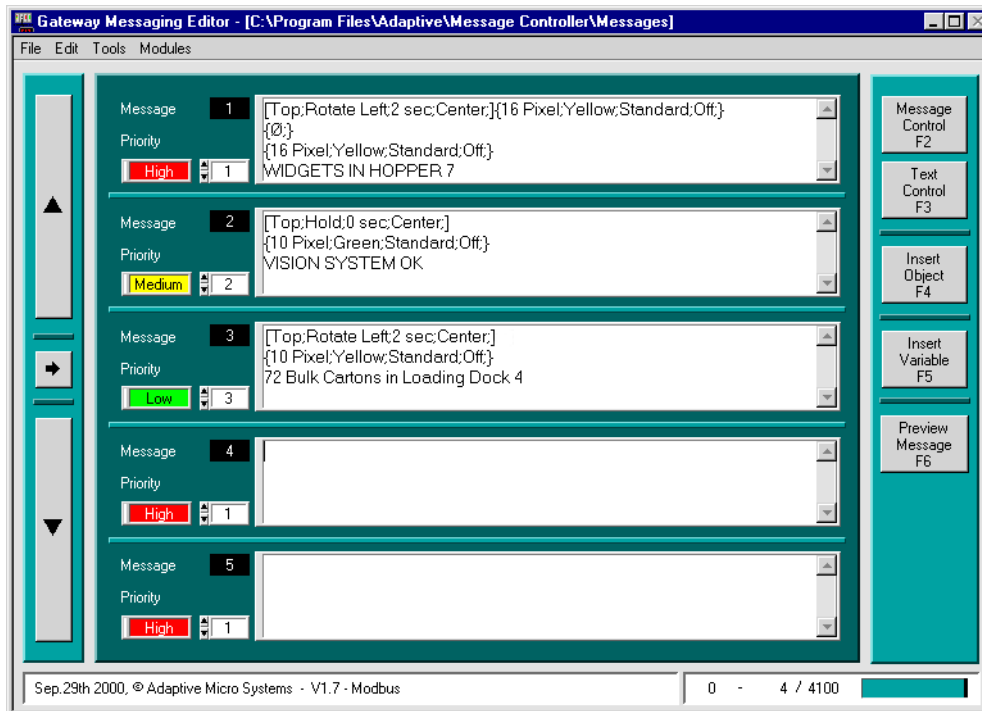


Gateway Messaging Software User Manual



ADAPTIVE

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Form No. 9711-8808A
11/03/00

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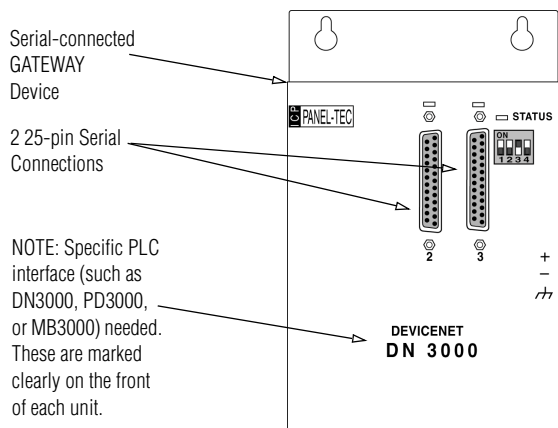
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General information

Purpose of the system

An ALPHA Gateway interface connects Programmable Logic Controllers (PLCs) with ALPHA series signs that have the Industrial Gateway firmware upgrade. It provides the ability to display user-defined real-time messages. The *Gateway Messaging Software* allows you to create and edit messages on a computer and transfer them as a group to the ALPHA signs. Messages can then be displayed on the signs when triggered by PLCs via the Gateway device.



Gateway Messaging Software (up to version 1.5b) has been used with ALPHA Gateway devices configured for serial connection (see drawing, left).

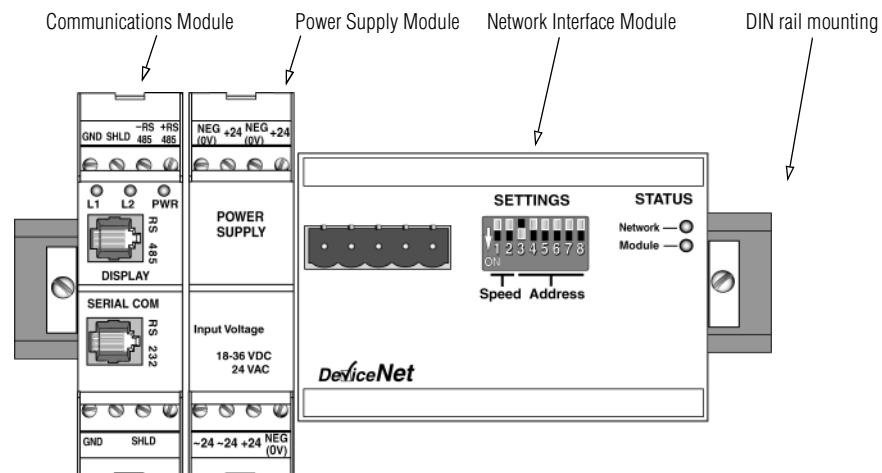
Gateway Messaging Software (versions after 1.5b) is used with a different family of ALPHA Gateway interfaces (see drawing below left), that feature DIN-rail mounting and several different 3-module configurations, each specifically designed to interface with a single type of network.

NOTES:

1. When *Gateway Messaging Software* is used with one of the DIN-rail mounted interfaces (shown below, left) to trigger and display messages on an ALPHA sign network, through the local PLC network, you must follow a device-specific install procedure.
 - For specific network set up and installation procedures, refer to the *Table of Gateway Network Installation Instructions*, Page 3.
2. To use *Gateway Messaging Software* to program messages that will be displayed on your ALPHA sign network, you do not have to be connected to the local PLC network. *Gateway Messaging Software* can be used *before* your ALPHA network has been completely installed and fully integrated into the PLC network since all messages are created through the software and stored in each sign's memory, whether or not the PLC network interface has been installed (see step 1, above.)

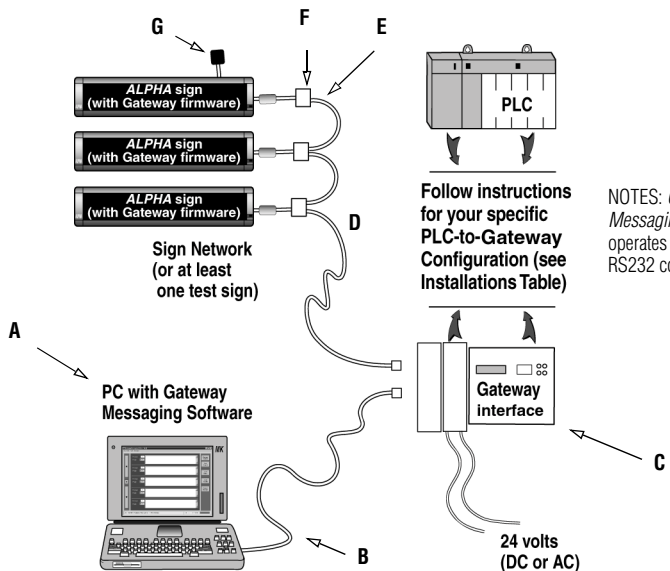
NOTE—Refer to Form Number 9703-7004C if you have the serial-connected GATEWAY interface shown above, the *preceding* edition of this manual.

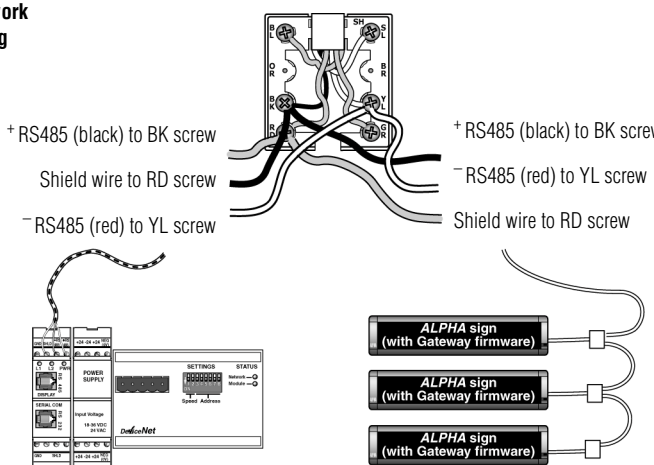
Typical 3-module ALPHA Gateway Interface—for *Gateway Messaging Software* versions after 1.5b. Specific connections for the 3 individual modules, left to right, may vary according to network configuration and installation environment. Refer to the *Table of Gateway Network Installation Instructions* on Page 3 for data on your particular network.

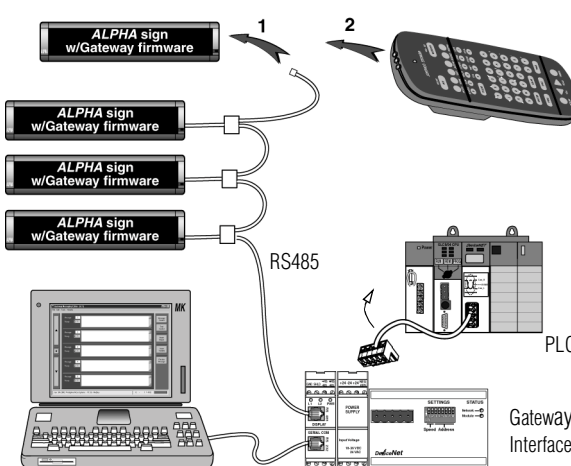
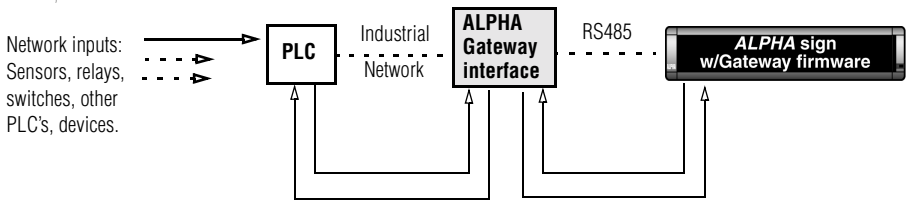


Setting up the ALPHA sign network

The following briefly describes the first step in setting up and installing required hardware in the PLC network, configuring the signs for the ALPHA network and making required connections to begin using *Gateway Messaging Software*. Configurations and specific components required will vary according to the specific ALPHA Gateway Interface, which will be specific to the local PLC network.

Step	Description																								
1	<p>Although you do not need to complete full installation of the Gateway interface on the PLC network to begin to use <i>Gateway Messaging Software</i>, you should connect the sign network (or at least one "starter" sign) through an RS485 connection, to begin the process of creating, storing, and sending messages:</p> <ul style="list-style-type: none"> • Install <i>Gateway Messaging Software</i> on a PC • Connect the PC to the RS232 jack in the ALPHA Gateway interface CPU module <p>Refer to the Network Configurations manual (9708-8046) for additional info on sign network installations and routing RS485 cable.</p> <p style="text-align: center;">ALPHA/Gateway RS485 serial network</p>  <p>Follow instructions for your specific PLC-to-Gateway Configuration (see Installations Table)</p> <p>NOTES: <i>Gateway Messaging Software</i> operates through an RS232 connection..</p>																								
2	<p>See <i>Related Documents</i> (below) and <i>Table of Gateway Network Installation Instructions</i> (next page) for more information.</p> <table border="1" data-bbox="397 1302 1299 1648"> <thead> <tr> <th>Item</th> <th>Part Number</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>contact Adaptive</td> <td>CD with <i>Gateway Messaging Software</i> installed on PC</td> </tr> <tr> <td>B</td> <td>1088-9108/1088-8625</td> <td>DB9 to RJ11 adapter / RS232 25 foot cable w/2 RJ11 jacks (50 ft. cable opt.)</td> </tr> <tr> <td>C</td> <td>—</td> <td>Specific Gateway network interface for local network</td> </tr> <tr> <td>D</td> <td>1088-8000</td> <td>RS485 cable (bulk, 1000 foot)</td> </tr> <tr> <td>E</td> <td>1088-8624</td> <td>8 foot RS485 cable (typical, or other standard length)</td> </tr> <tr> <td>F</td> <td>4331-0602</td> <td>Modular network adapter (s)</td> </tr> <tr> <td>G</td> <td>1088-9107</td> <td>End of line terminator for TTL plug of last sign in the network.</td> </tr> </tbody> </table>	Item	Part Number	Description	A	contact Adaptive	CD with <i>Gateway Messaging Software</i> installed on PC	B	1088-9108/1088-8625	DB9 to RJ11 adapter / RS232 25 foot cable w/2 RJ11 jacks (50 ft. cable opt.)	C	—	Specific Gateway network interface for local network	D	1088-8000	RS485 cable (bulk, 1000 foot)	E	1088-8624	8 foot RS485 cable (typical, or other standard length)	F	4331-0602	Modular network adapter (s)	G	1088-9107	End of line terminator for TTL plug of last sign in the network.
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Step	Description												
4	<p>Connect the same color wires from each RS485 cable to the same screws on the adapter.</p> <p>Modular network adapter wiring connections</p>  <p>+ RS485 (black) to BK screw Shield wire to RD screw - RS485 (red) to YL screw</p> <p>+ RS485 (black) to BK screw - RS485 (red) to YL screw Shield wire to RD screw</p>												
5	<p>In order to install the network-specific ALPHA Gateway interface on the local network and complete required PLC programming for the Gateway network, refer to the table below for your specific Gateway interface.</p> <p style="text-align: center;">Table of Gateway Network Installation Instructions</p> <table border="1" data-bbox="446 850 1307 1129"> <thead> <tr> <th>Part Number</th> <th>Title</th> </tr> </thead> <tbody> <tr> <td>9711-8809</td> <td>How to configure and connect the ALPHA Gateway II interface to a DeviceNet network.</td> </tr> <tr> <td>9711-8810</td> <td>How to configure and connect the ALPHA Gateway II interface to a Profibus DP network.</td> </tr> <tr> <td>9711-8811</td> <td>How to configure and connect the ALPHA Gateway II interface to a Modbus Plus network.</td> </tr> <tr> <td>9711-8812</td> <td>How to configure and connect the ALPHA Gateway II interface to a DataHiway Plus network.</td> </tr> <tr> <td>9708-8046*</td> <td>Network Configurations (*For information on RS485 cabling see <i>Appendix G</i>)</td> </tr> </tbody> </table> <p style="text-align: center;">NOTE: Additional installation documents, information and examples for programming the PLC may be available on the Adaptive website, www.adaptivedisplays.com</p>	Part Number	Title	9711-8809	How to configure and connect the ALPHA Gateway II interface to a DeviceNet network.	9711-8810	How to configure and connect the ALPHA Gateway II interface to a Profibus DP network.	9711-8811	How to configure and connect the ALPHA Gateway II interface to a Modbus Plus network.	9711-8812	How to configure and connect the ALPHA Gateway II interface to a DataHiway Plus network.	9708-8046*	Network Configurations (*For information on RS485 cabling see <i>Appendix G</i>)
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6	<p>It is not necessary to complete the previous step in order to setup the ALPHA network and begin to create, edit, preview and store messages on the sign network. using the <i>Gateway Messaging Software</i>. If you're setup of the ALPHA network is complete, you can skip to the section on "Basic messaging" on page 10 and "Advanced messaging" on page 28 for more information.</p>												
6a	<p><i>NOTE: Perform this step (6a) after all signs in the network that will be receiving messages have been connected to the ALPHA network and to the computer, through the ALPHA Gateway interface.</i></p> <p>Once you have created your messages using the <i>Gateway Messaging Software</i>, you are ready to transmit those messages to all of the signs in your network. If more than one sign is networked, all signs will receive the messages. (Please refer to "Example 1 — Creating a simple message" on page 10 for information on completing this step.)</p>												

Step	Description
6b	<p><i>NOTE: Perform this step (6b) <u>only</u> if a sign is added to the sign network <u>after</u> the initial setup.</i></p> <p>Connect the new sign to the network. Using a Remote Control, transmit the messages from one of the signs in the ALPHA network to the newly-connected sign. (Refer to page 41, <i>Remote Control Special + D option</i> for more instructions.)</p>  <ul style="list-style-type: none"> • Set Serial Address • Use "Special + D" command to transfer messages. • See page 41, <i>Remote Control Special + D option</i> <p><i>NOTE: Remote control will <u>not</u> work if the Gateway network is active! Disconnect the PLC connection to the Gateway II interface, temporarily.</i></p>
7	<p><i>NOTE: Once <u>all</u> components of the ALPHA network have been connected and installed, the ALPHA Gateway interface has been installed on the PLC network, and necessary setup programming for the PLC has been performed, the messaging system is operational.</i></p>  <p>INFORMATION FLOW—In a Gateway network, a "device" is any point in the information pathway capable of sending or receiving a data signal. In the most basic network configuration, above (one input, one PLC, one Gateway interface, one sign), the PLC, Gateway interface, and sign are all directly capable of both sending and receiving data signals.</p> <p><i>NOTE: Serial-connected (earlier) Gateway interface (see Page 1, top left) lacks output capability back to the PLC.</i></p>
<p>NOTE: Currently, all ALPHA 4000 and ALPHA 7000 (except models 4080 & 7080) displays have the Gateway firmware option.</p>	

Basic software setup

File usage

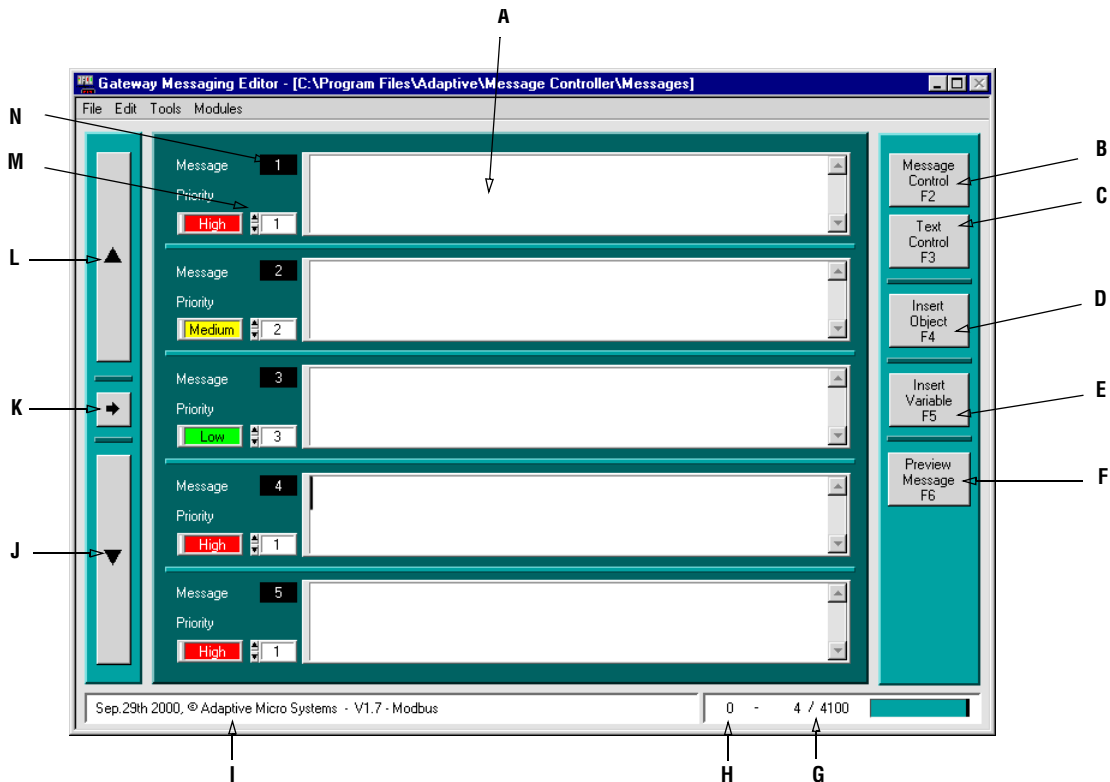
The *Gateway Messaging Software* uses a file to hold a set of messages to be sent to signs. Typically, there is only one file for all messages, but you can create files of different messages based on varying circumstances if you wish. Each file has a user-defined name. When a file is downloaded to ALPHA signs, all messages in that file are downloaded to any attached sign(s.)

By default, each file is stored in the root directory of the computer. If you change the location when you save a file, the *Gateway Messaging Software* will remember that location and select it whenever you want to save again.

Screen layout reference

Whenever you start the *Gateway Messaging Software*, your computer screen will appear as shown here. Refer to the table below for descriptions.

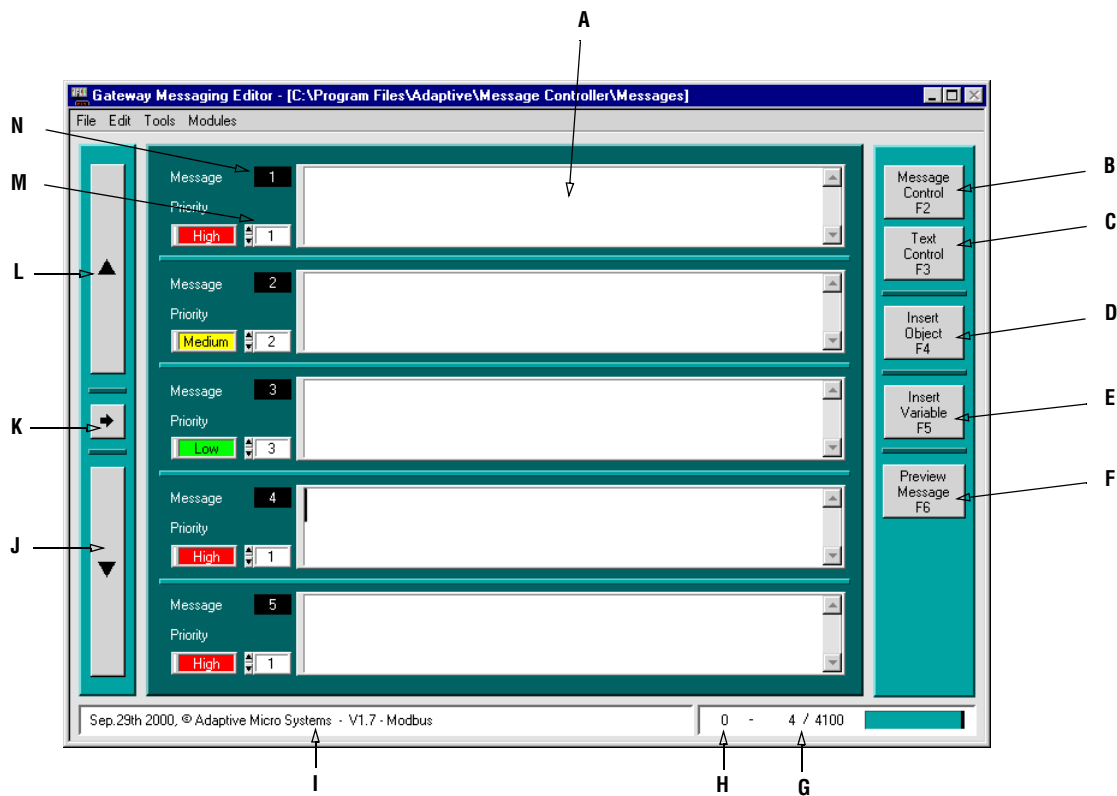
NOTE: Items or features that are grayed out in the software are not available in the software.



Item	Name	Description
A	Message area	Area for message text, variables, etc., as well as controls for the message and its contents.
B	Message Control button	Opens a window for message options such as: position on the sign, display mode, delay, and justification.
C	Text Control button	Opens a window for text options such as: font, color, width, and flashing.
D	Insert Object button	Opens a window for options to insert date or time.
E	Insert Variable button	Opens a window for options to insert a variable.
F	Preview Message button	Allows you to send the current message to the sign.

Screen Layout Reference (Cont.)

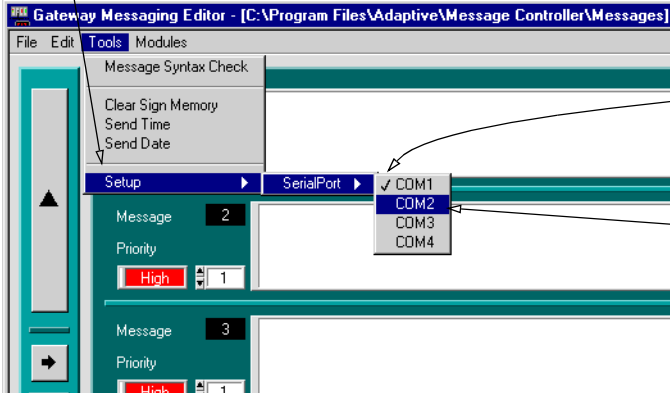
Item	Name	Description
G	Message statistics	Indicates the current message number and the maximum number of messages. (See "Setting message size and maximum messages" on page 8.)
H	Column number	Indicates the column number where the cursor is positioned in the current message.
I	Proprietary information	Space available for copyright data, version, and name of the software.
J	Down button	Advances the set of five messages shown in the window to the next set of five messages.
K	Goto button	Allows you to select a specific message number to start the set of five messages shown in the window.
L	Up button	Advances the set of five messages shown in the window to the previous set of five messages.
M	Priority level	Indicates the priority of that message, 1, 2 or 3 (1 = High, 2 = Medium, and 3 = :Low).
N	Message number	Indicates the number of the message.



Setting the serial port

You need to identify which serial port will be used to download messages from your computer to any sign(s).

NOTE: Whichever serial port is selected, however, you must make sure that *all* programs using serial communication are shut down *before* serial ports are set in *Gateway Messaging Software*, since the software reserves for itself all of the serial ports on the PC, to make them available.

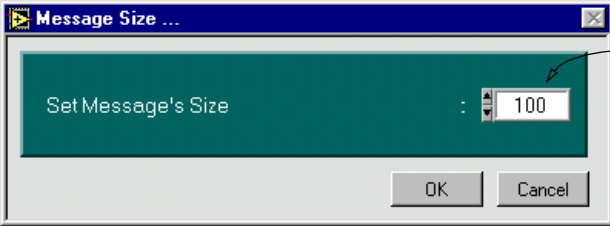
Step	Description
1	<p>In the <i>Gateway Messaging Editor</i>, choose <i>Tools > Setup > Serial Port</i>. Select the appropriate serial port for your computer.</p> <p>Setup is at the bottom of the window.</p>  <p>A check indicates the currently-selected serial COM port.</p> <p>When you change the COM port selection, that setting is saved automatically.</p>

Setting message size and maximum messages

Determining the number of characters available to use

Your ALPHA sign with the Gateway upgrade has 256K memory. You can specify how much of that memory to allocate for each message. The default message size is 100 bytes. You can change that to any size as needed. The range for message size is 50 to 450. The range for maximum number of available user-defined messages is 444 to 4000. (Signs can only accept up to 4000 messages maximum.)

NOTE: If the message size is set too small, messages may not be sent to the sign.

Step	Description
1	<p>Choose <i>Modules > ModBus > Message Size</i>. Set the value as desired.</p>  <p>This is the value, in decimal, for the size to be allocated for each message; which includes text and all attributes.</p>
2	<p>Determine the number of bytes taken for sending controls: add up the maximum bytes for each of the following if you use them in a message. Some examples are listed below.</p> <ul style="list-style-type: none"> Message controls, maximum = 6 bytes Text controls, maximum = 10 bytes Object controls, maximum = 3 bytes Variable controls, maximum = 9 bytes <p>So, if you use all of the above once in a message, the total maximum size used for sending controls is 28 bytes. Likewise, if you only use one set of message controls and one set of text controls, the total maximum size used for sending controls is 16 bytes.</p>
3	<p>Calculate the number of characters available to use in a message</p> <ul style="list-style-type: none"> Message size set in Step 1 above – the number you calculated in Step 2 above = the number of alphanumeric characters available to use in a message

Determining the number of messages available to use

The formula for the maximum number of messages is:

$$200,000 / \text{Message size} = \text{Maximum number of user-defined messages}$$

Example 1: The default message size is 100, therefore:

$$200,000 / 100 = 2000$$

Example 2: If you change the message size to 50 bytes, you can create twice the number of messages as if you had left it at the default of 100 bytes.

$$200,000 / 50 = 4000$$

Example 3: If you change the message size to 200 bytes, you can only create half the number of messages as if you had left it at the default of 100 bytes.

$$200,000 / 200 = 1000$$

Setting message size and maximum messages (continued):

Determining the number of messages available to use (Continued):

NOTE: You cannot use any message number greater than the maximum number of messages as calculated above, even though you can access them in the *Gateway Messaging Software*. Doing so either will cause erratic and incorrect results on the sign, or those messages will not show on the sign.

NOTE: The table below shows the usage of the set of *Gateway Messaging Software* messages. It indicates that, while the total number of system messages is 4100, you can only use those in the 0 to 4000 range plus the background message (4095.) Message 4095 is reserved for the background message, regardless of the maximum number of messages. (See “Example 8 — Setting the background message” on page 28 for use of the background message.)

Table 1: Usage of messages

Start message	End message	Usage
1	4000	User-defined messages
4001	4094	Not used
4095	4095	Background message
4096	4100	Not used

Basic messaging

Example 1 — Creating a simple message

NOTE: Be sure your hardware is set up as in Step 1 of “Setting up the ALPHA sign network” on page 2.

This example shows how to create a simple message and display it on a sign.

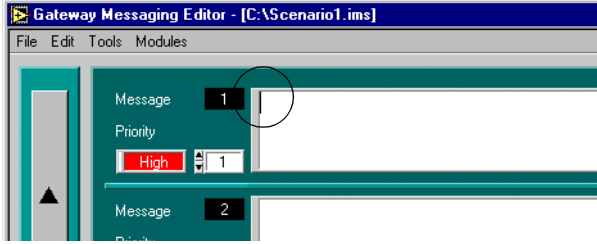
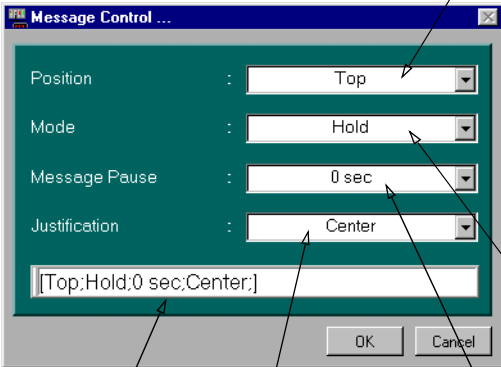
The basic format of any message is:

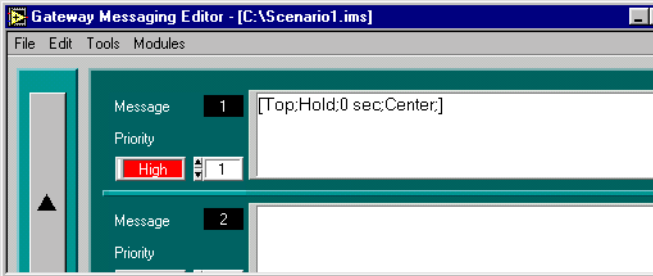
[message controls]{text controls} message body

At least one set of message controls and one set of text controls are required. The basic format may be repeated as many times as necessary.

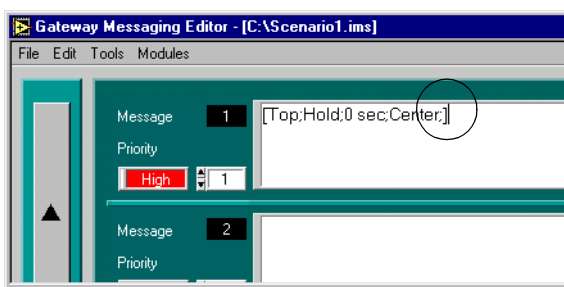
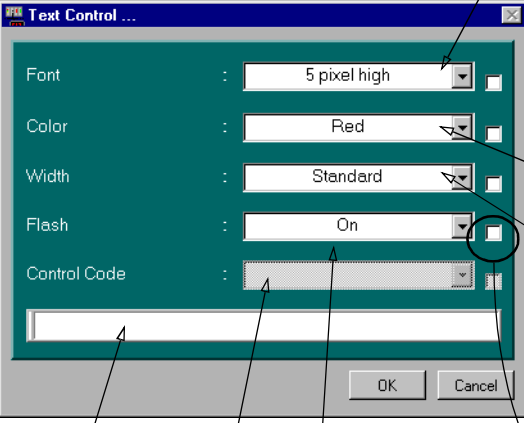
Specify how to show the message on a sign.

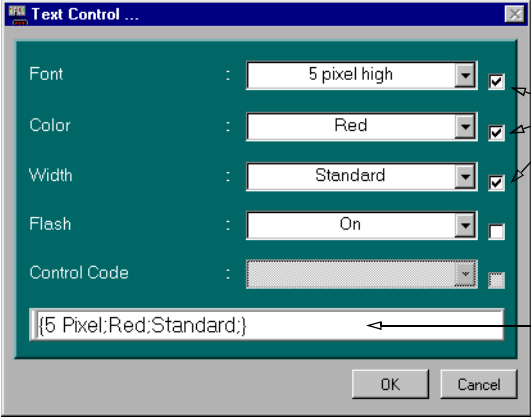
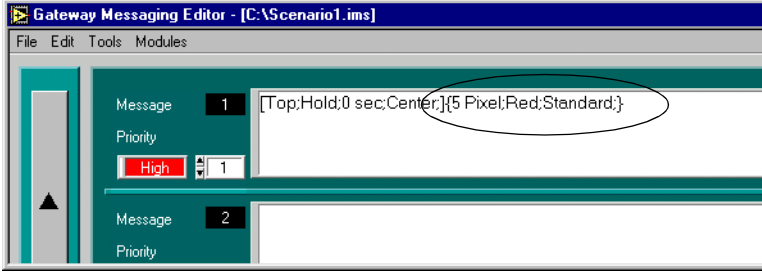
The *message controls* determine certain settings for the entire message. This example introduces the *message control* defaults.

Step	Description
1	<p>Place the cursor at the start of the first message.</p> <p><i>Message controls</i> are placed at the start of any message.</p> 
2	<p>Click on the <i>Message Control</i> button. The <i>Message Control...</i> window will appear. For now, leave the settings as they are. Click <i>OK</i>.</p> <p>These are the defaults for the <i>message controls</i> the first time you use the <i>Gateway Messaging Software</i>. After the first time, the controls are set as you used them the last time in a message.</p>  <p>Position <i>Top</i>: Places a message on the top line of a sign, or above a prior message for the bottom of the sign. <i>Bottom</i>: Places a message on the bottom line of a sign, or below a prior message for the top of the sign. <i>Middle</i>: Places a message in the middle of the sign, regardless of the number of lines available. <i>Fill</i>: Uses all lines on a sign for the message.</p> <p>Mode <i>Hold</i>: Holds the message in one place on the sign. <i>Rotate Left</i>: Rotates a message from the right to the left horizontally across a sign.</p> <p>Justification <i>Center</i>: Aligns the message in the center of the sign. <i>Left</i>: Aligns the message on the left side of the sign.</p> <p>Display Message 0 to 5 seconds: Refreshes and redisplayes the message after the number of seconds specified.</p> <p>Message controls that will be inserted and used in the message are automatically shown in this display box.</p> <p>[Top;Hold;0 sec;Center;]</p>

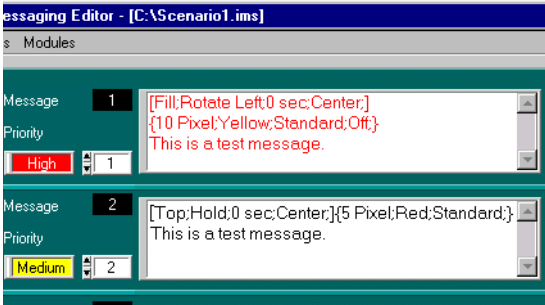
Step	Description
3	<p>The message will look like this, with the <i>message controls</i> inserted within brackets, [].</p> <p>NOTE If message controls are not set in a message, they default to those of the prior message in the sign.</p> 

Now we will add the Text Controls. Text Controls determine settings for how the message text will appear on the sign (font, color, width, and flashing).

Step	Description
4	<p>Place the cursor at the end of this message, after the <i>message controls</i>.</p> <p>The <i>text controls</i> are placed after the <i>message controls</i> and anywhere thereafter when you want to change the look of the text.</p> <p>You must put <i>message controls</i> at the beginning of the message to properly send the message to the sign.</p> 
5	<p>Click on the <i>Text Control</i> button. The <i>Text Control...</i> window will appear.</p> <p>These are the defaults for the <i>text controls</i> the first time you use the <i>Gateway Messaging Software</i>. After the first time, the controls are set as you used them the last time in a message.</p>  <p>Font 5, 7, 10, or 16 pixel high: Indicates the maximum number of pixels to use for the height of characters. Font is sans-serif. Fancy 7-or 16 pixel high: Indicates the maximum number of pixels to use for the height of characters. Font is serif.</p> <p>Color Choose red, green, or yellow.</p> <p>Width/Height Standard: Uses normal width characters. Wide: Number of pixels = Standard + 1. Double Wide: Number of pixels = Standard x 2. Double High: = Standard x 2</p> <p>Flash On: Turns flashing on for the text following the control, until changed by another Flash control. Off: Turns flashing off for the text following the control, until changed by another Flash control.</p> <p>Control Code Not available.</p> <p><i>Text controls</i> that will be inserted and used in the message are shown in this display box.</p> <p><i>Text controls</i> are applied to the text when that attribute box is checked. See the next step.</p>

Step	Description
6	<p>For now, leave the choices as they are, but use the check boxes to turn on <i>Font, Color, and Width</i>. Click <i>OK</i>.</p>  <p><i>Text controls</i> are applied to the text only when that attribute is checked.</p> <p><i>Text controls</i> that will be applied are automatically shown in this display box.</p>
7	<p>The message will look like this, with the <i>text controls</i> inserted within braces, {}.</p> 

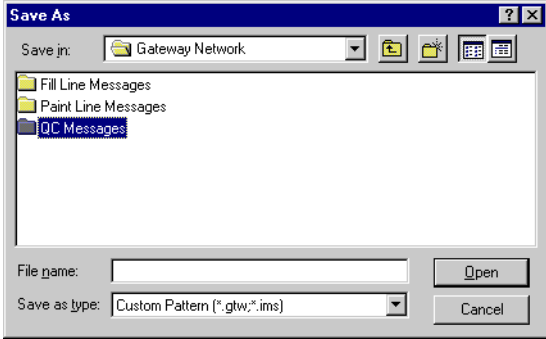
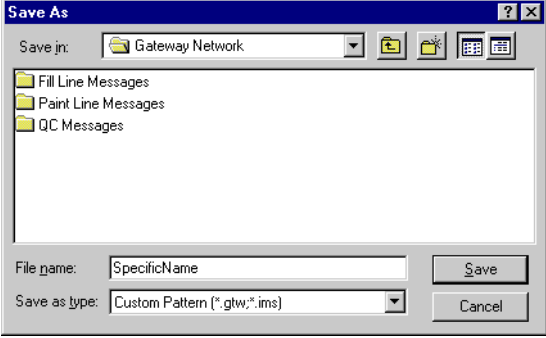
Enter text.

Step	Description
8	<p>Place the cursor in the <i>Message area</i> for the first message and type a message. Text in a message will be shown in red when the cursor is in that message.</p> <p>When the cursor is placed in a message, that message is "selected" and the contents of the message are shown in red.</p> 

Save the message file.

In this section, we will save the message that you just created.

NOTE: You can choose any sub-directory for your files. The examples below are typical.

Step	Description
9	<p>Choose <i>File > Save</i>. For a new file, you'll see the <i>Save As...</i> window. The default in <i>Gateway Messaging Software</i> is to automatically save this message as a *.gtw (gateway) file. NOTE: Messages that use the older *.ims file format can also be imported and read, although you may lose some formatting..</p> 
10	<p>Fill in the name of the file that you want to use. Choose <i>Save</i>.</p> 

Download messages

For messages to be displayed on the sign(s), you need to:

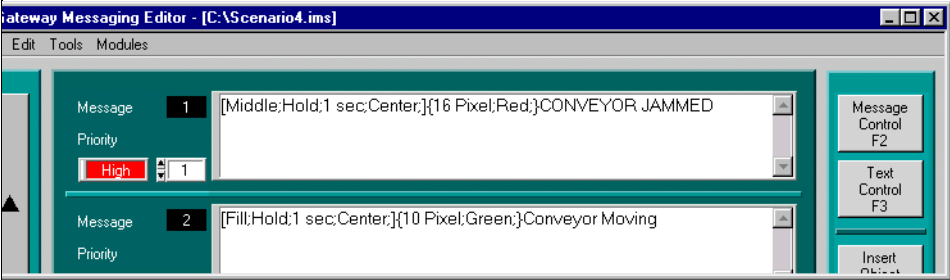
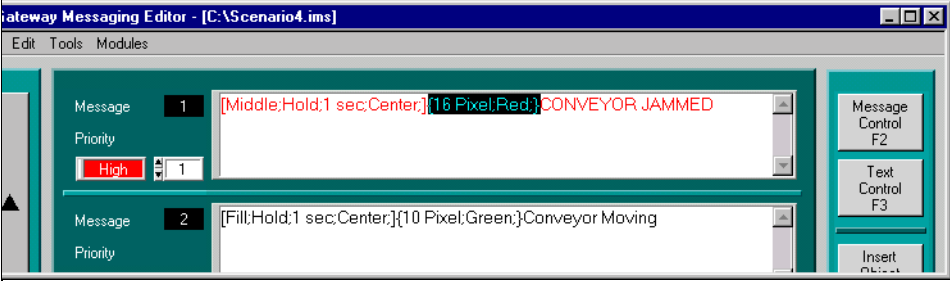
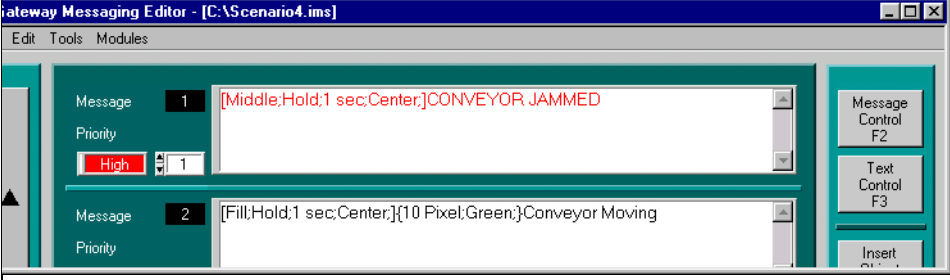
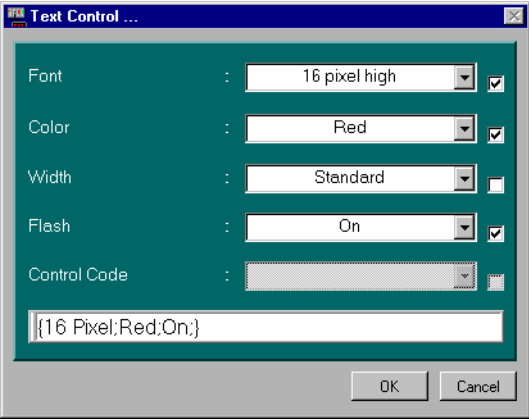
- Temporarily disconnect the PLC from the Gateway interface module to put the ALPHA network in "Pass-Through mode. See page 25, *Sending messages to a sign using "Pass-Through Mode"*.
- Download them to the sign.

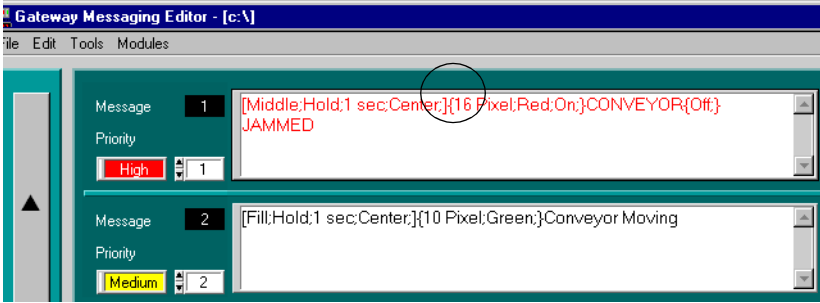
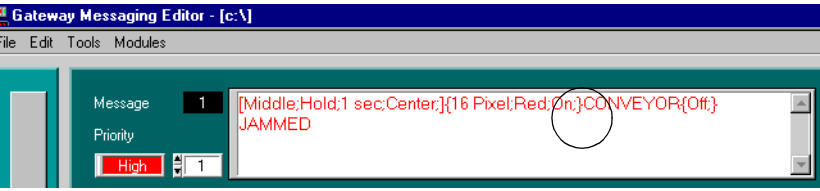
NOTE: Before downloading messages, verify all hardware connections as shown in "Setting up the ALPHA sign network" on page 2. [*Gateway Messaging Software* does not perform a checksum to verify that a message has actually been received, the software will only tell you that it has been sent, whether or not you are actually connected to a sign. The screen display will always say "Downloading messages completed", to indicate the message was sent, even when you are *not* connected to a sign.]

Step	Description
11	<p>Choose <i>Modules > ModBus > Download Messages</i>. You can then select any sequence of messages to download. The default is 1 through 4100.</p> <div data-bbox="362 306 704 512"> </div> <p>NOTE: Be sure that any messages you send have the same message size as the messages already in the sign. If the message size differs, the message(s) sent may affect current messages: either the current messages may be deleted or longer messages may be truncated. (See NOTE, page 13, under <i>Download messages</i>.)</p> <p>NOTE: For an example showing how to send multiple messages, go to page 26, <i>Downloading a number of messages at once</i></p> <p>Click OK. Any valid messages in the sequence of messages will be transmitted to the attached sign.</p> <p>The message size is shown in hexadecimal. 0064(H) is the same as 100 bytes in decimal.</p> <div data-bbox="362 604 1187 1150"> </div> <p>Each message is listed as it's being transferred.</p> <p>Notification does <i>not</i> mean message was received. See page 13 NOTE, under <i>Download messages</i>.</p> <p>This indicates that the message queue is cleared.</p> <p>When the download is finished, click OK to close that window. The messages downloaded to the sign will be displayed on the sign, and then “<i>No Background Message</i>” will appear on the sign. The message queue will now be cleared.</p>

Example 2 — Making a message flash

You can make portions, or all, of a message flash on and off.

Step	Description
1	<p>This example will show how to make the first message flash.</p> 
2	<p>First, highlight the <i>text controls</i> that are in the message currently.</p> 
3	<p>Delete these text controls (with the Delete or Backspace key).</p> 
4	<p>Click on the <i>Text Controls</i> button. Select and check the same options that were in the message before, and also select and check <i>Flash > Enable</i>.</p> 

Step	Description
5	<p>All the selected options, including <i>Flash</i> will be included in the message.</p>  <p>NOTE: Flash will not work if <i>Message Pause</i> is set to 0 seconds, it has to be at least 1 second.</p>
6	<p>This message shows how to make the first part of a message flash, while the second part does not.</p>  <p>NOTE: It's a good idea to turn Flash off where you want it to stop. Otherwise, the next message will assume the Flash Mode also.</p>

Example 3 — Setting message priorities

The message priority specifies the importance of a message. Messages of a lower priority (in Step 1, below, message 2) will not run if any message of a higher priority (in Step 1, below, message 1) is running.

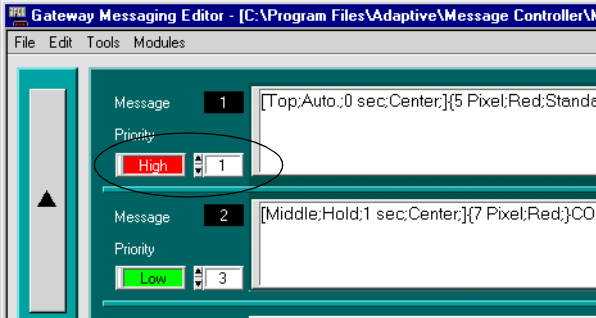
Step	Description
1	<p>Use the up/down arrows for each message to set its <i>message priority</i>.</p> 

Table 2 below illustrates sample messages with various priorities, and Table 3 following illustrates the results of sending those messages to a sign in various combinations. (For a more elaborate example, showing activation and deactivation registers for the PLC, see “Appendix A: Sending priority messages from a PLC” on page 42.)

Table 2: Sample priority messages

Message number	Priority Level
5	Low = 3
4	Low = 3
3	Medium = 2
2	High = 1
1	High = 1

Table 3: Results of sending sample priority messages

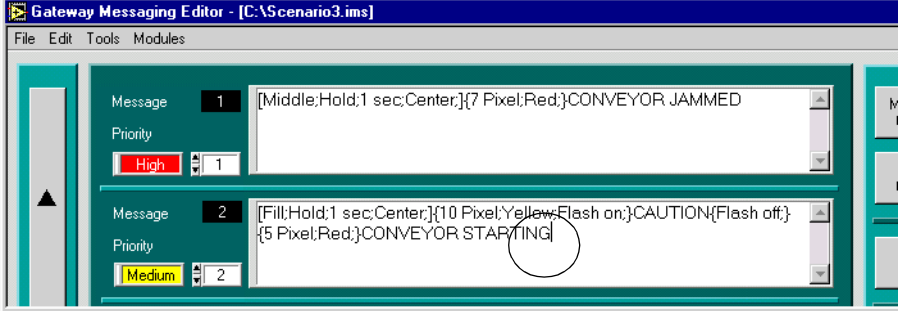
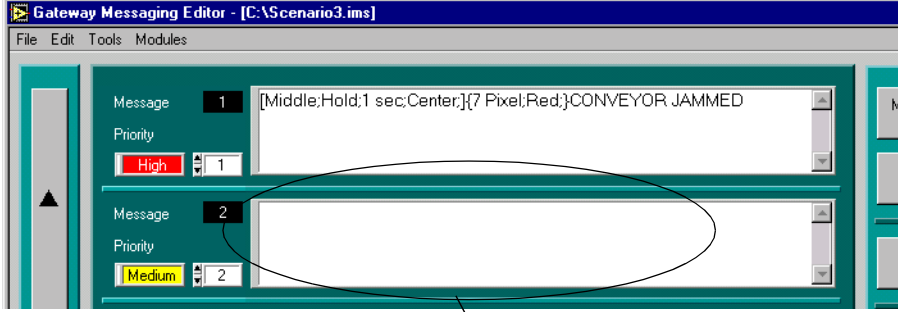
Message queue	Message number of message displayed on sign	Highest priority message displayed
5	5	Low
4, 5	4, 5 (both messages “toggle”)	Low
5, 4, 3	3	Medium
5, 4, 3, 2,	2	High
5, 4, 3, 2, 1	1, 2	High
5, 4, 2, 1	1, 2	High
4, 3, 2, 1	1, 2	High
4, 3, 1	1	High
3, 4	3	Medium
4	4	Low
—	—	Background message

Example 4 — Deleting messages

You can delete the contents of any one message or delete the entire set of messages already downloaded to a sign.

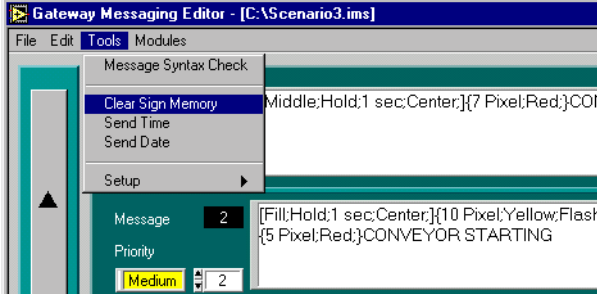
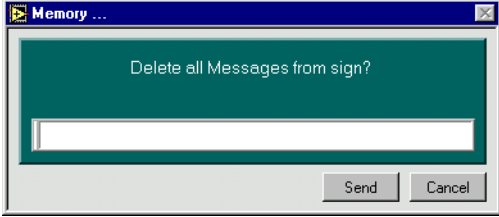


NOTE: There is no “undo” capability in the *Gateway Messaging Software*. Once a message is deleted from a file or a set of messages is deleted from a sign, you can’t get it back without recreating it!

Deleting the contents of a message

	Description
1	<p>Place the cursor anywhere in the <i>Message area</i> for the message to be deleted.</p>  <p>The screenshot shows the 'Gateway Messaging Editor' window with two messages. The first message is 'CONVEYOR JAMMED' with a 'High' priority. The second message is 'CONVEYOR STARTING' with a 'Medium' priority. A circle is drawn around the second message's text area.</p>
2	<p>From the menu bar, choose <i>Edit > Clear Message</i>. Everything in that message will be deleted.</p> <p>NOTE 1: There is no “undo” capability in the <i>Gateway Messaging Software</i>. Once a message is deleted from a file, you can’t get it back without recreating it!</p> <p>NOTE 2: See question 1 in “Appendix B: Frequently-Asked Questions” on page 44 for an understanding of what happens when this file of messages is downloaded to a sign.</p>  <p>The screenshot shows the same 'Gateway Messaging Editor' window. The second message's text area is now empty, indicating it has been deleted. A circle is drawn around the empty area.</p> <p>Once a message has been deleted, it's gone.</p>

Deleting all messages on a sign

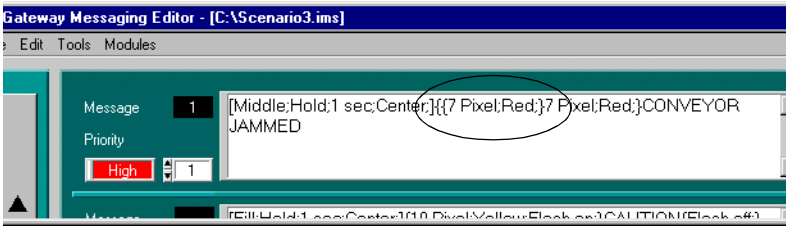
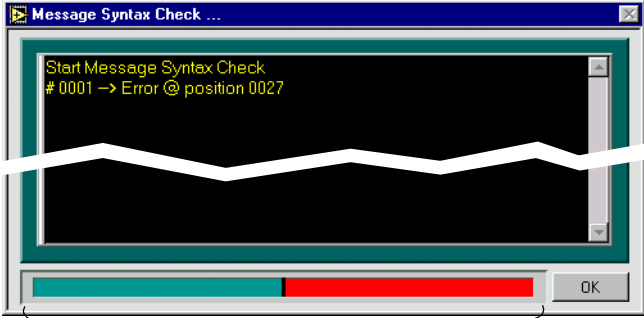
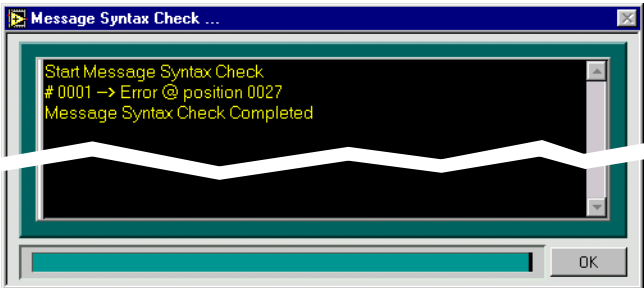
NOTE: Before deleting messages, be sure that all the hardware is properly connected as shown in “Setting up the ALPHA sign network” on page 2.

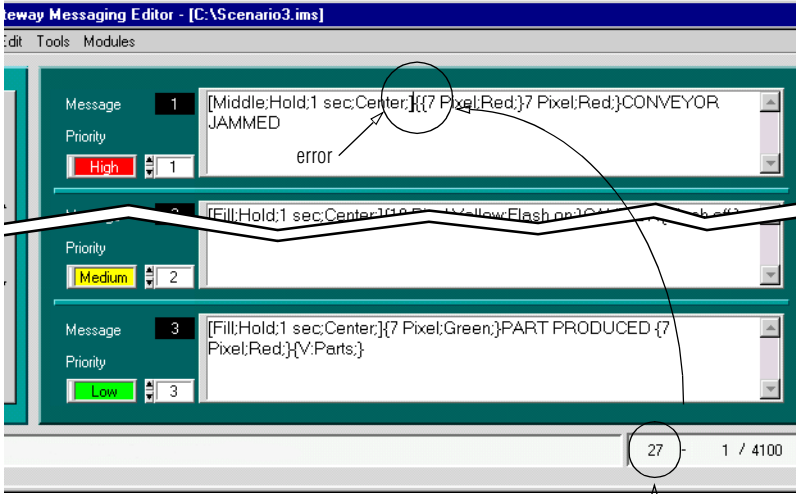
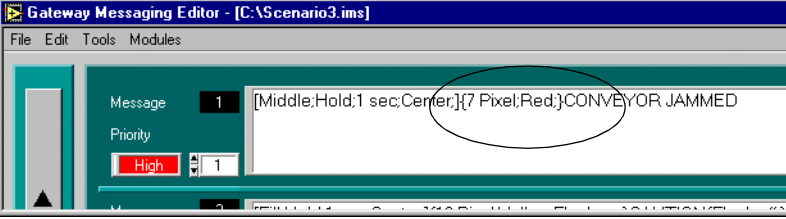
Step	Description
1	<p>Choose <i>Tools > Clear Sign Memory</i>.</p>  <p>The screenshot shows the 'Gateway Messaging Editor' window. The 'Tools' menu is open, and 'Clear Sign Memory' is highlighted. Other menu items include 'Message Syntax Check', 'Send Time', 'Send Date', and 'Setup'. The main window displays a message: '[Fill;Hold;1 sec;Center;]{7 Pixel;Red;}CONVEYOR STARTING' with a priority of 'Medium'.</p>
2	<p>The <i>Memory...</i> prompt will ask for confirmation. Choose <i>Send</i> to send the command to delete all messages from the sign. NOTE: There is no “undo” capability in the <i>Gateway Messaging Software</i>. Once a set of messages is deleted from a sign, you can’t get it back without recreating it!</p>  <p>The screenshot shows a dialog box titled 'Memory ...' with a green background. It contains the text 'Delete all Messages from sign?' and a text input field. At the bottom are 'Send' and 'Cancel' buttons.</p>
3	<p>You will receive a notification that the command was transmitted. All signs connected to the PC will receive the transmission and will be cleared.</p>  <p>NOTE: This notification does not indicate that the sign actually received the command. It simply means that the command was sent.</p> <p>The screenshot shows the same 'Memory ...' dialog box, but now it displays 'Command Transmitted successfully' in the text input field.</p>
4	<p>Once this is complete, the following messages will appear on your sign:</p>  <p>NOTE: These messages on the sign means that the command was received and processed by the sign.</p> <p>The screenshot shows two digital sign displays. The top one displays 'NO BACKGROUND MESSAGE' and the bottom one displays 'No Network Activity'. A bracket points from the note to both signs.</p>

Example 5 — Checking message syntax

“Syntax” refers to the construction of words, phrases, sentences, or messages according to established rules. The construction must be correct for a message to be displayed correctly. The *Gateway Messaging Editor* can check the syntax of messages for you. Follow the steps to determine and fix any errors.

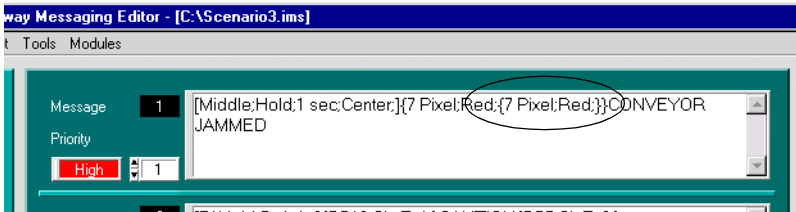
Basic syntax check example

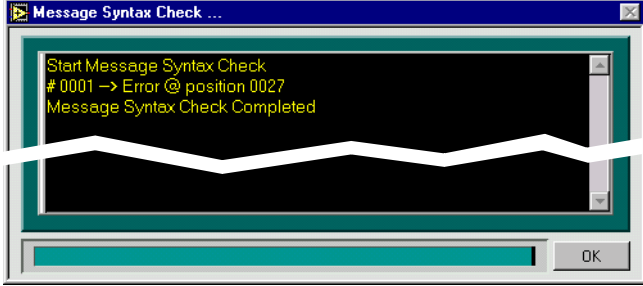
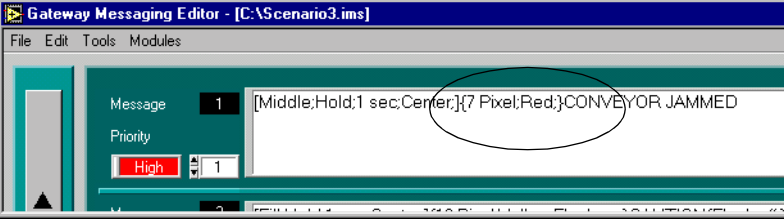
Step	Description
1	<p>As an example, say you accidentally entered text controls twice, as shown here, with one set of controls embedded in another.</p> 
2	<p>Choose <i>Tools > Message Syntax Check</i>. The syntax check will start automatically. All messages in the file will be checked. There is a status bar at the bottom of the window.</p>  <p style="text-align: center;">Status bar</p>
3	<p>The <i>Message Syntax Check</i> processing indicates the message number, the starting position in the message of any syntax error, and when the process is complete. Choose <i>OK</i> when the process is done.</p> <p>NOTE: Only messages with errors will be shown.</p> 

Step	Description
4	<p>Place the cursor in the message where indicated by the column number and message statistics.</p>  <p>This number indicates that this error is in the phrase within the braces.</p>
5	<p>Determine and correct the error, in this case, by selecting and deleting the extraneous text.</p> 

Advanced syntax check example

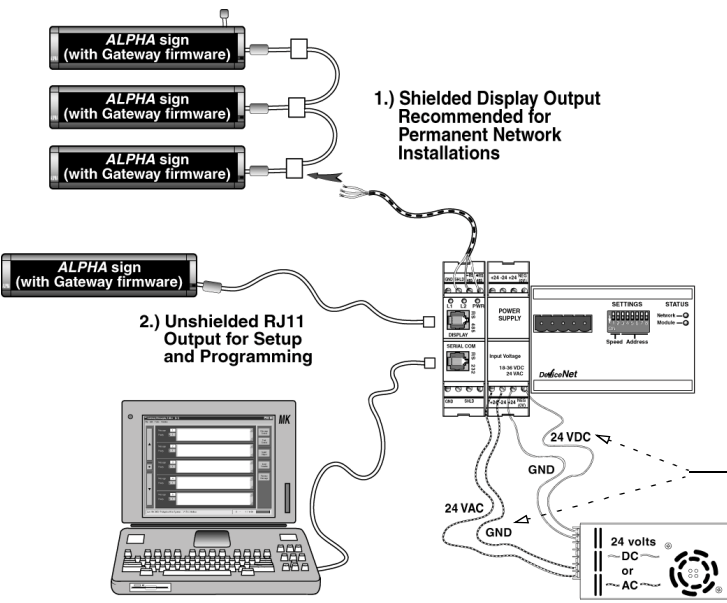
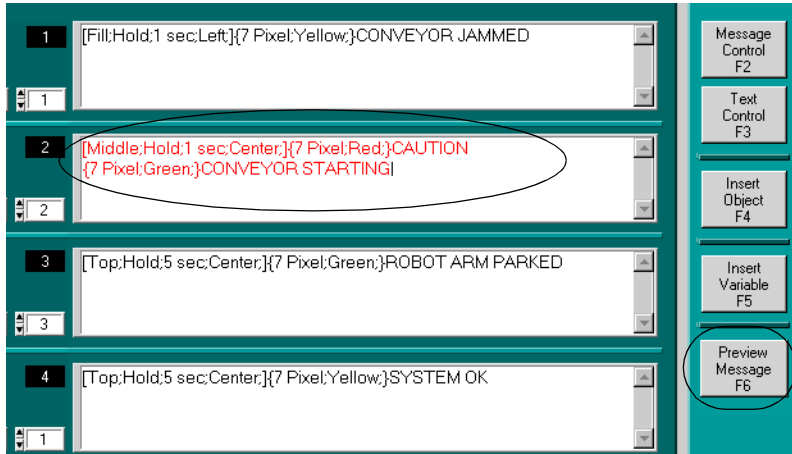
An advanced syntax error is an error that appears somewhere other than in the brackets, or braces. However, during the *Message Syntax Check*, the error will still be shown in the beginning position of where the error is located. Shown below is this error.

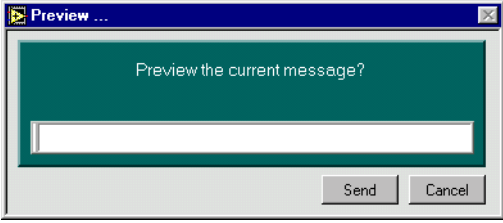
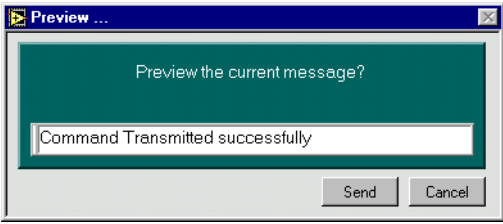
Step	Description
1	<p>As another example, say you again accidentally entered text controls twice, but this time with the wrong set of controls embedded at the end of the other.</p> 

Step	Description
2	<p>Choose <i>Tools > Message Syntax Check</i>. The <i>Message Syntax Check</i> processing indicates the same <u>starting</u> position for the syntax error as in the example above.</p> 
3	<p>Determine and correct the error, again by selecting and deleting the extraneous text.</p> 

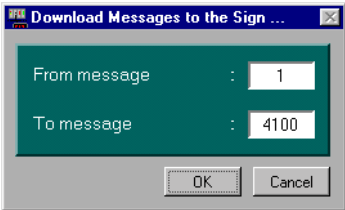
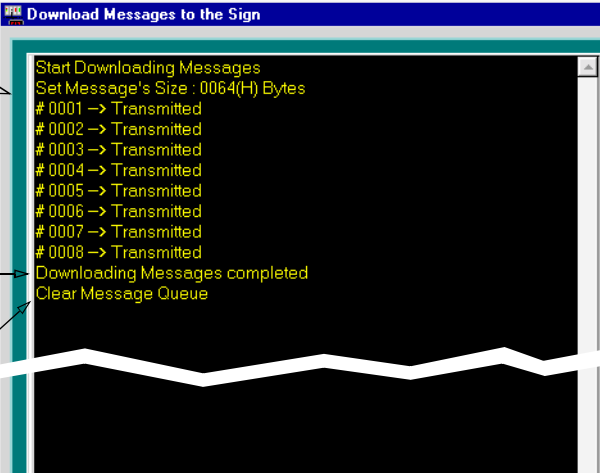
Example 6 — Previewing the message

While you are developing a message, if you want to see how it will actually look, you can use the *Preview* function to display the message on a sign. This function may also be necessary if you are using *Gateway Messaging Software* while setting up an ALPHA network on a PLC network, and full installation of the entire network messaging system has not been completed. (For more information, refer to “Setting up the ALPHA sign network”, on Page 2.

Step	Description
1	<p>Keep in mind that if all hardware installations have not been completed, unshielded connections may be subject to interference. For wiring connections to Network Module Adapter, see step 3, page 3.</p>  <p>1.) Shielded Display Output Recommended for Permanent Network Installations</p> <p>2.) Unshielded RJ11 Output for Setup and Programming</p> <p>NOTES: <i>Gateway Messaging Software</i> operates through an RS232 connection.</p> <p>NOTE: Supply input accepts 24VDC or 24VAC</p>
2	<p>In the <i>Gateway Messaging Software</i>, with the cursor in the message to be previewed, choose the <i>Preview Message</i> button.</p> 

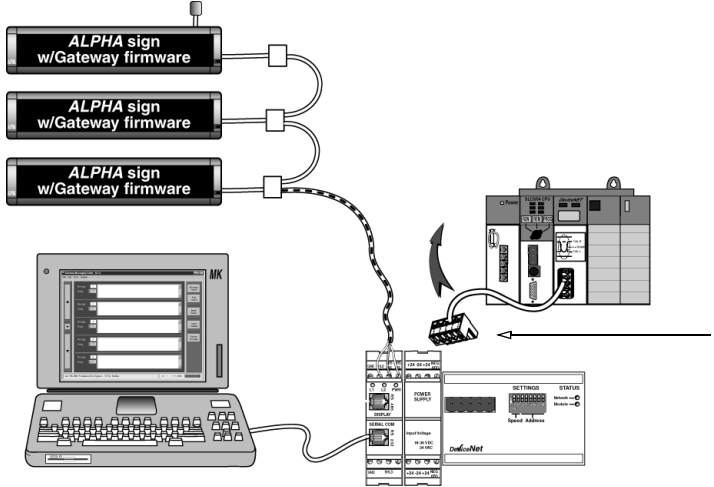
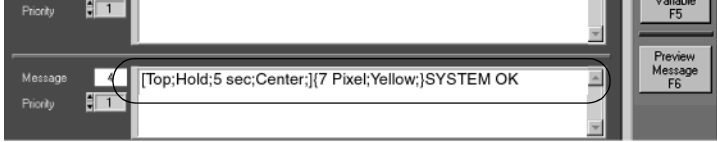
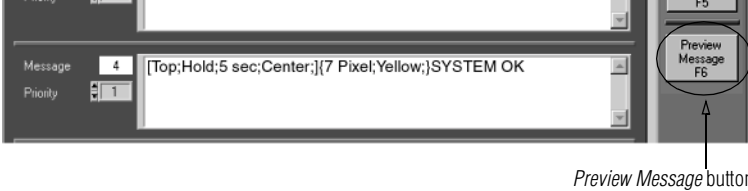
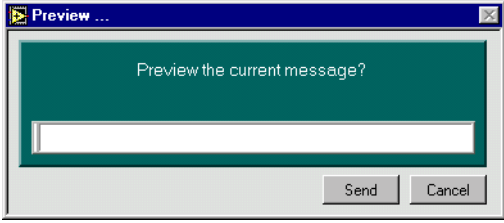
Step	Description
3	<p>This window will appear to confirm that you really want to send the current message to a sign for preview. Click on the <i>Send</i> button.</p> 
4	<p>When the message is sent to the sign, you receive this notice. The message is displayed directly on the sign. Click <i>Cancel</i> if you decide <i>not</i> to display the message; the message is deleted from the message queue.</p>  <p data-bbox="1047 562 1234 716">NOTE: This notification does not indicate that the sign actually received the command. It simply means that the command was sent.</p>
5	<p>If the message does not look the way you want it, make your changes and repeat Steps 2 through 4 as needed.</p>

After you have previewed the message(s), and assuming that you want to use these messages, download messages to the sign as explained below and reconnect the sign to the network:

Step	Description
11	<p>Choose <i>Modules > ModBus > Download Messages</i>. You can then select any sequence of messages to download. The default is 1 through 4100.</p>  <p data-bbox="737 1079 1123 1287">NOTE: Be sure that any messages you send have the same message size as the messages already in the sign. If the message size differs, the message(s) sent may affect current messages: either the current messages may be deleted or longer messages may be truncated. (See "Setting message size and maximum messages" on page 8.)</p> <p>Click <i>OK</i>. Any valid messages in the sequence of messages will be transmitted to the attached sign.</p> <p>The message size is shown in hexadecimal. 0064(H) is the same as 100 bytes in decimal.</p> <p>Each message will be listed as it's transferred.</p> <p>Notification does <i>not</i> mean message was received. See page 13 NOTE, under <i>Download messages</i>.</p> <p>This indicates that the message queue is cleared.</p>  <p>When the download is finished, click <i>OK</i> to close that window.</p> <p>The messages downloaded to the sign will be displayed on the sign, and then "<i>No Background Message</i>" will appear on the sign. The message queue will now be cleared.</p>

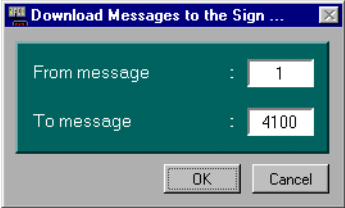
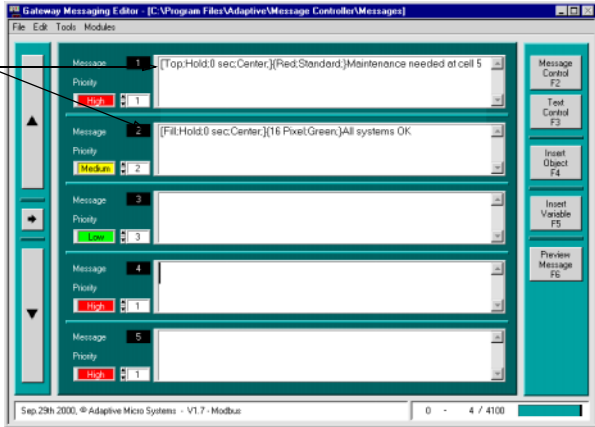
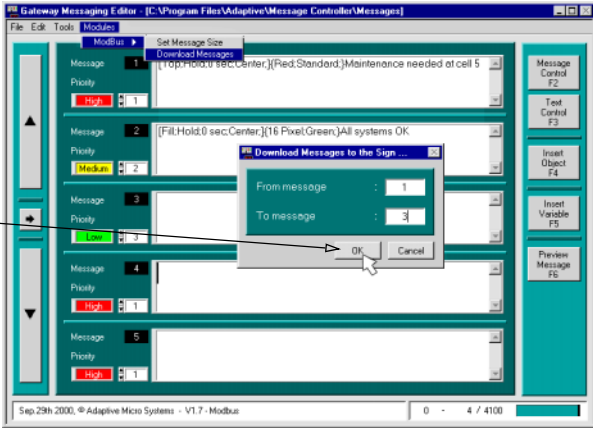
Example 7 — Sending messages to a sign using “Pass-Through Mode”

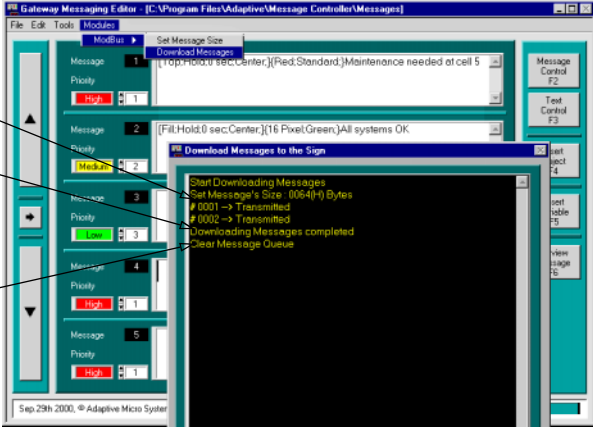
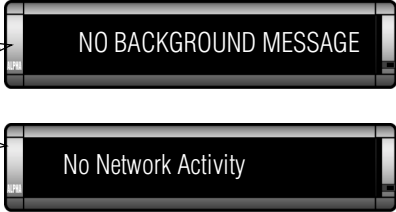
Before sending any messages to the sign, whether previewing or downloading messages, the PLC network must be offline. Temporarily pull the connector from the PLC off the Gateway interface module, as shown in the illustration in step 1, below. Remember to reconnect the PLC after you have completed message downloading.

Step	Description
1	<p>Before downloading messages to the PLC network, put the Gateway ALPHA network in “Pass-Through Mode”. Disconnect PLC from the network interface module. Messages are displayed, briefly, until the ALPHA network reverts to the programmed “Background Message”.</p> 
2	<p>Place your cursor in the message to be triggered by the PLC. The message text will turn red to indicate that the message is active.</p> 
2	<p>Click on the <i>Preview Message</i> button. NOTE: “System on” and another message might be running at the same time.</p> 
3	<p>This window will appear to confirm that you really want to send the current message to a sign for preview. Click on the <i>Send</i> button. The message will appear on the sign.</p> 
4	<p>If the sign does not return to normal running operation after previewing the message, complete one of the following two options:</p> <ol style="list-style-type: none"> A. Unplug the sign from the network for at least 3 seconds, then reconnect it. B. Download all messages to the sign again. (For further information, see the following step “Downloading a number of messages at once to an ALPHA sign network.” on page 26).

Downloading a number of messages at once to an ALPHA sign network.

You can send many messages at the same time, so long as the message size is consistent (as shown in step one, below) and the numbers of all the messages being sent are consecutive integers (see step 3, below).

Step	Description
1	<p>After you have completed your messages, choose <i>Modules > ModBus > Download Messages</i>. You can then select any sequence of messages to download. The default is 1 through 4100.</p>  <p>NOTE: Be sure that any messages you send have the same message size as the messages already in the sign. If the message size differs, the message(s) sent may affect current messages: either the current messages may be deleted or longer messages may be truncated. (See "Setting message size and maximum messages" on page 8.)</p> <p>Click <i>OK</i>. Any valid messages in the sequence of messages will be transmitted to the attached sign.</p>
2	<p>However many messages are being sent, complete all message editing in all of the messages that you will be sending, first.</p> <p>Message editing must be completed first, in every one of the messages that you are going to be sending.</p> 
3	<p>When you are prepared to download your messages, go to <i>Modules, ModBus, Download Messages</i>, as shown below.</p> <p>click <i>OK</i> when you are ready to download.</p> 

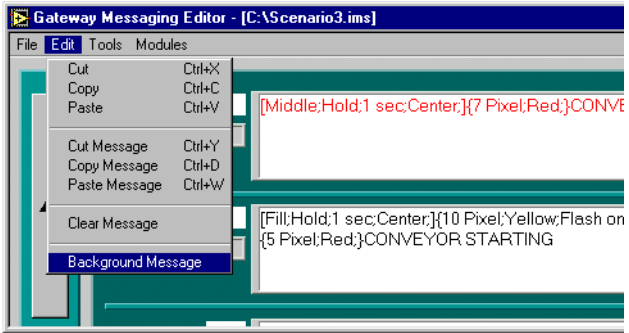
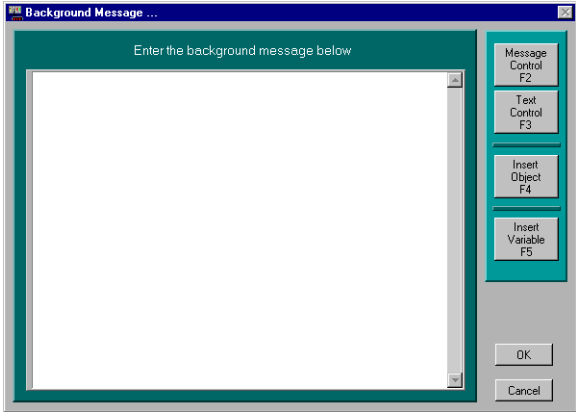
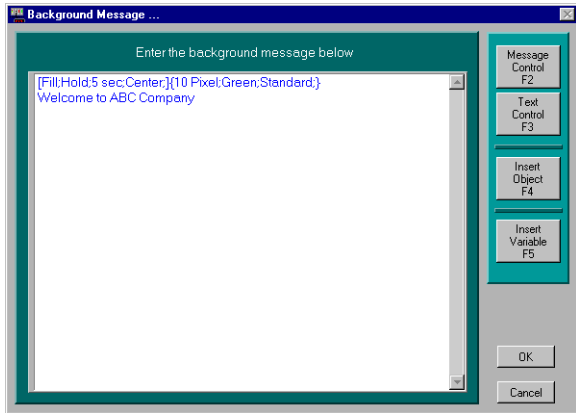
Step	Description
4	<p>Each message will be listed as it's transferred.</p> <p>Notification does <i>not</i> mean message was received. See page 13 NOTE, under <i>Download messages</i>.</p> <p>This indicates that the message queue is cleared.</p> 
5	<p>After the message queue is cleared, the sign will revert to the background message (see next section following, for an explanation of background messages) or the network activity indication, if you are downloading messages through a direct RS232 connection from your PC (see NOTE in Step 1, page 2, <i>Setting up the ALPHA sign network</i>.)</p> <p>One of these two messages may appear on your sign once all the active messages have been downloaded into the sign.</p> 

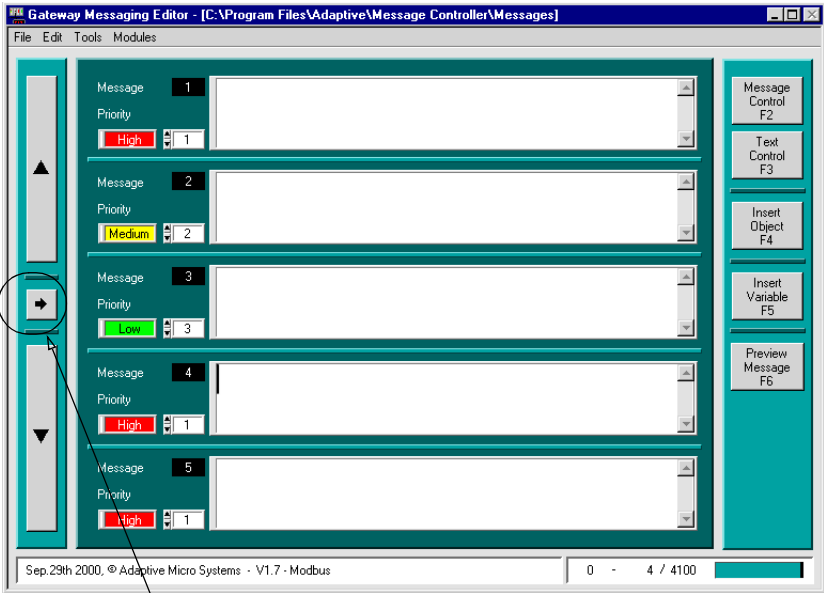
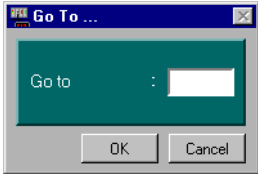
Advanced messaging

NOTE: Before you begin, make sure you're familiar with the preceding examples in "Basic messaging".

Example 8 — Setting the background message

The background message runs on a sign when there is network activity but none for that particular sign, and there are no other messages. In that case, the background message is displayed on that sign. Using background messages is recommended, since the sign displays "NO BACKGROUND MESSAGE" if you don't. You can use the background message to display a welcome to your company, motivational ideas, the date or time, safety data, or anything you may want to emphasize when there is no network activity.

Step	Description
1	<p>Choose <i>Edit > Background Message</i>.</p> 
2	<p>This window for the background message will appear.</p> 
3	<p>Type your message and use the buttons as needed. Click on <i>OK</i> to close this screen.</p> 

Step	Description
4	<p>You can also go directly to message #4095, the designated message number for the background message, to make your changes by clicking on the <i>GoTo</i> button.</p>  <p style="text-align: center;">GoTo button</p> <p>This screen will appear:</p> 
5	Type in the number of the message that you wish to review, in this case 4095. Click on the <i>OK</i> button. You will be taken to that message.
6	Click inside message #4095 to activate that message.
7	Click on the <i>Preview Message</i> button to preview the background message on the sign.
8	Click <i>Send</i> to complete the message previewing process.

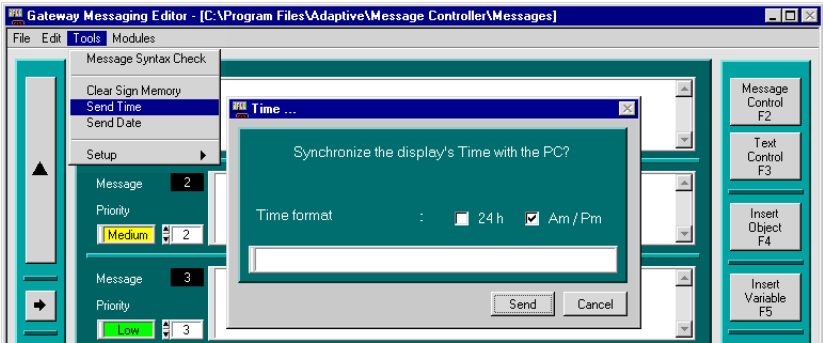
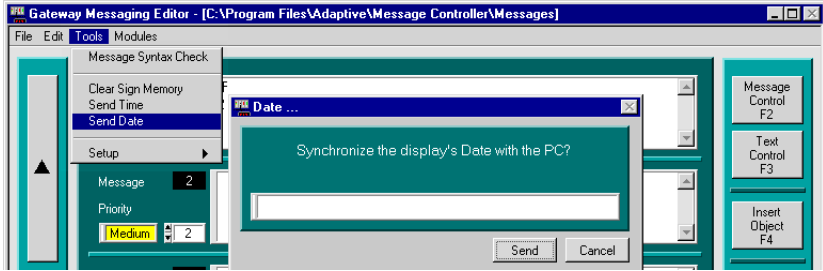
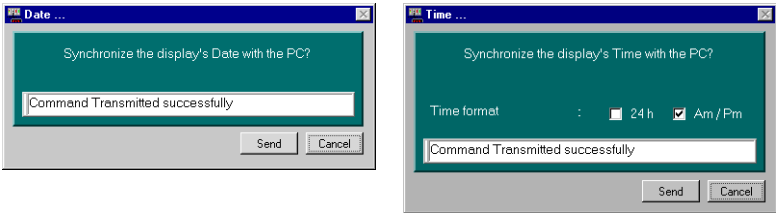
Example 9 — Inserting objects: date, time or special characters

You can synchronize the sign's time and date to those of your computer so that time and date included in a message are as accurate as possible, and will also conform to your network settings. Several online services (www.time.gov; the u.s. naval observatory) are always available to verify the correct time. The pull-down menu used for this function also sets your preferences for time format (AM/PM or 24 hour "military time"). Once set, the time format chosen affects any previously programmed message that has included the command, display "time".

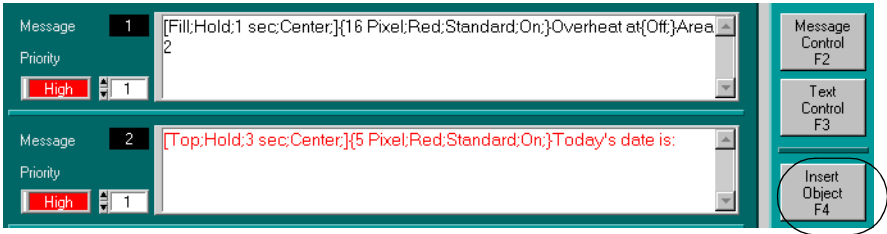
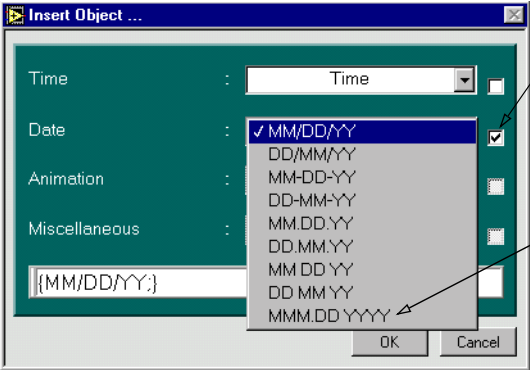
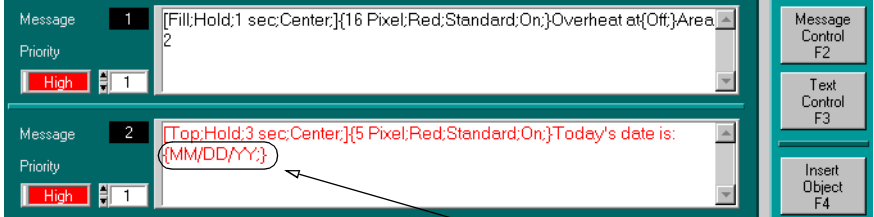
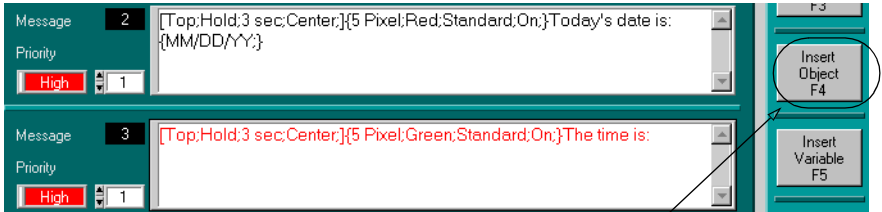
Synchronizing your sign's date and time with a PC

NOTE: You can use the hand-held Remote Control to bring up for display the date and time currently stored in the sign. (Please refer to "Using the Remote Control with a sign" on page 38.) The Remote Control can also be used to set date and time, one sign at a time. This isn't recommended since settings made with the remote are unsynchronized to those of your PC, or any other sign.

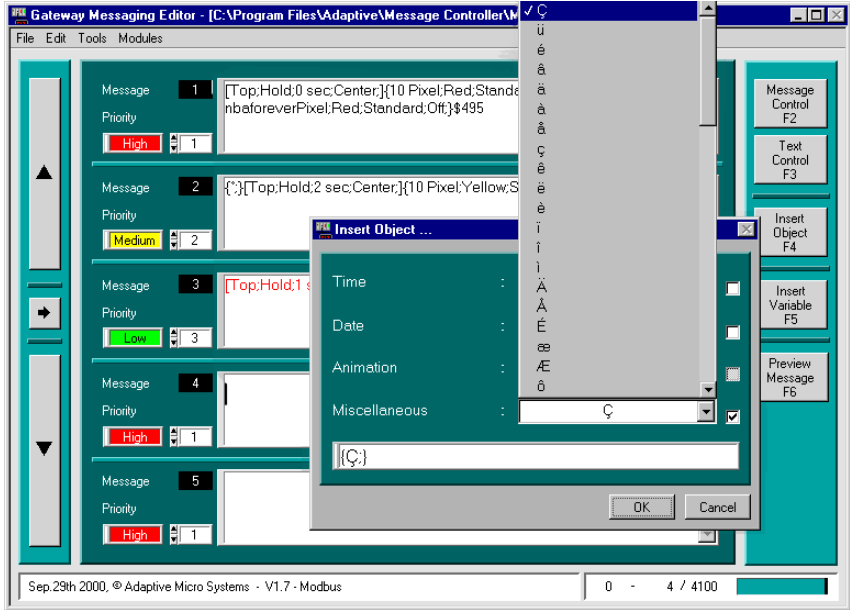
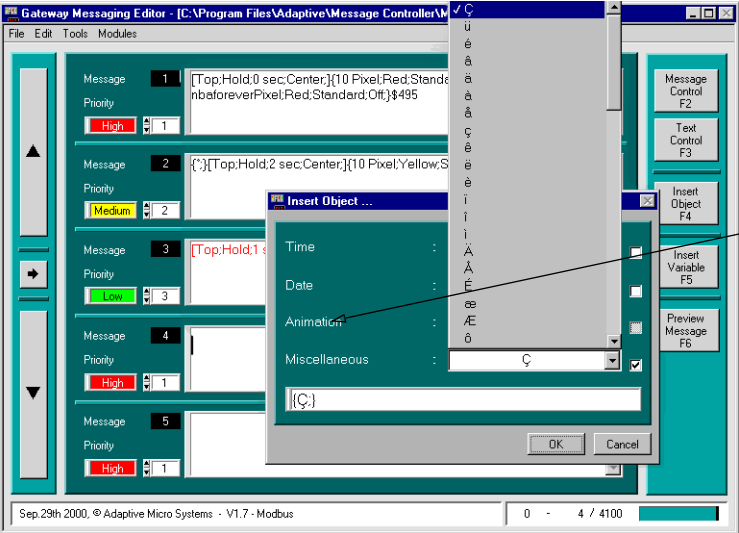
NOTE: You must reset the time twice a year to accommodate changes for Daylight Savings Time.

Step	Description
1	<p>Choose <i>Tools > Send Date</i> or, choose <i>Tools > Send Time</i>. If you are setting the time, select format and then click the <i>Send</i> button.</p> 
2	<p>If you are setting the date you are not prompted to select format. Click "<i>Send</i>". (9 different date formats are available from the menu list shown in item 2, in the following section, "adding date to a message. This allows setting different formats for different messages.)</p> 
3	<p>Transmission status is displayed in the screens shown below. After this has been completed, although ALPHA displays can only show time in hours and minutes (no seconds), after the synchronization signal has been programmed, minute-by-minute changes to the time display are updated as the second hand in your PC's clock sweeps around from 59 to 60 seconds. (NOTE: To bring up your PC clock, go to the START > Programs > Accessories list.)</p>  <p>NOTE: This notification does not indicate that the sign actually received the command. It simply means that the command was sent.</p>
4	<p>You can verify the date/time in the sign with the hand-held Remote Control. Commands from the Remote Control bring up the date and time currently programmed into the sign. (Please refer to "Using the Remote Control with a sign" on page 38, for more information.)</p>

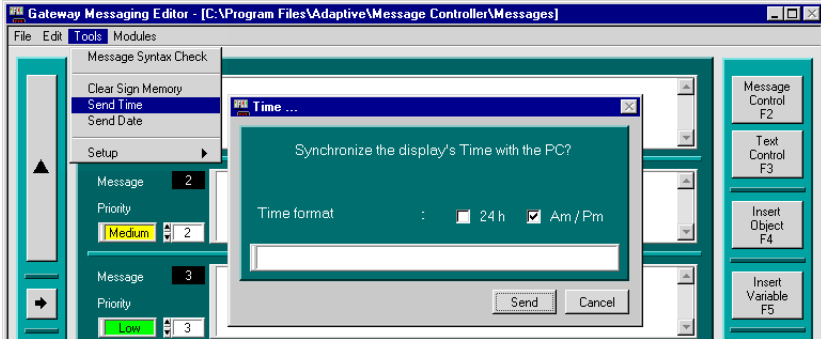
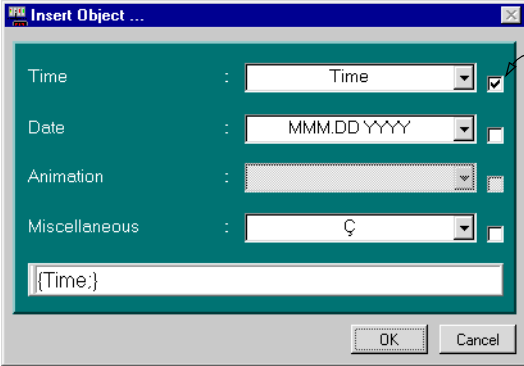
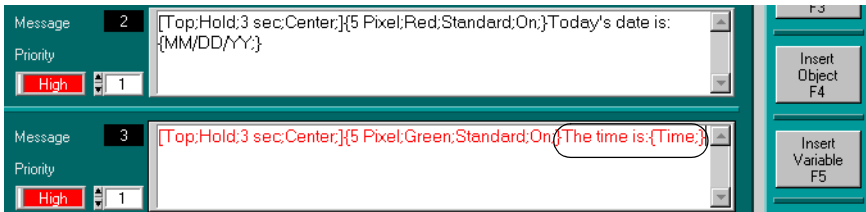
Adding a date to a message

Step	Description
1	<p>Type text in a message, such as "Today's date is: ". Then click the <i>Insert Object</i> button.</p> 
2	<p>Choose a format for the date from the drop down list, then click in the <i>Date</i> checkbox, as shown.</p>  <p>NOTE: You can insert only one object at a time. If you try to check more than one box, data will clear itself from the first as you mark the second.</p> <p>NOTE: This date format option lets you select common 3-character text abbreviations (Jan/Feb/Mar, etc) for the month, with the year written out (all 4 digits).</p>
3	<p>Click OK to set the date format and it is inserted in the message. At message run time the selected date format is supplied through the sign's internal clock chip.</p> 
1	<p>You can add the correct time to the same message (or to any subsequent one to be displayed, as shown below), by typing in text, and clicking on the <i>Insert Object</i> button. (See "Adding time to a message", page 33.)</p>  <p style="text-align: center;"><i>Insert Object</i> button</p>

Adding special characters from the extended character set

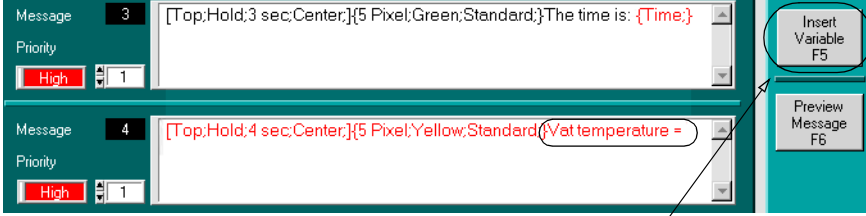
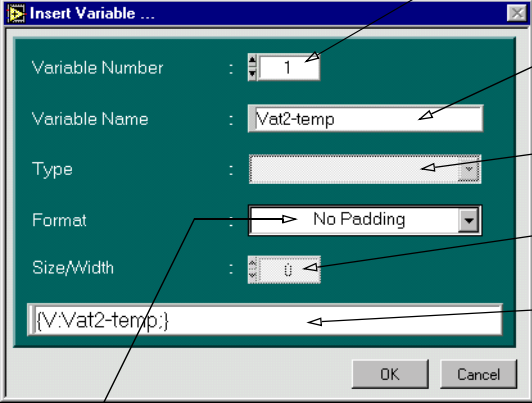
Step	Description
1	<p>To enter special symbols or characters go to <i>Insert Object</i>, <i>Miscellaneous</i> and scroll through the list that is available.</p> 
2	<p>Put a check mark in the box next to the <i>Miscellaneous</i> function to enter the selected symbol and click <i>OK</i>.</p>  <p style="margin-left: 20px;">The cedilla, highlighted at left, is the first of 65 special symbols in the extended character set.</p> <p style="margin-left: 20px;">NOTE: <i>Animation</i> is not available with <i>Gateway Messaging Software</i>.</p>

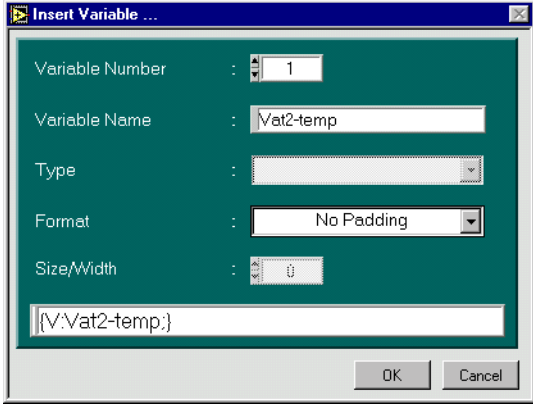
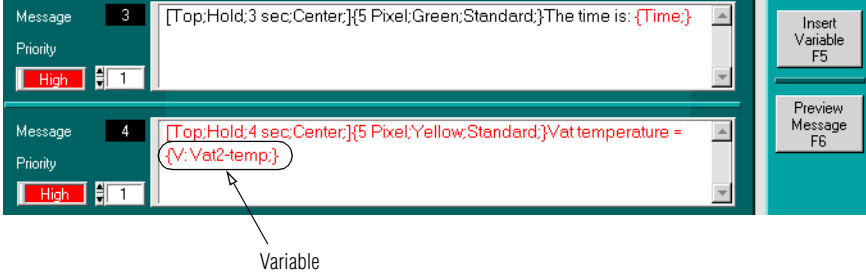
Adding time to a message

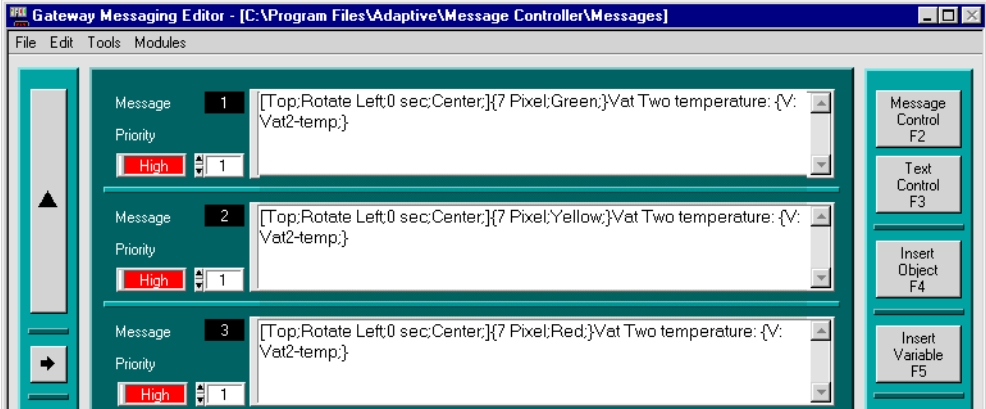
Step	Description
2	<p>Choose a format for the time (24-hour or AM/PM) using the Tools drop-down list. In the example below, AM/PM is selected. Any programmed message that includes the "object" {Time} from now on is displayed in AM/PM format.</p> 
3	<p>Check the <i>Time</i> checkbox. Click <i>OK</i>.</p>  <p>NOTE: You can insert only one object at a time. Therefore, only one checkbox can be checked at a time.</p>
4	<p>The time format is inserted in the message and will be supplied through the sign's internal clock at message run time.</p> 

Example 10 — Creating and inserting variables

This example shows how to create and insert the values of real-time data from other network devices, such as PLC's, sensors, etc.) into messages on signs.

Step	Description
1	<p>Type text, such as "Vat temperature = ", in a message. Then click the <i>Insert Variable</i> button or press F5 on the keyboard.</p>  <p style="text-align: right;"><i>Insert Variable</i> button</p>
2	<p>This window will appear.</p>  <p>Variable Number Specify a unique number (1-100) for the variable. Must be the same as the number in the PLC.</p> <p>Variable Name Specify any unique name for the variable.</p> <p>Type Not available.</p> <p>Size/width Not available.</p> <p>Variable controls Show the specifications for the variable as they will appear in the message.</p> <p>IMPORTANT— The Variable Name field can not be left blank. You have to enter at least one character to complete the field.</p> <p>For more information on variables/"sign read-data", refer to the "ALPHA sign memory map" section that is a part of the "How to connect and configure" document for your network, and the "Configuration data for Gateway networks" Tech Memo.</p> <p>Format <i>No Padding:</i> Does not insert any leading characters in front of the variable in the message. <i>Leading 0:</i> Inserts the appropriate number of zeros in front of the variable in a message to fill the complete size allocated for the variable. <i>Leading Space:</i> Inserts the appropriate number of spaces in front of the variable in a message to fill the complete size allocated for the variable. <i>+/- No Padding:</i> Does not insert any leading characters in front of the variable in the message. Includes positive and negative denotation. <i>+/- Leading 0:</i> Inserts the appropriate number of zeros in front of the variable in a message to fill the complete size allocated for the variable. Includes positive and negative denotation. <i>+/- Leading Space:</i> Inserts the appropriate number of spaces in front of the variable in a message to fill the complete size allocated for the variable. Includes positive and negative denotation.</p> <p>NOTE: Default for Variables is <i>1</i> and <i>No Padding</i>.</p> <p>NOTE: Left justification is recommended for using variables in a message.</p>

Step	Description
3	<p>Type in the name of the variable. Click <i>OK</i>.</p>  <p>NOTE: Do <u>not</u> skip this step. Otherwise, the variable will not reach the sign.</p>
4	<p>The variable is inserted into the message.</p> 

Step	Description								
5	<p data-bbox="337 201 1357 254"><i>(Optional)</i> This window shows how similar messages, with different text controls, can be used and triggered under differing circumstances. Notice that the only difference between the messages is the text color.</p> <table border="1" data-bbox="480 275 1149 485" style="margin: 10px auto;"> <thead> <tr> <th data-bbox="480 275 813 331">When Vat Two temperature is...</th> <th data-bbox="813 275 1149 331">Its PLC will be set to trigger...</th> </tr> </thead> <tbody> <tr> <td data-bbox="480 331 813 384">less than 190° C</td> <td data-bbox="813 331 1149 384">Message 1</td> </tr> <tr> <td data-bbox="480 384 813 436">between 190° C and 200° C</td> <td data-bbox="813 384 1149 436">Message 2</td> </tr> <tr> <td data-bbox="480 436 813 485">greater than 200° C</td> <td data-bbox="813 436 1149 485">Message 3</td> </tr> </tbody> </table> <div data-bbox="347 541 1328 947" style="margin: 10px auto;">  <p>The screenshot shows the 'Gateway Messaging Editor' window. It contains three message entries, each with a 'Message' field, a 'Priority' dropdown set to 'High', and a '1' in a small box. The message text for all three is: [Top;Rotate Left;0 sec;Center;]{7 Pixel;[Color];}Vat Two temperature: {V:Vat2-temp;}. The colors are Green, Yellow, and Red respectively. On the right side, there is a vertical toolbar with buttons for 'Message Control F2', 'Text Control F3', 'Insert Object F4', and 'Insert Variable F5'.</p> </div> <p data-bbox="451 1003 1079 1125">NOTE: After the variable name is created, and you change the name of the variable, you must change all the variables in the program file. Otherwise, each message will be a reflection of the variable that you recently changed.</p>	When Vat Two temperature is...	Its PLC will be set to trigger...	less than 190° C	Message 1	between 190° C and 200° C	Message 2	greater than 200° C	Message 3
When Vat Two temperature is...	Its PLC will be set to trigger...								
less than 190° C	Message 1								
between 190° C and 200° C	Message 2								
greater than 200° C	Message 3								

Example 11 – Using the Remote Control

A Remote Control can be used for the following functions on your sign:

- Turning a sign on/off
- Setting the sign's serial address
- Setting the Time and Day/Date in a sign
- Clearing the Message Activation
- Clearing the sign's memory
- Special + D option (Transfers one sign's memory to another sign's memory.)

Remote Control description

A Remote Control is a hand-held keyboard used to operate an ALPHA sign. These units emit infrared light which can control many of the functions of an ALPHA sign.

The Remote Control operates on four AAA batteries.



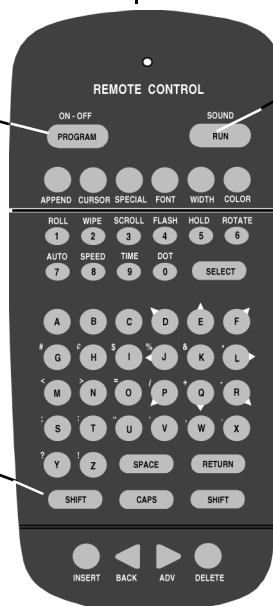
IMPORTANT—The Remote Control can *not* be used while the Gateway network is operating, and the Gateway interface is directly connected to the network PLC. You must go to the “*Pass-Through*” mode to access Remote control function. Refer to page 25 for information on disconnecting the PLC from the Gateway interface module in order to use the Remote Control.

Point the front of the Remote Control at a sign.

Press **PROGRAM** to put the sign into programming mode. (This mode is used to set the date and time, type in messages, etc.)

Press **RUN** twice to exit programming mode.

To turn the sign off or on, hold down **SHIFT** and then press **PROGRAM**.

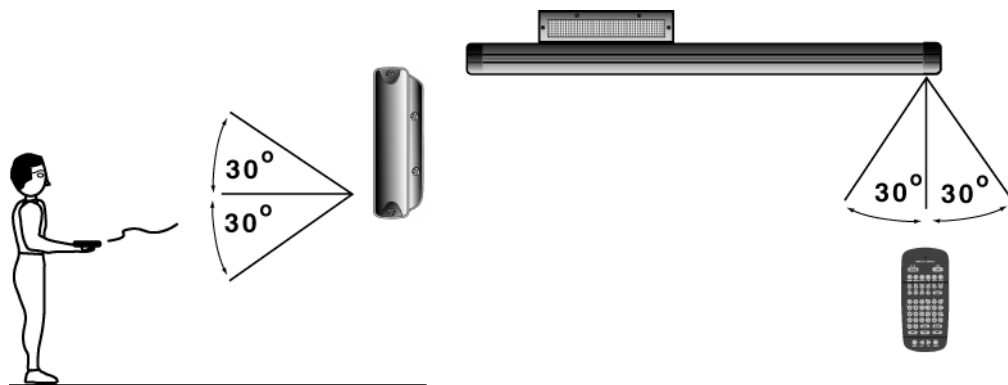


Infrared (IR) Remote Control keyboard

Using the Remote Control with a sign

To program a sign with a Remote Control:

- Stand at least 5 feet and no more than 30 feet from the sign.
- Make sure nothing reflective is in front of the sign. (Light from the sign’s display that is reflected back can interfere with the Remote Control.)
- If nearby fluorescent lights interfere with the Remote Control, you may have to relocate either the lights or the sign.



If a sign is this far from the floor...	...then hold a Remote Control this far away:
10 feet	from 10 to 30 feet
15 feet	from 19 to 30 feet
20 feet	from 25 to 30 feet

NOTE: See page 25, *Sending messages to a sign in “Pass-Through” mode*, if your Gateway network is connected to an operating network. You must disconnect the PLC before using the remote.

Turning a sign on/off




When you plug in the sign’s power supply, the sign starts up automatically, and unplugging the power supply turns the sign off.

However, instead of unplugging a sign, there is another way to turn a sign off: Using the Remote Control, hold down **SHIFT** and then press **PROGRAM** to turn a sign off and on.

Using the Remote Control to Set a sign's serial address

The serial address is a number that you can assign to a sign. Typically, this feature is used for a sign that is connected to other signs on a network. Giving a unique serial address to a sign allows you to send messages to that *particular* sign.

See the document *Network Configurations* (part number 9708-8046) for more detailed information on networking signs.

Step	When you do this...	You see this...
1	Press PROGRAM . <i>SET SERIAL ADDRESS</i> will appear on your sign.	
2	Press ADV .	
3	Type a number, like "100". NOTE: Valid address settings are from 001 to 254. Refer to "Network/Gateway data pathway" in the "connect and configure the ALPHA Gateway II interface" document for your particular network, for more info.	
4	Press RUN twice to set the new serial address and return the sign to normal operation.	

Using the Remote Control to Set the Time and Day/Date in a message

Once set, a sign will remember the time and date unless the sign is unplugged or interrupted by a power loss.

NOTE: If a sign is unplugged or interrupted by a power failure, you will have to manually reprogram each sign.

To set the time and date into a message, complete the following steps using a Remote Control.

1. Press **PROGRAM**.
2. Press **BACK** until SET TIME AND DAY or SET TIME appears.
3. Press **ADV**.
4. Press **D** to set the day of the week.
Press **H** to set the hour.
Press **M** to set the minute.
5. Press **BACK** until SET DATE appears.
6. Press **ADV**.
7. Press **D** to set the day of the month.
Press **M** to set the month.
Press **Y** to set the year.
8. Press **RUN** twice to return the sign to normal operation.

Using the Remote Control to Clear Message Activation

Clear Message Activation is a way to clear the messages that you currently have running in the message queue. Your messages that are currently stored will not be lost when you do this provided the messages were previously downloaded to the sign, or you have previously saved them in your computer. (For further information on downloading your messages to the sign see "Example 6 — Previewing the message" on page 23. For further information on saving your messages in your PC, see "Save the message file." on page 12.)

To clear the message activation using your Remote Control, complete the following:

1. Press **PROGRAM** on your Remote Control.
2. Press **Back** until "*Clear Message Activation (Y/N)*" appears on your sign.
3. Press **Y**.
4. Queue is cleared when "*Queue Cleared*" appears on the sign.
5. Press **RUN** to return the sign to normal operation.

Clearing the Sign's memory

Clearing the sign's memory is a way to completely erase all messages from your sign. To clear your sign's memory, complete the following:

1. Press **PROGRAM** on your Remote Control.
2. Press **Back** until "*Clear Memory*" appears on your sign.
3. Press **ADV** on the Remote Control. A warning will appear on the sign's screen.
4. Press **Y** to clear the sign's memory. "*Memory Cleared*" will appear, and then "*No Network Activity*" will be displayed.
5. Press **RUN** to return the sign to normal operation.

Remote Control Special + D option: Transferring messages from one sign to another.

You can transfer the messages from the memory of one sign to the memory of any another signs by completing the following steps.

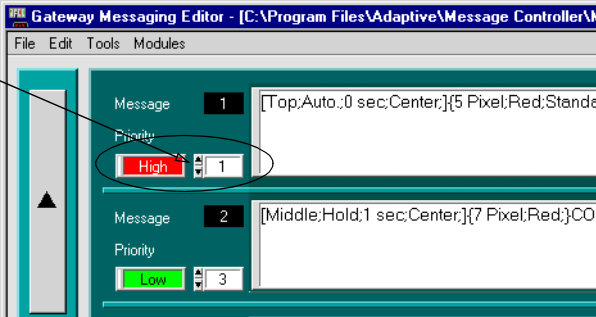
NOTE: To complete the transfer of memory from one sign to other signs, all signs must be connected together and all must be set to either RS232 or RS485 jumper. For further information on connecting signs and the RS232 and RS485 jumper, see the *Network Configurations Manual*, p/n 9708-8046A.

1. Point the Remote Control toward the infrared receptor of the sending sign.
2. Press **PROGRAM**.
3. Press **SPECIAL**.
4. Press **D**.
5. The sending sign will transmit all messages to the receiving sign(s).

Appendices

Appendix A: Sending priority messages from a PLC

The message priority specifies the importance of a message. Messages of a lower priority will not run if any message of a higher priority is running.

Step	Description
1	<p>Use the up/down arrows for each message to set its <i>message priority</i>.</p> 

The two tables that follow show some sample messages that have been assigned varying priorities, and the results of sending those messages to a sign in various combinations.

Table 4 shows 3 sets of 3 messages of low, medium and high priority, and the message numbers that have been assigned to each.

Table 4: Sample priority messages

Message number	Priority
1	Low = 3
2	Low = 3
3	Low = 3
4	Medium = 2
5	Medium = 2
6	Medium = 2
7	High = 1
8	High = 1
9	High = 1

Table 5 shows the effect of prioritization when the messages in the preceding table are combined in different ways, in the message queue of your Gateway device.

Table 5: Results of sending sample priority messages

Message number in Activation Register	Message number in Deactivation Register	Message queue	Message number of message displayed on sign	Highest priority message displayed
1	xx	1	1	Low
2	xx	1, 2	1, 2	Low
3	xx	1, 2, 3	1, 2, 3	Low
5	xx	1, 2, 3, 5	5	Medium
4	xx	1, 2, 3, 5, 4	5, 4	Medium
6	xx	1, 2, 3, 5, 4, 6	5, 4, 6	Medium
9	xx	1, 2, 3, 5, 4, 6, 9	9	High
8	xx	1, 2, 3, 5, 4, 6, 9, 8	9, 8	High
8	1	2, 3, 5, 4, 6, 9, 8	9, 8	High
7	1	2, 3, 5, 4, 6, 9, 8, 7	9, 8, 7	High
7	5	2, 3, 4, 6, 9, 8, 7	9, 8, 7	High
xx	7	2, 3, 4, 6, 9, 8	9, 8	High
xx	9	2, 3, 4, 6, 8	8	High
xx	8	2, 3, 4, 6	4, 6	Medium
xx	4	2, 3, 6	6	Medium
xx	6	2, 3	2, 3	Low
xx	2	3	3	Low
xx	3	–	–	Background message
xx = Doesn't matter				

Appendix B: Frequently-Asked Questions

Q1. *Why were my old messages deleted when I sent new messages?*

- A. Downloading messages transfers all messages in the Gateway Messaging Editor file to a sign. If any messages had already been downloaded, they are replaced if there is a replacement message. Examples:

Message number	Initial set of messages in the display	New set of messages downloaded to display	Resulting set of messages in the display
1	M1A	M1B	M1B
2	M2A	—	M2A
3	—	M3B	M3B
4	M4A	M4B	M4B
5	M5A	—	M5A
6	—	—	—

Q2. *Why does my sign show only the message “No Network Activity”?*

- A. There are several possible causes:
1. Network wiring fault
 2. PLC fault
 3. Gateway device fault
 4. ALPHA sign fault
 5. ALPHA sign time-out because of no network activity for at least 3 seconds

Q4. *What’s the difference between Center Justification and Left Justification when I’m using the Rotate mode?*

- A. None. The Rotate mode starts the message on the right side of the sign and moves it to the left side across the sign.

Q5. *What are the defaults for control codes?*

- A. When the system is first installed and setup, they are:

Control type	Setting	Default
Message Controls	Position	Top
	Mode	Hold
	Display Message	Zero seconds
	Justification	Center
Text Controls	Font	5 pixel high
	Color	Red
	Width	Standard
	Flash	Enable
	Control Code	(none)

After you change settings, they remain as set until you change them again. So, if you change the settings for Message 1, and then go to Message 2, the defaults will be the same settings as you had for Message 1.

Q6. *When I download messages to the sign, it responds with either “No Background Message” or “No Network Activity”. Why aren’t the messages displayed?*

- A. The PC may not be connected to the Gateway Network, or to the sign itself.

- Q7. *One of my signs only displays the “No Network Activity” message.*
- A. There may be a problem with the connection or wiring.
 - A. The sign may be set to RS232 communications instead of RS485.
 - A. No information is being sent or routed to the sign.
 - A. The Gateway connection to the sign (and/or the ALPHA network) may be disconnected.
- Q8. *All signs display a “No Network Activity” message.*
- A. The network PLC may not be in “RUN” mode, or it may not be connected to the ALPHA Gateway II network interface module. Check the documentation for your PLC network for other variables, especially if you have more than one PLC connected to the network.
- Q9. *One of my sign(s) only displays “No Background Message”*
- A. The sign detects some type of network activity, but none of the information is for that particular sign. This may be due to the wrong protocol being sent to the sign, incorrect settings in the Gateway, or the sign in question has never been sent information to trigger a message in that sign. See “Example 8 — Setting the background message” on page 28.
- Q10. *How do I trigger messages in the sign?*
- A. Send the message number you want to trigger into register 101 in the sign. You may also need to refer to the specific Installation manual for your Gateway network. Additional installation documents, information and examples for programming the PLC may be available on the Adaptive website, www.adaptivedisplays.com (under *Support, Technical Documentation*) or in the *Gateway Forum* section, (under *Support, Discussion Forums*).
- Q11. *How many messages can be displayed at one time?*
- A. 64. They are stored in registers 103-166, which is the message queue.
- Q12. *Can the sign read information from another device that has Modbus protocol?*
- A. No. The signs act as slaves on the network and cannot initiate communications.
- Q13. *What are the different types of networks that I can connect up to?*
- DeviceNet
 - Profibus DP
 - Modbus Plus
 - Modbus ASCII
 - Data Highway Plus
 - Contact Adaptive or check our website (see response to Question 10, above) for more information.
- Q14. *What ASCII formats does your sign support?*
- A. This table shows the ASCII format:

	Format 1
<i>Mode</i>	ASCII
<i>Baud Rate</i>	9600
<i>Data Bits</i>	7
<i>Parity</i>	Even
<i>Stop Bits</i>	2
<i>RTS Control</i>	None

Q15. I am sending variable data to the sign, but it skips or misses data.

- A. You may be sending information too quickly to the sign. Space out the time between transmissions to greater than 250 milliseconds (ms).
- A. Change the 'Pause time' in the message to 0 seconds.

Q16. How many variables does the sign allow?

- A. 100. These are in registers 001-100 in the sign.

Q17. What if I want to add or change a message that I have downloaded to the sign?

- A. You can add or change a message in the Gateway Messaging software, then download the new information to the sign. See "Example 1 — Creating a simple message" on page 10.

Q18. I downloaded my messages, and one message did not show up.

- A. Your message may be longer than the message size selected. Check the message. Change the message size if needed.

Q19. I download messages to the sign and some of the message attributes are displayed.

- A. Check the message attributes within the message. They may be missing a {} or [].

Q20. Why is a question mark showing up in the middle of my message even though there's no question at all?

- A. The firmware in your sign may need to be upgraded. Contact your authorized distributor for assistance.