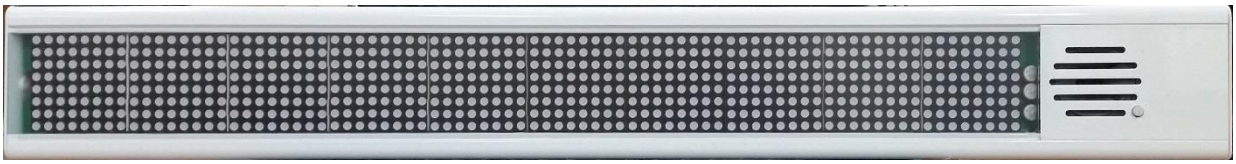
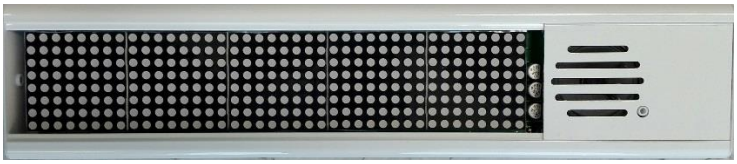
clift innovations

BESTLITE3 DISPLAY USER MANUAL

Revised: Jan 2016



Standard



Mini

INTRODUCTION:

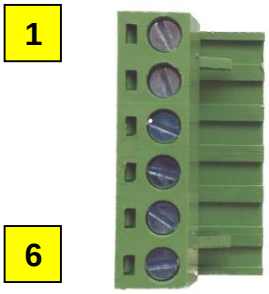
Bestlite3 is an intelligent stand-alone LED and tone annunciator for use in a variety of applications for Hospitals, Clinics, Aged Care facilities and Industry.
Each panel is individually addressable, or may be addressed with 'broadcast' messages when required. Multiple Bestlites may be connected to a 'multi-drop' RS-485 communication cable. RS-232 is available but not recommended for long-run, or multi-drop installations.
The Bestlite3 display come in single, or double-sided, versions with either 80 column (Standard), or 40 column (Mini), sizes. All displays are tri-colours with RED, GREEN and AMBER on a black background. Communications uses a proprietary command message protocol that provides simple & reliable visual and audible alert tone information.

ADDRESS SWITCH:

A small 6mm switch just below the 6 way connector. Press this switch to change the address from 01 to 30

CONNECTIONS:

1. +12V DC (1.5A per side)
2. GND
3. GND
4. RS-485 (B)
5. RS-485 (A)
6. RS-232 RX



MATERIAL: Aluminium Extrusion
COLOUR: Gloss White

SIZE/WEIGHT:	**Standard**	**Mini**
Double	750x40x95 / 2.3Kg	440x40x95 / 1.3Kg
Single	750x40x95 / 2.2Kg	440x40x95 / 1.2Kg

COMMUNICATION:
Communication with Bestlite is performed through an **ASCII** serial connection – using RS-485 or RS-232 signaling levels.

- 9600 bps
- 8-data
- 1-stop bit
- No parity
- Handshaking disabled.

9600, N, 8, 1

Bestlite does not transmit any data back to the host.

PROTOCOL:
[Select Addresses, Write Volatile, (Sound), (Level), Message Field] (Optional)

Select Address Command <0xB0>[Address] (<0xnn> denotes a HEX character)

This command is used to address a BestLite display. Multiple displays can be addressed by using several of these commands. Addressed displays will respond to commands until they receive a <0xB1> (un-address) command. **The address field is a numeric TWO digit ASCII string**, matching the address setting of the display. An address of "00" is global, and will select every display on the system. Likewise, if a display is set to an address of "00" it will respond to ANY address command.

Un-address command <0xB1>

This command is used to un-address displays. It is global and will un-address every display on the system.

Write volatile message <0xB2>[message]<0x00>

This command will write a message to be displayed into ram. The message field can be a maximum of **999** characters, and must be terminated with <0x00>. The message field must also contain some control characters, which are explained below. Protocol commands <0xB0>-<0xB4> will not function if they are within a message field.

Write non-volatile message <0xB3>[message]<0x00>

This command functions the same as above, only the message is written to internal memory. Do not use this command repetitively, as the internal memory has a limited number of erase-write cycles. Non-volatile messages are displayed on power up, only until a volatile message is written to the display. To erase a non volatile message, simply address the display and send <0xB3><0x00>.

Creating Sound command <0xB4>[sound]

To create a sound, send this command followed by a single ASCII char. The available sounds are:

Sound	Full volume	Night volume
Silence	0	n/a
2 beeps	1	A
8 fast beeps	2	B
8 beeps	3	C
Repeated beeping	4	D
Ding Dong	5	E
Ding repeated 2.8sec	6	F
Ding Dong, repeated 4.2sec	7	G
Dong Dong	8	H
Ding Ding Ding	9	I
Repeating 2 tone siren (V2.1)	J	M
2 beeps repeated 10sec (V2.1)	K	N
1 long beep repeated 30sec (V2.1)	L	O
1 ding every second (V2.6)	P	S
ding ding every 5sec (V2.6)	Q	T
1 ding every 10sec (V2.6)	R	U
2 beeps repeated 3.4sec (V2.7)	V	a
3 beeps repeated 1sec (V2.7)	W	b
DingDongDong repeat 30sec (V2.7)	X	c

Changing Night Volume <0xB5>[level]

To change the night volume level, send this command followed by a single ASCII digit. The available volumes are:

0. Full volume

1. -6dB
2. -12dB
3. -18dB (default night level, for compatibility with V2.0)
4. -24dB
5. Silence

(This is not available on versions earlier than V2.1)

[MESSAGE] field.

[MODE, COLOUR, TEXT, NULL]

A message may be a maximum of 999 chars in length, including control characters. **Only display modes and colors may be mixed within a message field**. Note that the "Text" portion of the message field must terminate with the NULL character. <0x00>

Control characters for display modes are:

<0xA0> **Scrolling** message.

<0xA1> **Static** message.

The number of characters which can fit on the display depends on the text, as the display does not use a fixed font width. If the static message is longer than what will fit on the display, then the display will cycle through the displayable sections containing whole words and centering each word on the display.

<0xA2> **Scroll up**.

This functions the same as a static message, only the message scrolls onto the display vertically from the bottom up.

<0xA3> **Fade**.

This will function the same as a static message, only the message will cross fade from the previous display.

Control characters for colours:

<0x81> Red
<0x82> Green
<0x83> Amber
<0x84> Flashing Red
<0x85> Flashing Green
<0x86> Flashing Amber
<0x87> Rainbow (scrolls red/green/amber rows upwards)

Other control characters

<0x90> 5 second pause.

This can be used in a scrolling message to hold the display still for 5 seconds. It may also be placed within displayable sections of static messages, to extend the display time. If a pause longer than 5 seconds is required, multiple pauses can be inserted.

Message format

<Display Mode><Initial Colour>[text]<Colour>[text]…..

Note that a colour selection must follow each display mode. The text string may consist of characters from <0x20> through to <0x7E> (space through tilda).

Examples
An example message:

<0xA0><0x81> This text is scrolling red, <0x82>this green, <0x83>and this amber. A pause will occur now<0x90><0xA2><0x84> This is flashing red text scrolling upwards

To write this message to displays set to address 18 and 21, you would send

<0xB0>18<0xB0>21<0xB2><0xA0><0x81> This text is scrolling red, <0x82>this green, <0x83>and this amber. A pause will occur now<0x90><0xA2><0x84>. This is flashing red text scrolling upwards<0x00>

If you wanted the displays to also beep, you could now send <0xB4>2 or if you were then finished with these two displays, you would send <0xB1> to un-address them.

Bestlite3 Order Codes:

DS-55-10	Standard Double sided 55mm characters, 10 modules
SS-55-10	Standard Single sided 55mm characters, 10 modules
DS-55-5	Mini Double sided 55mm characters, 5 modules
SS-55-5	Mini Single sided 55mm characters, 5 modules

Bestlite is designed and manufactured by:
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