



## Discovery® Sounder VAD Base Installation Guide

### General

This guide describes the installation of the following base

Part number	Product Description	Category
45681-700	Discovery Sounder VAD Base (White) with isolator	O
45681-292	White Cap only (Lockable)	n/a
45681-293	Red Cap only (Lockable)	n/a

Connect the device only to control panels using the Discovery protocol.

### Warning

The Discovery Sounder VAD Base requires compatible fire alarm panel software to operate. Please check with the panel manufacturer before installation.

### Function

The Discovery Sounder VAD Base combines a sounder with a visual alarm, a detector base and a short circuit isolator in one unit. It has up to 15 tone pairs, 7 volume settings, independent control of sounder and VAD and fast turn-on functions. The configuration of the sounder is set by the control panel. Please refer to the panel literature for details.

When the integral short circuit isolator operates, a yellow LED is visible through the moulding opposite the XPERT card (see Fig 1.)

*Note: The Discovery Sounder VAD Base is not suitable for outdoor use.*

### Mounting Instructions

The Discovery Sounder VAD Base may be secured to a UK standard conduit box or surface mounted (providing there is access through the surface for cabling). If a detector is fitted, lock it if required by screwing in the grub screw in the detector with a 1.5mm hex driver (part no 29600-095).

The Discovery Sounder VAD Base is a ceiling mounted device. For coverage volume information please refer to PP2476.

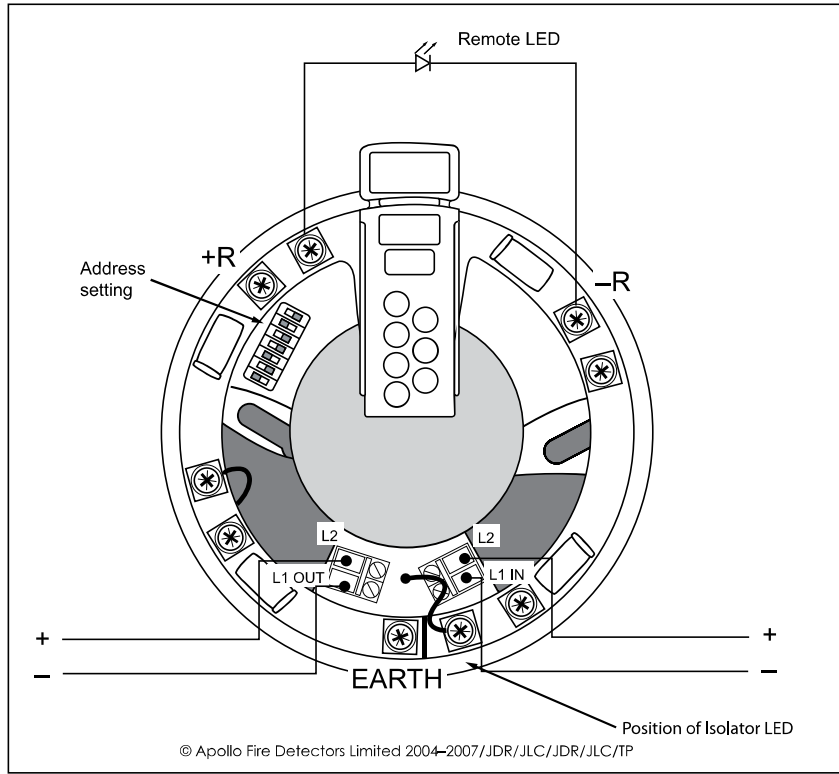
### Wiring Details

*Note: This product is polarity sensitive (supply reversal protected) and will not function if wired incorrectly.*

Terminate all loop cables in the two way terminal blocks. Connect the incoming loop cables to L1 IN (-) and L2 (+) and the outgoing cables to L1 OUT (-) and L2 (+). Functional earth or screen may be connected to the EARTH connection.

When using as a stand-alone unit, a cap is available (red cap part no 45681-293 or white cap part no 45681-292) and is secured with a 1.5mm AF hexagon socket head screw. A hexagonal driver (part no 29600-095) is available from Apollo.





**Fig. 1** Discovery Sounder VAD Base with isolator wiring

**Tone Table**

Byte Value	Primary Tone	Tone No.	Secondary Tone	Tone No.
1	Apollo Evacuation Tone *	T1	Apollo Alert Tone*	T0
2	Alternating- (Hochiki & Fullleon)*	T12	Continuous (Hochiki & Fullleon)*	T11
3	Medium Sweep*	T14	Continuous	T13
4	Fast Sweep	T16	Continuous	T15
5	Dutch Slow Whoop (sweep) *	T3	Continuous*	T2
6	DIN Tone (sweep) *	T4	Continuous*	T2
7	Swedish Fire Tone*	T18	Swedish all clear signal-Continuous*	T17
8	Aus (fast rise sweep)	T6	Aus Alert Tone	T5
9	NZ (slow rise sweep)	T7	NZ Alert Tone	T5
10	US Temporal LF (ISO 8201)	T19	Continuous	T13
11	US Temporal HF (ISO 8201)	T20	Continuous	T15
12	Simulated Bell - Continuous	T8	Simulated Bell - Intermittent	T9
13	Emergency Warning Siren	T10	Emergency Warning - All clear	T10
14	Evacuation Tone*	T13	Alert Tone	T19
15	Apollo Evacuation Tone *	T1	Apollo Alert Tone	T0

\* EN54 Compliant

## Fault Finding

Problem	Possible Cause
No response or missing	Incorrect address setting
Failure to operate	Incorrect loop wiring (polarity reversed) Control panel has incorrect cause and effect programming

## Technical Data

Operating Voltage	17—28V DC	
Switch on Surge	1.2mA for 1s	
Quiescent	500µA	
Sounder Operating	Variable	
Nominal Sounder Output ± 3dB(A) at 28V	Sounder only	Sounder and VAD
Level 1 (60dB(A))*	1mA	9.4mA
Level 2 (70dB(A))	1.3mA	9.7mA
Level 3 (74dB(A))	1.6mA	10mA
Level 4 (78dB(A))	2.1mA	10.4mA
Level 5 (82dB(A))	2.8mA	11mA
Level 6 (86dB(A))	4mA	13mA
Level 7 (90dB(A))	5.5mA	14mA
* Not EN54-3 compliant		
VAD Only Operated	9mA	
VAD Frequency	0.5Hz	
IP Rating	IP21C	

Sound pressure level information published in document PP2203 and isolator operation information published in document PP2090, both available on request.  
For further technical information please refer to PP2476.

## Analogue Values

Analogue Value	Status	Analogue Value	Status
0	Flash Memory Fail	17	Sounder Volume 1
1	Sounder Fail	18	Sounder Volume 2
2	VAD Fail	19	Sounder Volume 3
3	Sounder and VAD Fail	20	Sounder Volume 4
4	General Fault	21	Sounder Volume 5
		22	Sounder Volume 6
		23	Sounder Volume 7

## Address Setting

The address of the Discovery Sounder VAD Base is set using segments 1-7 of the DIL switch and are set to "0" (ON) or "1", using a small screwdriver or similar tool. A complete list of address settings is shown below. If a detector is to be fitted, set the address as described on page 4.

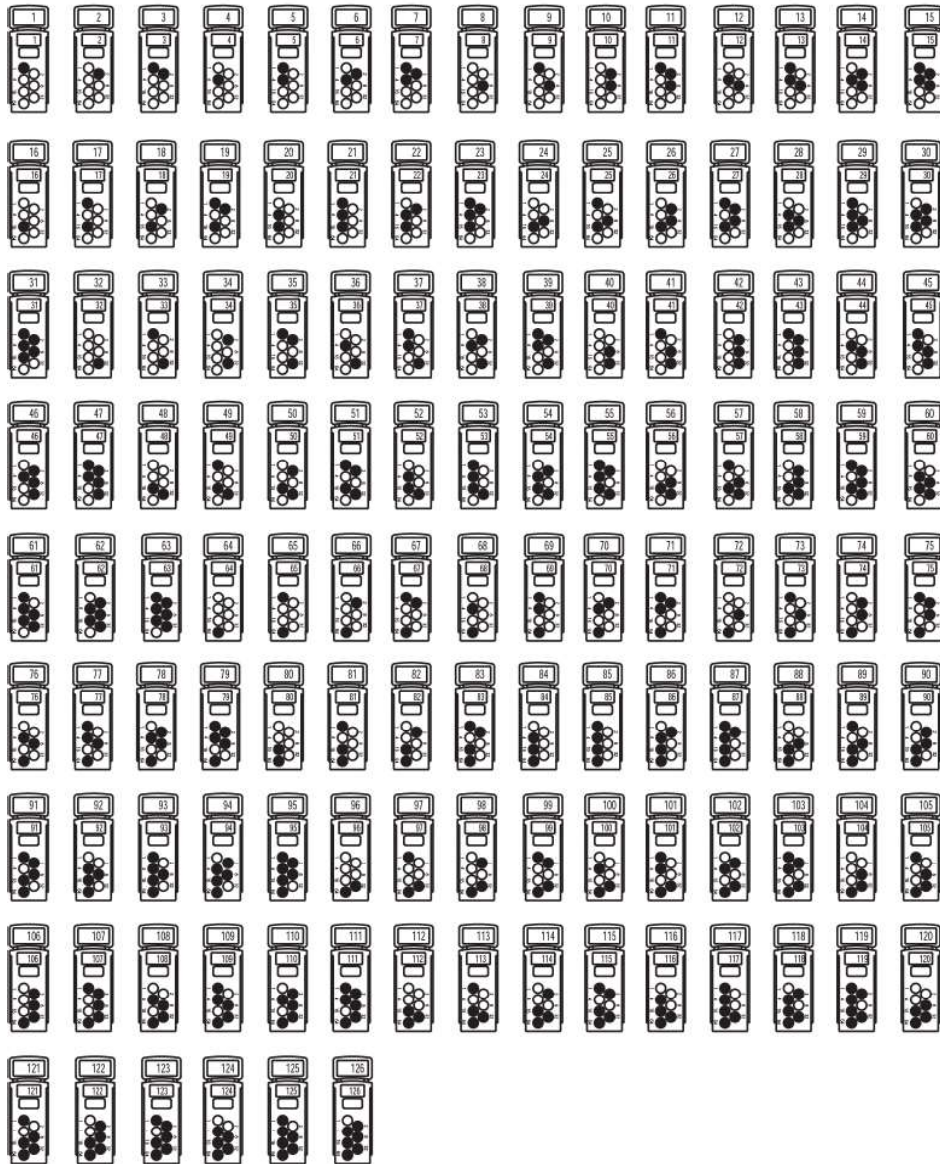
addr	DIL switch setting 1234567	addr	DIL switch setting 1234567	addr	DIL switch setting 1234567	addr	DIL switch setting 1234567	addr	DIL switch setting 1234567
1	1000000	11	1101000	21	1010100	31	1111100	41	1001010
2	0100000	12	0011000	22	0110100	32	0000010	42	0101010
3	1100000	13	1011000	23	1110100	33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

### XPERT Card Addressing

Select the desired address for the detector and remove the pips indicated in black. Remove pips with a small screwdriver.

#### XPERT card addressing

Select the desired address and remove the pips indicated in black. Remove pips with a small screwdriver.



### Commissioning

It is important that the device be fully tested after installation. Many fault conditions are the result of simple wiring errors. Check all connections to the unit.

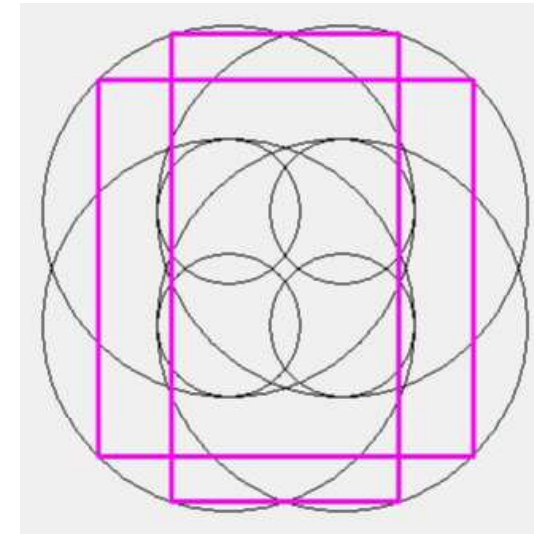
#### Setup and Test Mode

These modes allow volume adjustment and functional testing locally. In test mode no volume adjustment is possible.

The required mode is entered via the control panel and is confirmed by a red LED which flashes once a second on the sounder VAD. Sounder state (on/off) is controlled by placing a magnet adjacent to the flashing LED. When all LEDs flash, withdraw the magnet. A suitable extendable magnetic wand is available, part no. 29650-001.

In setup mode the volume can be adjusted by holding the magnet adjacent to the flashing LED and removing it at the desired volume level. If min or max volume is reached, the LEDs stop flashing. To alter the direction of adjustment, remove the magnet for one second and re-apply. Saving the volume setting is performed at the control panel.

### Coverage Diagram



**Fig 2. Example of coverage pattern**

The sides of the included rectangular coverage range from 3.06m X 6.28m to 5.06m X 5.06m

Coverage radius of a single VAD = 2.50m

Centre dark spot radius of a single VAD = 0.97m

Depth of section from the ceiling = 2.40m

Centre to centre spacing of VADs = 1.53m

For alternative mounting heights, please contact Apollo Fire Detectors Limited