Application Note

Flash Upgrading the CiM-550 Satellite Modems

Flash Upgrade Overview

Many Comtech EF Data modems use "flash memory" internally, eliminating the need for physically replacing firmware. The advantages of using flash are many, but perhaps the greatest benefit is realized by not having to disassemble the modems to replace an integrated circuit. New firmware can simply be uploaded to the units from an external PC.

The CiM family of modems have base modem firmware (M&C) and CiM module firmware.

IMPORTANT

> *Performing a base modem M&C flash upgrade erases the non-volatile RAM, which is where the modem's configuration is stored. Users must re-enter the desired configuration parameters.*

Note: While the M&C and CiM module firmware downloads are independent processes, the modem may require the latest firmware releases for <u>both</u> the M&C and CiM module for proper functionality.

Flash updating firmware is a simple process, and users can now obtain upgrades by any of these convenient means:

▸ Download from the Comtech EF Data website (http://www.comtechefdata.com)
▸ Download from the Comtech EF data FTP Site (ftp://ftp.comtechefdata.com)
▸ Contact CiM Field Support for downloading information (cimfss@comtechefdata.com)
▸ Request as E-mail attachments
▸ Request shipment on diskettes or CD-ROM.

The M&C upgrade can be performed without opening the unit, by connecting the modem to the serial port of a computer and executing a flash uploader software program. The cable to connect the PC to the modem is the same as is used for normal EIA-232 remote control, and comprises three wires connected between two 9-pin "D" type female connectors. Ensure this cable is connected and working properly before proceeding with an M&C or BULK firmware flash upgrade.

The CiM module firmware is upgraded by using an FTP utility to transfer the flash files to the modem. The cable to connect the PC to the modem is a standard 8 pin category 5 Ethernet cable. An Ethernet switch, hub or crossover cable is required to facilitate proper connectivity. Ensure this connection is working properly before proceeding with a CiM module firmware flash upgrade.

WARNING

> *The Remote Control port EIA-232 lines used for Flash upgrading are also connected to the Primary 25-pin data connector (P3B), and are used when 1:N Redundancy Switch is connected. Please ensure that NOTHING is connected to P3B pins 4, 21 and 22 – if these pins are used, the EIA-232 remote control port will not function, and Flash upgrading will be impossible.*

Downloading Flash Upgrades from the Web

Base Modem (M&C or BULK Firmware)

The latest firmware releases and a free software utility are available on the Comtech EF Data web site (http://www.comtechefdata.com). This utility is designed to run under Windows 95/98 or Windows NT/2000/XP and provides all of the support required to perform a Comtech EF Data firmware reflash. If web downloading is not available or practical, contact the Customer Support department to obtain the firmware via an alternate method.

The downloadable firmware files are provided in both .zip or self extracting .exe formats. If your firewall does not permit downloading an .exe file, try the .zip file instead. The downloadable file contents are identical, usually comprising an uploader program, a help file, and a flashable data file.

How to Download Base Modem M&C Firmware Flash Upgrade Files

Step	Procedure
1	Create a new folder on the PC. This folder will be the destination folder for any flash upgrade files downloaded.
2	On the Comtech EF Data web site (http://www.comtechefdata.com/), click the **"downloads"** link.
3	Click the **"flash upgrades"** link for detailed downloading instructions. There are two primary instruction sheets, one for the base M&C/BULK firmware and one for the CiM-550 and CiM-300L IP module firmware. The instruction sheet displayed will be for the M&C/BULK firmware.
4	Click the **"flash firmware data files"** link (located at the bottom of the instruction page). The flash firmware data files are organized by product.
5	Click the product type.
6	Identify and download the latest base modem M&C firmware file to the destination folder on the PC.

How to Perform a Flash Upgrade for Base Modem M&C Firmware

Included in the M&C download is an uploader software utility program. Full online help is provided with this uploader program. However, if you experience a problem, or have a question, contact Comtech EF Data Network Customer Support for assistance.

Step	Procedure
1	On the PC, double-click the *.exe* or *.zip* flash upgrade file to uncompress its contents.
2	Identify and execute the uploader program.
3	Follow the instructions presented on the screen to select a firmware file and initiate the upload.

Following a successful upload process, the modem will automatically restart, running the new version of the firmware.

CiM IP Module Firmware

Perform the CiM IP Module upgrade by using an FTP (File Transfer Protocol) utility program.

The latest firmware releases are available on the Comtech EF Data web site (http://www.comtechefdata.com). An FTP utility is required to perform a Comtech EF Data firmware reflash. If web downloading is not available or practical, contact the Network Customer Support department (cimfss@comtechefdata.com) to obtain the firmware via an alternate method.

The downloadable firmware files are provided in both .zip or self extracting .exe formats. If your firewall does not permit downloading an .exe file, try the .zip file instead. The downloadable file contents are identical, usually comprised of several flashable data files.

How to Download CiM IP Module Firmware

Step	Procedure
1	Create a new folder on the PC. This folder will be the destination folder for any flash upgrade files downloaded.
2	On the Comtech EF Data web site (http://www.comtechefdata.com/), click the **"downloads"** link.
3	Click the **"flash upgrades"** link for detailed downloading instructions. There are two primary instruction sheets: One for the base M&C/BULK firmware and one for the CiM-550 and CiM-300L IP module firmware. The instruction sheet displayed will be for the M&C/BULK firmware. Click on the link for the CiM module to display the CiM firmware upgrade procedure.
4	Click the **"flash firmware data files"** link (located at the bottom of the instruction page). The flash firmware data files are organized by product.
5	Click the product type (CiM-550 or CiM-300L).
6	Identify and download the latest IP module firmware file to the destination folder on the PC.

How to Perform a Flash Upgrade for the CiM IP Module

Step	Procedure
1	On the PC, double-click the *.exe* or *.zip* flash upgrade file to uncompress its contents. Ensure that the following unzipped files are located in the directory:

- ▶ fw9781-1x.mpp, where "x" is the version number (FPGA).
- ▶ fw9630-1x.mpp, where "x" is the version number (Application).
- ▶ fw9630-2x.mib, where "x" is the version number (CIMController mib).
- ▶ fw9630-3x.mib, where "x" is the version number (CiM550.mib).
- ▶ fw9630-4x.mib, where "x" is the version number (CIM300L.mib).
- ▶ fw9630-5x.mib, where "x" is the version number (CIM550Traps.mib).
- ▶ fw9630-6x.mib, where "x" is the version number (CIM300Ltraps.mib).

Notes on .mib files: The .mib files are only needed when using SNMP operation with a customer-supplied MIB browser. The .mib files are compiled on a MIB Browser (CiM Controller mib must be compiled first, refer to compiling instructions provided with the MIB Browser that you are using).

- ▶ The CIMController.mib (fw9630-2x.mib) file is required for proper SNMP operation of both the CiM-550 and CiM-300L.
- ▶ The CiM550.mib (fw9630-3x.mib) file is required if you are using CiM-550 modems.
- ▶ The CiM300L.mib (fw9630-4x.mib) file is required required if you are using CiM300L modems.
- ▶ The CIM550Traps.mib (fw9630-5x.mib) is required if you are only using the CiM-550 and using SNMP v1 traps.
- ▶ The CIM300LTraps.mib (fw9630-6x.mib) is required if you are only using the CiM-300L and using SNMP v1 traps.
- ▶ The CIM550Traps.mib and the CIM300LTraps.mib are <u>not required</u> if you are using SNMP v2 traps.

Step	Procedure
2	Connect the Client PC to the CiM Modem via an Ethernet Hub, Switch, or Ethernet crossover cable. Verify the connection by issuing a "ping" command to the CiM.
3	Initiate an FTP session with the CiM by typing "ftp xxx.xxx.xxx.xxx" where "xxx.xxx.xxx.xxx" is the IP address of the CiM. Enter your admin user name and password to complete the login.
4	Verify the FTP transfer is binary by typing "bin".
5	Type "prompt" then type "hash" to facilitate the transfer process.
6	Type "mput *.mpp" to begin the file transfers

Note: This will load the Application fw9630-1x.mpp and the FPGA fw9781-1x.mpp files.

Step	Procedure
7	After verifying a successful file transfer, terminate the FTP transfer by typing "by".
8	Reboot the CiM. Verify the new software versions are booting by observing the following messages on the terminal screen:

"<u>Booting flash image fwXXXX-YY, version Z.Z.Z (Appl #2)</u>"   where XXXX-YY is the firmware number/revision and Z.Z.Z is the version number.

"Programming FPGA using image UART (FPGA #2)… Done"

If you experience a problem, or have a question, contact Comtech EF Data Network Customer Support for assistance:

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