

Series E2000 LED Sign
OPERATING MANUAL
Using the Remote Control



Revision: **1.50**

November 9, 2004

CONTENTS

1. GENERAL DESCRIPTION	3
1.1 INTRODUCTION.....	3
1.2 VERSION INFORMATION	4
1.3 POWER-ON INITIALIZATION.....	4
1.4 SIGN ON/OFF SWITCHING	4
1.5 SETTING DEFAULT FILE.....	5
1.6 DISPLAY TEST	5
1.7 MAIN MENU	5
2. TEXT PROGRAM.....	7
2.1 CREATING NEW TEXT FILES	7
2.2 TEXT FILE COMMANDS	7
2.3 EDITING TEXT FILES	8
2.3.1 <i>Text Editor Interface</i>	8
2.3.2 <i>Text Editor Command Keys</i>	8
2.3.3 <i>Changing Display Method</i>	9
2.3.4 <i>Changing Character Font</i>	9
2.3.5 <i>Selecting Bold Font</i>	10
2.3.6 <i>Selecting Wide Font</i>	10
2.3.7 <i>Changing Character Color</i>	10
2.3.8 <i>Changing Message Moving Speed</i>	10
2.3.9 <i>Changing Message Pause Period</i>	10
2.3.10 <i>Displaying Time and Date</i>	11
2.3.11 <i>Displaying Graphics</i>	11
2.3.12 <i>Starting New Line</i>	11
2.3.13 <i>Starting New Page</i>	12
2.3.14 <i>Multi-Window Function</i>	12
2.3.15 <i>Including Existing Text Files</i>	12
2.3.16 <i>Changing Line Spacing</i>	13
2.3.17 <i>Fast Cursor Positioning</i>	13
2.3.18 <i>Deleting Large Number of Characters</i>	13
2.3.19 <i>Sound with Text</i>	14
2.3.20 <i>Inserting International Character</i>	14
2.3.21 <i>Displaying Temperature</i>	15
2.3.22 <i>Create a Decounter</i>	15
3. GRAPHICS PROGRAM.....	16
3.1 CREATING NEW GRAPHICS FILES	16
3.2 GRAPHICS FILE COMMANDS	16
3.3 EDITING GRAPHICS FILES.....	17
3.3.1 <i>Graphics Editor Command Keys</i>	17
3.3.2 <i>Changing Graphics Size</i>	17

3.3.3	<i>Draw and Erase</i>	18
3.3.4	<i>Clearing Entire Graphics File</i>	18
4.	PROGRAM SCHEDULE	19
4.1	ADDING NEW TASK TO SCHEDULE.....	19
4.2	MODIFYING EXISTING SCHEDULE TASK	21
4.3	DELETING TASK FROM SCHEDULE	21
4.4	ENABLING/DISABLING SCHEDULE TASK	22
5.	SYSTEM SETUP	23
5.1	DATE AND TIME.....	23
5.2	SERIAL ID ADDRESS	23
5.3	BAUD RATE.....	24
5.4	PASSWORD	24
5.5	AUTO POWER ON/OFF	24
5.6	SOUND ON/OFF	25
5.7	BACKUP ON/OFF	25
5.8	RECOVER ON/OFF	25
6.	OTHER FUNCTIONS	26
6.1	CLEAR MEMORY	26
6.2	CLEAR SCHEDULE	26
6.3	CLEAR GRAPHICS FILES.....	26
6.4	CLEAR TEXT FILES	26
6.5	VIEW MEMORY INFORMATION.....	26
6.6	SEND MEMORY.....	27
6.7	BACKUP MEMORY	27
6.8	RECOVER MEMORY.....	27
7.	TROUBLE SHOOTING	28
8.	INSTALLATION	29

1. GENERAL DESCRIPTION

1.1 INTRODUCTION

This sign is capable of displaying text and graphics. Messages are stored as files. The system has 16,384 bytes of memory for text files and 24,576 bytes for graphics files. Maximum number of stored text and graphics files is 250 each. Maximum size of a file can reach the entire memory size of the system.

- Maximum Width: 240 pixels
- Height: 16 pixels
- 16 color combinations:
 - 3 basic colors
 - 5 rainbow colors
 - 8 mixture colors
 - Automatic color rotation (ACL)
- 9 fonts: SS5, SS7, SF7, SF10, SS16, SF16, TM16, AR16, SMA. Plus all fonts may be BOLD and/or WIDE.
- 41 display modes:
 - 6 slide modes
 - 6 cover modes
 - 6 roll modes
 - 4 interlace-slide modes
 - 6 interlace-roll modes
 - 4 shutter modes
 - 9 special effect modes

AUTO display randomly selects one of available display modes

SCROLL display mode for **scrolling** of large continuous messages

ROTATE display mode for **rotating** of a continuous message
- 8 message moving speeds
- 8 pause periods from 0 to 60 seconds
- 3 kinds of audible beeps during text display
- 61 special international characters.
- 4 time and 5 date formats. Custom time/date format also available.
- 8-characters length file name. Maximum 250 text files and maximum 250 graphic files.
- Text Memory: 16k bytes
- 24k bytes graphics memory for 38 colorful graphics (or more) at 160*16 pixels. Flexible size of graphics files.
- INCLUDE function to call other text files from memory.
- Multi-WINDOW function allowing for different parts (windows) with different display modes. For example, freeze parts of the display while moving other parts.

- 30 schedule tasks with 3 priorities enable periodic tasks by week, month or year.
- User friendly interface and programming via infrared remote control.
- RS232 or RS422 interface. Modem is supported for long distance communication. Up to 255 signs in one network. Baud rates: 1200, 2400, 4800, 9600, 14400, 19200, 28800 and 57600.
- Duplex function allowing for reading stored data from the sign by PC and copying data from one sign to another
- Password security protects the sign from unauthorized access
- Automatic power ON / OFF schedule
- Memory Backup feature make the data storage more reliable

1.2 VERSION INFORMATION

Revision 1.50 adds support for backup the memory to the flash. You don't need to worry about the memory losing now. Refer to Chapter 6 for memory backup. You can setup the sign to backup and recover the memory automatically. Refer to Chapter 5 for setting to auto backup and recover mode.

Revision 1.32 adds support for decouner (Count down to a given time in days, hours, minutes or seconds). Refer to Chapter 2.3.22 "Create a Decouner" for detail.

Revision 1.30 adds support for temperature display. Refer to Chapter 2.3.21 "Displaying Temperature" for detail.

1.3 POWER-ON INITIALIZATION

Upon power up the system initialization is performed as follows:

- (1) Install fonts from the font chip, reports NO FONTS CHIP on failure.
- (2) At initial startup, clear the memory, load default settings and set the real time clock to 1 Jan 2000, 00:00:00.
- (3) Close unsaved files when abnormal shutdown. Abnormal shutdown will occur when power fails or system halts during remote control programming or serial communication access.
- (4) Check the system data integrity. Despite the memory being backed up by a battery, it may become corrupted in some unusual circumstances. If the auto recover mode is off, the system will report VERIFY ERROR, and prompt for clearing of the affected data. If the auto recover mode is on, the memory will be recovered from the flash automatically without any prompt.
- (5) Initialize the modem to automatic answer mode if modem detected.

1.4 SIGN ON/OFF SWITCHING

Switch the sign between ON and OFF States by pressing key.

Power up the sign, it will perform the initialization and restore the conditions saved before the last power down. If the sign was in OFF State before last power down, the sign will still keep in OFF State and screen will be cleared; only one dot in the top-right corner will flash slowly. If the sign was in ON State before last power down, the sign will still keep in ON State and it will begin running preprogrammed files.

Which file will run first?

- A default file will run when no other task in the schedule meets the running condition. Default file can be set with the **RUN** key.
- The DEMO file will run if no default file has been set.
- Scheduled tasks of the highest priority will run when they meet the running condition.

The **ON** key can turn the sign ON or OFF. When the sign is at OFF, it consumes low idle power even if it is still connected to the power source.

1.5 SETTING DEFAULT FILE

Press **RUN** key, input the file name or use **NEXT** and **PREV** to select a file. It is possible to input first few characters and then use **NEXT** and **PREV** to find the file in the listing. Next press **ENT** to finish setting.

Use **DEL** or **←** key to delete a character and **ESC** key to cancel the procedure.

NOTES: After setting the default file, it will not run immediately. The scheduled tasks will run first. Disable or clear all scheduled tasks to run the default file only.

1.6 DISPLAY TEST

Press **ON** key to turn OFF the sign. Press **T E S T 1**. The sign will display red, green and yellow on the entire screen.

1.7 MAIN MENU

Main Menu allows for easy programming of message files, arranging schedule tasks, configuring the sign etc....

Press **PROG** key to call up the Main Menu. The sign will show the menu items as follows:

PROGRAM TEXT

Performs all text file operations: NEW, EDIT, RUN, DELETE, RENAME and COPY, view PROPERTY.

PROGRAM GRAPHICS

Performs all graphics file operations: NEW, EDIT, DELETE, RENAME and COPY, view PROPERTY.

PROGRAM SCHEDULE

Performs all schedule operations: NEW, EDIT, DELETE and DISABLE/ENABLE.

SETUP

Performs system configurations: DATE AND TIME, SERIAL ADDRESS, BAUD RATE, PASSWORD, AUTO ON/OFF SOUND ON/OFF.

OTHER




Performs all other operations such as: CLEAR MEMORY, CLEAR SCHEDULE, CLEAR GRAPHICS, CLEAR TEXTS, MEMORY info, SEND MEMORY.

Press **NEXT** and **PREV** to select an item.

Available hot keys:




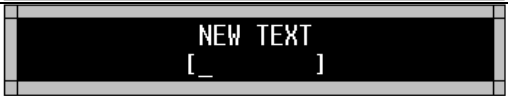


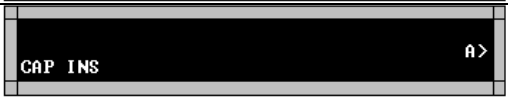

ON	Turn OFF the sign
PROG	Open text file (creates new text file if there's no existing file)
GRA	Open graphics file (creates new graphics file if there's no existing file)
RUN	Close the main menu and return to the running mode

2. TEXT PROGRAM



PROGRAM TEXT when selected, will list text files in the second line of the screen. The first item of the file list will be “- NEW -”, which allows creating a new file. Use  and  to select a previously programmed text file. The file list is sorted by name, so by pressing the first character key of the name the selection may be faster. To select the first item (“NEW”), press  key.

2.1 CREATING NEW TEXT FILES

The following table shows how to create a new text file.



STEP	PROCEDURE	DISPLAY ON THE SIGN
1	Press  key to enter the main menu. The first menu item PROGRAM TEXT will appear.	
2	Press  key, the first item of file list “NEW” will be selected. The sign will create a new text file.	
3	Press  for file name, then press  to start editing text file (for details, see chapter: 2.3 EDIT TEXT FILE)	
4	Press  key finish the text editing and return to the running mode.	

2.2 TEXT FILE COMMANDS

After selecting a text file from the file list press  key to display commands menu. Use  or  key to select a command. Press  key to execute it.

- EDIT** Edit current text file
- RUN** Set current text file as default and return to running mode
- DELETE** Delete current text file. The screen will prompt: “ DELETE TEXT A, ARE YOU SURE (Y/N)?”. Press “Y” to confirm, “N” to cancel.
- RENAME** Rename current text file
- COPY** Make a copy of current text file
- PROPERTY** View current text file’s property such as size and modify time

Available hot keys:

-  Edit the text file
-  Set the text file as default and return to running mode

DEL Delete the text file

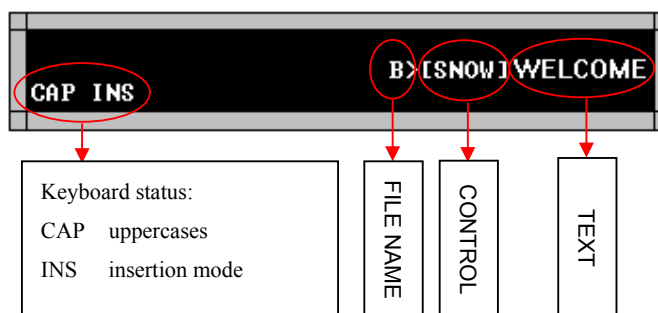
The following table shows how to edit an existing text file “B” (the text file “B” has been already created):

STEP	PROCEDURE	DISPLAY ON THE SIGN
1	Press PROG key to enter the main menu. The first menu item PROGRAM TEXT will appear.	
2	Press B key to select the text file “B”	
3	Press ENT key to display the command menu. The first command EDIT will be shown. *	
4	Press ENT key to start editing the text file “B”.	
5	Press RUN key to finish the text editing and return to the running mode.	

* Pressing the **PROG** key will cause the system to go to edit text file “B” immediately after step 2.

2.3 EDITING TEXT FILES

2.3.1 Text Editor Interface



The contents of the text file will be displayed in a single line. The CURSOR is always located in the rightmost character of the screen. The file name will be displayed in the beginning of the text file and delimited by the character '>'. “CONTROLS” control display methods, fonts, colors and so on. They are often delimited by '[' and ']'. The text is displayed in its actual font and color.

The current keyboard status is shown in the bottom-left corner of the screen.

2.3.2 Text Editor Command Keys

ON Close and save the file, and turn OFF the sign
RUN Close and save the file and run it as default
PROG Close and save the file and go to main menu
CAP Toggle between uppercase and lowercase

INS	Toggle between insertion mode and overwriting mode
ESC	Hide / Show the keyboard status
←	Move cursor left
→	Move cursor right
ALT ←	Move cursor to the front page
ALT →	Move cursor to the next page
DEL	Delete one text character or control character
ALT DEL	Delete the current page

2.3.3 Changing Display Method

METHOD control is used to change the display methods.

Press **MET** key to insert the METHOD control character in the text. The sign has 41 display methods (including AUTO, SCROLL, ROTATE...etc). Press **NEXT** or **PREV** to select, or press **ALT** **NEXT** or **ALT** **PREV** for faster selection.

The table below lists available display methods:

METHOD	DESCRIPTION
[AUTO]	Randomly selects one of the available display modes. (Default)
[IMMED]	Immediate display mode
[SLIDE]	Slide display modes (6 directions)
[COVER]	Cover display modes (6 directions)
[ROLL]	Roll display modes (6 directions)
[INSLID]	Interlace-slide display modes (4 kinds)
[INROLL]	Interlace-roll display modes (6 kinds)
[SHUTT]	Shutter display modes (4 kinds)
[JUMP]	Jump display mode
[SNOW]	Snow display mode
[RANDOM]	Random display mode
[SHOOT]	Shoot display mode
[EXPLODE]	Explode display mode
[TWINKLE]	Twinkle display mode
[FLASH]	Flash display mode
[PACMAN]	Pac-Man display mode
[SCROLL]	Scroll display mode, use to scroll a large continuous message
[ROTATE]	Rotate display mode, use to rotate a large continuous message

2.3.4 Changing Character Font

Press **FONT** key to insert the text FONT control character. To select one of the 9 fonts, use **NEXT** or **PREV** key.

The following table lists available fonts:

FONT	DESCRIPTION
[SS5]	SANS SERIF, 5 pixels height
[SS7]	SANS SERIF, 7 pixels height (Default)
[SF7]	SERIF, 7 pixels height
[SF10]	SERIF, 10 pixels height
[SS16]	SANS SERIF, 16 pixels height
[SF16]	SERIF, 16 pixels height
[TM16]	Times New Roman, 16 pixels height

[AR16]	Arial, 16 pixels height
[SMA]	Small Fonts, 8 pixels height

2.3.5 Selecting Bold Font

Press **[ALT]** **[0]** key to insert the BOLD control character for the text. All text between two BOLD control characters will be displayed as bold font.

2.3.6 Selecting Wide Font

Use **[NEXT]** key to turn the BOLD control character to WIDE control character. All text between two WIDE control characters will be displayed as wide font. Wide text is double width.

2.3.7 Changing Character Color

Press **[COL]** key to insert the text COLOR control character. Use **[NEXT]** or **[PREV]** key to select one of the color combinations.

The following table lists available combinations:

COLOR	DESCRIPTION
[ACL]	Auto color, circularly change color when load a new page
[RED]	Red (Default)
[GRN]	Green
[YEL]	Yellow
[RB1]	Rainbow color 1
[RB2]	Rainbow color 2
[RB3]	Rainbow color 3
[RB4]	Rainbow color 4
[RB5]	Rainbow color 5
[MIX1]	Mixture color 1
[MIX2]	Mixture color 2
[MIX3]	Mixture color 3
[MIX4]	Mixture color 4
[MIX5]	Mixture color 5
[MIX6]	Mixture color 6
[MIX7]	Mixture color 7
[MIX8]	Mixture color 8

2.3.8 Changing Message Moving Speed

Press **[SPE]** key to insert the SPEED control character. The sign supports 8 speeds. Use **[NEXT]** and **[PREV]** to select one of them. [SPEED1] is the lowest speed, and [SPEED8] is the fastest. Default speed is [SPEED5].

2.3.9 Changing Message Pause Period

Press **[PAU]** key to insert PAUSE control character for the text. Use **[NEXT]** or **[PREV]** key to select one of the available pause periods.

PAUSE	DESCRIPTION
[NO PAU]	No pause
[PAU 1S]	Pause 1 second
[PAU 2S]	Pause 2 seconds
[PAU 3S]	Pause 3 seconds
[PAU 5S]	Pause 5 seconds (Default)
[PAU 10S]	Pause 10 seconds
[PAU 30S]	Pause 30 seconds
[PAU 60S]	Pause 1 minute

2.3.10 Displaying Time and Date

Press **[TIME]** key while in the edit text file mode. The system will display the time insertion menu as in the following table:

MENU ITEM	DESCRIPTION
INSERT TIME	Insert time, 4 formats: 23:59 (Default); 23:59:59; 12:59 AM; 12:59:59 AM
INSERT DATE	Insert date, 5 formats: 1 Jan 2000 (Default); Jan 1, 2000; 10/1/2000; 1/10/2000; 2000.1.10
INSERT HOUR-24	Insert hour in 24-hour mode
INSERT HOUR-12	Insert hour in 12-hour mode
INSERT MINUTE	Insert minute
INSERT SECOND	Insert second
INSERT AM/PM	Insert AM/PM, 4 formats: e.g. AM (Default); A; am; a
INSERT WEEK	Insert day of week, 4 formats: e.g. Mon (Default); Monday; MON; MONDAY
INSERT DAY	Insert day of month
INSERT MONTH	Insert month, 5 formats: e.g. Jan (Default); January; 1; JAN; JANUARY
INSERT YEAR	Insert year, 2 formats: e.g. 2000; 00

Use **[NEXT]** or **[PREV]** key to select the time element, then press **[ENT]** key to insert it, or press **[ESC]** key to cancel.

After inserting the TIME control, use **[NEXT]** or **[PREV]** key to change the time element format.

2.3.11 Displaying Graphics

Note: A graphics file must be created before it can be displayed. Please refer to Chapter 3 for details.

Press **[GRA]** key while in the editing mode. The system will prompt to input the graphics file name:

```

INSERT GRAPH
[ _ ]

```

Input the file name or use **[NEXT]** or **[PREV]** keys to select a file. Then press **[ENT]** key to insert the selected graphics file, or press **[ESC]** key to cancel.

2.3.12 Starting New Line

In the text editing mode press **[ENT]** key to insert the NEWLINE control character (↵) in order to start a new line.

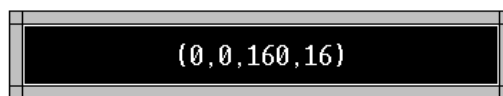
2.3.13 Starting New Page

In the text editing mode press **ALT** **ENT** key to insert the NEWPAGE control character (---PAGE---) in order to start a new page.

2.3.14 Multi-Window Function

This function allows to display a message in a selected screen area (window) and to align that message within the window by using WINDOW control functions.

Press **ALT** **M** key while in the text editing mode. The screen will display a blinking box indicating the current window border. The coordinates for the top left corner, width and height of the window will be displayed in the center of the screen.



Use the direction keys: **↖** **↗** **↘** **↙** **→** **←** **↕** **↔** to move the left and the top border of the window. Hold the **ALT** key down while pressing one of the direction keys to move the right and the bottom border of the window. Keys **←** **→** or **NEXT** **PREV** in combination with **ALT** key may be used to modify the window box faster.

Press **ENT** or **ESC** key to save the window size and position. The WINDOW control character will be automatically inserted in the text. Pressing **ALT** **M** key will modify the window box again. Pressing **NEXT** and **PREV** key will select the text alignment mode of the window as listed below:

WINDOW	TEXT ALIGNMENT
←L ↑T	Left align and top align
←C ↑T	Center align and top align
←R ↑T	Right align and top align
←L ↕M	Left align and middle align
←C ↕M	Center align and middle align (Default)
←R ↕M	Right align and middle align
←L ↓B	Left align and bottom align
←C ↓B	Center align and bottom align
←R ↓B	Right align and bottom align

2.3.15 Including Existing Text Files

Use this function to display a text file previously stored in the memory.

Press **ALT** **N** key while in the text editing mode. The system will prompt for input of the

filename of the text to be included:



Input the file name or use **NEXT** or **PREV** to select one from the list. Then press **ENT** key to insert, or press **ESC** key to cancel.

INCLUDE control character will be displayed as [I: filename].

NOTES: The maximum depth of INCLUDE function is limited to 20. Cross-Including is not allowed.

2.3.16 Changing Line Spacing

Press **ALT Y** key to insert the VSPACE control character that allows to control the line spacing. The default line spacing is [VS 0]. In this setting the system will leave 1 pixel space between two adjacent lines wherever possible. When [VS 1-15] is selected, the line space will be set from 1 to 15 pixels.

The VSPACE control character must be inserted in the beginning of a text line. Press **ALT Y** key to select line spacing from [VS 0] to [VS 15].

2.3.17 Fast Cursor Positioning

Press **ALT SPA** key while in the text editing mode. The system will display the “GO TO” menu. Use **←** **→** or **NEXT** **PREV** keys to select a menu item as listed below. Press **ENT** to move the cursor to the selected position.

MENU ITEM	DESCRIPTION
GO TO FILE BEGINNING	Move cursor to the file beginning
GO TO END OF FILE	Move cursor to the end of file
GO TO PREV CONTROL	Move cursor to the previous control character
GO TO NEXT CONTROL	Move cursor to the next control character

2.3.18 Deleting Large Number of Characters

Press **CLR** key while in the text editing mode. The system will display the “CLEAR” menu. Use **←** **→** or **NEXT** **PREV** keys to select a menu item as listed below. Press **ENT** to execute the selected instruction.

MENUITEM	DESCRIPTION
CLEAR ALL THIS FILE	Delete all characters in the file
CLEAR TO FILE BEGINNING	Delete all characters from the cursor position to the file beginning
CLEAR TO END OF FILE	Delete all characters from the cursor position to the file end
CLEAR TO PREV CONTROL	Delete characters from the cursor position to the previous control character (not including the control character).
CLEAR TO NEXT CONTROL	Delete characters from the cursor position to the next control character (not including the control character).

2.3.19 Sound with Text

Press **[BEEP]** key while in the text editing mode to insert the SOUND control character. Use **[NEXT]** and **[PREV]** to select one of the 3 beep sounds: [BEEP1], [BEEP2] or [BEEP3]. The selected sound will be integrated with the edited text.

2.3.20 Inserting International Character

While in the text editing mode, first input one of the characters from the left column as in the table below, then press **[NEXT]** or **[PREV]** key to select an international character. For example: to input the character ‘€’, the character ‘\$’ must be input first, then press **[NEXT]** key six times or press **[PREV]** key once.

General Character	International Characters
A	À Á Â Ã Ä Å Æ Ç È É
C	Ç Ć Ć
D	Đ
E	É Ê Ë
I	Í
N	Ñ
O	Ö Ø
S	Š
U	Û
Z	Ž
A	â á à ã ä å æ ç è é ê ë
C	ç ć Ć
D	đ
E	é ê ë è
I	í î ï
N	ñ
O	ô õ ö ó ò ï
S	š
U	û û ù ú
Y	ÿ
Z	ž
?	¿
!	¡
\$	¢ £ ¥ ¤ f €

2.3.21 Displaying Temperature

Press **CPW** key to insert the TEMPERATURE control character to display temperature in the text file. Three formats temperature are available: Centigrade (°C), Fahrenheit (°F) and Kelvin (K), use **NEXT** or **PREV** to select them.

NOTES: This feature is available only for the sign that has installed temperature sensor.

2.3.22 Create a Decounter

We often use a decounter to wait for an important moment such as Year 2K, World Cup 2002, etc.

You can create a decounter like this:

Press **ALT****TIME** when editing text file, a menu will appear:

ADD DECOUNTER IN DAYS	the result number is days to the given time
ADD DECOUNTER IN HOURS	the result number is hours to the given time
ADD DECOUNTER IN MINUTES	the result number is minutes to the given time
ADD DECOUNTER IN SECONDS	the result number is seconds to the given time

Choose the item you need, then press **ENT** to continue, the screen will display:

```

01 Jan 2000
23:59:59 Sat

```

Set the time that will be count down to and press **ENT**, a decounter now has been created.




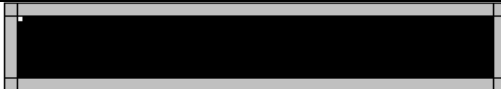
The decounter add in text will display in a number from 0 to 65535. Larger number will display as '-----'. The decounter will stop at 0 when the given time passed.

3. GRAPHICS PROGRAM

Graphics programming is similar to that of text programming.

3.1 CREATING NEW GRAPHICS FILES

Follow the table below to create a new graphics file. Example filename: “A”:

STEP	PROCEDURE	DISLAY ON THE SIGN
1	Press PROG key to enter the main menu. The first menu item PROGRAM TEXT will appear.	
2	Press NEXT key to select the menu item “PROGRAM GRAPHICS”.	
3	Press ENT key, the first item of file list “NEW ” will be created as a new graphics file.	
4	Press A for file name, then press ENT to start editing. (For details, see chapter 3.3 EDIT THE TEXT FILE)	
5	Press RUN key to finish the graphics editing and return to the running mode.	

3.2 GRAPHICS FILE COMMANDS

After selecting a graphics file from the file list, press **ENT** key to display the command menu. Use **→** or **←** key to select a command. Press **ENT** key to execute it.

- EDIT** Edit current graphics file
- DELETE** Delete current graphics file. The screen will prompt “ DELETE GRAPH A, ARE YOU SURE (Y/N)?”, press “Y” to confirm, “N” to cancel.
- RENAME** Rename current graphics file
- COPY** Make a copy of current graphics file
- PROPERTY** View current graphics file’s property such as size and modification time.

Available hot keys:

- PROG** Edit the graphics file
- DEL** Delete the graphics file

The following table shows how to edit existing graphics file “B” (created previously):

STEP	PROCEDURE	DISPLAY ON THE SIGN
1	Press PROG key to enter the main menu. The first menu item PROGRAM TEXT will appear.	
2	Press NEXT key to select the menu item PROGRAM GRAPHICS.	
3	Press B key to select graphics file "B".	
4	Press ENT key to display the command menu. The first command EDIT is shown.	
5	Press ENT key to start editing graphics file "B".	
6	Press RUN key to finish graphics editing and return to the running mode.	

* Press **PROG** key to go to edit graphics file "B" immediately after step 3.

3.3 EDITING GRAPHICS FILES









3.3.1 Graphics Editor Command Keys










ON	Close and save the file and turn OFF the sign
RUN	Close and save the file and return to running mode
PROG	Close and save the file and go to main menu
	Move cursor left and up
	Move cursor up
	Move cursor right and up
	Move cursor left
	Move cursor right
	Move cursor left and down
	Move cursor down
	Move cursor right and down
	Toggle paint mode
NEXT	Select pen color
PREV	Select pen color
SPA	Toggle one point drawing

3.3.2 Changing Graphics Size





In graphics editing mode, press **ENT** or **ESC** key to change graphics size.




Press  or  to select “HEIGHT” or “WIDTH” to change. Press key  or  to modify the value or  or  to modify fast. Finally press  or  to complete.

It is also possible to adjust the graphics size by using the combined keys:  key plus one of the cursor-moving keys        .

3.3.3 Draw and Erase

Press  key to toggle the paint mode on/off. Use  or  key to select color, move the cursor, then you can draw a line, which follow the track of cursor. To erase the line move the cursor along the line once again (keep paint mode on, do not change cursor color). The line will be erased. The  key is used to draw or erase one dot.



3.3.4 Clearing Entire Graphics File

In graphics editing mode, press  key to clear the entire graphic. The screen will prompt as shown below:








Press “Y” to confirm, “N” to cancel.

4. PROGRAM SCHEDULE

PROGRAM SCHEDULE is the third item in the main menu. If no task exists in the schedule, the second line will display “- NEW -” prompting to create a new task. If there are some programmed tasks already, use  and  key to select them.

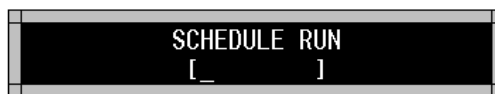
4.1 ADDING NEW TASK TO SCHEDULE




The following table shows how to create a new schedule task:

STEP	PROCEDURE	DISPLAY ON THE SIGN
1	Press  key to enter the main menu. The first menu item PROGRAM TEXT will appear.	
2	Press  key twice to select the “PROGRAM SCHEDULE”.	
3	Press  key to start adding new task.	

The following 7 steps are needed to create a new schedule task:






Step 1 Input the text file name that will be run in task:



Use  or  key to select one, then press  to continue.

Step 2 Set the START DATE of the task:



The date format must be D-M-Y (date-month-year). Use  or  key to move the cursor, and press number keys from  to  to modify, then press  to continue.

If the year is set to 0, the year will be ignored and the task will start each year. For example, if START DATE is set to 01-05-0000, the task will start on May 1st of each year.

If both, the year and the month are set to 0, the task will start each month. For example: START

DATE 01-00-0000 means the task will start on the first day of each month.

If all of the year, month and day are set to 0, the task will be run always. This is also the default setting of the system.

Step 3 Set the END DATE of the task:

TO [D-M-Y]
00-00-0000

The date format must be D-M-Y (date-month-year). Use or to move the cursor, and press number keys from to to modify, then press to continue.

If the year is set to 0, the year will be ignored and the task will end each year. For example, if END DATE is set to 31-10-0000, the task will end after 31 Oct of each year.

If both the year and the month are set to 0, the task will end each month. For example, END DATE 10-00-0000 means the task will end after the 10th each month.

If all of the year, month and day are set to 0, the task will never stop. This is also the system default setting.

Step 4 Set the START TIME of the task:

FROM [hh:mm]
00:00

The time format must be hh: mm (hour: minute). Use or to move the cursor, and press number keys from to to modify, then press to continue. The default START TIME is 00:00.

Step 5 Set the END TIME of the task:

TO [hh:mm]
23:59

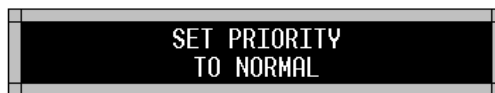
The time format must be hh: mm (hour: minute). Use or to move the cursor, and press number keys from to to modify, then press to continue. The default END TIME is 23:59.

Step 6 Set the running days of the week:



Use **→** or **←** key to move the cursor, and press **NEXT** or **PREV** to modify, then press **ENT** to continue. The default setting is run from Monday to Sunday (run on each day of the week).

Step 7 Set the priority of the task:



Use **NEXT** or **PREV** to modify, then press **ENT** to finish adding new task. The three levels of priorities are: NORMAL, LOW and HIGH.

This procedure can be canceled by pressing **ESC** key at any time. The new task will be displayed on the task list immediately after these 7 steps (In the second line of the screen).



4.2 MODIFYING EXISTING SCHEDULE TASK

The following table shows how to modify an existing schedule task:

STEP	PROCEDURE	DISPLAY ON THE SIGN
1	Press PROG key to enter the main menu. The first menu item PROGRAM TEXT will appear.	
2	Press NEXT key twice to select "PROGRAM SCHEDULE".	
3	Use → and ← to choose the task to modify.	
4	Press ENT key start to modify the task.	

7 steps are needed to modify the task, please refer to section 4.1 ADD NEW TASK TO SCHEDULE.

4.3 DELETING TASK FROM SCHEDULE

The following table shows how to delete a schedule task.

STEP	PROCEDURE	DISPLAY ON THE SIGN
1	Press [PROG] key to enter the main menu. The first menu item PROGRAM TEXT will appear.	
2	Press [NEXT] key twice to select "PROGRAM SCHEDULE".	
3	Use [→] and [←] to select the task to delete.	
4	Press [DEL] key to delete the task.	
5	Press [Y] to confirm deletion.	

4.4 ENABLING/DISABLING SCHEDULE TASK

The following table shows how to enable or disable a schedule task:




STEP	PROCEDURE	DISPLAY ON THE SIGN
1	Press [PROG] key to enter the main menu. The first menu item PROGRAM TEXT will appear.	
2	Press [NEXT] key twice to select "PROGRAM SCHEDULE".	
3	Use [→] and [←] to select the task to enable/disable.	
4	Press [SPA] key to disable the task. Symbol '⊘' indicates that the task has been disabled.	
5	Press [SPA] key again to enable the task. Symbol '⊙' indicates that the task has been enabled.	
6	Press [RUN] key then return to the running mode.	

5. SYSTEM SETUP

When selected, the setup menu command will be displayed in the second line of the screen.

The setup menu commands:

DATE & TIME	Set current date and time
SERIAL ADDRESS	Set serial address
BAUD RATE	Set baud rate
PASSWORD	Set password
AUTO ON/OFF	Set automatic power on/off
SOUND OFF/ON	Toggle off/on the sound function
AUTO BACKUP ON/OFF	Toggle on/off the automatic backup memory mode
AUTO RECOVER ON/OFF	Toggle on/off the automatic recover memory mode

Press  and  to select the setup menu item, then press  to perform the selected function.

5.1 DATE AND TIME







Select DATE & TIME from SETUP to adjust the real time clock. The screen will display:



```

01 Jan 2000
23:59:59 Sat

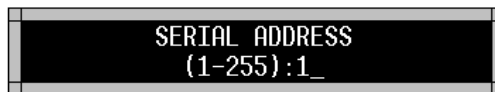
```

Press  or  to move the cursor, press  and  to modify, then press  or  to finish. The real time clock will be set to 01 Jan 2000, 00:00:00 when it runs for the first time.

5.2 SERIAL ID ADDRESS

The serial address is a number from 1 to 255 that is used to identify the sign in the network.






Select SERIAL ADDRESS from the SETUP to set the sign address. The screen will display:



```

SERIAL ADDRESS
(1-255): 1_

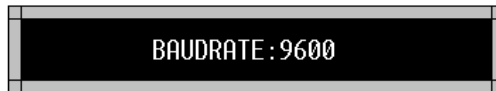
```

Press number keys from  to  for the serial address, or press  to delete one character. Press  or  when done.

The default serial address is set to 1.

5.3 BAUD RATE

Select BAUD RATE from the SETUP to set the baud rate of the serial communication. The screen will display:

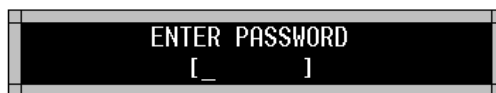


Press **NEXT** and **PREV** key to change, then press **ENT** or **ESC** to finish.

The default baud rate is 9600. Available baud rates are: 1200, 2400, 4800, 9600, 14400, 19200, 28800, and 57600.

5.4 PASSWORD

Select PASSWORD from the SETUP to set the password. The screen will display:



Enter the password and then press **ENT** key. The system will prompt to enter the password again:



Retype the password and press **ENT** key. Now the password has been changed, and password protection function will be enabled automatically. The password protection will be disabled when it is set to null. Password is needed when using **PROG** key to enter the main menu in password protection mode. Input the password and press **ENT** key.

NOTES: Remember or record the password! If the password gets lost, in order to regain access to the system, disconnect the sign and power supply, open the case and connect the SW2 on the main board to ground then power up the sign.

5.5 AUTO POWER ON/OFF

Select AUTO ON/OFF from SETUP to activate or deactivate automatic power ON feature. The default setting is: Manual ON/OFF.

Use **→** or **←** to choose the desired setting, press **NEXT** or **PREV** key to toggle MANUAL/AUTO. Set the Start time for the AUTO mode (default is 00:00, in HH:MM format).

Use and key to select between HH and MM. Use and key to modify time, press key to complete.

5.6 SOUND ON/OFF

Select SOUND ON/OFF from the SETUP to enable/disable the sound function. Default is ON.

5.7 BACKUP ON/OFF

Turn on/off the auto backup mode. Under auto backup mode, memory will be backup automatically when the memory content has been changed. Auto backup occur when the memory has been changed and the sign has been running for 10 minutes. Manually backup is necessary if the sign is often moved such as which install on a bus. Default is OFF. Refer to Chapter 6 for memory backup.

5.8 RECOVER ON/OFF

Turn on/off the auto recover mode. Under auto backup mode, memory will be recovered automatically when the memory is found damaged. Otherwise, you must press or to confirm the clearing of the affected data. Auto recover mode is the best choice when the sign connect to PC. Default is ON. Refer to Chapter 6 for memory backup.

6. OTHER FUNCTIONS

When selected, the OTHER commands will be displayed in the second line of the screen.

CLEAR MEMORY	Clear all memory
CLEAR SCHEDULE	Clear the schedule
CLEAR GRAPHICS	Clear all graphics files
CLEAR TEXTS	Clear all text files
MEMORY INFO	View memory information
SEND MEMORY	Send out all memory contents through serial communication to other signs. If you execute this command, the memory contents of all signs in the same net will become identical
BACKUP MEMORY	Backup the memory to the flash memory.
RECOVER MEMORY	Recover the memory from the flash memory

Note: To send memory contents to other signs, the baud rates of all signs must be the same.

Press  and  key to select a command, and press  key to execute it..

6.1 CLEAR MEMORY

All text and graphics files will be deleted, and the schedule will be cleared.
The setup will not be affected.

6.2 CLEAR SCHEDULE

All tasks in the schedule will be deleted.

6.3 CLEAR GRAPHICS FILES

All graphics files will be deleted.

6.4 CLEAR TEXT FILES

All text files will be deleted.

6.5 VIEW MEMORY INFORMATION

The system will display the text memory information first:



TEXT USED: 0
TEXT FREE: 16384

Then the graphics memory information:



GRAPH USED: 0
GRAPH FREE: 16384

6.6 SEND MEMORY

The SEND MEMORY command can perform the following functions:

- 1 . Send out the “Clear Memory” command to other signs;
- 2 . Send out all graphics files to other signs;
- 3 . Send out all text files to other signs;
- 4 . Send out the schedule to other signs;
- 5 . Send out the “Set default Running File” command to other signs.

6.7 BACKUP MEMORY

You should often backup the memory to avoid unforeseen data lost. The memory is battery powered and can be kept for only three months without power. The shaking of the sign during transportation may also damage the memory data. You can setup the sign to automatic backup mode. Refer to Chapter 5 for auto backup mode.

6.8 RECOVER MEMORY

The memory will be recover automatically when it is damaged. You can recover the memory manually by this command too. You can setup the sign to automatic recover mode. Refer to Chapter 5 for auto recover mode.

7. TROUBLE SHOOTING

- No display
- Check if the power socket located at the back of the sign is connected.
 - Check if the AC power plug is plugged into the wall outlet.
 - Check if the main power of the AC outlet is normal.
 - Check if the auto on/auto off time setting is correct.
- Not response to remote control
- Check the batteries in the remote control. If not sure, replace all batteries.
 - Check if the batteries in the remote control are placed correctly. Follow the markings in the battery compartment.
 - Check if there is anything between the remote and the sign blocking the remote signal.
- No display but response to the remote control
- Check if the auto on/auto off time setting is correct.
 - Check if the data in the files are valid.
 - If not sure, enter the editing mode and press 'CLR' key on the remote control. Select 'DEL ALL' to erase all data. This will reset the sign to display the default demo messages.

If the problem still exists, please contact your dealer.

8. INSTALLATION

