

Some units have had problems getting the advanced FA tactical data system (AFATDS) and the initial fire support automation system (IFSAS) to talk digitally. For example, the 3d Infantry Division (Mechanized) Artillery had problems in Kuwait, as discussed in part of the article "Operation Desert Thunder and the Force FA Headquarters" by authors Major Thomas I. Eisiminger, Jr., Lieutenant Colonel James M. Waring and Colonel John A. Yingling that appeared in the January-February 1999 edition.

The following briefly outlines tactics, techniques and procedures (TTP) for digital message traffic between AFATDS-IFSAS. Units can find more comprehensive TTP in the AFATDS-IFSAS stand-

ing operating procedures (SOP) on the Training and Doctrine Command (TRADOC) System Manager for FATDS web page at <http://sill-www.army.mil/TNGCMD/TSMFATDS>.

**Architecture.** The correct configuration for the two systems is to use AFATDS as the higher command, control and communications (C<sup>3</sup>) system and IFSAS as the subordinate C<sup>3</sup> system. The architectural systems setup for AFATDS is listed in Appendix J, *Special Text 6-3++ Advanced Field Artillery Tactical Data System: Tactics, Techniques and Procedures* and is available on the TSM-FATDS web page.

**Software.** IFSAS uses "packaged" software that allows AFATDS to digitally communicate with not just IFSAS, but

also other fire support legacy systems, including the battery computer system (BCS), fire direction system (FDS), light tactical fire direction system (LTACFIRE) and Firefinder radars (Q-36 and Q-37).

The current version of AFATDS software is AFATDS 97. Both AFATDS 97 and Package 10 support the messages essential to execute fire support missions (listed in the figure). As shown in the figure, not all messages are exchangeable between the two systems.

The system's digital interoperability is expanding to include 55 messages with the fielding of AFATDS 98 and Package 11 software. The interoperability notes for AFATDS 98 to Package 11 devices are listed on the TSM-FATDS web site.

Every 15 to 18 months, units receive a new version of AFATDS and package software. By the end of FY 2000, AFATDS units will have AFATDS 98 and those being fielded will receive the system with AFATDS 98. IFSAS units will receive Package 11 via a fielding team visit to train them on the differences between the old and new software by the end of FY 2000.

# Digital Interoperability Between AFATDS and IFSAS

by Major Michael A. Ascura, AC



Message	AFATDS Sends to IFSAS	AFATDS Accepts from IFSAS	Message	AFATDS Sends to IFSAS	AFATDS Accepts from IFSAS
SPRT.BGEOM	Yes	Yes	NNFP.FASCAM	No	Yes
SPRT.DATUM	Yes	No	NNFP.FPTU	Yes	Yes
SPRT.MAP	Yes	No	NNFP.MOD	Yes	No
SPRT.SCPST	Yes	Yes	NNFP.XSCD	Yes	Yes
SPRT.TPAC	Yes	Yes	NNFP.XTGT	Yes	Yes
SPRT.ZONE	Yes	Yes	ATI.AZR	No	Yes
AFU.AMOL	Yes	Yes	ATI.CBTI	Yes	Yes
AFU.UPDATE	No	Yes	ATI.CDR	Yes	No
AFU.ASR	No	Yes	ATI.SHR	No	Yes
AFU.OPSTAT	No	Yes	FSE.NBC1NU	Yes	Yes
AFU.POSTUR	No	Yes	MET.CFL	Yes	No
AFU.SR	No	Yes	MET.COM	Yes	No
FM.OBCO	Yes	Yes	MET.CM	Yes	No
AFU.AMMO	Yes	Yes	MET.CW	No	Yes
AFU.AMSS	Yes	Yes	MET.TA	Yes	No
AFU.MFR	Yes	Yes	SPRT.AMODAT	Yes	Yes
FM.CFF	Yes	Yes	SPRT.EFFDAT	Yes	Yes
FM.FOCMD	Yes	Yes	SPRT.RNGEFF	Yes	Yes
FM.MTO	Yes	Yes	SPRT.TEDE	Yes	No
FM.QF	Yes	Yes	SYS.PTM	Yes	Yes
FM.SUBS	Yes	Yes	SYS.SBT	No	Yes
FM.THMTGT	Yes	Yes			

Fire Support Messages. This table lists the essential messages needed to execute fire support missions and their digital compatibility from AFATDS to IFSAS and vice versa in AFATDS 97/98 and IFSAS Package 10 software.

**System Setup.** IFSAS operators must make AFATDS legal for all message types. This function allows the exchange of various message types with AFATDS. Appendix J lists the message types common to AFATDS and IFSAS and the known problems between the two systems when exchanging digital messages.

**Communications.** IFSAS does not support an AFATDS device type in its subscriber information. To put an AFATDS unit in the IFSAS communication tables, the device type must be entered as “computer.” With this device type, IFSAS “thinks” it is talking to another IFSAS and will process messages to AFATDS. If another device besides “computer” is used, sending messages to AFATDS could result in a failed transmission.

**System Classification.** Both IFSAS and AFATDS must be set to operate on the same system classification. However, if both AFATDS and IFSAS are operating in the unclassified mode, IFSAS still must unclassify each message before sending it to AFATDS. Failure to unclassify an IFSAS message will result in a “communications alert” message in AFATDS.

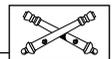
**Map Mod.** To correctly exchange grid coordinate information associated with targets and geometry between AFATDS and IFSAS, both systems must operate on a common map mod. Because AFATDS is the higher C<sup>3</sup> system, the operator follows specific procedures: select “Messages and Alerts” from the tool bar menu and then select “Messages,” “New,” “SPRT Map” and “OK.” This opens an SPRT map window in AFATDS with the map mod already filled in. Then by selecting “Options,” the operator can send the map mod to IFSAS.

**Training.** Units to be fielded AFATDS will receive AFATDS-legacy fire support system interoperability training, (including IFSAS, as relevant) during new equipment training (NET). They will conduct a command post exercise (CPX) to establish and test digital interoperability between AFATDS and its legacy systems. Also, IFSAS operators receive brief instructions on how to set up AFATDS as a digital device in IFSAS.

**Conclusion.** Appendix J is a valuable reference for establishing digital interoperability between AFATDS and IFSAS. The appendix not only lists message interoperability, but also describes common procedures for processing fire mis-

sions. Units can use the appendix to develop SOPs for establishing AFATDS-IFSAS digital traffic.

The TSM-FATDS at the FA School stands ready to help units with any of their AFATDS challenges; call DSN 639-6838 or 6839 or commercial (580) 442-6838 or 6839.



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