



# Sound Pressure Levels

Sounders and Base Sounders

## Introduction

Apollo Fire Detectors offers a choice of sounders for installation in intelligent fire detection systems.

These sounders are either base sounders for use with individual detectors or wall-mounted sounders for installation in open areas.

## Sounders and EN 54

Sounders used as part of a fire detection and alarm system are subject to the requirements of the European standard EN 54-3 when they are installed in the countries of the European Union.

The standard requires the publication of information sufficient for engineers to be able to design and install the sounders competently.

## The Apollo information system

Apollo Fire Detectors publishes a datasheet for each type of sander. These include full information on the function and features of the sounders and, where necessary, the use of the digital communications protocol.

The standard requires the sound pressure levels and tone frequencies to be published but these have not been included in individual sander datasheets. It has been decided to publish all this data collectively in a separate publication. This publication contains information available at the time of printing. Further information on sound pressure levels and frequencies will be added at intervals as this information becomes available.

### Notes:

1. The data given represents the lowest sound levels that might be achieved in actual use.
2. As of July 2006 BRE, the UK fire testing organisation, has discontinued the requirement to publish data for the low volume setting of sounders and sander visual indicators. Only high volume setting data is, therefore, published for the 'Multi-tone Open-area Sander Visual Indicator' range and any later ranges.

## Sounders included in this publication

- Intelligent Base Sander
- Intelligent Base Sander with Isolator
- Intelligent Base Sander, Slow Whoop
- Intelligent Base Sander with Isolator, Slow Whoop
- Ancillary Base Sander
- Integrated Base Sander with Isolator
- Integrated Base Sander
- Integrated Base Sander with Isolator, Slow Whoop

- Integrated Base Sander, Slow Whoop
- Integrated Base Sander, DIN Tone
- Sander Visual Indicator Base with Isolator
- Sander Visual Indicator Base
- Sander Visual Indicator Base with Isolator, Slow Whoop
- Sander Visual Indicator Base with Isolator, DIN Tone
- Discovery Sander Visual Indicator Base
- AlarmSense Sander
- AlarmSense Open-Area Sander Visual Indicator
- AlarmSense Open-Area Sander
- Discovery Sander VAD Base
- Discovery Marine Sander VAD Base
- Discovery Sander Base
- Sander VAD Base
- Sander VAD Base with Isolator, Slow Whoop
- Sander VAD Base with Isolator, DIN Tone
- Intelligent Open-Area Sander
- Intelligent Multi-tone Open-Area Sander Visual Indicator
- Multi-tone Waterproof Open-Area Sander
- Multi-tone Open-Area Sander
- Multi-tone Open-Area Sander Visual Indicator
- Multi-tone Open-Area Sander Visual Indicator with Isolator
- Multi-tone Waterproof Open-Area Sander Visual Indicator
- Multi-tone Waterproof Open-Area Sander Visual Indicator with Isolator
- Discovery Open-Area Sander Visual Indicator
- Discovery Open-Area Voice Sander
- Discovery Open-Area Voice Sander Visual Indicator
- XPander Sander and Sander Base
- XPander Sander Visual Indicator and Sander Base
- XPander Combined Sander and Detector Base
- XPander Combined Sander Visual Indicator and Detector Base
- XP95 Category C Sander Visual Alarm
- XP95 Category W Sander Visual Alarm
- Discovery Open-Area Voice Sander
- Discovery Open-Area Voice Sander Visual Indicator
- Intelligent Open-Area Sander (SA part numbers only)
- Intelligent Open-Area Sander Visual Indicator (SA part numbers only)
- Soteria Audio Visual Base

**Intelligent Base Sounder, Part Number 45681-265**  
**Intelligent Base Sounder with Isolator, Part Number 45681-266**

Apollo Standard				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: off for 1s / 510Hz for 1s			Sound pressure level dB(A) Tone frequency: 510Hz for 0.5s / 610Hz for 0.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	80.3	78.7	80.8	83.3
45°	81.3	79.1	81.5	83.0
75°	86.5	85.7	87.7	88.4
105°	86.5	85.8	86.4	85.3
135°	80.7	83.1	82.4	83.3
165°	80.5	84.1	82.8	86.4

**Intelligent Base Sounder, Slow Whoop, Part Number 45681-267**

Slow Whoop				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: 970Hz continuous			Sound pressure level dB(A) Tone frequency: off for 0.5s / 500Hz-1200Hz over 3.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	75.8	76.5	84.4	88.3
45°	75.9	75.7	85.7	87.9
75°	81.0	76.0	90.1	89.6
105°	81.1	81.0	90.0	89.5
135°	76.7	79.3	84.8	84.3
165°	76.9	80.2	83.7	82.7

**Ancillary Base Sounder, Part Number 45681-276**

Apollo Standard		
EVACUATE		
Sound pressure level dB(A) Tone frequency: 630Hz for 0.5s / 990Hz for 0.5s		
Maximum		
Angle	Horizontal	Vertical
15°	77.9	77.0
45°	75.0	77.0
75°	80.8	79.6
105°	80.0	79.4
135°	78.2	75.1
165°	79.0	67.0

**Integrated Base Sounder with Isolator, Part Number 45681-277**  
**Integrated Base Sounder, Part Number 45681-278**

Apollo Standard				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: off for 1s / 800Hz-1000Hz for 1s			Sound pressure level dB(A) Tone frequency: 500Hz-700Hz for 0.5s / 800Hz-1000Hz for 0.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	71.7	68.0	71.8	68.0
45°	70.5	69.7	71.0	69.7
75°	75.7	74.7	76.9	74.7
105°	75.4	75.1	76.7	75.1
135°	70.1	71.2	70.5	74.3
165°	70.0	75.0	71.9	75.0





**Integrated Base Sounder with Isolator, Slow Whoop, Part Number 45681-290**  
**Integrated Base Sounder, Slow Whoop, Part Number 45681-291**

	Slow Whoop			
	ALERT		EVACUATE	
	Sound pressure level dB(A) Tone frequency: 800–1000Hz		Sound pressure level dB(A) Tone frequency: off for 0.5s / 500–1200Hz over 3.5s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	70.0	70.9	73.8	72.0
45°	71.7	71.3	75.4	74.9
75°	77.1	78.0	78.4	80.7
105°	77.2	78.0	78.9	80.0
135°	71.6	74.5	73.0	75.1
165°	73.3	72.3	73.8	76.3

**Integrated Base Sounder with Isolator, DIN Tone, Part Number 45681-300**

	DIN Tone			
	ALERT		EVACUATE	
	Sound pressure level dB(A) for continuous tone (not DIN) Tone frequency: 870Hz continuous		Sound pressure level dB(A) Tone frequency: 1200–500Hz over 1s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	70.8	70.3	71.7	71.5
45°	72.4	71.2	72.4	70.6
75°	78.4	78.4	77.7	78.2
105°	78.0	77.5	78.4	78.4
135°	70.5	74.2	72.0	75.6
165°	73.9	71.1	73.9	70.0

**Sounder Visual Indicator Base with Isolator, Part Number 45681-330**

	Apollo Standard			
	ALERT		EVACUATE	
	Sound pressure level dB(A) Tone frequency: off for 1s / 825Hz for 1s		Sound pressure level dB(A) Tone frequency: 550Hz for 0.5s / 825Hz for 0.5s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	73.0	70.0	70.0	69.9
45°	73.8	71.9	73.7	72.0
75°	77.5	78.0	77.3	78.0
105°	77.0	77.0	77.9	76.0
135°	72.4	74.7	73.0	74.6
165°	72.0	73.0	73.0	73.0

**Sounder Visual Indicator Base, Part Number 45681-331**

	Apollo Standard			
	ALERT		EVACUATE	
	Sound pressure level dB(A) Tone frequency: off for 1s / 825Hz for 1s		Sound pressure level dB(A) Tone frequency: 550Hz for 0.5s / 825Hz for 0.5s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	69.9	73.6	70.2	73.9
45°	72.0	76.1	72.0	75.7
75°	78.4	80.3	78.6	80.4
105°	78.6	80.0	78.6	80.2
135°	75.1	77.5	74.6	77.5
165°	73.3	79.2	73.3	79.4

**Sounder Visual Indicator Base, Slow Whoop, Part Number 45681-332**

	Slow Whoop			
	ALERT		EVACUATE	
	Sound pressure level dB(A) Tone frequency: 825Hz continuous		Sound pressure level dB(A) Tone frequency: off for 0.5s / 500-1200Hz over 3.5s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	73.8	70.0	75.0	73.6
45°	74.5	73.0	75.3	74.3
75°	78.6	78.0	81.5	80.8
105°	78.4	78.0	81.4	81.0
135°	73.5	75.5	76.0	78.3
165°	72.3	75.0	75.0	75.5

**Discovery Sounder Visual Indicator Base, Part Number 45681-393**

	Apollo Standard			
	ALERT (Tone 0)		EVACUATE (Tone 1)	
	Sound pressure level dB(A) Tone frequency: off for 1s / 825Hz for 1s		Sound pressure level dB(A) Tone frequency: 550Hz for 0.5s / 825Hz for 0.5s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	72.95	68.52	73.1	70.6
45°	71.5	70.4	71.5	70.2
75°	77.1	77.1	77.1	77.1
105°	76.6	76.5	76.5	76.5
135°	71.3	73.1	71.2	73.1
165°	71.1	79.3	71.1	79.4
	EVACUATE (Tone 3)		EVACUATE (Tone 4)	
	Sound pressure level dB(A) for Dutch Slow Whoop tone Tone frequency: off for 0.5s / 500-1200Hz over 3.5s		Sound pressure level dB(A) for DIN tone Tone frequency: 1200-500Hz over 1s	
	Maximum		Maximum	
	Angle	Horizontal	Vertical	Horizontal
15°	73.02	68.81	75.0	70.6
45°	73.4	71.8	72.7	70.5
75°	79.2	78.8	79.2	79.0
105°	78.1	78.1	78.1	78.1
135°	73.3	76.7	72.8	76.0
165°	73.1	79.18	73.1	80.4
	EVACUATE (Tone 12)		ALERT (Tone 11)	
	Sound pressure level dB(A) for alternating Fulleon and Hochiki tone Tone frequency: 626Hz for 0.25s / 925Hz for 0.25ms		Sound pressure level dB(A) for continuous Fulleon and Hochiki tone Tone frequency: 925Hz continuous	
	Maximum		Maximum	
	Angle	Horizontal	Vertical	Horizontal
15°	75.6	70.6	75.6	70.1
45°	72.3	64.9	64.2	62.9
75°	78.0	78.6	78.4	78.7
105°	78.2	78.0	76.7	78.0
135°	70.3	76.2	70.0	76.0
165°	75.2	81.2	75.2	81.1
	EVACUATE (Tone 14)		ALERT (Tone 13)	
	Sound pressure level dB(A) for Medium Sweep tone Tone frequency: 800Hz to 970Hz at 1Hz		Sound pressure level dB(A) for continuous tone Tone frequency: 970Hz continuous	
	Maximum		Maximum	
	Angle	Horizontal	Vertical	Horizontal
15°	72.9	70.4	73.8	67.3
45°	69.9	64.4	71.6	64.2
75°	78.8	79.3	76.1	76.4
105°	78.6	78.4	75.4	75.8
135°	70.0	75.8	71.0	74.2
165°	75.2	80.7	73.25	77.7



## Discovery Sounder Visual Indicator Base, Part Number 45681-393 (cont'd)

Angle	EVACUATE (Tone 18)		ALERT (Tone 2)	
	Sound pressure level dB(A) for Swedish Fire tone Tone frequency: off for 0.15s / 660Hz for 0.15s		Sound pressure level dB(A) for continuous tone Tone frequency: 825Hz continuous	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	81.0	72.5	73.3	68.7
45°	77.3	76.9	72.2	64.3
75°	81.2	81.5	77.8	78.0
105°	81.2	81.1	77.4	77.2
135°	77.9	79.7	71.5	73.6
165°	81.7	84.6	71.7	79.0

  

Angle	ALERT (Tone 17)	
	Sound pressure level dB(A) for Swedish All Clear Signal continuous tone Tone frequency: 660Hz continuous	
	Maximum	
	Horizontal	Vertical
15°	81.2	73.9
45°	78.7	77.0
75°	83.5	83.2
105°	83.7	81.9
135°	79.0	81.2
165°	84.0	86.4

AlarmSense Sounder Visual Indicator Base, Part Number 45681-509  
AlarmSense Sounder Base, Part Number 45681-510

Angle	Apollo Standard EVACUATE (Tone 7)	
	Sound pressure level dB(A) Tone frequency: 550Hz for 0.5s / 825Hz for 0.5s	
	Maximum volume, switch 2 off	
	Horizontal	Vertical
15°	73.0	68.9
45°	70.1	67.8
75°	76.1	76.3
105°	75.5	75.2
135°	69.5	73.8
165°	73.5	79.3

AlarmSense Open-Area Sounder Visual Indicator, Part Number 55000-017  
AlarmSense Open-Area Sounder, Part Number 55000-018

Angle	Apollo Standard EVACUATE	
	Sound pressure level dB(A) Tone frequency: 558Hz for 0.5 s / 840Hz for 0.5 s	
	Maximum	
	Horizontal	Vertical
15°	83.2	83.2
45°	88.6	88.9
75°	89.7	89.5
105°	89.7	89.6
135°	88.6	89.0
165°	83.2	82.9

**Discovery Sounder VAD Base, Part Number 45681-700**  
**Discovery Sounder Base, Part Number 45681-702**

Apollo Standard				
ALERT (Tone 0)			EVACUATE (Tone 1)	
Sound pressure level dB(A) Tone frequency: off for 1s / 850Hz for 1s			Sound pressure level dB(A) Tone frequency: 567Hz for 0.5s / 850Hz for 0.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	77.1	71.2	77.0	71.2
45°	76.2	74.5	76.2	74.4
75°	80.8	80.5	80.9	80.5
105°	80.9	81.2	80.9	81.2
135°	74.3	77.7	74.3	77.6
165°	75.8	81.3	75.8	81.2
EVACUATE (Tone 3)			EVACUATE (Tone 4)	
Sound pressure level dB(A) for Dutch Slow Whoop tone Tone frequency: off for 0.5s / 500-1200Hz over 3.5s			Sound pressure level dB(A) for DIN tone Tone frequency: 1200-500Hz over 1s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	80.1	84.8	73.2	69.8
45°	85.2	86.3	72.0	68.8
75°	89.1	89.2	76.2	76.9
105°	88.9	88.9	75.8	76.9
135°	85.0	83.7	70.0	73.0
165°	81.6	79.4	73.7	78.1
EVACUATE (Tone 12)			ALERT (Tone 11)	
Sound pressure level dB(A) for alternating Fulleon and Hochiki tone Tone frequency: 626Hz for 0.25s / 925Hz for 0.25ms			Sound pressure level dB(A) for continuous Fulleon and Hochiki tone Tone frequency: 925Hz continuous	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	73.0	68.0	73.2	78.5
45°	70.0	64.0	61.2	63.2
75°	75.0	76.4	75.4	76.4
105°	75.2	75.0	73.7	75.0
135°	67.3	73.8	67.0	73.8
165°	72.5	78.2	72.2	78.1
EVACUATE (Tone 14)			ALERT (Tone 13)	
Sound pressure level dB(A) for Medium Sweep tone Tone frequency: 800Hz to 970Hz at 1Hz			Sound pressure level dB(A) for continuous tone Tone frequency: 970Hz continuous	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	73.0	70.0	73.0	71.2
45°	70.8	66.8	69.8	66.7
75°	76.5	76.3	75.3	76.0
105°	75.6	76.1	76.4	76.6
135°	67.0	72.8	71.9	70.1
165°	72.2	78.3	72.7	73.8
EVACUATE (Tone 18)			ALERT (Tone 2)	
Sound pressure level dB(A) for Swedish Fire tone Tone frequency: off for 0.15s / 660Hz for 0.15s			Sound pressure level dB(A) for continuous tone Tone frequency: 850Hz continuous	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	78.0	69.5	74.2	73.5
45°	74.3	73.9	72.2	61.7
75°	78.2	78.5	79.5	79.0
105°	78.2	78.1	79.0	80.5
135°	74.9	76.7	71.7	77.7
165°	78.7	81.6	75.3	80.7



**Discovery Sounder VAD Base, Part Number 45681-700**  
**Discovery Sounder Base, Part Number 45681-702**

(cont'd)

ALERT (Tone 17)		
Sound pressure level dB(A) for Swedish All Clear Signal continuous tone Tone frequency: 660Hz continuous		
Maximum		
Angle	Horizontal	Vertical
15°	78.2	70.9
45°	75.7	74.0
75°	80.5	80.2
105°	80.7	78.9
135°	76.0	78.2
165°	81.0	83.4

**Sounder VAD Base with Isolator, Part Number 45681-705**

Apollo Standard				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: off for 1s / 850Hz for 1s			Sound pressure level dB(A) Tone frequency: 567Hz for 0.5s / 850Hz for 0.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	77.6	79.7	82.4	82.5
45°	84.4	81.8	84.2	82.5
75°	86.9	86.0	86.6	86.2
105°	86.1	85.8	86.9	86.0
135°	80.6	82.0	79.9	82.2
165°	76.4	81.3	77.5	80.7

**Sounder VAD Base with Isolator, Slow Whoop, Part Number 45681-706**

Slow Whoop				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: 850Hz continuous			Sound pressure level dB(A) Tone frequency: off for 0.5s / 500-1200Hz over 3.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	81.7	81.0	80.1	84.8
45°	89.5	87.3	85.2	86.3
75°	91.2	90.9	89.1	89.2
105°	90.8	90.8	98.9	88.9
135°	87.9	88.0	85.0	83.7
165°	82.3	86.0	81.6	79.4

**Sounder VAD Base with Isolator, DIN Tone, Part Number 45681-707**

DIN Tone				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: 850Hz continuous			Sound pressure level dB(A) Tone frequency: 1200-500Hz over 1s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	83.2	78.5	82.0	78.8
45°	83.3	83.0	81.6	80.7
75°	88.1	87.7	86.2	86.0
105°	88.2	88.7	86.1	86.5
135°	82.8	84.8	81.2	84.0
165°	83.1	87.3	82.4	86.6


**A Halma company**

© Apollo Fire Detectors Ltd 2019



**Intelligent Open-Area Sounders, Part Numbers 55000-001, 55000-002, 55000-003 and 55000-004**  
**Intelligent Open-Area Sounder Visual Indicators, Part Numbers 55000-005, 55000-006, 55000-007 and 55000-008**

Apollo Standard				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: off 1s / 840Hz ±20Hz for 1s			Sound pressure level dB(A) Tone frequency: 558Hz for 0.5s / 840Hz for 0.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	85.4	86.0	85.0	86.0
45°	86.3	86.7	87.1	86.4
75°	91.3	91.4	91.4	91.4
105°	91.1	91.4	91.3	91.5
135°	85.3	85.9	85.4	85.7
165°	87.0	85.9	86.0	86.0

  

Slow Whoop				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: 825Hz continuous			Sound pressure level dB(A) Tone frequency: off for 0.5s / 500-1200Hz over 3.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	85.7	86.7	85.5	86.4
45°	87.1	86.3	87.7	87.1
75°	91.6	91.5	91.5	91.4
105°	91.4	91.2	91.4	91.5
135°	85.5	86.6	86.7	87.6
165°	87.4	84.5	85.9	84.9

  

DIN Tone				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: 825Hz continuous			Sound pressure level dB(A) Tone frequency: 1200-500Hz over 1s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	85.7	86.7	83.9	84.6
45°	87.1	86.3	85.6	85.8
75°	91.6	91.5	89.5	89.4
105°	91.4	91.2	89.3	89.4
135°	85.5	86.6	84.7	85.7
165°	87.4	84.5	84.7	83.6

**Multi-Tone Waterproof Open-Area Sounders, Part Numbers 55000-274 and 55000-275**

Apollo Standard				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: off 1s / 970Hz ±20Hz for 1s			Sound pressure level dB(A) Tone frequency: 550-700Hz over 0.5s / 850-1000Hz over 0.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	77.0	77.2	77.7	75.8
45°	87.8	87.8	85.9	86.5
75°	93.2	93.0	91.9	91.8
105°	92.7	92.9	92.9	92.9
135°	86.4	87.2	85.9	86.7
165°	68.6	71.6	69.5	71.4

  

Slow Whoop				
ALERT			EVACUATE	
Sound pressure level dB(A) Tone frequency: continuous 800-1000Hz			Sound pressure level dB(A) Tone frequency: off for 0.5s / 500-1200Hz over 3.5s	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	77.8	75.7	77.7	80.7
45°	88.9	87.6	87.3	88.1
75°	93.8	93.0	92.5	92.7
105°	93.6	92.7	92.8	92.9
135°	87.2	87.0	87.7	88.1
165°	70.3	74.2	73.5	74.0



## Multi-Tone Waterproof Open-Area Sounders, Part Numbers 55000-274 and 55000-275 (cont'd)

Angle	DIN Tone			
	ALERT		EVACUATE	
	Sound pressure level dB(A) Tone frequency: continuous 800-1000Hz		Sound pressure level dB(A) Tone frequency: 1200-500Hz over 1s	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	77.8	75.7	77.5	77.9
45°	88.9	87.6	86.5	87.3
75°	93.8	93.0	92.0	91.5
105°	93.6	92.7	92.0	92.2
135°	87.2	87.0	86.4	87.4
165°	70.3	74.2	71.6	73.1

## Multi-Tone Open-Area Sounders, Part Numbers 55000-278 and 55000-279

## Multi-Tone Open-Area Sounder Visual Indicators, Part Numbers 55000-291 and 55000-292

## Multi-Tone Open-Area Sounder Visual Indicators with Isolator, Part Numbers 55000-293 and 55000-294

Angle	Apollo Standard			
	ALERT		EVACUATE	
	Sound pressure level dB(A) Tone frequency: off 1s / 970Hz ±20Hz for 1s		Sound pressure level dB(A) Tone frequency: 550-700Hz over 0.5s / 850-1000Hz over 0.5s	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	80.6	81.3	78.2	79.6
45°	91.1	91.1	87.7	88.3
75°	93.7	93.6	90.7	90.9
105°	92.5	93.1	91.7	91.6
135°	89.4	89.4	88.2	88.7
165°	75.8	78.2	71.7	73.9

  

Angle	Slow Whoop			
	ALERT		EVACUATE	
	Sound pressure level dB(A) Tone frequency: continuous 800-1000Hz		Sound pressure level dB(A) Tone frequency: off for 0.5s / 500-1200Hz over 3.5s	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	80.8	81.2	80.0	80.4
45°	91.4	90.6	89.1	89.2
75°	93.5	92.9	92.2	91.9
105°	93.2	92.4	92.0	92.1
135°	89.7	89.6	89.4	89.7
165°	76.1	76.5	77.5	77.0

  

Angle	DIN Tone			
	ALERT		EVACUATE	
	Sound pressure level dB(A) Tone frequency: continuous 800-1000Hz		Sound pressure level dB(A) Tone frequency: 1200-500Hz over 1s	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	80.8	81.2	78.3	79.5
45°	91.4	90.6	88.2	87.5
75°	93.5	92.9	91.0	90.8
105°	93.2	92.4	91.3	91.1
135°	89.7	89.6	88.2	88.5
165°	76.1	76.5	75.2	76.2

**Discovery Open-Area Sounder Visual Indicator, Part Number 58000-005**

	EVACUATE (Tone 1)		Evacuate (Tone 3)	
	Sound pressure level dB(A) Tone frequency: 558Hz for 0.5s / 840Hz for 0.5s		Sound pressure level dB(A) for Dutch Slow Whoop tone Tone frequency: off for 0.5s / 500-1200Hz over 3.5s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	82.9	81.7	81.3	82.2
45°	86.6	85.8	83.3	84.5
75°	89.2	89.0	87.5	87.5
105°	88.7	88.4	87.2	87.5
135°	82.8	82.3	82.1	82.2
165°	84.2	84.3	82.8	83.4
	Evacuate (Tone 4)			
	Sound pressure level dB(A) for DIN tone Tone frequency: 1200-500Hz over 1s			
	Maximum			
Angle	Horizontal		Vertical	
15°	81.3		80.2	
45°	81.9		82.8	
75°	84.5		86.0	
105°	84.3		85.6	
135°	79.4		80.5	
165°	80.0		80.8	

**Discovery Open-Area Voice Sounders, Part Numbers 58000-010 and 58000-020**

	Apollo Standard			
	ALERT (Tone 0)		EVACUATE (Tone 1)	
	Sound pressure level dB(A) Tone frequency: off for 1s / 825Hz for 1s		Sound pressure level dB(A) Tone frequency: 550Hz for 1s / 825Hz for 1s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	76.2	77.5	75.8	77.7
45°	84.8	84.1	84.6	84.2
75°	88.4	88.6	88.7	88.6
105°	88.4	87.9	88.1	87.8
135°	84.7	83.4	84.8	83.6
165°	75.6	71.7	73.6	72.4

**Discovery Open-Area Voice Sounder Visual Indicators, Part Numbers 58000-030 and 58000-040**

	Apollo Standard			
	ALERT (Tone 0)		EVACUATE (Tone 1)	
	Sound pressure level dB(A) Tone frequency: off for 1s / 825Hz for 1s		Sound pressure level dB(A) Tone frequency: 550Hz for 1s / 825Hz for 1s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	77.7	73.3	77.7	73.5
45°	85.2	84.6	84.9	84.9
75°	89.0	88.8	89.0	89.2
105°	88.8	88.9	88.9	88.9
135°	84.8	84.4	84.6	84.6
165°	77.2	76.0	77.7	76.3



## XPander Sounder and Sounder Bases, Part Numbers XPA-CB-14001 and XPA-CB-14002

## XPander Sounder Visual Indicator and Sounder Bases, Part Numbers XPA-CB-14003, XPA-CB-14004 and XPA-CB-14005

Angle	(Tone 1)		(Tone 2)	
	Sound pressure level dB(A) Tone frequency: 970Hz continuous		Sound pressure level dB(A) for continuous tone Tone frequency: 800/970Hz Alternating 2Hz	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	81.7	81.0	84.6	85.0
45°	89.0	88.8	88.2	88.0
75°	88.9	89.0	89.9	90.0
105°	88.9	89.4	90.4	90.1
135°	89.2	89.3	89.5	89.9
165°	80.3	80.7	81.4	80.6
Angle	(Tone 3)		(Tone 4)	
	Sound pressure level dB(A) for Swedish Fire tone Tone frequency: 800/970Hz Sweep @ 2Hz		Sound pressure level dB(A) for continuous tone Tone frequency: off for 0.1s / 970Hz for 0.1s	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	86.4	86.4	84.3	83.9
45°	90.2	90.6	90.0	90.1
75°	92.3	92.4	89.9	90.1
105°	92.3	92.4	89.9	90.0
135°	90.5	90.6	89.9	88.6
165°	82.1	82.9	84.7	84.9
Angle	(Tone 5)		(Tone 6)	
	Sound pressure level dB(A) for Medium Sweep tone Tone frequency: 630Hz for 0.5s / 970Hz for 0.5s		Sound pressure level dB(A) for continuous tone Tone frequency: 440Hz for 0.4s / 554Hz for 0.1s	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	83.3	83.0	83.0	83.4
45°	90.3	90.2	85.4	86.1
75°	89.9	89.9	88.8	89.3
105°	89.9	89.8	88.6	89.0
135°	89.9	88.8	86.9	89.4
165°	84.2	84.2	77.8	78.4
Angle	(Tone 7)		(Tone 13)	
	Sound pressure level dB(A) for Swedish Fire tone Tone frequency: off for 0.5s / 500-1200Hz over 3.5s		Sound pressure level dB(A) for continuous tone Tone frequency: 1200-500Hz Sweep @ 1Hz	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	85.6	85.6	84.4	84.5
45°	89.1	90.1	88.5	88.2
75°	91.4	91.5	90.4	90.7
105°	91.5	91.3	90.5	90.6
135°	90.2	90.2	89.2	89.4
165°	81.9	81.9	80.2	80.5

## XPander Combined Sounder and Detector Base, Part Number XPA-WB-14036

## XPander Combined Sounder Visual Indicator and Detector Bases, Part Numbers XPA-WB-14037 and XPA-WB-14038

	(Tone 1) Low volume setting		(Tone 1) High volume setting	
	Sound pressure level dB(A) Tone frequency: 970Hz continuous		Sound pressure level dB(A) for continuous tone Tone frequency: 970Hz continuous	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	66.4	69.4	78.0	81.1
45°	64.1	67.9	75.2	79.3
75°	71.7	72.1	83.1	83.4
105°	72.2	71.3	83.5	82.6
135°	68.7	59.8	80.5	73.2
165°	70.5	67.2	81.8	79.7
	(Tone 2) Low volume setting		(Tone 2) High volume setting	
	Sound pressure level dB(A) for Swedish Fire tone Tone frequency: 800/970Hz Alternating 2Hz		Sound pressure level dB(A) for continuous tone Tone frequency: 800/970Hz Alternating 2Hz	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	73.6	77.2	79.8	83.4
45°	70.9	75.3	77.3	81.8
75°	75.8	77.2	82.4	83.6
105°	76.9	74.9	83.2	81.8
135°	75.7	74.3	82.1	80.8
165°	76.7	73.9	82.4	80.1
	(Tone 3) Low volume setting		(Tone 3) High volume setting	
	Sound pressure level dB(A) Tone frequency: 800/970Hz Sweep @ 2Hz		Sound pressure level dB(A) for continuous tone Tone frequency: 800/970Hz Sweep @ 2Hz	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	75.4	76.8	81.9	83.4
45°	71.1	74.9	77.7	81.3
75°	76.4	77.8	83.0	84.4
105°	76.8	75.4	82.9	81.3
135°	73.9	74.5	80.6	80.7
165°	75.8	74.3	82.4	80.6
	(Tone 4) Low volume setting		(Tone 4) High volume setting	
	Sound pressure level dB(A) for Swedish Fire tone Tone frequency: 630Hz for 0.5s / 970Hz for 0.5s		Sound pressure level dB(A) for continuous tone Tone frequency: 630Hz for 0.5s / 970Hz for 0.5s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	72.2	76.0	78.3	82.2
45°	72.0	76.1	78.1	82.1
75°	76.2	77.6	82.5	84.1
105°	76.7	75.1	83.2	81.0
135°	76.1	74.5	82.4	80.7
165°	76.7	73.7	83.0	80.1



**XP95 Category C Sounder Visual Alarm, Part Numbers 55000-074APO and 55000-075APO**  
**XP95 Category W Sounder Visual Alarm, Part Numbers 55000-076APO and 55000-077APO**

Apollo Standard				
	Alert		Evacuate	
	Sound pressure level dB(A) for continuous pulsed tone. Tone frequency: 970Hz for 1 sec off/ 1 sec on		Sound pressure level dB(A) for continuous alternating tone. Tone frequency: 970Hz/630 Hz alternating for 0.5 seconds continuous	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	91	91	93	93
45°	93	93	87	87
75°	97	97	97	97
105°	97	97	97	97
135°	93	93	87	87
165°	91	91	88	93
Slow Whoop				
	Alert		Evacuate	
	Sound pressure level dB(A) for continuous tone. Tone frequency: 970Hz continuous		Sound pressure level dB(A) . Tone frequency: 500 - 1200 Hz 3.5 secs/0.5 sec off	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	89	89	93	95
45°	93	93	85	85
75°	98	98	94	94
105°	98	98	94	94
135°	93	93	85	85
165°	91	91	93	95
DIN Tone				
	Alert		Evacuate	
	Sound pressure level dB(A) for continuous tone. Tone frequency: 970Hz continuous		Sound pressure level dB(A) for continuous pulsed tone. Tone frequency: 1200 Hz - 500 Hz at 1 Hz	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	89	89	90	93
85	93	93	85	85
75°	98	98	93	92
105°	98	98	93	92
135°	93	93	85	85
165°	91	91	91	91

## Multi-Tone Waterproof Open-Area Sounder Visual Indicators, Part Numbers 55000-296 &amp; 55000-298

## Multi-Tone Waterproof Open-Area Sounder Visual Indicators with Isolator, Part Numbers 55000-297 &amp; 55000-299

Apollo Standard				
	Alert		Evacuate	
	Sound pressure level dB(A) Tone frequency: off for 1s / 100-1000Hz over 1s		Sound pressure level dB(A) Tone frequency: 550-700Hz over 0.5s / 850-1000Hz over 0.5s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	77.0	77.2	77.7	75.8
45°	87.8	87.8	85.9	86.5
75°	93.2	93.0	91.9	91.8
105°	92.7	92.9	92.9	92.9
135°	86.4	87.2	85.9	86.7
165°	68.6	71.6	69.5	71.4
Slow Whoop				
	Alert		Evacuate	
	Sound pressure level dB(A) Tone frequency: 800-1000Hz continuous		Sound pressure level dB(A) Tone frequency: off for 0.5s / 500-1200Hz over 3.5s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	77.8	75.7	77.7	80.7
45°	88.9	87.6	87.3	88.1
75°	93.8	93.0	92.5	92.7
105°	93.6	92.7	92.8	92.9
135°	87.2	87.0	87.7	88.1
165°	70.3	74.2	73.5	74.0
DIN Tone				
	Alert		Evacuate	
	Sound pressure level dB(A) Tone frequency: 800-1000Hz continuous		Sound pressure level dB(A) Tone frequency: 500-1200 Hz over 1s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	77.8	75.7	77.5	77.9
85	88.9	87.6	86.5	87.3
75°	93.8	93.0	92.0	91.4
105°	93.6	92.7	92.0	92.2
135°	87.2	87.0	86.4	87.4
165°	70.3	74.2	71.6	73.1

**Discovery Open-Area Voice Sounder, Part Numbers 58000-010DUT, 58000-020DUT  
Discovery Open-Area Voice Sounder Visual Indicator, Part Number, 58000-030DUT**

Apollo Standard				
Angle	ALERT (Tone 0)		EVACUATE (Tone 1)	
	Sound pressure level dB(A) Tone frequency: off for 1s / 825Hz for 1s		Sound pressure level dB(A) Tone frequency: 550Hz for 1s / 825Hz for 1s	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	76.2	77.5	75.8	77.7
45°	84.8	84.1	84.6	84.2
75°	88.4	88.6	88.7	88.6
105°	88.4	87.9	88.1	87.8
135°	84.7	83.4	84.8	83.6
165°	75.6	71.7	73.6	72.4
Dutch Slow Whoop				
Angle	Sound pressure level dB(A) for Dutch Slow Whoop tone Tone frequency: off for 0.5s / 500-1200Hz over 3.5s			
	Maximum volume			
	Horizontal			Vertical
15°	72.5			71.3
45°	81.2			81.3
75°	86.2			86.5
105°	85.8			85.9
135°	81.4			80.7
165°	79.5			72.5

**Intelligent Open-Area Sounder, Part Number SA5500-300 (Red body)  
Intelligent Open-Area Sounder, Part Number SA5501-300 (White body)**

Apollo Standard				
Angle	EVACUATE		ALERT	
	Sound pressure level dB(A) Tone frequency: 522 Hz for 0.5 s / 707 Hz for 0.5 s		Sound pressure level dB(A) Tone frequency: 1 s off / 707Hz for 1s	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	90.14	90.14	90.14	90.24
45°	89.14	89.64	89.04	89.64
75°	95.44	95.44	95.54	95.44
105°	95.74	95.44	95.74	95.44
135°	91.54	91.44	91.64	91.54
165°	87.54	87.34	87.54	87.34
Hochiki and Fullcon				
Angle	EVACUATE		ALERT	
	Sound pressure level dB(A) - Alternating Tone frequency: 925 Hz for 0.25 s / 626 Hz for 0.25 s		Sound pressure level dB(A) - Continuous Tone frequency: 925 Hz continuous	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	88.04	87.14	88.04	87.14
45°	87.54	88.04	86.84	86.94
75°	94.14	94.24	94.24	94.24
105°	94.34	94.44	94.44	94.54
135°	89.14	89.44	89.14	89.44
165°	86.94	87.34	86.74	87.14
Medium Sweep				
Angle	EVACUATE		ALERT	
	Sound pressure level dB(A) - Alternating Tone frequency: 800 Hz to 970 Hz at 1 Hz		Sound pressure level dB(A) - Continuous Tone frequency: 970 Hz continuous	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	90.14	90.14	92.04	92.44
45°	90.44	90.14	90.14	90.84
75°	96.24	96.04	97.14	97.34
105°	96.04	95.74	97.84	97.74
135°	89.74	89.64	92.94	92.94
165°	90.04	89.64	90.94	90.24



A Halma company

© Apollo Fire Detectors Ltd 2019

**Intelligent Open-Area Sounder, Part Number SA5500-300 (Red body)**  
**Intelligent Open-Area Sounder, Part Number SA5501-300 (White body) (cont'd)**

Dutch Slow Whoop				
	EVACUATE		ALERT	
	Sound pressure level dB(A) - Sweep Tone frequency: 500Hz to 1200 Hz for 3.5 s, 0.5 s off		Sound pressure level dB(A) - Continuous Tone frequency: 825 Hz continuous	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	89.44	90.24	87.84	86.64
45°	92.04	89.54	89.54	87.44
75°	97.44	97.04	95.14	94.74
105°	97.24	97.34	95.24	95.14
135°	93.44	94.34	91.04	91.24
165°	89.04	88.14	85.94	86.04
DIN Tone				
	EVACUATE		ALERT	
	Sound pressure level dB(A) - Sweep Tone frequency: 1200Hz to 500 Hz for 1s		Sound pressure level dB(A) - Continuous Tone frequency: 825 Hz continuous	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	88.74	88.54	87.84	86.64
45°	90.34	88.04	89.54	87.44
75°	96.14	95.84	95.14	94.74
105°	96.34	96.44	95.24	95.14
135°	92.04	93.04	91.04	91.24
165°	88.34	86.74	85.94	86.04
Swedish FireTone				
	EVACUATE		ALERT	
	Sound pressure level dB(A) - Swedish Fire Tone Tone frequency: 660Hz, 150 ms on, 150 ms off		Sound pressure level dB(A) - Swedish All Clear signal - Continuous Tone frequency: 660 Hz continuous	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	87.94	88.24	89.04	89.44
45°	87.84	87.14	89.04	88.34
75°	94.64	94.04	95.84	95.24
105°	95.34	95.04	96.54	96.14
135°	90.94	91.74	92.14	92.84
165°	87.54	85.84	88.74	87.04

**Intelligent Open-Area Sounder Visual Indicator , Part Number SA5500-350 (White flash, red body)**  
**Part Number SA5501-350 (White flash, white body), Part Number SA5500-351 (Red flash, red body),**  
**Part Number SA5501-351 (Red flash, white body)**

Apollo Standard				
	EVACUATE		ALERT	
	Sound pressure level dB(A) Tone frequency: 522 Hz for 0.5 s, 707 Hz for 0.5 s		Sound pressure level dB(A)Continuous Tone frequency: 1 s off, 707 Hz for 1 s	
	Maximum		Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	89.64	90.04	89.64	90.04
45°	89.94	88.64	89.94	88.64
75°	95.14	95.04	95.14	95.14
105°	95.14	95.34	95.14	95.34
135°	90.64	91.54	90.74	91.54
165°	87.94	87.84	87.94	87.74

**Intelligent Open-Area Sounder Visual Indicator , Part Number SA5500-350 (White flash, red body)  
Part Number SA5501-350 (White flash, white body), Part Number SA5500-351 (Red flash, red body),  
Part Number SA5501-351 (Red flash, white body) (cont'd)**

Hochiki and Fullcon				
EVACUATE			ALERT	
Sound pressure level dB(A) - Alternating Tone frequency: 925 Hz for 0.25 s / 626 Hz for 0.25 s			Sound pressure level dB(A) - Continuous Tone frequency: 925 Hz continuous	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	87.34	87.44	87.14	87.74
45°	87.74	87.74	87.44	87.24
75°	94.44	94.24	94.54	94.64
105°	94.64	94.54	94.74	94.94
135°	89.04	89.54	89.04	89.84
165°	88.14	87.24	88.34	87.44
Medium Sweep				
EVACUATE			ALERT	
Sound pressure level dB(A) - Alternating Tone frequency: 800 Hz to 970 Hz at 1 Hz			Sound pressure level dB(A) - Continuous Tone frequency: 970 Hz continuous	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	91.24	90.94	92.44	91.94
45°	90.94	90.94	91.24	90.94
75°	97.04	96.94	97.64	97.44
105°	96.94	96.84	97.94	97.44
135°	90.74	90.84	92.74	92.94
165°	90.74	90.34	90.44	90.74
Dutch Slow Whoop				
EVACUATE			ALERT	
Sound pressure level dB(A) - Sweep Tone frequency: 500Hz to 1200 Hz for 3.5 s, 0.5 s off			Sound pressure level dB(A) - Continuous Tone frequency: 825 Hz continuous	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	91.54	90.84	86.94	87.34
45°	92.84	92.24	90.44	89.14
75°	97.64	97.64	95.34	95.34
105°	97.64	97.74	95.34	95.44
135°	93.74	94.14	90.94	92.14
165°	90.44	90.54	87.24	86.54
DIN Tone				
EVACUATE			ALERT	
Sound pressure level dB(A) - Sweep Tone frequency: 1200Hz to 500 Hz for 1s			Sound pressure level dB(A) - Continuous Tone frequency: 825 Hz continuous	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	89.44	89.54	86.94	87.34
45°	91.24	90.34	90.44	89.14
75°	96.74	96.64	95.34	95.34
105°	96.94	96.94	95.34	95.44
135°	92.34	92.84	90.94	92.14
165°	89.34	88.94	87.24	86.54
Swedish FireTone				
EVACUATE			ALERT	
Sound pressure level dB(A) - Swedish Fire Tone Tone frequency: 660Hz, 150 ms on, 150 ms off			Sound pressure level dB(A) - Swedish All Clear signal - Continuous Tone frequency: 660 Hz continuous	
Maximum			Maximum	
Angle	Horizontal	Vertical	Horizontal	Vertical
15°	89.14	88.04	90.34	89.24
45°	88.54	88.04	89.74	89.24
75°	95.04	94.84	96.24	95.94
105°	95.44	95.44	96.64	96.74
135°	90.64	90.94	91.84	92.14
165°	88.14	88.44	89.34	89.74



**Soteria Audio Visual Base , Part Number SA5300-300 (Sounder), Part Number SA5300-350 (Sounder Visual Indicator - white flash), Part Number SA5300-351 (Sounder Visual Indicator - red flash)**

Apollo Standard				
Angle	EVACUATE		ALERT	
	Sound pressure level dB(A) Tone frequency: 550 Hz for 0.5 s, 825 Hz for 0.5 s		Sound pressure level dB(A) Continuous Tone frequency: 1 s off, 825 Hz for 1 s	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	87.04	87.64	82.24	84.04
45°	80.84	81.44	79.64	81.54
75°	87.74	88.04	87.44	87.74
105°	88.44	87.84	88.14	87.74
135°	80.94	82.44	79.84	82.14
165°	86.34	87.44	83.34	83.34
Hochiki and Fullcon				
Angle	EVACUATE		ALERT	
	Sound pressure level dB(A) - Alternating Tone frequency: 925 Hz for 0.25 s / 626 Hz for 0.25 s		Sound pressure level dB(A) - Continuous Tone frequency: 925 Hz continuous	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	86.44	87.24	86.54	87.34
45°	79.74	79.94	80.04	80.04
75°	89.24	89.14	88.34	89.14
105°	88.84	89.04	87.34	89.04
135°	79.14	81.54	79.24	81.44
165°	85.64	86.24	85.74	86.14
Medium Sweep				
Angle	EVACUATE		ALERT	
	Sound pressure level dB(A) - Alternating Tone frequency: 800 Hz to 970 Hz at 1 Hz		Sound pressure level dB(A) - Continuous Tone frequency: 970 Hz continuous	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	86.94	87.14	86.74	86.34
45°	80.54	81.64	81.44	82.64
75°	89.64	89.74	90.74	90.84
105°	89.64	89.44	91.04	90.94
135°	81.04	82.74	81.44	82.94
165°	86.54	87.14	86.34	87.14
Dutch Slow Whoop				
Angle	EVACUATE		ALERT	
	Sound pressure level dB(A) - Sweep Tone frequency: 500Hz to 1200 Hz for 3.5 s, 0.5 s off		Sound pressure level dB(A) - Continuous Tone frequency: 825 Hz continuous	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	88.24	88.34	82.44	84.04
45°	83.54	83.94	79.54	81.44
75°	90.94	90.94	87.64	87.64
105°	90.74	90.64	88.44	88.34
135°	83.34	84.94	80.04	82.04
165°	87.84	88.14	83.34	83.34
DIN Tone				
Angle	EVACUATE		ALERT	
	Sound pressure level dB(A) - Sweep Tone frequency: 1200Hz to 500 Hz for 1s		Sound pressure level dB(A) - Continuous Tone frequency: 825 Hz continuous	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	87.44	87.44	82.44	84.04
45°	82.24	83.04	79.54	81.44
75°	90.04	90.04	87.64	87.64
105°	89.84	89.54	88.44	88.34
135°	82.24	84.04	80.04	82.04
165°	86.94	87.34	83.34	83.34



**Soteria Audio Visual Base , Part Number SA5300-300 (Sounder), Part Number SA5300-350 (Sounder Visual Indicator - white flash), Part Number SA5300-351 (Sounder Visual Indicator - red flash) (cont'd)**

Angle	Swedish FireTone			
	EVACUATE		ALERT	
	Sound pressure level dB(A) - Swedish Fire Tone Tone frequency: 660Hz, 150 ms on, 150 ms off		Sound pressre level dB(A) - Swedish All Clear signal - Continuous Tone frequency: 660 Hz continuous	
	Maximum		Maximum	
	Horizontal	Vertical	Horizontal	Vertical
15°	82.54	83.74	84.44	84.64
45°	79.74	80.44	81.74	81.44
75°	87.04	86.94	87.94	88.14
105°	87.04	86.34	87.94	87.34
135°	80.34	82.04	81.24	83.04
165°	82.74	83.64	83.64	84.54



A Halma company

© Apollo Fire Detectors Ltd 2019