

8117C Procedure for Upgrading to Mehta Tech, Inc.'s Ethernet Interface Module

Revision 18, 31 May 2023

NOTE: This procedure is for installing an Ethernet Interface Module (PN 9879) over a network.

NOTE: You will need to know if your DFR includes a serial port expansion module. Please see step 27 of Part 1 for details. If you are unsure, please contact Mehta Tech Customer Support at 563-285-9151, extension 21.

NOTE: This procedure covers the installation of the Ethernet Interface Module in a DFR and testing communications between the DFR and a local master station computer (laptop).

To install drivers at a remote master station, see "Addendum to 8117C Procedure for Upgrading to Mehta Tech, Inc. Ethernet Interface Module".

PLEASE BE SURE THAT THE ADDENDUM TO 8117C AND THE DIGI CONNECT DRIVERS CD-ROM ARE DISTRIBUTED TO THE CENTRAL MASTER STATION.

Introduction

This 8117C upgrade procedure is for users who want to install an Ethernet Interface Module in a DFR to allow communications via network at speeds up to 115,200 bps over a 10baseT Ethernet link.

This upgrade kit is to be used with systems that include a V40 CPU (PN 9225), a V40 CPU II (PN 9850), or a V40-3 CPU (PN 9950), running INLINK 4.2.2 or later.

Equipment Required

- ☐ An IBM-compatible PC equipped with:
 - Mehta Tech communications software (Polycomm for Windows)
 - CD-ROM drive
 - Ethernet adapter
 - SCF and TCF files for the DFR
- ☐ Access to an Ethernet switch, hub, router, or "JungleMUX" for the Ethernet Interface Module
- ☐ An RJ-45 Ethernet crossover cable
- ☐ A straight blade screwdriver
- ☐ Phillips screwdrivers (#1 and #2)
- ☐ The 8117 Mehta Tech Ethernet upgrade kit, which includes:
 - These instructions
 - Ethernet Interface Module (PN 9879)
 - RJ-45 Ethernet cable & coupler assembly (PN 7851)
 - Ethernet cross-over cable (PN 7409)
 - CD-ROM containing Digi drivers and documentation (PN 9598)
 - Hardware documentation for Ethernet Interface Module
 - Module configuration sheet for Ethernet Interface Module
 - Additional hardware as listed on the 8117C Bill of Materials
- ☐ The Datapack (or project specific documentation) for your DFR showing the Rollout Chassis Module Assignment Table in section 2 and module configuration sheets in section 3.

Overview

This procedure leads you through the process of installing an Ethernet Interface Module in your DFR, and installing device drivers on your master station computer.

To facilitate troubleshooting, this upgrade procedure is divided into four major parts:

Part 1: Hardware Installation

Part 2: Assigning the Ethernet Interface Module an Address on the Ethernet network (IP address)

Part 3: Installing RealPort (Ethernet Interface Module drivers) on the Master Station Computer (programs the PC with a virtual port for talking to the Ethernet Interface Module)

Part 4: Connecting to the DFR through the Ethernet using Polycmm

Addendum: Installing Drivers at the Master Station

The Ethernet Interface Module must have an address programmed into its firmware so that other computers and devices can locate it on your local area network. This unique address includes the following information:

IP Address, Subnet Mask, Gateway

Each of these items is a number in the format **NNN.NNN.NNN.NNN**.

Assignment of IP Address

The network address can be assigned to the module in one of three ways:

1. If your company provided the IP Address, Subnet Mask, and Gateway to Mehta Tech at the time the upgrade kit was ordered, the Ethernet Interface Module will arrive pre-programmed with the correct address.
2. If the network address was **not** provided to Mehta Tech before the upgrade kit was shipped, you may need to work with your IT department to answer the following questions:
 - A. Should this Ethernet Interface Module be installed using DHCP or will it be assigned a static IP address on the network? (DHCP, or Dynamic Host Configuration Protocol, is a process for automating the configuration of devices on a network.)
 - B. If this Ethernet Interface Module has been assigned a static IP address, what is it?

IMPORTANT

Note here which option your company uses:

- ☐ Use DHCP to obtain an IP address automatically
- ☐ Specify an IP address (if so, note the address and subnet mask below)

IP Address	_____ . _____ . _____ . _____
Subnet Mask	_____ . _____ . _____ . _____
Gateway	_____ . _____ . _____ . _____

Part I: Installing a Ethernet Interface Module in a DFR

- ☐ 1. Connect to the DFR using Polycomm and verify that there are no fault records being stored in RAM. A small “h” to the right of the record number in the directory indicates that the record is stored in the non-volatile memory of the DFR. If there is no “h”, the record is stored in RAM, which means that record will be lost when the DFR is powered down.
- ☐ 2. After you have connected to the DFR, select **Secure Ops** and click **Get Params**.
- ☐ 3. Start Polyedit on the computer and open the Configuration for the DFR.
- ☐ 4. Once the Configuration is open click **Edit Recorder Info**. Select **Modem and Communications Settings** and select 57600 for REC Com 2. These settings will allow for a Master Station port speed of 115200. Save the changes and exit Polyedit.

NOTE: In some cases where the DFR and Master Station are located on a “V-LAN” or Virtual LAN, this speed may have to be set to 19200 for a connection of 38400 at the Master Station.

- ☐ 5. After saving your changes you must reconnect to the DFR with Polycomm. When connection is established, select **Secure Ops**, and then **Send Params**. After Polycomm reports that the parameters were received (watch the status line at the bottom of the window), select **Secure Ops**, then **Keep Params**.
- ☐ 6. When you open the hardware packet that comes with this upgrade kit, make a note of the MAC (machine) Address of the Digi module mounted on the Ethernet Interface Module. See figure 8 for the location of the MAC Address; this number sequence is located just below the bar code on the Digi module (when the Ethernet Interface Module is turned upside down). You will need this MAC address to identify the device during the setup procedure.

Write the MAC address here:

_ _ _ _ _

Verify that the hardware jumpers on the module are correct:

JB1 (at right edge of module)	pins 1-2	(not connected, jumper on pin 2)
	pins 3-4	(jumped)
	pins 5-6	(jumped)
	pins 7-8	(jumped)
JB2 (at bottom of module)	only IRQ 4	(jumped)

- ☐ 7. Locate the DFR electronics chassis and position the DFR to allow access to the internal electronics modules from the front of the equipment. (For customers with the 9448 enclosure, the electronics chassis drawer is positioned on glide rails so that you can slide the drawer in and out for easy access from the front of the equipment).

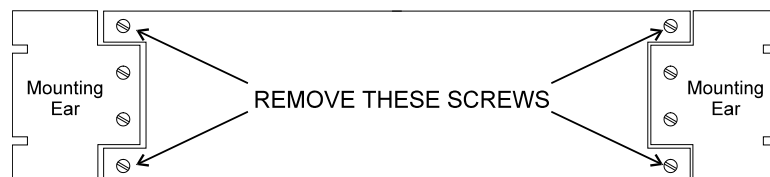


Figure 1: DFR front panel (9448 Enclosure)

- ☐ 8. Remove the screws that hold the DFR's front panel to the front of the electronics chassis housing as shown in the Figure 1 above and roll out the electronics chassis drawer.
- ☐ 9. Loosen the side and top screws that hold the chassis drawer cover in place, and remove the cover from the top of the chassis drawer. This allows access to the DFR's electronics modules.
- ☐ 10. Figure 2 below shows a top view of the electronics chassis drawer (with cover removed) and exterior chassis housing.

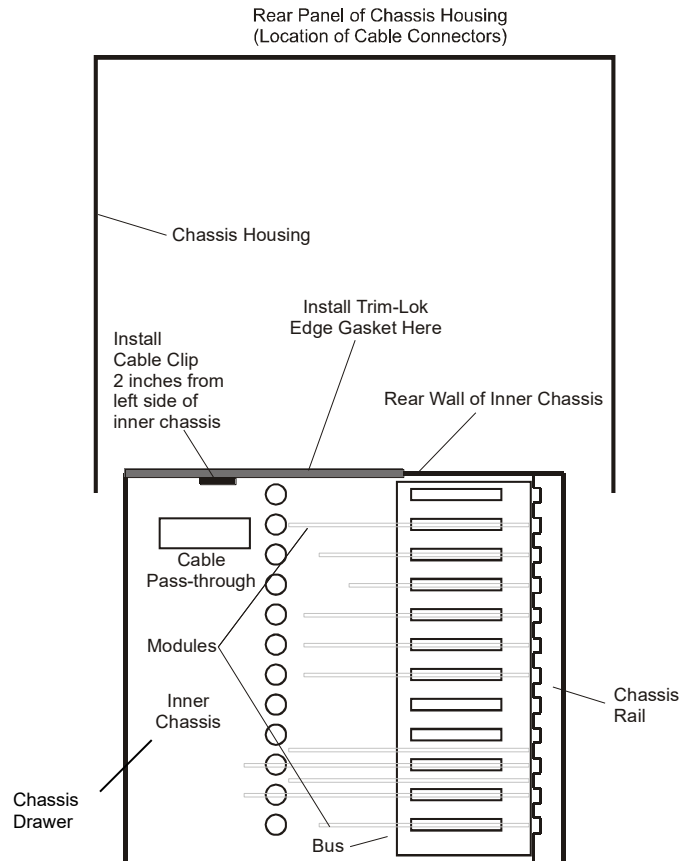


Figure 2: Overhead view of electronics chassis showing chassis drawer rolled completely forward, out from the chassis housing

- ☐ 11. Switch off power to the electronics chassis. Note that there is a hidden power switch that may be convenient on the underside of the chassis drawer in the front right corner, as well as the power switch on the rear of the chassis next to the power cord. Either switch will turn off power to the chassis. Both switches must be on to power up the chassis.
- ☐ 12. Install the Ethernet Interface Module into an empty slot in the bus board, for example, slot 10.
- ☐ 13. Secure the module in place with the hold-down bracket enclosed in this kit.
- ☐ 14. Install the section of Trim-Lok edge gasket on the vertical rear wall of the inside chassis, flush with the left side. See Figure 2 for the location of the edge gasket.
- ☐ 15. Install the cable clip below the Trim-Lok gasket and two inches from the side of the chassis, per Figure 2.

The following steps show how to mount the RJ-45 Ethernet coupler assembly on the rear panel of the DFR.

- 16. Figure 3 shows the RJ-45 Ethernet coupler assembly in detail. Note that this assembly acts as a coupler to connect an Ethernet cable from the outside of the DFR to the Ethernet Interface Module inside the electronics chassis.

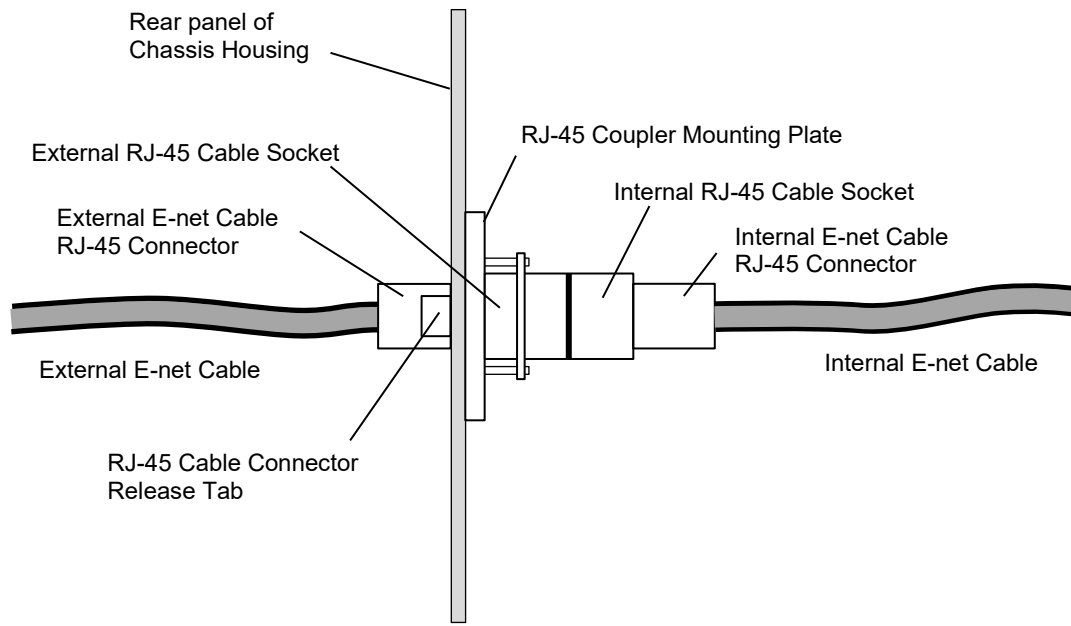


Figure 3: The RJ-45 Coupler Assembly

- 17. On the back of the chassis, locate the cover plate over the 2nd cutout from the right in the top row (see Figure 4). Remove the cover plate. The coupler assembly may interfere with other hardware if it is installed in a different location.

When you loosen the screws that hold the cover plate in place, the cover will drop down inside the electronics chassis. Reach inside the electronics chassis housing, remove the cover plate, and set it aside.

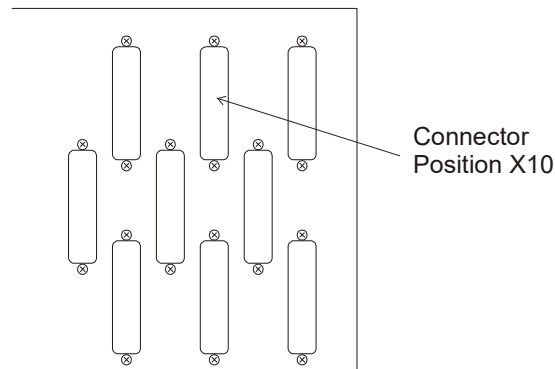


Figure 4: Upper right corner of rear panel of chassis housing, showing location of connector cutouts. X10 is the 2nd connector from the right in the top row.

- 18. In this step you will *temporarily* attach the Ethernet cable to the external socket of the coupler assembly so that you can more easily move the assembly into place on the rear panel

of the DFR. Clip the Ethernet cable into the outer RJ-45 socket of the RJ-45 coupler assembly (flush with the metal plate) as shown in Figure 5.

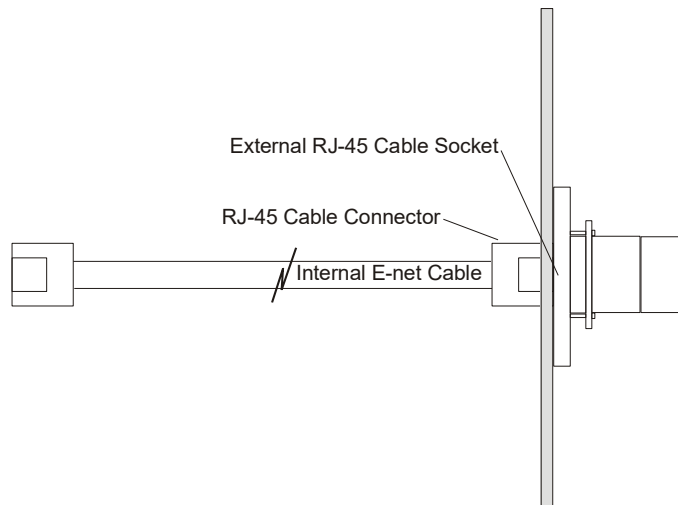


Figure 5: Internal Ethernet cable attached to external RJ-45 Coupler Assembly socket

- 19. From the inside of the electronics chassis, feed the free end of the cable through the chassis and out through the cutout as shown in Figure 6.

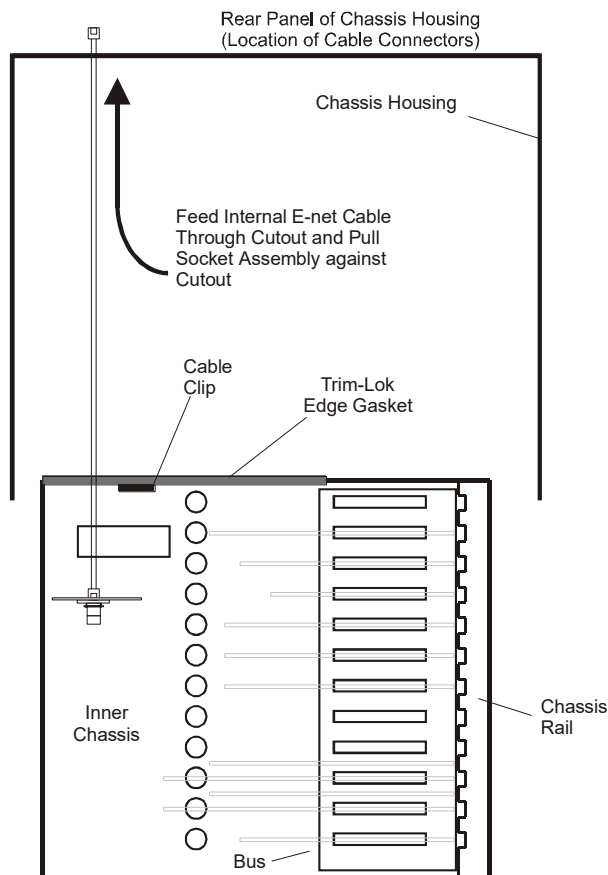


Figure 6: Feeding the internal Ethernet cable through the cutout to pull the RJ-45 Coupler Assembly into position on the rear panel of the DFR

NOTE: It may be easier to complete the following steps by first disconnecting the SCM/RTC cable or other nearby cables from the back of the electronics chassis.

- ☐ 20. From the rear of the chassis, pull the Ethernet cable out gently until the RJ-45 coupler assembly is close to the rear panel of the outside chassis housing. Turn the cable so that the release tab of the cable is oriented toward the right edge of the chassis (as seen from the rear). See Figure 7.
- ☐ 21. Insert a small straight blade screwdriver through the cutout and press on the cable's release tab so it can pass through the cutout, and the release tab on the internal Ethernet cable allowing the RJ-45 connector assembly to be pulled flush against the inside of the rear panel of the electronics chassis.

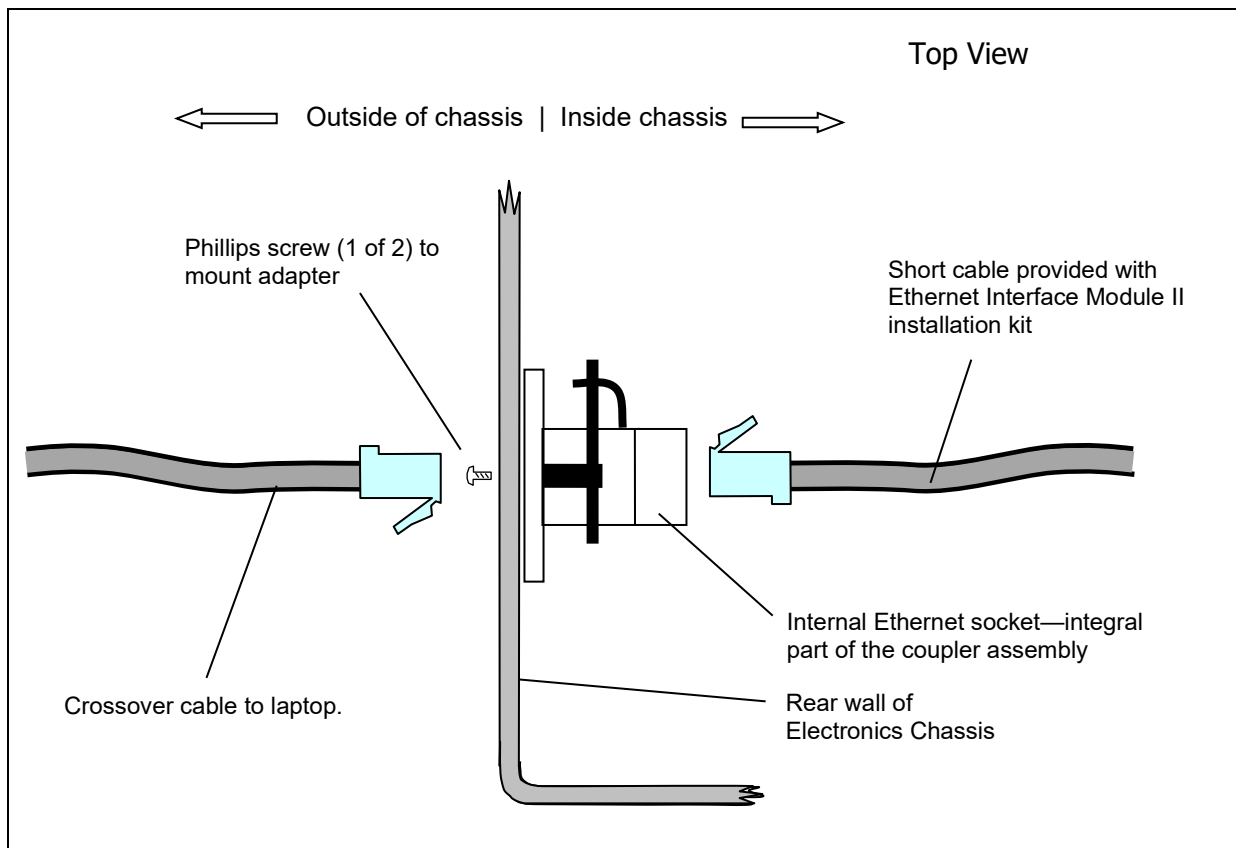


Figure 7: Top view of Ethernet cable adapter installation. The shorter cable on the right is permanent and remains in place after the adapter installation is complete.

- ☐ 22. While holding the RJ-45 coupler assembly against the cutout panel, align the top and bottom screw holes. Thread a screw through the top hole until it is partially through the RJ-45 connector assembly plate.
- ☐ 23. Thread a second screw through the bottom hole until it is held by the RJ-45 connector assembly plate.
- ☐ 24. Use a Phillips screwdriver to tighten both the top and bottom screws.
- ☐ 25. From the inside of the electronics chassis, plug one end of the internal Ethernet cable into the RJ-45 socket on the inside of the chassis.

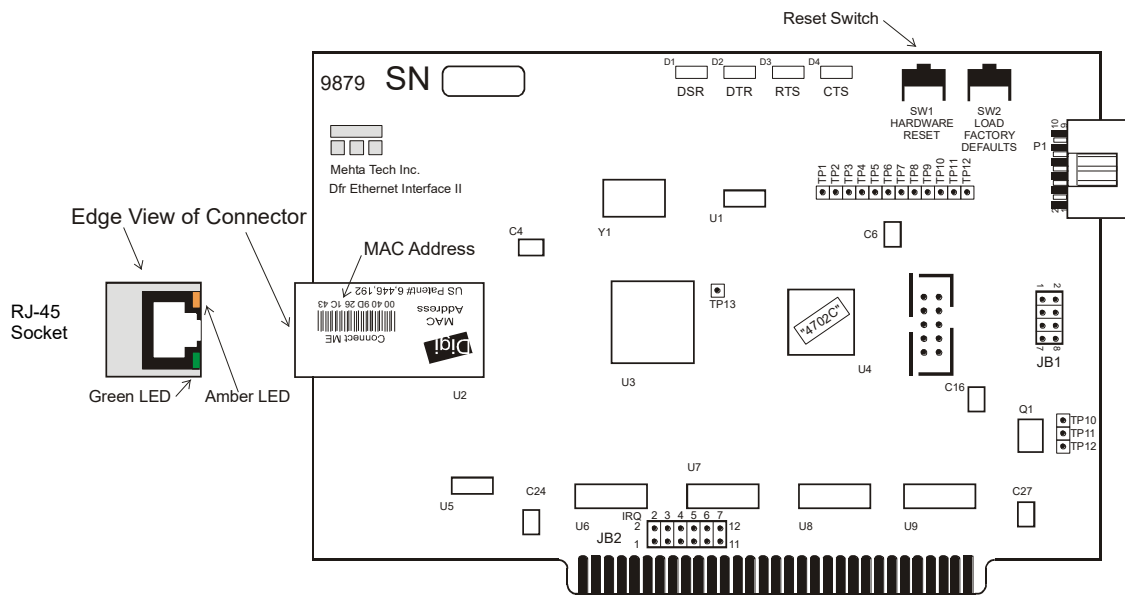


Figure 8: Ethernet Interface Module, showing location of reset switch, top edge LEDs, internal RJ-45 socket, and MAC address

- ☐ 26. Plug the other end of the internal Ethernet cable into the RJ-45 socket on the Ethernet Interface Module. See Figure 7 for the location of this socket.
- ☐ 27. Attach the cable clip (PN 5060) to the back wall of the internal electronics chassis so that the top edge is flush with the bottom of the edge gasket, and the left edge is two inches (the width of the clip) from the left wall of the electronics chassis, and the clip is open at the bottom. See Figure 2 for the location of the cable clip.
- ☐ 28. Secure the internal Ethernet cable under the cable clip, and then arrange the cable so that most of the slack is toward the inside of the electronics chassis.

In the following steps, you will determine whether your DFR includes a serial port expansion module.

- ☐ 29. The Ethernet Interface Module that you are installing operates as Com 2 in the DFR. This will create a conflict with a serial port expansion module in your electronics chassis that is configured as Com 2, and neither port will operate reliably.

Mehta Tech has used the following serial port expansion modules in DFRs:

- Diamond I/O Module 200, Revs. B and 200X (PN 9292)
- Mesa 6I23B/BF Rev. B Communications Module (PN 9392-1)
- SeaLevel Duocom: Serial I/O Adapter (PN 9830)

Please refer to Sections 3 and/or 4 of your system's DataPack to determine if you have one of these serial port adapters.

- ☐ 30. If you **do not** have a serial port expansion module in your system, you may complete the Ethernet Interface Module upgrade now.

If you **do** have one of the serial port expansion modules listed above, please turn to the Appendix to this procedure to determine whether to remove or reconfigure it.
- ☐ 31. Replace any other cables you may have removed from the rear of the electronics chassis to facilitate installing the RJ-45 coupler assembly.

- ☐ 32. Power up the DFR and wait for the lights on the front status panel to come on, indicating that the DFR is ready.

If the Ethernet Interface Module has been programmed before shipment with its network address, go to Part 3, beginning on page 22.

To set up the network address for the Ethernet Interface Module, continue to Part 2 below.

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Part 2: Assigning an IP Address to the Ethernet Interface Module

NOTE: If the IP address, Subnet Mask, and Gateway information was provided to Mehta Tech before this upgrade kit was shipped, your Ethernet Interface Module has been programmed with that information. *If so, skip this section and go to Part 3 of this procedure.*

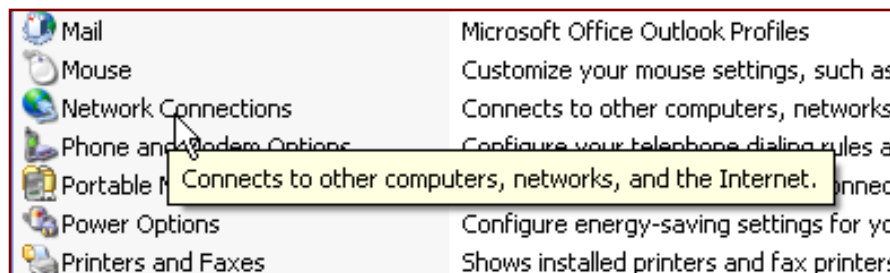
If the IP address, Subnet Mask, and Gateway information was *not* provided to Mehta Tech, you must follow the instructions in Part 2 (this section) to assign an IP address to the Ethernet Interface Module.

Overview: Assigning an IP Address to the Ethernet Interface Module

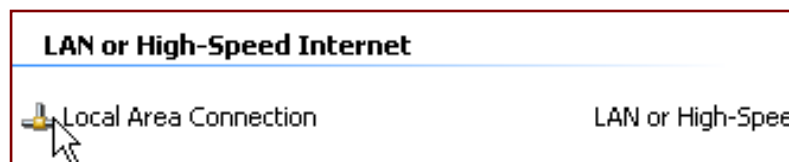
If you have not already done so, connect the crossover cable between the local master station (laptop computer) and the Ethernet Interface Module.

The Ethernet Interface Module was shipped with a known default IP address. To assign a new IP address, you will:

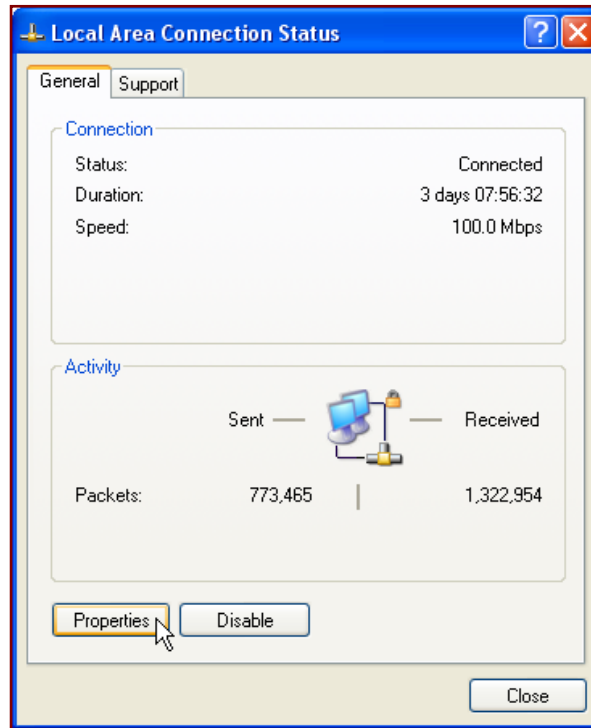
- ☐ Assign your local master station computer (laptop) a temporary IP address on the same subnet as the Ethernet Interface Module.
 - ☐ Use Digi software to assign the desired IP address to the Ethernet Interface Module.
 - ☐ Re-assign the laptop to its original IP address.
- ☐ 1. Click Start > Control Panel. Double-click Network Connections.



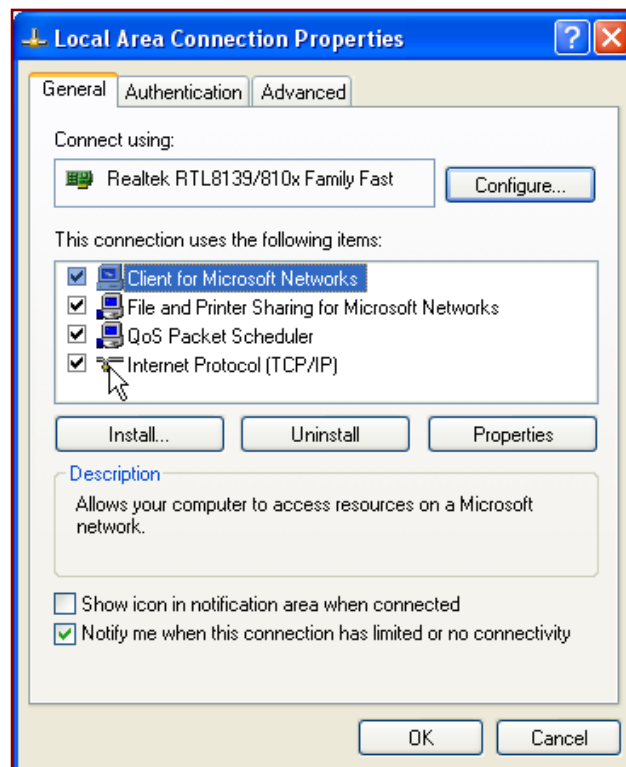
- ☐ 2. In the "Network Connections" window, double-click Local Area Connection.



- 3. In the “Local Area Connection Status” window, click **Properties**.

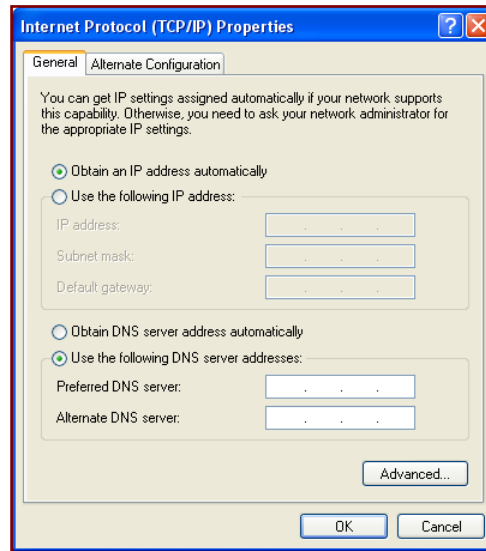


- 4. In the next “Local Area Connection Properties” window, double-click **Internet Protocol (TCP/IP)**.

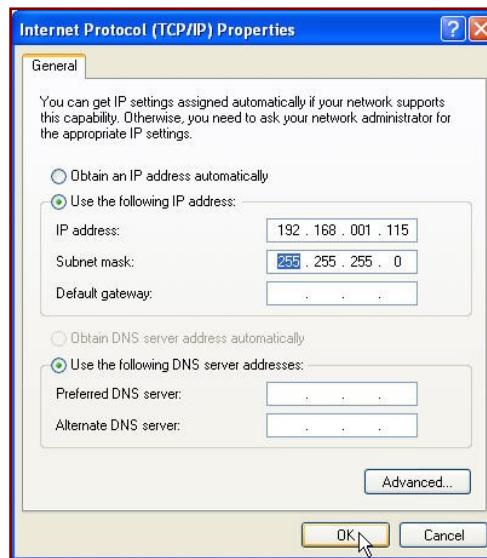


- 5. The “Internet Protocol (TCP/IP) Properties” window displays information about your computer’s IP address.

Obtain an IP address automatically indicates that your network uses DHCP (Dynamic Host Configuration Protocol) and assigns an IP address to your computer automatically.



Use the following IP address indicates that your computer has been assigned a permanent IP address, which is identified in the dialog boxes for **IP address**, **Subnet mask** and **Default gateway**.



NOTE: On the following page, write down the information you see in the “Internet Protocol (TCP/IP) Properties” window. You will need this information to return your computer to normal operating status after you complete this procedure.

Note here which option your network uses:

- ☐ Obtain an IP address automatically
- ☐ Use the following IP address (if so, note the address and mask below)

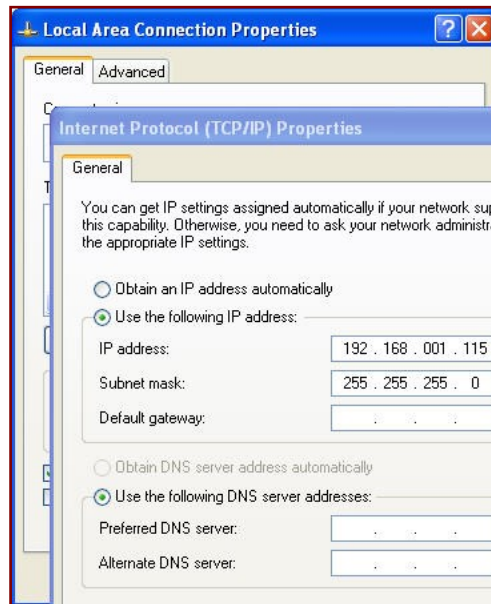
IP Address _____ . _____ . _____ . _____

Subnet Mask _____ . _____ . _____ . _____

Default gateway _____ . _____ . _____ . _____

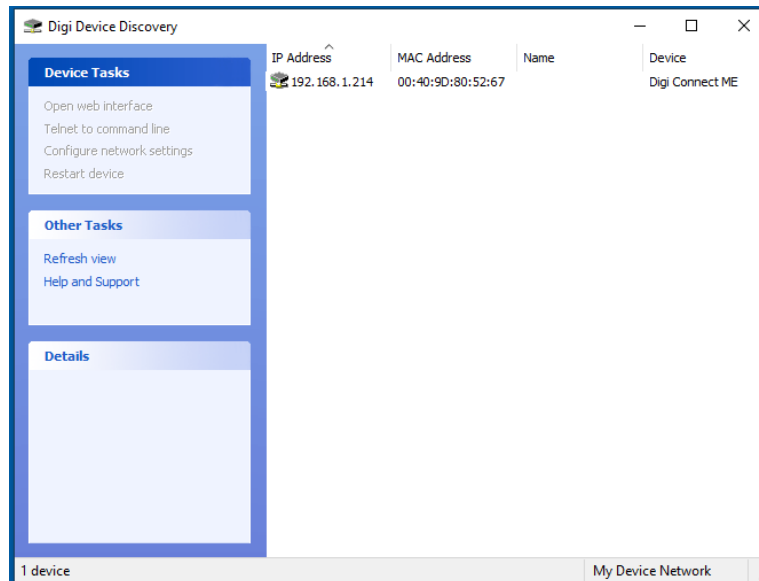
You will need this information to restore the correct IP address after you reset your computer.

- ☐ 6. To reset your computer's IP address, in the "Internet Protocol (TCP/IP) Properties" window, click the button for **Use the following IP address**. Enter the **IP Address** and **Subnet Mask** as shown below (that is, use the numbers in the illustration below) then click **OK**.

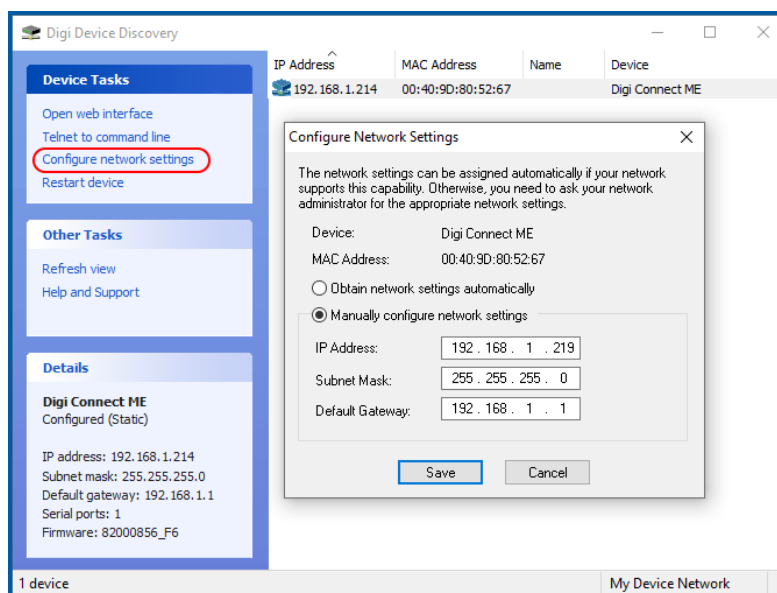


- ☐ 7. Click **OK** in the "Local Area Connection Properties" window and wait until the window closes. Close the Control Panel window
- ☐ 8. Restart your computer to allow the new settings to take effect. (Click **Start > Shut Down > Restart.**) After Windows restarts, log in again.

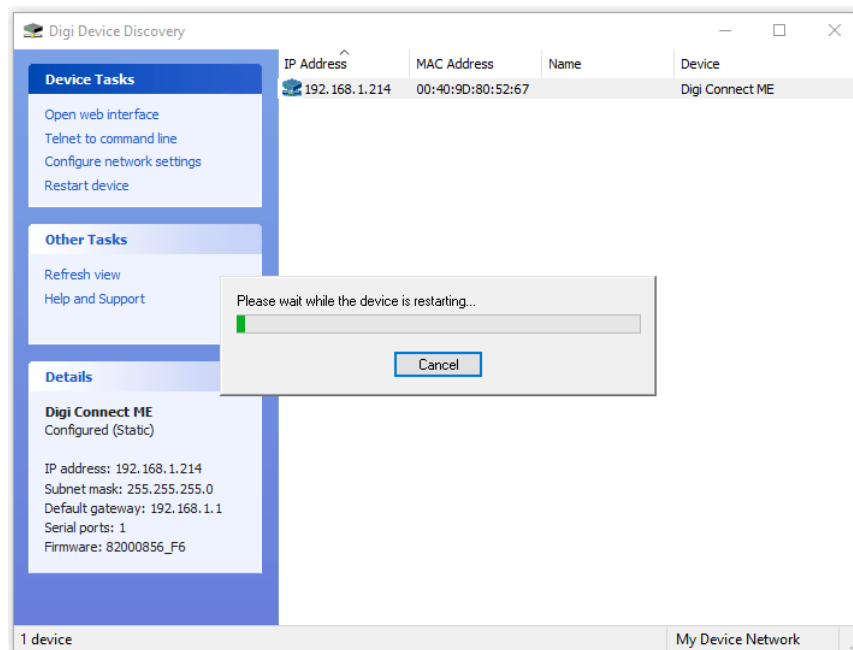
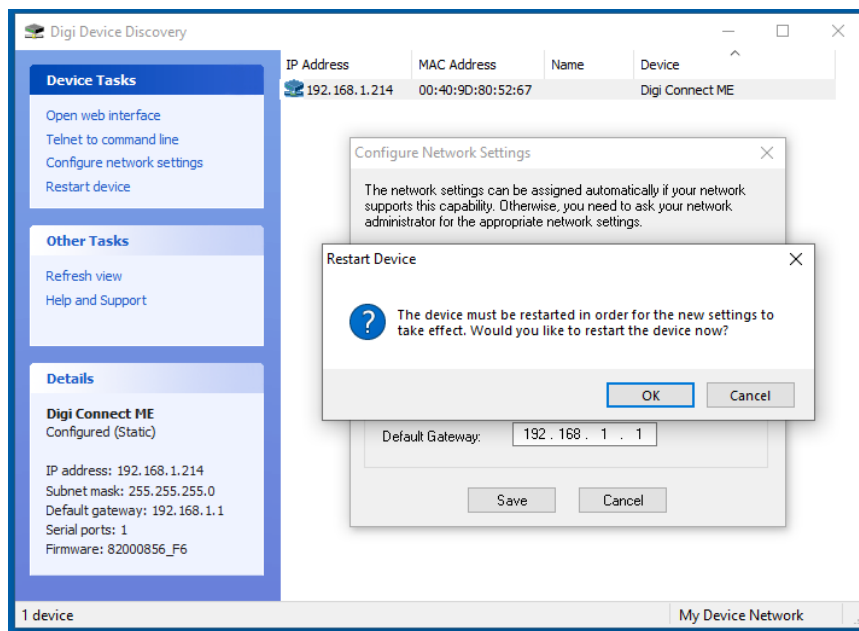
- 9. Insert the CD-ROM supplied with this upgrade kit into the appropriate drive on your computer, navigate to the “DeviceDiscoveryTool” folder on the CD and double click **dgdiscvr.exe** to start the program.
- 10. This opens the Digi Device Discovery app opens and displays Digi devices on the network. Any Digi brand devices found on the network will be listed in the window. Find the device with the MAC address you noted in step 6 of Part 1.



- 11. The next step in the setup procedure is configuring network settings. Refer to the notes you made on page 3 of this document. Select the device, then Configure network settings.
- 12. If your network/IT department does not support DHCP, choose “Manually configure network setting” enter the assigned IP address for the Ethernet Interface Module (noted on page 3 of this procedure), then click **Save**. In this example, the IP address to be assigned is **192.168.1.219**.



- 13. After clicking **Save**, another dialog will appear. Clicking **OK** will save the IP address and restart the Ethernet interface with the new IP address.



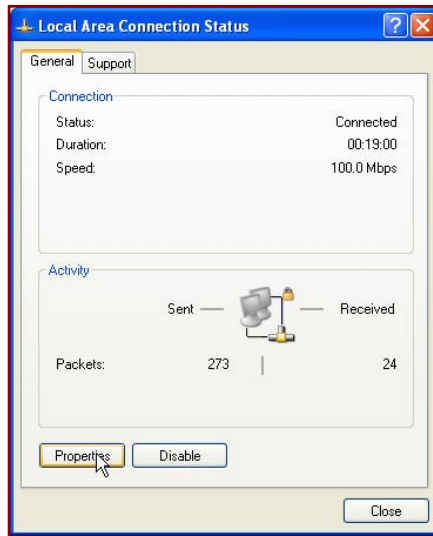
In the above example only the last octet of the IP address was changed. When changes are made to the first 3 octets of the IP address, then after the Ethernet Interface module reboots it will be on a different logical network. The IP address of the computer will need to be changed to match the different logical network as was done in step 6 of Part 1 to restore communication with the Ethernet Interface module.

In steps 14 through 18, you will reset the address for your local master station computer so that it can communicate with the Ethernet Interface Module on your network at its assigned address.

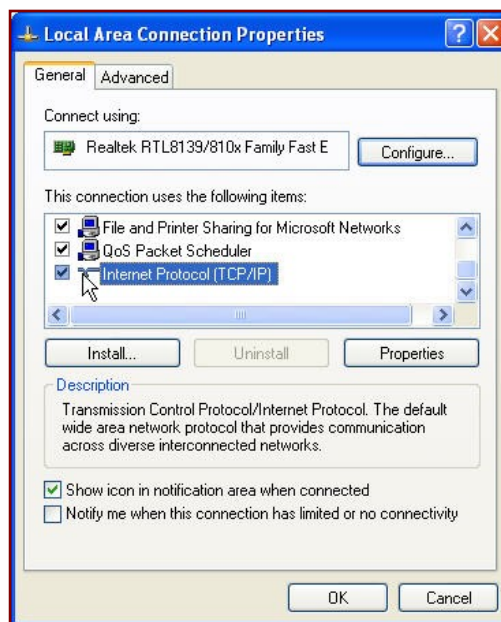
NOTE: You must unplug the computer from the cross-over cable and connect the computer to the local area network to complete the following steps.

14. Click **Start > Control Panel > Network Connections >** and double-click **Local Area Connection**.

- 15. In the **Local Area Connection Status** window, click **Properties**.



- 16. In the **Local Area Connection Properties** window, click to select **Internet Protocol (TCP/IP)**, then click **Properties**.



- 17. In the “Internet Protocol (TCP/IP) Properties” window, enter the settings you noted in step 5 of Part 2 (on page 12) above. Click **OK**.
- 18. Restart your computer to allow the new settings to take effect. Click **Start > Shut Down > Restart > OK**.

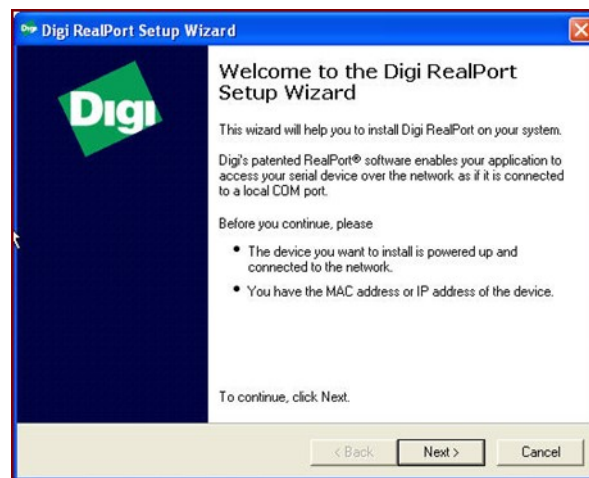
Part 3: Installing Drivers for the Ethernet Interface Module on a Master Station

Mehta Tech, Inc. recommends that you install the Ethernet Interface Module drivers (RealPort) on the local computer, then set up a station in Polycomm and connect to the DFR to make sure that the Ethernet connection is working before you close the cover of the DFR and return it to operating condition. We further recommend that the drivers be installed and a station set up in Polycomm on a remote computer to insure that computers outside the same subnet are able to connect to the DFR.

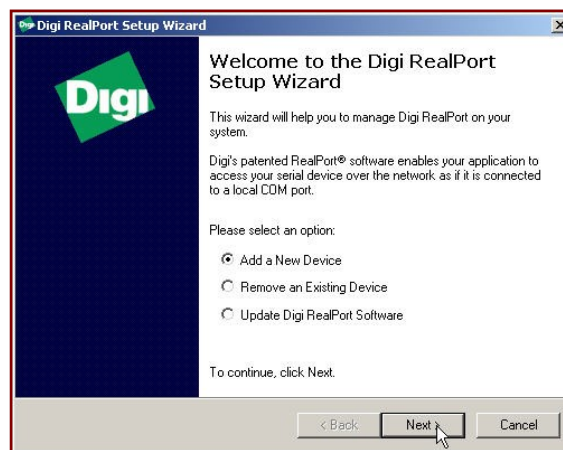
NOTE: These drivers must be installed on any computer that will be used to communicate with the DFR.

Follow these steps to install the RealPort drivers:

- 1. Insert the Ethernet Interface Drivers and Documentation CD-ROM (PN 9598) into the master station's CD-ROM drive. In My Computer or Windows Explorer, navigate to the CD-ROM drive and browse to find the **RealPrt** folder, then double-click **Setup32.exe** for a 32-bit computer. (Use **Setup64.exe** for a 64-bit computer.) You may see the following window:

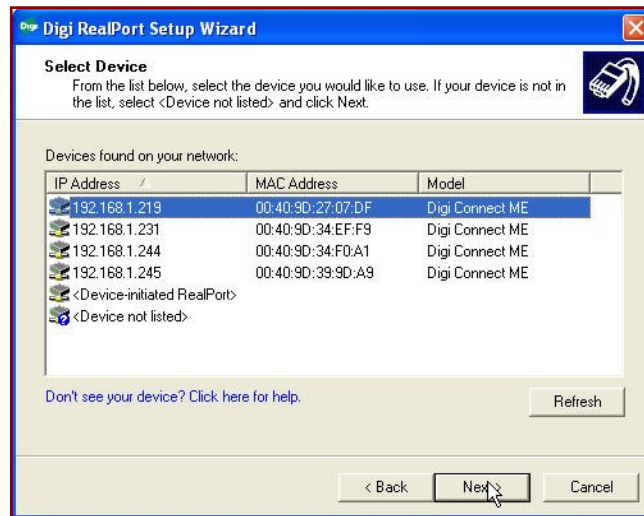


- 2. Or you may see a window like the following.

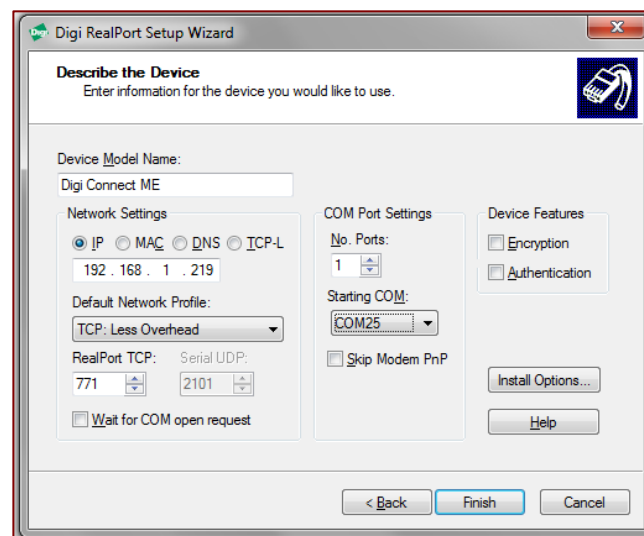


If you see the “Options” window, click the radio button for **Add a New Device**, then click **Next**.

- 3. Select the name of the device you installed (see the MAC Address on page 4). Click **Next**.



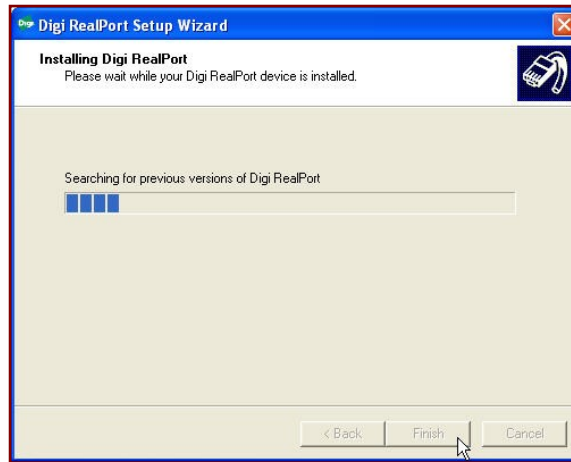
- 4. In the “Digi RealPort Setup Wizard” window, be sure that:
- You are connected to the Ethernet Interface Module at the chosen address (in this example, **192.168.1.219**).
 - The RealPort TCP is set to **771**.
 - You set a Com Port (Mehta Tech, Inc. recommends that you choose COM10 or higher).
 - Turn off **Encryption**. (You will be prompted to reaffirm your decision.) “Authentication”, “Wait for COM open request”, and “Skip Modem PnP” boxes are also unchecked.
 - Use the pull down arrow to change **Default Network Profile** from “TCP: Typical Settings” to “TCP: Less Overhead”¹



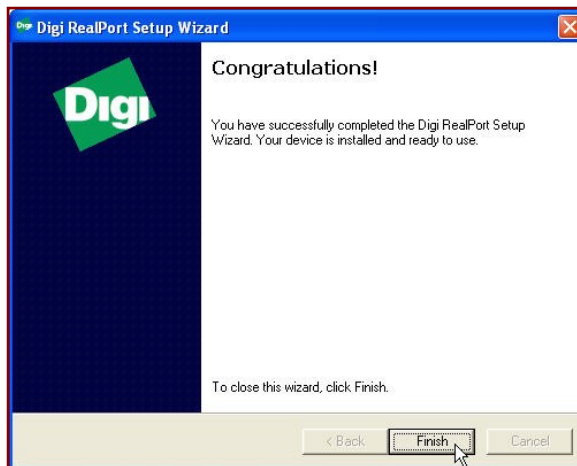
Click **Finish**.

¹ In many instances changing the Less Overhead Profile has improved the data transfer rate between the DFR and the Master Station PC. If after making this change you experience network issues, there may be network bandwidth allocation issues. See Appendix I for details of changing existing installations.

- 5. The wizard displays messages as it searches for and installs the ports.



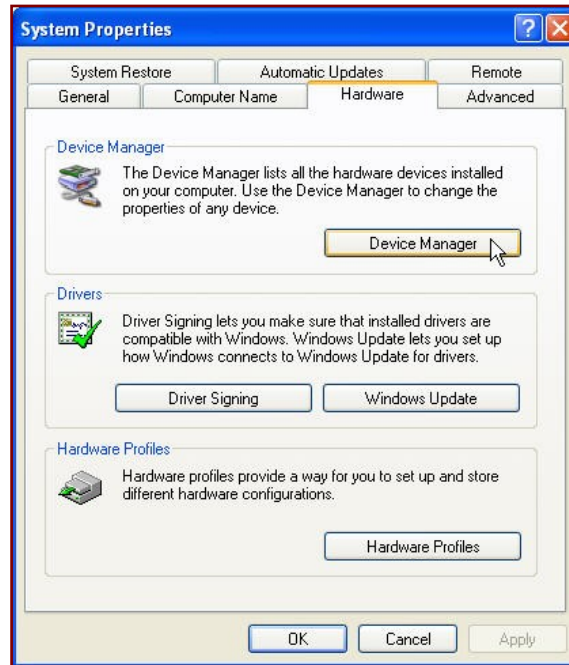
- 6. Click **Finish** to complete the installation procedure.



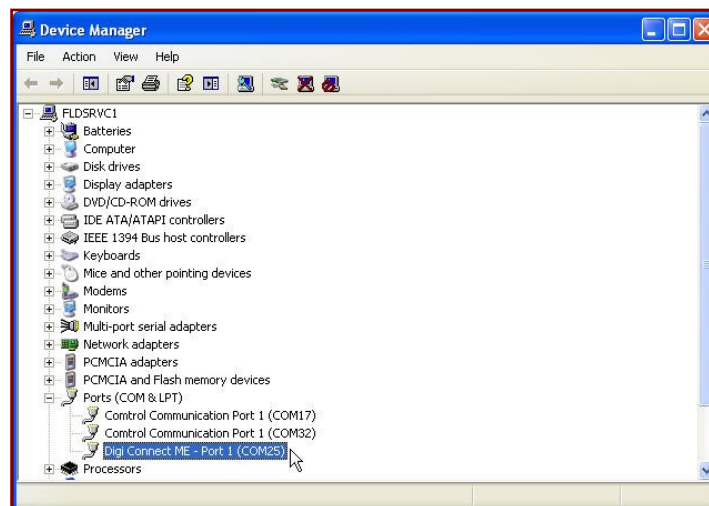
Part 4: Connecting to the DFR through the Ethernet using Polycomm

In order to set up a station to contact the DFR through the Ethernet connection using Polycomm, you need to know what port the Ethernet Interface Module is using. The following steps show you how to find the port number and IP address of the Ethernet Interface Module.

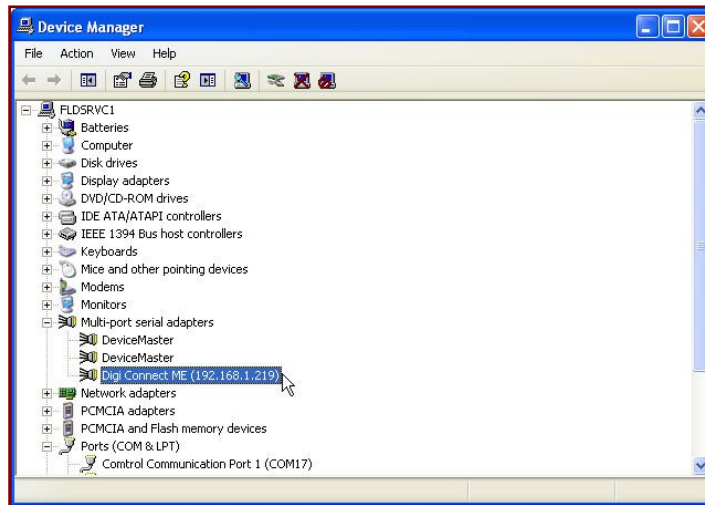
- 1. Click **Start > Settings > Control Panel > System**, the **Hardware** tab, and then click **Device Manager**.



- 2. Find the Digi Connect ME Device in the list of **Ports** and note the Port number:

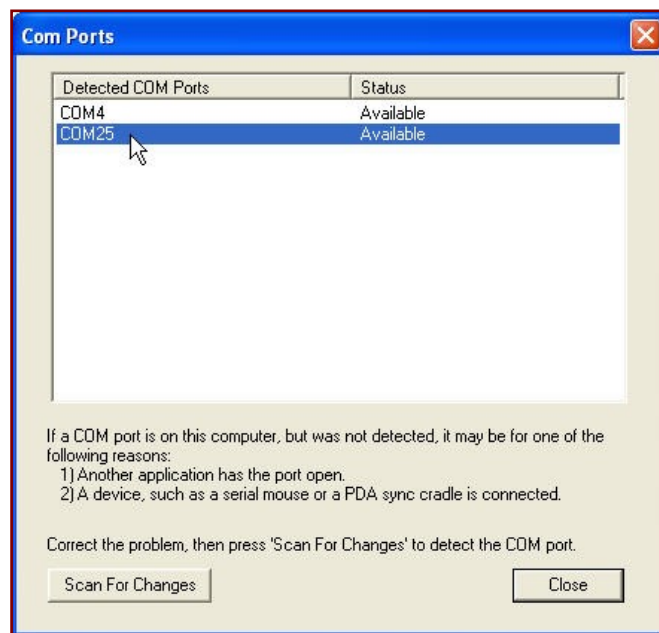


- 3. The address of the Ethernet Interface Module is listed after the name of the device under **Multi-port serial adapters**. Note that your list of Multi-port serial adapters may be much longer.

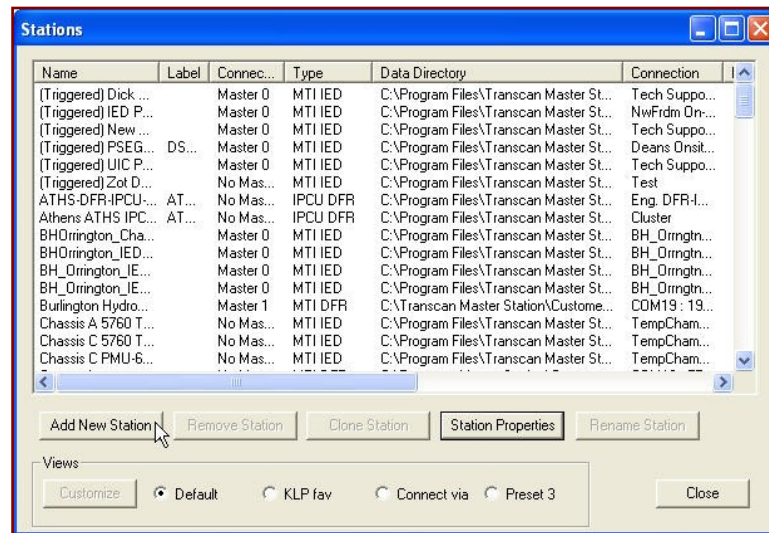


After you have noted the IP Address, close the “Device Manager” window.

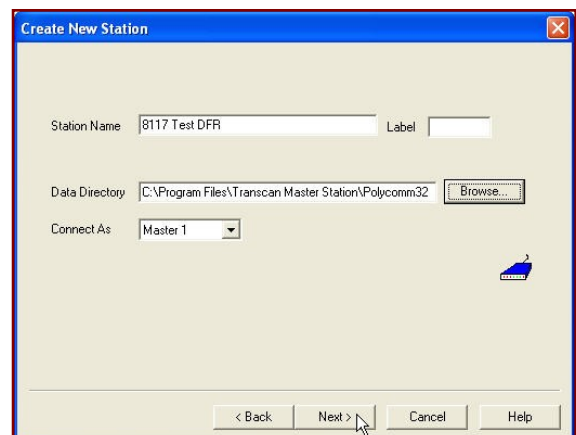
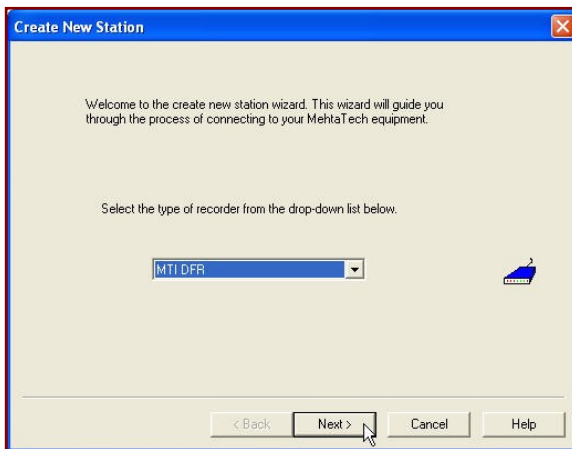
- 4. To set up a station to call the DFR through the Ethernet connection, start Polycomm by clicking **Start > Programs > Transcan Master Station > Transcan DFR > Polycomm**. Then click **Configure > Com Ports** to check that the port is present and available. Click **Close**.



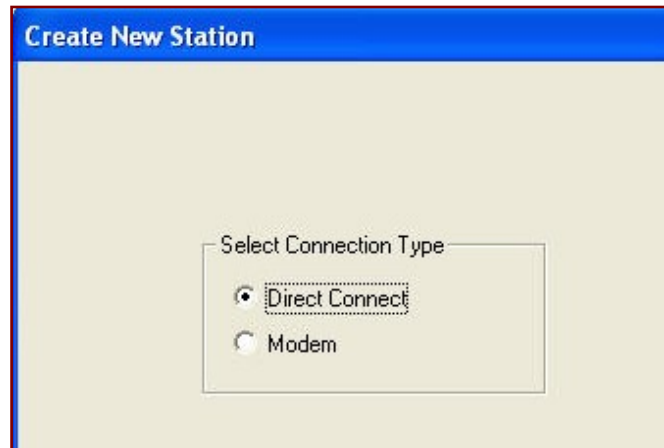
- 5. Click **Configure > Stations** and in the “Stations” window, click **Add New Station** to start the Station setup wizard.



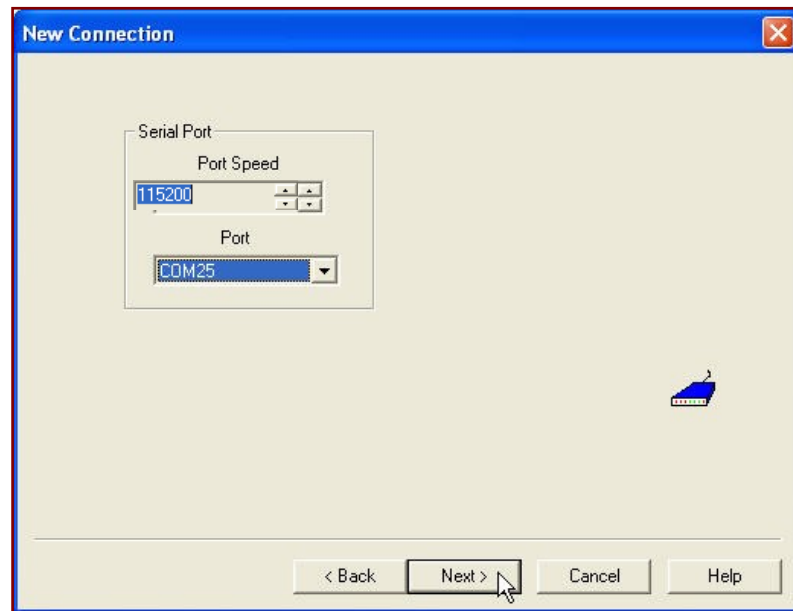
- 6. Follow the prompts to create a new station. Enter a station name, browse to locate/create the **Data Directory**, and choose **Master 0, 1, or 2**. Click **Next**.



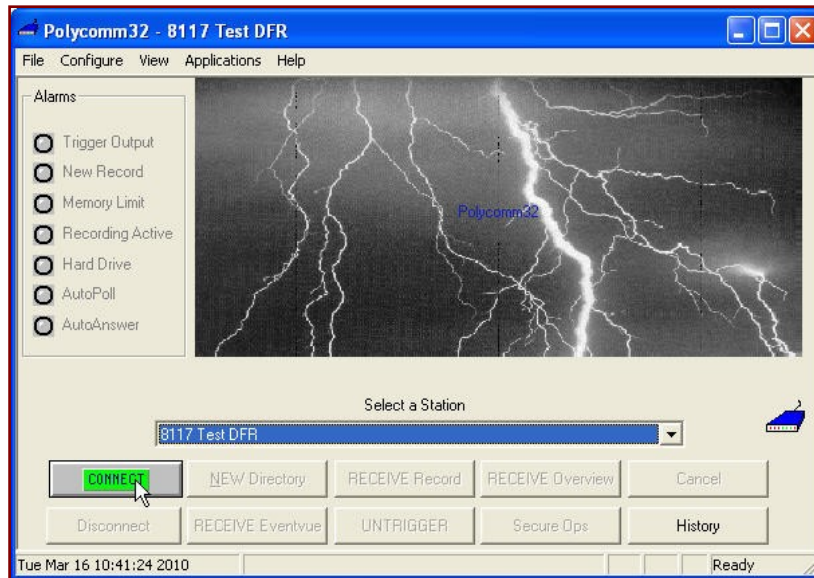
- 7. Choose **Direct Connect** in the following window, and then click **Next**.



- 8. Set the **Port Speed** to **115200** and select the **Port** you installed in the previous step of this procedure. Click **Next**.



- 9. In the next window, we recommend that you check **Disable System AutoPoll** and click **Finish**. Complete the station setup, then click **Close** in the next window to return to the Polycomm main window. Select the station from the drop-down list, then click **CONNECT**.



- 10. After you connect successfully, test the connection by receiving a record from the DFR.
- 11. Finally, click **Disconnect** to break the connection to the Ethernet Interface Module.

NOTE: If you do not click **Disconnect**, Polycomm will not release the port.

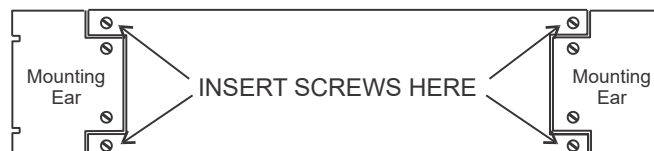
In steps 12 through 16, you will close the electronics chassis drawer and return it to normal operating condition.

- 12. Replace the cover (removed in Part 1, step 9 above) on the electronics chassis drawer and tighten the screws which hold the cover in place.

NOTE: Do not over-tighten these screws.

- 13. Push in the locking clips on the glide rails on both sides of the chassis drawer so that you can push the chassis drawer back into the enclosure. Be sure that any cables on the underside of the chassis clear the bottom of the enclosure so that the front panel is flush with the side mounting ears.

- 14. Insert the four screws into the front panel as shown below.

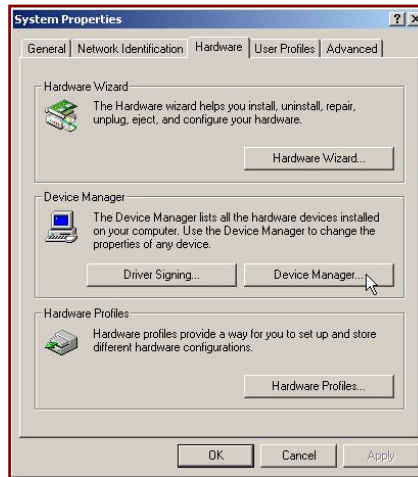


- 15. Replace any cables that were removed from the rear of the electronics chassis.
- 16. Connect to the network and verify the operation of the connection by receiving a file.
- 17. Add the enclosed hardware documentation to your hardware manual. Mehta Tech, Inc. grants your company the right to reproduce this information for use within your company.

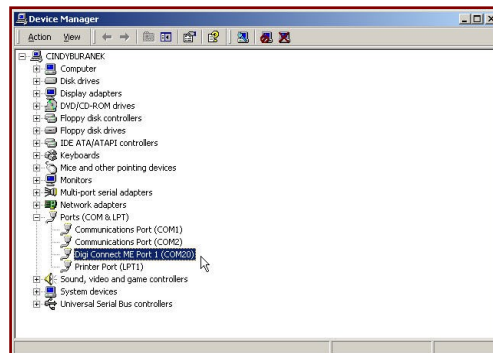
Appendix I

Certain Ethernet networks can reduce the data transfer rate over the link between the DFR and the Master Station computer. The size of the Ethernet packet overhead can be reduced by selecting an option within the drivers. Reducing packet overhead should eliminate this slow transfer rate problem. Here is how to configure the packet overhead size.

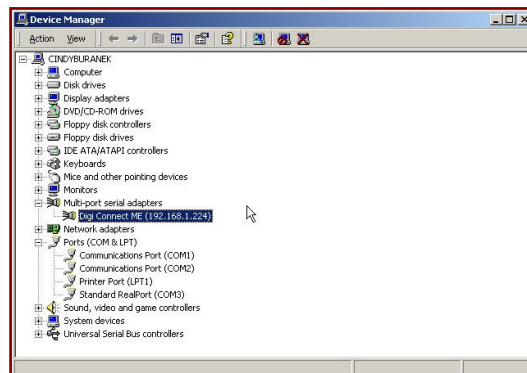
- 1. Click Start > Control Panel > System, the Hardware tab, and then click Device Manager.



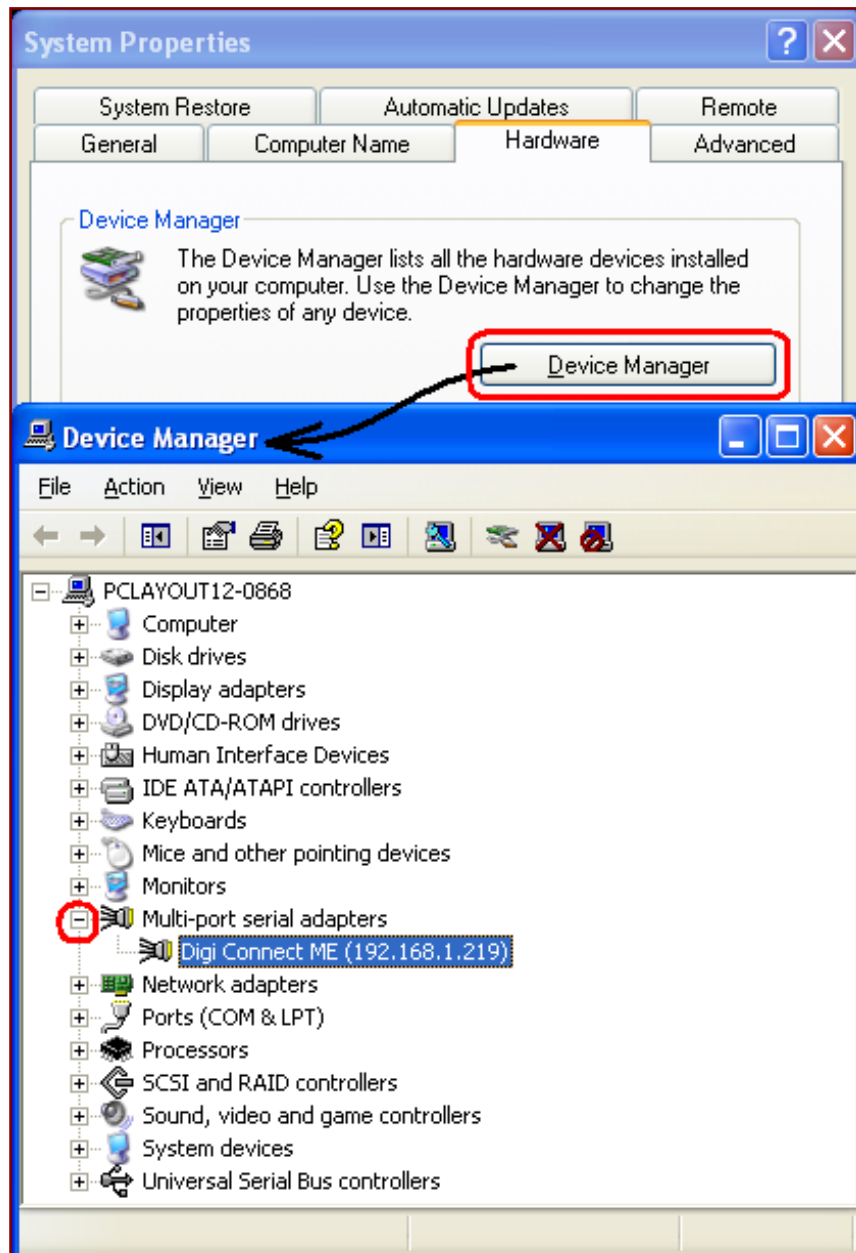
- 2. Find the Digi ME Device in the list of **Ports** and note the Port number. In this example the Digi has been assigned the port COM20.



- 3. The address of the Ethernet Interface Module is listed after the name of the device under **Multi-port serial adapters**. In this example the IP address is 192.168.1.244.



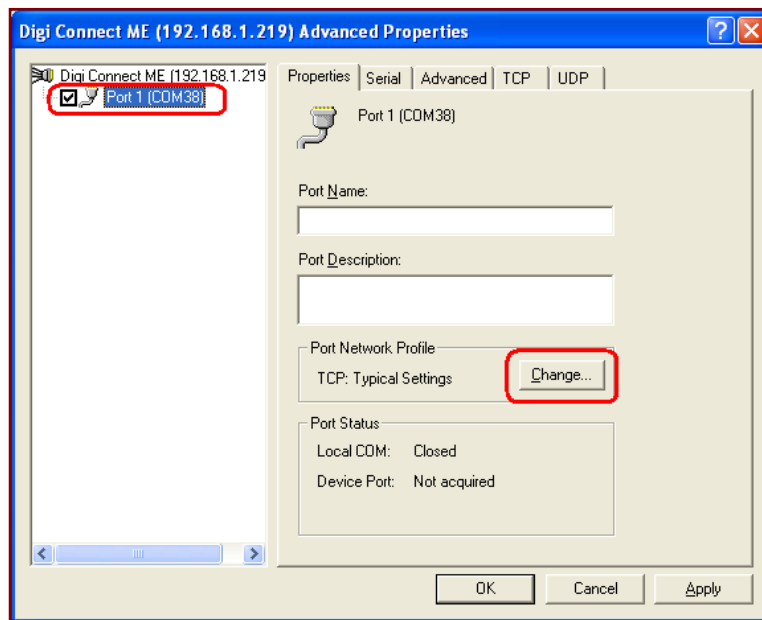
- 4. In Device Manager, expand **Multi-port serial adapters**. Installed “Digi Connect ME” drivers should display. (In this example the Master Station computer has one driver installed to communicate with one DFR. That DFR has an IP address of 192.168.1.219.)



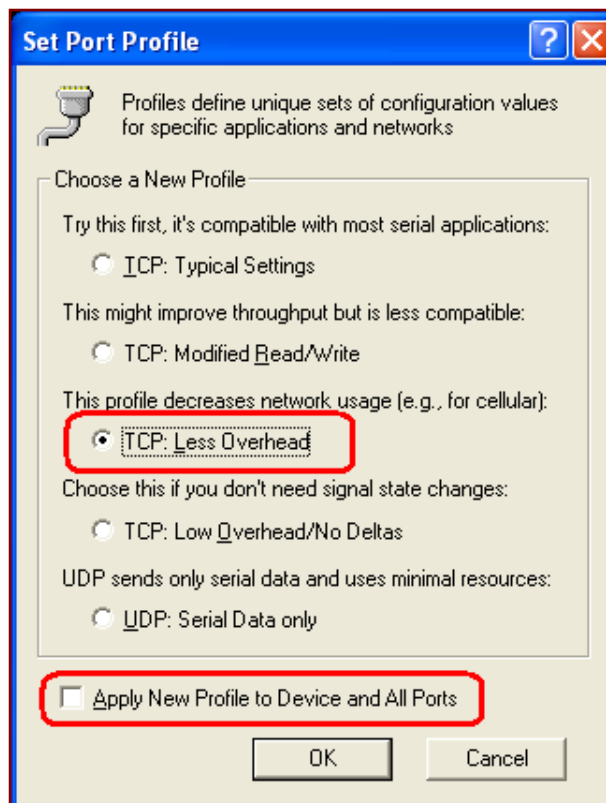
- 5. Right click on the **Digi Connect ME** driver to be updated. Select **Properties** from the pop-up menu.
- 6. Select the **Advanced** tab in the Properties window and click on the **Properties...** button. This brings up the “Advanced Properties” dialog box. Click on the text **Port 1 [COMxx]**. Note: do not click on the check mark in the box.

In this example the virtual port assigned to the driver is COM38. The tab names will change. Select on the “Properties” tab, if it is not already selected.

In the “Port Network Profile” box, click the **Change** button.



- 7. The “Set Port Profile” option box pops up. Select “**TCP: Less Overhead**”.



- 8. If additional RealPort drivers are listed in Device Manager and need to be updated, click on the check box for **Apply New Profile to Device and All Ports**. Click **OK**. Then click **OK** on the “Advanced Properties” dialog box. Allow the Device Manager to update. As it does this, “Ports (COM & LPT)” may expand temporarily while the change is in progress.
- 9. Close all the remaining windows used for this procedure.

Appendix II: Remove or Reconfigure Serial Port Expansion Module

Complete these steps if there is a serial port expansion module in the DFR.

A serial port expansion module configured to provide Com 2 will cause conflicts with the Ethernet Interface Module that you are installing with this upgrade. You must either remove the serial port expansion module or reconfigure the expansion module to turn off Com 2.

Here are the criteria for determining whether to remove or reconfigure the serial expansion module:

- ☐ 1. If the DFR has a V40 CPU (PN 9225), it may use a serial port expansion module to provide additional communication ports, and in units without a Real Time Clock module or PC-SG module, it may also provide a clock signal.
- ☐ 2. If you wish to retain the serial interface module, you must turn off Com 2 so that it does not conflict with the Ethernet module.

If you have a Diamond I/O Module 200, Revs. B and 200X (PN 9292) or a Mesa 6I23B/BF Rev. B Communications Module (PN 9392-1), you can reconfigure the serial port expansion module according to the switch settings on the following pages.

If you have a SeaLevel Duocom: Serial I/O Adapter (PN 9830), the module ***must be removed*** because there is no way to disable Com 2.

- ☐ 3. If your DFR has a V40-3 CPU (PN 9950) or a V40 CPU II (PN 9850), serial ports are available on the host processor itself and there is no need for a serial port expansion module. Please remove the serial port expansion module from the electronics chassis. Note that the V40-3 CPU and the V40 CPU II will automatically detect the Ethernet Interface Module's Com 2 port and will disable its own Com 2 port to prevent a conflict.

The only condition under which the Diamond I/O module should be kept in the system is when

- there is no Real Time Clock Module (PN 9698) or there is a PC-SG Module (PN 9434) *and*
- the Diamond I/O module supplies a clock signal.

In this case, reconfigure the Diamond I/O module as shown on the following pages.

If you are uncertain about your system's configuration, please contact Mehta Tech Customer Support at 563-285-9151, extension 21.

Reconfiguring Mesa 6I23B/BF Rev. B Comm. Module, PN 9392-1

The following strap settings will turn off Com 2 in the Mesa Comm. Module:

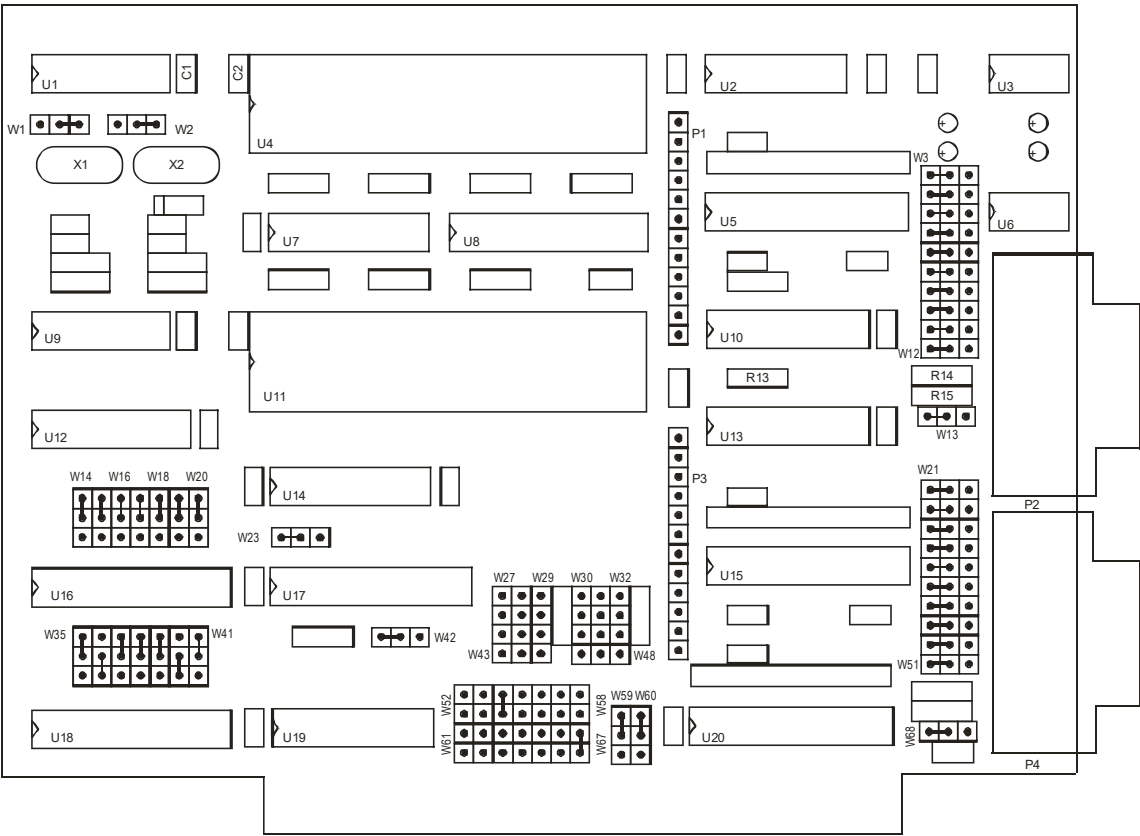


Figure 1: Option strap settings for Mesa Communication Module

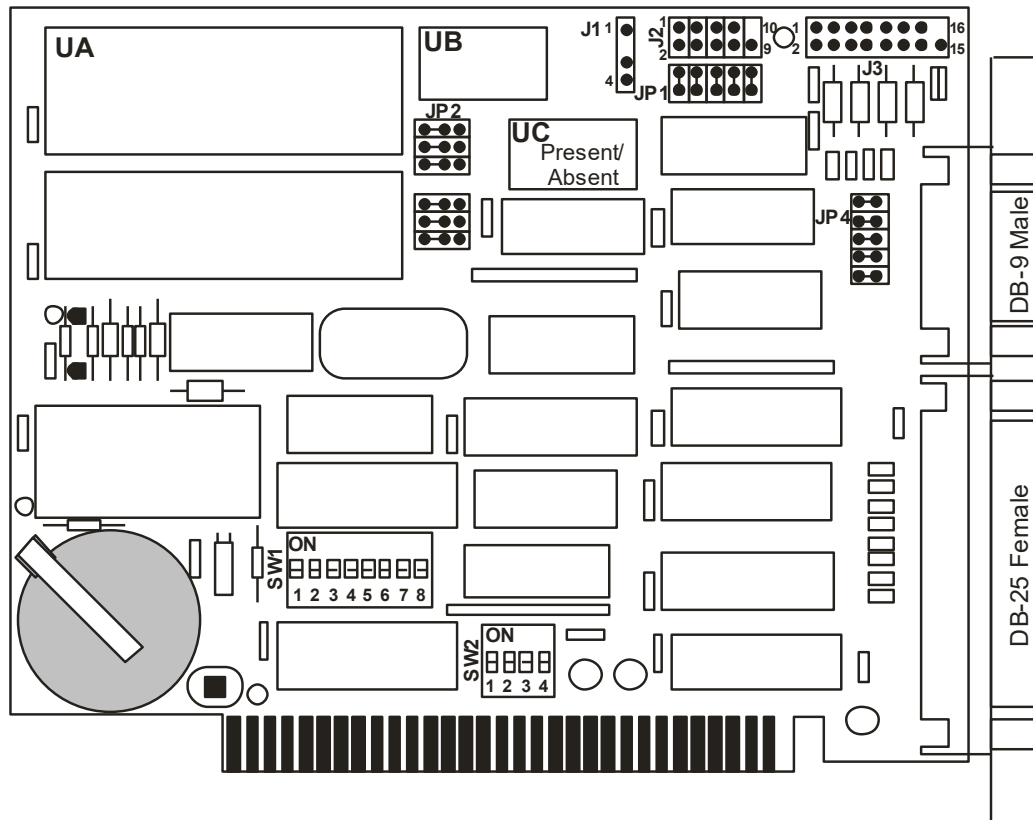
Reconfiguring Diamond I/O Module 200, Revs. B and 200X, PN 9292

Use the following table to determine which settings to use if there is a Diamond I/O module in the DFR.

Host Processor in DFR	IRIG-B Source	Action to be Taken	Refer to*
V40 (PN 9225)	RTC or PC-SG	Turn off Com 2 only, leave clock signal OFF	Figure 2
V40 (PN 9225)	NO RTC or PC-SG	Turn off Com 2 only, leave clock signal ON	Figure 3
V40 II (PN 9850)	NO RTC or PC-SG	Turn off Com 2 only, leave clock signal ON	Figure 3

*See following pages.

Note: J1 and J3 are not used. J2 is COM2.



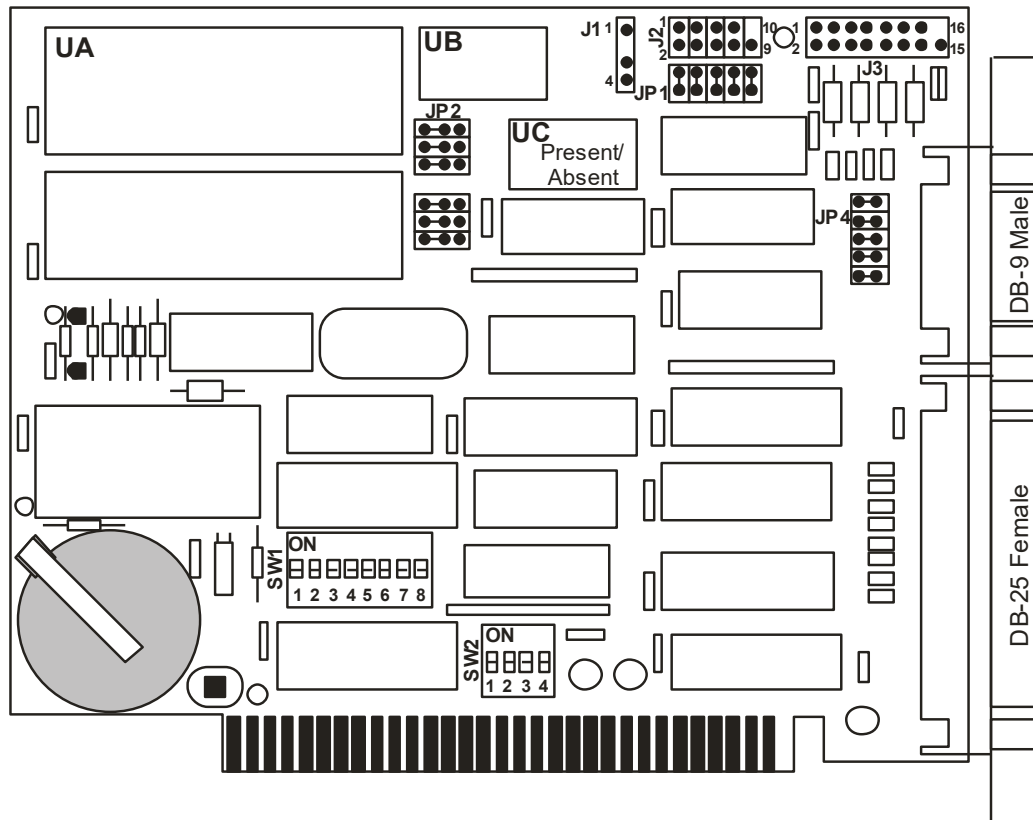
KEY for SW1 and SW2 Switch Settings



Figure 2: Switch Settings for Diamond I/O Module 200

- SW1 in this configuration sets the interrupt for the primary serial port to interrupt 4.
- SW2 in this configuration sets the primary serial port to Com 1 and disables Com 2. (Com 2 must be disabled for use with the Ethernet Interface.)
- SW2 in this configuration also disables the CMOS clock signal from the Diamond I/O module and allows the DFR to use the input from the Real Time Clock module as the time source.

Note: J1 and J3 are not used. J2 is COM2.



KEY for SW1 and SW2 Switch Settings



Figure 3: Strap and Switch Settings to allow Diamond I/O Module 200 to be DFR Clock Source

- SW1 in this configuration sets the interrupt for the primary serial port to interrupt 4.
- SW2 in this configuration sets the primary serial port to Com 1 and disables Com 2. (Com 2 must be disabled for use with the Ethernet Interface.)
- SW2 in this configuration also enables the Diamond I/O module to provide a clock signal in the absence of an IRIG-B time source.

End of document.