

PRODUCT MANUAL

ELECTRONIC DISPLAYS INC.

135 S. CHURCH STREET

ADDISON, ILL. 60101

www.electronicdisplays.com



ED050- I - 2011 – 6L - N1 – SR2

DESCRIPTION :

- Indoor, 2.0 inch high, 6 line, red LED scrolling marquee; 20 characters
- Receives serial input via a RS485 data signal @ 1200 baud; no parity and 8 data bits.
- Windows based software is provided to edit and send messages to the sign.
- Power : 120 VAC@ 60Hz. ; 6 foot line cord provided.
- NEMA 1 rated aluminum enclosure w/ a black powder coat finish

OPERATION :

This display is designed to receive a serial RS485 serial input from a PC/PLC. And RS232 to RS485 Serial Data converter is supplied with the display. Baud rate is 1200BPS @ 8 data bits, no parity and 1 or 2 stop bits. NEMA 1 enclosure. Windows based software is provided to create, edit and, send messages to the marquee. The software is included on a 3.5 inch floppy disk with a "MessagePro" manual. Each line is addressed 001(top line) to 006(bottom line).

**If there are any questions or comments regarding this order, please call our
Toll-free number: 1 - 800 - 367 – 6056**

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Unpacking Instructions:

A copy of these instructions is packed with each unit. Open carefully to avoid scratching the unit's paint and plastic lens or cutting the line cord.

Mechanical Mounting Instructions:

This unit is equipped with two rivnuts in the top of the unit for mechanical mounting purposes. The bolts that are screwed into these rivnuts are standard 5/16 by 1 1/4" bolts. To avoid damaging the rivnuts, do not tighten these bolts more than 10 ft/lbs.

Power Requirements:

This unit is equipped with a standard, eighteen-gauge, three-wire line cord that is designed to be plugged into a standard, 120 VAC, 60 Hertz, grounded outlet. The maximum current draw for this unit (at 120 VAC) is __1.5__ Amperes.

Signal Requirements:

If your unit has serial input (either RS-232, RS-422, RS-485, etc.), the standard communication format for this unit is 1200 bits per second (baud rate) with one start bit, eight data bits, no parity, and one stop bit per character. The expected sequence of characters is specified in a later section of this manual entitled 'Protocol'.

Product Components:

See appendix A.

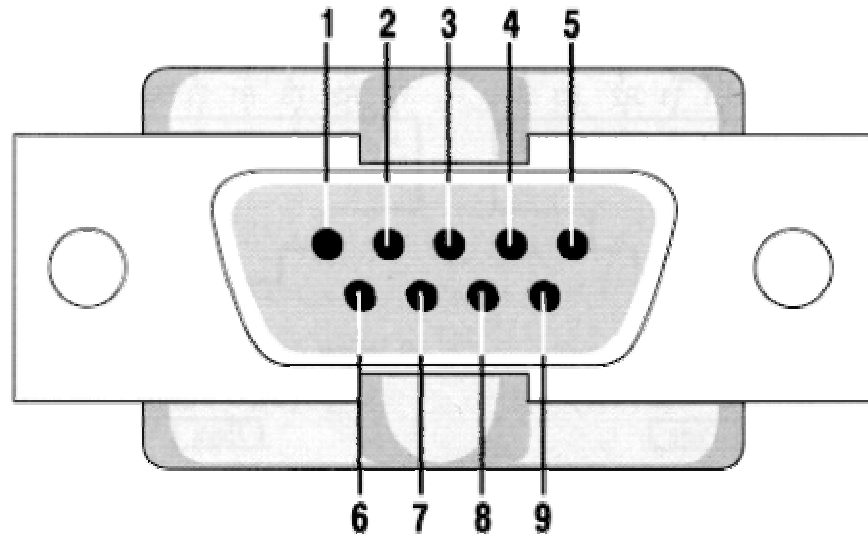
Wiring Diagram:

See appendix B.

PC Com Port - RS-232 pin out DB-9 pin



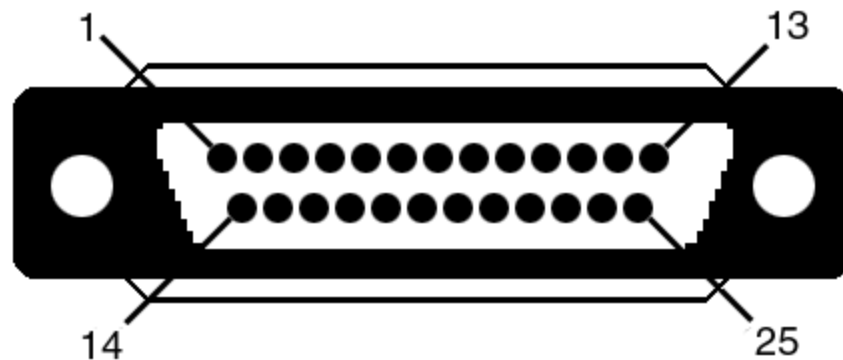
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Pin	Signal	Pin	Signal
1	Data Carrier Detect	6	Data Set Ready
2	Received Data	7	Request to Send
3	Transmitted Data	8	Clear to Send
4	Data Terminal Ready	9	Ring Indicator
5	Signal Ground		

Pin 3 from your PC to Pin 3 on our DB-25 or DATA on our terminal block.
Pin 5 from your PC to Pin 7 on our DB-25 or GND on our terminal block.

PC Com Port - RS-232 pin out DB-25 pin



**RS232 Cable - DB25 Male
(on Cable)**

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RS232 - 25 Pin		
1	GND	Chassis / Frame Ground
2	TD	Transmitted Data
3	RD	Receive Data
4	RTS	Request to Send
5	CTS	Clear to Send
6	DSR	Data Set Ready
7	GND	Signal Ground
8	DCD	Data Carrier Detect
9	TD+	Transmit +
11	TD-	Transmit -
18	RD+	Receive +
20	DTR	Data Terminal Ready
22	RI	Ring Indicator
25	RD-	Receive -

Pin 2 from your PC to Pin 3 on our DB-25 or DATA on our terminal block.

Pin 7 from your PC to Pin 7 on our DB-25 or GND on our terminal block.

Power-up Response:

When power is first applied to this unit, the display will show a configuration message including baud rate and address of the marquee.

Addressing:

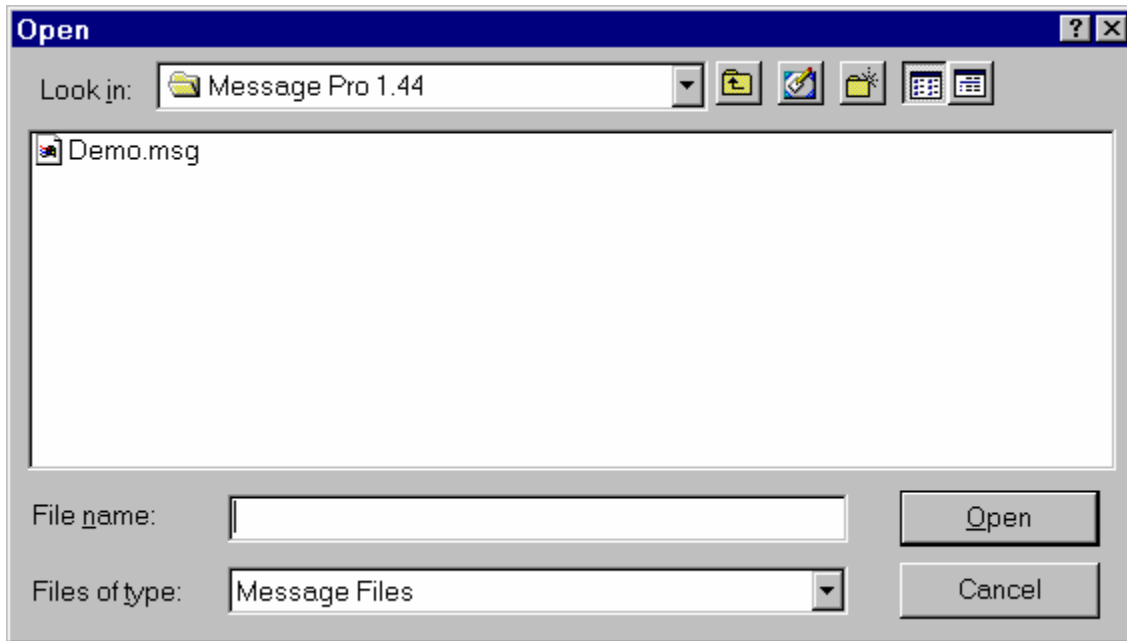
This sign was set to address '001' to '006' at the factory. Addressing and baud rate can be changed using the "MessagePro" software included, but is not recommended.

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Software Operation:

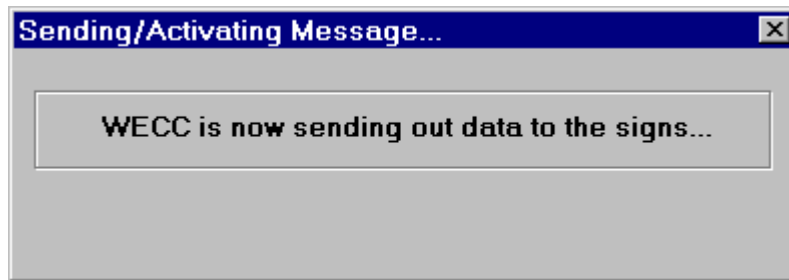
Message Pro 2.XX operation:

On the main screen click message then send message.



You will get a screen asking you for an address and a message #(1 to 32).

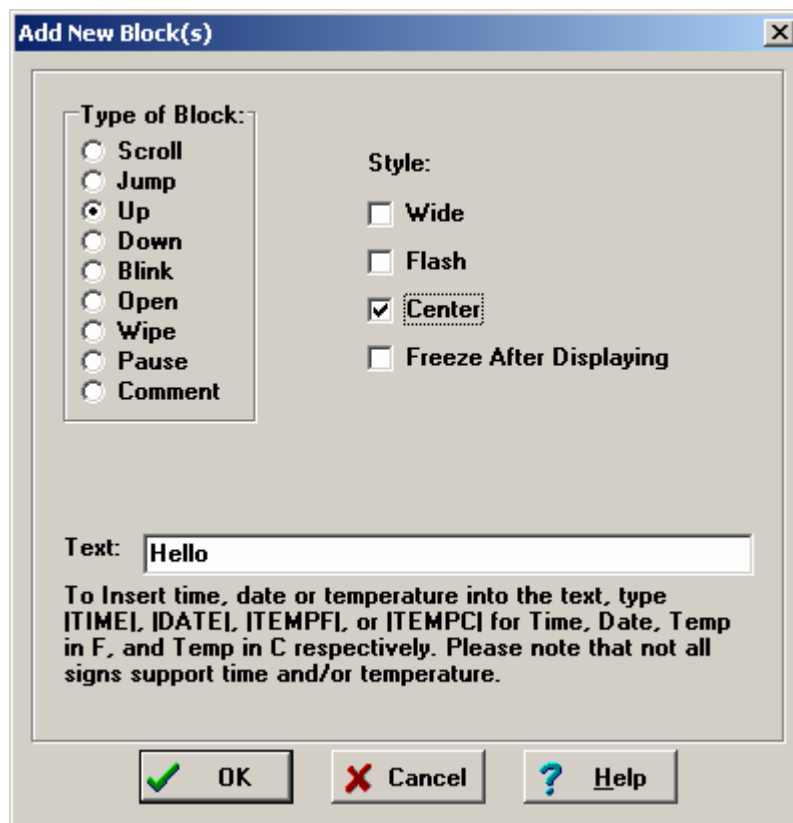
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After the OK button is pressed, you will see this screen.

Creating Messages:

Go to file new, then block add block. Here you will see a screen that you can type in the text and have the message display. When you are done with the message, click cancel. Close the message box and you will be prompted to save. See Below.

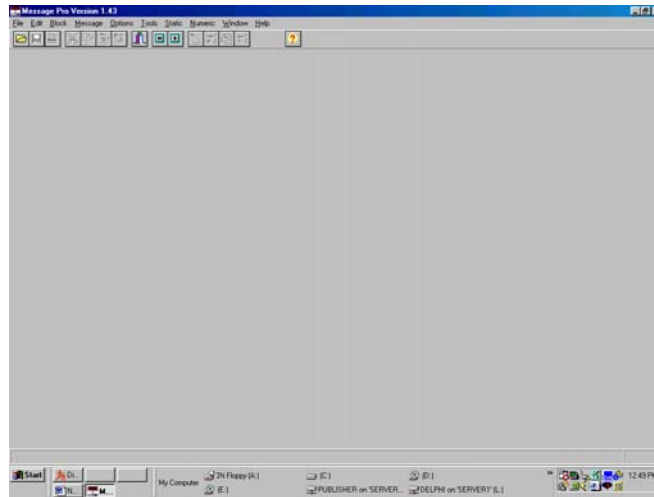


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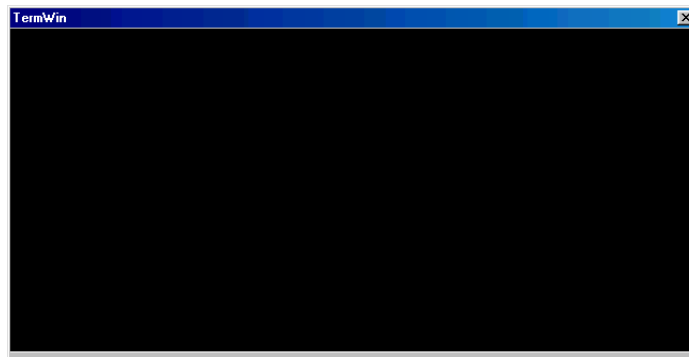
MessagePro v. 2.XX with Terminal Window Option

The **MessagePro** software included with the unit (see documentation book) has a terminal window option that allows the user to send ASCII data strings to the sign. The PC will transmit these data characters to the display(s) using an RS232 (standard PC output) or by using RS422 (an RS232-RS422 data converter is required) two-wire transmission.

All communication is one-way. Verify in “**SETUP – COMMUNICATIONS**” that the Baud Rate is **1200** and the correct serial port from your PC is activated (normally **COM 2** on a desktop, **COM 1** on a laptop).



In the main screen of **MessagePro**, select “**TOOLS**” and “**TERMINAL WINDOW**”.



This screen allows the user to enter the protocol to preset the display.

Type the following to get the required information to the sign. Please make sure the data

connection is made between the PC and display, the right COM port is used and Baud Rate transmission is 1200BPS.

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Other options for Message Pro:

One option is the Scheduler where you can set up certain times and dates that you want messages to activate.

Scheduler Operation: Send out the messages normally remembering which message numbers they are stored in. Go to Tools then Scheduler. You can name the scheduler session to whatever you would like. Select the date, time, address of display, and the message number you want to see displayed in the scheduler. The times must be entered in 24 hour format. Once complete, click **Send All Now!**, then Done.

NOTE: All messages must be created and sent to the display prior to running the Scheduler. The messages can be sent manually or by using the Batch send editor. The batch send editor downloads all messages at one time.

Scheduling Messages

00 - Nothing in Slot
01 - Nothing in Slot
02 - Nothing in Slot
03 - Nothing in Slot
04 - Nothing in Slot
05 - Nothing in Slot
06 - Nothing in Slot
07 - Nothing in Slot
08 - Nothing in Slot
09 - Nothing in Slot

Select a Slot above, enter data below and click Change or Delete
Then enter sign address when finished and click Send All Now.

Month: (99 for Everyday): 1 Day: 1 Year: 97

Change Hour: 0 Minute: 0

Delete Message Number to Activate: 0

Sign Address to Send To: 0

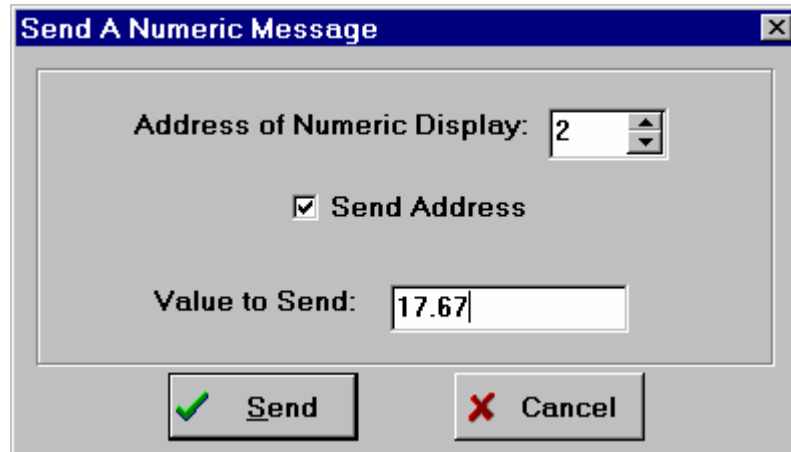
Send All Now! Done

Numeric Option:

Another Option is the Numeric Window. This will allow you to communicate to our standard bar segment displays.

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NOTE: This option is only intended for our 7 segment numeric displays.



A dialog box titled "Send A Numeric Message" with a close button (X) in the top right corner. The dialog has a light gray background. Inside, there is a label "Address of Numeric Display:" followed by a numeric spinner box containing the value "2". Below this is a checked checkbox labeled "Send Address". Further down is a label "Value to Send:" followed by a text input box containing "17.67". At the bottom, there are two buttons: "Send" with a green checkmark icon and "Cancel" with a red X icon.

Static Option:

Also you can communicate to our standard static displays using the Static window option.

NOTE: This option is not intended for the moving message marquees.



A dialog box titled "Send A Static Message" with a close button (X) in the top right corner. The dialog has a light gray background. Inside, there is a label "Starting Address of Static Display:" followed by a numeric spinner box containing the value "1". Below this is a group box labeled "Number of Lines to Send:" containing eight radio button options arranged in two rows: 1, 3, 5, 7 in the top row and 2, 4, 6, 8 in the bottom row. The radio button for "3" is selected. Below the group box, there are two labels: "Address:" and "Text to send:". Under "Address:", there are three numeric input boxes containing the values "1", "2", and "3". Under "Text to send:", there are three corresponding text input boxes containing the text "Hello", "Welcome", and "Test Message". At the bottom, there are two buttons: "Send" with a green checkmark icon and "Cancel" with a red X icon.

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Serial Interface : RS232 – DISTANCES up to 100' from the PC.

Serial Interface : RS422 / RS485 – DISTANCES up to 1000' from the PC .

For Rs422/485: TX+ on PC to RX+ on display

TX- on PC to RX- on display

For answers to any questions on the display, please call (800)-367-6056.

Protocol:

Protocol for the Single Line HC11 Scroller

This document outlines the serial protocol that the sign will accept. A message is in the format:

^D^Gnnn^Jxx<message>^R Where:

^D - Gets the signs attention, must always be the first character.

^Gnnn- Selects the address. Nnn is the 3-digit address that matches the address selected on the sign (dipswitches).

^Jnn - Selects the message number within the sign to save the message under.

NOTE: This must not be sent if using any of the ESC codes listed below.

<message> Contains the string of characters or embedded block commands. If only strings of characters are sent, they will scroll from right to left.

If using block commands (jump, open, wipe, up, etc) you must start it with the block command, the text, and then a block end character (^B or ^C). Any characters outside of the block commands will scroll. You can also toggle between wide and flashing at any time by using the toggle flash and toggle wide codes. To add pauses, embed the pause

command within a block command, or embed them directly in the characters to scroll.

^R Tells the sign to start running.

CODE	KEY	USE
00	^@	Not Used
01	^A	Block Done, ends a special block code (wipe,open, etc)
02	^B	Center Done, same as ^A, but centers the special block
03	^C	Display Date at this location
04	^D	Start of any message sent to the display
05	^E	Not Used

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06	^F	Not Used
07	^G	Select Sign Address, must be present.
08	^H	Not Used
09	^I	Jump Block
10	^J	Select Message, used only when setting messages
11	^K	Up Block
12	^L	Not Used
13	^M	Not Used
14	^N	Down Block
15	^O	Toggle Flash on/off
16	^P	Adds a 2-second pause
17	^Q	Not Used
18	^R	End of message, used to run the display
19	^S	Not Used
20	^T	Not Used
21	^U	Not Used
22	^V	Display time at this location
23	^W	Not Used
24	^X	Clear Message, ignored, not used
25	^Y	Not Used, use the escape commands to set scroll speed
26	^Z	Not Used
27	^[Start Escape code (see below)
28	^\ ^_	Toggle wide characters on/off
29	^]	Blink Block
30	^^	Open Block
31	^_	Wipe Block

The following is a list of ESC codes that are used after the ESC key (code 27) is sent.

CODE(S)	DESCRIPTION
Cn	Set Flashing rate in HZ, where n is the HZ rate from 1 to 3
Ennnnnn	Set Time where nnnnnn is the time in hhmmss format, 24 hour time
Fnnnnnn	Set Date where nnnnnn is the date in mmddyy format.
Maa bb cc dd ee ff gg	Set a time event for a message. 'aa' is the slot number, from 00 to 31. 'bb' is the month of activation (99 for everyday), 'cc' is the day of activation, 'dd' is the year of activation, 'ee' is the hour of activation (99 to delete this slot), 'ff' is the minute of activation, 'gg' is the message number to activate (01 to 32)
Hn	Set Scroller speed, where n is 0 to 3, 0 being the fastest
Xaaa bb c	Set the configuration, where 'aaa' is the new sign address, 'bb' is the new width of sign in characters, 'c' is the baud rate from 0 to 7, representing 150,300,600,1200,2400,4800,9600,19200 baud. This configuration will not take place until the unit has power-

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cycled.

Label Definitions:

The following page shows some commonly used labels and their definitions.

LABEL	DEFINITION
RX+	Positive side of balanced data line for RS-232 serial input signals
RX-	Negative side of balanced data line for RS-232 serial input signals
TX+	Positive side of balanced data line for RS-422 or RS-485 serial output signals
TX-	Negative side of balanced data line for RS-422 or RS-485 serial output signals

WARNING – SHOCK HAZARD

Always completely disconnect power from the display before opening the unit. Do not reapply power to the display until the unit has been securely closed.

Service:

There are no parts in your unit classified as 'user serviceable' parts. The plastic or glass cover can be cleaned using a soft cloth and a gentle glass cleaning solution.

Warranty:

The standard warranty for all products is one year on all parts and labor at our facilities. All products are designed and manufactured by Electronic Displays Inc. If you need assistance, please call or FAX us and we will be happy to provide technical assistance. If you feel that your unit needs repair, please call us first and then ship the unit to:

Electronic Displays Inc.
135 South Church Street
Unit A
Addison, Ill. 60101
Attn: Repair department

Telephone # **630-628-0658**
FAX # **630-628-0936**