

The VSO-32E base sounder is for use with conventional fire alarm systems, including SAV-WIRE® two wire and is designed to accept most leading detector bases and offers a cost effective solution to sounder installation. The low profile sounder is supplied with 32 tones, along with a two-stage alarm override which is activated by a third negative wire from the fire panel.

All tones have been selected to comply with the latest sound patterns and frequencies used throughout the world. All tone options are fully synchronised. This sounder has been fully approved to EN54 Part 3 by the LPCB and VdS on tones 1, 3, 11, 25 and 27.

When a detector is not being mounted to the sounder a blank cover plate is available so that the unit can be used as a stand alone sounder.

- 32 tones plus a selectable override tone
- Switch selectable volume control
- Designed to work with both conventional and two-wire (SAV-WIRE®) systems
- Fully approved to EN54-3 by LPCB and VdS
- Modern ultra low profile for discreet mounting
- Designed to accept most leading detector bases (contact us for colour options available)



## TECHNICAL

Voltage range (VDC)	18 - 30
Number of tones	32
Operating frequency (Hz)	440 - 2900 Hz
Temperature range (°C)	-20 to +70
Monitoring	Reverse Polarity
Protection rating	IP21C
Boxed weight (kg)	0.11
Body colours available	White or Ivory (ABS fire retardant plastic)

## PERFORMANCE

Volume setting	High
Sound output, typical (dBA)	93.8
Sound output, anechoic chamber (dBA)	91.2
Sound output, reverberation chamber (dBA)	110.9
Max. current consumption @ 24VDC (mA)	12.0
Power consumption @ 24VDC (mW)	288
NB: See tone list performance for more accurate current consumption figures	

## ORDERING INFORMATION

White body, 32 tone	VSO-32E-W
Ivory body, 32 tone	VSO-32E-I
White cover plate*	VSO-CP-W
Ivory cover plate**	VSO-CP-I
Red cover plate	VSO-CP-R

\* Approved part number 116-009

\*\* Approved part number 116-119

## APPROVALS INFORMATION



EN54-3:2001 546a/04



G208012

(white version only approved by VdS)

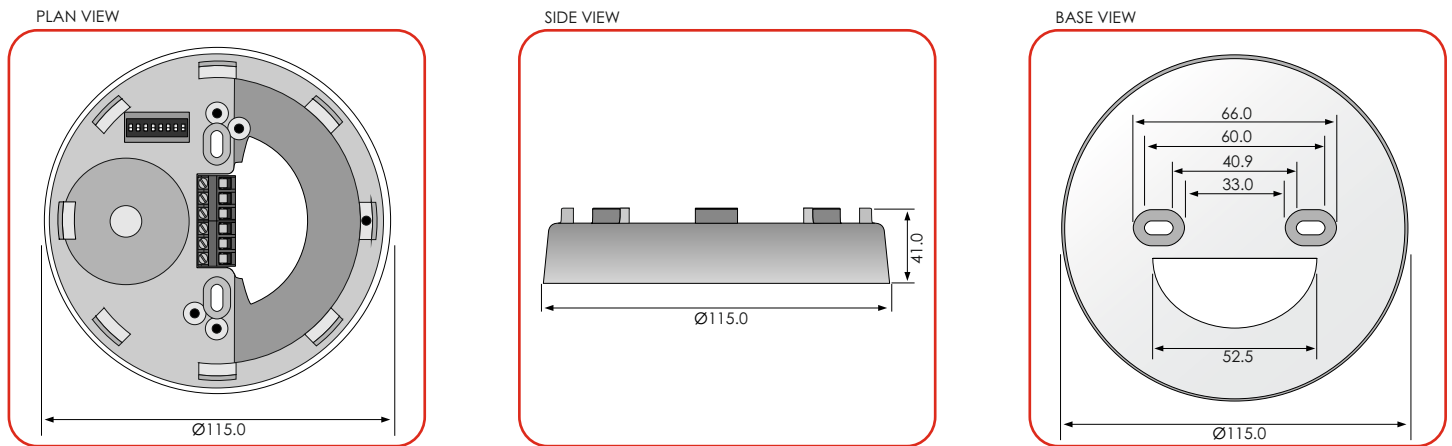


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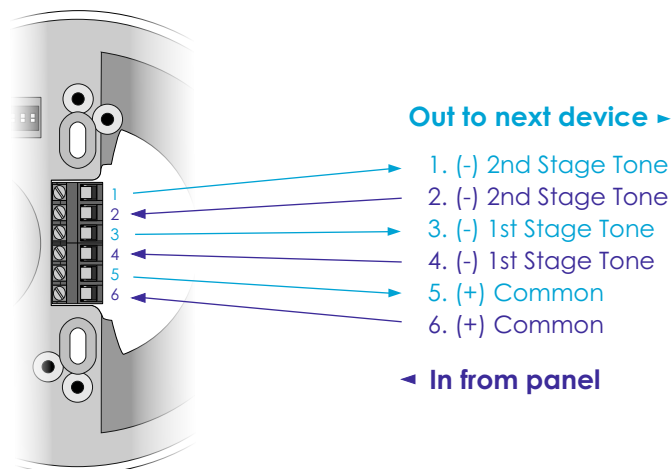
innovationdesignmanufacture

## DIMENSIONS, PRODUCT MOUNTING & CABLE ENTRY

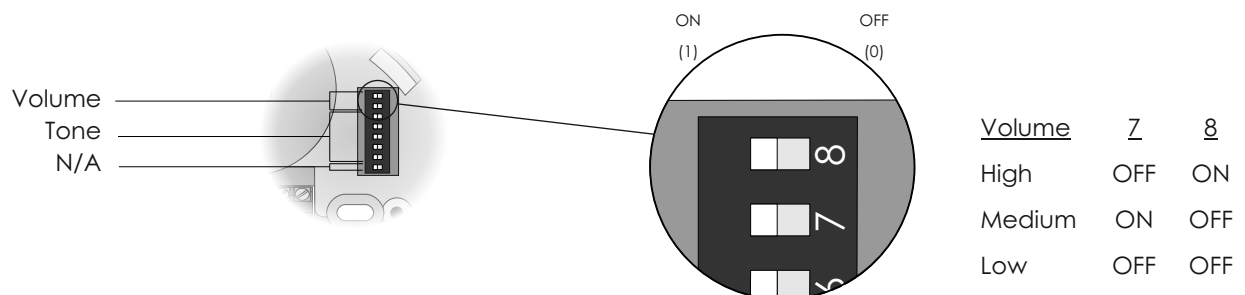
All measurements are in mm



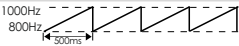




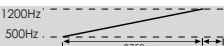

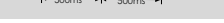

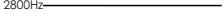

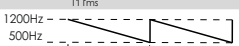


## WIRING CONFIGURATION



## tone & volume selection



**TONE LIST - GRAPHICAL**

No. Name	1st Stage Frequency	1st Stage Graphical	2nd Stage Frequency	2nd Stage Graphical
1 LF Sweep (Cranford Sweep)	800-1000Hz swept every 500ms (2Hz)		800Hz continuous	
2 Alternative warble BS	800Hz for 250ms, then 960Hz for 250ms		800Hz continuous	
3 Warble Tone BS	800Hz for 500ms, then 1000Hz for 500ms		800Hz continuous	
4 Alternative warble BS	500Hz for 250ms, then 600Hz for 250ms		500Hz continuous	
5 HF Back up Interrupted	2800Hz for 1000ms, then off for 1000ms		2800Hz continuous	
6 LF Back up Alarm	800Hz for 150ms, then off for 150ms		800Hz continuous	
7 HF Back up Interrupted (fast)	2800Hz for 150ms, then off for 150ms		800Hz continuous	
8 LF Continuous tone BS5839	800Hz continuous		800Hz continuous	
9 Sweep - 1Hz	800-900Hz swept every 1000ms (1Hz)		800Hz continuous	
10 Australian slow whoop	970Hz for 625ms, then off for 150ms		500-1200Hz for 3250ms, then off for 250ms	
11 Dutch sweep	970Hz continuous		500-1200Hz for 3500ms, then off for 500ms	
12 Analogue sweep	500-600Hz swept every 500ms (2Hz)		500Hz continuous	
13 Sweep - 3Hz	800-970Hz swept every 333ms (3Hz)		800Hz continuous	
14 Alternate HF slow sweep	2350-2900Hz swept every 333ms (3Hz)		2400Hz continuous	
15 Fast HF sweep	2400-2800Hz swept every 143ms (7Hz)		2400Hz continuous	
16 US Temporal Pattern LF	950Hz for 500ms on, 500ms off (x3), then 1500ms off		800Hz continuous	
17 Interrupted BS	800Hz for 500ms, then off for 500ms		800Hz continuous	
18 ISO 8201 LF BS5839 Pt 1	970Hz for 500ms, then off for 500ms		970Hz for 500ms, then off for 500ms	
19 Interrupted medium	1000Hz for 250ms, then off for 250ms		800Hz continuous	
20 ISO8201 HF	2850Hz for 500ms, then off for 500ms		2850Hz for 500ms, then off for 500ms	
21 Continuous	1000Hz continuous		1000Hz continuous	
22 LF Buzz	800-950Hz swept every 9ms (110Hz)		800Hz continuous	
23 HF Continuous	2800Hz continuous		2800Hz continuous	
24 Sweep	800-970Hz swept every 111ms (9Hz)		800Hz continuous	
25 German DIN tone	1200-500Hz swept every 1000ms (1Hz)		800Hz continuous	
26 Swedish Fire signal	660Hz for 150ms, then off for 150ms		660Hz for 150ms, then off for 150ms	
27 French tone AFNOR	554Hz for 100ms, then 440Hz for 400ms		800Hz continuous	
28 Swedish all clear signal	660Hz continuous		660Hz continuous	
29 US Temporal Pattern HF	2900Hz for 500ms on, 500ms off (x3), then 1500ms off		2900Hz continuous	
30 Siren 2 way ramp (short)	500-1200Hz rising for 250ms, then falling for 250ms		800Hz continuous	
31 FP1063.1-Telecom	800Hz for 250ms, then 970Hz for 250ms		800Hz continuous	
32 Siren 2 way ramp (long)	500-1200Hz rising for 3000ms, then falling for 3000ms		800Hz continuous	

## TONE LIST - PERFORMANCE

No.	Name	1st Stage Frequency	Switch (23456)	Typical Current (mA)			Typical Sound Output (dBA)		
				Low	Medium	High	Low	Medium	High
1	LF Sweep (Cranford sweep)	800-1000Hz swept every 500ms (2Hz)	11111	5.7	7.0	9.4	86.2	87.7	91.2
2	Alternative warble BS	800Hz for 250ms, then 960Hz for 250ms	11110	5.5	6.9	9.1	85.3	87.1	90.7
3	Warble Tone BS	800Hz for 500ms, then 1000Hz for 500ms	11101	5.5	6.8	9.2	85.2	87.8	91.1
4	Alternative warble BS	500Hz for 250ms, then 600Hz for 250ms	11100	5.0	6.0	7.5	82.7	84.8	87.6
5	HF Back up Interrupted	2800Hz for 1000ms, then off for 1000ms	11011	5.8	7.5	11.5	88.8	91.2	95.3
6	LF Back up Alarm	800Hz for 150ms, then off for 150ms	11010	4.7	6.1	8.7	83.9	86.0	88.9
7	HF Back up Interrupted (fast)	2800Hz for 150ms, then off for 150ms	11001	4.8	6.1	11.3	88.0	90.3	94.3
8	LF Continuous tone BS5839	800Hz continuous	11000	5.4	6.6	8.6	85.0	87.2	90.2
9	Sweep - 1Hz	800-900Hz swept every 1000ms (1Hz)	10111	5.7	6.9	9.1	85.8	88.3	91.4
10	Australian slow whoop	970Hz for 625ms, then off for 150m	10110	5.3	3.4	9.2	85.6	87.8	91.0
11	Dutch sweep	500-1200Hz 3.5s on, 1.5s off	10101	5.5	6.9	8.8	86.3	89.2	93.2
12	Analogue sweep	500-600Hz swept every 500ms (2Hz)	10100	5.0	6.0	7.7	85.3	87.1	89.5
13	Sweep - 3Hz	800-970Hz swept every 333ms (3Hz)	10011	5.7	6.9	9.3	85.6	88.0	91.1
14	Alternate HF slow sweep	2350-2900Hz swept every 333ms (3Hz)	10010	6.0	7.9	11.8	88.1	91.1	94.8
15	Fast HF sweep	2400-2800Hz swept every 143ms (7Hz)	10001	5.9	7.9	11.9	87.7	90.7	94.5
16	US Temporal Pattern LF	950Hz for 500ms on, 500ms off (x3), then 1500ms off	10000	4.9	5.9	8.8	85.7	88.2	91.1
17	Interrupted BS	800Hz for 500ms, then off for 500ms	01111	5.1	6.1	9.0	84.6	88.2	90.1
18	ISO 8201 LF BS5839 Pt 1	970Hz for 500ms, then off for 500ms	01110	5.0	6.0	9.1	85.4	87.6	91.1
19	Interrupted medium	1000Hz for 250ms, then off for 250ms	01101	5.5	5.8	9.4	84.9	87.4	90.4
20	ISO8201 HF	2850Hz for 500ms, then off for 500ms	01100	5.0	6.1	10.6	88.1	91.0	94.4
21	Continuous	1000Hz continuous	01011	5.7	6.9	9.5	85.2	87.9	91.0
22	LF Buzz	800-950Hz swept every 9ms (110Hz)	01010	5.5	6.8	8.8	85.4	87.8	90.8
23	HF Continuous	2800Hz continuous	01001	5.8	7.3	11.0	89.0	91.5	95.2
24	Sweep	800-970Hz swept every 111ms (9Hz)	01000	5.4	6.6	8.7	85.7	88.0	91.1
25	German DIN tone	1200-500Hz swept every 1000ms (1Hz)	00111	5.4	6.5	8.6	85.5	87.7	90.7
26	Swedish Fire signal	660Hz for 150ms, then off for 150ms	00110	4.7	5.7	6.8	86.0	88.0	90.6
27	French tone AFNOR	554Hz for 100ms, then 440Hz for 400ms	00101	4.9	5.9	7.4	85.2	87.1	89.4
28	Swedish all clear signal	660Hz continuous	00100	5.1	6.3	10.6	87.2	89.3	91.8
29	US Temporal Pattern HF	2900Hz for 500ms on, 500ms off (x3), then 1500ms off	00011	5.3	6.2	8.7	87.4	90.0	93.5
30	Siren 2 way ramp (short)	500-1200Hz rising for 250ms, then falling for 250ms	00010	5.2	6.5	8.6	85.4	87.6	90.6
31	FP1063.1-Telecom	800Hz for 250ms, then 970Hz for 250ms	00001	5.5	6.8	8.8	85.3	87.7	90.8
32	Siren 2 way ramp (long)	500-1200Hz rising for 3000ms, then falling for 3000ms	00000	5.7	7.0	9.24	86.4	88.8	91.8

## EN54-3 APPROVED MINIMUM SOUND OUTPUT AT 1 METER

Tone 1 - LF Sweep (Cranford Sweep)

Horizontal Plane			Vertical Plane		
Angle	18V	30V	Angle	18V	30V
15°	87.7	81.8	15°	88.6	92.7
45°	84.2	88.4	45°	84.7	88.7
75°	87.4	91.5	75°	88.2	92.4
105°	88.0	91.2	105°	85.7	89.9
135°	84.0	88.1	135°	84.8	89.0
165°	86.7	90.7	165°	89.5	93.8

Tone 11 - Dutch Sweep Tone

Horizontal Plane			Vertical Plane		
Angle	18V	30V	Angle	18V	30V
15°	91.1	94.9	15°	86.5	91.6
45°	88.1	93	45°	83.2	87.3
75°	89.2	93	75°	86.7	90.5
105°	91.1	94.9	105°	86.5	90.8
135°	87.9	91.3	135°	83.3	87.3
165°	87.2	90.9	165°	87.6	89.6

Tone 27 - French Tone AFNOR

Horizontal Plane			Vertical Plane		
Angle	18V	30V	Angle	18V	30V
15°	82.8	87.2	15°	83.8	88.1
45°	79.9	84.3	45°	81.7	85.8
75°	84.3	88.7	75°	85.1	89.4
105°	84.1	88.4	105°	82.7	87.0
135°	80.5	85.0	135°	81.7	86.0
165°	82.4	86.7	165°	86.0	90.4

Tone 3 - Warble Tone

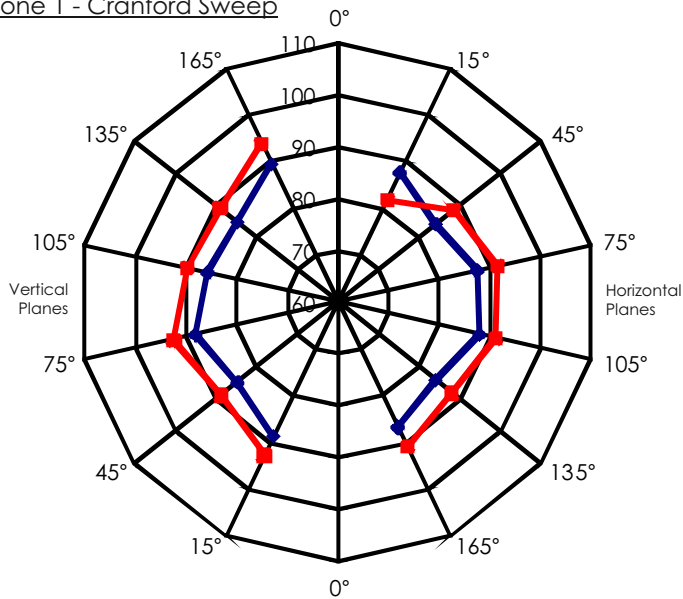
Horizontal Plane			Vertical Plane		
Angle	18V	30V	Angle	18V	30V
15°	87.6	92.3	15°	88.2	91.8
45°	82.8	87.6	45°	85.4	89.9
75°	88.9	83.6	75°	90.0	94.5
105°	88.6	93.2	105°	87.9	92.4
135°	85.0	89.5	135°	87.2	91.8
165°	86.4	91.0	165°	91.4	95.9

Tone 25 - German DIN Tone

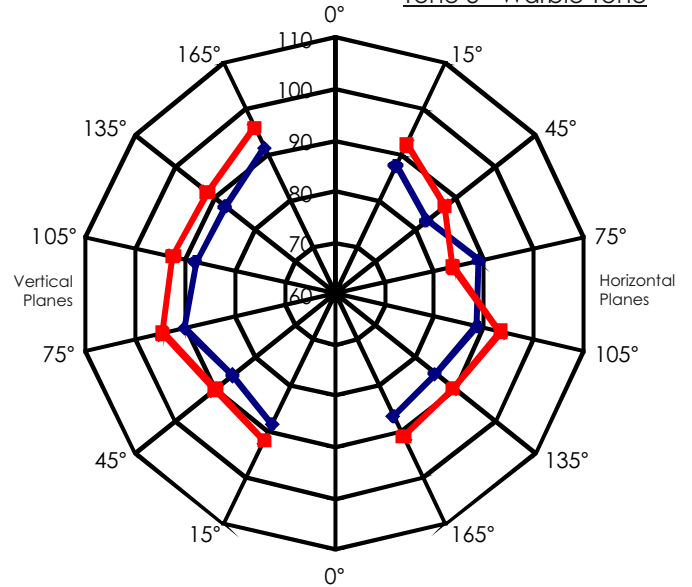
Horizontal Plane			Vertical Plane		
Angle	18V	30V	Angle	18V	30V
15°	85.3	89.6	15°	87.2	91.4
45°	82.1	86.4	45°	83.9	88.1
75°	85.9	90.2	75°	86.7	91.1
105°	85.5	89.8	105°	84.2	88.5
135°	81.6	86.0	135°	83.3	87.7
165°	84.7	88.9	165°	87.8	92.2

## EN54-3 APPROVED POLAR DIAGRAMS

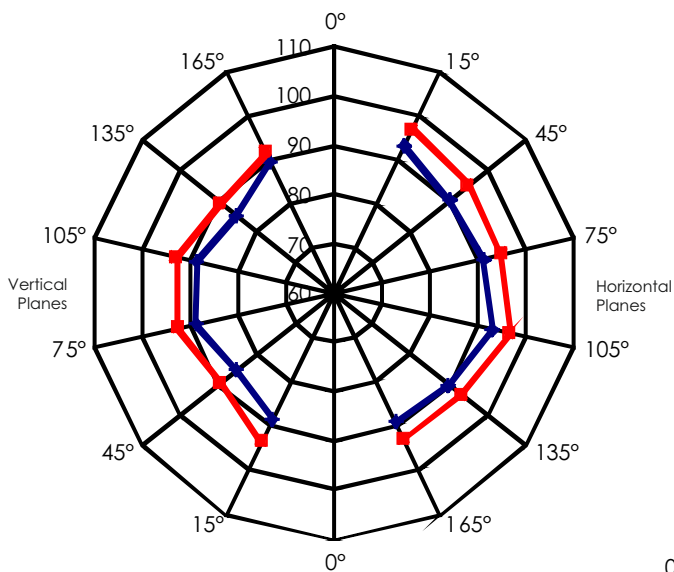
Tone 1 - Cranford Sweep



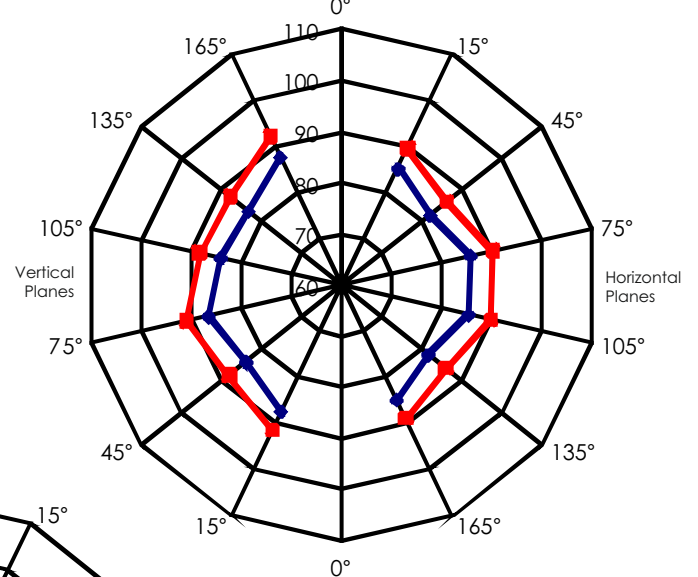
Tone 3 - Warble Tone



Tone 11 - Dutch Sweep Tone



Tone 25 - German DIN Tone



Tone 27 - French Tone AFNOR

