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Illumino Ignis Ltd™
LIGHTING & FIRE DESIGN, SUPPLY & SUPPORT

VTB Spatial Sounder/Beacon 24VDC

Conventional - Devices

Part No. 511-101L | 511-098L | 511-099L | 511-100L | 511-096L | 511-097L

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Product Details

The VTB EN54 Part 3 Approved sounder beacon is part of the VTG family of products designed for use with conventional fire alarm systems including SAV-WIRE® two wire.

The sounder function like all VTG family of products comes as standard with 32 tones. The beacon function has been designed for maximum all round visibility coupled with low power consumption utilising an array of energy efficient LED's.

The sounder function features a two-stage alarm override which is activated by a third negative wire from the fire panel.

Both the sounder and beacon functions are fully synchronised. The sounder function has been fully approved to EN54 Part 3 by Intertek on tones 1, 3, 8, 11, 25 and 27. The product can also be used as a beacon only which is easily selected by a dil switch at the time of installation.



Key Features

- Sounder function fully approved to EN54-3
- 32 tones plus a selectable override tone
- Shallow base IP21C and deep base IP33C versions available
- Designed to work with both conventional and two-wire (SAV-WIRE®) systems
- Switch selectable beacon only feature
- Unique twist and lock bayonet mounting system
- Removable cover on deep base for surface wiring
- Features base locking system as standard

Technical Specifications

Voltage range (Vdc)	21 - 28
Number of tones	32
Operating frequency (Hz)	440 - 2900
Temperature range (°C)	-20 to +70
Flash rate	c. 1Hz
Monitoring	Reverse Polarity

Protection rating	IP21C (Shallow)	IP33C (Deep)
Boxed weight (kg)	0.22 (Shallow)	0.25 (Deep)
Body colours available	Red or White (ABS Fire Retardant Plastic)	
Lens colours available	Red or Amber	

Performance

Volume setting	High	Med	Low
Sound output, typical (dBA)	99.1	95.4	79.7
Sound output, anechoic chamber (dBA)	98.0	94.3	78.5
Sound output, reverberation chamber (dBA)	113.6	110.2	96.0
Max. current consumption @ 24Vdc (mA)	34.4	19.9	10.8
Power consumption @ 24Vdc (mW)	826	478	259

Notes for performance data:

See tone list performance for more accurate current consumption figures Typical sound pressure levels are based on a typical room application Anechoic readings are in a specifically designed chamber with no reflective properties Reverberation readings are in a specifically designed chamber which takes into account maximum reflective properties

0203 00 44 855
sales@illuminoignis.co.uk
illuminoignis.co.uk

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Imperial Way, Eagle Business Park,
Yaxley, Cambridgeshire, PE7 3GP

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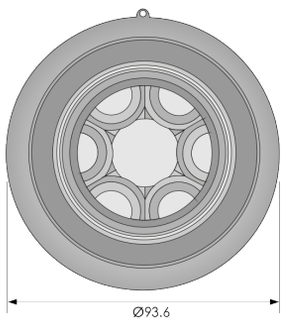
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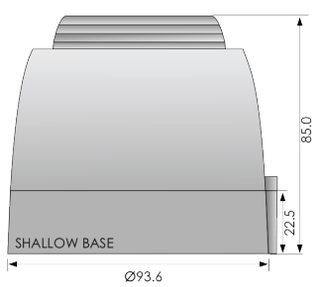
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Dimensions

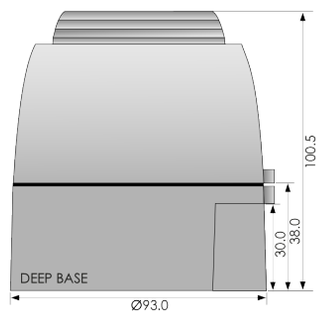
Plan View



Side View

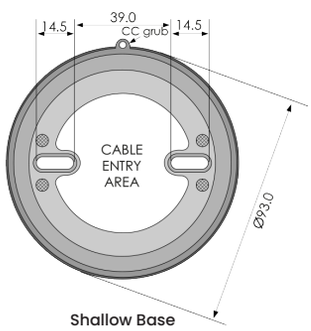


Side View



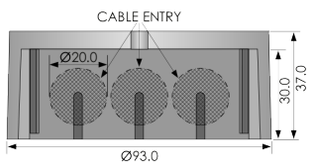
Product Mounting & Cable Entry

Base View



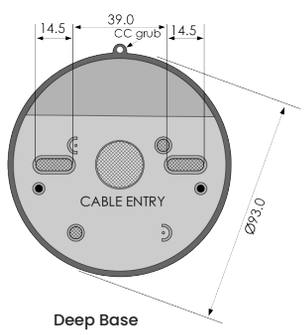
Shallow Base

Side View



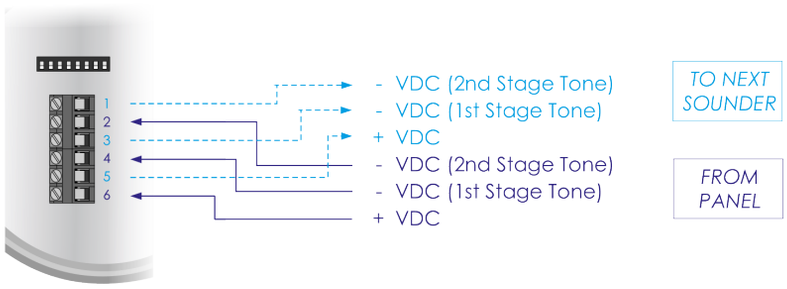
Deep Base

Base View

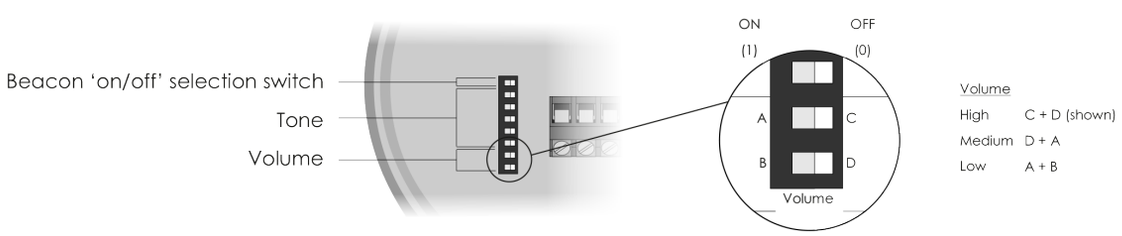


Deep Base

Wiring Configuration



Tone & Volume Selection



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sales@illuminoignis.co.uk
illuminoignis.co.uk

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Imperial Way, Eagle Business Park,
Yaxley, Cambridgeshire, PE7 3GP

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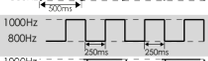
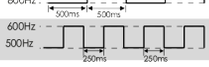
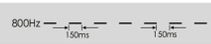
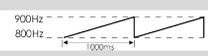
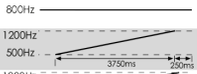
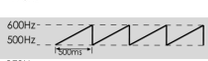
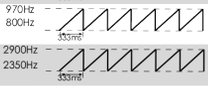
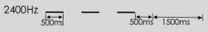
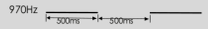
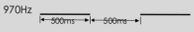
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Tone List - Graphical

Tones 1,3,8,11(Second Stage Tone),25 & 27 Approved to EN54-3

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 150m		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), then1500ms 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	

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Tone List - Performance

Tones 1,3,8,11(Second Stage Tone),25 & 27 Approved to EN54-3

				Typical Current (mA)			Typical Sound Output (dBA)		
No.	Name	1st Stage Frequency	Switch (2345)	Low	Medium	High	Low	Medium	High
1	**LF Sweep (Cranford sweep)**	**800-1000Hz swept every 500ms (2Hz)**	**11111**	**10.2**	**14.8**	**23.0**	**78.0**	**93.0**	**97.0**
2	Alternative warble BS	800Hz for 250ms, then 960Hz for 250ms	11110	9.9	14.6	19.2	80.4	95.7	100.0
3	**Warble Tone BS**	**800Hz for 500ms, then 1000Hz for 500ms**	**11101**	**9.9**	**14.7**	**18.9**	**78.0**	**93.0**	**97.0**
4	Alternative warble BS	500Hz for 250ms, then 600Hz for 250ms	11100	9.1	12.7	14.9	80.0	95.8	99.1
5	HF Back up Interrupted	2800Hz for 1000ms, then off for 1000ms	11011	12.4	19.4	28.9	79.2	93.7	101.0
6	LF Back up Alarm	800Hz for 150ms, then off for 150ms	11010	10.7	15.0	18.2	78.6	93.6	97.2
7	HF Back up Interrupted (fast)	2800Hz for 150ms, then off for 150ms	11001	11.8	19.4	28.8	78.3	92.9	99.9
8	**LF Continuous tone BS5839**	**800Hz continuous**	**11000**	**9.6**	**14.0**	**17.4**	**79.0**	**93.0**	**96.0**
9	Sweep - 1Hz	800-900Hz swept every 1000ms (1Hz)	10111	9.9	14.8	19.2	80.2	95.6	99.8
10	Australian slow whoop	970Hz for 625ms, then off for 150m	10110	9.9	15.6	19.5	80.2	95.5	99.9
11	**Dutch sweep**	**970Hz continuous**	**10101**	**10.1**	**15.0**	**19.6**	**79.0**	**94.0**	**97.0**
12	Analogue sweep	500-600Hz swept every 500ms (2Hz)	10100	9.1	12.6	14.7	80.2	94.8	97.8
13	Sweep - 3Hz	800-970Hz swept every 333ms (3Hz)	10011	9.9	15.0	19.0	80.2	95.7	100.0
14	Alternate HF slow sweep	2350-2900Hz swept every 333ms (3Hz)	10010	11.4	19.3	34.5	83.7	95.7	104.6
15	Fast HF sweep	2400-2800Hz swept every 143ms (7Hz)	10001	11.4	19.6	34.4	82.6	97.1	104.2
16	US Temporal Pattern LF	950Hz for 500ms on, 500ms off (x3), then 1500ms off	10000	10.4	15.1	19.6	80.6	96.0	100.5
17	Interrupted BS	800Hz for 500ms, then off for 500ms	01111	9.2	15.1	18.4	79.6	94.5	98.3
18	ISO 8201 LF BS5839 Pt 1	970Hz for 500ms, then off for 500ms	01110	9.2	14.6	20.5	80.1	95.4	99.9
19	Interrupted medium	1000Hz for 250ms, then off for 250ms	01101	11.0	16.0	20.2	78.5	93.8	98.0
20	ISO8201 HF	2850Hz for 500ms, then off for 500ms	01100	12.1	17.5	28.3	79.4	93.4	100.7
21	Continuous	1000Hz continuous	01011	10.2	15.1	20.1	78.9	94.2	98.7
22	LF Buzz	800-950Hz swept every 9ms (110Hz)	01010	9.8	14.7	18.9	79.9	95.3	99.5
23	HF Continuous	2800Hz continuous	01001	11.3	18.6	29.3	79.3	93.8	101.1
24	Sweep	800-970Hz swept every 111ms (9Hz)	01000	9.7	14.6	18.9	80.1	95.5	99.7
25	**German DIN tone**	**1200-500Hz swept every 1000ms (1Hz)**	**00111**	**9.7**	**13.5**	**20.9**	**78.0**	**93.0**	**96.0**
26	Swedish Fire signal	660Hz for 150ms, then off for 150ms	00110	10.4	14.3	17.0	76.0	91.9	95.6
27	**French tone AFNOR**	**554Hz for 100ms, then 440Hz for 400ms**	**00101**	**9.1**	**11.9**	**15.6**	**76.0**	**91.0**	**94.0**
28	Swedish all clear signal	660Hz continuous	00100	9.3	13.2	16.2	77.1	93.1	96.8
29	US Temporal Pattern HF	2900Hz for 500ms on, 500ms off (x3), then1500ms off	00011	11.3	18.3	28.9	79.2	93.1	100.4
30	Siren 2 way ramp (short)	500-1200Hz rising for 250ms, then falling for 250ms	00010	9.4	13.6	17.6	79.2	94.6	98.7
31	FP1063.1-Telecom	800Hz for 250ms, then 970Hz for 250ms	00001	9.8	15.9	19.6	80.2	95.5	100.0
32	Siren 2 way ramp (long)	500-1200Hz rising for 3000ms, then falling for 3000ms	00000	9.9	15.0	19.7	81.0	95.9	100.2

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EN54-3 Approved Minimum Sound Output At 1 Metre - Low Volume

Tone 1- Cranford Sweep Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	66.54	69.64	15°	65.94	69.14
45°	72.44	75.54	45°	72.24	75.34
75°	72.54	75.64	75°	72.44	75.64
105°	72.54	75.74	105°	72.44	75.54
135°	72.44	75.54	135°	73.24	76.34
165°	65.74	68.94	165°	66.14	69.24

Tone 3 - Warble Tone BS Standard

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	67.04	69.64	15°	65.94	68.44
45°	73.44	76.04	45°	73.64	76.34
75°	75.84	78.14	75°	75.34	77.84
105°	76.44	79.04	105°	75.94	78.34
135°	74.64	77.14	135°	74.24	76.54
165°	67.04	69.34	165°	67.84	70.14

Tone 8 - Continuous 800Hz Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	62.14	64.54	15°	61.14	64.24
45°	69.14	72.14	45°	68.74	71.84
75°	70.94	74.04	75°	70.84	73.94
105°	71.64	74.64	105°	70.74	73.74
135°	68.24	71.24	135°	69.84	72.94
165°	60.94	64.04	165°	59.94	63.14

Tone 11 - Dutch Sweep Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	66.34	69.54	15°	66.04	69.14
45°	72.44	75.54	45°	72.34	75.34
75°	73.64	76.74	75°	73.14	76.24
105°	73.24	76.44	105°	73.44	76.54
135°	72.34	75.44	135°	72.74	75.74
165°	65.94	69.04	165°	66.14	69.34

Tone 25 - German DIN Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	64.44	67.54	15°	63.94	67.04
45°	71.14	74.14	45°	70.94	74.04
75°	71.74	74.84	75°	71.34	74.54
105°	71.54	74.74	105°	71.54	74.74
135°	70.64	73.74	135°	71.14	74.34
165°	63.94	67.04	165°	64.24	67.34

Tone 27 - French AFNOR Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	61.54	64.64	15°	60.44	63.34
45°	69.14	72.14	45°	68.84	71.84
75°	68.54	71.64	75°	68.34	71.34
105°	68.54	71.54	105°	68.84	71.84
135°	68.24	71.24	135°	69.44	72.44
165°	61.64	64.74	165°	61.74	64.74

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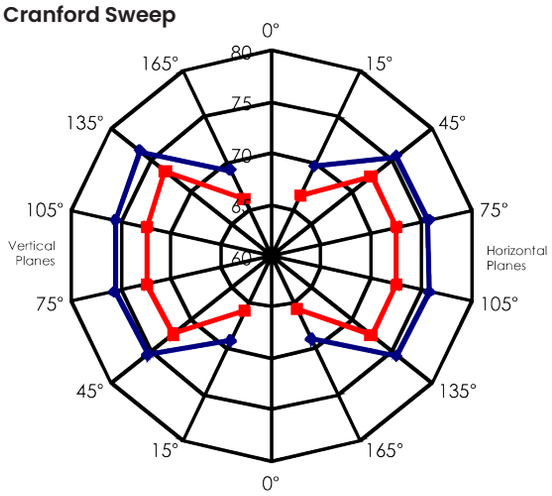
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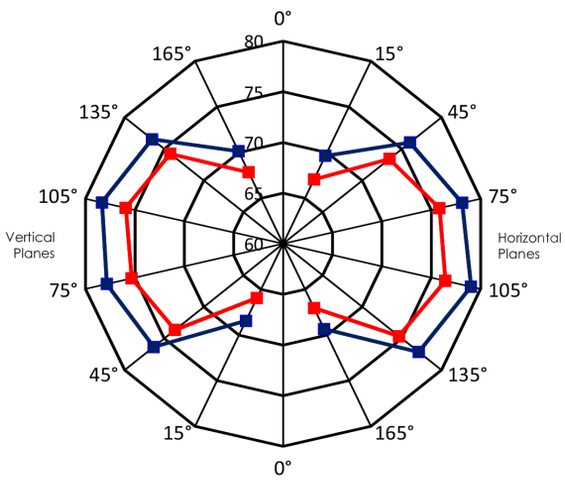
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EN54-3 Approved Polar Diagrams - Low Volume

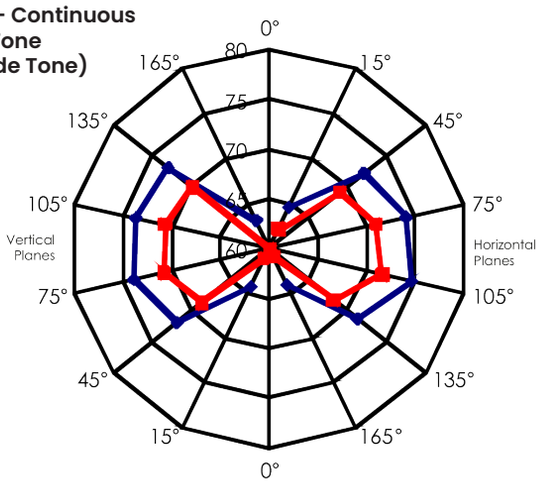
Tone 1 - Cranford Sweep



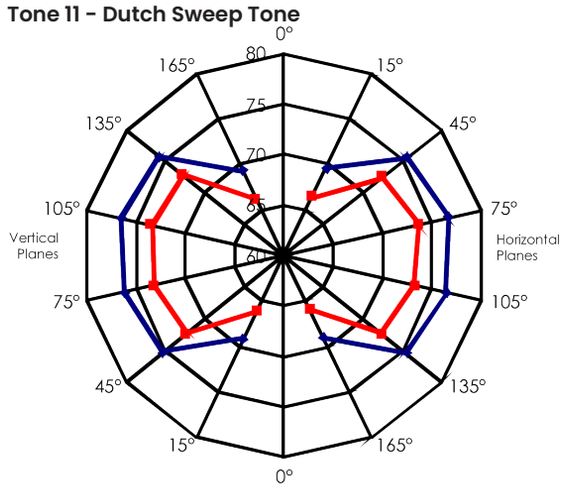
Tone 3 - Warble Ton BS Standard



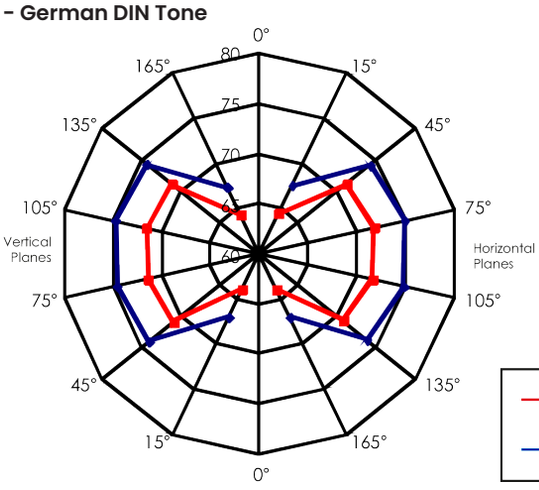
Tone 8 - Continuous 800Hz Tone (Override Tone)



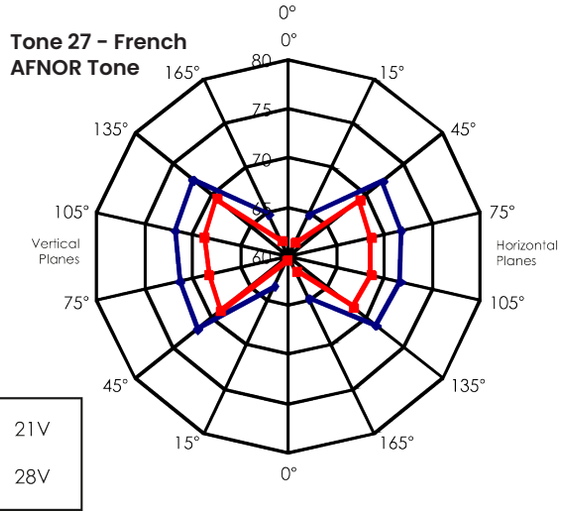
Tone 11 - Dutch Sweep Tone

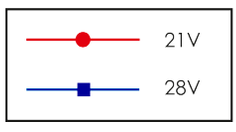


Tone 25 - German DIN Tone



Tone 27 - French AFNOR Tone





0203 00 44 855
sales@illuminoignis.co.uk
illuminoignis.co.uk

Illumino Ignis Ltd, Ignis House,
Imperial Way, Eagle Business Park,
Yaxley, Cambridgeshire, PE7 3GP

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VTB Spatial Sounder/Beacon 24VDC

Conventional - Devices

Part No. 511-101L | 511-098L | 511-099L | 511-100L | 511-096L | 511-097L

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EN54-3 Approved Minimum Sound Output At 1 Metre - High Volume

Tone 1- Cranford Sweep Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	89.14	91.44	15°	88.64	91.04
45°	94.44	96.64	45°	94.14	96.44
75°	94.94	97.24	75°	94.84	97.24
105°	94.84	97.24	105°	94.94	97.14
135°	94.34	96.64	135°	95.14	97.34
165°	88.24	90.54	165°	88.54	90.84

Tone 3 - Warble Tone BS Standard

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	86.44	89.04	15°	84.84	87.74
45°	91.74	94.54	45°	92.04	94.54
75°	93.94	96.34	75°	93.64	96.14
105°	94.24	96.84	105°	94.04	96.64
135°	92.24	94.84	135°	91.94	94.74
165°	84.24	86.84	165°	85.84	88.44

Tone 8 - Continuous 800Hz Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	81.04	83.44	15°	82.14	84.54
45°	89.74	91.94	45°	89.24	91.54
75°	91.14	93.44	75°	91.24	93.54
105°	92.44	94.64	105°	91.34	93.54
135°	89.04	91.24	135°	90.54	92.84
165°	81.94	84.24	165°	81.34	83.64

Tone 11 - Dutch Sweep Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	89.14	91.44	15°	88.84	91.14
45°	94.34	96.64	45°	94.34	96.64
75°	95.14	97.44	75°	94.94	97.24
105°	95.04	97.34	105°	95.04	97.34
135°	94.44	96.64	135°	94.44	96.64
165°	88.44	90.64	165°	88.64	90.94

Tone 25 - German DIN Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	86.84	89.14	15°	86.44	88.74
45°	92.64	94.84	45°	92.54	94.84
75°	93.64	95.94	75°	93.44	95.74
105°	93.54	95.84	105°	93.54	95.84
135°	92.34	94.54	135°	92.84	95.14
165°	86.24	88.44	165°	86.44	88.74

Tone 27 - French AFNOR Tone

Horizontal Plane			Vertical Plane		
Angle	21V	28V	Angle	21V	28V
15°	82.84	85.04	15°	81.74	83.94
45°	89.84	92.04	45°	89.84	91.94
75°	89.74	91.94	75°	89.34	91.64
105°	89.84	92.14	105°	89.84	92.14
135°	89.24	91.34	135°	90.44	92.54
165°	82.74	85.04	165°	82.84	85.04

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illuminoignis.co.uk

Illumino Ignis Ltd, Ignis House,
Imperial Way, Eagle Business Park,
Yaxley, Cambridgeshire, PE7 3GP

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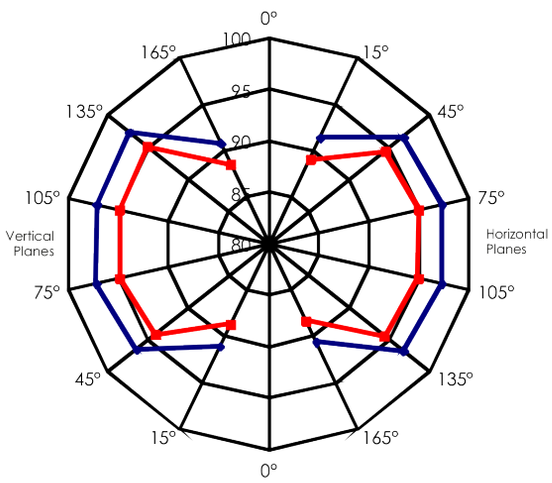
Conventional - Devices

Part No. 511-101L | 511-098L | 511-099L | 511-100L | 511-096L | 511-097L

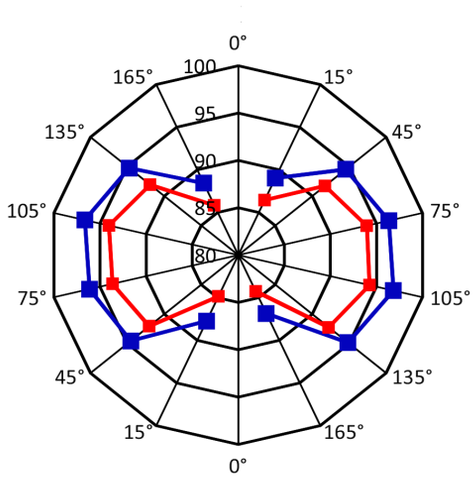
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EN54-3 Approved Polar Diagrams - High Volume

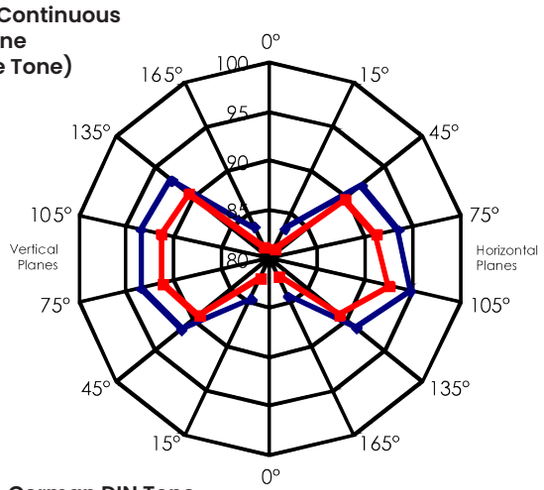
Tone 1 - Cranford Sweep



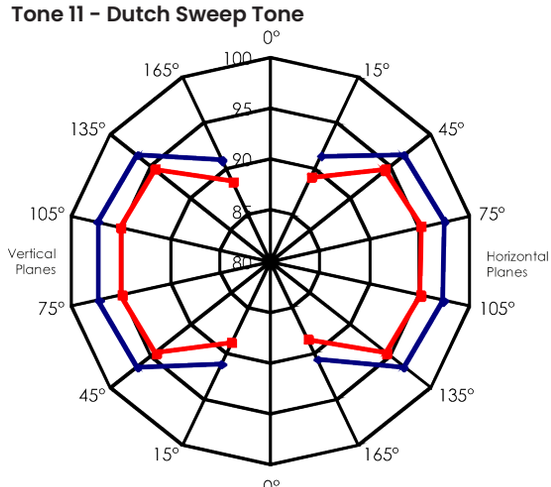
Tone 3 - Warble Ton BS Standard



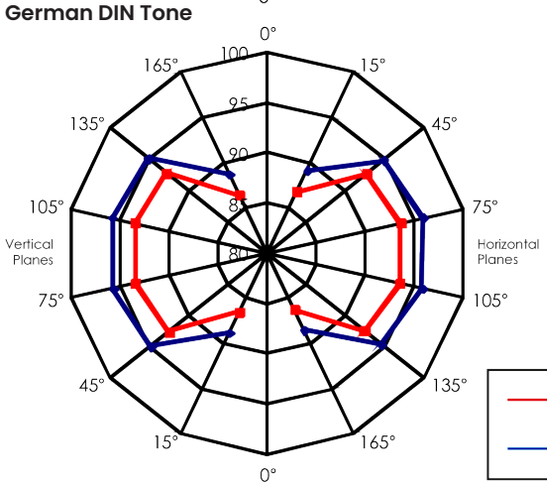
Tone 8 - Continuous 800Hz Tone (Override Tone)



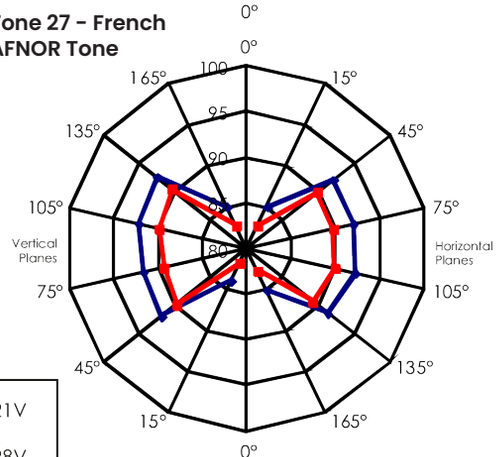
Tone 11 - Dutch Sweep Tone

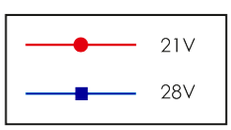


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