



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.

The Apollo information system

Apollo Fire Detectors publishes a datasheet for each type of sounder. 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 sounder 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.

Sounders included in this publication

- Intelligent Base Sounder
- Intelligent Base Sounder with Isolator
- Intelligent Base Sounder, Slow Whoop
- Intelligent Base Sounder with Isolator, Slow Whoop
- Ancillary Base Sounder
- Integrated Base Sounder with Isolator
- Integrated Base Sounder
- Integrated Base Sounder with Isolator, Slow Whoop
- Integrated Base Sounder, Slow Whoop
- Integrated Base Sounder, DIN Tone
- Sounder Visual Indicator Base with Isolator
- Sounder Visual Indicator Base
- Sounder Visual Indicator Base with Isolator, Slow Whoop
- Sounder Visual Indicator Base with Isolator, DIN Tone
- Discovery Sounder Visual Indicator Base
- AlarmSense Sounder
- AlarmSense Open-Area Sounder Visual Indicator
- AlarmSense Open-Area Sounder
- Discovery Sounder VAD Base
- Discovery Marine Sounder VAD Base
- Discovery Sounder Base
- Sounder VAD Base
- Sounder VAD Base with Isolator, Slow Whoop
- Sounder VAD Base with Isolator, DIN Tone
- Intelligent Open-Area Sounder
- Intelligent Multi-tone Open-Area Sounder Visual Indicator
- Multi-tone Waterproof Open-Area Sounder
- Multi-tone Open-Area Sounder
- Multi-tone Open-Area Sounder Visual Indicator
- Multi-tone Open-Area Sounder Visual Indicator with Isolator
- Multi-tone Waterproof Open-Area Sounder Visual Indicator
- Multi-tone Waterproof Open-Area Sounder Visual Indicator with Isolator
- Multi-tone Waterproof Open-Area Sounder Visual Indicator with Isolator
- Discovery Open-Area Sounder Visual Indicator
- Discovery Open-Area Voice Sounder
- Discovery Open-Area Voice Sounder Visual Indicator
- XPander Sounder and Sounder Base
- XPander Sounder Visual Indicator and Sounder Base
- XPander Combined Sounder and Detector Base
- XPander Combined Sounder Visual Indicator and Detector Base
- XP95 Category C Sounder Visual Alarm
- XP95 Category W Sounder Visual Alarm
- Discovery Open-Area Voice Sounder
- Discovery Open-Area Voice Sounder Visual Indicator
- Intelligent Open-Area Sounder (SA part numbers only)
- Intelligent Open-Area Sounder Visual Indicator (SA part numbers only)
- Intelligent Open-Area Sounder VADs (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° | 73.7 | 73.7 |
| 45° | 72.9 | 73.3 |
| 75° | 77.7 | 76.6 |
| 105° | 76.0 | 78.5 |
| 135° | 72.0 | 75.1 |
| 165° | 72.2 | 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° | 67.8 | 67.5 | 70.4 | 66.2 |
| 45° | 67.7 | 66.3 | 70.0 | 65.9 |
| 75° | 72.5 | 71.8 | 74.2 | 74.7 |
| 105° | 71.3 | 71.8 | 73.7 | 73.2 |
| 135° | 65.9 | 69.7 | 67.6 | 72.9 |
| 165° | 68.2 | 74.4 | 70.4 | 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° | 69.2 | 66.7 | 73.8 | 72.0 |
| 45° | 70.1 | 71.3 | 75.4 | 73.0 |
| 75° | 76.2 | 76.9 | 78.4 | 80.7 |
| 105° | 75.6 | 75.8 | 78.9 | 80.0 |
| 135° | 69.0 | 74.2 | 73.0 | 75.1 |
| 165° | 71.3 | 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° | 69.6 | 65.5 | 71.7 | 69.5 |
| 45° | 69.1 | 65.8 | 71.1 | 67.4 |
| 75° | 74.7 | 74.8 | 77.3 | 77.7 |
| 105° | 74.4 | 74.1 | 77.9 | 77.8 |
| 135° | 69.3 | 74.2 | 72.0 | 75.6 |
| 165° | 70.8 | 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° | 71.0 | 67.9 | 70.0 | 68.8 |
| 45° | 70.2 | 69.4 | 70.3 | 69.3 |
| 75° | 75.4 | 75.6 | 75.3 | 75.8 |
| 105° | 75.3 | 75.1 | 75.7 | 75.3 |
| 135° | 68.7 | 72.9 | 69.7 | 74.6 |
| 165° | 69.8 | 73.0 | 71.7 | 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 |



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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° | 70.5 | 68.5 | 70.5 | 68.9 |
| 45° | 71.1 | 68.7 | 71.1 | 68.6 |
| 75° | 74.1 | 73.7 | 74.1 | 73.7 |
| 105° | 73.8 | 73.7 | 73.8 | 73.7 |
| 135° | 69.9 | 72.6 | 69.8 | 73.1 |
| 165° | 69.0 | 75.2 | 69.5 | 75.9 |
| | 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° | 73.0 | 68.8 | 75.0 | 70.6 |
| 45° | 73.4 | 67.4 | 72.7 | 67.7 |
| 75° | 79.2 | 78.8 | 78.1 | 78.2 |
| 105° | 78.1 | 78.1 | 78.1 | 78.1 |
| 135° | 73.3 | 76.7 | 72.8 | 76.0 |
| 165° | 73.1 | 79.2 | 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 | 73.0 | 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 | 75.3 |
| 165° | 75.2 | 81.2 | 75.2 | 80.7 |
| | 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 | 69.7 | 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 | 73.3 | 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° | 74.2 | 70.3 | 69.8 | 68.0 |
| 45° | 70.9 | 69.2 | 70.5 | 64.3 |
| 75° | 76.9 | 77.2 | 74.0 | 73.7 |
| 105° | 77.0 | 76.7 | 73.8 | 73.6 |
| 135° | 69.6 | 74.0 | 69.7 | 72.5 |
| 165° | 74.0 | 78.6 | 69.1 | 74.9 |

| Angle | ALERT (Tone 17) | |
|-------|---|----------|
| | Sound pressure level dB(A) for Swedish All Clear Signal continuous tone Tone frequency: 660Hz continuous | |
| | Maximum | |
| | Horizontal | Vertical |
| 15° | 75.4 | 71.3 |
| 45° | 72.0 | 70.4 |
| 75° | 78.0 | 78.3 |
| 105° | 78.1 | 77.9 |
| 135° | 70.6 | 75.1 |
| 165° | 75.1 | 79.7 |

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° | 71.0 | 67.1 |
| 45° | 70.1 | 67.8 |
| 75° | 75.2 | 75.0 |
| 105° | 75.2 | 75.2 |
| 135° | 69.5 | 73.8 |
| 165° | 73.2 | 76.1 |

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° | 71.8 | 68.3 | 71.7 | 71.1 |
| 45° | 76.2 | 72.2 | 76.1 | 74.4 |
| 75° | 80.8 | 79.0 | 80.9 | 80.5 |
| 105° | 80.9 | 79.4 | 80.9 | 81.2 |
| 135° | 74.3 | 76.5 | 74.3 | 77.6 |
| 165° | 75.8 | 77.9 | 75.8 | 80.8 |
| 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° | 75.5 | 73.8 | 73.2 | 69.8 |
| 45° | 75.9 | 73.7 | 72.0 | 68.8 |
| 75° | 72.9 | 83.7 | 76.2 | 76.9 |
| 105° | 83.6 | 83.0 | 75.8 | 76.9 |
| 135° | 77.5 | 81.0 | 70.0 | 73.0 |
| 165° | 79.3 | 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 | 73.2 |
| 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 | 72.5 | 69.9 |
| 45° | 70.8 | 66.8 | 68.9 | 65.6 |
| 75° | 76.5 | 76.3 | 74.8 | 75.0 |
| 105° | 75.6 | 76.1 | 75.3 | 75.8 |
| 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° | 70.8 | 65.1 | 71.9 | 71.7 |
| 45° | 68.8 | 66.6 | 72.2 | 61.7 |
| 75° | 73.9 | 74.2 | 79.5 | 79.0 |
| 105° | 74.1 | 74.2 | 79.0 | 80.5 |
| 135° | 68.9 | 71.7 | 71.7 | 77.7 |
| 165° | 70.7 | 76.3 | 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° | 71.9 | 66.3 |
| 45° | 69.9 | 67.7 |
| 75° | 75.0 | 75.3 |
| 105° | 75.2 | 75.2 |
| 135° | 70.1 | 72.8 |
| 165° | 72.5 | 77.3 |

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 |

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 | 83.6 | 84.3 |
| 45° | 86.3 | 86.7 | 86.8 | 86.4 |
| 75° | 91.3 | 91.4 | 91.4 | 91.3 |
| 105° | 91.1 | 91.4 | 91.3 | 91.5 |
| 135° | 85.3 | 85.9 | 85.4 | 85.7 |
| 165° | 87.0 | 85.9 | 83.9 | 84.3 |

| 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 | 85.2 | 85.1 |
| 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 | 85.4 | 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 | 83.6 | 83.4 |
| 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 | 83.9 | 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° | 83.6 | 84.1 | 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 & 55000-297

Multi-Tone Waterproof Open-Area Sounder Visual Indicators with Isolator, Part Numbers 55000-298 & 55000-299

| Apollo Standard | | | | |
|-----------------|--|----------|--|----------|
| | Alert | | Evacuate | |
| | Sound pressure level dB(A) Tone frequency: off for 1s / 970Hz \pm 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: 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 | | | |
|-------|---|------------|---|----------|
| | 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 |
| | Dutch Slow Whoop | | | |
| | Sound pressure level dB(A) for Dutch Slow Whoop tone Tone frequency: off for 0.5s / 500-1200Hz over 3.5s | | | |
| | Maximum volume | | | |
| | Angle | 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 | | | |
|-------|---|----------|--|----------|
| | 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 | |
| Angle | Horizontal | Vertical | Horizontal | Vertical |
| 15° | 90.0 | 90.0 | 90.0 | 90.0 |
| 45° | 89.0 | 89.5 | 89.0 | 89.5 |
| 75° | 95.0 | 95.0 | 95.5 | 95.0 |
| 105° | 95.5 | 95.0 | 95.5 | 95.0 |
| 135° | 91.5 | 91.0 | 91.5 | 91.5 |
| 165° | 87.5 | 87.0 | 87.5 | 87.0 |
| | 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° | 88.0 | 87.0 | 88.0 | 87.0 |
| 45° | 87.5 | 88.0 | 86.5 | 86.5 |
| 75° | 94.0 | 94.0 | 94.0 | 94.0 |
| 105° | 94.0 | 94.0 | 94.0 | 94.5 |
| 135° | 89.0 | 89.0 | 89.0 | 89.0 |
| 165° | 86.5 | 87.0 | 86.5 | 87.0 |
| | 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° | 90.0 | 90.0 | 92.0 | 92.0 |
| 45° | 90.0 | 90.0 | 90.0 | 90.5 |
| 75° | 96.0 | 96.0 | 97.0 | 97.0 |
| 105° | 96.0 | 95.5 | 97.5 | 97.5 |
| 135° | 89.5 | 89.5 | 92.5 | 92.5 |
| 165° | 90.0 | 89.5 | 90.5 | 90.0 |



A Halma company

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**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 | | | | |
|------------------|---|----------|--|----------|
| 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° | 89.0 | 90.0 | 87.5 | 86.5 |
| 45° | 92.0 | 89.5 | 89.5 | 87.0 |
| 75° | 97.0 | 97.0 | 95.0 | 94.5 |
| 105° | 97.0 | 97.0 | 95.0 | 95.0 |
| 135° | 93.0 | 94.0 | 91.0 | 91.0 |
| 165° | 89.0 | 88.0 | 85.5 | 86.0 |

| 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° | 88.5 | 88.5 | 87.5 | 86.5 |
| 45° | 90.0 | 88.0 | 89.5 | 87.0 |
| 75° | 96.0 | 95.5 | 95.0 | 94.5 |
| 105° | 96.0 | 96.0 | 95.0 | 95.0 |
| 135° | 92.0 | 93.0 | 91.0 | 91.0 |
| 165° | 88.0 | 86.5 | 85.5 | 86.0 |

| Swedish FireTone | | | | |
|------------------|--|----------|--|----------|
| Angle | 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 | |
| | Horizontal | Vertical | Horizontal | Vertical |
| 15° | 87.5 | 88.0 | 89.0 | 89.0 |
| 45° | 87.5 | 87.0 | 89.0 | 88.0 |
| 75° | 94.5 | 94.0 | 95.5 | 95.0 |
| 105° | 95.0 | 95.0 | 96.5 | 96.0 |
| 135° | 90.5 | 91.5 | 92.0 | 92.5 |
| 165° | 87.5 | 85.5 | 88.5 | 87.0 |

**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)
Intelligent Open-Area Sounder VAD, Part Number SA5500-550APO (White Flash, Red Body), Part Number SA5501-550APO
(White Flash, White Body), Part Number SA5500-551APO (Red Flash, Red Body), Part Number SA5501-551APO (Red Flash,
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)Continuous Tone frequency: 1 s off, 707 Hz for 1 s | |
| | Maximum | | Maximum | |
| | Horizontal | Vertical | Horizontal | Vertical |
| 15° | 87.5 | 88.0 | 87.5 | 88.0 |
| 45° | 87.5 | 86.5 | 87.5 | 86.5 |
| 75° | 93.0 | 93.0 | 93.0 | 93.0 |
| 105° | 93.0 | 93.0 | 93.0 | 93.0 |
| 135° | 88.5 | 89.5 | 88.5 | 89.5 |
| 165° | 85.5 | 85.5 | 85.5 | 85.5 |



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)
 Intelligent Open-Area Sounder VAD , Part Number SA5500-550APO (White Flash, Red Body) , Part Number SA5501-550APO (White Flash, White Body) , Part Number SA5500-551APO (Red Flash, Red Body) , Part Number SA5501-551APO (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° | 87.0 | 87.0 | 87.0 | 87.0 | |
| 45° | 87.5 | 87.5 | 87.0 | 87.0 | |
| 75° | 94.0 | 94.0 | 94.5 | 94.5 | |
| 105° | 94.5 | 94.5 | 94.5 | 94.5 | |
| 135° | 89.0 | 89.5 | 89.0 | 89.5 | |
| 165° | 88.0 | 87.0 | 88.0 | 87.0 | |
| 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° | 91.0 | 90.5 | 92.0 | 91.5 | |
| 45° | 90.5 | 90.5 | 91.0 | 90.5 | |
| 75° | 97.0 | 96.5 | 97.5 | 97.0 | |
| 105° | 96.5 | 96.5 | 97.5 | 97.0 | |
| 135° | 90.5 | 90.5 | 92.5 | 92.5 | |
| 165° | 90.5 | 90.0 | 90.0 | 90.5 | |
| 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° | 91.5 | 90.5 | 86.5 | 87.0 | |
| 45° | 92.5 | 92.0 | 90.0 | 89.0 | |
| 75° | 97.5 | 97.5 | 95.0 | 95.0 | |
| 105° | 97.5 | 97.5 | 95.0 | 95.0 | |
| 135° | 93.5 | 94.0 | 90.5 | 92.0 | |
| 165° | 90.0 | 90.5 | 87.0 | 86.5 | |
| 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° | 89.0 | 89.5 | 86.5 | 87.0 | |
| 45° | 91.0 | 90.0 | 90.0 | 89.0 | |
| 75° | 96.5 | 96.5 | 95.0 | 95.0 | |
| 105° | 96.5 | 96.5 | 95.0 | 95.0 | |
| 135° | 92.0 | 92.5 | 90.5 | 92.0 | |
| 165° | 89.0 | 88.5 | 87.0 | 86.5 | |
| 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° | 89.0 | 88.0 | 90.0 | 89.0 | |
| 45° | 88.5 | 88.0 | 89.5 | 89.0 | |
| 75° | 95.0 | 94.5 | 96.0 | 95.5 | |
| 105° | 95.0 | 95.0 | 96.5 | 96.5 | |
| 135° | 90.5 | 90.5 | 91.5 | 92.0 | |
| 165° | 88.0 | 88.0 | 89.0 | 89.5 | |

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 | 86.5 | 87.3 |
| 45° | 79.74 | 79.94 | 80.0 | 80.0 |
| 75° | 89.24 | 89.14 | 88.3 | 89.1 |
| 105° | 88.84 | 89.04 | 87.3 | 86.0 |
| 135° | 79.14 | 81.54 | 79.2 | 81.4 |
| 165° | 85.64 | 86.24 | 82.5 | 86.1 |
| 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° | 87.4 | 87.4 | 82.44 | 84.04 |
| 45° | 82.2 | 83.0 | 79.54 | 81.44 |
| 75° | 90.0 | 90.0 | 87.64 | 87.64 |
| 105° | 89.8 | 89.5 | 88.44 | 88.34 |
| 135° | 82.2 | 81.0 | 80.04 | 82.04 |
| 165° | 86.9 | 87.3 | 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)

| | 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° | 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 |



Assessed to ISO 9001:2015
CertLPCB ref: 010



Assessed to ISO 14001:2015
CertLPCB ref: 010 EMS



CertLPCB ref: 010

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Apollo Fire Detectors Ltd.

36 Brookside Road
Havant
Hampshire
PO9 1JR
UK

Web: www.apollo-fire.co.uk

Tel: +44(0)2392 492 412

Fax: +44(0)2392 492 754

email: enquiries@apollo-fire.com



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