BETAbrite

Director™

Programming Manual

For all
BetaBrite
Director signs
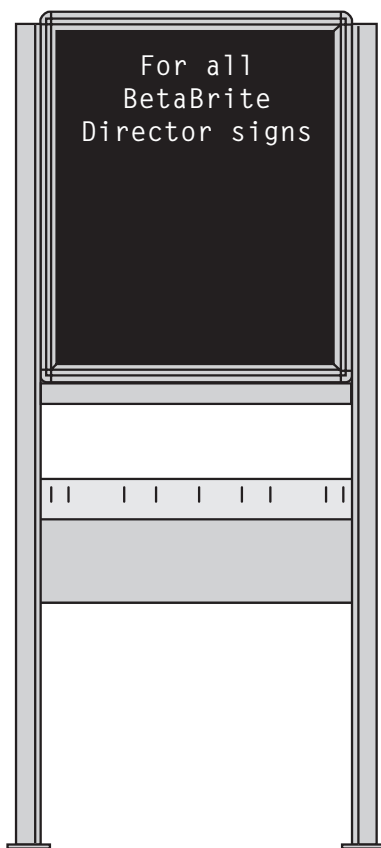
ADAPTIVE

NOTE: Due to continuing product innovation, specifications in this document are subject to change without notice.

Visit us at our Internet World Wide Web site:

http://www.betabrite.com or e-mail us at betabrite@ams-i.com

Contents

Warranty

Adaptive Micro Systems, Inc. warrants to the original purchaser that the sign, keyboard and power supply will be free of defects in workmanship and materials for a period of one year from the date of purchase.

Adaptive Micro Systems, Inc. will without charge, repair or replace, at its option, defective product or component parts upon delivery to the factory service department accompanied by proof of the date of purchase in the form of a sales receipt.

This warranty does not apply in the event of any misuse or abuse of the product, or as a result of any unauthorized repairs or alterations. This warranty does not apply if the serial number is altered, defaced or removed from the sign. Incandescent lamps used in incandescent products are not covered by this warranty.

The purchase price of this product does not include, from Adaptive Micro Systems, Inc., any on-site support, service or maintenance.

Local ordinances prohibiting the use of flashing signs may exist in some locations. Compliance with local ordinances is the sole responsibility of the customer.

To obtain warranty coverage, this product must be registered. Please complete the enclosed warranty registration card and mail it to Adaptive Micro Systems, Inc.

How to obtain warranty service

1. Contact the distributor from whom the sign was purchased. If you do not know where the product was purchased, contact Adaptive Micro Systems Customer Service at 414-357-2020.
2. If the distributor cannot service the product, obtain a Return Merchandise Authorization (RMA) number through that company. An RMA number is required to obtain warranty service.
3. Fill out the Return Merchandise Authorization (RMA) Form on the following page. To obtain warranty service, this form including the RMA number must accompany the product.
4. Follow return instructions on the RMA form to return to Adaptive Micro Systems, Inc.

Return Merchandise Authorization (RMA) Form

RMA Number: _____

Date of Purchase: _____

Company Name: _____

Contact Person: _____

Address: _____

_____

Phone Number: _____

Fax Number: _____

Description of Problem: _____

_____

_____

_____

_____

Return Instructions

1. Obtain an RMA number from your distributor.
2. Fill out this form and include proof of purchase receipt if product is under warranty.
3. Pack this form, the sign, keyboard and transformer in the original carton (or a suitable replacement). Please write the RMA number on the outside of the package. Any damage to the product during shipment is the responsibility of the freight company or the owner of the sign.
4. Ship the package, **postage/shipping prepaid** to:

> Adaptive Micro Systems, Inc.
> Attn: RMA No. _____
> 7840 North 86th Street
> Milwaukee, WI 53224

PLEASE WRITE THE RMA NUMBER ON THE LABEL OF THE SHIPPING BOX. THANK YOU.
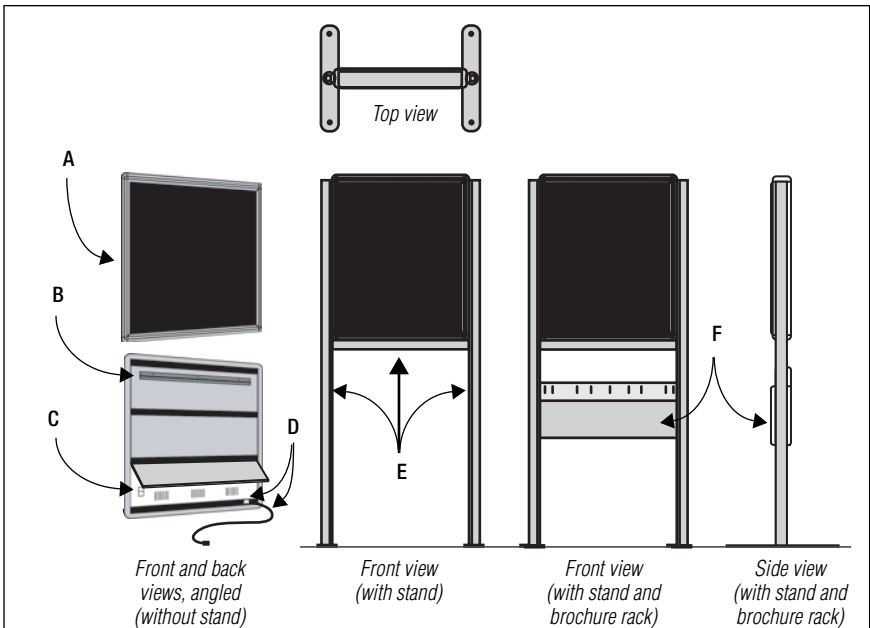
Installation and setup

The Director is an indoor LED sign that can display up to eight 16-character rows of text. The sign is capable of storing up to 26 "pages", or screens, of text information.

The sign can either be hung from a wall or mounted on a stand. When mounted on a stand, an optional brochure rack can be placed beneath the sign.

Description

Overview

Front and back views, angled (without stand)	*Front view (with stand)*	*Front view (with stand and brochure rack)*	*Side view (with stand and brochure rack)*

Item	Name	Comments
A	Director	LED sign
B	Mounting bracket	This is a factory-installed option if the sign is to be wall-mounted. (The mating bracket for the wall must be user-installed.)
C	RS232/RS485 jacks	The sign's bottom panel tips up to expose the RS232/RS485 jacks used to connect the sign to a computer. (See page 13.)
D	Electrical socket and cable	See "Technical specifications" below.
E	Floor mount stand with crossbar	This is a user-installed option if the sign is to be free-standing.
F	Brochure rack	This is an option.

Technical specifications

Power	115/230 VAC, 150 W, 50/60 Hz
Dimensions	22.5L x 3.12D x 27H (57.2L x 7.9D x 68.6H cm) without brochure rack and stand
	27L x 18D x 61H (68.6L x 45.7D x 154.9H cm) with brochure rack and stand
Weight	31.1 lbs. (14.1 kg) without brochure rack and stand
	46.5 lbs. (21.1 kg) with brochure rack and stand

EMI compliance

This equipment has been tested and found to comply with the limits for a Class A digital Device, pursuant to Part 15 of the FCC Rules. These limits are designated to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Assembling the Director

⚠ WARNING

Hazardous voltage.
Contact with high voltage may
cause death or serious injury.
Always disconnect power
to sign prior to servicing.

⚠ WARNING

Fasten sign to floor.
Otherwise sign may tip over
causing serious injury
or death.

NOTE: Do NOT use the Director outdoors because water and dust
will damage the sign.

NOTE: Because of its size and weight, the Director should be
assembled by <u>two</u> people.

Setting the RS232/RS485 jumper

Using the directions that follow, be sure the jumper in the Director is set as needed:

| To connect a sign to…	set the jumper to…
one computer	RS232
a sign network	RS485

1. Remove power from the sign.

2. Remove one screw from each of the L-brackets holding the sign's cap.

3. Lift up and remove the cap.

4. Pull up and remove the clear plastic lens on the sign's front.
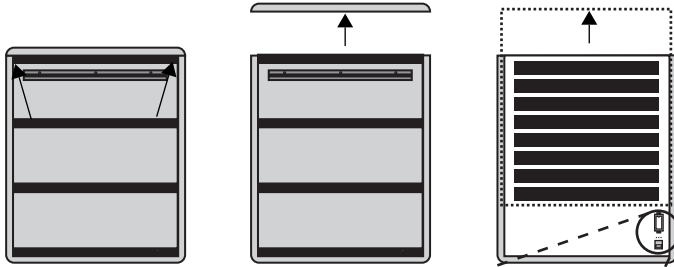
5. To remove the jumper, grasp it with needle-nosed pliers and gently pull it out.
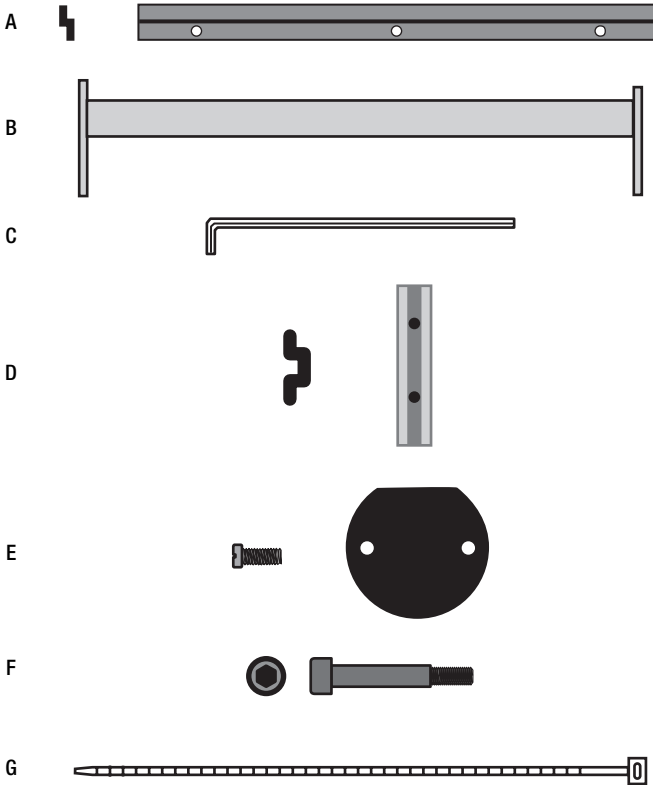
Place it on the 2 *left* posts for RS232, as shown here.

Place it on the 2 *right* posts for RS485.
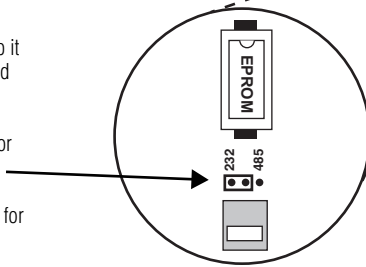
6. Replace the plastic lens on the sign's front, being careful not to catch any wires.

7. Replace the sign's cap and L-brackets and then re-apply power to the sign.

Assembly parts

These are in addition to the primary components shown on page 1.
These are not drawn to scale.

| Part	Quantity	Component
A	1	Wall-mounting bracket, end view and face view
B	1	Crossbar
C	2	Hex (Allen) wrench: 1 smaller and 1 larger
D	2	Safety stop block, end view and face view
E	4 2	3/8" long Phillips screw and Post cap
F	4	Shoulder bolt for optional brochure rack, end view and side view (3/4" shoulder, 1-5/16" total length)
G	3	Tie wrap

How to mount a Director on a wall

1. Make sure a mounting bracket is attached to the back of the sign:

Mounting bracket,
factory-installed

Electric socket
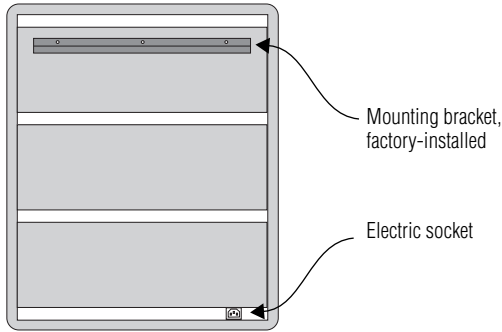
2. Attach the wall-mounting bracket (supplied) to a wall. Then
   hang the sign from this bracket.

   NOTE: Only hang the Director from a wall capable of
   supporting 116 pounds (52.5 kg). Use fasteners (not
   supplied) also capable of supporting 116 pounds.

Attach a wall mounting
bracket to a wall

To mount the sign, interlock
the two brackets.
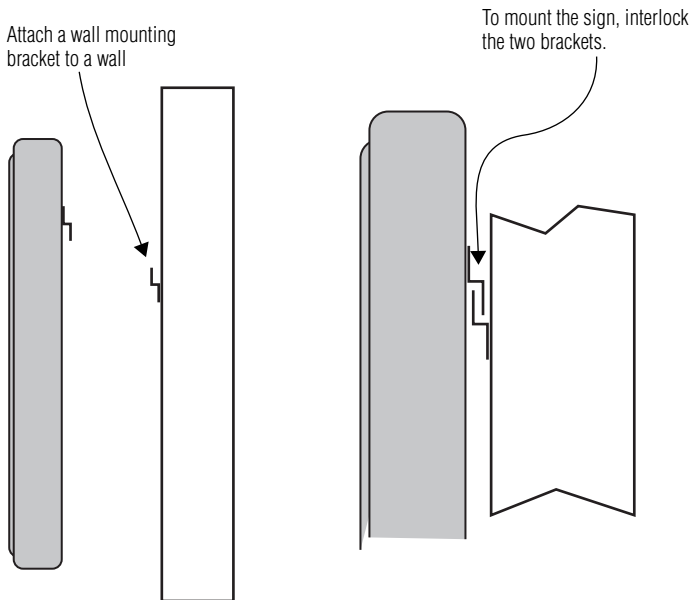
3. Plug the power cord into the sign and route it from the sign in
   such a way that it is not in an area where people will be walking.
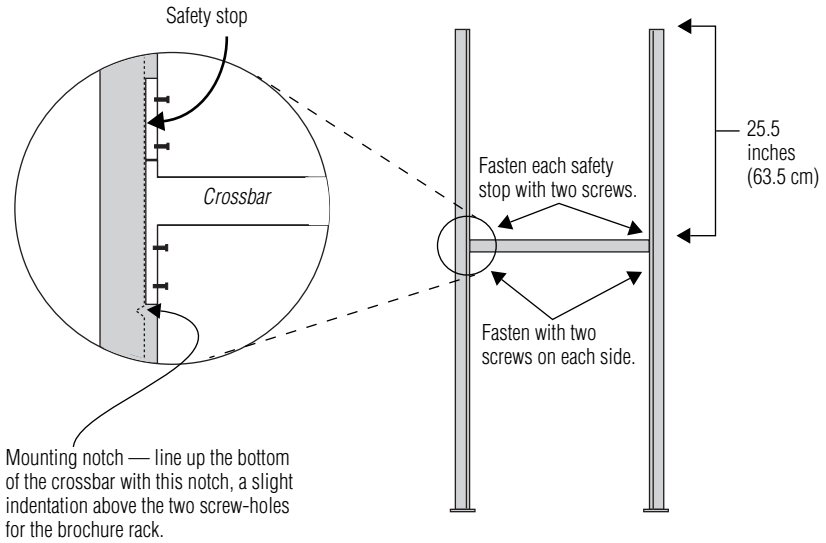
How to mount a Director on a stand

1. Lay the two mounting poles for the stand on a flat surface. Slide the crossbar down the channels on the mounting poles.

Crossbar, long ends pointed down

Channels
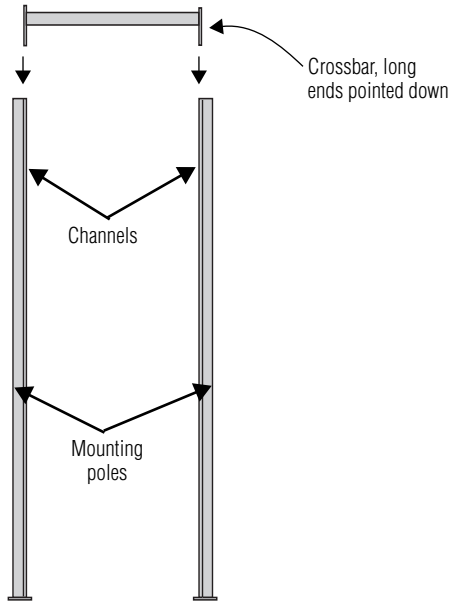
Mounting poles

2. Slide a safety stop down each channel:

Safety stops
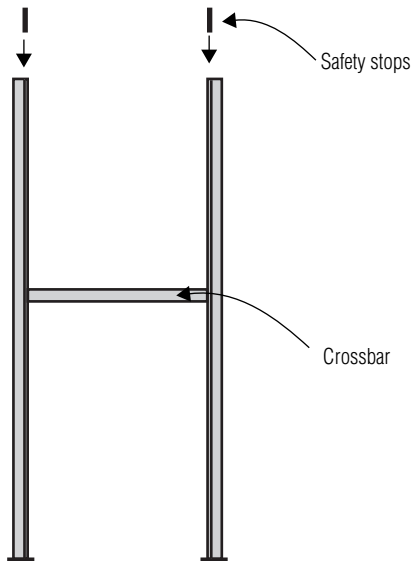
Crossbar

3. Use the smaller Allen/hex wrench to tighten the crossbar to each mounting pole with the four pre-installed set screws. Then use the same wrench to tighten each safety stop with its two set screws, also pre-installed in each:

Safety stop

Crossbar

Fasten each safety stop with two screws.

25.5 inches (63.5 cm)

Fasten with two screws on each side.

Mounting notch — line up the bottom of the crossbar with this notch, a slight indentation above the two screw-holes for the brochure rack.

NOTE: Screws should be securely tightened.
(18 to 20-inch/pounds of torque recommended).

4.   Place each of the sign's mounting brackets in a channel on each mounting pole. Then slide the sign down until it rests on the safety stops. Finally, attach the post caps onto the tops of the mounting poles using two of the 3/8″ Phillips screws supplied for each.

Post caps

Mounting brackets
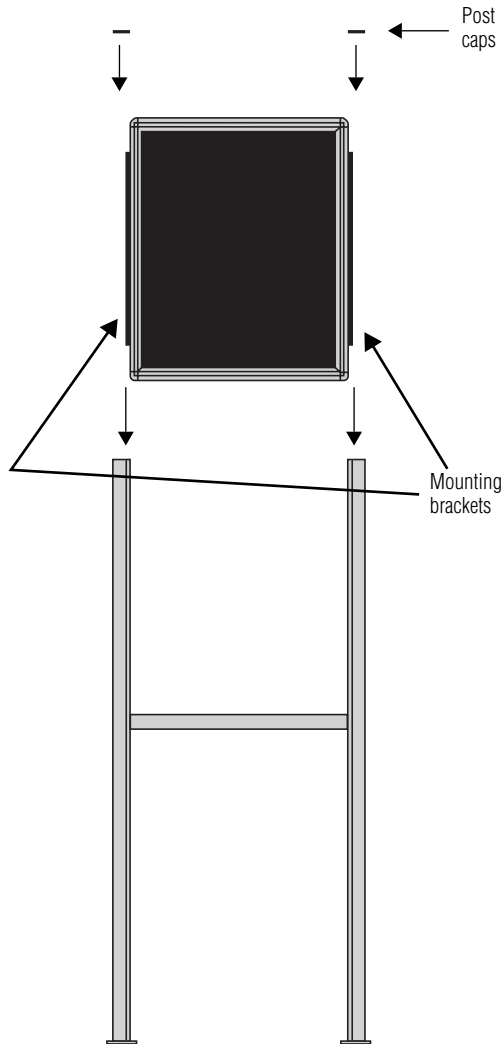
5. Fasten the sign to the floor using four bolts or screws (not supplied) in the locations shown below:
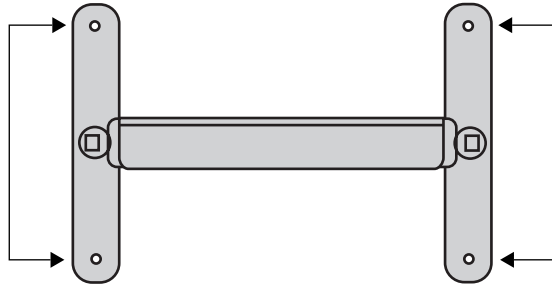
Top view of sign

6. Plug the power cord into the back of the sign. Route the cord from the sign in such a way that it is not in an area where people will be walking.

Run the power cord along one of the mounting poles.

Use the 3 supplied cable ties to fasten the power cord to the mounting pole. Cut off excess cable tie length.

Fasten the power cord to the floor in such a way (e.g., tape) as to prevent someone from tripping over the cord.

Cable ties

Power cord
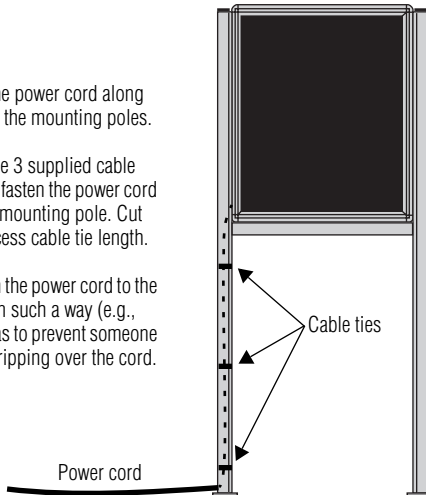
Completed assembly of sign
Shown without the optional brochure rack

### *How to attach the brochure rack to a BetaBrite Director (optional)*

1. Using the larger Allen/hex wrench, attach the four shoulder bolts to the legs of the sign:

Attach two
shoulder bolts
on each leg.
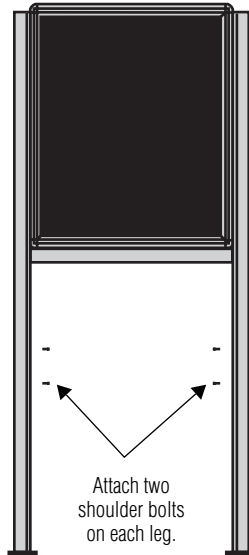
2. Slip the plastic brochure rack over the four shoulder bolts. Then push the brochure rack down to secure it in place.
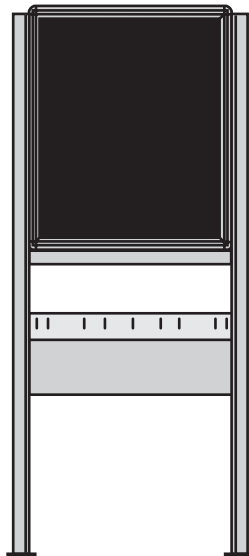
3. Use the supplied plastic dividers as needed in the brochure rack to adjust for different sizes of literature.
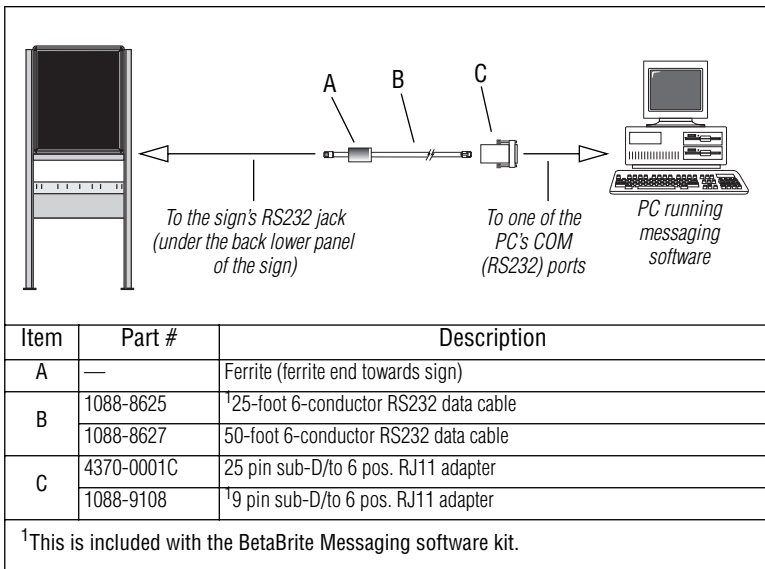

Dividers
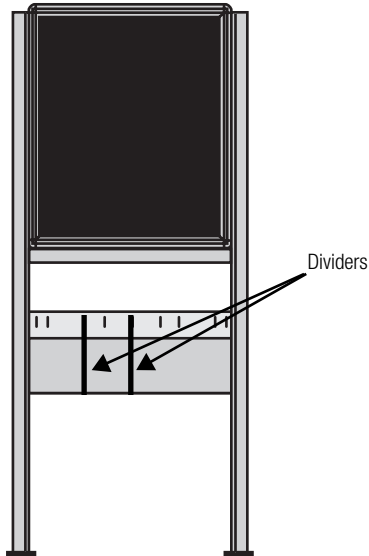
Connecting signs to a computer

Connect the sign to a computer (as follows) in order to send messages to the sign using that computer running Adaptive messaging software. For a list of valid software, see "Sending messages to the Director" on page 14.

Connecting a single sign to a computer

1. Remove power from the sign.

2. Be sure the sign's internal RS232/RS485 jumper is set to *RS232*. (See "Setting the RS232/RS485 jumper" on page 4.)

3. Connect a personal computer to the sign as shown:

To the sign's RS232 jack
(under the back lower panel
of the sign)

To one of the
PC's COM
(RS232) ports

PC running
messaging
software

Item	Part #	Description
A	—	Ferrite (ferrite end towards sign)
B	1088-8625	[1]25-foot 6-conductor RS232 data cable
B	1088-8627	50-foot 6-conductor RS232 data cable
C	4370-0001C	25 pin sub-D/to 6 pos. RJ11 adapter
C	1088-9108	[1]9 pin sub-D/to 6 pos. RJ11 adapter
[1]This is included with the BetaBrite Messaging software kit.		

Connecting multiple signs into a network

For this type of networking, the sign's internal RS232/RS485 jumper must be set to *RS485*. (See "Setting the RS232/RS485 jumper" on page 4.)

Because there is such a wide variety of ways (e.g., LAN, wireless, etc.) to connect networked signs, see the **Network Configurations** manual, PN 9708-8046, for more information.

You may wish to assign a unique serial address to a sign. This allows you to send messages to that particular sign when located on a network with other signs. See "Setting a sign's serial address" on page 24 for details.

Sending messages to the Director

Messages can be sent to the Director signs with either of two methods.

One way is to use messaging software:

- BetaBrite Messaging Software
- Alpha Messaging Software
- AlphaNET *plus*
- Smart Alec
- ActiveX

This user manual does not discuss usage of messaging software. Please refer to the specific software manual for more information.

The other way messages can be sent to the Director signs is by using the hand-held Remote Control. This method is discussed in "Beginning text messaging" on page 26 and "Advanced text messaging" on page 40 of this manual.

Basic sign operation

Using the Remote Control

The Remote Control is a hand-held keyboard which emits infrared light and is used to program a sign. The Remote Control needs four AAA batteries to operate. They should be installed in the back of the control.

The Remote Control can be used to turn a sign on/off or to set its serial address. It can also be used to set its time and date and to clear memory.

However, the Remote Control's most important—and most used— purpose is the creation of text messages and graphic images on a sign.

To show you how to use the Remote Control, this manual presents practical, everyday examples.

NOTE: A sign (or a network of signs) can also be programmed using a personal computer and special software. (See the document **Network Configurations**, PN 9708-8046, and your messaging software user manual for more detailed information.)

Point this end 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.

Use one of the **SHIFT** keys to access these white functions (like **TIME**) . . .

. . . and these white characters (like **#** and **!**).

To turn the sign off or on, hold down **SHIFT** and then press **PROGRAM**.
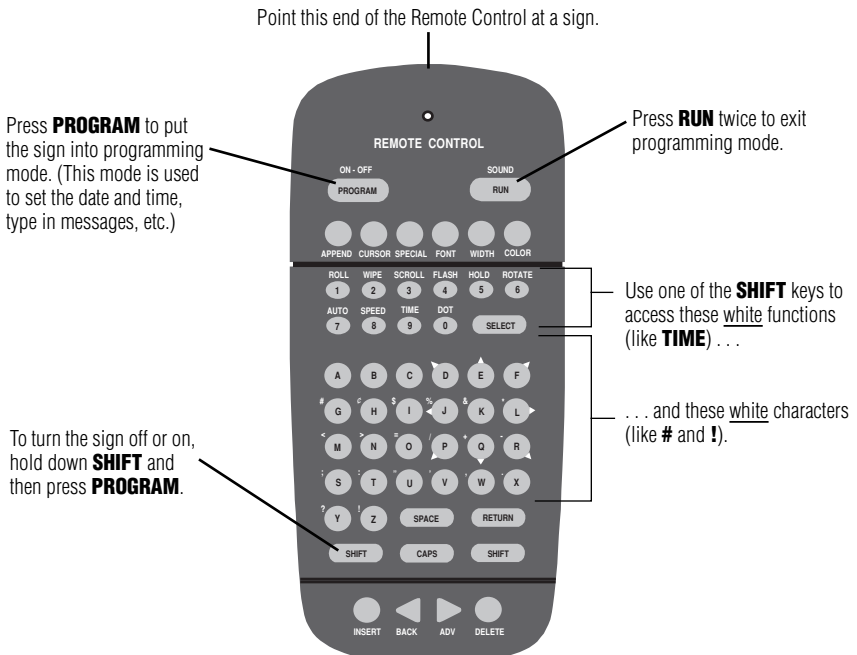
Figure 1: Infrared (IR) Remote Control keyboard

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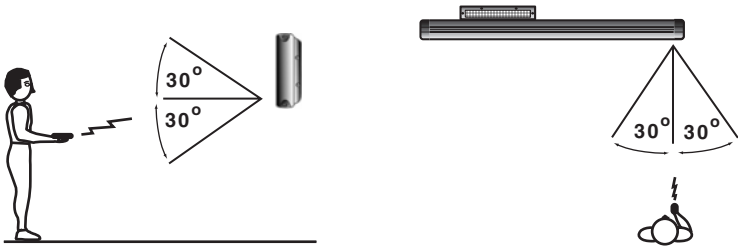
If a sign is this far from the floor...	...then hold the Remote Control this far away:
10 feet	from 10 to 30 feet
15 feet	from 19 to 30 feet
20 feet	from 25 to 30 feet

Figure 2: Using the Remote Control with a sign

Turning a sign on and 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.
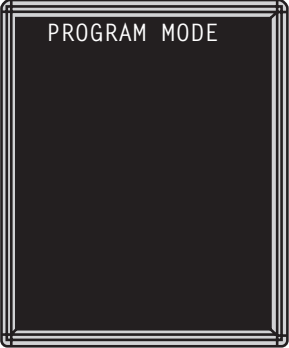
> NOTE: Messages that you have programmed into the sign will *not* be lost when you turn a sign off. Messages will be retained for up to 30 days if the sign is not powered.

When you turn a sign on, information similar to the following will be displayed:

```
1022-6414A
LD016008P02TRI
```
— Version of firmware and model number of the sign.

```
Copyright 2001
```

```
Adaptive Micro
```

```
Systems, Inc.
```
— Copyright notice

```
64K RAM
```
— Total amount of RAM in the sign.

```
FRIDAY
3:12 PM
```
— The day and time set in the sign.

```
FEB. 23, 2001
```
— The date set in the sign.

```
SERIAL ADDRESS =
00
```
— Serial address of the sign (typically a number from 00 to 99).

This number is used to provide a unique identity to a sign on a network.
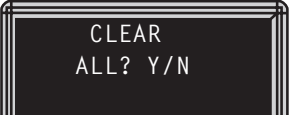
Setting a sign's time and date

Once set, a sign will remember the time and date for up to 30 days even if the sign is unplugged or interrupted by a power loss. This is because it is equipped with a battery-backed real-time clock.

Step	When you do this...	You see this...
1	Press **PROGRAM**.	PROGRAM MODE THEN PAGE A MODE: [AUT] SPEED:[SP4]
2	Press **BACK** until SET TIME AND DAY appears.	SET TIME AND DAY
3	Press **ADV.**	SET W/ D,H&M TUESDAY 3:54 PM

4	Press **D** to set the day of the week.
	Press **H** to set the hour.
	Press **M** to set the minute.
	
	NOTE: Press **SELECT**, to change from 12-hour (AM/PM) to 24-hour mode (0 - 23).
		```SET W/ D,H&M```
		```TUESDAY```
		```3:54 PM```

5	Press **BACK** until SET DATE appears.	``` SET``` ``` DATE```

6	Press **ADV**.	```SET W/ D,M,& Y```
		THEN
		```APR. 15, 2001```

7	Press **D** to set the correct day. Press **M** to set the month. Press **Y** to set the year. NOTE: Press **SELECT** to display the date in different formats—for example, JAN 26, 2001 or 1/26/01, or 26/1/01, etc.	```APR. 15, 2001```
8	After setting the date and time, press **RUN** twice to return to normal operation.	

Clearing a sign's memory

NOTE: Clearing a sign's memory erases the password and <u>all</u> messages that have been programmed into the sign.

Step	When you do this...	You see this...
1	Press **PROGRAM**.	PROGRAM MODE THEN PAGE A MODE: [AUT] SPEED:[SP4]
2	Press **BACK** until CLEAR MEMORY appears.	CLEAR MEMORY
3	Press **ADV.**	WARNING ******* THEN CLEAR ALL? Y/N
4	Press **Y** to clear the sign's memory. The sign will return to normal operation and display a series of demo messages.	
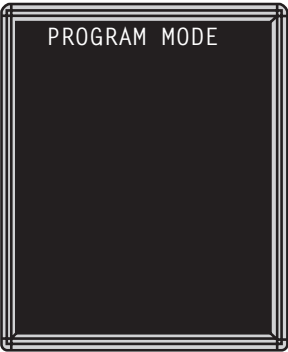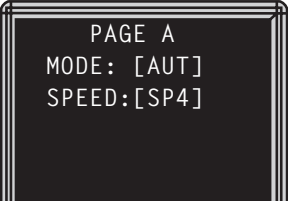
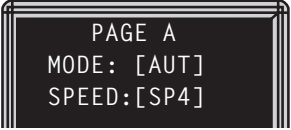## *Setting a sign's password*

You can set a personal password to protect your messages from tampering by others.

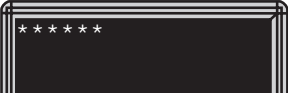NOTE: DON'T FORGET YOUR PASSWORD! If you do, you won't be able to operate the sign.

However, *if you do forget the password*, see "What to do when you forget a sign's password" on page 23.

How to set a password

Step	When you do this...	You see this...
1	Press **PROGRAM**.	PROGRAM MODE THEN PAGE A MODE: [AUT] SPEED:[SP4]
2	Press **BACK** until SET PASSWORD appears.	SET PASSWORD
3	Press **ADV**.	PASSWD Y/N

4	Press **Y** to set a password.	ENTER 6 CHAR
5	Type a 6-character password. (Only asterisks will appear on the sign as you type.) Re-type the password when prompted. CORRECT will appear if you entered the same password. If you failed to type the same password, ERROR will appear, and you'll have to start over from Step 1.	* * * * * * THEN RE-ENTER THE 6 THEN CORRECT THEN PAGE A MODE: [AUT] SPEED:[SP4]
6	Press **RUN** twice.	PASSWORD RUN? Y/ N
7	Press **Y** to password protect the sign. NOTE: If you select **N**, then a password will not be needed when you press **PROGRAM**.	SECURE THEN The sign will return to normal operation. Now, whenever you press **PROGRAM**, you'll have to type the password you just entered.

What to do when you forget a sign's password

Step	When you do this...	You see this...
1	Press **PROGRAM**.	ENTER PASSWORD
2	Hold down **SHIFT** and press **L** six times.	* * * * * * THEN PAGE A MODE: [AUT] SPEED:[SP4]
3	Enter a new password. (See "Setting a sign's password" on page 21.)	

How to delete a sign's password

If you no longer want to be prompted to password protect a sign, you must clear the sign's memory in order to delete the password. To do this, see "Clearing a sign's memory" on page 20.
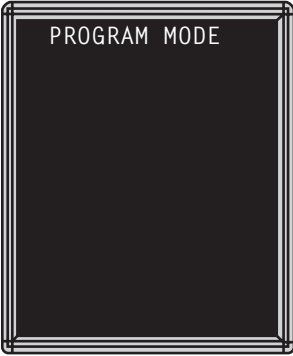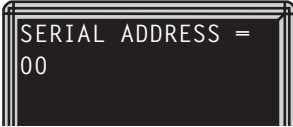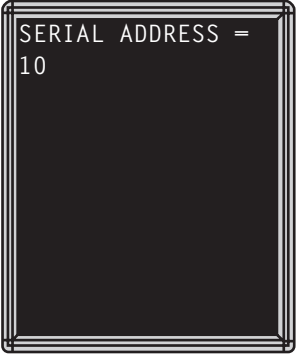
Using the Remote Control's sound control

Normally, whenever you press a Remote Control key, the sign will beep. This lets you know that an action has been performed. To turn this feature off (or on again), hold down **SHIFT** and press **RUN**.

Setting a sign's serial address

The serial address is a number that you can assign to a sign. Typically this feature would be 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**, PN 9708-8046, for more detailed information on networking signs.

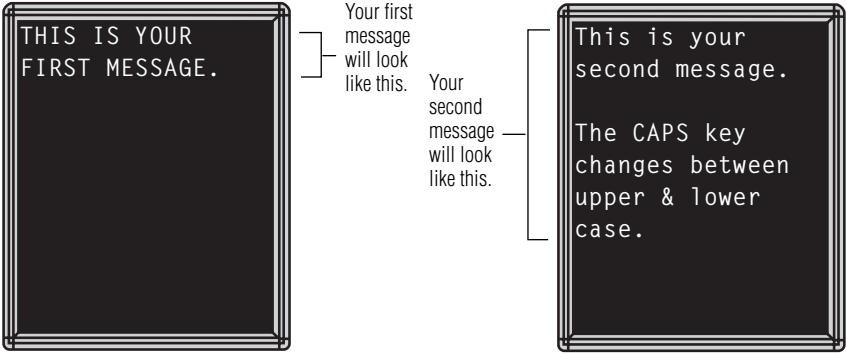| Step	When you do this...	You see this...
1	Press **PROGRAM**.	PROGRAM MODE
2	Press **BACK** until SET SERIAL ADDRESS appears.	SET SERIAL ADDRESS
3	Press **ADV**.	SERIAL ADDRESS = 00

4	Type a number, like *10*. NOTE: A serial address is actually a number from 0 to 255 in *hexadecimal* (00 to FF). However, in typical use entering a number from 00 to 99 is fine. NOTE: When a sign leaves the factory, its serial address is set to 00.	SERIAL ADDRESS = 10
5	Press **RUN** twice to set the new serial address and return the sign to normal operation.	

Beginning text messaging

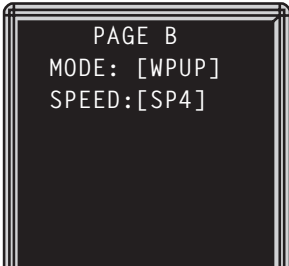This section shows you how to start creating messages on your sign.

Example 1 — Using upper and lowercase text
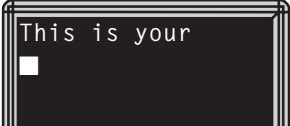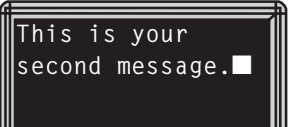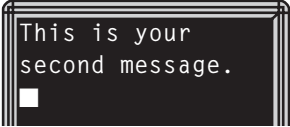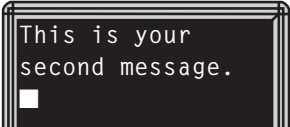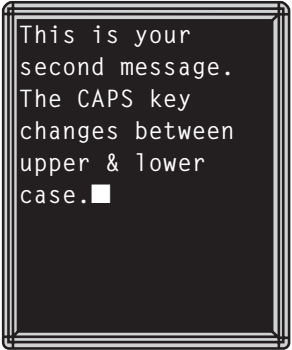
In this first example, you'll display the following text on the sign:

```
THIS IS YOUR
FIRST MESSAGE.
```

Your first message will look like this.

Your second message will look like this.

```
This is your
second message.

The CAPS key
changes between
upper & lower
case.
```

Step	When you do this...	You see this...
1	Press **PROGRAM**.	MODE allows you to use a special effect, like flashing, on a message. In this case, Automode [AUT] is used. To change MODE, hold down **SHIFT** and press either **2** (WIPE), **4** (FLASH), **5** (HOLD), or **7** (AUTO). SPEED controls how fast a mode changes. To change SPEED, hold down **SHIFT** and press **8**. [SP5] is the fastest speed and [SP1] is the slowest. [NHL] means "no hold". `PAGE A` `MODE: [AUT]` `SPEED:[SP4]`
2	Press **ADV.**	Blinking cursor

3	Type *THIS IS YOUR* NOTE: If you make a mistake while typing, press **BACK** to erase a letter.		THIS IS YOUR■
4	Press **RETURN** to start on the next line.		THIS IS YOUR ■
5	Type *FIRST MESSAGE*. NOTE: To create the period (.), hold down **SHIFT** and press **X**.		THIS IS YOUR FIRST MESSAGE.■
6	Press **RUN** to display your first message.	Because Automode [AUT] was used, the message will appear in different colors.	THIS IS YOUR FIRST MESSAGE.
	Here's how to create the second message:		
7	Press **PROGRAM**.		PAGE A MODE: [AUT] SPEED:[SP4]
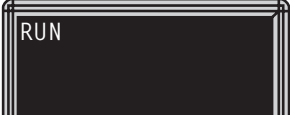
8	Press **B** to switch to PAGE B.	Your second message will be created in PAGE B. (Your *first* message is still in PAGE A. You can create up to 26 separate messages using pages A through Z.) →	PAGE B MODE: [AUT] SPEED:[SP4]
9	Hold down **SHIFT** and then press **2** for WIPE.	PAGE B MODE: [WPUP] SPEED:[SP4]	← WPUP = wipe up. If you hold down **SHIFT** and press **2** again, the MODE would change to WPDN (wipe down). You can also select wipe left and wipe right.
10	Press **ADV**		
11	Press the round **COLOR** key until the cursor color stays green.		
12	Type *T*	T▪	
13	Press **CAPS** to change to lowercase text. Then type *his is your*	All these characters in this line should be <u>green</u>. →	This is your▪
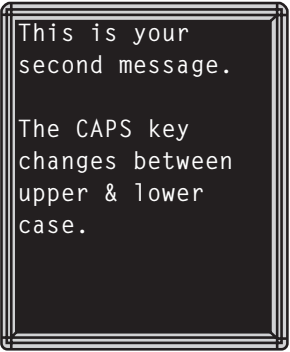
14	Press **RETURN** to go to the next line.	This is your ■
15	Press the round **COLOR** key until the cursor color stays red.	This is your ■
16	Type *second message*.	All these characters in this line should be red. → This is your second message.■
17	Press **RETURN** to go to the next line.	This is your second message. ■
18	Press the round **COLOR** key until the cursor color stays amber.	This is your second message. ■
19	Using **CAPS**, **SHIFT**, and **RETURN** when necessary, type the following: *The CAPS key changes between upper & lower case.* NOTE: The ampersand (&) is made by holding down **SHIFT** and pressing **K**.	All these characters in these lines should be amber. — This is your second message. The CAPS key changes between upper & lower case.■

		Here's how to insert a blank line between the two sentences above:	
20	Hold down **SHIFT** and press **E** to move the cursor up one line. Repeat this until the cursor is over the A in CAPS.		This is your second message. The C█PS key changes between upper & lower case.
21	Press **INSERT** to create a blank line.	Use **INSERT** to create blank lines between text. (Use **DELETE** to remove blank lines.)	This is your second message. █ The CAPS key changes between upper & lower case.
22	Press **RUN** to see the message.	Notice that only the second message (PAGE B) is displayed. In the next example, you'll see how to display multiple messages instead of just one.	This is your second message. The CAPS key changes between upper & lower case.

Example 2 — Displaying messages in PAGE name order (A, B, C, etc.)

Once you've programmed messages into the sign, you may want to set the order or sequence in which messages appear. This method will display messages by their PAGE name (A, B, C, etc.) in the order you set (C, A, B, for example.) If you do not set the sequence, the messages will appear in alphabetical order.
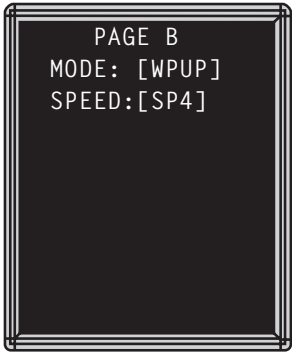
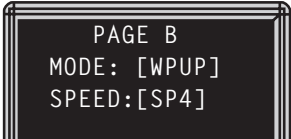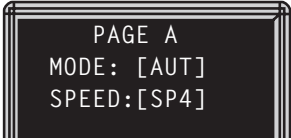| Step	When you do this...	You see this...
	This example continues where Example 1 left off. This example assumes that there are two messages (PAGE A and B) in the sign.	
1	Press **PROGRAM**.	Since we're continuing from Example 1, this would appear on the sign. **PAGE B / MODE: [WPUP] / SPEED:[SP4]**
2	Press **RUN**.	DEMO or RUN may also appear here. → **TIM** TIM = used to display messages in time order DEMO = displays a set of demonstration messages. RUN = used to display messages by PAGE order (A, B, C, etc.)
3	If *RUN* appears on the sign, go to the next step. Otherwise, press **SELECT** until *RUN* appears.	**RUN**

4	Press **B** and then **A**	This will be the order (PAGE B, then PAGE A) in which messages are displayed on the sign.	RUN BA
5	Press **RUN**.	PAGE B message PAGE A message	This is your second message. The CAPS key changes between upper & lower case. THIS IS YOUR FIRST MESSAGE. These two messages will keep being displayed in this order until a new PAGE order or a new message is entered.

Using this method, you can program the order
of some or all of the messages you've entered on a sign.

Example 3 — Displaying messages in time order

In Example 2, you set the order of messages by PAGE letter (A, B, C, etc.). However, that method could not specify an <u>exact</u> time when a message would appear.

In this example, we'll show you how to make a message start and stop at times you specify.

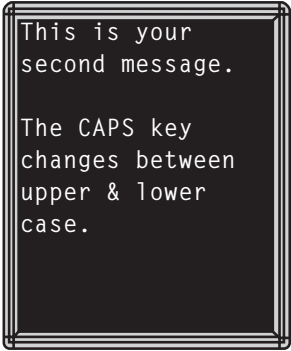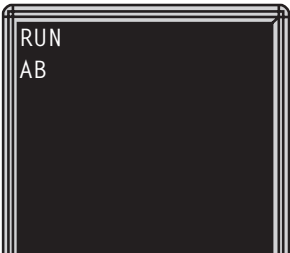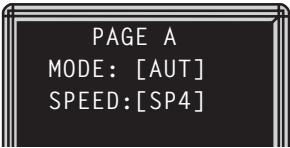| Step	When you do this...	You see this...
	For this example, make sure that your sign's internal clock has been accurately set. (See "Setting a sign's time and date" on page 18.) This example continues where Example 1 left off. This example assumes that there are two messages (PAGE A and B) in the sign. In this example, we'll program the sign to display the message in PAGE A on Monday through Friday from 1:20 PM to 1:30 PM. We'll program the sign to always display the message in PAGE B.	
1	Press **PROGRAM**. (If PAGE B does not appear, press **B** to display it.)	Since we're continuing from Example 1, this would appear on the sign. ``` PAGE B MODE: [WPUP] SPEED:[SP4] ```
2	Hold down **SHIFT** and press **9** for **TIME**.	*ON ALWAYS* is the default setting for a message. A message set to *ON ALWAYS* will run continuously. ``` TEXT B ON ALWAYS ``` Since PAGE B is already set up, we'll go on to PAGE A.
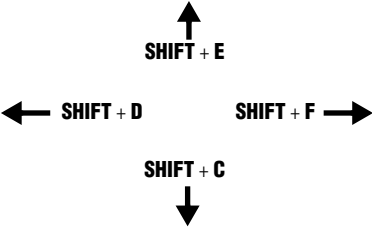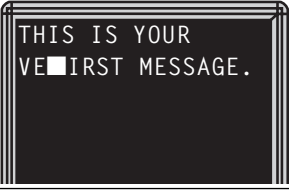
3	Press **RUN** twice. Then press **PROGRAM**.	PAGE B MODE: [WPUP] SPEED:[SP4]
4	Press **A**.	PAGE A MODE: [AUT] SPEED:[SP4]
5	Hold down **SHIFT** and press **9** for **TIME**.	TEXT A ON ALWAYS
	First we'll set the ON time — or when this message will start on the sign:	
6	Press **D** (for day) until *MO-FR* appears.	TEXT A ON MO-FR 0:00 Press **D** to set the day, **H** for hour, and **M** for minute (in 10-minute increments).
7	Press **H** (for hour) until *13:00* appears.	TEXT A ON MO-FR 13:00 Hours are represented in 24-hour or military style. So 1:00 PM = 13:00, 2:00 PM = 14:00, etc.
8	Press **M** (for minute) until *13:20* appears.	TEXT A ON MO-FR 13:20 Minutes are in increments of 10.
9	Press **SELECT**.	TEXT A OFF MO-FR 0:00 After setting the ON time, we'll select the *OFF* time or when the message stops.
10	Repeat Steps 6, 7, and 8 to set an *OFF* time (in this case,13:30)	
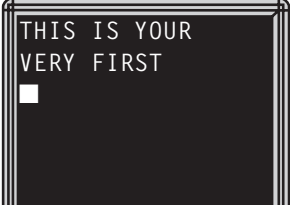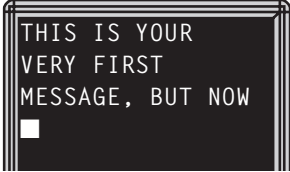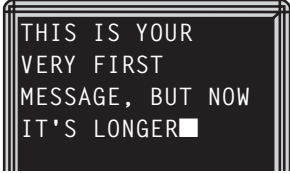
		This message should appear continuously. — **PAGE B** — ``` This is your second message. The CAPS key changes between upper & lower case. ```
11	Press **RUN** twice.	
		This message should only appear <u>between</u> the *ON* and *OFF* times you set. — **PAGE A** — ``` THIS IS YOUR FIRST MESSAGE. ```

Example 4 — Changing the text of an existing message

After typing in a message, you may want to add or remove text from it. The following is an example of this common situation:

Step	When you do this...	You see this...
	This example continues where Example 2 left off. This example assumes that there are two messages (PAGE A and B) in the sign. In this example, we'll change PAGE A to the following: *THIS IS YOUR VERY FIRST MESSAGE, BUT NOW IT'S LONGER*	
1	Press **PROGRAM**.	PAGE A MODE: [AUT] SPEED:[SP4]
2	Press **RUN**. Press **SELECT** until RUN appears. Press **A** and then **B** to set a run sequence. Finally, press **RUN** again.	RUN AB
3	Press **PROGRAM**. (If PAGE A is not displayed, press **A**.)	PAGE A MODE: [AUT] SPEED:[SP4]
4	Press **ADV**.	The cursor should be blinking over the first letter. → ■HIS IS YOUR FIRST MESSAGE.
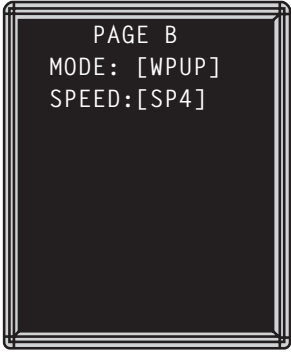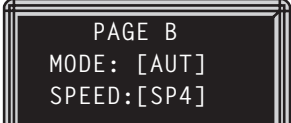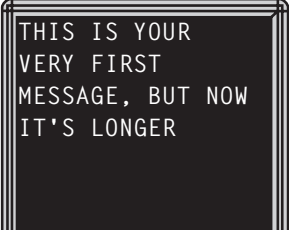
5	Hold down **SHIFT** and press **C** to move the cursor down one line.	How to move the cursor: **SHIFT** + **E** ↑ ← **SHIFT** + **D** **SHIFT** + **F** → **SHIFT** + **C** ↓ THIS IS YOUR ■IRST MESSAGE. The cursor should be blinking over the first letter on the second line.
6	Try to type the word *VERY*	You'll only be allowed to type the first two letters of *VERY*, because there must be enough room in a line to add the characters. THIS IS YOUR VE■IRST MESSAGE.
7	In order to make room for the word *VERY*, you'll have to delete the word *MESSAGE* first. Move the cursor to the end of the word *FIRST* by holding down **SHIFT** and then pressing **F**.	THIS IS YOUR VEFIRST■MESSAGE.
8	Press **DELETE** until the word *MESSAGE* (and the period) is deleted.	THIS IS YOUR VEFIRST■
9	Hold down **SHIFT** and press **D** to move the cursor over the letter *F*.	THIS IS YOUR VE■IRST

10	Finish the word *VERY* by typing *RY* and a space.	THIS IS YOUR VERY ■IRST
11	Hold down **SHIFT** and press **C** to move down one line. Then hold down **SHIFT** and press **D** until the cursor is at the start of the line.	THIS IS YOUR VERY FIRST ■
12	Type *MESSAGE, BUT NOW*	The cursor moves to the next line automatically. Use **SHIFT** + **W** to create a comma.	THIS IS YOUR VERY FIRST MESSAGE, BUT NOW ■
13	Type *IT'S LONGER*	Use **SHIFT** + **V** to create an apostrophe.	THIS IS YOUR VERY FIRST MESSAGE, BUT NOW IT'S LONGER■
14	Press **RUN** to see your message.	THIS IS YOUR VERY FIRST MESSAGE, BUT NOW IT'S LONGER

Example 5 — Deleting messages

To delete <u>all</u> the messages in a sign, see "Clearing a sign's memory" on page 20.
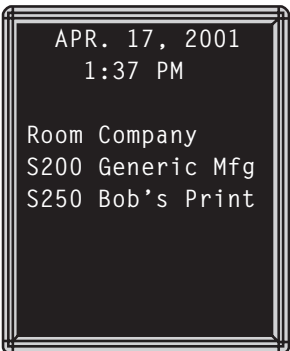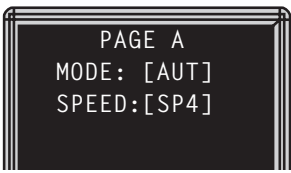
However, if you only want to delete selected messages, then use the method shown in this example.
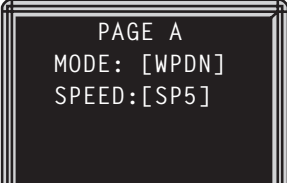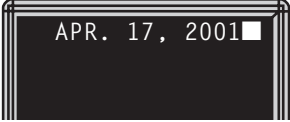
Step	When you do this...	You see this...
	This example continues where Example 4 left off. This example assumes that there are two messages (PAGE A and B) in the sign: PAGE A = *THIS IS YOUR VERY FIRST MESSAGE, BUT NOW IT'S LONGER* PAGE B = *This is your second message. The CAPS key changes between upper & lower case.* In this example, we'll delete the PAGE B message:	
1	Press **PROGRAM**. (If PAGE B is not displayed, then press **B**.)	PAGE B MODE: [WPUP] SPEED:[SP4]
2	Press **DELETE**.	DELETE FILE B Y/N
3	Press **Y** to delete the page.	PAGE B MODE: [AUT] SPEED:[SP4]
4	Press **RUN** twice.	Only the PAGE A message should appear.
		THIS IS YOUR VERY FIRST MESSAGE, BUT NOW IT'S LONGER

Advanced text messaging

Before attempting the following, make sure you're familiar with the previous examples in the "Beginning text messaging" section of this manual.

Example 6 — Displaying the time and date

Step	When you do this...	You see this...
		In this example, we'll create a message that continuously displays the current time and date:

Current date and time (displayed in *amber*)

This will be displayed in *red*.

This will be displayed in *green*.

```
   APR. 17, 2001
      1:37 PM


Room Company
E101 Applied Eng
E200 United Wire
W20  ACME Tool
W130 Adv Maint
```

PAGE A

(The *first* message you'll enter.)

Current date and time (displayed in *amber*)

This will be displayed in *red*.

This will be displayed in *green*.

```
   APR. 17, 2001
      1:37 PM


Room Company
S200 Generic Mfg
S250 Bob's Print
```

PAGE B

(The *second* message you'll enter.)

Step	When you do this...	You see this...
1	Delete all the messages currently stored in the sign. (See "Clearing a sign's memory" on page 20 or "Example 5 — Deleting messages" on page 39.)	
2	Press **PROGRAM**. (If PAGE A is not displayed, just press **A**.)	```PAGE A MODE: [AUT] SPEED:[SP4]```

3	Change the MODE to Wipe Down. Set the message transition speed to its fastest — SP5.	``` PAGE A MODE: [WPDN] SPEED:[SP5] ```	Use **SHIFT** + **2** to change the MODE. Use **SHIFT** + **8** to change the SPEED.
4	Press **ADV**. Press **COLOR** until the cursor always blinks <u>amber</u>. Then press **SPACE** to move the cursor over two spaces.		
	Here's how to put the *date* in the message:		
5	Hold down **SHIFT** and press **0**.	`APR. 17, 2001`	
6	Press **RETURN** to start on a new line. Press **COLOR** until the cursor always blinks <u>amber</u>. Then press **SPACE** four times to move the cursor over.	`APR. 17, 2001`	
	Here's how to put the *time* in a message:		
7	Hold down **SHIFT** and press **9**.	`APR. 17 ,1997` `   1:37 PM`	

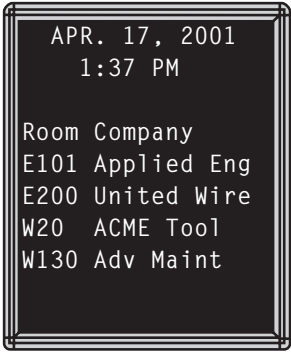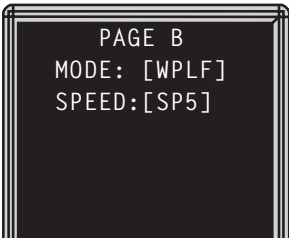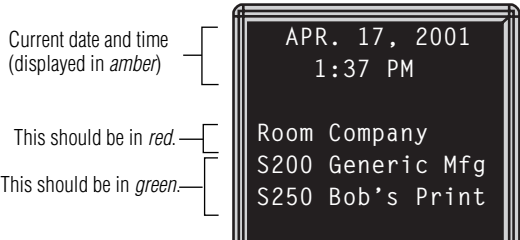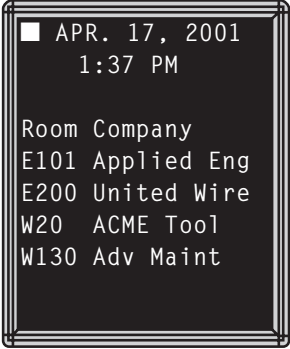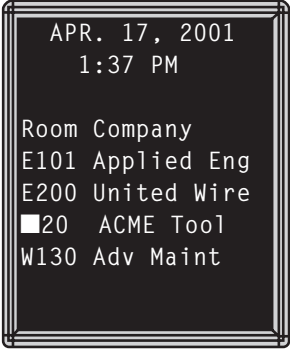|		Now enter the rest of the PAGE A message:	
8	Press **RETURN** twice to skip down two lines. Press **COLOR** until the cursor always blinks red. Using **CAPS** when necessary, type *Room*, a space, and then *Company*	APR. 17, 2001 1:37 PM Room Company■	
9	Press **RETURN** again to start on a new line. Press **COLOR** until the cursor always blinks green. Using **CAPS** when necessary, type *E101*, a space, and then *Applied Eng.* Repeat this process for the remaining lines of text.	APR. 17, 2001 1:37 PM Room Company E101 Applied Eng E200 United Wire W20 ACME Tool W130 Adv Maint	
10	Press **PROGRAM**. Press **B** to go to PAGE B. Change the MODE to Wipe Left [WPLF]. Change the SPEED to the fastest [SP5].	PAGE B MODE: [WPLF] SPEED:[SP5]	Use **SHIFT** + **2** to change the MODE. Use **SHIFT** + **8** to change the SPEED.
11	Press **ADV**.	■	
12	Using what you've just learned, enter the PAGE B message as shown:	Current date and time (displayed in *amber*) This should be in *red.* This should be in *green.*	APR. 17, 2001 1:37 PM Room Company S200 Generic Mfg S250 Bob's Print
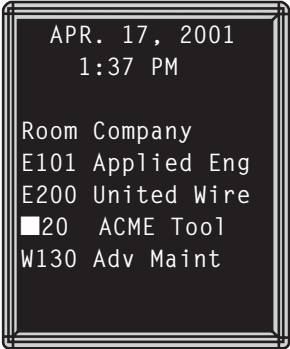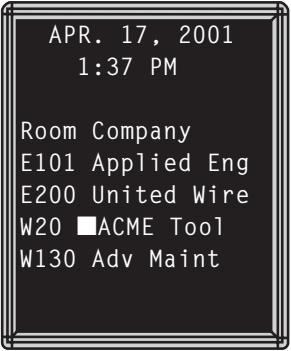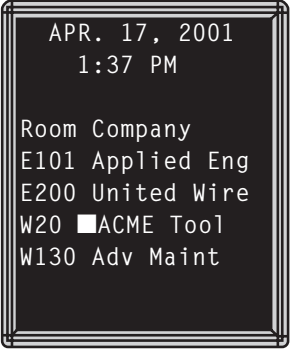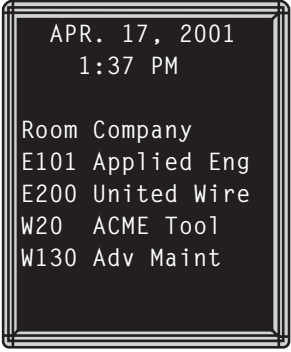
13	Press **RUN**.	TIM
14	Press **SELECT** until RUN appears.	RUN
15	Type **A** and then **B** to set the order in which the two messages will appear.	RUN AB
16	Press **RUN** again to display the two messages.	**PAGE A** message APR. 17, 2001 1:37 PM Room Company E101 Applied Eng E200 United Wire W20 ACME Tool W130 Adv Maint **PAGE B** message APR. 17, 2001 1:37 PM Room Company S200 Generic Mfg S250 Bob's Print

Example 7 — Using the FLASH mode to highlight information

FLASH is a mode that you shouldn't overuse. However, it is very handy if you want to call attention to a single item, like a time or room number, on a page:

Step	When you do this...	You see this...
	In this example, we'll continue from the previous example:	
	To call attention to this room number, we'll make it flash on and off.	APR. 17, 2001 1:37 PM Room Company E101 Applied Eng E200 United Wire W20 ACME Tool W130 Adv Maint
1	Press **PROGRAM**. (If PAGE A is not displayed, then press **A**.)	PAGE A MODE: [WPDN] SPEED:[SP5]
2	Press **ADV**. Since this continues where the last example, left off, this is what should appear for PAGE A.	Blinking cursor ■ APR. 17, 2001 1:37 PM Room Company E101 Applied Eng E200 United Wire W20 ACME Tool W130 Adv Maint

3	Press **A**.	``` ■ APR. 17, 2001 1:37 PM Room Company E101 Applied Eng E200 United Wire W20 ACME Tool W130 Adv Maint ```

4	Hold down **SHIFT** and press **C** until the cursor is over the letter W in W20.	Move the cursor here. ⟶
		``
		   APR. 17, 2001
		   1:37 PM
		
		Room Company
		E101 Applied Eng
		E200 United Wire
		■20 ACME Tool
		W130 Adv Maint
		``

5	Hold down **SHIFT** and press **4** for FLASH.	This entire line should now be flashing. ⟶
		``
		   APR. 17, 2001
		   1:37 PM
		
		Room Company
		E101 Applied Eng
		E200 United Wire
		■20 ACME Tool
		W130 Adv Maint
		``

| 6	Move the cursor to in front of ACME Tool.	Hold down **SHIFT** and press **F** to move the cursor. →	APR. 17, 2001 1:37 PM Room Company E101 Applied Eng E200 United Wire W20 ■ACME Tool W130 Adv Maint
7	Hold down **SHIFT** and press **4**. This turns flashing off for the rest of the line.	Now the only text flashing should be the room number — W20. →	APR. 17, 2001 1:37 PM Room Company E101 Applied Eng E200 United Wire W20 ■ACME Tool W130 Adv Maint
8	Press **RUN** to see the message.		APR. 17, 2001 1:37 PM Room Company E101 Applied Eng E200 United Wire W20 ACME Tool W130 Adv Maint

Example 8 — Using fonts and colors

Fonts are the way characters are displayed on a sign. In the world of printing and publishing, fonts are given names like Times or Helvetica and qualities like serif or sans serif, font size (like 12 point or 14 point), bold or italic, etc.

This sign can display two types of fonts:

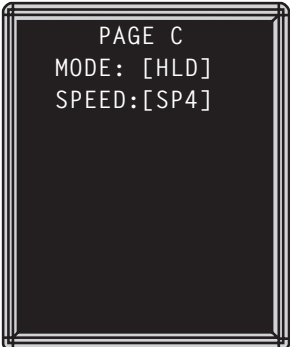Upper- *and* lowercase letters can be used with this font. ⟶ `This is the first font.`

Only upper-case letters can be used with this font. ⟶ `THIS IS THE SECOND FONT`

This is the message we'll create using both of the sign's fonts.

```
     WELCOME!

Hernia Movers
"THE POTENTATE
   OF TOTIN'
    FREIGHT"
```
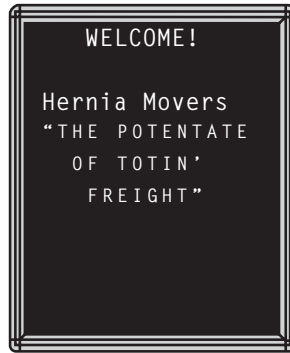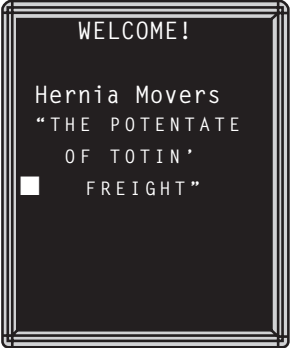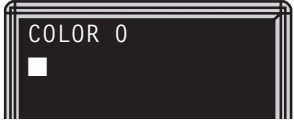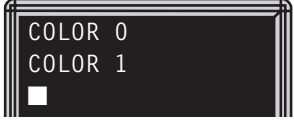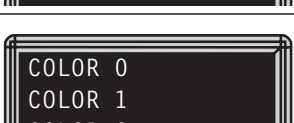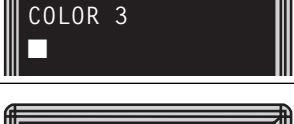
To change from one font to the other, press the **FONT** key.
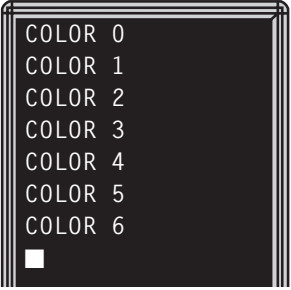
The following examples demonstrate how to use fonts on a sign:

Step	When you do this...	You see this...
1	Press **PROGRAM**. (If PAGE C is not displayed, just press **C**.) Using **SHIFT** + **5**, change the MODE to Hold.	``` PAGE C MODE: [HLD] SPEED:[SP4] ```

2	Press **ADV**.	(display: cursor block top-left)
3	Type in the following message.	WELCOME! Hernia Movers "The potentate of totin' freight"■
4	Move the cursor in front of the *"The potentate* Then press **FONT**.	Pressing **FONT** changes the entire line to a different font. (Pressing **FONT** again would restore the original font.) WELCOME! Hernia Movers ■"THE POTENTATE of totin' freight"
5	Move the cursor in front of the word *potentate* Press **FONT**. All the text after the cursor should change to the other font.	The **FONT** key can be used to change a whole line of text or just a single word. WELCOME! Hernia Movers "THE■potentate of totin' freight"

6	Press **FONT** again to make the whole line the same font. Then position the cursor in front of the remaining lines and change the font of each line.	WELCOME! Hernia Movers "THE POTENTATE OF TOTIN' ■ FREIGHT"
7	Press **RUN** to see your message.	WELCOME! Hernia Movers "THE POTENTATE OF TOTIN' FREIGHT"
	Here's a demonstration of what colors can be used:	
8	Press **PROGRAM**. (If PAGE D is not displayed, just press **D**.) Using **SHIFT** + **5**, change the MODE to Hold.	PAGE D MODE: [HLD] SPEED:[SP4]
9	Press **ADV**.	■

10	Type *COLOR 0* Then press **RETURN**.	COLOR 0 should be <u>red</u> to start. When displayed in the message, it will cycle through several color schemes. →	COLOR 0 ■
11	Press **COLOR** one time. Type *COLOR 1* Then press **RETURN**.	COLOR 1 should be <u>red</u>. →	COLOR 0 COLOR 1 ■
12	Press **COLOR** two times. Type *COLOR 2* Then press **RETURN**.	COLOR 2 should be <u>green</u>. →	COLOR 0 COLOR 1 COLOR 2 ■
13	Press **COLOR** three times. Type *COLOR 3* Then press **RETURN**.	COLOR 3 should be <u>amber</u>. →	COLOR 0 COLOR 1 COLOR 2 COLOR 3 ■
14	Press **COLOR** four times. Type *COLOR 4* Then press **RETURN**.	COLOR 4 should be <u>multi-colored</u> with the same combination of colors for each character. →	COLOR 0 COLOR 1 COLOR 2 COLOR 3 COLOR 4 ■
15	Press **COLOR** five times. Type *COLOR 5* Then press **RETURN**.	COLOR 5 should be <u>multi-colored</u> with a different combination of colors for each character. →	COLOR 0 COLOR 1 COLOR 2 COLOR 3 COLOR 4 COLOR 5 ■

16	Press **COLOR** six times. Type *COLOR 6* Then press **RETURN**.	Each character in COLOR 6 → should be a different color.	COLOR 0 COLOR 1 COLOR 2 COLOR 3 COLOR 4 COLOR 5 COLOR 6 ■
17	Press **RUN** to see what all the colors look like in a running message.		

Example 9 — International characters

International characters—like ü and é—can be included in messages.

NOTE: International characters can not be used with the small font. If you try, a question mark (?) will appear in place of the letter.
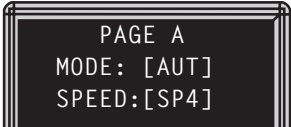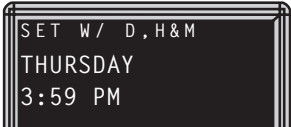
The following table summarizes all the international characters that can be used:

		Move the cursor over a Base Character, like *e*.									
		Then press **SELECT** until it shows the international character that you want.									
		RÉSUMÉS WELCOME!									
Base Characters	(Use the **CAPS** button on the Remote Control for upper-case vs. lower-case letters.)										
	A	C	E	I	N	O	U	Y	?	!	$
International Characters	â	Ç	é	ï	ñ	ô	ü	ÿ	¿	¡	¢
	ä	ç	ê	î	Ñ	ö	û	Ý	?	!	£
	å	C	ë	ì	N	ò	Ü	y			¥
	Ä	c	è	I	n	Ò	ú				ƒ
	Å		É	i		ó	Ú				$
	æ		E			o̲	u				
	Æ		e			O					
	á					o					
	a̲										
	A										
	a										

Appendices

Appendix A — Sign diagnostic test
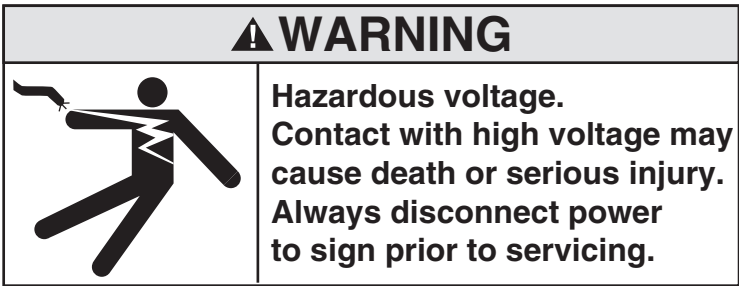
Your sign can do a self test to determine if all the LEDs are working properly.

Step	When you do this...	You see this...
1	Press **PROGRAM**.	PAGE A MODE: [AUT] SPEED:[SP4]
2	Press **BACK** until SET TIME AND DAY appears.	SET TIME AND DAY
3	Press **ADV**.	SET W/ D,H&M THURSDAY 3:59 PM
4	Type *TEST*	The sign will go through a series a LED tests until **PROGRAM** is pressed again.
5	Press **PROGRAM** to exit the self-test mode.	

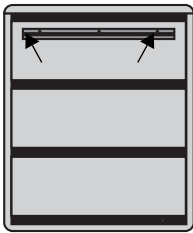## *Appendix B — Updating the sign's firmware (EPROM)*

From time to time it may be necessary to update the sign's internal firmware by replacing an EPROM inside the sign. To do this, follow these steps:
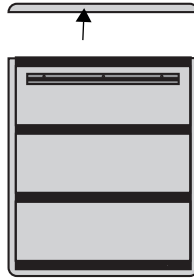
1. Remove power from the sign.

⚠ WARNING

**Hazardous voltage.
Contact with high voltage may
cause death or serious injury.
Always disconnect power
to sign prior to servicing.**

2. Replace the sign's internal EPROM according to this diagram:
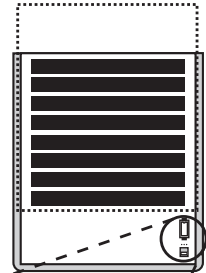
Figure 3: How to change the sign's EPROM

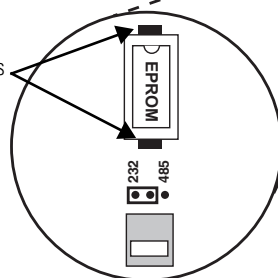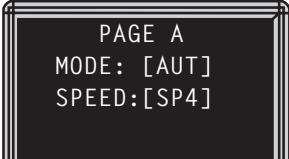3. Re-assemble the sign, being careful not to catch any wires. Then re-apply power to the sign.

Appendix C — Transferring a sign's memory from one sign to another
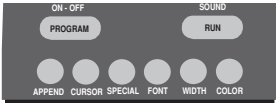
You can transfer the messages from the memory of one sign to the memory of any another signs by completing the following steps.

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

Step	When you do this…	You see this…
1	Press **PROGRAM**.	PAGE A MODE: [AUT] SPEED:[SP4]
2	Press **SPECIAL**.	SPECIAL
3	Press **D**.	SENDING
4	The sending sign transmits all messages to the receiving sign(s) and then resumes displaying messages as programmed.	

Quick Reference Card

Message control keys

	ON - OFF **PROGRAM** SOUND **RUN** **APPEND** **CURSOR** **SPECIAL** **FONT** **WIDTH** **COLOR**
PROGRAM	To turn the sign on or off, hold down **SHIFT** and then press **PROGRAM**. To enter messages, set the date and time, clear memory, etc., press **PROGRAM** and then **BACK** until the setting you want to change is shown. Then press **ADV** to change that setting.
RUN	Press twice to exit PROGRAM mode.
APPEND	Not used.
CURSOR	Not used.
SPECIAL	Not used.
FONT	Changes between a small or large font.
WIDTH	Not used.
COLOR	Changes the color of text.

Display modes and special keys

	ROLL 1 WIPE 2 SCROLL 3 FLASH 4 HOLD 5 ROTATE 6 AUTO 7 SPEED 8 TIME 9 DOT 0 SELECT
ROLL	Not used.
WIPE	Hold down **SHIFT** and press **2** to use the Wipe mode in a message. Doing this more than once cycles through all the options for direction of the wipe.
SCROLL	Not used.
FLASH	Hold down **SHIFT** and press **4** to use the Flash mode in a message.
HOLD	Hold down **SHIFT** and press **5** to use the Hold mode in a message.
ROTATE	Not used.
AUTO	Hold down **SHIFT** and press **7** to use the Auto mode in a message.
SPEED	Hold down **SHIFT** and press **8** to use the Speed mode in a message. Doing this more than once cycles through all the options for speed. (SP1 = slowest, NHL = fastest).
TIME	Hold down **SHIFT** and press **9** to include the time in a message.
Date	Hold down **SPECIAL** and press **M** to include the date in a message.