Supplementary Specification

Part Number:	BF454A/CX/W	BF455A/CX/W	BF457A/CX/W
Description:	Base Voice Sounder with isolator	Base Voice Sounder VAD with isolator, O-Class	Base Voice Sounder VAD with isolator, C-Class
Relevant Standards:	EN 54-3 (Sounders) EN 54-17 (Short-circuit isolators)	EN 54-3 (Sounders) EN 54-23 (VADs) EN 54-17 (Short-circuit isolators)	
Communication Protocol:	Apollo Discovery		
Supply Voltage:	17 to 28 Vdc *	17 to 28 Vdc (sounder only) * 21 to 28 Vdc (VAD only) *	
Quiescent Current (Typical):	550 µA		
Active Current (Typical):	+9.5 mA (above quiescent) **	+19 mA (above quiescent) **	
Power:	240 mW	470 mW	
Environment Type:	Type A (EN 54-3)	Type A (EN 54-3 & EN 54-23)	
VAD Cat. (EN 54-23) (Class):	N/A	O-3-2.5-15	C-3-8 #
VAD Temporal Pattern:	N/A	0.5 Hz, synchronised	
Coverage Volume:	N/A	113 m^3	151 m^3
Nominal SPL at Vmax:	91 dB(A) @ 1 m ***	91 dB(A) @ 1 m ***	91 dB(A) @ 1 m ***
Indicators:	Polling LED (Green) S/C Isolator Active (Amber)		
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		
IP Rating (EN 60529):	IP21C		
Operating Temperature:	-10ºC to +55ºC (Type A)		
Humidity:	Max. 95% RH (non-condensing)		

* excluding data pulses; ** @ maximum volume level;
*** ±3 dB(A) when set to Sounder Tone 1 (Primary); # XPERT address card NOT fitted (C-3-6 if card fitted).

Sounder Tone Pair Details (Tones are selectable at the panel)

PAIR	TONE 1 - PRIMARY	MESSAGE	TONE 2 - SECONDARY	MESSAGE
1	Evacuate (550 Hz for 0.5 sec, 825 Hz for 0.5 sec)	Attention please. Attention please. Fire has been reported in the building. Please leave immediately by the nearest exit. (repeated 2x)	Alert (1 sec off, 825 Hz for 1 sec)	This is a fire alert. This is a fire alert. Await further instructions. Await further instructions. (repeated 2x)
2	Evacuate (550 Hz for 0.5 sec, 825 Hz for 0.5 sec)	In the interests of safety please evacuate the building now. (repeated 3x)	Alert (1 sec off, 825 Hz for 1 sec)	All Clear. The emergency has been resolved. It is safe to resume normal activities. All Clear. (repeated 2x)
3	Evacuate (550 Hz for 0.5 sec, 825 Hz for 0.5 sec)	This is a test of the fire alarm system. Please do not take any action. (repeated 2x)	Alert (1 sec off, 825 Hz for 1 sec)	The fire alarm test is now complete. (repeated 3x)
4	Fast Sweep (2500 Hz to 2850 Hz at 9 Hz)	Spare	Continuous (2850 Hz)	Spare
5	Dutch Slow Sweep (500 Hz to 1200 Hz for 3.5 sec, 0.5 sec off)	Spare	Continuous (825 Hz)	Spare
6	DIN Tone Sweep (1200 Hz to 500 Hz for 1 sec)	Spare	Continuous (825 Hz)	Spare
7	Swedish Fire Tone (660 Hz, 150 msec on, 150 msec off)	Spare	All clear continuous (660 Hz)	Spare
8	Aus Fast Rise Sweep [3 x (500 Hz to 1200 Hz for 0.5 sec), 0.5 sec off]	Spare	Aus Alert (420 Hz, 0.625 sec, 0.625 sec off)	Spare
9	NZ Slow Rise Sweep (500 Hz to 1200 Hz for 3.75 sec, 0.25 sec off)	Spare	NZ Alert (420 Hz, 0.625 sec, 0.625 sec off)	Spare
10	US Temporal LF [3 x (970 Hz, 0.5 sec on, 0.5 sec off), 1 sec off]	Spare	Continuous (970 Hz)	Spare
11	US Temporal HF [3 x (2850 Hz, 0.5 sec on, 0.5 sec off), 1 sec off]	Spare	Continuous (2850 Hz)	Spare
12	Simulated Bell Continuous	Spare	Simulated Bell Intermittent (1 sec off, 1 sec on)	Spare
13	Cranford Sweep	Spare	Cranford Alert	Spare
14	Cranford Continuous	Spare	Cranford Alert	Spare
15	Cranford Two Tone	Spare	Cranford Alert	Spare

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

Base Mount Range Addressable Voice Sounders & Voice Sounder VADs Installation Instructions Discovery Compatible

Product Description

The Base Mount range of addressable, loop-powered bases includes voice sounders and combined voice sounder visual alarm devices (VADs). Their purpose is to visually and audibly alert building occupants of a fire alarm. They are designed for use with C-TEC's ZFP/XFP Apollo Discovery protocol panels and other third-party Apollo Discovery protocol panels. However, compatibility testing with third-party panels is recommended to ensure correct operation.

The following variants are available:

Part Number	Description
BF454A/CX/W	Addressable Voice Sounder Base with isolator, white (Discovery)
BF455A/CX/W	Addressable Voice Sounder VAD Base with isolator, white `O´ Class (Discovery)
BF457A/CX/W	Addressable Voice Sounder VAD Base with isolator, white `C´ Class (Discovery)

All bases can be optionally used as either:
- a stand-alone base using a separately available locking white cap (BF330CTLIDW) / red cap (BF330CTLIDR), or
- a combined, base and Apollo detector (Apollo detectors are separately available).

The bases offer low current consumption, high sound output, high efficiency VADs, seven selectable volume levels, 15 selectable tone pairs and built-in short-circuit loop isolators.

The combined sounder and VAD on the BF455A/CX/W and BF457A/CX/W bases can be set to operate independently of each other (panel dependent function).

All bases are designed to comply with all relevant sections of the fire alarm device standards EN 54-3 (Sounders), EN 54-23 (Visual alarm devices - VADs) and EN 54-17 (Short-circuit isolators).

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 indoor use only and ceiling mounting in any orientation. Do not mount bases on uneven surfaces.

The base has screw terminals for field wiring (refer to `Loop Connection...´ section) and includes mounting slots for standard electrical termination boxes. Securely fix the base to a ceiling using two screws in the mounting slots provided.

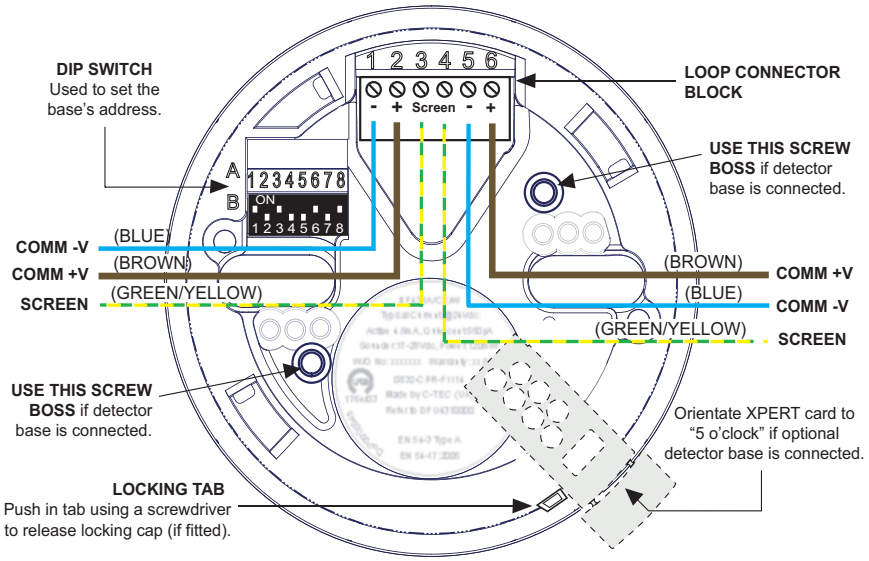
Loop Connection and Connection to Optional Detector Base

Connect the incoming and outcoming loop cable to the base's loop connector block, as shown in figure 1. Note the loop connections are polarity sensitive.

If connecting to an optional detector base, use the supplied Brown (+V) and Blue (-V) link wires to connect from the loop connector block to the detector base terminals. For optimum performance, do not spur to the detector base. Two screws are supplied to secure both bases together using the two single screw bosses shown below.

Important Note: If fitted, the XPERT address card in the detector base must be orientated at a "5 o'clock" position so as not to block the cable entry points.

Figure 1 - Loop Connections (Typical)

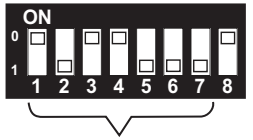


Connector	Function
1	-Ve IN
2	+Ve IN
3 & 4	cable screen
5	-Ve OUT
6	+Ve OUT

- All wiring must conform to local or national regulations.
- Correct polarity must be observed.
- Slot head terminals can accept 0.25 mm^2 to 2.5 mm^2 wiring.
- For optimum performance, it is recommended that screened cables be used.

Setting the Base Address

Each base's address is set using Bits 1 to 7 on its DIP switch.
Bit 8 is not used.
DIP switch up (ON) = 0, DIP switch down (OFF) = 1.
DO NOT use addresses 0 or 127.
Use a small screwdriver to set the switches and refer to chart below for address settings. Ensure the switches are set before installation and fully pushed up or down.



Use Bits 1-7 on the DIP switch to select the base's address (114 in above example).

Addr	DIP position 1234567	Addr	DIP position 1234567	Addr	DIP position 1234567	Addr	DIP position 1234567	Addr	DIP position 1234567
1	1000000	26	0101100	51	1100110	76	0011001	101	1010011
2	0100000	27	1101100	52	0010110	77	1011001	102	0110011
3	1100000	28	0011100	53	1010110	78	0111001	103	1110011
4	0010000	29	1011100	54	0110110	79	1111001	104	0001011
5	1010000	30	0111100	55	1110110	80	0000101	105	1001011
6	0110000	31	1111100	56	0001110	81	1000101	106	0101011
7	1110000	32	0000010	57	1001110	82	0100101	107	1101011
8	0001000	33	1000010	58	0101110	83	1100101	108	0011011
9	1001000	34	0100010	59	1101110	84	0010101	109	1011011
10	0101000	35	1100010	60	0011110	85	1010101	110	0111011
11	1101000	36	0010010	61	1011110	86	0110101	111	1111011
12	0011000	37	1010010	62	0111110	87	1110101	112	0000111
13	1011000	38	0110010	63	1111110	88	0001101	113	1000111
14	0111000	39	1110010	64	0000001	89	1001101	114	0100111
15	1111000	40	0001010	65	1000001	90	0101101	115	1100111
16	0000100	41	1001010	66	0100001	91	1101101	116	0010111
17	1000100	42	0101010	67	1100001	92	0011101	117	1010111
18	0100100	43	1101010	68	0010001	93	1011101	118	0110111
19	1100100	44	0011010	69	1010001	94	0111101	119	1110111
20	0010100	45	1011010	70	0110001	95	1111101	120	0001111
21	1010100	46	0111010	71	1110001	96	0000011	121	1001111
22	0110100	47	1111010	72	0001001	97	1000011	122	0101111
23	1110100	48	0000110	73	1001001	98	0100011	123	1101111
24	0001100	49	1000110	74	0101001	99	1100011	124	0011111
25	1001100	50	0100110	75	1101001	100	0010011	125	1011111
								126	0111111

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 BS5839-1 Fire detection and alarm systems for buildings: Code of practice for system design, installation & maintenance.
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 third-party fire alarm maintenance organisation.

Technical Specifications

EN 54-17 Isolator Specification (Autonomous Voltage Sensing Isolator)

Supply Voltage (V min to V max):	17 to 28 Vdc *
Nominal Supply (V nom):	24 Vdc
Maximum Rated Continuous Current (Ic max):	1 A - switch closed
Maximum Switching Current (Is max):	3 A - short circuit condition
Maximum Leakage Current (IL max):	14 mA @ 28 Volts - switch open
Maximum Impedance (Zc max) @ loop startup/recovery condition:	100 mOhm - switch closed
Maximum Isolating Voltage (Vso max):	16.5 Volts - switches from closed to open
Minimum Isolating Voltage (Vso min):	12.5 Volts - switches from closed to open
Maximum Re-connecting Voltage (Vsc max):	13.5 Volts - switches from open to closed
Minimum Re-connecting Voltage (Vsc min):	7.0 Volts - switches from open to closed

* excluding data pulses