

## I. Important Considerations Before Proceeding



- 1) Before attempting any Ethernet FTP upload, read this important section about conditional firmware update requirements.
- 2) Make sure to operate the CDM-760 with its latest available firmware. If your modem is running an obsolete firmware version, these restrictions apply as to how you may proceed with the firmware update process:

FW UPDATE PATH	FW UPDATE PROCESS USES...	NEXT FW GATEWAY YOU MUST UPDATE TO BEFORE UPDATING TO A LATER FW
1.1.1	FTP CLIENT (Filezilla)	1.2.1
From 1.2.1 to 1.3.1	FTP PUT F0020627.TAR	1.3.1
From 1.3.1 to CURRENT	FTP PUT F0020627.ZIP  -OR-  UPLOAD ZIPFILE USING THE CDM-760 HTTP (WEB SERVER) INTERFACE ADMIN   UPGRADE PAGE	CURRENT



See Appendix A. **OBSOLETE FIRMWARE FTP UPDATE PROCEDURES** in the CDM-760 **INSTALLATION AND OPERATION MANUAL** for the FTP upload procedure you must follow in order to update your obsolete modem firmware to the current available firmware.

## II. About Firmware File Acquisition and Modem Update

The CDM-760 Advanced High Speed Trunking Modem is factory-shipped with its latest version of operating firmware. If you need to update the modem firmware, you may download the firmware update archive file from the Comtech EF Data web site ([www.comtechefdata.com](http://www.comtechefdata.com)). You may also receive the file via e-mail from Comtech EF Data Product Support.

**About Firmware Numbers, File Versions, and Formats:** The Comtech EF Data web site catalogues its firmware update files by product type (e.g., router, modem, etc.), the specific model, and optional hardware configurations.

The CDM-760 firmware download hyperlink appears as **F0020627x\_Vyyy**, where 'x' is the revision letter, and "yyy" is the firmware version (e.g., V141 = Version 1.4.1).

**About File Archive Formats:** Comtech EF Data provides its downloadable files in two compressed archive formats: \*.exe (self-extracting) and \*.zip (compressed).

Some firewalls do not allow the download of self-extracting \*.exe files. Download the \*.zip file instead, and extract the firmware files from that archive file. Use a file archiving and compression application such as PKZIP for Windows, WinZip, or ZipCentral for this task. (PKZIP for DOS is not supported due to file naming conventions.) **Comtech EF Data does not provide this utility program.**

For detailed information on handling archived files, refer to your utility program Help documentation.



**The naming and file format of the firmware files for Firmware Versions 1.2.1 and later differ from the naming and file format of the firmware files provided for Firmware Version 1.1.1!**

See Appendix A. **OBSOLETE FIRMWARE FTP UPDATE PROCEDURES** in your user manual for the instructions for performing Vers. 1.1.1 through 1.3.1 firmware updates.

### III. Prerequisites for the FW Ver. 1.4.1 Ethernet FTP Upload Procedure



If you proceed with the CDM-760 Ethernet FTP Upload Procedure, this guide assumes that:

- Your CDM-760 is connected to a user-supplied, Windows-based PC running the latest version of Java, and:
  - The PC Ethernet port is connected to the CDM-760 rear panel J4 | MGMT RJ-45 port (alternately, if the optional High-Speed Packet Processor is installed and enabled, the P0 | MGMT RJ-45 port) with a user-supplied hub, switch, or direct Ethernet cable connection.
  - The PC is running a compatible web browser (for operation of the HTTP Interface).
  - The PC serial port is connected to the CDM-760 rear panel J3 | REMOTE serial port with a standard user serial cable.
  - The PC is running a terminal emulation program (for operation of the CDM-760 Serial Remote Control Interface).
- You have noted the CDM-760 Ethernet Management IP Address using either the CDM-760 Front Panel or the Serial Remote Control Interface. You may also use the HTTP Interface Admin | Access page to review and reconfigure this IP Address as needed.
- You have downloaded (or otherwise received from Comtech EF Data) the latest available firmware update, and you have extracted the firmware files into an accessible temporary folder (e.g., C:\CDM760) on the User PC.
- You have configured modem remote control for “Ethernet” or “Ser+Ethernet” – confirm by viewing the Front Panel SELECT: Configuration → Remote screen:

```
Remote Control:Ser+Ethernet
Inband:Disable          (◆)
```

See **Chapter 4. UPDATING FIRMWARE** in your user manual for further information about the required prerequisites and preparations for performing a Version 1.4.1 firmware update.

## IV. Use Windows Command-Line to Perform the Ethernet FTP Upload Procedure



Typical for all tasks that follow – type the command without quotes, and then press Enter to execute.

### Do these steps:

1. Use Command-line to send a “PING” command to confirm proper communication between the User PC and the CDM-760:
  - Type “ping xxx.xxx.xxx.xxx” at the Command-line prompt (where ‘xxx.xxx.xxx.xxx’ is the CDM-760 Ethernet Management IP Address). The response should confirm whether the PC is properly connected to and communicating with the modem.
2. Make note of the *active* firmware image that the CDM-760 is running at present:
  - From the CDM-760 Front Panel, use the arrow keys to view the **SELECT: Utility → Firmware** screen. The top line of this screen displays the running active image as “ActiveImage:1” or “ActiveImage:2”.

The FTP upload procedure will overwrite the *standby* image.

3. Use Command-line to transfer (FTP) the files from the User PC to the CDM-760:
  - Make sure that you are active in the proper working folder (directory) that was already created for this task – if not, type “cd CDM760”.
  - Type “ftp xxx.xxx.xxx.xxx” (where ‘xxx.xxx.xxx.xxx’ is the CDM-760 Ethernet Management IP Address).
  - If Command-line prompts you for a user name, one is not required. Press **Enter** to continue.
  - The Command-line prompt changes to “ftp>”. Type “put F0020627.zip F0020627.zip” at the prompt (without quotes) to begin the file transfer.



See **Appendix A. OBSOLETE FIRMWARE FTP UPDATE PROCEDURES** for instructions on updating CDM-760 modems running FW Vers. 1.1.1 through 1.3.1.

The file transfer process takes several minutes – **do not power off the PC or modem during this time**. As the upgrade process continues, the front panel displays:

```
Programming ModemApp
XXX% Complete
```

**Loading FPGA XX of XX  
XXX% Complete**

- Once the file transfers, Command-line displays the upload result, similar to:

```
200 Port command okay
150 Opening data connection for STOR (192.168.1.1,-9944)
226 File received OK - XXXXXXXX bytes in XX.XXX sec
001 Flash programming Successful!!
ftp: XXXXXXXX bytes sent in XX.XXSeconds XXX.XXXKbytes/sec.
```

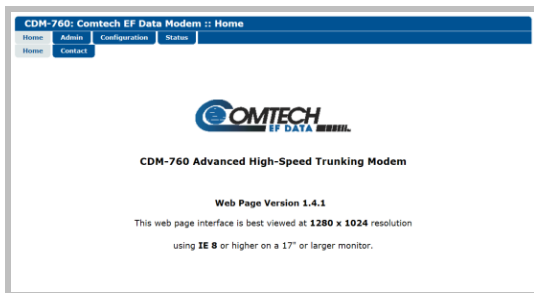
- Type "bye" to terminate the FTP session, and then close the Command-line window.

4. Use one of these methods to verify that the PC-to-Modem FTP file transfer was successful:

- Use the CDM-760 Front Panel** – After reboot, confirm that the Modem Firmware Version that displays on the CDM-760 Front Panel VFD top-level screen matches the firmware version just loaded.

You may also review the **SELECT: Utility → Firmware → Info → Image#1** and **→ Image#2** screens for detailed firmware information.

- Use the HTTP Interface** – Review the firmware version on the Home page, or the **Image 1** and **Image 2** contents on the **Status | Firmware** page:



The screenshot shows the 'Modem Firmware Information' page. It contains a table with columns for component name, version number, and date. The table is divided into sections for 'Boot Firmware' and 'Firmware Image #1'.

Boot Firmware			
Component	Version	Build	Date
Boot	FW-0020640*	###	MM/DD/YY
AppLoader	FW-0020629*	###	MM/DD/YY
Firmware Image #1			
Bulk	FW-0020627*	###	MM/DD/YY
App	FW-0020628*	###	MM/DD/YY
Glue FPGA	FW-0020638*	###	MM/DD/YY
Terr FPGA	FW-0020639*	###	MM/DD/YY
MEO Terr FPGA	FW-0020694*	###	MM/DD/YY
PP Terr FPGA	FW-0020718*	###	MM/DD/YY
Framer FPGA	FW-0020637*	###	MM/DD/YY
MEO Framer FPGA	FW-0020693*	###	MM/DD/YY
PP Framer FPGA	FW-0020717*	###	MM/DD/YY
Mod FPGA	FW-0020529*	###	MM/DD/YY
Demod FPGA	FW-0020531*	###	MM/DD/YY
S2 Decoder FPGA	FW-0020532*	###	MM/DD/YY

- Use the Serial Remote Control Interface** – Execute one of the following queries:
  - Abbreviated – **<0/SWR?** (*displays firmware versions*)
  - Detailed – **<0/FRW?1** (for Image 1) or **<0/FRW?2** (for Image 2) (*displays complete firmware load information*)

## V. Use the HTTP Interface to Perform the Ethernet FTP Upload Procedure

For Firmware Version V1.4.1 and later, the Administrator may use the **Admin | Upgrade** page to manage the CDM-760 Firmware Upgrade process:

The screenshot shows the CDM-760 web interface. At the top, there is a navigation bar with tabs for Home, Admin, Configuration, and Status. Below this, there are buttons for Access, SNMP, Upgrade, and FAST. The main content area is titled "Firmware Upgrade" and contains an 8-step procedure for upgrading the firmware. Below the procedure is a "Firmware Image Config" section with a table showing the current status of the ReFLASH, Active Image, and Next Reboot Image, along with buttons to set and reboot the modem.

Firmware Image Config	
ReFLASH Status:	None
Active Image:	1
Next Reboot Image:	1

Do the steps displayed in the *Firmware Upgrade* section of this page to transfer the extracted firmware update image ZIP file (available from [www.comtechefdata.com](http://www.comtechefdata.com) or Comtech EF Data Product Support) from the User PC to the modem's Flash memory.

Note that Steps 6 through 8 prompt you to use the *Firmware Image Config* section of this page to finalize the process.

## VI. Select the Updated Firmware for Modem Operation

Do these steps:

1. Use the CDM-760 Front Panel to make note of the current Active Image on the **SELECT: Utility** → **Firmware** screen:

```
Firmware Images: ActiveImage: 2
                  Info      Select      (◀ ▶)
```

Then, on the bottom line, use the ◀▶ arrow keys to select **Select**. Press **ENTER** to continue:

```
Current Active Image is #2
Next reboot, will use Image: #1 (◄)
```

- In order to select the Image that was just updated to be 'active' the next time you reboot the modem, you must set that firmware image as the Current Active Image. Use the ▲ ▼ arrow keys to select **1** or **2**. (In this example, Image #1 was just updated so, therefore, **1** is your required choice.) Press **ENTER**.

Alternately, click **[Set Image1]** or **[SetImage2]** in the *Firmware Image Config* section of the HTTP Interface **Admin | Upgrade** page:



- The modem next verifies the checksums of all the files that are being updated:

**Calculating checksums on selected Image.  
Please Wait**

This process takes several minutes. **Do not turn off the modem during this time.** When the process is complete, this message displays:

**Selected Image has been written.  
Reboot Modem or <ENTER> to Continue.**

Press **ENTER** to continue using the modem, or reboot the modem so that, once operations resumes, the modem is running the Current Active (Firmware) Image.

## VII. Reboot the Modem

Reboot the CDM-760 using one of the following methods:

- For a hard reboot* – Use the rear panel ON/OFF switch (or otherwise disconnect the modem power source), and then reconnect the modem power.
- For a soft reboot* – Click **[Reboot Modem]** in the *Firmware Image Config* section of the HTTP Interface **Admin | Upgrade** page.

Note that, if booting into a new image *and* the Top Card Application has been changed, an additional step occurs as the CDM-760 downloads to a different flash memory. This additional upload takes approximately two minutes.

Once the modem reboots, the web browser prompts you to re-enter the User Name and Password in order to resume use of the HTTP Interface.

***The CDM-760 is now operating with its latest firmware. The firmware update process is now complete.***