The Mestek Communications Bridge is an OEM product called a ProtoCessor manufactured by FieldServer. The bridge comes pre-configured to correctly map the native Modbus registers to the appropriate protocol (BACnet, LonWorks, etc.). Every control network requires that each device have a unique address (IP, MAC, BACnet Node ID, etc.). The network is usually designed by a controls contractor and thus, we have no way of knowing the device addressing scheme being used. For this reason, it may be necessary to program the device in the field. The steps required are outline below.

This document assumes that you have a standalone (not connected to a network) computer (Desktop or Laptop) with an Ethernet network card. You will also need an Ethernet cable, and the FieldServer Toolbox application. The FieldServer Toolbox application can be downloaded from the Literature Library on the appropriate Mestek product website, (ATH, RBI, Sterling, etc.), or directly from the ProtoCessor web site (www.protocessor.com).

The ProtoCessor is shipped with a default IP address 192.168.1.24. The subnet mask is 255.255.255.0. You need to configure your computer so that it is on the same IP network as the ProtoCessor. The required steps are outlined in the following sections for Microsoft Windows 2000, Windows XP, and Windows 7. If you have already changed the IP Address and/or Subnet Mask of the ProtoCessor, you will need to use the appropriate values.

Windows 2000

Open the "Windows Control Panel" (Start->Settings->Control Panel) and double click "Network and Dial-up Connections" as shown in Figure 1 to open up the "Network and Dial-up Connections" window.



Figure 1 - Windows 200 - Control Panel

Right click on *"Local Area Connection"* and choose properties as shown in Figure 2 to open the *"Local Area Connection Properties"* dialog.

📴 Network and Dial-up Connections							
File Edit View Favorites Tools		1					
⇔Back • ⇒ • 🔄 @Search ParFolders 🎯 Par Par 🗙 🕫 📰 •							
Address 🔁 Network and Dial-up Connections 💽 🔗 Go							
	Name 🛆		Туре	Status	Device Name		
	🖻 Make New	Connection					
	📕 Local Area	Connection	LAN	Enabled	Intel(R) PRO/100+		
Network and Dial-up		Disable					
Connections		Status					
Local Area Connection		Create Shortcu	ut				
		Delete					
Type: LAN Connection		Rename					
Status: Enabled	Properties						
Intel(R) PRO/100+ Management Adapter			5				
	•				Þ		
Displays the properties of the selected connection.							

Figure 2 - Windows 2000 - Network Connections

Select *"Internet Protocol (TCP/IP)"* and click the *"Properties"* button as shown in Figure 3 to open the *"Internet Protocol (TCP/IP) Properties"* dialog.

ocal Area Connection Properties	×					
General						
Connect using:						
Intel(R) PR0/100+ Management Adapter						
, <u>C</u> onfigure						
Components checked are used by this connection:						
Elient for Microsoft Networks Elie and Printer Sharing for Microsoft Networks Internet Protocol (TCP/IP)						
Install Uninstall Properties						
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.						
Show icon in taskbar when connected						
OK Cancel						

Figure 3 - Windows 2000 - Connection Properties

Write down the current settings so that they can be restored when you are no longer connected to the ProtoCessor. Choose *"Use the following IP address"*, set the *"IP Address"* to 192.168.1.99, and set the *"Subnet Mask"* to 255.255.255.0 as shown in Figure 4. Click the *"OK"* button to save your changes.

Internet Protocol (TCP/IP) Propertie	es <u>?x</u>					
General						
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.						
C Obtain an IP address automatical	y 🔤					
• Use the following IP address:						
IP address:	192.168.1.99					
S <u>u</u> bnet mask:	255 . 255 . 255 . 0					
Default gateway:						
C Obtain DNS server address automatically						
Use the following DNS server add	dresses:					
Preferred DNS server:	· · ·					
<u>A</u> lternate DNS server:	· · ·					
Ad <u>v</u> anced						
	OK Cancel					

Figure 4 - Windows 2000 - TCP/IP Properties

Close all remaining dialogs and windows that were opened following the instructions in this section. Proceed to the *"Connecting to the ProtoCessor"* section below.

Windows XP

Open the "*Windows Control Panel*" (Start->Control Panel) and double click "*Network and Dial-up Connections*" as shown in Figure 5. to open up the "*Network Connections*" window.



Figure 5 - Windows XP - Control Panel

Right click on *"Local Area Connection"* and choose properties as shown in Figure 6 to open the *"Local Area Connection Properties"* dialog.



Figure 6 - Windows XP - Network Connections

Select *"Internet Protocol (TCP/IP)"* and click the *"Properties"* button as shown in Figure 7 to open the *"Internet Protocol (TCP/IP) Properties"* dialog.

上 Local Area Connection Properties 🛛 🔹 🛛						
General Authentication Advanced						
Connect using:						
Intel(R) PR0/100 VM Network Conn						
This connection uses the following items:						
Install						
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.						
Sho <u>w</u> icon in notification area when connected ✓ Notify <u>me</u> when this connection has limited or no connectivity						
OK Cancel						

Figure 7 - Windows XP - Connection Properties

Write down the current settings so that they can be restored when you are no longer connected to the ProtoCessor. Choose *"Use the following IP address"*, set the *"IP Address"* to 192.168.1.99, and set the *"Subnet Mask"* to 255.255.255.0 as shown in Figure 8. Click the *"OK"* button to save your changes.

Internet Protocol (TCP/IP) Prope	rties 🔹 😢 🔀					
General						
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.						
Obtain an IP address automatically						
Ose the following IP address: —						
IP address:	192.168.1.99					
S <u>u</u> bnet mask:	255 . 255 . 255 . 0					
Default gateway:	· · ·					
O Dbtain DNS server address autom	natically					
Output the following DNS server add	resses:					
Preferred DNS server:						
Alternate DNS server:	· · ·					
Ad <u>v</u> anced						
OK Cancel						

Figure 8 - Windows XP - Internet Protocol Properties

Close all remaining dialogs and windows that were opened following the instructions in this section. Proceed to the "Connecting to the **ProtoCessor**" section below.

Windows 7

Open the "*Windows Control Panel*" (Start->Control Panel) and click "*Network and Sharing Center*", as shown in Figure 9, to open up the "*Network Connections*" window.

💭 🗢 📴 🕨 Control Panel 🕨 All Con	trol Panel Items 🕨		 ✓ ✓
djust your computer's settings			View by: Small icons 🔻
Action Center	🍓 Administrative Tools	🚭 Autodesk Plot Style Manager	두 Autodesk Plotter Manager
🖥 AutoPlay	🐌 Backup and Restore	💶 Color Management	Credential Manager
🖞 Date and Time	😿 Default Programs	📑 Desktop Gadgets	🚔 Device Manager
둸 Devices and Printers	🔄 Display	🚱 Ease of Access Center	🖌 Flash Player (32-bit)
Folder Options	🛺 Fonts	📇 Getting Started	🔣 HomeGroup
🔒 Indexing Options	🔁 Intel® Rapid Storage Technology	🐑 Internet Options	🕌 Java (32-bit)
🖿 Keyboard	😽 Lenovo - Factory Recovery Disks	🍪 Lenovo - System Health and Diagno	🕲 Lenovo - Update and Drivers
週 Lenovo HD Audio Manager	🔫 Lenovo's SimpleTap	🗺 Location and Other Sensors	🍘 LonWorks Interfaces (32-bit)
Mail		Network and Sharing Center	🛄 Notification Area Icons
Performance Information and Tools	Personalization	🔚 Phone and Modem 😽	Power Options
Programs and Features	🔕 RapidBoot HDD Accelerator (32-bit)	P Recovery	🔗 Region and Language
log RemoteApp and Desktop Connections	🛒 Sound	🖶 Speech Recognition	🔞 Sync Center
🛂 System	🔔 Taskbar and Start Menu	📧 Troubleshooting	🍇 User Accounts
🍕 Windows Anytime Upgrade	📑 Windows CardSpace	🕍 Windows Defender	🔗 Windows Firewall
Windows Live Language Setting	Windows Update		

Figure 9 - Windows 7 – Control Panel

Click on *"Local Area Connection"* as shown in Figure 10 to open the *"Local Area Connection Status"* dialog.



Figure 10 - Windows 7 – Network Sharing Center

Click on the "Properties" button as shown in Figure 11 to open the "Local Area Connection Properties" dialog.

📮 Local Area Connecti	on Status	×
General		
Connection		
IPv4 Connectivity:		Internet
IPv6 Connectivity:		No Internet access
Media State:		Enabled
Duration:		00:18:18
Speed:		100.0 Mbps
Details		
Activity		
	Sent —	Received —
Bytes:	2,731,598	108,514,230
Properties	🕑 Disable	Diagnose
		Close

Figure 11 - Windows 7 – Local Are Connection Status

Select *"Internet Protocol Version 4 (TCP/IPv4)"* and click the *"Properties"* button as shown in Figure 12 to open the *"Internet Protocol Version 4 (TCP/IPv4) Properties"* dialog.

Local Area Connection Properties							
Networking Sharing							
Connect using:							
Intel(R) 82579LM Gigabit Network Connection							
Configure This connection uses the following items:							
 Client for Microsoft Networks QoS Packet Scheduler File and Printer Sharing for Microsoft Networks Internet Protocol Version 6 (TCP/IPv6) Internet Protocol Version 4 (TCP/IPv4) Link-Layer Topology Discovery Mapper I/O Driver Link-Layer Topology Discovery Responder 							
Install Uninstall Properties Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.							
OK Cancel							

Figure 12 - Windows 7 – Local Area Connection Properties

Write down the current settings so that they can be restored when you are no longer connected to the ProtoCessor. Choose *"Use the following IP address"*, set the *"IP Address"* to 192.168.1.99, and set the *"Subnet Mask"* to 255.255.255.0 as shown in Figure 813. Click the *"OK"* button to save your changes.

Internet Protocol Version 4 (TCP/IPv4)	Properties ? X						
General							
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.							
Obtain an IP address automatically							
Use the following IP address:							
IP address:	192.168.1.99						
Subnet mask:	255.255.255.0						
Default gateway:							
Obtain DNS server address autom	natically						
Output Server addresses:							
Preferred DNS server:							
Alternate DNS server:	· · ·						
Validate settings upon exit	Advanced						
	OK Cancel						

Figure 13 - Windows 7 – Internet Protocol Properties

Connecting to the ProtoCessor

Connect your computer directly to the ProtoCessor using an Ethernet cable, power up the ProtoCessor (apply power to the Mestek product) and run the *FieldServer Toolbox* application. The bridge should be displayed with a green connectivity indicator as shown in Figure 14. Please note that the bridge name may be different on your product. If no bridges show up, or if the bridge shows up with a yellow connectivity indicator there are several possibilities:

- 1) The Microsoft Windows (or another OEM) Firewall is preventing communications with the bridge. Disable any firewalls and try again.
- 2) The IP network settings on your computer were not correctly set. Please double check the settings outlined in the preceding sections to verify that they are set correctly.
- 3) The computer has multiple network cards and you have not configured or are not plugged into the correct port.
- 4) The IP network settings (IP Address/Subnet) on the bridge have been changed from the default settings.
- 5) The bridge is not powered or is defective. Please check for power, flashing lights, etc.

6	n FieldServer Toolbox						
	FieldServe	r Toolb	ox				\bigcirc
	Setup He	lp				C	FieldServer Technologies
	DEVICES	÷	IP ADDRESS	MAC ADDRESS	FAVORITE	CONNECTIVITY	
Г	Mestek v1.0		192.168.1.24	00:50:4E:10:0A:30	*	•	Connect 💭
							it.

Figure 14 – FieldServer Toolbox - ProtoCessor Found

If the bridge is displayed, and the Connectivity light is green, as shown in Figure 14, you are now ready to monitor and/or configure the bridge. Please consult our technical bulletins (or the Field Server documentation) for configuring the most common settings.