Technical Specification

Part Number:	BF431C/CC/W	BF432C/CC/W	BF456C/CC/W
Description:	Conv. Base Sounder, White Enclosure	Conv. Base Sounder VAD, White Enclosure, O-Class	Conv. Base Sounder VAD, White Enclosure, C-Class
Certified Standards: ***	EN 54-3:2001 + A1:2002 + A2:2006	EN 54-3:2001 + A1:2002 + A2:2006, EN 54-23:2010	
LPCB Reference Number:	176q/01 ^	176r/01 ^	176r/02 ^
CPR Certificate Number:	2831-CPR-F2447 ^	2831-CPR-F2448 ^	2831-CPR-F2449 ^
VdS Certificate Number:	G219058	G219059	G219060
Declaration of Performance (DoP):	DoP0000066 ^		
Supply Voltage:	18 to 30 Vdc		
(1) Imax:	6 mA	20 mA (0.5 Hz) 38 mA (1 Hz)	
(2) Ityp:	3.8 mA @ 18 Vdc * 5.5 mA @ 30 Vdc *	14.5 mA @ 18 Vdc (0.5 Hz) * 25 mA @ 18 Vdc (1 Hz) * 12.2 mA @ 30 Vdc (0.5 Hz) * 19.5 mA @ 30 Vdc (1 Hz) *	
Power @ 30 Vdc:	165 mW	585 mW	
Environment Type (EN 54-3/23):	Type A (EN 54-3)	Type A (EN 54-3 & EN 54-23)	
VAD Cat. (EN 54-23) Class:	N/A	O-R-3-2.5-17 ****	C-3-8.5
VAD Temporal Pattern:	N/A	1.0 Hz / 0.5 Hz, synchronised	
Coverage Volume:	N/A	120 m^3	151 m^3
Peak SPL at Vmax:	96 dB(A) @ 1 m ** synchronised		
Dimensions:	112 mm diameter; 46 mm deep (with cap fitted)		
Weight:	160 g	170 g	170 g
Mounting Type:	Ceiling		
Body Material / Colour:	Polycarbonate / White + Clear		
IP Rating (EN 60529):	IP21C		
Operating Temperature:	-10°C to +55°C (Type A)		
Humidity:	Max. 95% RH (non-condensing)		

(1) Imax - Maximum start surge, maximum running pulse current. Ensure that Imax current for all devices on the sounder circuit does not exceed the current limitations of the fire alarm panel.

(2) Ityp - Average running current.

* @ maximum volume level

** ±3 dB(A) when sounder set to PRIMARY TONE 5.

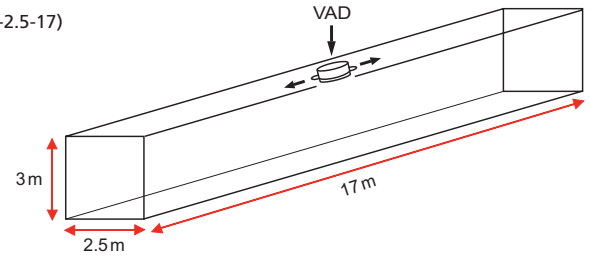
^ Certificates and DoPs available for download on C-TEC's website.

*** For compliance to EN 54-3 & EN54-23, a Quick Connect Plate (Part No. BF431/QCP) must be used with the base device.

**** Dimensions of O-Class VAD (O-R-3-2.5-17)

O = O-Class; R = Rectangular Cuboid;
3 m Height; 2.5 m Width; 17 m Length.

VAD is mounted with lens pointing directly along the length of the corridor, centre of the ceiling (8.5 m either side length and 1.25 m either side width).



Manufacturer: Computionics Limited (C-TEC), Challenge Way, Martland Park, Wigan, Lancashire WN5 0LD. www.c-tec.com

ActiV Base Mount Range Installation Instructions

Conventional Audio Visual Devices

BF431C/CC/W, BF432C/CC/W, BF456C/CC/W

Product Description

The ActiV Base Mount range of conventional sounders and combined sounder visual alarm devices (VADs) are designed for use with C-TEC's range of fire panels and other compatible third-party panels. However, compatibility testing with third-party panels is recommended to ensure correct operation.

Their purpose is to visually and audibly alert building occupants of a fire alarm.

CE 18
2831-CPR-F2447
2831-CPR-F2448
2831-CPR-F2449

DoP0000066

VdS
G219058
G219059
G219060

The following base device variants are available:

Part Number	Description
BF431C/CC/W	Conventional Base Sounder, White Enclosure
BF432C/CC/W	Conventional O-Class Base Sounder VAD, White Enclosure
BF456C/CC/W	Conventional C-Class Base Sounder VAD, White Enclosure

All bases can be optionally used as either:

- a stand-alone base device using a separately available locking white cap (Part No. BF330CTLIDW) / red cap (Part No. BF330CTLIDR), or
- a combined base device and detector (detectors are separately available and wired on a separate detection circuit). The base devices are compatible with C-TEC's range of ActiV conventional detectors and other compatible third-party suppliers. Note the ActiV detector must be fitted using the C4408 range of ActiV bases.

The bases offer low current consumption, high sound output, high efficiency VADs, 31 selectable primary tones with selectable secondary tone set, two selectable volume levels and three selectable VAD flash rates. Tones, volume levels and VAD flash rates are changed using the base's 8-way DIP switch.

All devices are third-party certified to EN 54-3 (Sounders) and EN 54-23 (Visual alarm devices - VADs).

Note: For compliance to EN 54-3 and EN 54-23, the supplied Quick Connect Plate (Part No. BF431QCP) must be used. The BF431QCP is an easy-to-fit mounting accessory that can assist with cabling to the bases.

Mounting the Base

THE SYSTEM MUST BE COMPLETELY POWERED DOWN BEFORE INSTALLATION

Ensure the bases are installed in accordance with applicable local or national regulations. All bases are designed for ceiling mounting, indoor use only. Do not mount bases on uneven surfaces.

BF431C/CC/W and BF456C/CC/W bases may be mounted in any orientation, whereas the BF432C/CC/W base must be mounted with its lens pointing directly down the length of the corridor.

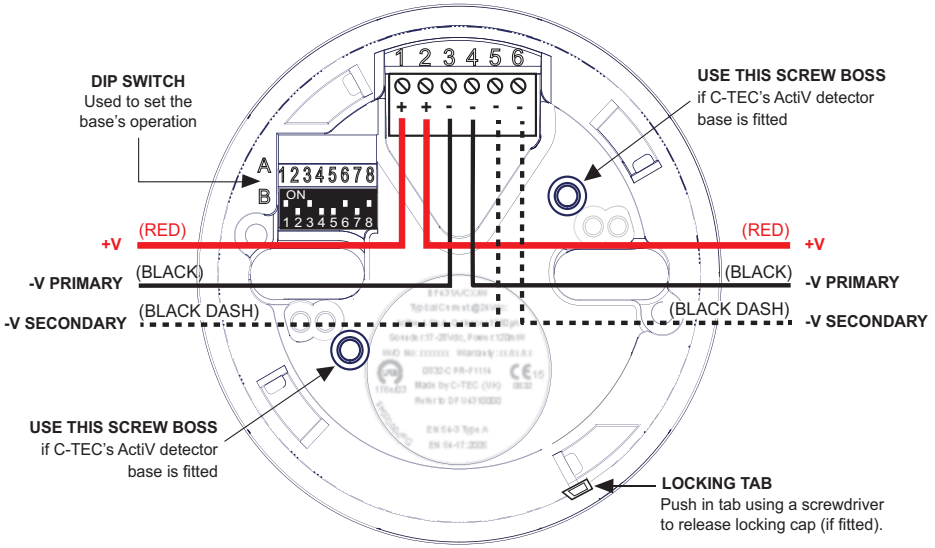
Securely fix the base to a ceiling using two screws in its mounting slots (which are designed for standard electrical termination boxes).

Connections

Connect incoming and outgoing line cables to the base's connector block, as shown in figure 1.

Please note the selection of PRIMARY or SECONDARY tones is made by wiring to the -V PRIMARY or -V SECONDARY connections shown below.

Figure 1 - Sounder Connections (Typical)



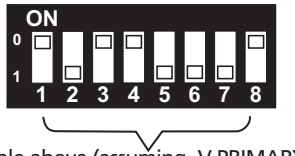
Connector	Function
1 & 2	+Ve
3 & 4	-Ve PRIMARY
5 & 6	-Ve SECONDARY

- All wiring must conform to local or national regulations.
- Correct polarity must be observed.
- Earth screens (not shown above) should be continuous from the CIE panel to the last device.
- Terminate sounder circuit as per panel manufacturer's instructions.
- The connector block's slot head terminals can accept 0.25 mm^2 to 2.5 mm^2 wiring.

Maintenance

Periodic inspection, testing and maintenance of fire detection systems should be carried out in accordance with national, regional or local standards. In the UK the relevant standard is BS 5839-1 Fire detection and fire alarm systems for buildings. Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises.
Inspection and maintenance of the system should only be carried out by a competent person with specialised knowledge of fire detection and alarm systems. This is normally a competent service provider appointed to maintain the system.

DIP Switch Operation



Each base's operation is set using Bits 1 to 8 on its DIP switch.
DIP switch up (ON) = 1, DIP switch down (OFF) = 0.

Use a small screwdriver to set the switches and refer to the tables below for settings. Ensure the switches are set before installation and fully pushed up or down.

Example above (assuming -V PRIMARY is wired to the base):

DIP Switch Setting = 1 1 0 0 0 1 1 0
PRIMARY TONE 3 (C-TEC Fast Warble)
Volume Level High
VAD Flash Rate C-3-8.5 / O-R-3-2.5-17, 0.5 Hz

Sounder Tone Pairs (DIP Switches 1 to 5)

PAIR	PRIMARY TONE	SECONDARY TONE	DIP SWITCH 1 2 3 4 5
0	Sounder Off	Sounder Off	0 0 0 0 0
1	C-TEC Evacuation Tone (610Hz for 0.5s, 810Hz for 0.5s) *	Steady Tone 2 (975Hz Continuous)	1 0 0 0 0
2	Alert (825Hz, 1s on, 1s off)	Steady Tone 2 (975Hz Continuous)	0 1 0 0 0
3	C-TEC Fast Warble (810Hz for 0.25s, 610Hz for 0.25s) *	Steady Tone 2 (975Hz Continuous)	1 1 0 0 0
4	Medium Sweep (800 - 970Hz at 1Hz)	Steady Tone 2 (975Hz Continuous)	0 0 1 0 0
5	Dutch Slow Whoop (sweep) (500-1200Hz for 3.5s, 0.5s off) *	Steady Tone 2 (975Hz Continuous)	1 0 1 0 0
6	DIN Tone (1200Hz – 500Hz for 1s) *	Steady Tone 2 (975Hz Continuous)	0 1 1 0 0
7	Swedish Alternating Tone (660Hz, 150ms on, 150ms off)	Steady Tone 2 (975Hz Continuous)	1 1 1 0 0
8	Swedish all clear (660Hz Constant on)	Steady Tone 2 (975Hz Continuous)	0 0 0 1 0
9	Swedish Local Warning (660Hz, 1.8s on, 1.8s off)	Steady Tone 2 (975Hz Continuous)	1 0 0 1 0
10	Swedish Pre-mess (660Hz, 6.5s on, 13s off, 20s period)	Steady Tone 2 (975Hz Continuous)	0 1 0 1 0
11	Swedish Turn Out (554Hz for 1s, 440Hz for 1s)	Steady Tone 2 (975Hz Continuous)	1 1 0 1 0
12	Swedish tone (660Hz 0.5s on, 0.5s off)	Steady Tone 2 (975Hz Continuous)	0 0 1 1 0
13	Evacuation Tone (Apollo Comparable) (550Hz for 0.5s, 825Hz for 0.5s)	Steady Tone 2 (975Hz Continuous)	1 0 1 1 0
14	Alternating (Hochiki/Fulleon Comparable) (925Hz for 0.25s, 626Hz for 0.25s)	Steady Tone 2 (975Hz Continuous)	0 1 1 1 0
15	French Fire Tone (554Hz for 100ms / 440Hz for 380ms to 420ms) *	Steady Tone 2 (975Hz Continuous)	1 1 1 1 0
16	Australian Alert Tone AS1670 (ISO7731) (420Hz 0.625s on/off)	Steady Tone 2 (975Hz Continuous)	0 0 0 0 1
17	Australian Evacuation Tone AS1670 (500–1200Hz, 0.5s/ 0.5s OFF x 3/1.5s OFF)	Steady Tone 2 (975Hz Continuous)	1 0 0 0 1
18	Aus (fast rise sweep) (3x(500-1200Hz for 0.5s), 0.25s off)	Steady Tone 2 (975Hz Continuous)	0 1 0 0 1
19	NZ (slow rise sweep) (500-1200Hz for 3.75s, 0.25s off)	Steady Tone 2 (975Hz Continuous)	1 1 0 0 1
20	US Temporal LF(ISO 8201) (3x(970Hz, 0.5s on, 0.5 off), 1s off)	Steady Tone 2 (975Hz Continuous)	0 0 1 0 1
21	US Temporal HF(ISO 8201) (3x(2850Hz, 0.5s on, 0.5 off), 1s off)	Steady Tone 2 (975Hz Continuous)	1 0 1 0 1
22	Simulated Bell (n/a)	Steady Tone 2 (975Hz Continuous)	0 1 1 0 1
23	Singapore Alert Tone (1kHz, 2kHz 0.5s alternating)	Steady Tone 2 (975Hz Continuous)	1 1 1 0 1
24	PFEER Alert Tone (950Hz, 0.25s on, 0.25s off)	Steady Tone 2 (975Hz Continuous)	0 0 0 1 1
25	PFEER Alert Tone (970Hz, 1s on, 1s off)	Steady Tone 2 (975Hz Continuous)	1 0 0 1 1
26	ISO 8201 (3x(970Hz, 0.5s on, 0.5 off), 1s off)	Steady Tone 2 (975Hz Continuous)	0 1 0 1 1
27	ISO 8201 (3x(2850Hz, 0.5s on, 0.5 off), 1s off)	Steady Tone 2 (975Hz Continuous)	1 1 0 1 1
28	Steady Tone 1 (925Hz Continuous)	Steady Tone 2 (975Hz Continuous)	0 0 1 1 1
29	Steady Tone 2 (975Hz Continuous)	Steady Tone 2 (975Hz Continuous)	1 0 1 1 1
30	Steady Tone 3 (2850Hz Continuous)	Steady Tone 2 (975Hz Continuous)	0 1 1 1 1
31	Fast Sweep (2.5-2.85kHz at 9Hz)	Steady Tone 2 (975Hz Continuous)	1 1 1 1 1

* Approved to EN 54-3. For SPL measurements refer to Document No. DFU4311010.

Volume Level (DIP Switch 6)

VOLUME LEVEL	DIP SWITCH 6
Low Volume	0
High Volume *	1

* Approved to EN 54-3

VAD Flash Rate (DIP Switches 7 & 8)

FLASH RATE	DIP SWITCH 7 8
Off	0 0
C-3-8.5 / O-R-3-2.5-17, 0.5 Hz **	1 0
C-3-8.5 / O-R-3-2.5-17, 1 Hz	0 1
Power Save, 0.5 Hz	1 1

** Approved to EN 54-23