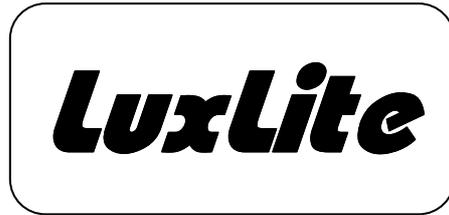


CE



Full-Series
Single Line Moving Sign
User Manual

INTRODUCTION

Welcome to be our moving sign user.

This manual is prepared for the whole family of our single line series of single and multi colour moving signs (LED module or discrete type) with IFR remote keyboard as a reference guide to users. For easy understanding, it is standardized and applicable to all models except there is basic colour difference between single and multi colour version. All illustrative exercises are given in a typical multi colour version, therefore, users in single colour models are requested to ignore the irrelevant descriptions especially concerning colour selection in the manual.

In fact, the sophisticated moving sign has been designed and developed through years of expertise and it is finally completed in high quality and very user friendly style.

User is not required to receive any special training in programming the sign. With comprehensive built-in guidance feature, sequential step-by-step menu displayed on screen will ensure the user not to lose his way during the whole procedure.

Moreover, several unique features such as Automode Programming, Password Protection, Instant On/Off, User Alterable Graphics as well as Animations are included in these product series, which will enhance the performance to the most satisfactory result.

Without the necessity of going through the rest of this manual, beginners are recommended to try the following easy operation guide as an immediate start-up practice.

1. EDIT AND RUN YOUR OWN MESSAGE IN AUTO MODE

EDIT Page A	<input type="text" value="ESC"/>	+	<input type="text" value="E"/>	+	<input type="text" value="P"/>	+	<input type="text" value="A"/>	+	<input type="text" value="AUTO"/>	+	<input type="text" value="your message"/>
	Escape		Edit		Page		Page				
	Key				mode		A				
RUN Page A	<input type="text" value="ESC"/>	+	<input type="text" value="E"/>	+	<input type="text" value="P"/>	+	<input type="text" value="A"/>				
	Escape		Run		Page		Page				
	Key				mode		A				

Your message will be displayed across the sign with attractive functions automatically.

2. RUN ANY EMPTY PAGE FOR BUILT-IN DEMO MESSAGE

<input type="text" value="ESC"/>	+	<input type="text" value="R"/>	+	<input type="text" value="P"/>	+	<input type="text" value="B"/>
Escape		Run		Page		Page B
Key				mode		(Empty page)

The demo message will be shown across the sign.

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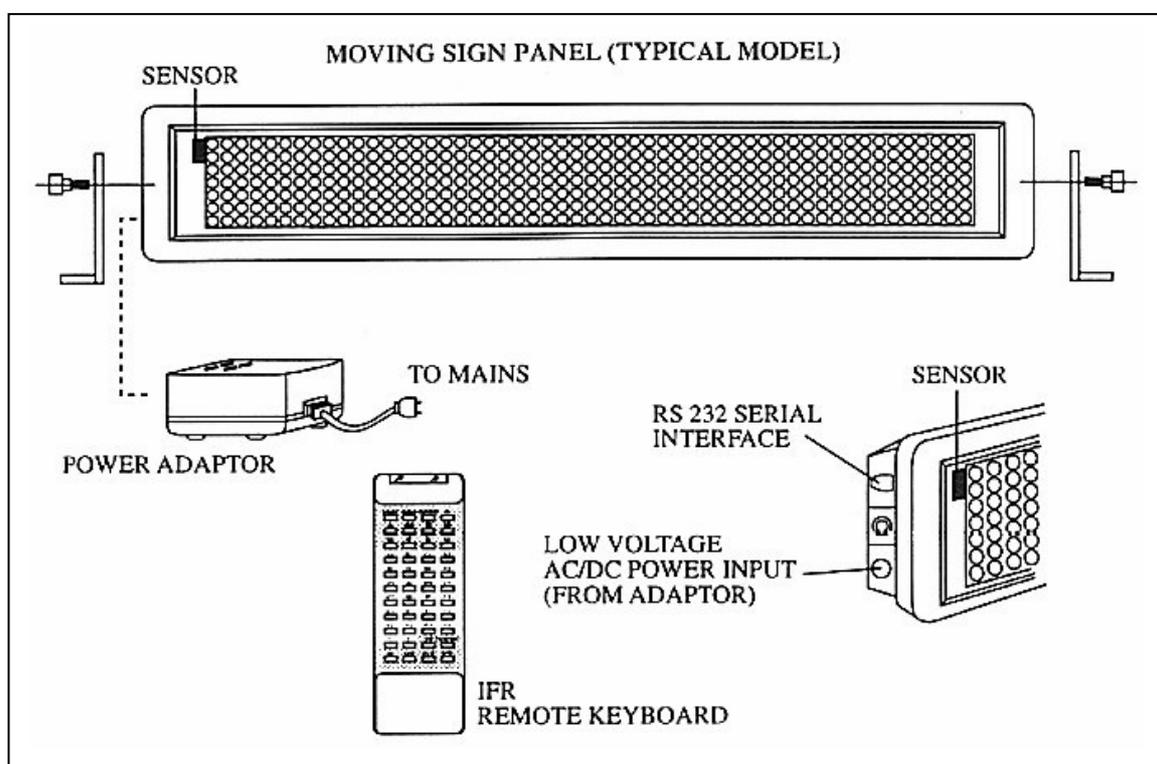
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SECTION I UNPACKING

You should receive, with each Moving Sign purchased, one display panel, one remote control keyboard, a pair of mounting brackets with screws, a power adapter and this user manual. Please inspect to make sure everything has been received and is undamaged. Any missing items should immediately be reported to the company from which you purchased.

SECTION II INITIAL SET UP

1. First plug the power adapter into the mains;
2. Plug the connector at the output end of power adapter to the round opening at the side of the Moving Sign panel. Charge up the memory back up battery in the sign by putting it on continuously for at least 8 hours initially.
3. Fix the mounting brackets on to both side of the Moving Sign panel by the screws provided.
4. Optional PC communication capability is available with its built-in RS232 through RJ11 interface port. Details of which will be provided separately upon request.



SECTION III

GENERAL DESCRIPTION

The Multi Colour Moving Sign is a 16 colour display device which enables user to create any desired page (message) up to 26 colour combinations. While in Single Colour Moving Sign, 2 Colour combinations are available for user's selection. In order to fully utilize this powerful Moving Sign, the first step is to understand how it operates.

This moving sign is divided into 3 main modes for Page, Timer and Graphic image.

Page is used to store the prepared message which will be shown on the screen. The length of each page (message) is not fixed until all the memory space is occupied. Contents of the message and various attractive screen effects can be input by means of the remote control keyboard. There are maximum 26 pages allowed in page mode which are numbered from A to Z.

Timer is a user-friendly command for the control of display sequence of the pages (messages) which have been stored in page mode. When the time coincides with the preset reference time in a Timer, the messages in this Timer will be shown out repeatedly until next Timer starts. There are 10 Timers from A to J for you to select. Inside each Timer, a maximum of 32 different combinations of pages can be arranged.

The Moving Sign has a Graphic image area where the pre-fixed graphic images are stored. It allows the user to re-edit these image patterns to show special symbols or characters based on their own design. Each Graphic image is formed by a 7x18 dots space and the user can create a maximum of 26 different images in the graphic image area. They are numbered from A to Z.

When the moving sign is switched on, Timer A (defaulted Timer) will be displayed automatically. Occasionally, Page A (defaulted page) will be displayed if Timer A contains no page, if Page A has no edited message, then a preset demo message will be shown out accordingly. On the other hand, if user wants to call out the demo message directly, he/she only has to run any empty page. Whenever user wants to stop the Moving Sign from showing message, press ESC key to exit RUN mode and enter to main operation menu.

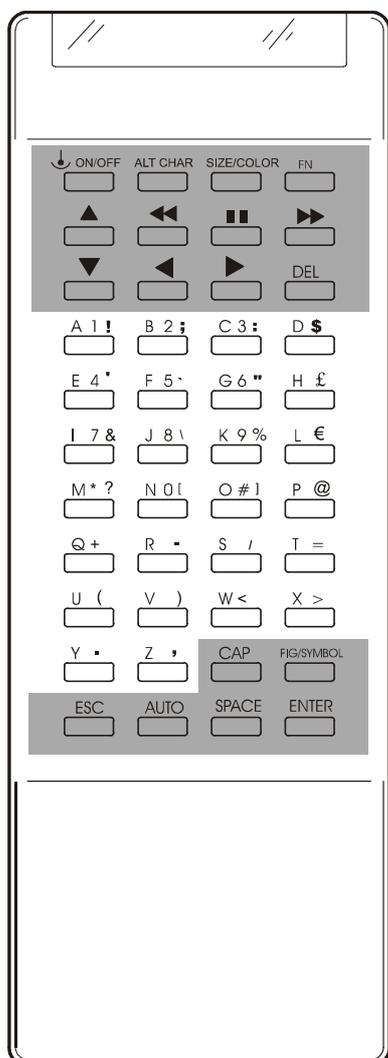
Relative clock is provided as standard feature and for the control of Timer operation. Any interruption of power source will reset the clock and require re-initialization.

Real time clock is provided as option. Timer clock will be backed up by built-in battery and the timing will not be interrupted by any disturbance in the power sources.

* Caution: This moving sign is not designed for outdoor use but for indoor use only.

SECTION IV PROGRAMMING GUIDE

MODEL RC-44A IFR KEYBOARD (STANDARD) INFRA-RED REMOTE KEYBOARD LAYOUT



A. Character Keys

Consists of 95 standard alphabet/numeric/symbol characters and 52 European characters.

Upper Case	(26)	:	A-Z
Lower Case	(26)	:	a-z
Numeric	(10)	:	0-9
Symbol	(29)	:	!"'...
European	(52)	:	éæ...

Details of European character set table, please refer to APPENDIX V.

B. Command Keys

Detailed description of the command key, please refer to SECTION VI.

Note:

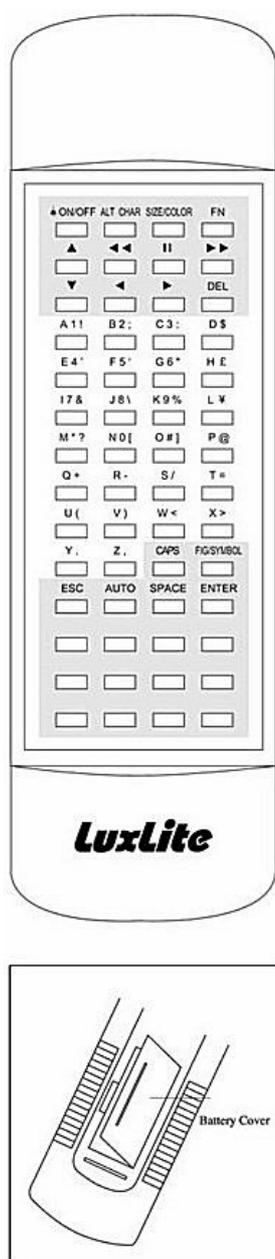
- 1) IFR keyboard must be pointed at the built-in Infra-red sensor located at the left hand corner of the moving sign.
- 2) Optimum operating distance should be around 1.5M to 10M
- 3) Do not subject the remote keyboard to impact, water or excessive humidity.
- 4) The remote keyboard operates two R6 (UM/SUM-3, AA) 1.5 volt batteries. If the remote keyboard does not operate or fails to function normally due to weak batteries, new batteries can be purchased at electronics or camera stores.

PROGRAMMING GUIDE

MODEL RC-56A IFR KEYBOARD (COMPATIBLE)

It is the optional IFR keyboard model with 56 keys design which may be supplied to some market areas. For standard moving sign shipments, it is implemented as 100% compatible with model RC-44A features. The unique design of RC-56A provides extra 12 spare keys which allows custom program implementation upon special request.

INFRA-RED REMOTE KEYBOARD LAYOUT



Inserting the Batteries

A. Character Keys

Consists of 95 standard alphabet/numeric/symbol characters and 52 European characters.

Upper Case	(26)	:	A-Z
Lower Case	(26)	:	a-z
Numeric	(10)	:	0-9
Symbol	(29)	:	!"...
European	(52)	:	éæ...

Details of European character set table, please refer to APPENDIX V.

B. Command Keys

Detailed description of the command key, please refer to SECTION VI.

Note:

- 1) IFR keyboard must be pointed at the built-in Infra-red sensor located at the left hand corner of the moving sign.
- 2) Optimum operating distance should be around 1.5M to 10M
- 3) Do not subject the remote keyboard to impact, water or excessive humidity.
- 4) The remote keyboard operates two R03 (UM-4, AAA) 1.5 volt batteries. If the remote keyboard does not operate or fails to function normally due to weak batteries, new batteries can be purchased at electronics or camera stores.

SECTION V MESSAGE PROGRAMMING

1. Getting Started

When you have completed the initial set-up procedure, you are now ready to explore the capabilities of this powerful eye catching tool.

Let's take the first step to have a message "Hello".

Press the **ESC** key for main menu, the screen shows: **Ed Rn Del Set**

Remarks: The Blinking capital letter is designed for you to choose the corresponding mode.

Press the **E** key for edit mode, the screen shows: **Page Tmr Gfx**

Press the **P** key for Page mode, the screen shows: **PAGE(A-Z)?**

Press the **A** key for Page A editing, the screen shows: **(START)**

Then type in the message "Hello" in the following steps: **H** **CAPS** **E** **L** **L** **O** **Space**

When the first letter is pressed, the message "(Start)" disappears and a rainbow capital "H" appears on the right hand side of the screen, then the small letters "ello" are shown correspondingly.

After the **CAPS** keys, the screen shows: **Hello**

Now, we have finished the message and are going to see what will happen when this message is on run mode.

Press the **ESC** key, the screen returns to: **Ed Rn Del Set**

Press the **R** key for Run mode, the screen will show: **Page Tmr**

Press the **P** key, the screen shows: **PAGE(A-Z)?**

Press the **A** key, the message "Hello" in rainbow colour, (defaulted colour) is shifting out from the right edge of the screen continuously.

Summarized Sequence:

Key

ESC

E **P** **A**

H **CAPS** **E** **L** **L** **O** **Space**

ESC

R **P** **A**

Meaning

Stop run mode

Edit page A

message being displayed

End Message editing

Run Page A

2. Changing character colour and size

In order to enrich the appearance of messages showing on the screen, the Colour Moving Sign provides you with a selection of colourful characters and different characters size.

(N.B. For details please refer to Appendix I – Colour Code Table)

Let's have a colourful message "Today is a Shny Day" in page B

Press **ESC** **E** **P** **B** keys to begin editing

Before typing any letter we want the word "Today" in Green colour instead of defaulted colour, therefore

Press **Size/Colour** **Size/Colour**, the screen shows: **COLOUR : A**

The corresponding colour is shown on screen, "A" represents colour "Dim RED", therefore, you may use **▲** or **▼** and Enter to search for your required colour, or press the corresponding character **M** key, to choose Green character,

Then screen resumes to edit: **(START)**.

Type **T** **CAPS** **O** **D** **A** **Y** **Space** the word "Today" in

Green colour is displayed on the right hand side of the screen. **Today**

Type the word "is a" in Lime colour by

Press **Size/Colour** **Size/Colour** **I** the screen resumes edit.

Type **I** **S** **Space** **A** **Space** the word "is a" in Lime colour follows the word "Today".

Now, the screen will show out the words like this: **Today is a**

After the above exercises have been finished, you may see that the background colour of the screen is always Black, in fact, you may change the background colour based on your requirements.

(N.B. For details please refer to Appendix I)

Now we will try to programme the message "Shny Day" in Red characters with Light Green background and black shadow.

Press **Size/Colour** **Size/Colour** **Z** to choose colour effect of Red characters with Light Green background and Black shadow.

Press **Size/Colour** key for selecting appropriate sizes, screen shows: **Size:A**.

Press **D** key to select Bold Italic character, or you may press **▲** or **▼** and **Enter**.

To choose character fonts, sizes and flashing characters, use the letters A-Z and refer to Appendix II Character Size Code Table for their meanings.

Type **CAPS S CAPS H N Y SPACE CAPS D CAPS A Y** the word “Shny Day” is displayed on the screen in Bold Italic font and Red in colour with Light Green background and black shadow.

Let’s run this message to see how colourful it is.

Press **ESC R P B** to exit page editing session and run page B.

The message “Today is a Shny Day” in Green, Lime, Red and background colour with different character fonts is shifting out from the right edge across the screen again and again.

Summarized Sequence:

Key

ESC
E P B
Size/Colour Size/Colour M
T CAPS O D A Y Space
Size/Colour Size/Colour I
I S Space A Space
Size/Colour Size/Colour Z

Size/Colour D
CAPS S CAPS H N Y
Space CAPS D CAPS A Y
ESC
R P B

Meaning

Stop run mode
Edit page B
Change to Green colour
Message being displayed
Change to Lime colour
Message being displayed
Change to Red character with Light
Green background and Black shadow
Select Bold Italic character
Message being displayed

End message editing
Run page B

3. Screen Function Effect

In addition to the character size and colour change features, the Colour Moving Sign has many functions available for you to highlight your message by our sophisticated software design.

(N.B. For details please refer to Appendix III – Screen Function Table)

Let's edit the message "Football Game" in page C.

Press **ESC** **E** **P** **C** Keys to start editing

Now we want the word "Football Game" to show Orange colour in Bold Character type with Open effect on the screen, therefore

Press **Size/Colour** **Size/Colour** **D** To select Orange colour & press **Size/Colour** **B** Bold Character is selected

Then, Press **FN** select function effect according to table mentioned above, screen will show:

(AUTO):A

Press **B** key, to choose the Open effect and the screen will show: **(OPEN<—>)**

Then, Type **F** **CAPS** **O** **O** **T** **B** **A** **L** **L** **Space** **CAPS** **G** **CAPS** **A** **M** **E** .

Then, Press **ESC** to end the edit.

Let's see the function effect for page C: Press **R** **P** **C** .

The message "Football Game" is displayed in Orange colour and Bold Characters followed by Open function.

Summarized Sequence:

<u>Key</u>	<u>Meaning</u>
ESC	Stop
E P C	Edit Page C
Size/Colour Size/Colour D	Select Orange character
Size/Colour B	Select Bold character
FN B	Select Open effect
F CAPS O O T B A L L	Message being displayed
Space CAPS G CAPS	
A M E	
ESC	END editing
R P C	Run Page C

4. Alternation of Message

If correction or alternation of whole page is required, firstly you should delete this page and replace a new message by the following command key:

Press **ESC**, stop the running mode

Press **D**, screen will show: **Page Tmr Gfx .**

Press **P**, screen will show: **PAGE(A-Z,Del)? .**

Note: Del(Delete All) key is used only if the user wants to erase all pages stored in memory.

Then, if you want to delete page A, you may

Press **A**, then screen will show: **SURE Y/N? .**

Press **Y**, to confirm deletion & exit to main menu. Now we are going to reprogramme a message to page A:

Press **E P A**, then type the word “Good Morning” with stacking effect and Beep sound by Press **FN L** to select stacking effect.

Type **G O O D Space M O R N I N G Space** and **FN O** to add in Beep sound.

Press **ESC**, to end the editing

Let's see the effect after correction:

Press **R P A** You will see a rainbow colour phrase “Good Morning” formed on the screen by stacking effect. After finishing the deletion and correction of the page, we are now going to see how the insertion is to be applied to the existing page.

In this exercise, we want to insert the character “i” to the word “Shny” and the word “for” to the end of the page B message, therefore,

Press **ESC**, stop running mode.

Press **E P B**, the screen will show the message of page B, and you should move the cursor by pressing **▶** to pass each character or press **▶▶** to fast forward by 10 characters to the place where the add in character is to be inserted, then you can type the character now

Press **Size/Colour D**, select Bold Italic character and **Size/Colour Size/Colour Z**, select Red character with Light-Green background and Black shadow.

Type **CAPS I**, you will see the correct word ‘Shiny’ on the screen. Now, you want to insert the word ‘for’ to the end of the message by pressing **▶** or **▶▶** to the last character, then you will see the word “END OF PAGE” at the page end, you may start your insertion by pressing

Size/Colour Size/Colour P, to change the background colour to black.

Then type **Space F O R**.

Press **ESC**, to end the page.

Now in the message in page B, character “i” is inserted to the word “Shny” and the word “for” is added at the end of the page.

Summarized Sequence:

Key

ESC

D P A

Y

E P A

FN L

G O O D Space

M O R N I N G Space

FN O

ESC

R P A

ESC

E P B

▶ or **▶▶**

Size/Colour D

Size/Colour Size/Colour Z

CAPS I

▶ or **▶▶**

Size/Colour Size/Colour P

Space F O R

ESC

Meaning

Stop

Select page A for deletion

Confirm deletion

Edit page A

Select Stacking effect

Message to be displayed

To insert Beep sound

End editing page a

To run page A

Stop running mode

Edit page B

To move cursor to place where character should be inserted

Select Bold Italic character

Select Red Character with Light-Green

The character to be inserted

To move cursor to the last character of the page

Change background colour to Black

Message to be displayed

End editing page B

5. Timer Set-up

The Colour Moving Sign has 10 Timers for the control of display sequence of the pre-edited page (message) according to user's requirements.

For example: We want the prepared Page A,B & C to be included in Timer A and to be displayed at 9:30 AM every Monday, then

Press **ESC**, to begin editing.

Press **E**, **T** to select Timer mode, screen will show: **TIMER (A-J)?A**.

Press **Enter**, to select Timer A, or **▼** and **Enter** to choose other desired Timer, screen will show: **WEEKDAY:99**. Type **0** **1** and **Enter**, to set display weekday, screen will show: **HOUR:99**.

(N.B.: "99" defaulted on this time set step means Timer executes every day).

Type **0** **9** and **Enter**, to set display hour, screen will show: **MINUTE:99**.

(N.B.: "99" defaulted on this time set step means Timer executes every hour).

Type **3** **0** and **Enter**, to set display minute, screen will show: **STEP 00:_____**.

(N.B.: "99" defaulted on this time set step means Timer executes every minute).

Press **A** to select page A to be stored in Timer A Step 0, screen will show **STEP 00:PG A**.

Press **▼** or **Enter** to choose the following step, screen will show: **STEP 01:_____**.

Press **B** to select page B to be stored in Timer A Step 1.

Press **▼** or **Enter**, to confirm the entry and choose the following step.

Then, type **C** to select page C to be stored in Timer A Step 2.

Press **ESC**, to end the Timer editing.

See the result of Timer A by Pressing **R** **T** **A**.

Press **ESC**, to end running mode.

Summarized Sequence:

<u>Key</u>	<u>Meaning</u>
ESC	Stop
E T	To begin Timer set-up
Enter	Select Timer A
0 1 Enter	To set display weekday
0 9 Enter	To set display hour
3 0 Enter	To set display minute
A	Select Page A to be store in Timer A Step 0
▼ or Enter	To choose the succeeding Step

<input type="button" value="B"/> <input type="button" value="▼"/> or <input type="button" value="Enter"/> <input type="button" value="C"/> <input type="button" value="ESC"/> <input type="button" value="R"/> <input type="button" value="T"/> <input type="button" value="A"/> <input type="button" value="ESC"/>	<p>Select Page B to be stored in Timer A Step 1</p> <p>To choose the succeeding Step</p> <p>Select Page C to be stored in Timer A Step 2</p> <p>To close set-up activity</p> <p>To run Timer A</p> <p>To end run mode</p>
--	---

6. Set Clock, I.D., Baud Rate, Beep and Password

a. Clock Setting:

If you find the time set different from your country, you may reset it for your actual requirement by the following steps.

Remarks: Time will be reset to 00:00 Friday 01 Jan, 93., once the unit is powered off.(Relative clock version only)

For example, you are going to set date of 4 Jan 1993 and time at Monday 9:00 AM, Therefore, press , start the set-up, screen will show: .

Press , screen will ask: .

Type , to set current year, screen will show: .

Type , to set current month, screen will show: .

Type , to set current date, and screen will show: .

Type , to set current weekday, screen will show: .

Type , to set current hour, screen will show: .

Type , to set current minute and exit to main menu

(N.B. You may press “ESC” to bypass the year & month & time setting and escape to hour format setting.)

The screen will ask you to choose the hour display format by press “Y” or “N”

.

That means, user can choose 24 or 12 hour display format, if you choose 12 hour display, you should type “N”. Then you will see the time 9:00AM shown on the screen whenever the time is displayed.

b. I.D. Setting:

After time clock is set, screen will show: . This setting is only applicable while the sign is connected to PC. Data or message from the computer will be transmitted and received by the sign with relevant I.D. number. Maximum 255 units can be assigned in one system from 01 to FF in hexadecimal sequence.

c. Baud Rate Setting:

It is preset at 300 baud as standard and is applicable in PC communication only. However, if High Speed serial interface option is installed, various baud rate at 300,600,1200,2400,4800 and 9600 are available for user’s selection by pressing or and to confirm option.

d. Beep On/Off

After the Baud Rate Setting, screen will ask you to set Beep On/Off by pressing or and to confirm option.

e. Password Setting:

After the set-up of the Clock and Beep sound, you are allowed to set "PASSWORD" by key-in one to four characters numbered from A to Z at your disposal. The screen will show: you can select password Y or N by pressing or and to confirm for YES, screen will show: you have to key in 1 to 4 characters at your disposal and then to complete the setting.

Such password will keep the message of your sign not to be disturbed by other adjacent sign users or illegal entry. If the password is set, whenever you want to program the sign again, you are requested to key-in the correct 'Password' within 10 sec., and maximum four attempts will be allowed. Failing to comply, the sign will resume to display page A message or the current page message while the Timer is being executed.

Note: If password is set, there will be no response to all keys except On/Off key and ESC Key while the sign is in run mode

*** Release of Password**

If you forget the 'PASSWORD' being set, you can release the sign by switching off the power, and then power on again with key being pressed simultaneously. The screen will resume to the main menu, thus you can read or delete the current 'PASSWORD' in the set-up mode.

Summarized Sequence:

<u>Key</u>	<u>Meaning</u>
<input type="button" value="ESC"/>	Stop run mode
<input type="button" value="S"/>	To begin clock set-up
<input type="button" value="9"/> <input type="button" value="3"/> <input type="button" value="Enter"/>	Set current year
<input type="button" value="0"/> <input type="button" value="1"/> <input type="button" value="Enter"/>	Set current month
<input type="button" value="0"/> <input type="button" value="4"/> <input type="button" value="Enter"/>	Set current Date
<input type="button" value="0"/> <input type="button" value="1"/> <input type="button" value="Enter"/>	Set current weekday
<input type="button" value="0"/> <input type="button" value="9"/> <input type="button" value="Enter"/>	Set current hour
<input type="button" value="0"/> <input type="button" value="0"/> <input type="button" value="Enter"/>	Set current minute
<input type="button" value="Y"/> or <input type="button" value="N"/>	Select display hour format
<input type="button" value="▲"/> <input type="button" value="▼"/> <input type="button" value="Enter"/>	Set I.D. from 01 to FF (only applicable in PC communication)
* <input type="button" value="▲"/> <input type="button" value="▼"/> <input type="button" value="Enter"/>	Set Baud Rate from 300 to 9600 (not shown in standard model & only applicable with High Speed serial interface option)
<input type="button" value="▲"/> <input type="button" value="▼"/> <input type="button" value="Enter"/>	Set Beep On/Off & to password setting
<input type="button" value="▲"/> <input type="button" value="▼"/> <input type="button" value="Enter"/>	To select password yes and input any 1 to 4 character code
<input type="button" value="Enter"/>	password being set

7. Pre-fixed Graphic Insertion

The Colour Moving Sign has 26 prefixed graphic images for you to decorate your Page (message). You can randomly select different graphic images to be inserted to your existing page or setup a page to store the graphic images instead of message.

(N.B.: For details please refer to Appendix IV – Graphic Images Corresponding Table)

When you edit a page, you can search for the graphic images by

Pressing

ALT CHAR

, screen will show :

E, U or G?

 .

Press

G

, select Graphic mode & screen will go to edit message screen, now you may choose the prefixed graphic by pressing A to Z, then you will see the proper graphic images appearing on the screen at the place where you are editing. You can edit more than one graphic image into one page simultaneously until the memory is fully occupied.

For example, now you are going to insert Graphic A & B in Page D, then you should

Press

ESC

E

P

D

, start edit page D .

Press

Size/Colour

B

, select Bold Character size.

Type

F

A

N

T

A

S

Y

Space

Space

 .

Pressing

ALT CHAR

G

A

, select graphic image A and insert to this page subsequently.

Press

B

, screen will display graphic image B.

Then, press

ESC

, to end the editing.

Note :

E means English character mode

U means European Character mode

(refer to Appendix V European Character Set Table)

G means Graphic mode

8. Graphic Editing

a. Multi Colour Models

Further to the programming of pre-fixed graphic images, the Colour Moving Sign allows you to re-edit the graphic images or symbols by yourself based on your own design. You may also insert these images or symbols in any page, the application is the same as in Pre-fixed Graphic Insertion.

Let's see how to create the flexible symbol by:

Pressing

ESC

, to being edit.

Press

E

G

, to select graphic mode, screen will show :

GFX(A-Z)?

 .

Type

A

, screen resumes to edit

On the screen, you will see "RGYBP" which indicates the colour you select for editing graphics. Moreover, you may also see the actual image being created on the screen within a boundary area. In the adjacent side, another boundary having an indicator or dot shows your location and the corresponding colour you selected.

Use    , keys to move the dot to draw the image.

During editing, you may see a blinking line in the graphic boundary indicating where you are editing.

Then, press  to end editing.

Remarks :

The “RGYBP” means :

- R** : Turn on the dot in Red Colour
- G** : Turn on the dot in Green Colour
- Y** : Turn on the dot in Yellow Clour
- B** : Turn on the dot in Black Colour (Clear the dot)
- P** : Pass the indicator dot to next location.

b. Single Colour Models

On the screen, you will only see “RBP” which provides same graphic editing function as pervious description.

SECTION VI

A. Function Description of the Command Keys

<u>Key</u>	<u>Function</u>
1. 	Colour screen display ON/OFF
2. 	Select English (default) European character of prefixed graphic
3. 	Select Character Size and Colour
4. 	Select screen function effect
5. 	Select next function, Colour, Timer or Graphic editing
6. 	Move cursor fast backward by 10 characters or function command
7. 	Temporarily freeze the running message
8. 	Move cursor fast forward by 10 characters or function command
9. 	Select next function, Colour, Timer or Graphic editing
10. 	Move cursor to left
11. 	Move cursor to right
12. 	Press DEL key to delete the undesired character, function command, or ALL message
13. 	Capital lock for changing capital letter (default) to small letter, or vice versa (When press “CAPS” for edit small letter, an indicator will be shown on the right hand corner of the screen)
14. 	For selection numeric or symbol editing (see examples below)
15. 	Exit to main menu from editing or running mode
16. 	Select automatic display mode being preset with random function effects without programming needed.
17. 	A space insert
18. 	Confirm command selection or set clock

B. Description of Special Function Key

1. “ALT CHAR”

“ALT CHAR” key is for selection European character, pre-fixed Graphic Symbol or resume to English mode. Details pls. refer to keyboard layout (pg. 4), and graphic images corresponding table. (pg.22).

2. “SIZE/COLOUR”

“SIZE/COLOUR” key is for selection character size and colour. Change character size by pressing the key one time, while change character colour by pressing twice. (pls. refer to sample works in SECTION V item 2)

3. “CAPS”

“CAPS” key is for selection lower case or upper case.

When key is locked, an indicator shows at the right hand corner, means the following words will appear in lower case character. (pls. refer to sample works in SECTION V item 1).

It is also applicable in typing European character.

4. “FIG/SYMBOL”

“FIG/SYMBOL” key is for selection numeric character and symbols.

Select numeric characters by pressing the key one time, while select symbolic character by pressing twice. An indicator shows on the right hand corner, means the following typing character is symbol. It is applicable when typing European character.

(N.B. Whenever you are typing numeric or symbolic character, and you want to type in upper case or lower case, you are requested to press the “CAPS” key for selection)

FOR EXAMPLE

Edit page “F” type

E	P	F
---	---	---

.

Type

T	CAPS	E	S	T
---	------	---	---	---

, screen shows

TEST

.

Press

Fig/Symbol

, type

1	2	3
---	---	---

, screen shows

TEST 1 2 3

.

Press

Fig/Symbol

 again, type

!	;	:
---	---	---

, screen shows

TEST 1 2 3 ! ; :

,

Now, if you want to type “Okay”, then

Press

CAPS

 type

O	CAPS	k	a	y
---	------	---	---	---

.

Screen shows :

TEST 1 2 3 ! ; : , Okay

.

5. “AUTO”

“AUTO” key is for selection of automatic display mode, in which random function effects have been preset, message will be displayed in different function modes without further programming needed.

6. ON/OFF

ON/OFF key is for instant screen display ON/OFF. The time clock and messages are being kept in memory. Please note that actual power is still existing in the unit and should be unplugged for maintenance service.

7. Instant Page (short-cut key)

A new and easy-to-use feature is added to existing features to enhance the facilities of all D-Series products.

While the sign is running either from power-on, “**RUN PAGE**” OR “**RUN TIMER**” via the IR keyboard. By pressing the **A** to **Z** key of the IR keyboard, the corresponding page will come up instantly. It is a short cut key feature which is equivalent to select the page by pressing the IR keyboard sequence **ESC** **R** **P**, then **A** – **Z**. The “**RUN PAGE**” mode is activated instantly even the sign is running in “**TIMER**” mode.

On the other hand, to recall (re-start) the current “**TIMER**” (schedule), this can be accomplished by simply pressing the **AUTO** key while the sign is running.

SECTION VII

General Specification for typical model D-A514

- | | | |
|---------------------------|---|--|
| 1. Display Element | : | 5 x 7 Tri-Colour LED Module |
| 2. Display Colour | : | 16 colour Dim Red, Red, Bright Red, Orange, Bright Orange, Light Yellow, Yellow, Bright Yellow, Lime, Dim Lime, Bright Lime, Bright Green, Green, Light Green, Rainbow and Black in 26 color combinations. |
| 3. Screen matrix (HxW) | : | * 7 x 80 |
| 4. Display Area (HxW) | : | * 53mm x 610mm |
| 5. No. of Characters | : | * 14 |
| 6. Character Set | : | English & European Character |
| 7. Operating Voltage | : | 9VAC |
| 8. Power Adapter | : | Input : either 110V / 220V / 240V AC
Output : 9VAC, 2A min |
| 9. Dimensions (H x W x D) | : | * 108mm x 700mm x 46mm |
| 10. battery Backup | : | 90days |

Remarks : All Specifications are subject to change without prior notice.

*** Other models are of same specifications and performance except different in character heights, lengths as well as dimension.**

Notes on Battery Backed Memory Retention

Please note that the memory of the sign is retained during power off by built in 3.6V, 60 mah rechargeable battery. In order for the memory to perform reliably you must plug the sign in for at least 8 hours continuously when new, to fully charge up the battery. As a further precaution to safeguard the memory you should always unplug the power supply from the sign first and only then unplug the power supply from the mains. The same is true in reverse i.e. you should first plug the power supply into the mains and only then plug the small power supply connector into the socket at the side of the sign. Simply turning the sign on and off at the mains may result in power spikes and surges which will cause the memory of the sign to be deleted. Lost of memory may also result due to the deterioration of the built-in battery after a long period of operation.

APPENDIX I**A. Corresponding Colour Code Table – Multi Colour Models**

CORRES LETTER	FOREGROUND COLOUR	BACKGROUND COLOUR	SHADOW COLOUR	SHADOW SWITCH
A	DIM RED	BLACK	-	OFF
B	RED	BLACK	-	OFF
C	BRIGHT RED	BLACK	-	OFF
D	ORANGE	BLACK	-	OFF
E	BRIGHT ORANGE	BLACK	-	OFF
F	LT-YELLOW	BLACK	-	OFF
G	YELLOW	BLACK	-	OFF
H	BRIGHT YELLOW	BLACK	-	OFF
I	LIME	BLACK	-	OFF
J	DIM LIME	BLACK	-	OFF
K	BRIGHT LIME	BLACK	-	OFF
L	BRIGHT GREEN	BLACK	-	OFF
M	GREEN	BLACK	-	OFF
N	LT-GREEN	BLACK	-	OFF
O	LT-YELLOW	GREEN	RED	ON
P	RAINBOW	BLACK	-	OFF
Q	RED	BLACK	GREEN	ON
R	RED	BLACK	LT-	ON
S	GREEN	BLACK	YELLOW	ON
T	GREEN	BLACK	RED	ON
U	GREEN	RED	LT-	OFF
V	RED	GREEN	YELLOW	OFF
W	ORANGE	GREEN	-	ON
X	DIM-LIME	RED	-	ON
Y	GREEN	RED	BLACK	ON
Z	RED	GREEN	BLACK BLACK BLACK	ON

Remarks : You may use & to choose the desired colour combination.

B. Corresponding Colour Code Table – Single Colour Models

CORRES LETTER	FOREGROUND COLOUR	BACKGROUND COLOUR	SHADOW COLOUR
A	RED	BLACK	-
B	BLACK	RED	-

Remarks : You may use & to choose the desired colour combination.

APPENDIX II**Character Size Code Table**

<u>Code</u>	<u>Character Font</u>	<u>Code</u>	<u>Character Font</u>
A	Normal	E	Flash Normal
B	Bold	F	Flash Bold
C	Italic	G	Flash Italic
D	Bold Italic	H	Flash Bold Italic

Remarks : You may use either the corresponding letter or   &  to choose the desired size combination.

APPENDIX III**Screen Function Table**

<u>CODE</u>	<u>EFFECT</u>	<u>MEANING</u>
+ A	AUTO	Message displays automatically with different screen effect Direct press [AUTO] key to call the function effect. e.g. [AUTO] "ANDREW" or [FN] [A] "ANDREW" [ESC]
+ B	OPEN < - - >	Open from centre to both ends e.g. [FN] [B] "BARRY" [ESC]
+ C	COVER < - - >	New message covers from centre to both ends e.g. [FN] [C] "CARROL" [ESC]
+ D	APPEAR < - - >	Message display instantly on screen e.g. [FN] [D] "DANIEL" [ESC]
+ E	CYCLING	Multi colour display automatically in rolling cycle e.g. [FN] [E] "ERIC" [ESC]
F	CLOSE < -	Screen closes from right to left e.g. "FREDERICK" [FN] [F] [ESC]
G	CLOSE - >	Screen close from left to right e.g. "GEORGE" [FN] [G] [ESC]
H	CLOSE - > < -	Screen close from both end to centre e.g. "HERMAN" [FN] [H] [ESC]
+ I	SCROLL UP	Message scrolls up from bottom e.g. [FN] [I] "IVAN" [ESC]
+ J	SCROLL DOWN	Message scrolls down from top e.g. [FN] [J] "JOSEPH" [ESC]
K	OVERLAP	Character shifts out in two layers
L	STACKING	Character formed by piled up single line dots
M	COMIC 1	Animated Graphic 1

N	COMIC 2	Animated Graphic 2
O	BEEP	Beep Sound insert
P	PAUSE	Freeze the moving message e.g. "PETER" [FN] [P] [ESC]
# Q	SLEEP	Blank off screen until next Timer operates
+ R	RANDOM	Message is formed by random dots e.g. [FN] [R] "ROGER" [ESC]
* S	SHIFT < - -	Message shifts out from right (Default) e.g. [FN] [S] "STEPHEN" [ESC]
T	TIME/DATE	Show current time & date
+ U	MAGIC	Change message colour each time e.g. [FN] [U] "UNCLE" [ESC]
V	THANK YOU	Canned message default
W	WELCOME	Canned message default
X	SPEED 1	Message shifting speed 1
Y	SPEED 2	Message shifting speed 2
Z	SPEED 3	Message shifting speed 3

Extended screen functions (optional)

<input type="checkbox"/> <input type="checkbox"/>	Temp	Show temperature in degree C or F e.g. using cursor select be pressing <input type="checkbox"/> at FN [A] or <input type="checkbox"/> after FN [Z]
<input type="checkbox"/> <input type="checkbox"/>	New Year count down	Count down in Days, Hours, Minutes to New Year e.g. using cursor select be pressing <input type="checkbox"/> at FN [A] or <input type="checkbox"/> after FN [Z]
<input type="checkbox"/> <input type="checkbox"/>	Event count down	Count down in Days, Hours, Minutes to the event being set, e.g. using cursor select be pressing <input type="checkbox"/> at FN [A] or <input type="checkbox"/> after FN [Z].

1. Events setting

In event set mode, screen shows , type in the due day select from 01-31 and the press . Screen shows , press , You may start to edit your event particular by max. 64 char., e.g. "HAPPY BIRTHDAY".

2. Event count down applying

Open a page, press key, press and select <Event> function.

Remarks :

1. Functions marked with '+' is terminated automatically by another function or when full screen is filled with characters.
2. Length of characters or messages is not limited in these functions marked with '*'.
3. There are totally 26 Screen Function Effects for you to decorate your message. You can use either the appropriate character for immediate access to the effect or & to choose the desired screen effect by sequence.
4. Some of the extended screen functions must have optional hardware to be installed.
e.g. Temp sensor for temp function; real time clock for countdown function.

3. #FN Q-SLEEP

User may use this function to clear the screen and enter to sleeping status within a specified period without turning OFF the power.

It is highly recommended to be used in TIMER mode in order to fulfill the above requirements.

- You may edit the “FN R” at the end of a page (message) or you may open a page to store the “FN R” only.
- You may store the appropriate page with “FN R” in a TIMER. Then the Sleep function will be effective when the TIMER is activated.

Remarks :

- Before any TIMER is executed, you should randomly run a page. Afterwards, the TIMER will be automatically activated.
- The Sleep effect will be terminated when next TIMER is executed or by pressing “ESC”.

For example : We are going to set-up a TIMER D, and want to blank off the screen after running this TIMER. Firstly

Press **E P E**, to edit Page E.

Type **S L E E P Space Space Space**, then

Press **FN R**, to select Sleep function effect.

Press **ESC** to main menu, then set-up TIMER D by :

Press **E T D** to select TIMER D, then

Type **0 5 Enter**, to set the TIMER execute weekday.

Type **1 7 Enter**, to set the TIMER execute hour.

Type **1 5 Enter**, to set the TIMER execute minute.

Press **E**, select page E edit in TIMER D STEP 0

Press **ESC** exit to main menu.

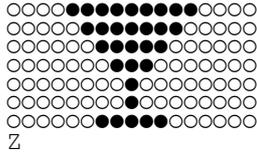
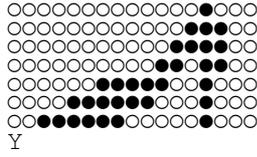
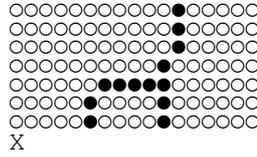
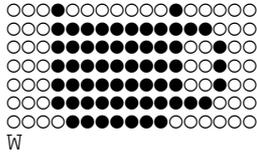
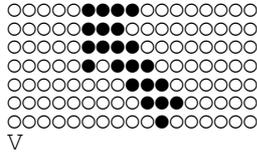
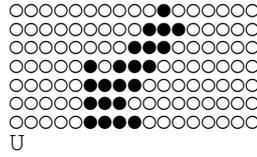
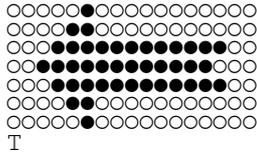
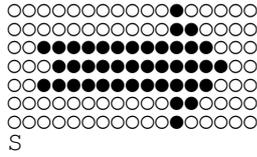
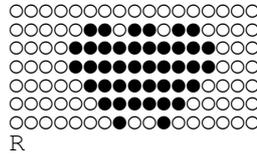
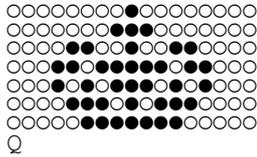
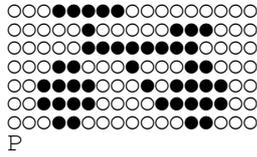
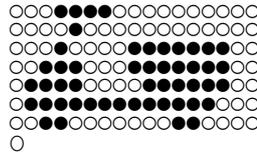
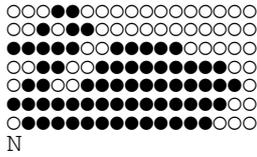
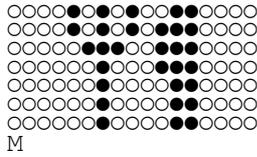
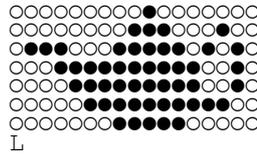
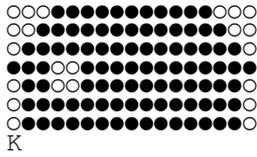
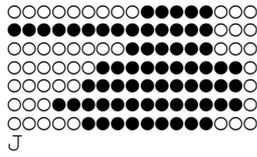
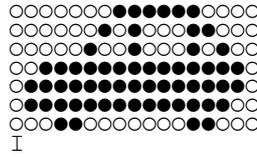
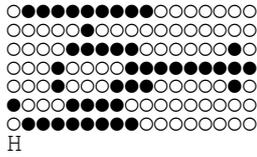
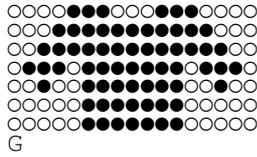
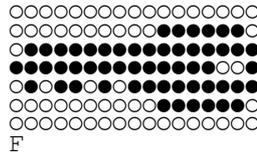
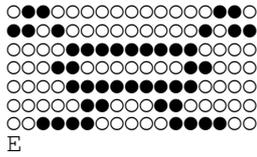
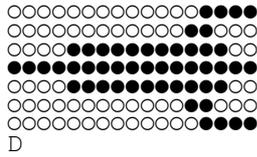
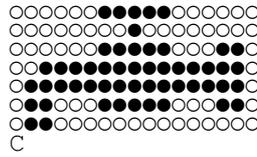
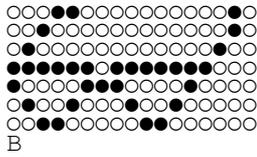
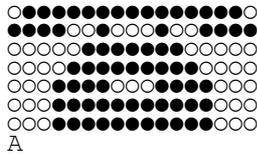
You may see from this exercise that the Sleep effect will be executed during TIMER D process at 05:15PM every Friday.

APPENDIX IV

Graphic Images Corresponding Table

<u>Code</u>	<u>Image Pattern</u>	<u>Code</u>	<u>Image Pattern</u>
A	Table	N	Duck
B	Glasses	O	Motorcycle
C	Tap	P	Bicycle
D	Rocket	Q	Crown
E	Monster	R	Sweet Heart
F	Key	S	Arrow →
G	Shift	T	Arrow ←
H	Helicopter	U	Arrow ↙
I	Car	V	Arrow ↘
J	Tank	W	A Glass of Beer
K	House	X	Chair
L	Teapot	Y	High-heeled Shoes
M	Knife & Fork	Z	Wine Glass

GRAPHIC PATTERNS A-Z



APPENDIX V

European Character Set Table

<u>Upper case</u>		<u>Lower case</u>	
A	Å	a	å
B	Ä	b	ä
C	Á	c	á
D	À	d	à
E	Æ	e	æ
F	à	f	â
G	Ç	g	ç
H	É	h	é
I	È	i	è
J	ê	j	ë
K	ì	k	ï
L	í	l	î
M	Ñ	m	ñ
N	Ö	n	ö
O	Ó	o	ó
P	Ò	p	ò
Q	Ø	q	ø
R	Õ	r	õ
S	Ü	s	ü
T	Ú	t	ú
U	Ù	u	ù
V	μ	v	û
W	Ɔ	w	ß
X	ι	x	°
Y	Đ	y	¢
Z	ÿ	z	ý

SECTION VIII

TROUBLING SHOOTING AND ADVANCE PROGRAMMING INFORMATION

1. Clearing

The unit should be cleaned using a mild detergent with a soft cloth. Abrasive and active cleaning agents should not be used. Special care should be taken to ensure that no moisture enters the unit during cleaning.

2. Service

Your Moving Sign has been manufactured using the highest quality materials and methods. There are no user serviceable parts in either the Moving Sign or the Keyboard and no attempt to open these by unqualified personnel. If service on any part of the system is required please return your unit to the authorized repair centre.

3. Troubling Shooting

SYMPTOM A

The sign does not respond to the IFR keyboard.

REMEDIAL ACTION

1. Remove any obstructions between keyboard and the IR receiver window of the sign.
2. Check and replace batteries.
3. Make sure the ON/OFF function of the sign is at "ON" position by pressing ON/OFF key. If it is not sure, the sign can be reset to "ON" immediately by switching on the power supply again.

SYMPTOM B

Garbage or erratic display performance is observed.

REMEDIAL ACTION

The sign is jammed by interference or held up by improper programming. It can be completely reset or re-initialised by following procedure:-

Switching off the power, and then power on again with ESC key being pressed simultaneously. Such process will clean up all messages and interferences being stored in the sign.

SYMPTOM C

Date and time clock resets at times causing inaccurate timing and the word 'checking' is displayed frequently.

REMEDIAL ACTION

It is caused by fluctuation in power mains or unsecured power connection.

1. Fix the power plug firmly into the socket to avoid poor connection.
2. If improper or fluctuated voltage exists at the power point, additional voltage regulator is needed to ensure normal power supply.

SYMPTOM D

Always Blank display across the screen is noted.

REMEDIAL ACTION

Switch off the unit and disconnect the power cord from the power source. Check whether the power is missing or the power adaptor is in problem. If the cause cannot be identified, consult your dealer for hardware service.

**4. Advanced Programming – Computer Controlled Display
(for advance user only)**

A built-in simple PC communication Protocol has been included in each sign it is easily to be upgraded into computer controlled moving sign for various commercial or industrial display applications. Qualified users who are familiar in MS DOS software can write their own communication program for dedicated display functions. Details of the built-in communication protocol can be obtained through your distributor/dealer upon request.

In order to cope with the fast growing market demand, a general purpose user-friendly Windows 95/98/NT control software DSOFT has been developed. User can order a DSOFT standard package in 3.5" diskette and manual from dealers. In placing order, user should state clearly about model name, serial number and software version number marked at the back label or it can be read directly from the sign by pressing **ESC** , **V** keys.

5. Options and Accessories Ordering Information

OPTIONS

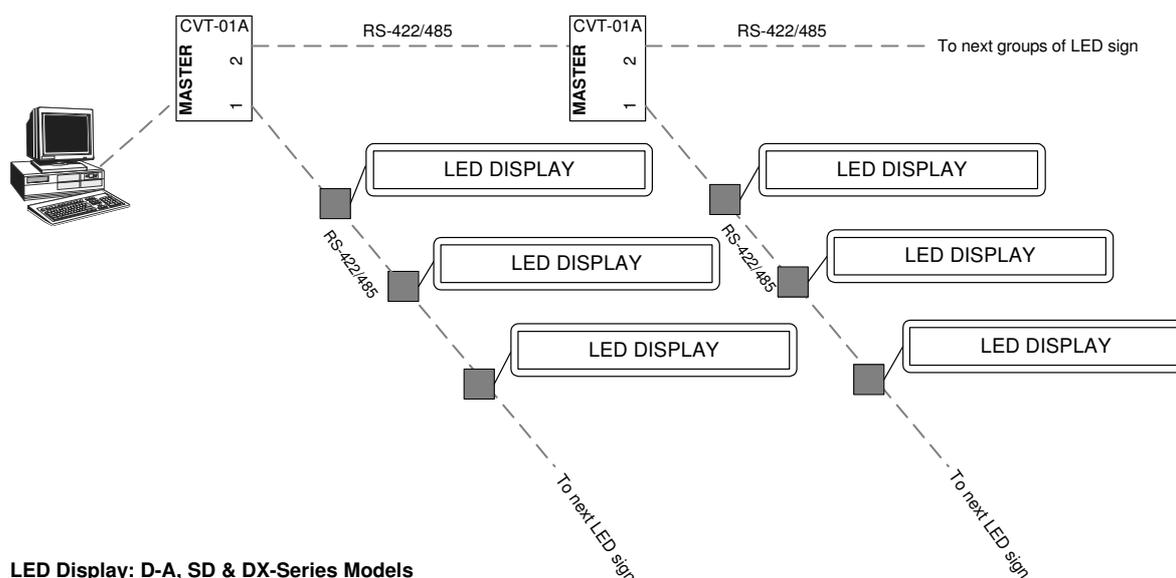
- with suffix T = Real time clock
 with suffix S = Factory installed high speed RS232 serial interface 300 to 9600 baud
 with suffix SA = Factory installed high speed RS422/485 interface 300 to 9600 baud
 with suffix C = ± 0.5 temperature sensor in degree Centigrade or Fahrenheit with 1.5m probe
 with suffix B = 4 x 7 character font options

ACCESSORIES

- DSoft = Display control/editor software (Windows 95/98/NT platform)
 CABLE-01 = 5mm length computer cable with RJ11 and DB9 connectors
 CABLE-05 = 5mm length RS422/485 multi-drop cable set with RJ11 and cable splitter
 CABLE-07 = 5m length data cable with DB9 plug
 CABLE-08 = 1.8m length data cable with stereo plug and DB9 connector
(For DS Series only)
 CVT-01A = RS232 to RS422/485 converter/booster/driver networking with data Cable-05 and Cable-07

6. Typical example for network configuration

Maximum 255 units of display sign with RS485 COM port (SA option) can be connected.



LED Display: D-A, SD & DX-Series Models

Legends:

Shielded 4 core
 Twisted pair cable
 (User provide)

Cable Splitter



4 core cable with
 RJ-11 jacks
 (included with the sign)

Remarks:

Cable-05 (a cable splitter & 5m RJ-11 cable) is included with DA, SD-series for RS-422/RS-485 option.
 Cable-06 (a cable splitter & 5m RJ-11 cable) is included with DX-series for RS-422/RS-485 option.