AKM1
200m2 Meeting/Seminar Room Hearing Loop Kit

Overview
Includes a PDA200E hearingloop amplifier, APM omni-directional plated microphone and 6m of Belden cable.
Ideal for creating a high quality hearingloop system for a meeting or seminar room.
Wall-mountable PDA200E amplifier capable of driving a perimeter loop of up to 200m2.
Internal drive, level and metal compensation controls.
Two balanced / unbalanced line level inputs.
One microphone input with 12V phantom power for electret microphones.
Full compatibility with the Outreach plate audio input extension system.
Fully compliant with BS EN 60118-4 when correctly installed.
APM microphone provides up to 25m² ambient coverage or 2.5m² direct speech coverage from a ceiling height of 2.5 to 3m.
Loop cable not included—use our LOOP2W1mm² cable or download our AFILS loop calculator from our Software & Apps page for more precise recommendations.

Technical Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Wall mounting. Requires fixed Mains wiring.</th>
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<tbody>
<tr>
<td>Coverage</td>
<td>200m² approx.</td>
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<tr>
<td>Mains supply</td>
<td>230V 50/60Hz</td>
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<tr>
<td>Auxiliary inputs</td>
<td>1 Microphone and 2 x Line/Outreach screw connectors (on PDA200E).</td>
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<tr>
<td>Indicators</td>
<td>Input level; loop current meter (peak 3, 2, 1); compression; power on.</td>
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<tr>
<td>Controls</td>
<td>Input level; loop drive, metal compensation.</td>
</tr>
<tr>
<td>Product dimensions (mm)</td>
<td>W 271 x H 200 x D 77mm (amplifier only).</td>
</tr>
<tr>
<td>Construction &amp; finish</td>
<td>White painted steel (PDA200E); plastic (AKM1).</td>
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<tr>
<td>IP Rating</td>
<td>IP20 (PDA200E &amp; AKM1).</td>
</tr>
<tr>
<td>Weight</td>
<td>2.9 kg (amplifier only).</td>
</tr>
<tr>
<td>Operating conditions/temperature</td>
<td>-5°C to +40°C. Max relative humidity: 95%.</td>
</tr>
<tr>
<td>Kit contents</td>
<td>PDA200E 200m² induction loop amplifier; APM omni-directional plated microphone; 9m Belden cable; Loop Fitted sticker. Loop cable IS NOT included.</td>
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</table>
The PDA200E has revolutionised the induction loop marketplace by bringing the ability to understand, install and appreciate the technology involved to a whole new client base.

Straightforward internal screw connectors and preset controls mean no specialist audio experience or audio connectors are required. By following the simple set-up procedure, no further adjustments are necessary, allowing a top quality assistive listening system for the hard of hearing to be set-up in its entirety by new and experienced installers alike.

No less than four easy-to-access inputs are provided:

- One balanced/unbalanced microphone input
- One balanced/unbalanced line level input
- Alert tone switch input for doorbells, fire alarms, security systems, etc
- 100V line input for PA system connection

The amplifier’s state-of-the-art current drive audio processing circuitry includes an automatic compressor/limiter which maintains the loop signal within a small dynamic range to improve intelligibility. Manual adjustments can also be made using the amplifier’s internal tamper-resistant drive, level and tone controls, allowing the system to be tailored to suit the exact requirements of any room.

The PDA200E is available in a variety of kit formats to suit a host of typical loop installations

- Fully automatic compressor-limiter
- Full 2Ω drive capability for increased coverage at higher frequencies
- Compatible with SigNET’s unique ‘outreach plate’ input extension system
- Compatible with EN60118-4 (formerly BS6083) and BS7594:1993
- Available in a variety of kit formats to suit a host of typical loop installations

For ease of specification and installation the PDA200E is available on its own or in the following kits formats:-

- AKM1 Meeting/seminar room kit
- AKR1 Waiting room kit
- AKT1 TV/Music lounge kit
- AKW1 Place of worship kit 1
- AKW2 Place of worship kit 2
- AKH1 Heath and fitness club kit
- AKL1 Lecture room kit
- AKU1 Retail unit kit

(The exact contents of each kit are listed overleaf)
PDA200E Technical Specification

POWER REQUIREMENTS

Mains voltage 230V ac
Power consumption <80VA
Fuses Internal mains input fuse 1A 20 mm (HRC)

The PDA200E requires fixed mains wiring fed from a 3A fuse spur located no more than 3m from the amplifier.

INPUTS

Three 5mm screw connector inputs are available - mic., line & 100V. If more than one is used, the signals are mixed

MICROPHONE
Input impedance 600Ω balanced/unbalanced
Sensitivity 2-5mV (-46db to -50db)
Phantom 12V

LINE
Input impedance >10kΩ balanced/unbalanced
Sensitivity 0dbv (300mV rms to 1.5V rms)
100V LINE
Input impedance 200kΩ
Sensitivity +40dbv

ALERT Closing a volt-free switch across this input generates a 2kHz tone through the loop.

Should additional inputs be required, the PDA200E is compatible with SigNET's outreach plate input extension system. This allows up to ten extra mic or line level inputs to be daisy-chained to the PDA200E. See our separate datasheet for details.

OUTPUT

Type Current mode
Loop connector Screw connector
Cable 1.0-2.5mm²
Loop coverage (square room) 120m² max. (e.g. 11m x 11m)
Loop coverage (rectangular room) Up to 250m² when shortest side of loop is no greater than 10m (e.g. 10m x 25m)
Loop drive current 4A peak; 1.8A average
Loop impedance 0.2 to 2Ω @1kHz

PERFORMANCE

Bandwidth 40Hz to 8kHz
Input dynamic range 36dB
Distortion <0.5% THD

The PDA200E includes an amplitude compression stage that limits overload and has a dynamically variable ratio from 1:1 to 10:1

INDICATORS & CONTROLS

LED indicators One level control, adjustable between -35dB to +0dB for both line and microphone
User controls One output drive control, giving a loop current adjustable between 40mA & 2.1A
One mid-range cut & boost tone control (frequency = 1kHz; cut= -17dB: boost = +17dB)

DIMENSIONS & WEIGHT

Width x Height x Depth / Weight 273 mm x 200 mm x 77 mm / 2.9kg (unpacked)

PDA200E KIT VARIANTS

AKM1 Meeting/seminar room kit
1x PDA200E and 1x AMP Omni-directional plated microphone.

AKR1 Waiting room kit
1x PDA200E and 1x APL outreach plate (for the connection of paging systems).

AKT1 TV/music lounge kit
1x PDA200E, 1x AMH handheld microphone c/w APJ outreach connection plate and 1x AML lectern microphone c/w APJ outreach connection plate.

AKT1 TV/music lounge kit
1x PDA200E, 1x AMT tie/desk microphone c/w APJ outreach connection plate and 1x APS scart to dble phono lead c/w APL outreach plate (for the connection of TVs, etc).

AK1 Listening room kit
1x PDA200E, 1x APL outreach plate (for the connection of AV inputs from CD, tape decks, etc).

AKL1 Lecture room kit
1x PDA200E, 1x AMH handheld microphone c/w APJ outreach connection plate and 1x APL outreach plate (for the connection of existing microphones).

AKW1 Place of worship kit 1
1x PDA200E, 1x APL outreach plate (for the connection of audio inputs from CD, tape decks, etc).

AKW1 Place of worship kit 2
1x PDA200E, 1x APL outreach plate (for the connection of existing microphones).

AKU1 Retail Unit kit
1x PDA200E and 1x APL outreach plate (for the connection of audio inputs from CD, tape decks, etc).

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