filter from the list under the Track Attribute Filters tab and click the Rename button to display a filter rename window.




Enter a new name for the filter in the Filter Name field and click the OK button to accept the new name.

### *Delete a Filter*

To delete a filter, select the filter from the list under the Track Attribute Filters tab and click the Delete button. A Delete Filter Confirmation window appears. Click the Yes button from the Delete Filter Confirmation window to permanently delete the filter.

### *Apply, OK, and Cancel Buttons*

Click the Apply button to accept any changes to the values in the Track Attribute Filters folder and remain in the Plot Options Properties window. Any changes made are reflected in the display of tracks in the map window and in the track list.

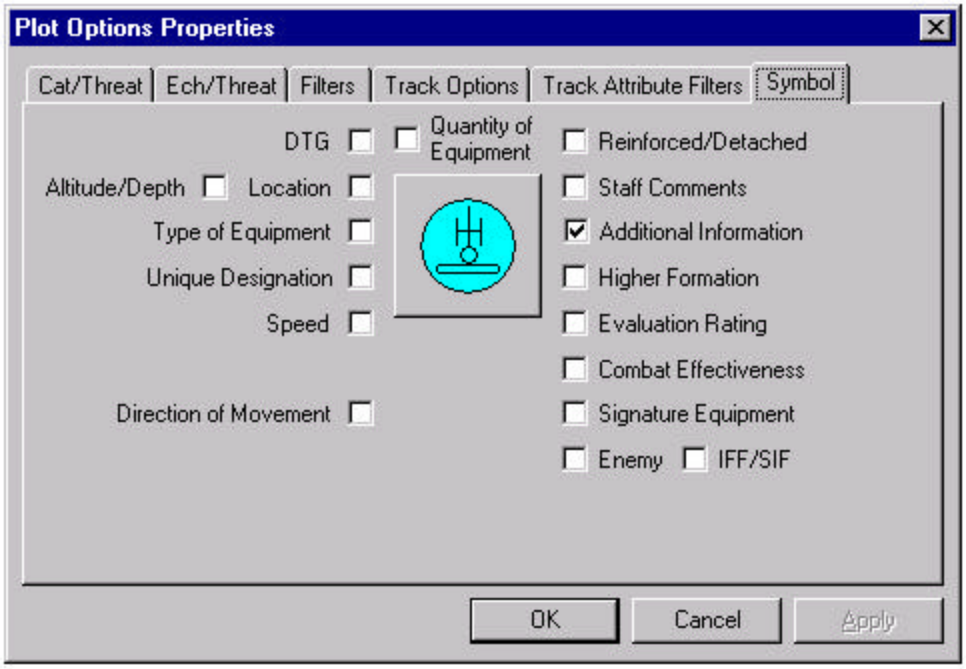
Click the OK button to accept any changes to the settings and exit the Plot Options Properties window.

Click the Cancel button to discard all changes made since the last time the Apply button was clicked and exit the Plot Options Properties window.

Note that if the map is saved, all changes to plot settings will be retained in the system, even if C2PC is turned off and restarted.

## Symbol

The Symbol folder allows you to display additional symbol features.




The Symbol tab displays checkboxes for many items associated with units. These checkboxes only have an effect if you are in Mil2525A symbol mode. If in NTDS mode, the unit name will be displayed next to the symbol, but no other items can be plotted.

If in Mil2525A symbol mode, click any of these checkboxes on to display the chosen information next to the unit in the map window. Click the checkboxes off to turn off the display of the chosen information.

**DTG**

Use this checkbox to toggle the display of the last report DTG for the unit on / off.

**Alt/Depth**

Use this checkbox to toggle on / off the display of altitude / depth for the unit.

**Location**

Use this checkbox to toggle on / off the display of the unit position.

**Type of Equipment**

Use this checkbox to toggle on / off the display of any equipment class or type information for the unit.

**Unique Designation**
Use this checkbox to toggle on/off the display of any unique designation information for the unit.

**Speed**
Use this checkbox to toggle on/off the display of the unit speed.

**Direction of movement**
Use this checkbox to toggle on/off the display of the unit course.

**Quantity of Equipment**
Use this checkbox to toggle on/off the display of any equipment quantity information for the unit.

**Reinforced/Detached**
Use this checkbox to toggle on/off the display of reinforced or detached information for the unit. If reinforced, this will display as a plus sign (+) in the map window. If detached, this will display as a minus sign (-) in the map window.

**Staff Comments**
Use this checkbox to toggle on/off the display of any staff comments for the unit.

**Additional Information**
Use this checkbox to toggle on/off the display of any additional information for the unit.

**Higher Formation**
Use this checkbox to toggle on/off the display of the higher echelon command for the unit.

**Evaluation Rating**
Use this checkbox to toggle on/off the display of the evaluation rating for the unit.

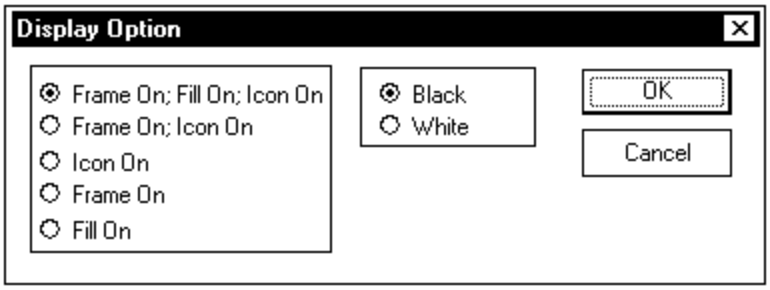
**Combat Effectiveness**
Use this checkbox to toggle on/off the display of combat effectiveness information for the unit.

**Signature Equipment**
Use this checkbox to toggle on/off the display of an exclamation point (!) if there are detectable electronic signatures for the unit.

**Enemy**
This checkbox currently is inactive. It is reserved for future use.

**IFF/SIF**
Use this checkbox to toggle on/off the display of the IFF/SIF identification mode and code for the unit.

Click on the symbol in the window to display the Display Option window.




The Display Option window allows you to turn on/off unit symbol features, and also change these features black or white.

There are three symbol features that can be turned on/off from this window including:

?? Frame - This is the line around the symbol.

?? Fill - This is the symbol color.

?? Icon - This is the icon displayed within the symbol.

Use the knobs in the left box to turn on/off these three symbol features.

The frame and icon can be colored black or white. Click the Black knob to color them black or the White knob to color them white.

### *Apply, OK, and Cancel Buttons*

Click the Apply button to accept any changes to the values in the Symbol folder and remain in the Plot Options Properties window. Any changes made are reflected in the display of tracks in the map window and in the track list.

Click the OK button to accept any changes to the settings and exit the Plot Options Properties window.

Click the Cancel button to discard all changes made since the last time the Apply button was clicked and exit the Plot Options Properties window.

Note that if the map is saved, all changes to plot settings will be retained in the system, even if C2PC is turned off and restarted.

## STATUS BAR

Toggles the display of the Status Bar off and on. A check mark means the Status Bar is displayed.

The Status Bar is located across the bottom of the C2PC Main window. See Chapter 3, “Getting Started” for information about the data displayed on the Status Bar.

## TOOLBARS

The Toolbars option contains a cascading menu with Standard and Moving choices. If an option which contains another toolbar option is loaded (for example, the Quick Point option), an additional Snap In choice is listed. Use this option to toggle the display of any of these toolbars off and on. A check mark means the toolbar is displayed.

When you first view the C2PC Main window, the Standard Toolbar is located just below the menubar. The Moving Toolbar is located next to the Standard Toolbar. The Snap In Toolbar is located beneath the Zoom toolbar option. You can drag any Toolbar to another location in the map display. See Chapter 3, “Getting Started” to learn how to move the toolbars and for information about the Standard and Moving Toolbar buttons.

Note that other option-dependent toolbars are available within C2PC. For example, the Overlays option has its own toolbar. These option-dependent toolbars are not controlled with this Toolbars option.

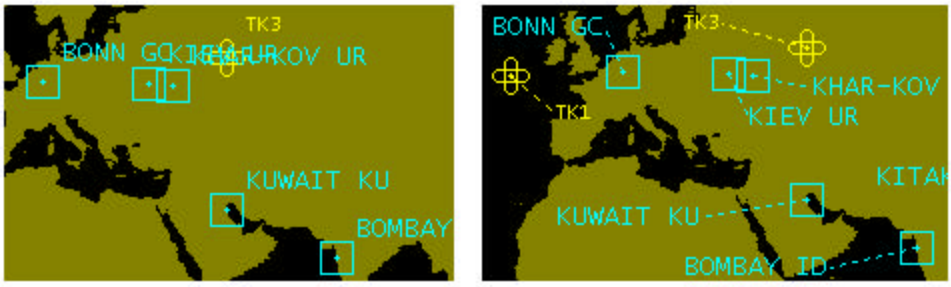
# 4.3 DECLUTTER MENU

The Declutter menu contains options to allow you to automatically or manually declutter tracks and overlays in the map window. The options in the Declutter menu always work for decluttering tracks. To declutter overlays, the View:Declutter Overlays toggle must be turned on from the Overlays menus. If the View:Declutter Overlays toggle is not turned on, the Declutter menu options will not work for decluttering overlays.

The first two options on the Declutter menu (Auto and Manual) are toggle options. You may toggle on either or neither of these declutter options, but you cannot toggle on both. A check mark appears next to the name of the currently chosen option. The bottom two options are only available if the Manual option is toggled on.

## AUTO

Use the Auto option to redraw any track or overlay labels in the map window to minimize the amount of label overlap. The following figure shows a portion of the map window with Auto Declutter off (left view) and with Auto Declutter on (right view).




*Auto Declutter Off (left), Auto Declutter On (right)*

Turn Auto Declutter on to declutter the map window immediately, and to keep it decluttered as changes are made. The screen declutters every time a change occurs in the map window, such as a track update or a change in the map view.

Turning Auto Declutter on produces these results:

?? In areas where track labels overlap, the labels are separated so they can be read.

?? Dotted lines appear, extending from the labels to their track symbols.

?? In particularly cluttered areas of the display, some labels may be moved some distance from the track position, or may not appear at all.

In Mil 2525A mode, the entire symbol plus all of its labels move when Auto Declutter is on. If a symbol cannot be placed, it is displayed as a dot. A dotted line is drawn from the location of the symbol to the declutter symbol.

## MANUAL

The Manual option is only available when Symbol Mode is set to MIL 2525A. If Symbol Mode is set to NTDS, this option is dimmed and unavailable.

Use the Manual option to manually declutter tracks and overlays in selected areas of the map window. If the Manual option is clicked on, the Auto option is automatically clicked off. When the Manual option is turned on, the Declutter:Arrange and Declutter:Reset options become available.

When the Manual option is used, only selected tracks and overlays are decluttered. Tracks and overlays can be selected before or after the Manual option is turned on and they will be decluttered.

If none of the cascading choices in the Declutter:Arrange option are turned on, the tracks and overlays are decluttered in the same way as with the Auto option. The Declutter:Arrange option can be used to change the way the declutter is performed, with choices including Horizontally, Vertically, or Diagonally. Refer to the documentation on the Arrange option for more information on these options.

Tracks and overlays can be manually decluttered further by moving them in the map window. When the Manual option is turned on and a track or overlay is selected, a small yellow dot appears next to the object label. Drag the yellow dot to move the label to a new location in the map window. You may select a group of objects, then drag one of their yellow dots to move the selected labels as a group.

## ARRANGE

The Arrange option is available only when the Declutter:Manual option is turned on. The Arrange option contains three cascading choices - Horizontally, Vertically, and Diagonally.

If none of the Arrange option cascading choices are turned on, selected tracks and overlays are decluttered in the same way as with the Auto option. If one of the cascading options is chosen, the declutter is performed according to the chosen option.

When the Horizontally option is chosen, any selected objects are decluttered with their labels displayed horizontally in the map window. When the Vertically option

is chosen, selected objects are decluttered with their labels displayed vertically in the map window. When the Diagonally option is chosen, selected objects are decluttered with their labels displayed diagonally in the map window.

### RESET

Use the Reset option to turn off any manual decluttering that has been performed. All tracks are returned to their non-decluttered state.

## 4.4 TOOLS MENU

The Tools menu contains various options that provide very powerful capabilities within C2PC.

The first group of options on the Tools menu (Routes, Overlays, TrackPlot, Formations, and Units) are toggle options. If any of these options is selected, a checkbox appears next to the name of the option, a list appears in the left part of the map window, and new menus appear in the main menubar related to the option.

The first group of options can also appear differently on the Tools menu, depending on changes that have been made with the Injector Manager option. The Injector Manager option can be used to remove any of these options from the menu and to reorganize these options in any order.

The Tbmd option will only appear on the menu if that option was loaded during C2PC install. The GPS Receiver option will only appear if DACT/RHC Standard was chosen from the Setup Type window during C2PC installation or if the GPS Receiver option was chosen during a custom installation. The Quick Range/Bearing and Quick Point options will only appear if USCG Standard Client was chosen from the Setup Type window during C2PC installation or if one or both of these options were chosen during a custom installation.

## ROUTES

Choose the Routes option from the Tools menu to activate the Routes feature. When the Routes option is selected, the Routes tab is selected in the left portion of the map window and a list of all routes in the system appears beneath the tab. Some new menus appear on the menubar containing options related only to Routes. These include the Edit, View, Insert, and Routes menus. A Routes Toolbar also appears below the main toolbar.

A Route is a planned travel path for a track with predetermined destination positions and arrival times at those positions. Each route is made up of waypoints and legs. A waypoint is a destination point along the travel path, and a leg is a travel path connected by two waypoints.

The following figure shows how a sample route looks in the map window.

In the figure above, the dots represent the waypoints and the lines represent the legs of the route.

Routes are created and maintained from the Edit, View, Insert, and Routes menus. The Routes tab in the left part of the map window shows a list of all routes in the system and can be used to activate/deactivate routes so they display in the map window.

There is a context menu associated with the Routes List. To access the context menu, move the mouse pointer over a route in the Routes List and click the right mouse button. The context menu contains Import, Refresh, Save As, Delete, and Properties options. These options work exactly the same as options of the same names found under the Routes menus. Refer to the documentation for those options for complete details.

## Edit Menu

The Edit menu contains the Undo, Redo, and Delete options.

### Undo

Use this option to undo the most recent edit or delete action for routes.

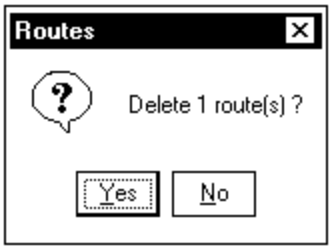
The Undo button on the Routes toolbar contains a down arrow. Click this down arrow to view the maximum dialog. This dialog displays the maximum number of actions that can be undone. For example, if this number is 10, only the last 10 deletes and edits can be undone.

### Redo

Use this option to redo the last action performed with the Undo option. For example, if the Undo option was used to undo an edit to a route waypoint, the Redo option will restore that edit.

### Delete

To delete routes, select the routes to delete in the list and choose the Delete option. A confirm window appears before routes are deleted.



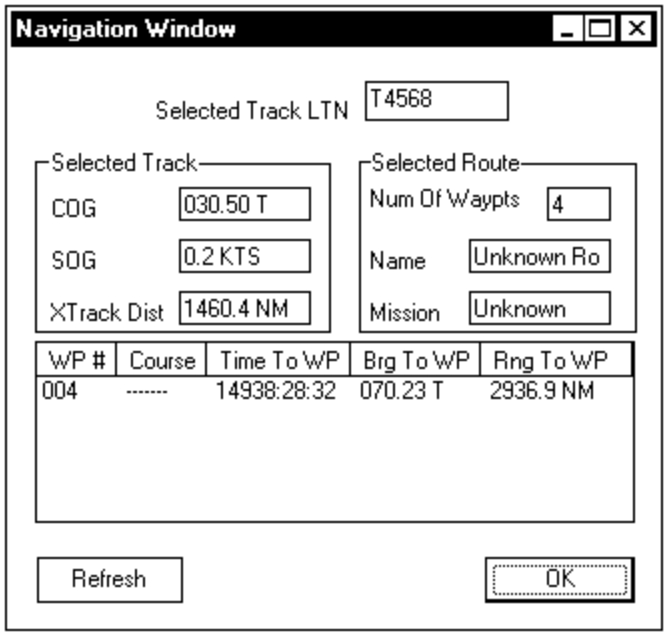

Click the Yes button to complete the delete process (or click No if you decide not to delete the selected routes). Deleted routes disappear from the list and from the map window.

# View Menu

The View menu contains the Navigation Window and Routes Toolbar options.

## Navigation Window

Use the Navigation Window option to compare the position of a selected track in relation to a selected route. Select a route from the list, select a track from the map window, and choose the Navigation Window option to display the Navigation Window.




For the selected route and track, calculations are performed and the results are displayed in the Navigation Window.

The Selected Track LTN field displays the local track number of the selected track.

The Selected Track box displays information about the selected track as follows:

**COG**
This displays the course over ground for the track.

**SOG**
This displays the speed over ground for the track.

**XTrack Dist**
This displays the distance from the track to the closest point along the route.

Information about the selected route appears in the Selected Route box as follows:

**Num of Waypts**
This displays the number of waypoints in the route.

**Name**
This displays the name of the route.

**Mission**
This displays the mission of the route.

The scroll list displays comparison information for the track and route. For the two or three closest waypoints from the route to the track, an entry is listed in the scroll list comparing the waypoint position to the track position as follows:

**WP#**
This displays the waypoint number for the waypoint being compared to the track.

**Course**
This displays the current course of the route from the waypoint to the next waypoint.

**Time To WP**
This displays the time it would take for the track to reach the waypoint if it headed straight for the waypoint at its current speed.

**Brg To WP**
This displays the bearing from the track to the waypoint.

**Rng To WP**
This displays the distance from the track to the waypoint.

The Navigation Window displays calculations at the time the window was opened. Use the Refresh button to update the information to the present time.

When you finish viewing Navigation Window information, click the OK button to exit.

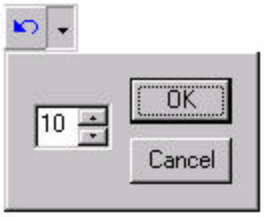
### Routes Toolbar

Use the Routes Toolbar option to toggle on/off the display of the Routes toolbar. When the Routes option is activated, the Routes toolbar appears beneath the main toolbar.

*Routes Toolbar*

The Routes toolbar contains buttons to quickly access some of the options in the Routes menus. In order, these buttons are New File, New Folder, Print, Delete Route, Navigation Window, Undo, and Redo. The Undo option contains a down arrow button which is unavailable from the Undo menu option and will be discussed in this section. For all the other buttons on this toolbar, refer to the documentation for these Routes menu options for complete details about these options.

When the Undo option is active, click the down arrow to view a maximum number dialog.



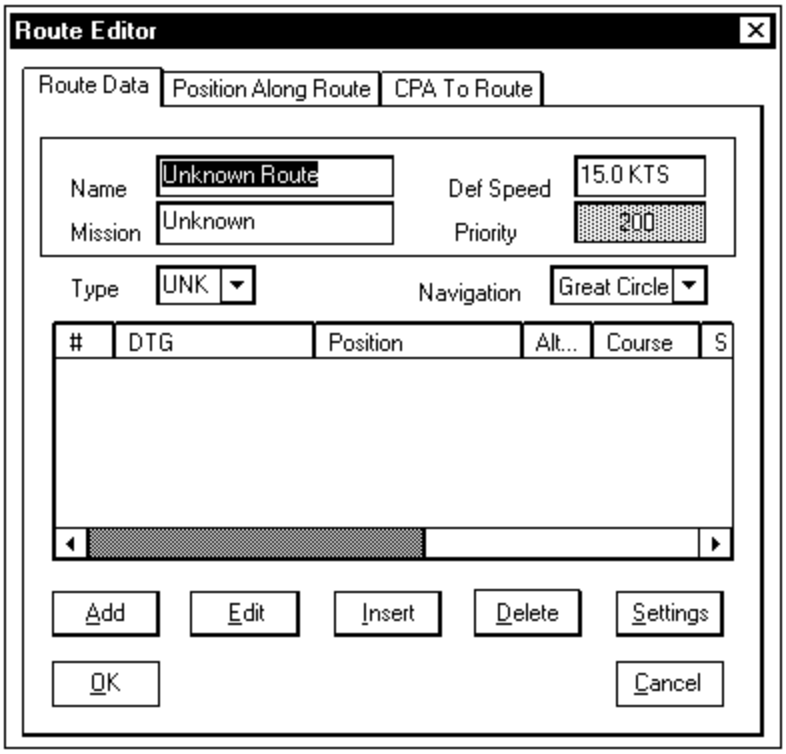

Use the maximum number dialog for the Undo button to set the maximum number of undo operations that will be allowed. For example, if this is set to 1 and two separate deletes are performed, only the most recent delete can be undeleted.

## Insert Menu

The Insert menu contains the Route and Folder options.

### Route

Use the Route option to create a new route. Choose the Route option to display the Route Editor window.




The Route Editor window contains three tabs, called Route Data, Position Along Route, and CPA To Route. The Route Data tab is the default tab. This tab displays the details about the route, including the route name, waypoints, and default speed. The Position Along Route tab and the CPA To Route tab can be used to perform some calculations based on existing routes.

To create a new route, enter information in the following fields.

**Name**
Enter a name for the route.

**Mission**
Enter a mission name.

**Def Speed**
Enter the default speed for the track that will travel along the route.

**Priority**
This field is currently inactive.

**Type**
Choose a track type for the track that will travel along the route. Use the down arrow to view a list of choices, and choose the track type from the list.

### Navigation

Choose the Navigation type for the route - either Great Circle or Rhumbline.

A Great Circle is the shortest path between two points on Earth. When viewing a Mercator projection map, these lines look fairly straight near the equator, but become very curved near the poles. On an Orthogonal 3-D projection map, these lines appear the same at any geographical location.

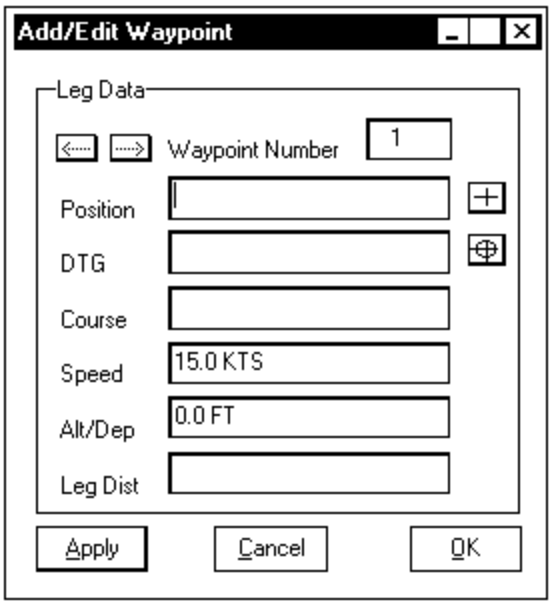
A Rhumbline is a straight line on a Mercator projection map, even when viewing an area near the equator or near the poles. These lines appear curved when viewing an Orthogonal 3-D projection.

### Waypoints

The current waypoints for the route are displayed in the scroll box. Use the Add, Edit, Insert, and Delete buttons to add, edit, insert, and delete waypoints.

### Add Waypoint

To add a waypoint, click the Add button to display the Add/Edit Waypoint window.




Enter information for the waypoint in the fields in this window.

Position — Enter the position of the waypoint. Enter the position from the keyboard or enter the position automatically as follows:

1. Click the crosshair button to the right of the Position field.

2. Click the waypoint position in the map window.

3. Click the Apply button. The waypoint appears in the map window. If there is more than one waypoint, a leg also appears in the map window connecting this waypoint with the previous waypoint.

DTG — Enter the date-time group for the waypoint. Enter the DTG from the keyboard or enter the current DTG by clicking the button to the right of the DTG field. Note that if this field is left blank, this will automatically be calculated based on the waypoint positions and the speed between the waypoints.

Course — Enter the course from this waypoint towards the next waypoint. Note that if this field is left blank, this will automatically be calculated based on the position of the next waypoint when that waypoint is added.

Speed — Enter the speed of the track from this waypoint towards the next waypoint. If no speed is entered, the default speed is used.

Alt/Dep — For an aircraft, enter the altitude. For a subsurface track, enter the depth. Enter either value as a positive value.

Leg Dist — Enter the distance between from this waypoint to the next waypoint. Note that if this field is left blank, this will automatically be calculated based on the positions of this and the next waypoint.

At least two waypoints must be added for each route. Click the Apply button after entering information for one waypoint, then enter information for the next waypoint and click Apply again. Continue this process for all the waypoints in the route.

Click the OK button to accept all changes and return to the Route Editor window. Click Cancel to cancel any changes.

**Edit Waypoint**

To edit a waypoint, select the waypoint in the list and click the Edit button to display the Add/Edit Waypoint window. Make any changes as appropriate for the waypoint and click the OK button to save the changes. (Refer to the Add Waypoint section above for details about the fields in this window.)

### Insert Waypoint

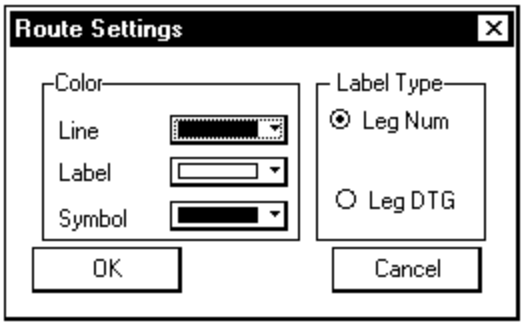
Use the Insert button to insert a new waypoint after an existing waypoint. Select a waypoint in the list and click the Insert button to display the Add/Edit Waypoint window. (Refer to the Add Waypoint section above for details about the fields in this window.) A waypoint is automatically created at the midway point between the selected waypoint and the next waypoint. Make any appropriate changes to the waypoint values and click the OK button to accept the new waypoint.

### Delete Waypoint

To delete a waypoint, select the waypoint in the list and click the Delete button.

### Settings

Use the Settings button to set some display features for the route, including its color and label. Click the Settings button to display the Route Settings window.




There are three displayable parts to a route - the lines (legs), label, and symbols (waypoints). Different colors can be set for each of these parts.

To change the colors of any of these features, click the color bar, choose a new color, and click OK to save the new color. Colors are displayed as follows:

The label type for routes can be set to either Leg Num or Leg DTG. If Leg Num is set, the leg number is displayed next to the waypoint. If Leg DTG is set, the leg DTG is displayed next to the waypoint. Note that leg DTG labels will not appear unless at least one DTG was entered for the route.

When all the settings are set as you want them, click the OK button to save the settings. Note that these settings will not take effect in the map window until the OK button is clicked from the Route Editor window.

**OK and Cancel**

Click the OK button from the Route Editor window to save the route. The route appears in the scroll list under the Routes tab. All settings entered in the Route Status window take effect in the map window when the OK button is clicked. Click the Cancel button if you choose not to save the route.

### Folder

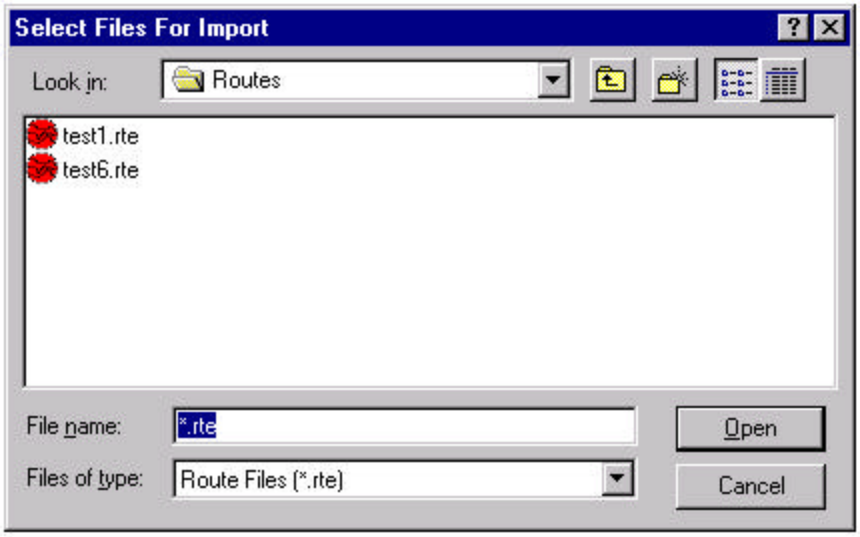
To create a new folder within the routes list, select a folder in the list, then choose this option to create a new folder within the selected folder. The first new folder will be named New Folder 1, the second New Folder 2, etc. You may select the name in the list and rename the folder to a name of your choice.

## Routes Menu

The Routes menu contains the Import, Transmit, Open Route, Refresh, Save As, Print, and Properties options.

### Import

To import routes from your local system, click the Import cascading menu and choose From Local System to display the Select Files For Import window.




The Select Files For Import window displays the contents of the Routes directory. The Routes directory is the default directory for routes files.

To import a route, click on a file from the displayed list and click the Open button. Routes files have an extension of .rte.

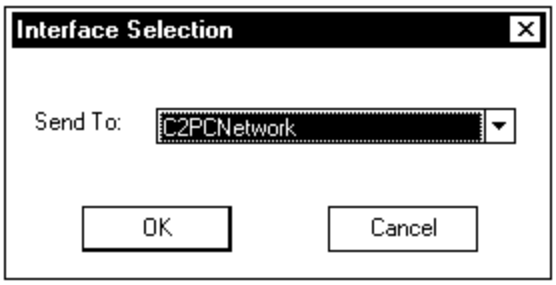
To import routes from other directories, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

Imported routes are placed into the Routes directory and are displayed in the routes tree list. If an imported route has the same name as an existing route, the newly imported route replaces the existing route.

## Transmit

Use the Transmit option to transmit routes to another location. Select the routes you wish to transmit from the routes list and choose the Transmit option. If both the message router and the C2PC Network are configured for your C2PC system, the Interface Selection window appears. If either of these is not configured for your C2PC system, this window is skipped and the next window appears.

If the Interface Selection window appears, it allows you to choose the interface to use when transmitting routes.



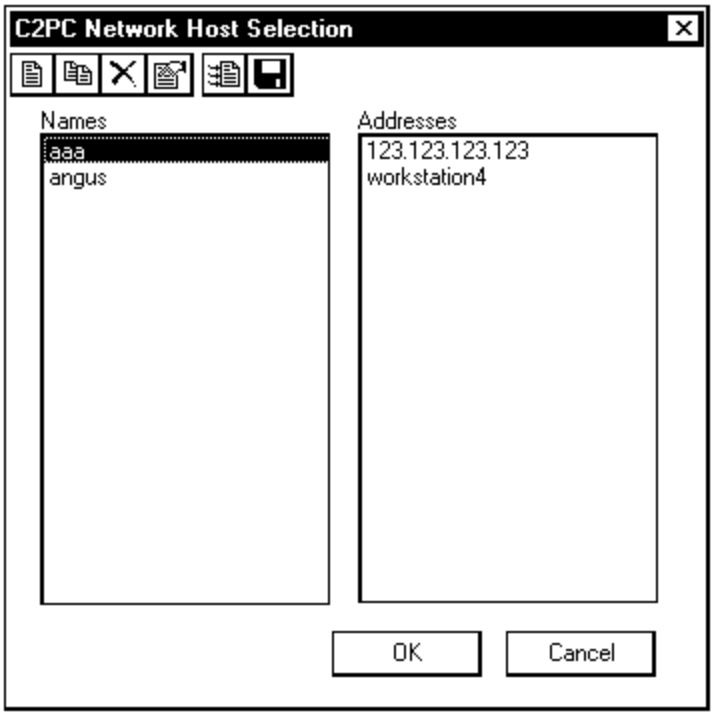

Use the Interface Selection window to choose where to send the routes.

**Send To**
Routes may be sent to the C2PC Network or to the message router. Click the down arrow to the right of this field to view these two choices and select the appropriate choice.

Click the OK button to continue the route transmit process.

If message router was chosen as the Send To destination or if the message router is the only transmission choice, a Transmit Options window appears. Refer to the Taccomm Viewer section in Chapter 6 of this User's Guide for complete details about how to use this window to continue the transmit process.

If C2PCNetwork was chosen as the Send To destination or if the message router is not loaded into your C2PC system, the C2PC Network Host Selection window appears.




Use this window to choose the hosts where you want to send the routes. You can send routes to one host or to multiple hosts. A group of hosts can be saved with an alias. This alias can then be used to send the routes to all the hosts in the group.

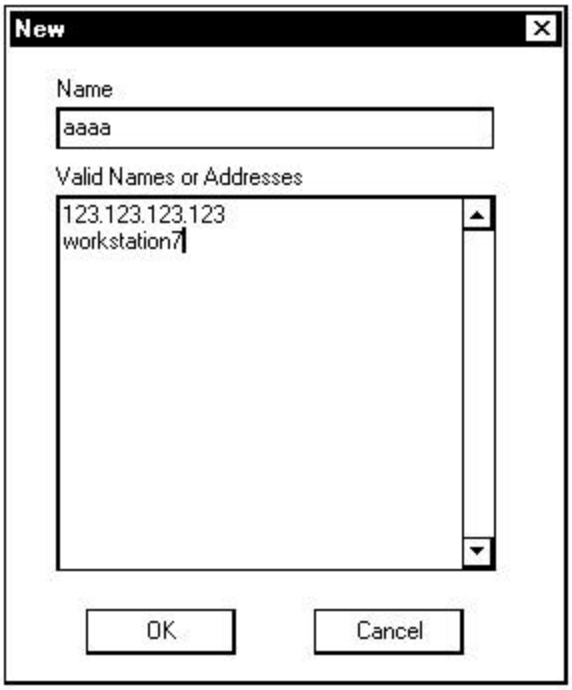
There are two main boxes in this window. The Names box displays all the host names currently saved. Each host name can contain one or more IP addresses or machine names. If you select a host name in the Names box, its associated IP addresses and machine names appear in the Addresses box.

To send the selected routes to one or more hosts, select the hosts in the Names box and click the OK button.

There are six buttons at the top of the C2PC Network Host Selection window that allow you to perform various actions. These buttons are New, Copy, Delete, Properties, Import and Merge Addresses, and Export Address Book to File.

**New**

Use the New button to save a new host name with associated IP addresses and machine names. Click the New button to display the New window.




In the New window, enter a new host name in the Name field and enter associated IP addresses and machine names in the Valid Names or Addresses box. When the new host name is set up as you want it, click the OK button to save the new host name. The new name appears in the Names box in the C2PC Network Host Selection window.

**Copy**

Select a host name in the Names box and click the Copy button to create a new host name with all the IP addresses and machine names of the selected host name. A Copy window will appear which looks the same as the New window. Enter a new host name in the Name field, make any changes you want to the IP addresses and machine names, and click the OK button to save the new host name.

**Delete**

Select one or more host names in the Names box and click the Delete button to delete them from the system.

**Properties**

Use the Properties option to edit the IP addresses and machine names associated with a selected host name. Select a host name from the Names box and click the Properties button to display the Properties window. This window looks the same as the New window and displays all the IP addresses and machine names for the selected host

name. Make any changes you want to the IP addresses and machine names and click the OK button to save the changes.

### Import and Merge Addresses

Use this option to retrieve a saved address book file containing host names and their associated IP addresses and machine names. Address books are saved with the Export Address Book to File button.

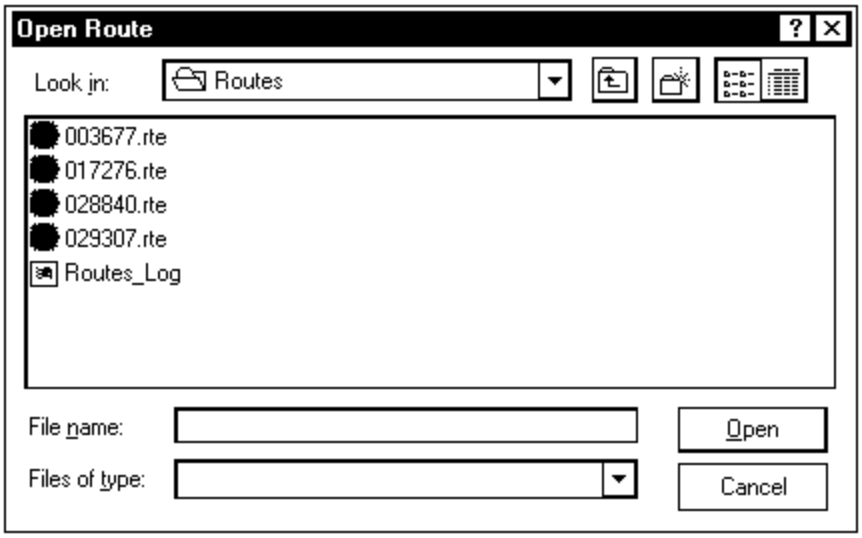
Click the Import and Merge Addresses button to display an Open window. Locate the file to be retrieved and click the Open button to retrieve all of the host names into the C2PC Network Host Selection window. Note that only files that have been saved with the Export Address Book to File button and which have the .cn7 extension can be retrieved.

### Export Address Book to File

Use this option to export all of the current host names and their associated IP addresses and machine names to a file. Click the Export Address Book to File button to display a Save As window. Enter a name for the file, choose a directory where you want the file stored, and click the Save button to save the file. An extension of .cn7 is automatically added to the file name. You can retrieve this file using the Import and Merge Addresses button.

## Open Route

Use the Open Route option to view, edit, and perform calculations for an existing route. Choose the Open Route option to display the Open Route window.



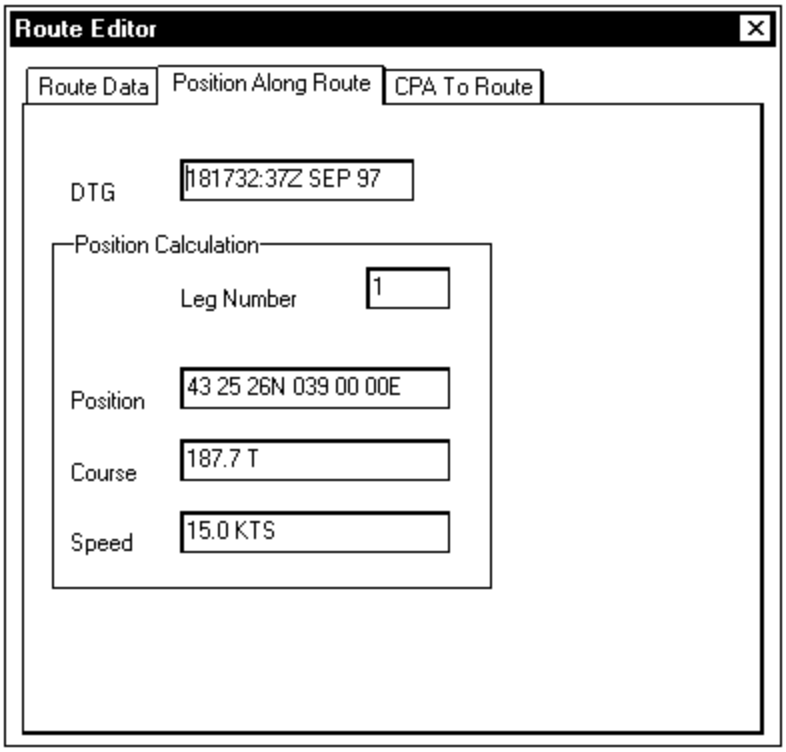

Choose the route you want from the list and click the Open button to display the Route Editor window for the chosen route. If you want to edit the route, make any appropriate changes and click the OK button. (Refer to the documentation for the Insert:Route option above for descriptions of all the fields and buttons in the Route Editor window.)

For an existing route, two calculations may be run as follows:

?? You may enter a DTG and generate a calculation showing the position along the route at that time.

?? You may specify a position and generate a calculation for the Closest Point of Approach (CPA) to the route.

To calculate the position along the route at a specified time, click the Position Along Route tab in the Route Editor window.




Enter the DTG of interest in the DTG field and the position along the route is automatically calculated. The position along the route is displayed as a dot along the route in the map window. The Position Calculation box displays the following fields to describe the position:

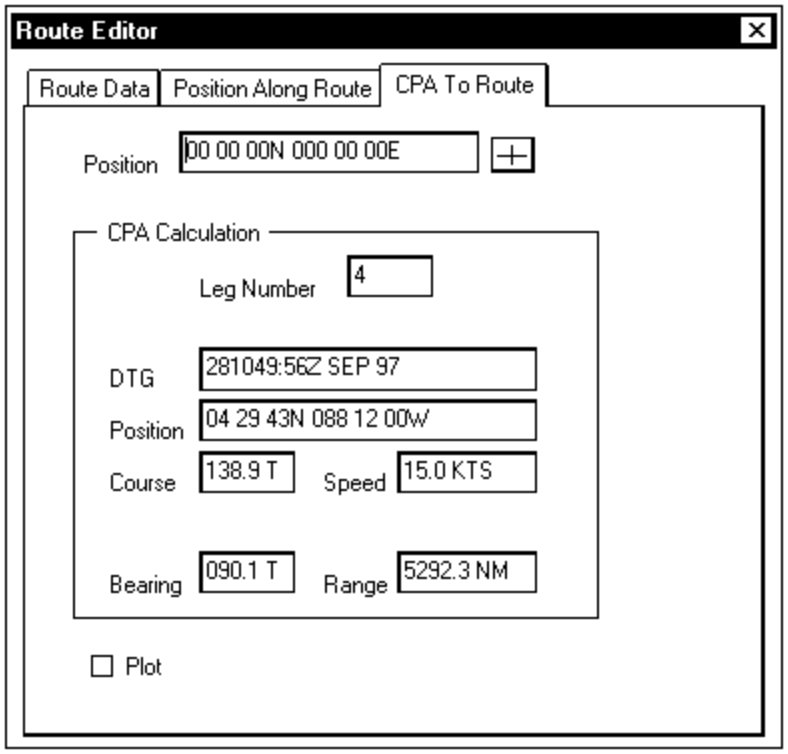
**Leg Number**
This displays the leg number for the position at the specified DTG.

**Position**
This displays the position along the route at the specified DTG.

**Course**
This displays the course at the specified DTG.

**Speed**
This displays the speed at the specified DTG.

To calculate the CPA to the route at a specified position, click the CPA To Route tab in the Route Editor window.




Enter the position of interest in the Position field. The position can either be entered from the keyboard, or click the crosshair button to the right of the position field and click a point in the map window to automatically enter the position. When a position is entered, the CPA Calculation box displays the following fields to describe the CPA to the chosen position:

**Leg Number**
This displays the number of the nearest leg at the CPA.

**DTG**
This displays the date-time group at the CPA.

**Position**
This displays the position along the route at the CPA.

**Course**
This displays the course of the route at the CPA.

**Speed**
This displays the speed along the route at the CPA.

**Bearing**
This displays the bearing from the route to the specified position at the CPA.

**Range**
This displays the range from the route to the specified position at the CPA.

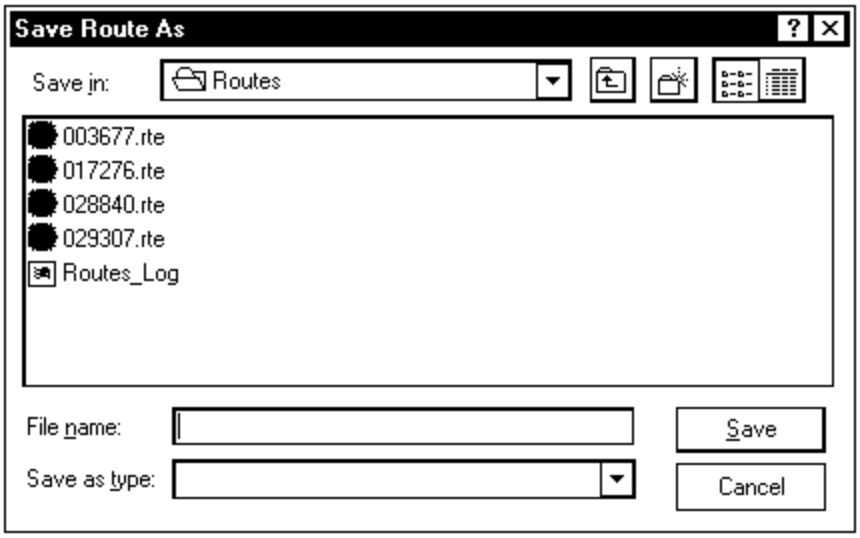
**Plot**
Click this checkbox to plot the specified position and a line from the route to the position in the map window.

## Refresh

Use this option to refresh the routes tree list. This might be necessary if a routes file was added directly to the routes directory. Using this option ensures that the routes tree list is up to date and accurately displays all the routes available.

## Save As

Use the Save As option to save a copy of a route under a different name. Select a route from the list and choose the Save As option to display the Save Route As window.




The Save Route As window displays a list of all routes in the system. Enter a name in the File Name field and click the Save button to save the route.

## Print

Use the Print option to send information about a selected route to your printer. The route report includes the following information about the selected route:

?? Route name

?? Mission

?? Def Speed

?? Type

?? Priority

?? Navigation

?? List of waypoints including DTG, Position, Alt/Dep, Leg Time, Course, Leg Length, Speed, and Total distance

**Properties**

Select a route from the routes list or directly from the map window to activate the Properties option. Choose the Properties option to display the Route Editor window for the selected route. This is the same Route Editor window that appears when you use the Routes:Open Route option. Refer to the documentation for that option for complete details about how to use the Route Editor window.

## OVERLAYS

Choose the Overlays option from the Tools menu to activate the Overlays feature. When the Overlays option is selected, the Overlays tab is selected in the left portion of the map window and a list of all overlays in the system appears beneath the tab. Some new Overlays menus appear on the menubar, containing options related only to Overlays. These menus include Edit, View, Insert, and Overlays. An Overlay Toolbar also appears below the main toolbar.

An overlay is a collection of one or more graphic objects that can be used to plot areas in the map window.

?? Overlays are versatile--they can represent areas such as exercise boundaries or keep-out zones, or mark areas of unusual or inclement weather conditions.

?? Overlays can serve as labels for important geographic or tactical areas.

?? Overlays can be colored, filled, and labeled to add further dimension to the map window.

Use the OVERLAYS option to:

?? Create new overlays.

?? Edit overlays.

?? Control whether an overlay appears in the map window (activate) or does not appear (deactivate).

?? Choose colors for the components of the overlay, such as line color, fill color, line type, fill type, and text color.

The overlay list that appears in the left portion of the map window is organized in a tree structure, with several levels of information displayed. The top level of the overlay list shows a folder containing all the overlays. The next level shows subfolders within the Overlays folder. The next level shows the overlays contained within the folders. The final level shows the objects within the overlays.

When a plus sign (+) button appears to the left of an item in the list, this indicates there is another sub-level of items that are not currently shown in the tree list. Click on the plus sign button to display these items in the list. The plus sign button changes to a minus sign (-) when all sub-items are displayed in the tree list. Click a minus sign button to turn off the display of these sub-items.

There is a pop-up menu associated with the overlay list. To access the pop-up menu, move the mouse pointer over an overlay or overlay object in the list and click the right mouse button. The overlay list and pop-up options are discussed in greater detail in the Overlay List and Right Pop-up Menu subsection of this section.

Use the Overlays menus to create, import, export, and maintain overlays.

## Edit Menu

The Edit menu contains the Undo, Redo, Cut, Copy, Paste, and Delete options. If an OLE object is selected in the map window, an additional Object option is added to the bottom of the menu.

### Undo

Use this option to undo the most recent edit or delete action for overlays. This option can be used to undo any delete action, or any action from the last five tools on the Overlays Toolbar (Line Color, Fill Color, Line Width, Line Style, or Fill). This option can also be used to undo the moving or resizing of an overlay object. This option can also undo any changes made to an Input Data window for an overlay object. This option will not undo a Cut, Copy, or Paste action.

The Undo button on the Overlays toolbar contains a down arrow. Click this down arrow to view the maximum dialog. This dialog displays the maximum number of

edit or delete actions that can be restored. For example, if this number is 10, only the last 10 edit or delete actions can be restored.

### Redo

Use this option to redo the last action performed with the Undo option. For example, if the Undo option was used to undo a change to the fill color of an overlay object, the Redo option will restore that change.

### Cut (Ctrl + X)

Use the Cut option to delete a selected overlay object and save it to the clipboard. You may then use the Paste option to paste the object into the current overlay or another overlay if you wish.

### Copy (Ctrl + C)

Use the Copy option to copy a selected overlay to the clipboard. The selected object remains in the overlay. You may then use the Paste option to paste the object into the current overlay or another overlay if you wish.

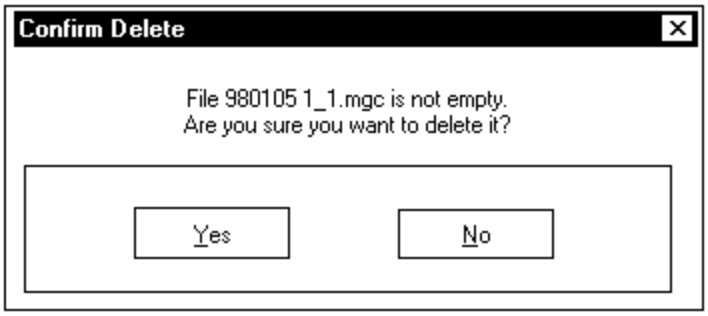
### Paste (Ctrl + V)

Use the Paste option to paste an overlay object from the clipboard into the active overlay file. An overlay object can be placed in the clipboard with the Copy or Cut option.

### Delete

Use this option to delete a selected item or items in the overlay list. This option can be used to delete folders, overlays, or overlay objects. Multiple objects can be selected and deleted at the same time.

To delete items from the overlay list, select the items you wish to delete and choose the Delete option (or choose the Delete option from the right pop-up menu). Overlay objects and empty overlays and folders are immediately deleted. If you have selected an overlay containing objects, or a folder containing overlays, a confirm message appears.




Click Yes to delete the overlay or folder and all its sub-items or No to cancel the delete process.

### Object

This option is only active when an OLE object is selected in the map window. When an object is selected, options will appear here to allow you to perform various operations on that object. The available options will change depending on the type of OLE object selected.

## View Menu

The View menu contains the Declutter Overlays, Refresh, Overlay Toolbar, Textbar, and Palette options.

### Declutter Overlays

Use this option to toggle on/off the declutter of overlays. If on, a checkmark appears to the left of this option in the menu. If off, no checkmark appears.

This option works in conjunction with the Map:Declutter option. The Map:Declutter option must be turned on for this option to have an effect.

When Map:Declutter is turned on and the Declutter Overlays option is toggled on, overlays will be decluttered in the map window. Toggling Declutter Overlays on produces these results:

- ?? In areas where overlay labels overlap, the labels are separated so they can be read.
- ?? Dotted lines appear, extending from the labels to their overlays.
- ?? In particularly cluttered areas of the display, some labels may be moved some distance from the overlay position.

## Refresh

Use this option to refresh the overlay tree list. This might be necessary if the Insert:Folder Shortcut or Insert:Overlay Shortcut option was recently used. This ensures that the overlay tree list is up to date and accurately displays all the folders and files available.

## Overlay Toolbar

Use this option to toggle on / off the display of the Overlays Toolbar.

The Overlays Toolbar contains buttons to allow some quick overlay actions on the overlays in the list. In order, these buttons are New Folder, New Folder Shortcut, New File, New File Shortcut, Create, Lock, Delete, Undo, Redo, Line Color, Fill Color, Line Width, Line Style, and Fill.

New Folder - Select a folder in the list, then use this to place a new folder within the selected folder.

New Folder Shortcut - Select a folder in the list, then use this to locate an existing folder to place within the selected folder.

New File - Select a folder in the list, then use this to create a new overlay file within the selected folder.

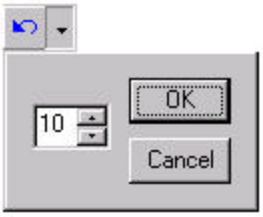
New File Shortcut - Select a folder in the list, then use this to locate an existing overlay file to place within the selected folder.

Create - Use this tool to add a new overlay object. Click this tool to display a pull-down list of the different overlay tools. Choose a tool from the list and draw or place the chosen object type in the map window.

Lock - Use this tool to lock an overlay.

Delete - Use this tool to delete a selected overlay or overlay object.

Undo - Use this option to undo the most recent edit or delete action for overlays. The Undo option contains a down arrow button which is unavailable from the Undo menu option. When the Undo option is active, click on the down arrow to view a maximum number dialog.




Use the maximum number dialog for the Undo button to set the maximum number of undo actions that will be allowed. For example, if this is set to 1 and two separate deletes are performed, only the most recent delete can be undone.

Redo - Use this option to redo the last action performed with the Undo option.

Line Color - Select an overlay object in the list or in the map window containing line colors, then use this to display a color palette, and choose a new line color. For text, this is used to select an edge color.

Fill Color - Select an overlay object in the list or in the map window containing a fill area, then use this to display a color palette, and choose a new fill color. For text, this is used to select a background color.

Line Width - Select an overlay object in the list or in the map window containing lines, then use this to display the different line width choices, and choose a new line width.

Line Style - Select an overlay object in the list or in the map window containing lines, then use this to display the different line types, and choose a new line style.

Fill - Select an overlay object in the list or in the map window that can be filled, then use this to toggle on/off the fill color for the object. If no fill properties have been set for the object, this will toggle on a white fill color with a solid fill type. If fill properties have been set for the object, this will toggle on the fill type and color that have been set.

### Textbar

Use this option to toggle on/off the display of the Text toolbar. Refer to the Text Tool section below for a complete description of the Text toolbar.

### Palette

Use this option to toggle on/off the display of the Tools Palette. Refer to the Insert:Arc through Insert:Text sections below for a complete description of the Tools palette.

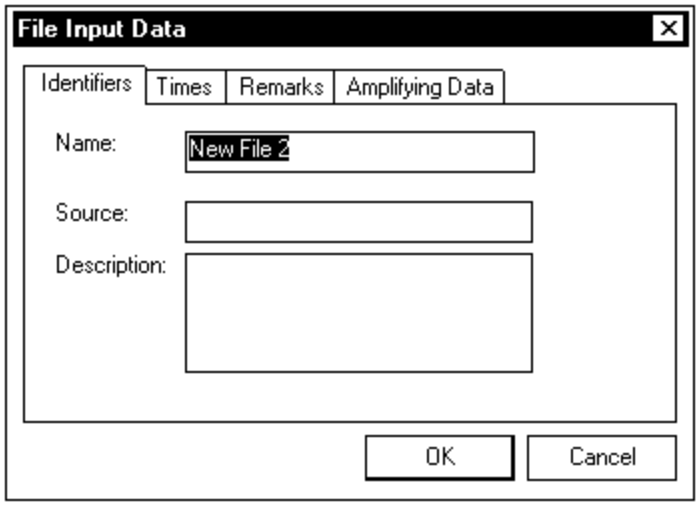
# Insert Menu

The Insert menu contains options to allow you to create an overlay folder, create an overlay file, and to create overlay objects.

## Overlay File

To create a new overlay file, select a folder in the overlay list, then choose this option to create a new overlay file within the selected folder. The first new overlay file will be named New File 1, the second New File 2, etc. You may select the name in the list and rename the file to a name of your choice.

To enter information about the overlay file, double-click the overlay file or file name in the list to display the File Input Data window. (Alternately, you can also select the file in the list and choose the Properties option from the Overlays menu or from the right pop-up menu in the overlays list to display this window.)



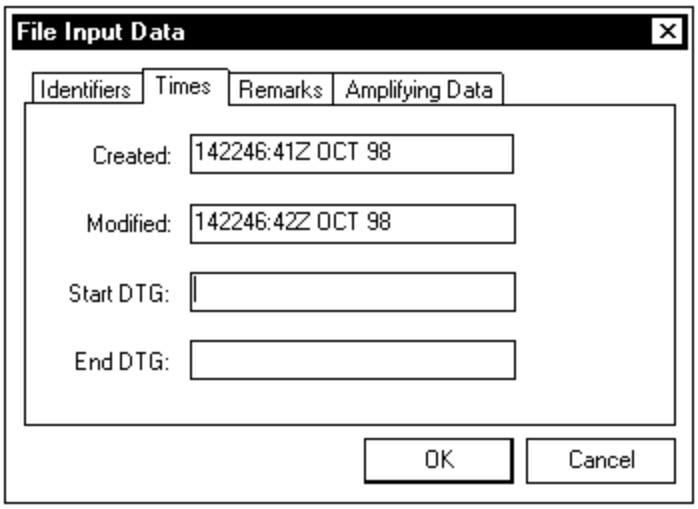

The File Input Data window contains four tabs, with the Identifiers tab being the default tab. View and modify the fields under the Identifiers tab as appropriate.

**Name**
Enter a name for the overlay. A default name of New File - 1 appears for the first overlay, New File - 2 for the second etc. When this field is changed, the new name will appear in the overlay list after the OK button is clicked for the File Input Data window.

**Source**
Enter the name of the local command.

**Description**
Enter a brief description of the overlay.

Click the Times tab to display the fields under the Times tab.




View and modify the fields under the Times tab as appropriate.

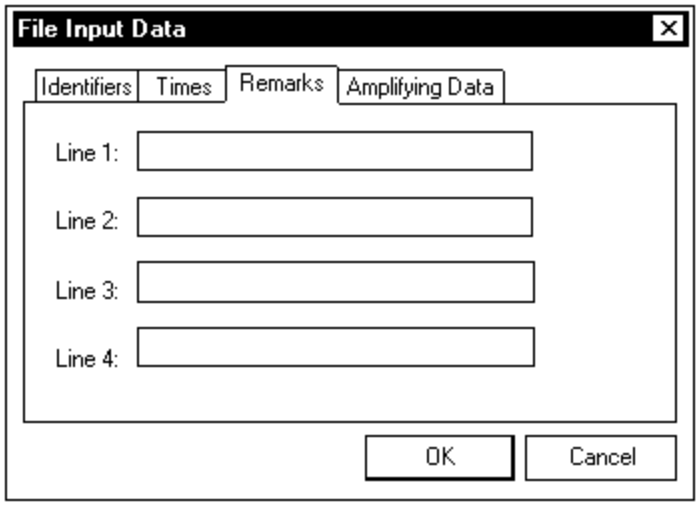
**Created**
This displays the DTG when the overlay was created. This field cannot be edited.

**Modified**
This displays the DTG when the overlay was most recently modified. This field cannot be edited.

**Start DTG**
This field is currently inactive.

**End DTG**
This field is currently inactive.

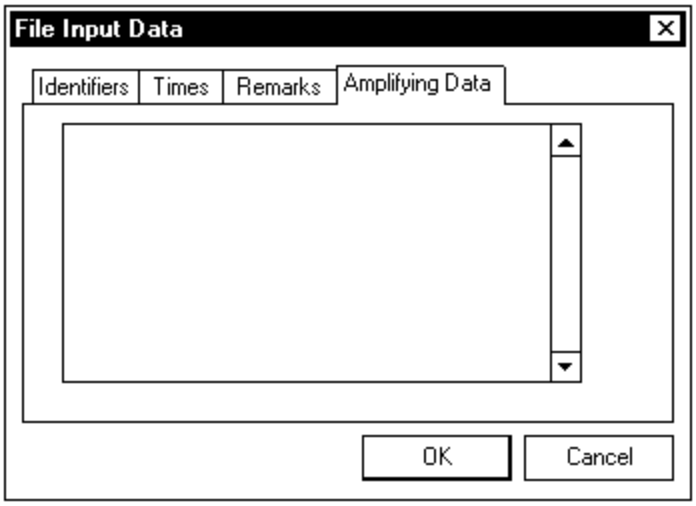
Click the Remarks tab to display the fields under the Remarks tab.




View and modify the fields under the Remarks tab as appropriate.

**Line 1 - Line 4**
Four lines are provided to enter remarks about the overlay.

Click the Amplifying Data tab to display additional fields.




The Amplifying Data tab contains an area for entering any freeform text about the overlay. Enter any text that you want about the overlay and click the OK button to accept the new entry.

When you finish entering information into the fields in the File Input Data window, click the OK button to save the overlay. The overlay appears in the list under the Overlays tab in the left part of the map window. Note that the overlay is not permanently saved until it is saved from the overlay list with the Save option from the Overlays menu or with the right pop-up Save option.

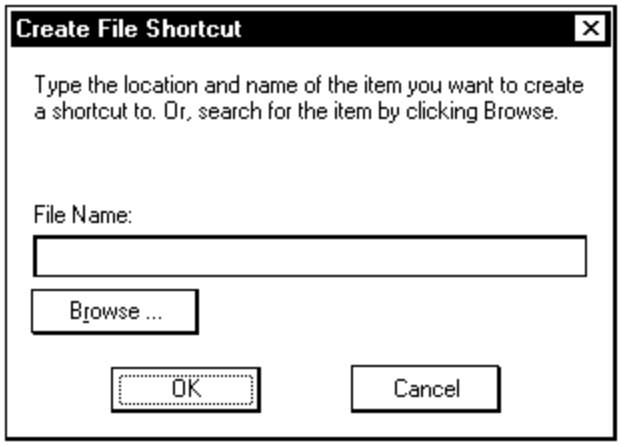
Use the options under the Insert menu to add objects to the overlay.

### *Save an Overlay*

When an overlay is created or modified, an asterisk (*) appears next to the overlay name in the overlay list. This indicates the overlay has been changed but not yet permanently saved. To permanently save the changes, select the overlay in the overlay list and choose the Save option from the Overlays menu or from the right pop-up menu.

### File Shortcut

To add an existing overlay to the overlay list, select a folder in the list where the new overlay will be placed, then choose the File Shortcut option to display the Create File Shortcut window.



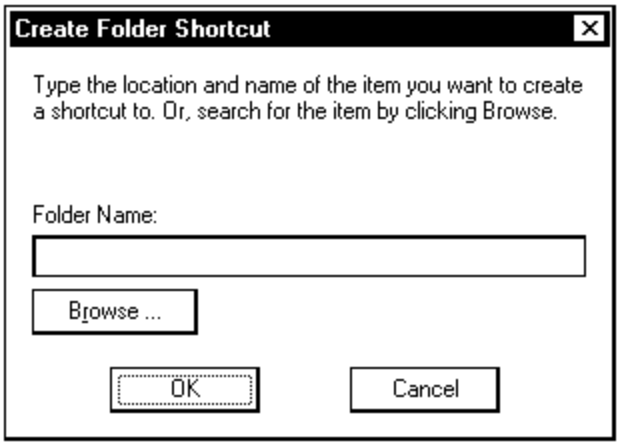

In the Create File Shortcut window, enter a pathname to the overlay file or use the Browse button to locate the file that you want to add to the overlay list. When the pathname is listed in the File Name field, click the OK button to add the file to the overlay list. Click the Cancel button to close this window without adding a file.

### Overlay Folder

To create a new folder within the overlay list, select a folder in the list, then choose this option to create a new folder within the selected folder. The first new folder will be named New Folder 1, the second New Folder 2, etc. You may select the name in the list and rename the folder to a name of your choice.

## Folder Shortcut

To add an existing folder to the overlay list, select a folder in the list where the new folder will be placed, then choose the Folder Shortcut option to display the Create Folder Shortcut window.

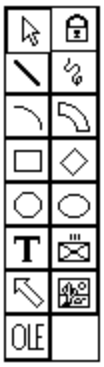



In the Create Folder Shortcut window, enter a pathname to the folder or use the Browse button to locate the folder that you want to add to the overlay list. When the pathname is listed in the Folder Name field, click the OK button to add the folder to the overlay list. Click the Cancel button to close this window without adding a folder.

In the overlay list, shortcut folders appear with an arrow on top of the folder to identify them as shortcut folders.

## Arc through Text Options

An overlay consists of graphic objects which can be displayed in the map window. Use options under the line in the Insert menu or on the Tools Palette to add overlay objects to an existing overlay. (Use View:Palette to display the Tools Palette.)




*Tools Palette*

Before adding objects to an overlay, you must select an overlay from the overlay list. The new object will be placed in that overlay.

The Tools Palette contains tools for adding 13 different types of overlay objects, as well as a Select tool and a Lock tool. These tools are discussed in the following subsections.

## Select Tool

*Select Tool*

Use the Select tool and click directly on an overlay object in the map window to select that object. When selected, one or more small white squares appear within the selected object to represent move or edit points.

Most of the objects have a move point, usually located within the center of the object. Drag the move point to move the entire object to another location in the map window. You may select multiple objects and drag any of their move points to move the selected objects as a group.

Many of the object types have edit points. Drag an edit point to change a particular part of an overlay. For example, you may drag an endpoint of a line to stretch or compress the line, or to move one end of the line to another location while keeping the other end in the same place.

## Lock Tool

*Lock Tool*

Use the Lock tool to keep one of the tools in the Tools Palette permanently selected. This allows you to continue adding objects of that type in the map window without having to re-select the tool.

For example:

?? If the Lock tool is not used and an object is drawn, after the object is drawn, the Select tool becomes the active tool in the Tools Palette.

?? If the Lock tool is selected before or after you click one of the tools in the Tools Palette, that tool becomes permanently selected. After an object is drawn, that tool continues to be selected to allow you to draw another object of that type. You must click the Lock tool again to deactivate the lock feature. When the lock feature is deactivated, the Select tool becomes the active tool.

## Line Tool

*Line Tool*

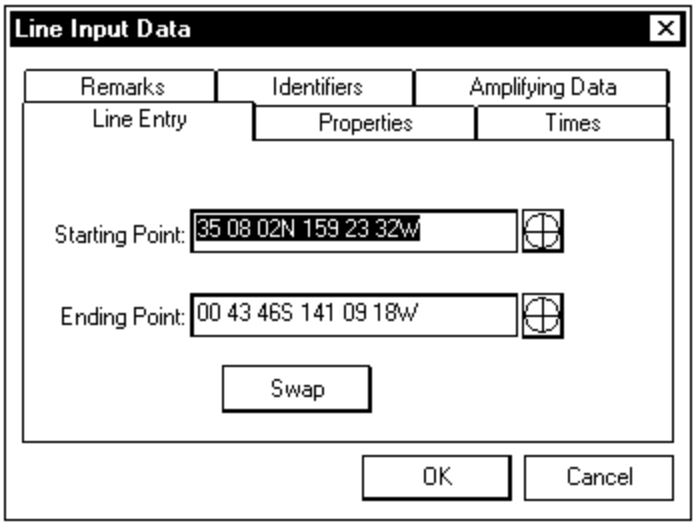
Use the Line tool to create a line. To draw a line in the map window:

1. Click the Line tool (or choose Insert:Line).
2. In the map window, click and drag to create a line.

To edit a line already drawn in the map window:

1. Click the Select tool.
2. Click on the line to select it. When selected, little white squares appear at the center point and at both ends of the line.
3. Drag either endpoint to stretch or compress the line. Drag the center point to move the entire line to a new location.

Another way to edit a line is to double-click the line in the map window, or double-click the line object in the overlay list, or select the line and choose Overlays:Properties to display the Line Input Data window.



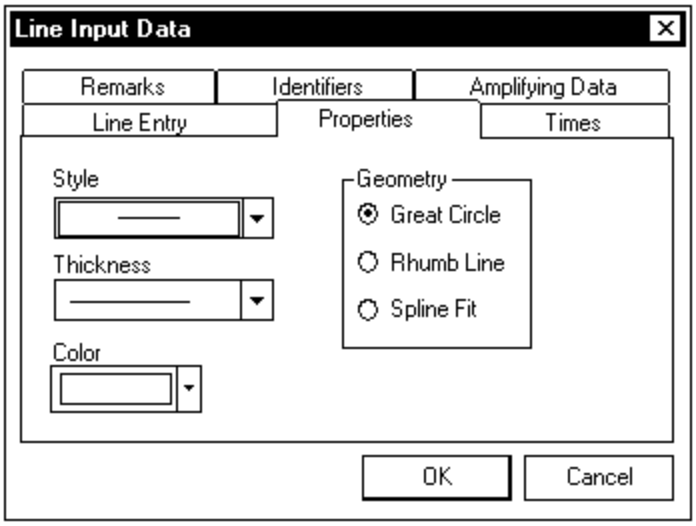

The Line Input Data window contains six tabs to allow you to enter different information about the line. The Line Entry tab is the default tab and displays the following fields.

**Starting Point**
Enter or edit the starting position point of the line.

**Ending Point**
Enter or edit the ending position point of the line.

Click the Swap button to switch the starting and ending points. This is useful when the line style has an implied direction, such as a cold front.

Click the Properties tab to display additional line edit fields.




The Properties tab displays the following fields.

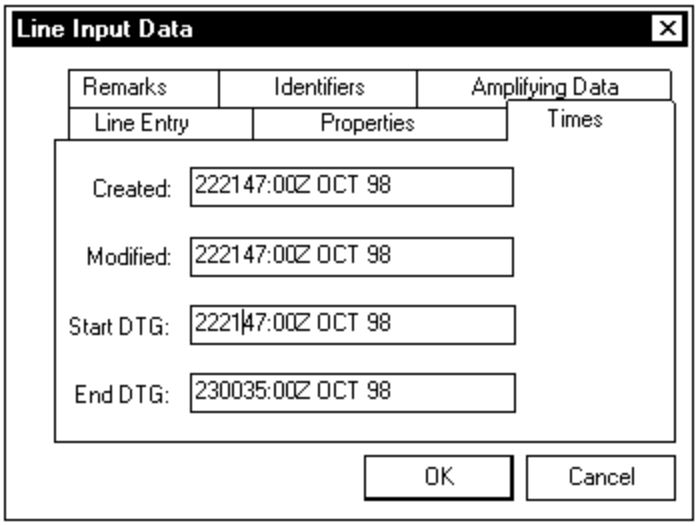
**Style**
The Style box displays the currently selected style for the line. To choose a different line style, click the down arrow and choose a line style from the displayed choices.

**Thickness**
The Thickness box displays the currently selected thickness for the line. To choose a different line thickness, click the down arrow and choose a line thickness from the displayed choices.

**Color**
The Color box displays the currently selected color for the line. To choose a different line color, click the down arrow and choose a color from the displayed choices.

**Geometry**
Different map types adjust the curve of the earth to a flat display in different ways. C2PC provides three different geometrical display choices for the line object so that it displays as you want it. For a line, choose either Rhumb Line or Great Circle to display the line in one of these ways. Spline Fit is unavailable for a line, but is available for some other object types.

Click the Times tab to display additional fields.




The Times tab displays the following fields.

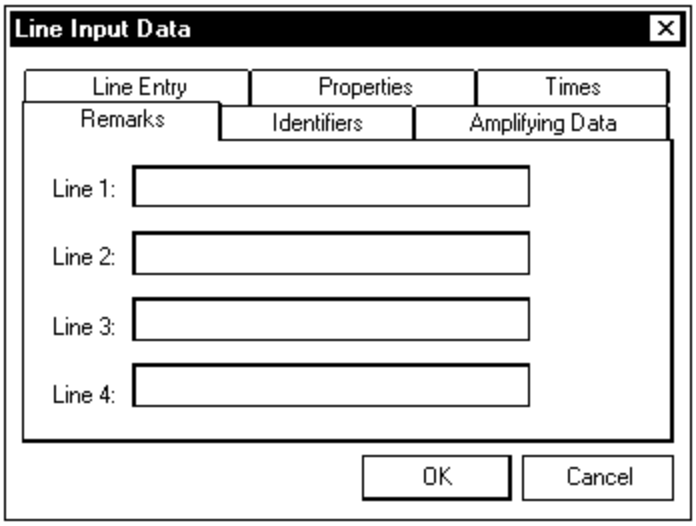
**Created**
This displays the DTG when the line was created. This field cannot be edited.

**Modified**
This displays the DTG when the line was most recently modified. This field cannot be edited.

**Start DTG**
This field is currently inactive. Any value displayed in this field has no meaning at the moment.

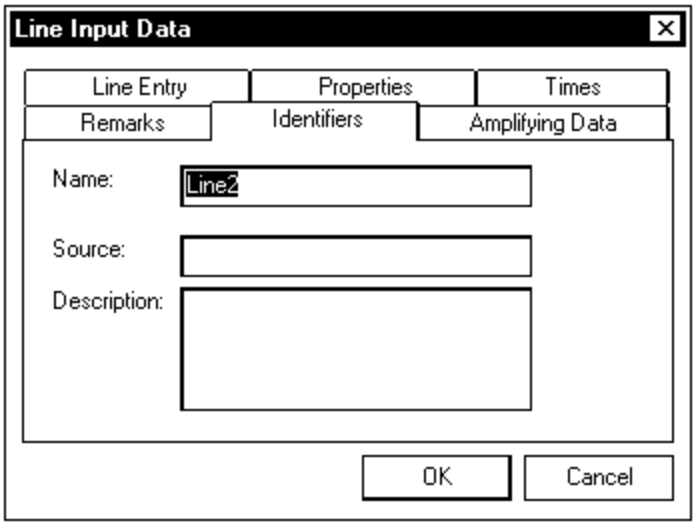
**End DTG**
This field is currently inactive. Any value displayed in this field has no meaning at the moment.

Click the Remarks tab to display additional fields.




The Remarks tab contains four lines for entering any remarks about the line.

Click the Identifiers tab to display additional fields.




The Identifiers tab displays the following fields.

**Name**

This displays the name of the line. For the first line of an overlay, the name defaults to Line1. The second line has a default name of Line2, and additional lines are named accordingly. You may change the name of the line in this field.

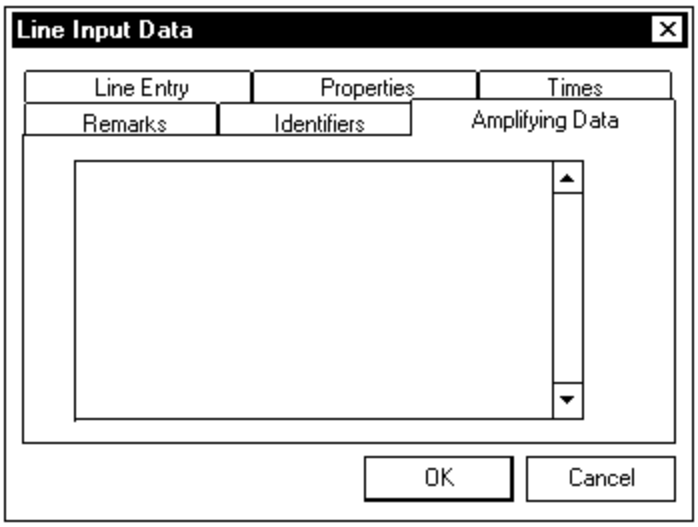
**Source**

Enter the name of the local command.

**Description**

This field contains space for a brief description of the line.

Click the Amplifying Data tab to display additional fields.




The Amplifying Data tab contains an area for entering any freeform text about the line. Enter any text that you want about the line and click the OK button to accept the new entry.

After entering appropriate information in the Line Input Data window, click the OK button to accept any changes. Any changes that affect the look of the line in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or the Save option from the Overlays menu.

## Polyline Tool

*Polyline Tool*

Use the Polyline tool to create a group of connected line segments. These line segments can be closed to form a polygon or left open. Here are some examples of polyline overlay objects as displayed in the map window.

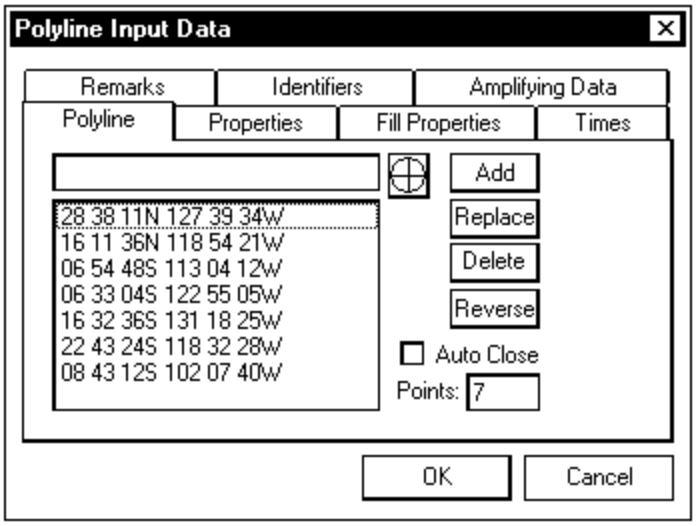
To draw a polyline in the map window:

1. Click the Polyline tool (or choose Insert:Polyline).
2. In the map window, click an endpoint for the polyline.
3. Move the cursor and click to create a line between the previous endpoint and the new endpoint.
4. Continue to click additional points for the polyline.
5. When finished, move the cursor to the Tools Palette and click on the Select tool or double-click in the map window.

To edit a polyline already drawn in the map window:

1. Click the Select tool.
2. Click on the polyline to select it. The endpoints of the polyline segments become little white squares when selected.
3. Drag any endpoint to a new location.

Another way to edit a polyline is to double-click the polyline in the map window, or double-click the polyline object in the overlay list, or select the polyline and choose Overlays:Properties to display the Polyline Input Data window.




The Polyline Input Data window contains seven tabs to allow you to enter different information about the polyline. The Polyline tab is the default tab and displays the following fields.

### Polyline Endpoints Scroll List

The endpoints of the polyline are displayed in the white box in the left portion of the window.

To change the order of any of the endpoints in the scroll list, you may drag an endpoint to a new location in the list.

### Add

To add a new endpoint to the polyline, select a point in the scroll list, enter the position for the point in the field above the scroll list, and click the Add button. The new point is inserted after the selected point in the list. To enter a position in the field, you may enter the position from the keyboard or click the crosshairs button and click a point in the map window to automatically enter the position into the field.

The new endpoint will not appear in the map window until the OK button is clicked for the Polyline Input Data window.

### Replace

To replace an existing polyline endpoint, select a point in the scroll list, enter the position for the point in the field above the scroll list, and click the Replace button. The new point is inserted in place of the selected point in the list. To enter a position in the field, you may enter the position from the keyboard or click the crosshairs button and click a point in the map window to automatically enter the position into the field.

The new endpoint will not appear in the map window until the OK button is clicked for the Polyline Input Data window.

**Delete**
To delete an existing polyline endpoint, select a point in the scroll list and click the Delete button. The point is removed. The polyline will not be updated in the map window until the OK button is clicked for the Polyline Input Data window.

**Reverse**
Click the Reverse button to reverse all the endpoints in the list.

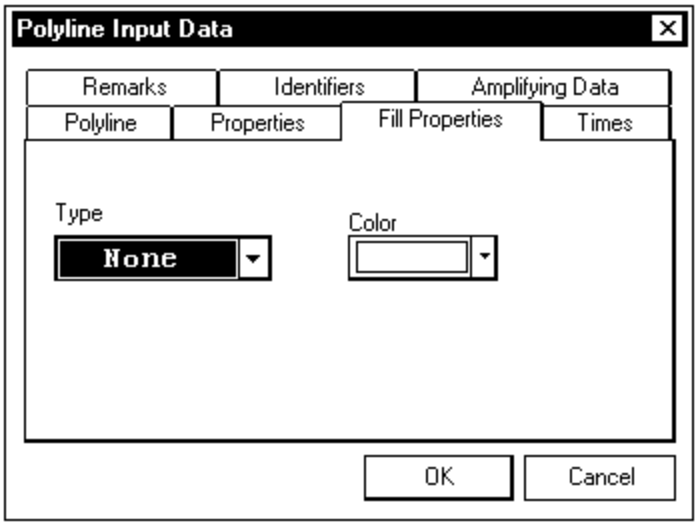
**Auto Close checkbox**
Click this checkbox on to automatically close the polyline. If this is off, the polyline will end just as it is drawn. Note that this checkbox only affects new polylines - when editing an existing polyline, this checkbox has no effect.

**Points**
This field displays the number of endpoints in the polyline. This is for display purposes only and cannot be edited.

**Pop-Up Menu**
There is a pop-up menu within the scroll list. Click the right mouse button over the scroll list to display the pop-up menu containing Reverse and Delete options. These options work the same way as the buttons with the same names.

The Properties, Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within the Properties, Times, Remarks, Identifiers, and Amplifying Data tabs.

Click the Fill Properties tab to display additional fields.




The Fill Properties tab displays the following fields.

**Type**
The inside area of a polyline may be filled. To choose a fill type, click the down arrow and choose a fill type from the displayed choices. (The default fill type is None. If None is selected as the fill type, the fill color will never have an effect.)

**Color**
The inside area of a polyline may be colored. To choose a color, click the down arrow and choose a color from the displayed choices. (The default fill color is white.)

The Properties, Times, Remarks, and Identifiers tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within these tabs.

After entering appropriate information in the Polyline Input Data window, click the OK button to accept any changes. Any changes that affect the look of the polyline in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Arc Tool

*Arc Tool*

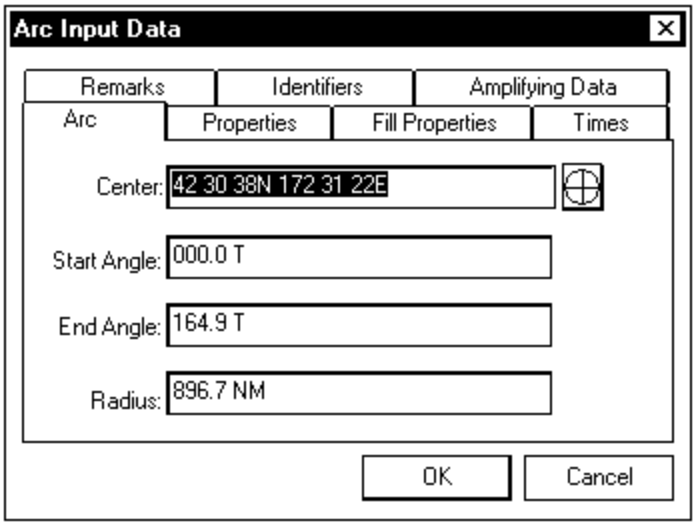
Use the Arc tool to create an arc in the map window. To draw an arc in the map window:

1. Click the Arc tool (or choose Insert:Arc).
2. In the map window, click and drag to create an arc.

To edit an arc already drawn in the map window:

1. Click the Select tool.
2. Click on the arc to select it. When selected, little white squares appear at the center point, at both ends of the arc, and in the middle of the arc.
3. Drag either endpoint to stretch or compress the arc. Drag the center point to move the entire arc to a new location. Drag the point in the middle of the arc to move the arc closer to or further from the center point.

Another way to edit an arc is to double-click the arc in the map window, or double-click the arc object in the overlay list, or select the arc and choose Overlays:Properties to display the Arc Input Data window.




The Arc Input Data window contains seven tabs to allow you to enter different information about the arc. The Arc tab is the default tab and displays the following fields.

**Center**
Enter the center position point for the arc.

**Start Angle**
Enter the start angle for the arc.

**End Angle**
Enter the end angle for the arc.

**Radius**
Enter the radius of the arc.

The Fill Properties, Properties, Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within the Properties, Times, Remarks, Identifiers, and Amplifying Data tabs. Refer to the documentation for the Polyline tool above for a complete description of the fields within the Fill Properties tab.

After entering appropriate information in the Arc Input Data window, click the OK button to accept any changes. Any changes that affect the look of the arc in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Sector Tool

*Sector Tool*

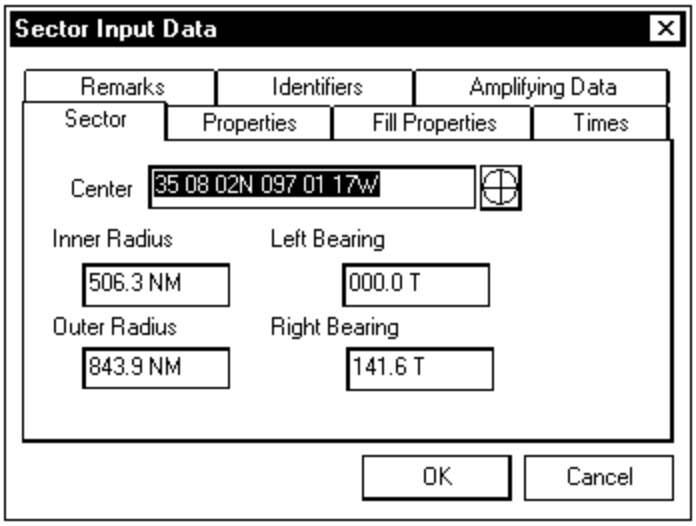
Use the Sector tool to create a sector in the map window. To draw a sector in the map window:

1. Click the Sector tool (or choose Insert:Sector).
2. In the map window, click and drag to create a sector.

To edit a sector already drawn in the map window:

1. Click the Select tool.
2. Click on the sector to select it. When selected, little white squares appear at many points along the sector, and at the center point.
3. Drag any point on the sector to change the shape of the sector. Drag the center point to move the entire sector to a new location.

Another way to edit a sector is to double-click the sector in the map window, or double-click the sector object in the overlay list, or select the sector and choose Overlays:Properties to display the Sector Input Data window.




The Sector Input Data window contains seven tabs to allow you to enter different information about the sector. The Sector tab is the default tab and displays the following fields.

**Center**
Enter the center point for the sector.

**Inner Radius**
Enter the distance from the center to the inner arc of the sector.

**Outer Radius**
Enter the distance from the center to the outer arc of the sector.

**Left Bearing**
Enter the bearing angle (measured from 000 degrees True) for the left bearing of the sector.

**Right Bearing**
Enter the bearing angle (measured from 000 degrees True) for the right bearing of the sector.

The Fill Properties, Properties, Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within the Properties, Times, Remarks, Identifiers, and Amplifying Data tabs. Refer to the documentation for the Polyline tool above for a complete description of the fields within the Fill Properties tab.

After entering appropriate information in the Sector Input Data window, click the OK button to accept any changes. Any changes that affect the look of the sector in

the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Rectangle Tool

*Rectangle Tool*

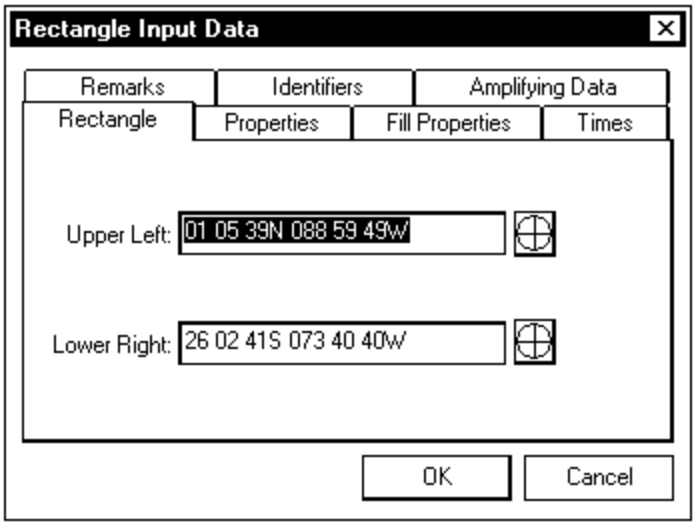
Use the Rectangle tool to create a rectangle in the map window. To draw a rectangle in the map window:

1. Click the Rectangle tool (or choose Insert:Rectangle).
2. In the map window, click and drag to create a rectangle.

To edit a rectangle already drawn in the map window:

1. Click the Select tool.
2. Click on the rectangle to select it. When selected, little white squares appear at upper left and lower right corners of the rectangle, and at the center point.
3. Drag either selected corner on the rectangle to a new location. Drag the center point to move the entire rectangle to a new location.

Another way to edit a rectangle is to double-click the rectangle in the map window, or double-click the rectangle object in the overlay list, or select the rectangle and choose Overlays:Properties to display the Rectangle Input Data window.




The Rectangle Input Data window contains seven tabs to allow you to enter different information about the rectangle. The Rectangle tab is the default tab and displays the following fields.

**Upper Left**
Enter the position of the upper left corner of the rectangle.

**Lower Right**
Enter the position of the lower right corner of the rectangle.

The Fill Properties, Properties, Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within the Properties, Times, Remarks, Identifiers, and Amplifying Data tabs. Refer to the documentation for the Polyline tool above for a complete description of the fields within the Fill Properties tab.

After entering appropriate information in the Rectangle Input Data window, click the OK button to accept any changes. Any changes that affect the look of the rectangle in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Box Tool

*Box Tool*

Use the Box tool to create a box in the map window. A box is a rectangle that can be rotated.

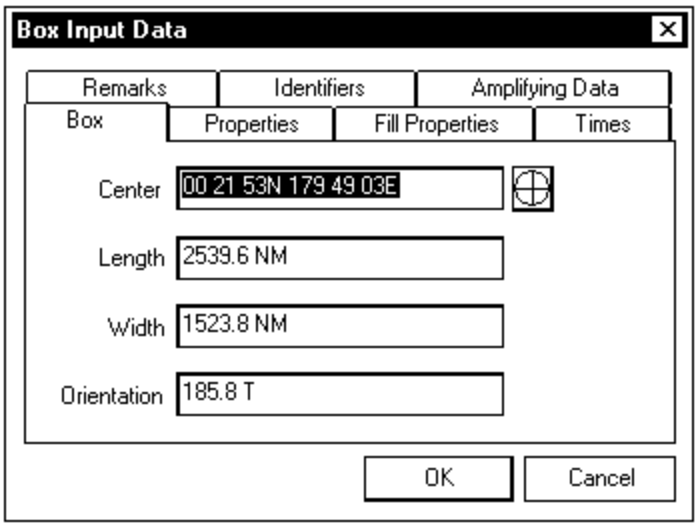
To draw a box in the map window:

1. Click the Box tool (or choose Insert:Box).
2. In the map window, click and drag to create a box.

To edit a box already drawn in the map window:

1. Click the Select tool.
2. Click on the box to select it. When selected, little white squares appear at the midpoints of each side of the box and at the center of the box.
3. Drag any of the midpoints to change the shape of the box. Drag the center point to move the entire box to a new location.

Another way to edit a box is to double-click the box in the map window, or double-click the box object in the overlay list, or select the box and choose Overlays:Properties to display the Box Input Data window.




The Box Input Data window contains seven tabs to allow you to enter different information about the box. The Box tab is the default tab and displays the following fields.

**Center**
Enter the position of the center point of the box.

**Length**
Enter the length of one of the sides of the box. This will define the length of the top and bottom sides of a box oriented at 90 degrees.

**Width**
Enter the width of the box. This will define the length of the left and right sides of a box oriented at 90 degrees.

**Orientation**
Enter the angle (in degrees True) for the box.

The Fill Properties, Properties, Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within the Properties, Times, Remarks, Identifiers, and Amplifying Data tabs. Refer to the documentation for the Polyline tool above for a complete description of the fields within the Fill Properties tab.

After entering appropriate information in the Box Input Data window, click the OK button to accept any changes. Any changes that affect the look of the box in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Circle Tool

*Circle Tool*

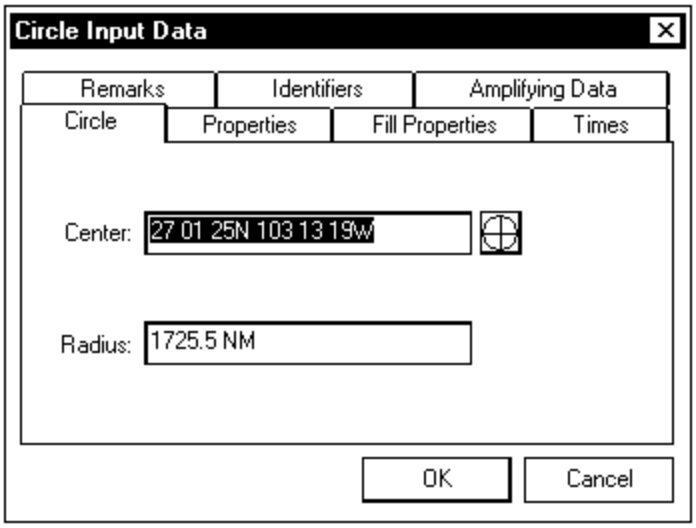
Use the Circle tool to create a circle in the map window. To draw a circle in the map window:

1. Click the Circle tool (or choose Insert:Circle).
2. In the map window, click and drag to create a circle.

To edit a circle already drawn in the map window:

1. Click the Select tool.
2. Click on the circle to select it. When selected, little white squares appear along the circle and at the center of the circle.
3. Drag any of the select points along the circle to shrink or enlarge the circle. Drag the center point to move the entire circle to a new location.

Another way to edit a circle is to double-click the circle in the map window, or double-click the circle object in the overlay list, or select the circle and choose Overlays:Properties to display the Circle Input Data window.




The Circle Input Data window contains seven tabs to allow you to enter different information about the circle. The Grcle tab is the default tab and displays the following fields.

**Center**
Enter the position of the center point of the circle.

**Radius**
Enter the radius of the circle.

The Fill Properties, Properties, Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within the Properties, Times, Remarks, Identifiers, and Amplifying Data tabs. Refer to the documentation for the Polyline tool above for a complete description of the fields within the Fill Properties tab.

After entering appropriate information in the Circle Input Data window, click the OK button to accept any changes. Any changes that affect the look of the circle in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Ellipse Tool

*Ellipse Tool*

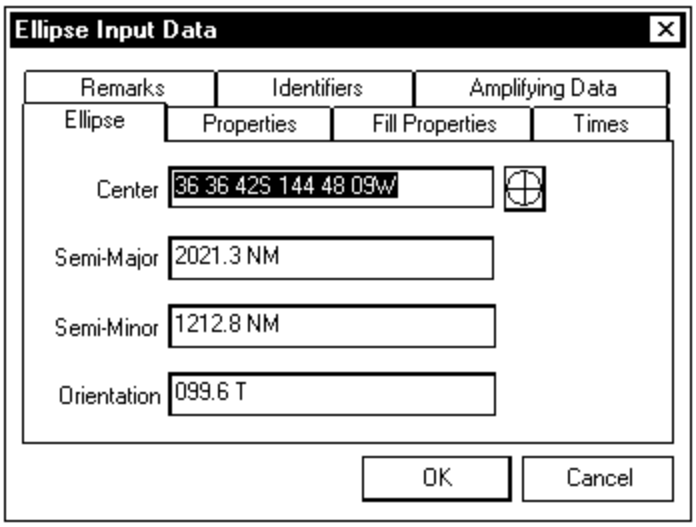
Use the Ellipse tool to create an ellipse in the map window. To draw an ellipse in the map window:

1. Click the Ellipse tool (or choose Insert:Ellipse).
2. In the map window, click and drag to create an ellipse.

To edit an ellipse already drawn in the map window:

1. Click the Select tool.
2. Click on the ellipse to select it. When selected, little white squares appear along the ellipse and at the center of the ellipse.
3. Drag any of the select points along the ellipse to change the shape of the ellipse. Drag the center point to move the entire ellipse to a new location.

Another way to edit an ellipse is to double-click the ellipse in the map window, or double-click the ellipse object in the overlay list, or select the ellipse and choose Overlays:Properties to display the Ellipse Input Data window.




The Ellipse Input Data window contains seven tabs to allow you to enter different information about the ellipse. The Ellipse tab is the default tab and displays the following fields.

**Center**
Enter the position of the center point of the ellipse.

**Semi-Major**
Enter the distance from the center of the ellipse to the edge, on the longer axis.

**Semi-Minor**
Enter the distance from the center of the ellipse to the edge, on the shorter axis.

**Orientation**
Enter the bearing angle (measured from North) of the semi-major axis of the ellipse.

The Fill Properties, Properties, Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within the Properties, Times, Remarks, Identifiers, and Amplifying Data tabs. Refer to the documentation for the Polyline tool above for a complete description of the fields within the Fill Properties tab.

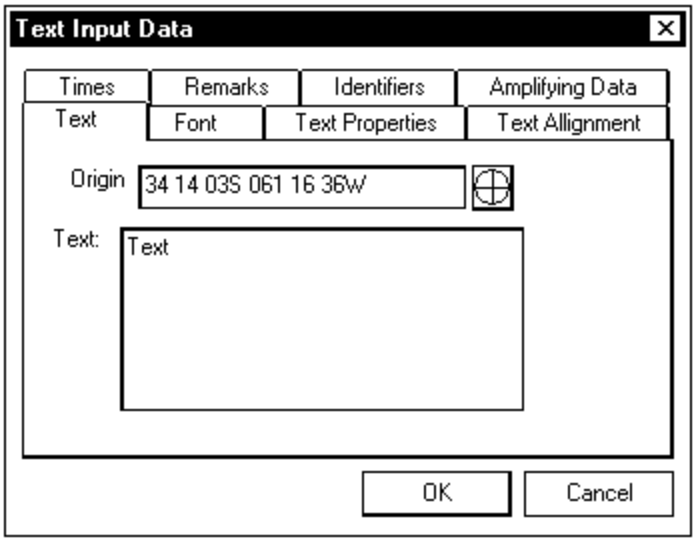
After entering appropriate information in the Ellipse Input Data window, click the OK button to accept any changes. Any changes that affect the look of the ellipse in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Text Tool

*Text Tool*

Use the Text tool to enter text that will display in the map window. To use the Text tool:

1. Click the Text tool (or choose Insert:Text).
2. In the map window, click the area where the text is to appear. The word "Text" appears in the map window at the chosen spot. A little white square appears in the upper left corner of the text. Drag this square to move the text to a new location.
3. To change the word "Text" to text that you want, double-click the word "Text" in the map window, or double-click the text object in the overlay list, or select the text and choose Overlays:Properties to display the Text Input Data window.

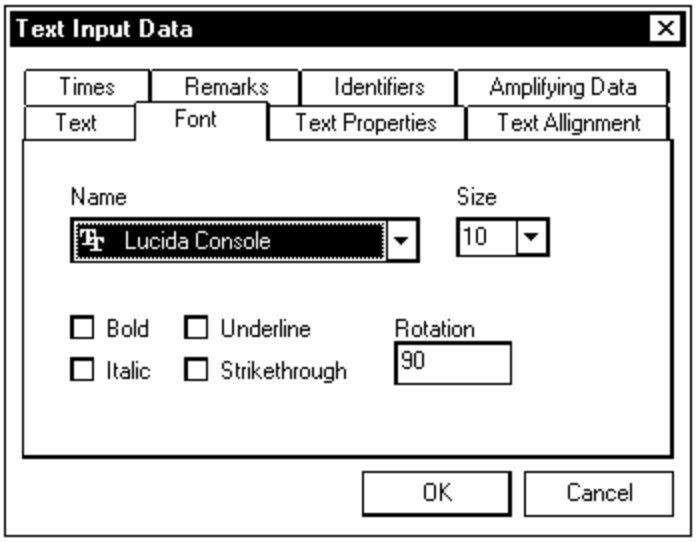



The Text Input Data window contains eight tabs to allow you to enter different information about the text. The Text tab is the default tab and displays the following fields.

**Origin**
Enter the position for the text.

**Text**
Enter the text to appear in the map window. To enter text on the next line, press Ctrl+Enter.

Click the Font tab to display additional text fields.




The Font tab displays the following fields.

**Name**

This displays the currently selected text font. To select a different font, click the down arrow and choose a font from the displayed choices.

Note: Only Courier, Helvetica, Lucida, Schoolbook, Times, and Roman can be transmitted between C2PC and the UB host system. If any other font is used, it is automatically mapped to one of these fonts when transmitted.

**Size**

This displays the currently selected text size. To select a different size, click the down arrow and choose a size from the displayed choices.

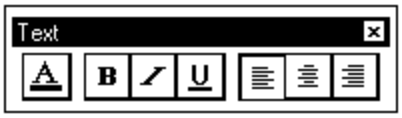
**Checkboxes**

The checkboxes can be used to set additional features for the text. Click any of these checkboxes to turn on that feature for the text.

**Rotation**

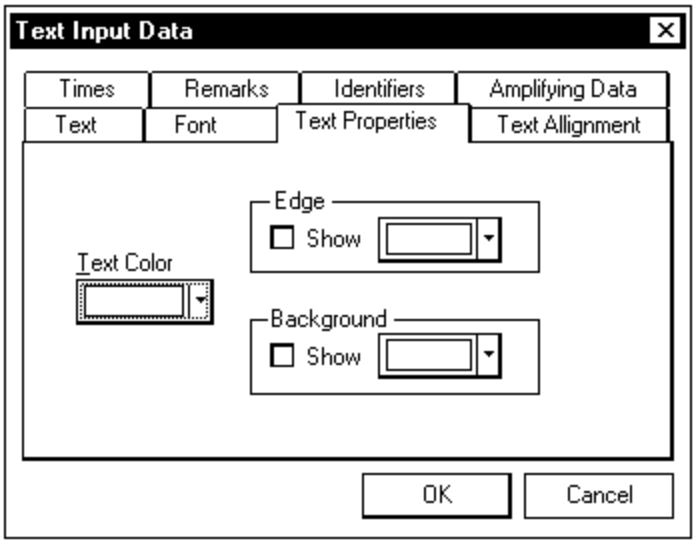
Text is set to a default rotation of 90 degrees. To rotate the text, change the value in this field. Note that only text with TrueType fonts may be rotated. TrueType fonts are those fonts with the TT symbol in front of them in the font list.

There is a Text toolbar that can be used to edit some of the text properties. Select VIEW->TEXTBAR to display the Text toolbar. (Select this option again to turn off the Text toolbar or click the Close box in the Text toolbar.)




The Text toolbar can be used to perform some of the same functions that are found on the Font and Text Allignment tabs. Click the first button to change the text color. Click the next three buttons to toggle the bold, italics, and underline features on or off. Click one of the right three buttons to set the horizontal text justification to left, center, or right.

Click the Text Properties tab to display additional text fields.



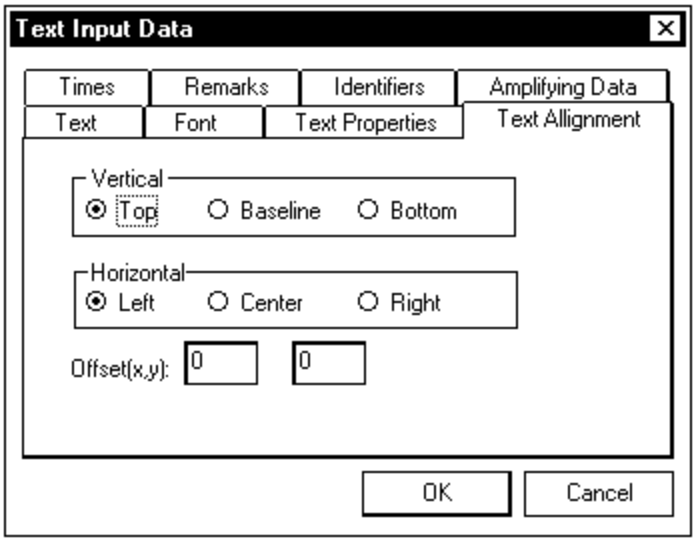

The Text Properties tab displays the following fields.

**Text Color**
The Text Color box displays the currently selected color for the text. To choose a different color, click the down arrow and choose a color from the displayed choices.

**Edge**
The Edge box displays the currently selected color for a box that may be displayed around the text. To choose a different color, click the down arrow and choose a color from the displayed choices. To turn on this box in the map window, click the checkbox.

**Background**
The Background box displays the currently selected color for a background color that may be displayed behind the text. To choose a different background color, click the down arrow and choose a color from the displayed choices. To turn on the background color in the map window, click the checkbox.

Click the Text Allignment tab to display additional text fields.




The Text Allignment tab displays the following fields.

**Vertical**

The knobs in the Vertical box are used to adjust the position of the text in a vertical relation to the select point. If Top is selected, the select point is located at the top of the text. If Baseline is selected, the select point is located at the bottom of the text, alligned with the text. If Bottom is selected, the select point is located at the bottom of the text, below the text.

**Horizontal**

The knobs in the Horizontal box are used to adjust the position of the text in a horizontal relation to the select point. If Left is selected, the select point is located at the left of the text. If Center is selected, the select point is located in the middle of the text. If Right is selected, the select point is located at the right of the text.

**Offset (x,y)**

Use these fields to move the text on the display by the amount of pixels entered. The first Offset field moves the text in a horizontal direction and the second Offset field moves it in a vertical direction. Text can be moved -1024 to 1024 pixels in either direction.

As an example, if a value of -100 is entered in the left Offset box, the text is shifted a bit to the left. If a value of 250 is entered in the right Offset box, the text is shifted down somewhat.

The Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool

above for complete descriptions of all the fields within the Times, Remarks, Identifiers, and Amplifying Data tabs.

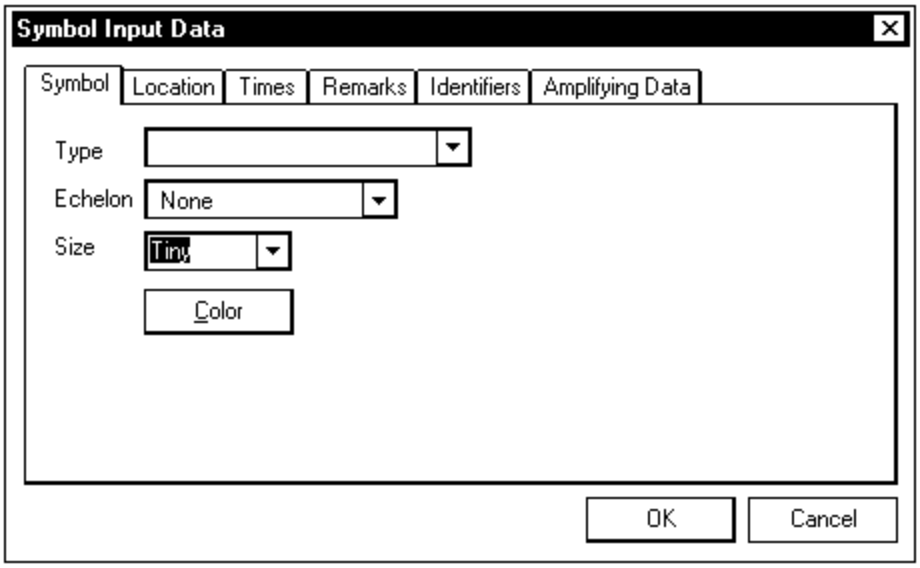
After entering appropriate information in the Text Input Data window, click the OK button to accept any changes. Any changes that affect the look of the text in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Symbol Tool

*Symbol Tool*

Use the Symbol tool to plot a symbol in the map window. To plot a symbol in the map window:

1. Click the Symbol tool (or choose Insert:Symbol).
2. In the map window, click the area where the symbol is to appear. A symbol appears in the map window at the chosen spot. A little white square appears in the center of the symbol. Drag this square to move the symbol to a new location.
3. To change the symbol to the symbol that you want, double-click the symbol in the map window, or double-click the symbol object in the overlay list, or select the symbol and choose Overlays:Properties to display the Symbol Input Data window.




When in NTDS mode, The Symbol Input Data window contains six tabs to allow you to enter different information about the symbol. When in Mil2525A mode, the Symbol Input Data window contains seven tabs.

The Symbol tab appears in NTDS mode only and is the default tab.

**Type**

This displays the currently selected symbol type. To select a different symbol type, click the down arrow and choose a type from the displayed choices.

The type determines the shape of the symbol in the map window.

**Echelon**

This displays the currently selected echelon. This field is unavailable for editing unless the chosen Type contains more than one echelon. When this field is available, you may select a different echelon by clicking the down arrow and choosing an echelon from the displayed choices.

The echelon helps determine the look of the symbol in the map window.

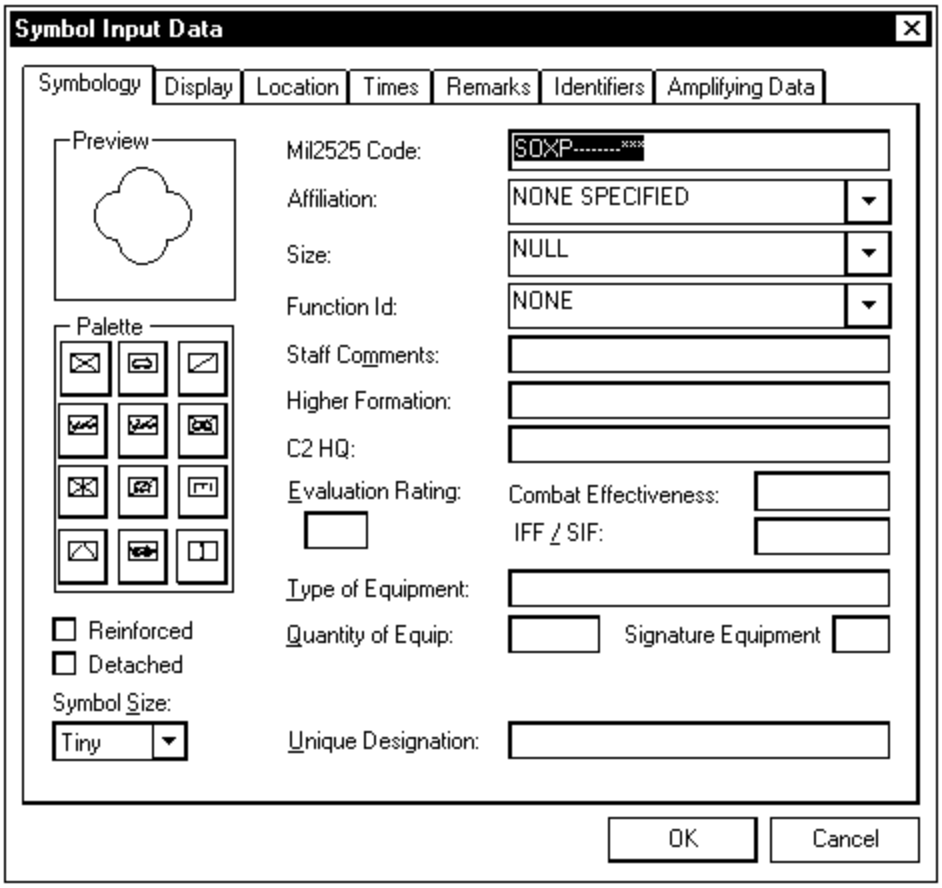
**Size**

This displays the currently selected size of the symbol. To select a different size, click the down arrow and choose a size from the displayed choices.

**Color**

Click the Color button to choose a new color for the symbol. A color palette appears. Choose the color you want from the palette and click the OK button to accept the new color. The symbol will appear in the chosen color in the map window.

The Symbology tab appears when in Mil2525A mode only and is the default tab.




The following fields of information appear under the Symbology tab:

**Mil2525 Code**

The Mil2525 Code is a code that is automatically generated based on values chosen for the Affiliation, Size, and Function Id fields. This field cannot be edited.

**Affiliation**

This displays the currently selected affiliation. To select a different affiliation, click the down arrow and choose an affiliation from the displayed choices.

The affiliation determines the shape and color of the symbol in the map window.

**Size**

This displays the currently selected size of the symbol. To select a different size, click the down arrow and choose a size from the displayed choices.

Small characters will appear above the symbol in the map window to represent the chosen size.

**Function Id**

This displays the currently selected function Id. To select a different function Id, click the down arrow and choose a function Id from the displayed choices.

The function Id determines the look of the icon within the symbol.

**Staff Comments**

Enter any free text comments.

**Higher Formation**

Enter the number or title of the higher echelon command for the symbol.

**C2 HQ**

Enter the name of a special C2 headquarters for the symbol.

**Evaluation Rating**

Enter the evaluation rating (A1-F6) for the symbol.

**Combat Effectiveness**

Enter the combat effectiveness information for the symbol.

**IFF/SIF**

Enter the IFF / SIF identification mode and code for the symbol.

**Type of Equipment**

Enter any equipment class or type information for the symbol.

**Quantity of Equip**

Enter any equipment quantity information for the symbol.

**Signature Equipment**

Click this checkbox for detectable electronic signatures or leave this checkbox blank if there are no detectable electronic signatures.

**Unique Designation**
Enter the unique designation.

**Reinforced**
Click this checkbox if the unit has additional resources allocated to it to reinforce it.

**Detached**
Click this checkbox if the unit has reduced resources.

**Symbol Size**
Choose the display size for the symbol. Choices include Tiny, Small, Medium, Large, and Huge.

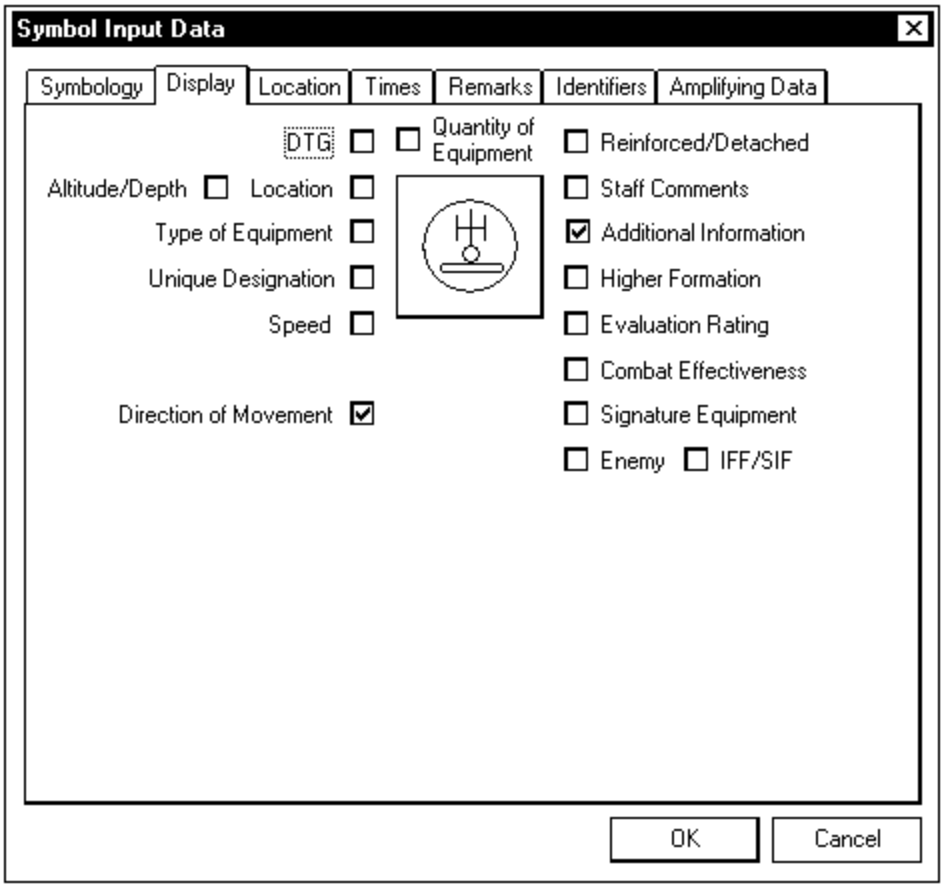
**Preview box**
The Preview box shows what the symbol looks like. The symbol changes based on entries in the Affiliation, Size, and Function Id fields.

You can save the current symbol to the Palette by dragging the symbol from the Preview box to one of the nine Palette boxes.

**Palette**
The Palette contains nine boxes that can be used to save symbol information. To save symbol information to the Palette, drag the symbol in the Preview box to one of the nine Palette boxes. Information that is saved for the symbol includes the values in the Mil2525 Code, Affiliation, Size, and Function Id fields.

To retrieve symbol information from the Palette, click on the Palette box containing the symbol information you want to retrieve. The values in the Mil2525 Code, Affiliation, Size, and Function Id fields change to the values from the saved symbol information and the symbol in the Preview box changes to the chosen symbol.

The Display tab appears when in Mil2525A mode only.




The Display tab displays checkboxes for many items associated with the symbol. Click any of these checkboxes on to display the chosen information next to the symbol in the map window. Click the checkboxes off to turn off the display of the chosen information.

**DTG**

Use this checkbox to toggle the display of the Start DTG for the symbol on / off.

**Alt/Depth**

Use this checkbox to toggle on / off the display of altitude / depth for the symbol.

**Location**

Use this checkbox to toggle on / off the display of the symbol position.

**Type of Equipment**

Use this checkbox to toggle on / off the display of any equipment class or type information for the symbol.

**Unique Designation**
Use this checkbox to toggle on/off the display of any unique designation information for the symbol.

**Speed**
Use this checkbox to toggle on/off the display of the symbol speed.

**Direction of movement**
Use this checkbox to toggle on/off the display of the symbol course.

**Quantity of Equipment**
Use this checkbox to toggle on/off the display of any equipment quantity information for the symbol.

**Reinforced/Detached**
Use this checkbox to toggle on/off the display of reinforced or detached information for the symbol. If reinforced, this will display as a plus sign (+) in the map window. If detached, this will display as a minus sign (-) in the map window.

**Staff Comments**
Use this checkbox to toggle on/off the display of any staff comments for the symbol.

**Additional Information**
Use this checkbox to toggle on/off the display of any additional information for the symbol.

**Higher Formation**
Use this checkbox to toggle on/off the display of the higher echelon command for the symbol.

**Evaluation Rating**
Use this checkbox to toggle on/off the display of the evaluation rating for the symbol.

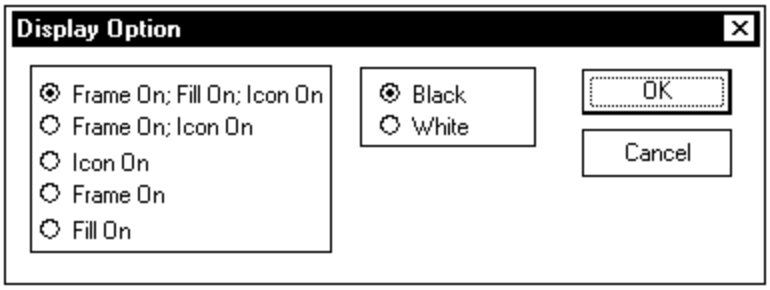
**Combat Effectiveness**
Use this checkbox to toggle on/off the display of combat effectiveness information for the symbol.

**Signature Equipment**
Use this checkbox to toggle on/off the display of an exclamation point (!) if there are detectable electronic signatures for the symbol.

**Enemy**
This checkbox currently is inactive. It is reserved for future use.

**IFF/SIF**
Use this checkbox to toggle on/off the display of the IFF/SIF identification mode and code for the symbol.

Click on the symbol in the window to display the Display Option window.




The Display Option window allows you to turn on/off symbol features, and also change these features black or white.

There are three symbol features that can be turned on/off from this window including:

?? Frame - This is the line around the symbol.

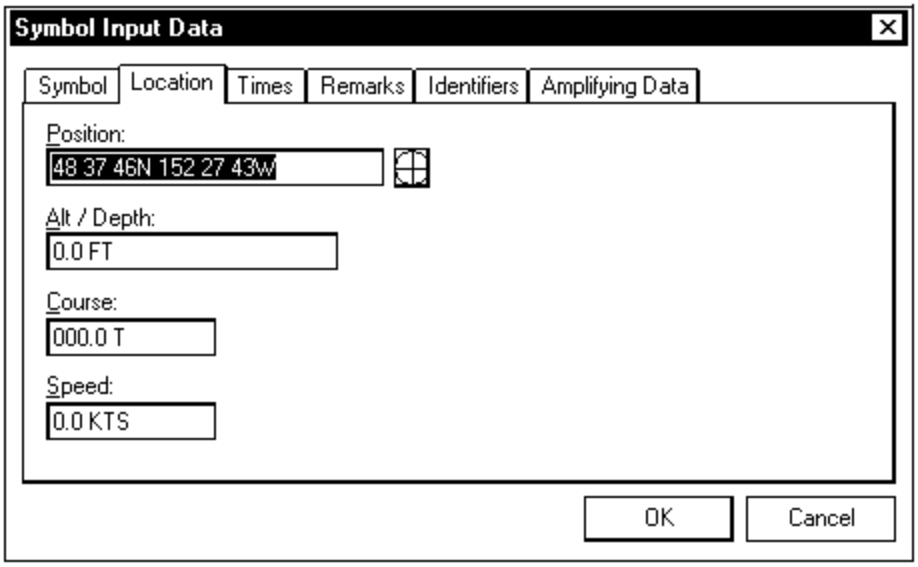
?? Fill - This is the symbol color.

?? Icon - This is the icon displayed within the symbol.

Use the knobs in the left box to turn on/off these three symbol features.

The frame and icon can be colored black or white. Click the Black knob to color them black or the White knob to color them white.

Click the Location tab to display additional fields.




The Location tab displays the following fields.

**Position**
Enter the symbol position. Enter this from the keyboard or enter the position automatically as follows:

1. Click the crosshair button to the right of the Position field.
2. Click a position in the map window.

**Alt/Depth**
Enter the altitude or depth of the symbol. If a depth is entered, enter this as a negative number. If an altitude is entered, enter this as a positive number.

**Course**
Enter the course for the symbol.

**Speed**
Enter the speed for the symbol.

The Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within the Times, Remarks, Identifiers, and Amplifying Data tabs.

After entering appropriate information in the Symbol Input Data window, click the OK button to accept any changes. Any changes that affect the look of the symbol in the map window take effect when the OK button is clicked. Note that modifications

are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Arrow Tool

*Arrow Tool*

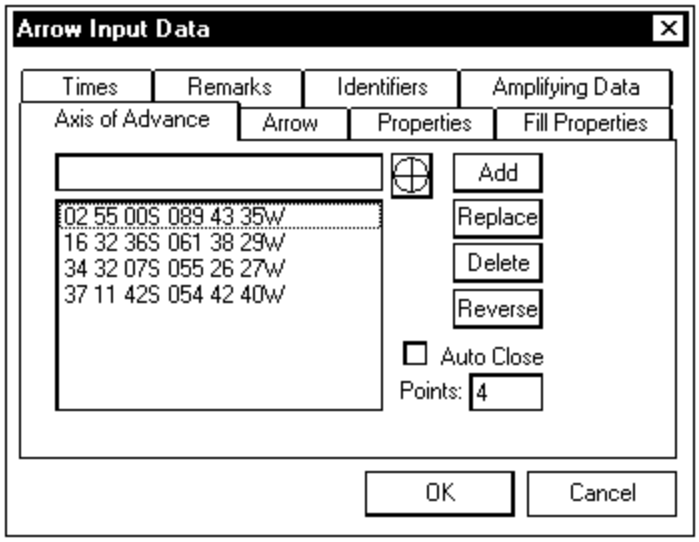
Use the Arrow tool to create an arrow symbol in the map window. The arrow symbol is often used to represent a direction of planned movement. To draw an arrow symbol in the map window:

1. Click the Arrow tool (or choose Insert:Arrow).
2. In the map window, click an endpoint for the pointing end of the arrow.
3. Move the cursor and click to create a line between the previous endpoint and the new endpoint.
4. Continue to click additional points for the arrow.
5. When finished, move the cursor to the Tools Palette and click on the Select tool.

To edit an arrow already drawn in the map window:

1. Click the Select tool.
2. Click on the arrow to select it. The endpoints of the arrow become little white squares when selected.
3. Drag any endpoint to a new location.

Another way to edit an arrow is to double-click the arrow in the map window, or double-click the arrow object in the overlay list, or select the arrow and choose Overlays:Properties to display the Arrow Input Data window.




The Arrow Input Data window contains eight tabs to allow you to enter different information about the arrow. The Axis of Advance tab is the default tab and displays the following fields.

### Arrow Endpoints Scroll List

The endpoints of the arrow are displayed in the white box in the left portion of the window in order from first to last.

To change the order of any of the endpoints in the scroll list, you may drag an endpoint to a new location in the list.

### Add

To add a new endpoint to the arrow, select a point in the scroll list, enter the position for the point in the field above the scroll list, and click the Add button. The new point is inserted after the selected point in the list. To enter a position in the field, you may enter the position from the keyboard or click the crosshairs button and click a point in the map window to automatically enter the position into the field.

The new endpoint will not appear in the map window until the OK button is clicked for the Arrow Input Data window.

### Replace

To replace an existing arrow endpoint, select a point in the scroll list, enter the position for the point in the field above the scroll list, and click the Replace button. The new point is inserted in place of the selected point in the list. To enter a position in the field, you may enter the position from the keyboard or click the crosshairs button and click a point in the map window to automatically enter the position into the field.

The new endpoint will not appear in the map window until the OK button is clicked for the Arrow Input Data window.

**Delete**
To delete an existing arrow endpoint, select a point in the scroll list and click the Delete button. The point is removed. The arrow will not be updated in the map window until the OK button is clicked for the Arrow Input Data window.

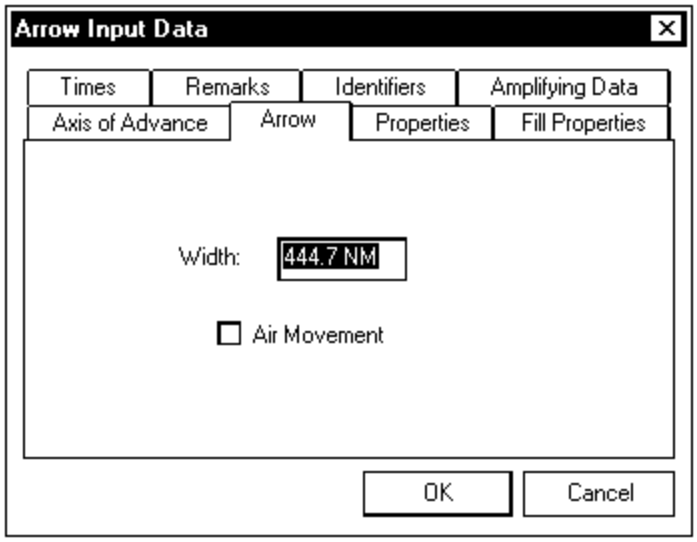
**Reverse**
Click the Reverse button to reverse all the endpoints in the list.

**Auto Close**
This checkbox is currently inactive.

**Points**
This field displays the number of endpoints in the arrow. This is for display purposes only and cannot be edited.

**Pop-Up Menu**
There is a pop-up menu within the scroll list. Click the right mouse button over the scroll list to display the pop-up menu containing Reverse and Delete options. These options work the same way as the buttons with the same names.

Click the Arrow tab to display additional text fields.




The Arrow tab displays the following fields.

**Width**
Enter the width for the arrow.

**Air Movement**
Click this checkbox if this arrow represents an air corridor movement. When this is checked, the arrow compresses in the center in the map window.

The Fill Properties, Properties, Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all the fields within the Properties, Times, Remarks, Identifiers, and Amplifying Data tabs. Refer to the documentation for the Polyline tool above for a complete description of the fields within the Fill Properties tab.

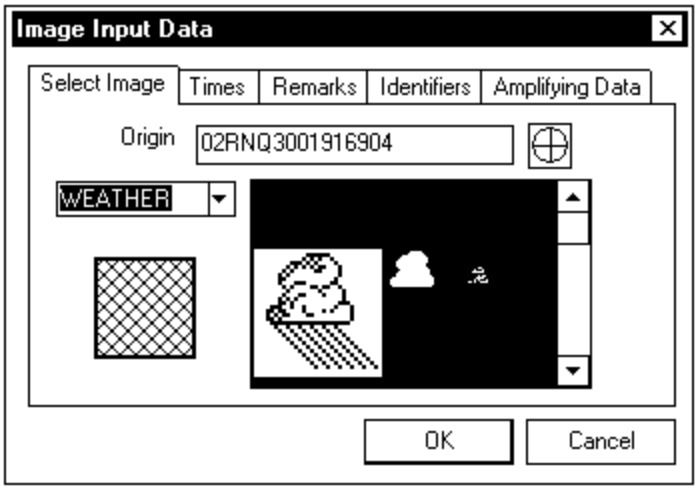
After entering appropriate information in the Arrow Input Data window, click the OK button to accept any changes. Any changes that affect the look of the arrow in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

## Image Tool

*Image Tool*

Use the Image tool to paste a bitmap image in the map window. To paste an image in the map window:

1. Click the Image tool (or choose Insert:Image).
2. In the map window, click the area where the image is to appear. A blank image area appears in the map window at the chosen spot. Little white squares appear at the four corners and in the middle of the image area. Drag any of these squares to move the image to a new location.
3. To change the blank image to the image that you want, double-click the image in the map window, or double-click the image object in the overlay list, or select the image and choose Overlays:Properties to display the Image Input Data window.




The Image Input Data window contains five tabs to allow you to enter different information about the image. The Select Image tab is the default tab and displays the following fields.

**Origin**
Enter the position of the center point of the image.

**Image Type scrollbox**
The scrollbox in the left part of the window displays the name of the image type set of images that are displayed in the right scrollbox. To choose a different image type, click the down arrow and choose a type from the displayed choices. When an image type is selected, the images displayed in the right scrollbox change to match the type chosen.

**Images scrollbox**
The scrollbox in the right part of the window show a group of images available for the image type chosen in the left scrollbox. You may choose any of these images for display in the map window. Click on the image you want to display. The currently chosen image appears in the box in the lower left part of this window.

The Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all these fields.

After entering appropriate information in the Image Input Data window, click the OK button to accept any changes. Any changes that affect the look of the image in the map window take effect when the OK button is clicked. Note that modifications

are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

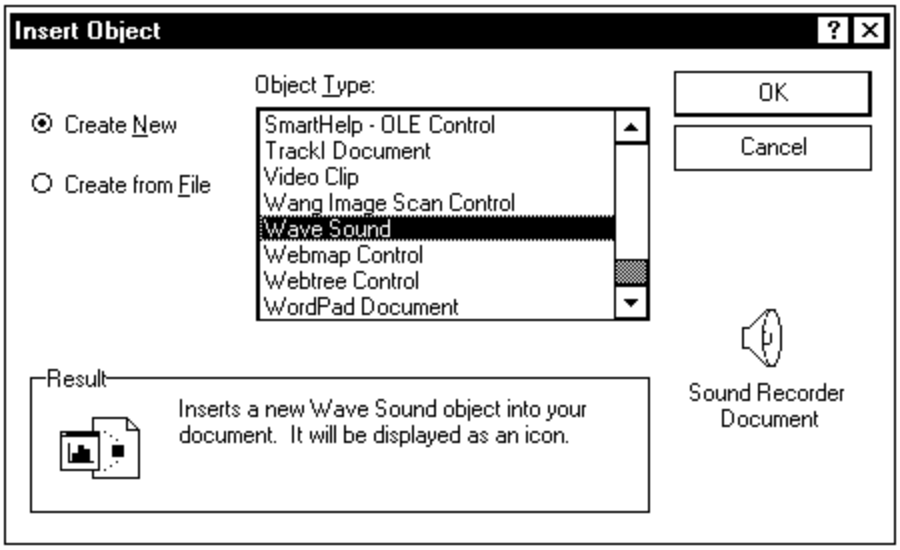
## OLE Tool

*OLE Tool*

Use the OLE tool to insert a file as an overlay. Many different types of files can be inserted into the C2PC map window. For example, Microsoft Word files, Wave Sound files, and Bitmap Image files can all be inserted into the map window.

To insert a file, perform the following steps:

1. Click the OLE tool (or choose Insert:Object).
2. In the map window, click the area where the file is to appear. An OLE symbol appears in the map window at the chosen spot and the Insert Object window appears.



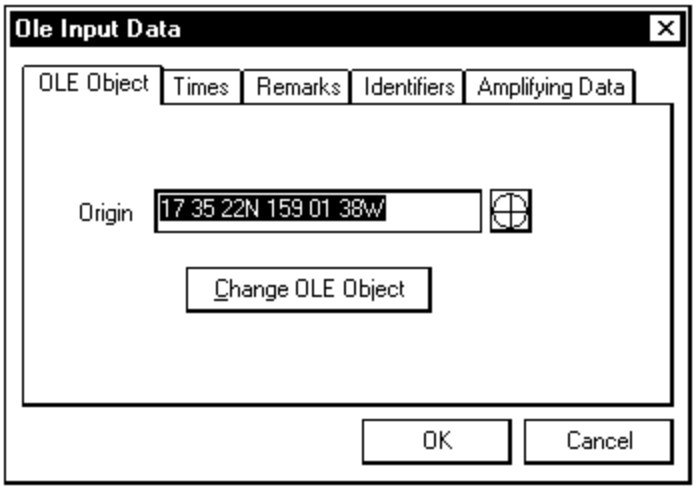

3. Select an object type from the scroll list.
4. Click either the Create New or Create From File knob. If the Create New knob is selected, a new file of the type selected will be inserted into the map window. If the Create From File knob is selected, you must enter a pathname or use the Browse button to choose a file that has already been created to import into the map window.

When your choices have been selected, you can view what the result will be in the Result box. This tells you ahead of time what will happen when you click the OK button. When everything is set as you want it, click the OK button.

When a file is associated with an OLE object, you may double-click the OLE symbol in the map window to open the file.

Little white squares appear at the four corners and in the middle of the OLE object in the map window. Drag any of these squares to move the object to a new location.

Another way to edit an OLE object is to double-click the OLE object in the overlay list or select the OLE object and use the Overlays:Properties option to display the Ole Input Data window.




The Ole Input Data window contains five tabs to allow you to enter different information about the OLE object. The OLE Object tab is the default tab and displays the following field.

**Origin**
Enter the position of the center point of the OLE object.

**Change OLE Object**
Click this button to change the OLE object to a new OLE object. When this button is clicked, the Insert Object window appears to allow you to choose a new OLE object.

The Times, Remarks, Identifiers, and Amplifying Data tabs contain fields that are the same for many of the overlay tools. Refer to the documentation for the Line tool above for complete descriptions of all these fields.

After entering appropriate information in the Ole Input Data window, click the OK button to accept any changes. Any changes that affect the look of the object in the map window take effect when the OK button is clicked. Note that modifications are not permanently saved until the overlay is saved from the overlay list with the right pop-up Save option or with the Save option from the Overlays menu.

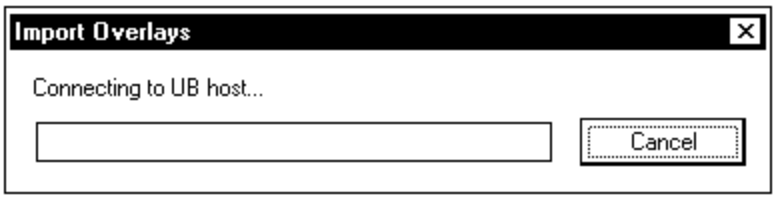
## Overlays Menu

The Overlays menu contains miscellaneous options related to overlays.

### Import

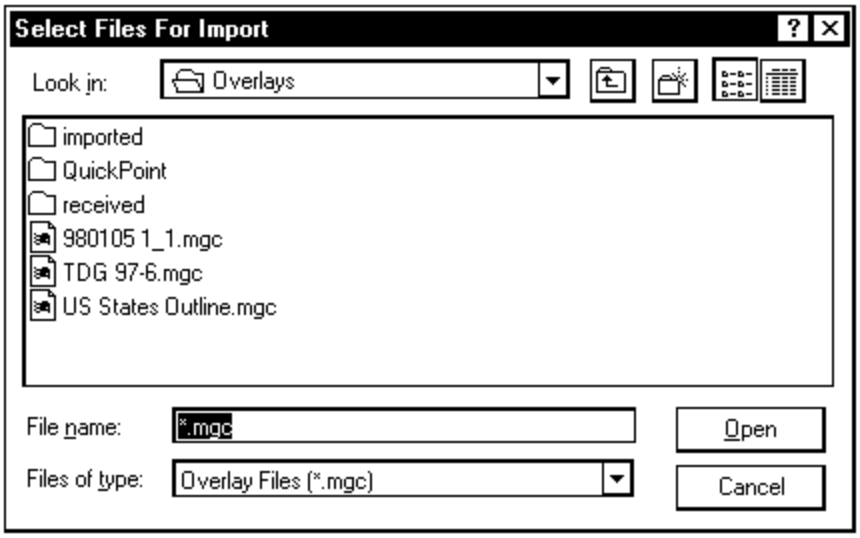
Use this option to import overlays from either the UB host machine or your local system into C2PC. If importing from the UB host machine, only files added or modified on the UB host since the last import are imported. (Note that the overlays import path on the UB host machine must be set for this option to work. Refer to Options under the Tools menu for details about specifying the import path to the UB host machine.)

To import overlays from the UB host machine, click the Import cascading menu and choose From UB Host to automatically import the overlays.




The Import Overlays window appears to display the status of the import process. When finished, this window automatically disappears and the imported overlays display in the overlay list.

To import overlays from your local system, click the Import cascading menu and choose From Local System to display the Select Files For Import window.




The Select Files For Import window displays the contents of the Overlays directory. The Overlays directory is the default directory for overlay files.

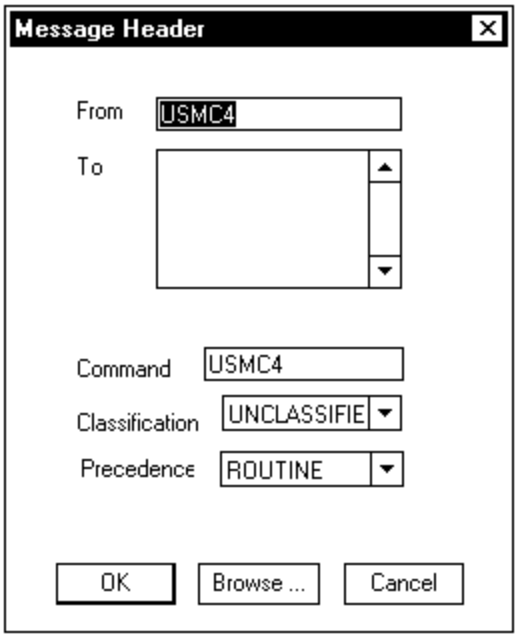
To import an overlay, click on a file from the displayed list and click the Open button. Overlay files have an extension of .mgc.

To import overlays from other directories, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

Imported overlays are placed into the imported folder in the overlay list. If an imported overlay has the same name as an existing overlay, the newly imported overlay replaces the existing overlay.

### Export Files

Select one or more overlays from the list and use this option to export them to the UB host machine. The Message Header window appears.




Enter appropriate message header information in the available fields.

**From**
Enter the message origin - individual site or command may be entered. Your workstation name is automatically entered in this field by default.

**To**
Enter the message destination. To enter additional destinations, use <CTRL ENTER> to move to the next line and enter the next destination. Up to five destinations may be entered.

**Command**
Enter the local command name. Your workstation name is automatically entered in this field by default.

**Classification**
Use the arrow button to choose the appropriate security classification of the message (Unclassified, Confidential, Secret, Secret Noforn, or Top Secret).

**Precedence**
Use the arrow button to choose the appropriate precedence of the message (Routine, Priority, Immediate, or Flash).

When the fields are set properly, click the OK button to export the overlay to the UB host machine.

## Export Notes

?? When an overlay is exported, text and color information may be changed somewhat for the overlay. This is because overlays are sent as GOLD messages and GOLD messages only allow 6 different fonts (Courier, Helvetica, Lucida, Schoolbook, Times, and Roman) and 9 colors (white, red, yellow, green, dark blue, light blue, magenta, black, and orange). If any other fonts or colors are used in the overlay, they are remapped to one of the GOLD standard fonts or colors when exported.

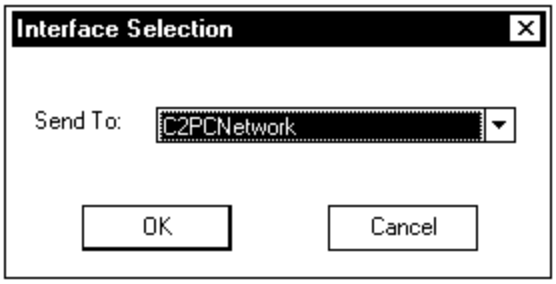
?? Boxes and rectangles are exported as polylines.

?? Images and OLE objects are not exported.

## Transmit

Use the Transmit option to transmit overlays to another location. Select the overlays you wish to transmit from the overlay list and choose the Transmit option. If both the message router and the C2PC Network are configured for your C2PC system, the Interface Selection window appears. If either of these is not configured for your C2PC system, this window is skipped and the next window appears.

If the Interface Selection window appears, it allows you to choose the interface to use when transmitting overlays.




Use the Interface Selection window to choose where to send the overlays.

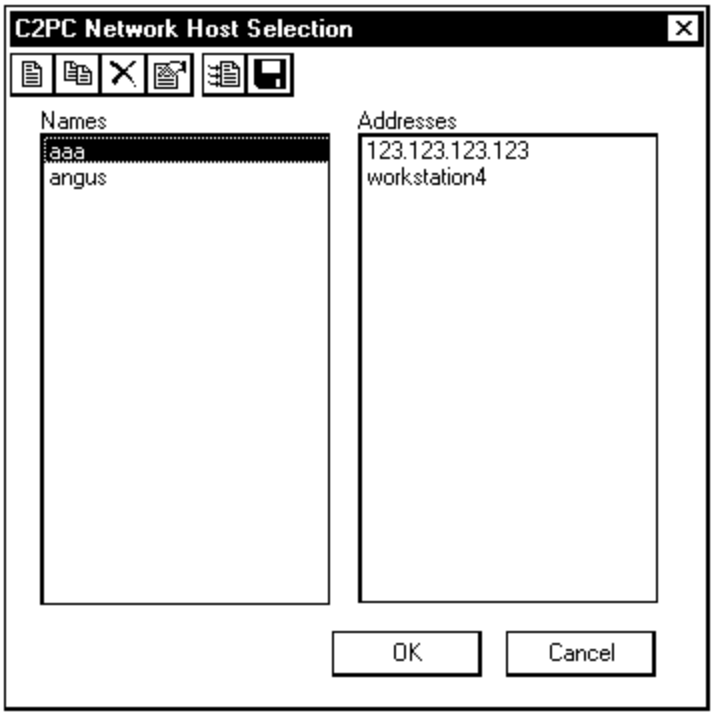
**Send To**
Overlays may be sent to the C2PC Network or to the message router. Click the down arrow to the right of this field to view these two choices and select the appropriate choice.

Click the OK button to continue the overlay transmit process.

If message router was chosen as the Send To destination or if the message router is the only transmission choice, a Transmit Options window appears. Refer to the

Taccomm Viewer section in Chapter 6 of this User's Guide for complete details about how to use this window to continue the transmit process.

If C2PCNetwork was chosen as the Send To destination or if the message router is not loaded into your C2PC system, the C2PC Network Host Selection window appears.




Use this window to choose the hosts where you want to send the overlays. You can send overlays to one host or to multiple hosts. A group of hosts can be saved with an alias. This alias can then be used to send the overlays to all the hosts in the group.

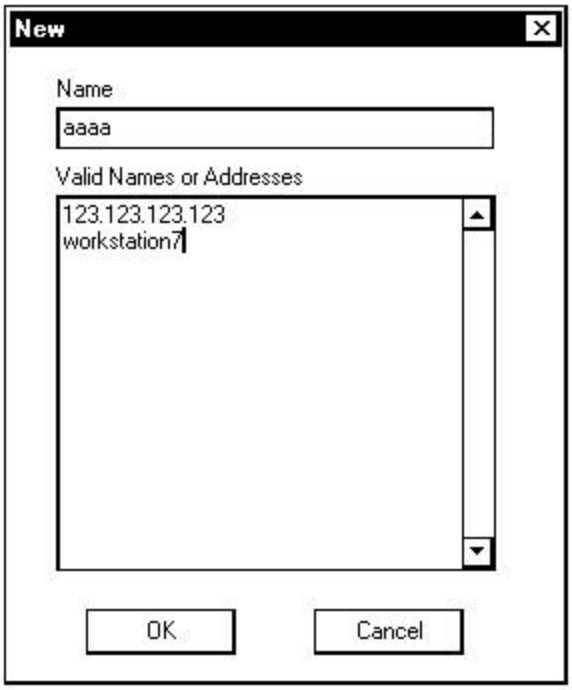
There are two main boxes in this window. The Names box displays all the host names currently saved. Each host name can contain one or more IP addresses or machine names. If you select a host name in the Names box, its associated IP addresses and machine names appear in the Addresses box.

To send the selected overlays to one or more hosts, select the hosts in the Names box and click the OK button.

There are six buttons at the top of the C2PC Network Host Selection window that allow you to perform various actions. These buttons are New, Copy, Delete, Properties, Import and Merge Addresses, and Export Address Book to File.

### New

Use the New button to save a new host name with associated IP addresses and machine names. Click the New button to display the New window.




In the New window, enter a new host name in the Name field and enter associated IP addresses and machine names in the Valid Names or Addresses box. When the new host name is set up as you want it, click the OK button to save the new host name. The new name appears in the Names box in the C2PC Network Host Selection window.

### Copy

Select a host name in the Names box and click the Copy button to create a new host name with all the IP addresses and machine names of the selected host name. A Copy window will appear which looks the same as the New window. Enter a new host name in the Name field, make any changes you want to the IP addresses and machine names, and click the OK button to save the new host name.

### Delete

Select one or more host names in the Names box and click the Delete button to delete them from the system.

### Properties

Use the Properties option to edit the IP addresses and machine names associated with a selected host name. Select a host name from the Names box and click the Properties button to display the Properties window. This window looks the same as the New window and displays all the IP addresses and machine names for the selected host name. Make any changes you want to the IP addresses and machine names and click the OK button to save the changes.

### Import and Merge Addresses

Use this option to retrieve a saved address book file containing host names and their associated IP addresses and machine names. Address books are saved with the Export Address Book to File button.

Click the Import and Merge Addresses button to display an Open window. Locate the file to be retrieved and click the Open button to retrieve all of the host names into the C2PC Network Host Selection window. Note that only files that have been saved with the Export Address Book to File button and which have the .cn7 extension can be retrieved.

### Export Address Book to File

Use this option to export all of the current host names and their associated IP addresses and machine names to a file. Click the Export Address Book to File button to display a Save As window. Enter a name for the file, choose a directory where you want the file stored, and click the Save button to save the file. An extension of .cn7 is automatically added to the file name. You can retrieve this file using the Import and Merge Addresses button.

## Save Files

When an overlay is created or modified, an asterisk (*) appears next to the overlay name in the overlay list. This indicates the overlay has been changed but not yet permanently saved. To permanently save the changes, select the overlay in the overlay list and choose the Save option from the Overlays menu.

## Save As

Use the Save As option to make a duplicate copy of an overlay with a new name. Select an overlay from the list, then choose the Save As option to display the Save As window. From the Save As window, enter a new name for the overlay and click

the Save button to save the new overlay. The new overlay appears in the overlay list.

### Group

Multiple overlay objects from the same overlay can be grouped. To group objects, select multiple overlay objects from the same overlay in the map window or overlay list and choose the Group option. A new folder named Group1 appears in the overlay list. This folder displays a special group icon and contains the grouped objects. You may rename the group name by changing the name directly in the overlay list.

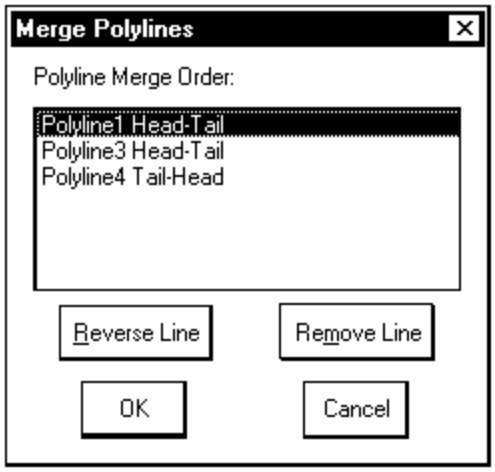
If any of the objects in a group is selected, all of the objects become selected. If the move point for any of the objects in the group is dragged, all the objects are moved at once in the map window.

### Ungroup

Use the Ungroup option to turn off grouping for a selected group. Select a group in the overlay list or in the map window and choose Ungroup to turn off grouping.

### Merge Polylines

Use the Merge Polylines option to merge two or more polylines into one polyline. Select two or more polylines from the map window or from the overlay list and choose the Merge Polylines option to display the Merge Polylines window.




The Merge Polylines window displays a list of all selected polylines. For each polyline in the list, the potential merger order is listed. This shows how the

endpoints of two polylines will be merged. This is also shown in the map window with a dashed line between the two points.

To change the merge points, select a polyline in the Merge Polylines window and click the Reverse Line button. The dashed line in the map window shows how the polylines will now be merged.

If there are more than two polylines selected, the Remove Line button is active. This button can be used to remove a selected polyline from being merged with the other lines.

When the polylines are set to be merged as you want them, click the OK button to complete the merge process (or click Cancel to cancel the merge process). When polylines are merged, the multiple polylines are connected and become one polyline in the overlay list.

### Visible

Use this option to toggle any overlay or overlay object checkbox on or off. When turned on, overlays and overlay objects appear in the map window. When off, they do not appear.

### Order

Use the Order options to shift the display order of overlay objects. By default, the most recently created overlay object displays on top if two overlays overlap in the map window. The Order options have the following effects on the selected overlay object:

Bring to Front - Brings the object to the front of all other overlay objects.

Send to Back - Moves the object behind all other overlay objects.

Bring Forward - Moves the object forward one position. All the overlay objects in the system are assigned an internal order number. For example, if there are four overlays in the system and they are stacked on top of each other, and you use the Bring Forward option on the third object, it will move it up to the second position and move the second object down to the third position.

Send Backward - Moves the object backward one position. All the overlay objects in the system are assigned an internal order number. For example, if there are four overlays in the system and they are stacked on top of each other, and you use the

Send Backward option on the first object, it will move it back to the second position and move the second object up to the first position.

Note: Any changes made to the order of overlays will be lost when the Client is exited.

### Center On

Select an overlay object from the list or from the map window and click the Center On button to center the map window around the selected overlay object.

### Amplifying Data

For a selected overlay or overlay object, choose the Amplifying Data option to display a window showing its amplifying data. Amplifying data is freeform text about the overlay or overlay object. You may view or edit this data. The data displayed in this window is the same data that is displayed under the Amplifying Data tab from the Input Data window for the overlay or overlay object.

### Set Insert Defaults

Use this option to set defaults for the fill type, fill color, line style, line thickness, and line color for new overlay objects. To use this option, select an overlay object that contains the settings you want as defaults for fill type, fill color, line style, line thickness, and line color and choose the Set Insert Defaults option. Any new objects that are drawn will be drawn with the chosen settings as their default values.

### Reset Link

Use the Reset Link option to reset the path for a folder or overlay shortcut when the folder or overlay used for the shortcut has been moved.

Select a folder or overlay shortcut from the overlay list. If the folder or overlay used for the selected shortcut has been moved or deleted, the Reset Link option becomes active. If it is in its original location, the Reset Link option remains inactive. Select the Reset Link option to display the Create Folder Shortcut or Create File Shortcut window.

In the Create Folder/File Shortcut window, enter a pathname to the folder/file or use the Browse button to locate the folder/file that has been moved. When the pathname is listed in the field, click the OK button to add the folder/file to the overlay list. Click the Cancel button to close this window without resetting the link.

### Properties

For a selected overlay, this option displays the File Input Data window to allow you to view and edit the main properties of the overlay. Refer to the Insert:Overlay section above for complete descriptions of all the fields within this window.

For a selected overlay object, this option displays the Input Data window for the object to allow you to view and edit the properties for that object. Refer to the Insert:Arc Through Text Options section above for complete descriptions of all the windows for the various overlay objects.

## Edit an Overlay

There are several ways to edit an overlay and overlay objects.

?? To edit the main properties of an overlay, double-click the overlay in the overlay list to display the File Input Data window for the overlay. Refer to the Insert:Overlay section above for complete descriptions of all the fields within this window.

?? To edit an object within an overlay, double-click the overlay object in the overlay list or from the map window to display the Input Data window for that object. (To display all overlay objects for an overlay in the list, click the plus (+) box for the overlay in the list.) Refer to the Insert:Arc Through Text Options section above for complete descriptions of all the windows for the various overlay objects.

?? To add objects to an overlay, select the overlay in the overlay list and use the overlay object tools to add objects to the overlay.

## Overlay List and Right Pop-Up Menu

The overlay list that appears in the left portion of the map window contains all the overlays in the system. This list is organized in a tree structure, with several levels of information displayed. The top level of the overlay list is an Overlays folder containing all the overlays. The next level shows subfolders within the Overlays folder. The next level shows the overlays contained within the folders. The final level shows the objects within the overlays.

When a plus sign (+) button appears to the left of an item in the list, this indicates there is another sub-level of items that are not currently shown in the tree list. Click on the plus sign button to display these items in the list. The plus sign button changes to a minus sign (-) when all sub-items are displayed in the tree list. Click a minus sign button to turn off the display of these sub-items.

Folders can be used within the overlay list to better organize groups of overlays. There are some folders that automatically appear in this list. The imported and received folders automatically appear, while the QuickPoint folder automatically appears if you convert one or more quick points to an overlay. Whenever overlays are imported from the host machine, they are automatically placed in the imported folder. When overlays are transmitted to your workstation with the Transmit option from another workstation, they are automatically placed in the received folder and an alert is generated. The QuickPoint folder automatically appears when a quick point is saved as an overlay from the Tools:Quick Point option. Quick points converted to overlays are placed in the QuickPoint folder.

To move an overlay from one folder to another, drag the overlay from the old folder into the new folder. To move an overlay object from one overlay to another, drag the overlay object from the old overlay to the new overlay.

To merge two overlays together, drag an overlay to another overlay. All the overlay objects from the overlay that was dragged are merged into the other overlay. The dragged overlay remains in its original location, but no longer contains any objects.

To delete folders, overlays, or overlay objects from the list, select the item you want in the list and choose the Delete option from the Overlays menu. If you choose to delete a folder containing overlays, a confirm message will appear to verify that you really want to delete the folder and all of its contents. Click Yes to complete the delete process, or click No to cancel the delete process.

To select multiple objects in the overlay list, hold down the Ctrl key, then click on multiple objects. To select multiple objects that are next to each other in the list, click on one object to select it, hold down the Shift key, then click on another object further up or down the list to select all objects in the list from the first to the second selected object.

Only one overlay in the list is displayed as bold. The bold overlay is the active overlay. When any of the tools are used to add an overlay object, the object will be added to the active overlay. To change the active overlay, click on another overlay in the list.

Any overlay that has been recently created or modified displays an asterisk (*) to the right of the name. This indicates the overlay has been changed but not saved. To permanently save the changes, select the overlay in the overlay list and choose the Save option from the Overlays menu or from the right pop-up menu. When saved, the asterisk disappears.

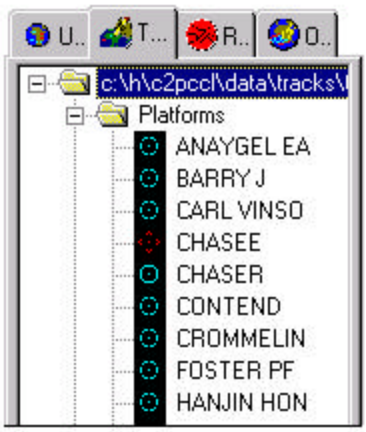
There is a checkbox in front of each overlay and overlay object in the list. When checked, the overlay or overlay object appears in the map window. When this box is blank, the object does not appear.

There is a pop-up menu associated with the overlay list. To access this pop-up menu, move the mouse pointer over an overlay or overlay object in the overlay list and click the right mouse button. The pop-up menu contains options that are also available from the menus. Refer to the descriptions of these menu options above for complete details about these options.

## TRACKPLOT

Choose the TrackPlot option from the Tools menu to activate the TrackPlot feature. When the TrackPlot option is selected, the TrackPlot tab is selected in the left portion of the map window and a list of all tracks in the system appears beneath the tab. Some new TrackPlot menus appear on the menubar, containing options related only to TrackPlot. These menus include Edit, View, Insert, Database, and TrackPlot. A TrackPlot Toolbar also appears below the main toolbar. If tracks are in the system, they appear in the map window (unless they are suppressed with Map:Plot Options).

The track list that appears in the left portion of the map window is organized in a tree structure, with several different levels of information displayed.




*Track List*

The track list contains a tree structure of folders and files. A folder is closed when the plus sign (+) button appears to the left. Click on the plus sign button to open the folder and display folders and/or files within that folder. The plus sign button for open folders changes to a minus sign (-). Click a minus sign button to close a folder.

Click on a track in the list to select it. If the full track name is not visible in the list, clicking on it will display its entire name.

The organization of the track list is as follows:

?? The top level of the track list shows the track database folders and Track Groups folder.

?? The next level of the track list shows the track type folders.

?? The bottom level of the track list shows the individual tracks.

If there is a red dot in the lower right corner of a track symbol in the track list, this indicates that there is an attachment for the track.

There is a context menu associated with the track list. To access the context menu, move the mouse pointer over a track in the list and click the right mouse button. The context menu contains the following TrackPlot-specific options: Connect to Gateway, Disconnect from Gateway, Status Gateway, Center On, Quick Report, Delete, Print, Range Circles, Summary, and Properties. These options work exactly the same as options of the same names found under the TrackPlot menus and TrackPlot toolbar. Refer to the documentation for those options for complete details.

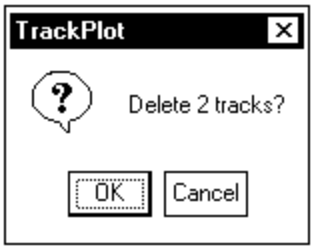
There is a context menu associated with the tracks in the map window. To access the context menu, move the mouse pointer over a track in the map window and click the right mouse button. The context menu contains the standard context menu options, along with the following TrackPlot-specific options: Center On, Quick Report, Print, Range Circles, Summary, Delete, and Properties. These options work exactly the same as options of the same names found under the TrackPlot menus and TrackPlot toolbar. Refer to the documentation for those options for complete details.

## Edit Menu

The Edit menu contains the Delete, Undelete, Merge, and Select All options.

### Delete

Use this option to delete tracks from the system. Select tracks(s) from either the map window or from the track list and choose the Delete option. A confirmation window appears before tracks are deleted.

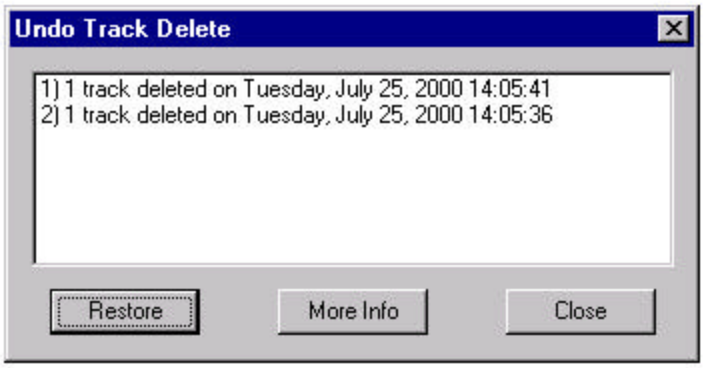



Click the OK button to complete the delete process.

Note that you may also delete tracks using the Delete button from the Selected Tracks window.

## Undelete

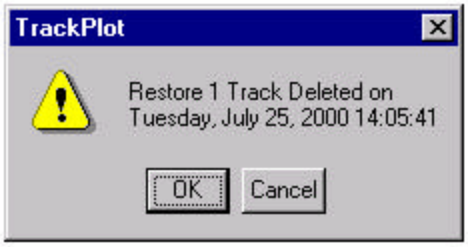
Use this option to return recently deleted tracks back into the system. This option is unavailable until a track has been deleted. Once a track is deleted, this option becomes active. Choose this option to display the Undo Track Delete window.




The Undo Track Delete displays the recent delete transactions. A transaction is when one or a group of tracks is deleted at the same time. This window displays the number of tracks deleted and the time they were deleted.

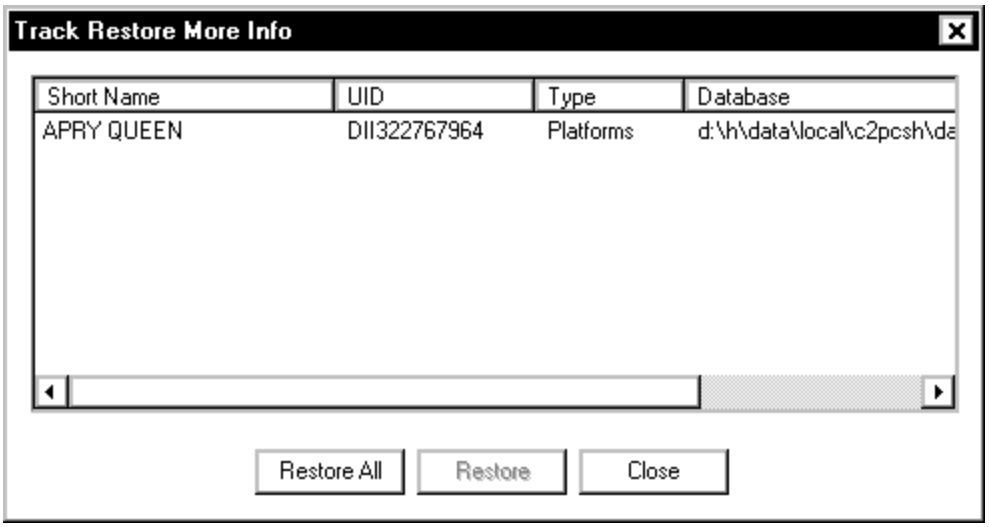
The Undelete button on the TrackPlot toolbar contains a down arrow. Click this down arrow to view the maximum dialog. This dialog displays the maximum number of delete transactions that can be restored. For example, if this number is 10, only the last 10 delete transactions can be undeleted.

To restore deleted tracks, choose a transaction from the list and click the Restore button. A confirmation window appears.




Click the OK button from the confirmation window to restore the deleted tracks back into the system (or click Cancel if you decide not to restore them). If any deleted tracks cannot be restored, a window will appear indicating the number of tracks which could not be restored.

From the Undo Track Delete window, choose a transaction and click the More Info button to view more information about the deleted tracks.




The Track Restore More Info displays a list of deleted tracks for the chosen transaction. For each track in the list, its Short Name, UID, track type, and database where the track resided are listed.

To restore all the tracks in this list, click the Restore All button to restore all listed tracks. To restore selected tracks, select the tracks you wish to restore from the list and click the Restore button.

Click the Close button to close this window and exit back to the Undo Track Delete window.

## Merge

Use the Merge option to compare tracks and ambiguities and to merge them when it is determined that they represent the same track.

Platforms, Units, and Comint tracks are the only types that can be merged. Tracks can only be merged if they are of the same track type. For example, two platform tracks or two unit tracks can be merged, but a platform track cannot be merged with a unit track.

Select two or more tracks to compare from the map window or from the track list and choose the Merge option to display the Select Track window.

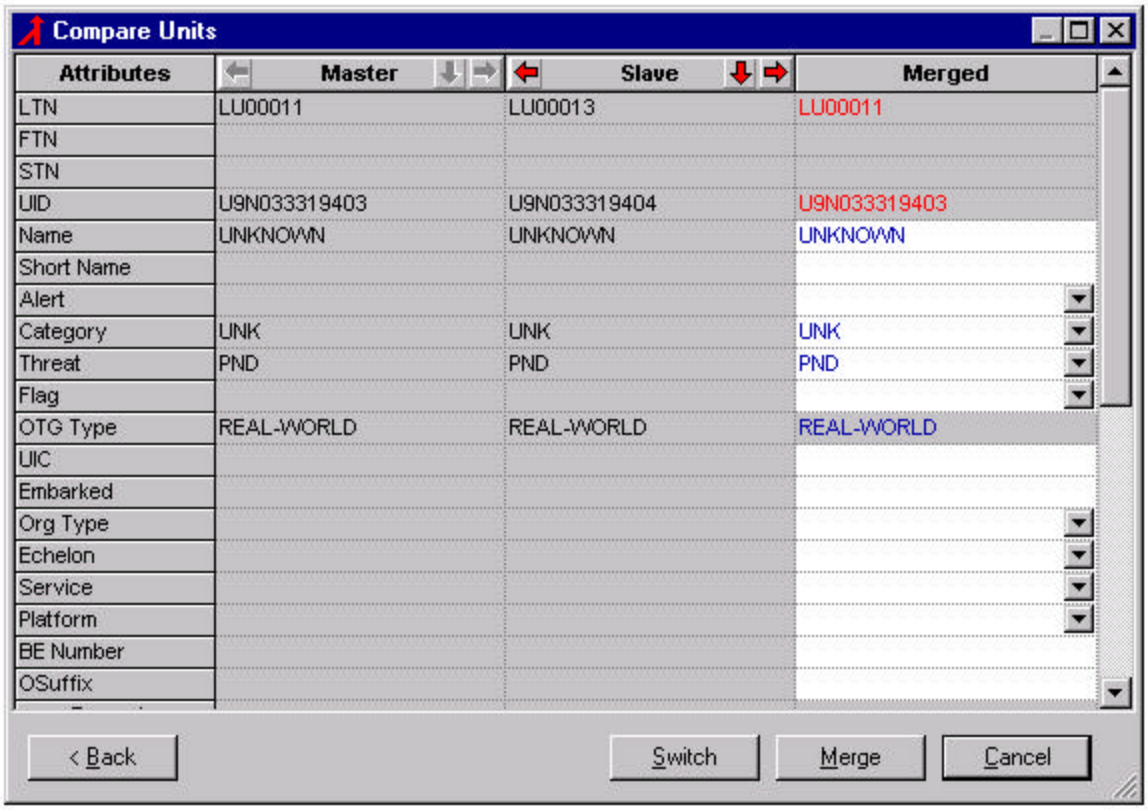
The Select Track window displays a list of the selected tracks. When comparing two tracks, one track is the master and one is the slave. If merged:

- The slave is merged into the master.
- Existing values from the master track are used when the tracks have different attribute values.
- For some attributes, the operator can override the displayed value and enter another value.

If multiple tracks are selected, the comparison can occur from the perspective of the master or the slave.

- Choose one track as a master – all other selected tracks are treated as slaves and may be compared to the master sequentially.
- Choose one track as a slave – all other selected tracks are treated as candidate masters and may be compared to the slave sequentially.

Click either the Master or the Slave button, choose a track from the list, and click the Compare button to display the Compare window.




The selected track appears in the Master or Slave column, based on the button chosen in the Select Track window. The first non-selected track from the Select Track window appears in the other column. The Merged column shows the attributes that would be used if the two tracks are merged together.

There are three arrow buttons at the top of the Master and Slave columns. These arrows will only be active if more than two tracks were selected before the Merge option was chosen. These arrows are active (red) only for the column which was not chosen from the Select Track window. For example, if the Master button was chosen in the Select Track window, the arrows for the Slave column are active in the Compare window.

The left and right arrow buttons allow you to scroll backward and forward through the selected tracks to select a different track for the comparison. The down arrow

button displays a pull-down list of all selected tracks so you can quickly choose a track.

Use the Switch button to switch the master and slave track. The slave track moves to the Master column and the master track moves to the Slave column.

Use the Back button to exit from the Compare window and return to the Select Track window.

The Merged column shows the track data that will result if the master and slave are merged. The different colors used for the attributes have the following meanings.

- RED: different attribute values for master and slave tracks. Master track value is chosen for the merge.
- BLUE: both master and slave have the same value, which is chosen for the merge.

In the Merged column, those columns with grey backgrounds cannot be modified. Columns with a white background can be modified.

To merge the two tracks, click the Merge button. The two previous tracks in the map window are replaced by only one track, with attributes that are listed in the Merged column of the Compare window.

### Select All (Ctrl + A)

Use this option to select all tracks displayed in the map window. When this option is used, all the tracks displayed in the map window turn white to indicate they are selected. All the tracks in the track list become highlighted to indicate they are selected there.

Note that Select All only selects those tracks that are plotted in the map window. Tracks that are being suppressed with Plot Options are not selected.

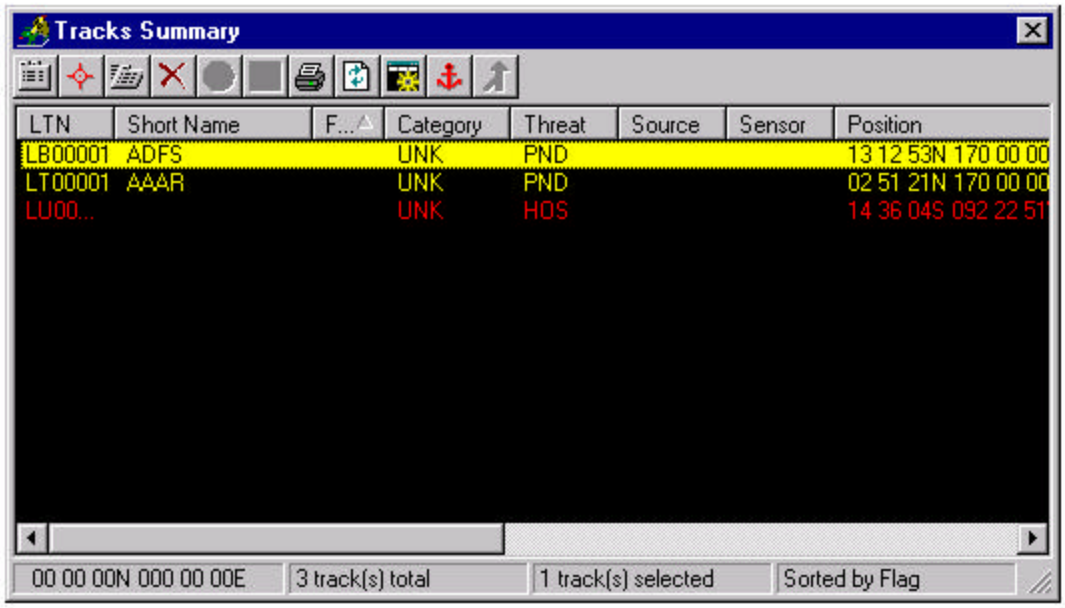
## View Menu

The View menu contains options related to viewing track information.

### Selected Track Summary (Alt + S)

Use this option to display a summary window of all selected tracks. At least one track must be selected in the map window or in the track list for this option to be

active. Select tracks and choose the Selected Track Summary option to display the Tracks Summary window.




For each track, the Tracks Summary window displays user-selectable columns of information about the track from a group of choices which includes LTN (local track number), Short Name, Position (latitude and longitude), Category, Threat, Timelate, and other choices.

At the bottom of the Tracks Summary window, some general information is listed about the displayed tracks. If a Reference Track is selected, the position of the reference track is displayed in the first field at the bottom of the window. The second field in the bottom part of the window displays the number of tracks selected before the Summary option was chosen. Each of these tracks has an entry in the list. The third field in the bottom part of the window displays the number of tracks highlighted in the list. The last field in the bottom part of the window displays the name of the column used for sorting the list.

The list of tracks may be sorted by any column. Click on any column header to resort the list by the chosen header. Click again to display a reverse sort. The currently selected sort choice is displayed in a box at the bottom of the window. The direction of the sort is shown by an arrow in the column header. If the arrow points upward, the list is sorted first to last. If the arrow points downward, the list is sorted last to first.

The color of each track in the list matches the color of the track in the map window and is determined by its threat status. Threat status and track color is as follows:

| Track Color | Threat Status |
|---|---|
| Light Blue | Friendly |
| Red | Hostile |
| Green | Neutral |
| Yellow | Unknown |
| Purple | Ambiguity |

Tracks in the list can be selected and deselected in a variety of ways:

?? Click on one track in the list to select the track and deselect all other selected tracks.

?? Hold down the CTRL key and click on a selected track to deselect the track.

?? Click on one track to select it, hold the SHIFT key down, then click on another track further up or further down the list to select all tracks in the list from the first to the second selected track.

?? Hold down the CTRL key, then click on multiple tracks to select each of those tracks at the same time.

The buttons at the top of the Tracks Summary window allow you to perform some operations on the selected tracks. These buttons are discussed in the following sub-sections.

### *Amplify/Edit*

Select a track from the list and click the Amplify/Edit button to view the Amplify window for the track. The information contained in the Amplify window is the same information as displayed when selecting the Amplify/Edit option from the TrackPlot menu. Refer to the description of that option for complete details about the fields in the Amplify window.

### *Center On*

Select a track from the list and click the Center On button to center and zoom in the map window around the selected track. This option works the same as the Center On option from the TrackPlot menu.

### *Quick Report*

Select a track from the list and click the Quick Report button to enter a new position report for the track. This option works the same as the Quick Report option from the TrackPlot menu. Refer to the description of that option for complete details about the fields in the Quick Report window.

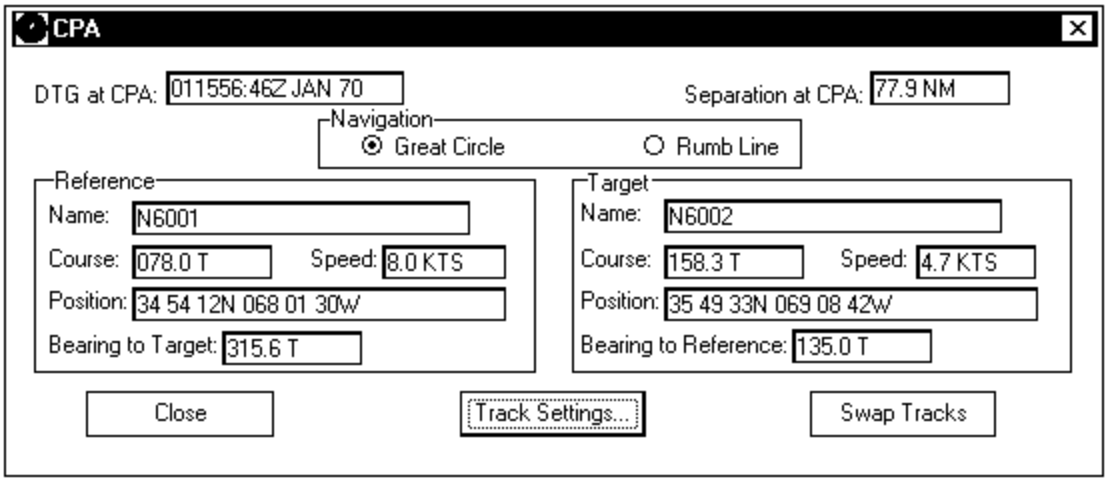
### *Delete*

Use this option to delete a track or tracks from the system.

Select a track or tracks from the list and click the Delete button to begin the delete process. A confirmation window appears before the tracks are deleted. Click Yes from the confirmation window and the tracks are deleted from the system.

### *CPA*

Select two tracks from the list to activate the CPA button. (To select two tracks, hold down the CTRL key, then click on the two tracks in the list.) Use the CPA button to calculate and display a closest point of approach between the two selected tracks.



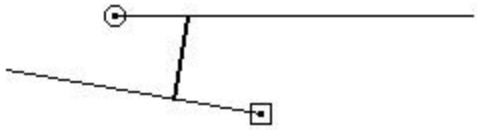

For the two selected tracks, the CPA window displays the following calculated CPA fields:

**DTG at CPA**

This displays the date-time group at the closest point of approach between the two tracks.

**Separation at CPA**
This displays the distance between the tracks at the closest point of approach.

The CPA calculation is also displayed in the map window. Lines are drawn in the map window to show the dead reckoned future courses of the tracks and their CPA. The following example shows the effect of calculating the closest point of approach for the two tracks shown.



*CPA Example*

In the figure:

?? Lines projecting out from the two tracks represent their dead reckoned future courses. These lines are shown in yellow on the tactical display.

?? The thicker line represents the range and bearing between the two tracks at the CPA. This line appears in red on the tactical display and is the same thickness as the other lines.

?? The drawn lines may be displayed based on either Great Circle or Rhumbline calculations.

## CPA Calculation Notes:

?? Calculations are based on current positions, courses, and speeds.

?? The accuracy of the calculated CPA is based on the assumption that the data is correct and that tracks stay on their reported courses and maintain their reported speeds.

?? The results shown are accurate for the time the tracks are chosen and will not automatically update as new reports enter the system.

?? If selected values are unable to be calculated a warning window appears.

*Reference and Target Track for Quick CPA*

The two selected tracks used for the quick CPA calculation are designated as the Reference and Target tracks. The following fields of information are displayed for each of these tracks.

**Name**
The name of the selected track.

**Course**
The course of the selected track (in degrees True).

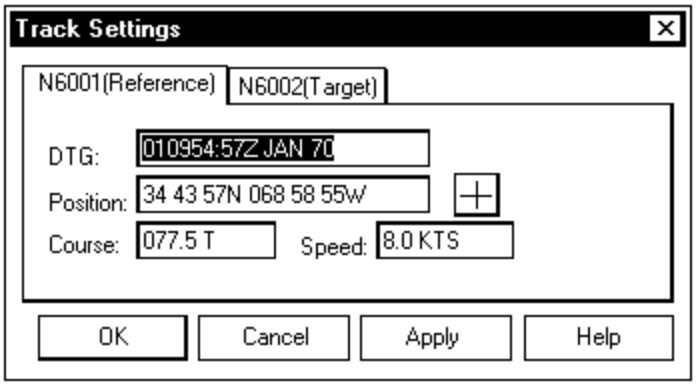
**Speed**
The speed of the selected track (in knots).

**Position**
The position of the track at the calculated CPA.

**Bearing to Target/Reference**
The bearing from this track to the other selected track. If this track is the Reference track, this field displays the bearing to the target track. If this track is the Target track, this field displays the bearing to the Reference track.

To switch the Reference and Target tracks, click the SWAP TRACKS button. The current Reference track becomes the Target track, and the current Target track becomes the Reference track.

To change the track settings for either the Reference or the Target track, click the TRACK SETTINGS button to display the Track Settings window.




Click either the Reference or the Target tab to change the settings for that track. For either track, any or all of the following settings can be changed:

**DTG**
This field displays the date-time group from the last report for the track. You may enter a new date-time group for the track.

**Position**
This field displays the position of the track at the DTG listed. You may enter a new position for the track.

**Course**
This field displays the current course for the track. You may enter a new course for the track.

**Speed**
This field displays the current speed of the track. You may enter a new speed for the track.

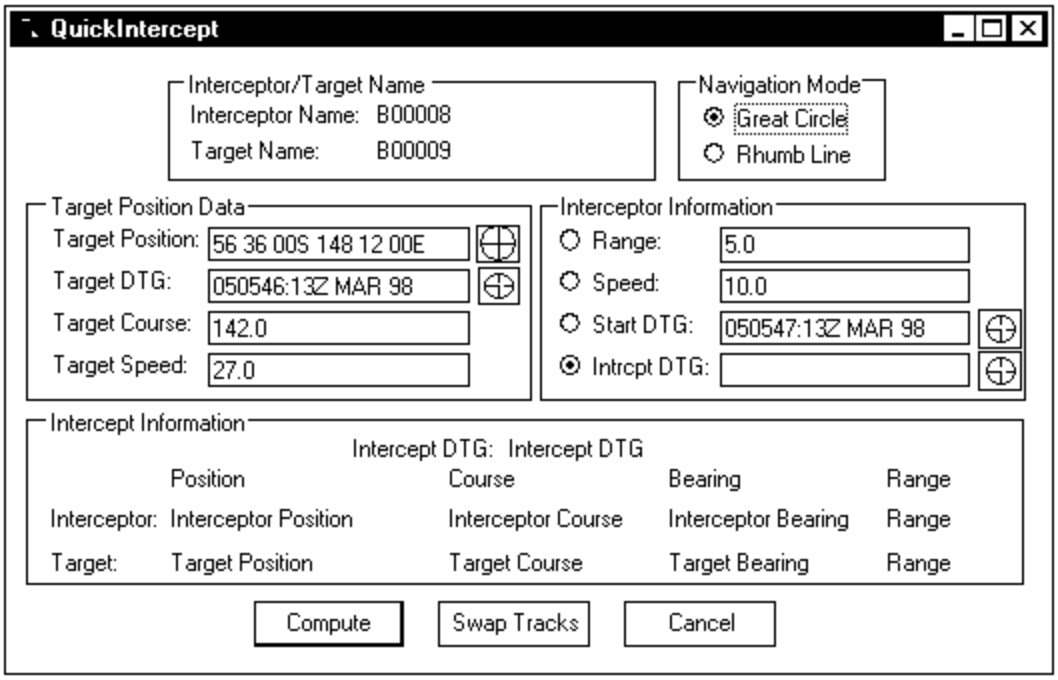
Click either the APPLY button or the OK button to accept any changes and recalculate the CPA. Clicking APPLY leaves the Track Settings window open while clicking OK closes the Track Settings window. The new CPA values display in both the CPA window and in the map window. Click the CANCEL button to exit the Track Settings window without accepting changes.

### *Quick Intercept*

Use the Quick Intercept option to calculate and plot an intercept solution between an interceptor track and a target track. The data for the intercept solution will be shown in a window and the intercept solution will also be shown graphically in the map window.

Quick intercept calculations are based on the current positions, courses, and speeds, and the time of the reports measured with the current time. The accuracy of the calculated CPA is based on the assumption that the data is correct and the track to be intercepted remains on its reported course and maintains its reported speed.

Select two tracks from the list to activate the Quick Intercept button. (To select two tracks, hold down the CTRL key, then click on the two tracks in the list.) Click the Quick Intercept button to display the Quick Intercept window.




In the Quick Intercept window, the information is organized in five different boxes - Interceptor/Target Name, Navigation Mode, Target Position Data, Interceptor Information, and Intercept Information.

*Interceptor/Target Name*

**Interceptor Name**
This displays the name of the interceptor track.

**Target Name**
This displays the name of the target track.

To switch the interceptor and target tracks, click the Swap Tracks button.

*Navigation Mode*

Click either the Great Circle or Rhumb Line knob to choose whether calculations and the display of the intercept solution in the map window will use great circle or rhumb line calculations.

*Target Position Data*

This box displays information about the target track.

**Target Position**
This displays the target position at the time of the most recent report.

**Target DTG**
This displays the date-time group at the time of the most recent report for the target.

**Target Course**
This displays the target course, from the most recent report.

**Target Speed**
This displays the target speed, from the most recent report.

The Target Position Data fields are all editable, so any of these values can be changed before calculating an intecept solution.

*Interceptor Information*

This box displays some information about the interceptor track and allows you to set the parameters for the intercept calculation.

Enter information into any three of these four fields and click the knob for the other field. The information in the three fields with data will be used to calculate the intercept solution and the other field will automatically fill when the intercept solution is calculated.

**Range**
This is the range in which the target track is considered intercepted. The default value for this field is 5 NM. This will plot as a circle in the map window after the intercept solution is calculated.

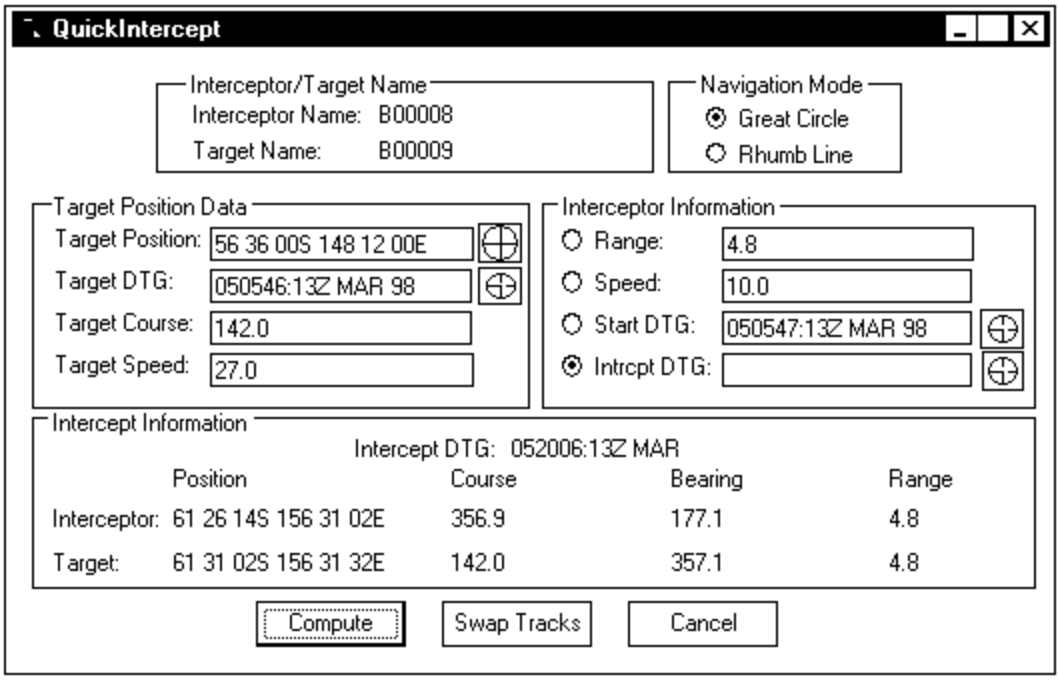
**Speed**
This is the speed of the interceptor. The default value is the speed of the interceptor track at the time of its last report.

**Start DTG**
This is the DTG for when the intercept is to begin. The default value is the DTG of the interceptor from its last report.

**Intrcpt DTG**
This is the DTG for when the target track is intercepted by the interceptor track. By default, the knob is clicked for this field and this value will be automatically filled when the intercept solution is calculated.

*Intercept Information*

The Intercept Information box displays the intercept solution data after the intercept solution is calculated. When the values are set as you want them in the Target Position Data box and the Interceptor Information box, click the Compute button to calculate the intercept solution. Data about the intercept solution is displayed in the Intercept Information box as shown in the following example window.




The following fields of information are displayed in the Intercept Information box.

**Intercept DTG**

This is the DTG for when the target track is intercepted by the interceptor track.

**Interceptor/Target Position**

For both the Interceptor and the Target, these fields display the position at the point of interception.

**Interceptor/Target Course**

For both the Interceptor and the Target, these fields display the course at the point of interception.

**Interceptor/Target Bearing**

For both the Interceptor and the Target, these fields display the bearing at the point of interception.

**Interceptor/Target Range**

For both the Interceptor and the Target, these fields display the range at the point of interception.

*Intercept Solution in Map Window*

When an intercept solution is calculated, it is shown graphically in the map window. The following example shows the intercept solution for the two tracks shown.

In the figure, an interceptor track (B00008) moves to intercept the target track (B00009). Other line definitions are as follows:

?? The line projecting up from the interceptor track represents the course of the interceptor track. This line displays in red.

?? The line projecting down from the target track represents the course of the target track. This line displays in yellow.

?? The circle represents the area of intercept. It displays in red.

?? The thin line (speed leader) projecting out to the right of the interceptor track represents the original course of the interceptor track.

*Exit Quick Intercept Option*

Click the Cancel button to exit the Quick Intercept option. If a calculated intercept solution is displayed in the map window, it will disappear when Cancel is used.

### *Print*

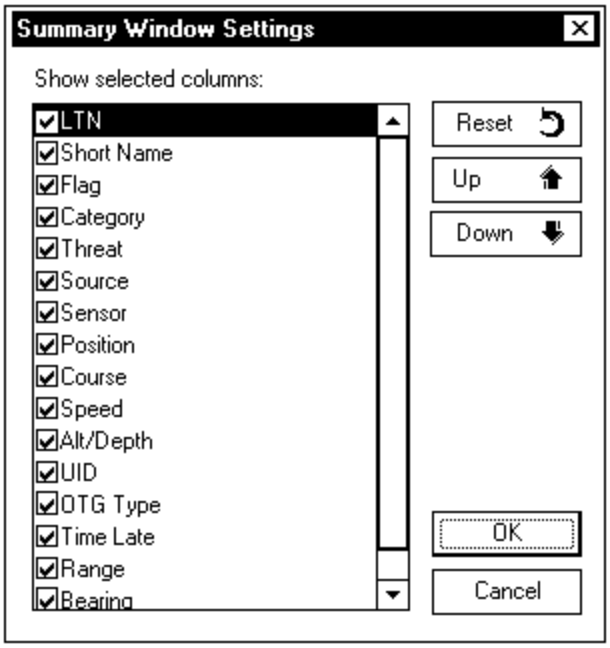
Use the Print option to send track information about a selected track to your printer. This option works the same as the Print option from the TrackPlot menu. Refer to the description of that option for complete details about this option.

### *Refresh*

When the Tracks Summary window is opened, the information displayed in the list reflects track information at the time the window was opened. As track updates enter the system, these changes will not be reflected in the list. Click the Refresh button to update the list to the present time.

### *Select Columns*

The Select Columns option allows you to choose the columns that display and the order of display for the Tracks Summary window.




Click on any of the checkboxes to display those fields as columns in the Tracks Summary window. Unchecked items will not display.

Use the buttons on the right to set the display order for the columns. Use the RESET button to return the columns to their default settings. Select an item in the list and click either the Up or Down button to move it up or down in the list. The top

checked item in the list displays as the first column in the Tracks Summary window, and the bottom checked item displays as the last column.

When the columns are set as you want them, click either the OK button to accept the settings. Click the Cancel button to cancel any changes. When the OK button is clicked, you are returned to the Tracks Summary window and any column display changes take effect. When the column display order is changed, the new order is saved and will be displayed whenever the Tracks Summary window is opened.

### *Select Reference Track*

Use this option to select a reference track from the list. When a reference track is chosen, its LTN and position are displayed in the left field in the bottom of the Tracks Summary window. The reference track position is used as the point from which the Range and Bearing columns are calculated for the tracks in the list. Once a reference track is chosen, it remains saved and will continue to appear as the reference track whenever the Tracks Summary window is opened.

### *Merge Tracks*

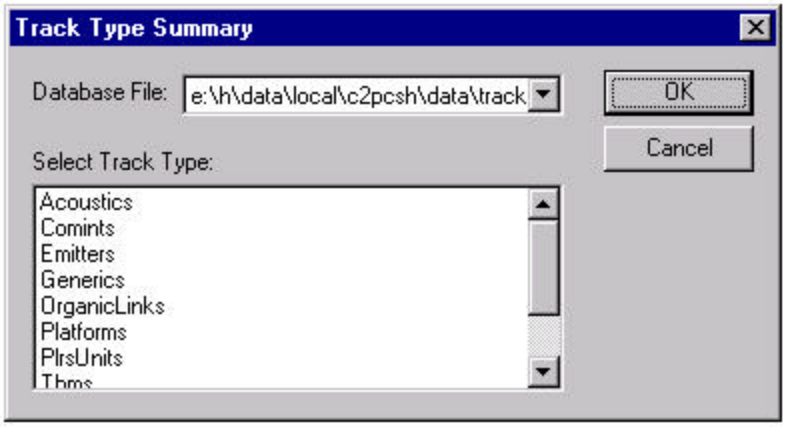
Use the Merge Tracks option to compare tracks and ambiguities and to merge them when it is determined that they represent the same track. Select two or more tracks from the list and click the Merge Tracks button to begin the merge track process. This option works the same as the Merge option from the Edit menu. Refer to the description of that option for complete details about merging tracks.

### *Close*

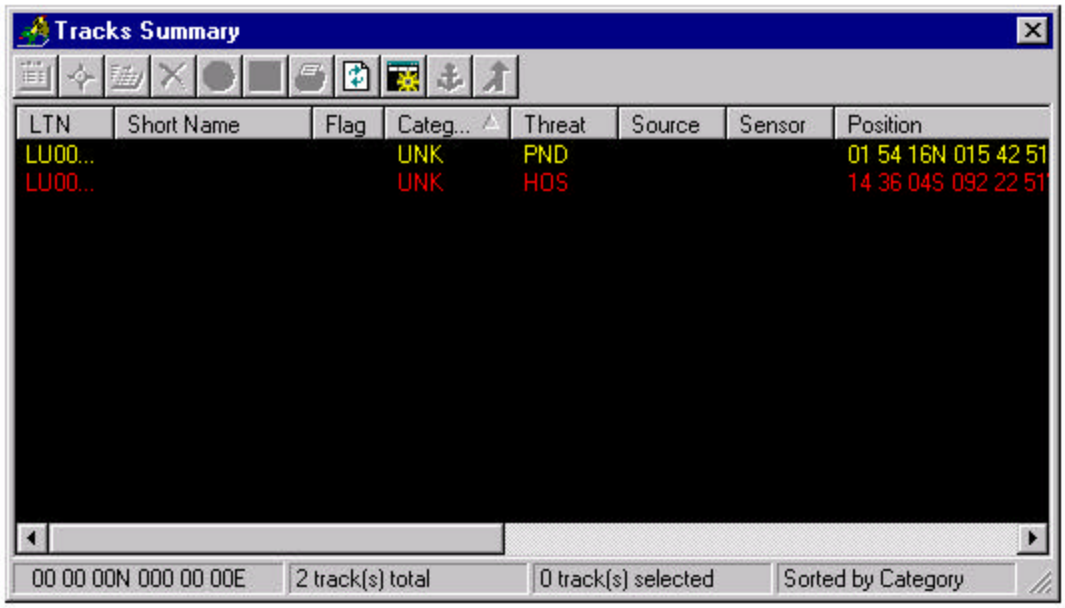
Click the Close button to exit the Tracks Summary window.

## Track Type Summary

Use this option to display a summary window of all tracks of a chosen track type. Select the Track Type Summary option to display the Track Type Summary window.




From the Track Type Summary window, choose a track type and click the OK button to display the Tracks Summary window.



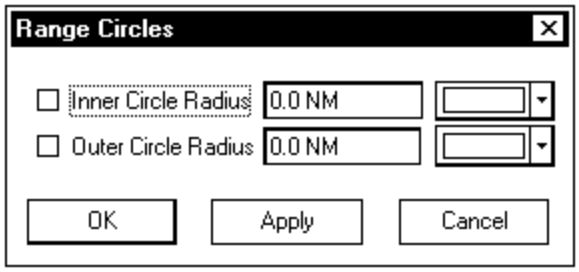

All tracks of the chosen track type that exist in the system are displayed in the Tracks Summary window.

This Tracks Summary window works the same as the Tracks Summary window which appears from the Selected Track Summary option. Refer to the description of that option for complete details about this window.

## Range Circles

Use this option to plot range circles around a selected track or tracks. For example, the Range Circles option can be applied to show weapon ranges and sensor ranges around naval combatants or military aircraft.

Select a track or tracks and choose the Range Circles option to display the Range Circles window.




One or two range circles can be created for the selected tracks. For either range circle, enter the radius of the circle from the track. To choose a color, click the color bar to display a color palette of 20 choices. Choose one of the colors or click the Other button to view more color choices. Choose a color and the color is displayed in the color bar.

Click the checkboxes to toggle on / off the display of the range circles.

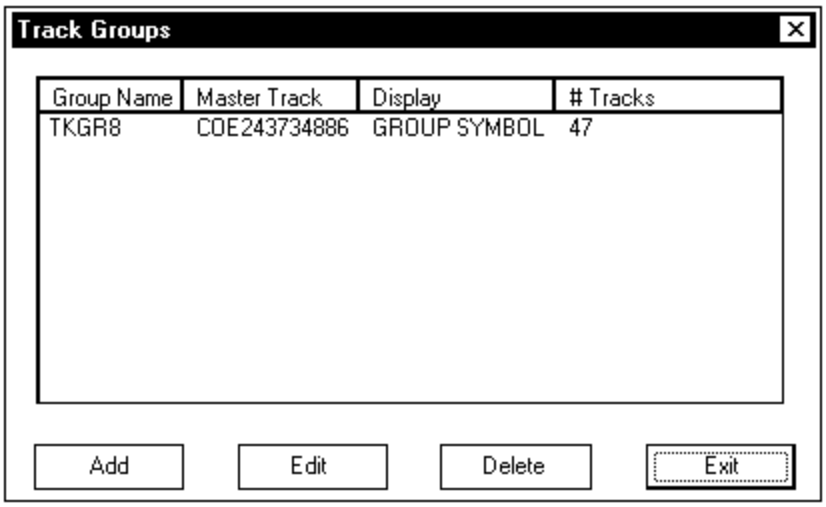
When range circles are set as you want them, click either the Apply or OK button to accept the settings and display the range circles in the map window (if toggled on). (Apply keeps the Range Circles window open, while OK closes the Range Circles window.) Click the Cancel button to discard any changes to the range circles and exit.

**Important Note**: There is a Range Circles checkbox in the Map:Plot Options option. This checkbox must be clicked on for range circles to appear in the map window.

## Track Groups

Use this option to create and maintain a list of track groups. Individual tracks can be grouped in many ways, for example, to represent battle groups, a group of tracks from the same country, a group of target tracks.

Choose the Track Groups option to display the Track Groups window.




The Track Groups window displays a list of track groups in the system and shows the Group Name, Master Track, Display setting, and the number of tracks in the group.

To add a track group, click Add to display the Track Group window, described in the Insert:Track Group section.

To edit a track group, highlight one group in the list and click Edit to display the Track Group window, described in the Insert:Track Group section. Make changes to the track group and click OK to accept the changes and close the window, or click Cancel to discard the changes and close the window.

To Delete a track group, highlight one or more track groups in the list and click Delete.

Click Exit to close the window.

## Multiple Amplify Windows

Use the Multiple Amplify Windows option to determine whether only one Amplify window will appear or whether multiple Amplify windows are allowed. If the Multiple Amplify Windows option is toggled off, only one Amplify window can be opened. When the Amplify window is opened for another track, the information in the Amplify window changes to display information for the newly selected track. If the Multiple Amplify Windows option is toggled on, multiple Amplify windows may appear. When another track is amplified, a second Amplify window appears on the screen.

## Auto Panning

Use the Auto Panning option to view and toggle the current state of auto panning. If there is a checkmark in front of this option, auto panning is turned on and the track name is listed for the selected track for auto panning. If there is no checkmark, auto panning is turned off.

Auto panning is the process of setting the map to display around a selected track. Use the Set Auto Panning option to turn auto panning on for a selected track.

If auto panning is turned on, use this option to toggle it off. If this option is used to toggle auto panning off, it can be used again to toggle auto panning back on for the same track. If you want to set auto panning for a new track, use the Set Auto Panning option.

## Set Auto Panning

Select a track from either the map window or track list and choose the Set Auto Panning option to set the map to display around the selected track.

When auto panning is turned on for a selected track, the track will always display within the middle 60% of the map window. If the track moves to the outer 20% of the map window on any side, the map will recenter itself with the selected track in the middle of the map.

Once a track has been selected for auto panning with this option, use the Auto Panning option to toggle auto panning on or off for the track. If you want to select a new track for auto panning, use the Set Auto Panning option again for the new track.

## TrackPlot Toolbar

Use the TrackPlot Toolbar option to toggle the display of the TrackPlot toolbar on and off. A check mark means the toolbar is displayed.

When displayed, the TrackPlot toolbar appears below the main toolbar.

The TrackPlot toolbar contains buttons to quickly access some of the options on the TrackPlot menus. In order, these buttons are Quick Insert Track, Insert Track, Amplify/Edit, Center On, Quick Report, Print, Status, Delete, Undelete, Range Circles, Merge Tracks, Selected Summary, Summary, and Import Track Attachments. The Undelete option contains a down arrow button which is unavailable from the

Undelete menu option and will be discussed in this section. For all the other buttons on this toolbar, refer to the documentation for these TrackPlot menu options for complete details about these options.

When the Undelete option is active, click on the down arrow to view a maximum number dialog.

Use the maximum number dialog for the Undelete button to set the maximum number of undeletes that will be allowed. For example, if this is set to 1 and two separate deletes are performed, only the most recent delete can be undeleted.

## Insert Menu

The Insert menu contains Quick Track, Track, and Track Group options.

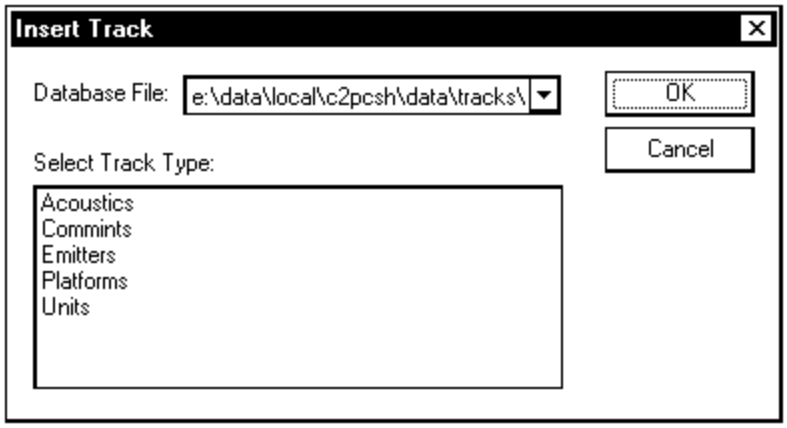
### Quick Track

Use this option to quickly create a new track. The track type will be set to the type that was chosen with the TrackPlot:Set Default Insert Type option.

Choose the Quick Track option to change the look of the pointer to an arrow with a small box containing an X inside. Move the pointer to the location where you want to place the new track and click. The Add Track window appears for the default track type. The Add Track window is the same as the Add Track window which appears with the Insert:Track option. Refer to the documentation for that option for complete details about the fields in this window. You can immediately click the OK button to add an unknown unit track, or you may fill in any of the fields in this window to add information about the track before clicking OK.

### Track

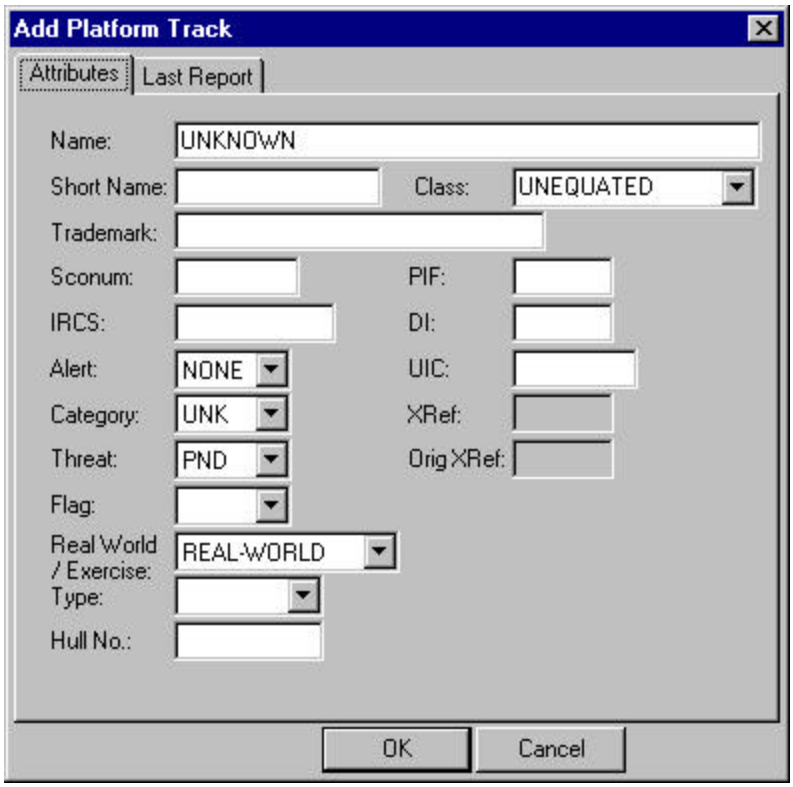
Use this option to create a new track. Choose the Track option to display the Insert Track window.




The Database File field shows the currently selected database and the list displays the available track types. Select the database file you want to use, choose the track type you want to create from the list, and click the OK button to display the Add window for the selected track type. When created, the new track will be added to the track database listed in the Database File field.

### *Add Platform Track*

If Platforms was chosen from the Insert Track window, the Add Platform track window appears.




If the Symbol Mode is set to MIL 2525A, the Add Platform Track window contains three tabs, as shown in the figure above. If Symbol Mode is set to NTDS, this window contains only two tabs - Attributes and Last Report. (Symbol Mode is set through Tools:Options.) Click on each of the tabs to enter appropriate information for the track you are creating.

*Attributes*

The following fields of information appear under the Attributes tab for a Platform track:

**Name**

Enter the name of the track. Note that if this field is left blank and a value is entered in the Short Name field, the Short Name value will automatically be placed in this field when the track is saved.

**Short Name**

Enter the short name of the track. This name is meaningful only within the local network. This is not transmitted to other locations. Note that if this field is left blank and a value is entered in the Name field, the Name value will automatically be placed in this field when the track is saved.

**Trademark**
Unique identification assigned to a track to enhance the track evaluation. Normally used for submarines, this is the case or designation number identifying unknown or hostile submarines.

**Sconum**
Naval vessel identification number (alphanumeric code) assigned by the Office of Naval Intelligence. SCONUM (Ship's Control Number) is sometimes referred to by its old name--NOIC ID. SCONUMs are typically of the form A#####.

**IRCS**
International radio call sign assigned to the ship. This is an 8-character alphanumeric code.

**Alert**
The alert status of the track. A track may be designated as a non-alert track or an alert track. For non-alert tracks, this field should be blank. For alert tracks, the following codes define the alert status:

| Code | Meaning |
|---|---|
| HIT | High Interest Track |
| TGT | Target |
| SUS | Suspect Carrier |
| NSP | Cleared Suspect |
| None | No Alert |

**Category**
The category of the track as follows:

| Code | Meaning |
|---|---|
| AIR | Aircraft |
| FSH | Fishing Vessel |
| LND | Land Unit |
| MER | Merchant |
| NAV | Naval |
| SUB | Submarine |
| SUR | Ships not falling within NAV, MER, FSH categories |
| UNK | Unknown |

**Threat**
The threat status of the track as follows:

| Code | Meaning |
|---|---|
| AFD | Assumed Friendly |
| FRD | Friendly |
| HOS | Hostile |
| NEU | Neutral |
| PND | Pending (Unknown, Unevaluated) |
| SUS | Suspect (Assumed Hostile) |
| UNK | Unknown (Evaluated) |

**Flag**
A two-character country code to represent the nationality of the track.

**Real World/Exercise**
Choose the Real World/Exercise type for the track. The choices are as follows:

REAL-WORLD - exists in the real world.

LIVE TRAINING - exists in the real world, but used for exercise purposes and may be assigned a different identity, such as a friendly track being identified as hostile.

SIMULATED - does not exist in the real world; being created for exercise and scenario purposes.

**Type**
The track type.

**Hull No.**
Ship's hull number (a 1-6 character alphanumeric entry assigned to the ship and painted on the hull).

**Class**
The unit class for the track.

**PIF**
Intel Pseudo Identification Feature (PIF) number.

**DI**
Intel Discrete Identifier--a four-digit code that represents hostile or unknown tracks.

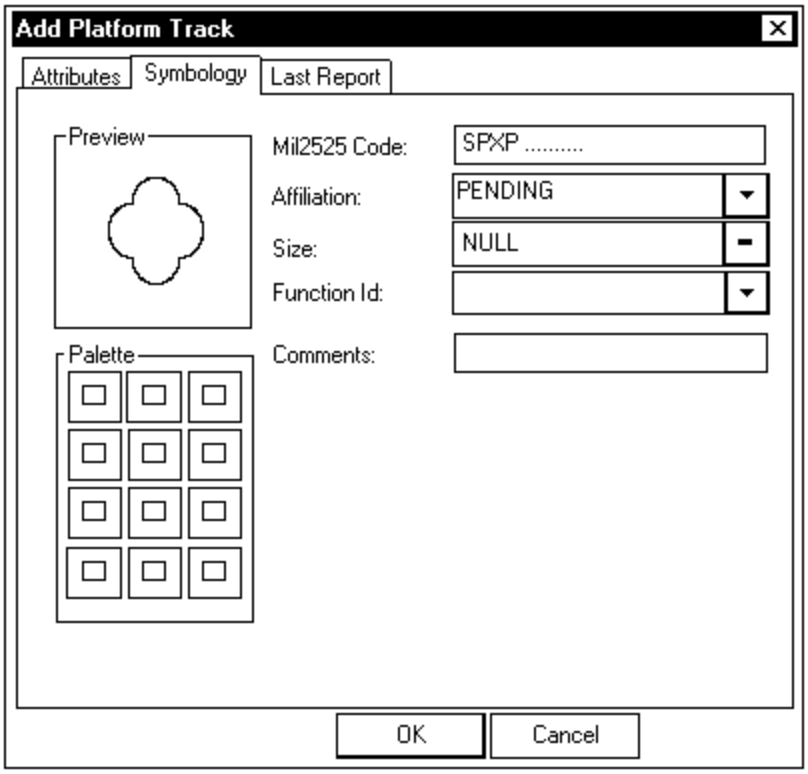
**UIC**
Unit ID number.

**XRef**
Two-character source cross-reference code for the Command that originated the track report. This field is for display purposes only and cannot be edited.

**Orig XRef**
Source reference code for the site that originally reported the track. This field is for display purposes only and cannot be edited.

*Symbology*

The Symbology tab only appears if Symbol Mode is set to MIL 2525A. (Symbol Mode is set through Tools:Options.) Click the Symbology tab to display additional fields for the track.




The following fields of information appear under the Symbology tab for a Platform track:

**Mil2525 Code**

The Mil2525 Code is a code that is automatically generated based on values chosen for the Affiliation, Size, and Function Id fields. This field cannot be edited.

**Affiliation**

This displays the currently selected affiliation. To select a different affiliation, click the down arrow and choose an affiliation from the displayed choices.

The affiliation determines the shape and color of the symbol in the map window.

**Size**

This field is unavailable for platform tracks.

**Function Id**

This displays the currently selected function Id. To select a different function Id, click the down arrow and choose a function Id from the displayed choices.

The function Id determines the look of the icon within the symbol.

**Comments**

Enter any free text comments.

**Preview**

The Preview box shows what the symbol looks like. The symbol changes based on entries in the Affiliation, Size, and Function Id fields.

You can save the current symbol to the Palette by dragging the symbol from the Preview box to one of the nine Palette boxes.

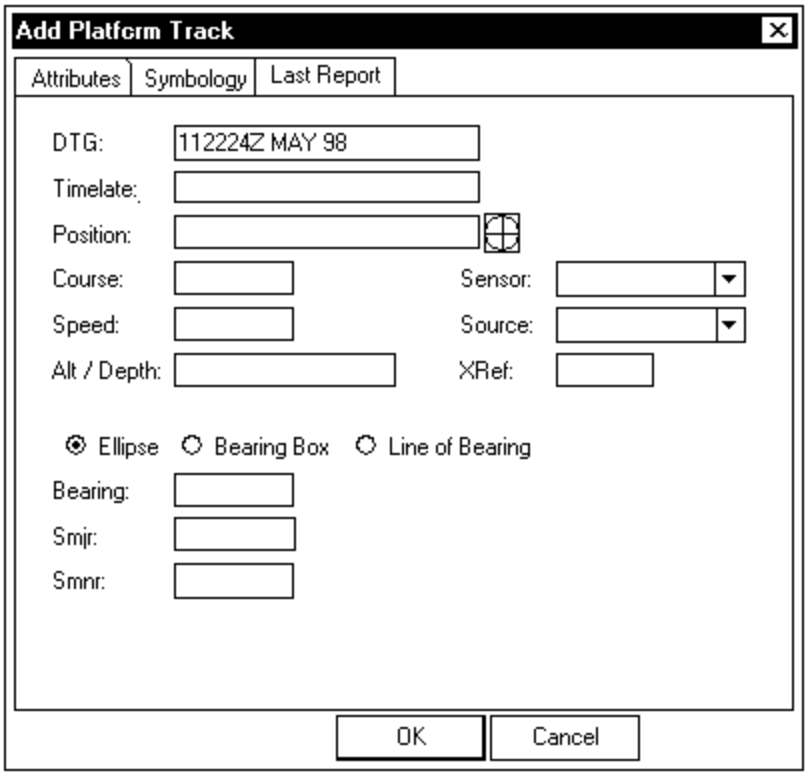
**Palette**

The Palette contains nine boxes that can be used to save symbol information. To save symbol information to the Palette, drag the symbol in the Preview box to one of the nine Palette boxes. Information that is saved for the symbol includes the values in the Mil2525 Code, Affiliation, Size, and Function Id fields.

To retrieve symbol information from the Palette, click on the Palette box containing the symbol information you want to retrieve. The values in the Mil2525 Code, Affiliation, Size, and Function Id fields change to the values from the saved symbol information and the symbol in the Preview box changes to the chosen symbol.

*Last Report*

Click the Last Report tab to display additional fields for the track.




The following fields of information appear under the Last Report tab for a Platform track. Enter information as appropriate:

**DTG**
Date-time group for the last reported position. The current DTG automatically appears.

**Timelate**
Amount of elapsed time (in hours and minutes) since the latest report.

**Position**
Enter the track position. Enter this from the keyboard or enter the position automatically as follows:

1. Click the crosshair button to the right of the Position field.
2. Click a position in the map window.

**Course**
Course for the track (in degrees true).

**Speed**
Speed of the track.

**Alt/Depth**
Altitude or depth of the track. A negative number appears if the track is a subsurface vessel.

**Sensor**
Sensor type used to pick up the track at its last reported position.

**Source**
Two-letter OTCIXS station source code (for example, AM=America).

**XRef**
Two-character source cross-reference code for the Command that originated the track report. This field is for display purposes only and cannot be edited.

**AOU Type**
Displays the AOU type (ellipse, bearing box, or line of bearing).

**Bearing**
AOU bearing in degrees true.

**Smjr/Brg Error/Half Width**
The name of this field changes depending on the AOU Type.

If the AOU type is Ellipse, this field is called SMJR and it displays the semi-major axis length for the ellipse.

If the AOU type is Bearing Box, this field is called Half Width and it displays the half width for the bearing box.

If the AOU type is Line of Bearing, this field is called Brg Error and it displays the bearing error (in degrees) for the line of bearing.

**Smnr/Est Range/Length**
The name of this field changes depending on the AOU Type.

If the AOU type is Ellipse, this field is called SMNR and it displays the semi-minor axis length for the ellipse.

If the AOU type is Bearing Box, this field is called Length and it displays the length for the bearing box.

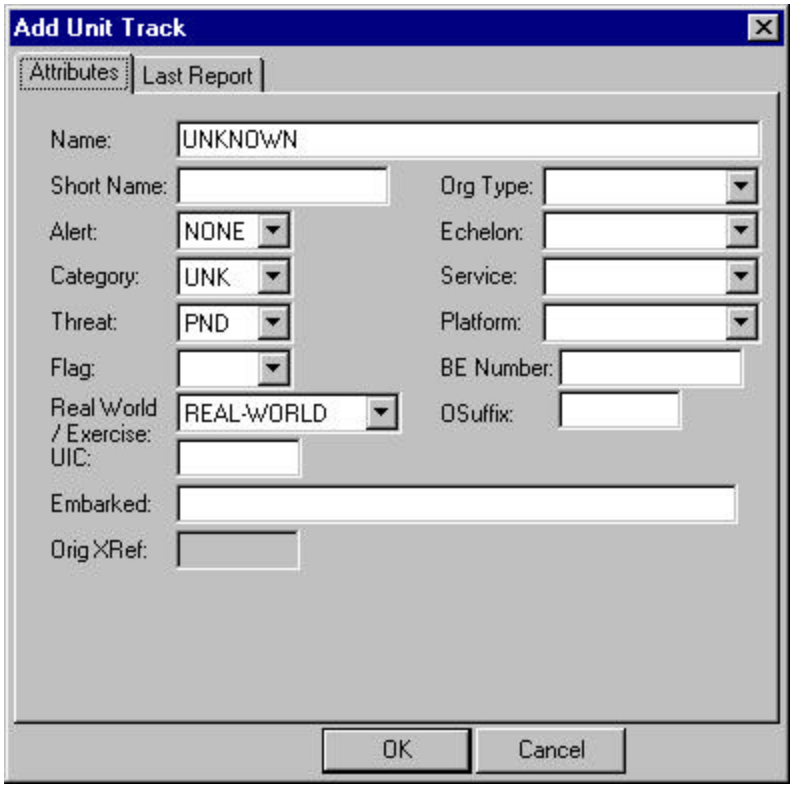
If the AOU type is Line of Bearing, this field is called Est Range and it displays the estimated range of the track from the sensor position.

When you finish entering information for the track, click the OK button to accept the track. When a track is saved, it appears in the map window (if plot options are

turned on for the track type), and it appears in the track list under the TrackPlot tab in the left part of the map window.

### *Add Unit Track*

If Units was chosen from the Insert Track window, the Add Unit track window appears.




If the Symbol Mode is set to MIL 2525A, the Add Unit Track window contains three tabs, as shown in the figure above. If Symbol Mode is set to NTDS, this window contains only two tabs - Attributes and Last Report. (Symbol Mode is set through Tools:Options.) Click on each of the tabs to enter appropriate information for the track you are creating.

*Attributes*

The following fields of information appear under the Attributes tab for a unit track. Enter information as appropriate:

**Name**
Track name. Note that if this field is left blank and a value is entered in the Short Name field, the Short Name value will automatically be placed in this field when the track is saved.

**Short Name**
Abbreviated track name. Note that if this field is left blank and a value is entered in the Name field, the Name value will automatically be placed in this field when the track is saved.

**Alert**
The alert status of the track. A track may be designated as a non-alert track or an alert track. For non-alert tracks, this field should be blank. For alert tracks, the following codes define the alert status:

| Code | Meaning |
|---|---|
| HIT | High Interest Track |
| TGT | Target |
| SUS | Suspect Carrier |
| NSP | Cleared Suspect |
| None | No Alert |

**Category**
The category of the unit as follows:

| Code | Meaning |
|---|---|
| AIR | Aircraft |
| FSH | Fishing Vessel |
| LND | Land Unit |
| MER | Merchant |
| NAV | Naval |
| SUB | Submarine |
| SUR | Ships not falling within NAV, MER, FSH categories |
| UNK | Unknown |

**Threat**
The threat status of the track as follows:

| Code | Meaning |
|---|---|
| AFD | Assumed Friendly |
| FRD | Friendly |
| HOS | Hostile |
| NEU | Neutral |
| PND | Pending (Unknown, Unevaluated) |
| SUS | Suspect (Assumed Hostile) |
| UNK | Unknown (Evaluated) |

**Flag**
A two-character country code to represent the nationality of the track.

**Real World/Exercise**
Choose the Real World/Exercise type for the track. The choices are as follows:

REAL-WORLD - exists in the real world.

LIVE TRAINING - exists in the real world, but used for exercise purposes and may be assigned a different identity, such as a friendly track being identified as hostile.

SIMULATED - does not exist in the real world; being created for exercise and scenario purposes.

**UIC**
Unit ID number.

**Embarked**
Name of the platform on which the unit is embarked (examples: SAIPAN, LANGLEY AIR FORCE BASE).

**Orig XRef**
Source reference code for the site that originally reported the unit. This field is for display purposes only and cannot be edited.

**Org Type**
Organization type of the unit; determines the type of symbol that plots in the map window.

**Echelon**
Organizational level of the unit.

**Service**
Service code for the unit:

| Code | Meaning |
|---|---|
| MRN | Marines |
| AFC | Air Force |
| ARM | Army |
| CGD | Coast Guard |
| NVY | Navy |
| JNT | Joint |
| COM | Composite |
| UNK | Unknown |

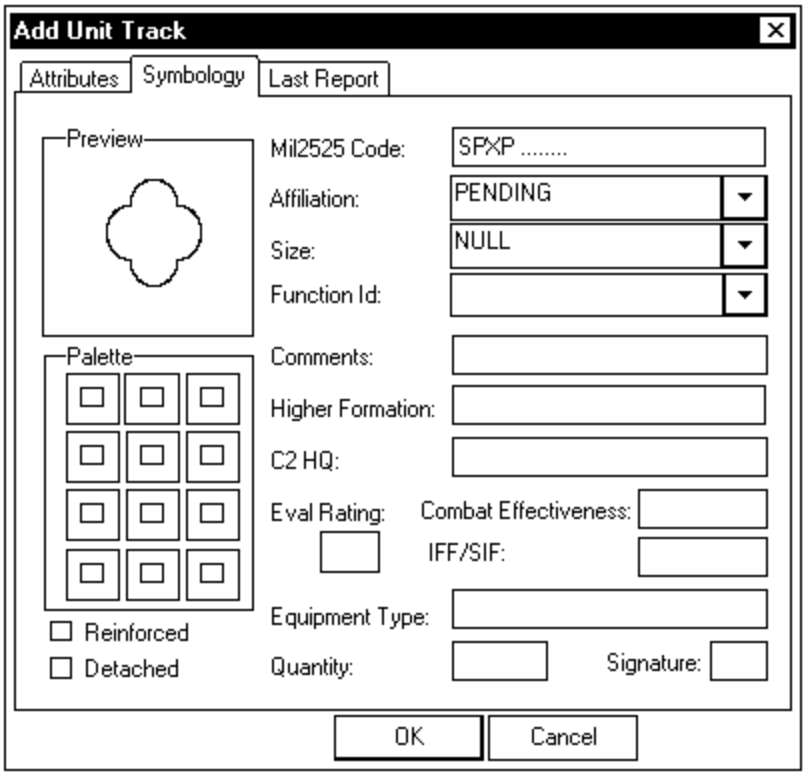
**Platform**
Platform type for the unit.

**BE Number**
BE number for the unit.

**OSuffix**
OSuffix for the unit.

*Symbology*

The Symbology tab only appears if Symbol Mode is set to MIL 2525A. (Symbol Mode is set through Tools:Options.) Click the Symbology tab to display additional fields for the track.




The following fields of information appear under the Symbology tab for a unit track. Enter information as appropriate:

**Mil2525 Code**

The Mil2525 Code is a code that is automatically generated based on values chosen for the Affiliation, Size, and Function Id fields. This field cannot be edited.

**Affiliation**

This displays the currently selected affiliation. To select a different affiliation, click the down arrow and choose an affiliation from the displayed choices.

The affiliation determines the shape and color of the symbol in the map window.

**Size**

This displays the currently selected size of the unit. To select a different size, click the down arrow and choose a size from the displayed choices.

Small characters will appear above the symbol in the map window to represent the chosen size.

**Function Id**
This displays the currently selected function Id. To select a different function Id, click the down arrow and choose a function Id from the displayed choices.

The function Id determines the look of the icon within the symbol.

**Comments**
Enter any free text comments.

**Higher Formation**
Enter the number or title of the higher echelon command for the unit.

**C2 HQ**
Enter the name of a special C2 headquarters for the unit.

**Eval Rating**
Enter the evaluation rating (A1-F6) for the unit.

**Combat Effectiveness**
Enter the combat effectiveness information for the unit.

**IFF/SIF**
Enter the IFF/SIF identification mode and code for the unit.

**Equipment Type**
Enter any equipment class or type information for the unit.

**Quantity**
Enter any equipment quantity information for the unit.

**Signature**
Enter an exclamation point (!) for detectable electronic signatures or leave this field blank if there are no detectable electronic signatures.

**Reinforced**
Click this checkbox if the unit has additional resources allocated to it to reinforce it.

**Detached**
Click this checkbox if the unit has reduced resources.

**Preview box**
The Preview box shows what the symbol looks like. The symbol changes based on entries in the Affiliation, Size, and Function Id fields.

You can save the current symbol to the Palette by dragging the symbol from the Preview box to one of the nine Palette boxes.

**Palette**

The Palette contains nine boxes that can be used to save symbol information. To save symbol information to the Palette, drag the symbol in the Preview box to one of the nine Palette boxes. Information that is saved for the symbol includes the values in the Mil2525 Code, Affiliation, Size, and Function Id fields.

To retrieve symbol information from the Palette, click on the Palette box containing the symbol information you want to retrieve. The values in the Mil2525 Code, Affiliation, Size, and Function Id fields change to the values from the saved symbol information and the symbol in the Preview box changes to the chosen symbol.

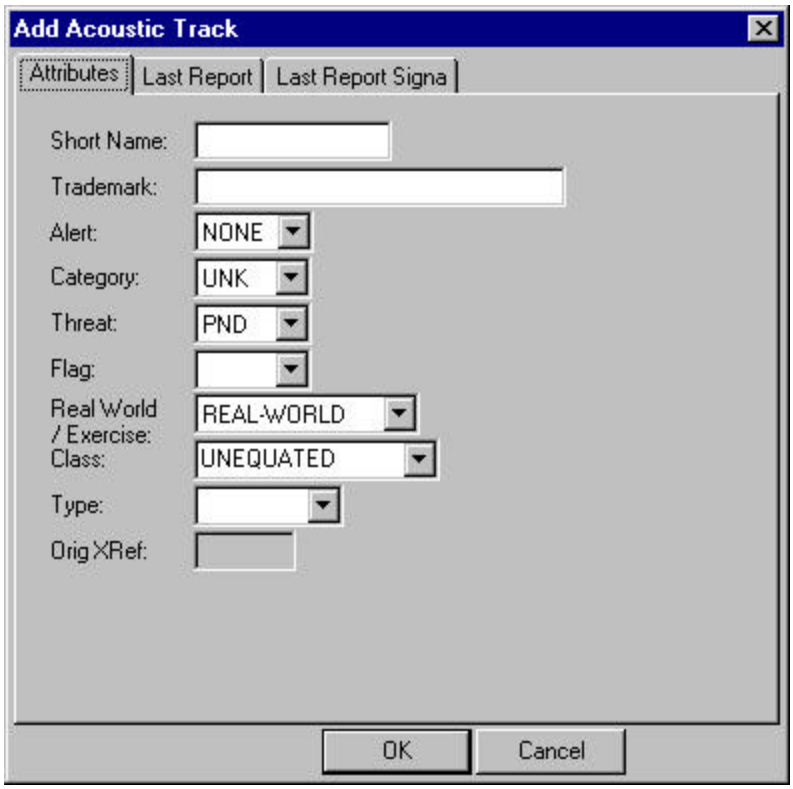
*Last Report*

The Last Report folder for unit tracks contain fields that are all found in the same folders for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

When you finish entering information for the unit, click the OK button to accept the unit. When a unit is saved, it appears in the map window (if plot options are turned on for the track type), and it appears in the track list under the TrackPlot tab in the left part of the map window.

### *Add Acoustic Track*

If Acoustics was chosen from the Insert Track window, the Add Acoustic track window appears.




If the Symbol Mode is set to MIL 2525A, the Add Acoustic Track window contains four tabs, as shown in the figure above. If Symbol Mode is set to NTDS, this window contains only three tabs - Attributes, Last Report, and Last Report Signa. (Symbol Mode is set through Tools:Options.) Click on each of the tabs to enter appropriate information for the track you are creating.

*Attributes and Last Report*

The Attributes and Last Report folders for acoustic tracks contain fields that are all found in the Attributes and Last Report folders for platform tracks. Refer to the documentation for platform tracks above for these field descriptions.

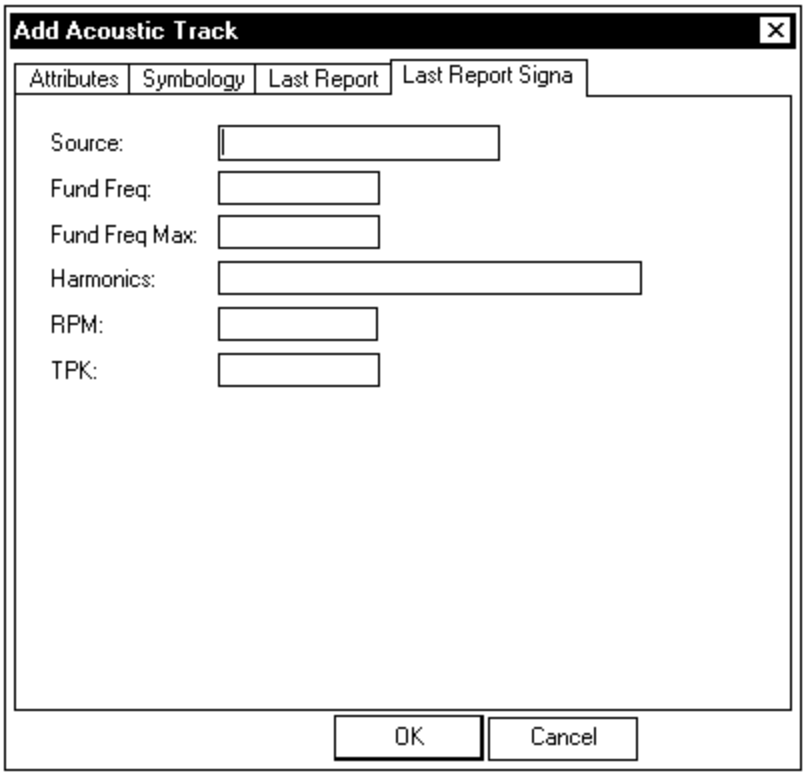
*Symbology*

The Symbology tab only appears if Symbol Mode is set to MIL 2525A. (Symbol Mode is set through Tools:Options.)

The Symbology tab for acoustic tracks contains fields that are all found in the Symbology folder for platform tracks. Refer to the documentation for platform tracks above for these field descriptions.

*Last Report Signa*

The Last Report Signa folder contains fields which describe the most recent acoustic signature report for the selected track.




The following fields of information appear under the Last Report Signa tab for an acoustic track. Enter information as appropriate:

**Source**
Name of the source providing the signature information. Two-letter OTCIXS station source code (for example, AM=America).

**Fund Freq**
Frequency (in hertz) for the acoustic signature report.

**Fund Freq Max**
Maximum frequency reported for this acoustic track.

**Harmonics**
Harmonics for the acoustic signature report.

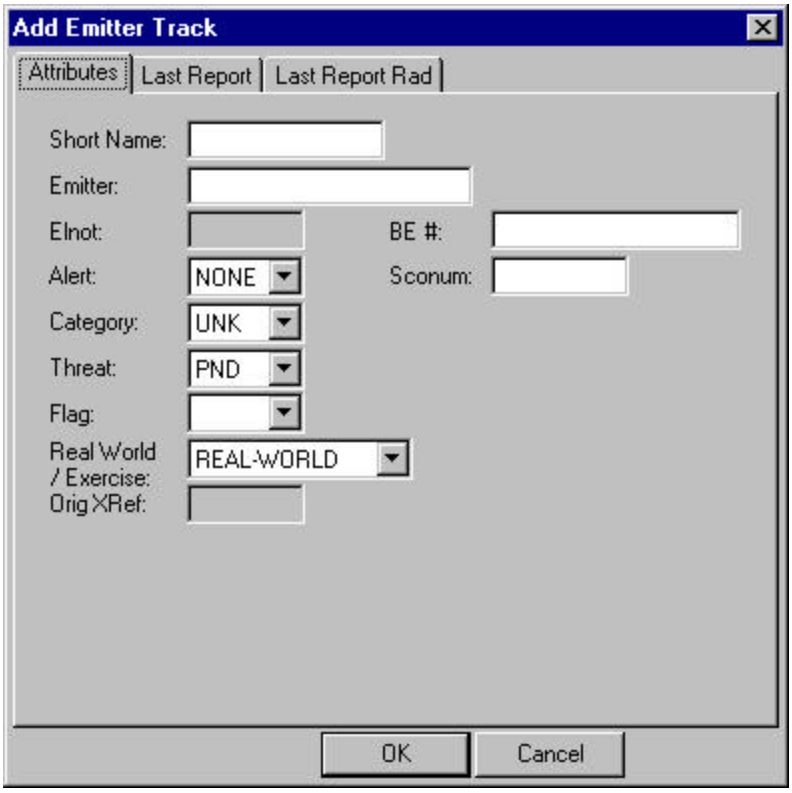
**RPM**
Revolutions per minute for the propellers on the submarine or ship.

**TPK**
Number of turns per knot for the propellers. The number of turns made by the propellers for each knot of forward motion.

When you finish entering information for the acoustic track, click the OK button to accept the track. When a track is saved, it appears in the map window (if plot options are turned on for the track type), and it appears in the track list under the TrackPlot tab in the left part of the map window.

### *Add Emitter Track*

If Emitters was chosen from the Insert Track window, the Add Emitter track window appears.




If the Symbol Mode is set to MIL 2525A, the Add Emitter Track window contains four tabs, as shown in the figure above. If Symbol Mode is set to NTDS, this window contains only three tabs - Attributes, Last Report, and Last Report Rad. (Symbol Mode is set through Tools:Options.) Click on each of the tabs to enter appropriate information for the track you are creating.

*Attributes*

The following fields of information appear under the Attributes tab for an emitter track. Enter information as appropriate:

**Short Name**
Abbreviated track name.

**Emitter**
Radar name (for example, RAY1500, SPN43, HEADNET).

**Elnot**
An acronym for ELINT Notation, the electronic emitter code assigned to a radar by the detecting sensor. This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character. This field is for display purposes only and cannot be edited.

**Alert**
The alert status of the track. A track may be designated as a non-alert track or an alert track. For non-alert tracks, this field should be blank. For alert tracks, the following codes define the alert status:

| Code | Meaning |
|---|---|
| HIT | High Interest Track |
| TGT | Target |
| SUS | Suspect Carrier |
| NSP | Cleared Suspect |
| None | No Alert |

**Category**
The category of the track as follows:

| Code | Meaning |
|---|---|
| AIR | Aircraft |
| FSH | Fishing Vessel |
| LND | Land Unit |
| MER | Merchant |
| NAV | Naval |
| SUB | Submarine |

| | |
|---|---|
| SUR | Ships not falling within NAV, MER, FSH categories |
| UNK | Unknown |

**Threat**

The threat status of the track as follows:

| Code | Meaning |
|---|---|
| AFD | Assumed Friendly |
| FRD | Friendly |
| HOS | Hostile |
| NEU | Neutral |
| PND | Pending (Unknown, Unevaluated) |
| SUS | Suspect (Assumed Hostile) |
| UNK | Unknown (Evaluated) |

**Flag**

A two-character country code to represent the nationality of the track.

**Real World/Exercise**

Choose the Real World / Exercise type for the track. The choices are as follows:

REAL-WORLD - exists in the real world.

LIVE TRAINING - exists in the real world, but used for exercise purposes and may be assigned a different identity, such as a friendly track being identified as hostile.

SIMULATED - does not exist in the real world; being created for exercise and scenario purposes.

**Orig XRef**

Source reference code for the site that originally reported the track. This field is for display purposes only and cannot be edited.

**BE #**

Basic Encyclopedia number; used for land emitters.

**Sconum**

Naval vessel identification number (alphanumeric code) assigned by the Office of Naval Intelligence. SCONUM (Ship's Control Number) is sometimes referred to by its old name--NOIC ID. SCONUMs are typically of the form A#####.

*Symbology*

The Symbology tab only appears if Symbol Mode is set to MIL 2525A. (Symbol Mode is set through Tools:Options.)

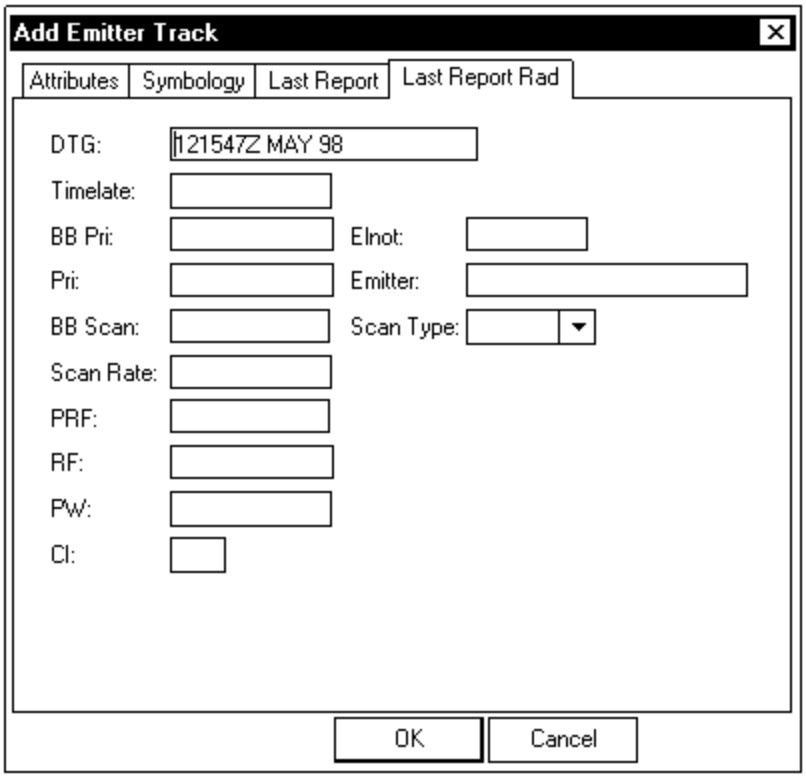
The Symbology tab for emitter tracks contains fields that are all found in the Symbology folder for platform tracks. Refer to the documentation for platform tracks above for these field descriptions.

*Last Report*

The Last Report folder for emitter tracks contains fields that are all found in the same folder for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

*Last Report RAD*

The Last Report RAD folder contains information about the most recent ELINT report for the track.




The following fields of information appear under the Last Report Rad tab for an emitter track. Enter information as appropriate:

**DTG**
Date-time group for the ELINT report.

**Timelate**
Amount of elapsed time (in hours and minutes) since the latest report.

**BB Pri**
Basebanded PRI for this report.

**Pri**
Pulse repetition interval (PRI), measured in microseconds.

**BB Scan**
Basebanded scan rate for this report.

**Scan Rate**
Scan rate, measured in seconds per rotation (SPR).

**PRF**
Pulse repetition frequency (PRF), measured in pulses per second. (This the reciprocal of the PRI value.)

**RF**
Radio frequency, measured in megahertz (MHZ).

**PW**
Pulse width, measured in microseconds.

**CI**
Correlation index.

**Elnot**
An acronym for ELINT Notation, the electronic emitter code assigned to a radar by the detecting sensor. This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

**Emitter**
Radar name (for example, RAY1500, SPN43, HEADNET).

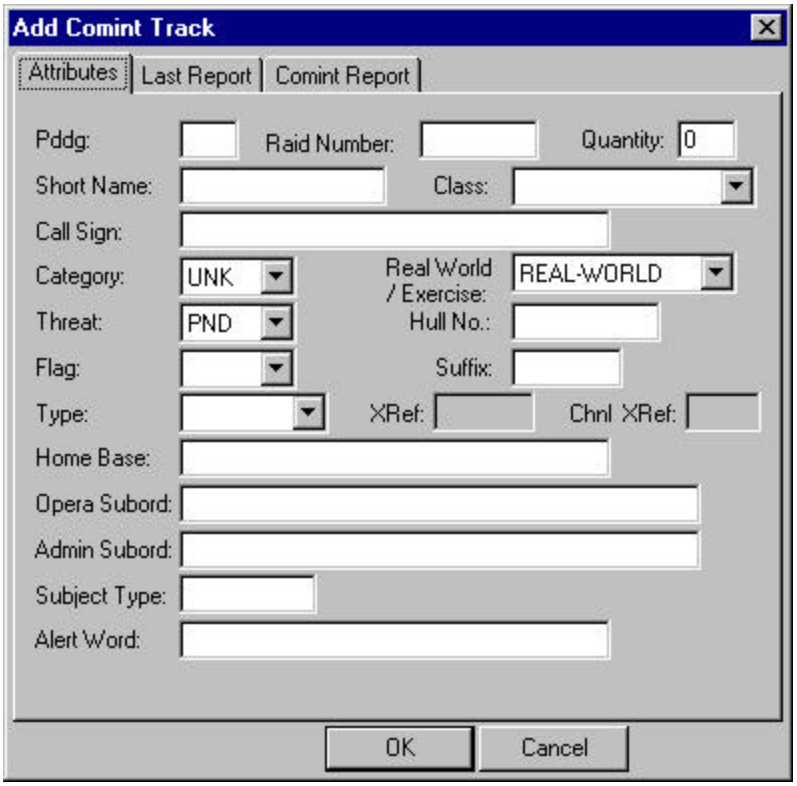
**Scan Type**
Scan type code.

When you finish entering information for the emitter track, click the OK button to accept the track. When a track is saved, it appears in the map window (if plot

options are turned on for the track type), and it appears in the track list under the TrackPlot tab in the left part of the map window.

### *Add Comint Track*

If Comint was chosen from the Insert Track window, the Add Comint track window appears. For full functionality for Comint tracks, the Comint track segment must also be loaded along with C2PC.




If the Symbol Mode is set to MIL 2525A, the Add Comint Track window contains four tabs, as shown in the figure above. If Symbol Mode is set to NTDS, this window contains only three tabs - Attributes, Last Report, and Comint Report. (Symbol Mode is set through Tools:Options.) Click on each of the tabs to enter appropriate information for the track you are creating.

#### *Attributes*

The following fields of information appear under the Attributes tab for a Comint track. Enter information as appropriate:

**Pddg**
The Producer Designator Digraph.

**Raid Number**
The Raid Number.

**Quantity**
Enter a quantity, as appropriate.

**Short Name**
Abbreviated track name.

**Class**
Track class.

**Call Sign**
Track call sign.

**Category**
The category of the track as follows:

| Code | Meaning |
|---|---|
| AIR | Aircraft |
| FSH | Fishing Vessel |
| LND | Land Unit |
| MER | Merchant |
| NAV | Naval |
| SUB | Submarine |
| SUR | Ships not falling within NAV, MER, FSH categories |
| UNK | Unknown |

**Real World/Exercise**
Choose the Real World / Exercise type for the track. The choices are as follows:

REAL-WORLD - exists in the real world.

LIVE TRAINING - exists in the real world, but used for exercise purposes and may be assigned a different identity, such as a friendly track being identified as hostile.

SIMULATED - does not exist in the real world; being created for exercise and scenario purposes.

**Threat**
The threat status of the track as follows:

| Code | Meaning |
|---|---|
| AFD | Assumed Friendly |
| FRD | Friendly |
| HOS | Hostile |
| NEU | Neutral |
| PND | Pending (Unknown, Unevaluated) |
| SUS | Suspect (Assumed Hostile) |
| UNK | Unknown (Evaluated) |

**Hull No.**
Track hull number.

**Flag**
A two-character country code to represent the nationality of the track.

**Suffix**
Enter as appropriate.

**Type**
Click the arrow and choose a type from the list.

**Xref**
Two-character source cross-reference code for the Command that originated the track report. This field is for display purposes only and cannot be edited.

**Chnl Xref**
Channel cross-reference.

**Home Base**
Home base for the track.

**Opera Subord**
Operational subordinate.

**Admin Subord**
Administrative subordinate.

**Subject Type**
The subject type.

**Alert Word**
The alert word.

*Symbology*

The Symbology tab only appears if Symbol Mode is set to MIL 2525A. (Symbol Mode is set through Tools:Options.)

The Symbology tab for Comint tracks contains fields that are all found in the Symbology folder for platform tracks. Refer to the documentation for platform tracks above for these field descriptions.

*Last Report*

The Last Report folder for Comint tracks contains fields that are all found in the same folder for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

*Comint Report*

The Comint Report folder contains additional information about the Comint track. Refer to the documentation for the Comint Track Segment for details about the fields found in this folder.

When you finish entering information for the Comint track, click the OK button to accept the track. When a track is saved, it appears in the map window (if plot options are turned on for the track type), and it appears in the track list under the TrackPlot tab in the left part of the map window.

## Track Group

Use the Track Group option to create a new track group. To create a new track group, select two or more tracks in the map window or in the track list and choose the Track Group option (or click Add in the Track Groups window from the View:Track Groups option) to display the Track Group window.

When this window opens, it contains a list of the selected tracks and displays the UID, LTN and Short Name for each track. Choose one item in the Display box to determine how the group is plotted in the map window.

? Inactive - tracks are plotted as if they do not belong to a group.

? Group Symbol - the group is plotted as one symbol.

? Group Dot - the group is plotted as a dot.

? Group Color - all tracks in the group are visible in the map window and are plotted in the selected color.

Note that the Map:Plot Options on/off settings do not affect tracks belonging to a track group. For example, if there are four platform tracks that are members of a track group and the track group display is set to Inactive, and the Map:Plot Options are set to turn off the display of platform tracks, the four platform tracks that are members of the track group will continue to appear in the map window. Platform tracks that are not members of a track group will disappear from the map window.

Each group must have a master track selected. When Group Symbol or Group Dot is selected, the track group is plotted at the position of the designated master track and the label is the group name. To select a master track, highlight one track in the scroll list and click Select Master. The UID for this track is automatically entered in the Master Track field and its short name is entered in the Master Track Short Name field.

Enter a name in the Group Name field to assign a name to the new group.

To add tracks to the group, highlight one or more tracks in the map window or in the TrackPlot track list and click Add Selected. The tracks appear in the window scroll list and are plotted as part of the group.

To delete a track from the group, highlight one or more tracks in the window scroll list and click Delete. The tracks are deleted from the group, but not from the system.

Click OK to accept the new group and close the window, or click Cancel to discard the group and close the window. Track groups have their own Track Groups folder in the track list tree in the left part of the map window. All track groups are saved in this folder.

## Database Menu

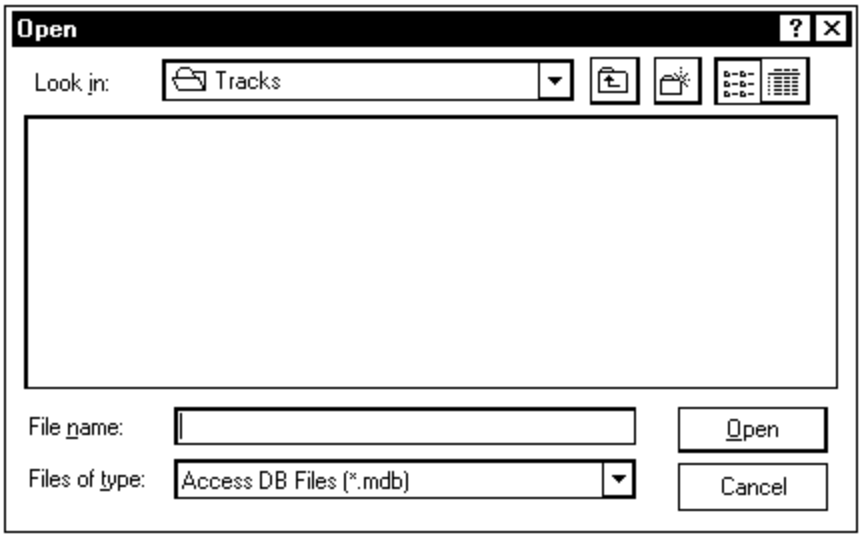
The Database menu contains Open, Save As, and Close options.

### Open

C2PC tracks are stored in database files. These files are assigned an extension of .mdb. The live track picture that flows into a C2PC workstation from the Gateway is stored in a file called tacticalobjects.mdb.

Other track databases can be loaded into the system with the Open option. The Open option is used to load a database of static tracks. Since these tracks are not live, no new reports will come in for them and their position will not update in the map window. The Database:Save As option can be used to save a database that can be retrieved with the Open option.

To load a track database, select the Open option to display the Open window.




The Open window displays the contents of the Tracks directory. The Tracks directory is the default directory for track database files.

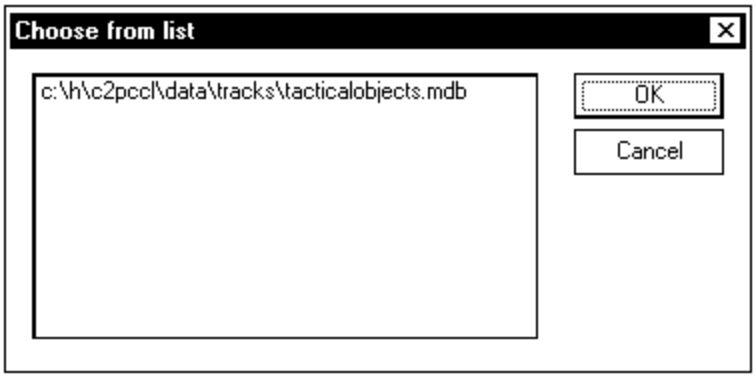
To load a track database file, click on a file from the displayed list and click the Open button. The tracks contained in the selected track database file appear in the active map window.

To view track database files in other directories, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

### Save As

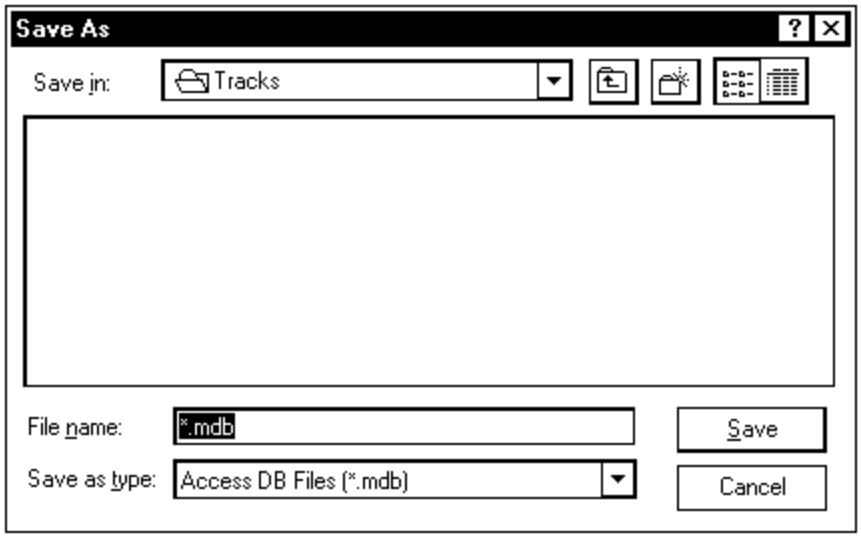
Use the Save As option to save a track database to a file. The Save As option can be used to save a database that can be retrieved with the Database:Open option.

Select the Save As option to display the Choose From List window.




The Choose From List window displays a list of all track database files currently in the system. If this C2PC workstation has connected to the Gateway at some point, the tacticalobjects.mdb file will be listed. Any other track database files in the system are also listed.

Select a track database file from the list and click the OK button to display the Save As window.



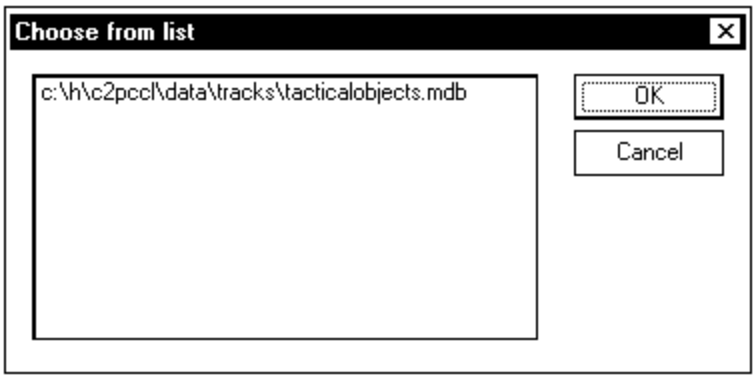

The Save As window displays the contents of the Tracks directory. The Tracks directory is the default directory for track database files.

Enter a name for the track database file in the File name field and click the Save button to save the tracks file.

To save the tracks file to a different directory, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

### Close

Use the Close option to unload a track database that has been loaded into C2PC with the Database:Open option. Select the Close option to display the Choose from list window.




The Choose from list window displays a list of all track database files currently in the system. Choose a database to unload and click the OK button to unload that database from the system. Click the Cancel button if you decide not to unload a database.

When a database is unloaded, all the tracks in that database are removed from the system and disappear from the map window and track list.

## TrackPlot Menu

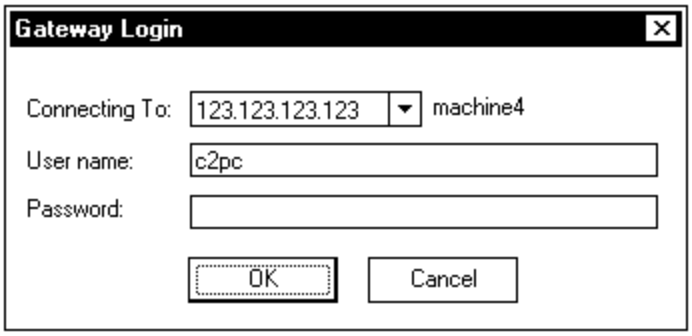
The TrackPlot menu contains Gateway connection options, as well as some other TrackPlot options.

### Connect to Gateway

This option is only active if you are not currently connected to the Gateway. If you are not connected to the Gateway and the Gateway is up and running, use this option to connect to the Gateway.

The Gateway allows tracks to be imported from the UB host, displayed, and automatically updated in the map window.

Choose the Connect to Gateway option to display the Gateway Login window.




The Connecting To field displays the IP address of the Gateway to which you will be connecting. The name of the Gateway workstation is displayed to the right of this field. If there are any alternate Gateways (entered with Tools:Options, from the Connection tab), those Gateways are available by clicking the down arrow for this field to display a list of Gateways. You may choose a different Gateway from the list if you wish to connect to a different Gateway.

A Username and Password are required to log in to the Gateway. These are maintained on the Gateway. The Gateway is installed with a default Username of "c2pc" with no password. If these have not been changed on the Gateway, you may enter these to log in.

Click the OK button to connect the Client to the Gateway (or click Cancel if you decide not to connect). When connected properly, the icons in the status bar at the bottom of the screen will turn green.

A Visual Connection Display window may also appear to show you some information about the Gateway-Client connection status. The Visual Connection Display window only appears if the Show Initial Visual Display Dialog on Connection checkbox is turned on from the Reconnection window in the Gateway. To locate this checkbox from the C2PC Gateway window, go to the Tools:Options:Connection tab, then click the Settings button to view the Reconnection window. The Visual Connection Display window is discussed in detail in the Status Bar section of Chapter 3 of this User's Guide.

Note that Connect to Gateway option is used to connect to the Gateway, not to start the Gateway. To start the Gateway, choose the Gateway option from the C2PC Start menu.

### *Full Edit and Read only Capabilities*

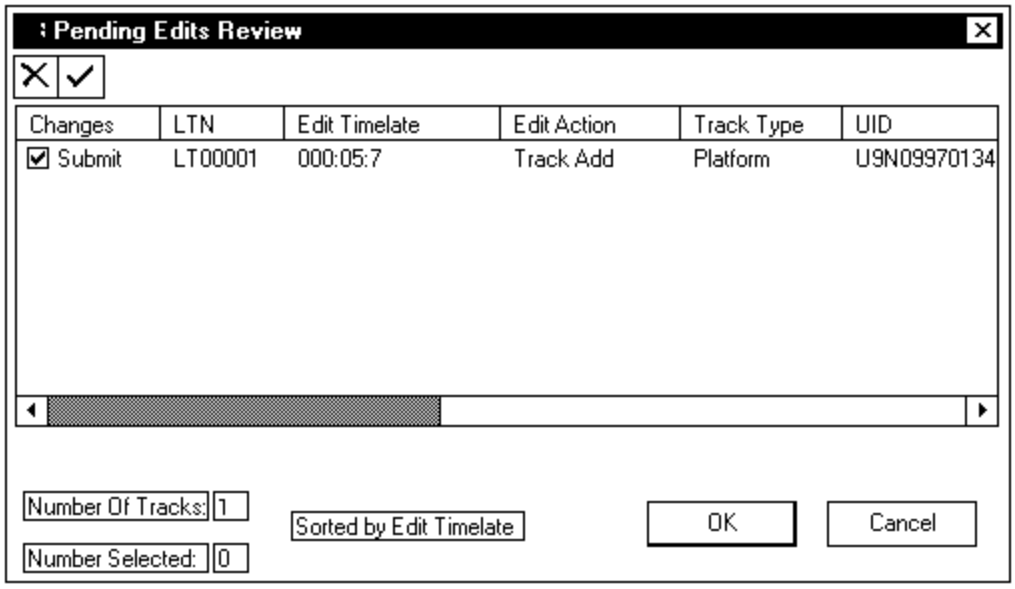
Each login is set to either full edit or read only capability at the Gateway. If full edit capability is set for your login, you may add, edit, and delete tracks. If read only

capability is set for your login, you may view tracks, but you may not add, edit, or delete them.

The Gateway icon in the status bar displays the current full edit or read only status. After logging on to the Gateway, if the bottom half of the Gateway icon displays in red, the Client is set to read only status. If the entire Gateway icon displays in green, the Client is set to full edit status.

### *Logging on to Gateway With Track Changes*

If you have full edit capability and have made any changes to tracks and then choose the Connect to Gateway option, a Pending Edits Review window will appear.




The Pending Edits Review window shows you a list of all track edits that were made while you were disconnected from the Gateway. For each entry in the list, you can choose to submit or delete the entry.

The checkbox for each entry shows the current submit/discard status of the entry. If Submit displays and a check mark is in the checkbox, it is set to be submitted. If Discard displays and the checkbox contains an X, it is set to not be submitted and will deleted from your workstation. By default, all the entries in the list are set to be submitted.

Click the individual checkboxes to toggle between the choices. You may also select one or more entries and click one of the buttons at the top of the window to change

all selected entries at once. In order, the buttons are Discard Changes and Submit Changes.

When the submit status of the entries in the list are set as you want, click the OK button. When the OK button is clicked, the submit actions are taken and you are connected to the Gateway. If you click the Cancel button, you will not be connected to the Gateway.

If you have read only capability and have made any changes to tracks, the Pending Edits Review window will appear. The checkbox for each entry is automatically set to Discard - Submit is not a choice. If you click OK to connect to the gateway, all entries listed will be deleted.

### Disconnect from Gateway

This option is only active if you are currently connected to the Gateway. If you are connected to the Gateway, use this option to disconnect from the Gateway. After using this option, allow about 30 seconds for the Gateway to be disconnected. When disconnected, the Gateway and Data Source icons in the status bar will turn red.

When disconnected from the Gateway, UB tracks are no longer updated in the map window.

Note that this option is used to disconnect from the Gateway, not to turn off the Gateway. To stop the Gateway, open the C2PC Gateway Manager window, select the Local Gateway, and choose FILE:STOP GATEWAY. To exit the Gateway Manager, use FILE:EXIT from the C2PC Gateway Manager window.

### Status Gateway

The Status Gateway option is only available if the Statusing Method is set to Manual. The Statusing Method is set through Tools:Options, on the Connection tab. This option will also only be available if your workstation contains pending edits to trackplot or the track picture between your workstation and the gateway is out of synch.

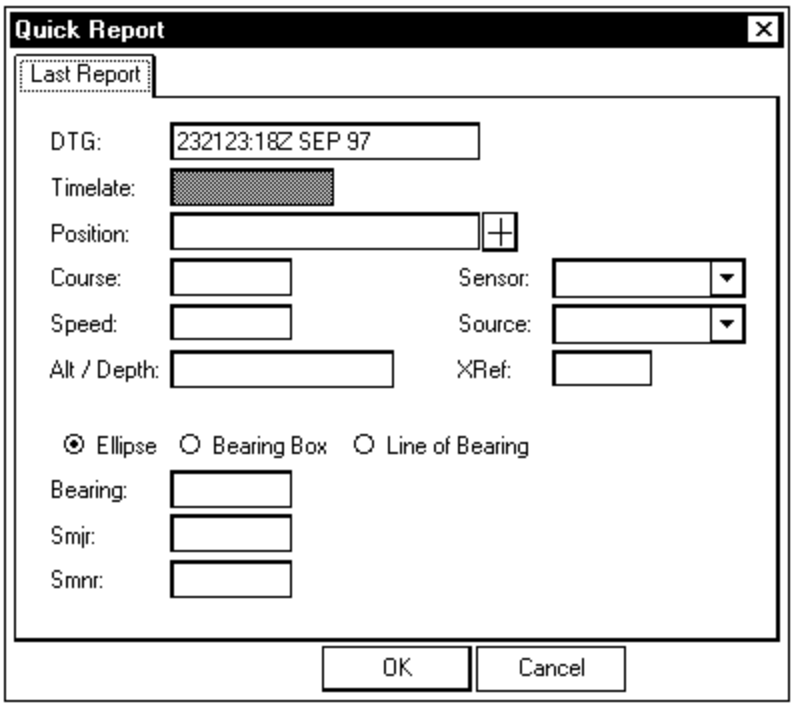
Use the Status Gateway option to send any pending edits to the gateway and to send a status message. Status messages are sent between the Gateway and Client to make sure contact is maintained between the two and to make sure the track picture is synchronized when changes have occurred.

## Quick Report

There are two ways to add a quick report for a track – drag the track to a new location in the map window or select a track and use this option. Quick reports can be entered for platform, acoustic, emitter, and unit track types.

To drag a track to a new location, click on the track in the map window and drag it to a new location on the map. Release the mouse button to display the Quick Report window with the new location in the Position field. Click OK to accept the new position and the track moves to its new location.

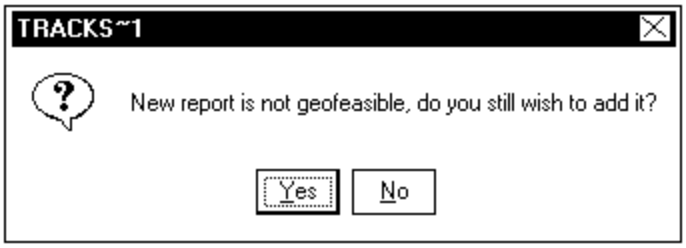
Select one track from the map window or track list and choose the Quick Report option to display the Quick Report window.




The Quick Report window displays edit fields for the selected track. Refer to the documentation on the Insert New Track option for complete details about all the fields.

Enter appropriate information for the new report and click OK to accept the report or Cancel to discard it. When a quick report is accepted, the track changes position on the map to correspond with the new position entered.

Note that when a new position is entered that is not geofeasible for the track, a warning window appears before the track update is accepted.



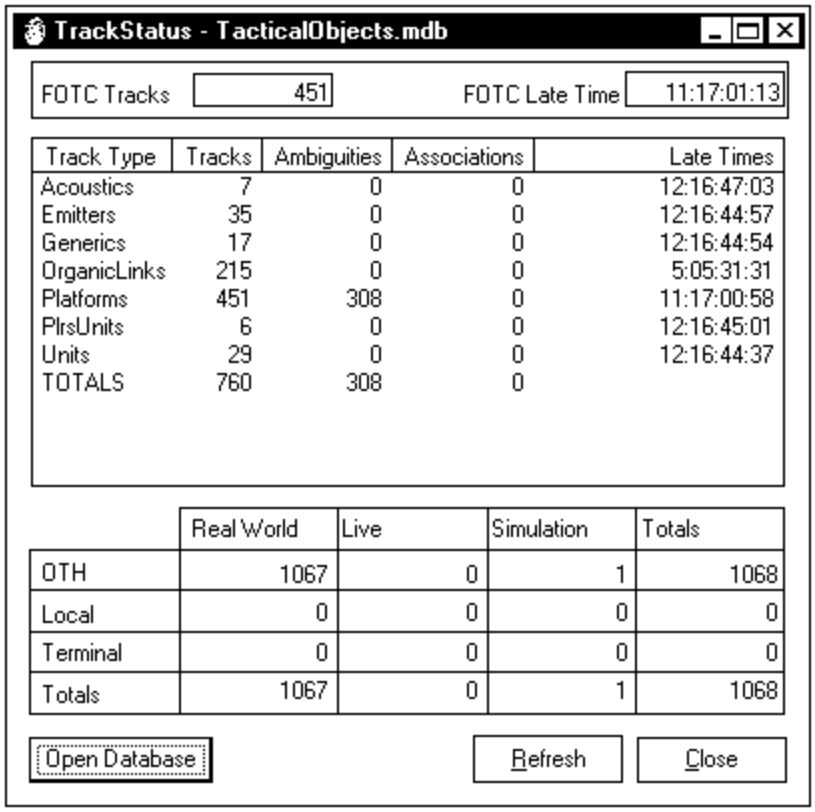

This warning indicates that it is not possible for the track to have moved from its previous position to its new position in the given time. If you still want to accept the new position, click the Yes button. Click the No button to cancel the track update.

### Center On

Use this option to center on a selected track in the map window. One track must be selected (from either the map window or the track list) to activate this option on the menu.

### Status

Use the Status option to view the number of tracks in the system and grand totals for tracks across all levels. Choose the Status option to display the Track Status window.




| Track Type | Tracks | Ambiguities | Associations | Late Times |
|---|---|---|---|---|
| Acoustics | 7 | 0 | 0 | 12:16:47:03 |
| Emitters | 35 | 0 | 0 | 12:16:44:57 |
| Generics | 17 | 0 | 0 | 12:16:44:54 |
| OrganicLinks | 215 | 0 | 0 | 5:05:31:31 |
| Platforms | 451 | 308 | 0 | 11:17:00:58 |
| PlrsUnits | 6 | 0 | 0 | 12:16:45:01 |
| Units | 29 | 0 | 0 | 12:16:44:37 |
| TOTALS | 760 | 308 | 0 | |

| | Real World | Live | Simulation | Totals |
|---|---|---|---|---|
| OTH | 1067 | 0 | 1 | 1068 |
| Local | 0 | 0 | 0 | 0 |
| Terminal | 0 | 0 | 0 | 0 |
| Totals | 1067 | 0 | 1 | 1068 |

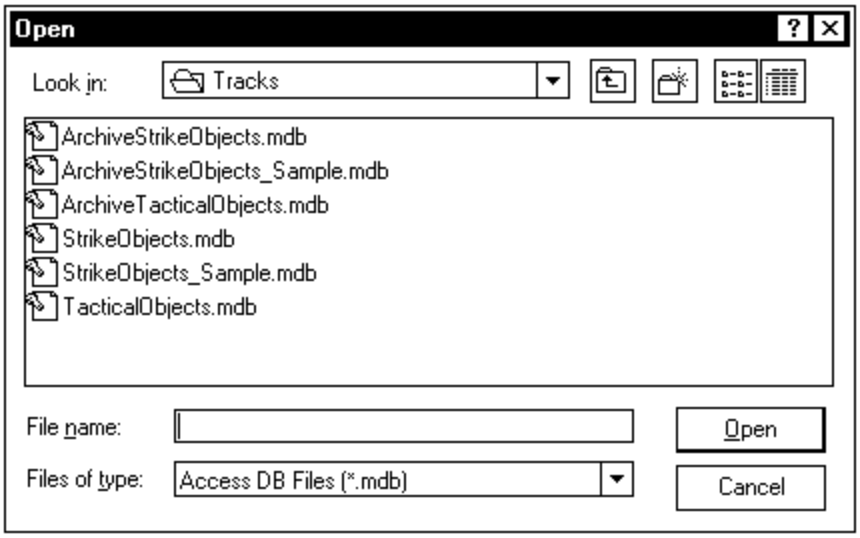
The Track Status window displays the number of tracks, ambiguities, and associations in the system, grouped by track type. Totals are listed for each category. Late times are displayed for each track type, to show the timelate for the most recent report across that track type. Click on any of the columns to sort by that column.

If the UB Host is in FOTC mode, the FOTC track totals and FOTC timelate are shown. If not in FOTC mode, these fields are blank.

The groupings in the Track Status window include some UB-related categories that cannot be created or edited through C2PC. These include Local, Terminal, Live, and Simulation tracks.

The tracks listed in the window are those tracks in the system at the time the Track Status window was opened or that were there the last time the Refresh button was clicked. Click the Refresh button to update the figures to the tracks in the system at the present time.

By Default, the Track Status window displays statistics for the TacticalObjects.mdb database. To view statistics for a different track database, click the Open Database button to display the Open window.

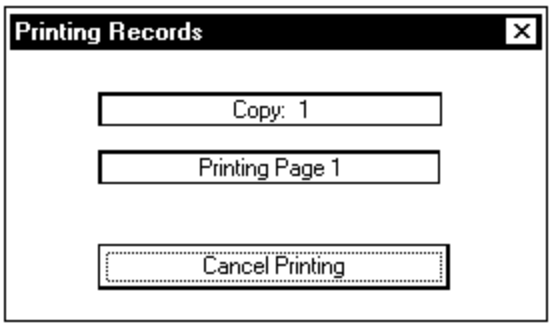



Choose the track database that contains the statistics you wish to view and click the Open button to display the Track Status window for that database.

Click the Close button to exit the Track Status window.

## Print

Use the Print option to send track information about a selected track to your printer. Select a track in either the map window or the track list and choose the Print option to generate a printed report about the track. While printing, the following window appears briefly, then disappears when the print job is finished.



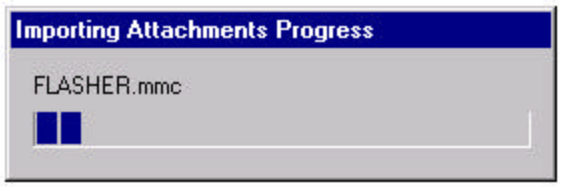

The information that is printed for the selected track includes attribute, track number, and history information. Additional information will be printed for certain track types (for example, Signa data for acoustic tracks).

## Import Attachments

Use the Import Attachments option to import any track attachments from the UB Host. Attachments are not sent with track reports because they may be very big in size and can slow down processing time and fill up a lot of disk space.

Before importing attachments, make sure the import connection settings are correct with Tools:Options on the Import tab. The UB In Attachments Dir field should be filled with the attachments path on the UB Host machine, the FTP login identification information should be properly entered, and any FTP file size limits you want should be set.

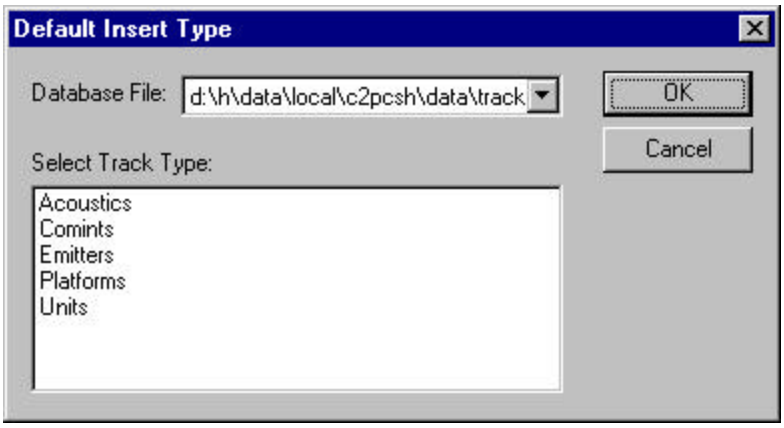
To import attachments, choose the Import Attachments option. As attachments are being imported, an Importing Attachments Progress dialog appears.




This dialog will show you the progress being made as attachments are imported and will give you an indication of how much longer the import process will take. When the importing process is finished, this dialog will disappear and all imported attachments will be attached to their appropriate tracks. You may access an attachment through the Attachments tab in the track property window.

## Set Default Insert Type

Use this option to choose a default track type to use with the Insert:Quick Track option. Select the Set Default Insert Type option to display the Default Insert Type window.




Choose a default track type from the choices in the Default Insert Type window and click the OK button to set the chosen track type as the default track type. The default track type will be used whenever you use the Insert:Quick Track option to quickly create a new track.

## Properties

Use this option to view and edit track information for a selected track or properties for a selected database. Select a track in the map window or on the map list and choose the Properties option to display the Amplify window for the selected track. (You may also double click a track in the map list to display the Amplify window.)

The title bar in the Amplify window displays the local track number of the selected track. The letter in front of the number identifies the track type from the following list:

A = Ambiguity

B = Acoustic

C = SI

E = Emitter / Elint

F = Fire Control System (FCS)

L = Link / ACDS / PLRS

N = Near Real-Time Intelligence (NRTI)

R = Raycas V

S = Spa-25(G)

T = Platform

U = Unit

Different track information is stored for the different track types. When the Properties option is used, different Amplify windows appear depending on the track type of the selected track.

Tracks may be edited if the user has been assigned edit capability. (This is determined from a setting in the Gateway. Refer to Options under the Tools menu of the Gateway section for more details.) If the user does not have edit capability, all track edit fields are disabled and appear grayed out.

If edit capability has been assigned, make any appropriate changes to a track in its Amplify window and click APPLY or OK to accept the changes. (APPLY leaves the Amplify window open while OK closes it.) Click the CANCEL button to exit without accepting any changes.

The different Properties windows that may appear are discussed in the following sub-sections in the order below:

?? Platform or Ambiguity Tracks

?? Acoustic Tracks

?? Comint Tracks

?? Emitter/Elint Tracks

?? Intel Tracks

?? OrganicLink Tracks

?? PlrsUnit Tracks

?? Unit Tracks

?? VTS Tracks

?? Other Tracks (FCS, NTRI, Raycas V, SI, Spa-25(G))

### *Platform or Ambiguity Tracks*

For Platform or Ambiguity tracks, track information is contained under the following tabs if Symbol Mode is set to MIL 2525A - Attributes, Symbology, Track Numbers, Last Report, History, and Remarks. If Symbol Mode is set to NTDS, there is no Symbology tab, though the other tabs appear. For the tactical objects database only, there is also an Attachments tab. Click on one of these tabs to view the information contained in that folder.

#### *Attributes*

The Attributes folder for Platform tracks contains fields that are all found in the Attributes folder when using the Insert:Track option to create a new platform track. Refer to the documentation for the Insert:Track option above for these field descriptions.

In the Real World/Exercise field, a SIMULATED track type cannot be changed to REAL-WORLD or LIVE TRAINING. REAL-WORLD or LIVE TRAINING tracks cannot be changed to SIMULATED.

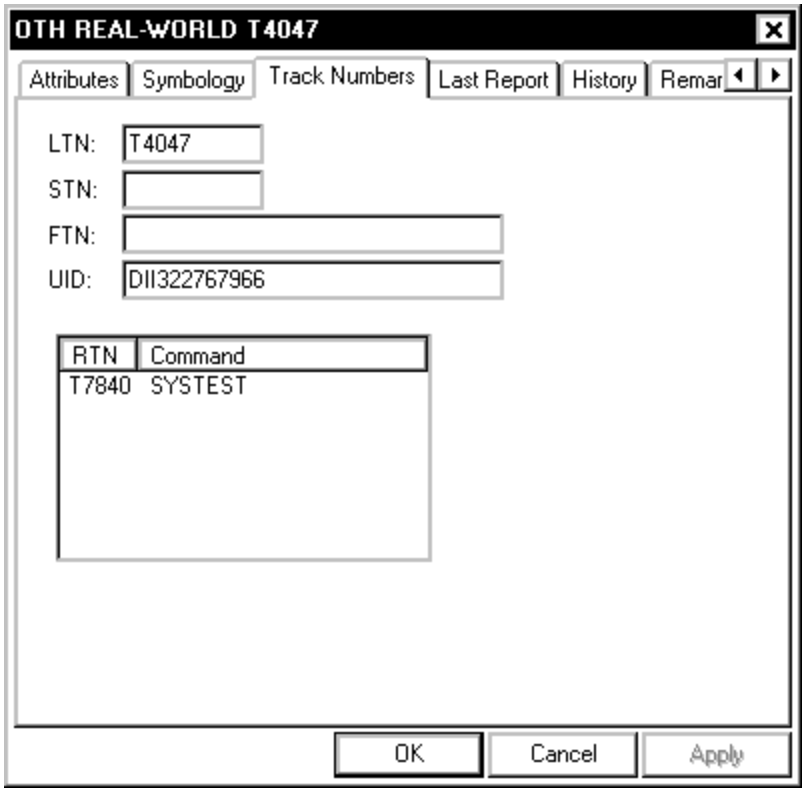
For Ambiguity tracks, there is an additional field at the bottom of the window called Reason. The Reason field contains a brief description of why the track has been classified an ambiguity.

*Symbology, and Last Report*

The Symbology and Last Report folders for Platform tracks contain fields that are all found in the same folders when using the Insert:Track option to create a new platform track. Refer to the documentation for the Insert:Track option above for these field descriptions.

*Track Numbers*

The Track Numbers folder displays track number information for the selected track.




The following fields of information appear for a selected Platform track:

**LTN**
Local track number. Every track is given a unique number by the system for track identification. This field is for display purposes only and cannot be edited.

**STN**
System track number, also known as the Naval Tactical Display System (NTDS) track number. This field is for display purposes only and cannot be edited.

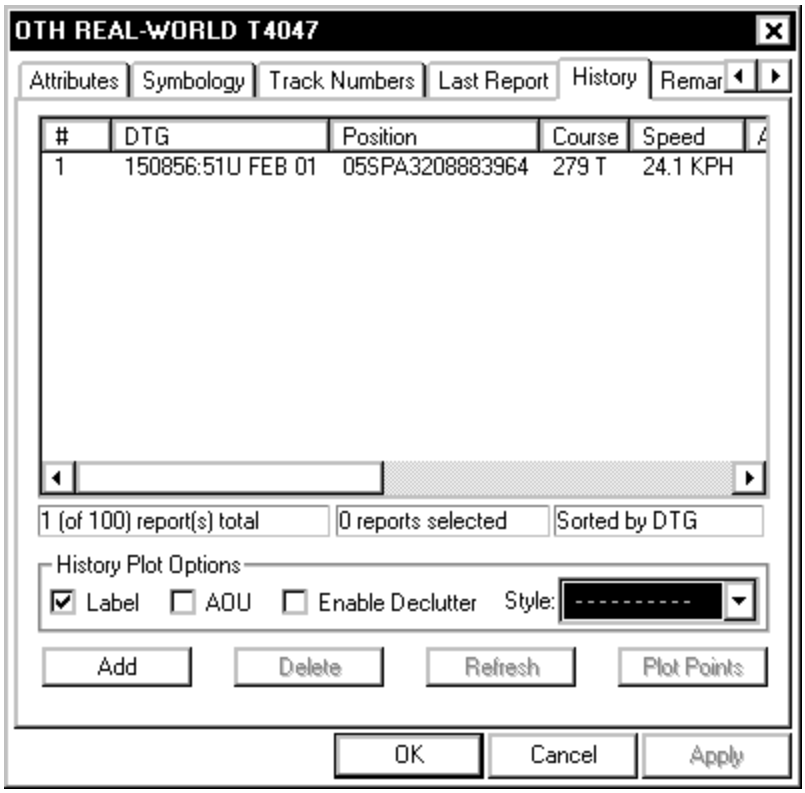
**FTN**
Force Over-The-Horizon Track Coordinator number assigned by FOTC, if in FOTC mode. This field is for display purposes only and cannot be edited.

**UID**
Unique identifier. Begins with three letters representing the site that reported the track, followed by a series of numbers to identify the track. This field is for display purposes only and cannot be edited.

**RECEIVED TRACK NUMBER (RTN) Scroll list**
RTN numbers are used for track correlation. Each received track number in the list consists of the local track number and the reporting command.

*History*

The History folder displays information about the history reports for the selected track.




Each history report is displayed as a separate entry in the scroll list. (Note that only the most recent history for a track will appear unless the FTP User Name and Password are properly entered in the Gateway. To enter these, bring up the Gateway window and choose Tools:Options. From the C2PC Gateway Options window, choose the Data Source tab and enter valid information in the Tdbm Parameters box for the UB Host machine, including the FTP User Name and Password.)

Below the scroll list there are three boxes of information about the reports in the scroll list. The first box shows two numbers - the number of local reports for the track followed by the number of reports held by Tdbm for the track. The second box shows the number of reports selected in the scroll list. The third box shows how the reports are sorted.

The following columns of information are displayed for each history report.

**Status**

If the Add or Delete buttons are used to add or delete position reports, a Status column appears as the far left column. If changes have been made but not yet saved, this is displayed as the status in this column. For example, if a report has been deleted, the report will remain in the window with a status of DELETE until the Apply or OK button is clicked to complete the delete process.

**#**
This displays a number for the report. The first report for the track is number 1, the second number 2, etc. The highest numbered report in the list is the most recent report.

**DTG**
Date-time group for the report.

**Position**
Position at the time of the report.

**Course**
Course for the track (in degrees true).

**Speed**
Speed of the track.

**Alt/Depth**
Altitude or depth of the track. A negative number appears if the track is a subsurface vessel.

**Type**
AOU type (ellipse, line of bearing, or bearing box).

**Bearing**
AOU bearing in degrees true.

**A1**
If the AOU type is ELLIPSE, this field displays the semi-major axis length for the ellipse.

If the AOU type is LOB, this field displays the bearing error (in degrees) for the line of bearing.

If the AOU type is BBOX, this field displays the half width for the bearing box.

**A2**
If the AOU type is ELLIPSE, this field displays the semi-minor axis length for the ellipse.

If the AOU type is LOB, this field displays the estimated range of the track from the sensor position.

If the AOU type is BBOX, this field displays the length for the bearing box.

**Sensor**
Sensor type used to pick up the track for this report.

**Source**
Two-letter OTCIXS station source code (for example, AM=America).

**XRef**
Two-character source cross-reference code for the Command that originated the track report.

If there are two or more history points for a track, you may plot the history in the map window. Before plotting the history points, use the History Plot Options checkboxes to choose what you want to plot from the following choices.

**Label**
Click this checkbox to plot the history point number for the report.

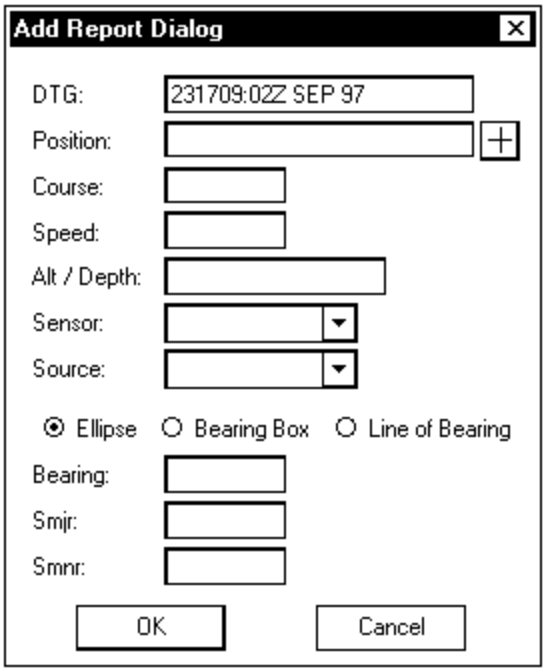
**AOU**
Click this checkbox to plot any AOUs for the reports.

**Enable Declutter**
Click this checkbox to enable declutter to occur for the report labels. Note that declutter will only work if the Map:Declutter option is also turned on.

**Style**
If declutter is enabled for labels, use this to choose a line style for the lines that extend from the labels to the report points.

After choosing History Plot Options, select the history points you want to view from the scroll list and click the Plot Points button to plot the history points in the map window.

A new report can be added from the History tab. Click the Add button to display the Add Report Dialog window.




To add a new report, enter appropriate values in the fields and click the OK button. (The Add Report Dialog window contains fields that are all found when using the Insert New Track option to create a new platform track. Refer to the Insert New Track section of this User's Guide for these field descriptions.) Note that you must click the Apply or OK button from the Amplify window for this new report to be saved.

To delete a history report for a track, select the history report from the list and click the Delete button. Note that you must click the Apply or OK button from the Amplify window to complete the delete process and remove the report from the system.

To update the information shown under the History tab to show any history information that has changed since this window was opened, click the Refresh button.

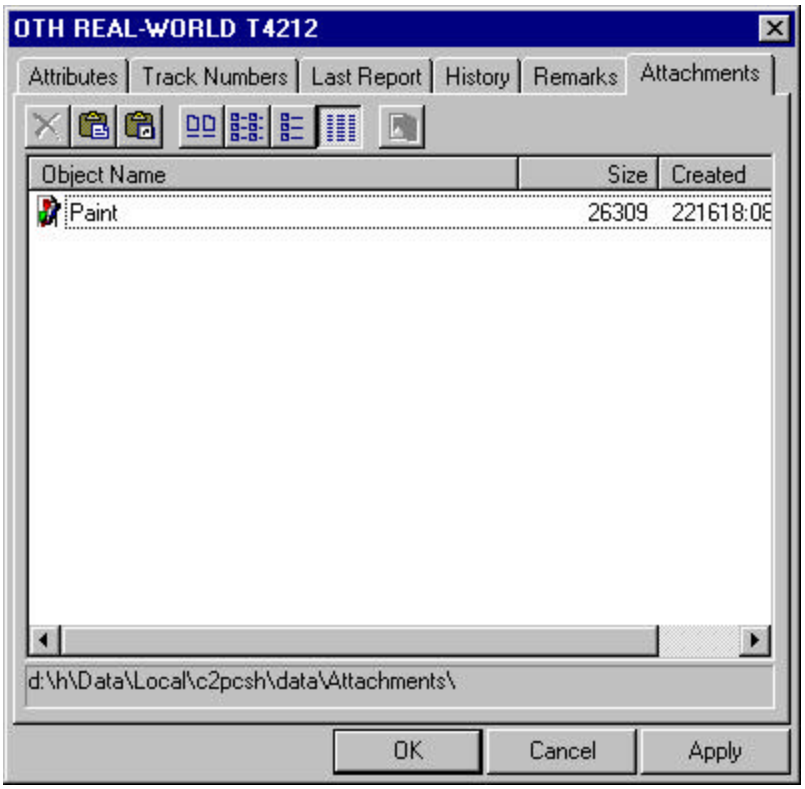
*Remarks*

The Remarks folder displays any received remarks for the selected track.

Remarks are for viewing purposes only and cannot be edited. Click the Refresh button to view any new remarks received for the track since the Remarks tab was opened.

*Attachments*

The Attachments folder displays any attachments for the selected track. An attachment can be any type of file created outside of C2PC that is associated with a track. Any attachments for a track are local to a particular workstation.




The attachments for a track are displayed in the scroll list. Use the four buttons on the right side of the toolbar to determine how the attachments appear in the list. In order, the buttons allow the attachments to be displayed as Large Icons, Small Icons, in List format, and in Detail format. In Detail format, the following columns of information are displayed for each attachment in the list.

**Object Name**

If the attachment was pasted directly into this window, this displays the object type (for example, Microsoft Word or Paint). If the object type is unknown to C2PC, the object type will be displayed as Package.

If there is a link to the attachment, this displays the pathname of the attachment.

**Size**

This displays the attachment size. If there is a link to the attachment, this displays as 0.

**Created**

This displays the DTG when the attachment was created.

To add an attachment, you may either paste an object directly into this window or create a link to the object.

To paste an object into the window, perform the following steps:

1) Locate the object outside of C2PC and drag it directly into the Attachments window.

or

1) Locate the object outside of C2PC and copy it to the clipboard.
2) In the Attachments window, click the Paste Document from Clipboard button.

The attachment appears in the attachments list.

To create a link to an object, perform the following steps:

1) Locate the object outside of C2PC, hold down the Ctrl+Shift keys, and drag the object directly into the Attachments window.

or

1) Locate the object outside of C2PC and copy it to the clipboard.
2) In the Attachments window, click the Link Document from Clipboard button.

The pathname to the attachment appears in the attachments list.

To create a link to an internet website or web page, perform the following steps:

1) Open a web browser.
2) Locate a hot link to the web page you wish to use.
3) Hold down the Ctrl+Shift keys on the hot link and drag directly into the Attachments window.

To view an object or link, double-click directly on the object in the attachments list. Alternately, you may click the right mouse button on an object to display a pop-up menu, then choose the Open option from the Object cascading menu.

To edit an object, click the right mouse button on an object to display a pop-up menu, then choose the Edit option from the Object cascading menu. Edit the object as appropriate, then save it to save the changes for the attachment. The Edit option is especially helpful for changing the URL address for an internet web link.

To delete an object, select the object in the list and click the Delete Attachment button. Alternately, you may click the right mouse button on an object to display a pop-up menu, then choose the Delete Object option.

To export an object to the UB host machine, select an object and click the Export Attachment to Remote Server button. (Note that the UB Out Attachments Dir and UB In Attachments Dir fields in Tools:Options must be set correctly for attachments to

be exported and imported to the UB host machine. Refer to Tools:Options:Import Tab for details about specifying these paths to the UB host machine.)

### *Acoustic Tracks*

For Acoustic tracks, track information is contained under the following tabs if Symbol Mode is set to MIL 2525A - Attributes, Symbology, Track Numbers, Last Report, Last Report Signa, and History. If Symbol Mode is set to NTDS, there is no Symbology tab, though the other tabs appear. For the tactical objects database only, there is also an Attachments tab. Click on one of these tabs to view the information contained in that folder.

#### *Attributes, Symbology, Last Report, and Last Report Signa*

The Attributes, Symbology, Last Report, and Last Report Signa folders for Acoustic tracks contain fields that are all found in the same folders when using the Insert:Track option to create a new acoustic track. Refer to the documentation for the Insert:Track option above for these field descriptions.

#### *Track Numbers, History, Remarks, and Attachments*

The Track Numbers, History, Remarks, and Attachments folders for Acoustic tracks contain fields that are all found in the same folders for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

### *Comint Tracks*

For Comint tracks, track information is contained under the following tabs if Symbol Mode is set to MIL 2525A - Attributes, Symbology, Track Numbers, Last Report, Comint Report, and History. If Symbol Mode is set to NTDS, there is no Symbology tab, though the other tabs appear. For the tactical objects database only, there is also an Attachments tab. Click on one of these tabs to view the information contained in that folder.

#### *Attributes, Symbology, Last Report, and Comint Report*

The Attributes, Symbology, Last Report, and Comint Report folders for Comint tracks contain fields that are all found in the same folders when using the Insert:Track option to create a new Comint track. Refer to the documentation for the Insert:Track option above for these field descriptions.

*Track Numbers, History, Remarks, and Attachments*

The Track Numbers, History, Remarks and Attachments folders for Comint tracks contain fields that are all found in the same folders for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

### Emitter Tracks

For Emitter tracks, track information is contained under the following tabs if Symbol Mode is set to MIL 2525A - Attributes, Symbology, Track Numbers, Last Report, Last Report Rad, Statistics, and History. If Symbol Mode is set to NTDS, there is no Symbology tab, though the other tabs appear. For the tactical objects database only, there is also an Attachments tab. Click on one of these tabs to view the information contained in that folder.

*Attributes, Symbology, Last Report, and Last Report Rad*

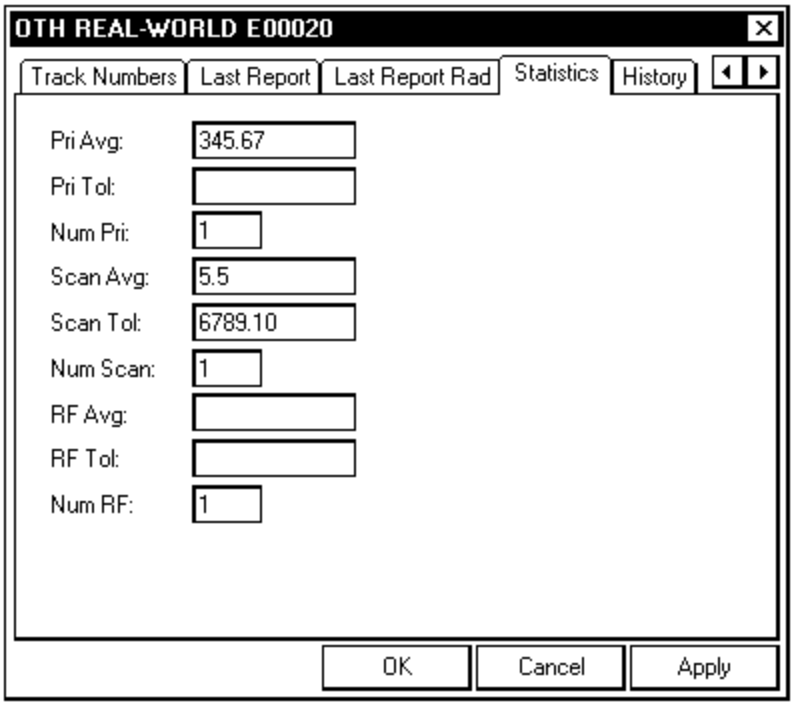
The Attributes, Symbology, Last Report, and Last Report Rad folders for Emitter tracks contain fields that are all found in the same folders when using the Insert:Track option to create a new emitter track. Refer to the documentation for the Insert:Track option above for these field descriptions.

*Track Numbers, History, Remarks, and Attachments*

The Track Numbers, History, Remarks, and Attachments folders for Emitter tracks contain fields that are all found in the same folders for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

*Statistics*

The Statistics folder contains basebanded averages for the received emitter reports.




The following fields of information appear for a selected Emitter/ELINT track:

**Pri Avg**
Mean value for all reported Pulse Repetition Intervals (PRI).

**Pri Tol**
Standard deviation for the PRI.

**Num Pri**
Number of PRIs used for these statistics. Generally, there is one PRI value for every report.

**Scan Avg**
Mean value for all reported scan rates.

**Scan Tol**
Standard deviation for the scan rate.

**Num Scan**
Number of scan rates that are used for these statistics. This number is less than or equal to the number in the Num Pri field.

**RF Avg**
Mean value for all reported radio frequency values.

**RF Tol**
Standard deviation for the radio frequency.

**Num RF**
Number of radio frequency values used for these statistics. This number is less than or equal to the number in the NUM PRI field.

### *OrganicLink Tracks*

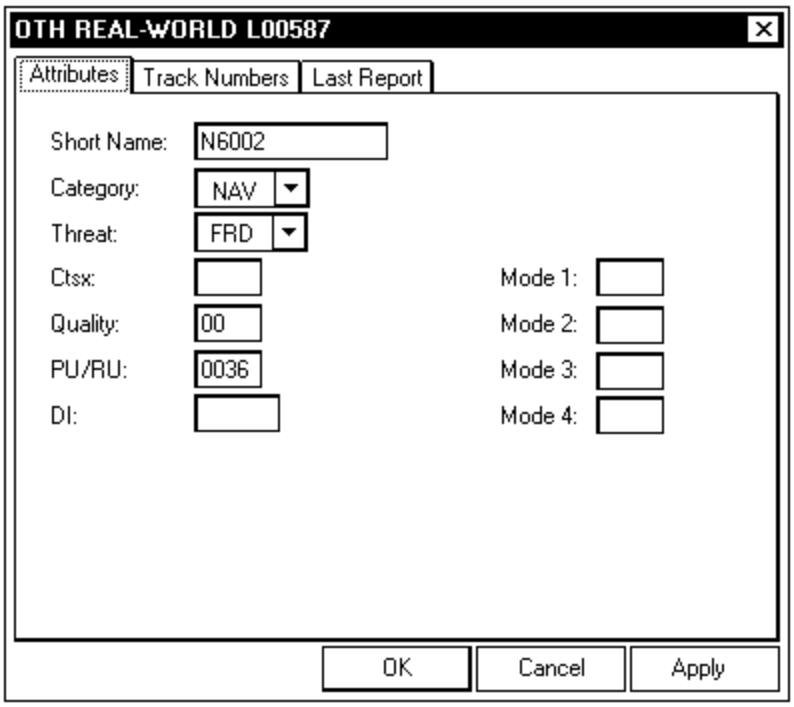
OrganicLink tracks can be displayed in different ways, depending on your type of C2PC installation. For most installations, they will be displayed as pictured and discussed in this section.

If your C2PC installation setup type was USN Standard Client or GCCS Standard Client or if the Link16 module was chosen during Custom installation, more detailed LINK 16 property pages will appear. (From a Custom installation, the Link16 module is located under the Atlas/TDAs section.) Many different OrganicLink property pages can appear for Link16 tracks, depending on the Link16 track type. Refer to your Link16 documentation for information about the fields in these windows.

For OrganicLink tracks, track information is contained in four separate tabs if Symbol Mode is set to MIL 2525A - Attributes, Symbology, Track Numbers, and Last Report. If Symbol Mode is set to NTDS, there is no Symbology tab, though the other tabs appear. Click on one of these tabs to view the information contained in that folder. All of the information displayed for OrganicLink tracks is for viewing purposes only and cannot be modified.

#### *Attributes*

The Attributes folder contains attribute information about the selected OrganicLink track.




The following fields of information appear for a selected OrganicLink track:

**Short Name**

Name for the track that is meaningful only within the local network. This name is not transmitted to other locations.

**Category**

Track category received from the Link source.

**Threat**

Threat category received from the Link source.

**Ctsx**

Link provider's internal track number (e.g., ACDS, 2- way Link, etc.).

**Quality**

Track quality number. This number (between 1 and 7) represents the quality of the track.

**PU/RU**

Participating or Report Unit. This identifies the reporting source.

**DI**

Discrete Identifier. This is a four-digit code that represents hostile or unknown tracks.

**Mode 1**

Code that gives a general description of the mission. Mode 1 IFF (Identification Friend or Foe) is military only.

**Mode 2**

Code that provides an exact ID for the ship or aircraft. Mode 2 IFF (also known as PIF) is for friendly military only.

**Mode 3**

Code to describe the type of mission.

Mode 3 IFF can be commercial or military, or can come from other sources. It can be either friendly or non-friendly.

For ships, this field shows the general direction of travel. For aircraft, the controlling agency assigns the value for this field.

**Mode 4**

Contains the encrypted PIF number.

*Symbology, Track Numbers, and Last Report*

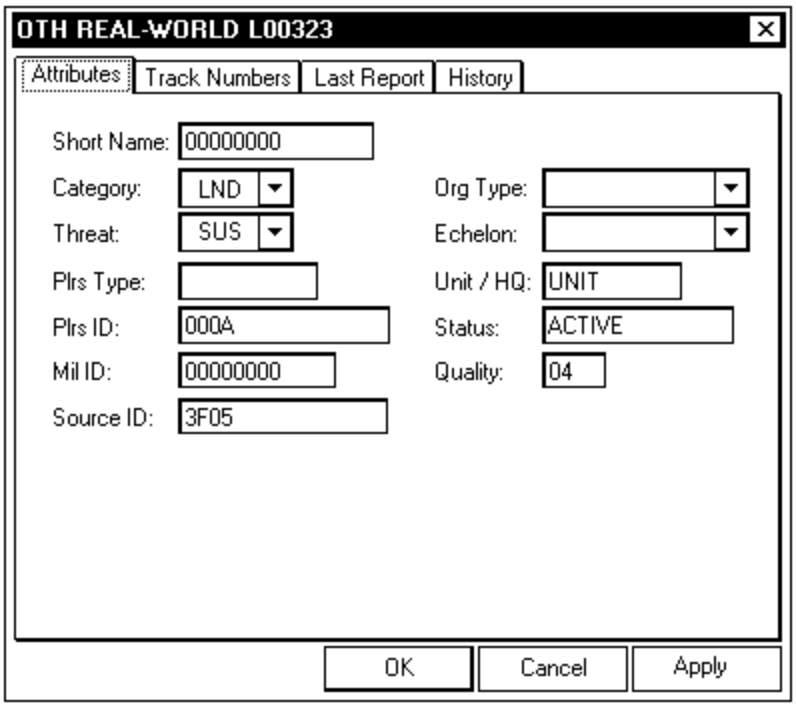
The Symbology, Track Numbers, and Last Report folders for OrganicLink tracks contain fields that are all found in the same folders for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

### *PlrsUnit Tracks*

For PlrsUnit tracks, track information is contained in five separate tabs if Symbol Mode is set to MIL 2525A - Attributes, Symbology, Track Numbers, Last Report, and History. If Symbol Mode is set to NTDS, there is no Symbology tab, though the other tabs appear. Click on one of these tabs to view the information contained in that folder. All of the information displayed for PlrsUnit tracks is for viewing purposes only and cannot be modified.

*Attributes*

The Attributes folder contains attribute information about the selected track.




The following fields of information appear for a selected PLRS track:

**Short Name**
Name for the track that is meaningful only within the local network. This name is not transmitted to other locations.

**Category**
Track category. Refer to the documentation for Platform tracks above for a description of all the possible values for this field.

**Threat**
Threat level for the track. Refer to the documentation for Platform tracks above for a description of all the possible values for this field.

**Plrs Type**
PLRS unit type from the following list:

| Code | Meaning |
|---|---|
| AFU | Airborne Fixed Wing Unit |
| AGU | Auxiliary Ground Unit |
| ARU | Airborne Rotary Wing Unit |
| MPU | Manpack Unit |
| RBU | Relay Board Unit |

| | |
|---|---|
| MS | Master Station |
| SVU | Surface Vehicular Unit |
| UNK | Unknown |

**Plrs ID**

PLRS ID for the track. This is a unique 4-digit ID that is assigned to every PLRS track.

**Mil ID**

8-character Mil ID used in conjunction with the PLRS ID to further describe the track.

**Source ID**

4-digit hexadecimal code which identifies a unit as follows:

| Code | Meaning |
|---|---|
| 0000 | All PLRS User Units (All call address). This ID not used for a PLRS Unit. |
| 0001-3EFF | Individual PLRS User Units |
| 3F01-3FFE | Individual PLRS Master Stations. |

**Org Type**

Organization type of the unit; determines the type of symbol that plots in the map window.

**Echelon**

Organizational level of the unit. This is a further description of the Org Type.

**Unit/HQ**

This field displays either HQ or Unit. HQ indicates Master Station, while Unit represents all others.

**Status**

This field displays Active or Inactive. Active tracks are tracks that are being actively reported, while no recent reports have been received for Inactive tracks and they have timed out.

**Quality**

Track quality. This is a value from 0-9 for an auto track unit. Values from A-F indicate special considerations as follows:

| Code | Meaning |
|---|---|
| A | Last Known |
| B | Unconfirmed |
| C | Another MS |
| D | Manual |
| E | Horizontal Reference |
| F | Full Reference |

*Symbology, Track Numbers, Last Report, and History*

The Symbology, Track Numbers, Last Report, and History folders for PlrsUnit tracks contain fields that are all found in the same folders for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

### *Unit Tracks*

Track information is contained under the following tabs if Symbol Mode is set to MIL 2525A - Attributes, Symbology, Track Numbers, Last Report, and History. If Symbol Mode is set to NTDS, there is no Symbology tab, though the other tabs appear. For the tactical objects database only, there is also an Attachments and Component Tracks tab. Click on one of these tabs to view the information contained in that folder.

*Attributes, Symbology, and Last Report*

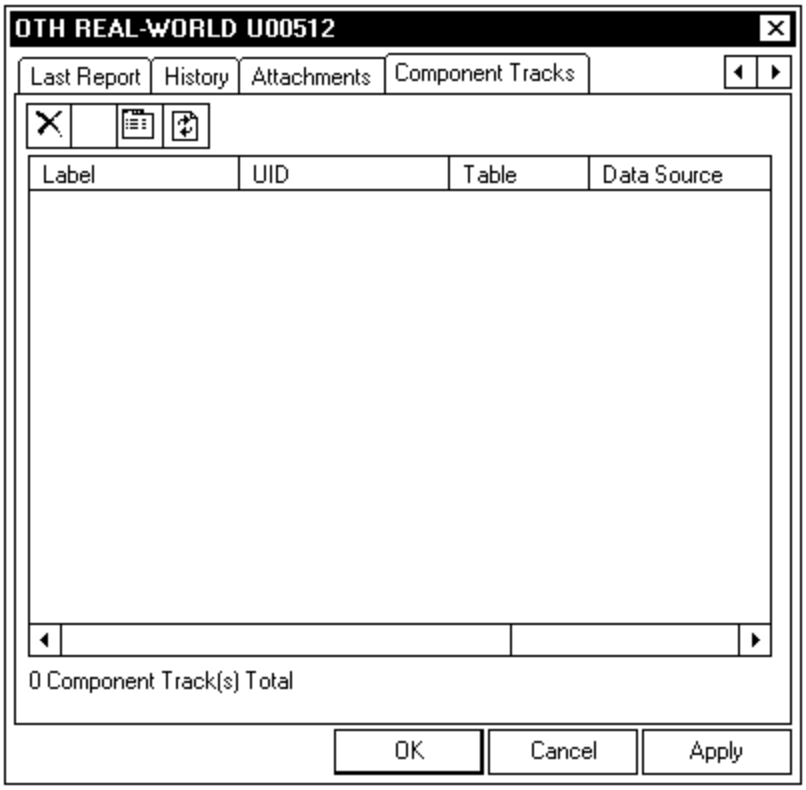
The Attributes, Symbology, and Last Report folders for unit tracks contain fields that are all found in the same folders when using the Insert:Track option to create a new unit track. Refer to the documentation for the Insert:Track option above for these field descriptions.

*Track Numbers, History, Remarks, and Attachments*

The Track Numbers, History, Remarks, and Attachments folders for unit tracks contain fields that are all found in the same folders for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

*Component Tracks*

The Component Tracks folder contains information about any other tracks that are associated with this track.




A composite track is a track and its components. A component track represents a separate object that is moving with the composite track. For example, a composite track could be a ship and its components could be groups of men. The component tracks can be set to remain with the composite track as long as the men are on the ship. When they men leave the ship, the component tracks can be deleted from the composite track. Through Map:Plot Options, component tracks can be set to be plotted / not plotted in the map window.

To add a component track to a composite track, drag the component track from the Tracks List into the Component Tracks folder of the composite track. A Status column appears in the Component Tracks tab with a status of Add. The component track is not permanently saved with the composite track until the OK or Apply button is clicked to accept it.

To break the association between the composite track and a component track, select the component track from the list and click the Delete Component Track button. A Status column appears in the Component Tracks tab with a status of Delete. The component track is not permanently deleted from the composite track until the OK or Apply button is clicked to accept the delete. When the component track is deleted, it is no longer associated with the composite track, but it is not deleted from the system.

A component track can only be associated with one composite track. To move a component from one composite track to another, you must first delete it from its composite track, then drag it from the Tracks List into the new composite track.

The Paste Components Track From Clipboard button is currently dim and unavailable. It is reserved for future use.

Use the Amplify Component Track to display an Amplify window for a selected component track. This option works the same as the Properties option for a selected track.

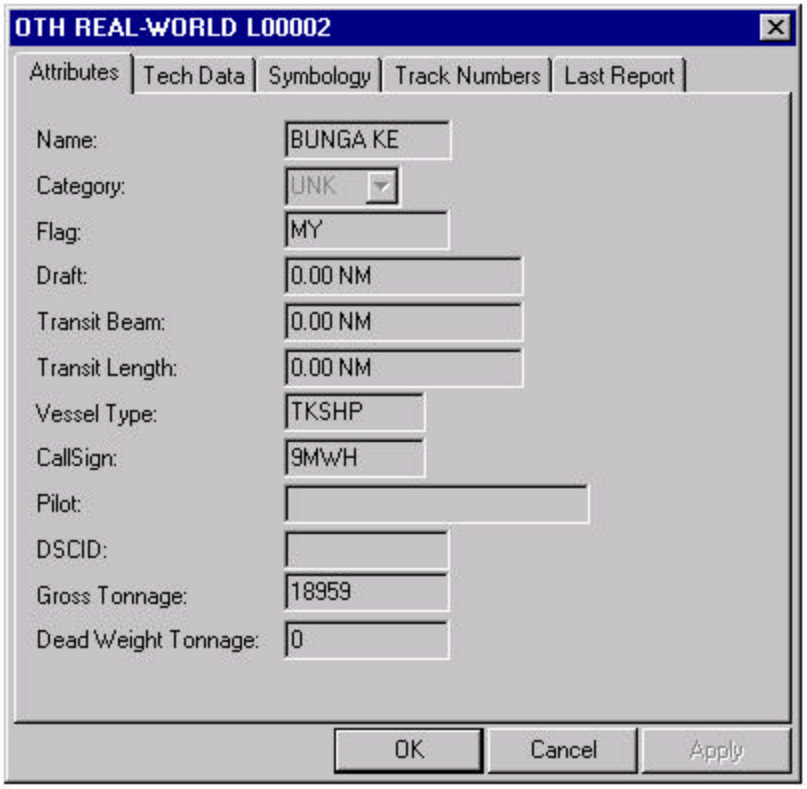
Use the Refresh button to refresh this window and display any new component tracks that have entered the system since the time this window was first displayed or since the last time the Refresh button was clicked.

### *VTS Tracks*

For VTS (Vessel Traffic Service) tracks, track information is contained under the following tabs if Symbol Mode is set to MIL 2525A - Attributes, Tech Data, Symbology, Track Numbers, and Last Report. If Symbol Mode is set to NTDS, there is no Symbology tab, though the other tabs appear. All of the information displayed for VTS tracks is for viewing purposes only and cannot be modified. Click on one of these tabs to view the information contained in that folder.

#### *Attributes*

The Attributes folder contains attribute information about the selected VTS track.




The following fields of information appear under the Attributes tab:

**Name**
This displays the name of the vessel.

**Category**
This displays the track category.

**Flag**
This displays the country code for the track.

**Draft**
This displays the vessel's draft (pulled from vessel database).

**Transit Beam**
This displays the vessel's transit beam.

**Transit Length**
This displays the vessel's transit length. This is the current length of the vessel when it is onplot. Transit length may include a barge and tow cable length, as well as the ships' standard length.

**Vessel Type**
This displays the type of vessel (examples: Container Ship, Freight Barge).

**Callsign**
This displays the vessel's callsign, or None if one is not logged for this particular vessel.

**Pilot**
This displays the name of the pilot (3 characters, usually initials).

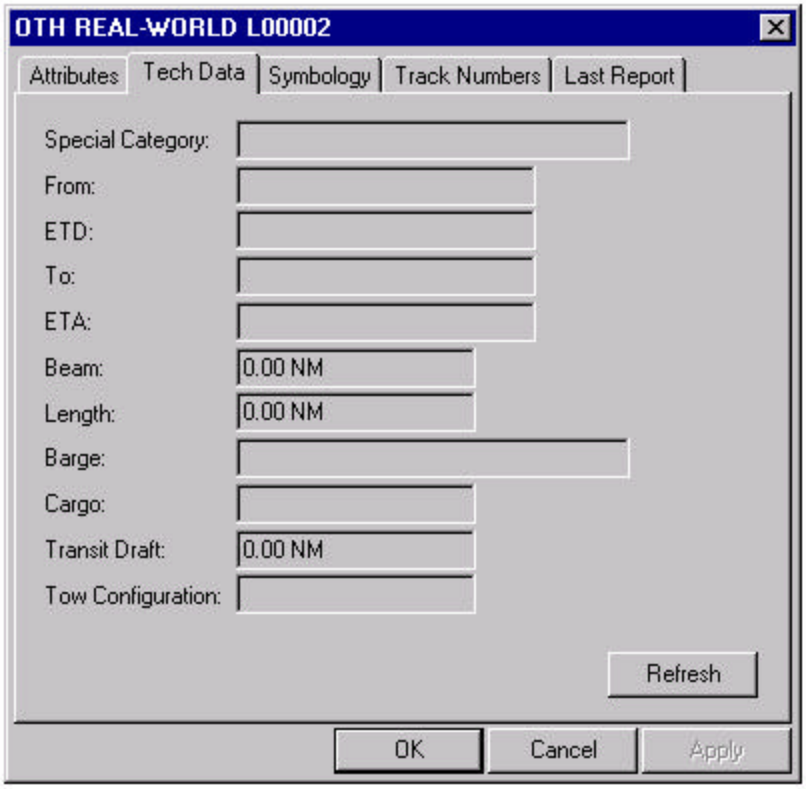
**DSCID**
This displays the Automated Independent Surveillance (AIS) Digital Selective Calling ID (DSCID). This is an ID number used to relate a GPS message with a track.

**Gross Tonnage**
This field displays the gross tonnage of the vessel.

**Dead Weight Tonnage**
This field displays the dead weight tonnage of the vessel.

*Tech Data*

The Tech Data folder contains technical data about the VTS track.




The following fields of information appear under the Tech Data tab:

**Special Category**
This is a special classification for a vessl. These are pulled from a standard database (example: Violation of Regulations).

**From**
This displays the vessel's point of departure (pulled from a database of Docks and Anchorages).

**ETD**
This is the vessel's Estimated Time of Departure (ETD). A DTG field.

**To**
This displays the vessel's destination (pulled from a database of Docks and Anchorages).

**ETA**
This displays the vessel's Estimated Time of Arrival (ETA). A DTG field.

**Beam**
This displays the vessel's beam (pulled from database).

**Length**
This displays the vessel's length (pulled from database).

**Barge**
This displays the name of vessel's barge. This value comes from the same database as the Name field.

**Cargo**
This displays a free text description of a vessel's cargo (Transit Handling) (example: OIL).

**Transit Draft**
This displays the vessel's draft for this time onplot (usually normal draft, plus any additional for heavy cargo, etc.).

**Tow Configuration**
This displays the current tow configuration of the onplot vessel (example: TOW).

*Symbology, Track Numbers, and Last Report*

The Symbology, Track Numbers, Last Report, and History folders for VTS tracks contain fields that are all found in the same folders for Platform tracks. Refer to the documentation for Platform tracks above for these field descriptions.

### *Generic Track Types*

C2PC receives tracks for FCS, NRTI, Raycas V, SI, and Spa-25(G) track types. These tracks are stored in a folder called Generics. For these track types, only certain standard attributes are displayed, not the entire attribute set.

For Generic tracks, track information is contained in five separate tabs if Symbol Mode is set to MIL 2525A - Attributes, Symbology, Track Numbers, Last Report, and History. If Symbol Mode is set to NTDS, there is no Symbology tab, though the other tabs appear. Click on one of these tabs to view the information contained in that folder. All of the information displayed is for viewing purposes only and cannot be modified.

*Attributes, Symbology, and Last Report*

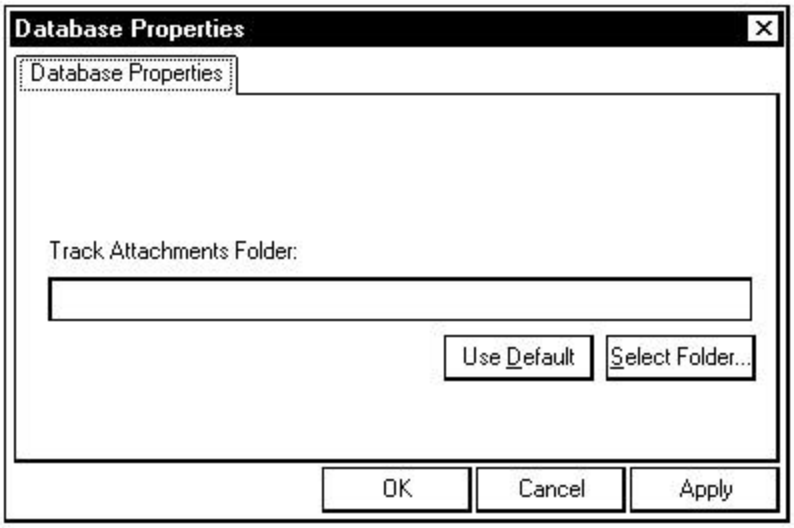
The Attributes, Symbology, and Last Report folders contain fields that are all found in the same folders when using the Insert:Track option to create a new platform track. Refer to the documentation for the Insert:Track option above for these field descriptions.

*Track Numbers, History, and Remarks*

The Track Numbers, History, and Remarks folders contain fields that are all found in the same folders for platform tracks. Refer to the documentation for platform tracks above for these field descriptions.

### *Database Properties*

Select a database on the map list and choose the Properties option to display the Database Properties window.




The options in the Database Properties window allow you to select the folder on your workstation where attachment information will be stored.

When attachments are created for tracks, attachment information is stored in a designated folder on your workstation. The default folder is \h\Data\Local\c2pcsh\data\Attachments. The current attachments folder path is displayed in the Track Attachments Folder field. If you would like attachment information stored in a different location, click the Select Folder button to display the Browse for Folder window. Use this window to locate the folder where you want attachment information to be stored. If you want to change the current attachments folder path back to the default location, click the Use Default button.

Track attachments are stored on your local workstation and are not transmitted with the other track information when a track update is sent from your workstation. To save any changes to the information in the Database Properties window, click the Apply button to save the changes and remain in the window. Click the OK button to save the changes and exit the window. Click the Cancel button to discard any changes since the last time the Apply button was clicked and exit this window.

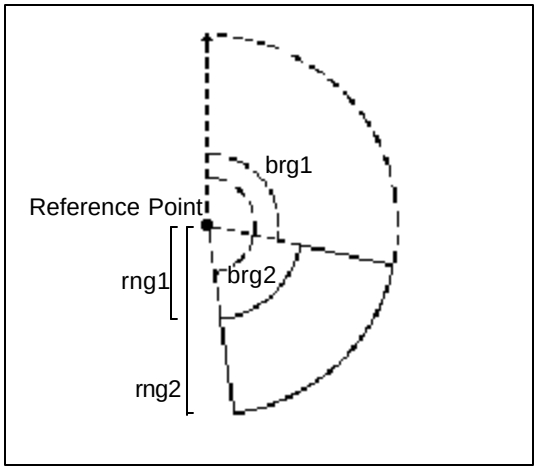
# FORMATIONS

Choose the Formations option from the Tools menu to activate the Formations feature. When the Formations option is selected, the Formations tab is selected in the left portion of the map window and a list of all formations in the system appears beneath the tab. Some new Formations menus appear on the menubar, containing options related only to formations. These menus include Edit, View, Insert, and Formations. A Formations Toolbar also appears below the main toolbar.

There are two types of formations available - Four Whiskey and Screen Kilo. Both of these formation types consist of a group of units assigned to protect a High Value Unit (HVU).

In a typical Four Whiskey formation, the units that are to protect the HVU are assigned to patrol an area at each outside point of an imaginary W, with the HVU located at the center point of the W. Hence, the name Four Whiskey formation. A formation can be attached to a track (moves with the track) or to a location (stationary). The orientation of a formation can be relative to a track, or fixed at an operator-designated bearing.

In a Screen Kilo formation, the HVU is at the center of a circular grid, with each protecting unit assigned a sector around the HVU. Thus, the escort ships form a "screen" for the HVU. A sector is defined as the area lying between two bearings and two radiuses, all measured relative to the center of the circular grid. Bearings are measured clockwise from 000 degrees North.




*A Sector and its Variables*

Use the Formations option to:

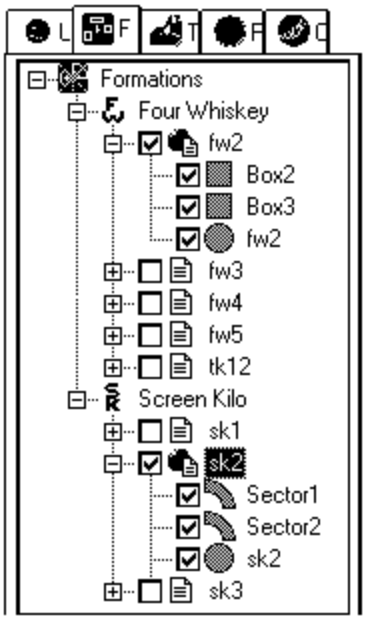
?? Create new Four Whiskey and Screen Kilo formations.

?? Import and export formations between C2PC and the UB host machine.

?? Edit formations.

?? Control whether a formation appears in the map window (activate) or does not appear (deactivate).

A formations list appears in the left portion of the map window when the Formations option is chosen from the Tools menu.




*Formations List*

The formations list that appears in the left portion of the map window is organized in a tree structure, with different levels of information displayed. The top level of the overlay list shows the formations. The next level shows the Four Whiskey and Screen Kilo formations. The next level shows the formations under the Four Whiskey and Screen Kilo formations. The next level shows components of the formations.

If a plus sign (+) button appears to the left of an item in the formations list, then there are sub-items under that item. Click on the plus sign button to display the sub-items contained within that item. The plus sign button changes to a minus sign (-) when sub-items are shown for an item. Click a minus sign button to turn off the listing of the sub-items.

There is a pop-up menu associated with the formations list. To access the pop-up menu, move the mouse pointer over a formation or formation object in the list and

click the right mouse button. The formations list pop-up options are discussed in detail in the Formations List Pop-up Menu subsection of this section.

Use the Formations menus to create, import, export, and maintain formations.

## Edit Menu

The Edit menu contains the Cut, Copy, Paste, and Delete options.

### Cut

Use the Cut option to delete a selected formation object and save it to the clipboard. You may then use the Paste option to paste the object into another formation if you wish.

### Copy

Use the Copy option to copy a selected formation object to the clipboard. The selected object remains in the formation. You may then use the Paste option to paste the object into another formation if you wish.

### Paste

Use the Paste option to paste a formation object from the clipboard into another formation. A formation object can be placed in the clipboard with the Copy or Cut option.

### Delete

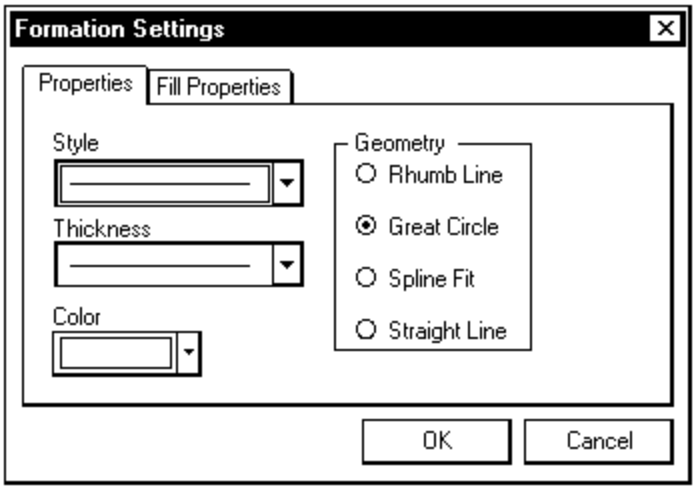
Use this option to delete a selected formation or object within a formation. If a formation is selected from the formations list, the name of this option is "Delete X," where X is the name of the formation. If an object within a formation is selected, the name of this option is "Delete Object." Choose this option and the selected formation or object is deleted from the system.

## View Menu

The View menu contains the Settings and the Formations Toolbar options.

## Settings

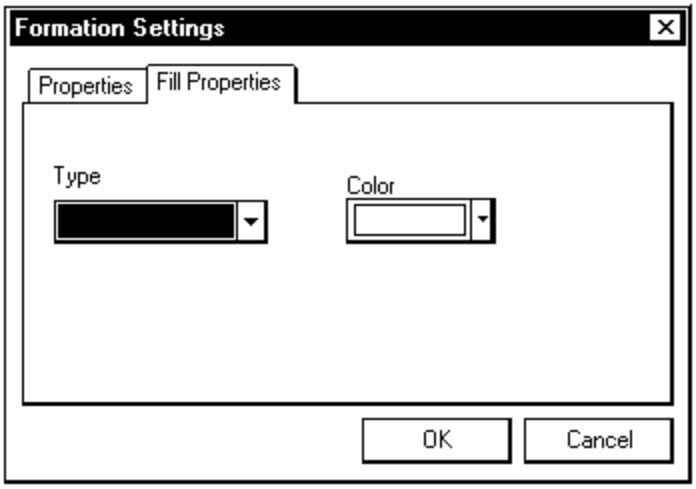
Use this option to specify the default settings for line style, line thickness, line color, fill color, and fill pattern for boxes and sectors. The Properties tab is the default tab.




The Properties tab contains fields to allow you to choose default formation settings for line style, thickness, and color. You can also set the default geometry. When a new formation object is created, it will adhere to the settings entered here.

The Properties tab in the Formation Settings window contains fields that are the same as those that appear in the Four Whiskey Box Input Data window. Refer to the documentation for the Four Whiskey Box Input Data window above for complete descriptions of these fields.

Click the Fill Properties tab to display additional fields.




The Fill Properties tab contains fields to allow you to choose default formation settings for fill type and color. When a new formation object is created, it will adhere to the settings entered here.

The Fill Properties tab in the Formation Settings window contains fields that are the same as those that appear in the Four Whiskey Box Input Data window. Refer to the documentation for the Four Whiskey Box Input Data window above for complete descriptions of these fields.

## Formations Toolbar

Use this option to toggle on / off the display of the Formations Toolbar.

The Formations Toolbar contains buttons to allow some quick formations actions. In order, these buttons are Create Four Whiskey, Create Screen Kilo, Edit, and Delete.

Create Four Whiskey - Use this tool to create a new Four Whiskey formation. This works the same as the Insert:Four Whiskey option described below.

Create Screen Kilo - Use this tool to create a new Screen Kilo formation. This works the same as the Insert:Screen Kilo option described below.

Edit - Select a Four Whiskey or Screen Kilo formation or object and choose the Edit tool to display an edit window for the chosen formation or object.

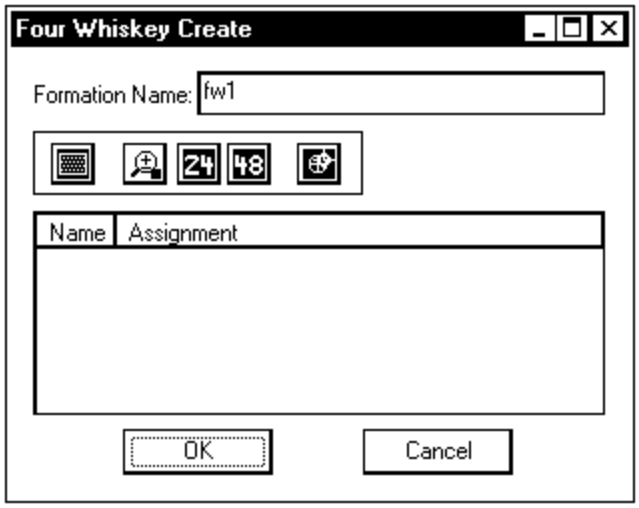
Delete - Select a Four Whiskey or Screen Kilo formation or object and choose the Delete tool to delete the chosen formation or object.

# Insert Menu

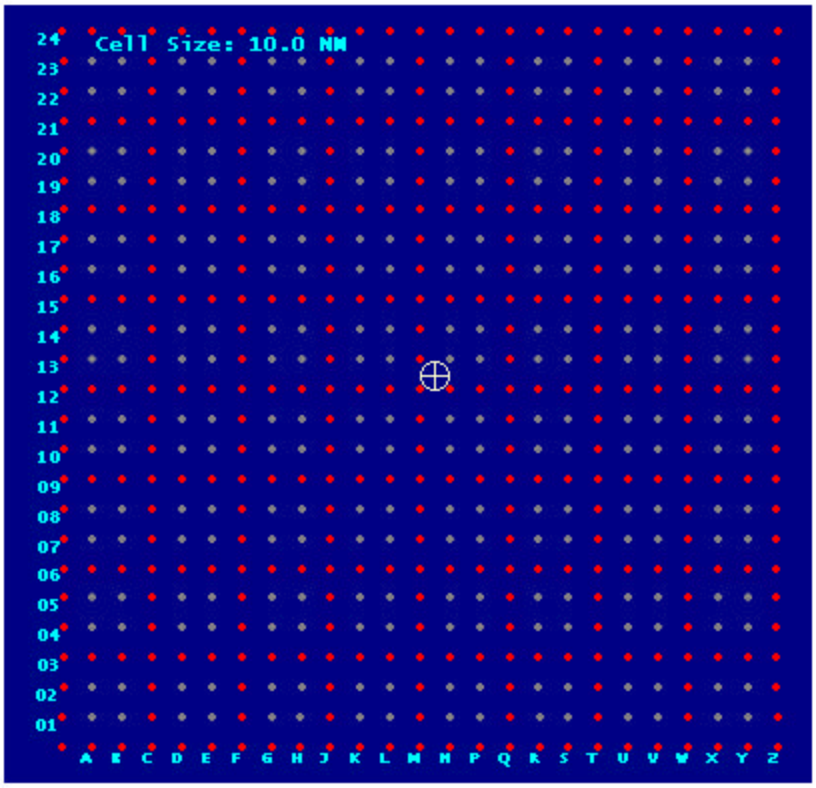
The Insert menu contains the Four Whiskey and Screen Kilo options.

## Four Whiskey

Choose the Four Whiskey option to display the Four Whiskey Create window.

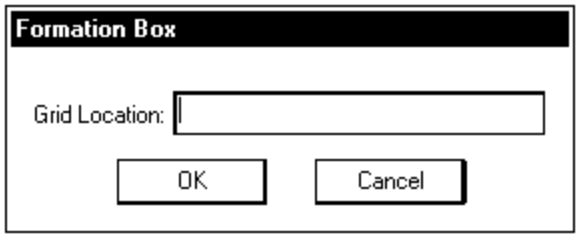



A grid also appears in the map window.




The general strategy for creating a Four Whiskey formation is as follows:

1. Click on the Add FourWhiskey Ship tool from the toolbar in the Four Whiskey Create window to display the Formation Box window.

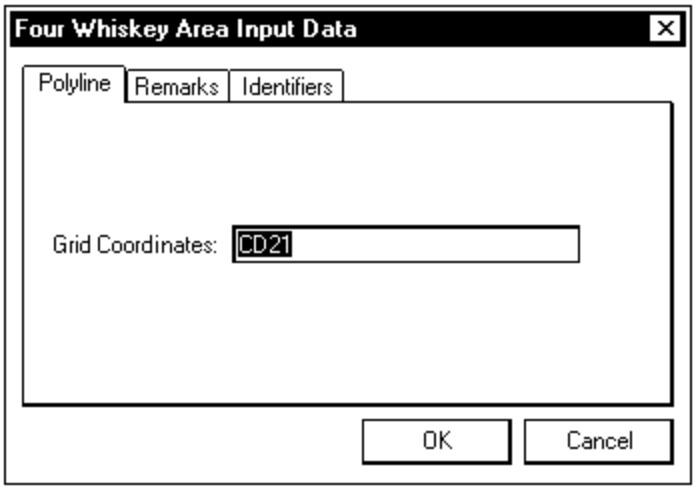



Enter Grid coordinates to create a patrol area box for one of the units protecting the HVU. The center point in the grid represents the HVU. Grid coordinates should be entered with all the letters first, followed by the numbers. For example, enter KN1214 to create a rectangular patrol area from K to N horizontally and from 12 to 14 vertically. You may create a non-rectangular patrol area by adding a '+' sign and then additional coordinates (example: KN1214+N15).

Click the OK button and the new patrol area box appears in the list in the Four Whiskey Create window and also in the formations list. The patrol area also appears in the grid. Ship1 is automatically assigned as the name of the first patrol area, followed by Ship2, etc.

2. Double-click the object name in the Four Whiskey Create window to display an edit window for the box. This allows you to change any of the box dimensions, change the name, and enter any remarks about the box.
3. Continue to perform steps 1-2 to add additional boxes to the grid.
4. Click the OK button from the Four Whiskey Create window to save the new formation.

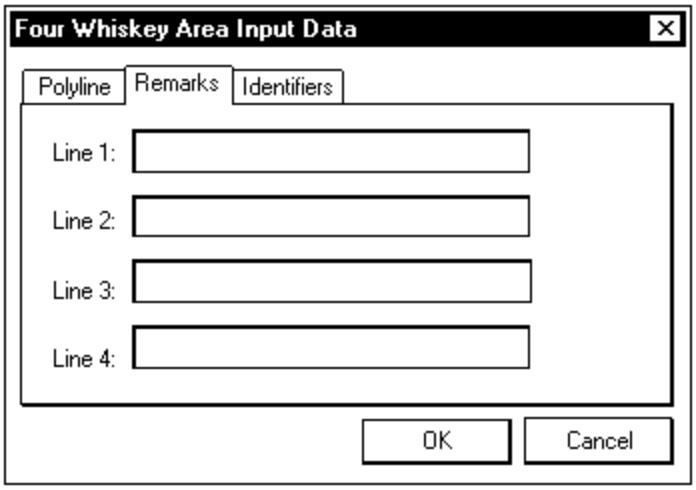
To edit a patrol area box, double-click the box in the Four Whiskey Create window list to display the Four Whiskey Box Input Data window.




The Four Whiskey Box Input Data window contains three tabs to allow you to enter different information about the box. The Polyline tab is the default tab and displays the following field.

**Grid Coordinates**
Edit the grid coordinates as appropriate. These should be entered with all grid letters first, followed by grid numbers (example: CF0406).

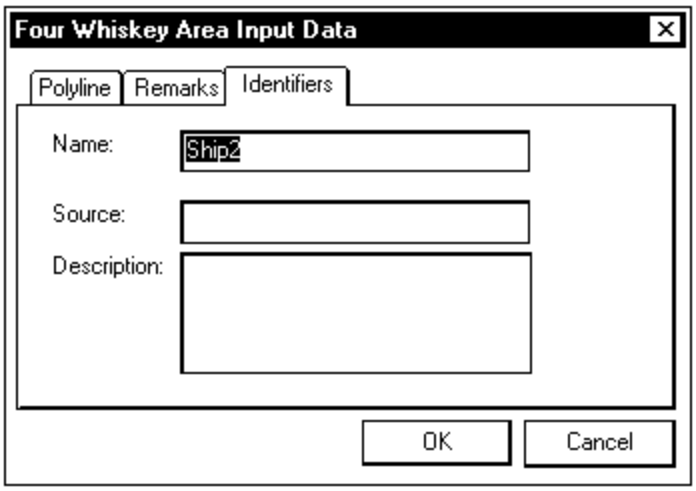
Click the Remarks tab to display additional box edit fields.




View and modify the fields under the Remarks tab as appropriate.

**Line 1 - Line 4**
Four lines are provided to enter remarks about the box.

Click the Identifiers tab to display additional box edit fields.




View and modify the fields under the Identifiers tab as appropriate.

**Name**
Enter a name for the box. A default name of Ship1 appears for the first box, Ship2 for the second, etc. When this field is changed, the new name will appear in the formations list after the OK button is clicked for the Four Whiskey Box Input Data window.

**Source**
Enter the name of the local command.

**Description**
Enter a brief description of the box.

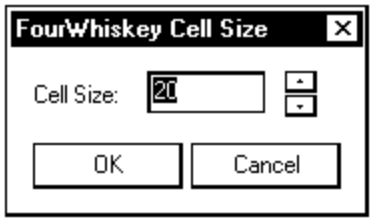
When you finish entering information into the fields in the Four Whiskey Box Input Data window, click the OK button to save any changes to the box. Note that the box is not permanently saved until the OK button is clicked from the Four Whiskey Create window.

The Four Whiskey Create window contains a toolbar.

The options on the toolbar include Add FourWhiskey Ship, Change Cell Size, 24 Cells, 48 Cells, and Recenter PIM.

**Add FourWhiskey Ship**
Use this option to place a box in the four whiskey grid, as described above.

**Change Cell Size**
Use this option to change the cell size in the grid. Click this button to display the Four Whiskey Cell Size window.



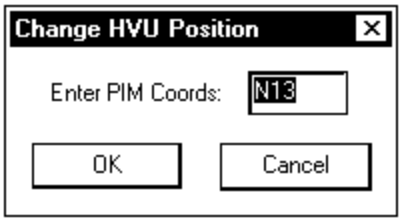

The current cell size is displayed in the Cell Size field. Click the up or down arrows to change the cell size and click the OK button to accept the new setting.

**24 Cells**
The grid can be displayed as a 24-cell grid or a 48-cell grid. If it is currently a 48-cell grid, use this option to change it to a 24-cell grid.

**48 Cells**
The grid can be displayed as a 24-cell grid or a 48-cell grid. If it is currently a 24-cell grid, use this option to change it to a 48-cell grid.

**Recenter PIM**

By default, the circle and crosshair symbol representing the HVU is located at the center of the grid. Use this option to move it to another position in the grid. Click the Recenter PIM button to display the Change HVU Position window.




The current HVU position is displayed in the Enter PIM Coords field. Enter a new coordinate and click the OK button to accept the new setting. When the HVU position is changed, the HVU symbol moves in the grid.

When you finish making changes to the formation, click the OK button from the Four Whiskey Create window to save the formation (or click the Cancel button to discard it).

### *Other Four Whiskey Editing Features*

To edit an existing Four Whiskey formation, double-click on the formation in the formations list to display the Four Whiskey Edit window. This is basically the same window as the Four Whiskey Create window with the patrol area boxes already assigned.

When the Four Whiskey Edit window or Four Whiskey Create window and the grid is open, you may click directly on any open area of the grid to add a new box. If the added area is bordering an existing patrol area, it will be added to that patrol area.

You may click directly on a filled area of the grid to delete that box. For example, if there is a box at N08 and you click directly on that box, it will be deleted and its entry will be removed from the list in the Four Whiskey Edit window. If you click directly on a box within a larger patrol area box, that box will be deleted from the patrol area, but the rest of the patrol area will remain.

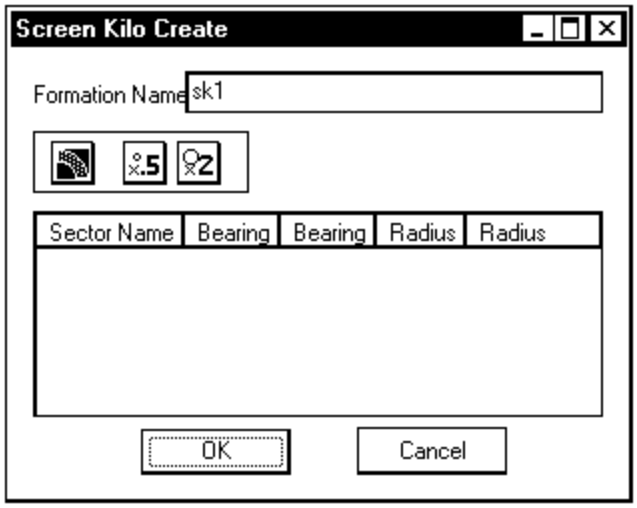
If clicking on a box to delete it from the grid causes a patrol area box to be split into two separate patrol area boxes, those two patrol area boxes are automatically created in the list in the Four Whiskey Edit window. Likewise, if clicking on an open area in the grid causes two patrol area boxes to be connected, then those patrol

area boxes are merged into one patrol area in the list in the Four Whiskey Edit window.

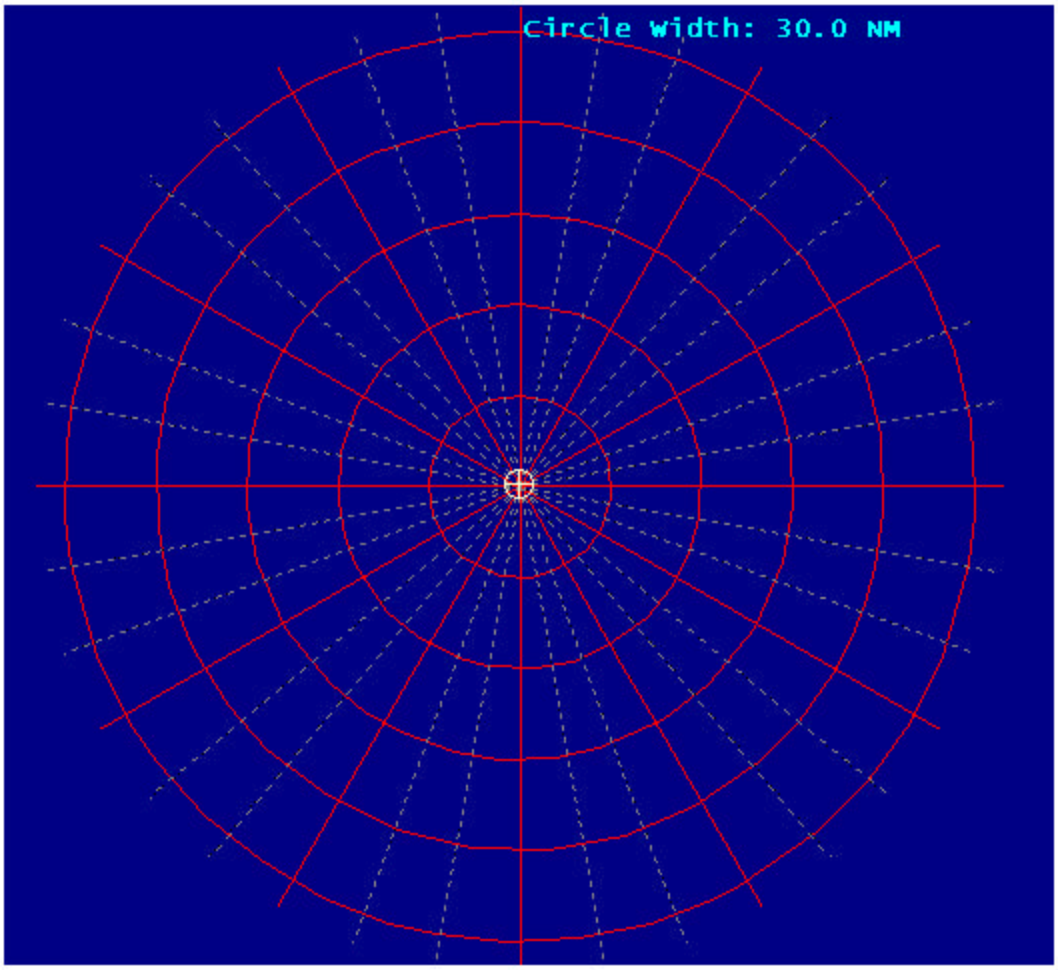
When you finish making changes to the formation, click the OK button from the Four Whiskey Edit window to save the changes (or click the Cancel button to discard them).

## Screen Kilo

Choose the Screen Kilo option to display the Screen Kilo Create window.




A circular grid also appears in the map window.




The general strategy for creating a Screen Kilo formation is as follows:

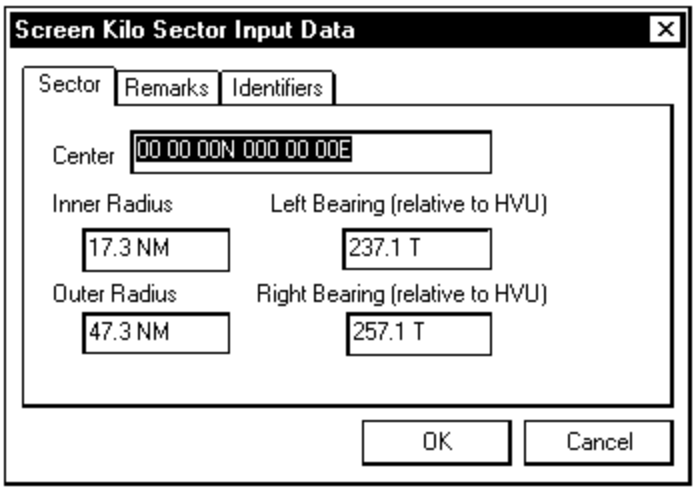
1. Click on the Add Screen Kilo Sector tool from the toolbar, then click directly onto the grid to place a sector within the grid. The sector represents a patrol area for one of the units protecting the HVU. The center point in the grid represents the HVU.
2. Click on the border of a sector in the grid to display little white squares (dragpoints). Drag any of the dragpoints to change the size of the sector.
3. Double-click the border of the sector (or double-click the object name in the Screen Kilo Create window) to display an edit window for the sector. This allows you to change any of the sector dimensions, change the sector name, and enter any remarks about the sector.
4. Continue to perform steps 1-3 to add additional sectors to the grid.
5. Click the OK button from the Screen Kilo Create window to save the new formation.

When a sector is placed on the grid, an entry for that sector appears in the Screen Kilo Create window. An entry for the sector also appears in the formations list. There are two ways to edit a sector:

?? Double-click the border of the sector.

?? Double-click the sector in the Screen Kilo Create window list.

When one of these methods is used, the Screen Kilo Sector Input Data window appears.




The Screen Kilo Sector Input Data window contains three tabs to allow you to enter different information about the sector. The Sector tab is the default tab and displays the following fields.

**Center**

This displays the center point of the sector. This is also the center point of the grid, which is the HVU location. When creating a sector, this will always be at the 00 00 00N 000 00 00E lat/lng point. This field cannot be edited here.

(Note that the center point can be moved to a different lat/lng location, but this can only be done when activating the formation in the map window. Refer to the Activate/Deactivate Formation section below for details about this.)

**Inner Radius**

This displays the inner radius of the sector, measured from the center point. Edit this as appropriate

**Outer Radius**
This displays the outer radius of the sector, measured from the center point. Edit this as appropriate.

**Left Bearing (relative to HVU)**
This displays the left bearing of the sector, measured from the center point to left edge of the sector. Edit this as appropriate.

**Right Bearing (relative to HVU)**
This displays the right bearing of the sector, measured from the center point to right edge of the sector. Edit this as appropriate.

The Remarks and Identifiers tabs contain fields that are the same as those that appear in the Four Whiskey Box Input Data window. Refer to the documentation for the Four Whiskey Box Input Data window above for complete descriptions of these fields.

When you finish entering information into the fields in the Screen Kilo Input Data window, click the OK button to save any changes to the sector. Note that the sector is not permanently saved until the OK button is clicked from the Screen Kilo Create window.

The Screen Kilo Create window contains a toolbar.

The options on the toolbar include Add Screen Kilo Sector, Half Reference Grid, and Double Reference Grid.

**Add Screen Kilo Sector**
Use this option to place a sector in the screen kilo grid, as described above.

**Half Reference Grid**
The grid width can be increased or decreased. Use the Half Reference Grid to decrease the grid width by half. The minimum grid width is 7.5 NM.

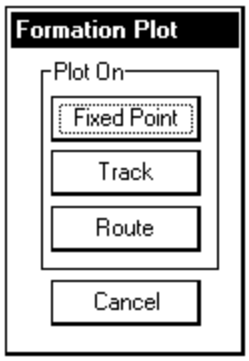
**Double Reference Grid**
The grid width can be increased or decreased. Use the Double Reference Grid to double the grid width. The maximum grid width is 120 NM.

When you finish adding and editing sectors to the formation, click the OK button from the Screen Kilo Create window to save the formation (or click the Cancel button to discard it).

## Activate/Deactivate Formations

Four Whiskey and Screen Kilo formations can be activated and displayed in the map window. The checkboxes in the Formations list show the current active / inactive plotting status of every formation, box, and sector.

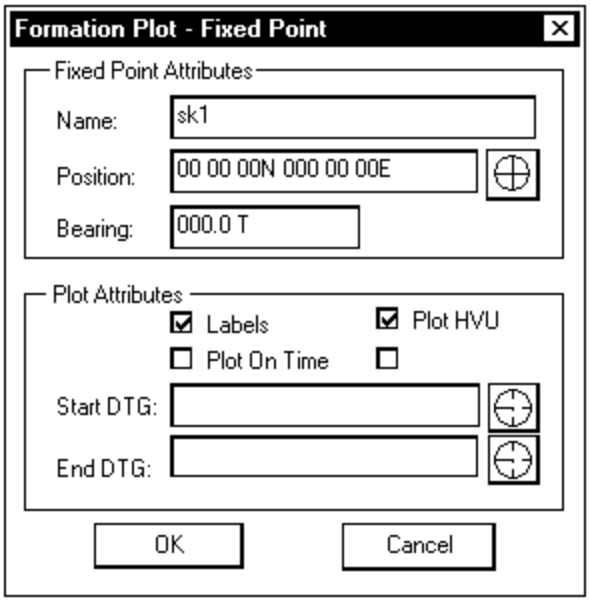
Click a checkbox to activate / deactivate a formation, box, or sector. When activating a formation, the Formation Plot window appears.




When a formation is activated, it can be plotted based on a fixed point position, or it can be attached to a track, usually the HVU track. Note that the Route button is currently inactive.

### *Plot Based on Fixed Point*

To plot the formation based on a fixed point position, click the Fixed Point button to display the Formation Plot - Fixed Point window.




The Formation Plot - Fixed Point window contains fields for you to choose a fixed point position as well as some other plot attributes.

**Name**
This displays the name of the formation. Edit this as appropriate.

**Position**
This displays the position of the HVU in the formation. To choose a new position, enter the position from the keyboard or enter the position automatically as follows:

1. Click the crosshair button to the right of the Position field.
2. Click a position in the map window.

**Bearing**
This displays the bearing of the HVU. Edit this as appropriate.

**Labels Checkbox**
Click this checkbox to display labels in the map window for the HVU, boxes, and sectors. If this checkbox is blank, labels will not appear.

**Plot On Time Checkbox**
Click this checkbox to display the formation in the map window for a specified time period. This checkbox works in conjunction with the Start DTG and End DTG fields. When this checkbox is clicked, those fields become active. Enter start and end DTGs in those fields to set the time period for the formation to appear.

**Plot HVU Checkbox**
Click this checkbox to display the HVU in the map window or leave this checkbox blank and the HVU will not appear.

**Plot Grid Checkbox**
This checkbox is only active for Four Whiskey formations. Click this checkbox to display the grid in the map window.

**Start DTG**
If the Plot On Time checkbox is clicked, this field becomes active. Enter the start time for the formation to plot in the map window. Enter the DTG from the keyboard or enter the current DTG automatically by clicking the crosshair button to the right of the field. If the current DTG is brought into this field, edit it as appropriate.

**End DTG**
If the Plot On Time checkbox is clicked, this field becomes active. Enter the end time for the formation to plot in the map window. Enter the DTG from the keyboard or enter the current DTG automatically by clicking the crosshair button to the right of the field. If the current DTG is brought into this field, edit it as appropriate.

Click the OK button to accept the plot settings. If the Plot On Time checkbox is blank, the formation will plot in the map window with the chosen plot settings and a checkmark appears in the formations list for the formation.

If the OK button is clicked when the Plot On Time checkbox is checked, the formation will not plot in the map window until the Start DTG time. A checkmark will not appear in the formations list before the Start DTG time occurs. When the Start DTG time occurs, the formation will plot in the map window and a checkmark will appear in the formations list. When the End DTG time occurs, the formation will disappear from the map window and the checkmark will disappear from the formation in the formations list.

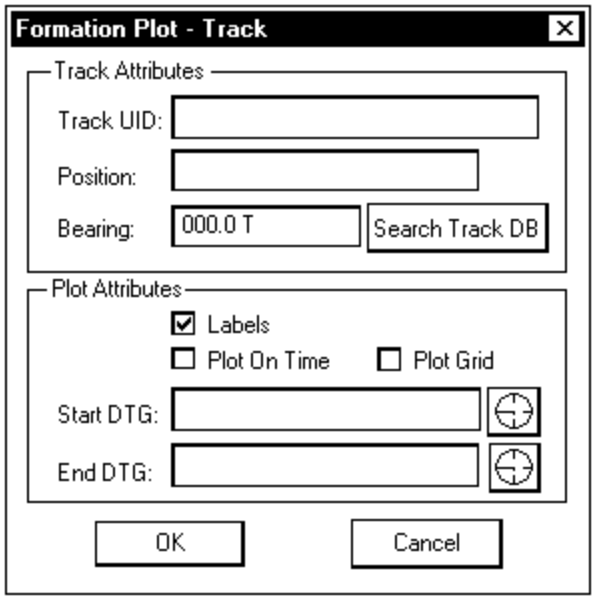
Click the Cancel button to exit from the Formation Plot - Track window without plotting the formation.

### *Plot Based on Track*

A formation can be plotted based on a track. When plotted for a track, the track becomes the HVU point and the formation follows the track as it moves. The formation will be rotated in the map window based on the bearing of the track.

Before clicking the checkbox in the formations list for a formation, you may select a track. When a track is selected before this option is used, the Track UID will automatically be entered into this option. If multiple tracks are selected before this option is used, a select window will appear and you can choose the track from the list. If no tracks are selected before this option is used, you must enter the track UID

To plot the formation based on a track, click the Track button from the Formation Plot window to display the Formation Plot - Track window.




The Formation Plot - Track window contains fields for you to choose a track as well as some other plot attributes.

**Track UID**

This displays the track UID. If a track is already selected, the Track UID automatically appears in this field and this field is not editable. If no track is selected, enter the Track UID of the track that will be used for this formation.

**Position**

This displays the position of the HVU in the formation. If a track is already selected, the position automatically appears in this field and this field is not editable.

**Bearing**

This displays the bearing of the HVU. If a track is already selected, the bearing automatically appears in this field and this field is not editable.

**Search Track DB**
This button is not currently active.

**Labels Checkbox**
Click this checkbox to display labels in the map window for the HVU, boxes, and sectors. If this checkbox is blank, labels will not appear.

**Plot On Time Checkbox**
Click this checkbox to display the formation in the map window for a specified time period. This checkbox works in conjunction with the Start DTG and End DTG fields. When this checkbox is clicked, those fields become active. Enter start and end DTGs in those fields to set the time period for the formation to appear.

**Plot Grid Checkbox**
This checkbox is only active for Four Whiskey formations. Click this checkbox to display the grid in the map window.

**Start DTG**
If the Plot On Time checkbox is clicked, this field becomes active. Enter the start time for the formation to plot in the map window. Enter the DTG from the keyboard or enter the current DTG automatically by clicking the crosshair button to the right of the field. If the current DTG is brought into this field, edit it as appropriate.

**End DTG**
If the Plot On Time checkbox is clicked, this field becomes active. Enter the end time for the formation to plot in the map window. Enter the DTG from the keyboard or enter the current DTG automatically by clicking the crosshair button to the right of the field. If the current DTG is brought into this field, edit it as appropriate.

Click the OK button to accept the plot settings. If the Plot On Time checkbox is blank, the formation will plot in the map window with the chosen plot settings and a checkmark appears in the formations list for the formation.

If the OK button is clicked when the Plot On Time checkbox is checked, the formation will not plot in the map window until the Start DTG time. A checkmark will not appear in the formations list before the Start DTG time occurs. When the Start DTG time occurs, the formation will plot in the map window and a checkmark will appear in the formations list. When the End DTG time occurs, the formation will disappear from the map window and the checkmark will disappear from the formation in the formations list.

Click the Cancel button to exit from the Formation Plot - Track window without plotting the formation.

### *Activate/Deactivate Boxes, Sectors, and HVU*

When a formation is activated and displayed in the map window, you may activate or deactivate the individual boxes and sectors within the formation. To activate / deactivate a box or sector, click the checkbox for that box or sector from the formations list. When active, the box / sector and its label (if labels are set to display) both appear in the map window. When deactivated, both the box / sector and its label disappear from the map window.

For active formations plotted to a fixed point, an HVU entry appears in the formations list for that formation. The HVU entry displays a circle in the formations list and has the same name as the formation name. Click the HVU checkbox to activate / deactivate the HVU symbol and label in the map window.

### Edit Formations

To edit a formation, double-click the formation name or any box or sector within the formation in the formation list to display the Edit window and the grid. Edit the formation as appropriate. Click the OK button from the Edit window to save any changes. Note that modifications are not permanently saved until the formation is saved from the formations list with the right pop-up Save option.

When changes are made to a formation, an asterisk appears next to the formation name in the formations list. The asterisk remains next to the name until the formation is permanently saved. Use the Save option from the formations list pop-up menu to permanently save the changes.

## Formations Menu

The Formations menu contains the Import and Export options.

### Import

Use this option to import formations from the UB host machine into your C2PC workstation. Only files added or modified on the UB host since the last import are imported. (Note that the screen kilo and four whiskey formations paths on the UB host machine must be set for this option to work. Refer to Tools:Options:Import Tab for details about specifying these paths to the UB host machine.)

To import four whiskey formations, choose the Four Whiskey option from the Import cascading menu. To import screen kilo formations, choose the Screen Kilo option from the Import cascading menu.

When either of these options is chosen, formations are automatically imported. An Import Formations window appears to display the status of the import process. When finished, this window automatically disappears and the imported formations display in the formations list.

### Export

Select a formation from the list and use the appropriate cascading option under the Export option to export it to the UB host machine. (Note that the screen kilo and four whiskey formations paths on the UB host machine must be set for this option to work. Refer to Tools:Options:Import Tab for details about specifying these paths to the UB host machine.)

## Formations List Pop-Up Menu

There is a pop-up menu associated with the formations list. To access this pop-up menu, move the mouse pointer over a formation or formation object in the formations list and click the right mouse button. The following pop-up options are available.

**Toggle Visible**

Use this option to set a formation as the active file. The active file displays in bold in the list. When any of the tools are used to add a formation object, the object will be added to the active formation.

**Edit**

Use this option to edit the currently selected formation or formation object.

**Save**

If a formation has been created or modified, an asterisk (*) displays to the right of the name. Use the Save option to permanently save all changes to the formation.

**Restore**

If a formation has been modified, an asterisk (*) displays to the right of the name. When the asterisk displays, the changes have not yet been permanently saved. Use the Restore option to discard all changes to

the formation and restore it to its original state before the changes were made.

**Cut**
Use the Cut option to delete a selected formation object and save it to the clipboard. You may then use the Paste option to paste the object into the current formation or another formation if you wish.

**Copy**
Use the Copy option to copy a selected formation to the clipboard. The selected object remains in the formation. You may then use the Paste option to paste the object into the current formation or another formation if you wish.

**Paste**
Use the Paste option to paste a formation object from the clipboard into the active formation file. A formation object can be placed in the clipboard with the Copy or Cut option.

**Delete**
Use the Delete option to delete a formation or formation object.

## UNITS

Choose Units from the Tools menu to add some Units menus to the menu bar and display a list of units, targets, and operations to the left of the map window. The list is displayed in a tree structure, with branches depicting the relationship between items.

A Units database is a file containing units, targets and operations.

? *Units* represent operational components (aircraft, land units, ships), equipment, and installations.

? *Targets* are objects that are designated for attack.

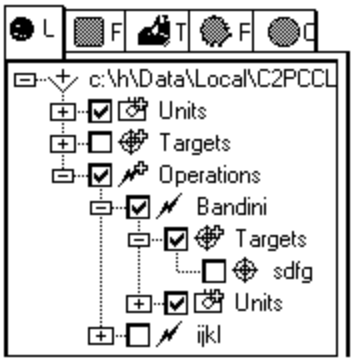
? *Operations* scenarios can be constructed to encompass any number of units and targets.

Units and targets are operator-created objects that, when plotted on a tactical display map, support the planning and execution of tactical field operations. Unit and target objects can depict both fixed geophysical and tactical data.

It should be stressed that the Units option is intended to be used as a planning tool. Unlike tracks that are reported with TrackPlot, reports are not received for units and

targets. Any updates made for unit and target positions must be made by the operator.

A units list appears in the left portion of the map window when the Units option is chosen from the Tools menu.




*Units List*

The units list that appears in the left portion of the map window is organized in a tree structure, with different levels of information displayed. The top level of the overlay list shows the unit database. The next level shows the Units, Targets, and Operations. Individual units and sub-units are contained beneath the Units level. Individual targets are contained beneath the Targets level. Individual Operations and their target and unit components are contained beneath the Operations level.

If a plus sign (+) button appears to the left of an item in the units list, then there are sub-items under that item. Click on the plus sign button to display the sub-items contained within that item. The plus sign button changes to a minus sign (-) when sub-items are shown for an item. Click a minus sign button to turn off the listing of the sub-items.

To change the hierarchy of a unit or target, or to move units and targets into an operation, highlight the item and drag to the appropriate location in the list.

Each item in the units list is preceded by a checkbox. Click the checkbox ON to plot the item in the active map window. Click the checkbox OFF to remove the item from the active map window. Database items are plotted using standard unit symbology.

There is a pop-up menu associated with the units list. To access the pop-up menu, move the mouse pointer over an item in the list and click the right mouse button. The units list pop-up options are discussed in detail in the Units List Pop-up Menu subsection of this section.

Some new Units menus appear on the menubar, containing options related only to units. These menus include Edit, View, Insert, Database, and Units. A Units Toolbar also appears below the main toolbar. Use the Units menus to perform many operations related to units.

## Edit Menu

The Edit menu contains the Copy, Delete, Undo, and Redo options.

### Copy

Use this option to make a copy of a unit, target, operation, or database.

To copy a unit, target, or operation, highlight one item in the units list (or in the Summary window) and choose Copy. A Copy window opens. Type a name for the copy and click OK. The new item appears in the units list in the same hierarchy as the original. Like any other item in the list, this new item can be dragged to a new location.

To copy a database, highlight the database name at the top of the units list and choose Copy. A window similar to the Export Database window opens. Type a name and choose a directory for the database copy and click OK.

### Delete

Use this option to delete a unit, target, or operation from the database. Highlight one item and choose Delete. The item disappears from the units list.

### Undo

Use this option to undo the most recent edit or delete action for units.

The Undo button on the Units toolbar contains a down arrow. Click this down arrow to view the maximum dialog. This dialog displays the maximum number of actions that can be undone. For example, if this number is 10, only the last 10 deletes and edits can be undone.

### Redo

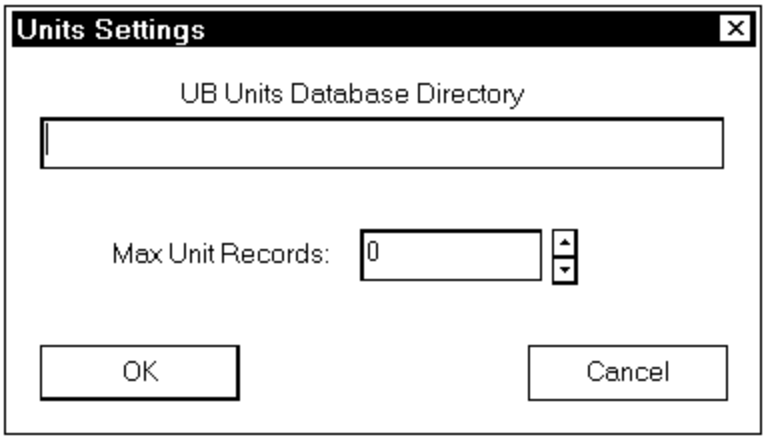
Use this option to redo the last action performed with the Undo option. For example, if the Undo option was used to undo an edit to a unit, the Redo option will restore that edit.

## View Menu

The View menu contains the Units Settings, Units Plot Options, Summary, and Units Toolbar options.

### Units Settings

Use this option to specify the directory that contains the units database files on the UB host machine and define the maximum number of records to display in the units list. Choose Settings to display the Units Settings window.




Type in the pathname of the directory that contains the database files. Use the arrows beside the Max Unit Records field (or type a value) to set the maximum number of records to display in the units list.

### Units Plot Options

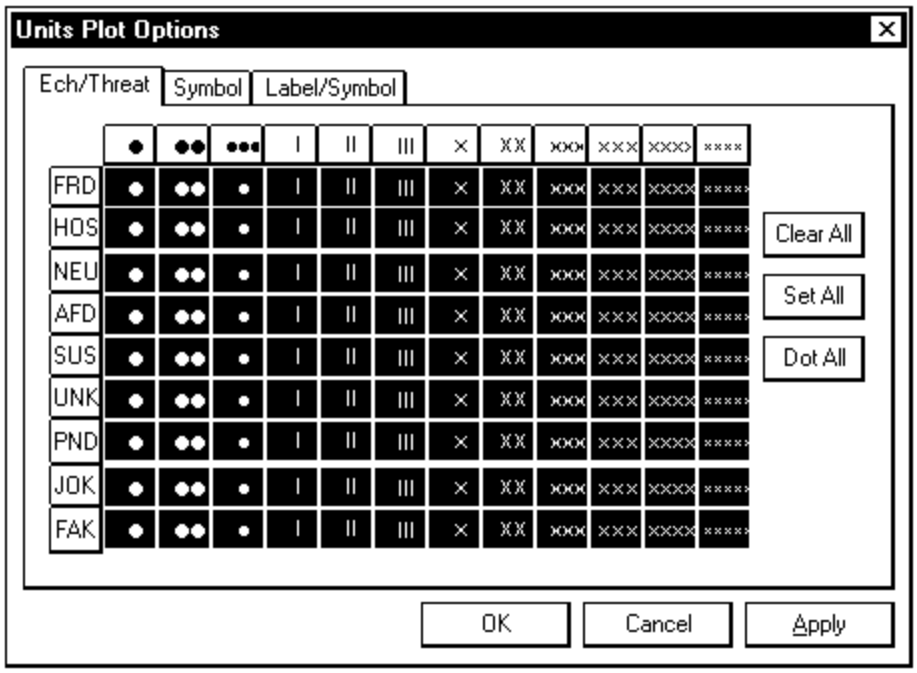
Use this option to determine the way units and targets plot in the map window. Units and targets can be set to appear or not based on some of their attributes.

Choose Plot Options to display the Units Plot Options window. If the Symbol Mode is set to MIL 2525A, the Units Plot Options window contains three separate folders - Ech/Threat, Symbol, and Label/Symbol. If Symbol Mode is set to NTDS, this window contains only two tabs - Ech/Threat and Label/Symbol. (Symbol Mode is

set through Tools:Options.) Click on one of these tabs to view the plot settings available in that folder.

### *Ech/Threat*

The Ech/Threat folder allows you to use echelon level and threat to determine which units to display.




*Plot Options Properties Window - Ech/Threat Folder*

Use the Echelon buttons across the top and the Threat buttons on the left to specify the type of units you want displayed. Click an Echelon button to toggle a column of selections, click a Threat button to toggle a row of selections, or click an individual checkbox to toggle an individual selection. Clicking a row, column or individual selection toggles the selection between display on, display as dot, and do not display.

Click the Clear All button to toggle all checkboxes off. Click the Set All button to toggle all checkboxes on. Click the Dot All button to change all the symbols to dots.

The following is a description of the Ech/Threat view data items:

**Echelon Buttons**

From the Ech/Threat view, the buttons across the top of the Plot Options Properties window represent:

Squad

Section

Platoon / Detachment

Company / Battery / Troop

Battalion / Squadron

Regiment / Group

Brigade

Division

Corps

Army

Army Group / Front

Region

**Threat Buttons**

From the Ech / Threat view, the buttons down the left side of the Plot Options Properties window are:

FRD - Friendly, plotted as light blue

HOS - Hostile, plotted as red

NEU - Neutral, plotted as green

AFD - Assumed Friendly, plotted as light blue

SUS - Suspect (Assumed Hostile), plotted as red

UNK - Unknown (Evaluated), plotted as yellow

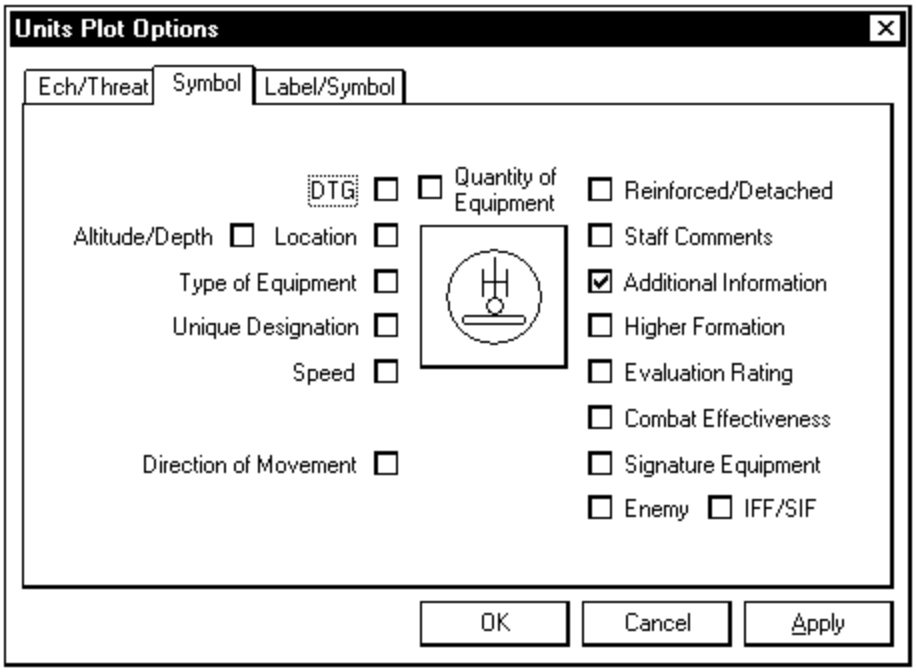
PND - Pending (Unknown, Unevaluated), plotted as yellow

JOK - Joker, plotted as red (JOK threat type is only available in Mil 2525A symbol mode)

FAK - Faker, plotted as red (FAK threat type is only available in Mil 2525A symbol mode)

### *Symbol*

The Symbol folder allows you to plot other items relating to units.




The Symbol tab displays checkboxes for many items associated with units. These checkboxes only have an effect if you are in Mil2525A symbol mode. If in NTDS mode, the unit name will be displayed next to the symbol, but no other items can be plotted.

If in Mil2525A symbol mode, click any of these checkboxes on to display the chosen information next to the unit in the map window. Click the checkboxes off to turn off the display of the chosen information.

**DTG**
Use this checkbox to toggle the display of the Start DTG for the unit on / off.

**Alt/Depth**
Use this checkbox to toggle on / off the display of altitude / depth for the unit.

**Location**
Use this checkbox to toggle on / off the display of the unit position.

**Type of Equipment**
Use this checkbox to toggle on / off the display of any equipment class or type information for the unit.

**Unique Designation**
Use this checkbox to toggle on/off the display of any unique designation information for the unit.

**Speed**
Use this checkbox to toggle on/off the display of the unit speed.

**Direction of movement**
Use this checkbox to toggle on/off the display of the unit course.

**Quantity of Equipment**
Use this checkbox to toggle on/off the display of any equipment quantity information for the unit.

**Reinforced/Detached**
Use this checkbox to toggle on/off the display of reinforced or detached information for the unit. If reinforced, this will display as a plus sign (+) in the map window. If detached, this will display as a minus sign (-) in the map window.

**Staff Comments**
Use this checkbox to toggle on/off the display of any staff comments for the unit.

**Additional Information**
Use this checkbox to toggle on/off the display of any additional information for the unit.

**Higher Formation**
Use this checkbox to toggle on/off the display of the higher echelon command for the unit.

**Evaluation Rating**
Use this checkbox to toggle on/off the display of the evaluation rating for the unit.

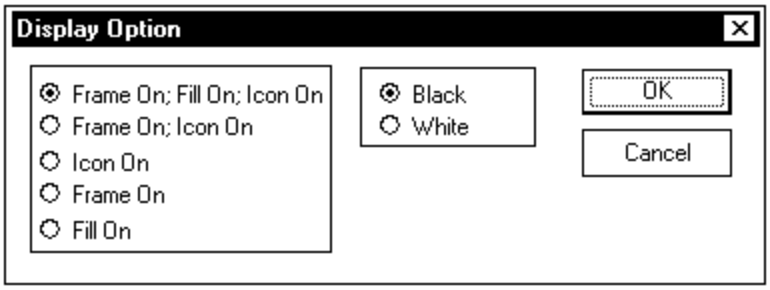
**Combat Effectiveness**
Use this checkbox to toggle on/off the display of combat effectiveness information for the unit.

**Signature Equipment**
Use this checkbox to toggle on/off the display of an exclamation point (!) if there are detectable electronic signatures for the unit.

**Enemy**
This checkbox currently is inactive. It is reserved for future use.

**IFF/SIF**
Use this checkbox to toggle on/off the display of the IFF/SIF identification mode and code for the unit.

Click on the symbol in the window to display the Display Option window.




The Display Option window allows you to turn on/off unit symbol features, and also change these features black or white.

There are three symbol features that can be turned on/off from this window including:

?? Frame - This is the line around the symbol.

?? Fill - This is the symbol color.

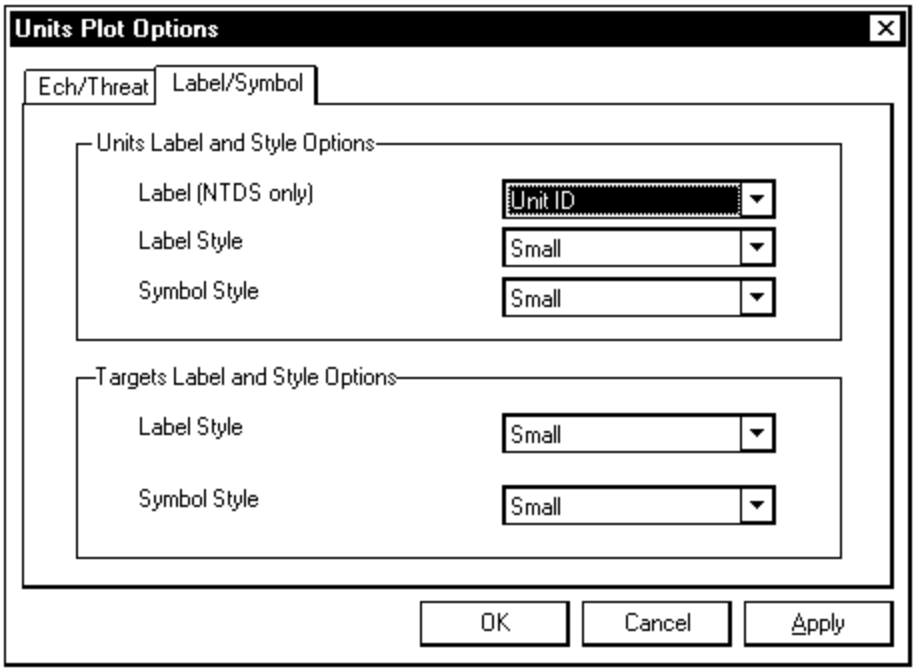
?? Icon - This is the icon displayed within the symbol.

Use the knobs in the left box to turn on/off these three symbol features.

The frame and icon can be colored black or white. Click the Black knob to color them black or the White knob to color them white.

### *Label/Symbol*

The Label/Symbol folder allows you to change the look of the unit labels and symbols in the map window.




*Unit Label and Style Options*

**Label (NTDS only)**

This field is only available if the Symbol Mode is set to NTDS. (Symbol Mode is set through Tools:Options.)

This field displays the current label type that appears for units in the map window. To choose a different label type, click the down arrow and choose a label type from the displayed choices.

**Label Style**

This field displays the current label size that appears for units in the map window. To choose a different label size, click the down arrow and choose a label size from the displayed choices.

**Symbol Style**

This field displays the current symbol size that appears for units in the map window. To choose a different symbol size, click the down arrow and choose a symbol size from the displayed choices.

*Targets Label and Style Options*

**Label Style**

This field displays the current label size that appears for targets in the map window. To choose a different label size, click the down arrow and choose a label size from the displayed choices.

**Symbol Style**
This field displays the current symbol size that appears for targets in the map window. To choose a different symbol size, click the down arrow and choose a symbol size from the displayed choices.

### *Apply, OK, and Cancel Buttons*

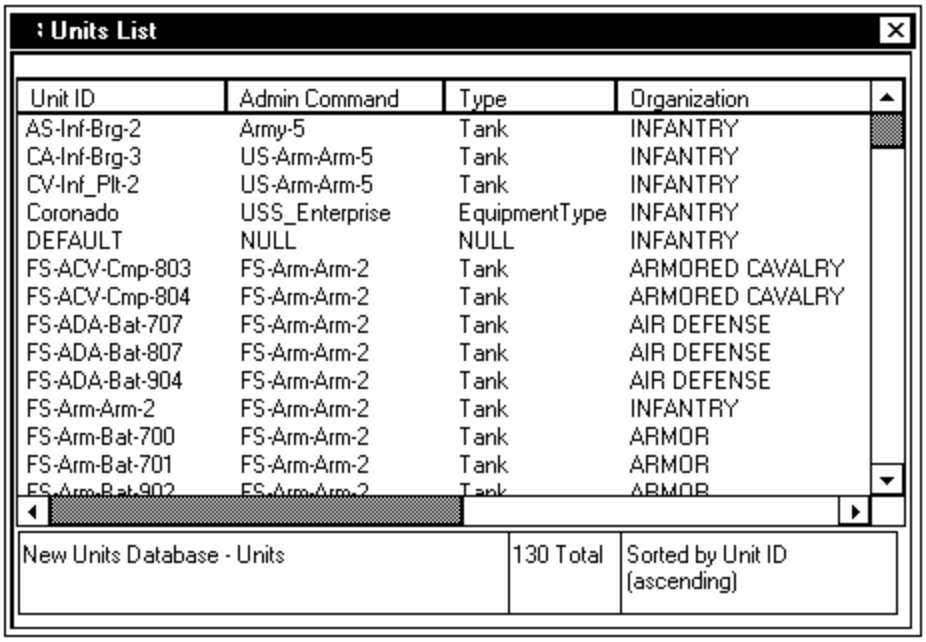
Click the Apply button to accept any changes to the plot settings and remain in the Units Plot Options window. Click the OK button to accept any changes to the plot settings and exit the Units Plot Options window. Click the Cancel button to discard all changes and exit the Units Plot Options window.

Note that all changes to plot settings will be retained in the system, even if C2PC is turned off and restarted.

## Summary

Use this option to display a summary window of units, targets, or operations in the system, including items that are not displayed in the map window. Definitions for the column headings can be found in the Amplify/Edit section.

Highlight a unit or target that has subordinate entries in the units list and choose Summary to display the Units List window. This will list the selected unit or target and all its subordinate entries.



Units List

| Unit ID | Admin Command | Type | Organization |
|---|---|---|---|
| AS-Inf-Brg-2 | Army-5 | Tank | INFANTRY |
| CA-Inf-Brg-3 | US-Arm-Arm-5 | Tank | INFANTRY |
| CV-Inf_Plt-2 | US-Arm-Arm-5 | Tank | INFANTRY |
| Coronado | USS_Enterprise | EquipmentType | INFANTRY |
| DEFAULT | NULL | NULL | INFANTRY |
| FS-ACV-Cmp-803 | FS-Arm-Arm-2 | Tank | ARMORED CAVALRY |
| FS-ACV-Cmp-804 | FS-Arm-Arm-2 | Tank | ARMORED CAVALRY |
| FS-ADA-Bat-707 | FS-Arm-Arm-2 | Tank | AIR DEFENSE |
| FS-ADA-Bat-807 | FS-Arm-Arm-2 | Tank | AIR DEFENSE |
| FS-ADA-Bat-904 | FS-Arm-Arm-2 | Tank | AIR DEFENSE |
| FS-Arm-Arm-2 | FS-Arm-Arm-2 | Tank | INFANTRY |
| FS-Arm-Bat-700 | FS-Arm-Arm-2 | Tank | ARMOR |
| FS-Arm-Bat-701 | FS-Arm-Arm-2 | Tank | ARMOR |
| FS-Arm-Bat-902 | FS-Arm-Arm-2 | Tank | ARMOR |

New Units Database - Units | 130 Total | Sorted by Unit ID (ascending)

The boxes at the bottom of the window display the type of summary, the total number of entries, and how the list is sorted. Click on any of the column headers to resort the list by the chosen header. Click again to display a reverse sort. Column heading for units are different from column headings for targets.

The Units List window displays the following columns of information:

for Units:

- Unit ID
- Admin Command
- Type
- Organization
- Echelon
- Flag
- Category
- Threat Class

for Targets:

- Target BE (Basic Encyclopedia)
- Type
- Priority
- Threat
- Objective
- Description

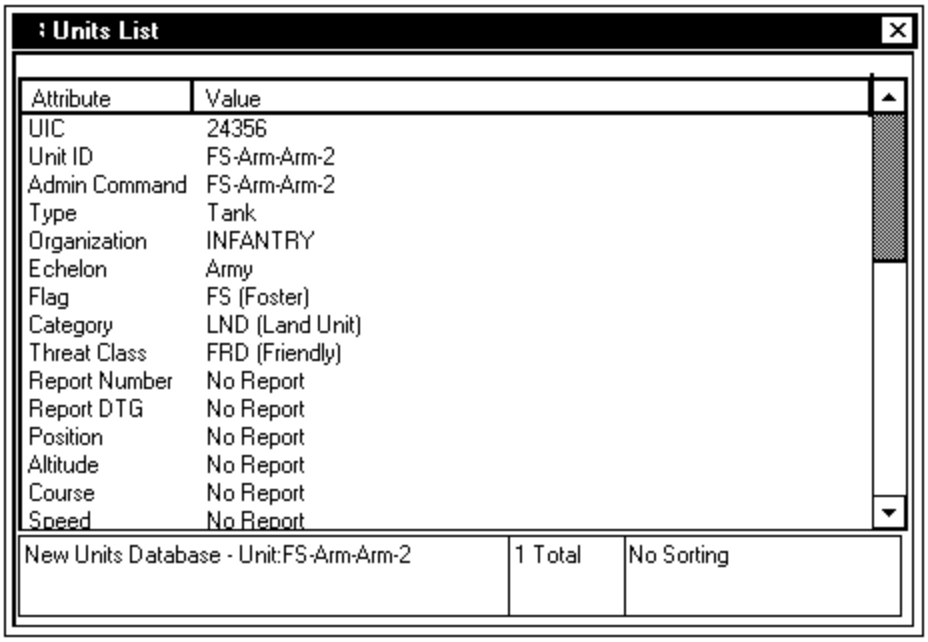
for Operations:

- Operation ID
- Operation Description
- Number of Units
- Number of Targets

for Databases:

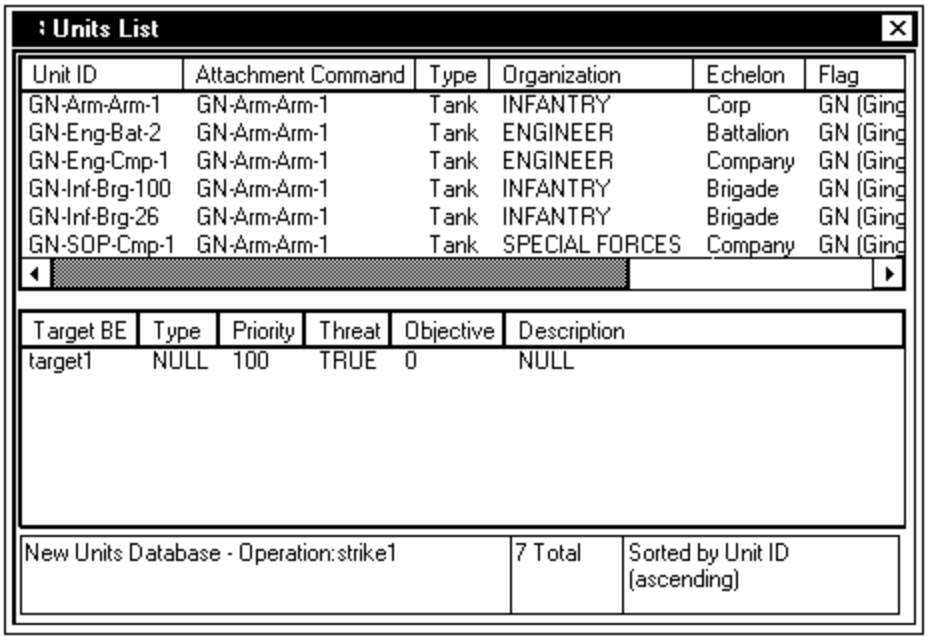
- DB Type
- DB Name
- Description

Highlight a single unit or target and choose Summary to display the following Units List window.




This window displays two columns of detailed information for the selected unit or target. All possible attributes for the unit or target are listed with the current value for each attribute.

Highlight one operation in the scroll list and choose Summary to display the following Units List window.




This window shows a list of units and a list of targets associated with the selected operation. A list of units is in the upper half of the window and a list of targets is in

the lower half of the window. Each list displays the same information as described for the units and targets windows above.

### Units Toolbar

Use the Units Toolbar option to toggle on/off the display of the Units toolbar. When the Units option is activated, the Units toolbar appears beneath the main toolbar.

*Units Toolbar*

The Units toolbar contains buttons to quickly access some of the options in the Units menus. In order, these buttons are Insert, Open unit database, Properties, Save Copy, Delete, Summary, Undo, and Redo. The Undo option contains a down arrow button which is unavailable from the Undo menu option and will be discussed in this section. For all the other buttons on this toolbar, refer to the documentation for these Units menu options for complete details about these options.

When the Undo option is active, click the down arrow to view a maximum number dialog.

Use the maximum number dialog for the Undo button to set the maximum number of undo operations that will be allowed. For example, if this is set to 1 and two separate deletes are performed, only the most recent delete can be undeleted.

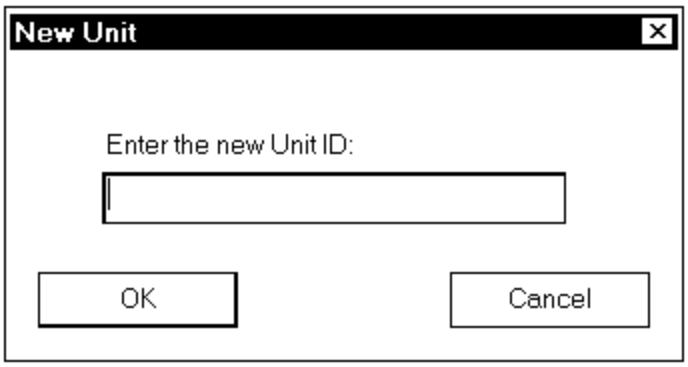
## Insert Menu

The Insert menu contains the New Item option.

### New Item

Use this option to add an item (unit, target, or operation) to the current database. Highlight one item in the tree within the group where you want to insert a unit.

Choose New Item to display the New Unit window (or New Target window if the item is a target, or New Operation window if the item is an operation).



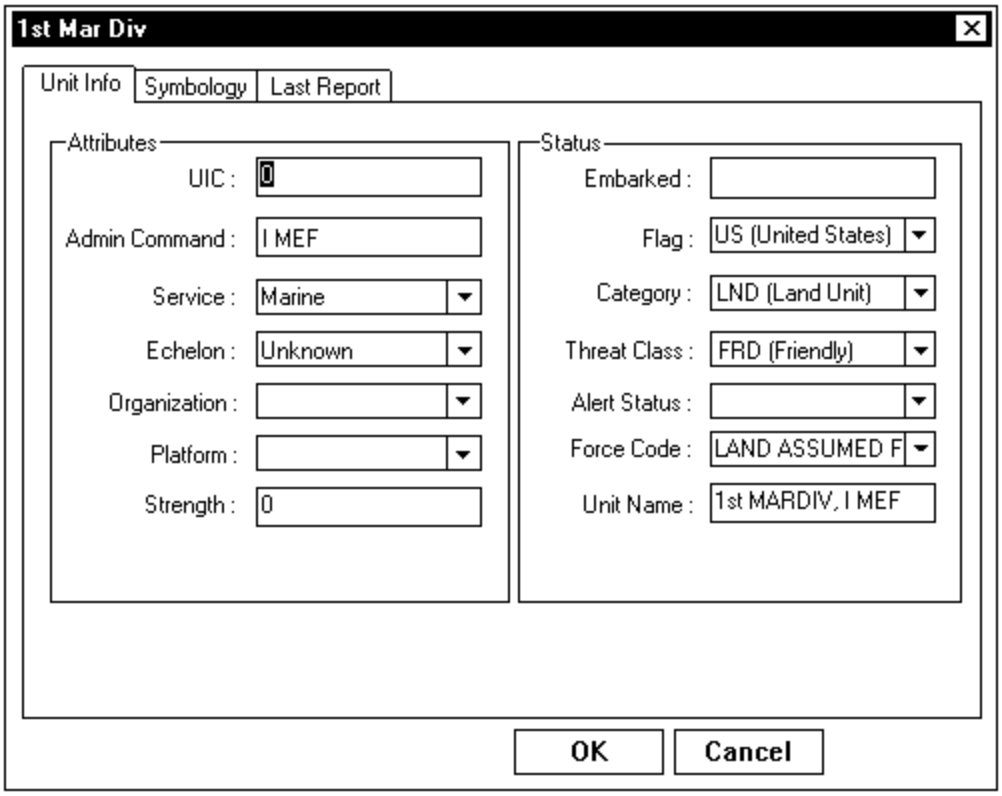

For units and targets, this window contains a single field to be used to identify the name of the unit or target. For units, enter the Unit ID name in the field. For targets, enter the Target BE in the field.

For operations, the New Operation window contains an Operation ID field and a Description field. Enter an operation ID and a short description of the operation in this window.

After entering identifying information about the unit, target, or operation, click the OK button to display a window containing properties information for the selected item. The properties window differs depending on whether the item is a unit, target, or operation.

### *Units*

If a unit is being created, the Units properties window appears when the OK button is clicked from the New Unit window. Note that this window also appears when a unit is selected from the Units list and the Units:Properties option is chosen.




The Units property window contains three tabs - Unit Info, Symbology / Modifiers, and Last Report. If the Symbol Mode is set to MIL 2525A, the second tab is Symbology; if NTDS, the second tab is Modifiers. (Symbol Mode is set through Tools:Options.) Click on one of these tabs to view the fields available in that folder.

*Unit Info Tab*

The Unit Info tab contains general information about the unit in two groups, Attributes and Status. Click on the down arrow to the right of a field to reveal a list of values for that field and select one, or type the information in the field.

*Attributes*

**UIC**
Unique unit identification number**.**

**Admin Command**
Administrative Command for a unit.

**Service**
Identifies the military affiliation—Air Force, Army, Coast Guard, Composite, Joint, Marine, Navy, or Unknown.

**Echelon**
Designates the organizational level of command.

**Organization**
Military element—for example Administrative, Air Cavalry, Weather.

**Platform**
Platform type for the unit.

**Strength**
Number of personnel associated with the unit.

*Status*

**Embarked**
Location or platform from which the unit is embarked (e.g., ENTERPRISE, LANGLEY).

**Flag**
Identifies the nationality of the unit, i.e., the country with which a symbol is associated.

**Category**
Category code:

AIR (Air Unit) / Air

FSH (Fishing Boat) / Surface

LND (Land Unit) / Ground

MER (Merchant Ship) / Surface

NAV (Naval Unit) / Surface

SUB (Subsurface Unit) / Surface

SUR (Surface Unit) / Surface

UNK (NA) / Other

**Threat Class**
Threat status classification:

AFD Unknown Assumed Friendly

FAK Faker

FRD Friendly

HOS Hostile

JOK Joker

NEU Neutral

PND Pending (Unevaluated)

SUS Suspect

UNK Unknown Evaluated

**Alert Status**

Units may be defined as alert or non-alert entities. For non-alert units, leave the field blank. For alert units, enter the proper alert classification:

Cleared Suspect

High Interest Target

Suspect Carrier

Target

**Force Code**

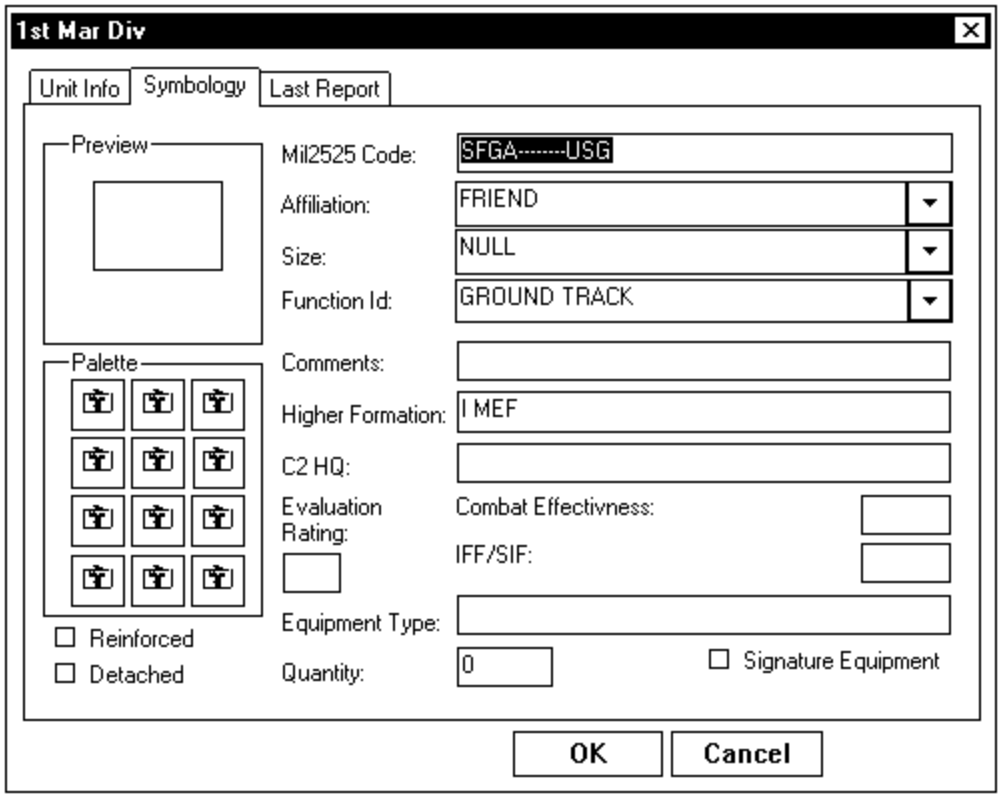
Indication of category and threat, for example, Land Friendly.

**Unit Name**

Name of the unit.

*Symbology Tab*

The Symbology tab only appears if the Symbol Mode is set to MIL 2525A. (Symbol Mode is set through Tools:Options.)




The following fields of information appear under the Symbology tab:

**Mil2525 Code**

The Mil2525 Code is a code that is automatically generated based on values chosen for the Affiliation, Size, and Function Id fields. This field cannot be edited.

**Affiliation**

This displays the currently selected affiliation. To select a different affiliation, click the down arrow and choose an affiliation from the displayed choices.

The affiliation determines the shape and color of the symbol in the map window.

**Size**

This displays the currently selected size of the unit. To select a different size, click the down arrow and choose a size from the displayed choices.

Small characters will appear above the symbol in the map window to represent the chosen size.

**Function Id**
This displays the currently selected function Id. To select a different function Id, click the down arrow and choose a function Id from the displayed choices.

The function Id determines the look of the icon within the symbol.

**Comments**
Enter any free text comments.

**Higher Formation**
Enter the number or title of the higher echelon command for the unit.

**C2 HQ**
Enter the name of a special C2 headquarters for the unit.

**Evaluation Rating**
Enter the evaluation rating (A1-F6) for the unit.

**Combat Effectiveness**
Enter the combat effectiveness information for the unit.

**IFF/SIF**
Enter the IFF/SIF identification mode and code for the unit.

**Equipment Type**
Enter any equipment class or type information for the unit.

**Quantity**
Enter any equipment quantity information for the unit.

**Signature Equipment**
Click this checkbox for detectable electronic signatures or leave this checkbox blank if there are no detectable electronic signatures.

**Reinforced**
Click this checkbox if the unit has additional resources allocated to it to reinforce it.

**Detached**
Click this checkbox if the unit has reduced resources.

**Preview box**
The Preview box shows what the symbol looks like. The symbol changes based on entries in the Affiliation, Size, and Function Id fields.

You can save the current symbol to the Palette by dragging the symbol from the Preview box to one of the nine Palette boxes.

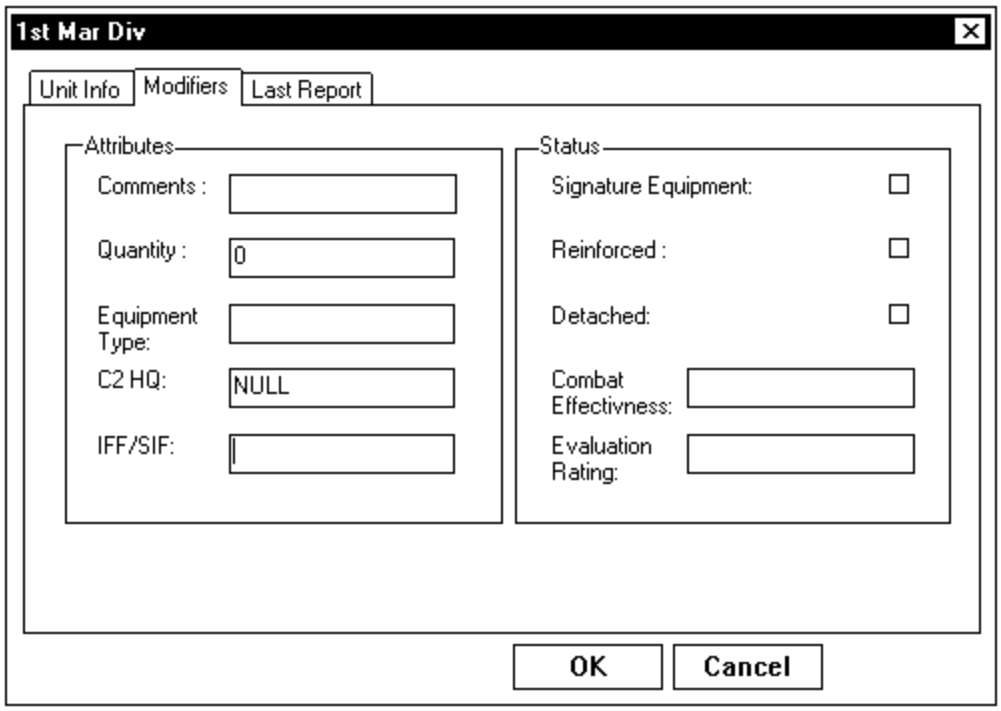
**Palette**

The Palette contains nine boxes that can be used to save symbol information. To save symbol information to the Palette, drag the symbol in the Preview box to one of the nine Palette boxes. Information that is saved for the symbol includes the values in the Mil2525 Code, Affiliation, Size, and Function Id fields.

To retrieve symbol information from the Palette, click on the Palette box containing the symbol information you want to retrieve. The values in the Mil2525 Code, Affiliation, Size, and Function Id fields change to the values from the saved symbol information and the symbol in the Preview box changes to the chosen symbol.

*Modifiers Tab*

The Modifiers tab only appears if the Symbol Mode is set to NTDS. (Symbol Mode is set through Tools:Options.)




The following fields of information appear under the Modifiers tab:

*Attributes*

**Comments**
Enter any free text comments.

**Quantity**
Enter any equipment quantity information for the unit.

**Equipment Type**
Enter any equipment class or type information for the unit.

**C2 HQ**
Enter the name of a special C2 headquarters for the unit.

**IFF/SIF**
Enter the IFF/SIF identification mode and code for the unit.

*Status*

**Signature Equipment**
Click this checkbox for detectable electronic signatures or leave this checkbox blank if there are no detectable electronic signatures.

**Reinforced**
Click this checkbox if the unit has additional resources allocated to it to reinforce it.

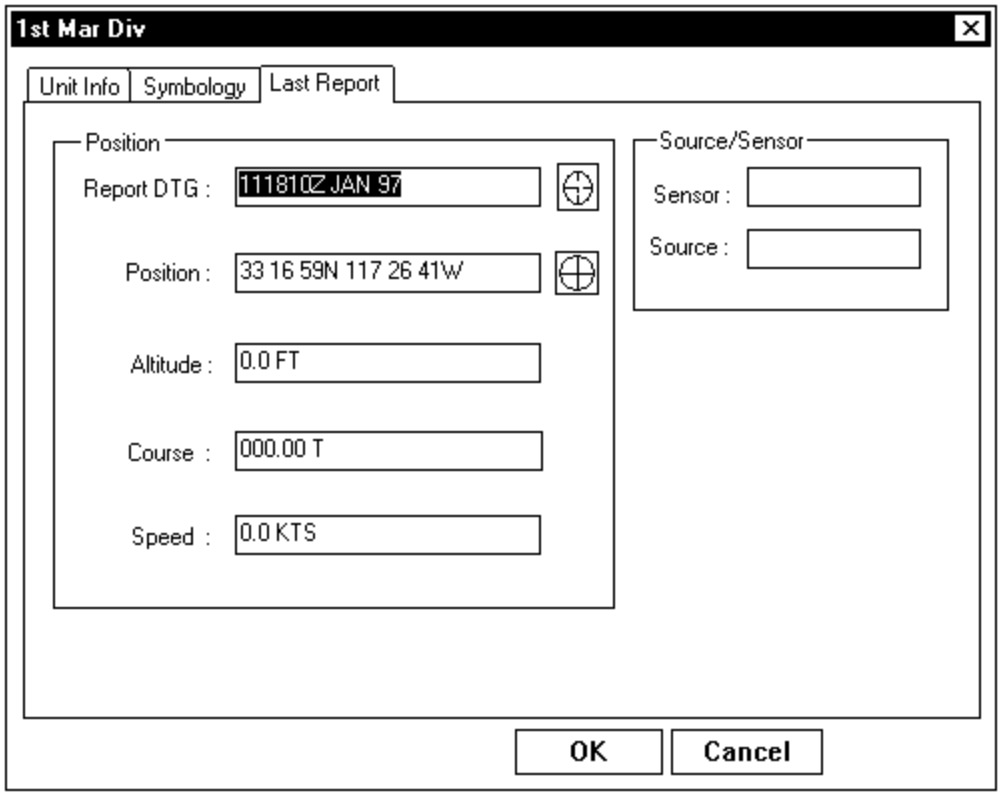
**Detached**
Click this checkbox if the unit has reduced resources.

**Combat Effectiveness**
Enter the combat effectiveness information for the unit.

**Evaluation Rating**
Enter the evaluation rating (A1-F6) for the unit.

*Last Report Tab*

The Last Report tab contains position information about the unit in two groups, Position and Source/Sensor.




*Position*

**Report DTG**

Alpha-numeric designation for the date / time; 15 character format is:

DDHHMMSSZ MON YY

where DD=day, HH=hour, MM=minutes, SS=seconds, Z is a constant, MON=3-character month code, YY=2-digit year.

Example: 021803:25Z FEB 98

**Position**

Position of the unit.

**Altitude**

Shows the flight level for aircraft, depth for submerged objects, and height of equipment or structures on the ground.

**Course**

Direction of movement.

**Speed**

Speed of movement.

*Sensor/Source*

**Sensor**
Sensor type used to pick up the unit at its last reported position. (Not yet implemented.)

**Source**
Two-character station source code. (Not yet implemented.)

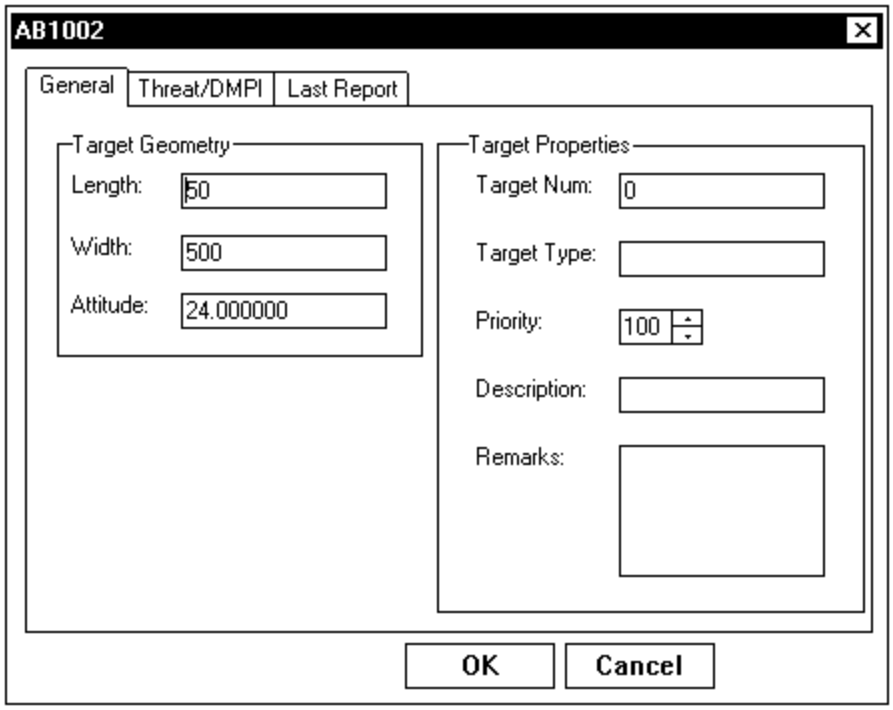
*OK and Cancel Buttons*

Click the OK button to accept any changes to the fields and exit the Units properties window. Click the Cancel button to discard all changes made and exit the Units properties window.

Note that all changes to units will be retained in the system, even if C2PC is turned off and restarted.

### *Targets*

If a target is being created, the Targets properties window appears when the OK button is clicked from the New Target window. Note that this window also appears when a target is selected from the Units list and the Units:Properties option is chosen.




The Target properties window contains three tabs - General, Threat/DMPI, and Last Report. Click on one of these tabs to view the fields available in that folder. Click on the down arrow to the right of a field to reveal a list of values for that field and select one, or type the information in the field.

*General Tab*

The General tab contains general information about the target in two groups, Target Geometry and Target Properties.

*Target Geometry*

**Length**
Target length in meters.

**Width**
Target width in meters.

**Attitude**
Angle (in milliradians) associated with the target; is context dependent.

*Target Properties*

**Target Num**
Number of the current target (operator-assigned value).

**Target Type**
Type of the target (can be used for tracing or identifying weaponry).

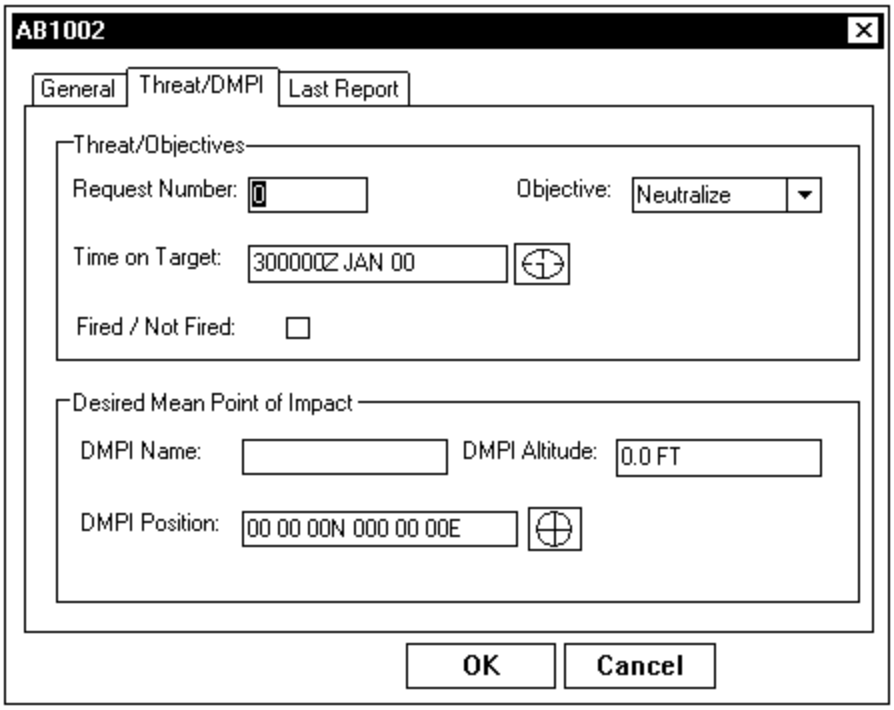
**Priority**
Priority of the target, with 1 being the highest priority value.

**Description**
Description of the target.

**Remarks**
Free text information not covered by additional fields.

*Threat/DMPI Tab*

The Threat/DMPI tab contains threat and point of impact information about the target in two groups, Threat/Objectives and Desired Mean Point of Impact (DMPI).




*Threat/Objectives*

**Request Number**
Administrative number assigned to this target.

**Objective**
Action taken against the target (eliminate or neutralize).

**Time on Target**
Actual time at which the target is to be attacked. Enter a time in this field or click the crosshairs button to the right of the field to automatically enter the current time.

**Fired/Not Fired**
If checkbox is toggled ON, indicates the target has been fired upon.

*Desired Mean Point of Impact*

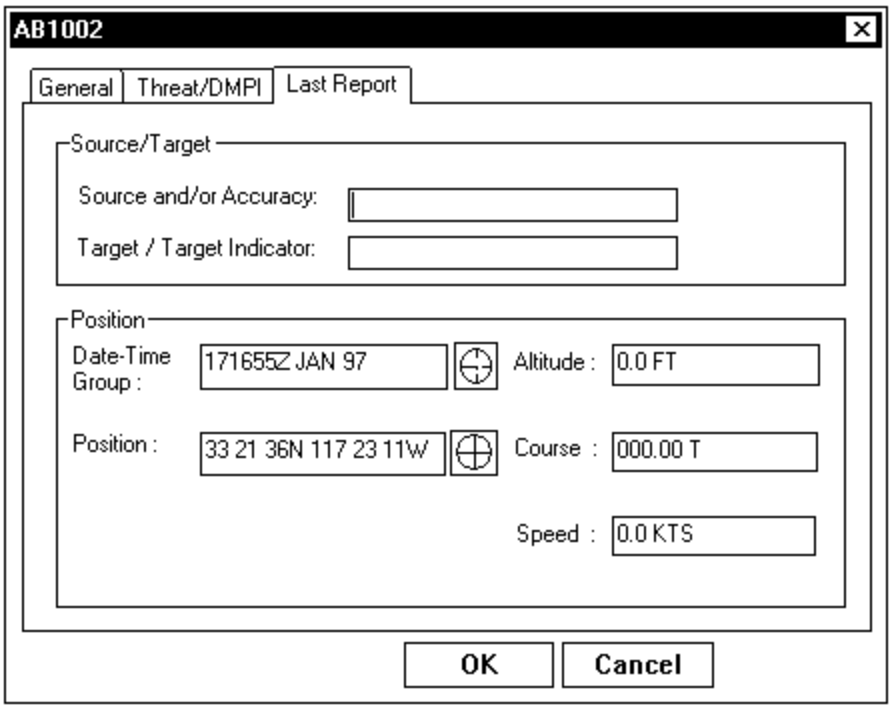
**DMPI Name**
Name of the Desired Mean Point of Impact site—*very* specific.

**DMPI Altitude**
Altitude of the DMPI for the target.

**DMPI Position**
Position of the DMPI for the target.

*Last Report Tab*

The Last Report tab contains position information about the target in two groups, Source/Target and Position.




*Source/Target*

**Source and/or Accuracy**
Source and / or accuracy of the target's information.

**Target/Target Indicator**
Indicates if the target is a threat or benign (not a threat).

*Position*

**Date-Time Group**
Alpha-numeric designation for the date / time; 15 character format is (DDHHMMSSZMONYY).

**Position**
Position of the unit.

**Altitude**
Shows the flight level for aircraft, depth for submerged objects, and height of equipment or structures on the ground.

**Course**
Direction of movement.

**Speed**
Speed of movement.

*OK and Cancel Buttons*

Click the OK button to accept any changes to the fields and exit the Target properties window. Click the Cancel button to discard all changes and exit the Target properties window.

Note that all changes to targets will be retained in the system, even if C2PC is turned off and restarted.

### *Operations*

When an operation is created, it automatically appears in the Units list. No properties windows appear for an operation.

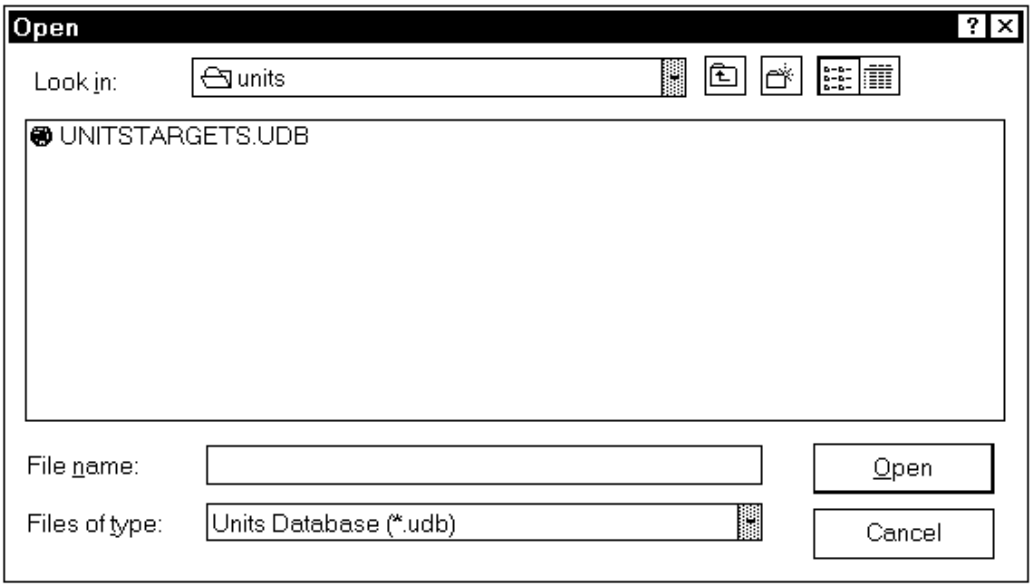
## Database Menu

The Database menu contains Open, Close, Import, and Export options.

### Open

The master units database (installed with the software) opens when Units is first selected. Use the Open option to load a different units database into the system. Only one database can be displayed at a time. When the Open option is used, any existing units database is automatically unloaded and the chosen units database replaces it in the system.

Select Open to display the Open window.




The Open window displays the contents of the Units directory that was last open.

To load a units file, click on a file in the displayed list and click the Open button. The units contained in the selected file appear in the Units tab.

To open units files in other directories, use the Open window scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

To create a new database, type a file name that is different from any in the existing list. Click Open and a warning window appears with the message that the file name does not exist and the option to create a new database with that name. Click Yes to create the new database in the current directory. Use the Insert:New Item option to add items to the new database.

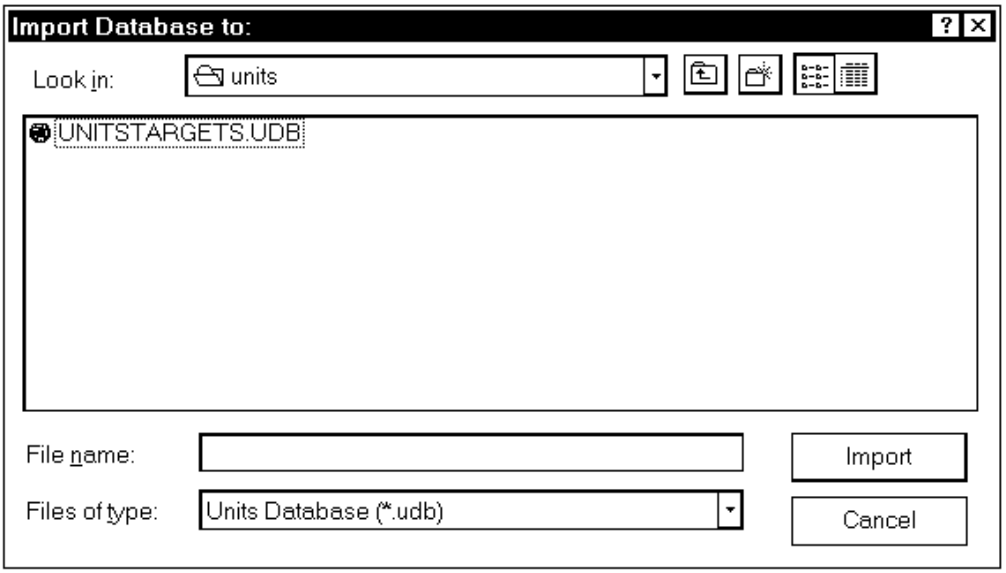
## Close

Use the Close option to close the Units database that is currently open. The units list is removed from the Units tab and plotted items disappear from the active map window.

## Import

Use this option to import a units database from the UB host machine. Note that you must use the View:Units Settings option to specify a pathname on the UB host machine where the units database is located before you can use this option.

Choose Import to display the Import Database window.




To import a units file, use the scroll list and icons at the top of the window to indicate the directory and file to receive the imported units data. These work the same as standard pc-based directory windows. Click on a file from the displayed list, enter a new file name, and click the Import button.

### Export

Use this option to export a units database to the UB host machine. The database is copied to a directory on the UB host machine (/tmp) designated to receive exported files. Use the Export Database window to choose the Units database to be exported. Notify the UB operator that Units data has been exported.

## Units Menu

### Query

The Query option is not yet implemented.

### Archive

The Archive option is not yet implemented.

### Restore

The Restore option is not yet implemented.

### Properties

Highlight a unit, target, or operation in the Units list and choose the Properties option to display the properties window for that unit, target, or operation. The properties windows for units and targets are the same as the properties windows that appear when using the Insert:New Item option. Refer to the documentation for that option for complete details about these properties windows.

The Operation properties window is the same as the New Operation window. Only the name or description of an operation can be modified. Refer to the documentation for the Insert:New Item option for complete details about this window.

## Units List Pop-up Menu

There is a pop-up menu associated with the units list. To access this pop-up menu, move the mouse pointer over an item in the units list and click the right mouse button. The available options vary depending on whether the item selected is a unit, target, or operation. Most of the pop-up options are the same as options from the Units menus. Refer to the documentation for the menu options for complete details about those options. Options not found in the Units menus are discussed here.

#### Clear History

This option is available for units and targets. Use this option to clear the position history for the selected unit or target. This will delete all information contained under the Last Report tab in the properties window for the unit or target.

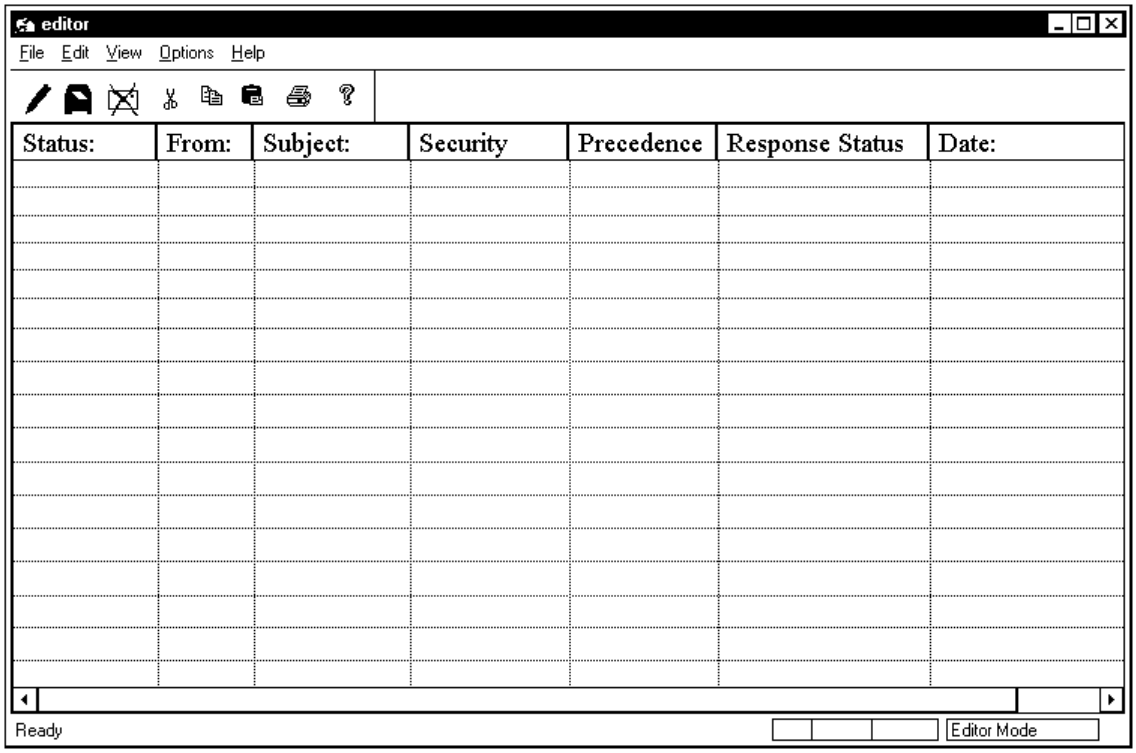
## TBMD

The Tbmd option only appears in the Tools menu if the Tbmd option was loaded during C2PC install. Refer to Appendix A of this User's Guide for a complete discussion of this option.

## MESSAGE EDITOR

The Message Editor option only appears on the Tools menu if DACT/RHC Standard or Custom was chosen from the Setup Type window during C2PC installation.

The Message Editor option brings up the VMF Editor supplied by MCTSSA. Select the Message Editor option to display the editor window.




The VMF Editor option is an option supplied by MCTSSA. Refer to the VMF Editor documentation from MCTSSA for complete details about how to use this option.

## GPS RECEIVER

The GPS Receiver option only appears on the Tools menu if DACT/RHC Standard was chosen from the Setup Type window during C2PC installation or if the GPS Receiver module was chosen during a Custom installation. (From a Custom installation, the GPS Receiver module is located under the Atlas/TDAs section.)

The GPS Receiver option is used to configure the GPS and set the GPS update interval for Own Track.

To create Own Track, you must first use Tools:Options and enter data about Own Track in the Own Track tab. Refer to the Tools:Options section of this manual for more details about that option.

If you are creating and configuring Own Track for the first time, go through the following steps. These steps show the general strategy for creating and configuring Own Track.

1) Use Tools:Options, click the Own Track tab, and enter appropriate information relating to Own Track. (Refer to the Tools:Options section in this User's Guide for details about these fields.)

2) Choose the Tools:GPS Receiver option.

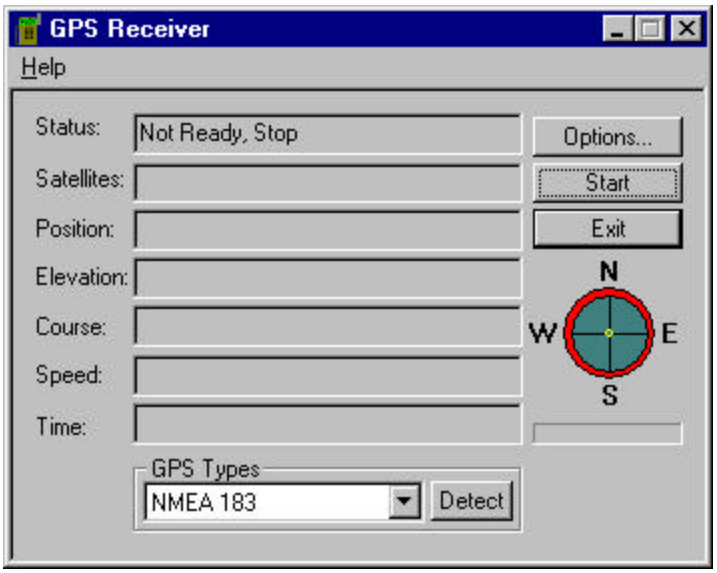
3) Click the Options button, go to the GPS tab, and enter approximate information about the position of Own Track in the available fields. (Refer to the GPS tab section below for details about these fields.)

4) From the General tab, choose appropriate Own Track and GPS position display values. (Refer to the General tab section below for details about these fields.) Click the OK button to save the settings and return to the GPS Receiver window.

5) From the GPS Receiver window, click the Start button to hook up the GPS with own track and begin the automatic updating of Own Track's position based on received data from the GPS device.

These steps only need to be done once. After these steps are followed to create and configure Own Track, Own Track will continue to automatically update based on received GPS data.

After entering Own Track information with Tools:Options, choose the GPS Receiver option to display the GPS Receiver window.




The GPS Receiver window displays information received from the GPS device. The buttons in the right part of the window can be used to set and display information related to Own Track and GPS, including configuration information.

When the GPS Receiver option is chosen, this option attempts to detect and communicate with a GPS device (if the Auto Detect checkbox is turned on in the Options window). If a GPS device is detected, the fields will be filled with appropriate values received from the GPS device. If no GPS device is detected, the Status field displays No GPS Detected and the rest of the fields are blank. The following fields are displayed. These fields are for display purposes only and cannot be edited.

**Status**

This field displays one of the following RHC GPS RCVR statuses:

| | |
|---|---|
| No GPS Detected: | There is no GPS device or it is not connected properly or turned on. |
| Initializing: | The GPS device is searching for a valid position based on the GPS initial setting. |
| Searching: | The GPS device is searching for a satellite and cannot report GPS information until a satellite is located. |
| Position Lock: | GPS device has locked on to a valid position from at least three channels. |
| Navigating: | GPS device has locked on to a valid position from all five channels. This is the status for the best possible GPS position. |

| | |
|---|---|
| Not Ready, Stop: | The GPS device is not set to report information through the GPS Receiver option. Click the Start button to activate the connection. |
| Not Ready, No Data: | The connection between the GPS device and the GPS Receiver option has been interrupted. The GPS device may have been disconnected. |
| Failed, ... | Failed messages usually appear when the GPS type or communication settings are incorrect. |

**Satellites**

This field displays the number of visible satellites.

**Position**

This field displays the current position of the GPS device. It is only valid if the Status is position lock.

**Elevation**

This field displays the current elevation of the GPS device (in meters). It is only valid if the Status is navigating.

**Course**

This field displays the current course of the GPS device (in degrees). It is valid only if the GPS RCVR status is navigating.

**Speed**

This field displays the ground speed of the GPS device (in km/hr format). This value is valid only if the ground speed is greater than 1.8km/hr and Status is navigating.

**Time**

This field displays the Zulu time of the current report from the GPS device.

**GPS Types**

This field displays the GPS type. This should be set to the GPS type connected to your workstation. Two external GPS types are supported - ICD 153 and NMEA 183. One internal GPS type is supported, the RHC Internal. If this field does not display your GPS type, click the down arrow button and select your GPS type from the list.

If the Auto Detect GPS checkbox is clicked on from the Options window, the GPS Receiver option will automatically search for a GPS device when the GPS Receiver option is started. It will first search for

the type selected in the GPS Types field, then search for the other types if a GPS device of that type is not found.

Use the Detect button to manually perform the same function as the Auto Detect GPS checkbox. When the Detect button is clicked, the GPS Receiver option will automatically search for a GPS device. It will first search for the type selected in the GPS Types field, then search for the other types if a GPS device of that type is not found.

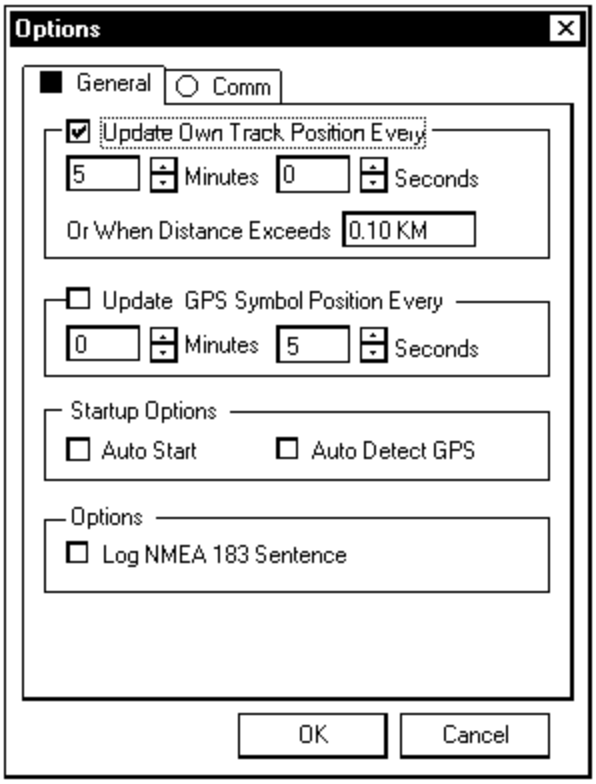
The middle right portion of the GPS Receiver window displays a picture of a compass, with north, south, east, and west marked. A line will be displayed from the center of the compass in the direction of movement of the GPS device. If the speed of the GPS device is less than 2 km/hr, then the course is not valid. The course is displayed only when the Status is navigating.

Below the picture of the compass is a status bar. When the Status is navigating, this bar will show movement to indicate that data is flowing into the system properly.

The Options button in the right part of the GPS Receiver window can be used to view and set information about Own Track and GPS. Other buttons include Start/Stop and Exit.

### Options Button

Use the Options button in the right part of the GPS Receiver window to view and set information about Own Track and GPS. Click the Options button to display the Options window.




For the ICD 153 GPS device, the Options window contains three tabs of GPS options - General, Comm and GPS. The Options window for the NMEA 183 GPS device displays only the General and Comm tabs. The Options window for the RHC Internal GPS device displays the General and GPS tabs. The General tab is the default tab for all three GPS devices.

The General tab contains fields to set plotting information for the GPS position and Own Track. Two separate items can appear in the map window based on GPS reports. The GPS report position displays as a small white circle with a crosshair inside it and the label "GPS." If GPS reports have been configured to attach themselves to Own Track, the Own Track track symbol and label will also display. The GPS symbol always appears at the most current GPS reporting position. The Own Track symbol appears at the last Gateway reported position for Own Track.

If the GPS is not moving or Own Track reports are updating rapidly, the GPS symbol and the Own Track symbol will appear on top of each other or very close together. If the GPS is moving and there is a time lag between Own Track updates, the two items may stray apart from each other at times. It is important to note that the GPS symbol is your accurate current position, while the Own Track position is the position currently held by the Gateway.

### Update Own Track Position Every Checkbox

Use this checkbox to turn on/off the update of Own Track with the current GPS report position. This defaults to on. When this is turned on, GPS reports at specified intervals will be stored as Own Track reports, and they will update Own Track's position in the map window. When this is turned off, GPS reports will not be assigned to Own Track, and Own Track's position will not update based on GPS reports.

If the Update Own Track Position Every checkbox is set to on, the fields in this box determine the GPS Own Track update interval. The update interval is the amount of time that must elapse before a GPS report is assigned as an Own Track position report. If the Update Own Track Database Record checkbox is set to off, these fields are unavailable.

Enter values in the Minutes and Seconds fields to be used as the update interval. Enter a value in the Or When Distance Exceeds field to override the update interval if Own Track has moved as much as the specified distance before the update interval time.

### Update GPS Symbol Position Every Checkbox

Use this checkbox to turn on/off display of the GPS symbol in the map window. This defaults to on. When turned on, a small white circle with a crosshair inside it and the label "GPS" will appear in the map window. The position of the GPS symbol will update based on the time interval set in the Minutes and Seconds fields.

If the Update GPS Symbol Position Every checkbox is set to on, the Minutes and Seconds fields determine the GPS symbol update interval. If the Update GPS Symbol Position checkbox is set to off, these fields are unavailable.

The time interval entered here is the amount of time that must elapse before the GPS symbol position will update in the map window.

### Auto Start

If this checkbox is clicked on, then the GPS Receiver option will automatically start communicating with the GPS device when the C2PC Client is started up. If this checkbox is clicked off, the GPS Receiver option will not begin communicating with the GPS device at C2PC Client start up. When the GPS Receiver option and GPS device are up and running and the GPS device is communicating with the GPS Receiver option, GPS updates automatically enter the system and appear in the map window at designated time intervals.

**Auto Detect GPS**

If this checkbox is clicked on, then the GPS Receiver option will automatically search for an active GPS device when the GPS Receiver option is started up. If this checkbox is clicked off, then the GPS Receiver option will not automatically search for an active GPS device.

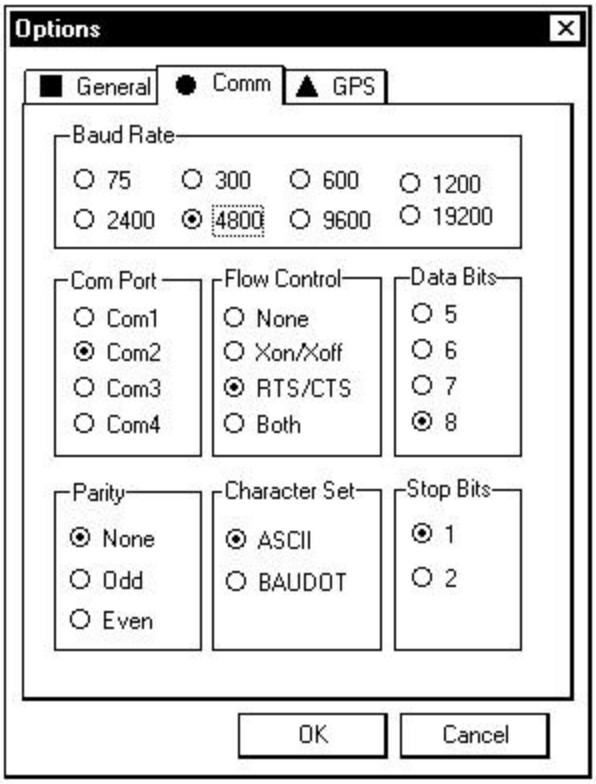
To report GPS information, the GPS Receiver option must detect and be in communication with a GPS device. If this checkbox is off, the Detect button must be used from the GPS Receiver window for the GPS Receiver option to locate a GPS device. When a GPS device has been located, the Start button can then be used to begin communications between the GPS Receiver option and the GPS device.

**Log NMEA 183 Sentence**

This checkbox is only valid if you are using the NMEA 183 GPS device. If you are using another GPS device, this checkbox will have no effect.

If you are using the NMEA 183 GPS device, click this checkbox to save the NMEA 183 sentences (the position information messages) to a log. If this checkbox is clicked off, the sentences will not be saved. The log can be viewed through the View Log Messages option from the Help menu in the GPS Receiver window.

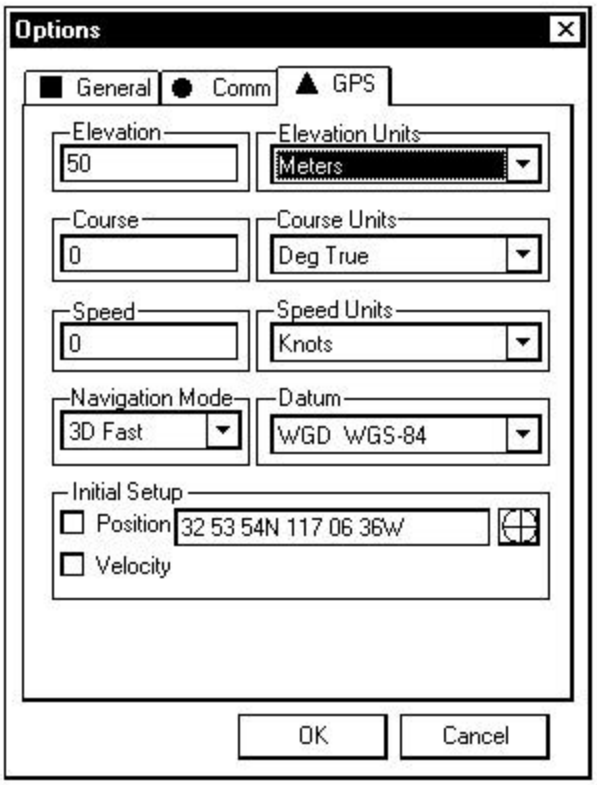
If you are using an ICD 153 or NMEA 183 GPS device (external GPS devices), click the Comm tab to display additional GPS options. For the RHC Internal GPS device (internal GPS devices), this tab is unavailable.




The Comm tab allows you to set communication settings between the GPS device and the C2PC workstation. The first time you use the GPS Receiver option, check these settings to make sure they match those being used by the GPS device. Change the settings as necessary to match.

When the settings are properly displayed, click the OK button to save them. When the settings are saved, they will be retained in the system.

Click the GPS tab to display additional GPS options.




The GPS tab is used to enter a best estimate of initial position information for the GPS device. This information is used to help initialize the GPS device and does not have to be exact. The GPS device will generate its own position when it starts reporting.

To set an initial position, click the Position checkbox and enter the best estimate of the initial position of the GPS device. Enter this from the keyboard or enter the position automatically as follows:

1. Click the crosshair button to the right of the Position field.
2. Click a position in the map window.

When the Position checkbox is clicked, the Elevation field becomes active.

**Elevation**

When the GPS option is first used, enter the best estimate of the initial elevation (in meters or feet) of the GPS device. In the Elevation Units field, choose between meters or feet.

To set an initial course and speed, click the Velocity checkbox to activate the Course and Speed fields.

**Course**
Enter the best estimate for the current course (in degrees True or degrees Magnetic) of the GPS device. In the Course Units field, choose between degrees True or degrees Magnetic.

**Speed**
Enter the best estimate for the current speed (in km/hr, miles/hr, or knots) of the GPS device. In the Speed Units field, choose between km/hr, miles/hr, or knots.

**Navigating Mode**
This field defines the GPS navigating mode with one of the following values:

Slow

2D Fast

3D Fast

The default value for this field is 3D Fast, which indicates that the GPS should return position and elevation data.

**Datum**
Enter the datum to be used by the GPS device when reporting position information. Click the down arrow button to the right of this field to view a list of available datum choices. In most cases, this field should be set to the same datum being used in the C2PC map window. This ensures that the GPS reported position displays in the proper location in the map window.

If any of the values have been changed, click the OK button to accept the changes and return to the GPS Receiver window. If no changes have been made or to discard changes, click the Cancel button to return to the GPS Receiver window. The Apply button is currently inactive. When changes have been made, you must click the Start button from the GPS Receiver window to re-start communications between the GPS Receiver option and the GPS device with the new settings.

## Start/Stop Button

Use the Start/Stop button to manually start and stop communications between the GPS Receiver option and the GPS device. If the Auto Start checkbox is clicked on from the Options window, then communications between the GPS Receiver option and the GPS device will automatically start up when the C2PC Client is started up.

When the Start button is used to begin communications between the GPS Receiver option and the GPS device, this button then changes to display Stop. Click the Stop button to terminate communication between the GPS Receiver and the GPS device.

### Exit Button

Click the Exit button to exit the GPS Receiver option. When the GPS Receiver option is exited, the GPS Receiver window is closed and communications between the GPS Receiver and GPS device are stopped.

Click the minimize button to close the GPS Receiver window while continuing the communication between the GPS Receiver and GPS device. If the two are communicating when the minimize button is clicked, they will continue to communicate and the GPS position will continue to update in the map window. When the minimize button is clicked, a GPS Receiver tray icon appears in the right portion of the Task Bar.

*GPS Receiver Tray Icon*

### Help Menu

The Help menu contains two options - View Log Messages and About GPS Receiver.

#### View Log Messages

Use this option to display a Notepad containing a log of NMEA 183 sentences and any alerts that have been generated for the GPS Receiver option.

NMEA 183 sentences will only appear in the log if you are using the NMEA 183 GPS device and the Log NMEA 183 Sentence checkbox is turned on from the General tab of the Options window.

Notepad is a Microsoft product that contains its own menu of options to allow you to edit, view, print, and save the text in the window. Refer to the Microsoft Notepad documentation or the Notepad on-line help for detailed instructions on using Notepad.

When you finish viewing the log, select FILE : EXIT from the Notepad window menubar to close the notepad and return to the GPS Receiver window.

**About GPS Receiver**

Use this option to view version information for the GPS Receiver option.

## CROSSFIX

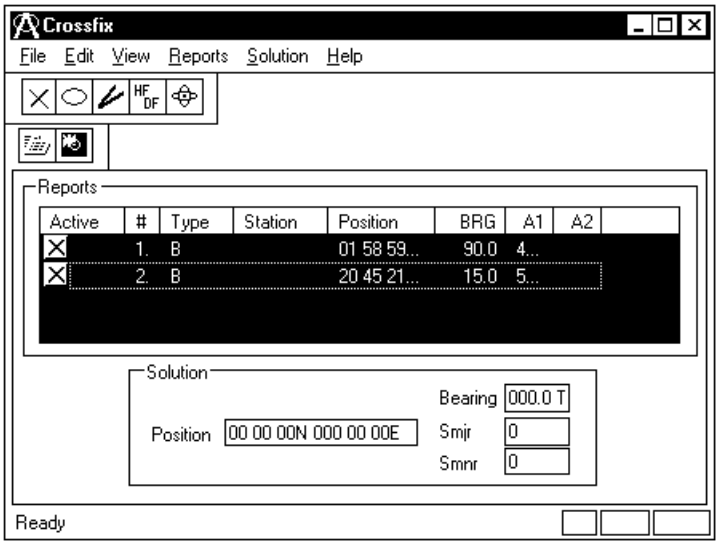
Use the Crossfix option to calculate the probable location of a track based on two or more reports. This option is often used to pinpoint the location of a track based on two or more electronic reports generated from different locations.

When the Crossfix option establishes the probable location of a track, the system plots an ellipse in the map window. The probable location of the track is somewhere within the plotted ellipse.

After the solution ellipse is computed, the center point of the ellipse can be converted into a new track, or the information can be used to update a track.

The times for the different reports must be just about the same for this option to work efficiently. Make sure the reports are receiving the same frequency or electronic reading to confirm that all reports are for the same track.

Choose the Crossfix option to display the Crossfix window.




The general strategy for using the Crossfix option is as follows:

1) Create two or more reports, or select two or more reports from existing tracks.

A crossfix solution is automatically listed in the Solution box of the Crossfix window and a solution ellipse is plotted in the map window.

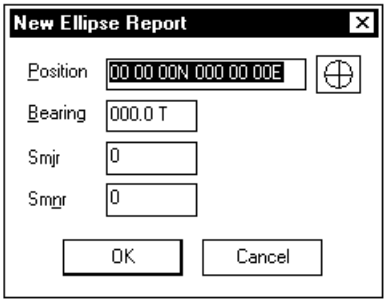
2) Convert the solution ellipse into a new track, or add the solution ellipse as a report for an existing track.

## Add Reports

Use the options under the Reports menu to add an ellipse, LOB, HFDF, or track report. When a report is added, it is listed in the Crossfix window. Two or more reports can be used to calculate a crossfix solution ellipse.

### *Add Ellipse Report*

To add an ellipse report, select the Ellipse option from the Reports menu to display the New Ellipse Report window.




Enter values in the fields for the ellipse report.

**Position**
Enter the track position. Enter this from the keyboard or enter the position automatically as follows:

1. Click the crosshair button to the right of the Position field.
2. Click a position in the map window.

**Bearing**
Enter the AOU bearing in degrees true.

**Smjr**
Enter the semi-major axis for the ellipse.

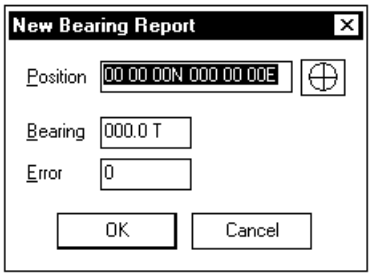
**Smnr**
Enter the semi-minor axis for the ellipse.

When all the fields are filled in, click the OK button to accept the report. The report appears in the Crossfix window Reports box. The ellipse is plotted in the map window in yellow.

To edit an ellipse report, double-click the report in the Crossfix window, make any appropriate changes, and click OK. Another way to edit an ellipse report is to click directly on the ellipse in the map window. Four little white squares appear at four points along the ellipse and at the center of the ellipse. Drag any of the squares along the ellipse to change the shape of the ellipse. Drag the center point to move the entire ellipse to a new location.

### *Add LOB Report*

To add an LOB report, select the LOB option from the Reports menu to display the New Bearing Report window.




Enter values in the fields for the LOB report.

**Position**
Enter the track position. Enter this from the keyboard or enter the position automatically as follows:

1. Click the crosshair button to the right of the Position field.
2. Click a position in the map window.

**Bearing**
Enter the bearing in degrees true.

**Error**
Enter the bearing error (in degrees) for the line of bearing.

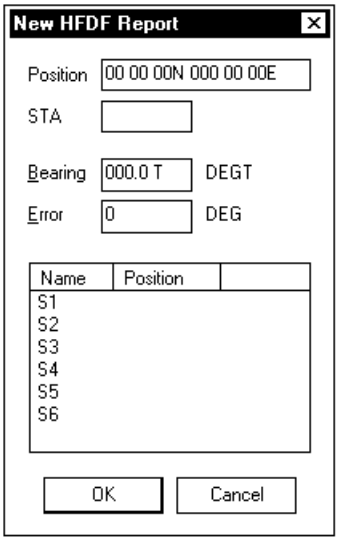
When all the fields are filled in, click the OK button to accept the report. The report appears in the Crossfix window Reports box. The LOB is plotted in the map window in red with pink dashed lines representing the error boundaries.

To edit an LOB report, double-click the report in the Crossfix window, make any appropriate changes, and click OK.

Another way to edit an LOB report is to click directly on the LOB in the map window. Four little white squares appear at four points on the LOB. Drag the beginning point to move the entire LOB to a new location. Drag the end point of the LOB to turn the LOB or to shorten or lengthen the LOB. Drag either of the squares at the ends of the error boundaries to enlarge or reduce the error boundaries.

### *Add HFDF Report*

To add an HFDF report, select the HFDF option from the Reports menu to display the New HFDF Report window.




Enter the appropriate information into the fields in the New HFDF Report window for the HFDF station position and the bearing and error of a reported contact.

**Position**
This displays the position of a chosen HFDF station. This field cannot be edited. The position is automatically placed in this field when you choose an HFDF station.

**STA**
Enter the code for an HFDF station in this field, or click on a station from the scrolling list in this window. When you choose a station, its position is automatically placed in the Position field.

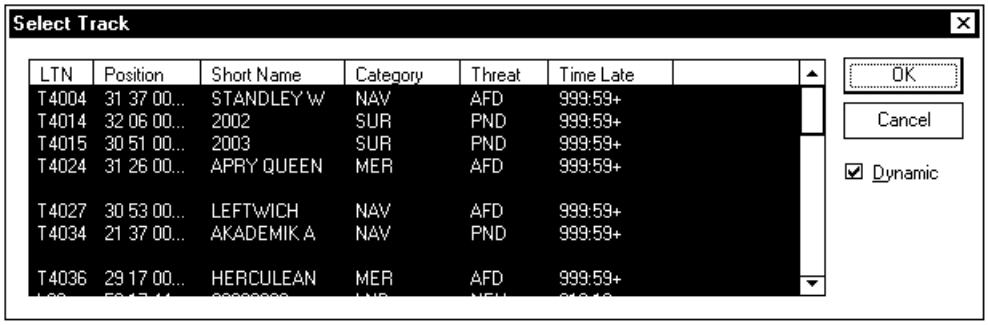
**Bearing**
Enter the bearing of the contact (in degrees true).

**Error**
Enter the error range for the contact (in degrees).

Click the OK button to accept the HFDF report or click the Cancel button to discard it.

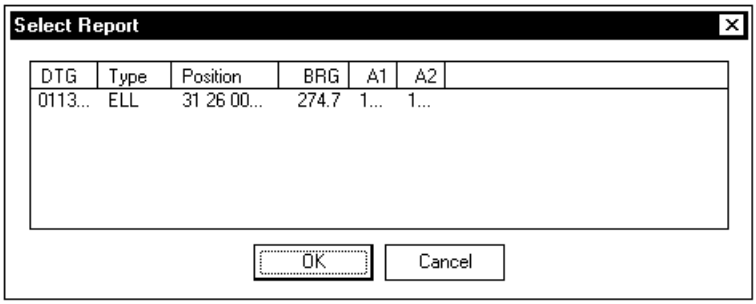
### *Add Track Report*

An ellipse or LOB report from an existing track may be chosen. To add a track report, select a track or tracks in the map window, then choose the Track option from the Reports menu. If more than one track was selected, the Select Track window appears. If only one track was selected, the Select Report window appears.




The Select Track window displays a list of all selected tracks. If the Dynamic checkbox is checked, you may make changes to the selected tracks in the map window and the changes will appear in the list. If the Dynamic checkbox is not checked, changes to the track selections in the map window are not reflected in the list.

Select a track from the list and click the OK button to display the Select Report window.




Choose a report from the list and click the OK button to display the chosen report in the Crossfix window Reports box. The ellipse or LOB for the report is displayed in the map window.

## Delete Reports

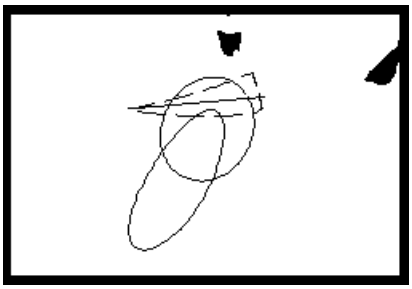
To delete reports from the list in the Crossfix window, highlight the report(s) you wish to delete and select the Delete option from the Edit menu. All highlighted reports disappear from the list. To delete all reports, choose the Select All option from the Edit menu and select the Delete option.

## Crossfix Solution

There is an Active checkbox for each of the reports in the Crossfix window Reports box. If this checkbox is checked, then the report is used to help determine the crossfix solution. If this checkbox is turned off, the report ellipse is not displayed in the map window and the report is not used in the crossfix solution.

A crossfix solution is automatically calculated for all active reports. Whenever a report in the list is clicked on or off, the crossfix solution is automatically recalculated.

The crossfix solution is plotted as a green ellipse in the map window and the fields for the ellipse are displayed in the Solution box in the Crossfix window. The probable location of the track is somewhere within the plotted ellipse.



*Crossfix Solution Example - the elongated ellipse and the LOB are crossfix reports, the more circular ellipse is the crossfix solution*

The following fields are displayed in the Solution box.

**Position**
This displays the center point of the ellipse.

**Bearing**
This displays the ellipse bearing in degrees true.

**Smjr**
This displays the semi-major axis for the ellipse.

**Smnr**
This displays the semi-minor axis for the ellipse.

## Convert Crossfix Solution Into a New Track or Track Update

The crossfix solution can be converted into a new track or an update to an existing track. Use the options under the Solution menu to perform these actions.

### *Insert Track*

Select the Insert Track option from the Solution menu to display the Add Platform Track window. (New tracks created from a crossfix solution are always created as platform tracks.)

The Add Platform window displayed here is exactly the same as the Add Platform window that displays when the TRACKPLOT : INSERT NEW TRACK option is used. The only difference is that the Position and AOU fields are automatically filled with the crossfix solution values. Refer to the documentation for the Insert New Track option for a description of the fields in the Add Platform Track window.

After entering any appropriate values in the fields in the Add Platform window, click the OK button to accept the new track. The new track appears in the map window.

### *Quick Report*

Select the track you wish to update in the map window and choose the Quick Report option from the Solution menu. If more than one track is selected in the map window, the Select Track window appears. Choose the track you wish to update from the list and click OK to proceed.

If only one track is selected in the map window or the OK button was clicked from the Select Track window, the Quick Report window appears.

The Quick Report window displayed here is exactly the same as the Quick Report window that displays when the TRACKPLOT : QUICK REPORT option is used. The only difference is that the Position and AOU fields are automatically filled with the crossfix solution values. Refer to the documentation for the Quick Report option for a description of the fields in the Quick Report window.

After entering any appropriate values in the fields in the Quick Report window, click the OK button to accept the track update.

## Crossfix Toolbars and Status Bar

Use the options on the View menu to toggle on/off the display of the Reports Toolbar, the Solution Toolbar, and the status bar. If on, a checkmark is displayed next to the option and the toolbar/status bar appears in the Crossfix window. If off, there is no checkmark and the toolbar/status bar is not displayed.

The Reports Toolbar contains tools that perform the same functions as some of the menu options.

*Reports Toolbar*

From left, the tools on the Reports Toolbar are Delete Report, Ellipse Report, LOB Report, HFDF Report, and Track Report. The Delete Report tool performs the same function as the Delete option from the Edit menu. The other four tools perform the same functions as similarly-named options under the Reports menu. Refer to the

documentation for those options above for complete information about how these work.

The Solution Toolbar contains tools that perform the same functions as the Solution menu options.

*Solution Toolbar*

The tools on the Solution Toolbar include Quick Report and Insert Track. These tools perform the same functions as the options of the same name from the Solution menu. Refer to the Crossfix Solution section above for more information about these tools.

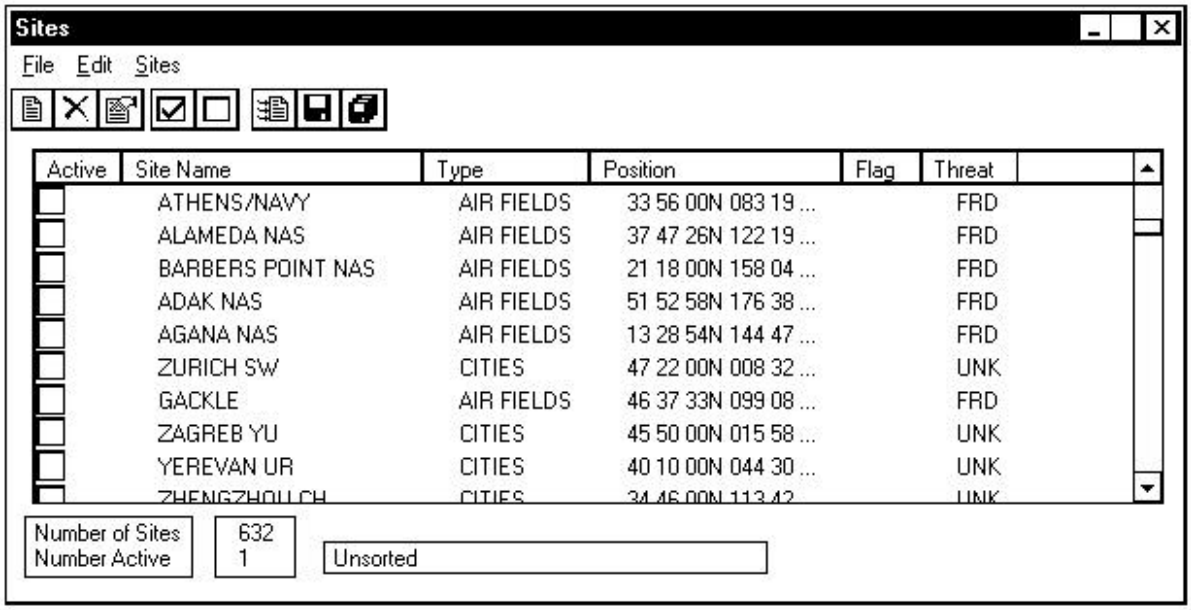
### Exit Crossfix Option

Choose the Exit option from the File menu to exit the Crossfix option.

## SITES

Use the Sites option from the Tools menu to create and maintain a variety of sites, such as cities, air fields, command centers, bridges, hospitals, radar sites, pump stations, and oil fields. Sites can be toggled on/off in the map window.

Select the Sites option from the Tools menu to display the Sites window.




The Sites window displays a list of all sites currently in the system. If a site has its Active checkbox turned on, it is displayed in the map window. You may toggle on/off sites using the Active checkboxes and they will display/turn off immediately.

Use the menu options and the toolbar buttons in the Sites window to add, edit, and delete sites. You can also change the display features of all the sites of a particular type. You can also import and export sites.

## File Menu

The File menu contains importing and exporting options for sites, as well as the Exit option.

### *Import Sites*

Use this option to import a saved sites file into the sites database. Sites files are saved with either the Export All Sites or Export Selected Sites option. Choose the Import Sites option to display the Open window. The Open window contains a list of all Sites files that have been saved to the Sites folder. If you have a sites file in another folder, you can browse to that folder using the standard PC browsing options. Choose the sites file you wish to import and click the Open button to import it (or click Cancel if you decide not to import a sites file). When a sites file is imported, the sites in the sites file are merged into the existing sites list.

### *Export All Sites*

Use this option to save all sites in the sites list to a file. This file can then be imported into the Sites option using the Import Sites option at any time. Choose the Export All Sites option to display the Save As window. Enter a name for the file in the File Name field and click the Save button to save the file (or click the Cancel button if you decide not to save it). Sites files are saved with a .csv extension.

### *Export Selected Sites*

Use this option to save all selected sites to a file. This file can then be imported into the Sites option using the Import Sites option at any time. Select the sites you wish to save from the list and choose the Export Selected Sites option to display the Save As window. Enter a name for the file in the File Name field and click the Save button to save the file (or click the Cancel button if you decide not to save it). Sites files are saved with a .csv extension.

### *Exit*

Choose the Exit option to exit the Sites option. Active sites remain displayed in the map window when the Sites option is exited.

## Edit Menu

The Edit menu contains the Delete, Edit Properties, and Settings options.

### *Delete*

To delete a site or sites, select the sites in the list and choose the Delete option (or click the Delete button from the toobar or the Delete option from the pop-up menu). A confirm window appears before the sites are permanently deleted. Click the Yes button to complete the delete process.

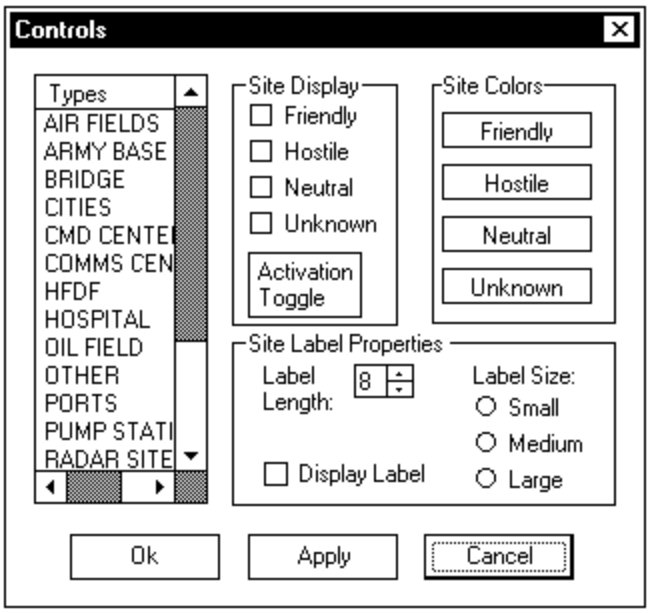
### *Edit Properties*

To edit a site, select the site in the list and choose the Edit Properties option (or click the Edit the Properties button in the toolbar or the Edit option from the pop-up menu) to display the Edit Site window. You may also double-click on a site in the map window to display the Edit Site window.

The Edit Site window contains the exact same fields as the Add Site window. (Refer to the New Site section for details about the fields in this window.) Make any changes as appropriate for the site and click the OK button to save the changes.

### *Settings*

Use the Settings option to change the display features for all sites of a selected type. Choose the Settings option to display the Controls window.




The Controls window displays a scroll list of all site types in the left portion of the window. Each site type has its own display settings. Display settings for each site type can be set in the Site Display, Site Colors, and Site Label Properties boxes.

To change the display settings for a site type, select the site type in the scroll list and change the display settings as appropriate.

#### Site Display

For the selected site type, click any of the checkboxes to display all sites of the chosen threat type in the map window.

Use the Activation Toggle button to quickly toggle all the checkboxes on or off. (The Activate Toggle option from the right pop-up menu works the same as the Activation Toggle button to quickly toggle all the checkboxes on or off.)

Note: If no threat is entered for a site, that site can only be activated by using its checkbox in the Sites window.

**Site Colors**

For the selected site type, sites of the different threat types are displayed in the colors displayed in the threat bars in the Site Colors box. To change a color, click on one of the threat bars to display a color palette of nine choices. Choose one of the colors or click the Other button to view more color choices. The chosen color will be displayed in the threat bar.

To reset all colors to the standard threat colors, select a site type and choose the Standard Colors option from the right pop-up menu.

**Site Label Properties**

For the selected site type, site labels are displayed as defined in the Site Label Properties box. The character length of the label can be set, as well as the label size (Small, Medium, Large). If the Display Label checkbox is clicked on, the label is displayed next to the site in the map window. If the Display Label checkbox is clicked off, the label does not display.

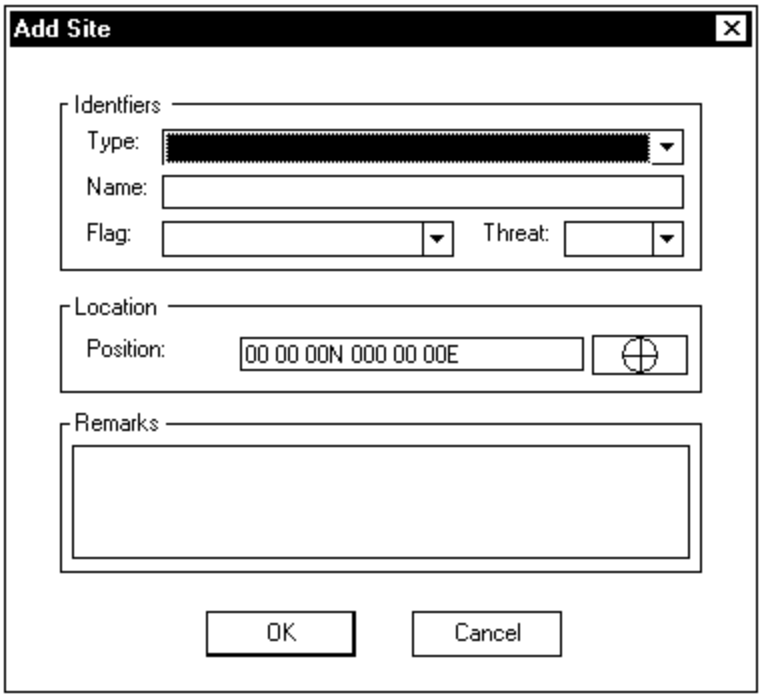
Click either the Apply or OK button and any changes will take effect in the map window. (Clicking Apply leaves the Controls window up while clicking OK exits the Controls window.) Click Cancel to cancel any changes.

## Sites Menu

The Sites menu contains the New Site, Activate Selected Sites, and Deactivate Selected Sites options.

### *New Site*

To add a new site, choose the New Site option or click the New Site button from the toolbar in the Sites window to display the Add Site window.




Enter information into the fields in the Add Site window as appropriate to add a new site.

**Type**
To choose a site type, click the down arrow and choose a site type from the displayed choices.

**Name**
Enter the site name.

**Flag**
To choose a country code for the site, click the down arrow and choose a country code from the displayed choices.

**Threat**
To choose a threat level for the site, click the down arrow and choose a threat level from the displayed choices.

**Position**
Enter the site position. Enter the position from the keyboard, or click the button to the right of the Position field and click directly in the map window to automatically enter the site position.

**Remarks**
Enter any remarks about the site.

When the fields are set as appropriate, click the OK button to save the new site.

### *Activate Selected Sites*

The Sites window displays a list of all sites currently in the system. If a site has its Active checkbox turned on, it is displayed in the map window. You may toggle on/off sites using the Active checkboxes and they will display/turn off immediately.

Use the Activate Selected Sites option to activate all selected sites in the list. You may also use the Activate Selected Site(s) button on the toolbar or the Activate option from the pop-up menu to activate all selected sites.

### *Deactivate Selected Sites*

Use the Deactivate Selected Sites option to deactivate all selected sites in the list. You may also use the Deactivate Selected Site(s) button on the toolbar or the Deactivate option from the pop-up menu to deactivate all selected sites.

## Sites Toolbar

The Sites toobar contains tools for quick access to some of the sites menu options.

Buttons on the Sites toolbar include New Site, Delete, Edit the Properties, Activate Selected Sites(s), Deactivate Selected Site(s), Import and Merge Sites, Export Selected Sites, and Export All Sites. These buttons perform the same functions as menu options of the same or similar names. Refer to the documentation for the menu options for complete details about these options.

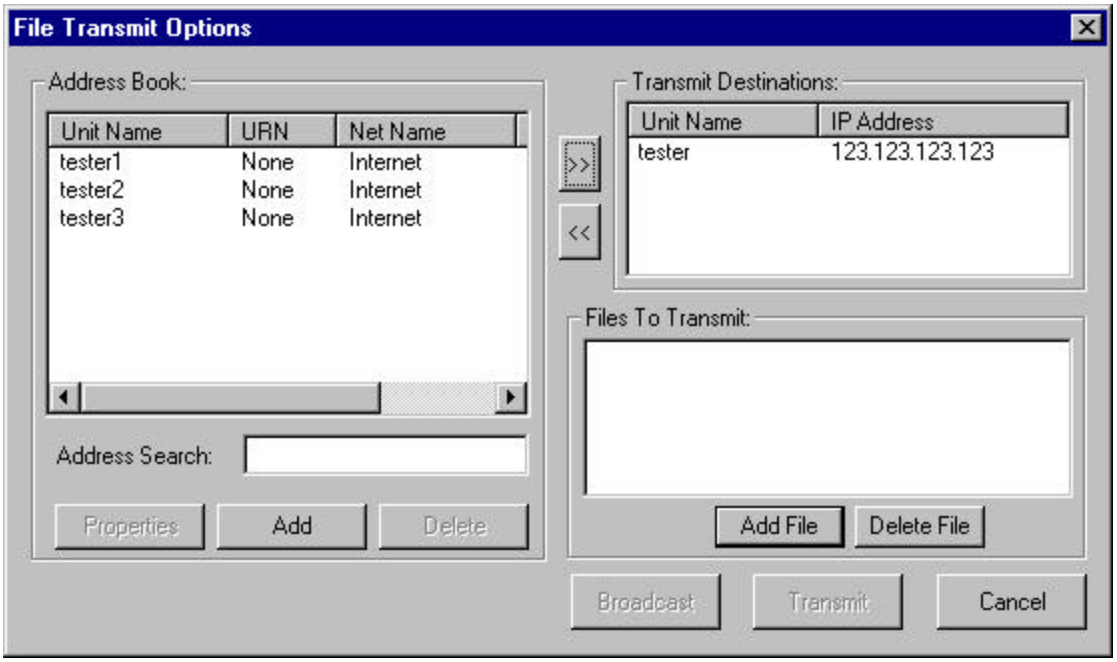
## Sites Pop-Up Menu

Click the right mouse button anywhere in the Sites menu to display the pop-up menu. The pop-up menu includes New, Delete, Edit, Activate and Deactivate options. The New option is always active. The Edit option is only active if one site is selected in the list. The Delete, Activate, and Deactivate options are only active if one or more sites are selected in the list. The pop-up options perform the same functions as menu options of the same or similar names. Refer to the documentation for the menu options for complete details about these options.

# TRANSMIT FILE

Use the Transmit File option to transmit or broadcast Common Message Processor (CMP) generated messages to other locations. CMP Messages are created through the Tools:Common Message Processor option.

Select the Transmit File option (or click the Transmit File tool from the Snap In toolbar) to display the File Transmit Options window.

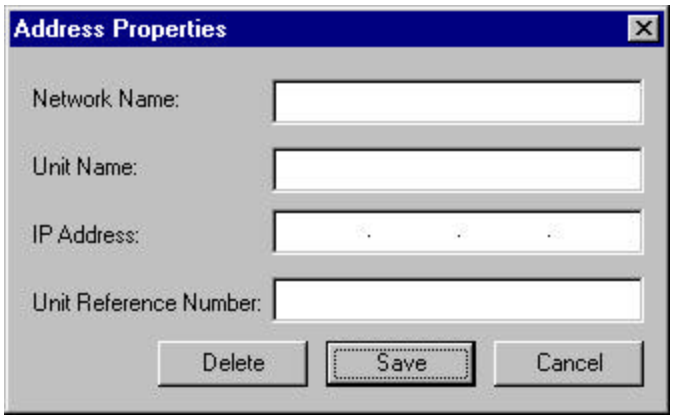



The general procedure for transmitting a message is as follows:

1. Choose transmit destinations.
2. Choose CMP files to transmit.
3. Transmit or broadcast the files.

The Address Book box shows a list of Units that can receive messages from you. Each of the Units in the list is identified by its Unit Name, URN, Net Name, and IP Address.

To add a Unit to the Address Book, click the Add button to display the Address Properties window.




Enter address values in the fields for the Unit and click the Save button to add the Unit to the Address Book.

Another way to add a Unit to the Address Book is to enter the Unit Name in the Address Search field, then click the right arrow (>>) button to add the Unit to both the Address Book and the Transmit Destinations box.

To view the Address Properties window for an existing Unit in the Address Book, select the Unit and click the Properties button. The Address Properties window appears with the address values filled in the fields. Edit any values you want and click the Save button to save the new values. Click the Delete button from the Address Properties window to delete the Unit from the Address Book. Click the Cancel button to cancel any changes.

To delete a Unit from the Address Book, select the unit and click the Delete button.

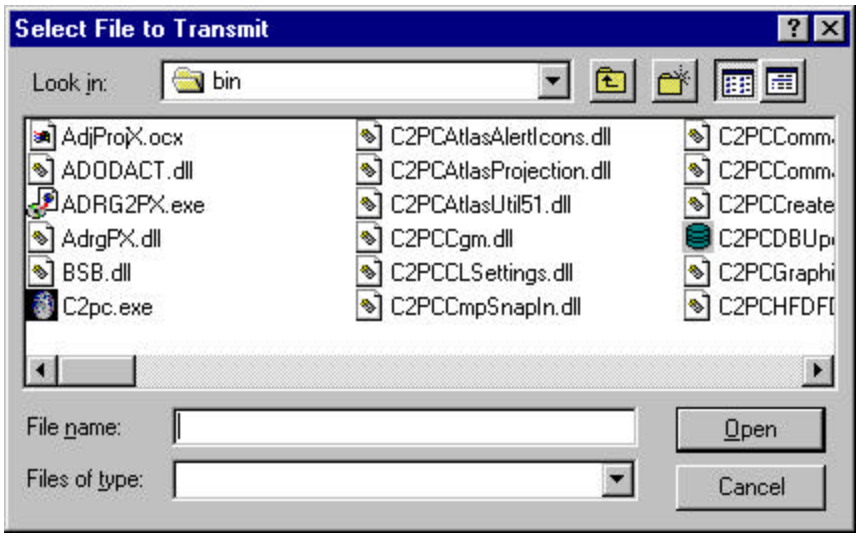
The Address Book file is stored as an .XML file on your workstation. It is called "AddressList.xml" and is located in the following directory:

"data/local/C2PCCL/data/TCSS/"

You can transmit the Address Book file to other locations if you wish to share Address Book files.

To choose a transmit destination, select a Unit in the Address Book and click the right arrow button (>>). The Unit is displayed in the Transmit Destinations box. To remove a Unit from the Transmit Destinations box, select the unit in the Transmit Destinations box and click the left arrow button (<<).

To choose a file to transmit, click the Add File button to display the Select File to Transmit window.




Use this window to locate and select the file you wish to transmit. Click the Open button to choose the file and return to the File Transmit Options window. The selected file is displayed in the Files to Transmit box. To remove a file from the Files to Transmit box, select the file and click the Delete File button.

After choosing transmit destinations and files to transmit, click either the Broadcast or Transmit button to send the message. Use the Broadcast button to broadcast the message using the UDP protocol. Broadcast messages have a 3K size limit. Use the Transmit button to transmit the message using the TCP protocol.

CMP messages received from another C2PC workstation can be viewed with the TacComm Viewer option.

Use the Cancel button to exit the File Transmit Options window.

## QUICK RANGE/BEARING

The Quick Range/Bearing option only appears on the Tools menu if USCG Standard Client was chosen from the Setup Type window during C2PC installation or if the QuickRangeBearing module was chosen during a Custom installation. (From a Custom installation, the QuickRangeBearing module is located under the Atlas/TDAs section.)

Use the Quick Range/Bearing option to draw a line in the map window which shows the range and bearing from a starting point to the end point. Up to 10 quick range/bearing lines can be placed in the map window. When an 11th is created, it replaces the first quick range/bearing line. Quick range/bearing lines disappear from the system when the map window where they are located is closed.

Choose the Quick Range/Bearing option from the Tools menu (or click the Quick Range/Bearing tool from the Snap In toolbar) to draw a range/bearing line in the map window. When the Quick Range/Bearing option is chosen, the pointer changes to display a diagonal line next to the pointer. In the map window, click and drag to create a quick range/bearing line.

*Quick Range/Bearing Line Example*

When quick range/bearing lines are drawn in the map window, a default label of QRB0 appears for the first line, QRB1 for the second, etc. After QRB9, the next quick range/bearing line wraps to QRB0, and any existing QRB0 line is deleted.

The range and bearing are listed in the map window next to the end of the line. The ending point of the line displays an arrow to differentiate it from the starting point.

Click directly on a quick range/bearing line in the map window to select that line. When selected, three small white squares appears along the line to represent move points. Drag the center point to move the entire line to another location in the map window, or drag the start or end point to move those points to a new location. You may select multiple quick range/bearing lines and drag any of their move points to move the selected objects as a group.

To view and change attributes of the quick range/bearing, double-click the quick range/bearing line (or choose the Properties option from the context menu for a quick range/bearing line) to display the Quick Range/Bearing Properties window.

The Quick Range/Bearing Properties window displays a group of fields for the line, along with some buttons in the right part of the window for actions that can be taken for the line.

The quick range/bearing fields are as follows:

**Label**

This is a label assigned to the quick range/bearing line based on when it was created. The first line is assigned QRB0, the second QRB1, etc. The tenth line is assigned the label QRB9. Any additional lines start the numbering over again with QRB0, with the old quick range/bearing lines deleted from the system. You may edit this label to a label of your choice.

**Start Point**

This displays the starting position of the line. You may edit the position by typing in a new value in this field, or by clicking the crosshairs button next to the field and clicking a new position in the map window. If you change the position, you must click the OK or Apply button for the new position to take effect.

**End Point**

This displays the ending position of the line. If the Vector Calculation Basis knob is set to Start/End, you may edit this position by typing in a new value in this field, or by clicking the crosshairs button next to the field and clicking a new position in the map window. If you change the position, you must click the OK or Apply button for the new position to take effect.

If the Vector Calculation Basis knob is set to Start/Range/Bearing, this field is not editable and will be automatically calculated based on the values entered in the Start Point, Range, and Bearing fields.

**Range**

This displays the range from the start point to the end point. If the Vector Calculation Basis knob is set to Start/End, this field is not editable and will be automatically calculated based on the values entered in the Start Point and End Point fields.

If the Vector Calculation Basis knob is set to Start/Range/Bearing, you may edit this value by typing in a new value in this field. If you change the range value, you must click the OK or Apply button for the new value to take effect.

**Bearing**

This displays the bearing of the line. If the Vector Calculation Basis knob is set to Start/End, this field is not editable and will be automatically calculated based on the values entered in the Start Point and End Point fields.

If the Vector Calculation Basis knob is set to Start/Range/Bearing, you may edit this value by typing in a new value in this field. If you change the bearing value, you must click the OK or Apply button for the new value to take effect.

**Vector Calculation Basis**

Click either the Start/End or Start/Range/Bearing knob to control which fields are available to edit, and which fields are automatically calculated based on the values in the editable fields.

If the Start/End knob is chosen, the Start Point and End Point fields can be edited and the Range and Bearing fields will be automatically calculated based on the values in the editable fields.

If the Start/Range/Bearing knob is chosen, the Start Point, Range, and Bearing fields can be edited and the End Point field will be automatically calculated based on the values in the editable fields.

The buttons on the right side of the window are OK, Cancel, Apply, Delete, and Refresh. They perform the following functions.

**OK**

Use the OK button to accept any changes to the values in this window and exit from this window. When the OK button is clicked, any changes take effect in the map window.

**Cancel**

Use the Cancel button to cancel any changes to the values in this window and exit from this window.

**Apply**
Use the Apply button to accept any changes to the values in this window and keep this window open. When the Apply button is clicked, any changes take effect in the map window.

**Delete**
Use the Delete button to delete the quick range/bearing line from the system. When this button is clicked, the quick range/bearing line disappears from the map window and the Quick Range/Bearing Properties window disappears.

**Refresh**
Use this button to discard any new values entered into any of the fields, reverting back to the original values. When this button is used, the Quick Range/Bearing Properties window remains open.

When the right mouse button is clicked for a quick range/bearing line, the context menu appears with standard options and two additional quick range/bearing-specific options - Delete and Properties. The Properties option displays the Quick Range/Bearing Properties window for the selected line. This is discussed above. The Delete option can be used to delete the line.

## COMMON MESSAGE PROCESSOR

Use the Common Message Processor option (or click the Launch CMP tool from the Snap In toolbar) to create and save CMP messages. These messages can then be transmitted with the Tools:Transmit File option.

The Common Message Processor is not a C2PC option. If the Common Message Processor is loaded on your system, the Common Message Processor option will be available from the Tools menu. If it is not loaded, this option will be greyed out and unavailable.

Refer to the User's Manual (UM) for Common Message Processor (CMP) from DII COE for complete details on using this option.

## QUICK POINT

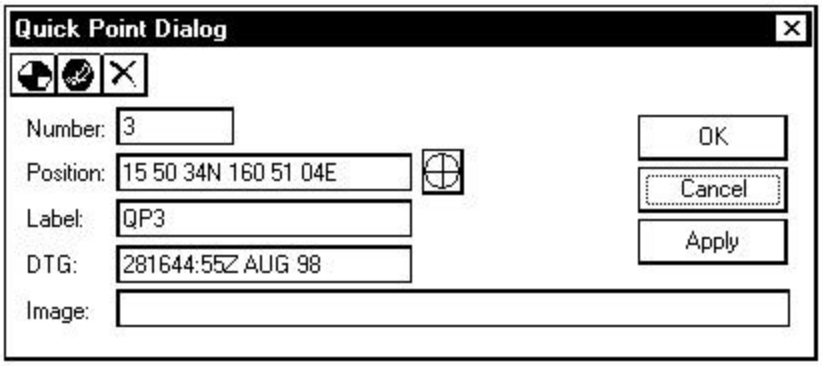
The Quick Point option is used to place a small icon in the map window. This is often used as a marker or to identify a particular type of object. Up to 10 quick point icons can be placed in the map window. When an 11th is created, it replaces the first quick point icon. Quick points disappear from the system when the map window where they are located is closed.

Choose the Quick Point option from the Tools menu (or click the Quick Point tool from the Snap In toolbar) to place a quick point icon in the map window. When the Quick Point option is chosen, the pointer changes to display a happy face icon next to the pointer. Click anywhere in the map window and a quick point icon is placed at that point.

The default quick point icon is a partially filled circular yellow icon. A default label of QP0 appears for the first quick point, QP1 for the second, etc. After QP9, the next quick point wraps to QP0, and any existing QP0 point is deleted.

Click directly on a quick point icon in the map window to select that icon. When selected, five small white squares appear within the selected object to represent move points. Drag any of these move points to move the icon to another location in the map window. You may select multiple icons and drag any of their move points to move the selected objects as a group.

To change the icon for a quick point, and to view and change other attributes of the quick point, double-click the quick point to display the Quick Point Dialog window.




The Quick Point Dialog window displays a group of fields for the quick point, along with some buttons at the top of the window for actions that can be taken for the quick point.

The quick point fields are as follows:

**Number**

This is a number assigned the quick point based on when it was created. The first quick point is assigned the number 0, the second 1, etc. The tenth quick point is assigned the number 9. Any additional quick points start the numbering over again with 0, with the old quick points deleted from the system. This field is not editable.

**Position**

This displays the position of the quick point. You may edit the position by typing in a new value in this field, or by clicking the crosshairs button next to the field and clicking a new position in the map window. If you change the position, you must click the OK or Apply button for the new position to take effect.

**Label**

This displays the label for the quick point. The label appears in the map window next to the quick point. A default label of QP0 appears for the first quick point, QP1 for the second, etc. After QP9, the next quick point wraps to QP0, and any existing QP0 point is deleted.

You may edit the label by entering a new value in this field. If you change the label, you must click the OK or Apply button for the new label to take effect.

**DTG**

This displays the date-time group for when the quick point was created. This field is not editable.

**Image**

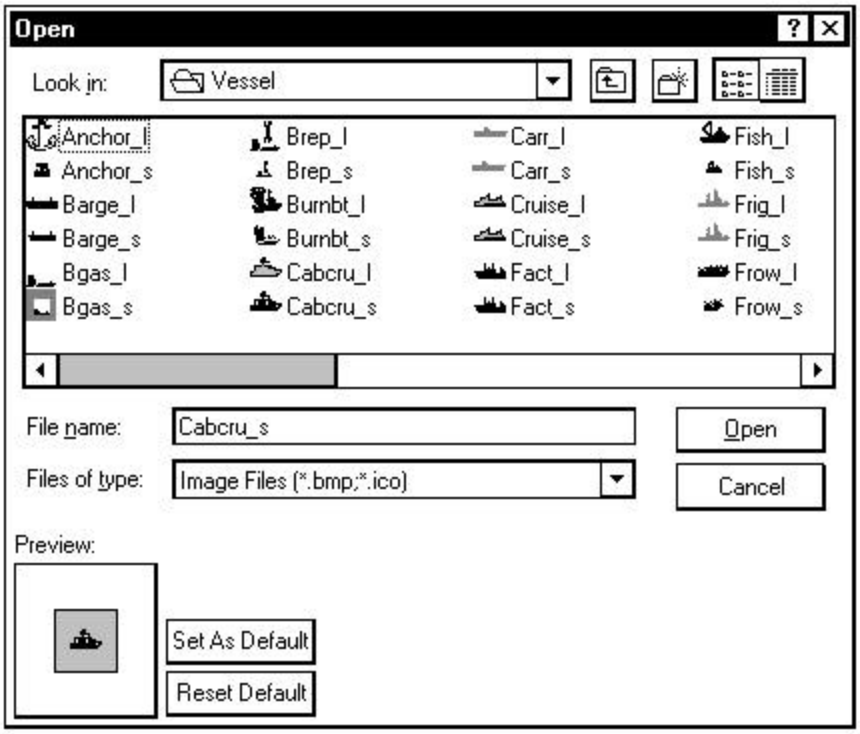
This displays the pathname to a .bmp or .ico file that is used as the icon which displays in the map window for the quick point. This field is blank if the default icon is used. The default icon is a partially filled yellow circle. If you wish to choose a .bmp or .ico file for the icon, use the Select Image button in the toolbar to choose a new icon.

The buttons at the top of the window are Select Image, Convert to Overlay, and Delete. They perform the following functions.

**Select Image**

Use the Select Image button to select a .bmp or .ico file to be used as the icon which displays in the map window for the quick point. Any image file that is used as the quick point icon can have a maximum size of 64 x 64 pixels.

Choose the Select Image button (the button on the far left) to display the Open window.




The Open window displays the contents of the h\c2pccl\data directory. To choose an image file, click on a file from the displayed list and click the Open button. If you click on an image file without clicking the Open button, the image appears in the Preview box so you can view the image before choosing it. If you choose an image file larger than 64 x 64 pixels, a warning message will appear to inform you that the chosen image cannot be used.

To choose an image file from another directory, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

The default quick point icon is a partially filled circular yellow icon. To change the default icon, locate the image file and click on it to display it in the Preview box. Click the Set As Default button to set it as the new default icon. To change the default back to the partially filled circular yellow icon, click the Reset Default button.

When you choose an image file and click the Open button, the Open window disappears and the Quick Point window reappears. The chosen image is set to display as the quick point but does not appear in the map window until you click either the Apply or Open button from the Quick Point window.

**Convert to Overlay**

Use the Convert to Overlay button (the second button in the Quick Point window) to create an overlay from a selected quick point or quick points.

Select one or more quick points and click the Convert to Overlay button to display the Save As window. The Save As window automatically points to the QuickPoint directory (located at h\Data\Local\C2pccl\data\Overlays\QuickPoint\). The default name for a quick point overlay is QuickPoint.mgc. Use this name or change it and click the Save button to save the overlay for the chosen quick point or quick points.

To view the overlay, open the Overlays:Tools option. When a quick point is converted to an overlay, a QuickPoint folder appears in the overlays list. The overlay you saved is located in the QuickPoint folder.

**Delete**

Use the Delete button (the third button in the Quick Point window) to delete the quick point from the system. When this button is clicked the quick point disappears from the map window and the Quick Point window disappears.

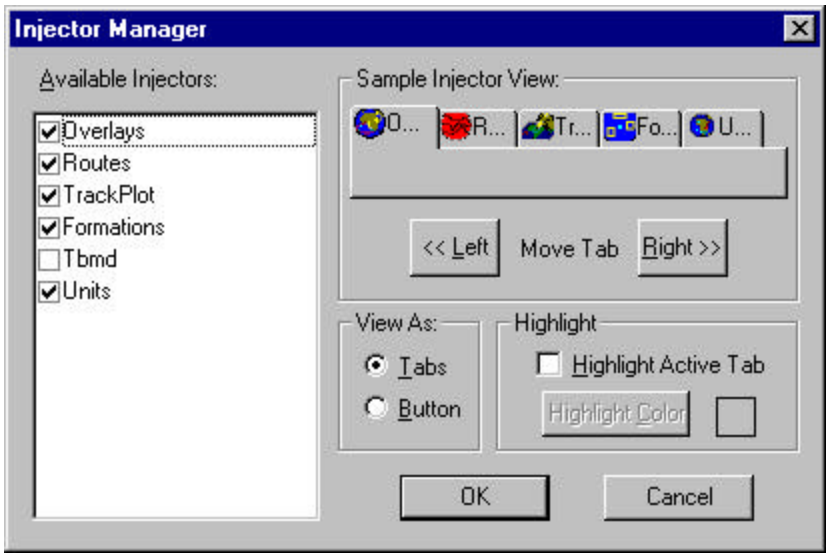
When the right mouse button is clicked for a quick point, the context menu appears with standard options and three additional quick point-specific options - Convert to Overlay, Delete, and Properties. The Properties option displays the Quick Point Dialog window for the selected quick point. The Convert to Overlay and Delete options perform the same functions as the buttons with the same names from the Quick Point Dialog window. All of these options are discussed in detail above.

When the settings in the Quick Point window are set as you want them, click either the Apply or OK button to accept the settings. Apply accepts the settings and leaves the Quick Point window open while OK accepts the settings and exits the window. Click the Cancel button to cancel any changes made since the last time the APPLY button was clicked.

## INJECTOR MANAGER

Use the Injector Manager to toggle on/off any of the first group of options on the Tools menu and organize them in any order. The Injector Manager affects the Units, Routes, TrackPlot, Overlays, Formations, and Tbmd options.

Choose the Injector Manager option to display the Injector Manager window.




The Injector Manager window contains a list of C2PC options in the left part of the window which can be toggled on/off and reorganized. There is a checkbox for each option in the list that indicates the current on/off state of the option. The list also shows the order in which the options will appear on the Tools menu.

In the top right part of the Injector Manager window, a list of tabs is displayed to show how the tab list in the left part of the map window will appear.

To toggle any of the options on/off, click the checkbox to the left of the option name in the list. If there is a checkmark in the checkbox, the option will appear in the Tools menu. If the checkbox is blank, the option will not appear.

To change the order of any of the options, select an option in the list or on the tab and click the Left or Right button. Clicking the Left button moves the option one place to the left in the tab list and one place up in the Tools menu. Clicking the Right button moves the option one place to the right in the tab list and one place down in the Tools menu. There are also keyboard equivalents that can be used for the Left and Right buttons and they are Left (Alt+L) and Right (Alt+R).

Another way to change the order of the options is to move the tabs directly above the tree list. To move the active tab, hold down the shift key and drag the tab to a new location. Release the mouse button and the tab moves to the new location and the other tabs shift as appropriate. The options in the Tools menu also change to their new locations.

In the View As box, choose the Tabs button to view the injectors as tabs in the tree list or choose Button to view the injectors as buttons.

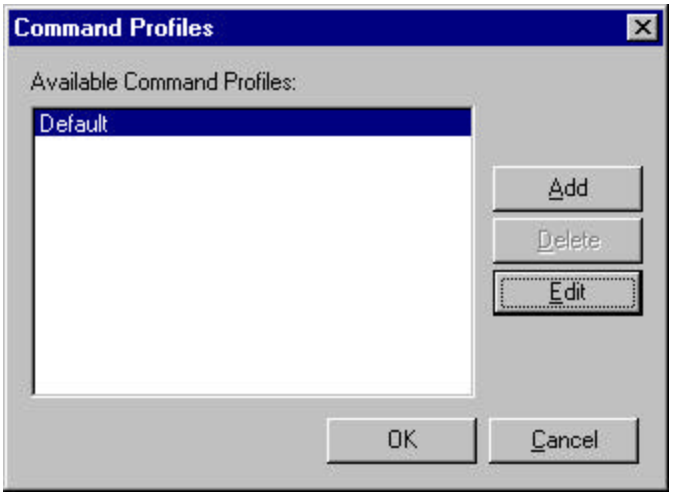
In the Highlight box, click the Highlight Active Tab checkbox ON to display the active tab or button in the tree list in a special color. Click the Highlight Color button to choose a color for the active tab or button. Click the Highlight Active Tab checkbox OFF to display the active tab or button in the same color as the other tabs or buttons.

When the options are set as you want them, click the OK button to save any changes, or click the Cancel button to discard changes. When the OK button is clicked, the Tools menu changes to reflect any changes made.

## COMMAND PROFILE

Use the Command Profile option to configure the options in the menus and toolbars as you want them. These command profiles can be saved, recalled, and edited as appropriate.

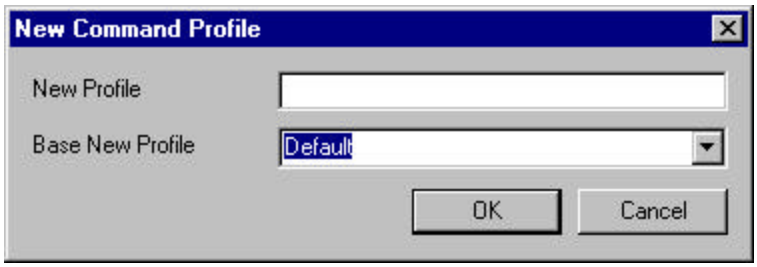
Select the Command Profile option to display the Command Profiles window.




The Command Profiles window displays a list of all command profiles currently saved in the system. When this window is first used, the only command profile listed is the Default profile. The Default command profile contains the menu and toolbar settings that are installed with the system.

### Add a Command Profile

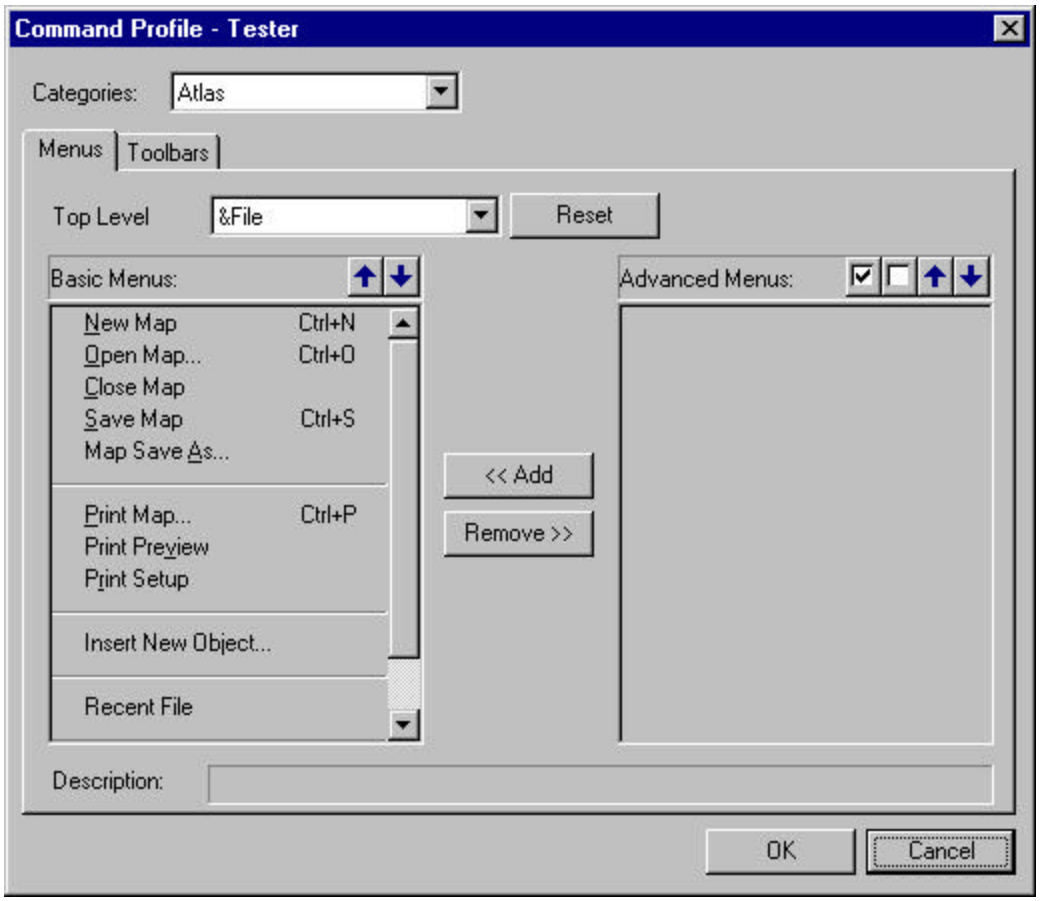
To create a new command profile, click the Add button to display the New Command Profile window.




**New Profile**
Enter a name for the new command profile.

**Base New Profile**
Choose an existing command profile as a starting point for your new command profile. Click the down arrow in this field to view a list of existing command profiles and select the one you want.

Click the OK button to accept the entries in the New Command Profile window or click the Cancel button to discard them. If you click the OK button, the Command Profile window appears with the name of your command profile displayed in the title bar.




The Command Profile window allows you to choose which menus, options, toolbars, and toolbar icons appear when you are using C2PC.

The general strategy for using this window is as follows:

1. Choose Atlas or one of the injectors in the Categories field.
2. Click either the Menus or Toolbars tab.
3. Choose a menu or toolbar in the Top Level field.
4. Use the Add and Remove buttons to move options or toolbar icons on or off the chosen menu or toolbar.
5. Repeat steps 1-4 for other categories, menus, and toolbars.
6. Click OK to save your changes.

The items in the Command Profile window are described here.

**Categories**

Click the down arrow to display Atlas and the injector names. Choose one of these to display the menus and toolbars for the chosen item in the Basic Menus / Basic Toolbars box.

### Menus/Toolbars Tabs

Click the Menus tab to display menus for the chosen category or choose the Toolbars tab to display toolbars for the chosen category. If the Menus tab is chosen, the left box is titled Basic Menus. If the Toolbars tab is chosen, the left box is titled Basic Toolbars.

### Top Level

If the Menus tab is selected, click the down arrow button in the Top Level field to display a list of menus for the chosen category. Choose a menu from the list to display the menu options for that menu in the Basic Menus box.

If the Toolbars tab is selected, click the down arrow button in the Top Level field to display a list of toolbars for the chosen category. Choose a toolbar from the list to display the icons for that toolbar in the Basic Toolbars box.

### Basic Menus/Toolbars Box

The Basic Menus/Toolbars box displays a list of menu options or toolbar icons for the chosen category and Top Level choice. These options or toolbar icons are displayed in the order that they will appear on the menu or toolbar.

To remove an option, icon, or separator from the menu or toolbar, select the item from the Basic Menus/Toolbars box and click the Remove button. The chosen item is moved from the Basic Menus/Toolbars box to the Advanced Menus/Toolbars box.

To change the order of the items in the Basic Menus/Toolbars box, select an item you wish to move and drag it to a new location. As you are dragging it, an arrow appears to show you where the item will be placed if you let go of the mouse button.

Another way to change the order of items is to select an item, then use the up or down arrow to move it up or down the list one space at a time.

To add an item back into the menu, choose the item you want from the Advanced Toolbars box and click the Add button. The chosen item is moved from the Advanced Menus/Toolbars box to the Basic Menus/Toolbars box.

### Advanced Menus/Toolbars Box

The Advanced Menus/Toolbars box displays a list of menu options or toolbar icons for the chosen category and Top Level choice that have been removed from the menu or toolbar.

The items in the Advanced Menus/Toolbars box can either be turned off entirely or they can be placed on an Advanced cascading menu that will appear at the bottom of the chosen menu or at the end of the chosen toolbar. To turn off the item entirely, leave the checkbox in front of the item blank. To place the item on the Advanced cascading menu, click a checkmark in the checkbox for the item.

To click on all checkboxes in the Advanced Menus/Toolbars box, click the checked checkbox in the Advanced Menus/Toolbars title area. To click off all checkboxes in the Advanced Menus/Toolbars box, click the blank checkbox in the Advanced Menus/Toolbars title area.

To change the order of the items in the Advanced Menus/Toolbars box, select an item you wish to move and drag it to a new location. As you are dragging it, an arrow appears to show you where the item will be placed if you let go of the mouse button.

Another way to change the order of items is to select an item, then use the up or down arrow to move it up or down the list one space at a time.

If checkboxes are turned on for items in the Advanced Menus/Toolbars box, these items will be displayed in the order that they will appear on the Advanced menu or toolbar.

**Description**

The Description box displays a brief description for the item last selected from the Basic Menus/Toolbars or Advanced Menus/Toolbars box. This description is for display purposes only and cannot be edited.

**Reset**

Click the Reset button to reset the displayed menu or toolbar to its default settings. Other menus or toolbars are not reset.

When all menus and toolbars are set as you want them, click the OK button to accept your settings or click the Cancel button to discard them. Clicking either button returns you to the Command Profiles window. Changes are not permanently saved until OK is clicked from the Command Profiles window.

## Delete a Command Profile

Select a command profile from the list and click the Delete button to delete it from the system.

### Edit a Command Profile

Select a command profile from the list and click the Edit button to display the Command Profile window for the chosen command profile. This window is exactly the same as the Command Profile window that appears when you click the Add button to add a command profile. Refer to the Add a Command Profile description above for complete details about the fields in this window.

Make any changes in this window as appropriate and click the OK button to save the changes or click the Cancel button to discard them. Clicking either button returns you to the Command Profiles window. Changes are not permanently saved until the OK button is clicked from the Command Profiles window.

### OK or Cancel Command Profile Settings

When the command profiles are set as you want them, click the OK button to save any changes, or click the Cancel button to discard changes. When the OK button is clicked, the menus and toolbars change to reflect any changes made.

## OPNOTES

Use the Opnotes cascading menu options to View and Send opnotes. Opnotes are free-form operator notes.

**NOTES**: C2PC communicates with the UB Host over the Network interface to import opnotes. Make sure the Network interface is up and running at the UB host machine.

If the data source is Serial-Gold, a share must be set in the Opnotes directory on your machine to allow opnotes to be imported. You must have Admininstrator privileges to set sharing. Do the following to set this share:

1) Choose Start->Programs->Windows Explorer.

2) Locate the following path: /h/C2pcgw/Data/Comms/Opnotes.

3) Highlight the Opnotes folder, click the right mouse button to display a pop-up menu and choose Sharing from this menu to display the Opnotes Properties window.

   Note: Under Win98 if the Sharing option isn't there when you right click, you need to enable it by right clicking on the Network Neighborhood Icon and picking Properties or going to the Control Panel and double clicking on

Network. This will display the Network Properties dialog. On that dialog, click the File and Print Sharing button. That will display a dialog with two checkbox selections. Check the one that says "I want to be able to give others access to my files." Hit OK and reboot. Sharing should now be available.

4) In the Opnotes Properties window, click the Shared As knob. In the Share Name field, enter C2PCOPNS and click the OK button.

5) In the C2PC Client, choose Tools:Options.

6) From the Connection tab, enter 127.0.0.1 in the Gateway Host IP Address field.

7) From the Import tab, enter an invalid IP address in the UB Host Import IP Address field.

If the UB Host is UB Version 3.0.2.X, a permission must be set on the UB Host machine in the Sysadmin area for opnote data to transfer to C2PC. The following steps must be performed on the UB Host machine to allow opnotes and overlays to be imported from the UB Host machine to C2PC:

1) On the UB Host machine, login as Sysadmin.

2) Select NETWORK : EDIT LOCAL HOSTS.

3) Click the ADD button and enter the following values in the fields that display:

   New Machine Name: Enter a name of your choice (C2PC recommended)

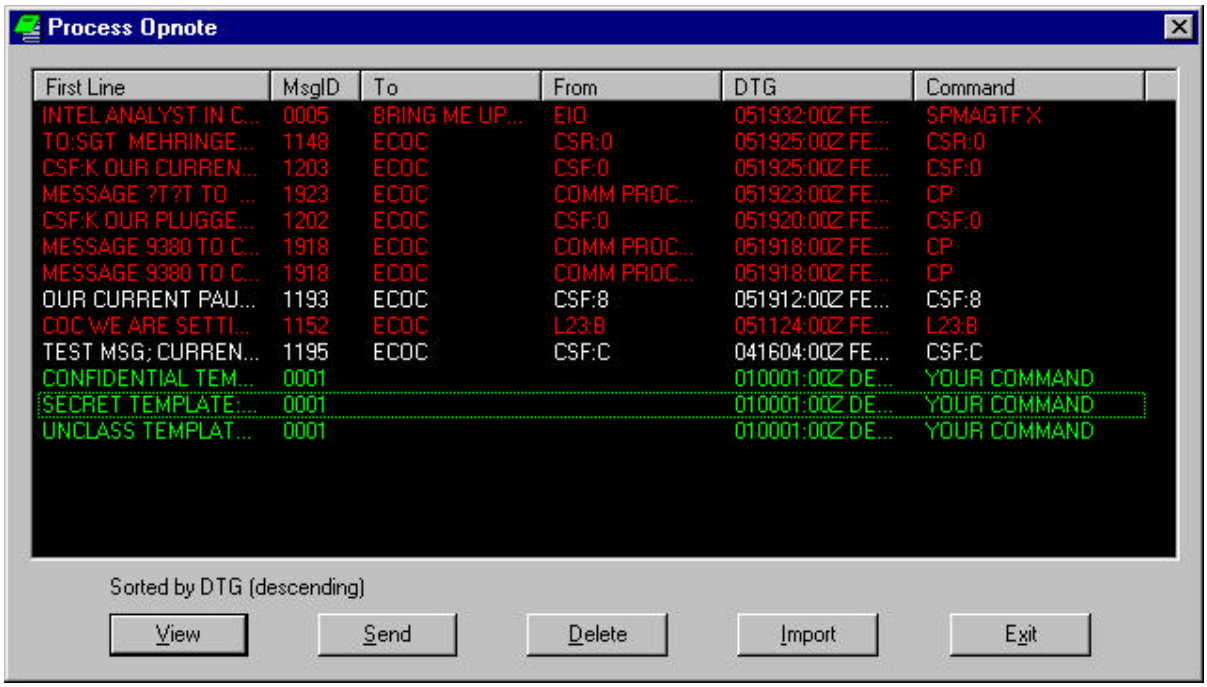
   New Machine Address: Enter the IP address of the Gateway

   Trusted Machine: Click this checkbox so that an X is showing

4) Click the OK button to save the values.

## VIEW

Use the View option to view existing opnotes. Choose the View option to display the Process Opnote window.




The Process Opnote window displays a list of all opnotes that have been imported into the system, the outgoing templates, and any opnotes that have been locally created. The following columns identify each opnote:

**First Line**
This displays the first 19 characters of the first line of the opnote.

**MSGID**
This displays the Message Identification number referred to as the GOLD number.

**To**
This displays the name of the intended destination of the opnote.

**From**
This displays the name of the sender of the opnote.

**DTG**
This displays the message Date-Time Group. This is the date and time the originator created the opnote.

**Command**
This displays the name of the command originating the opnote.

Click on a column heading to sort the opnotes using that column. Click again on the same column to display a reverse sort by that column. The current sort method is displayed in the bottom left portion of the window.

The opnotes in the list are color-coded as follows:

| Opnote Color | Status |
|---|---|
| Green | Outgoing opnote (or locally created) |
| Red | Imported opnote which has not been viewed |
| White | Imported opnote which has been viewed |

Click the right mouse button in the Process Opnote window to access a pop-up menu. Options on the pop-up menu include Mark as Read, View, Delete, and Import. View, Delete, and Import work the same as the buttons which are described below. The Mark as Read option changes the color of all selected opnotes in the list to white, indicating they have been viewed.

### *Import Opnotes*

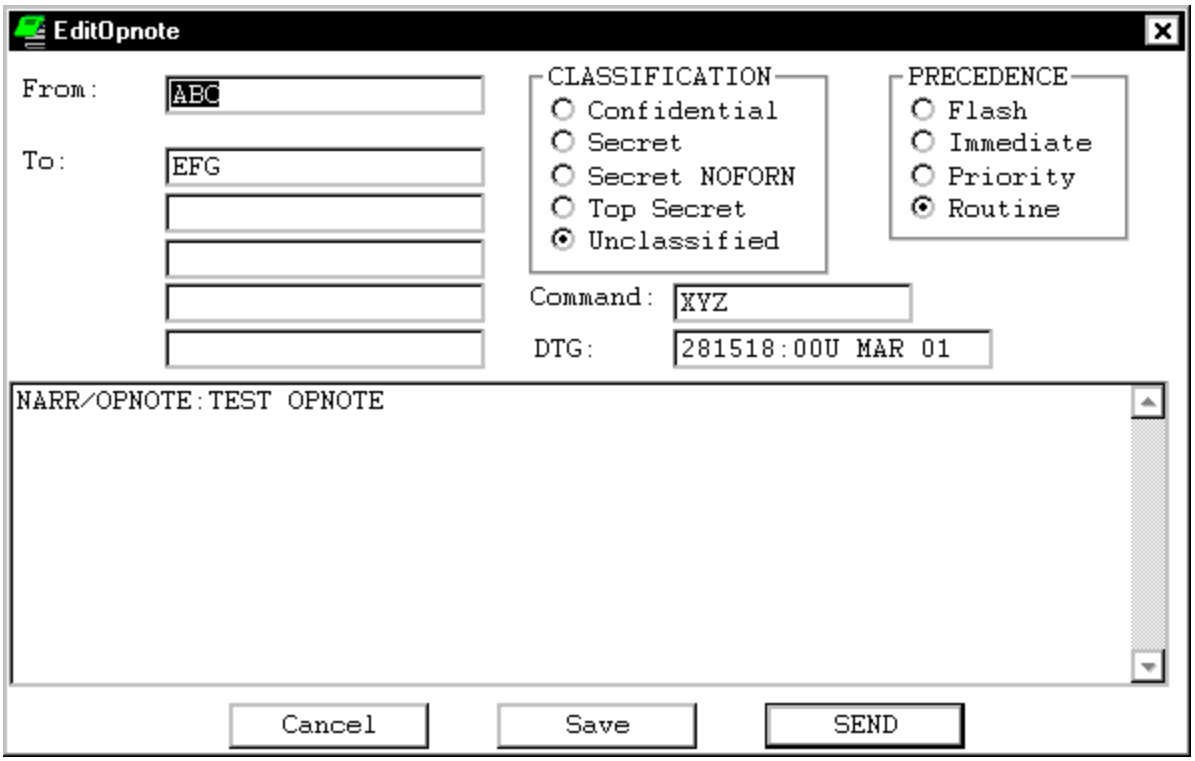
Use the Import button to import all opnotes from the UB Host machine or Serial port into C2PC. Once imported, opnotes may be viewed, edited and transmitted.

When the Import button is used, a series of messages are displayed in the second box in the Status Bar to indicate the status of the import process. When the import process is complete, a message of "done" appears, then the box turns blank once again.

Note: If an FTP error appears when using the Import button, verify that the UB Host Name and UB Password are the same on both the Client and on the UB Host Machine. Use TOOLS:OPTIONS to view the Settings window and change the UB Host Name and UB Password fields as necessary to match those set on the UB Host Machine.

### *View an Opnote*

To view an opnote, highlight the opnote to view and click the View button (or double-click the opnote) to display the EditOpnote window.



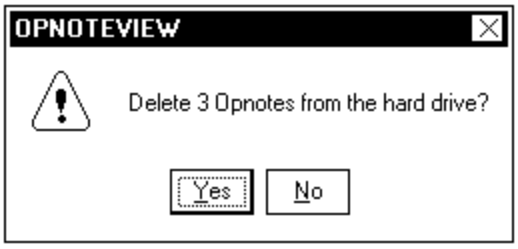

The EditOpnote window displays information about the sender, recipient, DTG, classification, precedence, and the text for the selected opnote. Use the scrollbar on the right to scroll through the opnote if necessary. The information in this window is for viewing purposes only and cannot be edited.

There is a pop-up menu associated with this window. Click on any of the text fields and choose the Select All option to select all the text in the field. When text is selected, the Copy pop-up option is available. Use the Copy option to copy selected text to the clipboard. This text can then be pasted into another area of C2PC (such as the EditOpnote window when sending an opnote) or into another application.

When you finish viewing the opnote, click the Close button to return to the Process Opnote window.

### *Delete Opnotes*

To delete one or more opnotes, highlight the opnotes to delete and click the Delete button to display the OPNOTEVIEW window.




Click Yes from this window to confirm the delete request and the selected opnotes are removed from the list. Click No to cancel the delete process and leave the opnotes in the list.

### *Send Opnotes*

Select an opnote from the list and click the Send button to display the EditOpnote window. The EditOpnote window displays header and text information for the chosen opnote. Make any changes as appropriate and click the SEND button to transmit the opnote to the UB Host machine. If an auto-forward command is in place on the UB Host machine, the message will automatically be transmitted to the destination in the TO field of the opnote message. If no auto-forward command is in place, an operator on the UB Host machine must manually send the message.

Use the Save button from the EditOpnote window to save any changes to the opnote. Click the Save button to display the Replace Existing Opnote dialog.

Click Yes to replace the existing opnote with the updated opnote. Click No to generate a new opnote, while retaining the old opnote.

Click the Cancel button to exit the EditOpnote window without sending the opnote.

### *Exit Process Opnote Window*

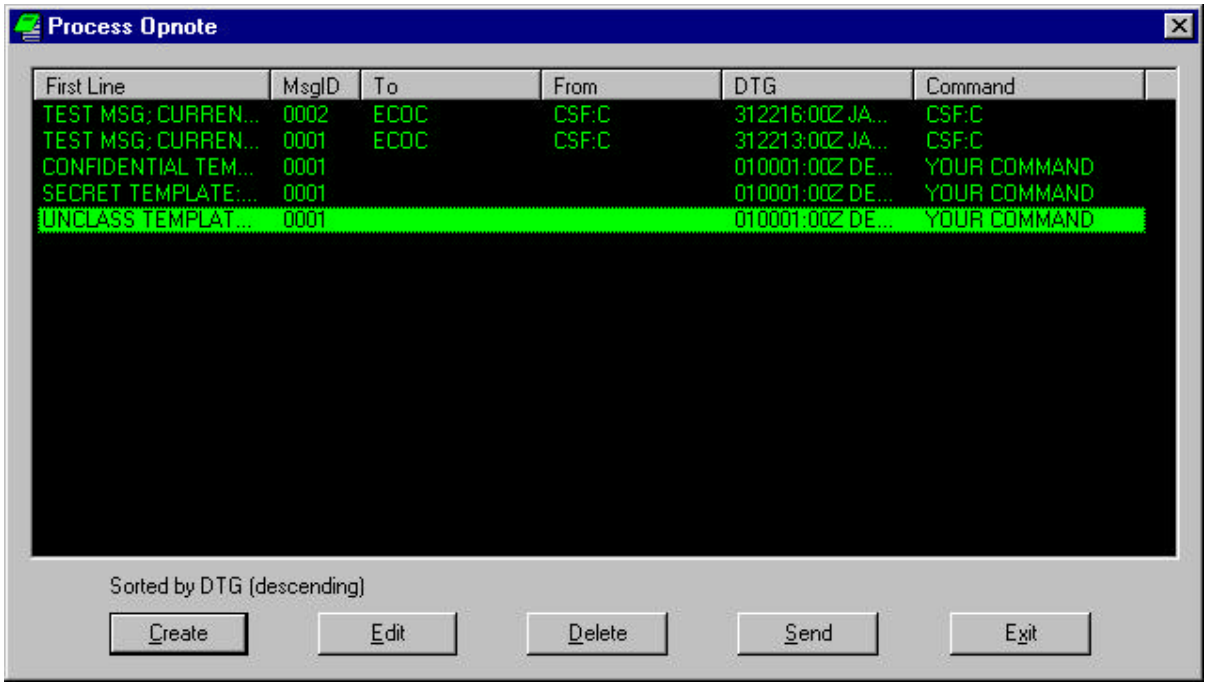
Click the Exit button to exit from the Process Opnote window.

## SEND

Use the Send option to transmit an opnote. When an opnote is transmitted from C2PC, it is sent to the UB Host machine that is connected to C2PC. If the opnote is intended for another site, it must be forwarded from the UB Host machine. This can be done by a UB Host machine operator or it can be done automatically if an auto-forward entry is made on the UB Host machine.

Opnotes are sent to the UB Host machine over the Network channel. This channel must be turned on at the UB Host machine for the opnote to arrive at the UB Host machine.

Choose the Send option to display the Process Opnote window.

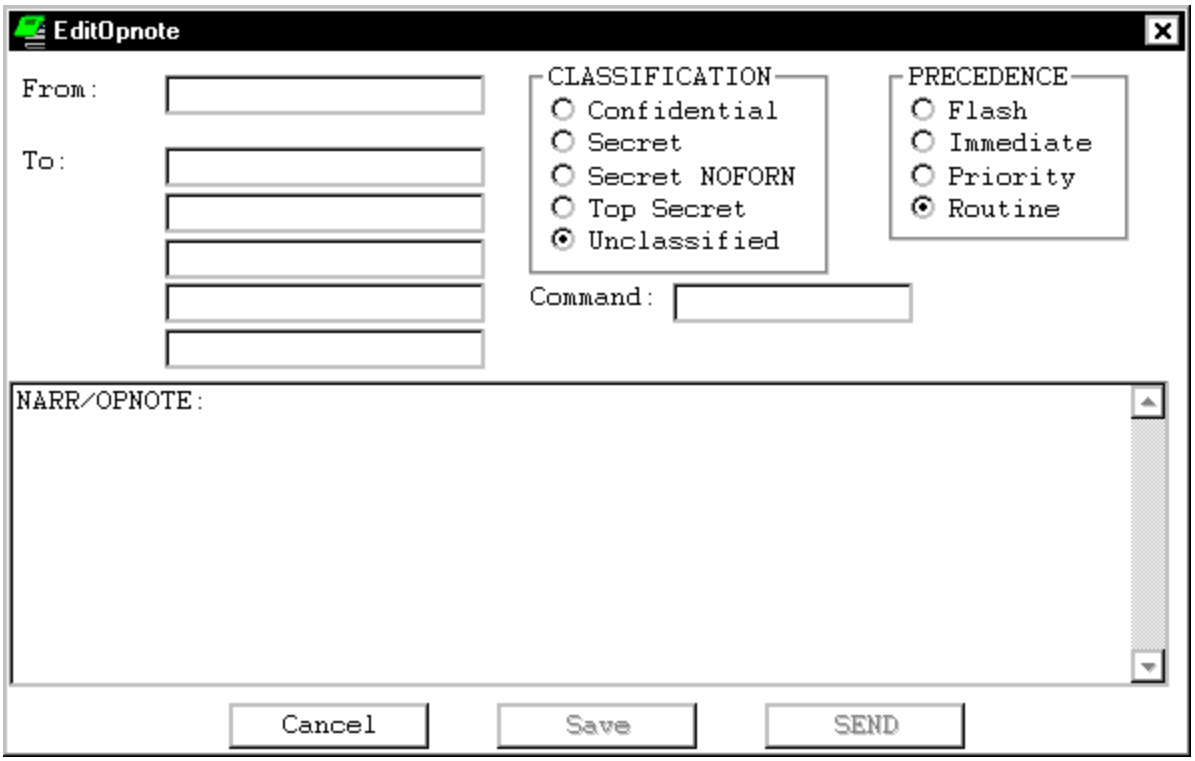



The Process Opnote window displays a list of opnotes and opnote templates. The general strategy for creating and sending an opnote is as follows:

1) Click the Create button or select an opnote template from the list and click the Edit button.
2) Edit the header information for the selected opnote and enter the text that you want to transmit.
3) Send the opnote.

### *Create an Opnote*

To create a new opnote, click the Create button to display the EditOpnote window.




The EditOpnote window contains some header fields and an area for entering the opnote text.

**From**
Enter your site or command.

**To**
Enter up to five destination sites or commands for the message.

**Command**
Enter the name of your command.

**Classification**
Choose the classification for the opnote (Confidential, Secret, Secret NOFORN, Top Secret, or Unclassified).

**Precedence**
Choose the precedence of the opnote (Flash, Immediate, Priority, or Routine).

Enter the opnote text into the box at the bottom of the window after the NARR/OPNOTE: text.

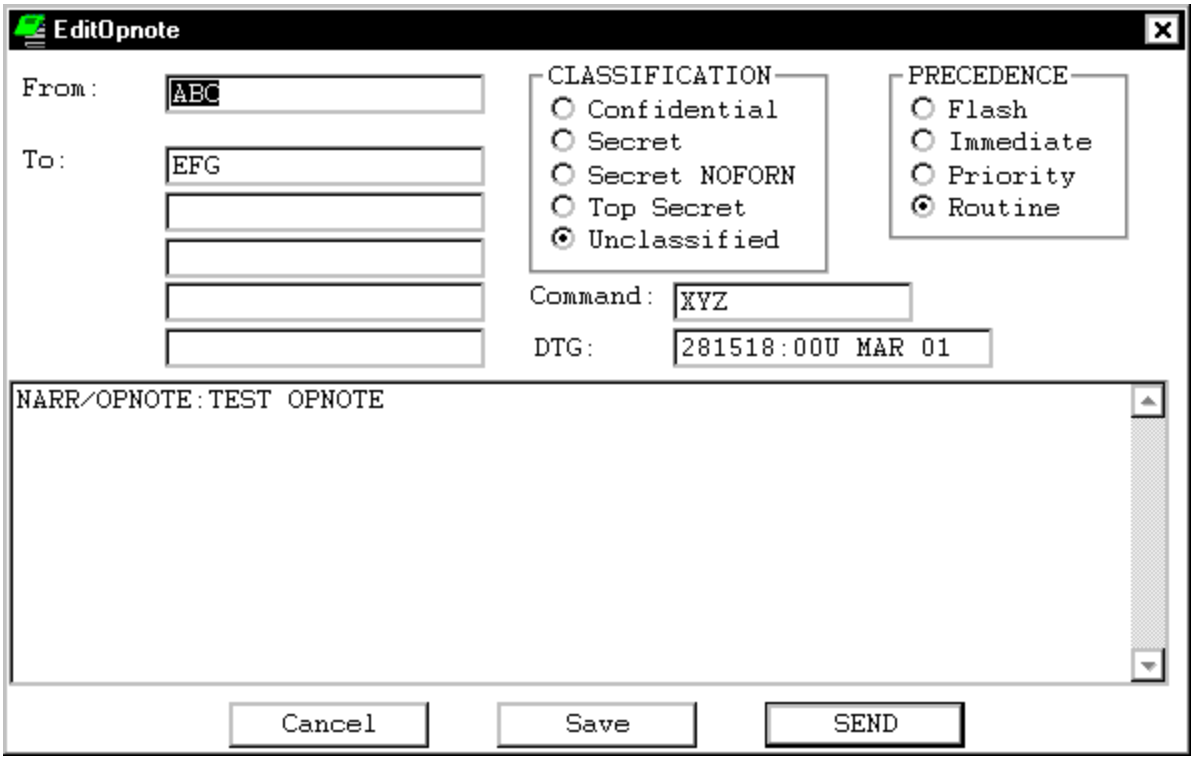
Click the Save button from the EditOpnote window to save the opnote. The EditOpnote window disappears and the saved opnote appears in the Process Opnote window.

Click the SEND button to transmit the opnote to the UB Host machine. If an auto-forward command is in place on the UB Host machine, the message will automatically be transmitted to the destination in the TO field of the opnote message. If no auto-forward command is in place, an operator on the UB Host machine must manually send the message.

Click the Cancel button to exit the EditOpnote window without sending the opnote.

### *Edit an Opnote*

To edit an opnote, select an opnote from the list and click the Edit button to display the EditOpnote window.




The EditOpnote window displays header and text information for the selected opnote.

Use the Save button from the EditOpnote window to save any changes to the opnote. Click the Save button to display the Replace Existing Opnote dialog.

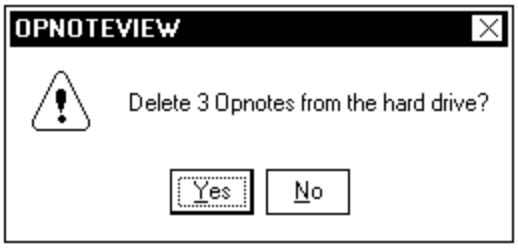
Click Yes to replace the existing opnote with the updated opnote. Click No to generate a new opnote, while retaining the old opnote.

Click the SEND button to transmit the opnote to the UB Host machine. If an auto-forward command is in place on the UB Host machine, the message will automatically be transmitted to the destination in the TO field of the opnote message. If no auto-forward command is in place, an operator on the UB Host machine must manually send the message.

Click the Cancel button to exit the EditOpnote window without sending the opnote.

### *Delete Opnotes*

To delete one or more opnotes, highlight the opnotes to delete and click the Delete button to display the OPNOTEVIEW window.




Click Yes from this window to confirm the delete request and the selected opnotes are removed from the list. Click No to cancel the delete process and leave the opnotes in the list.

### *Send an Opnote*

Select an opnote from the list and click the Send button to send the opnote to the Unix machine. If an auto-forward command is in place on the Unix machine, the message will automatically be transmitted to the destination in the TO fields of the

opnote message. If no auto-forward command is in place, an operator on the Unix machine must manually send the message.

### *Process Opnote Pop-Up Menu*

Click the right mouse button in the Process Opnote window to access a pop-up menu. Options on the pop-up menu include Edit, Delete, and Send. These options all work the same as the buttons in this window.

### *Exit Process Opnote Window*

Click the Exit button to exit the Process Opnote window.

## RANGE

Use this option to display a range value from a chosen position in the map window outwards to the pointer position. Note that you can choose this option from either the Tools menu or from the Range button on the main toolbar.

Choose the Range option to toggle it on. Click anywhere in the map window to create a hook point. A red dot appears to mark the hook point. Keep the mouse button down and move the pointer away from the hook point. The line you draw is freeform and does not have to be straight. When you release the mouse button, the range from the hook point to the end of the line is displayed.

To select a new hook point, move the pointer to where you want the hook point and click the mouse button.

To turn this option off, select the Range option again from the Tools menu.

## RANGE BEARING

Use this option to display a bearing and range value from a chosen position in the map window outwards to the pointer position. Note that you can choose this option from either the Tools menu or from the Range Bearing button on the main toolbar.

The displayed range can be shown as either a rhumbline or a great circle. Click the down arrow button to the right of the Range Bearing button on the main toolbar to display a pull-down menu with Rhumbline and Great Circle choices. A checkmark appears before the currently selected choice. To change the displayed range type, click the other choice from this menu.

Choose the Range Bearing option to toggle it on. Click anywhere in the map window to create a hook point. A big red dot appears to mark the hook point. A box appears below the pointer showing the position of the hook point. As you move the pointer away from the hook point, the range and bearing from the hook point to the pointer position is displayed in the box below the pointer.

The bearing can be displayed as a True Bearing or as a Magnetic Bearing. This is set through Tools:Options, under the default tab. If this is set to display a True Bearing, A T appears after the bearing. If this is set to display a Magnetic Bearing, an MN appears after the bearing.

To select a new hook point, move the pointer to where you want the hook point and click the mouse button.

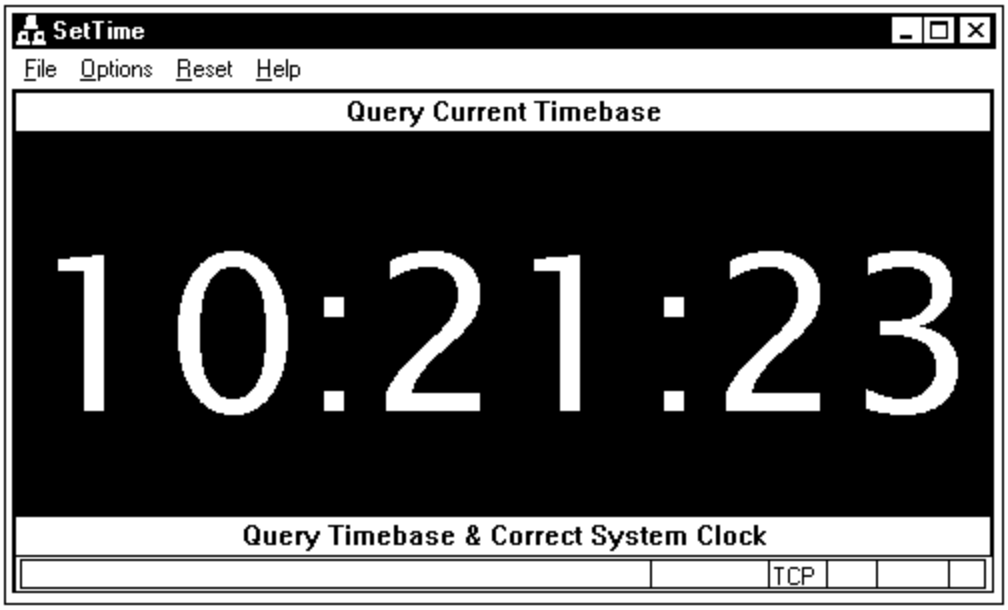
To turn this option off, select the Range Bearing option again from the Tools menu.

## SET TIME

Note: This option can only be used by users that have administrative rights or by users that have been given the NT "right to change system time."

Use this option to query a designated time server and synchronize the system time with the server time.

Choose Set Time from the Tools menu to display the Set Time window.




The Set Time window displays the current system time, with menus and two buttons to set the protocol and time server, called Timebase. The Query Current Timebase and Query Current Timebase & Correct System Clock buttons can be used to execute the named function.

### Query Current Timebase

Click this button to send a query to the currently selected Timebase. The current date and time on the Timebase clock is shown in the status bar at the bottom of the window. The difference between the Timebase clock and the system clock is shown as Delta: 0.000 seconds.

### Query Current Timebase & Correct System Clock

Click this button to synchronize the system clock with the Timebase clock. The status bar displays the message "System Clock corrected by: 0.000 seconds."

Note: If in Windows NT, you must be logged on to your workstation with administrator privileges for this button to work.

### File Menu

The File Menu contains one option, Exit. Choose Exit to close the window and exit the Set Time option.

## Options Menu

The Options menu contains options to set the protocol, timebase and minimized window icon location.

### *Protocol*

Choose Protocol from the Options menu to open a cascading menu of protocol options. Choose one protocol from the list.

**Time (UDP)**
Time protocol with Datagrams selected.

**Time (TCP)**
Time protocol with Streams selected.

**SNTP**
Simple Network Time Protocol.

### *Timebase*

Choose Timebase from the Options menu to open a cascading menu of Timebase options. Choose one Timebase from the list.

**Local Timebase**
UB Host Timebase selected from a cascading menu.

**US Navy Timebase**
US Navy time servers selected from a cascading menu.

**Alternate Timebase**
Opens a window to type in an alternate Timebase by name or IP address. Click OK to accept the Timebase, or Cancel to discard.

**Browse Master Timebase List**
Opens the Internet browser to a site that lists Network Time Protocol (NTP) public time servers. Follow the directions on this page to select a public time server as the Timebase.

### *Minimize to Tray*

When this option is checked On, a minimized icon representing the SetTime window will appear in the notification area at the right end of the Windows NT

taskbar. When this option is checked Off, the minimized window will appear in the main area of the taskbar.

### Reset

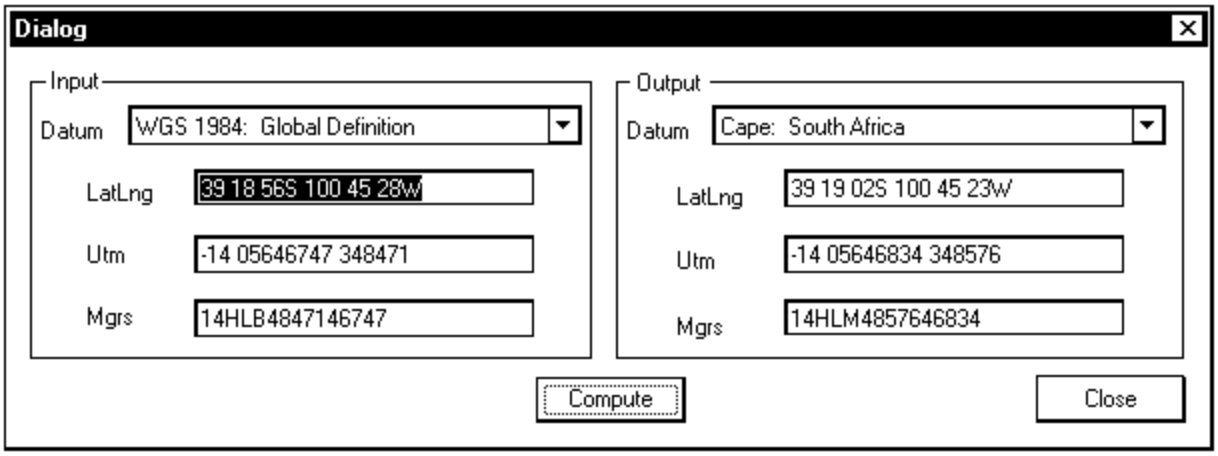
Click on Reset to stop the process of connecting to a server if the server is not responding.

### Help

The Help menu contains one option, What to do. Choose this option to display a window with instructions for using the Set Time option. Click OK to close the window.

## DATUM CONVERSION

Use the Datum Conversion option to quickly compare position information for two different datums. Select the Datum Conversion option to display the Dialog window.




The Dialog window contains an Input and an Output box. Each of these boxes contains a Datum, LatLng, Utm, and Mgrs field.

To compare two datums, select a datum in the Input box and select a different datum in the Output box. To choose a different datum in either box, click the right arrow button and choose a new datum from the list.

Enter a position in any of the three position fields in the Input box and click the Compute button to compute equivalent position information in all the other fields in this window.

You may perform other datum comparisons by changing datums and positions and clicking the Compute button.

To exit this option, click the Close button.

## OPTIONS

Use Options to display a C2PC Options window which contains five tabs of general settings information for the C2PC workstation.

The Display tab contains unit and precision settings to allow you to define how fields will display (for example, whether the position is displayed as a lat/lng, MGRS, or UTM value).

The Defaults tab allows you to choose from a list of datum choices to be used for the map view. The map mode, symbol mode, and range bearing mode can also be set through this tab.

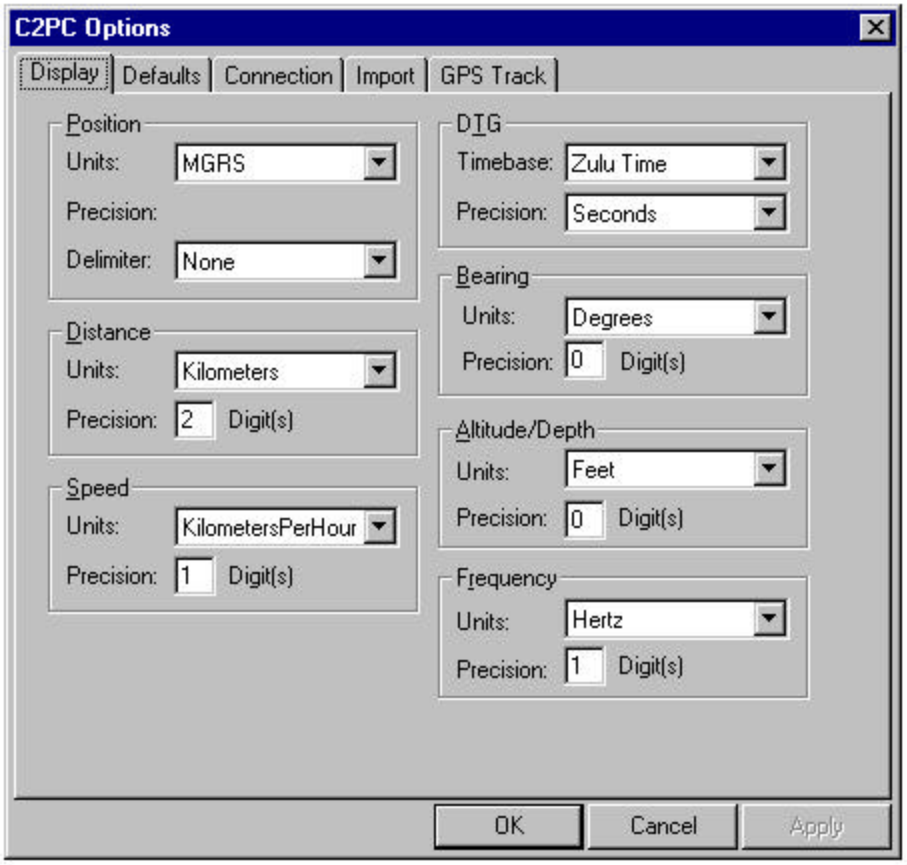
The Connection tab contains Gateway connection settings needed to properly connect between the Client and Gateway.

The Import tab contains import settings, along with user name and password. The import settings are necessary to allow import of overlays and opnotes from the UB host machine to the Client.

The GPS Track tab contains information about the track set to represent GPS Own Track.

The settings under the Connection tab and the Import tab are entered during installation of the C2PC software. They are available here in case there is a need to modify any of these settings if machine connections change or for any other reason.

The Display tab for the C2PC Options window is shown here.




You may modify any of the settings under the Display tab, and any fields within C2PC which use those setting types will reflect the chosen settings. In all of the Precision fields, enter the number of decimal places that will be shown for those values.

### Position

Position values can be shown in Lat/Lng, MGRS, or UTM. If the position value is Lat/Lng, a precision value can be set. The precision can be set to Degrees, Minutes, Seconds, 100th Degrees, 1000th Degrees, 10th Seconds, 100th Seconds, 10th Minutes, or 1000th Minutes. For any position value, a delimiter can be set. The delimiter can be a space, colon, dash, or none. If the position value is MGRS or UTM, the position value will be displayed with Easting first, followed by Northing.

### Distance

Distance values can be shown in Nautical Miles (NM), Kilometers, Meters, Yards, Feet, or Statute Miles. A precision value can be set.

**Speed**
Speed values can be shown in Knots, Kilometers per hour, or Miles per hour. A precision value can be set.

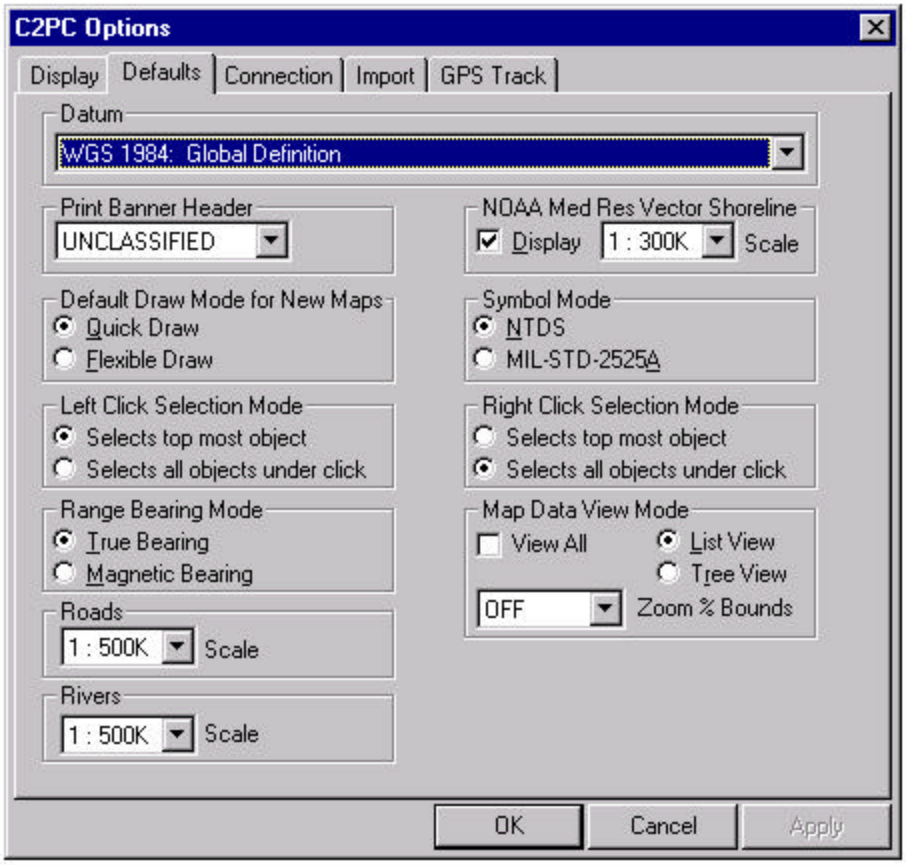
**DTG**
DTG values can be shown in Zulu time or local time. A precision value of seconds or minutes can be set.

**Bearing**
Bearing values can be shown in degrees (0-360) or mils (0-6400). A precision value can be set.

**Altitude/Depth**
Altitude/Depth values can be shown in Feet, Fathoms, or Meters. A precision value can be set.

**Frequency**
Frequency values can be shown in Hertz or Mega Hertz. A precision value can be set.

The Defaults tab for the C2PC Options window is shown here.




**Datum**

The top field in this window displays the currently selected datum. (The currently selected datum is also displayed in the titlebar of the C2PC Client window.) The default value is WGS 1984. To choose a different datum, click the down arrow to display all the available datum choices and choose the datum you want from the list. When a new datum is chosen, the map window changes slightly to adjust to the chosen datum. The new datum is also displayed in the titlebar in the C2PC Client window.

**Print Banner Header**

Choose the classification level that will display on anything printed from C2PC. Choices include UNCLASSIFIED, CONFIDENTIAL, SECRET, and TOP SECRET.

**NOAA Med Res Vector Shoreline**

If the NOAA data has been installed, these fields determine when this data is displayed in the map window. If the Display checkbox is clicked on, NOAA data will be displayed at the scale listed. If the

checkbox is off, NOAA data will not be displayed. Scale choices include 1 : 300K, 1 : 150K, or 1 : 75K.

NOAA data covers the shoreline for the great lakes, as well as the west, east, and gulf coasts of the USA. The current land color is used for the outline, and the current ocean color is used for the background. NOAA data is outline data - the land is not filled.

### Default Draw Mode for New Maps

Choose either the Quick Draw or Flexible Draw knob to specify the mode for automatically redrawing maps. Quick Draw redraws maps much faster than Flexible Draw, but you cannot change the projection with Quick Draw selected.

Note that the Map:Quick Draw option performs the exact same function as these knobs. Refer to the documentation for the Map:Quick Draw option for complete details about the two map drawing modes.

### Symbol Mode

Choose either NTDS or MIL 2525A to specify the symbol display mode. This affects the look of tracks and some other objects when they are plotted in the map window.

If you change the currently selected symbol display mode, the following message appears.

This message lets you know that you must exit the C2PC Client and start up again for the symbol mode change to take effect. Click the OK button to close this window.

Refer also to Map:Plot Options for additional symbol display settings.

### Left Click Selection Mode

The two knobs located here are used to specify how selection will work in the map window for the left mouse button. When the Selects top most object knob is chosen, the top object clicked with the left mouse button will be selected. When the Selects all object under click knob is chosen, all objects under the left mouse button click will be selected.

### Right Click Selection Mode

The two knobs located here are used to specify how selection will work in the map window for the right mouse button. When the Selects top most object knob is chosen, the top object clicked with the right mouse button will be selected. When the Selects all object under click knob is chosen, all objects under the right mouse button click will be selected.

### Range Bearing Mode

Choose either True Bearing or Magnetic Bearing to specify the type of bearing displayed when the Range Bearing option is used.

### Map Data View Mode

Choose either List View or Tree View to specify the view mode for the Map:Map Data option.

If List View is chosen, the Map Data window will contain two tabs - Data Paths and Datasets. The Datasets tab will display all the available map datasets in a list format.

If Tree View is chosen, the Map Data window will contain two tabs - Data Paths and Maps. The Maps tab will display the map data in a tree format.

Use the View All checkbox to toggle on/off the display of inactive maps when using the Other Maps option from the Context menu for maps. The Map:Quick Draw option must be turned on for this toggle to have any effect. To see the effect of this checkbox, do the following:

1) Turn on the Map:Quick Draw option.
2) Click the right mouse button on an area of the map window which contains multiple maps, including active and inactive maps. This displays the Context menu.
3) Move the pointer to the Other Maps option on the Context menu. If the View All checkbox is turned on, all maps, including inactive maps, will appear in the cascading list for the Other Maps option. If the View All checkbox is turned off, only active maps will appear in the cascading list.

Use the Zoom%Bounds box to set a zoom percentage tolerance when switching between raster maps. This is used to preserve the map width when switching between maps. Note that the Map:Quick Draw option must be turned on for this to have any effect. Choices for this field are OFF, 10-1000, 20-800, or 30-600. If OFF is chosen, this field has no effect. If one of the other choices is picked, the system will attempt to retain the map width when switching between raster maps.

For example, if 30-600 is chosen, when you switch to a new raster map, the map width will remain the same if the new map can display between a 30% and 600% scale. If the new map must display beyond these bounds at the current map width, the map width will not be retained.

**Roads**

If the display of roads is turned on with the Map:Features option, roads will be displayed in the map window at the scale listed here. Scale choices include 1 : 5M, 1 : 2M, 1 : 1M, 1 : 500K, 1 : 200K, or 1 : 100K.

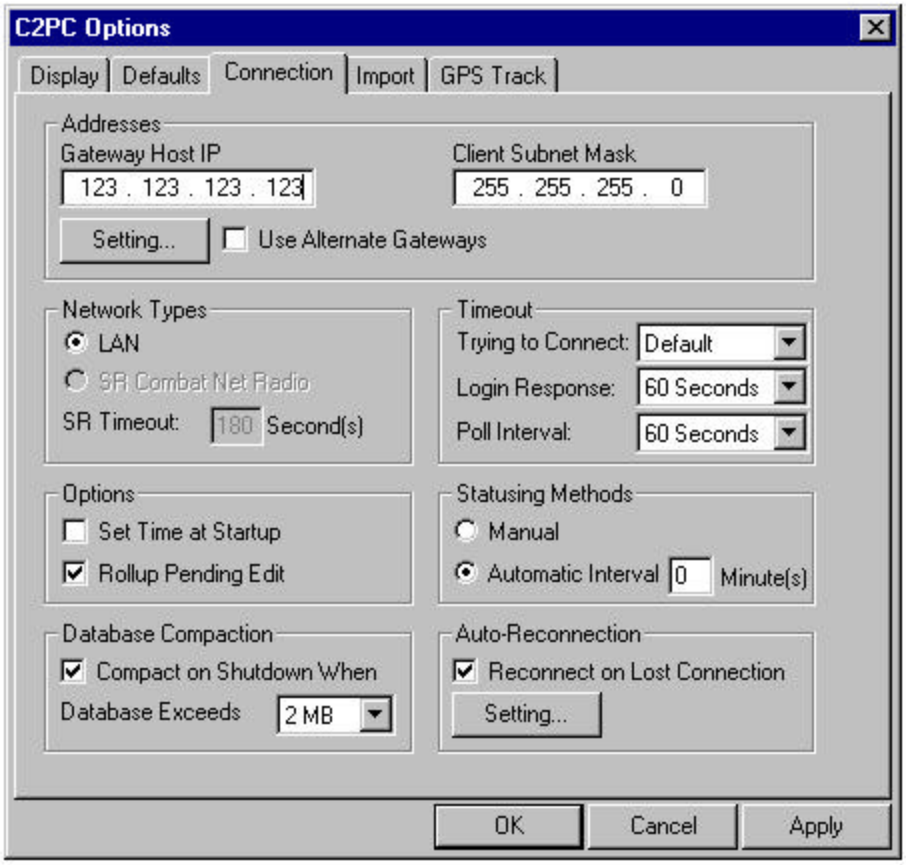
Roads map data is available for the entire world.

**Rivers**

If the display of rivers is turned on with the Map:Features option, rivers will be displayed in the map window at the scale listed here. Scale choices include 1 : 5M, 1 : 2M, 1 : 1M, 1 : 500K, 1 : 200K, or 1 : 100K.

River map data is available for the entire world.

The Connection tab for the C2PC Options window is shown here.




Modify any of the fields as appropriate for the Connection tab.

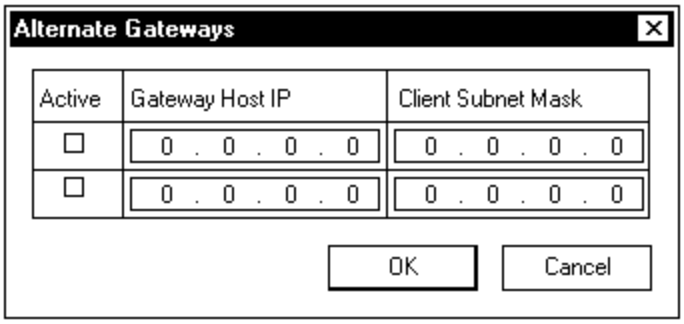
**Addresses**

The Addresses box displays the Gateway Host IP address and the Client Subnet Mask. The Gateway Host IP identifies the machine on the network which is running the Gateway software. The Client Subnet Mask is for your workstation and is used to identify groups of Clients or isolated Clients. Get this IP address from your network administrator.

If your workstation is part of a multi-tiered Gateway configuration, enter the IP address of the workstation that will be serving as your Gateway for the Gateway Host IP field.

To modify either of these IP addresses, click the appropriate knob and enter the new address in the fields.

Alternate Gateways can be specified if connection is lost from the primary Gateway. To specify alternate Gateways, you must click on the Use Alternate Gateways checkbox and use the Setting button to specify IP addresses for one or two alternate Gateways. When the Setting button is clicked, the Alternate Gateways window appears.




Enter the IP address and Client Subnet Mask for up to two alternate Gateways in this window. Click the Active checkbox to activate an alternate Gateway. If the Active checkbox is left blank, the alternate Gateway will not be used if connection is lost for the primary Gateway. Click the OK button to accept any changes to the settings in the Alternate Gateways window.

If the connection to the primary Gateway is lost unexpectedly, this is what will happen automatically based on your settings:

1) If the Reconnect on Lost Connection checkbox is turned on from the Options:Connection tab, the Client will attempt to auto-reconnect to the primary Gateway and will continue trying based on the auto-reconnect settings.

2) If the Reconnect on Lost Connection checkbox is turned off or the auto-reconnect process has failed, the Client will attempt to connect to an alternate Gateway if the Use Alternate Gateways checkbox is turned on. An attempt will be made to connect to the first active alternate Gateway. If a connection cannot be made to that Gateway, then an attempt will be made to connect to the second active alternate Gateway.

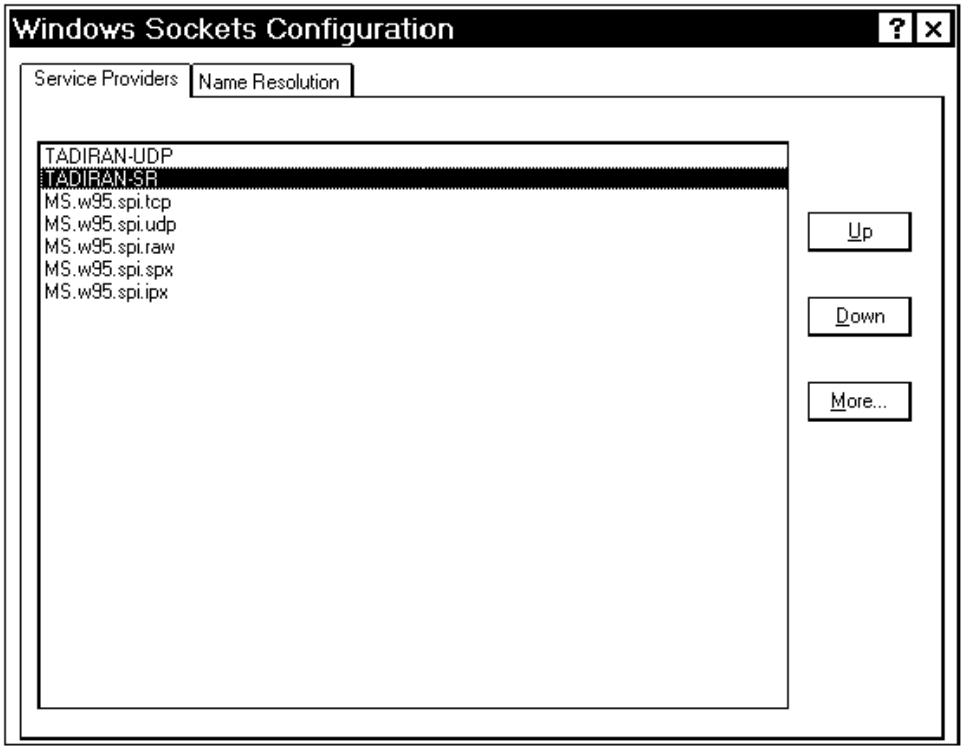
**Network Types**

Click the appropriate knob to set the network type. If your workstation is part of a LAN network, click the LAN knob. If your workstation is operating off an SR Combat Net Radio feed, click that knob.

If SR Combat Net Radio was chosen as the network type, enter a timeout value in the SR Timeout field. If no message is received over the SR Combat Net Radio network within the value entered here, the Client-Gateway connection will be disconnected.

If you choose the Combat Net Radio knob for a DACT RHC, it is extremely important that TADIRAN-UDP and TADIRAN-SR are the top two items in the service provider order. To set the service provider order, perform the following steps:

1) Click Start, then choose Programs:RHC SW Services:Service Provider Order to display the Windows Sockets Configuration window.




2) Make sure the first item in the list is TADIRAN-UDP. If this is not the first item in the list, select TADIRAN-UDP and click the Up button until it is listed first.

3) Make sure the second item in the list is TADIRAN-SR. If this is not the second item in the list, select TADIRAN-SR and click the Up button until it is listed second.

4) Click the OK button from the Window Sockets Configuration window to accept any changes you made.

If this order is not set correctly, communication over the Combat Net Radio will not work.

**Timeout**

The fields in the Timeout box allow you to set timeout times, which will cause the Client to disconnect from the Gateway when communication cannot be established between the two in the allotted time. The default settings in these fields should be used in most cases.

**Trying to Connect** - When the Client attempts to connect to the Gateway and the connection is not established, the timeout value

in this field will be used to determine the length of time to wait before ending the connection attempt. Under normal conditions, this setting should be set to Default. For a low bandwidth wireless area network, this setting may be lowered to reduce the total wait time trying to connect to the remote server, which is not on the network. Choices for this field are Default, 15, 30, or 45 Seconds.

**Login Response** - This is the time the Client waits for a response after sending a login request. The default setting is 60 Seconds. For a busy and slow wireless area network, this setting may be increased in order to have a successful connection. Choices for this field are 30, 60, 90, or 120 Seconds.

**Poll Interval** - This is the time the Client waits before it determines the Client-Gateway connection has been lost. The Client disconnects itself after two poll intervals if it has not received any data from connecting Gateway. The minimum setting is 30 Seconds since the Gateway was designed to broadcast its heartbeat status in 30 second intervals. Also, if the operator set an invalid value for the client submask, the Client disconnects itself after two poll intervals, because the Gateway heartbeat status and track data are transmitted via UDP protocol using the client submask value. Choices for this field are 30, 60, 90, and 120 Seconds.

### Options

The Options box contains the Set Time at Startup checkbox and the Rollup Pending Edit checkbox.

If the Set Time at Startup checkbox is marked on, the system will automatically set the time in your system based on the time settings entered with the Set Time option upon system startup. If this is off, no changes will be made to the time at system startup.

The Rollup Pending Edit checkbox is used to determine how much information is sent to the Gateway after the Client has been disconnected from the Gateway and connection is reestablished. If the Rollup Pending Edit checkbox is marked on, the track edits are condensed to minimize the information sent. If there have been multiple position reports, only the most recent report is sent. If multiple changes have been made to the attributes of a track, all the changes are condensed into one report. If a track has been added, then deleted while disconnected, both of these actions are discarded and not sent. If the Rollup Pending Edit checkbox is blank, all track edits are sent when connection is reestablished.

### Statusing Methods

These Statusing Methods options control how often a status message is sent to the Gateway. Status messages are sent between the Gateway and Client to make sure contact is maintained between the two and to make sure the track picture is updated when changes have occurred.

If the Manual knob is selected, status messages will not be automatically sent to the Gateway. To send a status message, the Status Gateway option from the TrackPlot menu must be used.

If the Automatic knob is selected, status messages will be automatically sent to the Gateway at the time interval selected in the Interval field.

In the Interval field, enter the time (in minutes) for the status messages to be sent. If this field is set to 0, status messages will automatically be sent every 30 seconds to the Gateway.

### Database Compaction

Use the Database Compaction options to reduce the size of the track database. This saves space on your hard disk.

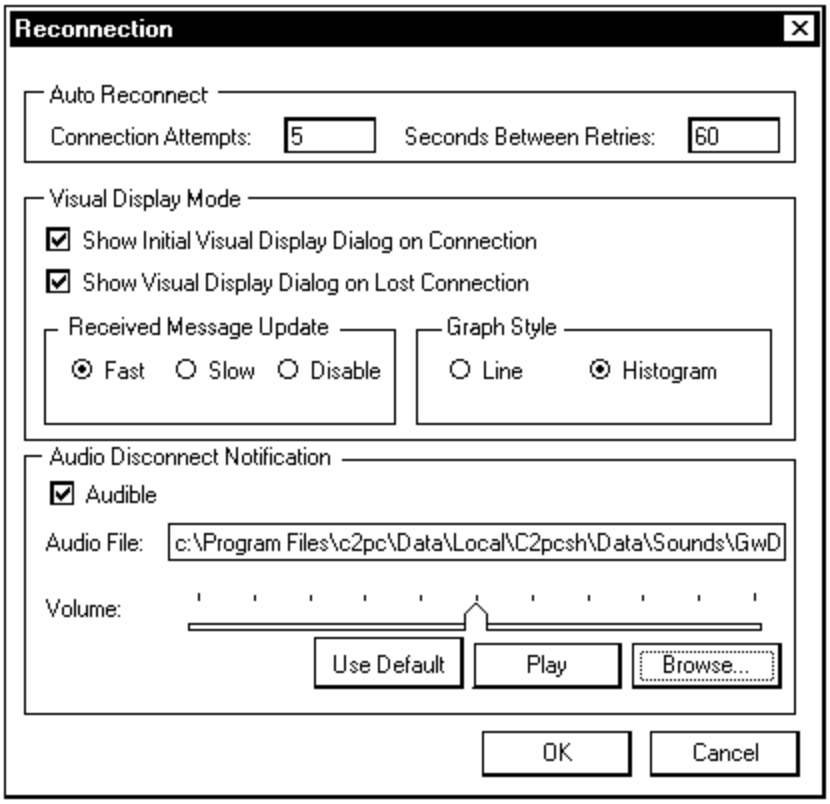
If the Compact on Shutdown checkbox is marked on, the track database will automatically be compacted when the Client is exited and the database size exceeds the value in the Compact When Database Exceeds field. When compacted, the track database is automatically restructured in a more efficient manner, thereby reducing its size. If this checkbox is off, database compaction will not occur.

If the Compact on Shutdown checkbox is marked on, the Compact When Database Exceeds field becomes available. This field is not available when that checkbox is off. Use this field to set the size level of the track database before compacting will take place. Available choices include 2 MB, 4 MB, 6 MB, 8 MB, or 10 MB. To change the currently selected value, click the down arrow button to the right of the field and choose another value.

### Auto-Reconnection

Use the Reconnect on Lost Connection checkbox to set the Gateway to automatically attempt to reconnect to a Client if the connection is lost unexpectedly. If the Disconnect from Gateway option is used from the Client, this checkbox will have no effect.

Click the Setting button to display the Reconnection window.




The Reconnection window contains three boxes of settings - Auto Reconnect, Visual Display Mode, and Audio Disconnect Notification.

The Auto Reconnect box contains settings to determine the number of reconnection attempts to be made and the waiting period between attempts if the Client-Gateway connection has been unexpectedly severed.

**Connection Attempts** - Enter the number of reconnection attempts to be made.

**Seconds Between Retries** - Enter the number of seconds to wait between reconnection attempts.

The Visual Display Mode box controls the look and some other aspects of the Visual Connection Display window that shows Client-Gateway connection status information. The Visual Connection Display window appears when you double-click on either the Gateway or Data Source icon from the Client window, and also may appear at other times depending on settings entered in this box.

**Show Initial Visual Display Dialog on Connection** - Click this checkbox to display the Visual Connection Display window upon connection of the Client to the Gateway.

**Show Visual Display Dialog on Lost Connection** - Click this checkbox to display the Visual Connection Display window when the Client-Gateway connection is unexpectedly severed.

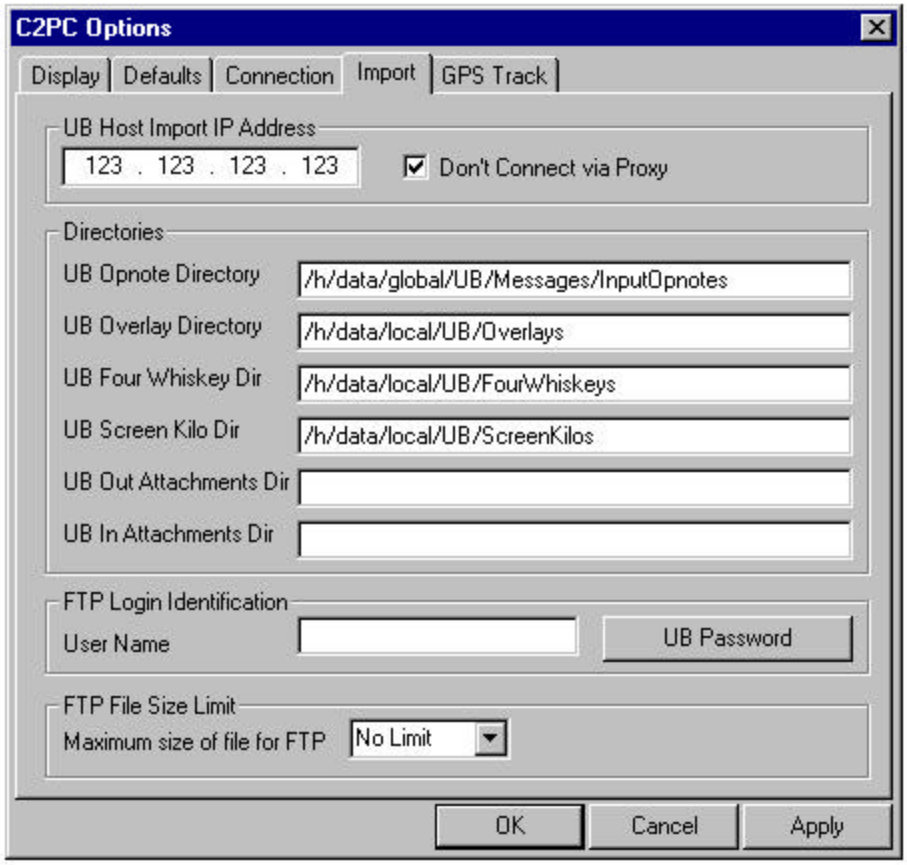
**Received Message Update** - Click one of the knobs in this box to set the update interval for the graph that appears in the Visual Connection Display window. The graph can be set to display in Fast (90 seconds) or Slow (181 seconds) intervals. You can also choose to Disable the graph.

**Graph Style** - Click either the Line or Histogram knob to set the graph style for the Visual Connection Display window.

The Audio Disconnect Notification box allows you to set an audible notification that will be heard if the Client-Gateway connection is unexpectedly severed. Click the Audible checkbox to turn on the audible notification. There is a default audible notification, or you can choose a .wav file of your own to notify you of a disconnect. Click the Use Default button to set the default audible notification. Click the Play button to hear the current audible notification. Move the Volume slider to set the volume for the audible notification. To choose an audible notification of your own, click the Browse button and locate the path to the .wav file you wish to use.

Click the OK button to save any changes to the Reconnection window or click the Cancel button to discard any changes. Clicking either button returns you to the Connection tab.

The Import tab for the C2PC Options window is shown here.




Modify any of the fields as appropriate for the Import tab.

**UB Host Import Address**

This IP address identifies the UB Host machine. Modify this address as appropriate.

The Don't Connect via Proxy checkbox defaults to on. When on, a direct connection between the UB Host and the Client is established. When off, the connection between the UB Host and Client will use a Proxy Server (if the Host PC has been so configured).

If a Proxy Server is allowed, another setting will affect the connection. This is the Use Proxy Server checkbox, located outside of C2PC under Settings\Control Panel\Internet. If this checkbox is on, the connection will go through the Proxy Server. If off, the Proxy Server will be bypassed and a direct connection will be established.

**Directories**

The UB Opnote Directory field identifies the directory on the UB Host machine which is used to store opnotes. Coordinate this information with the UB Host administrator.

The UB Overlay Directory field identifies the directory on the UB Host machine which is used to store overlays. Coordinate this information with the UB Host administrator.

The UB Four Whiskey Dir field identifies the directory on the UB Host machine which is used to store four whiskey formations. Coordinate this information with the UB Host administrator.

The UB Screen Kilo Dir field identifies the directory on the UB Host machine which is used to store screen kilo formations. Coordinate this information with the UB Host administrator.

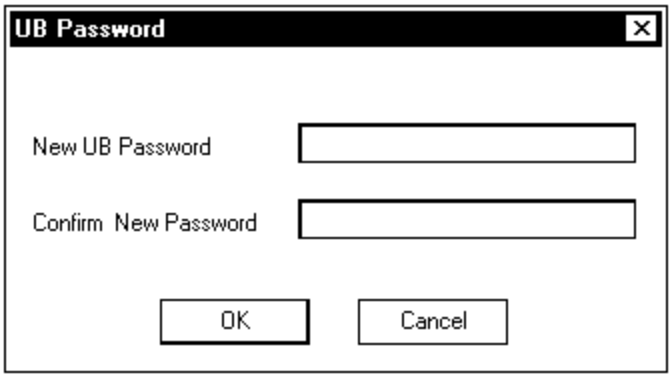
The Out Attachments Dir field identifies the directory on the UB Host machine which is used to store outgoing attachments. Coordinate this information with the UB Host administrator.

The In Attachments Dir field identifies the directory on the UB Host machine which is used to store incoming attachments. Coordinate this information with the UB Host administrator.

### FTP Login Identification

The User Name field identifies the UB user name for the UB Host machine. Coordinate this information with the UB Host administrator. This user account is used by C2PC to gain ftp access to import opnotes, overlays, formations, and units. Ensure ftp access is enabled.

Click the UB Password button to enter and change the UB password.



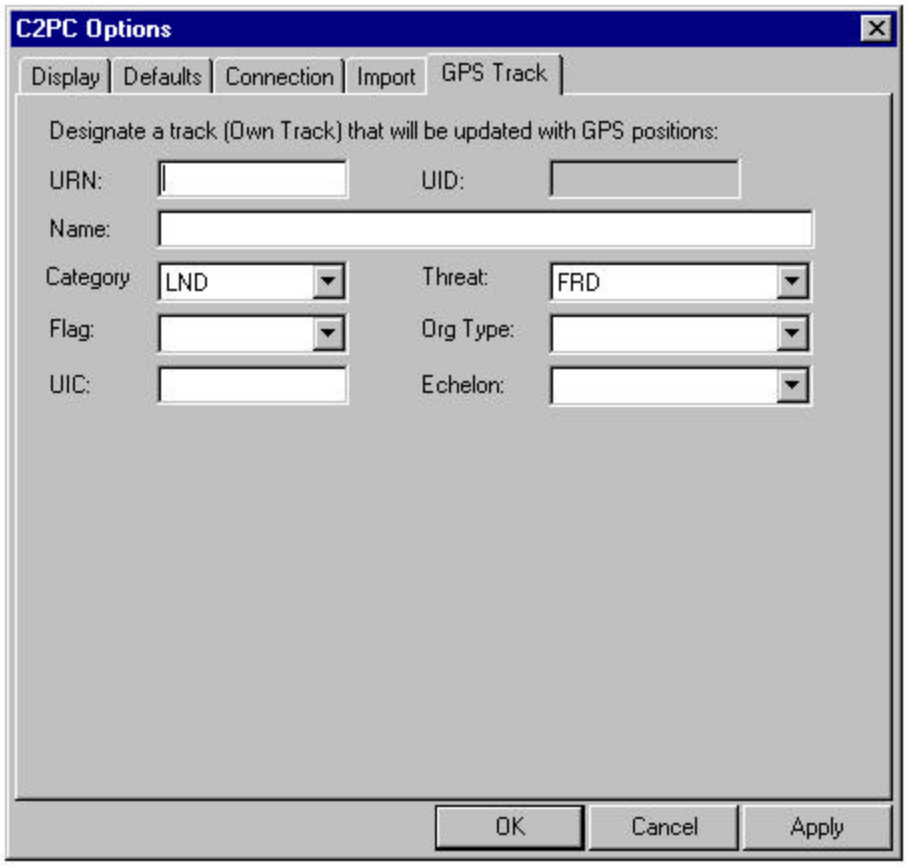

Password values do not appear in this window. When values are entered, they appear as asterisks in this window (*).

To enter or change the password, enter the password in the New UB Password field and enter it again in the Confirm New Password field. Click OK to accept the new password.

**FTP File Size Limit**

Use the Maximum size of file for FTP field to choose a file size limit when using FTP to import files from the UB Host machine.

The GPS Track tab for the C2PC Options window is shown here.




Use the GPS Track tab to quickly define information about GPS Own Track. When used in conjunction with the GPS option, this allows GPS reports to automatically update the GPS Own Track position. (Note that the GPS option is only available from the Tools menu when DACT/RHC Standard was chosen from the Setup Type window during C2PC installation.)

**URN**

Enter the Unit Reference Number (URN) of Own Track. A valid URN must be entered in this field for Own Track to become established.

**UID**

This is the unique identifier. It begins with three letters representing the site that reported the track, followed by a series of numbers to

identify the track. This field is for display purposes only and cannot be edited.

This field will be blank when you are creating Own Track. After using the GPS option to configure Own Track, this field will automatically fill with the assigned UID.

**Name**
Enter the name of Own Track.

**Category**
Enter the category of Own Track from the following choices:

| Code | Meaning |
|---|---|
| AIR | Aircraft |
| FSH | Fishing Vessel |
| LND | Land Unit |
| MER | Merchant |
| NAV | Naval |
| SUB | Submarine |
| SUR | Ships not falling within NAV, MER, FSH categories |
| UNK | Unknown |

**Flag**
Enter the two-character country code to represent the nationality of the track.

**UIC**
Enter the Unit ID number.

**Threat**
Enter the threat status of Own Track from the following choices:

| Code | Meaning |
|---|---|
| AFD | Assumed Friendly |
| FRD | Friendly |
| HOS | Hostile |
| NEU | Neutral |
| PND | Pending (Unknown, Unevaluated) |

| | |
|---|---|
| SUS | Suspect (Assumed Hostile) |
| UNK | Unknown (Evaluated) |

**Org Type**
Enter the organization type of Own Track.

**Echelon**
Organizational level of Own Track.

After entering information about Own Track, use the GPS option from the Tools menu to configure Own Track with the GPS receiver. After using the GPS option to configure Own Track, all the fields in this window will become grayed out and uneditable.

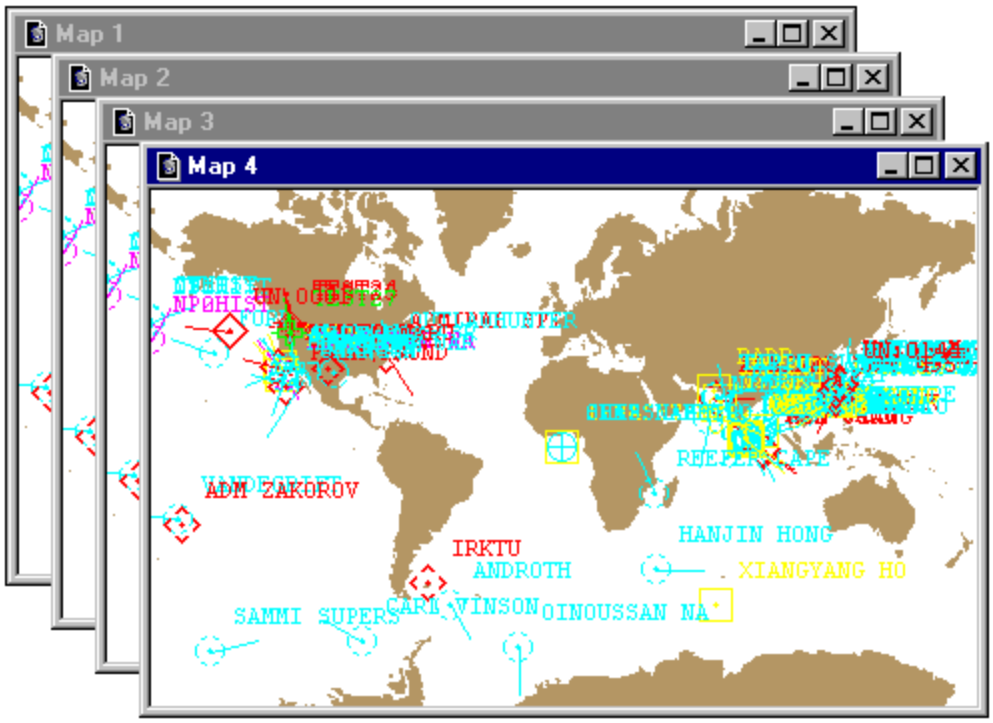
After making any changes to the settings for any of the tabs in the C2PC Options window, click the Apply button to accept the changes and remain in this window or click the OK button to accept the changes and exit this window. Click the Cancel button to discard any changes and exit.

## 4.5 WINDOW MENU

Use the Window menu options to control the display of the maps.

## CASCADE

Resizes and arranges the open map windows in an overlapped fashion with the titlebars visible.

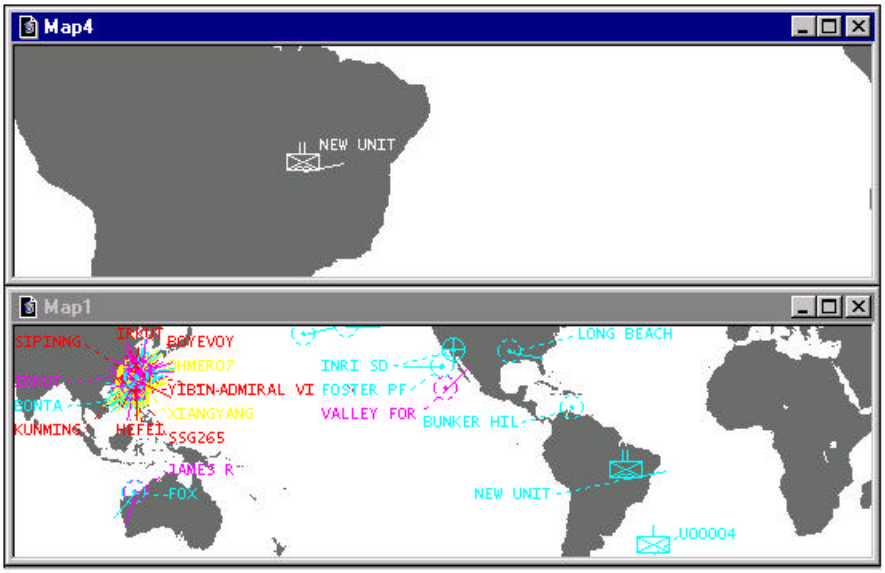



*Cascade Example*

When displaying multiple map windows, only the map window with the blue titlebar has focus. Click anywhere on another map window to bring it to the front and give it focus.

## TILE HORIZONTALLY

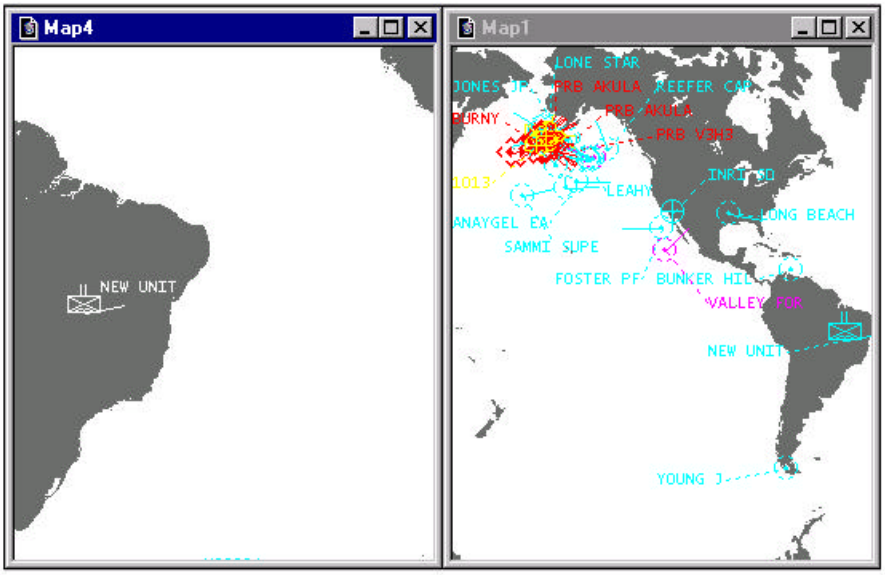
Resizes and arranges the open map windows so they are all visible and do not overlap. If there are two or three maps open, they will be stacked one on top of the other. If there are more than three maps, they are tiled so that they all fit in the window, generally in a horizontal pattern.




*Tile Horizontally Example*

## TILE VERTICALLY

Resizes and arranges the open map windows so they are all visible and do not overlap. If there are two or three maps open, they will be shown side by side. If there are more than three maps, they are tiled so that they all fit in the window, generally in a horizontal pattern.




*Tile Vertically Example*

## ARRANGE ICONS

Arranges any minimized icons in a horizontal row at the bottom of the screen.

*Arrange Icons Example*

When maps are minimized into icons, they are automatically arranged in a horizontal line at the bottom of the screen. These icons can be moved around the screen. The Arrange Icons option automatically arranges the icons in a row at the bottom of the screen.

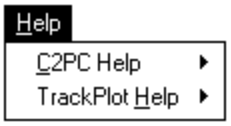
**NOTE:** If you minimize a map window and still have a map window maximized, the maximized window covers the minimized map window icons. In order to access an icon, resize the map window that is covering the icons.

## MAP 1, MAP 2, etc.

Multiple map windows may be open at once. All open map windows are listed in this menu area. A checkmark is displayed in front of the active map window. Select a different map window from the list (or click directly on the map window) to make that map window the active map window.

## 4.6 HELP MENU

Use the Help Menu to access the online help system and to view version information for C2PC.




*Help Menu*

## C2PC HELP

The C2PC Help option contains a cascading menu with the Contents and Index option and About C2PC option.

### Contents and Index

Use this option to view on-line help for the C2PC system. Detailed help for every C2PC option is contained within this help system as well as links to related topics.

### About C2PC

Displays a window with information on the program version number and current machine configuration. Use the version information when troubleshooting.

## UNITS/TRACKPLOT/ROUTES/OVERLAYS/FORMATIONS HELP

This option changes depending on which of the first group of options under the Tools menu is selected. For example, if TrackPlot is active, this option is TrackPlot Help. If Routes are active, this is Routes Help.

Each of these options contains its own Contents and Index and About options.

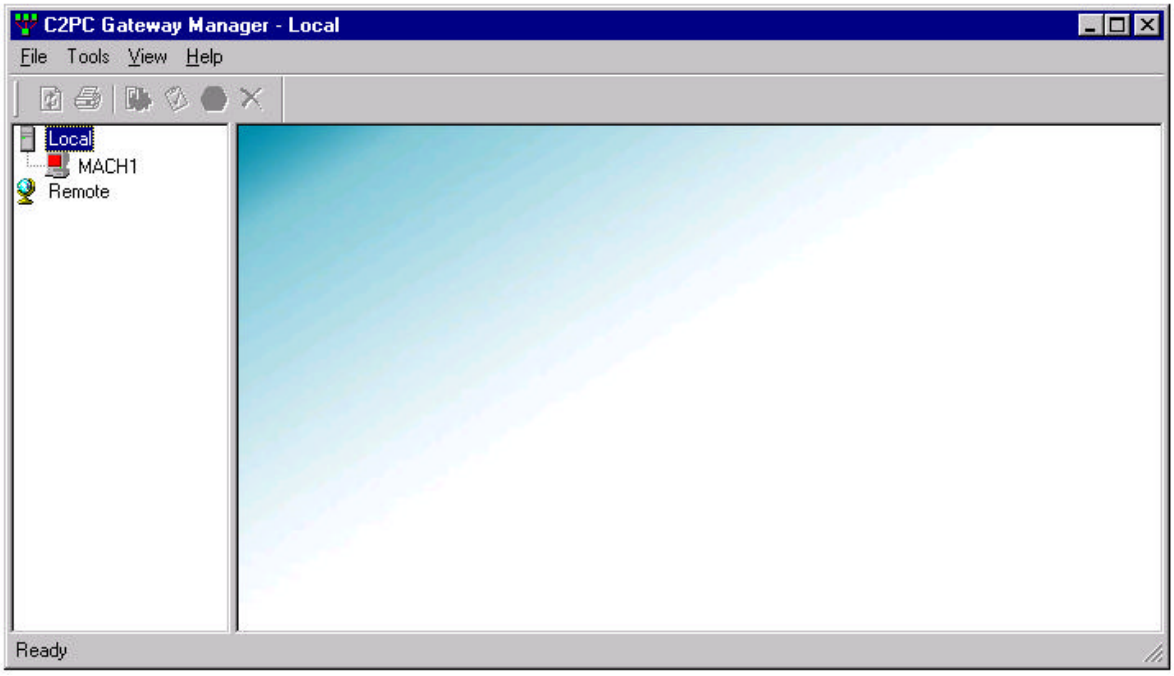
# CHAPTER 5: THE GATEWAY

The Gateway is the C2PC component which processes track information received from and sent to the UB host. The Gateway can also receive track information from a Serial connection instead of a UB host. The Gateway must be up and running for the C2PC Client to receive track updates. The workings of the Gateway are transparent to the user.

The Gateway can be run from the workstation containing the Client, or the Gateway may be on a server. Up to 512 Client workstations may connect to a Gateway. A multi-tiered Gateway configuration can also be set up. For detailed information about multi-tiered Gateway configurations, please refer to Appendix B.

When the gateway is running, it will usually be displayed as an icon in the Task Bar. When the Gateway Icon is enlarged, it displays information about Gateway connections to the data source and to C2PC Clients, as well as Gateway broadcast information.

To start up the Gateway, choose the Gateway Manager option from the Start menu. The C2PC Gateway Manager window appears, as well as a C2PC Gateway icon in the Task Bar.




The left frame of the C2PC Gateway Manager window displays a tree list of selected Gateways running on workstations in your network. To connect to a Gateway, a

workstation containing a Gateway must be chosen from this tree list. When connected to a Gateway, the right frame of the window shows connection information for that Gateway. If no Gateway is connected, the right frame is blank. The C2PC Gateway Manager window contains some menus and a toolbar to allow you to perform Gateway operations.

The tree list in the left frame of the C2PC Gateway Manager window displays the local workstation and any remote workstations that have been added to the tree list. The icon color in the tree list provides the following information:

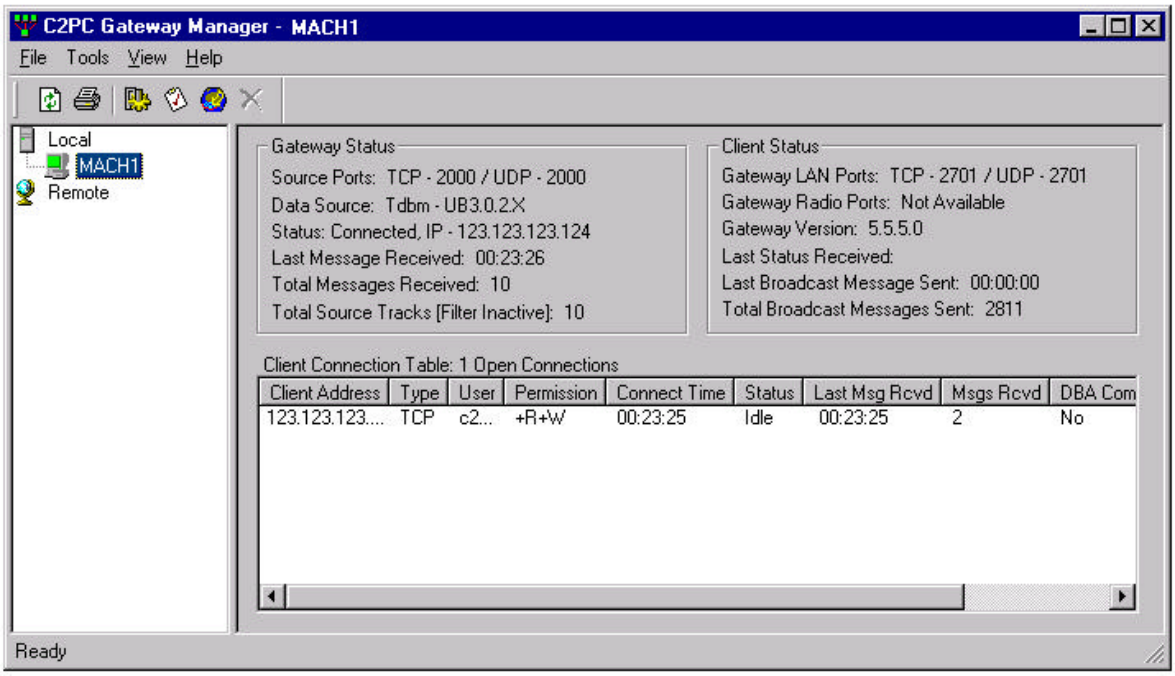
?? Green Gateway running

?? Red Gateway available but it is turned off

?? Black No Gateway available or access to Gateway denied

Use the options from the File menu to start, stop, add, and delete Gateways.

When a Gateway is running (green in tree list), select the Gateway in the tree list to display connection information about the Gateway in the right frame of the C2PC Gateway Manager window.




The information displayed in the right frame of the C2PC Gateway Manager window is updated every 30 seconds for the local Gateway. The remote Gateway status is only updated automatically if the Gateway's Status and Client Connection

Table is changed. Otherwise, you must refresh manually for updates. This is to reduce the network traffic.

## Gateway Status

If the data source is Tdbm, the Gateway Status box displays status information about the Gateway connection to the UB host machine which contains the Track Database Manager (Tdbm).

If the data source is Gateway to Gateway, the Gateway Status box displays status information about the connection to the machine further up the multi-tiered Gateway chain that is sending your machine data.

If the data source is Serial-Gold, data is received through the Serial port connection, and the Gateway Status box displays information about the Gateway connection to the data source. For more information about the Serial port, such as how to check the status of the connection, see the *Serial* section in Chapter 6.

### Source Ports

This field only appears if the data source is Tdbm. This displays the port numbers for the TCP and UDP connections between the Gateway and the UB host machine.

### Data Source

If the data source is Tdbm, this displays the UB version being used on the UB host machine. This displays Serial-Gold if the data source is Serial-Gold. This displays Gateway to Gateway if the data source is Gateway to Gateway.

### Status

This displays the connection status between the Gateway and the data source. It will display Connected if the Gateway is properly connected to the data source. If the data source is Tdbm, this field also lists the IP address for the UB host machine. If the data source is Gateway to Gateway, this field also lists the IP address for the Gateway host machine.

### Last Message Received

This displays the time elapsed since the last message was received by the Gateway from the data source. This is displayed in days, hours, minute format (DD:HH:MM).

### Total Messages Received

This displays the total number of messages received by the Gateway from the data source since the Gateway was started.

### Total Source Tracks

For a Tdbm data source, this displays the total number of tracks located on the UB host machine. For a Serial-Gold data source, this displays the total number of tracks received over the Serial port. For a Gateway to Gateway data source, this displays the total number of tracks located on the Gateway host machine.

The current state of any geo filters is also listed in this field. If a geo filter is active, this will show [Filter Active]. If geo filters are inactive, this will show [Filter Inactive]. Geo filters are activated/deactivated with from Tools:Options, under the Geo Filter tab.

## Client Status

The Client Status box displays status information about the Gateway connection to the C2PC Clients.

### Gateway LAN Ports

If connected to a LAN, this displays the port numbers for the TCP and UDP connections between the C2PC Clients and the Gateway.

### Gateway Radio Ports

If you have a Combat Net Radio connection, this displays the port numbers for the SR and TUDP connections between the C2PC Clients and the Gateway.

### Gateway Version

This displays the current version number of the Gateway.

### Last Status Received

This displays the time elapsed since the Gateway last received a status message from any Client. This is displayed in days, hours, minute format (DD:HH:MM).

### Last Broadcast Message Sent

This displays the time elapsed since the last broadcast message was sent to the Clients. This is displayed in days, hours, minute format (DD:HH:MM).

### Total Broadcast Messages Sent

This displays the total number of broadcast messages sent from the Gateway to the Clients since the Gateway was started.

## Client Connection Table

This table displays a list of all Clients currently connected to the Gateway. The following columns of information is displayed for each Client.

### Client Address

This displays the IP address of the Client.

### Type

This displays the type of Client connection used - either TCP or SR.

### User

This displays the user name of the client.

### Permission

This displays information about the Client read/write privileges. If the Client has read/write privileges, this will display +R+W. If the Client has read only privileges, this will display +R-W.

### Connect Time

This displays the amount of time the Client has been connected. This is displayed in days, hours, minute format (DD:HH:MM).

### Status

This displays the status of communications between the Gateway and Client, as follows:

| | |
|---|---|
| Idle | There is an active connection between the Gateway and Client, but there is no communication currently taking place. |
| Statusing | The Gateway is sending out a status message to the Client. For network connections, this usually happens very quickly and this status might flash by so quickly that it is not even be noticeable in this column. |
| Polling | The Gateway is sending out a polling message to the Client. If there has been no communication between the Gateway and Client for 2 minutes, a polling message is sent. If the Client doesn't respond, the connection is terminated. For network connections, polling usually |

happens very quickly and this status might flash by so quickly that it is not even be noticeable in this column.

**Last Msg Rcvd**
This displays the time elapsed since the last message was received from the Client.

**Msgs Rcvd**
This displays the total number of messages received from the Client since the Client was connected.

**DBA Compression**
This displays YES if data compression is active or NO if it is inactive.

**DB Address**
This displays the Directed Broadcast Address. This is the IP address where the UDP tracks are being broadcast.

## 5.1 FILE MENU

The File menu provides options to start, stop, add, and delete a Gateway. There is also a refresh option to refresh the Gateway information, a print option, and an exit option.

## START GATEWAY

Select a red machine from the tree list and choose the Start Gateway option to start up the chosen Gateway. When a Gateway is started up, connection information appears in the right frame of the C2PC Gateway Manager window. If the Gateway is on your machine, and the red circle and X over the Gateway tray icon disappears.

Multiple remote Gateways can be started from one workstation.

## STOP GATEWAY

Select a green machine from the tree list and choose the Stop Gateway option to turn off the chosen Gateway. The Enter Master Password window appears.

To turn off the Gatway, you must enter the correct master password for the machine that is running the Gateway. Enter the password and click OK and the Gateway will stop running.

When a Gateway is stopped, the right frame of the C2PC Gateway Manager window turns blank. If the Gateway that you stopped is on your machine, a red circle and X appears over the Gateway tray icon.

Multiple remote Gateways can be stopped from one workstation.

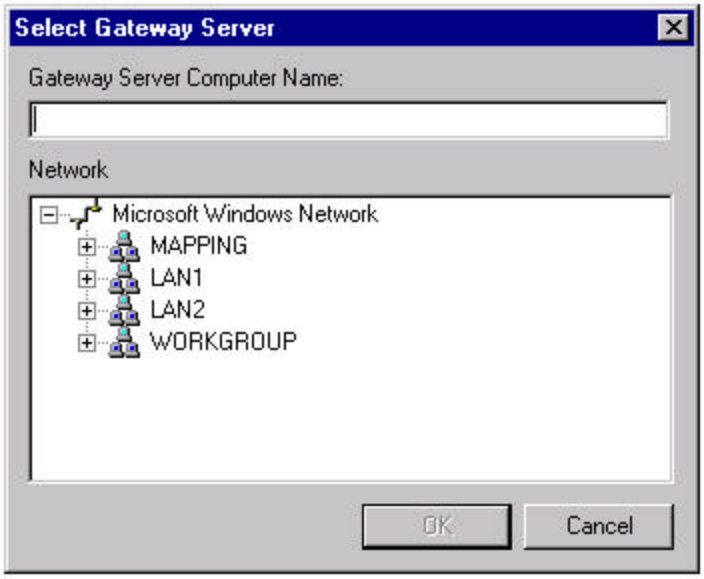
## REFRESH

The information in the right frame of the C2PC Gateway Manager window automatically updates every 30 seconds. Use the Refresh option to update this information instantly.

## ADD GATEWAY

Only those Gateways that are listed in the tree list can be started and stopped from your workstation. Use the Add Gateway option to add a Gateway to your tree list.

Choose the Add Gateway option to display the Select Gateway Server window.




The Select Gateway Server window displays a list of all the networks and workstations available from your workstation in the Network box. Choose a workstation from the list and click the OK button to add that workstation to your tree list.

## DELETE GATEWAY

To delete a workstation from your tree list, select the workstation you wish to remove on the tree list and choose the Delete Gateway option. The workstation is immediately removed from your tree list.

## PRINT

Select a running (green) Gateway from the tree list to activate the Print option in the File menu. Choose the Print option to generate a printed copy of the information displayed in the right frame of the C2PC Gateway Manager window.

## EXIT

Use the Exit option to immediately exit the C2PC Gateway Manager window.

Note that exiting the C2PC Gateway Manager window does not stop any Gateways that are running. If you want to stop a Gateway, you must use the Stop Gateway option from the Gateway Manager File menu.

## 5.2 TOOLS MENU

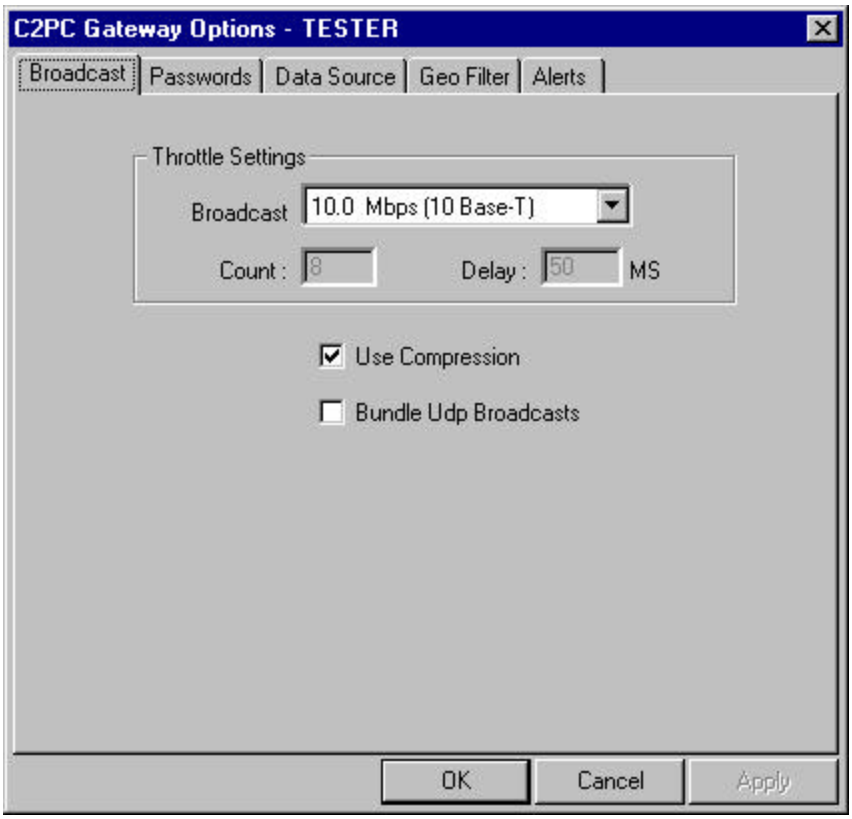
The Tools menu contains five choices - Options, Nicknames, Delete Decoded Overlays, Remote Control Settings, and Delete Client.

## OPTIONS

The Options menu choice allows you to set passwords, data source settings, import parameters, and other settings. Some of the settings that can be changed with this option were originally set during the install process.

Choose Options to display the Enter Master Password window.

Enter the master password in the Master Password field and click OK to display the C2PC Gateway Options window.




The C2PC Gateway Options window contains five tabs to allow you to enter Gateway settings. The Broadcast tab is the default tab.

### Throttle Settings

The Throttle Settings box allows you to choose a broadcast speed in the Broadcast field. For most ethernet LAN connections, the appropriate setting is 10.0 Mbps (10 Base-T) and that is the default setting. If you have an ethernet LAN connection that can handle a 100.0 Mbps broadcast, that choice is available. If the connection is through a modem, choose the appropriate baud rate for your modem connection from the list in the Broadcast field pulldown choices. Available baud rate choices range from Less Than 1200 Baud to 56.7 Kbps. If the connection is through an ISDN line, choose the 1 or 2 channel choice as appropriate for your setup.

There is also a Custom choice available in the Broadcast field. If this is chosen, the Count and Delay fields can be manually set. The Count field displays the number of data sets that can be transmitted in the amount of time listed in the Delay field. These fields are automatically set if one of the other choices is selected in the Broadcast field.

**Use Compression**

The Use Compression checkbox allows you to choose whether data is broadcast in a compressed format or not.

For fast machines, it is usually better to send the data compressed as the data is sent faster. With slower machines, it is possible that the decompression process might slow the system down, opening up the possibility that sending the data uncompressed might be faster.

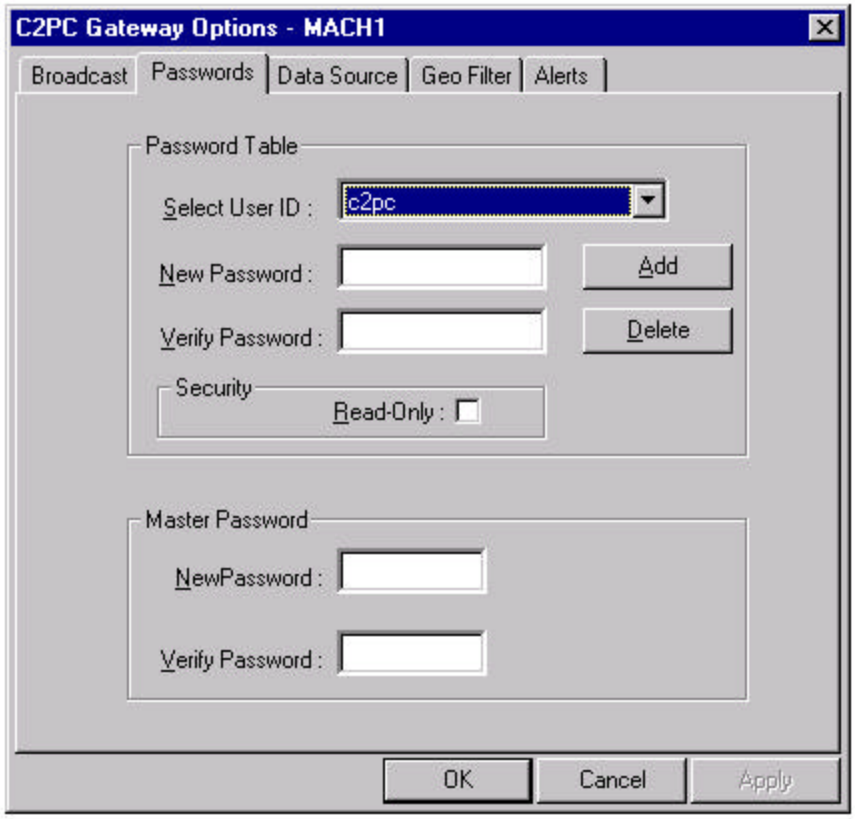
**Bundle Udp Broadcasts**

This checkbox is only available if the Use Compression checkbox is turned on.

Click this checkbox ON to bundle UDP broadcasts to reduce the number of transmissions required to distribute track data. Turning this on will significantly reduce the number of Gateway broadcasts. It is highly recommended that this checkbox be turned on when transmitting by radio.

Turning this checkbox on will allow Maximum Transmission Units (MTU) packets to be up to 2K in size, which can be handled by most routers. If your router cannot handle MTU packets of 2K in size, turning this checkbox on may slow down message processing, though the data will eventually synch up correctly. In this case, leaving this checkbox OFF may improve transmission efficiency.

Click the Passwords tab to display additional fields.




The Passwords tab contains fields to allow you to edit the password table and the master password.

**Password Table**

The Gateway contains a password table which allows access to the Gateway. When a Client attempts to connect to the Gateway, a password window appears. The Client user must enter a valid password which is registered in the Gateway password table to access the Gateway.

To add a new User ID and password, click the Add button to display the Add New User window.

Enter the User ID in the Enter User ID field, enter the password in the Password field, and enter the password again in the Verify Password field. To allow a user to view tracks, but not add, edit, or delete, click on the Read-Only checkbox. If this box is not checked, the user will be able to view, add, edit, and delete tracks. Click the OK button to accept your new User ID or click the Cancel button to discard it. Clicking either button exits the Add New User window.

To change the password for an existing User ID, click the down arrow in the Select User ID field to view the existing User IDs. Choose the User ID to change, then enter a new password in the New Password field and enter the password again in the Verify Password field. Click either the Apply or OK button to accept the new password.

To delete a User ID, click the down arrow in the Select User ID field to view the existing User IDs. Select the User ID, then click the Delete button. A confirmation window appears to make sure you really want to delete the User ID. Click OK from this window to complete the delete process.

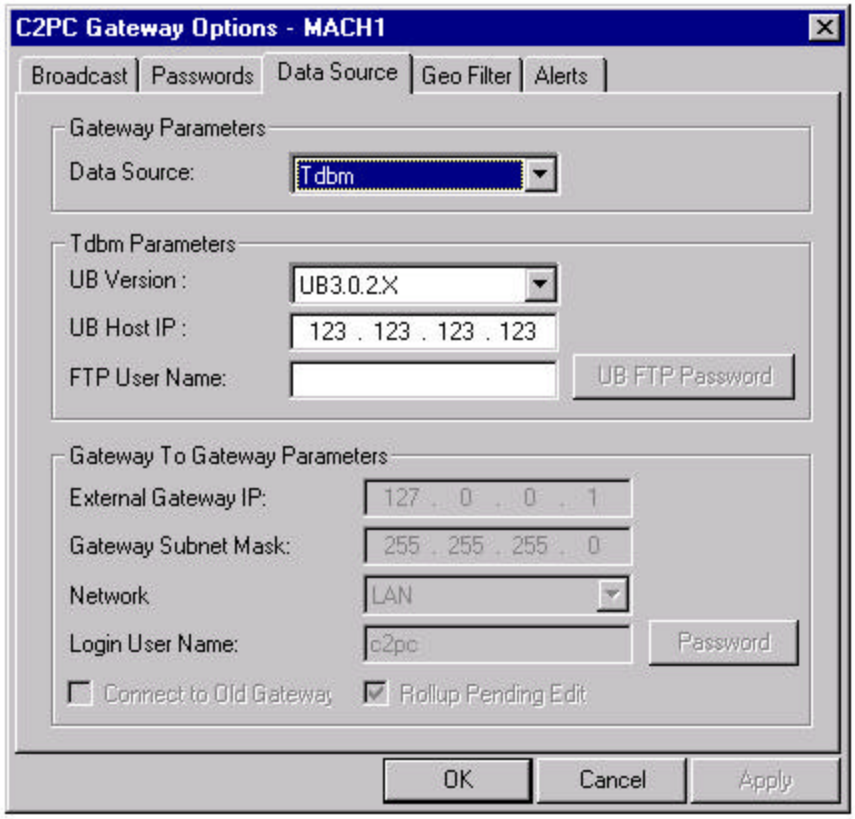
To allow a user to view tracks, but not add, edit, or delete, click on the Read-Only checkbox. If this box is not checked, the user will be able to view, add, edit, and delete tracks.

**Master Password**

Use this option to change the master password. The master password is used to access and change the Gateway settings.

To change the master password, enter a new password in the New Password field, then enter the same password in the Verify Password field. Click the Apply button to accept the new password and remain in this window or click the OK button to accept the new password and exit this window.

Click the Data Source tab to display additional fields.




The Data Source tab contains fields to change the Gateway parameters, Tdbm parameters, and Gateway to Gateway parameters.

## Gateway Parameters

### Data Source

Use this field to define the data source. Click the down arrow to display the choices as follows:

Serial-Gold

Tdbm

Gateway to Gateway

If Tdbm is selected, the fields in the Tdbm Parameters box become available. If Serial-Gold or Gateway to Gateway is selected, the Tdbm Parameters fields are dimmed and unavailable. If Gateway to Gateway is selected, the Gateway to Gateway Parameters fields become available. If Tdbm or Serial-Gold is selected the Gateway to Gateway fields are dimmed and unavailable.

Use the Tdbm setting if your data source is a UB Host machine.

Use the Serial-Gold setting if your data source is through a serial connection.

Use the Gateway to Gateway setting if your machine is part of a multi-tiered gateway setup and your machine is not the machine designated to communicate directly with the UB Host machine.

**IMPORTANT NOTE FOR SERIAL-GOLD USERS**

When Serial-Gold is chosen as the Data Source, the following steps must be taken to allow opnotes to be imported into C2PC:

1) Locate the following directory on your computer:

   ../../C2PC GW/Data/Comms/Opnotes

2) Click the right mouse button on the Opnotes folder to display the Context menu and choose the Sharing option.

3) Enter the following values in the Sharing dialog:

   - Click Shared As knob

   - Share Name: C2PCOPNS

4) Click the OK button to save the values.

In most cases, the above four steps are all that is needed. If you are using a standalone computer with no network connection, you may also need to set your IP address to 127 000 000 001 for opnotes to import properly.

## Tdbm Parameters

The fields in the Tdbm Parameters box are available only if Tdbm was chosen as the value in the Data Source field.

### UB Version

Use this field to choose the UB version number being used on the UB host machine that is the data source. Click the down arrow to display the choices as follows:

UB2.2X - systems based on UB 2.2.X or UB 3.0.X

UB3.0.2.X - systems based on UB 3.0.2.3 and later

### UB Host IP

Use this field to change the IP address for the UB host machine.

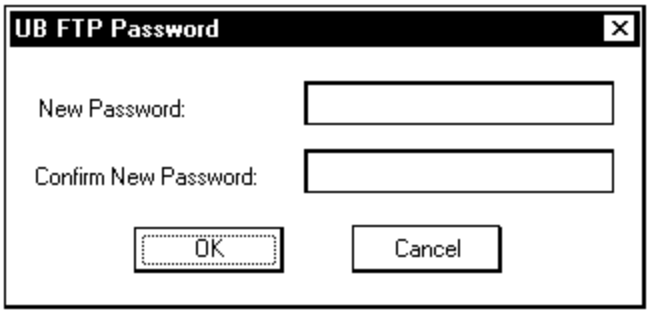
The format of the IP address is: xxx.xxx.xxx.xxx

**FTP User Name**

Use this field to enter the User Name needed to log onto the UB Host machine. This is needed to obtain track history reports, VTS tech data, and remarks. If a valid User Name in not entered here, only the most recent report for all tracks will be available.

**UB FTP Password**

After entering a User Name in the FTP User Name field, click the UB FTP Password button to display the UB FTP Password window.




Enter the password that corresponds to the User Name entered into the FTP User Name field that is needed to log onto the UB Host machine into the New Password field. Enter the same password into the Confirm New Password field. This is needed to obtain track history reports, VTS tech data, and remarks. If a valid password in not entered here, only the most recent report for all tracks will be available.

When a password is entered into these two fields, the password will not appear in the fields. Instead, an x will appear to indicate that a character has been typed. This is for security purposes to keep the password hidden from view.

Click the OK button to accept the password, or click the Cancel button to cancel your entries.

## Gateway to Gateway Parameters

The fields in the Gateway to Gateway Parameters box are available only if Gateway to Gateway was chosen as the value in the Data Source field.

**External Gateway IP**

Enter the IP address of the workstation that will be serving as your Gateway.

**Gateway Subnet Mask**

The Gateway Subnet Mask is used in conjunction with the local IP to determine the Directed Broadcast Address. Get this IP address from your network administrator.

**Network**

Choose the network type for your network.

**Login User Name**

Enter the login user name for the external Gateway workstation. Click the Password button and enter and confirm the password for the external Gateway workstation.

**Connect to Old Gateway**

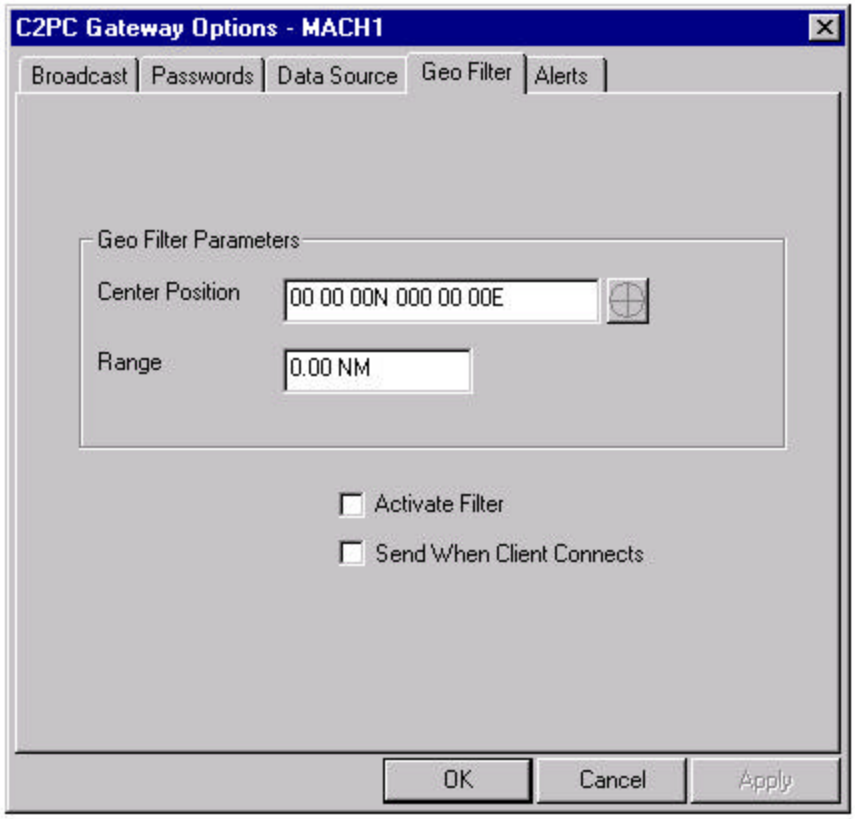
The Connect to Old Gateway checkbox is available to allow a workstation to connect to an older Gateway which is not controlled with the Gateway Manager option. If the Gateway that you are connecting to is controlled by the Gateway Manager, leave this checkbox blank. If the Gateway that you are connecting to is older and is not controlled by the Gateway Manager, click this checkbox to allow a connection to the Gateway.

Note that if you have the Connect to Old Gateway checkbox turned on and you connect to an older Gateway, the Client on your machine will not be able to connect to any Gateway.

**Rollup Pending Edit**

The Rollup Pending Edit checkbox is used to determine how much information is sent to the Gateway after the Client has been disconnected from the Gateway and connection is reestablished. If the Rollup Pending Edit checkbox is marked on, the track edits are condensed to minimize the information sent. If there have been multiple position reports, only the most recent report is sent. If multiple changes have been made to the attributes of a track, all the changes are condensed into one report. If a track has been added, then deleted while disconnected, both of these actions are discarded and not sent. If the Rollup Pending Edit checkbox is blank, all track edits are sent when connection is reestablished.

Click the Geo Filter tab to display additional fields.




The Geo Filter tab contains fields to set a geographic filter to filter out all tracks not falling within a specified area. If a geo filter is active, only those tracks falling within the specified area will be processed by the Gateway, and all other tracks will be ignored.

**Center Position**

Enter the center position for the geo filter. If a Client with an active map is up, the crosshairs button next to this field is active. You may click the crosshairs button, then click directly on the map to automatically enter a center position.

**Range**

Enter a range from the center position.

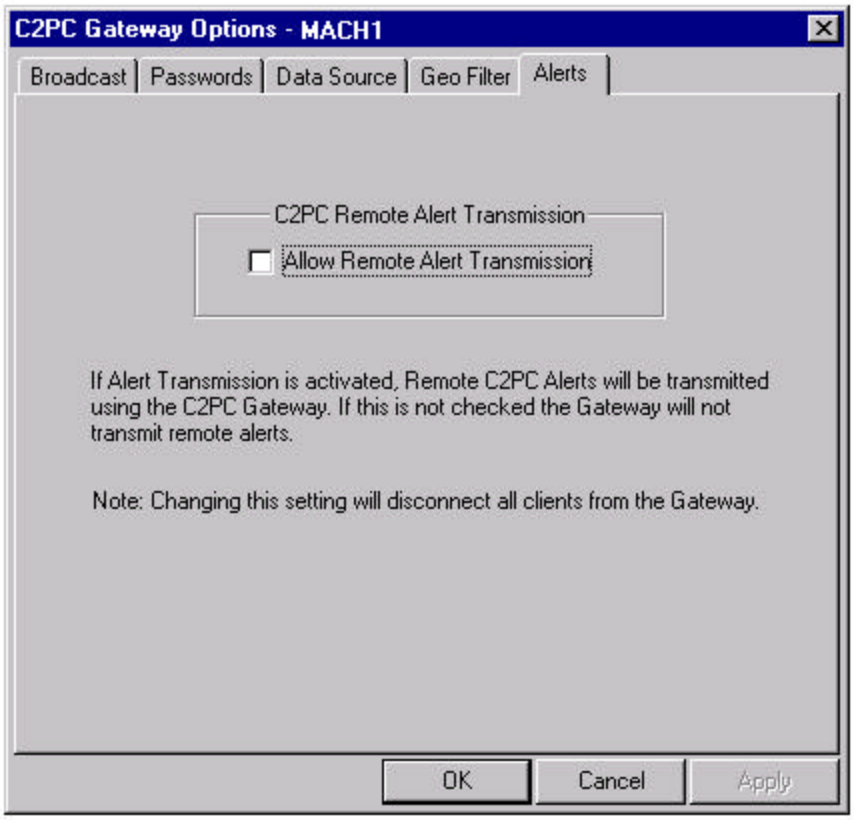
**Activate Filter checkbox**

To activate the geo filter, click this checkbox. If this checkbox is blank, the geo filter is not used, even if there are values in the Center Position and Range fields.

**Send When Client Connects checkbox**
To send the geo filter to clients when they connect to the gateway, click this checkbox. If this checkbox is blank, the geo filter is not sent when clients connect.

The geo filter allows the Gateway to process all tracks within the circular area from the center position outward to the specified range.

Click the Alerts tab to display additional fields.




Click the Allow Remote Alert Transmission checkbox to allow remote C2PC alerts to be transmitted through the gateway. If this is turned off, alerts will not be transmitted through the gateway. Note that changing this setting will disconnect all clients from the gateway.

From the C2PC Gateway options window, click the Apply button to save all changes and remain in the window. Click the OK button to accept all changes and exit. Click the Cancel button to discard any changes made since the last time the Apply button was clicked.

# NICKNAMES

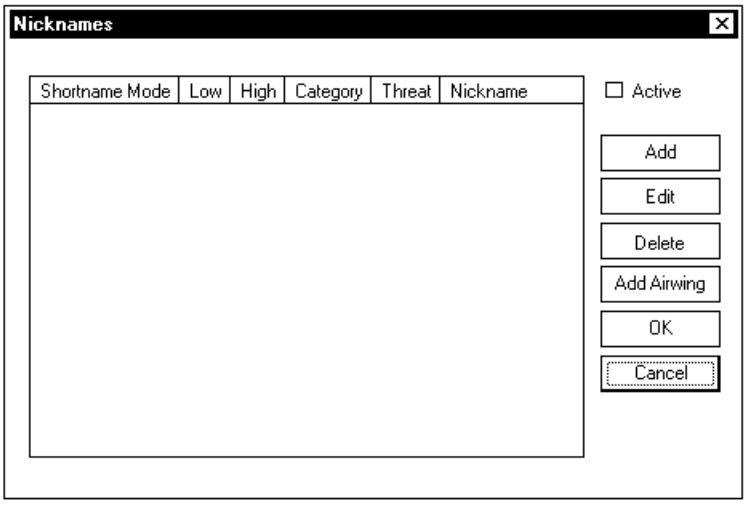
Use the Nicknames option to assign and maintain a list of PIF and DI numbers and their corresponding nicknames. This option can be used to assign nicknames for Mode 1 IFF, Mode 2 IFF, Mode 3 IFF, and Discrete Identifiers (DI).

Nicknames are used to quickly identify the type of craft being reported from a Link report. This option is used for Link tracks only and has no effect on other track types.

If a Link track enters the system with a PIF or DI number that matches a number in the nickname table, the nickname in the table is assigned to the Short Name field for the track. Tracks are frequently plotted on the display based on the Short Name field.

Note: If a track contains PIF and DI values that match more than one entry in the nickname table, the nickname used will be the first nickname it matches in the table.

From the Gateway main window, select the Nicknames option from the Tools menu to display the Nicknames window.

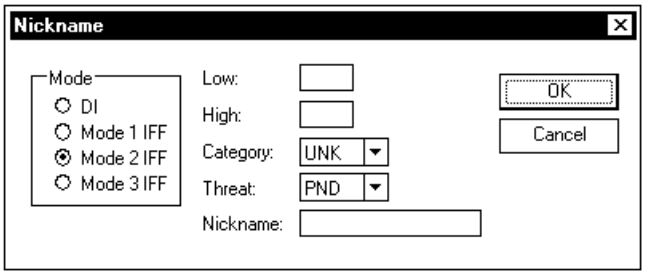



The Nicknames window displays a list of all nicknames currently in the system. The Active checkbox determines whether or not the nicknames in this window are used for incoming tracks. If the Active checkbox is on, the nicknames are used. If the Active checkbox is off, the nicknames are ignored. Click this checkbox on or off as appropriate.

You may add, edit, and delete nicknames. You can also add airwings to the nickname table.

## Add a Nickname

To add a nickname, click the Add button from the Nicknames window to display the Nickname window.




In the Mode box, choose the mode for the nickname you are defining. Enter values in the fields for the nickname. Only one nickname can be entered for the same PIF or DI number. If more than one nickname is entered, a warning window appears.

**Low**
Number on the low end of a range of PIF or DI numbers.

**High**
Number on the high end of a range of PIF or DI numbers.

**Category**
Category code for the PIF or DI range.

**Threat**
Threat code for the PIF or DI range.

**Nickname**
PIF or DI nickname.

Click OK to accept changes, or click Cancel to discard the changes. Clicking either button returns to the Nicknames window.

## Edit a Nickname

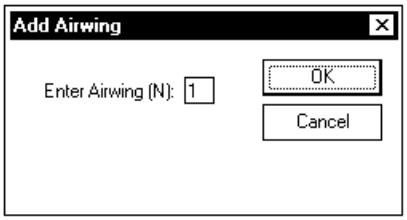
Select a nickname from the list and click the Edit button to display the Nickname window for the selected nickname. Make any changes as appropriate and click the OK button to accept the changes (or click the Cancel button to discard changes).

### Delete a Nickname

Select a nickname from the list and click the Delete button to delete it from the list. There is no confirmation window, so make sure you want to delete a nickname before clicking the Delete button.

### Add Airwing

Use the Add Airwing button to automatically add Mode 2 IFF nickname records for all standard aircraft types from a particular aircraft carrier. Click the Add Airwing button to display the Add Airwing window.




Enter the first digit of the standard Mode 2 IFF code range for the airwing in the Enter Airwing (N) field. Click OK to automatically add the Mode 2 IFF nickname records for all standard aircraft types from the airwing chosen to the nickname list (or click Cancel to discard the action). Clicking either OK or Cancel returns to the Nicknames window.

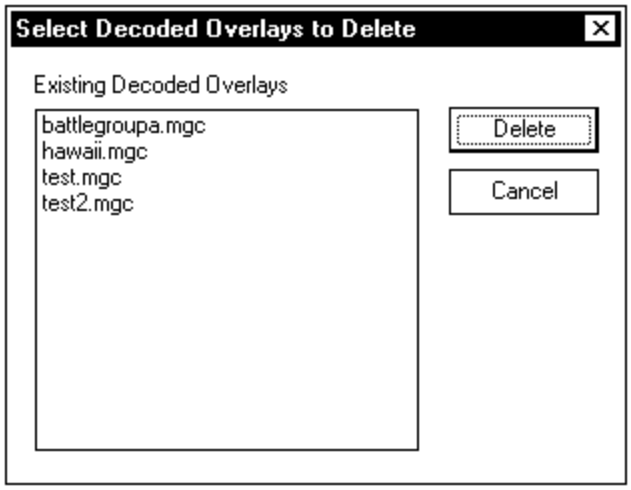
If OK was clicked, the Mode 2 IFF nickname records for all standard aircraft types are listed in the Nicknames window. Airwing nickname records shown in the Nicknames window are not permanently saved until OK has been clicked from this window.

### OK and Cancel

Click the OK button to save any changes to nicknames or click the Cancel button to discard all changes made since this window was opened.

## DELETE DECODED OVERLAYS

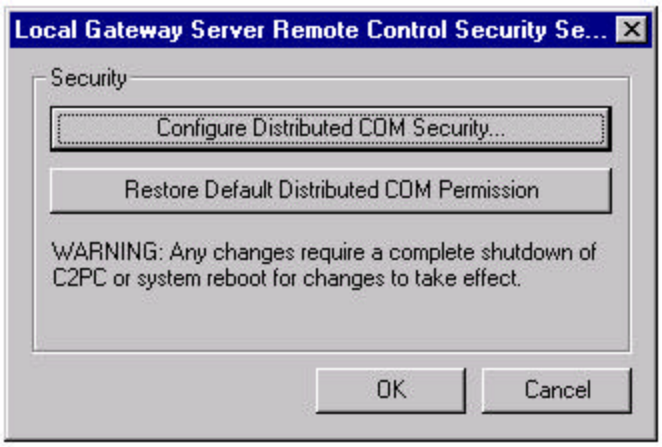
Use the Delete Decoded Overlays option to delete selected overlays from the Gateway. Select this option to display the Select Decoded Overlays to Delete window.




The Select Decoded Overlays to Delete window displays a list of all the overlays contained in the Gateway. Select the overlays you wish to delete in the list and click the Delete button to remove them from the Gateway. Click the Cancel button to exit this window.

## REMOTE CONTROL SETTINGS

Use the Remote Control Settings option for security purposes, to control access to the Gateway on your workstation. Choose the Remote Control Settings option to display the Local Gateway Server Remote Control Security window.



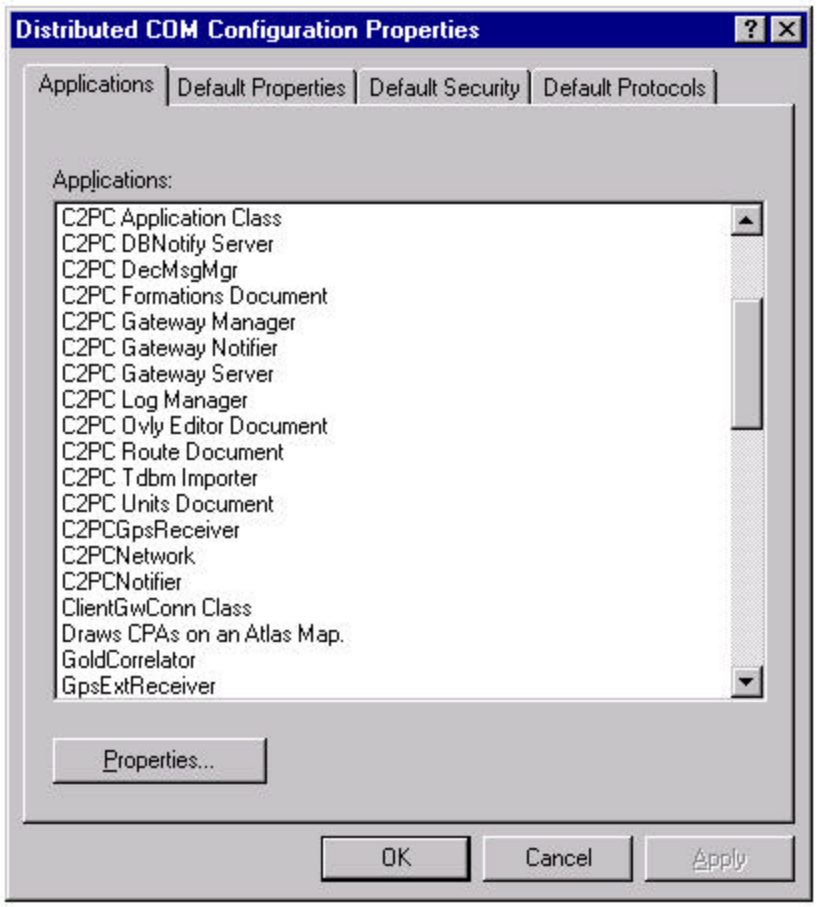

The Local Gateway Server Remote Control Security window contains two options - Configure Distributed COM Security and Restore Default Distributed COM Permission.

Use the Configure Distributed COM Security option to change access permissions to the Gateway on your workstation. By default, only your workstation has access to

your Gateway. You must use this button if you wish to grant other workstations permission to access your Gateway.

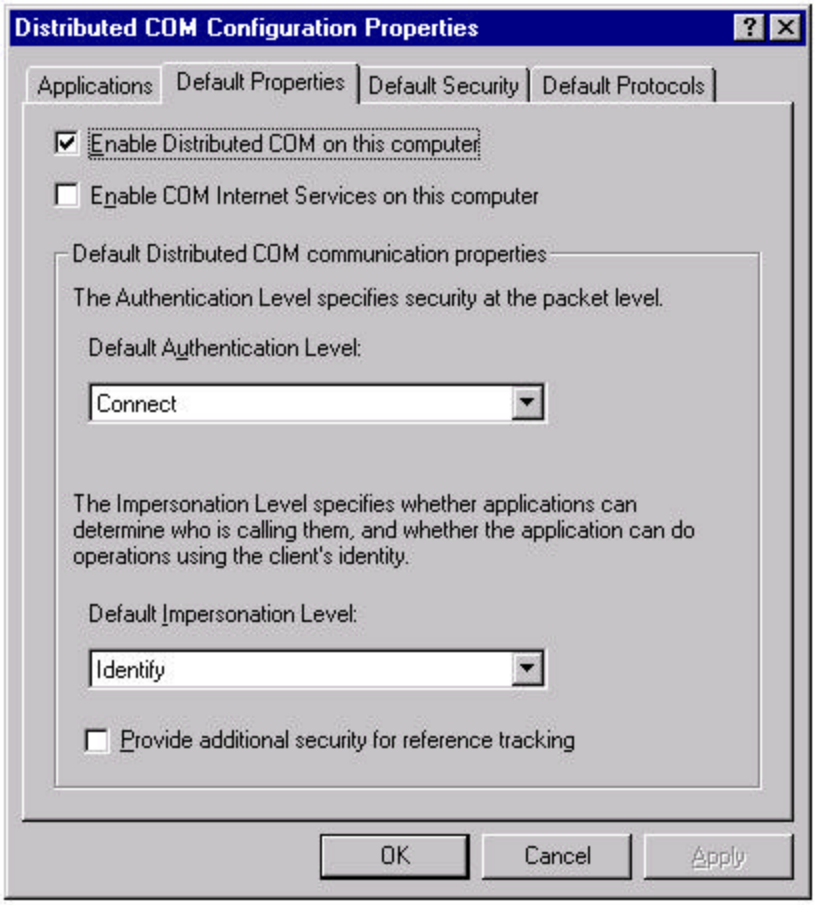
Use the Restore Default Distributed COM Permission button to restore the default permission settings.

To change the security settings, click the Configure Distributed COM Security button to display the Distributed COM Configuration Properties window.




The Distributed COM Configuration Properties window controls the Distributed COM Utility, a Microsoft application. For complete details about all the tabs and options within these windows, refer to Microsoft's documentation for this utility.

C2PC Gateway security uses some of the options on two of these tabs, the Default Properties tab and the Default Security tab. Click the Default Properties tab to view the fields under this tab.

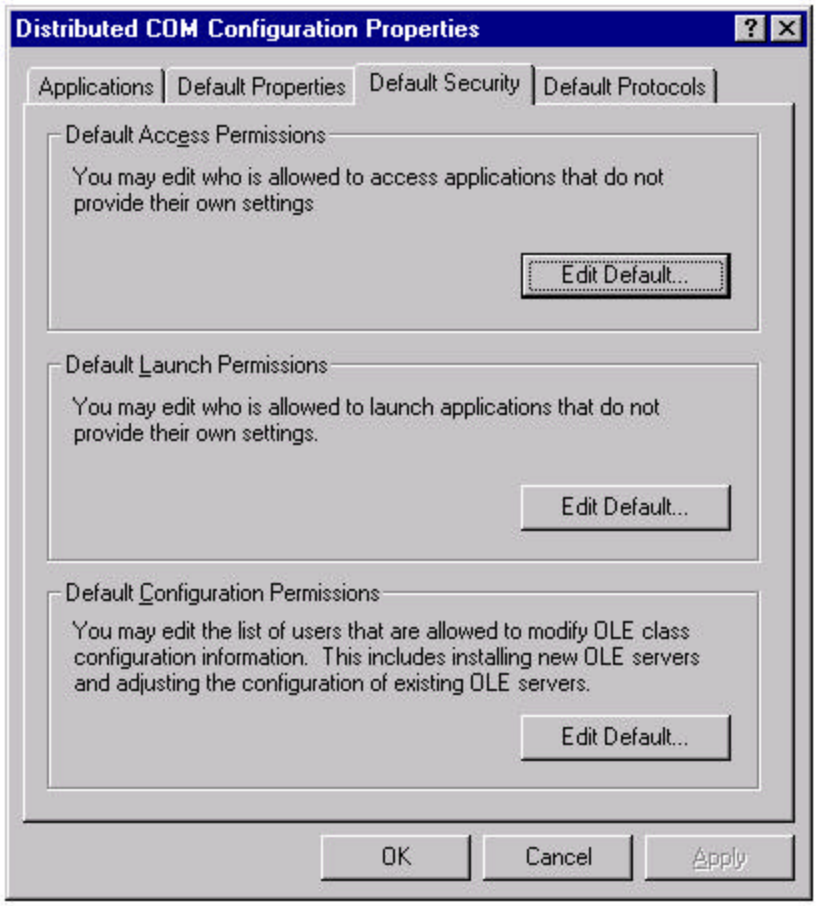



Use the Enable Distributed COM on this computer checkbox to control whether or not other workstations can access your Gateway and also whether or not your workstation can access other Gateways. If this checkbox is turned on, Gateway access is permitted between your workstation and other workstations. (The Add Gateway and Delete Gateway options from the File menu will be active.) If this checkbox is turned off, no Gateway access is permitted between your workstation and other workstations. (The Add Gateway and Delete Gateway options from the File menu will be inactive.)

If the Enable Distributed COM on this computer checkbox is turned on, the fields in the Default Distributed COM communication properties become active. By default, the value in the Default Authentication Level field is set to Connect and the value in the Default Impersonation Level field is set to Identify. For most networks, these are the values that should be displayed for these fields. If your workstation is not part of an NT network or not logged onto a domain, change these values to Default Authentication Level: None, and Default Impersonation Level: Anonymous.

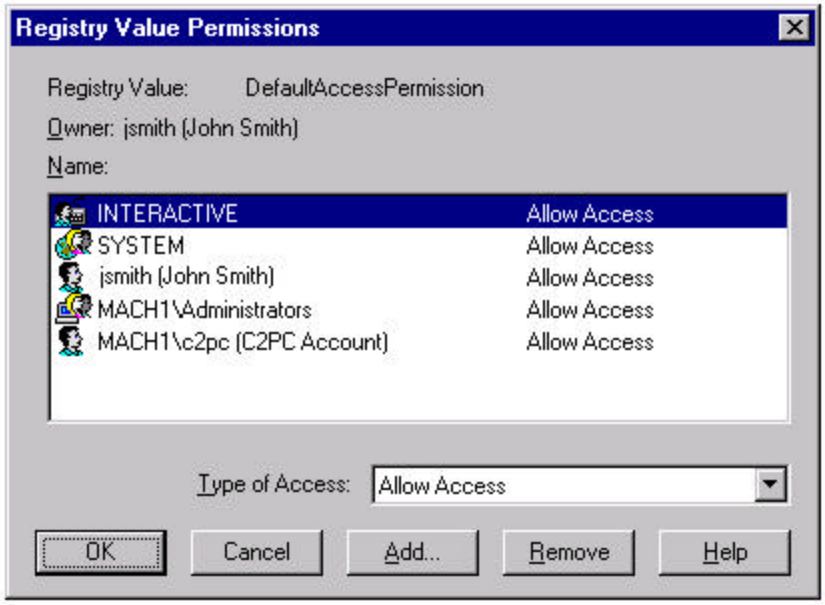
These are the only fields in this window that should be changed, the other fields should be ignored.

When the Enable Distributed COM on this computer checkbox is turned on, the Add Gateway and Delete Gateway options from the File menu are activated to allow your workstation to gain access to other Gateways. Though this checkbox also allows other workstations to gain access to your Gateway, the default security settings specify that no other workstations can access your Gateway. To allow other workstations access to your Gateway, click the Default Security tab to view the fields under that tab.

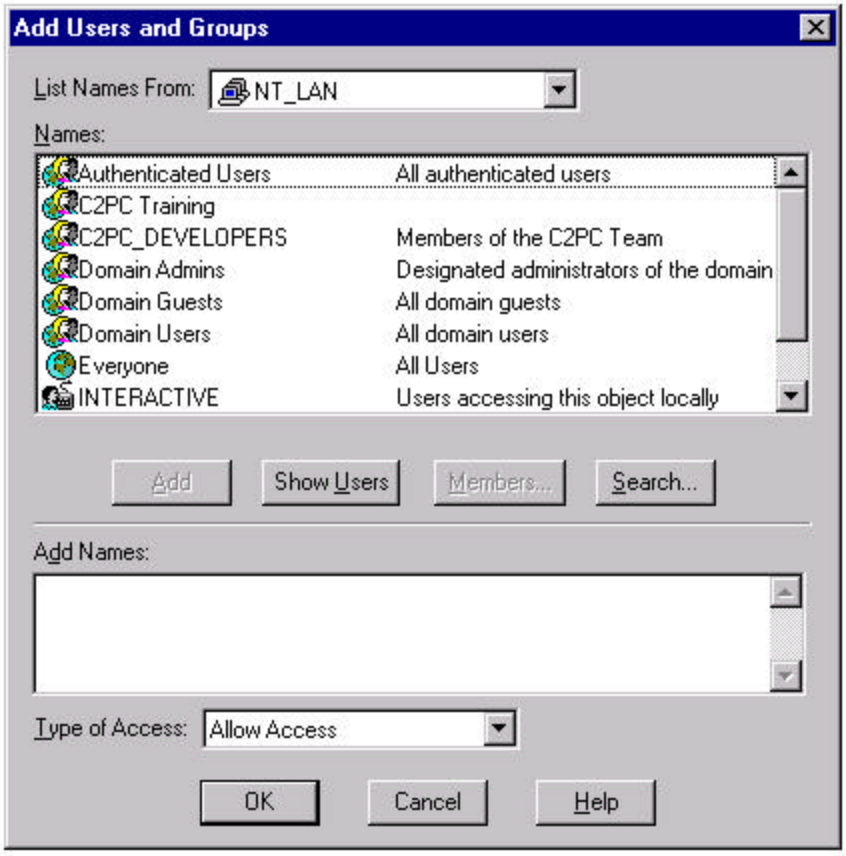



Use the Edit Default buttons in the Default Access Permissions box and in the Default Launch Permissions box to identify other workstations that should be allowed access to your Gateway. Ignore the Default Configuration Permissions box, that box is not used for C2PC.

Click the Edit Default button in the Default Access Permissions box to display the Registry Value Permissions window.




The Registry Value Permissions window displays a list of users who have access permission to the Gateway on your workstation. To add other users to the list, click the ADD button to display the Add Users and Groups window.




The Add Users and Groups window displays a list of groups in your network. Click the Show Users button to add the individual users in your network to the list. Choose any of the groups or users from the list and click the ADD button to add them to the Add Names box in this window. When everyone is selected that you wish to add, click the OK button to add these groups and users to the list of users with access to the Gateway on your workstation displayed in the Registry Value Permissions window.

If your workstation is not part of an NT network or not logged onto a domain, choose Everyone from the Add Users and Groups window to allow everyone access to the Gateway on your workstation.

When the Registry Value Permissions window displays all the users and groups that should have permission to access the Gateway on your workstation, click the OK button to accept any changes to the list and return to the Distributed COM Configuration Properties window.

Click the Edit Default button in the Default Launch Permissions box to display the Registry Value Permissions window. This window works the same as the Registry Value Permissions window for Default Access Permissions as described above. Use

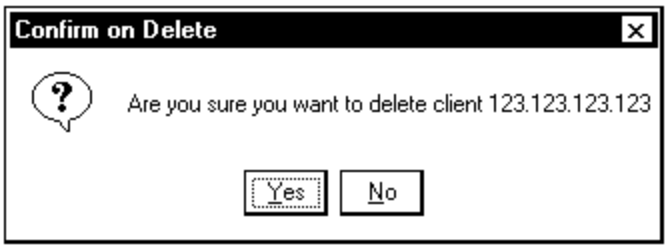
this window to set the list of users who have launch permission for the Gateway on your workstation.

Click the OK button from the Distributed COM Configuration Properties window to accept all changes to the settings and return to the Local Gateway Server Remote Control Security window.

Click the OK button from the Local Gateway Server Remote Control Security window to accept all changes. If any changes were made to the settings, the workstation must be rebooted before the changes will take effect.

## DELETE CLIENT

Use the Delete Client to terminate the Gateway connection with a selected Client. Select a Client from the list in the Client Connection Table and choose the Delete Client option to display the Confirm on Delete window.




The Confirm on Delete window displays the IP address of the Client that has been selected for delete and asks you to confirm that you want to delete that Client. Click Yes to complete the delete process and terminate the connection to the Client. Click No if you decide not to delete the Client.

## 5.3 VIEW MENU

Use the options in the View menu to control the display of the Gateway Manager toolbar, status bar, and the default window size.

## TOOLBAR

Use this option to toggle the display of the Toolbar off and on. A check mark means the Toolbar is displayed.

The Toolbar contains the Refresh, Print, Options, Nicknames, Delete Decoded Overlays, and Delete Client buttons. Use these buttons as quick access to functions that are available from the menus.

## STATUS BAR

Use this option to toggle the display of the Status Bar off and on. A check mark means the Status Bar is displayed.

The Status Bar is located across the bottom of the C2PC Gateway Manager window.

## DEFAULT SIZE

Use the Default Size option to return the C2PC Gateway Manager window to the default size. This option only has an effect if the size of the C2PC Gateway Manager window has been changed.

## 5.4 HELP MENU

The Help menu contains options to view Gateway online help information, as well as Gateway version information.

## CONTENTS

Use this option to view on-line help for the Gateway. Detailed help for every Gateway option is contained within this help system, as well as links to related topics.

## ABOUT GATEWAY MANAGER

Use the About Gateway Manager option to display a window showing the current Gateway Manager version number. When you finish viewing this information, click the OK button to exit this window.

# CHAPTER 6: OTHER C2PC OPTIONS

There are some other options available from the C2PC Start menu, and information about these options is provided in this section.

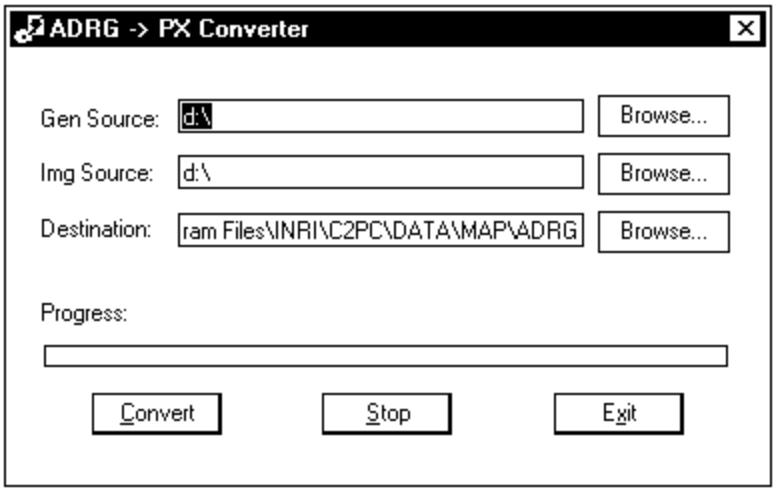
If C2PC has been loaded in the default location, you may access the C2PC options by pressing the Start button, then viewing Programs:C2PC.

The C2PC Client option brings up the C2PC Client, which is discussed in detail in Chapter 4 of this manual. The C2PC Client Help option brings up the C2PC Client online help file, which can also be accessed from within the C2PC Client. The C2PC Gateway Manager option brings up the C2PC Gateway Manager, which is discussed in detail in Chapter 5 of this manual. The C2PC Gateway Help option brings up the C2PC Gateway online help file, which can also be accessed from within the C2PC Gateway. All the other options on this menu are discussed in this chapter.

## ADRG2PX

To load an ADRG map into the system, it must first be converted to ADRG-PX format. Use the following procedure to convert ADRG maps to ADRG-PX format:

1. Insert the ADRG map CD in the CD drive.
2. Start up the ADRG2PX utility provided with C2PC. If C2PC was loaded in the default location, click Start, then choose Programs:C2PC:ADRG2PX. The ADRG to PX Converter window appears.




3. Only one file at a time can be converted. Select the Gen Source, Img Source, and Destination for the file in one of two ways:
   - Click on the Browse button and select a file from the list
   - Type in the file name
4. Click the Convert button. The progress of the conversion is shown in the status bar. (To terminate the conversion before it is finished, click the Stop button.)
5. Click the Exit button to close the window.
6. Use the RASTER MAPS:DATA SETS option and click the New button to access the map.

## C2PC ALERTS HELP

The C2PC Alerts Help option accesses the online help file for the C2PC Alerts Server option. You can view C2PC Alerts Help by choosing this option from the menu and also from within the C2PC Alerts Server option.

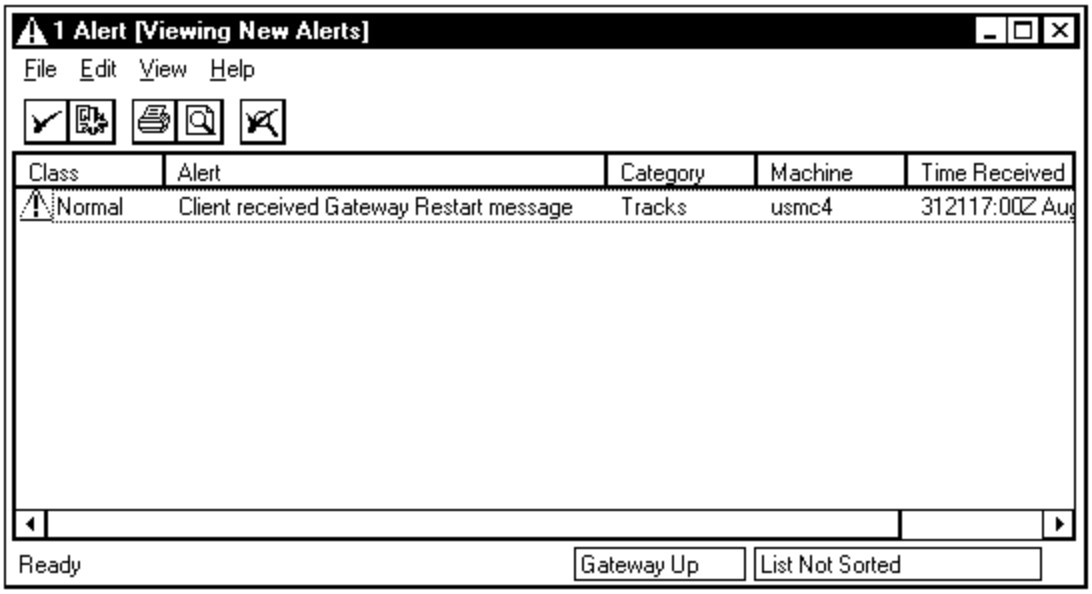
## C2PC ALERTS SERVER

Use the C2PC Alerts Server option to view any alerts that are received by C2PC.

When the C2PC Client is loaded onto your workstation, the C2PC Alerts Server option is also loaded. When the workstation is started, the C2PC Alerts Server option is automatically started and will be displayed as a tray icon in the right portion of the Task Bar. If the C2PC Alerts Server option has been turned off, you can activate it again by clicking Start, then choosing Programs:C2PC:C2PC Alerts Server to display the C2PC Alerts Server icon in the Task Bar.

When an alert enters the system, a beep or other sound occurs. If a Critical alert enters the system, a warning window appears on the screen, and it will remain on the screen until you click the OK button to acknowledge that you've seen it.

To view alerts, click the C2PC Alerts Server icon to display the Alerts window.




The Alerts window displays a log of the alerts received. There are two viewing modes for alerts - view new alerts and view acknowledged alerts. When viewing new alerts, all alerts that have not been acknowledged or deleted are displayed. When viewing acknowledged alerts, only those alerts that have been acknowledged but not deleted are displayed.

The title bar displays both the number of unacknowledged alerts received and the priority of the highest alert (as indicated by the icon). It also displays the current viewing mode.

Use the View:New Alerts and View:Acknowledged Alerts options to switch between the two viewing modes.

The following columns of information are displayed in the Alerts window.

**Class**

This displays the alert class. This includes Critical, High, Normal, and Low. It can also include other classes that may be added through C2PC plug-ins, such as Tbmd.

**Alert**
This displays the alert text.

**Category**
This displays the alert category.

**Machine**
This displays the name of the workstation that generated the alert.

**Time Received**
This displays the time the alert was received at your workstation.

The list of messages may be sorted by any column. Click on any column header to resort the list by the chosen header. Click again to display a reverse sort.

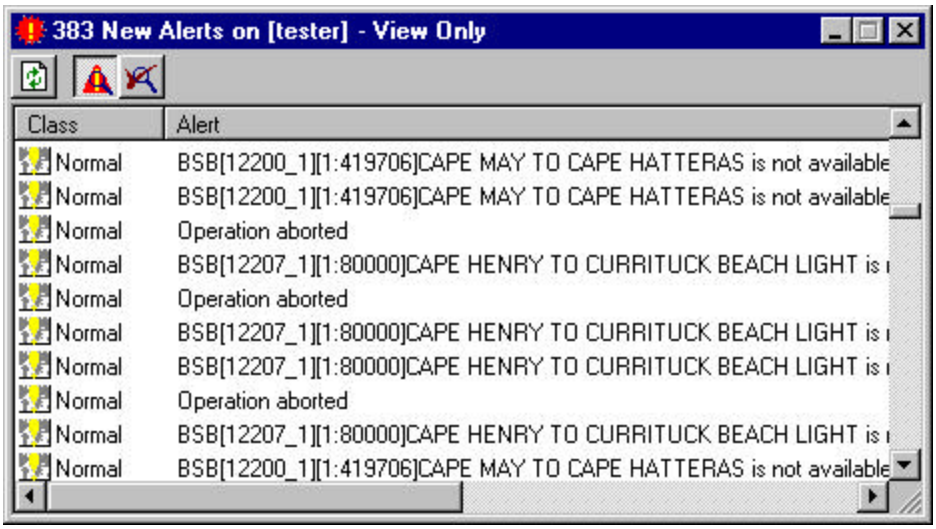
## File Menu

The Alerts File Menu contains Remote Alert, Print, Print Preview, and Exit options.

### Remote Alert

Use the Remote Alert option to view alerts on another workstation in your network. Select the Remort Alert option (or Ctrl+R) to display the Select Remote Alert Computer window.

Enter the name of the computer you wish to view and click the OK button to display an Alerts window for the chosen workstation.




Alerts on another workstation are view only – no other action can be taken with them.

Click the Refresh button to update the Alerts window for any new alerts since the time the window was brought up or since the last time the Refresh button was clicked.

Click the View New Alerts button to view the new alerts on the workstation.

Click the View Acknowledged Alerts button to view the acknowledged alerts on the workstation.

Click the close box to exit the remote Alerts window.

### Print

Use the Print option (or Ctrl+P) to print all the alert information displayed in the Alerts window on your printer.

### Print Preview

Use the Print Preview option to display a window showing the information that will be sent to the printer if you print alerts. The Print Preview window shows a small-scale version of each page and allows you to zoom in or out, go forward or backward through pages, and view two pages at once. You may also print directly from the Print Preview window. Click the Close button from the Print Preview window to return to the Alerts window.

### Exit

Use this option to exit the Alerts Server option. When you choose this option, a warning window appears to let you know that this will stop all alert processing. Click the OK button from this warning window to complete the exit process or click the Cancel button to cancel the exit process and keep alert processing turned on.

## Edit Menu

The Edit menu contains Acknowledge, Acknowledge/Delete, Delete, and Select All options.

### Acknowledge

When in view new alerts mode, select an alert from the list and choose the Acknowledge option (or Ctrl+K) to remove the alert from the list and send it to the acknowledged alerts log. (You may view the acknowledged alerts log by choosing View:Acknowleged Alerts.) You may also acknowledge a new alert by double-clicking the alert in the list. Acknowledging alerts clears old alerts from the Alerts window so new alerts are easier to recognize.

When in view acknowledged alerts mode, this option is unavailable. If you double-click an alert from the view acknowledged alerts mode, the alert is deleted from the system.

### Acknowledge/Delete

When in view new alerts mode, select an alert from the list and choose the Acknowledge/Delete option (or Ctrl+X) to remove the alert from the list and delete it from the system. Deleted alerts cannot be retrieved.

When in view acknowledged alerts mode, this option is unavailable.

### Delete

When in view new alerts mode, this option is unavailable.

When in view acknowledged alerts mode, select an alert from the list and choose the Delete option (or Ctrl+D) to remove the alert from the list and delete it from the system. Deleted alerts cannot be retrieved.

If you are in view acknowledged alerts mode, you may double-click an alert from the list to delete it from the system.

### Select All

Use the Select All option (or Ctrl+A) to select all the messages in the list.

## View Menu

The View menu contains options related to viewing alert information.

### Toolbar

If a checkmark appears before this option, the Toolbar appears in the top portion of the Alerts window. If this option is unchecked, the Toolbar does not appear.

*Alerts Toolbar*

The Toolbar contains icons for options that can be found under the menus. This allows for quick access to these options. The icons are Acknowledge, Settings, Print, Print Preview, and View Acknowledged Alerts/View New Alerts. Refer to the documentation for the menu options for complete descriptions of the first four icons.

The last icon in the list changes between View Acknowledged Alerts and View New Alerts, depending on the current alert viewing mode. If you are currently viewing new alerts, this icon is View Acknowledged Alerts and allows you to switch to acknowledged alerts viewing mode. If you are currently viewing acknowledged alerts, this icon is View New Alerts and allows you to switch to new alert viewing mode.

### Status Bar

If a checkmark appears before this option, the Status Bar appears in the bottom portion of the Alerts window. If this option is unchecked, the Status bar does not appear.

The Status Bar displays status information for the Alerts option. There are three boxes of information displayed. The first box displays status messages as alert

operations take place. The second box is a Gateway status box which is not currently in use. The third box displays the current sort column for the Alerts window.

### New Alerts

There are two viewing modes for alerts - view new alerts and view acknowledged alerts. When viewing new alerts, all alerts that have not been acknowledged or deleted are displayed. When viewing acknowledged alerts, only those alerts that have been acknowledged but not deleted are displayed.

This option is dimmed and unavailable when you are in view new alerts mode. When you are in view acknowledged alerts mode, use the New Alerts option (or Ctrl+N) to switch to view new alerts mode.

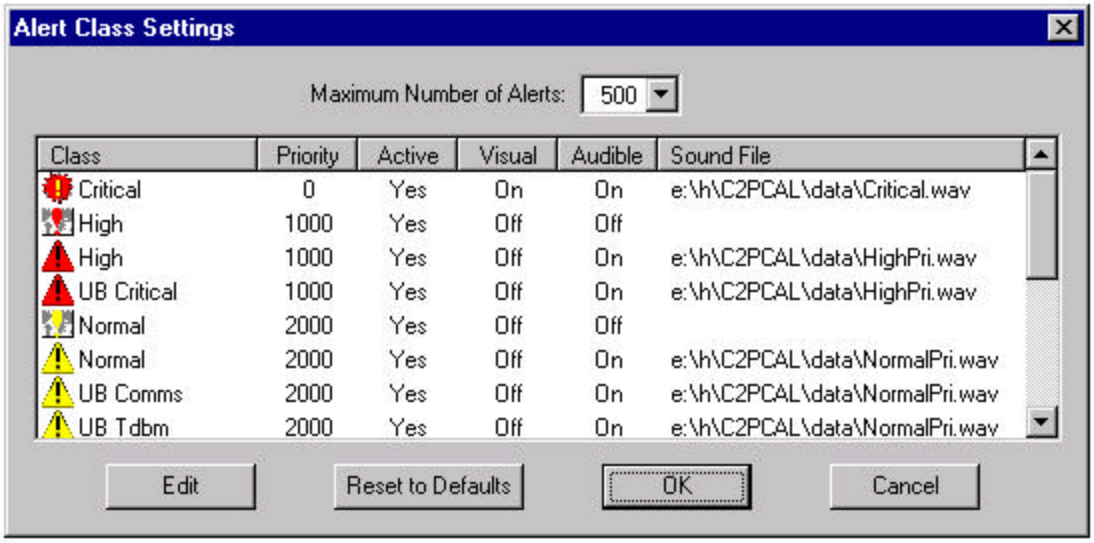
### Acknowledged Alerts

There are two viewing modes for alerts - view new alerts and view acknowledged alerts. When viewing new alerts, all alerts that have not been acknowledged or deleted are displayed. When viewing acknowledged alerts, only those alerts that have been acknowledged but not deleted are displayed.

This option is dimmed and unavailable when you are in view acknowledged alerts mode. When you are in view new alerts mode, use the Acknowledged Alerts option (or Ctrl+M) to switch to view acknowledged alerts mode.

### Options

Use Options to view and edit some settings related to alert classes. Choose Options (or Ctrl+O) to display the Alert Class Settings window.




The Alert Class Settings window displays a list of alert classes and their current settings.

**Maximum Number of Alerts**

The Maximum Number of Alerts field allows you to set the maximum number of alerts that are stored by the alert server. This number includes both acknowledged and unacknowledged alerts. When the limit is reached, the system begins automatically removing alerts from the system when a new alert arrives. Alerts are removed in the following order: a) acknowledged alerts, b) low priority alerts, c) normal priority alerts, d) high priority alerts. The system will delete the oldest alert in the order listed above. If it can't find an alert in that category, it will then check the next category until it finds one to delete.

The following columns of information are displayed for each alert class.

**Class**

This displays the alert class along with the symbol for that alert class.

**Priority**

This displays the current display priority for the alert class. Alerts of the lowest number display at the top of the alerts list.

**Active**

This displays the active status of the alert class. If Yes is displayed here, the alert class is active and alerts are sent to the alert log. If No is displayed here, the alert class is inactive, and alerts received from this alert class are not processed and do not appear in the alert log.

**Visual**

This displays the On / Off status of the visual alert for the alert class. If On is displayed here, a dialog box will appear on the screen when an alert from this class is received. The dialog box will remain on the screen until either the Acknowledge button is clicked or until it times out when it hits the timeout value entered for the visual alert.

If Off is displayed here, there will be nodialog box displayed when an alert from this class is received.

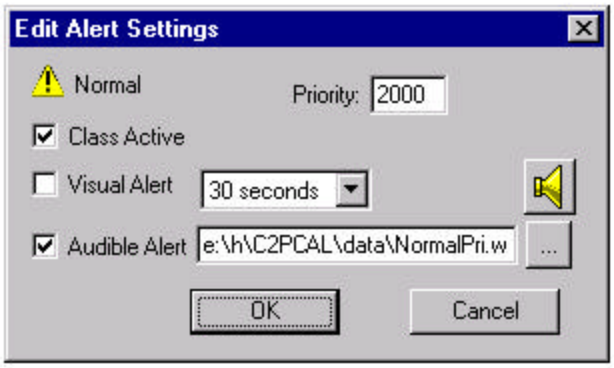
**Audible**

This displays the On / Off status of the sound used for the alert class. If On is displayed here, a beep or other sound will occur when an alert from this class is received. If Off is displayed here, there will be no sound when an alert from this class is received.

**Sound File**

This displays the path to the sound file used for the alert class.

To edit any of the alert class settings, select an alert class from the list and click the Edit button (or double-click the alert class in the list) to display the Edit Alert Settings window.




You may edit any of the following settings for the alert class.

**Priority**

This field displays the current priority for the alert class. Edit this field as appropriate to change the priority number. Alerts of the lowest number display at the top of the alerts list.

**Class Active**

If this checkbox is checked on, alerts from this class will enter the system. If off, alerts from this class will not be processed and will not appear in the alert log.

**Visual Alert**

If this checkbox is checked on, a dialog box will appear on the screen when an alert from this class enters the system. The dialog box will remain on the screen until either the Acknowledge button is clicked or until it times out when it hits the timeout value entered for the visual alert.

If this checkbox is checked on, choose a timeout value for the field next to the Visual Alert checkbox. Valid values are 15 seconds, 30 seconds, 1 minute, 5 minutes, 10 minutes, or no timeout.

If the Visual Alert checkbox is checked off, no dialog box will appear when an alert from this class enters the system.

**Audible Alert**

If this checkbox is checked on, a beep or other sound will occur when an alert from this class enters the system. If off, no sound will occur when an alert from this class enters the system.

**Audible Path**

This displays the pathname for the sound file used for the audible alert for this alert class. Each alert class can have different sounds. To change the sound file, enter the pathname for the new sound file in this field or click the Browse button to locate a new sound file.

**Sound Preview Button**

The Sound Preview button is located in the upper right portion of this window. Click on this button to hear the sound for the alert.

Click the OK button to accept any changes to the alert class settings or click the Cancel button to discard any changes. Clicking either button returns you to the Alert Settings window.

If changes have been made to the alert settings, you may use the Reset to Defaults button to discard these changes and revert to alert default settings. When you click the Reset to Defaults button, a warning message appears to inform you that this action cannot be undone. From the warning window, click the Yes button to complete the resetting process, or click the No button to retain the current settings and cancel the reset process.

From the Alert Settings window, click the OK button to save any changes made to alert settings and return to the Alerts window or click the Cancel button to discard all changes.

## Help Menu

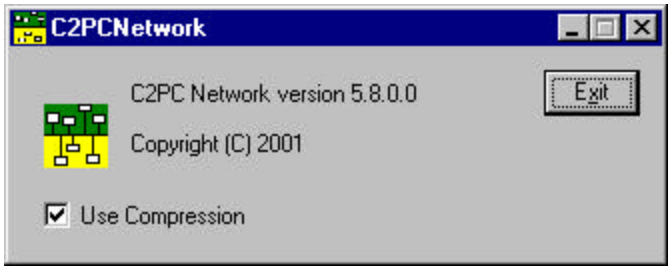
The Help menu contains Contents and Index option and an About Alerts option. The Contents and Index option (or F1) displays online help information for the C2PC Alerts Server option. The About Alerts option displays version information for the C2PC Alerts Server option.

## C2PC NETWORK

The C2PC Network option allows your workstation to receive overlays over your network. When this option is turned on, overlays sent to your workstation will be received properly. If turned off, overlays sent to your workstation will not be received.

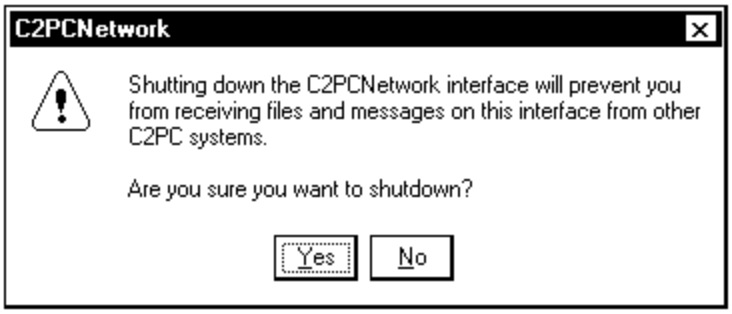
When the C2PC Client is loaded onto your workstation, the C2PC Network option is also loaded. When the workstation is started, the C2PC Network option is automatically started and will be displayed as a tray icon in the right portion of the Task Bar. If the C2PC Network option has been turned off, you can activate it again by clicking Start, then choosing Programs:C2PC:C2PC Network to display the C2PCNetwork icon in the Task Bar.

If you double-click the C2PCNetwork icon in the Task Bar, the C2PCNetwork window appears.




The C2PCNetwork window displays the current version of the C2PCNetwork software. There is also a Use Compression checkbox. If this checkbox is clicked, files transmitted over the network will be compressed. If all the workstations on your network are using the current version of C2PC, this checkbox should be clicked. If there is one or more workstations that you will be communicating with that contains an older version of C2PC, leave this checkbox blank, as older versions of C2PC will not be able to decompress the compressed files.

To turn off the C2PC Network option, click the Exit button from the C2PCNetwork window. A warning window appears.

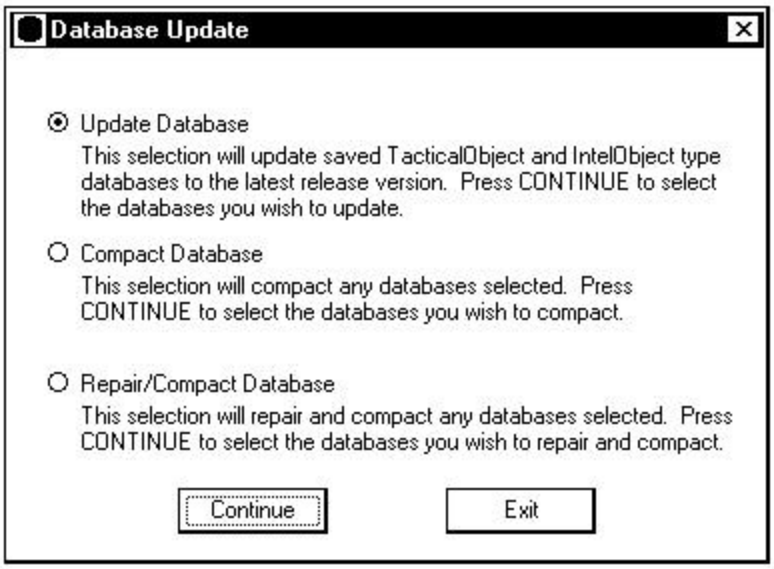



The warning window lets you know that turning off the C2PC Network option will prevent your workstation from receiving overlays from other workstations on your network. Click Yes to turn off the C2PC Network option or click No to cancel the exit process and keep the C2PC Network option running.

## DB UPDATE

The DB Update option is available to perform some actions on a chosen C2PC TacticalObject or IntelObject database. This option can be used to update the databases when a new C2PC version is released, to compact the databases when they are growing large, and to repair a database if problems arise.

If C2PC was loaded in the default location, click Start, then choose Programs:C2PC: DB Update to display the Database Update window.




There are three options available in the Database Update window - Update Database, Compact Database, and Repair / Compact Database.

**Update Database**

Use this option to update any TacticalObject or IntelObject database when a new version of C2PC has been loaded on your workstation. This option is available to speed up the time it takes to update these databases. If this option is used, these databases will be updated fairly quickly.

Note that this option only needs to be run if you have an existing database. It does not need to be run with the installed TacticalObjects database.

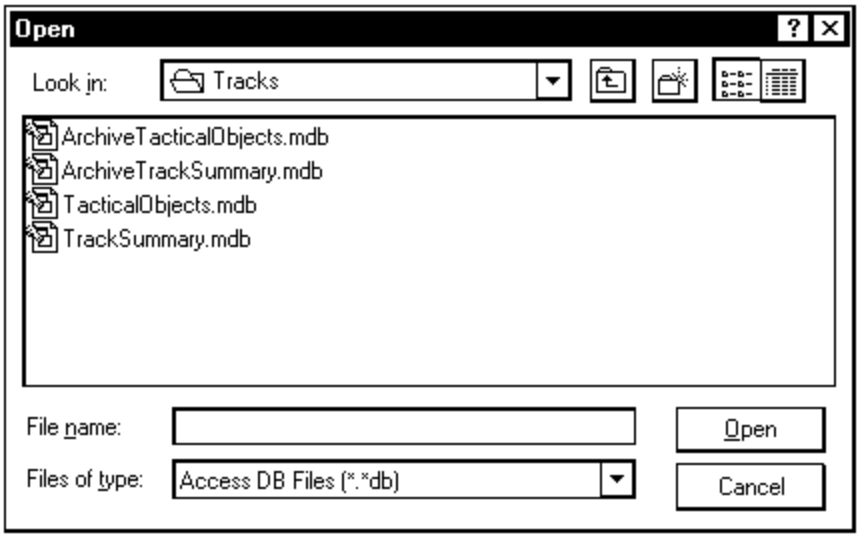
**Compact Database**

Use this option to compact any TacticalObject or IntelObject database when a database is getting too large. This option is most useful when many edits and deletes have been made to a database. This option will compact the database, saving disk space.

**Repair/Compact Database**

Use this option to repair and compact any TacticalObject or IntelObject database. Use this option if an error occurs when opening a database to repair the database. This option will repair any errors that can be fixed, and also compact the database.

After selecting one of the options in the Database Update window, click the Continue button to display the Open window.



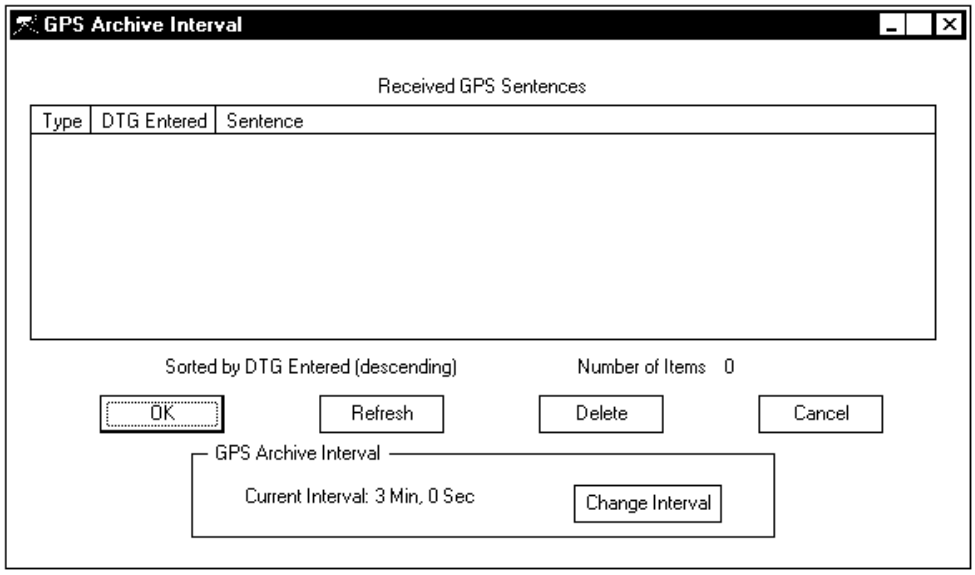

The Open window automatically opens up the C2PC Tracks directory, which is the default directory for C2PC track databases. To view databases in other directories, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

Select the databases you wish to update/compact/repair in the Open window and click the Open button to perform the chosen operation on the databases. When the chosen action is finished, a message will appear to inform you that the chosen action is complete. Click the OK button from that window to finish the process.

Click the Exit window to exit from the Database Update window.

## GPS MSG LOG VIEWER

Use the GPS Msg Log Viewer to view the GPS data used to update the GPS track. If C2PC was loaded in the default location, click Start, then choose Programs:C2PC: GPS Msg Log Viewer to display the GPS Archive Interval window.

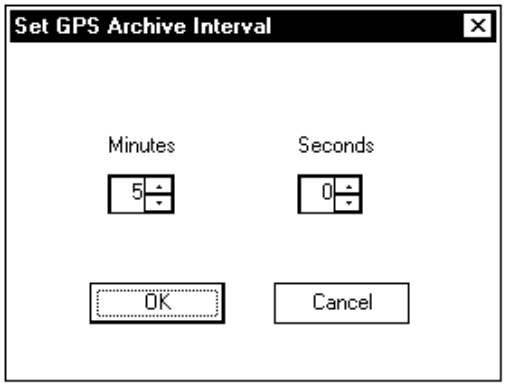



The window displays a list of Received GPS Sentences and shows the type, DTG, and content of each sentence. The list can be sorted by clicking on the Type or DTG Entered column heading. The number of items in the list is displayed below the list.

Click Refresh to display the current database, including all sentences received since the last time Refresh was clicked.

Highlight one or more messages in the list and click Delete to delete messages from the list.

Use the Change Interval button to set the elapsed time between each saved GPS sentence. One GPS sentence is saved at each designated interval. Click Change Interval to open the Set GPS Archive Interval window.

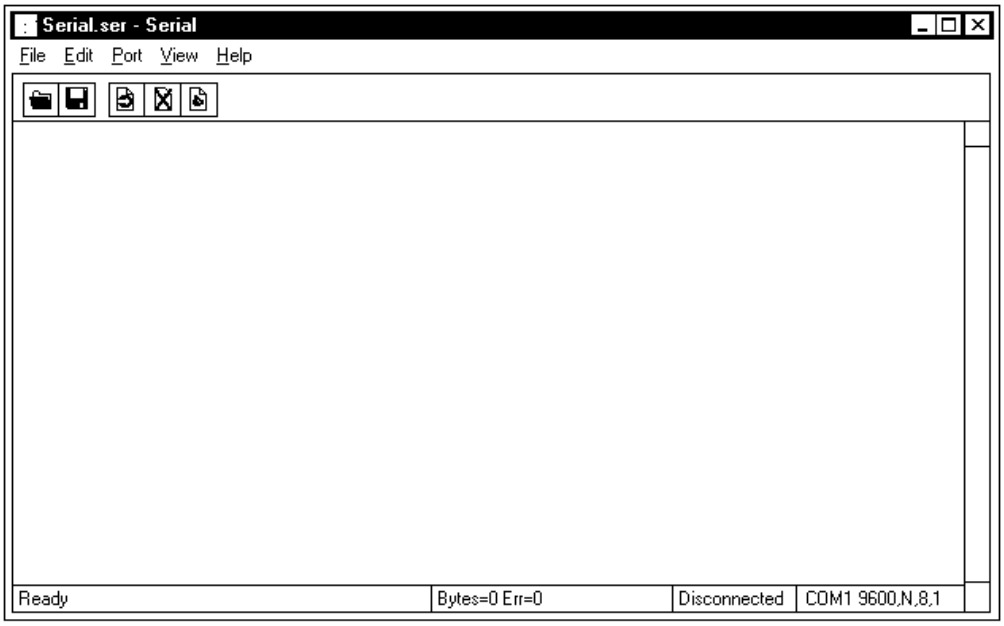



Set the interval in minutes and seconds by typing in a value or using the arrows to set a value. The maximum value is 120 minutes, 59 seconds and the minimum value

is zero minutes, 1 second. Click OK to accept the changes and close the window or click Cancel to discard the changes and close the window.

## SERIAL INTERFACE

Use the Serial Interface option to enter and view settings so that track data can be read off the Serial port. If C2PC was loaded in the default location, click Start, then choose Programs:C2PC:Serial Interface to display the Serial window.



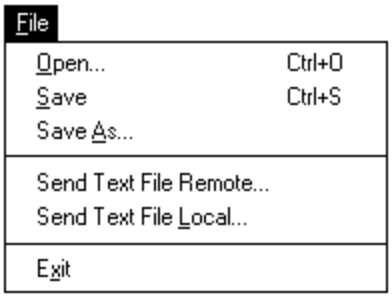

The general strategy for using the Serial window is as follows:

1) Use EDIT : PROPERTIES to enter the proper communications settings for the Serial port.
2) Use PORT : CONNECT to connect the Gateway to the Serial port so that incoming data from the Serial port is read into the system.

These and other options and features associated with the Serial window are discussed here.

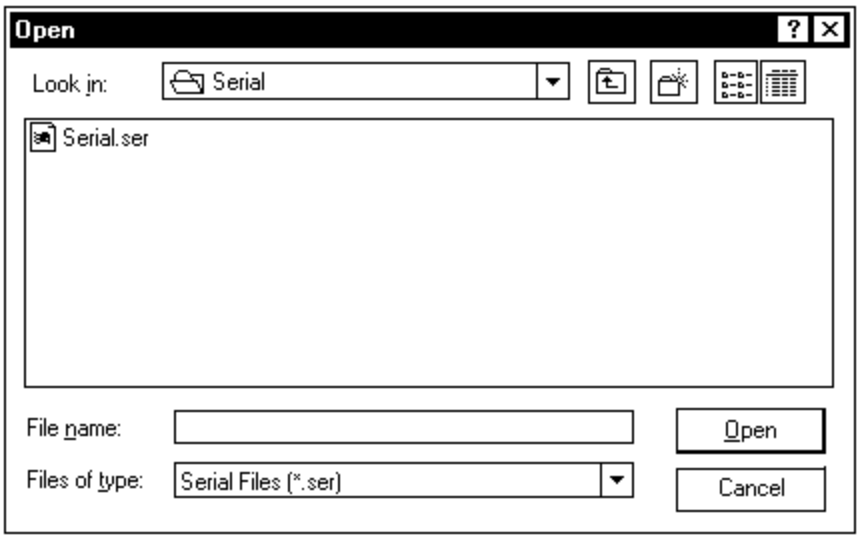
### File Menu

The File menu contains options for opening and saving communications settings, and for sending text files through the Serial port.




### *Open*

Use the Open option to open a file that has been saved which contains communications settings set with the EDIT : PROPERTIES option and saved with the FILE : SAVE or SAVE AS option. When the Open option is selected the Open window appears.




Use the Open window to locate the saved communications settings file you want.

To open a file, click on a file from the displayed list and click the Open button. The communications settings from the selected file appear in the Communications Settings window (from the EDIT : PROPERTIES option).

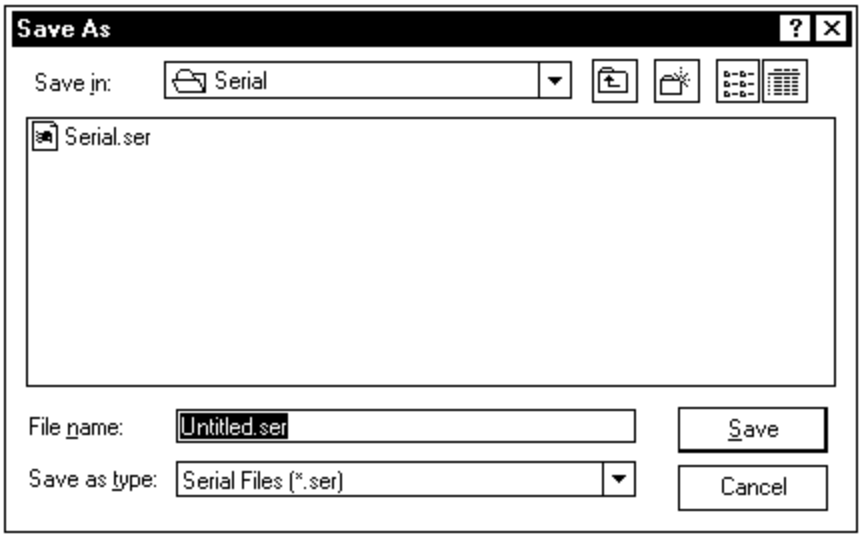
To view files in other directories, use the scroll list and icons at the top of the window to locate the directory of interest. These work the same as standard pc-based directory windows.

### *Save*

Use the Save option to save the current communications settings to the Serial.ser file. This file comes with the system and is located in the Serial folder. Whenever this option is used, the current settings overwrite any settings that were already saved in this file.

### *Save As*

Use the Save As option to save the current communications settings to a file with a name of your choosing. When the Save As option is selected, the Save As window appears.




Enter a name in the File name field and click the SAVE button to save the file.

Use the Open option from the File menu to retrieve saved communications setting files.

### *Send Text File Remote*

This option has not yet been implemented.

### *Send Text File Local*

This option is only available when the Serial option is disconnected. Use this option to send a saved text file through the Serial port as if it were live Serial data. When

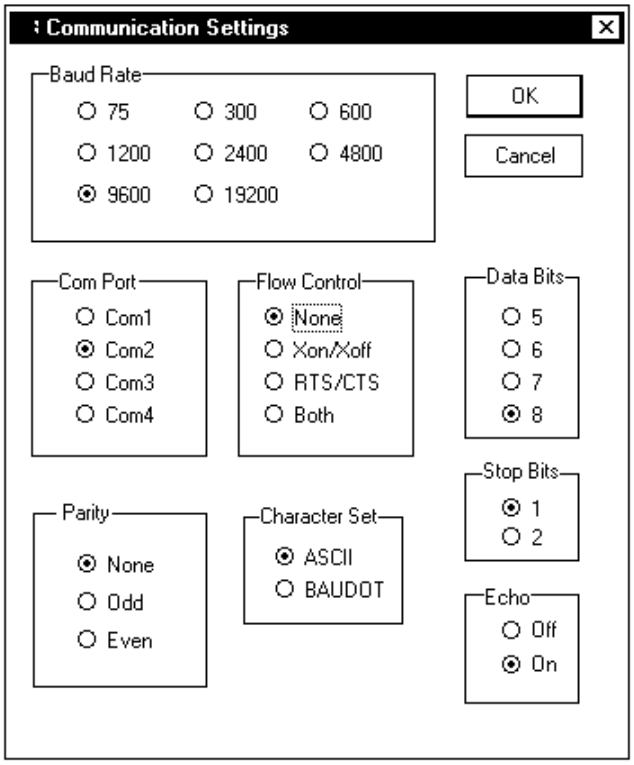
this is used, track data from the saved file is imported into the C2PC machine and displayed in the map window.

### *Exit*

Use this option to exit the Serial option.

## Edit Menu

The Edit menu contains the Properties option. Use the Properties option to view and change the Serial communications settings.




The first time you use the Serial option, check these settings to make sure they match those being used by the Serial device. Change the settings as necessary to match. For Flow Control, always use the RTS/CTS setting. If the Echo setting is turned on, messages will stream through the Serial window as they enter the system. This slows the system down a bit.

When the settings are properly displayed, click the OK button to save them. When the settings are saved, they will be retained in the system.

Note that communications settings can be saved to a file with the Save and Save As options from the File menu.

## Port Menu

The Port menu contains Connect and Disconnect options. One of these options is always active, the other is always inactive. Click the Connect option to use the communications settings to connect to the Serial port. When connected properly, data is transmitted through the Serial port into the Gateway. Click the Disconnect option to disconnect from the Serial port.

Note that when connected, data continues to enter into C2PC through the Serial port, even if the Gateway is down.

## View Menu

The View menu contains options to control items that appear in the Serial window.

### *Toolbar*

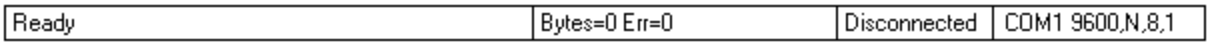
If a checkmark appears before this option, the Toolbar appears in the top portion of the Serial window. If this option is unchecked, the Toolbar does not appear.

*Serial Window Toolbar*

The Toolbar contains icons for options that can be found under the menus. This allows for quick access to these options. The icons are Open, Save, Connect, Disconnect, and Properties. Refer to the documentation for these menu options for complete descriptions.

### *Status Bar*

If a checkmark appears before this option, the Status Bar appears in the bottom portion of the Serial window. If this option is unchecked, the Status bar does not appear.




*Serial Window Status Bar*

The Status Bar displays status information for the Serial option. There are four boxes of information displayed.

The first box displays status messages as Serial operations take place.

The second box displays the number of Bytes of data that have been received through the Serial port and the number of parity errors. The parity errors should be zero or a very low number if the Serial option is working properly. If this number is larger, this may be an indication of connection problems. Check the settings in the Communications Settings window to make sure the Serial connection is properly configured.

The third box displays the connect / disconnect status for the Serial port.

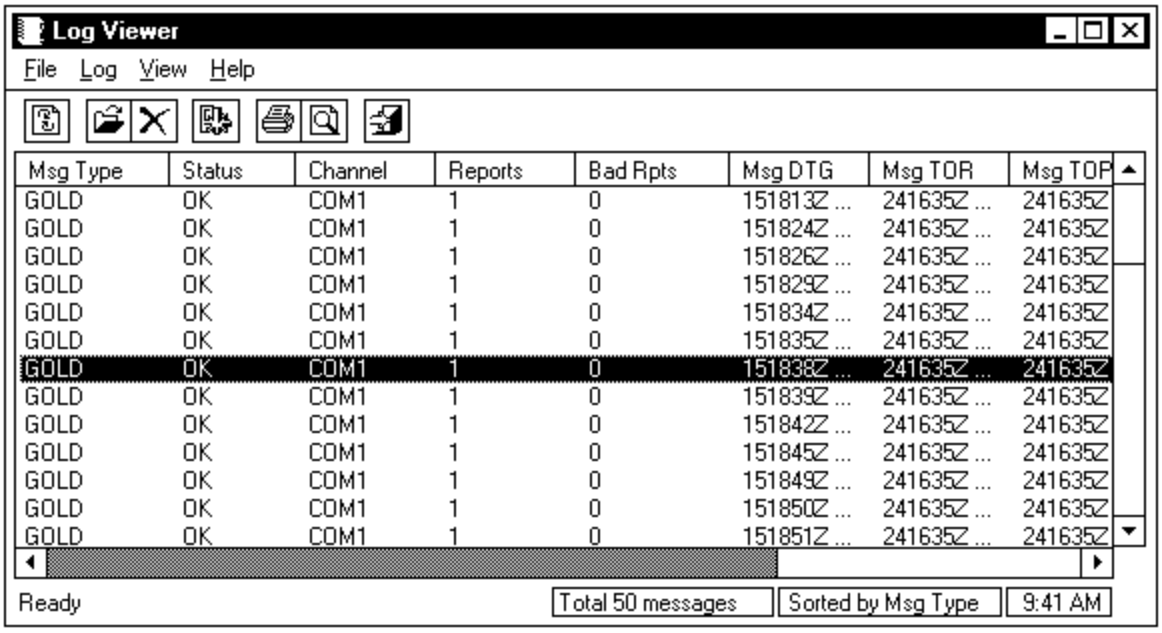
The fourth box displays Serial connection settings. This displays the Com Port, Baud Rate, Parity, Data Bits, and Stop Bits settings.

### Help Menu

The Help menu contains only the About Serial option. Choose this option to display the About Serial window. The About Serial window displays version number and copyright information for the Serial option.

## SERIAL MSG LOG VIEWER

Use the Serial Msg Log Viewer option to view a log of messages received through the Serial port. Note that this option only displays information if the chosen track source is Serial. If C2PC was loaded in the default location, click Start, then choose Programs:C2PC:Serial Msg Log Viewer to display the Log Viewer window.




*Log Viewer Window*

The Log Viewer window displays a list of messages received through the Serial port. The following columns may be displayed for each message:

**Msg Type**
Message type. This can be GOLD, GOLD/OPNT, or JUNIT.

**Status**
Message status as follows:

| Message | Meaning |
|---|---|
| OK | Decoded - no errors detected |
| Error | Decoded - errors detected on 1 or more reports |
| Pending | Received but not decoded |
| Reprocess | Scheduled for reprocess |

**Channel**
Serial port used.

**Reports**
Number of reports contained within the message.

**Bad Rpts**
Number of bad reports within the message.

**Msg DTG**
Message date-time group.

**Msg TOR**
Time the message was received by the Gateway.

**Msg TOP**

Time the message was decoded.

**From**
Message sender. This was extracted from the Janap 128 From line in the received message.

**To**
First addressee of the message. This is helpful in identifying the main addressee if the message was sent to more than one location. This was extracted from the Janap 128 To line in the received message.

**Command**
Command sending the message. This was extracted from the Janap 128 MSGID line in the received message.

**Msg ID**
Incoming message serial number. This was extracted from the Janap 128 MSGID line in the received message.

Click on a column heading to sort the messages using that column. Click again on the same column to display a reverse sort by that column. If you click a second column, that column becomes the main sort column, with the first column becoming a secondary sort column. Sorting can be done for up to three levels. The main sort method is displayed in the bottom right portion of the status bar.

There is a pop-up menu that can be accessed from the Log Viewer window. Click the right mouse button to display the pop-up menu, which contains Open, Delete, Reprocess, Refresh, and Options choices. These options work the same as options of the same name found under the Log Viewer menus. Refer to the documentation for these menu options below for more details about these options.

The menu and Toolbar options can be used to perform some operations on the messages in the log. These options are discussed here.

## File Menu

Use the File menu options to print and exit from the Log Viewer.

### *Print (Ctrl + P)*

Use this option to print the message log. When this option is used, everything in the log is printed, not just those messages showing in the window.

This option displays a standard print dialog. Use the options within this dialog to send the message log to your printer.

### *Print Preview (Ctrl + V)*

Use this option to preview on your screen what the printed version of the message log will look like.

### *Exit*

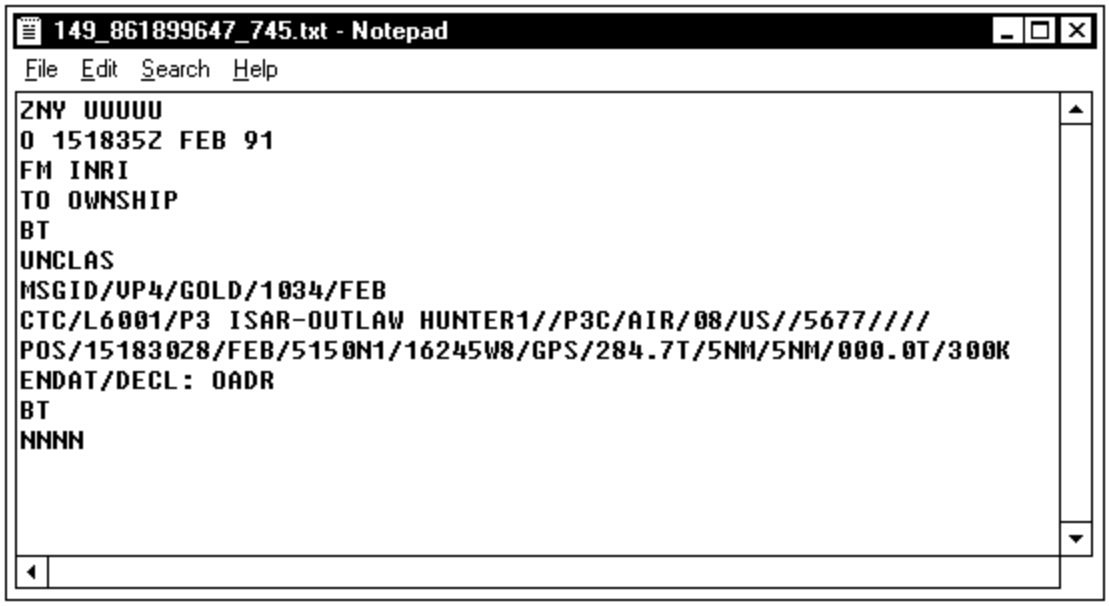
Use this option to exit the Serial Msg Log Viewer option.

## Log Menu

The Log menu contains option to allow you to view the raw data for messages, delete messages, reprocess messages, and select them in the list.

### *Open*

Use this option to view the raw data for a selected message. Select a message from the list and choose the Open option to display the Notepad window. Note that you can also access this window by double-clicking on a message in the list.




The Notepad window displays the raw data for the selected message. Use the scrollbar on the right to scroll through the message if necessary.

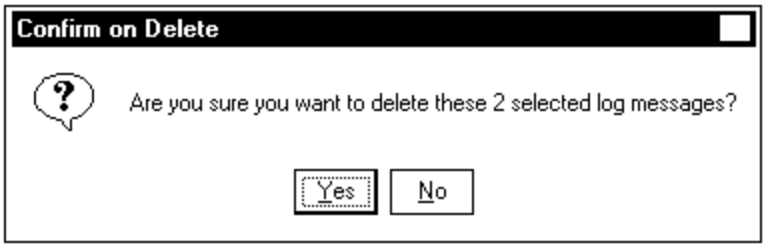
Notepad is a Microsoft product that contains its own menu of options to allow you to edit, view, print, and save the text for the selected message. Refer to the Microsoft Notepad documentation or the Notepad on-line help for detailed instructions on using Notepad.

You may edit and save messages from the Notepad window, and then reprocess them using the Reprocess option. This is a useful feature for correcting erroneous values in a message.

When you finish viewing the message, select FILE : EXIT from the Notepad window menubar to close the notepad and return to the Log Viewer window.

### *Delete (Del)*

To delete messages from the Log Viewer list, select the messages you want to delete and choose the Delete option to display the Confirm on Delete window.




Click the YES button to complete the delete process or click the NO button if you decide not to delete the selected messages.

### *Reprocess (Ctrl + E)*

Messages may be reprocessed. A reprocessed message is sent back through the decoder. This is often done after an erroneous message has been edited and corrected. To reprocess a message, select the message from the list and choose the Reprocess option.

Reprocessed messages are identified in the Status column. If reprocessing the message changes the position of a track, the track position will change in the Client map window.

### *Select All (Ctrl + A)*

Use this option to select all the messages in the list.

### *Unselect All (Ctrl + U)*

Use this option to de-select all the messages in the list.

### *Invert Selection (Ctrl + I)*

Use this option to select all de-selected messages and de-select all selected messages in the list.

## View Menu

The View menu contains options to control items that appear in the Log Viewer window.

### *Toolbar*

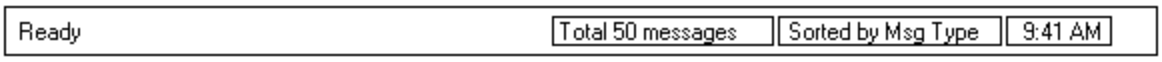
If a checkmark appears before this option, the Toolbar appears in the top portion of the Log Viewer window. If this option is unchecked, the Toolbar does not appear.

*Log Viewer Toolbar*

The Toolbar contains icons for options that can be found under the menus. This allows for quick access to these options. The icons are Refresh, Open, Delete, Options, Print, Print Preview, and Exit. Refer to the documentation for these menu options for complete descriptions.

### *Status Bar*

If a checkmark appears before this option, the Status Bar appears in the bottom portion of the Log Viewer window. If this option is unchecked, the Status bar does not appear.




*Log Viewer Status Bar*

The Status Bar displays status information for the Log Viewer option. There are four boxes of information displayed.

The first box displays status messages as Log Viewer operations take place.

The second box displays the total number of messages displayed in the Log Viewer window.

The third box displays the main sort criteria for the list.

The fourth box displays the current time.

### *Refresh*

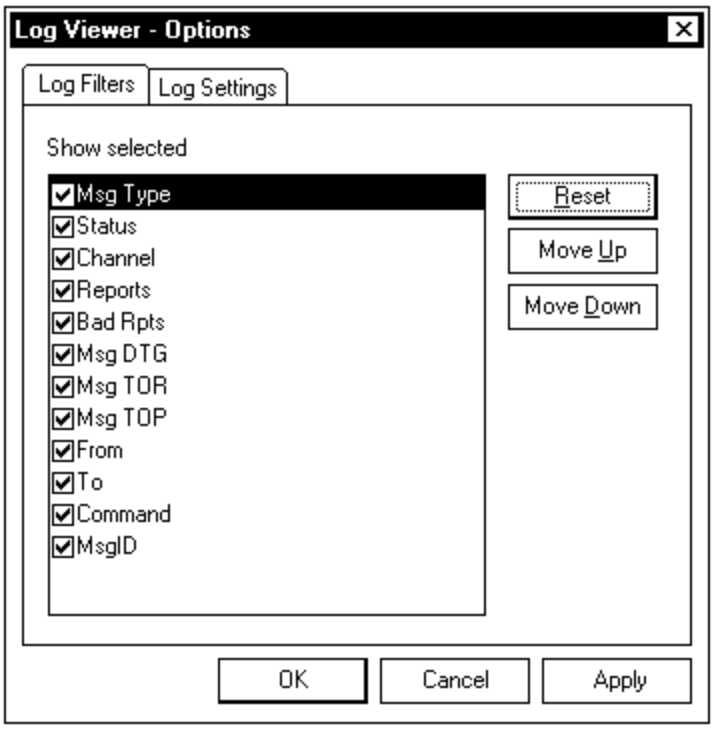
The Log Viewer window displays messages at the time the window was opened. Use the Refresh button to update the information to the present time.

## *Options*

The Options menu choice allows you to choose the maximum number of messages that display in the Log Viewer window and the columns of information displayed. Choose Options to display the Log Viewer - Options window. The Log Viewer-Options window contains two tabs, the Log Filters and Log Settings tabs.

### *Log Filters*

The Log Filters tab allows you to choose the columns that display and the order of display for the Log Viewer window.




Click on any of the checkboxes to display those message attributes as columns in the Log Viewer window. Unchecked items will not display.

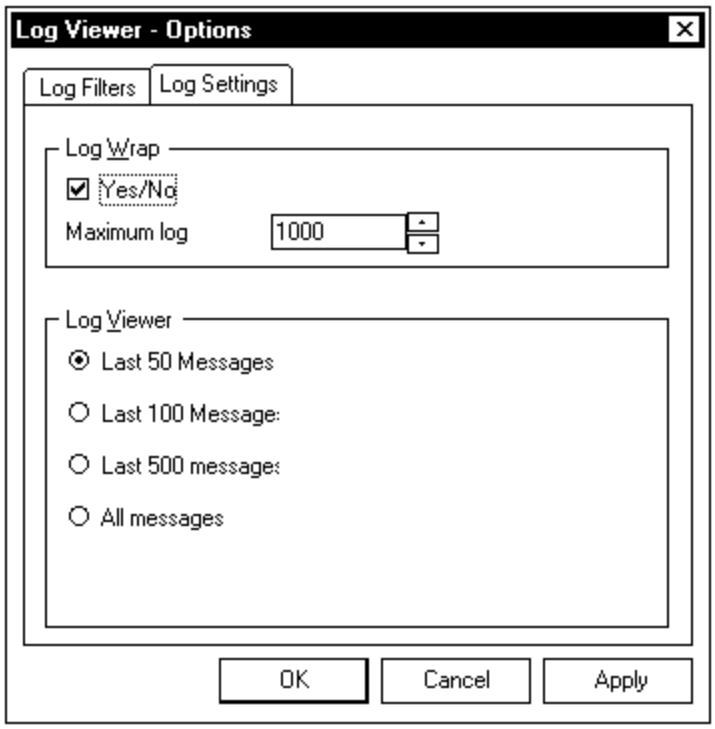
Use the buttons on the right to set the display order for the columns. Use the RESET button to return the columns to their default settings. Select an item in the list and click either the MOVE UP or MOVE DOWN button to move it up or down in the list. The top checked item in the list displays as the first column in the Log Viewer window, and the bottom checked item displays as the last column.

When the columns are as you want them, click either the APPLY or OK button to accept the settings. APPLY accepts the settings and leaves the Log Viewer - Options window open while OK accepts the settings and exits the window. Click the Cancel

button to cancel any changes made since the last time the APPLY button was clicked.

*Log Settings*

The Log Settings tab allows you to choose the number of messages that are retained in the message log and the number that display in the Log Viewer window.




In the Log Wrap box, specify whether you want the log to wrap upon reaching a certain number of messages. If the Yes / No checkbox is not checked, there is no limit to the number of messages retained in the system. Messages will be saved until your hard disk is full or until you delete them. If the Yes / No checkbox is checked, the system will retain only the number of messages specified in the Maximum Log field. If the Yes / No checkbox is checked, enter the number of messages you want to retain in the Maximum Log field. The most recently received messages will be retained up to the number entered in this field, and the rest will automatically be deleted.

In the Log Viewer box, choose a knob for the number of messages that appear in the scroll list from the following choices.

?? Last 50 Messages--limits the scroll list to 50 messages. By limiting the scroll list to 50 messages, processing time is faster. The system still holds the number of

incoming messages specified in the Log Wrap box, but only the last 50 messages are displayed.

?? Last 100 Messages--limits the scroll list to 100 messages. Processing time is faster than the Last 500 Messages and All Messages options, but slower than the Last 50 Messages option. The system still holds the number of incoming messages specified in the Log Wrap box, but only the last 100 messages are displayed.

?? Last 500 Messages--limits the scroll list to 500 messages. Processing time is faster than the All Messages option, but slower than the other options. The system still holds the number of incoming messages specified in the Log Wrap box, but only the last 500 messages are displayed.

?? All Messages--sets the number of messages in the scroll list to the number of incoming messages specified in the Log Wrap box. Processing time is much slower with this option than with the other options.

When the settings are as you want them, click either the APPLY or OK button to accept the settings. APPLY accepts the settings and leaves the Log Viewer - Options window open while OK accepts the settings and exits the window. Click the Cancel button to cancel any changes made since the last time the APPLY button was clicked.

### Help Menu

The Help menu contains only the About Log Viewer option. Choose this option to display the About LogViewer window. The About LogViewer window displays version number and copyright information for the Log Viewer option.

## TACCOMM VIEWER

Use the TacCommViewer to view a message log for the following types of messages that have been transmitted and received:

?? Binary File

?? DOI 103

?? NITF

?? TADIL J

?? USMTF

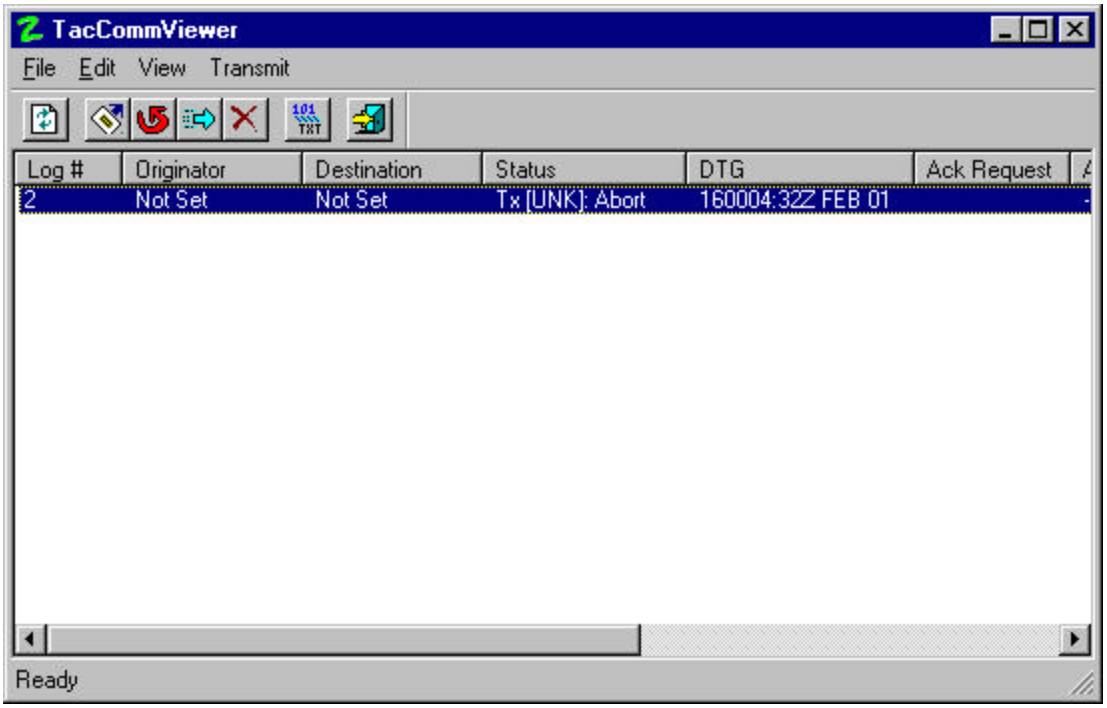
?? VMF

?? Forwarded Message

?? User Defined

In addition to viewing the message log, the TacComm viewer also allows you to transmit, retransmit, forward, print, and delete messages. Before sending a message, you can also specify whether an acknowledgement is needed.

If C2PC was loaded in the default location, click Start, then choose Programs:C2PC:TacComm Viewer to display the TacCommViewer window.




The TacCommViewer window displays a log of the messages received and transmitted. The following columns of information are displayed.

**Log#**
This displays the message ID number. This is a number assigned by the system to identify the message. Every message has a unique message ID number. If a transmitted message was sent to more than one destination, a separate line will be displayed for each destination, but the message ID will be the same for each line.

**Originator**
This displays the Unit Reference Number (URN) or the Unit Name for the originator of the message. If a URN is present in the message, this

is displayed. If not, the Unit Name is displayed. If no value was set, Not Set is displayed.

**Destination**

This displays the URN or Unit Name for the destination of the message. If a URN is present in the message, this is displayed. If not, the Unit Name is displayed.

**Status**

This displays the message status. The following status codes may appear in this column:

| Status Code | Meaning |
|---|---|
| Rx | Message received. |
| Tx | Message transmitted. |
| Tx: ACK Rcvd | Message transmitted, and an acknowledgement was received from the recipient. |
| Tx [ ] Fail: NAK | Message transmitted, no link layer acknowledgement has been received. |
| Tx [ ] Fail: Abort | An attempt was made to transmit the message, but it was not transmitted. For example, this might happen if an attempt was made to transmit a message but comm subsystem has been disabled. |
| Tx Fail: Error | An attempt was made to transmit the message, but an error occured during transmit processing and the message was not transmitted. |

**DTG**

This displays the date-time group for the message.

**Ack Request**

For messages being transmitted, you may request an acknowledgement that the message was received by the recipient. This column displays the type of acknowledgement requested. The following acknowledgement codes may appear in this column:

| Ack Request | Meaning |
|---|---|
| MACK | An automated acknowledgement message from the destination machine is requested. |

| | |
|---|---|
| OPRACK | An acknowledgement from an operator is requested. |
| OP REPLY | A written reply from an operator is requested. |

**Ack Response**

If an acknowledgement has been received for a transmitted message, this column displays the type of acknowledgement received. The following acknowledgement codes may appear in this column:

| Ack Response | Meaning |
|---|---|
| MACK Rx | An automated acknowledgement message from the destination machine has been received. |
| CANTPRO Rx | A Can't Process message from the destination machine has been received. |
| CANTCO Rx | A Can't Comply message from the destination has been received. |
| OPRACK Rx | An acknowledgement from an operator has been received. |
| WILCO Rx | A Will Comply message from the destination has been received. |
| HAVCO Rx | A Have Complied message from the destination has been received. |

**Data Only File**

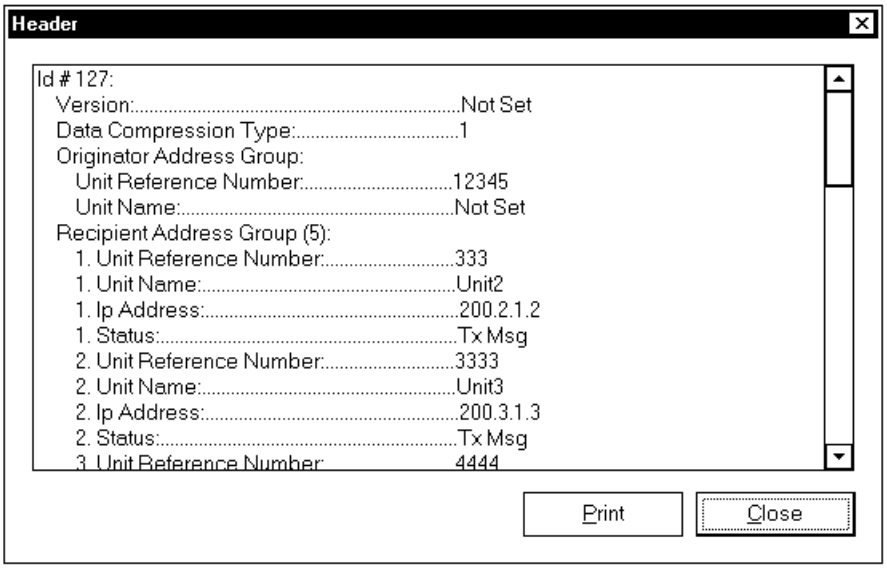
If message data has been transmitted or received, the file name of the data only file appears in this column. This indicates data has been transmitted or received. It also shows the name of the data on your machine.

**Header With Data File**

If message data has been transmitted or received with a header, the file name appears in this column.

The list of messages may be sorted by any column. Click on any column header to resort the list by the chosen header. Click again to display a reverse sort.

To view detailed information for a message in the list, double-click on the message to display the Header window.




The Header window displays all the information from the message header.

Messages in the list in the TacCommViewer window can be selected and deselected in a variety of ways:

?? Click on one message in the list to select the message and deselect all other selected messages.

?? Hold down the CTRL key and click on a selected message to deselect the message.

?? Click on one message to select it, hold the SHIFT key down, then click on another message further up or further down the list to select all messages in the list from the first to the second selected message.

?? Hold down the CTRL key, then click on multiple messages to select each of those messages at the same time.

The menus and the buttons at the top of the TacCommViewer window allow you to perform some operations with the messages. These menus and buttons are discussed in the following sub-sections.

## File Menu

The TacCommViewer File Menu contains Print, Print Preview, Decode and Exit options.

### Print

Use the Print option (or Ctrl+P) to print the information contained in the Header window for a selected message on your printer. Select a message from the list and choose the Print option to send the message to the printer.

### Print Preview

Use the Print Preview option (or Ctrl+V) to display a window showing the information that will be sent to the printer if you print a selected message. The Print Preview window shows a small-scale version of each page and allows you to zoom in or out, go forward or backward through pages, and view two pages at once. You may also print directly from the Print Preview window. Click the Close button from the Print Preview window to return to the TacCommViewer window.

### Decode

Select a message from the list and choose the Decode option to display a decoded view of the message.

### Exit

Use this option to exit the TacComm Viewer option.

## Edit Menu

The Edit menu contains Refresh, Delete, Select All, and Confirm Delete, Decode, and Initialize Database options.

### Refresh

The messages listed in the window are those messages in the database at the time the TacCommViewer window was opened or that were there the last time the Refresh option was used. Rx or Tx messages are added dynamically. If applications add to the database but do not Tx they won't show up in the window until refresh. Choose the Refresh option (or Ctrl+R) to update the messages to the present time.

### Delete

Select the messages you want to delete from the list and choose the Delete option (or click the Delete key) to delete them from the system. If a checkmark appears

before the Confirm Delete option from the Edit menu, a confirm delete message will appear before the messages are deleted. If no checkmark appears, the messages will be deleted without a confirm delete message.

### Select All

Use the Select All option (or Ctrl+A) to select all the messages in the list.

### Confirm Delete

The Confirm Delete option is a toggle which allows you to choose whether you want a confirm delete message to appear when you choose to delete messages.

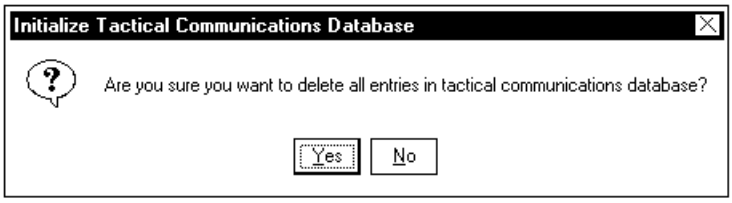
Choose this option to toggle a checkmark in front of the option in the list. Choose this option again to toggle the checkmark off. When the checkmark is in front of the option, this option is on and a confirm delete message will appear whenever you choose the Delete option to delete messages.

### Decode

Select a message from the list and choose the Decode option (or Ctrl+D) to display a decoded view of the message.

### Initialize Database

Use the Initialize Database option (or Ctrl+I) to delete all the entries in the TacComm database. Choose this option to display the Initialize Tactical Communications Database window. This is a very quick way to clear all database entries




Click the Yes button to confirm that you want to delete all entries or click No to cancel the delete process. If Yes is clicked, all the entries are deleted.

## View Menu

The View menu contains Receive Messages and Transmit Messages options.

### Receive Messages

This is a toggle option that allows you to either view or not view received messages. If this is toggled on, a checkmark appears next to this option.

### Transmit Messages

This is a toggle option that allows you to either view or not view transmitted messages. If this is toggled on, a checkmark appears next to this option.

## Transmit Menu

The Transmit menu contains Forward, Retransmit, and New Transmit options.

### Forward

Use the Forward option (or Ctrl+F) to retransmit a message to other destinations. Select a message in the TacCommViewer list and click the Forward button to display the Transmit Options window with all the fields filled with values for the chosen message. From the Address Selection tab, choose the new destinations and click OK to transmit the message.

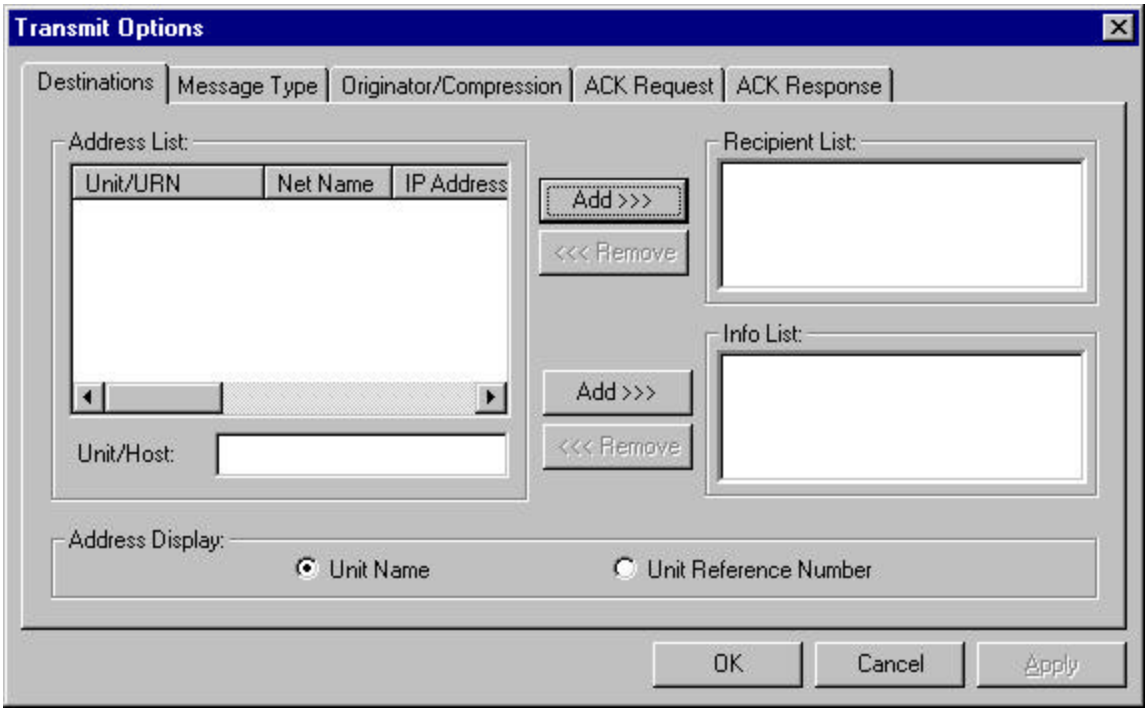
### Retransmit

To retransmit a message, select the message and choose the Retransmit option (or Ctrl+S).

## New Transmit

Use the New Transmit option (or Ctrl+T) to transmit a file. Many transmit settings can be set before transmitting the message, including choosing a file to send, designating the destinations, setting an acknowledgement request, and some other transmit options.

Choose the New Transmit option to display the Transmit Options window.

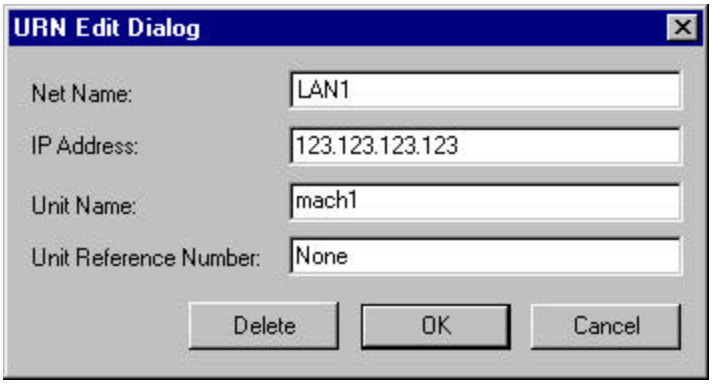



The Transmit Options window contains five tabs to allow you to enter the transmit settings. The Destinations tab is the default tab. None of the other tabs can be selected until at least one recipient is added.

The message destinations are assigned from the Destinations tab. The Address List box displays the addresses for all possible destinations. Messages can only be sent to those addresses listed in this box. These addresses are entered and maintained outside of C2PC, through the Tadiran Service Provider Setup window (located in the C:/Tinter directory at Setupsp.exe). When a message is received from destinations not already in the list, the address of the sender will also become available in this list.

The address listed in the Address List box can be displayed as a Unit Name or a Unit Reference Number (URN). From the Address Display box, choose the address type you want. When a different knob is chosen from this box, the address changes in all display windows to the type chosen.

URNs are not entered through the Tadiran Service Provider Setup utility program. To enter the URN for an address, double-click the address in the Available Addresses box to display the URN Edit Dialog window.



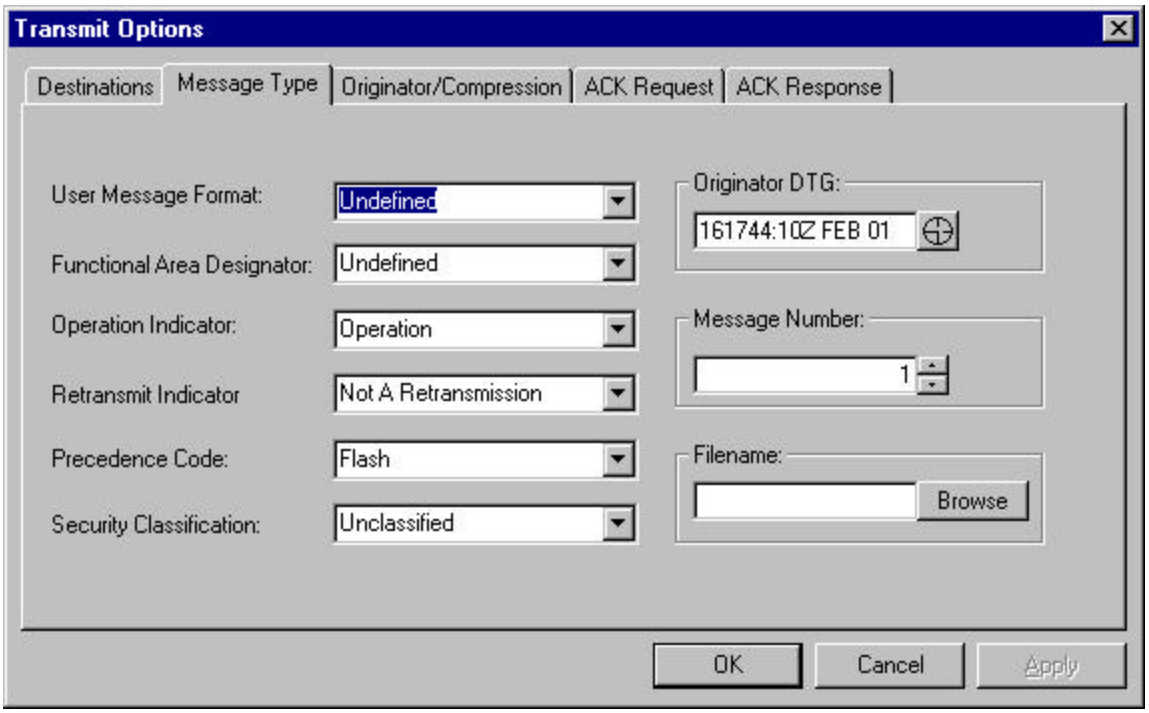

The Net Name, IP Address, and Unit Name for the chosen address are displayed and cannot be edited. In the Unit Reference Number field, enter or change the URN as appropriate and click the OK button to accept any change. Click the Delete button to delete the address from the Address list. Click the Cancel button to discard any changes and exit this window.

To choose the destinations for a message, select the appropriate addresses from the Address List box and click the Add button next to the Recipient List box. The Unit/URN and address of the chosen destinations appear in the Recipient List box. You may also enter an internet address in the Unit/Host field and click the Add button to choose an internet address as the destination. To remove a destination, choose the destination from the Recipient List box and click the Remove button.

The message can be sent to others in addition to the intended destinations. To send to others, select the appropriate addresses from the Address List box or enter an internet address in the Unit/Host field and click the Add button next to the Info List box. The Unit/URNs and addresses appear in the Info List box. To remove an address from the Info List box, choose the address from the Info List box and click the Remove button.

A maximum of nine destinations can be selected.

Click the Message Type tab to display additional fields.




The Message Type tab contains fields to allow you to choose the file that is to be transmitted, along with some other settings for the message.

**User Message Format**

Choose the message format from the following choices:

?? Binary File

?? DOI 103

?? NITF

?? TADIL J

?? USMTF

?? VMF

?? Forwarded Message

?? Undefined

**Functional Area Designator**

Choose your functional area designator from the following choices:

?? Network Control

?? System Information Exchange

?? Fire Support

?? Air Operations

?? Intelligence Operations

?? Land Combat Operations

?? Maritime Operations

?? Combat Service Support

?? Special Operations

?? JTF Operations Control

?? Air Defence/Space Ctrl

?? Undefined

?? Not Set (use this if a binary file is being transmitted)

**Operation Indicator**
Choose the operation type from the following choices:

?? Operation

?? Exercise

?? Simulation

?? Undefined

**Retransmit Indicator**
Choose whether the message is a retransmission or not. The choices are as follows:

?? Not a Retransmission

?? Is a Retransmission

**Precedence Code**
Choose a message precedence from the following choices:

?? Undefined (0)

?? Undefined (1)

?? Emergency Command

?? Undefined (3)

?? Flash

?? Immediate

?? Priority

?? Routine

**Security Classification**
Choose a security classification for the message from the following choices:

?? Unclassified

?? Confidential

?? Secret

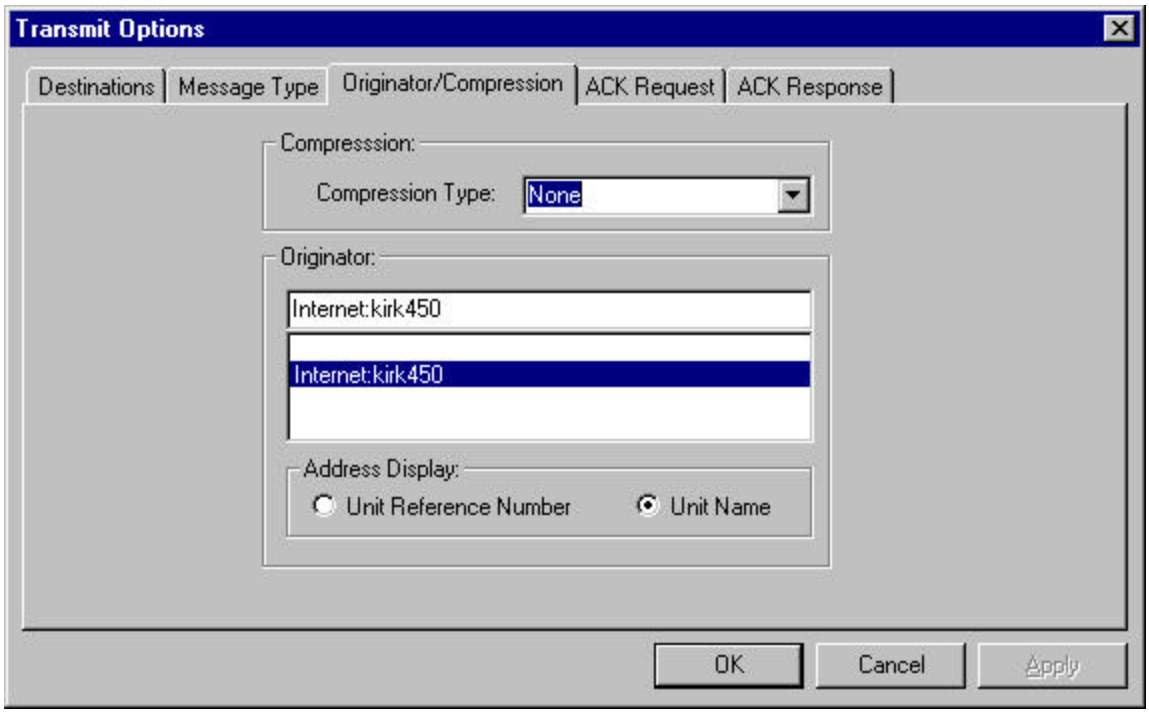
?? Top Secret

**Originator DTG**
Enter the DTG for the message. Click the crosshairs button beside this field to automatically enter the current local time in DTG format.

**Message Number**
Enter a message number. The meaning of this number varies depending on the message format entered in the User Message Format field. If you are transmitting a binary file, choose Not Set for this field.

**Filename**
If you are transmitting a binary file, enter the filename of the binary file here. The Browse button can be used to automatically enter the filename in this field. Click the Browse button and locate the file to automatically enter it into this field.

Click the Originator/Compression tab to display additional fields.




The Originator/Compression tab contains fields to allow you to choose some transmit values.

**Compression Type**

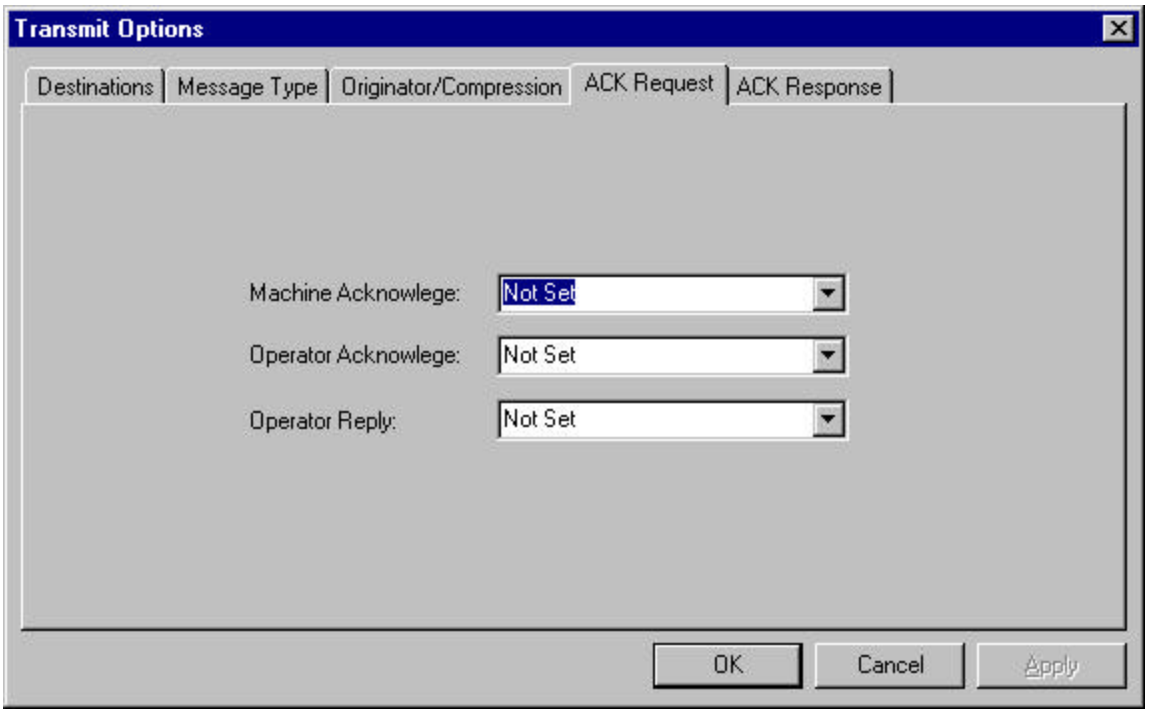
Choose a compression method for the message. Note that if the data can't be compressed or if it expands with the chosen method, it is sent uncompressed.

**Originator**

In the Originator box, choose an Address Display knob to send the message with either the Unit Reference Number listed or the Unit Name listed.

Highlight the proper originator name from the list in the Originator box.

Click the ACK Request tab to display additional fields.




The ACK Request tab contains fields to allow you to specify whether an acknowledgement is required for the message. If an acknowledgement is required, you can also specify the type of acknowledgement required.

**Machine Acknowledge**

Choose whether or not a machine acknowledgement is required.

If a machine acknowledgement is requested, an automatic response will be sent from the machine receiving the message upon receipt. When your machine receives this acknowlegement, it will appear in the Ack Response column of the message in the TacCommViewer window.

**Operator Acknowledge**

Choose whether or not an operator acknowledgement is required.

If an operator acknowledgement is requested, this means you want to make sure the message has been received and that an operator has seen it. When your machine receives this acknowlegement, it will appear in the Ack Response column of the message in the TacCommViewer window.

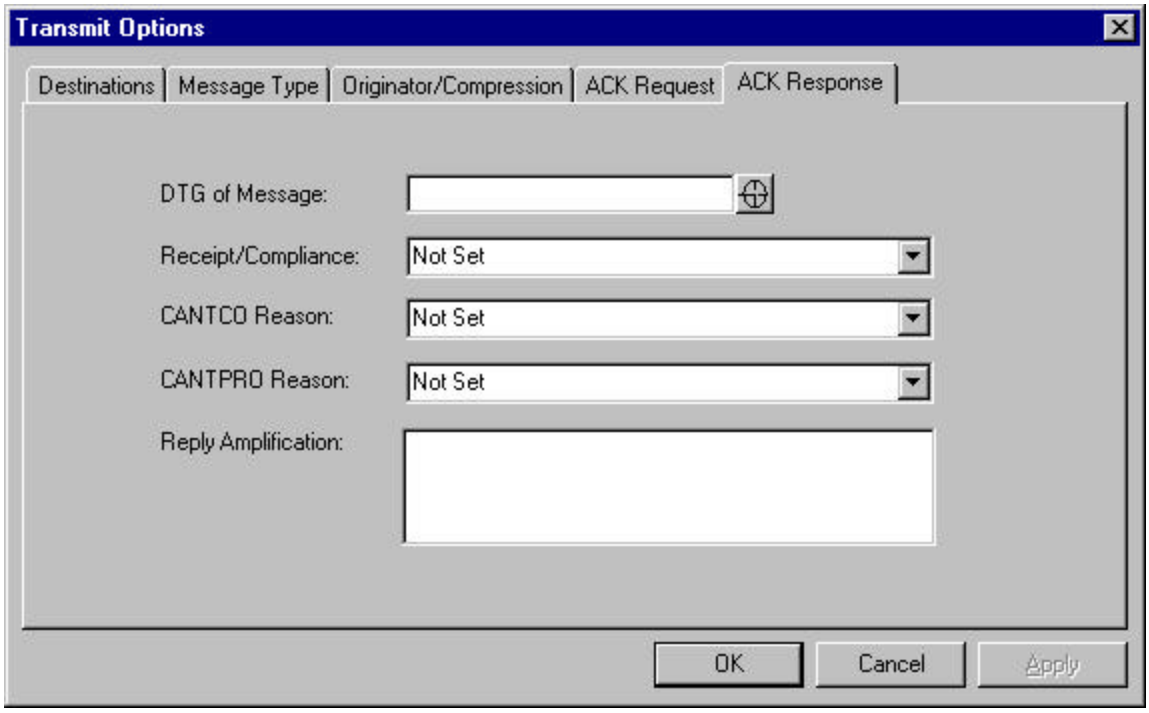
**Operator Reply**

Choose whether or not an operator reply is required.

If an operator reply is requested, this means you want to receive a reply from an operator to acknowledge that the operator has seen it.

When your machine receives an operator reply, it can be viewed from the TacCommViewer Header window. Double-click the message in the list in the TacCommViewer window to view the Header window or print the message to view this information. The operator reply is located in the Reply Amplification field in the Header window.

Click the ACK Response tab to display additional fields.




If the message you are sending is a response to a message received, use the fields in this window for your response. (Note that if a machine acknowledgement was requested, your machine automatically responds to that request and there is no need to use the fields in this tab to send a response.)

**DTG of Message**

Enter the DTG of the message you are acknowledging. Click the crosshairs button beside this field to automatically enter the current local time in DTG format.

**Receipt/Compliance**

Choose the appropriate receipt/compliance message from the following choices:

?? Machine Receipt

?? Cannot Process (CANTPRO)

?? Operator Acknowledge (OPRACK)

?? Will Comply (WILCO)

?? Have Complied (HAVCO)

?? Cannot Comply (CANTCO)

?? Undefined

**CANTCO Reason**
If Cannot Comply (CANTCO) was chosen for the Receipt/Compliance field, choose the appropriate reason from the list of choices for why you can't comply. If CANTCO was not chosen for the Receipt/Compliance field, leave this field at the default value of Not Set.

**CANTPRO Reason**
If Cannot Process (CANTPRO) was chosen for the Receipt/Compliance field, choose the appropriate reason from the list of choices for why you can't process a received message. If CANTPRO was not chosen for the Receipt/Compliance field, leave this field at the default value of Not Set.

**Reply Amplification**
Enter any appropriate text for your reply. Only the first 50 characters entered here will be transmitted.

When you finish entering values in the Transmit Options window for all appropriate tabs, click the OK button to accept the values and transmit the message (or click Cancel to discard any changes and not transmit). The Apply button is not active.

Note that some of the values set in the Transmit Options window are retained when the OK button is clicked. The next time the Transmit Options window is opened, these values will already be listed. The following values are retained:

?? Destinations tab - nothing is retained

?? Message Type tab - all fields are retained except Originator DTG and Filename

?? Originator/Compression tab - all fields are retained

?? ACK Request tab - nothing is retained

?? ACK Response tab - nothing is retained

## TacCommViewer Toolbar

There is a toolbar in the TacComm Viewer window that contains options that can be used to perform operations on the messages in the TacCommViewer window.

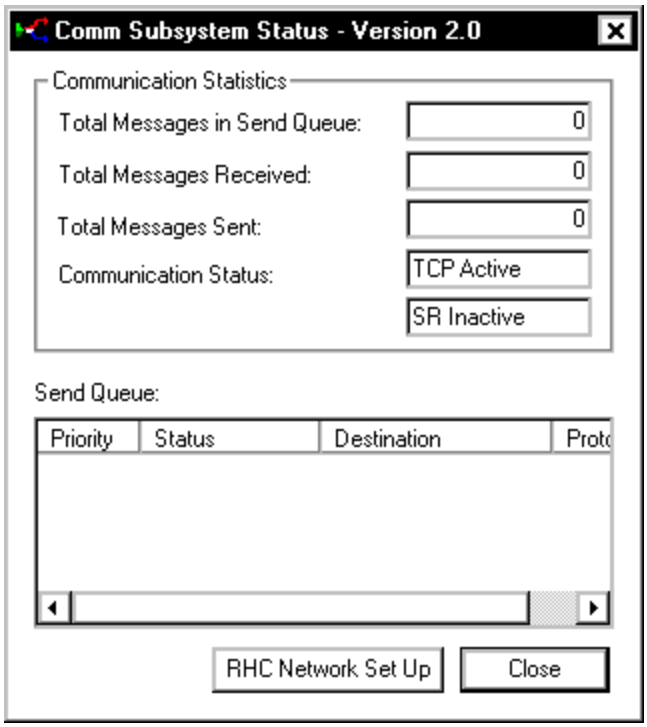
The toolbar can be used to perform some of the same functions that are found in the menus. In order, the buttons in the toolbar are Refresh, Transmit, Retransmit, Forward, Delete, Decode Message, and Exit. Refer to the documentation for the menu options with the same names for complete details on these options.

## COMM SUBSYSTEM STATUS

The Comm Subsystem Status window allows you to view communications statistics and the transmission queue for messages sent and received with the TacComm Viewer option.

When the Comm Subsystem Status window is available, an icon with two arrows appears in the system tray in the status bar.

Click the Comm Subsystem Status icon to display the Comm Subsystem Status window.




The Comm Subsystem Status window displays communications statistics and the transmission queue for messages sent and received with the TacComm Viewer option. All information in this window is for display purposes only and cannot be edited.

Click the RHC Network Set Up button to launch the RHC Network Set Up option. The RHC Network Set Up option is not a C2PC option. Refer to the User's Manual for the RHC Network Set Up for complete details on using this option.

When you finish viewing this window, click the Close button to exit.

# Notes

# APPENDIX A - USING TBMD

To use the Tbmd tool, click the Tbmd option on the Tools menu. When you activate the Tbmd tool, you can determine the launch, current position, and probable impact of Theater Ballistic Missiles (TBMs). The detection, engagement, and civil defense of TBMs is a high priority mission for the military. To aid in this mission at the command and control level, the Tbmd option was developed for use with the Command and Control PC (C2PC) system.

Using the Tbmd option, you can:

?? Display TBM launch points, projected impact points, and missile trajectory paths on the map. A moving icon shows an estimate of the missile's current position.

?? View dynamically updated status windows of TBM tracks that contain color-coded, critical-position, and time-to-impact information.

?? Configure and view TES site information for the sites from which you receive missile reports.

Select the Tbmd option on the Tools menu to add a Tbmd menu (Figure 2) and a TBMs Track List (Figure 1). To display a list of TBMs, click the plus sign (+) beside the TBMs folder. Below the TBMs Track List is a count of the number of missile tracks currently in flight and a count of the total number of reported missile tracks.

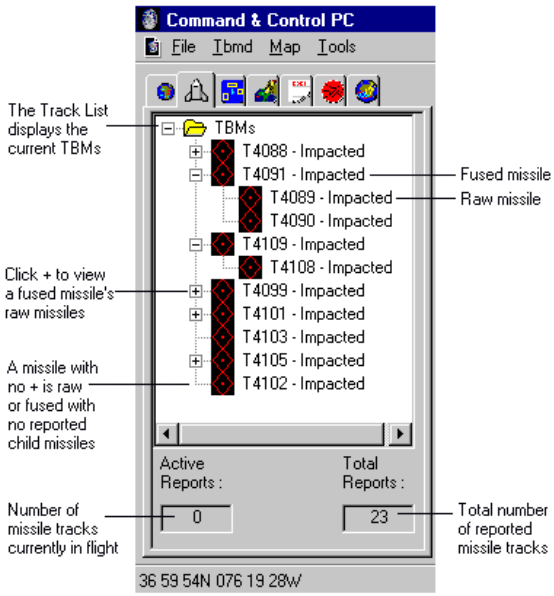



*Figure 1. TBMs Track List*

The Tbmd tool uses the track data to create a summary of TBM activity and a graphical display of the missile's flight path.

## Missile Reports

As you receive missile reports from the sites, the system updates the map data. The data changes depending on the type of report that you receive.

| When you receive this report… | The Tbmd tool… |
|---|---|
| Launch report | Displays the launch Area of Uncertainty (AOU), missile symbol, course leader, and the time since launch, which appears next to the launch point and is updated every 3 seconds. The Tbmd tool also flashes an icon in the status area and gives an audio warning. |
| Impact prediction report and launch report | Displays a dead reckoning of the current missile position along with an updated time to impact and also draws a solid line from the launch point to the missile's currently reckoned position, and a dotted line from that position to the impact point. |

## Time of Impact

At the Time of Impact (TOI), the system changes the AOUs, flight path, and missile symbol to the flash color (yellow) for one minute. Then it changes the missile symbol to the appropriate ground symbol and removes the impact AOU and flight paths from the map.

## Raw and Fused Missiles

**Raw TBM missiles** are tracks created by the Global Command and Control System (GCCS) communications interfaces?Tactical Receive Equipment (TRE), Tactical Information Broadcast System (TIBS), Tactical Digital Information Link-J (TADIL-J), and Tactical Digital Information Link-A (TADIL-A)?when the interfaces receive the TBM messages from the reporting source. The same TBM event reported from several sources over different communication channels results in multiple raw tracks for a single event.

**Fused TBM missiles** are tracks that TBM Multi-Source Correlator (TMSC) creates reflecting the correlation of redundant raw TBM track data. The fused TBM tracks provide the best representation of the actual TBM event scenario.

## Managing TBMs

You can perform the following tasks using the Tbmd tool:

?? View detailed missile information

?? Center on and zoom the current map

?? Delete a missile

?? Select all missiles

?? Show or hide missile history

?? View raw and fused missiles

?? View missile summary

?? View TES connectivity status

?? Change TBM plotting options

?? Control TBM system parameters

To perform these tasks, you can use the Tbmd menu (Figure 2), the right mouse menu, or the Tbmd toolbar (Figure 3). You can also perform some of these tasks on the TBMs Summary window (Figure 7). For more information, see "Viewing Missile Summary."

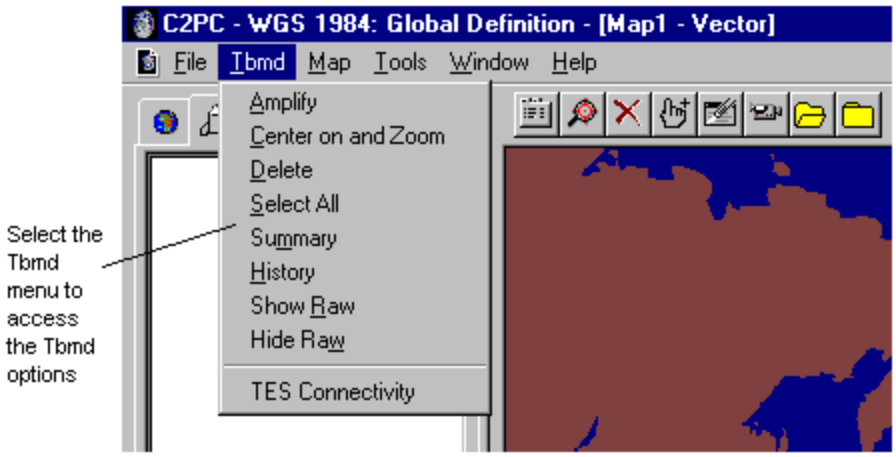



*Figure 2. Tbmd Menu*

*Figure 3. Tbmd Toolbar*

## VIEWING MISSILE DETAILS

Use the Amplify option to view detailed information about a missile.

? **To view missile details**

1 In the Track List, select the missile whose information you want to view.

2 On the Tbmd menu, click Amplify. The Tbmd Amplify window appears. For TBM tracks, track information is contained on three separate tabs of the Tbmd Amplify window:

?? Attributes (Figure 4)

?? Last Report (Figure 5)

?? Tbmd (Figure 6)

3 When you are finished viewing the missile details, click the Close button.

## Attributes Tab

Use the Attributes tab on the Tbmd Amplify window to view detailed information about the TBM track (Figure 4).

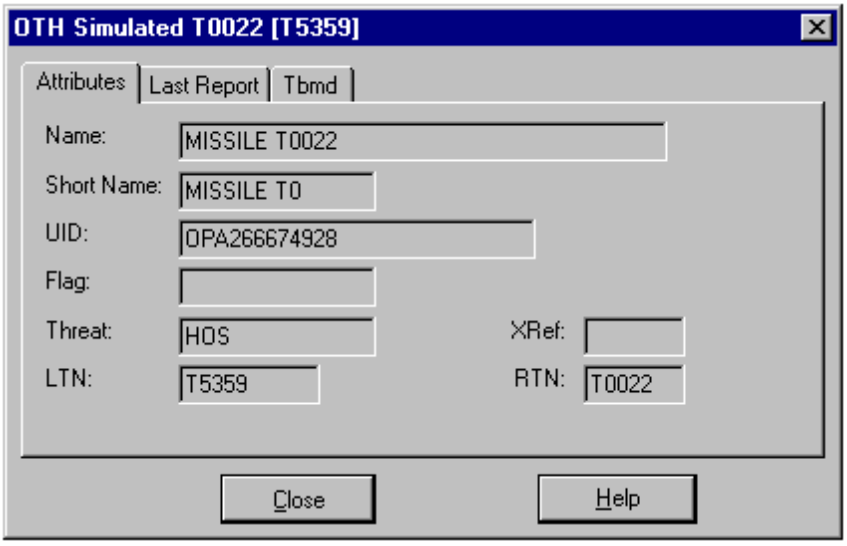



Figure 4. Attributes Tab

## Attributes Tab Fields

The Attributes tab displays the following information about each missile.

| This field… | Displays this information… |
|---|---|
| Name | Name of the TBM track |
| Short Name | Abbreviated name identifier for the missile track |
| UID | Unique identifier |
| LTN | Local track number |
| Threat | Type of threat. Valid values are:<br>?? FRD – Friendly<br>?? HOS – Hostile<br>?? NEU – Neutral<br>?? AFD – Assumed Friendly<br>?? SUS – Suspect<br>?? UNK – Unknown<br>?? PND – Pending |
| Flag | Country code of launching unit (if known) |
| XRef | Identifier code of the reporting station |
| RTN | Identifier used for the missile by original reporting station |

## *Last Report Tab*

Use the Last Report tab on the Tbmd Amplify window to view information related to the last report for the selected missile (Figure 5).

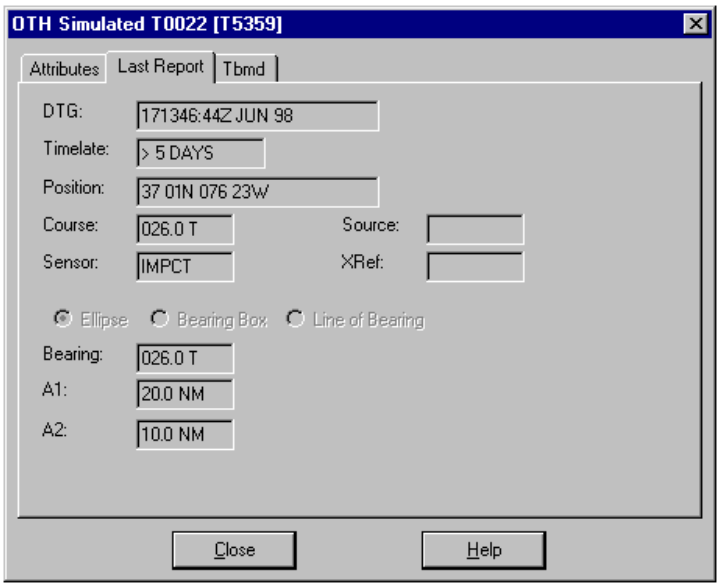



*Figure 5. Last Report Tab*

### Last Report Tab Fields

The Last Report tab displays the following information about each missile.

| This field… | Displays this information… |
|---|---|
| DTG | Date-time group of the last report |
| Timelate | Current time minus the time of the last report |
| Position | Position of the missile |
| Course | Course of the missile in degrees true |
| Sensor | Sensor type used to pick up the track for this report |
| Source | Source of incoming data |

| This field... | Displays this information... |
|---|---|
| XRef | Two-character source cross-reference code for the Command that originated the track report |
| Ellipse / Bearing Box / Line of Bearing | AOU type |
| Bearing | AOU bearing in degrees true |
| A1 | If the AOU type is Ellipse, this field displays the semi-major axis length for the ellipse.<br><br>If the AOU type is Bearing Box, this field displays the half width for the bearing box.<br><br>If the AOU type is Line of Bearing, this field displays the bearing error (in degrees) for the line of bearing. |
| A2 | If the AOU type is Ellipse, this field displays the semi-minor axis length for the ellipse.<br><br>If the AOU type is Bearing Box, this field displays the length for the bearing box.<br><br>If the AOU type is Line of Bearing, this field displays the estimated range of the track from the sensor position. |

## Tbmd Tab

Use the Tbmd tab on the Tbmd Amplify window to view information on the received missile reports (Figure 6). To zoom to the launch AOI, click Zoom under Launch. To zoom to the impact AOI, click Zoom under Impact.

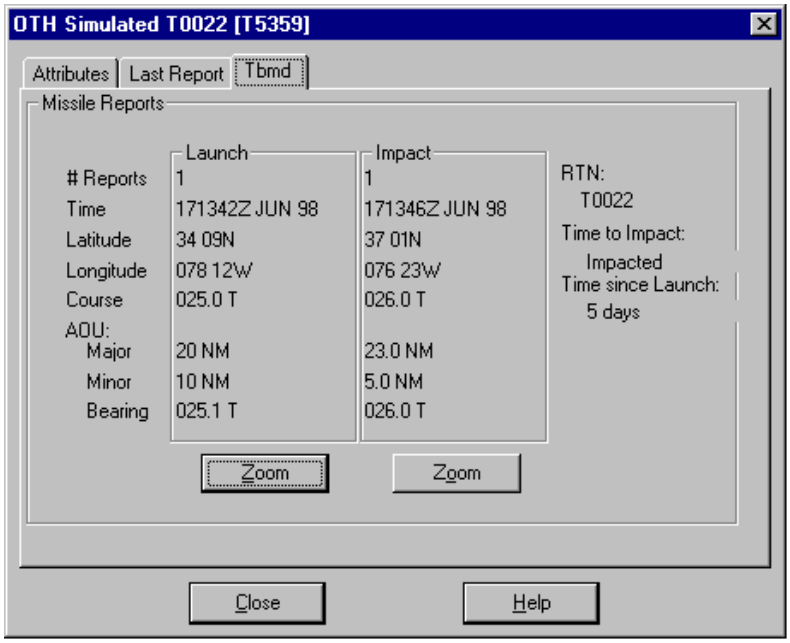



*Figure 6. Tbmd Tab*

### Tbmd Tab Fields

The Tbmd tab displays the following information about each missile report.

| This field... | Displays this information... |
|---|---|
| # Reports | Number of reports of that type received |
| Time | Time of event |
| Latitude | Latitude of missile |
| Longitude | Longitude of missile |
| Course | Course of missile in degrees true |
| AOU Major | Ellipse AOU semi-major axis length |
| AOU Minor | Ellipse AOU semi-minor axis length |

| This field… | Displays this information… |
|---|---|
| AOU Bearing | Ellipse AOU angle of orientation |

The Tbmd tab displays the following information about the selected missile.

| This field… | Displays this information… |
|---|---|
| RTN | Reported track number as received from the originating system |
| Time to Impact | Time to impact in operator-selectable format |
| Time since Launch | Time since launch in operator-selectable format |

## CENTERING AND ZOOMING THE MAP

Use the Center on and Zoom option to zoom or pan the current map to the missile.

? **To center on and zoom the map**

1 In the Track List, select the missile that you want to center on and zoom.

2 On the Tbmd menu, click Center on and Zoom. Tbmd centers on the selected missile and zooms the map based on the settings on the TBM Parameters tab of the C2PC Options window (Figure 15).

## DELETING A MISSILE

Use the Delete option to remove the currently selected missiles from the Track List. You can remove all missiles, with the exception of missiles in flight, from the TBMs Summary window.

? **To delete a missile**

1 In the Track List, select the missile that you want to delete.

2 On the Tbmd menu, click Delete.

3 On the delete confirmation window, click Yes. Tbmd deletes the missile track.

## SELECTING ALL MISSILES

To select all missiles on the Track List, click Select All on the Tbmd menu.

To select all missiles on the TBMs Summary window, click Select All on the TBMs Summary window.

## SHOWING OR HIDING MISSILE HISTORY

Use the History option to show and hide the history of selected impacted missiles.

After a missile has impacted and the plot on the map disappears, you can show the history of the missile. The missile track history includes the launch point with AOU, the impact point with AOU, and the line connecting the two points.

? **To show missile history**

1 In the Track List, select the missile or missiles whose history you want to show.

2 On the Tbmd menu, click History. Tbmd redraws the AOUs and flight path in the history color.

? **To hide missile history**

1 In the Track List, select the missile or missiles whose history you want to hide.

2 On the Tbmd menu, click History. Tbmd removes history data from the map.

## VIEWING RAW AND FUSED MISSILES

The Track List and map can show raw and fused missiles or only fused missiles.

? **To view and hide raw missiles**

1 In the Track List, click the plus sign (⊞) next to a fused missile. The raw missiles display below it and on the map.

2 To hide the raw missiles, click the minus sign (⊟) next to the fused missile. The raw missiles disappear from the Track List and the map.

## VIEWING MISSILE SUMMARY

Use the Summary option to view a summary of selected missiles.

The TBMs Summary window displays information about all selected TBM tracks (Figure 7). Each row in the window contains essential information about a single missile such as reported track number, launch position, and current status. It is updated to show changes for in-flight missiles.

You can use the toolbar buttons on the TBMs Summary window to perform the following tasks.

| Click this... | To do this... |
|---|---|
| | View detailed information about each missile |
| | Center on and zoom a missile track |
| | Delete a missile |
| | Select all missiles |
| | View missile history |

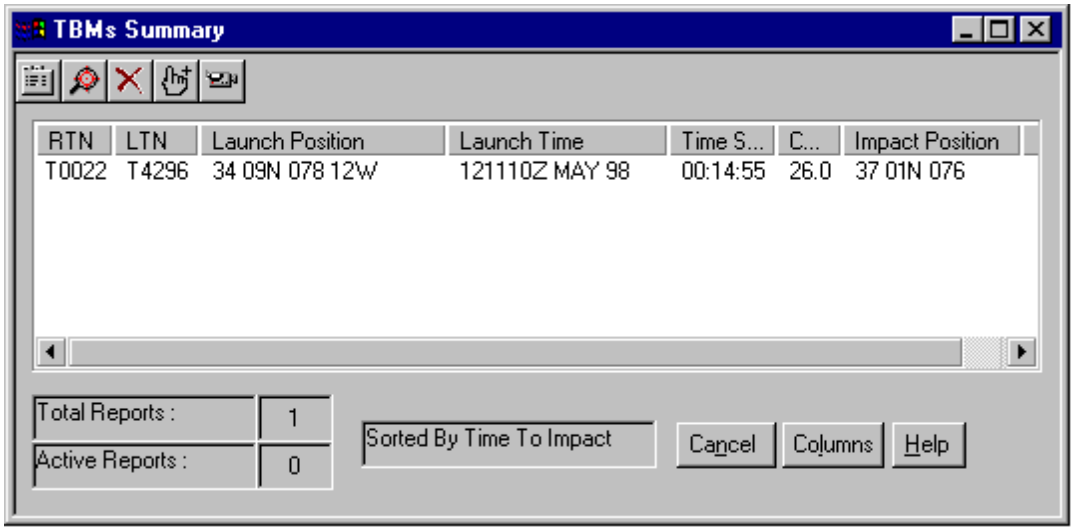



*Figure 7. TBMs Summary Window*

The rows within the TBMs Summary window are color-coded to reflect the state of the missile.

| If the row is… | Then the missile is… |
|---|---|
| White | Active |
| Cyan | Impacted |
| Magenta | Expired |

? **To view missile summary**

1 In the Track List, select the missile whose summary you want to view.

2 On the Tbmd menu, select Summary. The TBMs Summary window appears (Figure 7).

3 When you are finished viewing the missile's summary, click the Close button.

? **To resize the columns of the TBMs Summary window**

1 On the TBMs Summary window (Figure 7), right-click the window.

2 Click Resize Columns To Fit Data. Tbmd automatically resizes the columns to the width of the information in each column.

## TBMs Summary Window Fields

The TBMs Summary window displays the following information about each missile. To sort the list, click a column heading. The default sort order is by ascending Time To Impact (TTI).

| This field… | Displays this information… |
|---|---|
| RTN | Reported track number as received from the originating system |
| LTN | Local track number |

| This field… | Displays this information… |
|---|---|
| Launch Position | Position of launch |
| Launch Time | Time of launch |
| Time Since Launch | Time since launch in operator-selectable format |
| Course | Course of the missile in degrees true |
| Impact Position | Projected position of impact |
| Time Of Impact | Time of impact |
| Time To Impact | Time to impact in operator-selectable format |
| COMMS Source | Communication path used to gather information into the Global Command and Control System (GCCS) |
| Threat | Type of threat. Valid values are:<br>?? FRD – Friendly<br>?? HOS – Hostile<br>?? NEU – Neutral<br>?? AFD – Assumed Friendly<br>?? SUS – Suspect<br>?? UNK – Unknown<br>?? PND – Pending |
| Number of Reports | Total number of reports received for the missile |
| Current Status | Status of the missile based on the type of track reports that the system has received. Valid values are:<br>?? Launched<br>?? Impact Only<br>?? Projected<br>?? Impacted<br>?? Expired |
| Exercises / Real Type | Type of TBM. Valid values are:<br>?? REAL |

| This field… | Displays this information… |
|---|---|
| | ?? LIVE TRAINING |
| | ?? SIMULATED |

## Customizing TBMs Summary Columns

Use the Columns option to customize the columns that appear on the TBMs Summary window. You can add and remove columns, and change the order in which the columns appear.

? **To add a column**

1 On the Tbmd menu, select Summary. The TBMs Summary window appears (Figure 7).

2 On the TBMs Summary window, click the Columns button. The Columns window appears (Figure 8).

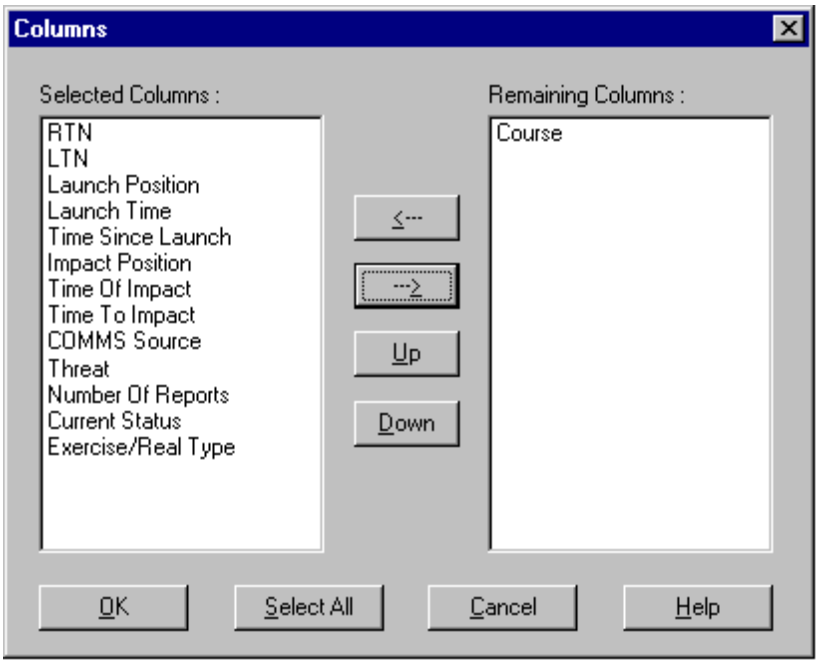



*Figure 8. Columns Window*

3 In the Remaining Columns list, select the column that you want to add and click the left arrow button to move it to the Selected Columns list.

**Tip**: To move all columns to the Selected Columns list, click the Select All button.

4 To save your changes, click the OK button.

? **To remove a column**

1 On the Tbmd menu, click Summary. The TBMs Summary window appears (Figure 7).

2 On the TBMs Summary window, click Columns. The Columns window appears (Figure 8).

3 In the Selected Columns list, select the column that you want to remove and click the right arrow button to move it to the Remaining Columns list.

**Tip**: To move all columns to the Remaining Columns list, click Unselect All.

4 To save your changes, click OK.

## Changing the TBMs Summary Column Order

You can change the order in which the columns appear on the TBMs Summary window. The order in which the columns appear in the Selected Columns list is the order in which they will appear from left to right on the TBMs Summary window. For example, the first column in the Selected Columns list is the first column on the TBMs Summary window (Figure 9).

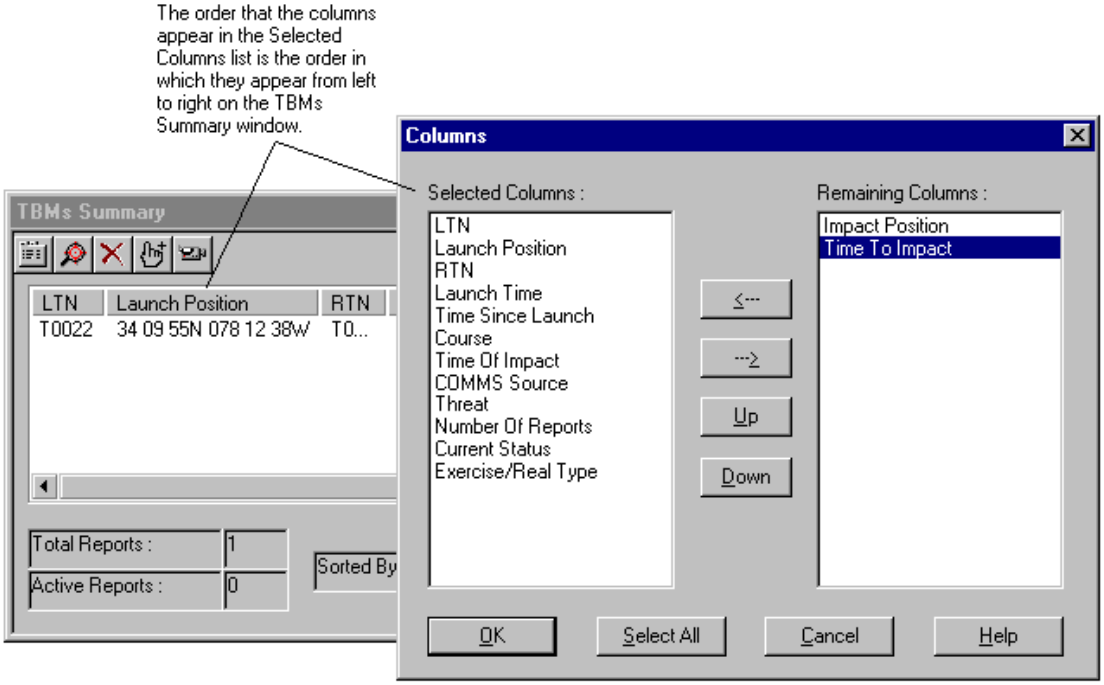



*Figure 9. Changing Column Order*

? **To change the column order**

1 On the Tbmd menu, click Summary. The TBMs Summary window appears (Figure 7).

2 On the TBMs Summary window, click Columns. The Columns window appears (Figure 8).

3 In the Selected Columns list, select the column that you want to move.

4 To move the column up or down in the list, click Up or Down.

5 To save your changes, click OK.

## VIEWING TES CONNECTIVITY STATUS

Use the TES Connectivity option to view the TES Connectivity Status window (Figure 10). This window displays the status of your computer's connection with the TES sites from which you receive reports. A TES site collects missile information and sends the information as reports.

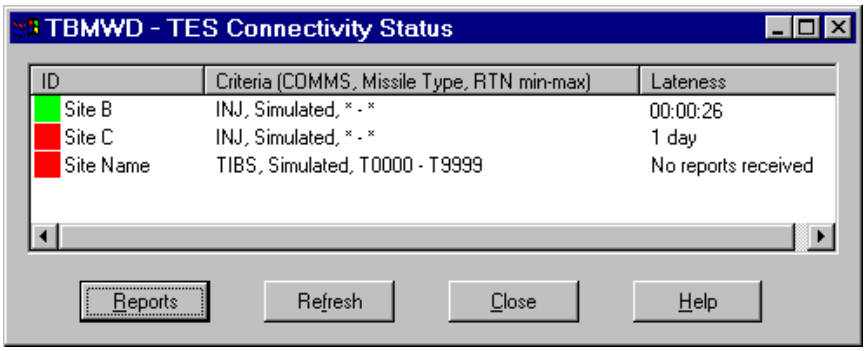



*Figure 10. TES Connectivity Status Window*

## TES Connectivity Status Window Fields

Use the TES Connectivity Status window to view the status of your computer's connection with the TES sites from which you receive missile reports. The window displays the following information about each site.

| This field... | Displays this information... | |
|---|---|---|
| ID | Site name from which reports are received and the state of the site: | |
| | ?? Green | OK—Report has been received within time limit |
| | ?? Yellow | Warning—Report has not been received within warning time limit |
| | ?? Red | Error—Report has not been received within error time limit |
| Criteria | Data limits used to receive reports from a site. An asterisk (*****) in a field means that you have defined no criteria for that field, so you accept any data of that type. Criteria are: | |
| | ?? COMMS | Mechanism used to transmit data |
| | ?? Missile Type | Types of missiles reported |
| | ?? RTN min-max | Range of reported track numbers to display |
| Lateness | Time since a report was received from site. Valid values are: | |
| | ?? HH:MM:SS | Report was received within the last 24 hours, where *HH* is hours, *MM* is minutes, and *SS* is seconds |
| | ?? DD day(s) | Report was received more than 24 hours ago, where *DD* is the number of days |
| | ?? No Reports Received | No reports have been received from the site yet |

? **To view TES connectivity status**

1 On the Tbmd menu, click TES Connectivity. The TES Connectivity Status window appears (Figure 10).

2 To make sure you are viewing the latest reports, click Refresh.

3 When you finish viewing the status, click Close.

? **To view a list of TES connectivity reports**

1 On the Tbmd menu, click TES Connectivity. The TES Connectivity Status window appears (Figure 10).

2 Select the site whose reports you want to view and click Reports. The TES Connectivity Reports window appears (Figure 11).

**Tip:** You can also double-click a site to view its reports.

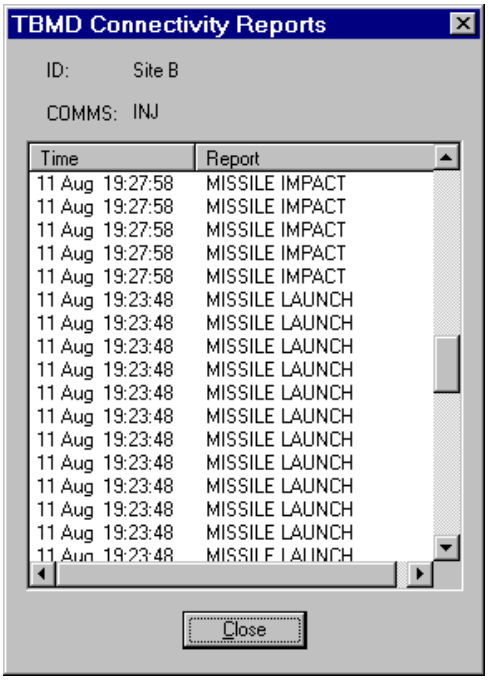



*Figure 11. TES Connectivity Reports Window*

3 View the reports in the window.

| This column... | Displays this information... |
|---|---|
| Time | Time that you received the report |
| Report | Type of report |

4 When you finish viewing the reports, click Close.

# CHANGING TBM PLOTTING OPTIONS

For TBM tracks, track plotting options are located on two additional tabs:

?? TBM Options

?? TBM Misc

## TBM Options Tab

Use the TBM Options tab on the Plot Options Properties window to change the appearance of the missiles displayed on the active map (Figure 12). You can change the colors of items on the map and change the labels for tracks.

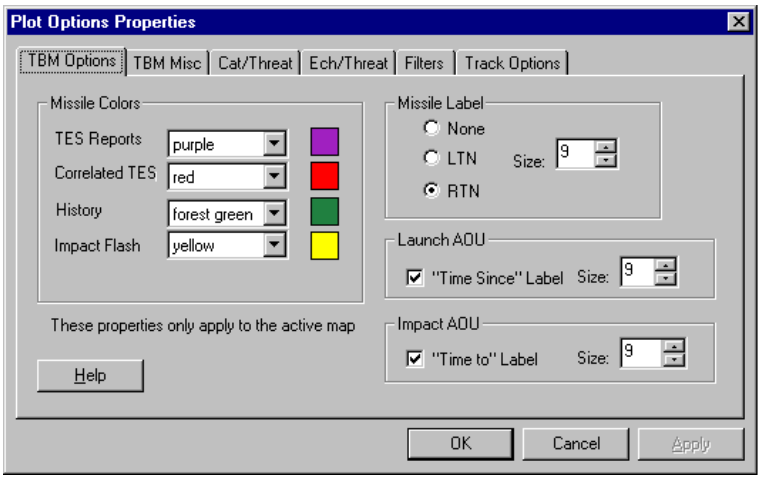



*Figure 12. TBM Options Tab*

### TBM Options Tab Fields

You can change the color of the missiles and lines on the active map.

| This field… | Displays this information… |
|---|---|
| TES Reports | Theater Event System reports that are unspecialized |
| Correlated TES | Single missiles that have been fused from multiple raw missile reports close in location |
| History | Lines of impacted missile tracks from launch point to impact point |

| This field… | Displays this information… |
|---|---|
| Impact Flash | One-minute color change of impacted missiles |

You can also change the type and size of label for the missiles and tracks.

| Select this... | To display this... |
|---|---|
| None | No label |
| LTN | Local track number |
| RTN | Reported track number |
| “Time Since” Label | Time since missile has been launched |
| “Time to” Label | Countdown to estimated impact time; displays “Impacted” after it impacts |

## Changing Missile Colors

You can change the color of the missiles and lines on the active map.

? **To change the color of missiles**

1 On the Map menu, click Plot Options. The Plot Options Properties window appears (Figure 12).

2 Click the TBM Options tab.

3 Under Missile Colors, select the colors of the missiles and lines in each field and then click OK.

## Changing the Missile Label

You can activate the tactical database LTN or RTN as a label for the missile and track icons in the Track List and on the active map (Figure 13). Tbmd displays the RTN label by default. If you select no label for the map, the LTN label appears in the Track List.

*Figure 13. Changing the Track Label*

? **To change the missile label**

1 On the Map menu, click Plot Options. The Plot Options Properties window appears (Figure 12).

2 Click the TBM Options tab.

3 Under Missile Label, select None, LTN, or RTN.

4 In the Size field, enter a font size for the label ranging from 6?12 points and click OK. Tbmd displays the selected label on the map.

## Labeling Tracks with Time Since Launch

You can specify the time since launch AOU as a label for active tracks and missile histories on the active map.

? **To label the missile with the time since launch AOU**

1 On the Map menu, click Plot Options. The Plot Options Properties window appears (Figure 12).

2 Click the TBM Options tab.

3 Under Launch AOU, select "Time Since" Label.

4 In the Size field, enter a font size for the label ranging from 6?12 points and click OK.

### Labeling Tracks with Time to Impact

You can specify the time to impact AOU as a label for active tracks and missile histories on the active map.

? **To label the missile with the time to impact AOU**

1 On the Map menu, click Plot Options. The Plot Options Properties window appears (Figure 12).

2 Click the TBM Options tab.

3 Under Impact AOU, select “Time to” Label.

4 In the Size field, enter a font size for the label ranging from 6?12 points and click OK.

## TBM Misc Tab

Use the TBM Misc tab on the Plot Options Properties window (Figure 14) to change the types of missiles displayed on the active map and in the Track List. You can filter the display of live training and simulated missiles. Real missiles are always displayed.

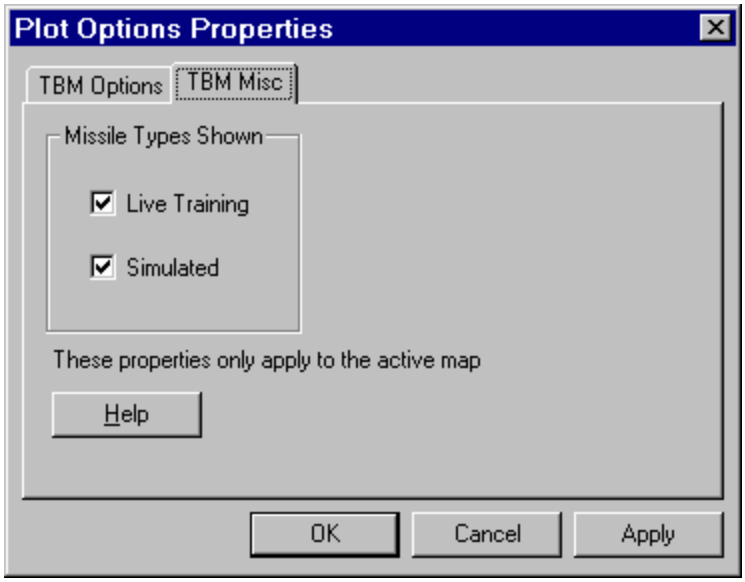



*Figure 14. TBM Misc Tab*

### TBM Misc Tab Fields

You can select the following missile types.

| Select this option... | To display this... |
|---|---|
| Live Training | Missiles used for training purposes |
| Simulated | Simulated missiles |

### Filtering Missiles by Type

The Tbmd tool provides you with two ways to filter missiles:

?? Live Training

?? Simulated

The Tbmd tool displays both live training and simulated missiles by default.

? **To display live training missiles**

1 On the Map menu, click Plot Options. The Plot Options Properties window appears (Figure 14).

2 Click the TBM Misc tab.

3 Under Missile Types Shown, select Live Training and click OK. A label appears next to the track on the active map for all live training missiles.

? **To display simulated missiles**

1 On the Map menu, click Plot Options. The Plot Options Properties window appears (Figure 14).

2 Click the TBM Misc tab.

3 Under Missile Types Shown, select Simulated and click OK. A label appears next to the track on the active map for all simulated missiles.

### ? To hide live training missiles

1 On the Map menu, click Plot Options. The Plot Options Properties window appears (Figure 14).

2 Click the TBM Misc tab.

3 Under Missile Types Shown, clear the selection of Live Training and click OK. All simulated missiles disappear from the active map.

### ? To hide simulated missiles

1 On the Map menu, click Plot Options. The Plot Options Properties window appears (Figure 14).

2 Click the TBM Misc tab.

3 Under Missile Types Shown, clear the selection of Simulated and click OK. All simulated missiles disappear from the active map.

# CONTROLLING TBM SYSTEM PARAMETERS

For TBM tracks, the TBM Parameters Tab appears on the C2PC Options Window (Figure 15).

## TBM Parameters Tab

Use the TBM Parameters tab of the C2PC Options window to control system parameters. Using the tab, you can control whether you hear an alert or see the TBMs Summary window when you receive missile reports. You can also choose which part of the map displays when you select the Center on and Zoom option. In addition, you can configure TES site information for the sites from which your computer receives information. A TES site collects missile information and sends the information in reports.

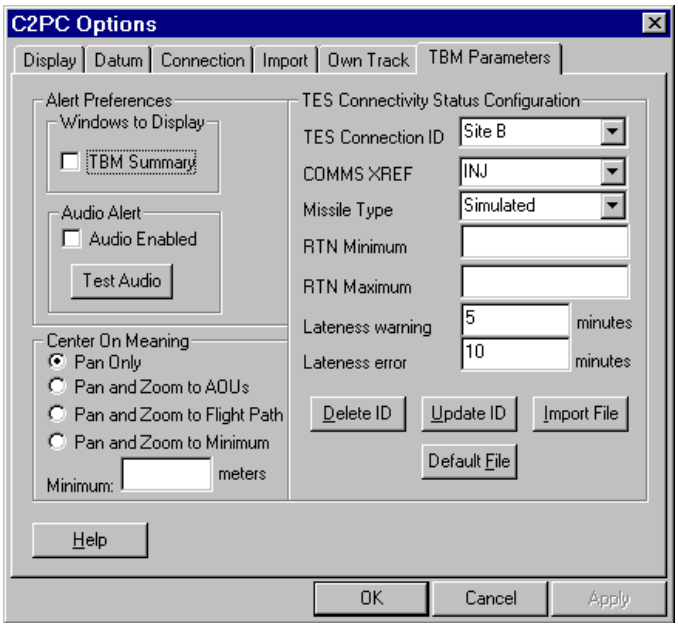



*Figure 15. TBM Parameters Tab*

### TBM Parameters Tab Fields

Use the TBM Parameters tab of the C2PC Options window to control system parameters.

The TBM Parameters tab allows you to select the type of alert you want to receive when new reports arrive.

| Select this option... | To receive this alert... |
|---|---|
| TBM Summary | TBMs Summary window with new missiles, if it has been opened previously |
| Audio Enabled | Audio alert, if C2PC's Alert Server is running |

The TBM Parameters tab has the following options for the center focus when you use the Center on and Zoom option.

| Select this option... | To do this... |
|---|---|
| Pan Only | Center on the selected missile |
| Pan and Zoom to AOUs | Zoom to view the selected missile's launch and impact AOUs |
| Pan and Zoom to Flight Path | Zoom to view the selected missile's launch and impact point |
| Pan and Zoom to Minimum | Center on the selected missile in a map with a width in meters of the value in the Minimum field, up to 800,000,000 |

The TBM Parameters tab has the following fields for configuring TES connectivity status so that you can configure information for the sites that send you missile reports. If you leave a field blank, you accept all information of that type from a site.

| This field... | Displays this information... |
|---|---|
| TES Connection ID | Required. User-defined, unique site name from which reports are received |
| COMMS XREF | Mechanism used to transmit data. Valid selections are:<br>?? TIBS – Tactical Information Broadcast System<br>?? TDDS TACELINT – Tactical Data Display System Tactical Electronic Intelligence<br>?? TDDS SENSOREP – Tactical Data Display System Sensor Report<br>?? TADIL-J – Tactical Digital Information Link-J |

| This field... | Displays this information... |
|---|---|
| Missile Type | Types of missiles reported. Valid selections are:<br>?? All<br>?? Simulated<br>?? Real<br>?? Live Training |
| RTN Minimum | Lower value in range of Reported Track Numbers to display |
| RTN Maximum | Upper value in range of Reported Track Numbers to display |
| Lateness warning | Required. Time that can pass without receiving a report from this site before you view a warning in the TES Connectivity Status window |
| Lateness error | Required. Time that can pass without receiving a report from this site before you view an error in the TES Connectivity Status window |

## Setting Alert Preferences

When you receive new missile reports, you can receive a visual alert, an audio alert, or both. To receive an audio alert of the types of missiles in the report, C2PC's Alert Server must be running. To receive a visual alert of the newly reported missiles, you must have used the TBMs Summary window previously.

? **To set the alert preferences**

1 On the Tools menu, click Options. The C2PC Options window appears (Figure 15).

2 Click the TBM Parameters tab.

3 To view the TBMs Summary window when you receive a new report, select TBM Summary.

4 To hear an audio alert when you receive a new report, select Audio Enabled.

5 To accept the alerts, click OK.

## Testing the Audio Alert Sound Level

To receive an audio alert of the types of missiles in a new missile report, C2PC's Alert Server must be running. You can test the sound level and that the audio is running.

? **To test the audio alert sound level**

1 On the Tools menu, click Options. The C2PC Options window appears (Figure 15).

2 Click the TBM Parameters tab.

3 To hear a test of the audio, click Test Audio.

## Setting the Focus of the Center on and Zoom Option

You can select the area of the map that appears when you select the Center on and Zoom option.

? **To set the focus of the Center on and Zoom option**

1 On the Tools menu, click Options. The C2PC Options window appears (Figure 15).

2 Click the TBM Parameters tab.

3 Under Center On Meaning, select the area you want to view when you select Center on and Zoom. If you select Pan and Zoom to Minimum, type the width of map in meters that you want to view in the Minimum field.

4 To accept the change, click OK.

## Adding TES Sites

To configure information on the sites for which you monitor TES connectivity, you can create a list of TES sites on your computer.

? **To add a TES site**

1 On the Tools menu, click Options. The C2PC Options window appears (Figure 15).

2 Click the TBM Parameters tab.

3 In the TES Connection ID field, type a unique name of the site from which reports come.

4 Under TES Connectivity Status Configuration, enter information in the remaining fields.

5 Click Add ID and then click OK.

## Updating TES Sites

You can update site IDs in the list of TES sites on your computer.

? **To update a TES site**

1 On the Tools menu, click Options. The C2PC Options window appears (Figure 15).

2 Click the TBM Parameters tab.

3 In the TES Connection ID field, enter the name of a TES site in the list. The remaining fields under TES Connectivity Status Configuration update with the site's information.

4 To change the site's information, enter new information in the remaining fields under TES Connectivity Status Configuration.

5 Click Update ID and then click OK.

## Deleting TES Sites

You can delete site IDs that you no longer use from the list of TES sites on your computer.

? **To delete a TES site**

1 On the Tools menu, click Options. The C2PC Options window appears (Figure 15).

2 Click the TBM Parameters tab.

3 In the TES Connection ID field, enter the name of a TES site in the list and click Delete ID. A message appears asking if you are sure you want to delete the site.

4 To delete the site, click Yes.

## Importing Lists of TES Sites

You can import a list of TES site IDs from another computer to add to your computer's list of TES sites. The Tbmd tool automatically generates the list of TES sites as a text file when you add sites to the list, and this file's name defaults to `TBMDTES.dat`. You can copy the sites from a UNIX computer running TBMD or a PC running C2PC with Tbmd. You can either overwrite the current list or append the list to the current list.

? **To overwrite the current list with the imported list**

1 On the Tools menu, click Options. The C2PC Options window appears (Figure 15).

2 Click the TBM Parameters tab.

3 To import the list of TES sites from diskette, click Import File. The Open window appears.

4 Select the file and click Open. A message appears asking if you want to append or overwrite the current TES configuration.

5 To overwrite the current list, click Overwrite.

? **To append the imported list to the current list**

1 On the Tools menu, click Options. The C2PC Options window appears (Figure 15).

2 Click the TBM Parameters tab.

3 To import the list of TES sites from diskette, click Import File. The Open window appears.

4 Select the file and click Open. A message appears asking if you want to append or overwrite the current TES configuration.

5 To append the list, click Append.

6 If you try to append a site with the same name as a site in the current list, a window appears with the following options.

| Click this... | To do this... |
|---|---|
| Rename | Give the site a new name. When you click this option, the New ID field appears. Type the new name and press RETURN. |
| Overwrite | Write over the current site with the new site. |
| Omit Site | Ignore the new site and keep the current site. |

## Replacing the TES Site List with the Default List

If you have added TES site IDs to your computer, but you no longer want to use them and want to revert to the system default information, you can replace your current TES site file with the default file. The default file accepts reports from any site.

**Caution:** This procedure removes all the current TES site information from your computer.

? **To replace the TES site list with the default list**

1 On the Tools menu, click Options. The C2PC Options window appears (Figure 15).

2 Click the TBM Parameters tab.

3 To replace your TES site information with the default information, click Default File. A window appears asking if you are sure you want to use the default file.

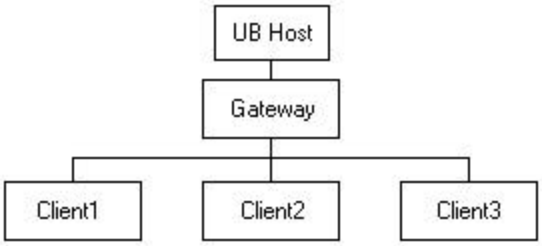
4 To replace the information, click Yes.

# Notes

# APPENDIX B - MULTI-TIERED GATEWAY

The Gateway is the C2PC component which processes track information received from and sent to a UB host. A multi-tiered Gateway configuration can be set up to allow for a hierarchy of Gateways. In a multi-tiered Gateway configuration, the top Gateway receives track information from a UB host, the second Gateway receives track information from the first Gateway, the third Gateway receives information from the second, etc. Each Gateway can support multiple Clients, leading to an intricate network.

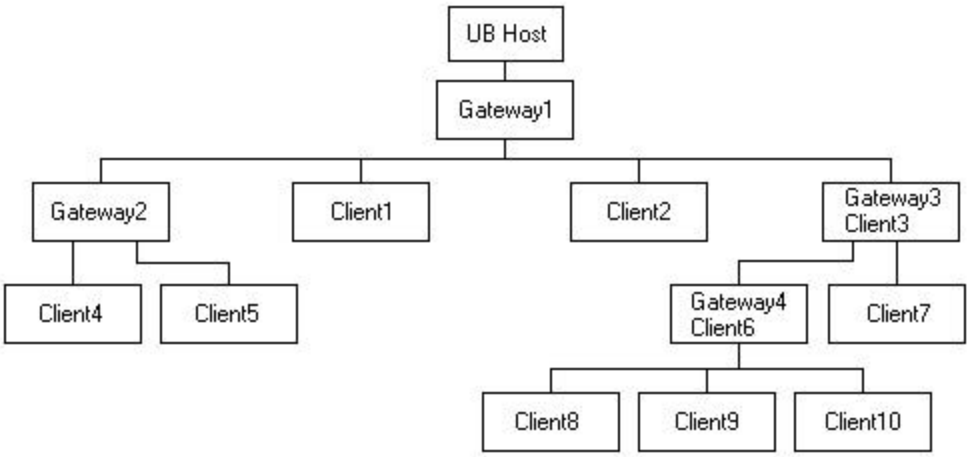
The following figure shows an example of a single Gateway configuration.




*Single Gateway Configuration*

In the figure above, a single Gateway is communicating with a UB Host and passing track information along to three Clients.

The following figure shows an example of a multi-tiered Gateway configuration.

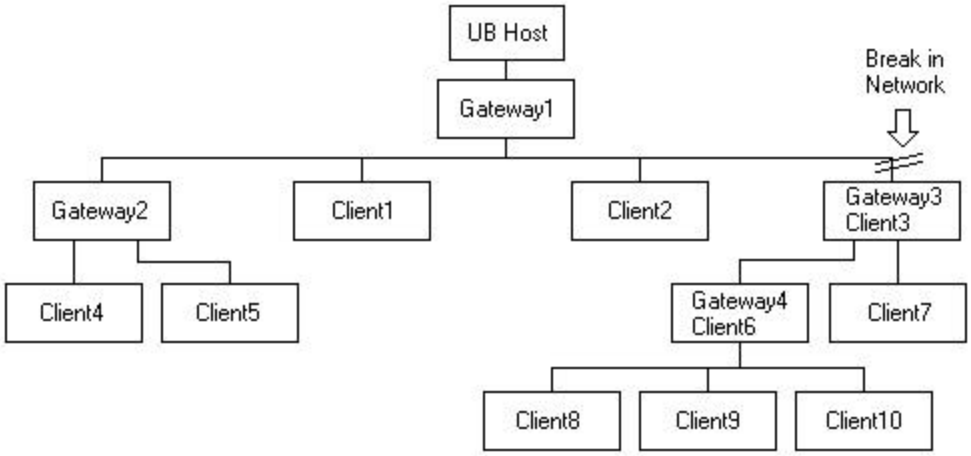



*Multi-Tiered Gateway Configuration*

As the figure above shows, there are many different ways a multi-tiered Gateway configuration can be set up.

In a multi-tiered Gateway configuration, track update information flows from the lowest Client through all the Gateways above it to the UB Host. Track information broadcast from the UB Host goes to all Gateways and their Clients through the hierarchy which is set up.

If there is a break in the network at a particular point, track information can continue to be processed and passed along to other Gateways and Clients below and above the broken point.




*Break in Multi-Tiered Gateway*

In the figure above, there is a break in communications between Gateway1 and Gateway3. Track processing will continue between Gateway1 and Gateway2, Client1, and Client2. Gateway3 will no longer be in communication with Gateway1, but track processing will continue between Gateway3 and Gateway4 and all the Clients below, and track processing will also continue between Gateway3 and Client7. All track updates below the break in the network are saved in a Pending Edits file and can be submitted to the Gateway above once communications are restored.

The following examples show some sample settings for a single Gateway configuration and a multi-tiered Gateway configuration.

**Gateway Configuration Example 1**

The following diagram shows a sample configuration where a single workstation is connected to a UB host.

In the diagram above, Workstation1 has both a Gateway and a Client installed. To properly hook up Workstation1 with the UB Host, enter the following settings for Workstation1:

In the Gateway, choose Tools:Options, click the Data Source tab and enter information into the following fields.

✍ Data Source: Tdbm.

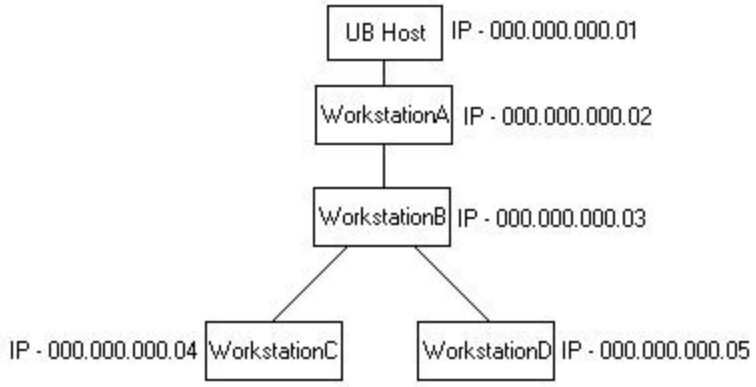
✍ UB Host IP: Enter the IP address of the UB Host (000.000.000.01).

In the Client, choose Tools:Options, click the Connection tab and enter information into the following fields.

✍ In the Gateway Host IP address field, enter the IP address of the Gateway. Since it is on Workstation1, enter that IP (000.000.000.02).

**Gateway Configuration Example 2**

The following diagram shows a sample multi-tiered Gateway configuration.




*WorkstationA Settings*

In the diagram above, WorkstationA has both a Gateway and a Client installed. Enter the following settings for WorkstationA:

In the Gateway, choose Tools:Options, click the Data Source tab and enter information into the following fields.

✍ Data Source: Tdbm.

✍ UB Host IP: Enter the IP address of the UB Host (000.000.000.01).

In the Client, choose Tools:Options, click the Connection tab and enter information into the following fields.

✍ In the Gateway Host IP address field, enter the IP address of the Gateway. Since it is on WorkstationA, enter that IP (000.000.000.02).

*WorkstationB Settings*

WorkstationB has both a Gateway and a Client installed. Enter the following settings for WorkstationB:

In the Gateway, choose Tools:Options, click the Data Source tab and enter information into the following fields.

✍ Data Source: Enter Gateway to Gateway. (The Gateway to Gateway Parameters box becomes active.)

✍ External Gateway IP: Enter the IP address of WorkstationA (000.000.000.02).

✍ Enter values in the other fields in the Gateway to Gateway Parameters box as appropriate.

*WorkstationC and WorkstationD Settings*

Both WorkstationC and WorkstationD have only a Client installed. Enter the following settings for WorkstationC and WorkstationD:

In the Client, choose Tools:Options, click the Connection tab and enter information into the following fields.

✍ In the Gateway Host IP address field, enter the IP address of the WorkstationB (000.000.000.03).

Note: When Gateway to Gateway is chosen as the Data Source in the Gateway, the setting in the External Gateway IP address field must be set to an external workstation, it cannot be set to your own workstation IP address.

# Notes

# APPENDIX C - C2PC DATA CORRELATION

Correlation in its most basic form is taking new contact information and attempting to place it into an existing database of the new contact type. Individual contact reports are grouped together to form tracks of specific types based on the data received. For example, national ELINT data is not uniquely identified and must be processed in a different manner than uniquely identified Unit information. Each distinct track type requires a distinct correlation processor.

A correlation will provide one of three outcomes:

1. The contact report creates a new track (*NEW TRACK*).
2. The contact report updates an existing track (*UPDATE TRACK*).
3. The contact report presents an insufficient or conflicting result and must be resolved by a correlation analyst. The placement of this contact report into the database is ambiguous so this report is called an ambiguity (*AMBIGUOUS REPORT*).

C2PC supports offline correlation of Unit tracks, Platform tracks, and COMINT tracks. The offline COMINT track and Platform track correlation process will include a reported identifier comparison, a position category and threat transition check, and a motion feasibility check for each contact report processed. The Unit track correlation process will include a reported identifier comparison, threat transition check, a Flag/Org Type/Echelon (FOE) verification, and motion feasibility check for each contact report processed. This correlation process is currently integrated in C2PC and is hierarchical in nature.

## UNIT TRACKS

The attributes UID, UIC, BE number and OSUFFIX (taken in combination), NAME, and RTN (Received Track Number), in that order, are compared to existing tracks in the system (see Figure 1). If multiple matches occur, a Unit ambiguity is created. If no matches occur, a new Unit track is created. If a single match occurs, the candidate track is checked for position category and threat feasibility (see Figures 3 & 4). All attribute feasible contact reports must pass position category and threat transition tests before the candidate track can be updated. Following attribute feasibility checks, the report will be checked for motion feasibility. Motion feasibility will determine if the contact could have traversed from the last reported position to the new position at a reasonable speed based on the time difference between reports. Failing any of the feasibility tests results in a Unit ambiguity. All ambiguities will

be displayed on the map in magenta. All ambiguities will contain a field describing the reason the track is ambiguous.

| Incoming Contact Report | Existing Unit Track Candidate | | | | |
|---|---|---|---|---|---|
| | UID | BE + OSUFFIX | NAME + FLAG | RTN | UIC |
| UID | MATCH | | | | |
| BE + OSUFFIX | VERIFY | MATCH | | | |
| NAME + FLAG | VERIFY | VERIFY | MATCH | | |
| RTN | VERIFY | VERIFY | VERIFY | MATCH | |
| UIC | VERIFY | VERIFY | VERIFY | VERIFY | MATCH |

VERIFY[1] higher priority attributes after MATCH

*Figure 1 - Unit Attribute Correlation Matrix*

Any incoming contact report to track combination shown as CONFLICT results in the assignment of the contact report as a Unit track ambiguity. The ACCEPT REPORT tag indicates the value from the incoming contact report is used to update the existing track's data, while the RETAIN TRACK tag indicates the data already specified for the track has precedence. The PROCEED tag indicates matching data.

## PLATFORM TRACKS

The attributes UID, NAME and FLAG (taken in combination), RTN (Received Track Number), combination of TYPE, HULL NUMBER, and FLAG, SCONUM, CALL SIGN, and PIF, in that order, are compared to existing tracks in the system (see Figure 2). If multiple matches occur, a Platform ambiguity is created. If no matches occur, a new Platform track is created. If a single match occurs, the candidate track is checked for position category and threat feasibility (see Figures 3 & 4). All attribute feasible contact reports must pass position category and threat transition tests before the candidate track can be updated. Following attribute feasibility checks, the report will be checked for motion feasibility. Motion feasibility will determine if the contact could have traversed from the last reported position to the new position at a reasonable speed based on the time difference between reports. Failing any of the feasibility tests results in a Platform ambiguity. All ambiguities will be displayed on the map in magenta. All ambiguities will contain a field describing the reason the track is ambiguous.

[1] VERIFY that higher priority non-empty candidate track and contact report fields match. Attribute priorities from highest to lowest are: UID, UIC, BE + OSSUFIX, NAME, FOE and RTN.

| Incoming Contact Report | Existing Platform Track Candidate | | | | | | |
|---|---|---|---|---|---|---|---|
| | UID | NAME/ FLAG | RTN | TYPE/ HULL/ FLAG | SCONUM | CALL SIGN | PIF |
| UID | MATCH | | | | | | |
| NAME/FLAG | VERIFY | MATCH | | | | | |
| RTN | VERIFY | VERIFY | MATCH | | | | |
| TYPE/HULL/FLAG | VERIFY | VERIFY | VERIFY | MATCH | | | |
| SCONUM | VERIFY | VERIFY | VERIFY | VERIFY | MATCH | | |
| CALL SIGN | VERIFY | VERIFY | VERIFY | VERIFY | VERIFY | MATCH | |
| PIF | VERIFY | VERIFY | VERIFY | VERIFY | VERIFY | VERIFY | MATCH |

VERIFY[2] higher priority attributes after MATCH

*Figure 2 – Platform Attribute Correlation Matrix*

Any incoming contact report to track combination shown as CONFLICT results in the assignment of the contact report as a Platform track ambiguity. The ACCEPT REPORT tag indicates the value from the incoming contact report is used to update the existing track's data, while the RETAIN TRACK tag indicates the data already specified for the track has precedence. The PROCEED tag indicates matching data.

| Incoming Contact Report | Existing Unit Track | | | | |
|---|---|---|---|---|---|
| | AIR | SURFACE | SUBSURFACE | LAND | UNKNOWN |
| AIR | PROCEED | CONFLICT | CONFLICT | CONFLICT | Accept Report |
| SURFACE | CONFLICT | PROCEED | CONFLICT | CONFLICT | Accept Report |
| SUBSURFACE | CONFLICT | CONFLICT | PROCEED | CONFLICT | Accept Report |
| LAND | CONFLICT | CONFLICT | CONFLICT | PROCEED | Accept Report |
| UNKNOWN | Retain Track | Retain Track | Retain Track | Retain Track | PROCEED |

*Figure 3 - Position Category Transition Table*

[2] VERIFY that higher priority non-empty candidate track and contact report fields match. Attribute priorities from highest to lowest are: UID, NAME+FLAG, RTN, TYPE+HULL NUMBER+FLAG, SCONUM, CALL SIGN and PIF.

| Incoming Contact Report | Existing Unit Track: HOSTILE | UNKNOWN ASSUMED ENEMY | EVALUATED UNKNOWN | UNKNOWN ASSUMED FRIENDLY | FRIENDLY | NEUTRAL | PENDING |
|---|---|---|---|---|---|---|---|
| HOSTILE | PROCEED | Accept Report | Accept Report | CONFLICT | CONFLICT | CONFLICT | Accept Report |
| UNKNOWN ASSUMED HOSTILE | Retain Track | PROCEED | Accept Report | CONFLICT | CONFLICT | CONFLICT | Accept Report |
| EVALUATED UNKNOWN | Retain Track | Retain Track | PROCEED | Retain Track | Retain Track | Retain Track | Accept Report |
| UNKNOWN ASSUMED FRIENDLY | CONFLICT | CONFLICT | Accept Report | PROCEED | Retain Track | Retain Track | Accept Report |
| FRIENDLY | CONFLICT | CONFLICT | Accept Report | Accept Report | PROCEED | CONFLICT | Accept Report |
| NEUTRAL | CONFLICT | CONFLICT | Accept Report | Accept Report | CONFLICT | PROCEED | Accept Report |
| PENDING | Retain Track | Retain Track | Retain Track | Retain Track | Retain Track | Retain Track | PROCEED |

*Figure 4 - Threat Transition Table*