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AFATDS Release Notes
For
AFATDS and EMT Client Version 6.3.2.0



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1.0 AFATDS 6.3.2.0 OVERVIEW

The AFATDS 6.3.2.0 product is the result of continued AFATDS development, including the addition of new and enhanced functionality. The term AFATDS refers to the 6.3.2.0 version of AFATDS software. This document summarizes new features, known problems, and operator notes for this version of software. Known problems are outlined in detail in sections 3 and 4. The Known Problems Section also lists “work arounds” for those problems that have them.

2.0 NEW FUNCTIONALITY

1. MACS/MOFA: AFATDS now supports the Modular Artillery Charge System (MACS) propellants (M231 and M232), and the Multi-Option Fuze, Artillery (MOFA, M782).
2. Air Support Requests windows may be displayed and ASR data printed in any of three grid coordinate systems (UTM, MGRS, Lat/Long). This preference setting is separate from the “system wide” coordinate display preference introduced in 6.3.1. Now the operator can have ASR location data displayed in Lat/Long, for example, while all other location data is displayed in UTM.
3. The Mission preferences window consolidates a number of separate windows onto a single window with multiple tab options.
4. Geometry Workspace has been improved. It includes a “summary” display of geometries in AFATDS, and filter mechanisms for managing the display.
5. Target workspace has been improved. The last target selected in a list remains selected until the operator changes focus or closes the workspace. This will make it easier to deal with lengthy target lists and Air Support Lists. The operator can now copy targets from one list to another by “dragging and dropping” the target icon in the Navigation Tree. This capability does not apply to the Active and Inactive target lists.
6. AFATDS now supports communications with additional HF radios, specifically the URC-131/ANDVT, URC-109/ANDVT HF, MRC-138 and PRC-150 radios.
7. The HIMARS launcher (M142) is now supported by AFATDS.
8. AFATDS now supports the precision guided MLRS DPICM rocket munition (JEG, M30)
9. AFATDS 6.3.2.0 provides automated MET selection and distribution for MLRS units. If the AFATDS has multiple MET;CM’s on file, it will select and send the “optimum” MET to subordinate MLRS launchers when missions are assigned or MET data is requested.
10. It is now possible to engage ATACMS BAT target segments that require two missiles with “single missile” launchers
11. AFATDS 6.3.2.0 uses the Oracle database software, which replaces the InterBase database. Database upgrades from version 6.3.1 to 6.3.2 are still supported. However, Operators will notice that the upgrade takes somewhat longer than normal, due to the need to convert from one data schema to another.

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12. AFATDS 6.3.2.0 supports the new TACLINK 2000, an improved LAN Tactical modem.
13. AFATDS 6.3.2.0 uses the following new, improved COE components: the Solaris 2.8 operating system, JMU/JMV map tools, and the COE 4.6.0.0. software suite.
14. AFATDS 6.3.2.0 has been ported to the TADPOLE (SPARCBook 5000) laptop computer.
15. AFATDS 6.3.2.0 provides the capability to backup multiple databases to a single archive medium (e.g. Jaz drive, flash disk). NOTE: Only one database may be recorded on a CD, and only the TADPOLE computer has a CD write capability. A database that has been recorded on a CD can be read on any system with a functioning CD Reader to include a UCU-E or CCU2 workstation.
16. The Paladin Weapon Status Monitor now displays a TOT “countdown timer” for individual Paladins.
17. Automated FASCAM Mission processing. AFATDS automates aimpoint selection, volume of fire calculations, and technical firing data computations for FASCAM missions.
18. AFATDS 6.3.2.0 displays mission aimpoints for cannon missions. This feature is limited to OPFACs that perform cannon technical fire direction.
19. AFATDS 6.3.2.0 now considers weapon “traverse limits” when selecting a recommended attack option. If AFATDS is controlling all towed or both towed and self propelled fire units, AFATDS will preferentially select units for which the target lies within traverse limits (i.e., target can be engaged without repositioning trails) over units for which the target is outside of traverse limits. Units for which the target lies outside traverse limits are still considered capable of firing, but their reaction time is increased.
20. AFATDS 6.3.2.0 supports large numbers of geometries. Feedback from Operation Iraqi Freedom indicated that AFATDS 6.3.1 had trouble with the large numbers of NFAs generated during operations. 6.3.2.0 has been modified to handle large numbers of geometries.
21. The Operator’s Notebook PDF file is no longer available for viewing. This has been replaced by the Commander and Staff Guide.
22. Maximum Ordinate is now displayed with cannon ballistic solutions on the Cannon Tech Solution/Fire Commands window. Max ord is the maximum height of the projectile trajectory. It is expressed in meters above the weapon. If more than one weapon is involved in the mission, the displayed max ord is the largest one from among the participating weapons.
23. EMT 6.3.2.0 now supports a Common Grid Reference System (CGRS) for Killboxes. Killboxes can be created and managed locally. Operator has the ability to generate FSCMs from killboxes. These FSCMs trigger standard AFATDS coordination behavior.
24. EMT 6.3.2.0 supports a limited SEAD planning tool. Based on user inputs, EMT will generate a named target list and an ASL for potential threats to an air corridor. The operator will have the ability to edit these lists before they are transmitted to AFATDS.

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25. EMT 6.3.2.0 improves the (No Strike List) NSL functionality so that users can view Protected Areas on the map. Violation checks can be restricted to active missions only, or can include all targets.

3.0 PROBLEMS CORRECTED

1. **“Cross family” transfer of registration corrections** now works. AFATDS uses NABK version 3.02, which contains a fix for this problem.
2. **Firing DPICM in Adjustment Doesn’t Produce “Impact” Trajectory:** If DPICM (M483A1, or M916) is selected as an adjusting projectile for a normal adjust fire mission, AFATDS now produces firing data for a “graze burst” or “self destruct mode” trajectory.
3. **Aircraft Type Not Displayed in Aircraft Info Window at AFATDS:** When an ATO is processed, the aircraft type associated with an air mission is now displayed in the “Aircraft Info” window.
4. **No Autotransmit of “Splash” to Observer for Adjust Fire, Battalion Mass Missions:** AFATDS automatically sends a “splash” to the observer for most cannon missions. It now automatically sends “splash” for the “fire for effect” phase of “adjust fire, battalion mass” missions (i.e., missions with multiple fire units in the FFE phase).
5. **Multi-Workstation OPFAC won’t Start if System Time on Slave Workstation is Greater than Time on Master Workstation:** With AFATDS 6.3.1, if the slave workstation time was greater than the master workstation time, it was necessary to change the slave workstation system time in order to activate a multi-workstation OPFAC. This is no longer true with AFATDS 6.3.2.
6. **Rounds Complete Not Sent From AFATDS to Pkg 11 FOS When Mission Includes FFE2 Munition:** When a fire mission includes an FFE2 munition, and the mission observer is a Pkg 11 device, AFATDS now forwards the “rounds complete” message to the observer.
7. **Fire Order Transmission Fails With Effects Target and Naval Gun System:** This problem is fixed on 6.3.2.
8. **Selecting “Cancel” Button on Denied Missions List Window Desensitizes Deny Icon:** This problem is fixed on 6.3.2.0.
9. **LAN Connection on Slave Workstation May Cause Failure:** It is now possible to make LAN connections to the slave workstation without triggering this problem.
10. **AFATDS Screen Goes Blank and Recovers:** This problem has not been observed on 6.3.2.0. In the unlikely event it should happen, operators should simply wait for the AFATDS display to return to normal, which usually takes less than one minute. The system continues to operate normally while the screen recovers. Operators sometimes “panic” in this situation, and reach for the workstation power switch. This is a bad idea! Interrupting power to the computer may cause loss of memory, and will certainly require a complete reboot and restart of AFATDS.

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11. **Registration Missions Sometimes Remain in Scheduling Queue When Mission Is Ended:** This problem is fixed on 6.3.2.0.
12. **Creating Target from Enemy Unit at AFATDS does not Update Client Target Display:** This problem is fixed on 6.3.2.0.
13. **Copied Target from Client Shows “Unknown Enemy” as Target Originator at AFATDS:** This problem is fixed on 6.3.2.0.

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4.0 AFATDS KNOWN PROBLEMS

1. **AFATDS Displays Only 12 Firing Vectors Per Mission:** This problem may be encountered at Paladin Battalion FA CP's conducting massed missions and running detailed attack analysis. AFATDS will display a maximum of 12 friendly fire vectors per mission. Even though the mission may include more units, only 12 vectors will be displayed. Mission processing is not otherwise affected.
2. **Cannot Change Adjusting Shell During Adjust Phase of a Fire Mission:** AFATDS will not process a request to change the adjusting shell during the adjust phase of an active mission. This complicates execution of the "quick smoke" mission, which may be initiated with HE in adjustment, and then change to smoke in adjustment.
3. **Target Indicator "Match" Does Not Generate Operator Alert:** When AFATDS receives a target indicator report (i.e., a shelling report) that correlates with an existing, inactive target, AFATDS is supposed to generate an alert message for the operator. AFATDS is not generating the alert.
4. **Creating Targets from MIDB Facilities Causes Shrinking Target List Window:** Selecting the Create option from the MIDB Facilities window causes a Target List Selection window to appear. As you create more and more targets, the Target List Selection window gradually gets smaller each time it is opened. After many "creates", the Target List Selection window can become so small that it is unusable. When this happens, the only way to restore the window to normal is to restart AFATDS. Users are unlikely to encounter this problem unless they make extensive use of the MIDB "create target" feature.
5. **M782 MOFA Fuze Not Allowed with M548 (105mm RAP) Projectile:** AFATDS will not allow you to select the M782 MOFA fuze with the M548 projectile, although this is a legal shell fuze combination.
6. **K02.27 TAC Air Request Accepted with K02.14 rather than K02.32:** When AFATDS processes an immediate tactical air request from a Pkg 11 or VMF R3 device, and the request results in an approved air mission (i.e., the air mission status is "confirmed" at AFATDS), AFATDS should send a K02.32 Tactical Air Request Acceptance message to the requestor. Instead, AFATDS is sending a K02.14 (message to observer) message.

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4.1 Known Problems with Workarounds

1. **Printing Functions may discontinue if Print Queue alert is ignored:** Print Functions may discontinue after prolonged heavy printing. This has been observed during testing when printing was turned on for all messages in a high intensity scenario over several days. Operators should manage their Print operations and only print necessary information. If the printer becomes unavailable all other AFATDS functions will continue normally. Operators should wait until an opportune time and then shutdown and reboot the workstation to regain printer functions.
2. **Exporting / Importing the Master Unit List has long delays:** A long list of units being modified will appear when only a few changes are made to a large Master Unit List. This occurs when a Master Unit list is exported then imported on another AFATDS workstation. An exported MUL with three unit changes can take approximately 5 minutes and Importing approximately 15-30 minutes. This is a display problem, all units are displayed in the window describing import master unit list differences instead of only the New or modified units being displayed.
3. **Re-establishing LAN communications of channel that was on a Slave Workstation when a catastrophic failure of the slave occurs can result in a LAN channel that does not initially function:** This problem may occur at a multiworkstation OPFAC that has a LAN network physically connected to one of the slave workstations. If the slave workstation with the LAN channel should fail, this may cause LAN networks at the master workstation to fail. If the operator turns the failed network off, removes the assigned channel, and then re-assigns the channel and reactivates the network, communications return to normal.
4. **Route management not transitioning with VMF Primary/Secondary routes:** If a direct primary VMF net and a direct secondary net VMF is configured for a communications route, the automatic transition from primary to secondary will not occur. The operator can open the destination units window and select Activate Secondary and re-transmit the message.
5. **Using “All On” Selection on Comm Networks Window Doesn’t Activate FCS Net:** FCS networks must be individually activated. This applies to Tacfire based networks. The use of All On should be avoided.
6. **AFATDS Does Not Check for Duplicate Hostnames when “All On” is Selected:** AFATDS is designed to prevent the operator from activating a 188-220 net whose hostname duplicates the hostname of an active 188-220 net. It is not possible to communicate when two or more 188-220 nets have the same hostname. This “duplicate hostnames” check does not occur when the operator activates the 188-220 nets simultaneously using the “All On” selection on the “current networks” window. This problem can be avoided by starting 188-220 nets individually.

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7. **Fire Plans and Schedules of Fire Not Sent as Part of Fire Support Plan:** If an operator uses the “Transfer Plan” window to send a fire support plan to another OPFAC, and the fire support plan contains one or more fire plans or schedules of fire, the fire plan/schedule of fire portion of the plan transfer fails. The operator at the receiving OPFAC sees an alert stating the Fire Support Plan reception was partially successful (Targets failed to transfer). Operators can overcome this problem by conducting plan transfer without fire plans and schedules of fire. Once plan transfer is complete, fire plans and schedules of fire can be successfully sent using the “send” button on the fire plan and schedule of fire windows.
8. **AFATDS Gives Unexpected Reason for Target Scheduling Failure:** If you attempt to build a schedule of fires in the current context that includes fire units with no ammunition on hand, AFATDS will not schedule them. But the exception reason given will be “range” rather than “ammunition”. This is because of the way AFATDS performs attack analysis. It first checks to see if fire units are within range of a target. Range varies based on the ammunition type being fired, so AFATDS first looks to see what ammunition types are available, and determines maximum range accordingly. A unit with no ammunition on hand has what amounts to a “zero” range capability. Hence, this condition produces a “range” exception.
9. **Dragging and Dropping Large Numbers of Units Produces Anomalous Behavior:** If you “lasso” a large number of unit icons (100 or more) and then “drag and drop” the icons to a new location, errors in AFATDS processing may result (e.g. unit locations will change on the map, but may not change at an attached EMT client, and may not change in the basic unit data window for the unit). The problem is most often seen when an EMT client is connected to AFATDS. This problem can be easily avoided if you limit “drag and drop” moves to a small number of icons (10 or less) at a time.
10. **AFATDS Will Not Start If Database is Corrupted:** If the AFATDS database becomes corrupted, the AFATDS application software may not start at all (i.e., it never opens the Unit Configuration window which allows a good database to be restored and AFATDS to be activated). To overcome this problem, go to the START button => AFATDS => AFATDS Functions => Database Utilities. Select the DATABASE DISASTER RECOVERY item. This will cause AFATDS to bypass the corrupt database and start using the default, or “NULL UNIT” database. When AFATDS opens the Unit Configuration window, go ahead and restore a known good database, and AFATDS will start up normally. One more step is needed to restore the AFATDS to normal operations, however. When the NULL UNIT database is selected, classified JMEMS data used in munition effects calculations are zeroed out, so AFATDS will not perform effects calculations during attack analysis. You must reload the classified JMEMS LMM CD to restore AFATDS to full health.

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11. **SPTCIMs Not Recognized When Both Are Removed and Reinserted:** This problem may be encountered if it is necessary to reseal the SPTCIM devices on the CCU2 computer. Sometimes when both SPTCIMs are reseated, the Unit Configuration window will indicate that only one of them is available. When this happens, remove and reinsert the SPTCIM with “none” for a status, and refresh the Unit Configuration window. This should update the display to ”good”.
12. **Certain IOS Track Types Will Never Become AFATDS Units:** AFATDS 6.3.2 provides expanded capability to process IOS track data. However, certain track types are not accepted by AFATDS. Specifically, friendly and neutral tracks of type MERCHANT, FISHING, and AIR will not become AFATDS units. Other friendly and neutral track types will update AFATDS unit data provided they have a corresponding AFATDS MUL entry, and the IOS track name precisely matches the MUL “JMCIS Alias” entry.
13. **Editing Predefined “Fire Support Annex” renders Fire Support Planning unusable:** Fire support plans in AFATDS have a predefined text block with the title “Fire Support Annex”. If the operator alters this title, Fire Support Planning will no longer function properly. AFATDS must be exited and restarted to restore normal behavior. The operator can avoid this problem by simply leaving the predefined text block titles alone.
14. **Synchronizing the AFATDS time backwards causes the Progress Indicator to freeze and grays out some options when Situations becomes active:** Use Clock Synchronization with caution. Various Unix and Alsys Ada runtime operations as well as AFATDS data are time sensitive. Big changes to the system clock (more than five minutes) can cause undesirable behavior (e.g. workstation crash, loss of data integrity). The best time for clock synchronization is prior to activation. It is always better to set the time forward, when possible. If the time is set backward prior to activation, do not continue with activation. Rather, you should exit AFATDS and restart.
15. **For GDU nets set the SINCGARS data rate to TF:** GDU nets using FSK modulation with the 1200/2400 tone pair will not operate reliably over SINCGARS when cipher text and /or frequency hopping modes are configured unless the SINCGARS TF data rate setting is selected. Be sure to set the SINCGARS data rate to TF and adjust the Preamble time to 500mSec for CT/FH GDU nets.
16. **Inserting a CD Causes an ‘Action Open error’ dialog box to display:** When inserting a CD, you may see a dialog box displayed stating ‘Action Open error’. This message is erroneous. It is being caused by a minor error in the operating system software. If you see this message, OK it, or “drag” it out of the way, and proceed with the backup/restore.

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17. **CD Holds Only One AFATDS Database:** AFATDS allows only one database to be archived to a CD. If you try to backup a database to a CD that already has one, AFATDS will not recognize the CD as present, and will not archive. If you want to record a new database on a CDRW that already has a database, you must first “clear” it, i.e., insert the CDRW and select the “Clear” function on the Disk Utilities window (System => Disk Utilities). Once the CDRW has been cleared, it should be possible to archive a new database. NOTE: only the Tadpole computer provides a write capable CD drive.
18. **MIDB Enemy Unit Window Display Problem:** The MIDB Enemy Unit window includes a check box for each enemy unit entry, indicating whether or not an AFATDS enemy unit has been created from the MIDB enemy unit. This check box is supposed to update automatically when an enemy unit is created from the MIDB. This doesn't always happen. It may be necessary to select the Refresh button on the MIDB window to see the correct entry in the check box.
19. **Unable to remove CONOPS Comm Config Once it is Established:** Once a value is entered in the Comm Config field of the CONOPS Information for a unit, it cannot be reset to “blank”. If you try to do this, AFATDS will ignore any edits you made to the CONOPS information window. It is still possible to edit the window and have AFATDS record the changes, but you must either leave the Comm Config entry unchanged, or enter a new value. It cannot be changed to “blank” once it has been set to something other than “blank”.
20. **Command & Support Information Not Visible on General Unit Data Window:** This is an intermittent problem. It has been observed most often just after OPFAC startup. When the current situation is opened, the unit workspace opened, a unit selected, and its General Data Window opened, there will be no entries in the commanding and supported unit fields. Selecting the fields does not cause a selection list of unit names to appear. If you experience this problem, exit the current situation, reopen the current situation, redisplay the map, then wait approximately two minutes before reopening the unit workspace. Then open the workspace, select a unit and look at its General Data. AFATDS should behave normally. If this does not work, exit AFATDS and restart. When the “Situations” menu item on the main menu bar becomes selectable, wait two minutes before selecting it and opening Current. AFATDS should now behave normally.
21. **Bogus ASR Numbering alert posted when Creating ASRs:** This is another intermittent problem. During 6.3.2 testing, operators reported seeing the “No ASR Numbers Available” alert message while creating ASRs, even though an ASR number block had been entered on the Mission Preferences window. If you encounter this alert, OK it, go to the Mission Preferences page and insure that a valid ASR number block has been entered. Select Apply and then Close. AFATDS should now behave normally.

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22. **Attack Options Tab Sometimes “Locks Up”:** On rare occasions, you may encounter a problem with AFATDS displaying the Attack Options data for an incapable option (red gumball) in the Intervention Point window. When the Attack Options Tab is selected to determine why no capable options were generated, AFATDS displays a “watch cursor”, and the Attack Options Tab remains “grayed out”. AFATDS has generated a large number of incapable attack options (AFATDS can generate up to 500) and is attempting to display all of these to the operator. When the Attack Options Tab is selected under these circumstances, it remains “grayed out” while the system is attempting to populate the window with all the attack options. If this happens, the simplest way to recover is to close the window using the “Close” menu item from the pulldown menu accessible from a “click” on the AFATDS icon in the upper left corner of the window with the infinite watch cursor. If this problem is encountered frequently, it is likely that something wrong with the database or setup. For example, running detailed attack analysis with no ammunition, or a duplicate used lot code in a subordinate fire unit’s files frequently causes this problem.
23. **Problems With AFATDS VMF Communications Protocol and TACLINK 3000 Modems:** During testing of 6.3.2 software, we have encountered problems trying to establish communications between OPFACs when using TACLINK 3000 modems and AFATDS VMF communications networks over radio. This problem applies when a *Network Type* of VMF is selected, *not* when the VMF message protocol is used. The TL3000 modems were not capable of communicating using Channel 2 of the modem via an AFATDS VMF Network. To avoid this problem, we recommend using 188-220A networks with TL3000 modems.
24. **AFATDS Selects MLRS DPICM Guided at OPFACs Running FS System and Unit Level Attack Analysis:** Units that develop rocket missile attack options appear to have a preference for the new M30 JEG munition. At OPFACs running FS System and Unit attack analysis, JEG (MLRS DPICM Guided) is almost always the selected munition when an MLRS DPICM solution is generated. When the resulting OTF/FO reaches an OPFAC running detailed attack analysis, AFATDS behaves normally and selects the MLRS DPICM munition type best suited to the mission. This problem does not adversely affect mission processing, but may be misleading to operators at the OPFACs performing FS System and Unit attack analysis.
25. **Coordination Request response with NET causes Denied mission:** This is an intermittent problem. A Coordination request is received, and the Requested End Time shows a default value of 010000JAN70. If the coordination approver specifies an NET or NLT time on the coordination request, this causes a Deny to be sent to the requestor. As a workaround, when a Coordination Request is received with a Requested End Time of 010000JAN70, do not enter a NET or NLT.

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26. **Received CFF is treated as an ATI report:** When an ATI is received at an OPFAC that has the target type in its HPT List, the target generates a fire request, which is sent to the next OPFAC in the mission chain. Although the mission is now a fire request, the receiving OPFAC still treats it as an ATI report. If the receiving OPFAC doesn't have the target in its HPT list, or it fails to meet other target selection standards, the mission will be automatically denied, and will not be presented to the operator (i.e., will not go to the intervention point). If both OPFACs have the same HPT and TSS guidance entries, then the second OPFAC will process the received message as a fire request.
27. **Send To lists all comm units (not just active ones):** The "Send To" list will display all units in the communication configuration even when the units have no valid routes. This lets the operator select units and attempt to transmit even though it will immediately fail. Select the appropriate units with valid communication configurations (routes).
28. **MIDB Enemy units can be dragged on the Map:** MIDB Enemy units can be dragged on the Map, however their locations remain unchanged. Also if the Enemy Unit is added to the target list the target is displayed at the original Enemy unit location. Exiting Current and redisplaying will display the MIDB Enemy units in their proper location.
29. **Unable to create "New" LAN Networks after entering Domain Name:** Upon initial loading of AFATDS software, or when rebooting, the Operator is able to enter or change the Domain Name. The Operator is allowed to enter any combination of Numbers and Letters when creating a Domain Name for AFATDS. However, when the Operator enters a domain name that begins with a numeric character, and then tries to create a "New" LAN network with this Domain name (AFATDS automatically populates the Domain name field in the Edit Networks window), the operator is informed that the Domain name is invalid. To avoid this problem, use Domain Names that start with alpha characters rather than numbers.
30. **Basic Target Information window locks from Fire Plan, Unit Schedule window:** While in the Unit Schedule of a Calculated Schedule of Fire, if it contains no targets and the operator selects "View" from the Target selection pulldown, a Basic Target Information window will open. This window will not close normally. To avoid this problem the "View" selection should only be used if a target is selected.
31. **MLRS FCS Message/Comm Paths are dependent on order of network enable:** The following problem may occur at an MLRS Battery headquarters with an FCS network and a LAN IP network to the Platoon FDC (an unlikely configuration for tactical operations, but one that may be encountered in a training or test environment). The FCS network is the primary network to the MLRS launchers, and the LAN IP network is set up as a secondary route to the launchers (indirect through the Platoon FDC). With this configuration, if the FCS Network is enabled first, messages to the launchers are incorrectly sent as JVMF/47001B messages. To correct the problem, disable the two networks, and then reenabling, enabling the LAN network first.

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32. **Client User Accounts may lose assigned group:** When creating multiple Client User accounts with the Default Group assigned, the group may become disassociated during a login session. The user will notice these accounts do not have a “key” next to them on the Client Admin window. The error that the EMT client is presented with is "User already logged-in" or “Account has no permissions." To correct the problem, simply re-associate the default group, and repeat the login at the EMT.
33. **OPFAC reconfigures when creating new units:** OPFAC reconfiguration may sometimes occur when units are removed and re-built, based on a new Master Unit List (MUL) entry with a different device type, but with same URN as the previous MUL entry. After the OPFAC recovers from the reconfiguration, inspect the unit data for the newly created unit. Some of the old unit data may still be present. If this occurs, delete and recreate the unit a second time. This will correct the unit data.
34. **Modifications to IOS Interface Filters during active connection do not update current filter:** After the AFATDS operator has received the initial tracks as set in the filter criteria window (IOS interface window), if he then wants to change the filter, he must first disable the Interface, select the new desired filters, and re-enable the Interface. If the IOS operator deletes all the tracks and wants AFATDS to re-send all the tracks, the AFATDS operator must first delete the Track ID's by using the database utility tool. Then the AFATDS operator must disable the IOS interface and change the current filter. This can be achieved by turning off one of the existing filters, enabling the Interface, disabling the Interface, changing the filter back to the desired filter and re-enabling the Interface. The window will not request a new track table each time it is re-enabled unless the filtering criteria has changed.
35. **TIMELINE Recording Won't Work Unless Started Before 200 Targets are Accumulated:** If you want to use the new Timeline recording feature in AFATDS, be sure to activate it early. AFATDS will prevent you from activating Timeline recording if your OPFAC has more than 200 targets.
36. **Don't Use the Cease Load command in the Adjust Window:** Selecting the Cease Load command from the adjust window for an active mission with GDU's causes “AMC FPF” to be displayed on the GDU section chief assembly. Do not use the Adjust window to change the mission method of fire, except to change from adjust fire to fire for effect. Use the EOM button on the Weapon Status Monitor window,. This causes the EOM command to be sent to the guns. Or issue the Cease Load command by voice.
37. **Toggle Display Options to Restore Unit Tree in Unit Workspace:** This problem may occur after starting up, or after importing a new Master Unit List. The operator opens the Unit Workspace, but no unit names are displayed in the unit “tree” (on the left edge of the window). If this occurs, toggle between the “Friendly/Enemy” and “Unit Type” display options for the workspace. This should cause the unit tree to display normally.

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38. **Client/Admin Window Does Not Provide Unsaved Data Warning:** When creating a new user or making other changes on the Client/Admin window, AFATDS will allow you to close the window without any “unsaved data” warning being presented. To save your changes, you must select the Save button before exiting the window.
39. **“Sending Fire Order from FA CP to FA CP with Same Echelon Causes Transmission Failure:** Sending a fire mission from an “FA CP” AFATDS unit (i.e., the unit role on the Basic Unit Data window for the unit is set to “Field Artillery Command Post”) to another FA CP AFATDS unit with the same echelon (e.g. both are Corps FA CPs) may result in a transmission failure. To avoid this problem, build the AFATDS units with roles of “FDC”, or “FDCA”, or “FDCB”.
40. **Creating a Planned Naval Unit with Only Basic Unit Data Causes AFATDS to Quit:** When creating new naval ship units in a Plan/Phase context, in addition to the required entries on the Basic Unit Data window, be sure to include an entry in at least one of the following fields: Current Command Unit ID (General Unit Data), On Order Command Unit ID (General Unit Data), Tubes Operational (Detailed Unit Data), Cells Operational (Detailed Unit Data). Failure to do so may cause AFATDS to shut down. You will have to restart AFATDS, and delete the incomplete planned naval unit to recover.
41. **Editing IP Address on 188-220A Net with 2 Stations Causes Bogus “Too Many Stations” alert:** You may see this problem if you edit the IP address of a destination unit on a 188-220A network. If the number of stations on the net is equal to the number of destination units on the net, and you edit one of the destination units’ IP address, AFATDS incorrectly interprets this as a “new” address, and assumes another destination has been added, exceeding the capacity established on the Edit Networks window. AFATDS displays a green alert message on the Edit Routes window that says, “Number of Destination Units exceeds number allowed on the net.” To overcome this problem, simply clear the route for the unit to be edited, and re-enter the route with the new IP address.
42. **Moving Target Direction of “0” Rejected by Launcher:** When initiating an ATACMS BAT mission with moving target data, if the direction of movement for the target happens to be due north (i.e. zero mils), enter 6400 for the direction instead. The MLRS launcher rejects the fire order if a moving target direction of 0 is specified at AFATDS, but accepts the fire order if 6400 is entered.
43. **Fuze Setting for M732A2 Must be Even Number:** Unlike other VT fuzes, the M732A2 can only be set for two second increments. The AFATDS - NABK generated fuze setting for M732A2 may be an odd number, however. When this happens, simply subtract one from the fuze setting to obtain the appropriate M732A2 fuze setting.

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44. **Erroneous Deny Message Generated If Target Generation Produces Non-High Payoff Target:** If the target generation function is active, and AFATDS combines target indicators to produce a target, but the target does not meet the criteria for immediate engagement, AFATDS may generate an erroneous Deny message. The target is correctly placed on the planned or inactive target list (depending on its precedence), but the operator is left with the extraneous deny message. Simply OK the deny message to get rid of it.
45. **Monitoring MLRS Platoon Receives Bogus Alert When Battery Processes Mission Amendment:** At MLRS Platoons that are monitoring traffic to their launchers, if the battery processes a mission amendment (e.g. an updated target location), it sends the amended mission information to the platoon. The platoon AFATDS processes the amended data, but an alert stating “Establish target message was received from <battery AFATDS>, but cannot be processed.” In fact, the platoon does process the new mission information. The alert message should simply be deleted.
46. **Segmented ATACMS BAT Target Cannot be Fully Engaged by Assigned Launcher:** When processing a large ATACMS BAT target that requires segmentation into two child targets, and each child target requires only one ATACMS BAT missile, AFATDS may assign a single launcher (with two missiles) to fire the mission. If the method of control is Warning Order or At My Command, the following problem arises. The two targets are sent as separate missions to the launcher. The launcher can report a “ready” status for only one target at a time. As a result, the AFATDS will never receive a “ready” for the second child target. If the operator chooses to “fire” the parent target based on the one “ready” child target, the launcher receives a “fire” command for the first child target, and an EOM message for the second. There are several ways to overcome this problem. One is to keep target sizes to less than 4000 meters (and the target strength under 72). Segmentation is not performed unless one of these thresholds is exceeded. Another technique is to modify unit data so that launchers have only one ATACMS BAT (even if they are really uploaded with 2). This will insure that AFATDS assigns each launcher to fire only one missile per mission.
47. **Problems with HP 6L Printers:** If you are using an HP 6L printer with the CCU2 hardware, it should be configured as a “PCL_Parallel_Port” printer in the AFATDS Print Configuration window. Text data will print successfully. Window prints are generally successful. Printing the map window does not work well. Certain map symbols do not show up legibly on the printout. Also, you will be unable to print freetext messages from the CMP with the HP 6L printer.
48. **Difficulties Printing Freetext Messages in CMP:** If you try to print a freetext message from CMP, you may see a message that says the printer service is not available. If this happens, try exiting CMP. Wait for CMP to reconfigure, then try to print again. This may cause the printer service to become selectable again. If this doesn’t work, look at the printer set up. Chances for success improve if you can configure your printer as a “postscript” type printer. If you experience pagination problems, and you are connected to a LAN printer or HP 4000 printer, try changing the paper size to “North American Letter”. This should correct the problem. We have been unable to print to the HP 1100 or HP 6L printers from CMP.

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49. **Toggle Geometry Coordinate Display Near the Equator and Okaying the Window May Change Coordinate Location:** The following problem may occur when viewing/editing geometry coordinates that lie within 10 kilometers of the equator. Open the coordinate window for a circular or point geometry (displayed in UTM format). Toggle the display to Geocoordinates, MGRS, and then toggle back to UTM. The extended northing data field for the UTM coordinates is now blank (the zeroes have been “lost”). If the short northing field had any leading zeroes, those are now replaced with blank spaces. If you now okay the window (which causes AFATDS to update its database with the values displayed in the window), AFATDS interprets the first digit as the most significant digit in the short northing field, and the coordinate northing may have changed significantly as a result. For example, if the original location (before toggling and okaying) was 6 33000 000 07500 123 14, the location after doing all this would be 6 33000 000 75000 123 14. In this case, the location would change by 67,500 meters. This problem can be avoided by selecting the Cancel button to close the coordinate window after toggling (this closes the window without changing any data). Also exercise caution when using the toggle feature when operating near the equator. NOTE: This problem is not encountered south of the equator. The UTM extended northing for locations just south of 0 degrees latitude is 099. The problem is also confined to the Geometry Coordinates window. This problem does not occur on target or unit windows.
50. **Number of Aircraft Does Not Print on Air Support List Printout:** When printing an air support list, the number of aircraft associated with an air mission is always zero. The number of aircraft displays correctly on the ASL Summary window.
51. **Monitoring MLRS Platoon Does not Display “Ready” Status for TOT Missions:** When processing rockets missions with a TOT method of fire, the monitoring platoon headquarters does not see the “ready” status reported by the launcher. This does not affect mission execution, but the platoon will not see the “ready” status as they will for other mission types.
52. **Registration Information Window Displays “0” Rounds to Fire When Entering Time Phase:** When conducting a precision registration with a time phase, after processing the “Time Repeat” command, the Number of Rounds field displays a “0”. Selecting the Send Fire Commands button sends the proper commands to the GDU, however, (i.e. 1 round).
53. **Min Time Between Rounds Field for Wheeled Launcher is Blank:** The Minimum Time Between Rounds field on the Rocket Missile Guidance window is blank. The system does not provide a default value. The operator should enter an appropriate value in this field when creating his database.
54. **Don’t Specify M577 Fuze with SADARM:** AFATDS displays the M577 fuze as a legal fuze type when model M898 (SADARM) projectile is specified. Do not select the M577 fuze for firing with SADARM. AFATDS that perform technical computations will show an ammunition failure if this shell fuze combination is specified. The NABK recognizes this as an illegal combination, and will not generate a ballistic solution.

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4.2 Known Problems with Effects Management Tool (AFATDS Client)

1. **External Clients May Login with Same Name & Password:** If a client attempts to login into AFATDS using the name and password of another client who is already connected, AFATDS correctly refuses the connection. If the client tries to login a second time, however, using the same name and password, AFATDS allows the connection, and the client can perform normal client functions. This does not affect any processing, but may cause confusion. The problem can be avoided by assigning and using unique user names and passwords for all external clients.
2. **Target Data Cannot Be Deleted From Client:** Client operators may encounter difficulties deleting target information. If the AFATDS is performing Target Accumulation, deleted targets “remain” on the EMT, because they become part of the Target Accumulator. If you are not interested in Target Accumulation and want deleted targets to be removed from the EMT, take the following action. Contact the AFATDS operator and have him open the Target Accumulation window, set the value to zero, and okay the window. Okay the window even if the window already displays zero. Also ensure the local accumulation setting is set to zero on the EMT (find this setting in the preferences window). Now deleted targets should disappear at the client.
3. **Cannot issue checkfiring command from killbox conflict window:** The Checkfire command cannot be selected from the Killbox Conflict window. If you want to issue a Checkfire command for a target that conflicts with a Killbox, use the Checkfire selection from the pulldown menu
4. **Windows open behind the main window on both C2PC and JMTK:** Many windows open behind the main window, this happens more on C2PC than JMTK, but it does happen on both. Geometry, & Preferences are of particular interest. The operator can bring the window forward by selecting the window icon on the task bar or use the Alt Tab to bring the desired window into focus.
5. **Plan Targets Implemented in Current Not Displayed on EMT:** If the AFATDS operator implements a fire plan or target list from a fire support plan, the corresponding targets are not displayed on EMT. The targets are displayed on the client if the AFATDS operator subsequently executes the fire plan or otherwise initiates an active mission against the planned targets.
6. **EMT Allows FFE2 FASCAM Munition to be Specified:** AFATDS 6.3.2 allows only one type of FASCAM munition to be specified per minefield, but the EMT does not restrict the operator from specifying RAAM in FFE1 and ADAM in FFE2. The resulting AFATDS mission will only cause RAAM to be fired. We recommend that you leave FFE2 blank for FASCAM missions.
7. **EMT Allows ASR Mission Times Outside of ASL Boundaries:** When ASRs are imported or created locally, EMT does not automatically check the start and end times against the ASL start and end times. If these ASRs are sent to AFATDS with incorrect times, the AFATDS operator must either edit the mission times or delete the ASR. When importing or creating ASRs, be sure that mission start and stop times are within the ASL time boundaries.

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8. **When Deleting Killboxes, EMT Does Not Provide a Confirm Message:**
Normally when deleting data items from EMT, the operator is prompted with an “are you sure” dialogue box. This does not happen for Killboxes. Be sure you really want to delete a Killbox before selecting the delete option.
9. **Apply Button on View/Edit Killbox Window Disabled After First Use:**
Selecting the Apply button on the View/Edit Killbox window causes the button to be “grayed out.” At that point, it can no longer be used to apply changes. Use the Okay button to make changes.
10. **Associated Map Items Are Not Deleted When Unit or Target is Deleted:**
Certain map objects (unit range fans and threat rings) are not automatically deleted when the associated unit or target is deleted. Closing and reopening the map will normally cause these objects to be removed from the map
11. **The operator should not save a map on C2PC:** When using EMT with the C2PC map tool, the operator should NOT select FILE, SAVE MAP from the C2PC menu bar. If a map is saved, C2PC does not “know” how to build the window and menu bars when the focus is changed from one injector to another (for example, when the TDBM tab is selected and then the EMT tab is selected in the tree diagram). Saving a map will either cause C2PC to fail on startup or to perform erratically. If this happens, the C2PC should be exited and the saved map deleted from the c:\program files\usmc\data\local\your user name folder. C2PC can then be started and EMT will function properly. This problem does NOT apply to the use of CADRG or other map backgrounds on C2PC.
12. **EMT Tool Bar Not Displayed When Started Using C2PC:** When EMT is started on C2PC, the EMT tool bar will not display. The operator must display the menu bar by selecting FIRE SUPPORT, UTILITIES, DYNAMIC FILTER WINDOW and selecting the check box to the left of the Current folder. Edits to this menu bar must be done after login to EMT and prior to changing the focus of the injectors for the first time. If the tool bar is hidden and re-displayed after the focus of the injectors has been changed (for example, selecting TDBM tab and then EMT tab), the EMT program will shutdown. If this occurs, the operator can recover by selecting FILE, NEW MAP on C2PC and then logging into EMT. The EMT toolbar must be displayed as before. The operator must also re-enter any filter rules associated with the tool bar. Filtering rules are lost when EMT shuts down.
13. **Installation of JMTK does not always work:** When loading software on a computer, the batch script that sets up environment variables for JMTK may not run correctly during install of EMT. Failure to do so will result in error messages during startup and the EMT will display with no map. To fix this, go to the JMTK installation directly, typically C:\JMTK, and run the icsf_env.bat file manually. Then run as usual. A reboot of the system is not required, and this step may be performed at any time.
14. **Files with Extenders in Upper Case Letters are not Displayed:** If you use the Import Excel File utility on EMT, you may encounter this problem if the file name of the Excel file to be imported has upper case file extender letters (i.e., “.XLS” rather than “.xls”). The file name will be displayed and can be imported if you select the “All Files” option.

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15. **Unable to Perform Collaboration if Connected via Secondary LAN:** EMT collaboration tools only function properly if the EMTs are connected to the AFATDS server via the primary LAN. They will not function over the secondary LAN.

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5.0 OPERATOR NOTES

This section describes perceived problems that commonly arise from lack of understanding regarding AFATDS behavior and new software features. The following items may help the operator avoid frustration when confronted with new and unfamiliar system behavior.

1. Target Lists are now paged: Two key changes in the behavior of the Target List windows have been made that improve the speed of these windows dramatically. The columns are still configurable by the operator, but the width of the window is now fixed to about 110 characters, not the previous 400 characters. Eliminating the horizontal scroll was needed to increase the speed of opening this window. In addition, the Target Lists are now paged in a manner similar to the Master Unit List window, where 100 targets are displayed within each page.
2. Current Situation disappears when exiting a plan: The new JMTK software automatically brings the “System” tab to the foreground of the map whenever a map tab is removed. Typically this will happen whenever you exit a Planning Situation. This may look to the operator as if the Current Situation has disappeared or died. This is not the case and the Current Situation can be easily returned to the foreground by clicking on the “Current” table in the map window.
3. CMP Mailbox does not refresh: CMP windows behave a little differently from other windows within AFATDS. When the CMP window is opened by selecting the Mailbox icon, this window should NEVER be exited using the “File => Exit” option. This actually terminates the CMP application and causes AFATDS to have to restart CMP (which it does automatically). The recommended approach to get rid of the window is to close the window using the “X” button in the upper right corner of the window frame. You can also “minimize” the window using the “dash” button on the upper right corner of the window frame. If you “minimize” the window, however, do not use the “icon tray” at the bottom of the screen to reopen the window. The CMP window will not refresh properly if this is done (i.e., the window will appear blank). The recommended procedure is to always select the Mailbox icon in the Main Menu bar to re-open the CMP window.
4. Non-standard G/VLLD codes can be sent to IFSAS by AFATDS: AFATDS allows the operator to enter G/VLDD codes that are not valid for the G/VLDD device itself. The AFATDS value range is based on the VMF Message standard, which is designed to support many laser designator devices. Some of these devices support more values than the G/VLLD. If this is done, the message will fail at the IFSAS whenever this data is sent from AFATDS. Operators need to ensure that a correct G/VLLD code is entered. Correct codes are 3 digit numbers composed solely of the digits between 1 and 8 inclusive.
5. Geometries received from external systems: If an external system (such as an IFSAS) sends a geometry to AFATDS, then the sending unit becomes the establishing unit for the geometry and the data sent with the geometry updates the data within the AFATDS database. If the transmitting system does not provide values for all fields, then AFATDS will fill these fields with default data (e.g., minimum altitude default is -32797 feet).

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6. Modem channel failures: Modem channel failures may occur and will require the operator to re-enable the affected network. These failures usually indicate some problem in the environment that is interfering with the radios, such as a radio locked in transmit mode. There is a known problem with the SIP radios when set to 16K SC/PT mode where it can get locked in transmit mode. This mode should not be used if possible so this problem can be avoided.
7. AFATDS Login protection: A situation can occur where the operator cannot login using his/her username/password. This is actually a result of a security feature that is invoked whenever the operator fails three consecutive login attempts. This is not a problem with the software but may be interpreted as one if the operator is unaware of this security feature. If this happens, the security manager must “unlock” the user profile:
 - Log-in as secman
 - open an X-Term by selecting simultaneously the Ctrl, Alt and Left Arrow
 - type “cd /h/COE/Comp/PSM/bin”
 - type “./PSM_unlock username” (where username is the operator’s username)
8. **Weapon Numbering**: When building Paladin cannon and MLRS launcher “single weapon” units in AFATDS, be sure to designate the Paladin/MLRS launcher as weapon number ONE in the weapon data window. AFATDS will automatically select weapon number one for you when you create the unit and enter weapon data. Errors in processing may result if weapon numbers other than one are used for Paladin and MLRS launcher units.
9. **Unit & Weapon Azimuth of Lay**: The azimuth of lay for AFATDS cannon units appears on both the Detailed Unit Data screen and the Weapon Data screen. The Detailed Unit Data azimuth of lay is used to define the unit’s range fan, which is used in AFATDS tactical fire control processing. A target must lie within a unit’s range fan in order for AFATDS to select that unit for firing. The weapon data azimuth of lay is used in ballistic calculations, and must be entered for each individual weapon. **It is essential that azimuth of lay be entered for each weapon AND on the detailed unit data screen, and that all of the entries be equal!**

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10. Massing large number of Fire Units on a single target: When generating “mass attack” options, AFATDS is limited to a maximum of 20 units per mission. If your OPFAC is running Detailed Attack Analysis and you are analyzing more than 20 Fire units (Example - you are a DIVARTY FDC controlling 3 Paladin Battalion with 18 individual Paladin Fire units each. This is 54 Fire units.), then AFATDS will not generate a capable option for a “DIVARTY” massed option. This is because AFATDS wants to mass all 54 Fire units (remember each individual paladin is a separate fire unit when running Detailed Attack Analysis), but is constrained from adding more than 20 units to the option. Since 20 is not 2/3 of 54 (at least two thirds of the required number of tubes must included in the option before AFATDS considers it “capable”) then AFATDS indicates that no capable mission solution could be generated (red gumball). This problem can be overcome by using Unit Attack Analysis. The reason Unit Attack Analysis was developed was to support attack analysis at “higher echelon” FA CPs. Massing the DIVARTY will not be a problem if you run Unit Attack Analysis at the DIVARTY AFATDS, because subordinate FA CPs are analyzed and considered in the attack option, rather than individual fire units. Remember that ammunition and weapon summary data must be sent from subordinate FA CPs to the commanding FA CP that is running Unit Attack Analysis.
11. Point locations in geometry windows and SPLL Commands window may differ: The operator can send deployment commands to an MLRS launcher using the SPLL Commands window, accessed through the unit data window, or the map icon. When the operator selects a point ID in this window, AFATDS automatically populates the location field with point’s current location. If the operator selects “okay” or “send”, the location and point ID are stored with the unit data. This provides the operator with a record of the location last sent (or stored) for a particular MLRS launcher. For example, if the operator opens the SPLL Commands window for launcher 1/1/A/2 /20, and selects Firing Point A2, AFATDS populates the location field with A2’s current location (e.g. 6 51200 034 54300 130 +14). If the operator selects “send”, AFATDS generates and sends an MLRS COMD message to the launcher, directing it to move to A2/6 51200 034 54300 130 +14, and saves the data in the SPLL Commands window with the unit data for 1/1/A/2 /20. If the operator subsequently updates the geometry point location for Firing Point A2 (e.g. 6 55000 034 55000 150 +14), and then reviews the SPLL Commands window for launcher 1/1/A/2 /20, the window still displays the last data entered in the window (i.e., A2 6 51200 034 54300 130 +14). If the operator wants to send the launcher to the “updated” firing point A2 location, he must “deselect” and “reselect” A2, which will cause AFATDS to populate the location field with the current point location stored with the geometry data (6 55000 034 55000 150 +14), and then select “send”.
12. Accidental mouse clicks on the map can cause the map menus and tool icons to disappear from the Map Window. The operator can right click on the ICON in the upper left corner inside the map window and select:
VIEW >> STATUS BAR TOGGLES >> TOGGLE MENUBAR and
VIEW >> STATUS BAR TOGGLES >> TOGGLE TOOLBAR

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13. Updating Geometries: AFATDS linear and area geometries are defined by multiple points. When AFATDS processes an update for an existing geometry, whether input by the operator or received from an external system, the update is performed on a point-by-point basis. Existing points that are not changed by the update remain part of the geometry. This behavior may lead to confusion if its consequences are not understood, however. For example, AFATDS receives a ZOR “99DIV” from an IFSAS device, which consists of 15 points, numbered 1 thru 15. Later, AFATDS receives another geometry message from IFSAS with an update for ZOR “99DIV”, which includes new locations for points 1-12. Points 13 - 15 are still part of ZOR “99DIV”, as far as AFATDS is concerned. If the locations for points 1-12 have changed substantially, then the new “99DIV” ZOR could have a very odd shape indeed. When modifying an existing geometry, the safest course is almost always to delete the existing geometry, and then enter and disseminate a new one.
14. Do Not Select Recalculate Option When Changing the Size or Attitude of a Target: AFATDS segmentation rules are complex, and vary according to weapon system and ammunition type. If you are dealing with a large target that may require segmentation, and you must modify the target size or attitude, it is best not to rely on the Recalculate option on the Intervention window. In most cases, it is better to deny the mission and initiate a new one with the correct target information.
15. Importing A New Master Unit List: Importing a new master unit list can create problems if not done properly. Follow this procedure when importing a new master unit list.
 - a. Start AFATDS
 - b. Restore database. Maintain a copy of this database. Should the database with new MUL become corrupt, you can revert to this one and try again.
 - c. Import new MUL. The new MUL will replace the old MUL.
 - d. Backup the database.
 - e. Exit AFATDS and restart.
16. First Fire Mission After Startup Takes a Long Time: The first fire mission processed after startup takes much longer than subsequent fire missions. AFATDS does not start all of the services needed to support mission processing until there is a demand for those services. Therefore, processing time for the first mission includes a lot of “startup” time. This problem can be overcome by initiating a “warmup” mission after starting AFATDS. The “warmup” mission can also alert the operator to potential setup/data problems.
17. FASCAM Minefield Depth Does Not Exceed Module Size: When you initiate a FASCAM minefield mission, AFATDS does not restrict the target length and width that you select. However, the width entry that you make will be ignored. The actual minefield width will correspond to the “module size” for the selected munition and angle of fire. Low angle RAAM produces a width of 200 meters, all others 400 meters.

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18. Only One FASCAM Munition Type can be Specified: For FASCAM minefields, AFATDS allows only one munition type (ADAM or RAAM) to be selected for a FASCAM target. If a mixed minefield is desired, you should initiate a second mission at the same target. Be sure to fire the RAAM target first, then the ADAM.
19. Always Backup Databases at the Master Workstation: When archiving a database in a multi-workstation OPFAC, always use the Master Workstation to record to whatever storage media (e.g. floppy disk, flash card) you are using. The Master Workstation maintains the true OPFAC database. Slave workstations contain “backup” copies of the OPFAC database, which are maintained for continuity of operations purposes only. These “backup” copies are not archived.
20. Check Attack Option Criteria Ranking When A Unit is being “Overtasked”: If AFATDS appears to always select the same launcher, cannon, or fire unit as the recommended option, check your Attack Option Ranking Criteria (Mission Processing => Mission Processing Preferences window). Moving “Unit Load” to the top of the list will cause mission taskings to be equally spread among capable units.
21. Star Office Document Archiving: It is possible to save Star Office documents created on your AFATDS workstation to floppy disk. Here’s how:
 - a. Start with a “DOS formatted” floppy disk. Most commercially available floppy disks come out of the box in IBM (i.e., DOS) format. (NOTE: The “Disk Utilities” function under the AFATDS Functions menu does NOT create DOS formatted disks. It creates disks compatible with the Solaris Operating System, suitable for recording AFATDS databases, among other things. If you do not have a DOS disk, you can create one using the procedure described in 21a below.)
 - b. Insert the floppy disk into the workstation floppy drive.
 - c. Select the “Mount Floppy” function under the AFATDS Functions menu (Start => AFATDS Function => Mount Floppy)
 - d. An informational window displays that says “Mount Floppy Disk”. OK the window.
 - e. An information window appears that says: “Floppy is Ready”.
 - f. Start Star Office and create your document.
 - g. When you are ready to save the document to floppy, select FILE => SAVE AS
 - h. Navigate to the floppy directory by clicking the small icon 2d from the right in the upper section of the window.
 - i. Double click on the folder named “Floppy”
 - j. Double click on the folder named “Floppy0” (this assumes you are using a blank floppy disk. If the floppy has previously created folders, these will appear. Select the one you want to save to.)
 - k. Name your file and select SAVE.
 - l. Eject the floppy when SAVE is complete. If you have a UCU workstation (no physical eject button) select the “Disk Utilities” feature under AFATDS

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Functions (Start => AFATDS Functions => Disk Utilities), and select the Eject option. If you have a CCU2 workstation, you can use the physical eject button.

- 21a. Creating a DOS formatted floppy disk: You can create a DOS formatted floppy disk at your AFATDS workstation using the following procedure (NOTE: you must have System Administrator access to do this):
 - a. Login using your System Administrator user name and password.
 - b. Insert the floppy disk.
 - c. Select Start => Programs => File Manager
 - d. In the File Manager window, select File => Open Floppy
 - e. A Media Format window opens with title /vol/dev/rdiskett0/unnamed_floppy
 - f. On the lower portion of the window, select file system type PCFS (i.e., DOS)
 - g. Click the Format button.
 - h. When formatting is complete, the system displays a window that says, "sdtmedia_format has finished formatting the device."
 - i. OK the window.
 - j. A File Manager window opens. Select File and Eject
 - k. If you need to create more DOS formatted floppies, insert a new one and repeat the procedure. Otherwise, close windows and log off.
22. Paladin may UTE missions during heavy mission loads: Occasionally, the Paladin may send a UTE message when AFATDS sends an EOM on one mission and then a CFF on the next mission in close time proximity. To reproduce the behavior it is necessary for the AFATDS operator to select "Accept recommendation" or "Send" on the IP for mission 2 at about the same time the EOM for mission 1 is sent. Paladin will sometimes send back a UTE stating that it is ending the 1st mission due to receipt of the 2nd mission. Note that the mission completes - therefore this is considered a nuisance to the AFATDS operator - no action needs to be taken - It appears that AFATDS will not be able to do anything about this. It was noted that the message should be a BAT rather than a UTE.
23. "Number Lock" key disables the "Mouse Button" menu items: Clicking the mouse buttons with the cursor focused on the blank "AFATDS" window screen causes various selection menus to appear. If the "number lock" key is engaged, the selection menus are no longer accessible. De-selecting the "number lock" key solves this problem. This problem is a consequence of the common hardware /COE environment.

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24. NET/NLT Cannot Be Processed By All Firing Systems: AFATDS allows the operator to specify a “no earlier than (NET) and a “no later than” (NLT) time in mission data. When AFATDS generates fire commands for weapon systems, it includes the NET and NLT times whenever possible. Not all systems are able to process this information, however. Paladin, for example, cannot process NLT time, and will reject a fire order that contains an NLT. The pkg 11 message interface does not provide a way to send NET time. The MLRS FCS can process NET and NLT times. Air support requests can accommodate an NET/NLT time. Therefore, operators must be aware that for fire support systems other than MLRS and air, time constraints for target engagement are NOT automatically enforced. Control of mission timing must be performed manually.
25. PTM Notification of Conversion to ATACMS Mission Fails if No Direct Comm Route to Observer: On rare occasions, an ordinary fire request received at AFATDS will result in selection of ATACMS for engaging the target. When this happens, AFATDS is designed to notify the mission originator via PTM that the mission has been “converted” to an ATACMS mission, and the processing AFATDS is now the “controlling unit” for the mission. If a non-AFATDS device (e.g. a FOS) initiates the mission, the PTM will not automatically go to the originator unless the AFATDS that originally selected ATACMS for the mission has a defined communications route to the observer.
26. Don’t Fire Projectile M825 with M203, M203A1, or M232 zone 5 Propellant: The M825 (improved smoke round) should not be fired with M203, M203A1, or M232 zone 5 propellant. AFATDS will allow you to select this combination of projectiles and propellants, but NABK software has been modified to recognize these as illegal combinations. It will not return a ballistic solution if M203, M203A1, or M232 zone 5 propellant is specified with the M825 projectile. AFATDS will show a “red gumball” and an ammo exception if one of these combinations is specified. This restriction does not apply to the M825A1 projectile. It is okay to fire the M825A1 with these propellants.
27. Archive Fire Support Plan to Jaz Drive Sometimes “Locks Up” System: The CCU2 hardware allows the user to archive fire support plans to the Jaz drive. Unfortunately, the Jaz drive does not always work reliably. When an archive attempt fails, AFATDS may be “locked” in an archive “loop”. Rather than stopping when the archive attempt fails, AFATDS continues to try and export. If you try to send the fire support plan via tactical communications after a failed archive attempt, and you see an error message on the ‘export plan’ window (“transfer plan still in progress), then AFATDS is in such a “loop”. AFATDS blocks plan transmission if it senses that a plan archive or transmission is already underway. To recover from this situation, you must restart AFATDS
28. AFATDS and Joint Common Data Base (JCDB) use Different Rules for Naming Geometry Objects: AFATDS and other fire support systems (e.g. IFSAS) allow the operator to give geometries the same name, so long as the geometries are of a different type. For example, it is possible to have a zone of responsibility called “3BDE” and a CFL called “3BDE” in AFATDS. The JCDB requires all geometries, regardless of type, to have a unique name. Operators should follow a naming convention, which provides unique names for all geometries.

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29. Restoring a 6.3.1 Database on AFATDS 6.3.2 Takes A Long Time: When you first restore your AFATDS 6.3.1 database on a system loaded with AFATDS 6.3.2 software, you will notice that the database restore takes much longer than normal (we have observed as much as 45 minutes). AFATDS 6.3.2 uses new database software (Oracle). The 6.3.1 database (based on Interbase software) must be converted from the old data schema to the new one, so conversion may take a long time. Once you successfully restore your 6.3.1 database to 6.3.2, we recommend that you immediately backup the database. This will cause it to be stored in accordance with the new data schema. Subsequent restores of this database, now that it is formatted for Oracle, will be much faster.
30. CADRГ MAP Loading Procedure: Loading CADRG Maps
 - a. Insert the CADRG map CD allowing enough spinup time.
 - b. Select MAP / Load CD from the JMТK window menu.
 - c. You'll be asked to enter a name for map files.
 - d. You'll be notified when it's complete.
 - e. Select MAP / MAP TYPES / RPF MAP BY TILES from the JMТK window menu.
 - f. The background of the map window will turn black.
 - g. Select MAP / MAP Features from the JMТK window menu.
 - h. A window will appear with types of features to load.
 - i. Select the ... next to RPF Maps.

A list of all RPF maps that were on the CD will appear. This window is capable of sorting by double clicking on columns, individual and group selections, and deselecting. Recommend that the list be sorted by NW Locations.
 - j. Highlight or select all the areas of interest then select "ON".

This will cause all the areas selected to show up with a RED X on the map. This is a good check to ensure all the areas of interest have been selected.
 - k. Select APPLY before exiting the map selection windows.
31. MAX Ord Unit of measure: The unit of measure for max ord is given in meters above the weapon elevation. To convert the max ord to meters above mean sea level, the battery/weapon altitude must be added to the displayed max ord. The max ord displayed is the "biggest" max ord value computed for the fire mission.
32. Cannot Restore Database from CCU or UCU to TADPOLE: The TADPOLE does not currently support an external data device that allows it to restore a database recorded on a UCU or CCU workstation. The TADPOLE supports CDROM and Flash Key. It does not support floppy disks or flash cards. Once a database is recorded from the TADPOLE to CDROM, the CDROM can be restored on a UCU, CCU, or another TADPOLE.
33. Don't Recalculate ATACMS BAT Missions: Due to the complexity of ATACMS BAT mission processing, selecting the "recalculate" option sometimes yields unpredictable results. If you want to calculate a new solution for an ATACMS BAT mission, we recommend denying the mission, making appropriate guidance, unit, or target edits, and then initiating a new ATACMS BAT mission on the target.

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34. “Retrying” Failed Command Messages to Launcher Causes Sync Problem: At MLRS Batteries communicating direct with launchers, you may encounter the following problem if you do not have a platoon FDC to provide automatic retry of failed messages. If a command message is not acknowledged by the launcher, and there is no alternate route to the launcher, AFATDS displays a failed transmission alert. If you subsequently re-establish communications with the launcher and resend the failed transmission, this will throw off serialization, so that the launcher will send a “NAK” response to the “retried” message. Rather than resend the failed message, go ahead and send a new Command message. Whatever command message you composed last should still reside in the launcher’s unit data, so it should only be necessary to edit the unit, open the commands window, and send. TIF
6 3 2.033
35. Insure that Subordinate FOs are Entered in AFATDS Comm Table and Current Unit Files: At an AFATDS FSE with subordinate FIST teams that have subordinate FO parties, the FOs must have communications routes and must be established as units in the current situation in order for mission processing and subsequent mission message routing to work properly. If only the FIST teams are established at AFATDS, then all mission messages from AFATDS will stop at the FIST device, and will have to be manually routed by the FIST to the FO. TIF
6 3 2.042
36. In a 3+ Workstation OPFAC, Not All Workstations Get a Complete Database: In a multi-workstation OPFAC, AFATDS is designed to make a “copy” of the OPFAC database that resides on the master workstation, and distribute it to other workstations. As a result, the OPFAC can continue to function even if one of the workstations is lost. In a two workstation OPFAC, a complete copy of the database is recorded on the slave workstation. If there are multiple slave workstations, however, AFATDS does not copy the entire database to each slave. If you are adding workstations to an OPFAC in order to “transfer” the database onto the new workstation, you can do this for only one workstation at a time, i.e. add a slave workstation, then remove the slave workstation, add another slave workstation, etc. TIF
6 3 2.047

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6.0 FIRE DIRECTION TROUBLESHOOTING GUIDE

The following table is designed primarily for echelons that perform cannon technical fire direction. It also contains guidance on multiworkstation operations, communications, and Digital Communications Terminal (DCT) operations.

Troubleshooting Map	
This section provides a number of tables that group problems by operational function. The Troubleshooting Map provides a guide to the correct table. Start troubleshooting here.	
Type of Problem	Go to Table...
Accuracy problems.	Table TS2. Firing Data Troubleshooting.
DCT message problems.	Table TS5. DCT Messaging
Fire missions at intervention not providing desired results.	Table TS1. Technical Fire Direction Troubleshooting.
Communications Troubleshooting	Table TS4. Communications Troubleshooting
Multi-workstation troubleshooting	Table TS3. Multi-Workstation troubleshooting.

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TS1. Technical Fire Direction Troubleshooting	
SYMPTOM	POSSIBLE CAUSE/SOLUTION
No firing data computed: TIME 0.0, DEFLECTION 0, QE -400 on Intervention Cannon Tech Soln Tab	<ul style="list-style-type: none"> • Guidances, FS Attack, System Attack Parameters has your unit ID as the FA Cannon Route To unit / remove your unit from this guidance.
Intervention Attack Options tab range is within ammunition capability but red option for range and ammunition displays.	<ul style="list-style-type: none"> • Duplicate propellant, fuze or shell lot codes stored for your unit/ edit and correct the ammunition inventory.
Intervention Attack Options tab indicates one weapon red for Restricted Unit check.	<ul style="list-style-type: none"> • Same lot letter stored for different propellants in unit's MVV folder/ edit and correct MVV data. • This weapon has mask data stored with a Range To Mask of 0/ edit your unit and correct weapon's mask data. • This weapon has mask data stored with the same value entered for the Left Az and Right Az to the mask/ edit your unit data and correct the weapon's mask data.
Intervention Attack Options tab indicates all weapons red for Response Time Capability check.	<ul style="list-style-type: none"> • Guidances, Miscellaneous, Target Decay Time set to 0 for this target type/ correct target decay time and re-initiate fire mission.
Intervention Attack Options tab indicates first listed weapon red for Appropriate System for Mission Type .	<ul style="list-style-type: none"> • Target at extreme limit of charge capability, recompute with a higher charge. • MET data stored with extreme values for wind direction, speed, temperature or pressure or 0 entered for temperature or pressure.
Copperhead mission Intervention Attack Options tab indicates first listed weapon red for Appropriate System for Mission Type .	<ul style="list-style-type: none"> • No observer assigned to mission or observer has no Laser Code stored in his Detailed folder/ correct observer data and recalculate mission. • Observer cloud height or visibility too limited/ verify observer cloud height and visibility. • MET data stored with extreme values for wind direction, speed, temperature or pressure or 0 entered for temperature or pressure.
Copperhead mission Intervention Attack Options tab indicates all weapons examined, one weapon red for Munitions Capable check.	<ul style="list-style-type: none"> • Edit This Unit, Weapon folder has no weapons selected as Copperhead Capable/ edit your unit data and select the weapons to be considered for Copperhead missions.

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TS1. Technical Fire Direction Troubleshooting	
SYMPTOM	POSSIBLE CAUSE/SOLUTION
Intervention Cannon Tech Soln tab provides data for some but not all guns.	<ul style="list-style-type: none"> Missing weapons are assigned a status other than Ready/ edit your unit and correct the weapon's status.
Adjusting piece was specified but another piece was designated by AFATDS.	<ul style="list-style-type: none"> Adjusting piece is out of action/ edit your unit data and verify piece status. FFE pieces were specified and the adjusting piece specified was not one of them/ recalculate the mission and ensure the adjusting piece is one of the FFE pieces.
Red option, Intervention Attack Options tab indicates red for Meets Mission Cutoff	<ul style="list-style-type: none"> Mission value insufficient/ verify Guidances, Target, High Value Target List and TMM and Mission Prioritization are correct and as desired by the supported FSCC.
Gun-target vectors on AFATDS map originate from a location other than the battery map symbol location.	<ul style="list-style-type: none"> The battery symbol has been dragged to a new location; gun locations remain unchanged to prevent unsafe firing data computation/ verify battery location.
Status window shows GDU's as "Unknown Unit"	<ul style="list-style-type: none"> GDU units have been deleted from the master unit list by the operator. This will correct automatically if AFATDS is restarted.
Deflection for all guns appears incorrect by the same difference on each gun.	<ul style="list-style-type: none"> Az of Lay is incorrect. Ensure AOL for <i>each weapon and Detailed information</i> matches. If you relay on a new azimuth without displacing you must change the AOL for both the displayed range fan (detailed data) and each weapon (weapon data).
TSS filter check failure, Recommendation is to Deny.	<ul style="list-style-type: none"> Target TLE and/or age of report exceed TSS Guidance. To turn this check off: Click Guidances, Target, and TSS. Turn off TSS check by clicking the Check Fire Missions Against TSS.
Initiate Fire Mission window will not allow a selection to be made from a list such as to add an FFE unit. List displays, but when a selection is made, selection is not added to IFM window.	<ul style="list-style-type: none"> Exit and re-start AFATDS

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TS2. Firing Data Troubleshooting	
Problem	Possible Solution
Single piece out of sheaf.	<p>Determine which piece by firing a battery or platoon right or left by piece.</p> <ul style="list-style-type: none"> ❑ Check piece location. <ul style="list-style-type: none"> ➤ Click Units, Edit this Unit. Click Locate Weapons and re-enter piece lay data. ❑ Check piece muzzle velocity data. <ul style="list-style-type: none"> ➤ Click Units, Edit this Unit. Click MVV Data. ❑ Check piece propellant temperature. <ul style="list-style-type: none"> ➤ Click Units, Edit this Unit. Click Weapons.
Pieces group in sheaf, sheaf off target.	<ul style="list-style-type: none"> ❑ Are all non-standard conditions accounted for? <ul style="list-style-type: none"> ➤ Yes, continue to troubleshoot. ➤ No, achieve more accurate database with meteorological and MVV data or register. ❑ Did accuracy decline after reception of a MET;CM? <ul style="list-style-type: none"> ➤ If a registration is in use, was concurrent met procedure carried out properly? ❑ Check piece locations. <ul style="list-style-type: none"> ➤ Click Units, Edit this Unit. Click Locate Weapons and ensure OS locations are correct. ➤ Re-enter lay data and re-compute piece locations. ❑ Check meteorological message data. <ul style="list-style-type: none"> ➤ Click MET, View METCM. Ensure met message is in use. ➤ Ensure the MDP altitude is reasonable. ❑ Check registration data. <ul style="list-style-type: none"> ➤ Are the range and/or deflection correction larger (range correction over 5% of chart range or deflection correction greater than 10 mils)? ➤ Was the registration validated by firing a check round at a surveyed target with another gun? ❑ Check projectile weight. ❑ Check map datum. <ul style="list-style-type: none"> ➤ Is the correct datum assigned to both the observer? Click Units, Edit and select the observer. ➤ Is the correct datum assigned to both the battery/platoon? Click Units, Edit this Unit.

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TS3. Multi-workstation Troubleshooting	
SYMPTOM	POSSIBLE CAUSE/SOLUTION
Slave workstation shuts down on start-up.	<ul style="list-style-type: none"> • Master and slave workstations have same hostname. • Master and slave have same IP address.
Slave station starts as stand-alone workstation	<ul style="list-style-type: none"> • Multi-Workstation OPFAC name different or missing on one or both workstations; exit and restart AFATDS.

TS4. Communications Troubleshooting	
Problem	Possible Causes/Solutions
Comm alert: Subnet reaching saturation level. Subnet <i>net name</i> at <i>number</i> % of queuing capacity.	<p>Number of transmitted messages on a package 11 or JVMF net exceeds the network's ability to transmit.</p> <ul style="list-style-type: none"> ➤ This alert is usually followed by a communications alert indicating: Subnet below saturation level. Subnet <i>net name</i> at <i>number</i> % of queuing capacity. ➤ If problem persists, contact net control. Recommend changing net local transmission load to heavy.
Comm alert: Multi-hop message dropped enroute. A msg bound for the destination could be forwarded by the intermediate station: Intermediate Unit ID: (<i>unit ID</i>) Destination Unit ID: (<i>unit ID</i>)	<ul style="list-style-type: none"> □ A message was transmitted via an indirect route. One of the relaying stations failed to receive an ack on the message. <ul style="list-style-type: none"> ➤ Contact the Intermediate Unit ID to troubleshoot communications.
Comm alert: Received clear data over secure UDP network. Source address: (<i>ip address hostname</i>)	<ul style="list-style-type: none"> □ The station using the IP address in the alert has security set to Clear on their network window and your corresponding network is set to Secure. <ul style="list-style-type: none"> ➤ On the Click the Current Communications Configuration icon and verify the security level on your IP network is correct. ➤ Contact the transmitting station and have that station verify the network security setting. <i>Note data communications transmitted from a secure to a clear network computer are ignored by the AFATDS set to the lower security level. Another network or voice communications is required.</i>

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TS4. Communications Troubleshooting	
Problem	Possible Causes/Solutions
Comm Alert: Communications modem device failure on workstation. Experienced failure (and subsequent reset) of subnet.	<ul style="list-style-type: none"> ❑ SP-TCIM was manually ejected from CCU2 <ul style="list-style-type: none"> ➤ Replace SPTCIM and re-boot the computer. ❑ SP-TCIM suffered hardware failure. <ul style="list-style-type: none"> ➤ Move network to another SP-TCIM: On the Current menu bar, click the Current Comm Configuration button and select Network, Assign Channels. ➤ Replace failed SP-TCIM.
Comm Alert: Transition to alternate route (<i>route name or blank</i>) Destination Unit ID:	<ul style="list-style-type: none"> ❑ Communications failure has resulted in disabling of the current route and transition to an alternate route or to an “off” status if the alternate route is blank in the alert. ❑ On a package 11 or JVMF net or a net using DSVT or DNVT, the destination unit has turned off his communications network or shutdown his AFATDS.
Comm Alert: Re-establish route for unit. Destination Unit ID:	<ul style="list-style-type: none"> ❑ A unit for which the route was disabled, has successfully communicated on that route. AFATDS has turned the route on as a result. No action is required.

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TS5. DCT MESSAGING	
DCT MESSAGES SENT TO AFATDS	
DCT SENDS...	AFATDS GETS...
OBSERVER LOCATION	AFATDS updates existing data: Location Cloud Height Visibility: 0= no change, 1=2000. 2= 4000, 3=7501 Laser Code
ATI	Stores in Suspect Target list if fails TSS, otherwise stores in Inactive Target List or, if HPT, initiates a fire mission.
FLOT	Creates a FLOT named using observer's TACFIRE alias.
PLAN	Creates a TGT icon indication of a received target list; target is stored in the Current Planned Target List. If Fire plan name is a future plan alias, target stores in that plan's Master target list.
DCT MISSIONS SENT TO AFATDS	
DCT MISSION...	AFATDS RESPONSE...
TOT	<ul style="list-style-type: none"> • Mission queues in MORE DATA for TOT • MTO to DCT shows UNITS as number of guns • If mission is less than 10min out, GDU status shows count down timer; if more than 10min, TOT displays in STATUS • READY is not sent to the observer. <p>If the TOT is more than 10 minutes out, the fire commands must be sent by the AFATDS</p>
SMK – Observer selects HC SMK	<ul style="list-style-type: none"> • Mission queues in MORE DATA for Quick Smoke data. • MTO indicates UNITS: (number of guns) • If M825 is fired, 1ST SF: OTHER displays.
REGISTRATION: Must be initiated at AFATDS and DCT receives MTO: - MTO indicates MOE: LOW vice LOW/REG; FO must be notified by freetext.	<ul style="list-style-type: none"> • READY cannot be sent digitally from the DCT. • Changes in VOF are not applied; observer must send a new SUBS ADJ for each change in volume of fire. • Change to TIME and RECORD AS RP, REC AS TI RP are not recognized and result in invalid message alert. • This mission must be done using voice procedures!
HB registration: Must be initiated at AFATDS and DCT receives MTO:	<ul style="list-style-type: none"> • No way to send READY • HB SUB ADJ is not recognized

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TS5. DCT MESSAGING	
DCT MESSAGES SENT TO AFATDS	
DCT SENDS...	AFATDS GETS...
<ul style="list-style-type: none"> - MTO indicates MOE: LOW vice LOW/REG; FO must be notified by freetext. - MTO is normal mission MTO, no orienting data. 	<ul style="list-style-type: none"> • This mission must be done using voice procedures!
QUICK FIRE	<ul style="list-style-type: none"> • If target is not on Current Oncall Target List, AFATDS automatically returns a freetext "(TGT NUMBER) TARGET COULD NOT BE PROCESSED" • If target is on Oncall Target List, WR/FFE mission results.
MINEFIELD MISSION	<ul style="list-style-type: none"> • Must be recalculated and time FUZE and FASCAM density assigned.
FIRE command for AMC mission	<ul style="list-style-type: none"> • Works
COORD ILLUM	<ul style="list-style-type: none"> • Creates two one gun missions • If sent directly to firing battery, MTO for second mission is returned to FO, FO can associate with an empty mission buffer at DCT.
EOM&SURV	<ul style="list-style-type: none"> • RAT stores target in INACTIVE TARGET LIST

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7.0 GDU SIMULTANEOUS MISSION PROCEDURES

Conditions: Given an AFATDS workstation that is powered, with AFATDS started, activated and with the current situation displayed ...

Objective: Process simultaneous adjust fire missions.

Additional Information: This procedure describes steps necessary to process simultaneous adjust fire missions. The procedure assumes that an adjust fire mission is in process when a second adjust fire mission is received.

Warnings:

1. *AFATDS is designed to process missions sequentially to the GDU'S. This procedure causes the AFATDS operator to transmit data for the second mission using the GDU status window's access to fire commands. This will result in previously scheduled commands for the next mission (viewed sequentially) to be transmitted automatically to the GDU'S when the previous mission is ended. For example,*
 - a. *MSN 1 is received and sent to the GDU'S. Gun 1 is adjusting and all GDU'S receive data for this mission.*
 - b. *A second mission is received and determined to be an adjust fire mission with Gun 2 adjusting. The AFATDS operator accepts recommendation and the mission is scheduled automatically to be sent to the GDU'S when the first mission is ended.*
 - c. *To accomplish simultaneous adjustment, the AFATDS operator sends Gun 2 adjust commands to Gun 2 from the Fire Commands window opened from the GDU status window. These commands appear at Gun 2's GDU and Gun 2 fires and responds accordingly from the GDU.*
 - d. *Assume FFE is received for the first mission. The recommendation is accepted for MSN 1 and FFE commands are automatically transmitted to all weapons. All weapons fire and respond via GDU.*
 - e. *Assume EOM is received for MSN 1. The AFATDS sends EOM to all weapons and then automatically transmits the next scheduled mission, MSN 2. This causes Gun 2 to receive the adjust commands again.*
2. *All mission data is transmitted to the GDUs as mission 1 (M1) data. If voice commands supplement GDU fire commands it is recommended that missions be referenced by the last firing data sent. For example, Gun 1 questions fire commands received for HE/VT mission DF 3219, QE 433.*
3. *Based on the warnings above, any time simultaneous missions are conducted, positive control from the FDC should be established. It is recommended that guns sections report the reception of commands in this procedure and these are verified by voice prior to firing. In other words, the gun section announces to the FDC that commands were received and the FDC responds with a command to fire or to ignore that set of commands.*

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Procedure SS9: Process Simultaneous Adjust Fire Missions			
Step	Station	Action	Result/Explanation
1.	Observer	Composes and transmits call for fire.	The call for fire may be transmitted to the battery FDC, an FSCC or the BN FDC AFATDS. That AFATDS may then transmit an order to fire to the battery AFATDS.
<i>If the mission is received via data communications, go to step 3.</i>			
2.	Battery AFATDS	Complete the Initiate Fire Mission window. Click Mission Processing, Initiate Fire Mission. See <i>PROCEDURE FM6. Initiate a Fire Mission at AFATDS.</i>	
3.	Battery AFATDS	Display the mission processing solution.	
a.		Click the IP icon on the Current window tool bar.	This procedure assumes a capable (green or yellow) option is determined. For a complete description of intervention, see Procedure FM7. Examine the Intervention Windows.
b.		Click the Cannon Tech Soln tab.	Firing Commands are displayed.
c.		Click Accept Recommendation.	Fire commands are transmitted to all guns involved in the mission.
4.	Guns	Receive fire commands.	The GDU alarm sounds and the mission data is displayed at the SCA as M1 (mission 1) data. All guns cycle to acknowledge data.
5.	First msn adjusting gun.	Report "Shot" and "RC"	These steps may occur during or after the reception of the second mission at the AFATDS.
<i>NOTE: At this point all guns have data for the first mission. This data is displayed as mission 1 data. In other words, the mission displays as GUN01M1 at gun #1. The adjusting piece displays when ready firing data and pieces to follow display DNL firing data.</i>			
6.	Observer	Receives and stored the MTO.	
7.	Battery AFATDS	Track mission status of GDUs.	Click the GDU Weapon Status icon of the Current menu tool bar. The Weapon Status GDU window displays. The first mission, when highlighted, displays polling status of the GDUs.
8.	Observer	Composes and transmits a second call for fire.	

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Procedure SS9: Process Simultaneous Adjust Fire Missions			
Step	Station	Action	Result/Explanation
<i>If the mission is received via data communications, go to step 10.</i>			
9.	Battery AFATDS	Complete the Initiate Fire Mission window. Click Mission Processing, Initiate Fire Mission. See <i>PROCEDURE FM6. Initiate a Fire Mission at AFATDS.</i>	
10.	Battery AFATDS	Display the mission processing solution for the second mission.	
a.		Click the IP icon on the Current window tool bar.	This procedure assumes a capable (green or yellow) option is determined. For a complete description of intervention, see Procedure FM7. Examine the Intervention Windows.
b.		Click the Cannon Tech Soln tab.	Firing Commands are displayed. AFATDS automatically selects the next available piece for adjustment of the mission.
c.		Click Accept Recommendation.	The second mission displays in the Weapon Status GDU window but is not sent to the GDUs (pending EOM on the first mission.)
11.	Battery AFATDS	Transmit fire commands to the adjusting piece in the second mission.	
a.		On the Weapon Status GDU window, click on the target number for the second mission.	The second mission target data highlights.
b.		Click the Fire Commands button.	The fire commands for the second mission are displayed.
c.		Click the row of data for the adjusting piece.	Select the piece with a WR or AMC method of control. All other pieces display MOC DNL.
d.		Click the Send button.	
12.	Second msn adjusting gun.	Receive fire commands.	The GDU alarm sounds and the mission data is displayed at the SCA as M1 (mission 1) data.

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Procedure SS9: Process Simultaneous Adjust Fire Missions			
Step	Station	Action	Result/Explanation
<p><i>NOTE: At this point all guns are involved in the first mission and the second mission adjusting piece has data for that mission. Status of all concerned are:</i></p> <p><i>AFATDS: Weapons Status GDU displays a polling status for all guns for the first mission and a polling status for the adjusting piece in the second mission.</i></p> <p><i>First Mission Adjusting Piece: displays M1 data for the first mission.</i></p> <p><i>Second Mission Adjusting Piece: displays M1 data for the second mission.</i></p> <p><i>All other guns: display M1 DNL data for the first mission.</i></p>			
13.	<i>When the observer sends subsequent correction for the first mission:</i>		
a.	Battery AFATDS	Click the IP icon on the Current window tool bar.	
b.		Click the Cannon Tech Soln tab.	Firing Commands are displayed.
c.		Click Accept Recommendation.	Firing data for the first mission is transmitted to all guns.
14.	Guns	Receive fire commands.	All guns receive fire commands for the first mission. Adjusting gun reports “Shot” and “RC” when appropriate.
<p><i>NOTE: The adjusting piece for the second mission must cycle through “Shot” and “RC” to allow first mission data to be transmitted.</i></p>			
15.	<i>When observer sends subsequent correction for the second mission:</i>		
a.		Click the IP icon on the Current window tool bar.	This procedure assumes a capable (green or yellow) option is determined. For a complete description of intervention, see Procedure FM7. Examine the Intervention Windows.
b.		Click the Cannon Tech Soln tab.	Firing Commands are displayed.
c.		Click Accept Recommendation.	The second mission displays in the Weapon Status GDU window but is not sent to the GDUs (pending EOM on the first mission.)
d.		On the Weapon Status GDU window, click on the target number for the second mission.	The second mission target data highlights.
e.		Click the Fire Commands button.	The fire commands for the second mission are displayed.

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Procedure SS9: Process Simultaneous Adjust Fire Missions			
Step	Station	Action	Result/Explanation
f.		Click the row of data for the adjusting piece.	Select the piece with a WR or AMC method of control. All other pieces display MOC DNL.
g.		Click the Send button.	
16.	Second msn adjusting gun.	Receive fire commands.	The GDU alarm sounds and the mission data is displayed at the SCA as M1 (mission 1) data.
17.	<i>When observer requests FFE on the first mission:</i>		
a.	Battery AFATDS	Click the IP icon on the Current window tool bar.	
b.		Click the Cannon Tech Soln tab.	Firing Commands are displayed.
c.		Click Accept Recommendation .	Firing data for the first mission is transmitted to all guns. All guns press "Shot" and "RC" when appropriate.
18.	Guns	Receive fire commands.	All guns receive fire commands for the first mission. Adjusting gun reports "Shot" and "RC" when appropriate.
19.	<i>When observer requests FFE for the second mission:</i>		
a.		Click the IP icon on the Current window tool bar.	This procedure assumes a capable (green or yellow) option is determined. For a complete description of intervention, see Procedure FM7. Examine the Intervention Windows.
b.		Click the Cannon Tech Soln tab.	Firing Commands are displayed.
c.		Click Accept Recommendation .	The second mission displays in the Weapon Status GDU window but is not sent to the GDUs (pending EOM on the first mission.)
d.		On the Weapon Status GDU window, click on the target number for the second mission.	The second mission target data highlights.
e.		Click the Fire Commands button.	The fire commands for the second mission are displayed.
f.		Click the row of data for the first piece.	That row highlights.

FINAL

Procedure SS9: Process Simultaneous Adjust Fire Missions			
Step	Station	Action	Result/Explanation
g.		Click the Send button.	
h.		Repeat steps f. and g. above for each remaining piece.	
20.	Guns	Receive fire commands.	Mission data is received for M1 at each gun. Guns report “Shot” and “RC” when appropriate.
21.	<i>When observer requests EOM on the either mission:</i>		
a.	Guns	Receive EOM for M1.	Cycle to acknowledge the EOM.
b.	Battery AFATDS	Weapon Status GDU window clears mission and an MFR is generated.	
		<p><i>If the first mission is ended:</i></p> <p>End of mission is received by all weapons followed by the most recently computed data for the second mission. These commands are automatically transmitted Weapons Status GDU window displays polling.</p> <p><i>If no subsequent correction has been received since the last mission 2 round has been fired, the commands sent to the adjusting piece should be ignored.</i></p>	
		<p><i>If the second mission is ended:</i></p> <p>EOM ends all missions on the GDU. The AFATDS operator must re-display the fire commands for the remaining mission and send these to the guns. This need is indicated on the Weapon Status GDU window by the lack of polling status for the mission.</p>	