BETAbrite®
Window Display
User Manual

ADAPTIVE

Copyright © 1999 Adaptive Micro Systems
Form No. 9703-8008
12/28/99

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

Copyright © 1999 Adaptive Micro Systems, Inc. All rights reserved.

The distinctive appearance of this product is a Trade Dress of Adaptive Micro Systems, Inc.

BETA-BRITE, BIG DOT, and SMART ALEC are trademarks of Adaptive Micro Systems, Inc. registered in the United States Patent and Trademark Office.

Alec, ALPHA, AlphaLert, AlphaNET, AlphaNET *plus*, AlphaNET *plus* II, ALPHAVISION, Automode, Director, EZ KEY II, EZ95, PagerNET, PrintPak, PPD, Solar, and TimeNet are trademarks of Adaptive Micro Systems, Inc.

Visit our Internet World Wide Web site:

http://www.betabrite.com

Contents

Display installation **1**

Programming messages into your display **2**

Using a Remote Control to operate your display 2

Using software 3

Basic display operation **4**

Turning a display off and on 4

Setting a display's time and date 5

Clearing a display's memory 6

Setting a display's password 7

What to do when you forget a password 8

How to delete a display's password 8

Basic text messaging **9**

Example 1 — Using upper and lowercase in messages 9

Example 2 — Showing messages in file name order (A, B, C, etc.) 12

Example 3 — Showing messages in time order 14

Example 4 — Changing the text of an existing message 17

Example 5 — Deleting messages 20

Advanced text messages **21**

Example 6 — Showing the time and date 21

Example 7 — Using fonts 24

Example 8 — Speeding up and slowing down messages 27

Example 9 — Special effects with Modes (Trailing Modes) 29

Example 10 — International characters 30

Graphics **32**

Example 11 — Creating a movie marquee 32

Example 12 — Mixing text and graphics 37

Example 13 — Deleting a graphic 39

Appendixes **40**

Appendix A — Modes and fonts available 40

Appendix B — Display diagnostic test 41

Appendix C — Connecting a display to a computer 42

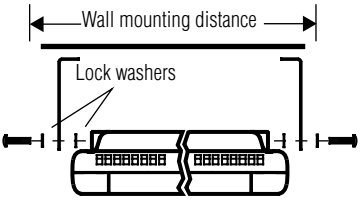
Appendix D — Updating the display's firmware (EPROM) 43

Quick Reference Card **44**

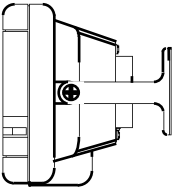
Display installation

Wall mounting

1. Attach two wall brackets in the mounting kit (PN 1038-9003) to a wall 46-3/4″ (118.7 cm) apart (measured from the center of each bracket.)
2. Attach the mounting brackets to the display as shown.



Top view



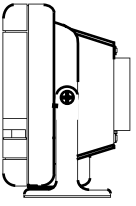
Side view

Ceiling mounting

Using the mounting kit (PN 1038-9003) and a chain (not supplied in the kit), mount the display from the ceiling as shown:

Counter mounting

The display will stand up if placed on a counter. However, for greater stability, use the mounting kit (PN 1038-9003.)



Programming messages into your display

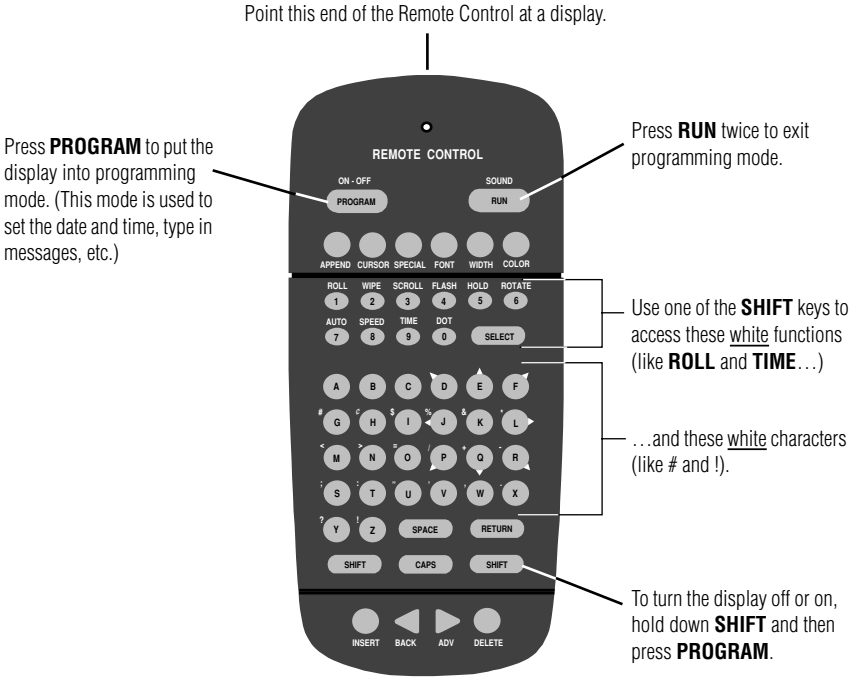
You can operate a BETAbrite Window Display in two ways:

- by using a hand-held Remote Control
- by using a computer with appropriate software (See "Appendix C – Connecting a display to a computer" on page 42.)

Using a Remote Control to operate your display

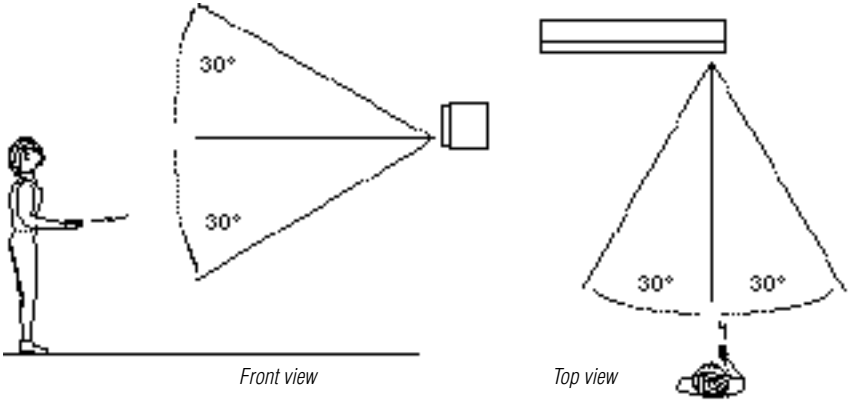
A Remote Control is a hand-held keyboard used to operate a BETAbrite Window Display. Most of this manual shows you how to program messages on your display using a Remote Control.

A Remote Control needs four AAA batteries to operate.



To program a display with a Remote Control:

- Stand at least 5 feet and no more than 30 feet from the display.
- Make sure nothing reflective is in front of the display. (Light from the display's screen 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 display.



If a display 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

Figure 1: Using a Remote Control with a display

Using software

You can use a software application, **BetaBrite Messaging Software**, to send messages to the BETAbrite Window Display. Refer to 9701-0202, Messaging Software User Manual, for instructions for sending messages using this software.

Basic display operation

Turning a display off and on

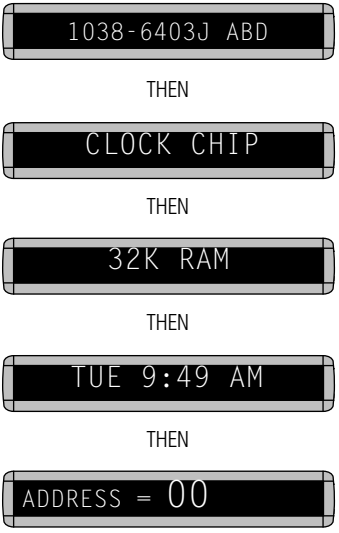
When you plug in the display's power supply, the display starts up automatically, and unplugging the power supply turns the display off.

However, instead of unplugging a display, there is another way to turn a display off:

Holding down SHIFT and then pressing PROGRAM turns a display off and on.

NOTE: Messages that you have programmed into the display will *not* be lost when you turn a display off or remove power. Messages will be retained for up to 30 days if the display is not powered.

When the display starts up, the following will be shown:



This is the software (or "firmware") inside the display.

This indicates that the display is equipped with a real-time clock chip that can keep track of the date and time.

This is the amount of memory inside the display.

The current time.

The display's address which can be used to identify individual displays on a network.

Setting a display's time and date

The display must be initially programmed for time and date, and occasionally you may want to re-program the display.

Once set, the BETAbrite Window Display will remember the time and date even if the display is unplugged or interrupted by a power loss, since the display includes a real-time clock chip.

Step	When you do this…	You see this…
1	Press **PROGRAM**.	
2	Press **BACK** until SET TIME appears.	
3	Press **ADV**.	then
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).	
5	Press **BACK** until SET DATE appears.	
6	Press **ADV**.	then
7	Press **D** to set the correct day. Press **M** to set the month. Press **Y** to set the year. NOTE: Press **SELECT** to show the date in different formats—for example, JAN 26, 2000 or 1/26/00, or 26/1/00, etc.	
8	After setting the date and time, press **RUN** twice to return to normal operation.	

Clearing a display's memory

NOTE: Clearing a display's memory erases all messages, graphics, and the password that have been programmed into the display.

Step	When you do this…	You see this…
1	Press **PROGRAM**.	
2	Press **BACK** until CLEAR MEMORY appears.	
3	Press **ADV**.	then
4	Press **Y** to clear the display's memory. The display will return to normal operation and show this screen.	
5	After setting the date and time, press **RUN** twice to return to normal operation.	

Setting a display's password

Some displays allow you to set a personal password to protect your messages and graphics from tampering by others.

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

However, *if you do forget the password*, see "What to do when you forget a password" on page 8.

Step	When you do this…	You see this…
1	Press **PROGRAM**.	
2	Press **BACK** until SET PASSWORD appears.	
3	Press **ADV**.	
4	Press **Y** to set a password.	
5	Type a 6-character password. (Only asterisks will appear on the display 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 then then then
6	Press **RUN** twice.	

7	Press **Y** to password protect the display. NOTE: If you select **N**, then a password will not be needed when you press **PROGRAM**.	 The display 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 password

Step	When you do this…	You see this…
1	Press **PROGRAM**.	
2	Hold down **SHIFT** and press **L** six times.	 then then
3	Enter a new password. (See "Setting a display's password" on page 7.)	

How to delete a display's password

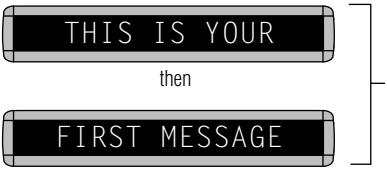
If you no longer want to be prompted to password protect a display, you must clear the display's memory in order to delete the password. To do this, see "Clearing a display's memory" on page 6.

Basic text messaging

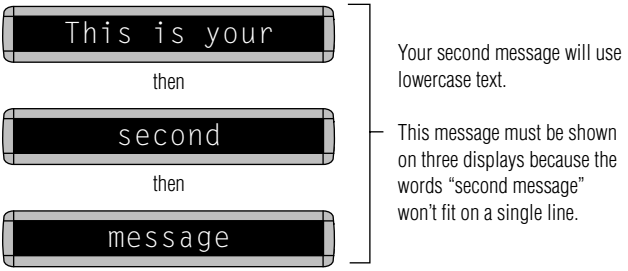
This section shows you how to start creating messages on your display.

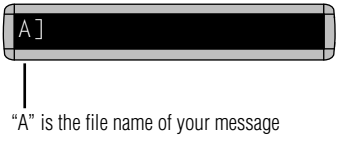
Example 1 — Using upper and lowercase in messages

In this first example, you'll show the text *THIS IS YOUR FIRST MESSAGE* like this:



… and then the text *This is your second message*:



Step	When you do this…	You see this…
1	Press **PROGRAM**.	
2	Press **ADV**.	

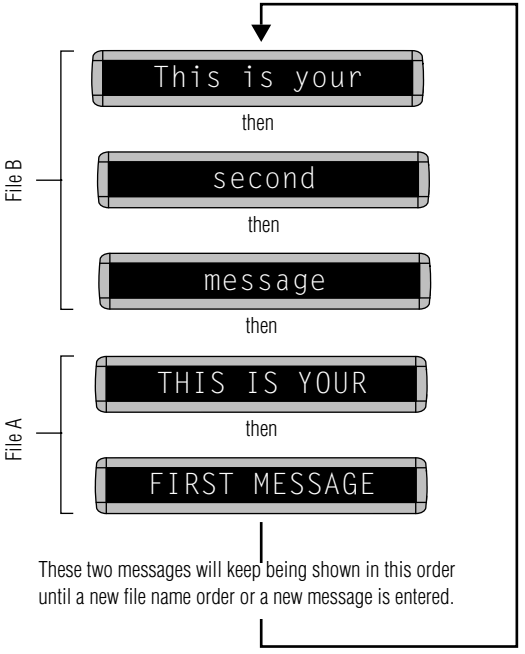
3	Type *THIS IS YOUR FIRST MESSAGE* Note: If you make a mistake while typing, press **DELETE** to erase a letter.	 [AUT], which stands for Automode, will appear as you type your first character. Automode automatically shows your message in different formats. Your message should look like this when you're done typing.
4	Press **RUN** twice.	 then Because Automode [AUT] was used in your message (see Step 3), the text of your message will be shown in a variety of formats. For example, one of the formats (or modes) called Scroll moves your message from the bottom to the top of the display.
Now that the first message is done, we'll enter a second message which contains upper and lowercase characters.		
5	Press **PROGRAM** again.	
6	Press **SELECT**.	 The *A* changes to a question mark (?) after pressing **SELECT**.
7	Press **B**.	 "B" is now the file name of your second message. If you pressed **A** instead of **B**, you would have written over the first message.

8	Type *T* Press **CAPS** to switch to lowercase letters. Type *his is your second message*	 Your message should look like this when you're done typing.
9	Press **RUN** twice.	 then then You should notice that… • The first message doesn't appear at all. (We'll fix this in the following example.)

Example 2 — Showing messages in file name order (A, B, C, etc.)

Once you've programmed messages into the display, you may want to set the order or sequence in which messages appear. This method will show messages by their file name (A, B, C, etc.) or 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 (files A and B) in the display: File A = *THIS IS YOUR FIRST MESSAGE* File B = *This is your second message*		
1	Press **PROGRAM**.	
2	Press **RUN**.	 TIME (or TIM) or DEMO (or CAN) may also appear here.
3	If *RUN* appears on the display, go to the next step. Otherwise, press **SELECT** until *RUN* appears.	
4	Press **B**.	
5	Press **RUN**.	 then then
You have just programmed the display to run only message file B. Next, we'll program the display to show message B first, then A.		

6	Press **PROGRAM**.	
7	Press **RUN**.	
8	If *RUN* appears on the display, go to the next step. Press **SELECT** until *RUN* appears.	
9	Press **B**, then **A**.	 The order of these letters determines the order in which messages will appear on a display. (In this case, message B will appear first, then message A.)
10	Press **RUN**.	 These two messages will keep being shown in this order until a new file name 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 display.		

Example 3 — Showing messages in time order

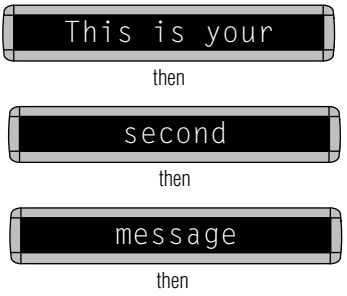
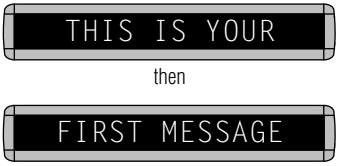
In Example 2, you set the order of messages by file name. However, that method could not specify an exact time when a message would appear.

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

NOTE: Unless a display has a battery-backed clock, showing messages in time order will only work as long as a display is powered. When a display without a battery-backed clock loses power, its internal clock becomes inaccurate and must be reset. (See "Setting a display's time and date" on page 5).

Step	When you do this…	You see this…
For this example, make sure that your display's internal clock has been accurately set. (See "Setting a display's time and date" on page 5.) This example continues where Example 2 left off. This example assumes that there are two messages (files A and B) in the display: File A = *THIS IS YOUR FIRST MESSAGE* File B = *This is your second message* In this example, we'll program the display to show File A on Monday through Friday from 1:10 PM to 2:30 PM. We'll program the display to always show File B.		
1	Press **PROGRAM**.	
2	Press **SELECT** until *B* appears.	
3	Hold down **SHIFT** and press **9** for **TIME**.	 Since file B is already set up, we'll go on to file A. *ON ALWAYS* is the default setting for a message. A message set to *ON ALWAYS* will run continuously.
4	Press **PROGRAM**.	
5	Press **SELECT** until *A* appears.	

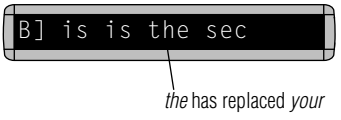
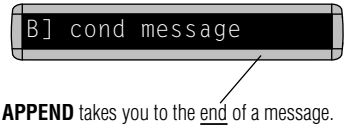
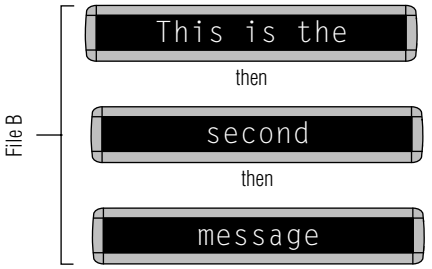
6	Hold down **SHIFT** and press **9** for **TIME**.	First, we'll select the *ON* time or when the message starts.
7	Press **D** (for day) until *M-F* (Monday through Friday) appears.	Press **D** to set the day, **H** for hour, and **M** for minute (in 10-minute increments).
8	Press **H** (for hour) until *13:00* appears.	Hours must be represented in 24-hour or military style. So 1:00 PM = 13:00, 2:00 PM = 14:00, etc.
9	Press **M** (for minute) until *13:10* appears.	Minutes are in increments of 10.
10	Press **SELECT**.	After setting the ON time, select the OFF time or when the message stops.
11	Repeat Steps 7, 8, and/or 9 to set the *OFF* time (*2:30* or *14:30* in this example.)	
12	Press **RUN** once. (If **TIME** does not appear, press **SELECT** until it does.)	*RUN* or *DEMO* may also appear here.
13	Press **BA** to set the display order of these two messages.	

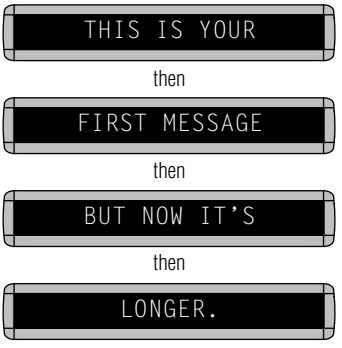
14	Press **RUN** once.	This message should appear continuously. File B  This message should only appear between the *ON* and *OFF* times you set. File A 

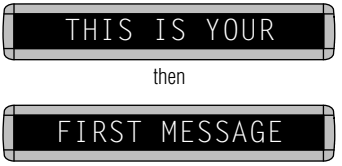
Example 4 — Changing the text of an existing message

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 3 left off. This example assumes that there are two messages (files A and B) in the display: File A = *THIS IS YOUR FIRST MESSAGE* File B = *This is your second message* and that File B, then File A is shown. In this example, we'll change File A and File B to the following: File A = *THIS IS YOUR FIRST MESSAGE, BUT NOW IT'S LONGER* File B = *This is the second message* (*your* changed to *the*)		
1	Press **PROGRAM**.	
2	Press **SELECT** until *B* appears.	
3	Press **ADV** until the space after *your* appears.	 We're going to delete *your* and replace it with *the*.
4	Press **DELETE** until *your* (and the space after it) are erased.	
5	Press **INSERT**.	 Text you type now will be inserted here —after the space following *is*.
6	Type *the* (and then **SPACE**).	
7	Press **INSERT** to turn text insertion off.	

8	Press **ADV** until the first few letters of *second* appear.	
9	Press **APPEND** to go to the end of the message. DON'T OMIT THIS STEP.	
10	Press **RUN** twice.	
Next, we'll add text to the end of File A.		
11	Press **PROGRAM**.	
12	Press **SELECT** until *A* appears on the display.	
13	Press **APPEND**.	
14	To type a comma, hold down **SHIFT** and press **W**.	
15	Press **SPACE** and then type *BUT NOW IT.*	
16	To type an apostrophe, hold down **SHIFT** and press **V**.	

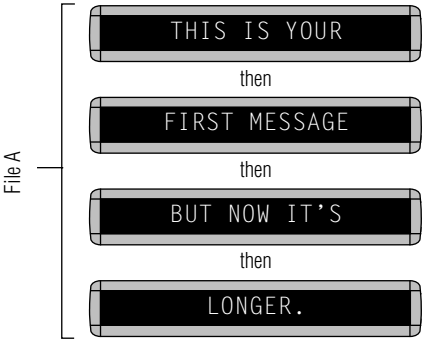
<table>
<tr><td>17</td><td>Type S LONGER.</td><td>
</td></tr>
<tr><td>18</td><td>Press RUN twice.</td><td>This message should appear continuously.
File A
 

This message should only appear between the ON and OFF times you set in Example 3.
File A
 
</td></tr>
</table>

Example 5 — Deleting messages

To delete all the messages in a display, see "Clearing a display's memory" on page 6.

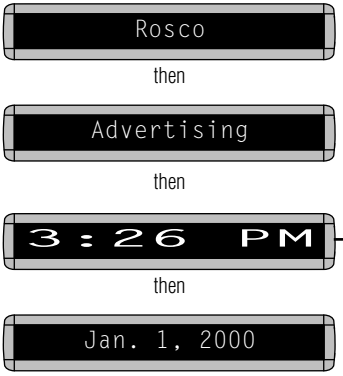
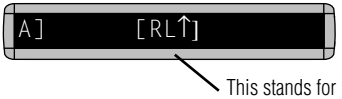
However, if you only want to delete selected messages, then use the method shown in this example.

Step	When you do this…	You see this…
This example continues where Example 4 left off. This example assumes that there are two messages (files A and B) in the display: File A = *THIS IS YOUR FIRST MESSAGE, BUT NOW IT'S LONGER.* File B = *This is the second message.* In this example, we'll delete File B.		
1	Press **PROGRAM**.	
2	Press **SELECT** until *B* appears on the display.	
3	Press **DELETE**.	
4	Press **Y** to delete the file.	
5	Press **RUN** twice.	

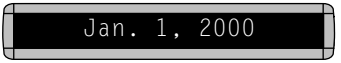
Advanced text messages

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

Example 6 — Showing the time and date

Step	When you do this…	You see this…
In this example, we'll create a message that continuously shows the current time and date for Rosco Advertising. 		
1	Delete all the messages currently stored in the display. (See "Clearing a display's memory" on page 6 or "Example 5 — Deleting messages" on page 20.)	
2	Press **PROGRAM**.	
3	Press **SELECT**.	
4	Press **A**.	
5	Hold down **SHIFT** and press **1** for **ROLL**.	

6	Press **SELECT** to change the Roll direction to ↓ (down).	 Press **SELECT** until the Roll direction changes to down: [RL↑] = Roll a message up [RL↓] = Roll a message down [RL ←] = Roll a message to the left [RL →] = Roll a message to the right [RL ><] = Roll a message in from both sides of the display [RL <>] = Roll a message out from the middle of the display
7	Type *R*	
89	Using **CAPS** to switch between uppercase and lowercase letters, type the following: *osco Advertising*	
We'll Roll the time in from the bottom to the top of the display.		
9	Hold down **SHIFT** and press **1** for **ROLL**.	
10	Press **WIDTH** to show the time in wide characters.	 This will show the time in wide letters.
11	Hold down **SHIFT** and press **9** for **TIME**.	 This will show the current time (in wide characters.)
Next, we'll Roll the **date** in from the right to the left of the display.		
12	Hold down **SHIFT** and press **1** for **ROLL**. Then press **SELECT** to until the Roll direction changes to ←	 We'll make the date roll to the left.
13	Press **WIDTH** to turn off wide characters.	 [SLM] means the following characters won't be wide.

14	Press **SPECIAL**.	
15	Press **M**	 Pressing **SPECIAL** and **M** inserts the current date into a message.
16	Press **RUN** twice to see the message. Note: If you want the date in a different format, you must change the date format before including it in a message. The format of a date (time, also) is set in the message even if you change the date format in the sign later.	 then then then 

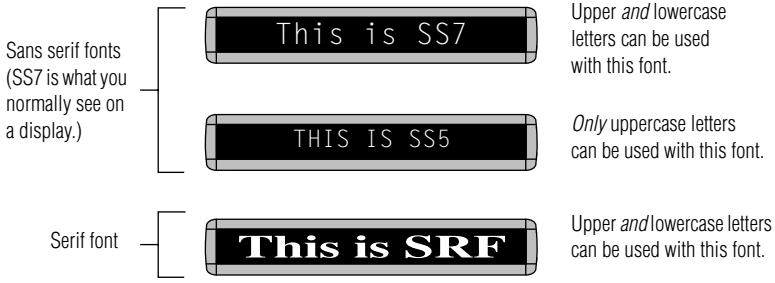
Example 7 — Using fonts

Fonts are the way characters are shown on a display. 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 is Times — a serif font.

This is Helvetica — a sans serif font.

On this display, the following fonts — called [SS7], [SS5], and [SRF] — are available:



Also, any of the display's fonts can be made bold (or wider) by using the **WIDTH** button.

To determine what fonts are available on your display, see "Appendix A – Modes and fonts available" on page 40.

The following examples demonstrate how to use fonts on your display.

Step	When you do this…	You see this…
1	Delete all the messages currently stored in the display. (See "Clearing a display's memory" on page 6 or "Example 5 — Deleting messages" on page 20.)	
2	Press **PROGRAM**.	PROG TEXT A
3	Press **ADV**.	A]

4	Hold down **SHIFT** and press **5** for **HOLD** mode.	Hold mode turns off Automode.
5	Press **FONT** to select *[SRF]* (the serif font).	
6	Using **CAPS** and **SHIFT** when needed, type *This is SRF*	As you type, the font you selected will appear as it will actually be shown on the display.
7	Press **RETURN** to start a new line of text.	This symbol indicates **RETURN**.
8	Press **WIDTH** to show wide text.	[WID] = wide text
9	Using **CAPS** and **SHIFT** when needed, type *SRF Wide*	
10	Press **RETURN** to start a new line of text.	
11	Press **WIDTH** again to turn wide characters off.	
12	Press **FONT** to select the *[SS5]* font.	
13	Type *THIS IS SS5* NOTE: Only uppercase character can be used with this font.	

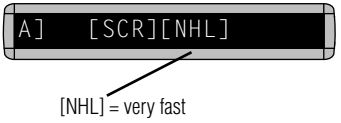
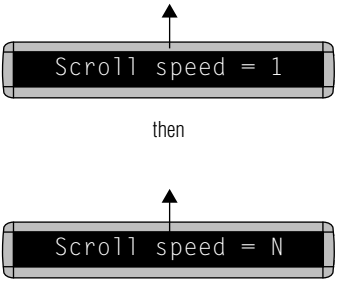
14	Press **RUN** twice to see what you've typed.	

Example 8 — Speeding up and slowing down messages

Messages can be sped up or slowed down using the **SPEED** mode. Once you pick a mode, like **HOLD**, a speed can be selected by selecting **SPEED** on the Remote Control. Then press **SELECT** to change the speed:

Here's an example of how to vary the speed of the **SCROLL** mode of a message.

Step	When you do this…	You see this…
1	Delete all the messages currently stored in the display. (See "Clearing a display's memory" on page 6 or "Example 5 — Deleting messages" on page 20.)	
2	Press **PROGRAM**.	
3	Press **ADV**.	
4	Select **SCROLL**. (Hold down **SHIFT** and press **3**.)	 [SCR] = SCROLL mode, which we'll use to demonstrate message speed.
5	Select **SPEED**. (Hold down **SHIFT** and press **8**.)	 [SP4] is the default speed setting.
6	Press **SELECT** until *[SP1]* (very slow) appears.	 [SP1] = very slow
7	Type *Scroll speed = 1*	

8	Select **SCROLL** again.	
9	Select **SPEED** again.	
10	Press **SELECT** until *[NHL]* (No Hold) appears.	
11	Type *Scroll speed = N*	
12	Press **RUN** twice to see your message. The message *Scroll speed = 1* should scroll up and pause. However, the message *Scroll speed = N* should scroll up without pausing at all.	 Using *[SP1]*, slow speed, the message scrolls up into the display, pauses, then scrolls off the display. Using *[NHL]*, the fastest speed, the message scrolls into and off the display without pausing.

Example 9 — Special effects with Modes (Trailing Modes)

Modes, like **ROTATE** and **ROLL**, are used to create special effects with messages. Typically modes are used once at the beginning of a message for the entire message. However, a mode can also be placed at or toward the end of a message (called a "trailing mode") to create a special effect when the first part of the message is leaving the screen.

NOTE: The following can not be used as a trailing mode: **CONDENSED ROTATE, SCROLL, SLIDE, SNOW,** and **SPRAY.**

Step	When you do this…	You see this…
1	Delete all the messages currently stored in the display. (See "Clearing a display's memory" on page 6 or "Example 5 — Deleting messages" on page 20.)	
2	Press **PROGRAM**.	
3	Press **ADV**.	
4	Hold down **SHIFT** and press **4** for **FLASH**.	
5	Type *ATTENTION!*	
6	Hold down **SHIFT** and press **1** for **ROLL**.	This is the trailing mode. The **ROLL** mode "trails" the first mode, **FLASH**.
7	Type *Trailing mode*	
8	Press **RUN** twice to see trailing mode in action. *ATTENTION!* should flash and then roll off the display.	

Example 10 — International characters

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

NOTE: International characters can not be used with the small [SS5] font.

The following table summarizes all the international characters that can be used.

Base Characters	(Use the **CAPS** button on the Remote Control for the lowercase 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	Y	?	!	£
	å	C	ë	ì	N	ò	Ü	y			¥
	A	c	è	I	n	Ö	ú				*f*
	Å		É	i		ó	U				$
	æ		E			o	u				
	Æ		e			O					
	á					o					
	a										
	A										
	a										

The following example shows how to use international characters in a message.

Step	When you do this…	You see this…
1	Delete all the messages currently stored in the display. (See "Clearing a display's memory" on page 6 or "Example 5 — Deleting messages" on page 20.)	

2	Press **PROGRAM**.	
3	Press **ADV**.	
4	Using **CAPS** and **SHIFT** when needed, type *Submit your re*	
5	Press **SELECT** until *é* appears.	
6	Type *sume*	
7	Press **SELECT** until *é* appears.	
8	Press **RUN** twice to see your message.	

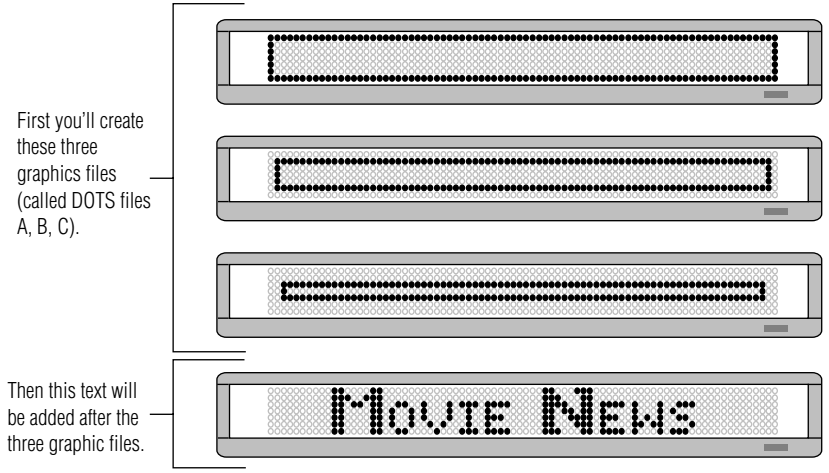
Graphics

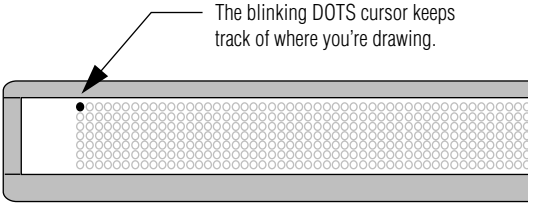
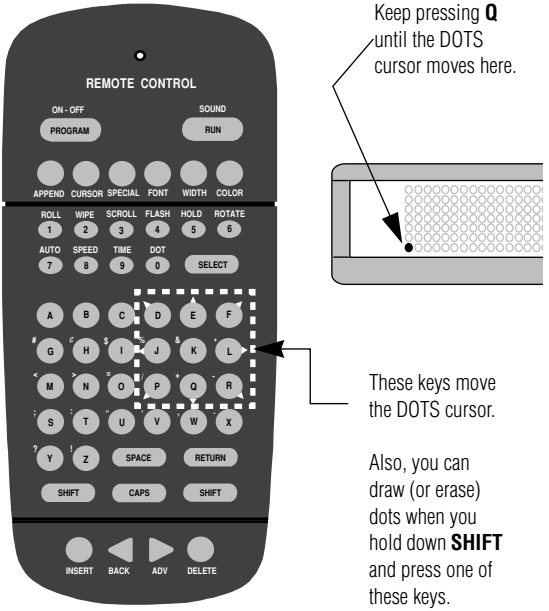
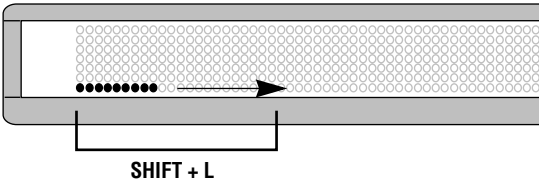
In addition to pre-programmed or "canned" graphics (see "Display graphics" on page 46), you can create your own custom graphics using DOTS files.

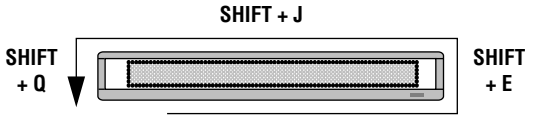
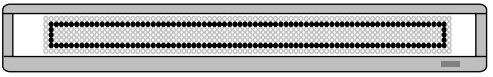
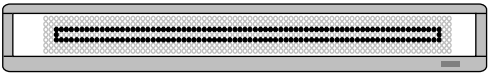
You can show a DOTS graphic that you create either by itself or with text.

NOTE: After you create a DOTS graphic, *to show it on your display,* the DOTS graphic *must* be placed in a text file—even if you just want to show the graphic all by itself.

Example 11 — Creating a movie marquee

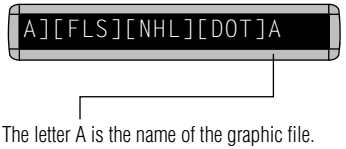
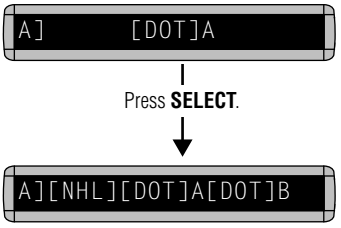
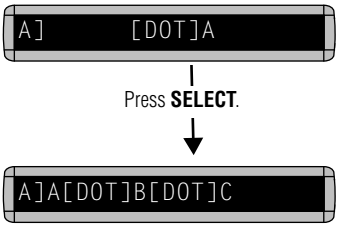
Step	When you do this…	You see this…
	In this example, we'll create three graphics (or DOTS files) and combine them with text to make a flashing marquee: 	
1	Delete all the messages currently stored in the display. (See "Clearing a display's memory" on page 6 or "Example 5 — Deleting messages" on page 20.)	
2	Press **PROGRAM**.	

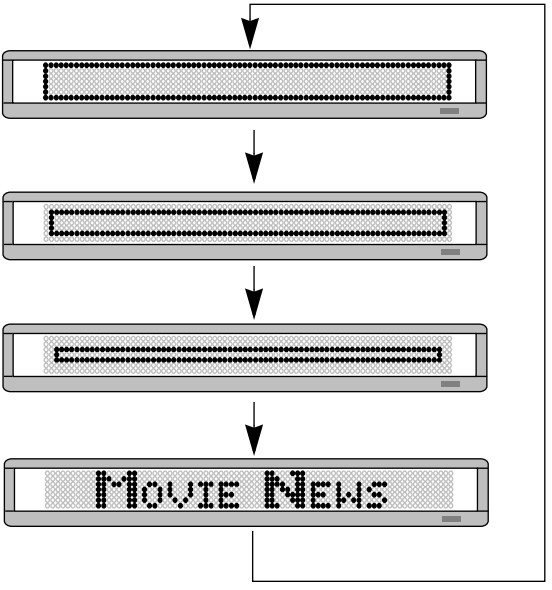
3	Press **BACK**. Note: If you don't see "PROG DOTS A" on the screen, follow the steps in "Clearing a display's memory" on page 6.	 The name of your first DOTS graphics is A. (The second one will be named B and the third one C.)
4	Press **ADV**.	
5	Press **Q** until the DOTS cursor is on the bottom.	
6	Hold down **SHIFT** and press **L** to draw a line across the entire bottom of the display.	

7	Complete DOTS graphic A by using **E**, **J**, and **Q** keys. NOTE: Remember: hold down **SHIFT** with these keys to actually draw.	
8	Press **RUN**.	
9	Then press **Y** to save graphic A.	
10	Type *B* as the name of the next graphics file.	
11	Repeat the previous steps to draw graphics B and C. (Both are just smaller versions of graphic A.)	DOTS graphic B  DOTS graphic C 

NOTE:
In order to show a DOTS graphic, it must be placed in a text message.
In the following steps, we'll create a text message and add the three DOTS graphics just created.

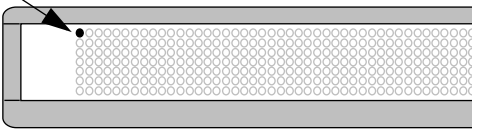
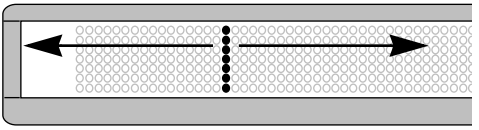
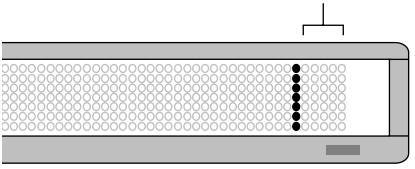
12	Press **BACK** to return to *PROG TEXT.*	
13	Press **SELECT** until a question mark appears.	
14	Press **A**.	
15	Hold down **SHIFT** and press **4** for **FLASH**.	
16	Hold down **SHIFT** and press **8** for **SPEED**.	

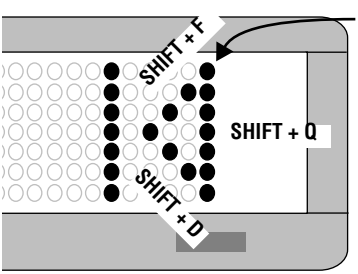
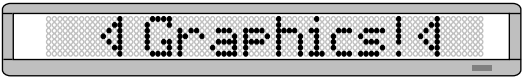
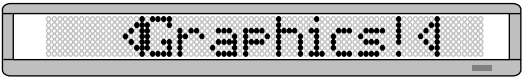
17	Press **SELECT** until *[NHL]* appears. (This is the fastest speed.)	
18	Insert the first DOTS graphic you created (file A) by holding down **SHIFT** and pressing **Ø**.	
19	Insert the second DOTS graphic by holding down **SHIFT** and pressing **Ø** again. Then press **SELECT** until the letter *B* appears.	
20	Insert the third and final DOTS graphic by holding down **SHIFT** and pressing **Ø** again. Then press **SELECT** until the letter *C* appears.	
Now we'll add the message *Movie News* after the three graphics:		
21	Press **FONT** until *[SRF]* appears.	
22	Type the letter *M*	
23	Press **FONT** until *[SS5]* appears.	
24	Type *ovie* and then press **SPACE**.	

25	Press **FONT** until *[SRF]* appears again.	
26	Type the letter *N*	
27	Press **FONT** until *[SS5]* appears again.	
28	Type *ews*	
29	Press **RUN** twice to watch the marquee you created.	

Example 12 — Mixing text and graphics

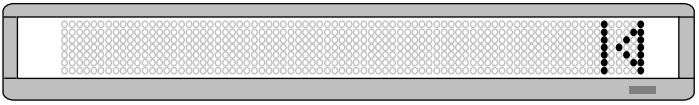
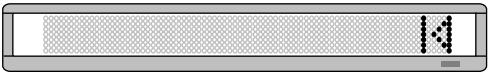
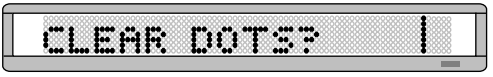
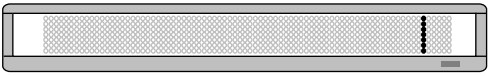
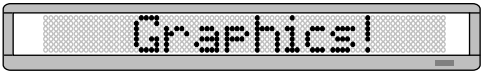
In this example, we'll create a graphic and combine it with text.

Step	When you do this…	You see this…
	These triangle graphics (which is just a single DOTS file) will be combined with the text *Graphics*!	
1	Delete all the messages currently stored in the display. (See "Clearing a display's memory" on page 6 or "Example 5 — Deleting messages" on page 20.)	
2	Press **PROGRAM**.	
3	Press **BACK**.	The name of your DOTS graphics file will be A.
4	Press **ADV**.	The blinking DOTS cursor keeps track of where you're drawing. 
5	Press **X** to move a vertical line across the display. This reduces the size of the drawing area. Keep pressing **X** until there are 5 dots between the vertical line and the end of the display. NOTE: If you don't reduce the graphic area, the graphic would take up the entire area of the display.	**W** moves this line left (increases drawing area) **X** moves this line right (reduces drawing area)  The line should end up 5 dots from the end. So our drawing area will be 5 dots wide by 7 dots high. 

6	Draw the following graphic using the keys indicated.	 Remember: To just move the cursor, don't hold down **SHIFT**.
7	Press **RUN** twice.	
8	Press **BACK** until *PROG TEXT A* appears.	
9	Press **ADV**.	
10	Hold down **SHIFT** and press **6** for **ROTATE**.	
11	Hold down **SHIFT** and press **Ø** to insert your DOTS graphic.	 The A is the file name of your DOTS graphic.
12	Using **CAPS** and **SHIFT** when necessary, type *Graphics!* (Place a space before *Graphics!*)	 Place a space before the word *Graphics*! (Otherwise, the first triangle will appear too close.)
13	Hold down **SHIFT** and press **Ø** to insert your DOTS graphic again.	
14	Press **RUN** twice to see your graphic and text message move across the display.	 NOTE: If you had not placed a space after the first triangle graphic, the message would look like the following: 

Example 13 — Deleting a graphic

If you want to delete an entire DOTS graphic file, use this example as a guide.

Step	When you do this…	You see this…
This is a continuation of the previous example. This example assumes that the following graphic is in DOTS file A: 		
1	Press **PROGRAM**.	
2	Press **BACK**.	
3	Press **SELECT**.	
4	Type the letter of the graphic you want to delete. (In this case, type *A*.)	
5	Press **Z**.	
6	Press **Y** to delete the graphic. (Or **N** if you don't want to delete it.)	
7	Press **RUN** *four* times to return to normal operation. This will run message file A, but the DOTS file A won't show because you just deleted it.	

Appendixes

Appendix A – Modes and fonts available

Modes determine the way text and graphics move on a display. For example, the **ROTATE** mode moves a message across a display from right to left. Fonts are the size and shape of text characters.

The letters in brackets — like [AUT] and [SS7] — are what will appear on the display:

Modes available

- Automode — [AUT] — **SHIFT + 7**.
- Flash — [FLS] — **SHIFT + 4**.
- Hold — [HLD] — **SHIFT + 5**.
- Interlock — [SPC]3 — **SPECIAL + 3**.
- Roll — [RL↑] — **SHIFT + 1**. Use **SELECT** to change roll direction.
- Rotate — [ROT] or [CRT] — **SHIFT + 6**. Use **SELECT** to change between the two.
- Scroll — [SCR] — **SHIFT + 3**.
- Slide — [SPC]5 — **SPECIAL + 5**.
- Snow — [SPC]2 — **SPECIAL + 2**.
- Sparkle — [SPC]1 — **SPECIAL + 1**.
- Spray — [SPC]6 — **SPECIAL + 6**.
- Starburst — [SPC]7 — **SPECIAL + 7**.
- Switch — [SPC]4 — **SPECIAL + 4**.
- Twinkle — [SPC]Ø — **SPECIAL + Ø**.
- Wipe — [WI↑] — **SHIFT + 2**. Use **SELECT** to change wipe direction.

Fonts available

All these fonts can also be displayed wider using **WIDTH**:

- 7-row sans serif — [SS7]
- 7-row serif — [SRF]
- 5-row sans serif — [SS5]

Appendix B – Display diagnostic test

Your display can do a self test to determine if all the LEDs (or incandescent lights) are working properly.

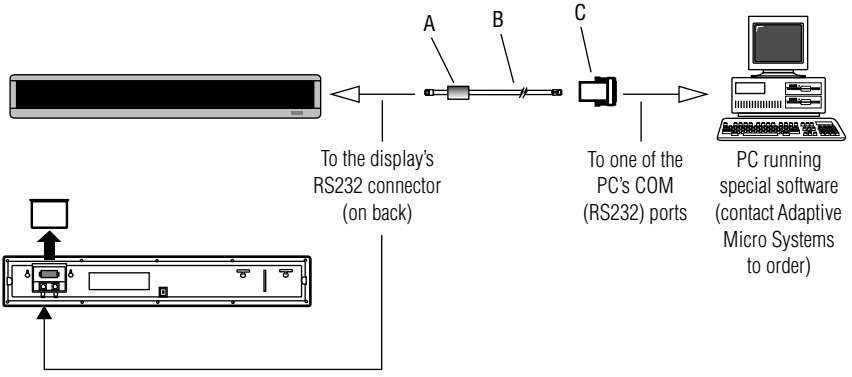
Step	When you do this…	You see this…
1	Press **PROGRAM**.	
2	Press **BACK** until *SET TIME AND DAY* or *SET TIME* appears.	
3	Press **ADV**.	then
4	Type *TEST* NOTE: This test deletes all messages in the display. However, if you type the letter *R* immediately after typing *TEST*, your messages will be preserved.	then A series of test screens will appear.
5	Press **PROGRAM** to exit the self-test mode.	
6	Press **RUN** twice to return to normal mode.	

Appendix C – Connecting a display to a computer

Though messages can be programmed into the display using the hand-held Remote Control, a more convenient method is to connect the display to a computer and use special software to send messages.

NOTE: Contact Adaptive Micro Systems to order the software necessary to send messages to a display from your PC.

NOTE: These displays cannot be networked together. That is, you can connect a single display to a computer, but not multiple displays.



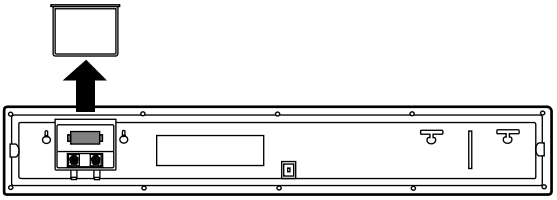
Item	Part #	Description
A	—	Ferrite (ferrite end towards display)
B	1088-8625	25-foot 6-conductor RS232 data cable
	1088-8627	50-foot 6-conductor RS232 data cable
C	4370-0001C	25 pin sub-D/to 6 pos. RJ11 adapter
	1088-9108	9 pin sub-D/to 6 pos. RJ11 adapter

Appendix D – Updating the display's firmware (EPROM)

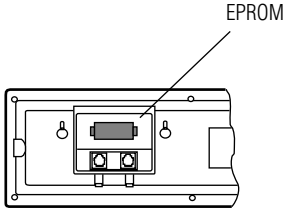
Your display has an internal chip or EPROM that is used to control the display. From time to time, the firmware in this EPROM is updated and the EPROM must be changed.

NOTE: Turn off the display's power before continuing.

1. After removing power from the display, slide the access panel on the back of the display up:

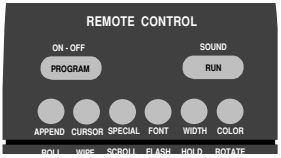


2. Using the top and bottom tabs on the EPROM socket, gently pull the EPROM out of the display. Then place the new EPROM in the empty socket and replace the access cover:



Quick Reference Card

Message control keys



PROGRAM	To turn the display 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: PROG TEXT A OR Press **BACK** to select one of the following: PROG DOTS A — press **ADV** to create a graphic. SET TIME — press **ADV** to set the time. SET DATE — press **ADV** to set the date. SET PASSWORD — press **ADV** to set a password to prevent someone from changing the display's text. CLEAR MEMORY — press **ADV** to erase all messages. Press **ADV** to enter a message in file A.
RUN	Press twice to exit PROGRAM mode.
APPEND	When editing text, this takes you to the end of a message.
CURSOR	Not used.
SPECIAL	Used to set various text modes. (See "Display modes and special keys" on page 45.)
FONT	Changes the font—[SS7], [SRF], or [SS5]—used in a message. (See "Example 7 — Using fonts" on page 24.)
WIDTH	Changes the width of a font. Text that appears after [WID] will look bold. To return to normal text, press **WIDTH** again and [SLM] will appear. (See "Example 7 — Using fonts" on page 24.)

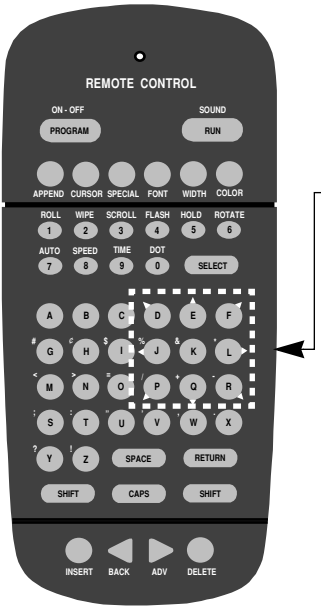
Display modes and special keys

ROLL	Hold down **SHIFT** and press **1** to use the Roll mode in a message. Use **SELECT** to change the direction of the roll.
WIPE	Hold down **SHIFT** and press **2** to use the Wipe mode in a message. Use **SELECT** to change the direction of the wipe.
SCROLL	Hold down **SHIFT** and press **3** to use the Scroll mode in a message.
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	Hold down **SHIFT** and press **6** to use the Rotate mode in a message.
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. Use **SELECT** to set the speed (NHL = fastest, SP1 = slowest).
TIME	Hold down **SHIFT** and press **9** to include the time in a message.
Date	Press **SPECIAL** and then **M** to include the date in a message.
Twinkle	Press **SPECIAL**. Then press **Ø**.
Sparkle	Press **SPECIAL**. Then press **1**.
Snow	Press **SPECIAL**. Then press **2**.
Interlock	Press **SPECIAL**. Then press **3**.
Switch	Press **SPECIAL**. Then press **4**.
Slide Across	Press **SPECIAL**. Then press **5**.
Spray	Press **SPECIAL**. Then press **6**.
Starburst	Press **SPECIAL**. Then press **7**.
Carriage return	Press **RETURN**.
Half space	Hold down **SHIFT** and then press **SPACE**.

Display graphics

"Thank You"	Press **SPECIAL**. Then press **S**.
"No Smoking"	Press **SPECIAL**. Then press **U**.
"Don't Drink and Drive"	Press **SPECIAL**. Then press **V**.
Running Animal	Press **SPECIAL**. Then press **W**.
Fireworks	Press **SPECIAL**. Then press **X**.
Turbo Car	Press **SPECIAL**. Then press **Y**.
Cherry Bomb	Press **SPECIAL**. Then press **Z**.
Welcome	Press **SPECIAL**. Then press **8**.
Slot Machine	Press **SPECIAL**. Then press **9**.

How to create a graphic



1 Press **PROGRAM** and then **BACK**:

2 Next, press **ADV**. The DOTS cursor will be in the upper left hand corner of the display.

3 Use the direction keys (**D**, **E**, **F**, etc.) to move the DOTS cursor in the direction indicated by the white arrows.

4 To draw a line, hold down **SHIFT** while pressing one of the direction keys. For example, to draw a diagonal line, hold down the **SHIFT** while pressing **R**.

5 When you're done, press **RUN** twice.

6 Press **BACK** until this screen appears:

7 Press **SELECT** and then a letter, like **A**:

8 Enter the DOTS file. For example, hold down **SHIFT** and press **6** for **ROTATE**. Then hold down **SHIFT** and press **Ø** for DOT:

9 Press **RUN** twice to show the graphic.