

AN186 - Rev. 1.0  
DMD2050 FTP

# DMD2050 FTP

## Setup Procedure

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Rev. 1.0



<p><b>DMD2050 FTP</b>  <b>Setup Procedure</b>  <b>Operation Procedure</b>  <b>AN186 - Record of Revisions</b></p>
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Revision Level	Date	Reason for Change
1.0	06-14-05	Initial Release

**Revision Approval**

Revision Level	<u>Engineering Approval</u> Printed Name, Date, and Signature	<u>Production Approval</u> Printed Name, Date, and Signature
1.0		

## DMD2050 FTP Setup Procedure

### 1.0 Introduction

This document is a detailed firmware upgrade procedure for the DMD2050 using FTP via the Ethernet port.

### 2.0 Required Items

1. PC with the following:
  - a. FTP Utility such as WS\_FTP LE or Coffee-Cup FTP
  - b. Unzip Program (including but not limited to such as winzip or unrar)

### 3.0 FTP Utility PC Installation

1. Please visit FTP Planet, Tucows, or Tudogs sites for free downloads of various FTP utility programs.
2. WS\_FTP LE can be downloaded at the following sites:

<http://www.ftplanet.com/download.htm> or <http://www.tucows.com/preview/195136.html>

### 4.0 DMD2050 Firmware PC Installation



*DMD2050 firmware is distributed as a zip file via e-mail. The name of the file is mc.zip.*

1. Create a folder on the computer's hard drive named \dmd2050\rev-xx (where xx is the latest revision of firmware, for example \dmd2050\rev-T). Copy the attached mc.zip file to that newly created folder. Also create a folder called \dmd2050\rev-yy (where y is the previous revision of firmware) to store the previous revision (in the event that it is needed later).
2. Extract the zip file into the \dmd2050\rev-xx folder. The zip file will extract into a folder called \dmd2050\rev-xx\MC. This folder contains the DMD2050 firmware.

## 5.0 DMD2050 Firmware Directory Structure - \MC


1. \MC \ACCEPTED –This directory contains the accepted M&C image. A valid accepted image directory shall contain the following:
  - a. An image description text file named DIRDESC.TXT. It contains the Executable binary filename, for example candi.bin.
  - b. An empty image state file named COMPLETE.IST; the presence of this file indicates the directory contains a complete image. If the COMPLETE.IST file is not present the INCOMPLETE state is implied.
  - c. An M&C binary, specified in DIRDESC.TXT
  - d. \mod directory: Set of modulator FPGA load files.
  - e. \dmd directory: Set of demodulator FPGA load files.
  - f. \drop directory: Set of drop DSP load files.
  - g. \insert directory: Set of insert DSP load files.
  - h. \terr directory: Set of terrestrial FPGA load files.
  - i. \turbo directory: Set of turbo FPGA load files.
2. \MC \PENDING –This directory may contain the pending M&C image. A valid pending image directory contains the same as a valid accepted image M&C image directory.

## 6.0 DMD2050 TCP/IP Configuration

### 6.1 Boot Mode

1. Perform the following to configure the Boot Mode to 'NonVol'. This is done to ensure that the network and FTP settings are restored the next time the DMD2050 powers up.
  - a. At the <TCP/IP> Submenu, scroll to the 'BOOT MODE' Selection.
  - b. Set the Boot Mode to 'NonVol' and press <ENTER>.


### 6.2 Bootp Server Tag (Valid only if Boot Mode is set to BootP)

NOTE

*The following steps are performed only if Bootp is selected in Boot Mode. It should be consistent with the tag expected by the users Bootp Server. If Bootp is not used, this setting is not used by the modem.*

1. At the <TCP/IP> Submenu, scroll to the 'BOOTp SERVER TAG' Selection.
2. Use the default setting of 206 for this Section since Bootp will not be used. The value of 206 is automatically selected when the Boot Mode is set to 'DEFAULT'.

### 6.3 IP Address Mask


**NOTE**

*In the mask (more clearly seen in the binary format), binary 1s indicate the position of the network and subnet portion of the IP Address while binary 0s identify bits that represent the individual interfaces. To recognize a subnet, each system in the subnet must have the same subnet mask. Please consult your network administrator for a valid address class mask.*

1. At the <TCP/IP> Submenu, scroll to the 'IP ADDR MASK' Selection.
2. Toggle between hexadecimal and decimal formats by depressing all four Arrow Keys at the same time then releasing.
3. The mask on the Front Panel is expressed in a hexadecimal format by default. Change this field prior to any changes to the Modem or Router Addresses. Enter the IP Address Mask and press <ENTER>.

Example: FF.FF.0.0 (255.255.0.0 decimal)

### 6.4 Modem IP Address

**NOTE**

*This IP Address needs to be consistent with the defined IP Address Mask.*

1. At the <TCP/IP> Submenu, scroll to the 'MODEM IP ADDR' Selection.
2. Toggle between hexadecimal and decimal formats by pressing all four Arrow Keys at the same time then releasing.


3. The IP address on the Front Panel is expressed in a hexadecimal format by default. Enter the DMD2050 Internet Address and press <ENTER>. Please consult your network administrator for valid addresses.

Example: For the decimal Modem IP Address of 172.18.100.215, enter:

IP Mask = FF.FF.0.0  
Modem IP Address = AC.12.64.D7

4. Broadcast and loopback addresses will not be allowed.
5. The IP Address that is selected will be used for the Ethernet Test that follows.

### 6.5 Server IP Address (Valid only if Boot Mode is set to BootP)

**NOTE**

*This section refers to the host that will be used to optionally boot the DMD2050 on power-up, and to the address of the SNMP Trap Server when SNMP is active. The host should be acceptable to the transport layer. In other words, the transport layer needs to be able to open a connection to the entity specified by the Server IP Address field.*

*This IP Address needs to be consistent with the Modem IP Address. If a router has been specified, the address is presumed to be reachable via the router. If the server is also within the same subnet as the modem, both the router and the server will receive the same IP packets. The router will relay the packets to a different subnet where they will be ignored.*

1. At the <TCP/IP> Submenu, scroll to the 'SERVER IP ADDR' Selection.
2. Toggle between hexadecimal and decimal formats by pressing all four Arrow Keys at the same time then releasing.
3. The IP Address on the Front Panel is expressed in a hexadecimal format by default. Enter the Server Internet Address and press <ENTER>. Please consult your network administrator for valid addresses.

Example: For a no router specified and a Server IP Address of 172.18.4.250, enter:

IP Mask = FF.FF.0.0  
Modem IP Address = AC.12.64.D7  
Server IP Address = AC.12.4.FA  
Router IP Address = A0.0.0.01

4. Broadcast and loopback addresses will not be allowed.
5. The IP Address that is selected will be used for the Ethernet Test that follows.

## 6.6 Router IP Address



### NOTE

*This section provides instructions to set the IP Address of the Network Router. If a router is present on the local network, and it is to be used, this address must be consistent with the IP Address Mask and the subnet of the modem. If no router is present, then the address should be set to a foreign address, to make the router unreachable from the modem that is.*

1. At the <TCP/IP> Submenu, scroll to the 'ROUTER IP ADDR' Selection.
2. Toggle between hexadecimal and decimal formats by pressing all four Arrow Keys at the same time then releasing.
3. The IP address on the Front Panel is expressed in a hexadecimal format. Enter the Router Internet Address and press <ENTER>. Please consult your network administrator for valid addresses.

Example: For a no router specified, enter a Router IP Address of A0.0.0.01

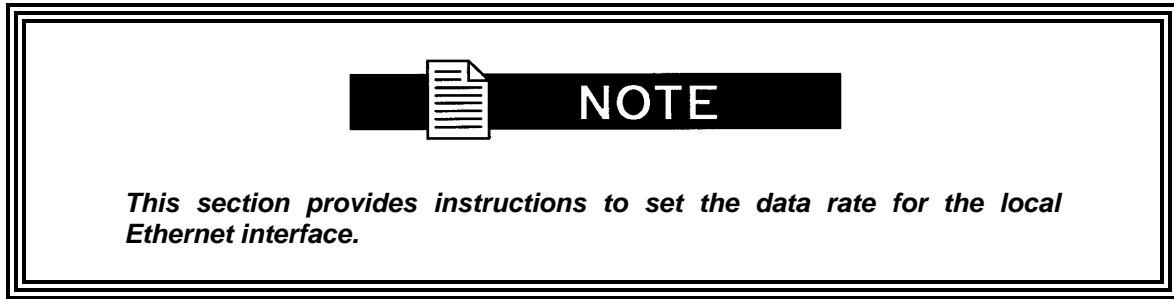
4. Broadcast and loopback addresses will not be allowed.

## 6.7 Modem Ethernet Address

1. If the unit is not setup at the factory or a change is necessary, the modem Ethernet address may be modified as follows:
  - a. At the <TCP/IP> Submenu, scroll to the 'MODEM EADDR' Selection.
  - b. Modify the modem Ethernet Address and press <ENTER>.

Example: 0010650903EB

## 6.8 Ethernet Rate



1. At the <TCP/IP> Submenu, scroll to the 'ETHER RATE' Selection.
2. Select '10 MBPS/HD' and press <ENTER>.

## 7.0 DMD2050 FTP Configuration

### 7.1 User ID

1. At the <FTP> Submenu, scroll to the 'USER ID' Selection.
2. Set the user ID to a maximum of 13 alphanumeric characters and press <ENTER>.
3. To clear to the right of the cursor, press the <RIGHT ARROW> and <CLEAR> keys at the same time.

### 7.2 Password

1. At the <FTP> Submenu, scroll to the 'PASSWORD' Selection.
2. Set the FTP password to a maximum of 13 alphanumeric characters and press <ENTER>.
3. To clear to the right of the cursor, press the <RIGHT ARROW> and <CLEAR> keys at the same time.

## 8.0 Ethernet Test

### 8.1 Connecting the Ethernet Cable and Testing the Link

1. Connect the computer to the DMD2050 port (J21) using the RJ-45 to RJ-45 10BaseT Cables via a hub as shown in Figure 1.



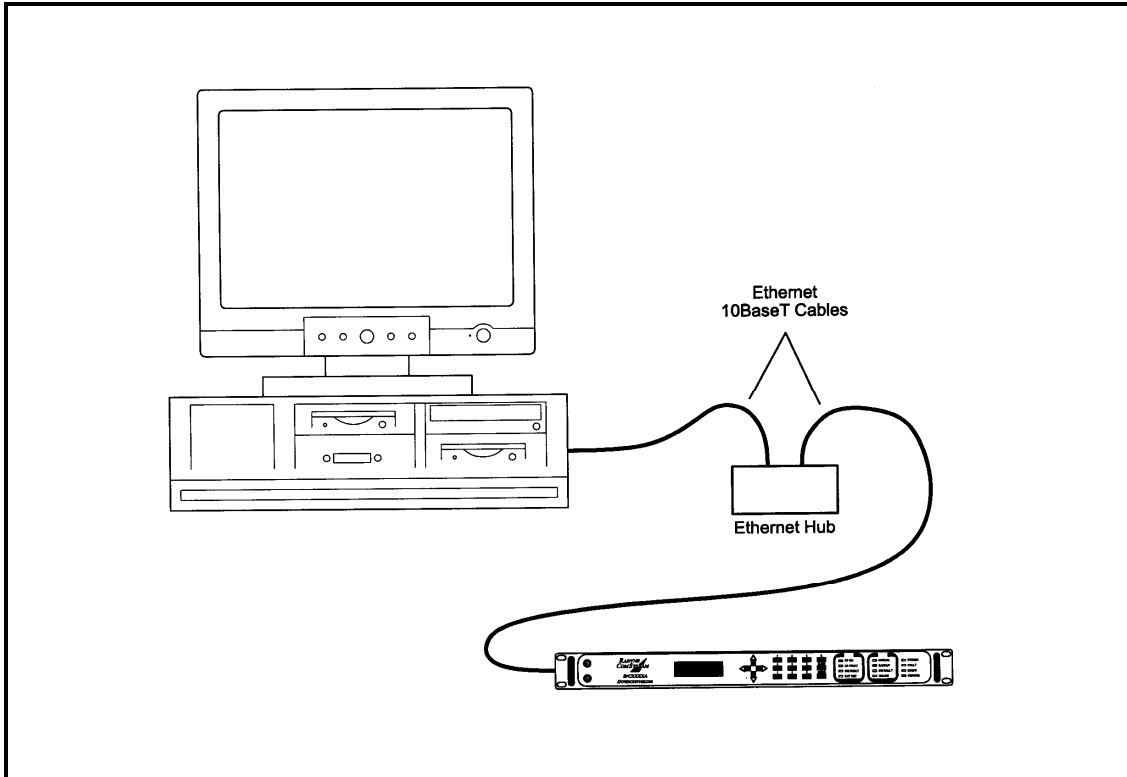



Figure 1. Ethernet Connection

## 8.2 Ping Program



**NOTE**

***PING is an application that uses the ICMP Protocol to report if a host is responding.***

1. To check whether the modem is reachable, use the PING program installed on your computer along with the modem IP Address set in Section 3.1.2.3.  
  
Example: ping 172.18.100.215
2. If everything is functioning correctly, replies from the modem will appear on the computer screen along with the time it took to respond. If unsuccessful, verify the following:
  - a. The cables are secured.
  - b. The Link Light is illuminated.
  - c. The IP Address that is used matches the Modem's IP Address.
  - d. The Server and Modem are on the same subnet.

## 9.0 FTP Transfer



### NOTE

*Verify that the DMD2050 is reachable before proceeding (refer to Section 8.0).*

1. Make sure the compact flash is installed on the left side of the unit (left side when facing the front panel).
2. Configure the FTP utility "Host Name / IP Address" to the modem IP address selected in Section 6.4
3. Configure the FTP utility "User ID" to the modem FTP User ID selected in Section 7.1
4. Configure the FTP utility "Password" to the modem FTP Password selected in Section 7.2
5. Connect to the DMD2050 using FTP.
6. The compact flash will appear in one of the window panes of the FTP utility as a regular drive, /MC.
7. Use the utility windows explorer to scroll through the compact flash drive. A directory called \MC will be visible.
8. Use the utility windows explorer to scroll through the PC directory to \dmd2050\rev-yy folder created in Section 4.0.
9. Copy the compact flash \MC\ACCEPTED folder with drag and drop or through the arrow keys into the \dmd2050\rev-yy folder on your hard drive to back up the old firmware revision.
10. Copy the contents of \MC\ACCEPTED folder from the \dmd2050\rev-xx folder on your hard drive to the \MC\PENDING folder of the compact flash.
11. Cycle Power to modem
12. Modem will display \MC\PENDING ENTER = YES, CLEAR = NO
13. Press ENTER on the front panel
14. Once modem finishes rebooting Reconnect to the DMD2050 using FTP.
15. The compact flash will appear in one of the window panes of the FTP utility as a regular drive, /MC.

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16. Delete all files and folders under \MC\ACCEPTED on the compact flash (note: files within folders will need to be deleted prior to deleting folders)
17. Copy the contents of \MC\ACCEPTED folder from the \dmd2050\rev-xx folder on your hard drive to the \MC\ACCEPTED folder of the compact flash.
18. Delete all files and folders under \MC\PENDING on the compact flash (note: files within folders will need to be deleted prior to deleting folders)
19. The next time the DMD2050 is powered up, it will contain the new firmware. The new firmware can be verified on the front panel at power up or by looking in the SYSTEM, HW/FW CONFIG/M&C REV menu. The new firmware will read F05058-xx (where xx is the latest revision of software).
20. Place the file Xreset (no content) in the compact flash root if a reboot is desired when connection is closed.