



REAL TIME AUTOMATION

460 MSA

Quick Start Guide

PREPARED BY REAL TIME AUTOMATION

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Overview:

By following this guide, you will be able to configure the 460 MSA Gateway for basic operation. You will set the device's network settings and parameters to the proper configuration for initial operation and physically place the device in the network.

Before You Start:

You will need the following tools:

- ◆ **The 460 MSA Gateway**
- ◆ **The provided CD-ROM**
- ◆ **A Working PC**
- ◆ **An Ethernet Crossover Cable**
- ◆ **A Power Source (7-30 Volts)**

You will also need to verify the following ASCII Communication Characteristics:

- ◆ **Start Delimiter(s)**
- ◆ **End Delimiter(s)**
- ◆ **Mode (RS-485 (2-wire) or RS-422 (4-wire))**
- ◆ **Baud Rate**
- ◆ **Parity**
- ◆ **Data Bits**
- ◆ **Stop Bits**
- ◆ **Data Timeout**



Configuring Network:

Before you can configure the gateway itself, you must configure the network settings to connect the gateway. The following steps will connect the gateway properly.

- 1) Connect the power source to the device.
- 2) Connect the device to the PC using the crossover cable.
- 3) Insert the provided CD-ROM.
- 4) Run the **IPSetup** program from the CD-ROM.
- 5) Configure the **IP Address** for your subnet.
- 6) Click **Set**.
- 7) Click **Launch Webpage**. The Main Page should appear. (Figure 1)

Description	Enter an application description.		Edit
460MSA Network Settings	IP address: 192.168.0.100 Subnet mask: 255.255.255.0 Default gateway: 192.168.0.1 MAC address: 00-03-F4-03-6D-1B		Edit
Selected Communication Modules	Modbus TCP Server No configurable parameters Serial Module 1 RS-232 on Port 1 19200 baud, no parity, 8 data bits, 1 stop bit		Edit
Server Module Configuration	Modbus TCP Server No configurable parameters Serial Module 1 No configurable parameters		Edit
460MSA Application Parameters	Perform Handshake for Outgoing MB messages (MB TCP to ASCII) No Perform Handshake for Incoming MB messages (ASCII to MB TCP) No		Edit

Figure 1 — Main Page.



Error:
**Device Configuration
Page Does Not
Launch.**

If the Device Configuration Main Page does not launch, the IP Address is probably not set correctly. Correct the IP Address and try again.

If you do not know the IP Address, use the following procedure.

- 1) Open an MS-DOS Command Prompt.
- 2) Type ***ipconfig*** and press **enter**.
- 3) Note the IP Address.
- 4) To test if the communication between the PC and the unit is working, type ***ping (###.###.###.###)*** in the prompt and press **enter**. The ***(###.###.###.###)*** is a placeholder for the IP Address you used in step 5 of network configuration, which is ***192.168.0.100*** by default. If the device is connected to the network, the ping will show a response. If you get no response, check the crossover cable.



Configuring Device:

Now that the device is on the network, you will configure the device settings. As a reminder, you will need to know the start and end delimiters, mode, baud rate, parity, data and stop bit settings of your ASCII device in order to complete device configuration.

- 1) If you would like to change the device description, on the main page, in the **Description** row, click **Edit**. Otherwise, skip to step 4.
- 2) Type the desired description into the text box.
- 3) Click **Save**.
- 4) In the **Selected Communication Modules** row, click **Edit**. (Figure 1)
- 5) In the **Serial Module 1** row, click **Edit**. (Figure 2)

Serial Module 1	Edit	Enabled?
		<input checked="" type="checkbox"/>

Incoming Messages:
Maximum message length: 255 (1-255)
Receive character timeout: 1000 milliseconds (10-60000, 0 to disable)
Delimiters are shown as ASCII, decimal, and hexadecimal.
Select the 1ST start delimiter: Unused
Select the 2ND start delimiter: Unused
Select the 1ST end delimiter: Unused
Select the 2ND end delimiter: Unused
 Discard all delimiters

Outgoing Messages:
Maximum message length is 255 bytes
Select the 1ST start delimiter: Unused
Select the 2ND start delimiter: Unused
Select the 1ST end delimiter: Unused
Select the 2ND end delimiter: Unused

Connector: Port 1: DB9 Mode: RS-232
Baud: 19200 Parity: None
Data: 8 Bits Stop: 1 Bits
Save Cancel

Figure 2 — Selected Communication Modules

- 6) Change the **Message Length** field to the length of the longest message you will send. (Figure 3)
- 7) If the message length will be variable, select **Receive Character Timeout** and set it to the appropriate value. The value is the amount of time the unit will wait for the continuation of a message before it forces the

(Continued)



Configuring Device:

Error:

Data is not transferred correctly.

message to be sent. A value of 500ms should suffice for most applications. (Figure 3)

- 8) Select the **1ST Start Delimiter**, **2ND Start Delimiter**, **1ST End Delimiter** and **2ND End Delimiter** to match your ASCII device settings for incoming and outgoing messages (if any). (Figure 3)

If your data is not flowing correctly upon completing the network, check the message length and delimiter fields on this page. Incorrect settings will skew operation.

- 9) If you would like to remove the delimiters from the actual message, select **Discard All Delimiters**. (Figure 3)
- 10) Select the appropriate settings in the **Mode**, **Baud**, **Parity**, **Data** and **Stop** fields. The settings should match your ASCII device. (Figure 3)

Figure 3 — Serial Module 1

- 11) Click **Save**. (Figure 3)
- 12) Click **Back to Main Page**.

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Configuring Device:

- 13) In the **Server Module Configuration** row, click **Edit**. (Figure 1)
- 14) In the **Device Buffer #1** row, click **Edit**.
- 15) Note the values in the **Register** fields.
- 16) Click **Back to Main Page**.
- 17) If you would like to enable handshaking, in the **460 MSA Application Parameters** row, click **Edit**. (Figure 1)
- 18) Check the option if you want handshaking functionality. If the **Perform Handshake for Outgoing MB Messages (MB TCP to ASCII)** option is selected or the **Perform Handshake for Incoming MB Messages (ASCII to MB TCP)** then the sequence number must be incremented for the next message to be processed. (Figure 4)

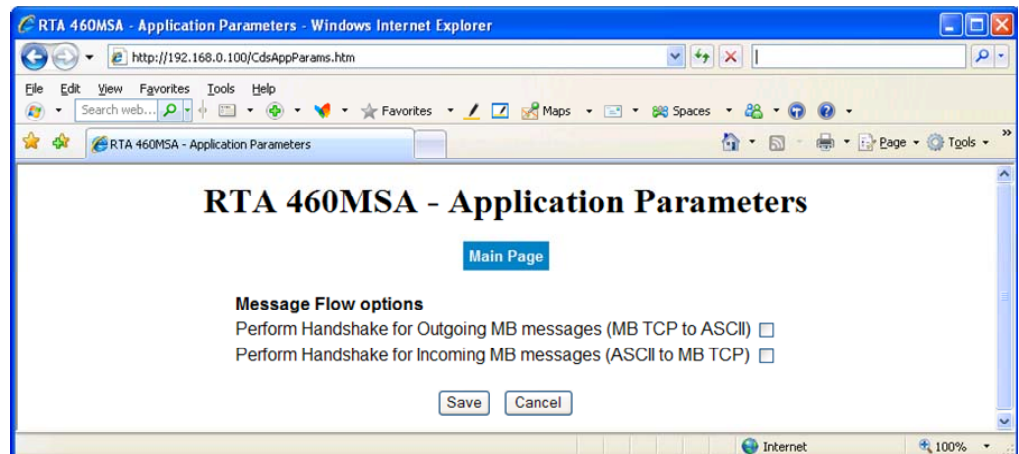


Figure 4 — Application Parameters

- 19) The following registers are the handshaking registers (401 & 402)
- 20) Under the Real Time Automation Logo, click the **Utilities** button. (Figure1)
- 21) Click **Restart**. (Figure 5)
- 22) Click **OK**. (Figure 5)

(Continued)



Multiple Devices:

RTA 460EDX - Utilities					
Back to Main Page					
IEC 61131-3 Project Information	Project: 460MTA.pro Title: Author: Revision: , on 2009-01-15				
Restart this 460EDX	Restart				
IEC 61131-3 Global Variables	Build Tag List				
Save and Restore 460EDX Configuration	Save Configuration to File Restore configuration from <input type="text"/> Browse... Restore from File 460EDX will restart after successful restore of the configuration.				
IEC 61131-3 External Libraries	These are the latest libraries to be used with this 460 EDX firmware revision. These are typically installed in the C:\Program Files\3S Software\RTA_460_EDX\Lib directory. <table><tr><td>RTA-460EDX.lib</td><td>General library</td></tr><tr><td>RTA CIP.lib</td><td>DeviceNet and Ethernet/IP CIP message processing</td></tr></table>	RTA-460EDX.lib	General library	RTA CIP.lib	DeviceNet and Ethernet/IP CIP message processing
RTA-460EDX.lib	General library				
RTA CIP.lib	DeviceNet and Ethernet/IP CIP message processing				

Figure 5 — Utilities Page

If you are configuring multiple devices the same way, you can repeat the configuration by saving your work into a file. To do so, follow these steps.

- 1) From the Main Page, click the **Utilities** button.
- 2) Click **Save Configuration to File**. (Figure 5)
- 3) Click **Save**. (Figure 5)
- 4) Browse to the location you want to save the file.
- 5) Type in the desired file name.
- 6) Click **OK**.
- 7) Remove the first device.
- 8) Repeat the network configuration section to connect the next device.
- 9) Once you launch the webpage, click the **Utilities** button.
- 10) Click **Browse...** and browse to the file you saved
- 11) Click **Open**.
- 12) Click **Restore from File** (Figure 5)



Placing the Device:

Now that the gateway is configured properly, you must place the device in the network. The following instructions will tell you how to take the device from the configuration area to the shop floor or other operating environment.

- 1) Disconnect the crossover cable and power supply from the device.
- 2) Move the device to its intended location.
- 3) Attach the Ethernet cable from the Modbus TCP Client to the network port on the 460 MSA Gateway.
- 4) Attach the serial connection from the ASCII device to Port 1 of the 460 MSA Gateway.
- 5) Connect the power supply.