

i ceilings

SOUND SYSTEMS

• Ceiling speakers without seeing speakers

i-ceilings 'invisible' integrated Sound Panel loudspeakers from the world leaders in ceiling development.

In providing the ideal environment, the consideration of both acoustics and aesthetics is essential.

i-ceilings, the latest generation of integrated sound panels, uses state-of-the-art NXT technology to provide exceptional sound qualities without spoiling the aesthetic consistency of the ceiling plane.

Combining the innovation of the world's leading designers and suppliers of ceiling systems with the unique sound qualities of NXT technology, Armstrong have produced a unique concept in acoustic ceilings to provide an unparalleled sound system for foreground and background music, voice reinforcement, public address and active acoustics such as sound masking.

Features:

- New generation product design
- Completely 'unidentifiable' loudspeaker solution
- Matches over 90% of Armstrong suspended ceiling systems
- Installed up to 75% faster than standard ceiling speakers
- Unparalleled levels of intelligibility and dispersion of sound
- New 'Powered' & 'Surface-mount' versions also available

The concept of i-ceilings

A unique concept in integrated acoustic ceiling systems, i-ceilings utilises NXT flat panel audio technology to provide a loudspeaker system designed to match Armstrong's market-leading range of suspended ceilings.

The i-ceilings concept allows for 'invisible' loudspeaker solutions which benefit from greatly increased sound dispersion, providing incredibly even levels of sound reproduction compared with the 'hot and cold spots' associated with traditional 'cone' loudspeaker technology.

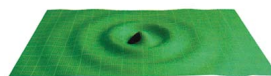
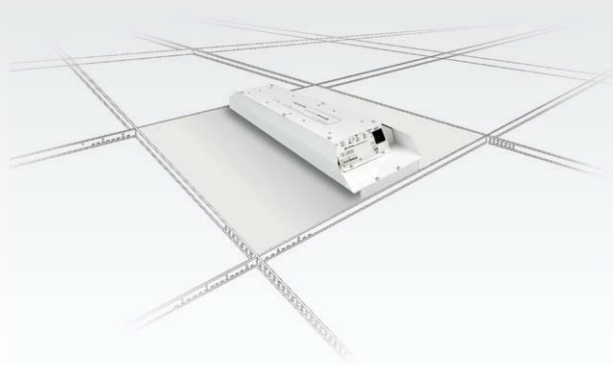
Due to their aesthetic and acoustic qualities, i-ceilings Sound Panels are ideal in education, retail, boardrooms, offices, call centres, healthcare, hospitality and leisure, ensuring even coverage of high quality music and voice reproduction without compromise to the architectural environment.

The technology

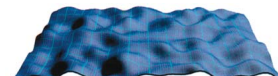
The Armstrong i-ceilings range of Sound Panels utilises the unique loudspeaker technology 'NXT™'. Unlike conventional cone speakers which operate with a piston-like action, NXT technology introduces resonant vibrations to the entire surface of a lightweight flat panel via an electronic transducer system.

In effect, the panel within the ceiling tile is vibrating in much the same way as a piano or acoustic guitar. Like these musical instruments, i-ceilings panels generate highly diffuse and disperse sound energy (similar in nature to the light emitted from a fluorescent lamp).

Sound, therefore, is radiated in all directions to ensure highly intelligible voice and music reproduction and even sound coverage. This is different to the results of a conventional piston-like cone speaker which can cause highly directional and often unintelligible speech in large open spaces.



Uniform sound vibration pattern of a conventional cone speaker



Uncorrelated sound vibration pattern of an NXT Panel

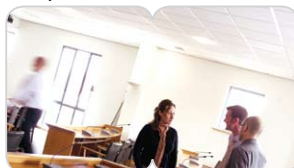
Retail



Education



Corporate



Leisure



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A better way to buy AV

• CS-1000: 8W Sound Panel Ceiling Speakers

CS-1000 Sound Panel with superior combined performance for music, public address and active acoustics to enhance privacy, comfort and workspace effectiveness. New development and remodelling ensures even greater performance and ease of installation from the complete i-ceilings range. Available to co-ordinate with Armstrong's most popular ceiling patterns, for new-build and retrofit installations.

Superior Aesthetics:

- Provides improved aesthetics over conventional visible speakers
- Seamlessly blends with the rest of the ceiling

Flexibility & Value:

- Quick, easy and less expensive to install and/or relocate
- Lays into standard 600 x 600 mm ceiling tile grid*
- Low profile and location in the ceiling plane reduces plenum conflicts

Acoustic Features:

- Compatible with 100v line and low impedance systems (8Ω Selector Terminal)
- Omni-directional speaker design delivers more uniform sound for broader coverage
- High speech intelligibility over large areas
- Delivers music, public address and active acoustics through the same speaker eliminating redundant systems
- Low transducer self-noise
- Variable wattage tap for localised volume control (New external screw terminals for faster, easier installation)

Material:

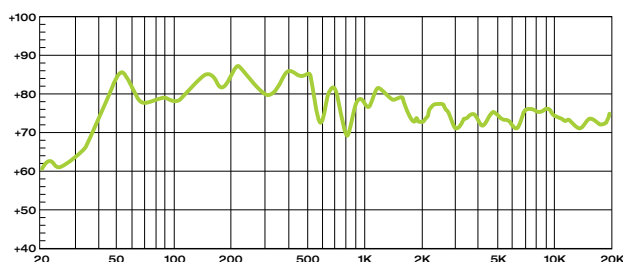
- Steel frame, specially designed tubular membrane, painted scrim facing

Applications:

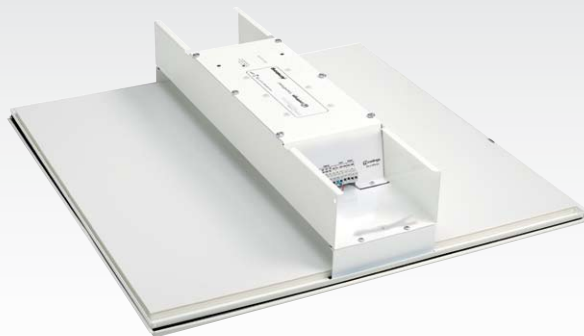
- Office
- Retail
- Education
- Leisure
- Healthcare

Frequency Response:

- Frequency range - nominal
- Armstrong CS-1000 Ultima
- Built in a ceiling, independently tested in an anechoic chamber
- Power: 1W
- Distance: 1 metre



*Also available in all standard European ceiling module sizes



Finishes:

- i-ceilings CS-1000 Panels are currently available in Armstrong's most popular ceiling tile finishes: Ultima, Optima, Dune, Fine Fissured, Orcal Neeva and Reno.

For details of non-standard, bespoke units, please call the CIE-Group sales office on +44 (0)115 9770075



*All finish types also available in Orcal 'Clip-in' tile formats.

Part Numbers:

Part Number:	Product:	Finish:
BP6017ME	CS-1000	Ultima / Optima MicroLook
BP6018ME	CS-1000	Ultima / Optima Tegular
BP6019ME	CS-1000	Dune Plus MicroLook
BP6020ME	CS-1000	Dune Plus Tegular
BP6021ME	CS-1000	Fine Fissured MicroLook
BP6022ME	CS-1000	Fine Fissured Tegular

Specifications:

Model:	CS-1000
SPL @ 1W/1m	86.9dB / Max 95.9dB
Impedance	100v: 1, 2, 4 & 8W / 8Ω
Transducers	Quantity: 1
Power Capacity	8W
Dimensions	600(W) x 600(L) x 115(D) mm
Panel Weight	4.4kg

• CS-4000: 8W Sound Panel Ceiling Speakers

The new 4 Transducer CS-4000 Sound Panel provides enhanced output and frequency range performance for AV, public address and active acoustics to enhance privacy, comfort and workspace effectiveness. New development and remodelling ensures even greater performance and ease of installation from the complete i-ceilings range. Available to co-ordinate with Armstrong's most popular ceiling patterns, for new-build and retrofit installations.

Superior Aesthetics:

- Provides improved aesthetics over conventional visible speakers
- Seamlessly blends with the rest of the ceiling

Flexibility & Value:

- Quick, easy and less expensive to install and/or relocate
- Lays into standard 600 x 600 mm ceiling tile grid*
- Low profile and location in the ceiling plane reduces plenum conflicts

Acoustic Features:

- 4 Transducer version for higher output levels and wider frequency range
- Compatible with 100v line and low impedance systems (8Ω Selector Terminal)
- Omni-directional speaker design delivers more uniform sound for broader coverage
- High speech intelligibility
- Delivers music, public address and active acoustics through the same speaker eliminating redundant systems
- Low transducer self-noise
- Variable wattage tap for localised volume control (New external screw terminals for faster, easier installation)

Material:

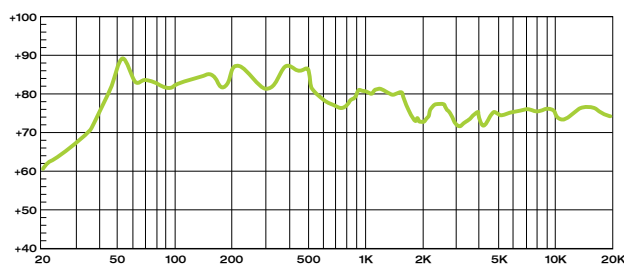
- Steel frame, specially designed tubular membrane, painted scrim facing

Applications:

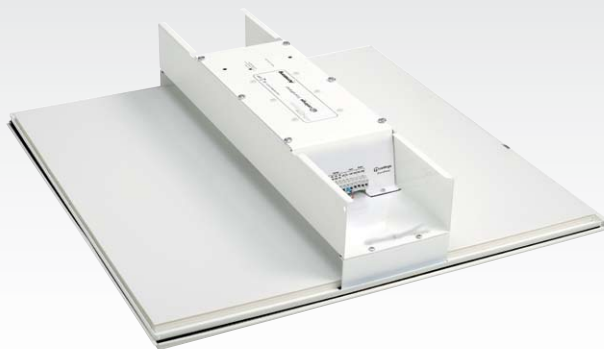
- Office
- Retail
- Education
- Leisure
- Healthcare

Frequency Response:

- Frequency range - nominal
- Armstrong CS-4000 Ultima
- Built in a ceiling, independently tested in an anechoic chamber
- Power: 1W
- Distance: 1 metre



*Also available in all standard European ceiling module sizes



Finishes:

- i-ceilings CS-4000 Panels are currently available in Armstrong's most popular ceiling tile finishes: Ultima, Optima, Dune, Fine Fissured, Orcal Neeva and Reno.

For details of non-standard, bespoke units, please call the CIE-Group sales office on +44 (0)115 9770075



*All finish types also available in Orcal 'Clip-in' tile formats.

Part Numbers:

Part Number:	Product:	Finish:
BP4017ME	CS-4000	Ultima / Optima MicroLook
BP4018ME	CS-4000	Ultima / Optima Tegular
BP4019ME	CS-4000	Dune Plus MicroLook
BP4020ME	CS-4000	Dune Plus Tegular
BP4021ME	CS-4000	Fine Fissured MicroLook
BP4022ME	CS-4000	Fine Fissured Tegular

Specifications:

Model:	CS-4000
SPL @ 1W/1m	88.9dB / Max 97.4dB
Impedance	100v: 1, 2, 4, 8W / 8Ω
Transducers	Quantity: 4
Power Capacity	8W
Dimensions	600(W) x 600(L) x 115(D) mm
Panel Weight	4.6kg

• Pro-Series: 30W Sound Panel Ceiling Speakers

Pro Series Sound Panel with superior combined performance for music and audio visual applications. New development and remodelling ensures even greater performance and ease of installation from the complete i-ceilings range. Available to co-ordinate with Armstrong's most popular ceiling patterns, for new-build and retrofit installations.

Superior Aesthetics:

- Provides improved aesthetics over conventional visible speakers
- Seamlessly blends with the rest of the ceiling

Flexibility & Value:

- Quick, easy and less expensive to install and/or relocate
- Lays into standard 600 x 600 mm ceiling tile grid*
- Low profile and location in the ceiling plane reduces plenum conflicts

Acoustic Features:

- Superior dispersion of sound over the full audible range
- Advanced membrane design produces high fidelity music for foreground and background applications
- Superior audio capabilities provide high quality active acoustics
- High power capacity generates high performance sound
- 'In' & 'out' terminals for both 100v and 8Ω
- Compatible with 100v line and low impedance systems (8Ω Selector Terminal)
- Omni-directional speaker design delivers more uniform sound for broader coverage
- High speech intelligibility over large areas
- Delivers music, public address and active acoustics through the same speaker eliminating redundant systems
- Variable wattage tap for localised volume control (New external screw terminals for faster, easier installation)

Material:

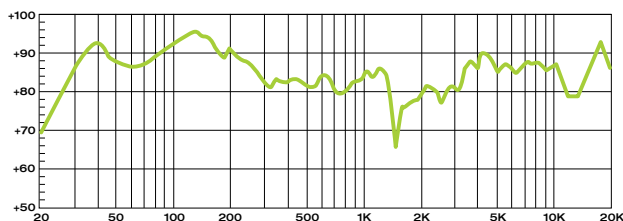
- Steel frame, special honeycomb membrane, painted scrim facing

Applications:

- Office
- Retail
- Education
- Leisure
- Healthcare

Frequency Response:

- Frequency range - nominal
- Armstrong Pro Panel Ultima
- Built in a ceiling, independently tested in an anechoic chamber
- Power: 1W
- Distance: 1 metre



*Also available in all standard European ceiling module sizes



Finishes:

- i-ceilings CS-1000 Panels are currently available in Armstrong's most popular ceiling tile finishes: Ultima, Optima, Dune, Fine Fissured, Orcal Neeva and Reno.

For details of non-standard, bespoke units, please call the CIE-Group sales office on +44 (0)115 9770075



*All finish types also available in Orcal 'Clip-in' tile formats.

Part Numbers:

Part Number:	Product:	Finish:
BP6013ME	Pro Series	Ultima / Optima MicroLook
BP6014ME	Pro Series	Ultima / Optima Tegular
BP6015ME	Pro Series	Dune Plus MicroLook
BP6016ME	Pro Series	Dune Plus Tegular
BP6030ME	Pro Series	Fine Fissured MicroLook
BP6031ME	Pro Series	Fine Fissured Tegular

Specifications:

Model:	PRO Panel
SPL @ 1W/1m	93dB
Impedance	100v: 7.5, 15, 30W / 8Ω
Transducers	Quantity: 4
Power Capacity	30W
Dimensions	600(W) x 600(L) x 120(D) mm
Panel Weight	5.5kg

- **CS-4000/PwrD:** 8W i-ceilings Powered Sound Panel Ceiling Speakers
- **PRO/PwrD:** 20W i-ceilings Powered Sound Panel Ceiling Speakers

i-ceilings CS-4000 and Pro Panels are now also available as powered versions, featuring our exclusively developed Integrated Panel Amplifier.

The 20W Panel Amplifier is factory-fitted and features line level volume control, tone controls and external speaker output.

All connections to the amplifier are externally accessible using removable screw terminals for fast and easy connection.

Acoustic Features:

- 20W Integrated Amplifier (30W Peak)
- Line Level Volume Control
- Low, Mid and High Tone Controls
- Available in self-powered CS-4000 and Pro Panel versions
- Powered Panel versions will power an additional passive CS4000 Sound Panel slave
- Fast and easy to install

Applications:

- AV Presentation Systems
- Education
- Healthcare
- Leisure
- Corporate

Material:

- Steel frame and bridge



Part Numbers:

Part Number:	Product:	Finish:
BP4017ME/PwrD	CS-4000/PwrD	Ultima / Optima MicroLook
BP4018ME/PwrD	CS-4000/PwrD	Ultima / Optima Tegular
BP4019ME/PwrD	CS-4000/PwrD	Dune Plus MicroLook
BP4020ME/PwrD	CS-4000/PwrD	Dune Plus Tegular
BP4021ME/PwrD	CS-4000/PwrD	Fine Fissured MicroLook
BP4022ME/PwrD	CS-4000/PwrD	Fine Fissured Tegular
BP6013ME/PwrD	Pro Series/PwrD	Ultima / Optima MicroLook
BP6014ME/PwrD	Pro Series/PwrD	Ultima / Optima Tegular
BP6015ME/PwrD	Pro Series/PwrD	Dune Plus MicroLook
BP6016ME/PwrD	Pro Series/PwrD	Dune Plus Tegular
BP6030ME/PwrD	Pro Series/PwrD	Fine Fissured MicroLook
BP6031ME/PwrD	Pro Series/PwrD	Fine Fissured Tegular

Specifications:

Model:	CS-4000/PwrD	PRO/PwrD
Frequency Range	80Hz ~ 18kHz	40Hz ~ 20kHz
Output Impedance	8Ω	8Ω
Output Power	8W RMS (max)	20W RMS (max)
Operating Voltage	230v AC	230v AC
SPL @ 1W/1m	88.9dB / 97.4dB Max	93dB 1m
Extension Speaker Output	8W	8W
Dimensions:	600(W) x 600(D) x 120(H) mm	600(W) x 600(D) x 120(H) mm
Panel Weight:	6.2kg per panel	7.1kg per panel

- **RVC1:** Remote Volume Control

RVC1 Wall-mounting remote volume control is available as an additional option.

