## NETEDIT—ETHERNET SETUP UTILITY FOR HOST AUTOMATION PRODUCTS

# APPENDIX E

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## **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.

#### Maximum Cable Length

The maximum distance per 10/100BaseT cable segment is 100 meters (328 feet). A repeater will extend the distance. A repeater can be an Ethernet unmanaged or managed switch, an Ethernet router or an Ethernet media converter (RJ45 10/100 to multi-mode SC/ST 100FX fiber). Each cable segment attached to a repeater can be 100 meters (328 feet) long.



#### **IP** Addressing and Subnets

IP Addresses (used in conjunction with the Subnet Mask and Default Gateway address) are used for network routing. This allows for easy and logical separation of networks. It is outside of the scope of this user manual to explain how IP addresses and subnet masks are configured for actual usage. There are many books, documents and tools (subnet calculators) on the Internet that provide this information. Each facility and network will incorporate their own rules and guidelines for how their networks are to be configured.

We suggest that users maintain their IP addressing and subnets according to common networking practices by using private network addressing when at all possible. Examples of private addressing IP ranges can be found in the table below.

IP Addressing and Subnets						
IP Address Range	Typical Subnet	Classful Description				
192.168.0.0–192.168.255.255	255.255.0.0	Class C Network				
172.16.0.0–172.31.255.255	255.240.0.0	Class B Network				
10.0.0.0-10.255.255.255	255.0.0.0	Class A Network				



**NOTE:** Notice that the IP range of 169.254.0.1–169.254.255.254 is not listed above. This range is reserved for APIPA addressing and is not recommended for use with most networks.

## **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: <u>http://www.hosteng.com/</u><u>SW-Products/Netedit3.zip</u>. 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.

IPX TCP/IP Scan Network	Connect (2)						
Ethernet Address F	B C Module Ty	IP Address	ID	Name		Description	
00 E0 62 30 03 34 ·	- BX-DM1E-18	10.1.15.11	0	BX-DM1E-18		Do-more PLCI	
00 E0 62 30 0A 46	BX-DMIO	10.1.15.153	0	BX-DMIO		Do-more IO Controller.	
00 E0 62 30 0A 48	BX EBC100	10.1.15.152	0	BX EBC100		Ethernet-Base Controller.	
00 E0 62 30 0A 34	BX-MBIO	10.1.15.221	15	BX-MBIO		BRX Modbus IO Controller.	
00 E0 62 30 0A 42	BX-MBIO	10.1.15.222	0	BX-MBIO		BRX Modbus IO Controller.	
00 E0 62 40 64 D4	= GS2-100	10.1.15.180	0	EDRV100		GS Series Drive Controller	
00 E0 62 21 8E 65	HU-ECOM100	10.1.15.40	40	HO-ECOM100		H0-ECOM100 Ethernet Communications Module. Do-more PLCI	
00 E0 62 90 0F 82 -	- HZ-DM1E	10.1.15.120	0	H2-DM1X			
00 E0 62 00 27 48	H2-EBC100	10.1.15.150	42	H2-EBC100		H2-ECOM100 Ethemet Communications Module	
00 E0 62 22 17 02	H2-ECOM100	10.1.15.151	0	H2-ECON100		Ethernat Damata Martar	
00 E0 62 40 00 AC	H4-FRC	255 255 255 255	0	405EBC		405 Ethernet Base Controller.	
00 E0 62 60 06 B8	H4-ECOM	10.1.15.210	4	405ECOM		405 Ethernet data communications module.	
00 E0 62 60 4F 6E	H4-ECOM100	10.1.15.41	41	H4-ECOM100		H4-ECOM100 Ethernet Communications Module	
00 E0 62 60 47 9A	H4-ERM100	10.1.15.203	0	H4-ERM100 454	base	Ethernet Remote Master.	
00 E0 62 40 4E D9	MB-Gateway	10.1.15.130	0	MB-Gateway		Modbus Gateway	
00 E0 62 40 7A D9	T1H-EBC100	10.1.15.0	154	154 T1HEBC100		T1HEBC100 Ethernet Base Controller.	
Module Info   Do-more !	Settings   General Help	Do-more Help				7	
General Info		Ethernet St	als		Reset Stats	h	
Firmware Rev: 2.1.0	PWB Rev:	1B Missed Fr.	0	Bad Pkts:	0		
Booler Rev. 10.2	PLD Rev.	17 TX Colt	0	Unknown	0		
Cudah Californi an	COLDer	in in cost	-				
switch setting: 00	cru nev.	2.1.0 Lost Pkts:	0	TX Errors:	0		

#### 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

File	Network	View	Utils	Н	lelp	
	Live Update.		0	nne ngl	ect	2
	Export	Export		С	Mo	dule Ty.
	Exit				BX-	DM1E-1
UU E	U 62 30 UA 4	to	_		BX-	DMIO

FileMenu: Live Update

Live Upda	te	
	This utility will check for the latest firmware for most Hx and T1H products and download them to the images directory.	
	Prior to continuing please make sure your internet connection is active.	
	When you are ready, press Go!"	
		_
	Go! Stop	
	OK	

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

			test NetEdit 3 FileExport - Notepad	- 🗆 🗡
File	Edit F	ormat V	iew Help	
00 00 00 00	EØ 62 EØ 62 EØ 62 EØ 62	90 0F 30 03 30 0A 30 0A	<ul> <li>B2,H2-DM1E,10.1.15.120,0,H2-DM1x,Do-more PLC!</li> <li>34,BX-DM1E-18,10.1.15.11,0,BX-DM1E-18,Do-more PLC!</li> <li>34,BX-MBIO,10.1.15.221,15,BX-MBIO,BRX Modbus IO Controller.</li> <li>42,BX-MBIO,10.1.15.222,0,BX-MBIO,BRX Modbus IO Controller.</li> <li>46,BX-DMIO,10.1.15.153.0,BX-DMID.Do-more IO Controller.</li> </ul>	^
00 00	EØ 62 EØ 62 EØ 62	30 0A 30 0A 00 27	<ul> <li>48,8X-EBC100,10.1.15.152,0,8X-EBC100,Ethernet Base Controller.</li> <li>48,H2-EBC100,10.1.15.150,0,H2-EBC100,H2-EBC100 Ethernet Base Controller.</li> </ul>	~

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

File	Network	View	Utils	Help	
IPX	Proto	ocol			+
Ethe	Adap	oter			
00 E	Scan	for Mo	dules		
00 E	Conr	nect to S	Single [	)evice	

Network Menu: Protocol

File	Net	work	View	Utils	Help			
IPX		Proto	col			•		IPX
Ethe		Adap	ter			•	~	TCP/IP
00 E		Scan	for Mo		COM1			Serial 🕨
00 E		Connect to			COM2		F	10.1.15.153
00 E	00 E0 62 30 0A 34		34		COM3		r	10.1.15.152
00 E	0 62	30 OA	42		COM4			10.1.15.222
00 E	0 62	40 64 21 8E	D4		COM5		10	10.1.15.180
00 E	0 62	90 OF	B2	COM6			ľ	10.1.15.120
00 E	0 62	00 27	4B		COM7			10.1.15.150
00 E	0 62	22 1F	82		00117		10	10.1.15.42
00 E	0 62	21 90 40 00	AC		COM8			255.255.255.25

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

File	Network View U	tils Help	_		
IPX	Protocol	•			
Ethe	Adapter	•		Default	L L
00 E	Scan for Module	es		Surface Ethernet Adapter :	
00 E	Connect to Sing	le Device	~	ASIX AX88772 USB2.0 to Fast Ethernet Adapter : 10.1.15.101	lo
00 E0	62 30 0A 34	BX-MBIO		Marvell AVASTAR Wireless-AC Network Controller :	IC
00 E0	62 30 0A 42	BX-MBIO	_	10115222 0 BX-MBIO	HRX Modbus IC

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.

File	Network	View	Utils	Help			
IPX	Prote	ocol			,		
Ethe	Adap	Adapter					
00 E	Scan	for Mo	dules				
	Con	Connect to Single Device					

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

Connect to Single Device (IP) ×						
IP Address;	Ok					
10 . 1 . 13 . 221	Cancel					

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:

£		NetEdit 3			_ □
File Network View Utils	Help				
IPX TCP/IP Scan Co Network Si	nnect 🛛 😰				
Ethernet Address F B	C Module Ty 🛆	IP Address	ID	Name	Description
00 E0 62 30 0A 34	BX-MBIO	10.1.15.221	15	BX-MBIO	BRX Modbus IO Controller
Module Info MBIO Settings	MBIO Help   Gener	al Help			
General Info		Ethernet Sta	ats		Reset Stats
Firmware Rev: 4.1.314	PWB Rev: 5	C Missed Fr:	0	Bad Pkts:	0
Booter Rev: 4.1.128	PLD Rev: 0	TX Coll:	0	Unknown:	0
Switch Setting: 00001111	CPU Rev: 1.0	).0 Lost Pkts:	0	TX Errors:	0
Ready					NUM

#### View Menu

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

File N	etwork	Vie	w Utils Help	
IPX	тсрир	~	Toolbar	1
Ethern	et Addre	~	Status Bar	<u></u>
00 E0 6	52 30 OA	~	Settings Bar	
	File N IPX Ethern 00 E0 6	File Network IPX TCP/IP Ethernet Addre 00 E0 62 30 0A	File     Network     Vie       IPX     TCP/IP        Ethernet Addre        00 E0 62 30 0A	File     Network     View     Utils     Help       IPX     TCP/IP     ✓     Toolbar       Ethernet Addre     ✓     Status Bar       00 E0 62 30 0A     ✓     Settings Bar

The Toolbar displays/hides the following:

IPX	тсрир	Scan Network	Connect Single	2
-----	-------	-----------------	-------------------	---

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

F	
Ready	NUM //

The Settings Bar displays/hides the Settings box:

Module Info   MBIO Settings   MBIO Help   General Help						
_ General Info		Ethernet Stats	Reset Stats			
Firmware Rev: 4.1.314	PWB Rev: 50	Missed Fr: 0	Bad Pkts: 0			
Booter Rev: 4.1.128	PLD Rev: 0	TX Coll: 0	Unknown: 0			
Switch Setting: 00001111	CPU Rev: 1.0.0	Lost Pkts: 0	TX Errors: 0			

#### Utils Menu: Start SMTP Viewer

File	N	etwork	View	Utils	Help				
IP	х	ТСРЛР	Sca Netw		Start S	мтр	Viewe	r 🞝	
					- L	1.1	-		



**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.

P port: 29298 (0x7272) – 🗆 🔨
•

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 (<u>http://www.hosteng.com/FAQFiles/ECOM.</u> <u>htm#FAQ0105</u>) 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.

File N	etwork	View	Utils	Help			
IPX	тсрир	Sca Netw	n Col ork Si	nnect Ingle			
Etherne	Ethernet Address   F   B   C   Modu						
00 E0 6	2 30 03	34 ·		BX-D			

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.

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.

IF A	I CEVIE NO	etwor	κ :	Sing	le
Ethern	et Address	F	В	C	Мо
00 E0 6	2 30 03 34	-	-		BX
00 E0 6	52 30 0A 46				BX-
00 E0 6	52 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	В	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 $\triangle$	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 valu	Default values for new modules or after reset to factory default							
	IP Address of 0.0.0.0	IP address of 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:

<b>Tabs and Setting</b>	s Availab	le to Each Device	
Device		Module Info Tab	Module Settings (Right-click Selection)
BX-DM1E         H2-E           BX-DMIO         H2-E           BX-EBC100         H4-E           BX-MBIO         H4-E           GS-EDRV100         H4-E           H0-ECOM100         MB-           H2-DM1E         T1H           H2-EBC100         T1H	ECOM100 ERM100 EBC ECOM100 ERM100 GATEWAY -EBC100 -DM1E	Module Info         Do-more Settings         General Heb         Do-more Heb         Ethernet Stats         Reset Stats           Fameware Rev.         20.5         Pw0 Rev.         18         Ethernet Stats         Reset Stats           Solder Rev.         10.2         PLD Rev.         17         D         Bad Pitz:         0           Swikch Settings         00         CPUI Rev.         20.0         TX Cad.         TX Centre:         0	
BX-DM1E H2-DM1E T1H-DM1E		Module Info Do-more Settings   General Help   Do-more Help   Configuration General Firmware Restore Factory Settings	General Restore Factory Settings
BX-DMIO BX-EBC100		Module Info DMID Settings DMID Help   Ceneral Help   Configuration General Start Web based Config. Show Base Confents. Update Formare. Update Booter. Platose Factory Settings.	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		Module Info MBIO Settings   MBIO Heb   General Heb   Configuation General.   Start Web based Config. Serial Pot Update Fammare. Update Fammare. Update Booter Resture Factory Setings.	General Serial Port I/O Base Show Base Contents Update Firmware Update Firmware Update Booter Restore Factory Settings Start Web based config
H0-ECOM100 H2-ECOM100 H4-ECOM100		Modula Info         ECOM Settings         ECOM Helo   General Helo             Configuration         UBL         Test CPU Accessor           General.         EMail Config.         Update Firmware.           Advanced.         Start Web based Config.         Update Booter.           Peor to Peor Config.         Feel CPU Accessor         Restore Foodray Settings.	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		Module Info       General Settings       General Help         Configuration       Firmware         General       Update Firmware         Advanced       Update Booter         Start Web based Config       Restore Factory Settings	General Advanced Update Firmware Update Booter Restore Factory Settings Start Web based config
Table continued on ne	xt page		

Tabs and Settings	Available to Each Device (continued)	
Device	Module Info Tab	Module Settings (Right-click Selection)
H4-EBC	Module Info         EBC Settings         EBC Help         General Help           Configuration         General         Start Web based Config         Ubla         Update Finitwate           Seniol Post         L/D Base         Update Finitwate         Restore Foctory Settings.	General Serial Port I/O Base Show Base Contents Update Firmware Update Booter Restore Factory Settings Start Web based config
GS-EDRV100 MB-GATEWAY	Module Info       General Settings       General Help         Configuration       Firmware         General       Update Firmware         Advanced       Update Booter         Start Web based Config       Restore Factory Settings	General Advanced Update Firmware Update Booter Restore Factory Settings Start Web based config

#### Settings Available per Device, continued

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													
	Confi	gurati	on					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**

Gener	ral Settings ×
Module ID: 0 = = Name: BX-MBIO BRX Modbus ID Controller.	Obtain an IP address automatically     Use the following IP settings      IP Address:     10 . 1 . 15 . 221      Subnet mask:     255 . 255 . 255 . 0      Gateway:     0 . 0 . 0 . 0
OK	Cancel

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**

Serial Port Settings	Serial Port Settings
Async Settings Baud Rate: 9600  Cancel Data Bits: 8 Cancel Stop Bits: 1 Cancel Parity: 0dd	Async Settings Baud Rate: 115200 V Data Bits: 8 V Stop Bits: 1 V Parity: None V
Port Mode K-Seq Slave C Modbus Slave C Master/Proxy	C K-Seq Slave C Modbus Slave C Master/Prov
Use RTS TS Pre-transmit Delay:	RTS Pre-transmit Delay: 0 millisecond

Hx-EBC100: RS-232 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

			H4-E	BC Base Co	nfiguration			
The DL the H4- distingu and An	405 architecture EBC with enoug ish between Dis alog I/O module	e does not provide h information to crete I/O modules s.	To allow f analog mo below to o of any and	or proper operal odules, please u describe the type alog modules to	tion of your ise the matrix e and placement the H4-EBC.	Left-click the the location cycle through on each butt options.	button(s) corres of your analog m h the options, Of on to select from	ponding to odule(s) to R right-click a menu of
	Slot 0	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7
Base O	F4-16AD-n	Empty			Intelligent		Empty	Empty
Base 1	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Base 2	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Rase 3	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty

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.

RX/WX Settings	10	-	Ok
ACK Timeout:	1.0	ms f	-
Resp. Timeout:	250	ms -	Cance
Retries:	1	-	
Sequence Setti	ngs	_	
Retries:	2	-	
Aodbus Settings		_	
Master Timeout:	1000	ms	
Slave Timeout:	20	sec	
ECOMLT/BRX S	erial Timeou	ıt —	
l'imeout:	0	ms	
lags			
Force 10Ba	seT (ECOM1	100)	
Read Only \	Veb Config	(ECOM100)	
🗌 Enable Pee	link (ECOM	100)	
Enable DIP	Switch 5 Lo	ckout	
Enable Web	Server (EC	OM100)	
Expansion 0	Configuration	Flag 5	
Expansion 0	Configuration	Flag 6	

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

Peer to Peer Configuration			
Device	Protocol	Configuration	Add
			E dit
			Delete
			Delete All
			OK
			Cancel

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.

Add Device	Address ×
RX/WX Device Number: Device Configuration ECOM	Find Hx-ECOM
IP Address: Ethernet Address: C Modbus/TCP	
IP Address:	502
Unit ID:	255
OK	Cancel

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.

		Ernemer Addless
	10.1.15.11	00 E0 62 30 03 34
	10.1.15.120	00 E0 62 90 0F B2
)	10.1.15.40	00 E0 62 21 8E 65
	10.1.15.41	00 E0 62 60 4F 6E
2	10.1.15.42	00 E0 62 22 1F 82
	10.1.15.210	00 E0 62 60 06 B8

## 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.

	Pee	er to Peer Configuration	
Device	Protocol	Configuration	Add
1	Modbus/TCP	IP = 10.1.15.221, Port = 502, Unit ID = 255	
40	ECOM	IP = 10.1.15.40, MAC = 00:E0:62:21:8E:65	Edit
41	ECOM	IP = 10.1.15.41, MAC = 00:E0:62:60:4F:6E	
			Delete
			Delete All
			OK
			Cancel
			Cancer

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.

		-			
* Server IP Address:	0	. 0	. 0	. U	
Sender Name:					
* Sender EMail Address:					
Cc Addresses:					
NOTE: Use commas between addresses					
* SMTP Port:	0		Defa	ult = 25	
* Timeout:	0		Defa	ult = 60 sec	
Use Authentication					
User Name:					
Password:					
* Denotes required field					

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 EMails 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 (<u>http://www.hosteng.com/FAQFiles/ECOM.htm#FAQ0105</u>) 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 Configu	ration Pages for Supported Devices
Device	Web-based Configuration Page
	<b>BX-DMIO</b> by <u>AutomationDirect.com</u>
	Module ID: 0 (0x0)
	Module Name: BX-DMIO
	Module Description: Do-more IO Controller.
	Ethernet Address: 00 E0 62 30 0A 46
BX-DMIO	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 by <u>AutomationDirect.com</u>
	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: 255.255.0 Gateway: 0.0.00
BX-EBC100	Vodule Setup: Setup Module Configuration
	Booter Version: 4 1 128
	OS Version: 41209
	Firmware Undates: 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

#### Web Configuration Pages for Supported Devices (continued) Device Web-based Configuration Page **BX-MBIO by AutomationDirect.com** 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 **BX-MBIO** 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 GS2-100 by <u>AutomationDirect.com</u> 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 GS-EDRV100 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 H0-ECOM100 by <u>Automation Direct.com</u> Module ID: 0 (0x0) Module Name: H0-ECOM100 Module Description: H0-ECOM100 Ethernet Communications Module. Ethernet Address: 00 E0 62 21 7B 59 IP Setup: Address: 10.1.15.40 Subnet: 255.255.255.0 Gateway: 0.0.00 Booter Version: 4.0.165 OS Version: 4.0.348 Server Address: 0.0.0.0 EMail Working Setup: EMail Working Setup: Sender Address: -- undefined --Cc: -- undefined --H2-ECOM100 Port: 25 Timeout: 60 seconds Server Address: 0.0.0.0 Sender Name: -- undefined --EMail Setup: Sender Address: -- undefined --Cc: -- undefined --Port: 0 Timeout: 0 second EMail Test: Send Test EMail Peer to Peer: [1-7] [8-15] [16-23] [24-31] [32-39] [40-47] [48-55] [56-63] [64-71] [72-79] [80-87] Advanced: ECOM Advanced Settings Peerlink: Peerlink Settings CPU Rev: 1.1.1 PWB/PLD Rev: 4C / 1A Firmware Updates: Hosteng.com Table continued on next page

#### Configuration: Start Web based Config, continued

Device	Web-based Confi	guration Page
	H2-EBC1	00 by <u>Automation Direct.com</u>
	Module ID	0 (0x0)
	Module Name	H2-EBC100
	Module Description	H2-EBC100 Ethernet Base Controller.
	Ethernet Address	00 E0 62 00 27 4B
H2-EBC100	IP Setup	Address: 10.1.15.150 Subnet: 255.255.255.0 Gateway: 0.0.0.0
	Booter Version	4.0.165
	OS Version	4.0.605
	Serial Port Setur	9600-8-O-1-KSeg Slave Mode-No RTS
	CPU Ray	103
	PWR/PI D Pav	24/14
	Firmware Undated	Lastana aom
	Filmware Opdates.	rostengeon
	H2-EC	OM100 by <u>Automation Direct.com</u>
	Module ID:	42 (0x2A)
	Module Name:	H2-ECOM100
	Module Description:	H2-ECOM100 Ethernet Communications Module.
	Ethernet Address:	00 E0 62 22 1F 82
H2-ECOM100	IP Setup:	Address: 10.1.15.42 Subnet: 255.255.255.0 Gateway: 0.0.0.0
	Booter Version:	4.0.165
	Peer to Peer	1.0.914 [1.7] [8.15] [16.23] [24.31] [32.30] [40.47] [48.55] [56.63] [64.71] [72.70] [80.87]
	CPU Rev:	
	PWB/PLD Rev:	5A / 1B
	Firmware Updates:	Hosteng.com
	H4-E	COM100 by Automation Direct.com
	Madula II	∑[[1] (0+20)
	Module II Module Nam	2:[41.(0x29)
	Module II Module Name	2: 41 (0x29) e: [H4-ECOM100 u: [H4-ECOM100 Ethernet Communications Module
	Module II Module Name Module Description Ethernet Address	2: <u>41 (0x29)</u> 2: <u>H4-ECOM100</u> 1: <u>H4-ECOM100 Ethernet Communications Module</u> , 5: 00 E0 62 60 4F 6E
	Module II Module Name Module Description Ethernet Addres IP Setu	2: <u>41 (0x29)</u> 2: <u>H4-ECOM100</u> 1: <u>H4-ECOM100 Ethernet Communications Module</u> , 5: 00 E0 62 60 4F 6E 2: [Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway: 0.0.0.0
	Module II Module Nam Module Description Ethernet Addres IP Setu Booter Version	2: 41 (0x29) 2: H4-ECOM100 1: H4-ECOM100 Ethernet Communications Module. 5: 00 E0 62 60 4F 6E 2: Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway: 0.0.0 1: 4.0.165
	Module II Module Nam Module Description Ethernet Address IP Setu Booter Version OS Version	2: 41 (0x29) 2: H4-ECOM100 1: H4-ECOM100 Ethernet Communications Module. 5: 00 E0 62 60 4F 6E 2: Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway: 0.0.0 1: 4.0.165 1: 4.0.2132
H4-ECOM100	Module II Module Description Ethernet Addres IP Setu Booter Version OS Version	2: 41 (0x29)           2: H4-ECOM100           12: H4-ECOM100 Ethernet Communications Module.           13: 00 E0 62 60 4F 6E           2: Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway: 0.0.0           12: 4.0.165           12: 4.0.165           12: 4.0.2132           Server Address: 0.0.0.0           Sender Name: - undefined           Sender Address: - undefined           Port: 25           Timeout: 60 seconds
H4-ECOM100	Module II         Module Description         Ethernet Address         IP Setup         Booter Version         OS Version         EMail Working Setup         EMail Setup	2: 41 (0x29)         2: H4-ECOM100         1: H4-ECOM100 Ethernet Communications Module.         5: 00 E 02 60 4F 6E         2: Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway: 0.0.0.0         1: 4.0.165         1: 4.0.2132         Server Address: - undefined         2: C: - undefined         Port: 25         Timeout: 60 seconds         Sender Address: - undefined         C: - undefined         Port: 25         Timeout: 60 seconds         Sender Address: - undefined         Port: 0         Timeout: 0 seconds
H4-ECOM100	Module II         Module Description         Ethernet Address         IP Setup         Booter Version         OS Version         EMail Working Setup         EMail Setup         EMail Setup	2: 41 (0x29)         2: H4-ECOM100         1: H4-ECOM100 Ethernet Communications Module.         5: 00 E 02 60 4F 6E         2: Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway: 0.0.0.0         1: 4.0.165         1: 4.0.2132         Server Address: - undefined         2: C: - undefined         Port: 25         Timeout: 60 seconds         Sender Address: - undefined         C: - undefined         Port: 25         Timeout: 60 seconds         Sender Address: - undefined         Port: 0         Timeout: 0 seconds
H4-ECOM100	Module III         Module Description         Ethernet Addres         IP Setu         Booter Version         OS Version         EMail Working Setu         EMail Setu         EMail Tes         Peer to Peer	2:       41 (0x29)         2:       H4-ECOM100         1:       H4-ECOM100 Ethernet Communications Module,         5:       00 E0 62 60 4F 6E         2:       Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway: 0.0.0.0         2:       4.0.165         2:       4.0.165         2:       4.0.2132         Server Address: - undefined         Sender Name: undefined         Year       Year         Year
H4-ECOM100	Module III Module Description Ethernet Addres IP Setu Booter Version OS Version EMail Working Setu EMail Setu EMail Tes Peer to Pee Advance	2: 41 (0x29)         2: H4-ECOM100         2: H4-ECOM100 Ethernet Communications Module,         5: 00 E0 62 60 4F 6E         2: Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway; 0.0.0.0         2: 4.0.165         2: 4.0.165         2: 4.0.2132         Server Address: - undefined         Sender Name: undefined         Year Address: - undefined         Year Address: undefined         Year Year Address: undefined         Year Year Address         Year Year Year Address         Year Year Year Year Year Year Year Year
H4-ECOM100	Module II         Module Description         Ethernet Addres         IP Setu         Booter Version         OS Version         EMail Working Setu         EMail Setu         EMail Tes         Peer to Pee         Advanced         Peerlint	2: 41 (0x29)         2: 41 (0x29)         2: 14 + ECOM100         12: 14 + ECOM100 Ethernet Communications Module.         5: 00 E0 62 60 4F 6E         2: Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway: 0.0.0         2: 4.0.165         1: 4.0.2132         Server Address: 0.0.0.0         Sender Address: - undefined         Sender Address: - undefined         Port: 25         Timeout: 60 seconds         Server Address: - undefined         Server Address: - undefined         Cc: undefined         Port: 25         Timeout: 60 seconds         Server Address: undefined         Scrier Address: undefined         Port: 0         Timeout: 0 seconds         Sender Tadress undefined         Port: 0         Timeout: 0 seconds         t         Send Test EMail         t:         t:         ECOM Advanced Settings         \$
H4-ECOM100	Module II         Module Description         Ethernet Addres         IP Setu         Booter Version         OS Version         EMail Working Setu         EMail Setu         EMail Setu         EMail Tes         Peer to Pee         Advanced         Peerlint         CPU Re	2: 41 (0x29)         2: 41 (0x29)         2: H4-ECOM100         1: H4-ECOM100         2: H4-ECOM100 Ethernet Communications Module.         5: 00 E0 62 60 4F 6E         2: Address: 10.1.15.41 Subnet: 255.255.255.0 Gateway: 0.0.0         2: 4.0.165         1: 4.0.2132         Server Address: - undefined         Sender Address: - undefined         Sender Address: - undefined         Port: 25         Timeout: 60 seconds         Server Address: - undefined         Sender Address: - undefined         Cc: undefined         Port: 2         Timeout: 60 seconds         Server Address:

## Configuration: Start Web based Config, continued

Device	Web-based Configura	ation Page	
	MB-Gateway by <u>AutomationDirect.com</u>		
	Gateway Modbus II	D: 0 (0x0)	
	Module Nam	e: MB-Gateway	
	Module Description	n: Modbus Gateway	
	Ethernet Addres	s: 00 E0 62 40 4E D9	
	IP Setu	p: Address: 10.1.15.130 Subnet: 255.255.255.0 Gateway: 0.0.0.0	
MD-GAIEWAI	Booter Versio	n: <b>5.0.53</b>	
	OS Versio	n. 1.0.601	
	Serial Port Configuration	n: 19200-8-ODD-1-RTU	
	Slave Timeout/Retrie	s: Timeout=1000 Retries=2	
	Automatic Read	s: Reading from: none	
	Show Statu	s: Monitor Status Information	
	Firmware Update	s: Hosteng.com	
	T1H-EBC100	by Automation Direct.com	
	Module ID: 154 Module Name: T11 Module Description: T11	(0x9A) <u>IEBC100</u> IEBC100 Ethernet Base Controller.	
	Module ID: 154 Module Name: 111 Module Description: 111 Ethernet Address: 00	(0x9A) IEBC100 IEBC100 Ethernet Base Controller, E0 62 40 7A D9	
T1H-EBC100	Module ID: 154 Module Name: 111 Module Description: 111 Ethernet Address: 00 IP Setup: Add	(0x9A) IEBC100 IEBC100 Ethernet Base Controller. E0 62 40 7A D9 Iress: 10.1.15.0 Subnet: 255.255.255.0 Gateway: 0.0.0.0	
T1H-EBC100	Module ID: 154 Module Name: 111 Module Description: 111 Ethernet Address: 001 IP Setup: Add Booter Version 4.0.	(0x9A) <u>IEBC100</u> <u>IEBC100 Ethernet Base Controller.</u> E0 62 40 7A D9 <u>Iress: 10.1.15.0 Subnet: 255.255.255.0 Gateway: 0.0.0.0</u> 165	
T1H-EBC100	Module ID: 154 Module Name: 111 Module Description: 111 Ethernet Address: 00 IP Setup: Add Booter Version: 4.0. OS Version: 4.0.	(0x9A) TEBC100 TEBC100 Ethernet Base Controller. E0 62 40 7A D9 Tress: 10.1.15.0 Subnet: 255.255.255.0 Gateway: 0.0.0.0 165 1432	
T1H-EBC100	Module ID: 154 Module Name: 111 Module Description: 111 Ethernet Address: 00 IP Setup: Add Booter Version: 4.0. OS Version: 4.0. Serial Port Setup: 960	(0x9A) TEBC100 TEBC100 Ethernet Base Controller. E0 62 40 7A D9 Tress: 10.1.15.0 Subnet: 255.255.255.0 Gateway: 0.0.0.0 165 1432 0-8-O-1-KSeq Slave Mode-No RTS	
T1H-EBC100	Module ID: 154 Module Name: 111 Module Description: 111 Ethernet Address: 00 1 IP Setup: Add Booter Version: 4.0. OS Version: 4.0. Serial Port Setup: 960 CPU Rev: 1.1.	(0x9A) TEBC100 TEBC100 Ethernet Base Controller. E0 62 40 7A D9 tress: 10.1.15.0 Subnet: 255.255.255.0 Gateway: 0.0.0.0 165 1432 0-8-O-1-KSeq Slave Mode-No RTS 5	
T1H-EBC100	Module ID: 154 Module Name: 11 Module Description: 11 Ethernet Address: 00 IP Setup: Add Booter Version: 4.0. OS Version: 4.0. Serial Port Setup: 960 CPU Rev: 1.1. PWB/PLD Rev: 7A	(0x9A) HEBC100 HEBC100 Ethernet Base Controller. E0 62 40 7A D9 Hress: 10.1.15.0 Subnet: 255.255.0 Gateway: 0.0.0.0 165 1432 0-8-O-1-KSeq Slave Mode-No RTS 5 / 1A	

## Configuration: Start Web based Config, continued

#### 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			
	Success! ×			
For a H0-ECOM100 installed in a DL06 base:	Scanned for CPU and found a DL-06			
	ОК			
	Success! ×			
For a H2-ECOM100 installed on a DL260 base:	Scanned for CPU and found a DL-260			
	ОК			
	Success! ×			
For a H4-ECOM100 installed on a DL454 base:	Scanned for CPU and found a DL-454			
	ок			

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 windows provides some troubleshooting suggestions.

Failed!	X
Hmmmmhere's a few thing to check when troubleshooting General: - Check that Link light is ON. - Check that ECOM is properly seated. - If your PC has 2 NICs, make sure they don't have common protocols enabled. H0-ECOM: - Make sure PLC firmware is up to date. - If you have an D0-06LCD, make sure it has a date code of 032A or later. H2-ECOM: - Will not work in slot 0 (the slot adjacent to the CPU). H4-ECOM: - Check for bent pins on both the ECOM and the CPU.	
ОК	

#### 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.

	Test	EMail	×	
This utility for specified add	This utility forces the ECOM100 to send a test email to the specified address, using the current EMail configuration.			
To use: Enter	a destination EMa	il address, and press "Sei	nd".	
Address:				
	Send	Cancel		

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:

Show Base Contents	×
Base 0 : Slot 1 - Module Type 9206 - 16 Point Discrete Output 16 - Bit outputs (Modbus 584/984 - Coils 1-16)	^
Base 0 : Slot 2 - Module Type 9103 - 16 Point Discrete Input 16 - Bit inputs (Modbus 584/984 - Inputs 100001-100016)	
<	>
Save Print Font	Close

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:

Comt	firm Update	×
Preparing to replace module firmw	vare version 4.1.299 with ver	rsion 4.1.314.
Continue?		

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).

🔒 IP	Config			×
	E	thernet Address:	00:E0:62:	
		IP Address:	192 . 168 . 0 . 0 (2)	
		Subnet Mask:	255 . 255 . 255 . 0 3	
4			-	
Ada	apter to use	for writing:		
IP	Address	Subnet Mask	Adapter Description	^
192	2.168.0.1	255.255.255.0	Intel(R) Ethernet Connection (4) I219-LM	
0.0	).0.0	0.0.0.0	Bluetooth Device (Personal Area Netw	
0.0	).0.0	0.0.0.0	PANGP Virtual Ethernet Adapter #2	
172	2.30.64.83	255.255.254.0	Realtek USB GbE Family Controller	
0.0	0.0.0	0.0.0.0	TAP-Windows Adapter V9	¥
		Help	Write Done	

- 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.