

NETEDIT—ETHERNET SETUP UTILITY FOR HOST AUTOMATION PRODUCTS



In This Appendix...

Basic Ethernet wiring and setup.....	E-2
Network Wiring	E-2
Maximum Cable Length.....	E-3
IP Addressing and Subnets	E-3
NetEdit 3 Software	E-4
Installing NetEdit 3.....	E-4
Launching NetEdit 3	E-4
The NetEdit 3 Screen	E-5
Using NetEdit 3	E-5
Ethernet Communications Protocol	E-9
Ethernet Address	E-10
F/B/C Columns	E-10
Module Type, IP Address, ID, Name and Description.....	E-11
Configuration: General Settings	E-14
Configuration: Serial Port Settings.....	E-15
Configuration: I/O Base settings.....	E-16
Configuration: Advanced settings	E-17
Configuration: Peer to Peer configuration.....	E-18
Configuration: Email configuration	E-21
Configuration: Start Web based Config	E-22
Utils: Test CPU Access!	E-26
Utils: Test EMail.....	E-27
Utils: Show Base Contents	E-28
Firmware: Update Firmware, Update Booter and Restore Factory Settings.....	E-28
When NetEdit Does Not Work	E-29

Basic Ethernet wiring and setup

This appendix is intended to provide information on Ethernet network wiring and the use of the NetEdit 3 utility to configure and update HOST Engineering Ethernet-enabled modules:

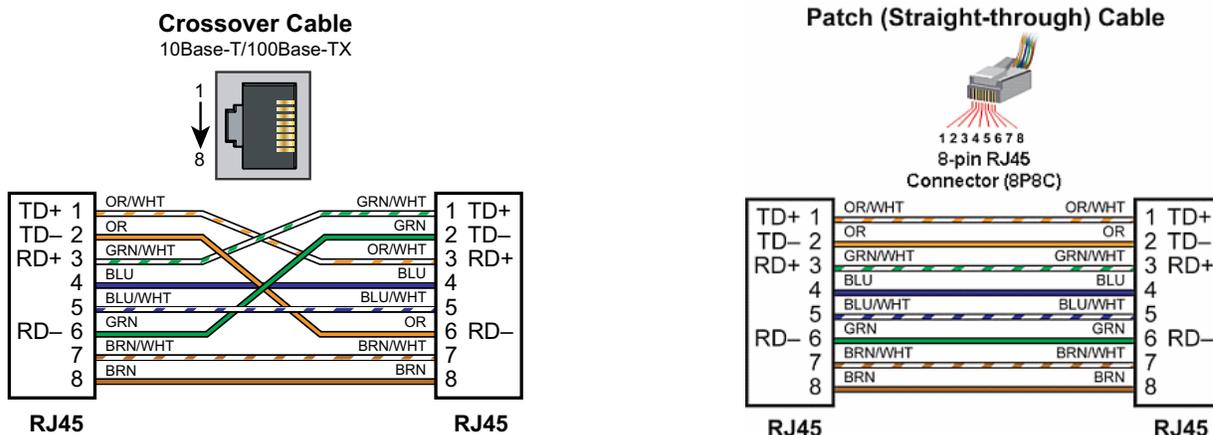
- BRX series: BX-DM1E MPUs, BX-EBC100-M (-D), BX-DMIO-M (-D), BX-MBIO-M (-D), BX-ECOMLT
- DL05/06 series: H0-PSCM, H0-ECOM100
- DL205 series: H2-EBC100, H2-ECOM100, H2-ERM100
- DL405 series: H4-EBC, H4-ECOM100, H4-ERM100
- Terminator series: T1H-EBC100, T1H-PBC
- Additional: GS-EDRV100, MB-Gateway



NOTE: For specific information on a device, please refer to the appropriate manual on the AutomationDirect.com website under Manuals/Docs.

Network Wiring

The Ethernet port on the HOST Ethernet-based modules utilizes standard networking cables and devices. Category 5e cabling is preferred. Cables can be either patch (straight through) or crossover, as follows.



A patch or crossover cable can be connected to an Ethernet port that supports automatic MDIX detection. The port detects the type of cable that is connected (straight through or crossover) and configures the port connection to match it. The following HOST Engineering devices support automatic MDIX detection:

- BRX series: BX-DM1E MPUs, BX-EBC100-M (-D), BX-DMIO-M (-D), BX-MBIO-M (-D), BX-ECOMLT
- DL05/06 series: H0-ECOM100
- DL205 series: H2-EBC100, H2-ECOM100, H2-ERM100
- DL405 series: H4-ECOM100, H4-ERM100
- Terminator series: T1H-EBC100, T1H-PBC
- Additional: GS-EDRV100, MB-Gateway

The H4-EBC module does not support automatic MDIX detection. A crossover cable is required to connect a PC directly to this module. A patch cable is normally used between a network switch and this module.

NetEdit 3 Software

NetEdit 3 is the free utility used to manage all aspects of HOST Engineering Ethernet-enabled devices. This includes configuring the network settings (Module ID or IP address), updating the firmware in the devices, performing diagnostic and troubleshooting tasks and setting up any runtime configuration options that are available. The use of an Excel-style grid allows the list of devices to be sorted by any column. The built-in Export feature will save the current device list to a CSV file.

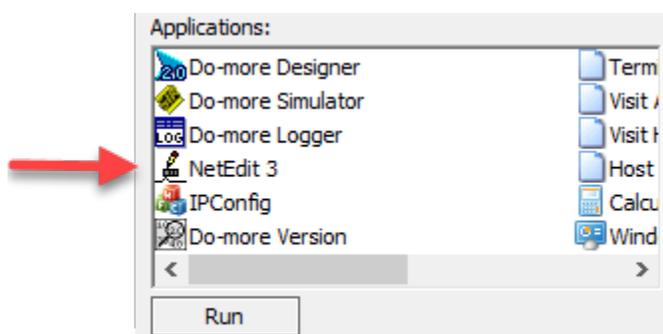
Installing NetEdit 3

NetEdit 3 is installed with Do-more! Designer and with DirectSOFT6 programming software packages. This utility is also available as a standalone download. The download link is: <http://www.hosteng.com/SW-Products/Netedit3.zip>. This is a compressed file. Extract the file and run the SetupNE3.exe file to install the utility.

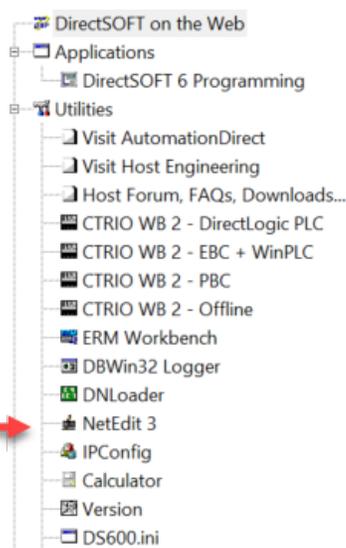
Launching NetEdit 3

It is possible to launch NetEdit 3 in several ways:

- From the Do-more! Designer programming software, under the Applications window, select NetEdit 3:



- From the DirectSOFT6 programming software, under the DSLaunch Utilities menu, select NetEdit 3:

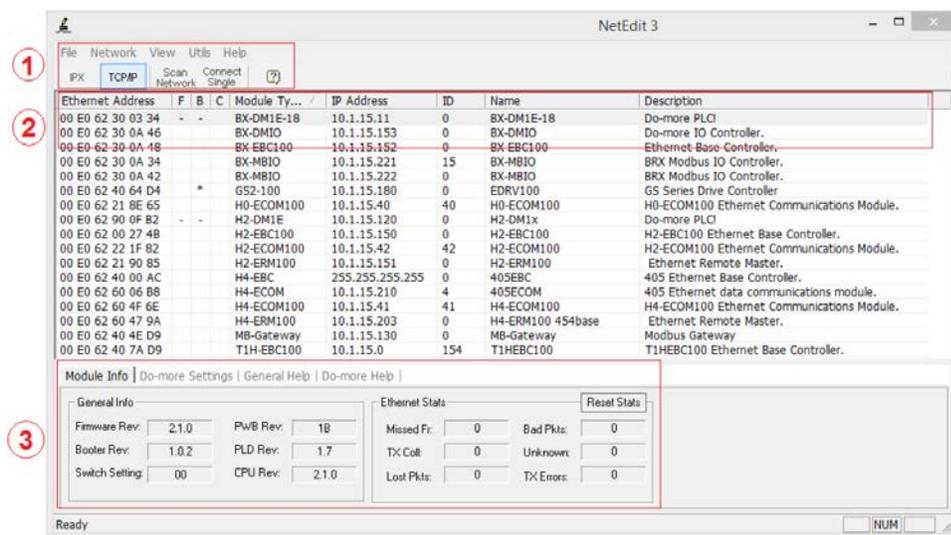


- Stand-alone: On Windows 7 or later, Search for NetEdit 3 or select the app from the programs list under AutomationDirect Tools > NetEdit 3.

The NetEdit 3 Screen

Starting NetEdit 3 brings up the screen below. All NetEdit 3 functions are accessed from this screen. The screen is divided into the following three sections, each of which is discussed later in this section:

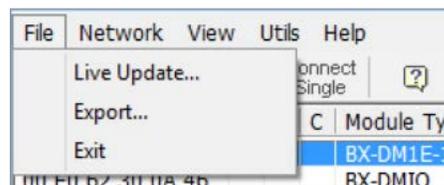
1. Menu section: Allows update of NetEdit 3 and select the network card (NIC) to be used.
2. Information available for each device: the main body of the screen provides addressing and identification for each device.
3. Information and Settings for each device: Provides hardware information and allows you to configure the devices to fit your application. The Settings section is broken up into three major parts: Configuration, Utils and Firmware. Available settings vary depending on the device selected from the list, as discussed later in this section.



Using NetEdit 3

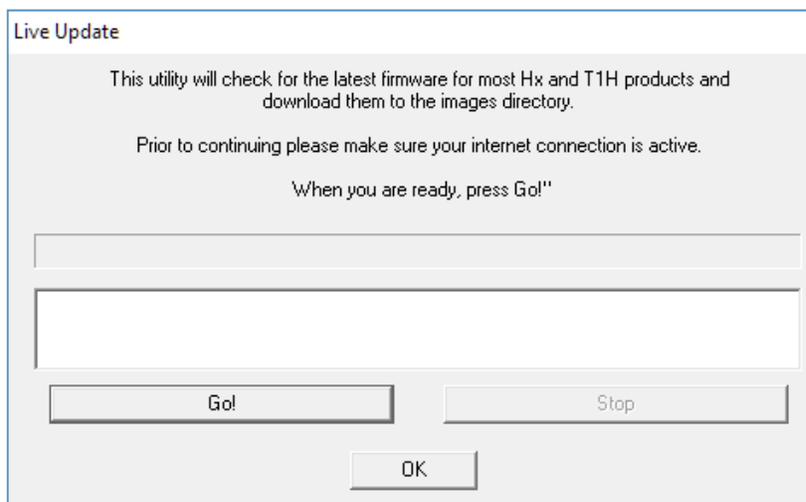
This section steps through the features and uses of NetEdit3, including individual segments of the NetEdit 3 screen and their corresponding functions.

File Menu



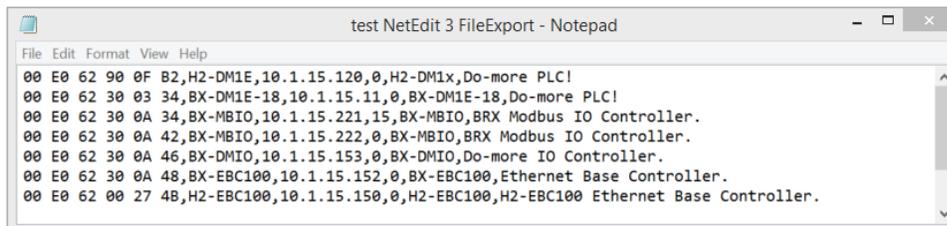
Using NetEdit 3, continued

FileMenu: Live Update



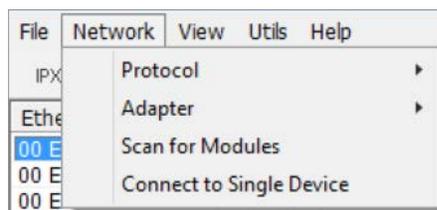
The Live Update option will retrieve the latest firmware and boot loader files from the Host Engineering web site and place them in the NetEdit 3 Images folder that was created during the install of NetEdit 3. The feature requires that you have a functional Internet connection. If the Images folder does not exist on your PC, it will be created as part of the retrieval process. When you click the Go! Button on the Live Update window, NetEdit 3 will compare the version information of the files on the Host Engineering web site against the files you have locally on your PC, and it will download any newer files. Once this process is complete, NetEdit 3 will rescan the devices on your network and refresh the “F” and “B” columns next to the listed devices.

FileMenu: Export



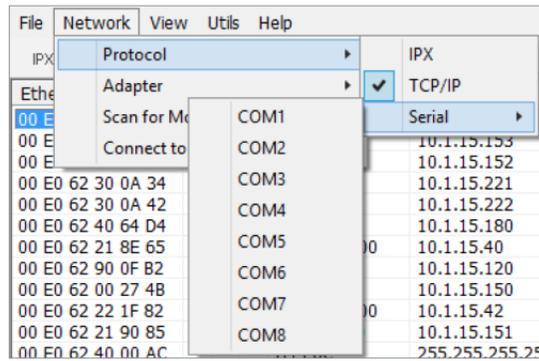
Use the Export function to save a copy of the modules listed in the NetEdit 3 screen. The CSV file stores the Ethernet address, module type, IP address, module ID, name and description. Clicking on the Export button brings up a Windows Save As dialog, allowing the user to enter the file name and folder in which to store the CSV file.

Network Menu



Using NetEdit 3, continued

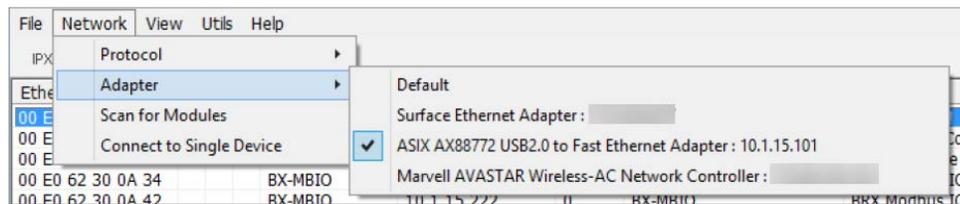
Network Menu: Protocol



The user can select the protocol NetEdit 3 will use to communicate with the field device. It is possible to select IPX, TCP/IP or Serial, as shown in the image to the right.

The Serial protocol allows the user to select the communications port on the PC to be used in updating the firmware on a H0/H2/T1H-PBC module.

Network Menu: Adapter



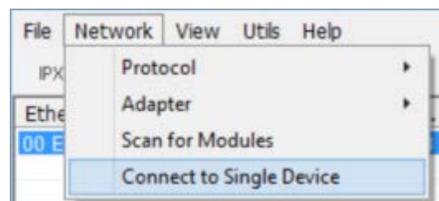
The Adapter feature allows the user to select the network interface card (NIC) used to connect to the network of HOST Ethernet-enabled devices. This is useful if there is more than one NIC. The user does not have to change Windows settings in order to connect to a network other than the Windows default network.

Network Menu: Scan for Modules

Clicking on the Scan for Modules button causes NetEdit 3 to transmit a broadcast to the network. All HOST Ethernet-enabled devices on the network respond to the query and NetEdit 3 fills the list. The list contains the Ethernet address, Firmware/Booter/Conflict status, Module Type, IP address, module ID, Name and Description for each module.

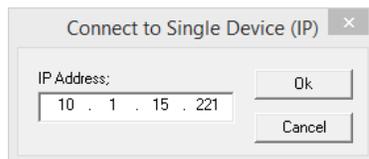
Network Menu: Connect to Single Device

The Connect to Single Device feature allows you to filter the list and view only the specified device.

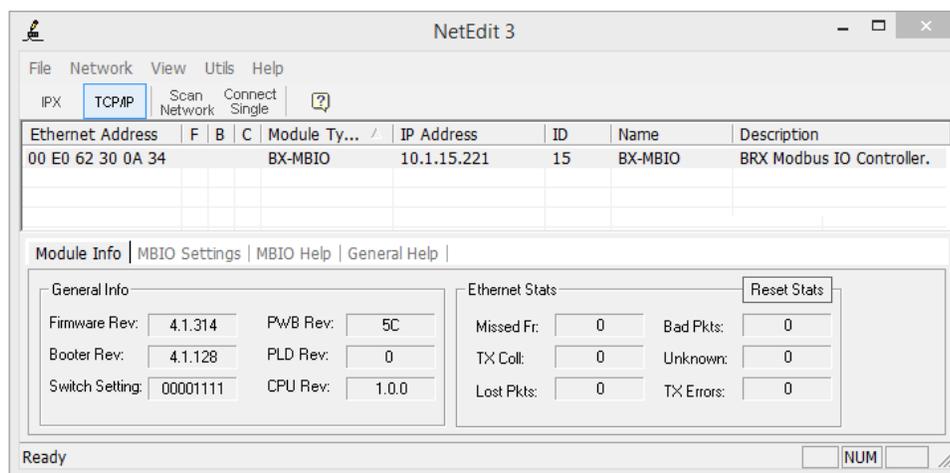


Using NetEdit 3, continued

Selecting this option brings up a window where the user enters the specific IP address of the device they want to get information about.

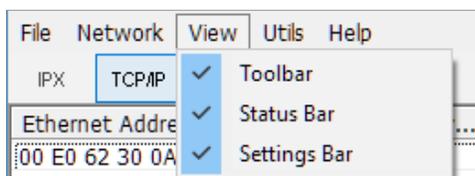


For example, when 10.1.15.221 is entered in the “Connect to Single Device” window, the list is cleared and only the requested device is displayed, as shown below:



View Menu

The View menu allows the user to select the features to be displayed in the NetEdit 3 screen.



The Toolbar displays/hides the following:

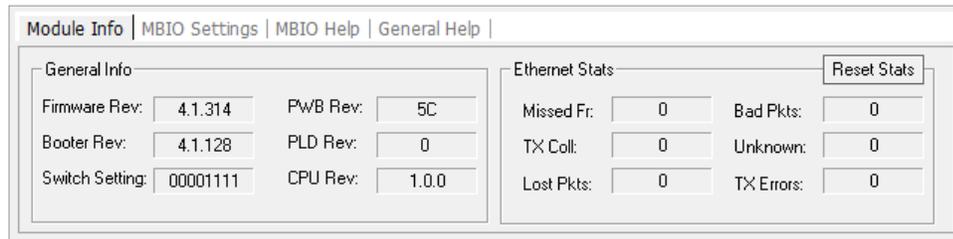


The Status Bar displays/hides the bottom portion of the screen:



Using NetEdit 3, continued

The Settings Bar displays/hides the Settings box:

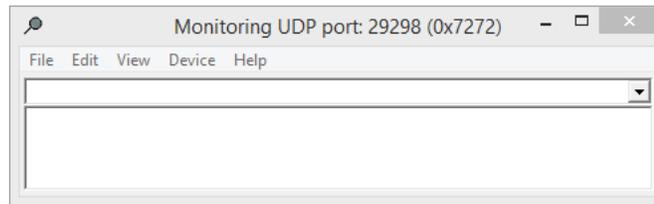


Utils Menu: Start SMTP Viewer



NOTE: Do not use SMTP Viewer for Do-more! PLCs. SMTP Viewer is only helpful for DirectLOGIC and DirectSOFT projects. Do-more! uses the DmLogger and ST36 \$EnableMsgDump for EMAIL SMTP protocol debugging.

Selecting to Start SMTP Viewer feature displays the following window.

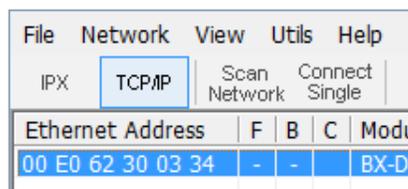


This utility helps troubleshoot Email transmission issues by allowing you to look at the SMTP protocol traffic between an ECOM100 module and an SMTP Server.

For more information, review HOST ECOM FAQ0105 (<http://www.hosteng.com/FAQFiles/ECOM.htm#FAQ0105>) on ECOM100 Send EMAIL Theory of Operation and this utility.

Ethernet Communications Protocol

In the upper left corner of the NetEdit3 screen, you will find buttons labeled IPX and TCP/IP. The HOST Ethernet-enabled modules understand these protocols. Both protocols are permanently resident in the firmware of the module.



When you click on one of these buttons, you are selecting the protocol you want your PC to use to communicate with the module. You are not telling the module which protocol to use, because it is using both protocols all the time.

Using NetEdit 3, continued

Note: IPX is a Novell standard which is no longer supported by Windows since the release of the Vista OS.

UDP/IP is a popular protocol supported by the TCP/IP suite of protocols in your PC. The figure to the right shows the Protocol selection buttons in the upper left corner of the NetEdit 3 screen. The choice you make here tells your PC which protocol to send to the HOST module to link NetEdit 3 to the module.

Some PC-based control software products may support only one of these protocols. Read the documentation for your software to be sure the protocol you select is supported.

Ethernet Address

The upper left section of the NetEdit 3 screen displays the Ethernet MAC Address of HOST modules currently on the network.

Ethernet Address	F	B	C	Mo
00 E0 62 30 03 34	-	-		BX
00 E0 62 30 0A 46				BX
00 E0 62 30 0A 48				BX

If modules are added or removed from the network, click on the Scan Network button to update the list. Notice that the MAC Address is the factory-assigned address that is on the permanent label on the module. Select a specific module here by clicking on the MAC Address or by using the arrow keys. The selected module is highlighted.

F/B/C Columns

The F, B, and C columns are provided to signify potential issues with devices on the network.

The “F” column will display an asterisk beside any device whose firmware is older than its firmware file in your Images folder. This column will display a hyphen for devices that cannot have firmware updated with NetEdit 3, such as a BRX MPU.

The “B” column will display an asterisk beside any device whose boot loader is older than its boot loader file in your Images folder. This column will display a hyphen for devices that cannot have firmware updated with NetEdit 3, such as a BRX MPU.

The “C” column will display an asterisk beside any device that has a configuration conflict with another device on the network. Duplicate module IDs (that are non-zero) and duplicate IP Addresses (that are not 255.255.255.255) will report as conflicts.

Ethernet Address	F	B	C	Module Ty...
00 E0 62 30 03 34	-	-		BX-DM1E-18
00 E0 62 30 0A 42				BX-MBIO
00 E0 62 40 64 D4		*		GS2-100
00 E0 62 21 8E 65				H0-ECOM100
00 E0 62 90 0F B2	-	-		H2-DM1E
00 E0 62 00 27 4B				H2-EBC100

Module Type, IP Address, ID, Name and Description

Module Ty...	IP Address	ID	Name	Description
BX-DM1E-18	10.1.15.11	0	BX-DM1E-18	Do-more PLC!

The upper mid-section of the NetEdit 3 screen displays the Module Type, IP Address, module ID, Name and Description of the modules currently on the network.

Default Values

The following table shows the default value for a new module or for a module that has been Restored to Factory Settings.

Default values for new modules or after reset to factory default					
	IP Address of 0.0.0.0	IP address of 255.255.255.255	ID of 0	Name	Description
BX-DM1E	N	Y	Y	BX-DM1E-xx	Do-more! PLC!
BX-DMIO	Y	N	Y	BX-DMIO	Do-more! IO Controller.
BX-EBC100	Y	N	Y	BX-EBC100	Ethernet Base Controller.
BX-MBIO*	Y	N	Y	BX-MBIO	BRX Modbus IO Controller.
GS-EDRV100	Y	N	Y	T1HEBC100	T1HEBC100 Ethernet Base Controller.
H0-ECOM100	Y	N	Y	H0-ECOM100	H0-ECOM100 Ethernet Communication Module.
H2-DM1E	N	Y	Y	H2-DM1x	Do-more! PLC!
H2-EBC100	Y	N	Y	H2-EBC100	H2-EBC100 Ethernet Base Controller.
H2-ECOM100	Y	N	Y	H2-ECOM100	H2-ECOM100 Ethernet Communication Module.
H2-ERM100	Y	N	Y	H2-ERM100	Ethernet Remote Master.
H4-EBC	N	Y	Y	405EBC	405 Ethernet Base Controller.
H4-ECOM100	Y	N	Y	H4-ECOM100	H4-ECOM100 Ethernet Communications Module.
H4-ERM100	Y	N	Y	H4-ERM100	Ethernet Remote Master.
MB-GATEWAY	Y	N	Y	MB-Gateway	Modbus Gateway
T1H-EBC100	Y	N	Y	T1HEBC100	T1HEBC100 Ethernet Base Controller.
T1H-DM1E	N	Y	Y	T1HEBC100	T1HEBC100 Ethernet Base Controller.

** The BX-MBIO requires a valid IP address to be setup before you are able to access the web configuration page.*

Access to the configuration settings of a device is done through the bottom portion of the NetEdit 3 screen or by right clicking on the device listed in the NetEdit 3 screen.

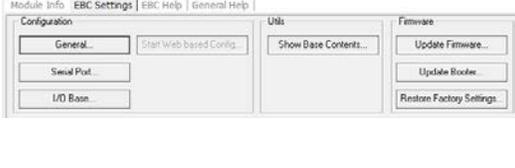
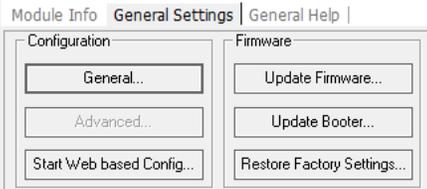
Settings Available per Device

The following table shows the available tabs and settings available to each device:

Tabs and Settings Available to Each Device		
Device	Module Info Tab	Module Settings (Right-click Selection)
BX-DM1E H2-ECOM100 BX-DMIO H2-ERM100 BX-EBC100 H4-EBC BX-MBIO H4-ECOM100 GS-EDRV100 H4-ERM100 H0-ECOM100 MB-GATEWAY H2-DM1E T1H-EBC100 H2-EBC100 T1H-DM1E		
BX-DM1E H2-DM1E T1H-DM1E		General... Restore Factory Settings...
BX-DMIO BX-EBC100		General... Serial Port... I/O Base... Show Base Contents... Update Firmware... Update Booter... Restore Factory Settings... Start Web based config...
BX-MBIO H2-EBC100 T1H-EBC100		General... Serial Port... I/O Base... Show Base Contents... Update Firmware... Update Booter... Restore Factory Settings... Start Web based config...
H0-ECOM100 H2-ECOM100 H4-ECOM100		General... Advanced... Peer to Peer Configuration... Email Configuration... Test CPU Access! Test Email... Update Firmware... Update Booter... Restore Factory Settings... Start Web based config...
H2-ERM100 H4-ERM100		General... Advanced... Update Firmware... Update Booter... Restore Factory Settings... Start Web based config...

Table continued on next page

Settings Available per Device, continued

Tabs and Settings Available to Each Device (continued)		
Device	Module Info Tab	Module Settings (Right-click Selection)
H4-EBC		<ul style="list-style-type: none"> General... Serial Port... I/O Base... Show Base Contents... Update Firmware... Update Booter... Restore Factory Settings... Start Web based config...
GS-EDRV100 MB-GATEWAY		<ul style="list-style-type: none"> General... Advanced... Update Firmware... Update Booter... Restore Factory Settings... Start Web based config...

The following table provides a list of HOST devices and their available configuration options. Each option will be described in general terms. Please visit the user manual for the device when detailed information is required.

Configuration Options Available per HOST Ethernet-enabled Device													
	Configuration							Utils			Firmware		
	General	Serial Port	I/O Base	Advanced	Peer to Peer Config.	Email Config.	Start Web-based Config	Test CPU Access!	Test Email	Show Base Contents	Update Firmware	Update Booter	Restore Factory Settings
BX-DM1E	Y	--	--	--	--	--	--	--	--	--	--	--	Y
BX-DMIO	Y	--	--	--	--	--	Y	--	--	Y	Y	Y	Y
BX-EBC100	Y	--	--	--	--	--	Y	--	--	Y	Y	Y	Y
BX-MBIO	Y	Y	--	--	--	--	Y	--	--	Y	Y	Y	Y
GS-EDRV100	Y	--	--	--	--	--	Y	--	--	--	Y	Y	Y
H0-ECOM100	Y	--	--	Y	Y	Y	Y	Y	Y	--	Y	Y	Y
H2-DM1E	Y	--	--	--	--	--	--	--	--	--	--	--	Y
H2-EBC100	Y	Y	--	--	--	--	Y	--	--	Y	Y	Y	Y
H2-ECOM100	Y	--	--	Y	Y	Y	Y	Y	Y	--	Y	Y	Y
H2-ERM100	Y	--	--	--	--	--	--	--	--	--	Y	Y	Y
H4-EBC	Y	Y	Y	--	--	--	--	--	--	Y	Y	Y	Y
H4-ECOM100	Y	--	--	Y	Y	Y	Y	Y	Y	--	Y	Y	Y
H4-ERM100	Y	--	--	--	--	--	--	--	--	--	Y	Y	Y
MB-GATEWAY	Y	--	--	--	--	--	Y	--	--	--	Y	Y	Y
T1H-EBC100	Y	Y	--	--	--	--	Y	--	--	Y	Y	Y	Y
T1H-DM1E	Y	--	--	--	--	--	--	--	--	--	--	--	Y

Configuration: General Settings

The General Settings box allows the user to assign a Module ID, give the module a name and description and to set the IP, Subnet Mask, and Gateway addresses for the module.

Module ID

Module IDs are optional for most devices. Module IDs must be unique for each device, but, they don't have to be in sequence. The module DIP switches associated with the Module ID, must be set to zero to allow NetEdit 3 to set a Module ID. Do not use address zero (0) when used for communications.

The Name field and Description field are optional and can be used by the user for identification purposes.

IP Address

It is recommended that all Ethernet devices have an IP address. An IP Address is assigned to a device if your network will be using the TCP/IP or Modbus TCP (not available in all devices) protocols. If you have a separate dedicated network for your device, you may be able to use the Module ID identifier (IPX protocol) for communications instead of an IP address.

Some HOST Ethernet-enabled devices are configured at the factory to look for a DHCP (Dynamic Host Configuration Protocol) server at power up. DHCP provides a way to allocate an IP address, a DNS domain or a gateway IP address dynamically to devices on the local area network. A system or network administrator configures a DHCP server with a range of IP addresses that can be assigned to DHCP enabled clients (e.g. H2-EBC100). Not all HOST Ethernet-enabled devices support DHCP.

NOTE: It is not recommended to use DHCP to assign IP addresses for your permanent installation. The user should assign a static IP address to each device. It is extremely important not to have duplicate IP addresses on the network.

To set an IP Address, select **Use the following IP settings**. Use the IP Address assigned to the EBC module by your network administrator. If you change the IP Address, do not use the number "0" or "255" in any field. Doing so will cause communication problems. The valid settings are 1 through 254. The module ships from the factory with an IP Address of 0.0.0.0 or 255.255.255.255. This is not a usable IP Address for communications. The IP address must be updated before it is used.

Once the IP address, the Subnet mask and the Gateway (optional) are entered, click on the OK button to write the updated settings to the flash memory on the device.

Configuration: Serial Port Settings

Hx-EBC100: RS-232 Serial Port settings

BX-MBIO: RS-485 Serial Port settings

On the Serial Port Settings window, make any necessary changes to the serial communication parameters. Be sure these parameters match the parameters of the serial device with which you are communicating.

The serial port on the HX-EBC100s was intended to be used as a single RS-232 device. The station address is fixed at 1.

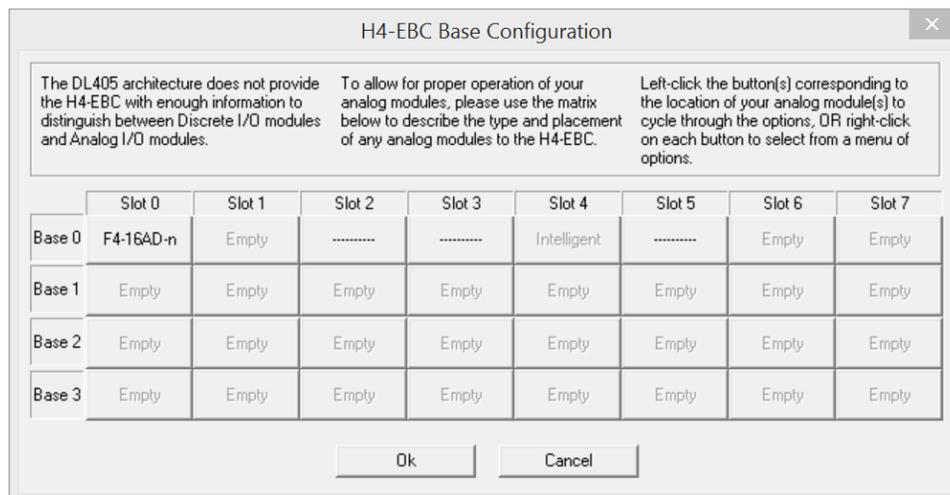
The serial port on the BX-MBIO is a Modbus RTU slave device, wired for RS-485. The user can select a station address in the range of 1 to 247.



NOTE: Some PC-based Control software packages may automatically overwrite settings selected here. Refer to the documentation for your PC-based Control software.

Once changes to the parameters are complete, click on the OK button to write the updated settings to the flash memory on the device.

Configuration: I/O Base settings



The I/O base settings box applies to the H4-EBC and the DL405 I/O. Because the H4-EBC does not receive enough information from the installed modules, the user must distinguish between Discrete I/O and Analog I/O modules.

The default symbol “-----” appears on the configuration screen where a discrete or analog module is present. For discrete modules, you do not have to change anything. The H4-EBC recognizes and self-configures for the discrete modules.

If you are using analog modules, you must let the H4-EBC know which module is installed in the slot. Click on the slot location where the analog module is located. Continue clicking on the same slot location until the part number of the installed analog module is displayed. In the example above, the user selected the F4-16AD-n, because there is a F4-16AD-1 installed in that slot.

If you are using a H4-HSC, High Speed Counter module, the word “Intelligent” will be displayed in gray in the slot it is installed in. In the example above, slot 4 displays the word “Intelligent” because there is a H4-HSC installed in that slot. This H4-HSC is configured automatically. No action is required.

If the H4-CTRIO module is used, the slot it is installed in appears as “Empty” in gray. The user must use the CTRIO Workbench utility to configure the H4-CTRIO module. Reference the HX-CTRIO-M user manual for more information.

Once the correct part numbers appear for each of your analog modules, click the OK button to save the configuration into the H4-EBC flash memory.

Configuration: Advanced settings

The advanced settings box is available to the H0-ECOM100, the H2-ECOM100 and the H4-ECOM100.

The RX/WX Settings affect PLC to PLC communications.

- ACK Timeout – the time the initiating ECOM will wait for the target ECOM over the network to reply with an ACK (acknowledgement) telegram, indicating the target ECOM received the read or write request.
- Resp. Timeout – the time the initiating ECOM will wait (after successfully receiving an ACK) for the target ECOM over the network to reply with the telegram containing the data requested in the read or write.
- Retries – this is the number of times the ECOM will retry transmissions over the network for ECOM to ECOM (Peer to Peer) communications. The number of times the initiating ECOM will resend the original request to the target ECOM over the network if he received no ACK, nor response.

KSequence Settings

- Retries – the number of times the ECOM will resend the original response to the PLC across the backplane.

Modbus Settings

- Master timeout – the time the ECOM will wait (if it is the master/client in a Modbus TCP network) for any of his Modbus TCP slaves/servers over the network to reply to the FC (function code) it just sent.
- Slave Timeout – the time the ECOM will wait (if it is the slave/server in a Modbus TCP network) for the Modbus TCP master/client to make contact again before it closes the TCP connection.

ECOMLT/BRX Serial Timeout

- Timeout – sets the maximum time for the BRX MPU to respond to the ECOMLT POM.

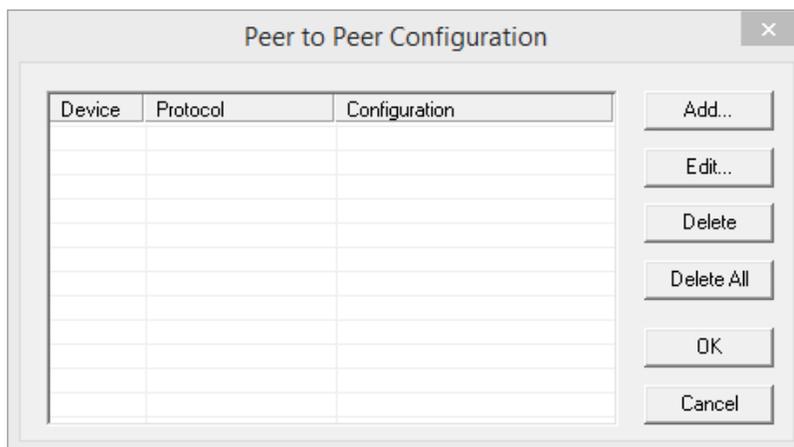
Note: Under normal circumstances, the default value is fine. This field should not be used by the user unless recommended by technical support.

Flags

- Force 10BaseT (ECOM100) - this selection forces the ECOM100 to communicate at 10 Mbps. Normally, the ECOM100 auto-negotiates with the Ethernet switch it is connected to and picks to communicate at the fastest speed it can (100 Mbps). This selection has no meaning for ECOMs since they cannot communicate at anything faster than 10 Mbps.
- Read Only Web Config (ECOM100) - this selection makes it impossible to modify any of the ECOM100's settings via the HTML (web server) configuration with an Internet browser. This selection has no meaning for ECOMs since they cannot be configured via HTML.

Configuration: Advanced settings, continued

- Enable Peerlink (ECOM100) - this selection enables the ECOM100 to function as a PEERLINK device on a Do-more! PEERLINK network. This selection has no meaning for ECOMs since they cannot be used on a PEERLINK network.
- Enable DIP Switch 5 Lockout - this selection enables DIP switch 5 on the ECOM100 to be able to be used to write-protect the ECOM100's flash memory. Thus, the firmware, network configuration, node configuration, peer-to-peer configuration and the SMTP (Email) configuration become read-only. Normally DIP switch 5 is used as part of the ECOM100's Module ID number. If you are currently using DIP switch 5 to set the Module ID to a value greater than 32 and you want to use DIP switch 5 as a lockout, then you will have to set all the Module ID dipswitches to OFF (for a Module ID value of zero) and then use NetEdit 3 to set the Module ID to what it was before.
- Enable Web Server (ECOM100) - this selection enables the HTML (web server) configuration. By default, this interface is now disabled to protect the ECOM100's configuration from unauthorized access.
- Expansion Configuration Flag 5 – No function.
- Expansion Configuration Flag 6 - No function.
- Expansion Configuration Flag 7 - No function.

Configuration: Peer to Peer configuration

This function allows you to configure the client H0/H2/H4-ECOM(100) module to use an IP protocol packet to perform the RX/WX instruction, as opposed to a broadcast packet to locate the slave ECOM or MODBUS TCP server.

When to use Peer to Peer: the following are reasons or conditions of when to configure the H0/H2/H4-ECOM(100) for peer to peer communications with a TCP/IP server device:

- To eliminate network broadcast traffic when the ECOM(100) is a client executing RX/WX network instructions.
- When an ECOM(100) is an “ECOM protocol client” and needs to access other server ECOMs through a router.
- When an ECOM100 needs to serve as MODBUS TCP client

Any previous configuration will be listed when the Peer to Peer Configuration box is displayed.

Configuration: Peer to Peer configuration, continued

The RX and WX ladder logic instructions used by the PLC allow you to specify a Node (Device) Number as the slave identifier in the range of 1-87. The Peer to Peer Configuration information is stored in the ECOM(100) module's flash memory. This basically associates a Device Number (that is used by the RX/WX instructions) with a server's IP address.

Clicking on the Add button in the Peer to Peer Configuration window will display the Add Device Address window shown below.

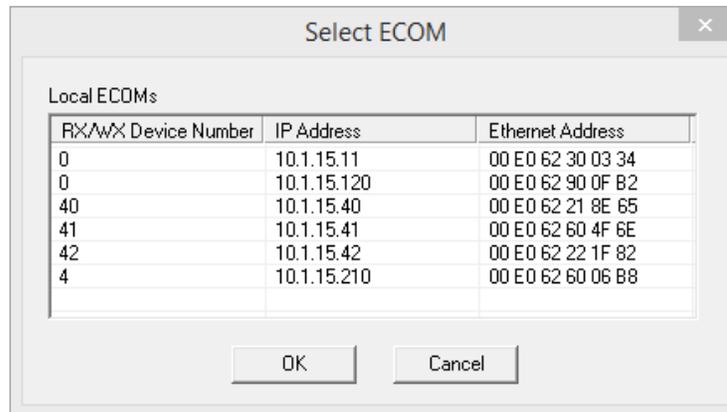
Enter the necessary server's network information (i.e. Device Number, server's IP address and protocol). You can manually enter the information or you can click on the Find Hx-ECOM button to display all local ECOMs currently on the network.

MODBUS TCP device's network information will have to be entered manually.

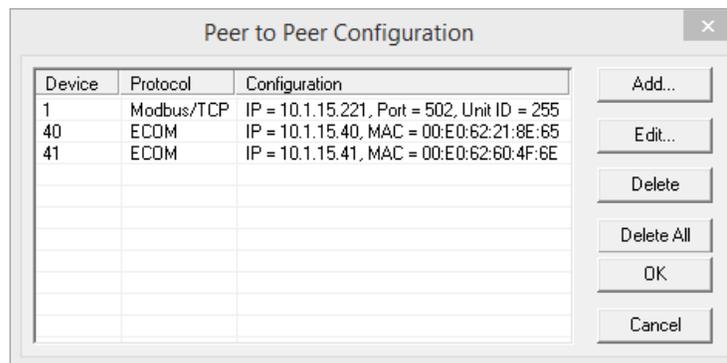
Clicking the OK button adds the Device Configuration to the main peer to peer configuration screen. Be certain not to duplicate Device Numbers.

Clicking on the Find Hx-ECOM button in the Add Device Address window will display the Select ECOM window shown below. Highlight the server ECOM that you intend to communicate with peer to peer via the client ECOM(100) module. Then click the OK button. This will add the ECOM's Device Configuration information to the previous Add Device Address window.

Configuration: Peer to Peer configuration, continued



Once the module's network information is in the Add Device Address window (previous page), click the OK button to add the information to the main Peer to Peer Configuration window. Repeat the steps to add other ECOMs or Modbus TCP devices to the configuration.



Clicking the OK button on the main screen window writes the module(s) network information to the ECOM(100)'s flash memory.

Configuration: Email configuration



NOTE: Do not use EMail Configuration for Do-more! PLCs. Use Do-more! Designer to configure EMail for a Do-more! PLC. This EMail Configuration is only useful for DirectLOGIC and DirectSOFT projects.

Some of the EMail Setup parameters are required, and some are optional. Below is a description each parameter:

- Server IP Address (REQUIRED) - must be a valid IP address of an SMTP Server accessible from the ECOM100. This implies that the ECOM100's IP Address and Subnet Mask (both part of the normal IP configuration) must be valid also.
- Sender Name (optional) – a human readable name which will be the “From” field on all recipients of any EMail from the ECOM100.
- Sender EMail Address (REQUIRED) – almost all SMTP servers require this to be a valid EMail account on the SMTP server.
- Cc Addresses (optional) – a comma separated list of EMail addresses. Due to the limitation of the backplane data length, the EMail instruction from ladder can only generate 128 bytes of data for all fields in the ECEMAIL instruction, including the To: Subject: and Body: fields. One way to maximize the Subject: and Body: fields from the ladder program is to enter a common “predefined” list of Email addresses to be Carbon Copied (Cc:) on every sent EMail. Since this list will already be in the ECOM100, the user will not need to have a list of Email addresses in the EMAIL instruction's To: field, thus maximizing the data bytes for the Subject: and Body: fields of the ECEMAIL instruction.
- SMTP Port (REQUIRED) – By default, most SMTP Servers use TCP/IP Port number 25. It can be changed here, if necessary.
- Timeout) (REQUIRED) – The default value is 60 seconds. Since the PLC program is running asynchronously to the processing of all EMail by the SMTP server, a timeout needs to be provided in order to allow for the possibility that the Server could be down, or the Ethernet cable could be disconnected, or the Server is being bombarded with other requests, or other issues. This will allow

Configuration: Email configuration, continued

the ECOM100 to report a timeout error back to the ladder program if it was unable to complete the operation. Note that this is the time it takes to do the complete transaction, so the user may need to increase it if they have a lot of recipients (in the To: and Cc: fields) because the total amount of time taken is directly proportional to the number of recipients. A good guess for a timeout value is twice the wait of a “long” EMail message with “a lot” of recipients, when the server is busy processing other Email transactions or other services. For some SMTP Servers, this could be 5 minutes (300 seconds).

- Use Authentication – allows the user to enter a username and password to be used by the SMTP server to verify that the incoming Email is from a trusted source.

See HOST ECOM FAQ0105 (<http://www.hosteng.com/FAQFiles/ECOM.htm#FAQ0105>) for more information on ECOM100 Send EMAIL Theory of Operation and this utility.

Configuration: Start Web based Config

Several HOST Ethernet-enabled devices have a web configuration page. From the web server page, it is possible to access the same setting options that are available through NetEdit 3. This configuration page uses an embedded web server on port 80 (unsecure).

Before the web configuration page can be accessed, the device must be appropriately added to the network. The IP address, the subnet mask and the Gateway address (optional) must be configured via NetEdit 3.

The following table presents web the configuration page for each device supporting web configuration.

Web Configuration Pages for Supported Devices	
Device	Web-based Configuration Page
BX-DMIO	BX-DMIO by AutomationDirect.com
	Module ID: 0 (0x0)
	Module Name: BX-DMIO
	Module Description: Do-more IO Controller.
	Ethernet Address: 00 E0 62 30 0A 46
	IP Setup: Address: 10.1.15.153 Subnet: 255.255.255.0 Gateway: 0.0.0.0
	Module Setup: Setup Module Configuration
	Booter Version: 4.1.128
	OS Version: 4.1.299
	Firmware Updates: Hosteng.com
	NetEdit Download: http://www.hosteng.com/sw-products/netedit3.htm
	BRX User Manual: http://www.automationdirect.com/pn/doc/manual/BX-DMIO
	BRX Spec Sheet: http://www.automationdirect.com/pn/doc/spec/BX-DMIO
BX-EBC100	BX-EBC100 by AutomationDirect.com
	Module ID: 0 (0x0)
	Module Name: BX-EBC100
	Module Description: Ethernet Base Controller.
	Ethernet Address: 00 E0 62 30 0A 48
	IP Setup: Address: 10.1.15.152 Subnet: 255.255.255.0 Gateway: 0.0.0.0
	Module Setup: Setup Module Configuration
	I/O Mapping: Display Modbus I/O Mapping
	Booter Version: 4.1.128
	OS Version: 4.1.299
	Firmware Updates: Hosteng.com
	NetEdit Download: http://www.hosteng.com/sw-products/netedit3.htm
	BRX User Manual: http://www.automationdirect.com/pn/doc/manual/BX-EBC100
BRX Spec Sheet: http://www.automationdirect.com/pn/doc/spec/BX-EBC100	

Table continued on next page

Configuration: Start Web based Config, continued

Web Configuration Pages for Supported Devices (continued)																																									
Device	Web-based Configuration Page																																								
BX-MBIO	<p>BX-MBIO by AutomationDirect.com</p> <table border="1"> <tr><td>Module Name:</td><td>BX-MBIO</td></tr> <tr><td>Module Description:</td><td>BRX Modbus IO Controller</td></tr> <tr><td>Ethernet Address:</td><td>00 E0 62 30 0A 34</td></tr> <tr><td>IP Setup:</td><td>Address: 10.1.15.221 Subnet: 255.255.255.0 Gateway: 0.0.0.0</td></tr> <tr><td>Serial Port Setup:</td><td>Station: 15 115200-8-N-1-Modbus Slave-No Pre Delay</td></tr> <tr><td>Module Setup:</td><td>Setup Module Configuration</td></tr> <tr><td>I/O Mapping:</td><td>Display Modbus I/O Mapping</td></tr> <tr><td>Booter Version:</td><td>4.1.128</td></tr> <tr><td>OS Version:</td><td>4.1.314</td></tr> <tr><td>Firmware Updates:</td><td>Hosteng.com</td></tr> <tr><td>NetEdit Download:</td><td>http://www.hosteng.com/sw-products/netedit3.htm</td></tr> <tr><td>BRX User Manual:</td><td>http://www.automationdirect.com/pn/doc/manual/BX-MBIO</td></tr> <tr><td>BRX Spec Sheet:</td><td>http://www.automationdirect.com/pn/doc/spec/BX-MBIO</td></tr> </table>	Module Name:	BX-MBIO	Module Description:	BRX Modbus IO Controller	Ethernet Address:	00 E0 62 30 0A 34	IP Setup:	Address: 10.1.15.221 Subnet: 255.255.255.0 Gateway: 0.0.0.0	Serial Port Setup:	Station: 15 115200-8-N-1-Modbus Slave-No Pre Delay	Module Setup:	Setup Module Configuration	I/O Mapping:	Display Modbus I/O Mapping	Booter Version:	4.1.128	OS Version:	4.1.314	Firmware Updates:	Hosteng.com	NetEdit Download:	http://www.hosteng.com/sw-products/netedit3.htm	BRX User Manual:	http://www.automationdirect.com/pn/doc/manual/BX-MBIO	BRX Spec Sheet:	http://www.automationdirect.com/pn/doc/spec/BX-MBIO														
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GS-EDRV100	<p>GS2-100 by AutomationDirect.com</p> <table border="1"> <tr><td>Module ID:</td><td>0 (0x0)</td></tr> <tr><td>Module Name:</td><td>EDRV100</td></tr> <tr><td>Module Description:</td><td>GS Series Drive Controller</td></tr> <tr><td>Ethernet Address:</td><td>00 E0 62 40 64 D4</td></tr> <tr><td>IP Setup:</td><td>Address: 10.1.15.180 Subnet: 255.255.255.0 Gateway: 0.0.0.0</td></tr> <tr><td>Booter Version:</td><td>5.0.76</td></tr> <tr><td>OS Version:</td><td>5.0.258</td></tr> <tr><td>Comm Link:</td><td>19200-8-ODD-1-RTU</td></tr> <tr><td>P0:</td><td>Monitoring parms</td></tr> <tr><td>P1:</td><td>Ramps parms</td></tr> <tr><td>P2:</td><td>Volts/Hertz parms</td></tr> <tr><td>P3:</td><td>Digital parms</td></tr> <tr><td>P4:</td><td>Analog parms</td></tr> <tr><td>P5:</td><td>Presets parms</td></tr> <tr><td>P6:</td><td>Protection parms</td></tr> <tr><td>P7:</td><td>PID parms</td></tr> <tr><td>P8:</td><td>Display parms</td></tr> <tr><td>P9:</td><td>Comm parms</td></tr> <tr><td>P10:</td><td>Encoder Feedback parms</td></tr> <tr><td>Firmware Updates:</td><td>Hosteng.com</td></tr> </table>	Module ID:	0 (0x0)	Module Name:	EDRV100	Module Description:	GS Series Drive Controller	Ethernet Address:	00 E0 62 40 64 D4	IP Setup:	Address: 10.1.15.180 Subnet: 255.255.255.0 Gateway: 0.0.0.0	Booter Version:	5.0.76	OS Version:	5.0.258	Comm Link:	19200-8-ODD-1-RTU	P0:	Monitoring parms	P1:	Ramps parms	P2:	Volts/Hertz parms	P3:	Digital parms	P4:	Analog parms	P5:	Presets parms	P6:	Protection parms	P7:	PID parms	P8:	Display parms	P9:	Comm parms	P10:	Encoder Feedback parms	Firmware Updates:	Hosteng.com
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Configuration: Start Web based Config, continued

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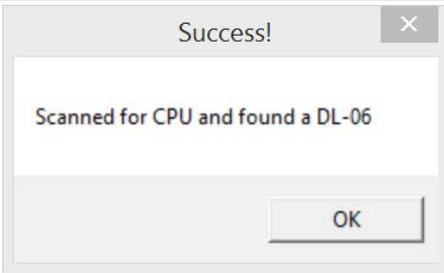
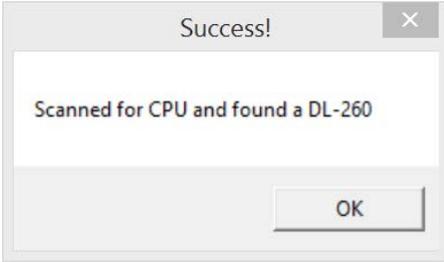
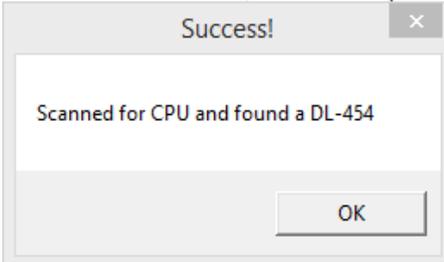
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Configuration: Start Web based Config, continued

Web Configuration Pages for Supported Devices (continued)																									
Device	Web-based Configuration Page																								
MB-GATEWAY	<p style="text-align: center;">MB-Gateway by AutomationDirect.com</p> <table border="1"> <tr><td>Gateway Modbus ID:</td><td>0 (0x0)</td></tr> <tr><td>Module Name:</td><td>MB-Gateway</td></tr> <tr><td>Module Description:</td><td>Modbus Gateway</td></tr> <tr><td>Ethernet Address:</td><td>00 E0 62 40 4E D9</td></tr> <tr><td>IP Setup:</td><td>Address: 10.1.15.130 Subnet: 255.255.255.0 Gateway: 0.0.0.0</td></tr> <tr><td>Booter Version:</td><td>5.0.53</td></tr> <tr><td>OS Version:</td><td>1.0.601</td></tr> <tr><td>Serial Port Configuration:</td><td>19200-8-ODD-1-RTU</td></tr> <tr><td>Slave Timeout/Retries:</td><td>Timeout=1000 Retries=2</td></tr> <tr><td>Automatic Reads:</td><td>Reading from: none</td></tr> <tr><td>Show Status:</td><td>Monitor Status Information</td></tr> <tr><td>Firmware Updates:</td><td>Hosteng.com</td></tr> </table>	Gateway Modbus ID:	0 (0x0)	Module Name:	MB-Gateway	Module Description:	Modbus Gateway	Ethernet Address:	00 E0 62 40 4E D9	IP Setup:	Address: 10.1.15.130 Subnet: 255.255.255.0 Gateway: 0.0.0.0	Booter Version:	5.0.53	OS Version:	1.0.601	Serial Port Configuration:	19200-8-ODD-1-RTU	Slave Timeout/Retries:	Timeout=1000 Retries=2	Automatic Reads:	Reading from: none	Show Status:	Monitor Status Information	Firmware Updates:	Hosteng.com
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T1H-EBC100	<p style="text-align: center;">T1H-EBC100 by Automation Direct.com</p> <table border="1"> <tr><td>Module ID:</td><td>154 (0x9A)</td></tr> <tr><td>Module Name:</td><td>T1HEBC100</td></tr> <tr><td>Module Description:</td><td>T1HEBC100 Ethernet Base Controller</td></tr> <tr><td>Ethernet Address:</td><td>00 E0 62 40 7A D9</td></tr> <tr><td>IP Setup:</td><td>Address: 10.1.15.0 Subnet: 255.255.255.0 Gateway: 0.0.0.0</td></tr> <tr><td>Booter Version:</td><td>4.0.165</td></tr> <tr><td>OS Version:</td><td>4.0.1432</td></tr> <tr><td>Serial Port Setup:</td><td>9600-8-O-1-KSeq Slave Mode-No RTS</td></tr> <tr><td>CPU Rev:</td><td>1.1.5</td></tr> <tr><td>PWB/PLD Rev:</td><td>7A / 1A</td></tr> <tr><td>Firmware Updates:</td><td>Hosteng.com</td></tr> </table>	Module ID:	154 (0x9A)	Module Name:	T1HEBC100	Module Description:	T1HEBC100 Ethernet Base Controller	Ethernet Address:	00 E0 62 40 7A D9	IP Setup:	Address: 10.1.15.0 Subnet: 255.255.255.0 Gateway: 0.0.0.0	Booter Version:	4.0.165	OS Version:	4.0.1432	Serial Port Setup:	9600-8-O-1-KSeq Slave Mode-No RTS	CPU Rev:	1.1.5	PWB/PLD Rev:	7A / 1A	Firmware Updates:	Hosteng.com		
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Utils: Test CPU Access!

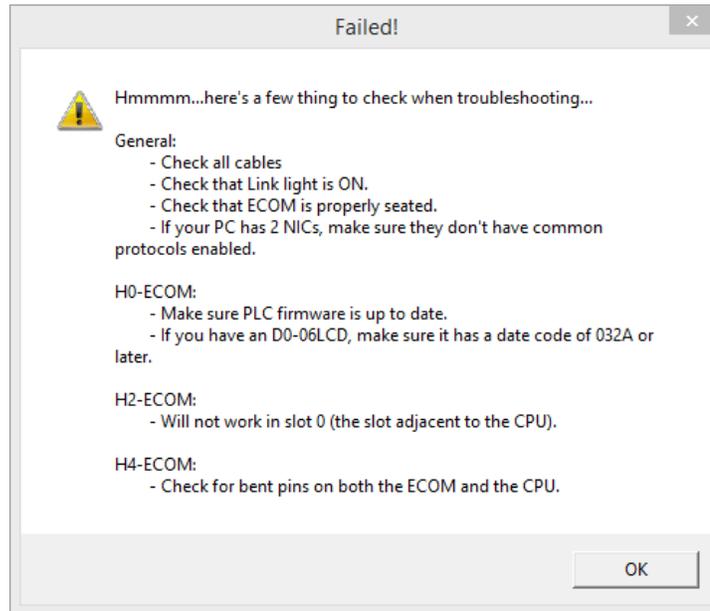
The Test CPU Access option is available to the H0/H2/H4-ECOM100. When the button is pressed and everything is working correctly, a Success window will be shown:

CPU Access Success Messages	
Device	Message
For a H0-ECOM100 installed in a DL06 base:	 <p>Success! Scanned for CPU and found a DL-06</p>
For a H2-ECOM100 installed on a DL260 base:	 <p>Success! Scanned for CPU and found a DL-260</p>
For a H4-ECOM100 installed on a DL454 base:	 <p>Success! Scanned for CPU and found a DL-454</p>

The ECOM has two distinct “sides”, the network side, which contains the network configuration settings, and the backplane side, which the ECOM uses to communicate with the PLC CPU. It is possible that only one side could be operating correctly, while the other side is not. The Test CPU Access function will test the connection from your PC to the ECOM module through the network side, across the backplane to the PLC CPU and back to your PC.

Utils: Test CPU Access, continued

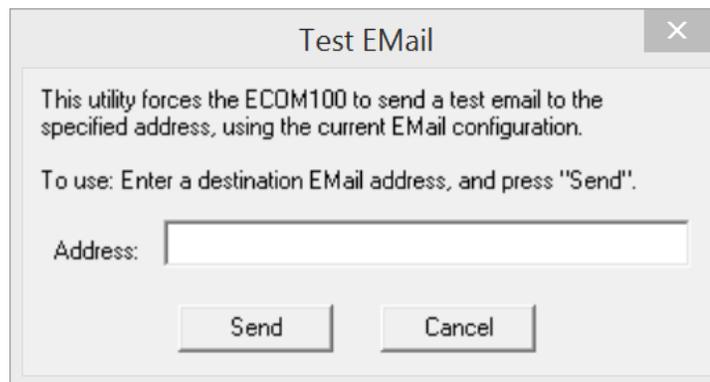
If the Test CPU Access fails, the following window is displayed. This window provides some troubleshooting suggestions.



Utils: Test EMail

The Test EMail option is available to the H0/H2/H4-ECOM100. When the button is pressed it forces the ECOM100 to send a test email to the address specified by the user, using the current Email configuration.

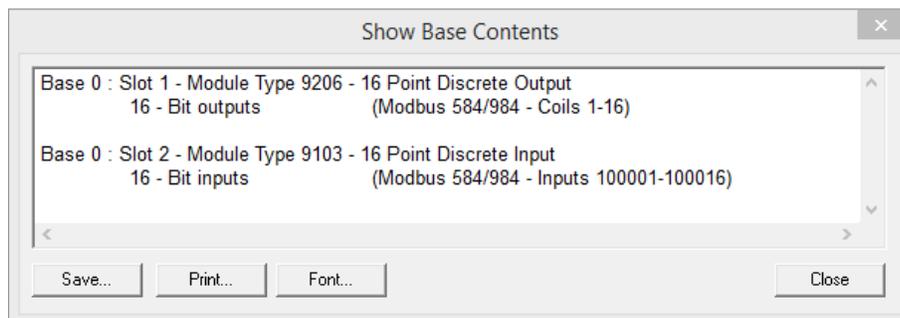
When the button is pressed the following window is shown. The user enters the EMail address to which the test message will be sent.



When the Send button is pressed, the ECOM100 will send the EMail. Note that the EMail is sent from the ECOM100 directly, not from the PC running NetEdit 3 or running the web server configuration page.

Utils: Show Base Contents

The “show base contents” menu option is available to the BX-DMIO, BX-MBIO, and BX/H0/H2/H4-EBC100. As an example, consider the window that comes up for a BX-EBC100 controller:



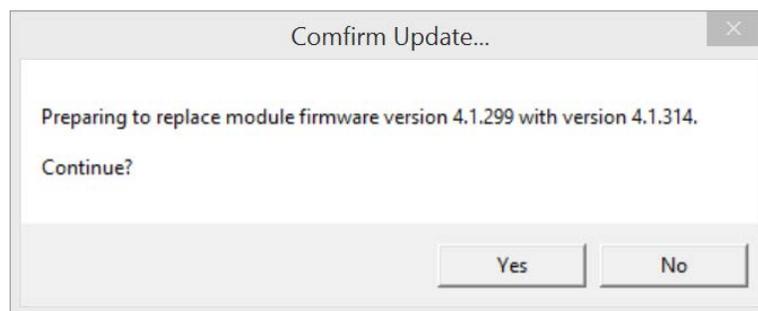
This function queries the DMIO/EBC100/MBIO for a list of the I/O modules it has in its base. The Module Type and the Modbus 584/984 addressing (available for the EBC100/MBIO) will be listed as well. This helps confirm that the DMIO/EBC100/MBIO can recognize all the I/O modules connected to the controller, an important troubleshooting tool. The information on the Show Base Contents window can be saved as a text (*.txt) file or printed for reference or future use. The Font button allows you to change the way text is displayed in the window.

Firmware: Update Firmware, Update Booter and Restore Factory Settings

The functions in the Firmware box are used to update the selected module’s firmware and booter versions. The Restore Factory Settings option resets the selected module’s IP address, Module ID (if not set by DIP switches), Name and Description to factory defaults.

Clicking on either of the Update buttons opens the appropriate folder within the Images folder, which is created during the install of NetEdit 3. The Images folder is located in the same folder as NetEdit3.exe. Each module folder contains the module’s firmware and boot loader files.

Before the update takes place, a confirmation window is displayed, allowing the user to initiate the update. For example, the following window is displayed when attempting to update the firmware in a BX-EBC100:



Clicking on the Yes button continues with the update.

As discussed earlier in this appendix, the user should periodically check for new firmware and booter versions by using the “Live Update” feature in NetEdit 3 or the “Check For Updates” feature in the Do-more! Designer programming software. Once the latest updates have been downloaded, use the F/B/C columns to determine if any device requires an update.

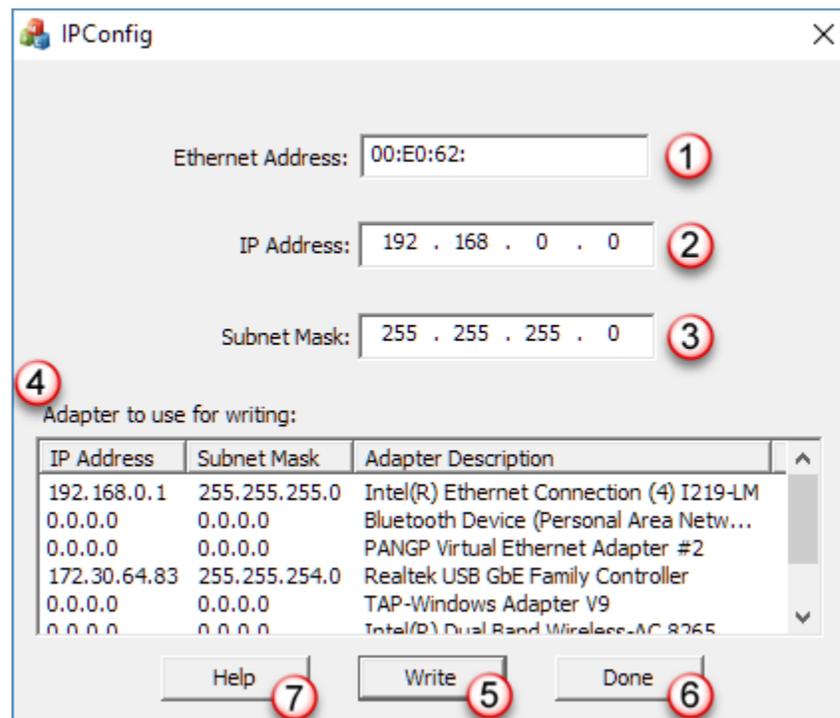
When NetEdit Does Not Work

When NetEdit does not “see” a Host Engineering Ethernet device

The IPConfig Tool was created to help recover Host Engineering Ethernet devices (e.g. ECOM100, EBC100, etc.) when:

- the devices have disappeared off the TCP/IP network and have become invisible to NetEdit.
- the IPX protocol is not available.

The IPConfig Tool does this by using a directed IP broadcast to the MAC address (since the IP settings are obviously unknown or incorrect).



1. **ETHERNET ADDRESS:** Enter the last 3 bytes of the Ethernet address (MAC address) of the Host Engineering Ethernet device you wish to recover. This address is printed on the label of the device itself. For convenience, the field will contain the first 3 bytes of the MAC address of all Host Engineering Ethernet devices (00:E0:62).
2. **IP ADDRESS:** Enter the IP address you wish for the device to have. By default, this will contain bytes based on what it discovered about your PC's IP address and subnet settings, but all fields are editable.
3. **SUBNET MASK:** Enter the subnet mask you wish for the device to have. By default, this will contain the same subnet mask as your PC.
4. **ADAPTER TO USE FOR WRITING:** Select the Ethernet adapter you wish to use for performing the write. As you click on different adapters, if they have different subnet mask definitions, then the SUBNET MASK field will change accordingly.

When NetEdit Does Not Work, continued

5. WRITE button: Pressing this button will write the IP Address and Subnet Mask to the device that has the entered Ethernet Address.
6. DONE button: Pressing this button will close the application.
7. HELP button: Pressing this button will open a Notepad window with the information found in this section.

How to use the IPConfig Tool

1. Run the IPConfig Tool from one of the following locations:
 - a. Double-click on IPConfig under Do-more! Designer Launchpad Applications windows.
 - b. Double-click on IPConfig under DSLaunch Utilities section.
 - c. Double-click on IPConfig102.EXE file from Windows Explorer (under the HAPTOOLS folder).
2. At the bottom, select the adapter you wish to use for performing the write. This will help set the Subnet Mask field to a proper default value.
3. Enter the Ethernet (MAC) address of the device you wish to attempt to recover in the Ethernet Address field.
4. Enter the IP address you wish the device to have in the IP Address field. Make sure you choose one that is on the PC's subnet.
5. In most cases there is no need to set the Subnet Mask field because it will have the correct subnet based on the adapter you picked in Step 2.
6. Press the <Write> button.
 - a. If it completes with no errors you will get a message saying, "Cool! Found device!" Goto Step 7.
 - b. If it can't find the device you will get a message saying, "Sorry! Unable to find device!" Check the Ethernet Address for typos and try again.
7. Press the <Done> button to close the application.
8. Try NetEdit again and see if your device shows up.