Digital Monitoring Products, Inc.
Installation/User's Guide

ETHER-COM™

DMP

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ETHER-COM Installation/User's Guide

Introduction

The ETHER-COM is a multiprotocol serial server that provides Ethernet connections for personal computers, terminals, modems, and devices that would not otherwise be connected to a network.

The ETHER-COM can be used in conjunction with Unix, NetWare, Windows NT, OS/2, and VMS hosts. Instead of requiring the user to enter commands for connection manipulation, the ETHER-COM acts as a directly-attached serial device on the host.

The ETHER-COM can be used to start outbound Ethernet connections to hosts on IPX/SPX, TCP/IP, and LAT networks. It can also provide interactive access to a device connected to its serial port. However, unlike traditional print servers, the ETHER-COM does not provide printing protocols such as LPR, RTEL, and PCONSOLE, or queueing support.

This manual explains how to install, configure, and use the ETHER-COM.

◆ The remainder of this chapter outlines ETHER-COM functionality.

◆ Chapter 2 explains how to install the ETHER-COM hardware and boot the server.

◆ Chapter 3 details different ways to log into the ETHER-COM and prepare the server for configuration.

◆ Chapter 4 covers basic configuration.

◆ Appendices provide technical support, troubleshooting, pinout, and specification information.

If you are an experienced user who is familiar with networking and serial servers, you may prefer to skip the installation information. Be sure to read the configuration chapter.

Terms

In this manual, the following terms are used to describe parts of a network.

◆ **Host** A computer attached to the network. The term "host" is generally used to denote interactive computers, or computers that people can log into.

◆ **Node** Any intelligent device directly connected to the Ethernet network such as a host, a printer, or a terminal server. All devices have their own Ethernet addresses. Devices connected to the ETHER-COM are not nodes.

◆ **Service** A resource that can be accessed locally or via the network. For example, a host is a service to which terminals can connect. The ETHER-COM can offer attached modems as services to the network.

◆ **Session** A logical connection to a service. A typical session is a terminal connected to a host through the server.

◆ **Local Mode** The ETHER-COM user interface. It is used to issue configuration and session management commands and to establish connections.

When in Local mode, users will see a "Local>" prompt.

Introduction

This chapter covers the installation of the ETHER-COM in an Ethernet network and the attachment of an XR200/462N. Basic knowledge of networking installation is assumed. Read this section completely before continuing.

ETHER-COM Components

The ETHER-COM front panel has a male DB25 serial connector. The rear panel has an RJ45 Ethernet connector, a reset button, and a power connector. Use of the network and power connectors is discussed in the following section.
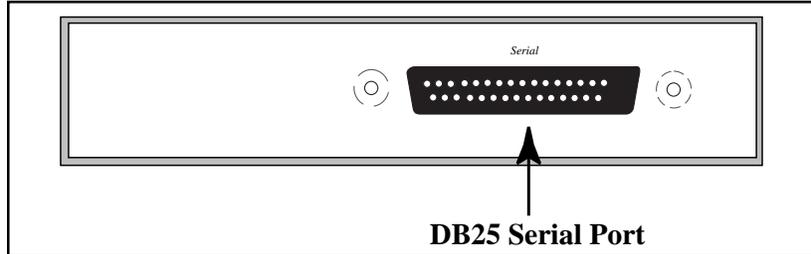
DB25 Serial Port

Figure 2-1: ETHER-COM™ Front Panel

RJ45 Ethernet Port   Reset Button   Power Connector
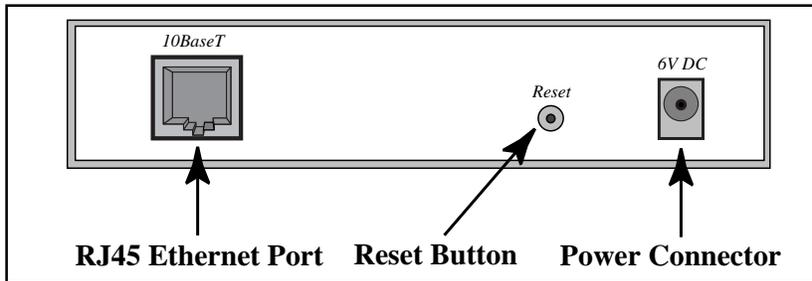
Figure 2-2: ETHER-COM™ Rear Panel

Four LEDs are located on the top of the unit.
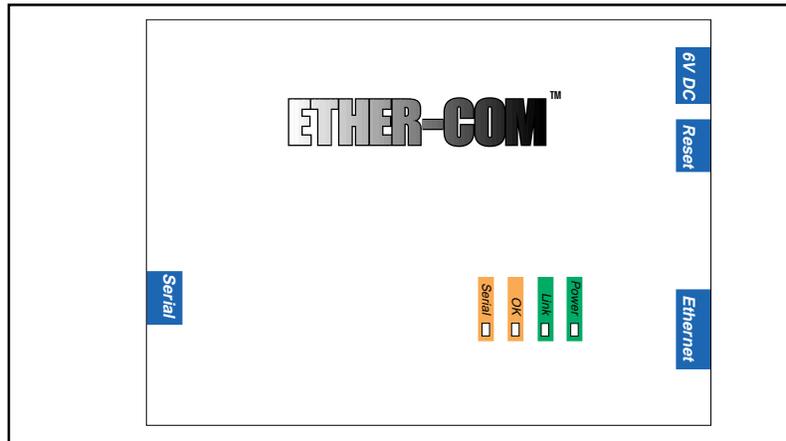
Figure 2-3: ETHER-COM Top Panel showing LEDs

The first LED is a power indicator, and should remain green while the ETHER-COM is plugged in. The second is a network link indicator, and should remain green while the ETHER-COM is connected properly to the network. Throughout the manual, these LEDs will be referred to as the Power and Link LEDs.

The remaining two LEDs indicate network and serial port activity. They will blink off, yellow, green, or red depending on the current activity. In this manual, these LEDs are referred to as the OK and Serial LEDs.

Although a red LED during boot mode usually signals an error, red LED patterns are part of the normal operation of the ETHER-COM and are not necessarily indicative of errors or dangerous operation.

Installation

Figure 2-4 shows an example hardware layout.

Figure 2-4: Example Hardware Layout

Select a Location

The ETHER-COM should be positioned close to the device it will be servicing but out of the way of everyday activity. Since powering down the unit will terminate any active 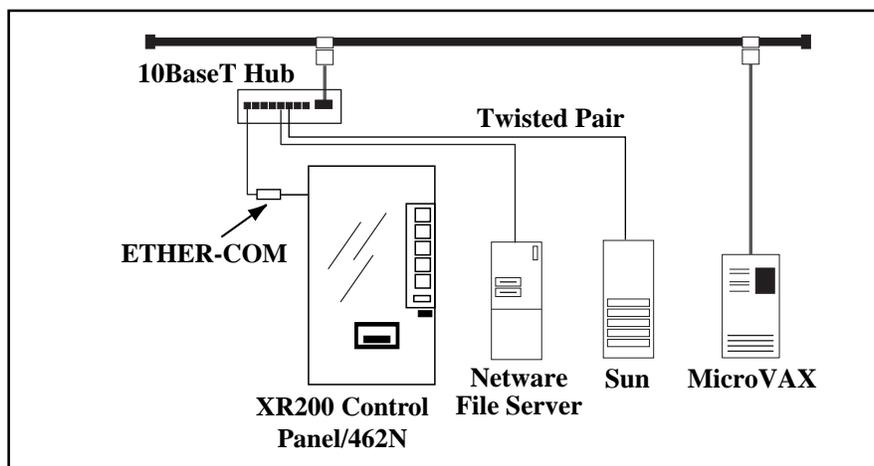sessions, it may be desirable to place the server in a location secure from user access. Also, be aware of the unit's environmental operating limits and cabling limits. See Appendix D for details.

Connect the ETHER-COM to a Serial Device

The ETHER-COM is designed to connect to an RS232-based serial device. Connect one end of a serial cable to the DB25 connector on the front of the ETHER-COM. Connect the other end to the RJ jack on the 462N.

Initially, you may want to connect a terminal to the serial port. The terminal will display any error messages and will allow you to view commands as you configure the ETHER-COM.

The serial port is initially set for 9600 baud, 8 data bits, one stop bit, and no parity.

Connect the ETHER-COM to the Ethernet

The ETHER-COM can be connected to a 10BASE-T Ethernet network. Connect the twisted-pair Ethernet cable to the RJ45 connector on the back of the ETHER-COM.

Provide Power

Attach one end of the power cable to the ETHER-COM; plug the other end into a wall outlet. At this point, there is power to the server, so be sure to use appropriate care when handling the unit. There is no power switch on the ETHER-COM; power will come on automatically when the unit is plugged in.

Check to see if the Power and Link LEDs on the front of the server light. If not, unplug the server and check the power supply, then check the Ethernet connection and plug the server in again. If the LEDs still do not light, refer to Appendix B, Troubleshooting.

Provide Power continued

Power-up Diagnostics

The ETHER-COM boot-up procedure consists of two steps. During normal operation, the boot process requires approximately 30 seconds to complete.

1. The ETHER-COM will run through a set of power-up diagnostics for approximately 5 seconds. The Power and Link LEDs should remain solid green; the OK and Serial LEDs will show varying patterns corresponding to the test being run.

The *Power and Link LEDs should be solid green if the unit is plugged in and there is a valid connection to a network.*

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2. The ETHER-COM will determine if the code in the Flash ROMs is valid. If so, it will load that code and begin normal execution. This requires approximately 5 seconds.

When the unit is running normally, the OK LED will blink green once every two seconds. If data is being transmitted on the Ethernet port, the OK LED will blink yellow. The Serial LED will blink red when characters are transmitted through the serial port, green when characters are received, and yellow when characters are both transmitted and received.

Is It Working?

If the ETHER-COM appears to be working (the Power and Link LEDs are lit, and the OK LED is blinking slowly) and the unit is connected to the network, there are two ways to confirm that it is working correctly:

◆ If you have a terminal attached, try logging in. If the ETHER-COM passes power-up diagnostics and you are able to log in, the server is running normally.

◆ If an IP address has been configured for the ETHER-COM (see page 7), ping the ETHER-COM from a TCP/IP host.

```
unix% ping xxx.xxx.xxx.xxx
```

Figure 2-5: Pinging the ETHER-COM

When you are satisfied that the ETHER-COM is working properly, proceed to Getting Started (page 7). If the server does not boot properly, see Appendix B, Troubleshooting.

Introduction

This chapter covers all of the steps needed to get the ETHER-COM on-line and running. There are two basic methods used to log into the ETHER-COM and begin configuration.

1. Serial Port Logins: Users can connect a terminal directly to the serial port, log in, and use the command line interface to configure the unit.

2. Remote Console Logins: TCP/IP users can make a Telnet connection to the remote console port, port 7000.

It is important to consider the following points before logging into and configuring the ETHER-COM:

◆ The ETHER-COM's IP address must be configured before any TCP/IP functionality is available (see *IP Address Configuration*).

◆ Only one terminal may be connected to the serial port.

◆ Only one person at a time may be logged into the remote console port, regardless of the protocol being used. This eliminates the possibility of several people simultaneously attempting to configure the ETHER-COM.

◆ Remote console logins cannot be disabled. The system manager should always be able to access the unit.

◆ The remote console port is password protected. For more information on system passwords, see *System Passwords* on page 10.

◆ Connecting a terminal to the serial port or logging into the remote console port does not automatically create privileged user status. You must enter the Privileged Password to configure the unit.

IP Address Configuration

For TCP/IP use, an IP address must be configured for the ETHER-COM before any TCP/IP functionality is available. The IP address is configured using the serial console.

Using the Serial Console

When you connect a terminal and press the Return key, you will see either a Boot prompt or a Local prompt.

If the unit does not complete the Boot process, a Boot prompt will be displayed. When you see this prompt, you can enter Boot Configuration Program (BCP) commands to get the unit up and running. For example, you can configure the unit's IP address.

```
Boot> CHANGE IPADDRESS 192.0.1.228
```

Figure 3-1: Entering the IP Address at the Boot Prompt

For more information on Boot Configuration Program (BCP) commands, refer to Entering Commands at the Boot Prompt on page 15.

If the ETHER-COM is running normally when you press the Return key, a Local prompt will be displayed. You can become the privileged user and enter the Change IPaddress command at this prompt.

```
Local>> CHANGE IPADDRESS 192.0.1.228
```

Figure 3-2: Entering the IP Address at the Local Prompt

Incoming TCP/IP Logins

Telnet

To log into the ETHER-COM, type Telnet followed by the ETHER-COM's IP address.

```
% telnet 192.0.1.88
```

Figure 3-3: Making a Telnet Connection

Unlike remote console logins (see page 9), incoming Telnet logins do not require the user to enter a login password.

Rlogin

Rlogin allows users to connect to a remote device as if they were on the local network. Rlogin is enabled by default, but can be disabled with the Change Rlogin Disabled command.

Controlling Incoming Logins

Incoming Telnet logins are enabled by default, but can be disabled with the Change Incoming command. This command is used with one of the following parameters:

◆ Telnet   Enables Telnet logins

◆ None   Disables Telnet and LAT logins

For security reasons, you may wish to disable incoming logins. If it is undesirable to disable incoming logins, the ETHER-COM can be configured to require a login password for incoming connections with the Change Incoming Password command.

```
Local> CHANGE INCOMING PASSWORD
```

Figure 3-4: Configuring an Incoming Password

The incoming password feature can be disabled with the Change Incoming Nopass command.

Serial Port Logins

One way to connect to the ETHER-COM is to attach a terminal to the serial port and press the Return key. If the unit is not yet configured, or if the booting attempt fails, a Boot prompt is displayed. This prompt enables you to enter a special set of commands, called Boot Configuration Program (BCP) commands, which are discussed in Appendix B.

If the unit passes its power-up diagnostics and completes the boot procedure, the Local prompt should be displayed. Proceed to the *Configuration* chapter to configure the unit using the command line interface.

Remote Console Logins

The ETHER-COM enables a TCP/IP user to configure the server through a single Telnet connection to the remote console port, designated as **port 7000**. Connections to the console port cannot be disabled, for example, with the Change Incoming command. This ensures that administrators will always be able to log into the port.

To connect to the remote console port, use the Telnet command followed by the ETHER-COM's IP address and the remote console port number.

```
% telnet 192.0.1.88 7000
Trying 192.0.1.88
Connected to 192.0.1.88
Escape character is `^]'


# access (not echoed)


DMP ETHR-COM Version n.n/n (yymmdd)
Type Help at the `Local>' prompt for assistance.


Enter Username> jerry
```

Figure 3-5: Connecting to the Console Port

Starting an Outbound Connection

When logged into the ETHER-COM, users can make basic outgoing connections using the methods below.

Telnet

To start an outgoing Telnet session, type Telnet at the Local prompt, followed by either the host's name or its numeric IP address.

```
Local> TELNET 192.0.1.66
```

Figure 3-6: Opening a Telnet Connection

Logout

To manually log out of the ETHER-COM, type **Logout** at the Local prompt or press Ctrl-D.

Introduction

Certain parameters must be configured before the ETHER-COM can function in the network. This chapter shows how to use the command line interface and ETHER-COM command set.

Command Set

The command line interface allows users to enter commands at the Local prompt to configure, monitor, and use the server. This chapter covers most of the ETHER-COM commands.

System Passwords

There are two important passwords for the ETHER-COM: the privileged password and the login password. These passwords have default settings and are discussed below.

Privileged Password

Changing any server, service, or port setting requires being the privileged user. To become the privileged user, enter the following command. The default privileged password is system.

```
Local> SET PRIVILEGED
Password> system (not echoed)
Local>>
```

Figure 4-1: Set Privileged Command

If another user is currently the privileged user for the ETHER-COM, use the Set Privileged Override command to forcibly become the privileged user. To relinquish privileged status, enter the Set Noprivilege command.

The privileged password can be changed with the Change Privpass command. Specify a new password of up to 6 alphanumeric characters.

```
Local>> CHANGE PRIVPASS "walrus"
```

Figure 4-2: Changing Privileged Password

Login Password

The login password is required for remote console logins. The default login password is access. To specify a new login password, use the Change Loginpass command and specify a new password of up to 6 alphabetic characters. Note that this command requires privileged user status.

```
Local>> CHANGE LOGINPASS "badger"
```

Figure 4-3: Changing Login Password

Default passwords may pose a security risk and should be changed. This is especially true of the privileged password.

TCP/IP Parameters

◆ **Subnet Mask:** This mask allows the server to decide at connection time whether a given TCP/IP host is part of the local network segment so that packets can be routed properly. A default subnet mask is created automatically when the ETHER-COM's IP address is configured, but it can be overridden.
Ex: CHANGE SUBNET MASK 255.255.255.0

◆ **Gateway:** TCP/IP networks rely on gateways to transfer network traffic to hosts on other networks. The ETHER-COM will learn which hosts are gateways for the local network by listening to broadcasted IP routing packets, unless it is explicitly told which hosts are gateways.
Ex: CHANGE GATEWAY 192.0.1.66

◆ **IP Security:** The serial port can be restricted to allow connections only to and from certain hosts on the network. Add entries to the local host table, and specify whether connections should be allowed or denied.
Ex: CHANGE IPSECURITY 192.0.1.255 DISABLED

Serial Port Configuration

The serial port is set for 9600 baud, 8 data bits, one stop bit, and no parity. These and other serial port features can be configured as shown below.

◆ **Port Access:** The serial port can be configured to initiate connections to services and permit local logins (local access), to accept only remote connections (remote access), or to allow both incoming and outgoing connections (dynamic, the default).

If the ETHER-COM is connected to a device that will be generating data, set the port to Remote access.

Ex: CHANGE ACCESS REMOTE

◆ **Baud Rate:** Specify a baud rate of 300, 600, 1200, 2400, 4800, 9600 (the default), 19200, 38400, 57600, or 115200 baud.
Ex: CHANGE SPEED 19200

◆ **Autobaud:** The autobaud feature can be enabled or disabled (the default). When enabled, the ETHER-COM automatically attempts to match its speed to that of the remote device upon connection.
Ex: CHANGE AUTOBAUD ENABLED

◆ **Character Size:** The ETHER-COM can use 8 data bits (the default) or 7.
Ex: CHANGE CHARSIZE 7

◆ **Stop Bits:** The ETHER-COM can use 1 stop bit (the default) or 2.
Ex: CHANGE STOPBITS 2

◆ **Parity:** The ETHER-COM supports even and odd parity, as well as settings of Mark, Space, and None (no parity, the default).
Ex: CHANGE PARITY EVEN

◆ **Flow Control:** Both RTS/CTS (hardware) and XON/XOFF (software) flow control methods can be used on the ETHER-COM. RTS/CTS controls data flow by sending serial port signals between two connected devices. XON/XOFF, the default, sends particular characters through the data stream instead. For no flow control, specify "None."
Ex: CHANGE FLOW CONTROL CTSRTS

Applications using control characters will conflict with XON/XOFF flow control, in which case RTS/CTS is recommended.

◆ **Modem Control:** When enabled, this feature allows the ETHER-COM to check for signals coming from the modem (or other attached serial device) to establish whether a valid connection exists. When modem control is enabled, the port will be logged out whenever DSR is de-asserted, and the ETHER-COM will de-assert DTR to end the connection to the remote device. It is disabled by default.

Ex: CHANGE MODEM CONTROL ENABLED

◆ **Signal Checking:** When signal checking is enabled, the ETHER-COM will check for the presence of a DSR signal before allowing an incoming connection. Remote connections to the serial port will not be permitted unless the DSR signal is asserted. It is disabled by default.

Example: CHANGE SIGNAL CHECK ENABLED

◆ **DTRWait:** DTRWait delays the ETHER-COM from asserting DTR until the port is actually in use, whether due to a login or a network connection. It is disabled by default.

Ex: CHANGE DTRWAIT ENABLED

◆ **DSRLogout:** When a device connected to the ETHER-COM is disconnected or powered off, the DSR signal is de-asserted. If DSRLogout is enabled, the ETHER-COM will automatically log out the port when DSR is de-asserted. It is disabled by default.

Ex: CHANGE DSRLOGOUT ENABLED

◆ **Inactivity Logout:** The ETHER-COM can be configured to automatically log out the serial port if it is idle for a specified period of time. This feature is disabled by default. See "Inactivity Timer" below.

Ex: CHANGE INACTIVE LOGOUT ENABLED

◆ **Inactivity Timer:** When Inactivity Logout is enabled (see above), the port will automatically log out after an idle period of 1 to 120 minutes, depending upon the specified timer value. The default is 30 (minutes).

Ex: CHANGE INACTIVE TIMER 2

◆ **Preferred Services:** If preferred services are configured, the ETHER-COM will attempt to use those services for connections when no service names are specified in Telnet (TCP) or Rlogin connection commands. A preferred service can be defined for each protocol, or the "None" keyword can be use to denote that there is no preferred service for that protocol. No preferred services are enabled by default.

Ex: CHANGE PREFERRED TCP 192.0.1.233
Ex: CHANGE PREFERRED NONE

◆ **Dedicated Service:** The ETHER-COM can be configured to only provide connections to a single dedicated service. When a dedicated service is configured, users will be connected to the service immediately upon login, and will be disconnected from both the service and the ETHER-COM upon logout. They will never see a Local prompt.

A dedicated service is configured the same way as a preferred service. No dedicated service is configured for the ETHER-COM by default (see the warning on page 4-8 for an explanation).

Ex: CHANGE DEDICATED TCP 192.0.1.233

Because dedicated connections leave no easy way to log into the server, configuring the ETHER-COM's single serial port for dedicated service is not recommended unless incoming logins are enabled. Otherwise, only Telnet console port connections are possible.

◆ **Autostart:** Normally, the serial port will wait for a carriage return before starting a connection. When the Autostart option is enabled, the connection will be established as soon as the unit boots. If modem control is enabled, the connection will be established as soon as the DSR signal is asserted.

Note that a port set for Autostart will not be idle unless DTR is held low, and therefore will not be available for network connections. If network connections are desired, Autostart should remain disabled (the default).

Ex: CHANGE AUTOSTART ENABLED

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Technical Support

If you are experiencing problems with the ETHER-COM or have suggestions for improving the product, please contact DMP Technical Support.

If you are submitting a problem, please provide the following information:

◆ Your name, company name, address, and phone number

◆ Product name

◆ Unit serial number

◆ Software version (issue the Show Server command)

◆ Network configuration including the output of a Netstat command

◆ Description of the problem

◆ Debug report (stack dump) if applicable

◆ Product status when the problem occurred. Please include information on user and network activity at the time.

◆ If the problem is related to the serial port, please include the results of Show Port and Show Server Characteristics.

Introduction

This Appendix discusses different errors, symptoms of each type of error, and how to diagnose and fix errors quickly yourself without having to contact a dealer or DMP.

Problem situations and error messages are listed in Table B-1. To help diagnose errors, connect a terminal to the ETHER-COM serial port. If you cannot find an explanation for your problem, or if the error message displayed on your terminal is not specifically listed in Table B-1, try to match it to one of the other errors. If you cannot remedy the problem, contact your dealer or DNS Technical Support.

When troubleshooting, always ensure physical connections (power cable, network cable, and serial cable) are secure.

Some unexplained errors may be caused by duplicate IP addresses on the network. If your are using a TCP/IP network and are experiencing a problem that is not listed in this appendix, verify that your ETHER-COM's IP address is unique to the network.

Problems and Error Messages

Problem/Message	Error	Remedy
The ETHER-COM is connected to a power source, but there is no LED activity.	The unit or its power supply is damaged.	Contact your dealer or DNS technical support for a replacement unit or power supply.
The ETHER-COM is unable to complete its power-up diagnostics.	This generally indicates a hardware fault. Either the OK LED or the Serial LED will be solid red for three seconds, followed by one second of another color; the color will help to diagnose the specific problem.	Note the blinking LED and its color, then contact your dealer or DNS. The ETHER-COM will not be operational until the fault is fixed.
The ETHER-COM completes its power-up and boot procedures, but there's no noticeable serial activity (the Serial LED doesn't blink, there is no display on the terminal, or pressing the Return key does not display a prompt).	There is a problem with the serial connection or the set-up of the serial device. A rapidly-blinking OK LED may signal boot failure.	Check the terminal setup and the physical connections, including the cable pinouts (see Appendix C). If the problem persists, try another serial device or cable, or try cycling power on the ETHER-COM. Try rebooting the unit. When the ETHER-COM is running normally, the LED blinks every 2 seconds.
"Invalid Ethernet address"	The ETHER-COM Ethernet address is invalid.	The ETHER-COM Ethernet address is located on the bottom of the unit. Use the **Change Hardware** command to set the correct address (see page 7), then reboot the unit.
"Network Fault"	The ETHER-COM is not connected properly to the Ethernet.	Ensure the Ethernet connection is secure, and the ETHER-COM is connected to a functional and properly terminated network node.
The terminal shows a Boot> prompt rather than a Local> prompt.	The ETHER-COM in not connected properly to the Ethernet. The ETHER-COM Ethernet address is invalid. **Init Noboot** command was entered.	Ensure the Ethernet connection is secure, and the ETHER-COM is connected to a functional and properly terminated network node. The ETHER-COM Ethernet address is located on the bottom of the unit. Use the **Change Hardware** command to set the correct address (see page 7), then reboot the unit. Refer to *Entering Commands at the Boot Prompt* on page 15.
"Request BOOTP: no valid reply received. This message will only show if BOOTP queries are enabled.	The BOOTP request has failed.	The unit will still boot. If you configured a BOOTP server for the ETHER-COM, check the BOOTP server's configuration.
"Request RARP: no valid reply received. This message will only show if RARP queries are enabled.	The RARP request has failed.	The ETHER-COM will still attempt to boot. If you configured a RARP server for the ETHER-COM, check the RARP server's configuration. In general, the ETHER-COM name and Ethernet address must be in the host's **/etc/ethers** file and the ETHER-COM and its IP address must be in the **/etc/hosts** file. Also, many operating systems do not start a RARP server at boot time. Check the host's RARPD documentation for details.

Table B-1: Problems and Error Messages

Entering Commands at the Boot Prompt

If the Boot prompt appears on the serial console instead of the Local prompt, one of two things may be wrong. Either the ETHER-COM does not have enough information to boot, or the network or flash boot has failed. If pressing the Return key does not display a prompt, press any other key. The Boot prompt should appear.

If the message "Will attempt another download in x minutes" is displayed, press the Return key for the Boot prompt.

A series of commands called Boot Configuration Program (BCP) commands can be entered at the Boot prompt to configure the ETHER-COM. These commands are a subset of the entire ETHER-COM command set.

For example, a typical TCP/IP configuration might use the following commands:

```
Boot> CHANGE IPADDRESS 192.0.1.229

Boot> CHANGE GATEWAY 192.0.1.201
```

Figure B-1: BCP Command Examples

This command sets the ETHER-COM's address.

The following commands are available from within the Boot Configuration Program.

◆ **Help** displays a one-page summary of available commands and what they do.

◆ **Change** *option* tailors your server configuration and is used with one or more of the options listed below.

   ◆ **BOOTP {Enabled, Disabled}** enables or disables the sending of BOOTP queries during the boot sequence. It is enabled by default.

   ◆ **Hardware** *xx-xx-xx* specifies the last three numbers of the server's Ethernet address. The first three numbers will be supplied automatically.

The Ethernet address should have been set at the factory. Setting an incorrect address could cause serious network problems.

   ◆ **Ipaddress** *ip_address* specifies this server's IP address. Uses the standard numeric format.

   ◆ **RARP {Enabled, Disabled}** enables or disables the sending of RARP queries during the boot sequence. It is enabled by default.

◆ **Show Server** can be used before and/or after issuing other commands to view the current ETHER-COM setup.

◆ **Flush NVR** is used to restore the ETHER-COM' nonvolatile RAM to its factory default settings. It will reset everything that is configurable on the server, including the unit's IP address.

DB25 Connector Pinout

The figure below shows the pin connections of the ETHER-COM DB25 connector. Unlabeled pins are not connected.
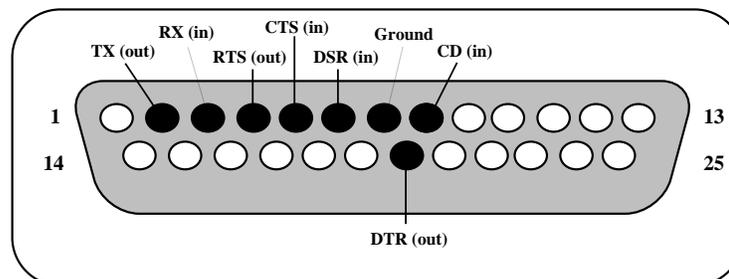
Note: The ETHER-COM DB25 connectors are male. Pinouts for
female DB25 connectors are the opposite of this pinout.

Figure C-1: Pinout of Serial Port

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Modem Wiring

DSR (Data Signal Ready) versus CD (Carrier Detect)

By default, most modems assert CD only during a valid connection. In this case the modem's CD pin may be wired to the ETHER-COM's DSR pin. Alternately, many modems can be configured such that DSR acts like CD. In this case, the modem's DSR pin may be wired to the ETHER-COM's DSR pin. Wiring the modem as described may permit the use of pre-assembled connectors.

DTR (Data Terminal Ready)

The ETHER-COM normally asserts DTR. When modem control is enabled, the server will de-assert DTR for three seconds each time the port is logged out and each time a user disconnects from a modem service. The modem must be configured to hang up and recycle when DTR is de-asserted. If the modem is not configured in this way, sessions may not be properly disconnected.

Specifications

This appendix lists the power requirements, temperature requirements, altitude limitations, and relative humidity limitations of the ETHER-COM.

Power Specifications

The ETHER-COM is supplied with a power cube adaptor.

Adapter input voltage:	110 VAC (domestic)
	220 VAC (international)
Adapter output voltage:	6 VDC
Operating current:	700mA at 6 Volts
Power consumption:	15 Watts (maximum)

Temperature Limitations

Operating range:	5½ to 50½C (41½ to 122½ F)
Storage range:	-40½ to 66½C (-40½ to 151½F)
Maximum temperature change per hour:	20½C (36½F)

Rapid temperature changes may affect operation. Do not operate the ETHER-COM near heating or cooling devices, large windows, or doors that open to the outside.

Altitude Limitations

Operating: 2.4 km (8,000 ft)

Storage: 9.1 km (30,000 ft)

If you are operating the ETHER-COM above 2.4 km (8,000 ft), decrease the operating temperature rating by 1.8½C for each 1,000 m (1½F for each 1,000 ft).

Relative Humidity Limitations

Operating range:	10% to 90% (non-condensing)	(40% to 60% recommended)
Storage range:	10% to 90% (non-condensing)	

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Configuration for use with a DMP 462N or SCS-1 Receiver

This configuration is designed for applications where the Ether-Com server is used as the interface between the DMP SCS-1 Receiver and an ethernet network and/or the 462N Network Interface Card on an XR200 panel and an ethernet network.

XR200/462N

Connect the ETHER-COM to a terminal configured for 9600 baud, 8 bits, no parity. Connect the ETHER-COM to an Ethernet network. Apply power to the unit. If the unit passes its power-up diagnostics and completes the boot procedure, the **username>** prompt should be displayed.

Enter your name and press the Return key. Become the privileged user. See chapter 4.

Enter the following commands at the Local>> prompt:

1. *CHANGE IPADDRESS xxx.xxx.xxx.xxx* (where xxx... is the IP address for the unit. Note: This address must be unique to the network).

2. *CHANGE GATEWAY xxx.xxx.xxx.xxx* (where xxx... is the IP address for the Gateway or router attached to this LAN segment).

3. *CHANGE BOOTP DISABLED*

4. *CHANGE RARP DISABLED*

5. *CHANGE SPEED xxx* (where xxx is the baud rate configured on the 462N (300 to 9600 baud)).

6. *CHANGE FLOW CONTROL NONE*

7. *CHANGE DEDICATED TCP xxx.xxx.xxx.xxx:*2001U (where xxx... is the IP address of the ETHER-COM connected to the SCS-1 Receiver).

8. *CHANGE AUTOSTART ENABLED*

9. *SHOW SERVER* - Check and confirm the unit IP address and Gateway address. The unit is now ready to be connected to the 462N with the cable provided with the ETHER-COM.

10. *SHOW PORT* - Check and confirm the speed, flow control, dedicated service, and autostart options are set correctly.

11. *LOGOUT*

Important Note

Once the ETHER-COM has been configured in this manner, no local access is allowed through the serial port while the unit is connected to the network. To reconfigure the Ether-Com you must remove power from the unit, disconnect it from the network, and then reapply power. Press the Enter key within 10 seconds to enter the configuration mode. Enter the command FLUSH NVR to return the unit to its factory defaults. This erases all options including the IP address.

SCS-1 Receiver

The unit that connects to the SCS-1 Receiver is configured in the same manner with the exception of Dedicated Service.

The CHANGE DEDICATED option will not include any IP address, CHANGE DEDICATED TCP :2001U. This is necessary because the unit connected to the receiver will need to communicate with many different IP addresses.

Configuration for use with Remote Access+™ on a PC

This configuration is for applications where the Ether-Com server is used as the ethernet network interface for an IBM compatible PC on which is installed the DMP Remote Access™ software. The Remote Access program is used as a monitoring automation system and should be configured for HST Monitoring to allow it to process incoming alarm and system information from DMP panels installed on the same network.

HST Monitoring

Connect the ETHER-COM to a terminal, or a PC running a terminal communication program, configured for 9600 baud, 8 bits, no parity. Connect the ETHER-COM to an Ethernet network. Apply power to the unit. If the unit passes its power-up diagnostics and completes the boot procedure, the **username>** prompt should be displayed.

Enter your name and press the Return key. Become the privileged user. See chapter 4.

Enter the following commands at the Local>> prompt:

1. *CHANGE IPADDRESS xxx.xxx.xxx.xxx* (where xxx... is the IP address for the unit. Note: This address must be unique to the network).

2. *CHANGE GATEWAY xxx.xxx.xxx.xxx* (where xxx... is the IP address for the Gateway or router attached to this LAN segment).

3. *CHANGE BOOTP DISABLED*

4. *CHANGE RARP DISABLED*

5. *CHANGE SPEED 9600*

6. *CHANGE FLOW CONTROL NONE*

7. *CHANGE DEDICATED TCP: 200IU*

8. *CHANGE AUTOSTART ENABLED*

9. *SHOW SERVER* - Check and confirm the unit IP address and Gateway address. The unit is now ready to be connected to the PC with a standard serial cable.

10. *SHOW PORT* - Check and confirm the speed, flow control, dedicated service, and autostart options are set correctly.

11. *LOGOUT*

Important Note

Once the ETHER-COM has been configured in this manner, no local access is allowed through the serial port while the unit is connected to the network. To reconfigure the Ether-Com you must remove power from the unit, disconnect it from the network, and then reapply power. Press the Enter key within 10 seconds to enter the configuration mode. Enter the command FLUSH NVR to return the unit to its factory defaults. This erases all options including the IP address.

Configuration for use with Remote Access+™ on a PC continued

This configuration allows you to connect to DMP panels sharing a common ethernet network for programming and diagnostic purposes.

Ether-Com™ Programming

Connect the ETHER-COM to a terminal, or a PC running a terminal communication program, configured for 9600 baud, 8 bits, no parity. Connect the ETHER-COM to an Ethernet network. Apply power to the unit. If the unit passes its power-up diagnostics and completes the boot procedure, the **username>** prompt should be displayed.

Enter your name and press the Return key. Become the privileged user. See chapter 4.

Enter the following commands at the Local>> prompt:

1. *CHANGE IPADDRESS xxx.xxx.xxx.xxx* (where xxx... is the IP address for the unit. Note: This address must be unique to the network).

2. *CHANGE GATEWAY xxx.xxx.xxx.xxx* (where xxx... is the IP address for the Gateway or router attached to this LAN segment).

3. *CHANGE BOOTP DISABLED*

4. *CHANGE RARP DISABLED*

5. *CHANGE SPEED 9600*

6. *CHANGE FLOW CONTROL NONE*

7. *CHANGE VERIFY ENABLED*

8. *CHANGE LOCAL SWITCH }*

9. *SHOW SERVER* - Check and confirm the unit IP address and Gateway address. The unit is now ready to be connected to the PC with a standard serial cable. You must power the unit up without being connected to the network so the boot prompt will be displayed. Enter the command FLUSH NVR to return the unit to its factory defaults.

    Note: This erases all options including the IP address.

10. *SHOW PORT* - Check and confirm the speed, flow control, dedicated service, and autostart options are set correctly.

11. *LOGOUT*

Important Note

Once the ETHER-COM has been configured in this manner, no local access is allowed through the serial port while the unit is connected to the network. To reconfigure the Ether-Com you must remove power from the unit, disconnect it from the network, and then reapply power. Press the Enter key within 10 seconds to enter the configuration mode. Enter the command FLUSH NVR to return the unit to its factory defaults. This erases all options including the IP address.