

Clift Innovations



SoundGen User's Manual

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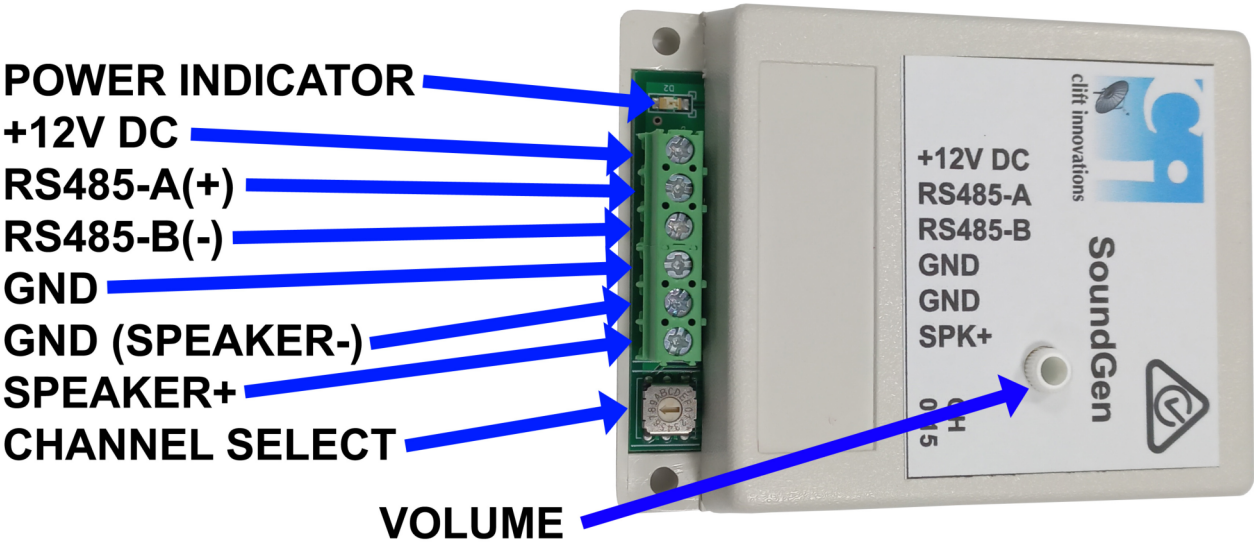
SoundGen is an alert tone generator for aged care facilities. It is powered by 12V, and controlled by an addressable protocol over a RS485 bus. The protocol matches that used by Bestlite displays. An ideal application of SoundGen is to extend the audio produced by the displays into areas where the displays may be difficult to hear, or where only the alert tones are required.

Key features:

- Small size 65mm x 90mm
- Low voltage 12V DC operation.
- Controlled by RS485 bus with addressable protocol.
- May share the RS485 bus of Bestlite displays to extend their audio.
- Volume control.

Safety note - Installation must only be carried out by suitably qualified personnel holding an Australian open cabling registration, in accordance with local regulations.

The SoundGen may be concealed in a ceiling or wall cavity, and wired to a ceiling or wall mounted speaker. The protocol channel is set by a 16 position rotary dip switch. Channel 0 is global and will respond to all channels.



Electrical characteristics

	Min	Max
Supply voltage	8V	16V
Current consumption	25mA (idle)	400mA (peak)
Temperature range	0°C	40°C
RS485 input impedance	96kΩ	
Speaker load impedance	8Ω∞	∞Ω
Output Power		1.6W

RS485 Protocol

The control protocol matches the audio features of the Bestlite display. If the SoundGen is configured for the same channel as the Bestlite, it will duplicate the displays audio.

Serial format - 9600,N,8,1

Addressing scheme

Channel messages are framed within 1 or more 'Select Channel' commands, and a Deselect command.

Select Channel - 0xB0

<0xB0> <channel address>

Channel address is 2 ASCII digits 00-30

Each display is configured for a channel in the range of 01-30. Displays will ignore received data, until reception is enabled using this command. This command can be issued for multiple channels before sending a message. An address of 00 is global and will enable reception on ALL displays.

Deselect all channels - 0xB1

<0xB1>

Disable all channels previously enabled with the Select Channel command. Unlike the Select Channel command, this command is always global. All units will ignore messages until re-enabled with the Select Channel command (0xB0).

Channel messages.

Within a channel message, commands are available for generating sounds or configuring volume. Multiple commands may be issued before the channel is deselected.

Sound - 0xB4

<0xB4> <Sound ID>

Sound ID is a single character, identifying 1 of 19 sounds, at either full volume, or at night level volume. The sound will commence as soon as this command is received, and will continue if it is a repeating sound.

Available sounds and their ID characters:

<u>Sound</u>	<u>Full volume</u>	<u>Night volume</u>
Silence	0	0
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	J	M
2 beeps repeated 10sec	K	N
1 long beep repeated 30sec	L	O
Ding repeated 1sec	P	S
Ding Ding repeated 5sec	Q	T
Ding repeated 10sec	R	U
2 beeps repeated 3.4sec	V	a
3 beeps repeated 1sec	W	b
Ding-Dong-Ding repeated 30sec	X	c

Example to sound 2 beeps on channel 5 at full volume:

0xB0, 0x30, 0x35, 0xB4, 0x31, 0xB1

Set Night level - 0xB5

<0xB5> <level '0'-'5'>

Night level is specified using a single ASCII digit in the range 0-5, where 0 is full volume, and 5 is complete silence. This command affects sounds generated using the 'Night volume' identifiers listed above. The default night level at power up is -18dB. Once changed with this command, the new night level remains in effect until it is changed again, or power is cycled on the display.

0. Full volume

1. -6dB

2. -12dB

3. -18dB (default night level)

4. -24dB

5. Silence

Example to sound 2 beeps on channel 5 at -12dB:

0xB0, 0x30, 0x35, 0xB5, 0x32, 0xB4, 0x41, 0xB1

Examples:

Select channel 8, sound Ding Dong, then deselect all channels:

0xB0, 0x30, 0x38, 0xB4, 0x35, 0xB1

Select channel 6, set night volume to -24dB, sound 2 beeps at night volume, de-select all channels:

0xB0, 0x30, 0x36, 0xB5, 0x34, 0xB4, 0x41, 0xB1

Contact & Support

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Compliance

This product has been tested and found to comply with the following standards:

- **AS/NZS CISPR 15: Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment (EMC)**
- **AS/NZS 3820: Essential safety requirements for electrical equipment (Safety)**

Compliance with these standards allows this equipment to be used in residential, commercial, and light-industrial environments without causing harmful electromagnetic interference, and ensures that it meets the essential safety requirements for electrical equipment.

The product is intended for operation from a safety extra-low voltage (SELV) supply and for connection only to an RS485 communication bus, and speaker. Installation must be carried out in accordance with local regulations by qualified personnel.

This equipment bears the Regulatory Compliance Mark (RCM) in accordance with the requirements of the Australian Communications and Media Authority (ACMA).

Supplied by Clift Solutions Pty Ltd, Responsible Supplier Number: E20891