

## I. Introduction: Firmware Files, Naming, Versions, and Formats



- 1) **MAKE SURE TO OPERATE THE CDM-570A/L WITH ITS LATEST AVAILABLE FIRMWARE.**
- 2) **ETHERNET IP FUNCTIONALITY IS AVAILABLE ONLY WHEN THE CDM-570A/L IS EQUIPPED WITH THE OPTIONAL IP PACKET PROCESSOR.**

The CDM-570A/L Satellite Modem is factory-shipped with its latest version of operating firmware. If you need to update the modem firmware, you may download the update from the Comtech EF Data Web site ([www.comtechefdata.com](http://www.comtechefdata.com)). You may also receive the firmware update archive file via e-mail from Comtech EF Data Product Support.

You may perform the firmware update, without opening the CDM-570A/L, remotely over satellite (when the unit is equipped with the optional IP Packet Processor), or by directly connecting a user-supplied Microsoft Windows-based PC to the CDM-570A/L 'M&C 100' 10/100 Ethernet port (for units without the optional IP Packet Processor) or the 'Traffic 100' 10/100 Ethernet port (for units equipped with the optional IP Packet Processor).

Do these steps:

- Download the firmware update archive file via the Internet, or acquire the file from Comtech EF Data Product Support, and transfer the files to the User PC.
- Use Windows Command-line to transfer, via File Transfer Protocol (FTP), the extracted firmware files from the User PC to the CDM-570A/L standby firmware image.
- Use the CDM-570A/L front panel or the CDM-570A HTTP Interface to configure the modem to operate using the updated firmware image.

To verify the correct firmware number, see **Step 1** in the next section of this guide. The firmware download files are available from Comtech EF Data in two archive file formats: **\*.exe** (self-extracting) and **\*.zip** (compressed). Some firewalls will not allow downloading of \*.exe files; in this case, download the \*.zip file instead. If applicable, one version prior to the current release is also available for download.



**For additional help with "zipped" file types, refer to the help files provided with the "PKZIP for Windows", "WinZip", or "ZipCentral" file archiving programs. Comtech EF Data does not support "PKZIP for DOS" due to file naming conventions.**

## II. Getting Started: Prepare for the Firmware Download



If you have already completed this procedure using CEFD document “Re-Flashing Your Comtech EF Data Product” (CEFD P/N FLG-FLASHINTRO\_rx.pdf, where ‘x’ is the document revision number), continue to Section III. Downloading and Extracting the Firmware Update.

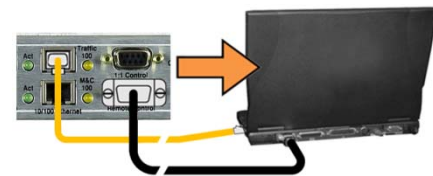
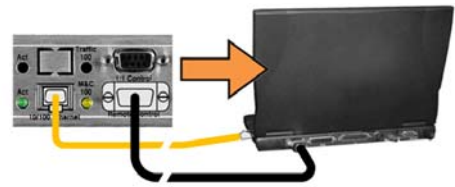
- 1) First, identify the CDM-570A/L firmware (number/revision letter/version number) and the assigned Ethernet Traffic IP Address.

User-supplied items needed:

- A Microsoft Windows-based PC, equipped with available serial and Ethernet ports; a compatible Web browser (e.g., Internet Explorer); and a terminal emulator program (e.g., Tera Term or HyperTerminal).
- A 9-pin serial cable and a standard CAT5 Ethernet cable to connect the CDM-570A/L to the User PC.

- A. Use the 9-pin serial cable to connect the CDM-570A/L ‘Remote Control’ port to a serial port on the User PC.

Use an Ethernet hub, switch, or a direct CAT5 Ethernet cable connection to connect the User PC to the CDM-570A/L ‘M&C 100’ 10/100 Ethernet port (for units without the optional IP Packet Processor) or the ‘Traffic 100’ 10/100 Ethernet port (for units equipped with the optional IP Packet Processor).



- B. On the PC – Open the terminal emulator program.



Refer to your terminal emulator program HELP feature or user guide for operating and configuration instructions.

Configure the utility program serial port communication and terminal display operation:

- 38400 bps (Baud Rate)
- 8 Data Bits
- 1 Stop Bit
- Parity=NO
- Port Flow Control=NONE
- Display New line Rx/Tx: CR
- Local Echo=ON

- C. On the CDM-570A/L – Turn on/connect the power source.



(LEFT) Standard CDM-570A/L AC Unit  
(RIGHT) Optional CDM-570A/L -48V DC Unit

- D. Identify the firmware information and Ethernet Traffic (M&C) IP Address using one of the following methods:



- Chapter 6. FRONT PANEL OPERATION
- Chapter 7.5 HTTP (Web Server) INTERFACE
- Chapter 8. SERIAL-BASED REMOTE PRODUCT MANAGEMENT

Using the CDM-570A/L Front Panel menus:

- **Base Modem Firmware Info** – Use the **SELECT: UTIL → Firmware → Info → Image#1** or **Image#2 → Bulk** menu branches, as shown in this example:

```
Bulk#1 :                MM/DD/YY
FW-0020683*           #.#.#
```

- **IP Packet Processor Firmware Info** – Use the **SELECT: UTIL → Firmware → Info → PaP** menu branches, as shown in this example:

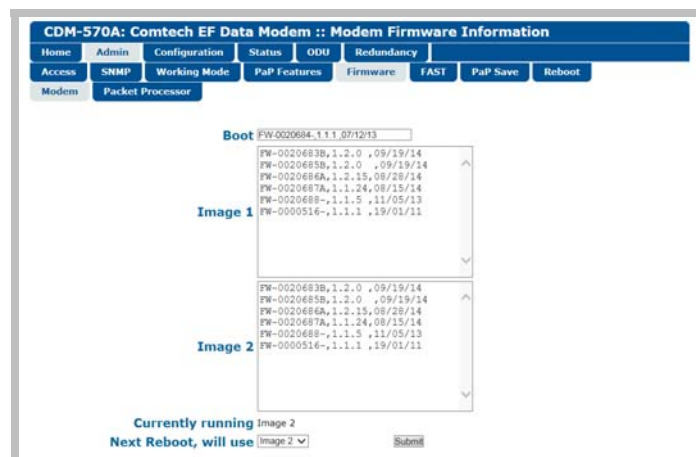
```
PaP :                MM/DD/YY
FW-0020781*         #.#.#
```

- **Ethernet IP Address** – Use the **CONFIG: Rem → Ethernet → Address** menu branch, as shown in this example:

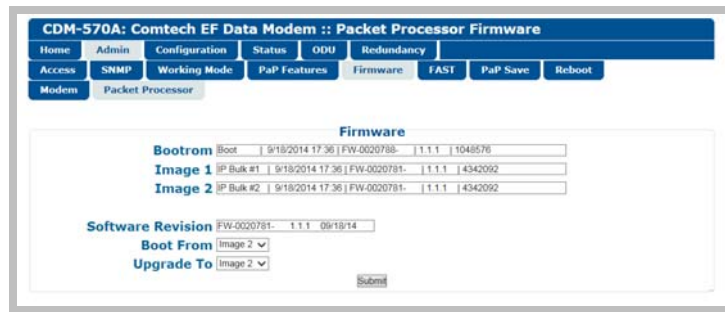
```
Ether IP Address/Range :
192.168.001.011/24 ◀ ▶,▲▼
```

Using the CDM-570A HTTP Interface (via the User PC Web Browser – this assumes that you have already noted the Traffic/Management IP Address, which was previously required to open the CDM-570A HTTP Interface):

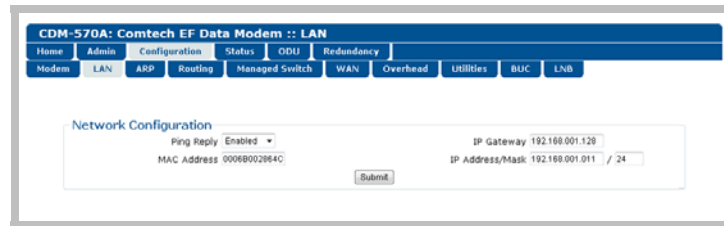
- **Base Modem Firmware Info** – Use the ‘Admin | Firmware | Modem’ page, as shown in this example:



- **IP Packet Processor Firmware Info** – Use the ‘Admin | Firmware | Packet Processor’ page, as shown in this example:



- **Ethernet IP Address** – Use the 'Configuration | LAN' page to view the IP Address/Mask, as shown in this example:



Using the CDM-570A/L Serial Remote Interface (via the User PC / terminal emulator program):

- **Firmware Info** – Use the <O/SWR? (condensed) or <O/FRW? (detailed) remote query.
- **Ethernet Traffic IP Address** – Use the <O/IPA? remote query.

2) Next, create a temporary folder (subdirectory) on the User PC for the firmware archive download.

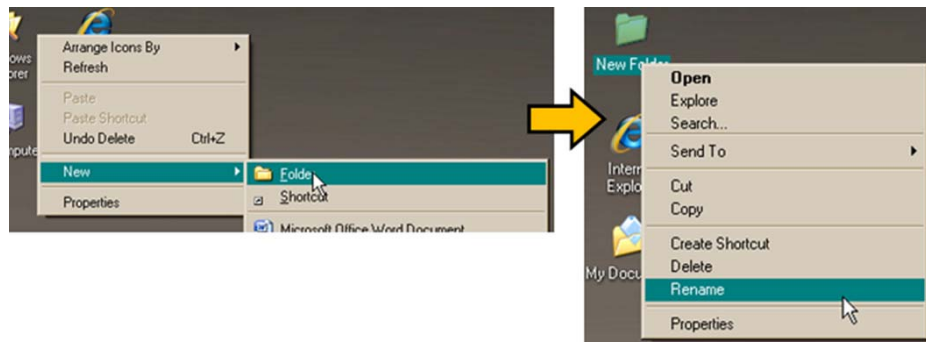


- Drive letter "c:" is used in these examples. Any valid, writable drive letter can be used.
- Typical for all tasks: Type the command without quotes, and then press Enter to execute.

There are several ways to create a temporary folder on a Windows-based PC:

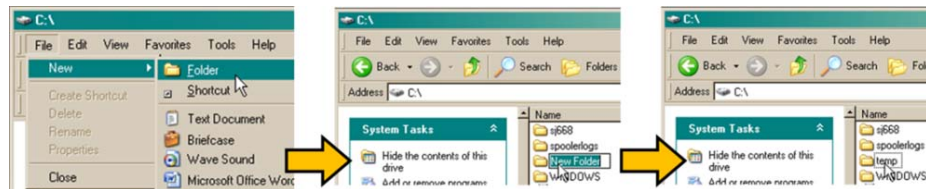
#### A. Use the Windows Desktop to create and rename the temporary folder.

- Right-click anywhere on the desktop to open the popup submenu, and then select **New > Folder** to create a temporary folder on the desktop.
- Right-click on the new folder and then select "Rename" from the popup submenu. Rename this folder to "temp" or some other convenient, unused name.



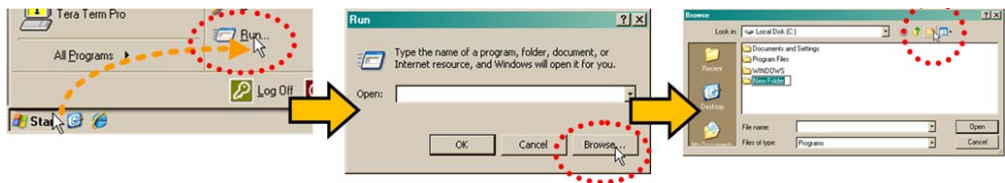
**B. Use Windows Explorer to create and rename the temporary folder.**

- Select **File > New > Folder** to create a temporary folder. This creates the new folder in the active folder.
- Right-click the **“New Folder”** folder name, and then rename this folder to **“temp”** or some other convenient, unused name:



**C. Use the ‘Run’ and ‘Browse’ windows to create and rename the temporary folder.**

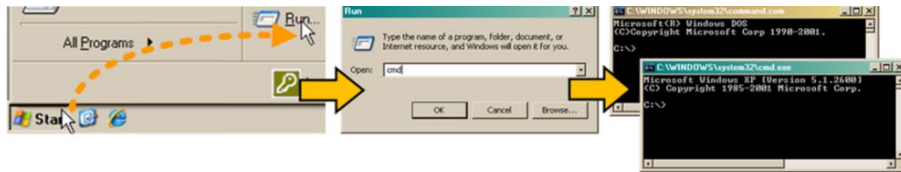
- Select [Start] on the Windows taskbar, and then click the Run... icon. This opens the ‘Run’ window.
- Click [Browse] in the ‘Run’ window. This opens the ‘Browse’ window.
- Click the Create New Folder icon in the ‘Browse’ window. This creates the new folder.
- Right-click the **“New Folder”** folder name, and then rename this folder to **“temp”** or some other convenient, unused name:



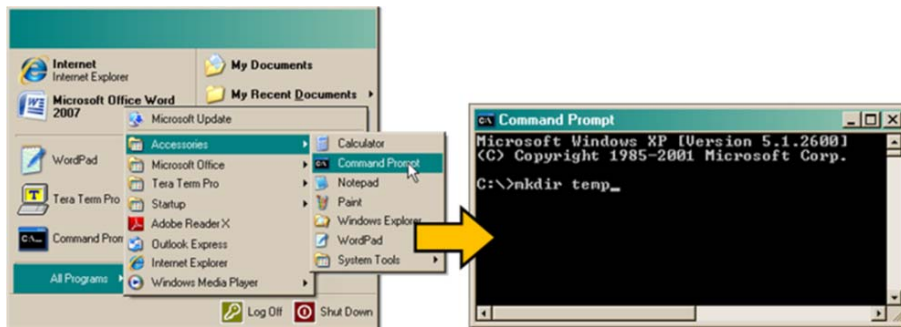
**D. Use Windows Command-line to create the temporary folder.**

- First, click **[Start]** on the Windows taskbar, and then click the **Run...** icon (or, depending on Windows OS versions prior to Windows 95, click the **MS-DOS Prompt** icon from the **Main Menu**).
- Next, open a **Command-line window...**

- For Windows 95 or Windows 98, type “**command**” (or, for any Windows OS versions later than Windows 98, type “**cmd**” or “**command**”):



- Alternately, from [Start], select **All Programs > Accessories > Command Prompt**.
- Finally, from the Command-line prompt (c:\>), type “**mkdir temp**” or “**md temp**” (mkdir and md stand for **make directory**), and then click [OK]:



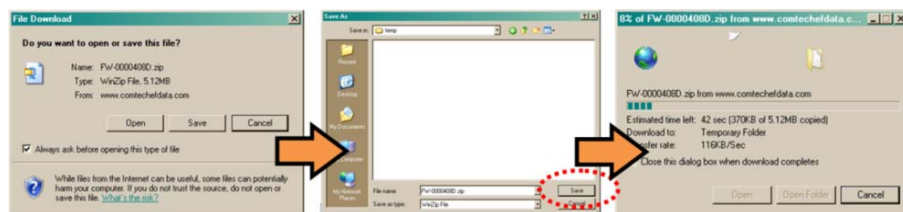
There should now be a "temp" folder created and available for placement of the firmware file download.

### III. Download and Extract the Firmware Update



If you have already completed this procedure using CEFD document “Re-Flashing Your Comtech EF Data Product” (CEFD P/N FLG-FLASHINTRO\_rx.pdf, where ‘x’ is the document revision number), continue to Section IV. Performing the Ethernet FTP Upload Procedure.

- 1) First, download the firmware update file from the Comtech EF Data Web site:
  - A. Go online to [www.comtechefdata.com](http://www.comtechefdata.com).
  - B. On the **Main** page – under Support Information or the Support tab, select the **Software Downloads** hyperlink.
  - C. On the **Software Downloads** page – click **Download Flash and Software Update Files**.
  - D. On the **Flash & Software Update Files** page – select the **(Select a Product Line) Satellite Modems** hyperlink.
  - E. On the **Satellite Modems** product page – select the **CDM-570A & CDM-570AL** products hyperlink.
  - F. Select the appropriate firmware archive EXE or ZIP file download hyperlink.
  - G. Download the archive file to the temporary folder.
    - Once the EXE or ZIP hyperlink is selected, the ‘**File Download**’ window opens and prompts selection of **[Open]** or **[Save]**:
      - Click **[Open]** to turn over file extraction to the user-supplied utility program. Be sure to extract the firmware files to the “**temp**” folder created earlier.
      - Click **[Save]** to open the ‘**Save As**’ window. Be sure to select and **[Save]** the archive \*.exe or \*.zip file to the “**temp**” folder created earlier.
      - Otherwise, click **[Cancel]** to quit and exit the file download process.



- 2) Next, extract the firmware files from the archive file.
  - (If not already done with File Download > [Open]) Extract the firmware files from the downloaded \*.exe or \*.zip archive file with the user-supplied utility program:
    - Double-click on the archive file name, and then follow the prompts provided by the user-supplied utility program. Extract, at a minimum, two files:

For the Base Modem firmware update (where '\*' is the revision letter and '#.#.#' is the firmware version number):

- **FW-0020683\*\_#.#.#.bin** – the Firmware Bulk image file, and
- **CDM-570A\_FW-0020683\*\_ReleaseNotes\_v#.#.#.pdf** – the Firmware Release Notes PDF file.

For the IP Packet Processor firmware update (where '\*' is the revision letter and '#\_#\_#' is the firmware version number):

Without 3XDES – **FW-0020781\*\_CDM-570A\_PaP\_#\_#\_#.bin**

– or –

With 3XDES – **FW-TBDx.bin**

– and –

**CDM-570A\_PaP\_Release\_Notes\_v#.#.#.pdf** (or a variation of this filename, where '\*' is the revision letter and '#.#.#' is the firmware version).

**3)** Confirm availability of the firmware files in the temporary folder. There are several ways you may view the contents of the temporary folder on a Windows-based PC:

**A.** From the Windows Desktop:

- Double-left-click the "**temp**" folder saved to the Windows Desktop.
- Use Windows Explorer to locate, and then double-left-click the "**temp**" folder.
- Use the Browse window (**[Start] > ...Run > [Browse]**) to locate, and then double-click the "c:\temp" folder.

**B.** Using Command-line:

- Type "**cd c:\temp**" at the Command-line prompt to change to the temporary directory created earlier using Command-line.
- Type "**dir**" to list the files extracted to the temporary directory from the downloaded archive file.

**The firmware files have been successfully downloaded and are now available for transfer to the CDM-570A/L.**



## IV. Perform the Ethernet FTP Upload Procedure



1) You may proceed with the firmware update procedure under the assumptions that:

- Your CDM-570A/L is connected to a user-supplied, Windows-based PC, and:
  - Your PC serial port is connected to the CDM-570A/L “Remote Control” port with a standard user serial cable.
  - Your PC Ethernet port is connected to the CDM-570A/L IP Packet Processor “Traffic 100” Ethernet port with a user-supplied hub, switch, or direct Ethernet cable connection.
  - Your PC is running a terminal emulation program (for operation of the CDM-570A/L’s Serial Interface) and a compatible Web browser (for operation of the CDM-570A HTTP Interface).
- Your CDM-570A/L firmware and Ethernet Traffic/Management IP Address has been noted using either the CDM-570A/L’s Serial Interface or the CDM-570A HTTP Interface ‘Admin | Firmware | Base Modem’ / ‘Admin | Firmware | Packet Processor’ and ‘Configuration | LAN’ pages, respectively.
- The latest firmware files have been downloaded or otherwise received from Comtech EF Data and are available on the User PC in an accessible temporary folder.

2) Modem redundancy features must be disabled prior to update.

3) When updating firmware on modems equipped with the IP Packet Processor, you must upload both the Base Modem and IP Packet Processor firmware files, and select the firmware slots prior to rebooting the modem.

Before you can transfer the firmware files from the User PC to the CDM-570A/L, you must first use Command-line to “ping” the modem to confirm proper connection and communication between the User PC and the modem:

- Type “**ping xxx.xxx.xxx.xxx**” at the Command-line prompt (where ‘xxx.xxx.xxx.xxx’ is the unit Ethernet Traffic/Management IP Address). The response should confirm whether the unit is properly connected and communicating.

**You may proceed once you have verified User PC-to-Modem communications.**

1) Use Command-line to transfer (FTP) the files from the User PC to the CDM-570A/L:

- A. Type “**ftp xxx.xxx.xxx.xxx**” (where ‘xxx.xxx.xxx.xxx’ is the CDM-570A/L Ethernet Traffic/Management IP Address).
- B. The Admin User Name and Password when prompted. The default User Name and Password is “**comtech**”.

- C. Type **"bin"** to set the binary transfer mode.
- D. Type **"prompt"** and then **"hash"** to facilitate the file upload.
- To begin the file transfer transfer file **FW-0020683\*\_#.#.#.bin** (where '\*' is the revision letter and '#.#.#' is the version number):

- If the IP Packet Processor is not installed or is installed but inactive:

Type **"put FW-0020683\*\_#.#.#.bin a:\bulk.bin:"** to begin the file transfers – the destination "a:\bulk.bin" must be all lower case.

- If the IP Packet Processor is installed and active:

Type **"put FW-0020683\*\_#.#.#.bin"** (make sure you do **not** type the destination "a:\bulk.bin" as was done for the previous upload option).

For either option, it will take several minutes to transfer the file and update the firmware image.

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

```
ftp: XXXXXXX bytes sent in XX.XXSeconds XXX.XXXKbytes/sec.
```



**In the event you receive the "Connection closed by remote host." message, wait another minute before continuing. The firmware upload sometimes takes longer than the FTP client allows.**

- F. Once the FTP upload is complete, as the upgrade process continues, the modem front panel displays:

**UPGRADING FIRMWARE  
Please Wait...**

The process sequences through several blocks – this will take several minutes. Once the update process is complete, the modem returns you to the previously active menu screen.

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

- 2) Use the modem front panel menus, the CDM-570A HTTP Interface **'Admin | Firmware | Modem'** page, or issue the Serial Remote Interface **<0/SWR?** or **<0/FRW?** query, as shown previously, to verify that the PC-to-Modem FTP file transfer was successful.



**If you are a Base Modem user, the CDM-570A/L is now operating with its latest firmware and you may skip to Step 6. However, if you are running a CDM-570A/L with the optional IP Packet Processor installed, do NOT reboot at this time – once you have uploaded the Base Modem firmware you must proceed to the next step (Step 3) to upload the IP Packet Processor firmware.**

- 3) Before you can upload the IP Packet Processor firmware, you must first specify which firmware slot will receive the firmware update file transfer.

- On the CDM-570A HTTP Interface '**Admin | Firmware | Packet Processor**' page, use the '**Upgrade To**' drop-down list to select **Latest**, **Image 1**, or **Image 2**.
- Click [**Submit**] to save.

**You may proceed once you have specified the file transfer destination slot.**

- 4) Use Command-line to initiate the FTP session with the modem.
  - A. Type "**ftp xxx.xxx.xxx.xxx**" (where '**xxx.xxx.xxx.xxx**' is the CDM-570A/L Ethernet Traffic/Management IP Address).
  - B. Enter the **Admin User Name** and **Password** to complete login.
  - C. Type "**bin**" to set the binary transfer mode.
  - D. Type "**prompt**", and then type "**hash**" to facilitate the file upload.
  - E. Type "**put FW-0020781\*\_CDM-570A\_PaP\_#\_#\_#.bin**" to begin the file upload. It will take several minutes to transfer and write the files to flash memory. Once the file transfers, Command-line displays the upload result, similar to:

```
200 Port OK
150 Opening data connection
226 Packet Processor upgrade complete - Safe to reboot.
ftp: XXXXXXXXX bytes sent in X.XXSeconds XXXX.XXXbytes/sec.
```

- F. Once the FTP upload is complete, as the upgrade process continues, the modem front panel displays:

**IP OPTION CARD UPGRADING  
..PLEASE WAIT**

- G. The process sequences through several blocks – this will take several minutes. Once the update process is complete, the modem front panel displays:

**Upgrade finished  
Press CLEAR to continue.**

Press the modem front panel **CLEAR** key as prompted.

- H. Type "**bye**" to terminate the FTP session, and then close the Command-line window.
- 5) Use the modem front panel menus or the CDM-570A HTTP Interface '**Admin | Firmware | Packet Processor**' page to verify that the PC-to-Modem IP Packet Processor firmware FTP file transfer was successful.
- 6) Use the modem front panel menus and/or the CDM-570A HTTP Interface '**Admin | Firmware | Modem**' page and, as applicable, the '**Admin | Firmware | Packet Processor**' page to select the desired firmware images to boot from:

#### A. Using the modem front panel menus:

- First, to select the desired Boot Image, make sure that you are operating in **LOCAL** mode (**CONFIG: Remote → Local**).
- For the Base Modem firmware image, go to the **SELECT: Utilities → Firmware → Select** menu branch and use the **▲▼** arrow keys to select the **Next Reboot Image** as **1** or **2**. Press the front panel **ENTER** key when done.

#### B. Using the CDM-570A HTTP Interface:

- For the Base Modem firmware, go to the '**Admin | Firmware | Modem**' page. Use the '**Next Reboot, will use**' drop-down list to select **Latest, Image#1** or **Image#2**. Click **[Submit]** to save.
- For the IP Packet Processor firmware, go to the '**Admin | Firmware | Packet Processor**' page. Use the '**Boot From**' drop-down list to select **Latest, Image#1** or **Image#2**. Click **[Submit]** to save.

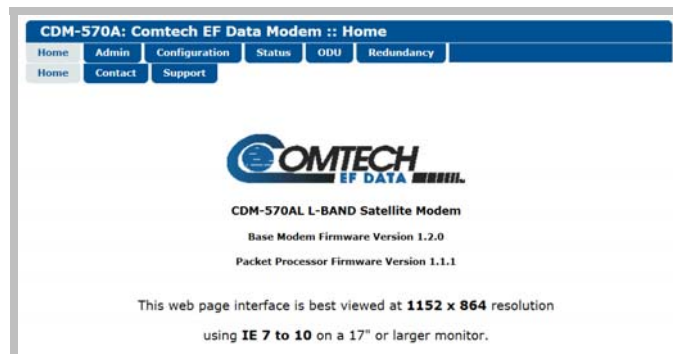
#### 7) Reboot the CDM-570A/L. You may perform a 'soft reboot' or a 'hard reboot' as follows:

- For a soft reboot, use the CDM-570A HTTP Interface '**Admin | Reboot**' page. Click **[Reboot Now]**. Both the web page and the modem front panel will display messages similar to "**Rebooting, Please wait...**" as reboot commences.
- For a hard reboot, from CDM-570A/L rear panel, turn off or otherwise disconnect, and then turn on/reconnect the power source to execute reboot of the modem.

The system reboot is complete once the modem front panel displays the top-level "splash" screen:

**Comtech CDM-570AL Modem  
Firmware Version: #.#.#**

You will need to log in to a new Web session at this time. The CDM-570A HTTP Interface '**Home**' page will serve to verify that the new firmware version is active, as shown in this example:



**The CDM-570A/L is now operating with its latest firmware. The firmware update process is now complete.**