

The Industry Standard for Commercial Sound

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includes 24
brand new
products!

interM

The Industry Standard.



Mixer Amplifiers



Power Amplifiers



Signal Processing



Rack Builds



Low Z Amplifiers



Loudspeakers



Signal G

Introduction

CIE-Group – one of the UK's longest established and most experienced suppliers of high quality Commercial Sound and AV products – is the exclusive UK supply partner for Inter-M, having worked together for over 25 years and is recognised as one of the most successful Inter-M partners in the world.

Over this period, Inter-M's Commercial Sound product range has been specified into many of the UK's leading system installations across the full spectrum of commercial and private sectors; resulting in its enviable reputation as 'The Industry Standard' for Commercial Sound.

Within many of the retail sector's largest high street and supermarket chains, banks & building societies, airports, places of worship, hospitals and education, you'll find high quality, trusted PA and AV systems powered by Inter-M.



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'Inter-M – The Industry Standard
for Commercial Sound'.

Contents

- Inter-M's QD Series 4 channel amplifiers provide ultimate flexibility in multi-zone installations.



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Exclusive UK Supply Partners

CIE-Group is the exclusive UK supply partner for the complete **Inter-M** audio visual product range.

Key to CIE-Group's success is our absolute commitment to both the quality of product and service to our customers; reflected by our team of pre- and post-sales technical advisors, UK-based stockholding, service & repair and our Rack Design & Build Service – consistently producing some of the UK's highest quality, ready-to-install PA racks to your customers' specifications (see page 47 for further information).

The close relationship between Inter-M, our customers and CIE-Group also ensures direct access to an expert team of sales, training and technical advisers, as well as showroom and demonstration facilities...



Technical Services

CIE-Group's technical and after-sales service department provides system advice, service, repair and remanufacture facilities to ensure a unique UK-based, fast and efficient resource.

Demonstrations

Our dedicated team of sales and technical support staff are also on hand to provide full product and user training either at our own facilities or on-site.

Showroom

Our showroom, centrally located in Nottingham, gives customers and clients immediate access to hundreds of our key products.



Powered by Inter-M



Barclaycard Headquarters

The massive Barclaycard Headquarters complex features a highly complex PA and messaging system using Inter-M powered rack systems designed and built for the installer by CIE-Group's in-house technical services department.

Comprising a total of 11 PA9336 Power Amplifiers and 9 EQ9152 Graphic Equalisers, the two 39U racks provide a total of almost 4000W over 6 zoned areas.



Southampton Cardiothoracic Centre

Southampton University Hospital's Cardiothoracic Centre features a fully-integrated AV system to provide live TV broadcast of cardiological procedures for training purposes, both from room-to-room and also worldwide via videoconferencing.

Together with high resolution, AMX-controlled multiple screens in the main lecture theatre, the system also features two-way audio broadcast, powered by the Inter-M R300+ stereo amplifier, for communication between operating and lecture theatres.



Nottingham Magistrates Court

The PA and evacuation system at the impressive Nottingham Magistrates Court has been designed around a complex Inter-M audio rack system, built and delivered directly to site by CIE-Group.

Consisting of Inter-M power amplifiers, mixers and battery back-up products, the system provides a flexible paging and voice evacuation solution.

New Inter-M IPC System

'One of the most advanced, user-friendly paging and BGM systems that has ever been made to a realistic budget...'

Ideal for campus environments, the digital IPC System from Inter-M provides a highly functional, fully flexible, programmable means of broadcasting paging announcements, messages, class change and media files over a multi-zone site.

The IPC can be configured to operate as a standard centralised system, with all areas/zones wired back to a single point/location. However, the IPC comes into its own when installed as a distributed or de-centralised system, improving flexibility and reducing expensive wiring costs.

Features:

- CAT5 wiring structure
- 8 channel Matrix
- Easy to use Touch Screen Interface
- Up to 128 independent zone capability
- Fully programmable
- In-built Digital File Player and Scheduler
- Compact Multi-channel Digital Amplifiers
- Optional Remote Console options
- Stable, embedded Windows-XP platform
- Remote control, broadcasting & monitoring via standard Ethernet network

Specifications:

Model: SI-100:	
Input Sensitivity (±3dB)	BGM XLR MIC: -50dB/600kΩ BGM Phone MIC: -20dB/20kΩ
Frequency Response	100Hz~15kHz
T.H.D	1.0%
S/N (20kHz LPF, BGM XLR MIC AUX, CD/MP3/AC97)	65dB
BGM AUX	-10dB/20kΩ
CDP/MP3/AC97	0dB/10kΩ
Model: SP-100:	
Link Input	(@1kHz, 166.7Ω Load Output)
Rated Power (THD ≤ 1%, 20kHz LPF)	60W
Input Level	0dBV
S/N (20kHz LPF, A-WTD)	More than 80dB
Frequency Response (±3dB)	100Hz ~ 15kHz
Model: SR-100:	
Input sensitivity/impedance (MIC)	-60dB, Balanced Input
T.H.D(20kHz LPF, MIC)	0.5%
S/N(20kHz LPF, MIC)	50dB
Frequency Response (MIC)	300Hz~10kHz

New SI-100: System Integration Main Controller

- 8 x MIC/Line Inputs
- Linkable with SR-100 Remote MIC Station (up to 8 x SR-100 Connections)
- USB Port built-in for external memory interface
- 16 x Contact input circuits for emergency broadcasting
- Audio matrix function
- AMX/Creston port for external source equipment (CD/Tuner, etc) control
- Weekly program timer/scheduler function



New SM-100: System Monitor

- 15" LCD and Touch Screen Monitor Panel
- Emergency MIC on front panel with cover
- Built-in Loudspeaker for monitoring input source and output signals to zones



Optional: System can also use FREE PC software control package

New SP-100: System Digital Amplifier

- 6 channel digital amplifier
- 6-bus broadcasting available via Cat5e connection
- Volume Control per channel and 5 band EQ
- Facility local input (Mic in or Aux in)
- AUTO/Manual I.D. allocation
- Interface with other units using control input and control output contacts

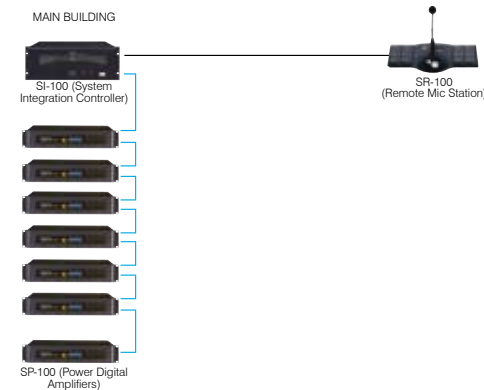


New SR-100: System Remote Mic Station SR-100KP: 12 Key Mic Station Keypad

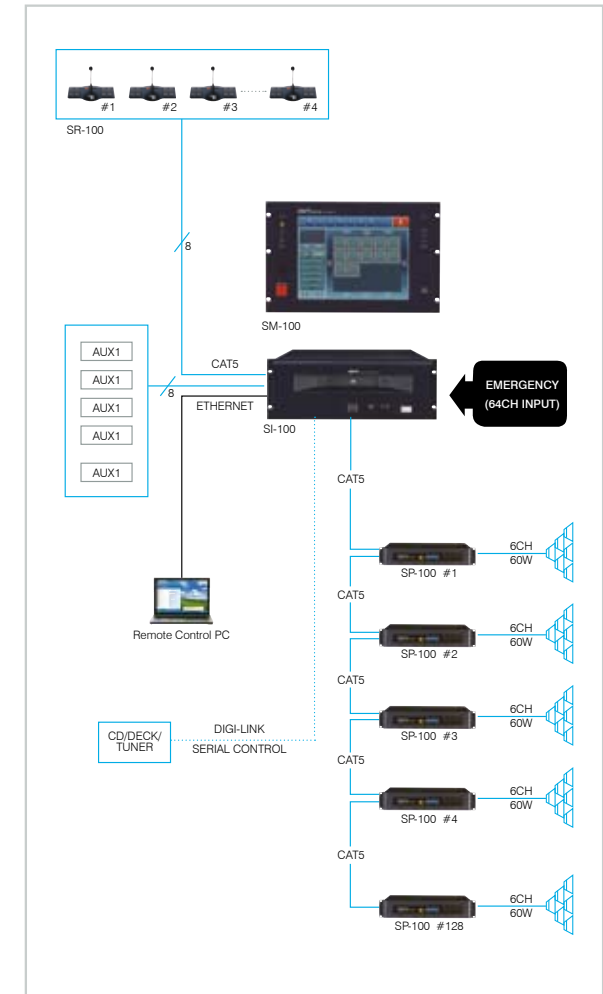
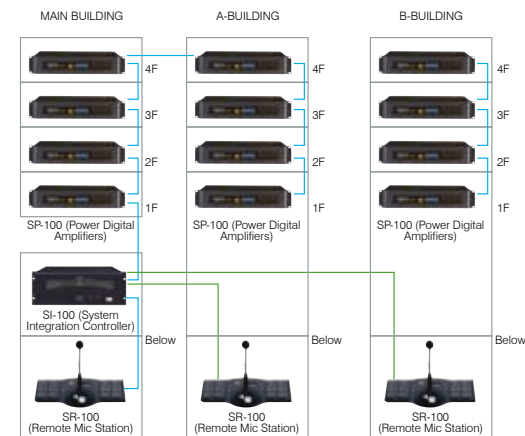
- MIC/AUX/Speaker volume adjustable
- Simple interface via CAT5e connection
- One-touch broadcasting function using the [TALK] button
- Internal loudspeaker for BGM/Zone monitoring
- Expansion of zones using SR-100KP Expansion Keypad



Centralised System



De-Centralised/Distributed System



◦ PA-935A: 35W Mixer Amplifier

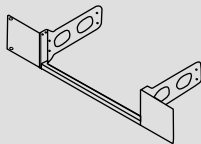
Simple, compact mixer amplifier ideal for use in smaller installations such as waiting rooms, offices, factories, educational and retail applications.

Provides clear voice and full range BGM reproduction.

Features:

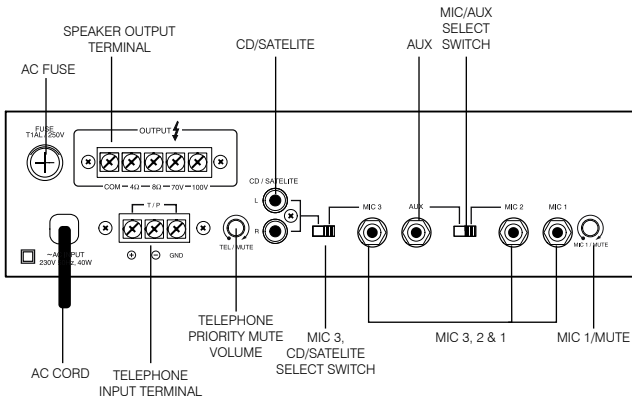
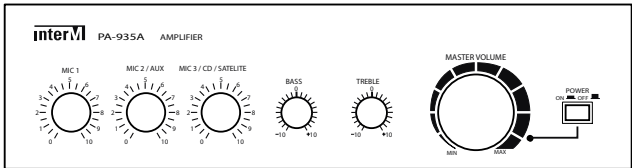
- Compact design
- 1 Mic input (¼" jack)
- 2 Mic/AUX switchable (¼" jack/stereo phono)
- Priority inputs, telephone, mic 1
- Bass/treble control
- 100v/8Ω/4Ω Low Z output option
- Optional 19" rack kit (BKT-PA935A)

◦ 19" Rack Mount Bracket Option: BKT-PA935A Bracket



Specifications:

Model:	PA-935A:
Output Power	35W RMS @ 100v/70v 35W RMS 8Ω/4Ω
Inputs	1 x Mic (¼" jack) 1 x Mic/Aux (¼" jack) 1 x Mic/Aux~Sat (¼" jack and stereo phono) 1 x Screw terminal (Tel)
Priority	Telephone, Mic 1
Input Sensitivity/Impedance	Mic 1,2,3 ~ -50dB/600Ω Aux ~ -15dB/10kΩ Sat ~ 0dB/10kΩ Telephone ~ 0.775v/600Ω
Frequency Response	80Hz~15KHz
Power Requirement	230v AC 50Hz
Dimensions	290(W) x 76(H) x 185(D)mm
Weight	4.4kg



PA-1000B: 30W Mixer Amplifier

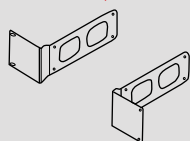
Simple mixer amplifier ideal for use in reception areas, waiting rooms, factories, education, AV and retail applications.

Full range frequency response makes the unit ideal for any voice or background music system.

Features:

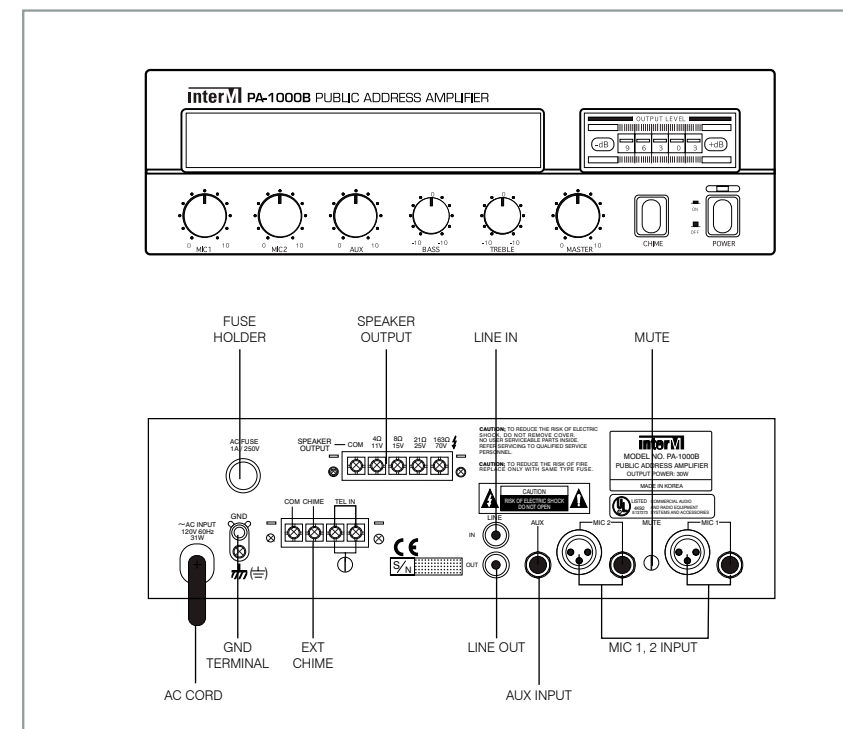
- 2 Mic inputs (1/4" jack~3 pin XLR)
- 1 AUX input (1/4" jack)
- Line in ~ line out
- Priority inputs, telephone, mic 1
- Bass and treble control
- 100v/70v Loudspeaker output
- 8Ω/4Ω Low Z output option
- Remote chime option
- Optional 19" rack kit (BKT-PA1000B)
- 2U high

19" Rack Mount Bracket Option: BKT-PA1000B Bracket



Specifications:

Model:	PA-1000B:
Output Power	30W RMS @ 100v/70v 30W RMS 8Ω/4Ω
Inputs	1 x Mic (1/4" jack and 3 pin XLR) 1 x Aux (1/4" jack) 1 x Telephone (screw terminal)
Priority	Telephone, Mic 1
Input Sensitivity/Impedance	Mic 1, 2 = 1/4" jack ~ 1m v / 10kΩ Mic 1, 2 = 3 pin XLR ~ F Aux ~ 100m v / 10kΩ Telephone ~ 0.775v / 600Ω
Frequency Response	60Hz ~ 20KHz
Line In	1v / 10kΩ
Line Out	1v / 600Ω
Power Requirement	230v AC 50Hz
Dimensions	300(W) x 88(H) x 268(D)mm
Weight	4.6kg



◦ A-60 / A-120: 60W, 120W Mixer Amplifiers

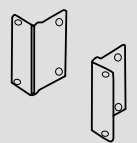
This simple, economical desktop amplifier series provides a cost effective solution to basic PA and background music applications.

A-60/A-120 Amplifiers are extensively used throughout the UK's leading high street and supermarket retail outlets.

Features:

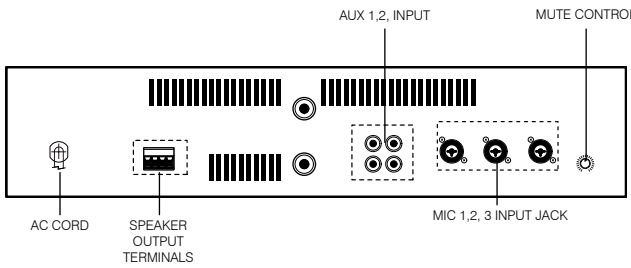
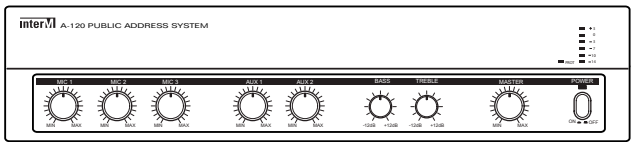
- Clean, functional design
- 3 Mic inputs (combi XLR / ¼" jack)
- 2 AUX inputs (stereo phono)
- Bass and treble control
- Priority input - Mic 1
- Phoenix screw terminals for loudspeaker connection
- 2U high
- Optional 19" rack (BKT-A120)
(Also fits A-60 Amplifier)

◦ 19" Rack Mount Bracket Option: BKT-A120 Bracket



Specifications:

Model:	A-60:	A-120:
Output Power	60W RMS @ 100v/70v 60W RMS @ 4Ω	120W RMS @ 100v/70v 120W RMS @ 4Ω
Inputs	3 x Mic (combi ¼" XLR) 2 x Aux (stereo phono)	3 x Mic (combi ¼" XLR) 2 x Aux (stereo phono)
Priority	Mic 1	Mic 1
Input Sensitivity/Impedance	Mic 1,2,3 ~ -60dB/600Ω Aux ~ -10dB/10kΩ unbalanced	Mic 1,2,3 ~ -60dB/600Ω Aux ~ -10dB/10kΩ unbalanced
Frequency Response	80Hz~16KHz	80Hz~16KHz
Power Requirement	230v AC 50Hz	230v AC 50Hz
Dimensions	420(W) x 88(H) x 320(D)mm	420(W) x 88(H) x 320(D)mm
Weight	8.9kg	10.3kg



New MA-106: 60W Mixer Amplifier

Inter-M's new MA-106 is a highly compact 100v line/Low Z switchable desktop amplifier for standard PA and background music applications and is ideally suited to retail installations or where space is at a premium.

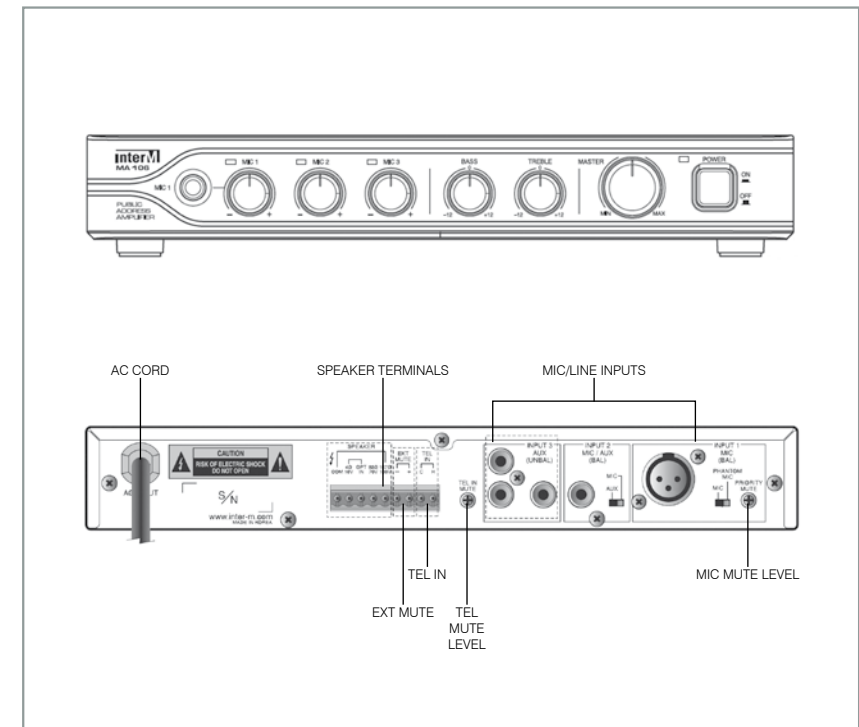
Only 1U in height and just 30cm wide, this newly-styled 60W D-class amplifier provides both power output and features beyond the expectations of a unit so small.

Features:

- Highly compact, desktop unit
- Stylish new design
- Phantom Power to Mic Input 1
- Separate Bass and Treble tone controls
- 4 Ω /100v line switchable
- External mute and Telephone In
- Optional 19" Rackmount Kit

Specifications:

Model:	MA-106:
Output Power	60W RMS @ 100v / 4 Ω
Inputs	1 x balanced Mic (phono/XLR) complete with optional power 1 x balanced Mic/Aux (1/4" jack) 1 x Unbalanced Aux (1/4" jack/dual phono)
Priority	1 = Tel Input, 2 = Mic 1
Frequency Response (± 3 dB)	80Hz~15KHz
Operating Temperature	-10°C ~ +40°C
Power Requirement	230v AC, 50~60Hz
Dimensions	300(W) x 44(H) x 230(D)mm
Weight	2.35kg



New

MA-206 / MA-212 / MA-224:
60W, 120W, 240W Mixer Amplifiers

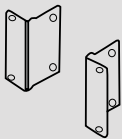
Utilising efficient D-class amplifier technology, the latest generation of Inter-M's market-leading range of professional installation mixer amplifiers are smaller, lighter, more feature-full and have been stylishly remodelled for today's more demanding professional audio installation market.

With 5 selectable speaker outputs, 6 individually-controlled mic/line inputs, 5-band equaliser and numerous other features all as standard, the new MA-200 Series is ideal for user-manageable, zoned PA and background music in applications such as retail, education, corporate and church installations.

Features:

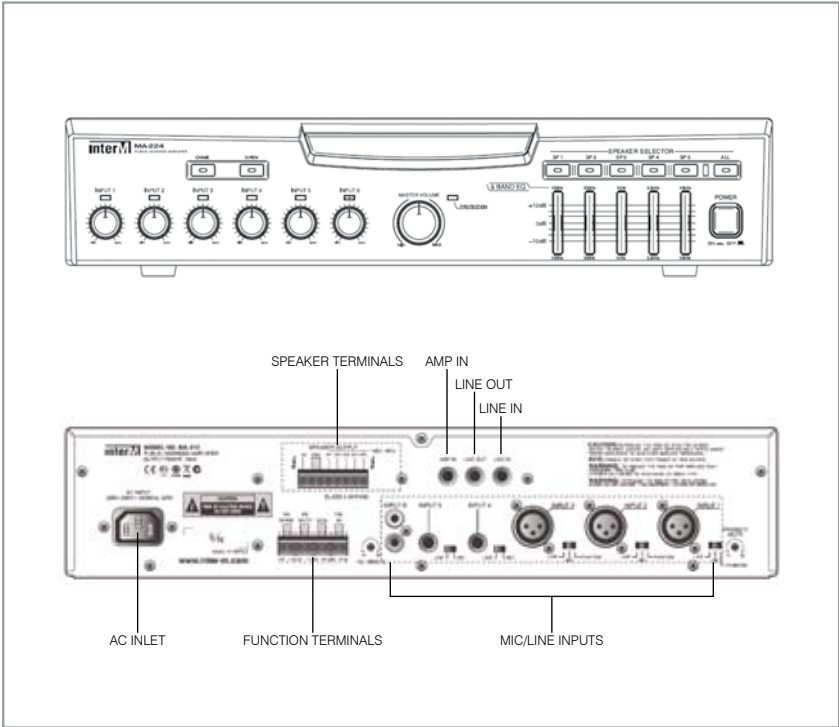
- 6 Mic/Line Inputs (3pin XLR / ¼" jack / dual phono)
 - Priority Mute (Tel Input & Input 1)
 - Link input (¼" jack)
 - Amp In (¼" jack)
 - Pre Amp Out (¼" jack)
 - Chime/Siren
 - External Mute (screw terminal)
- Remote Volume Control (screw terminal)
 - Telephone In (screw terminal)
 - Phantom Power (Inputs 1, 2 & 3)
 - 'Active' LED display per input channel
 - 5 Zone + All Loudspeaker Selector
 - Optional 19" Rackmount Kit

○ 19" Rack Mount Bracket Option: BKT-A120 Bracket



Specifications:

Model:	MA-206:	MA-212:	MA-224:
Output Power	60W RMS @ 100v / 4Ω	120W RMS @ 100v / 4Ω	240W RMS @ 100v / 4Ω
Inputs	3 x Mic/Line (3 pin XLR-F) 2 x Mic/Line (¼" jack) 1 x Line (dual phono) 1 x Telephone (screw terminal)		
Priority	1 = Tel Input, 2 = Mic 1		
Input Sensitivity/Impedance	Inputs: 1~5: Mic -50dBv/2KΩ, Line -10dBv/2KΩ Input 6: -10dBv/20KΩ Telephone: 0.775dBv/10KΩ		
Frequency Response (±3dB)	80Hz~15KHz		
Operating Temperature	-10°C ~ +40°C		
Power Requirement	230v AC, 50Hz		
Dimensions	420(W) x 88(H) x 328(D)mm		
Weight	5.4kg	6.7kg	8.0kg



PA-2000A / PA-4000A / PA-6000A: 60W, 120W, 240W Mixer Amplifiers

Ground-breaking amplifier series which, when released, set new standards in the industry; its modern outlook and host of features pushed it to the forefront of the PA, education, AV and church markets, where it remains today!

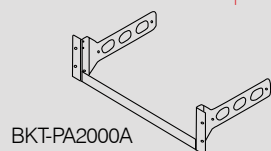
Features:

- 6 Inputs (5 x 3 pin XLR, 1 x stereo phono)
- Telephone input (screw terminals)
- Priority-telephone, mic 1, mic 2
- 5 Band graphic equaliser
- Line in
- Line out
- 5 Zone speaker selection
- Chime & Siren
- External mute terminal
- Bar graph LED output VU meter
- Optional 19" rack kits (BKT-PA2000A, BKT-PA4000A*)

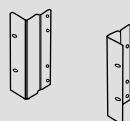
* Bracket also fits PA6000A



19" Rack Mount Bracket Options:



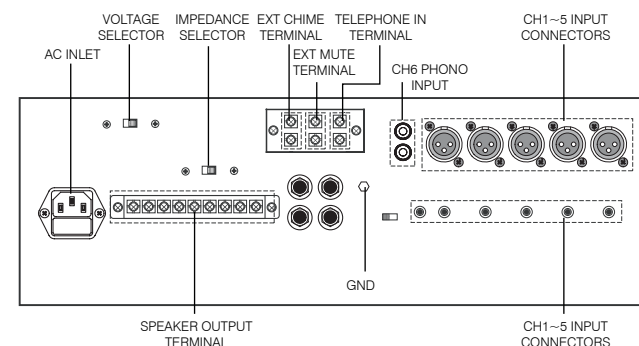
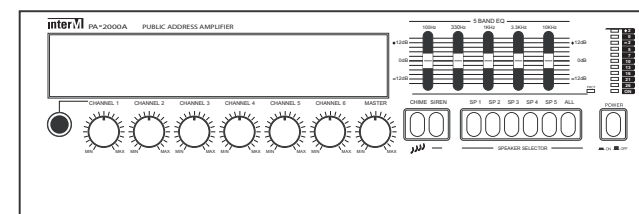
BKT-PA2000A



BKT-PA4000A/PA6000A

Specifications:

Model:	PA-2000A:	PA-4000A:	PA-6000A:
Output Power	60W RMS @ 100v/70v 60W RMS @ 8Ω/4Ω	120W RMS @ 100v/70v 120W RMS @ 8Ω/4Ω	240W RMS @ 100v/70v 240W RMS @ 8Ω/4Ω
Inputs	5 x Mic/line (3 pin XLR~F) 1 x Mix/Aux (stereo phono) 1 x Telephone (screw terminal)	5 x Mic/line (3 pin XLR~F) 1 x Mix/Aux (stereo phono) 1 x Telephone (screw terminal)	5 x Mic/line (3 pin XLR~F) 1 x Mix/Aux (stereo phono) 1 x Telephone (screw terminal)
Priority	Telephone, Mic 1, Mic 2	Telephone, Mic 1, Mic 2	Telephone, Mic 1, Mic 2
Input Sensitivity/Impedance	Inputs 1~6~1mV / 10kW Telephone -2dB/600W	Inputs 1~6~1mV / 10kW Telephone -2dB/600W	Inputs 1~6~1mV / 10kW Telephone -2dB/600W
Frequency Response	60Hz~20KHz	60Hz~20KHz	60Hz~20KHz
Link in/out	In: 0dB/47kΩ Out: -6dB/600Ω	In: 0dB/47kΩ Out: -6dB/600Ω	In: 0dB/47kΩ Out: -6dB/600Ω
Power Requirement	230v AC 50Hz	230v AC 50Hz	230v AC 50Hz
Dimensions	420(W) x 100(H) x 320(D)mm	420(W) x 133(H) x 320(D)mm	420(W) x 133(H) x 320(D)mm
Weight	10kg	12kg	13.5kg



◦ PAM-120A: 120W Modular Mixer Amplifier

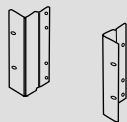
Best selling mixer amplifier providing a versatile and flexible solution for many applications including AV, church and high end retail installations.

Optional music modules add to the outstanding features of this market-leading product (see page 16 for details).

Features:

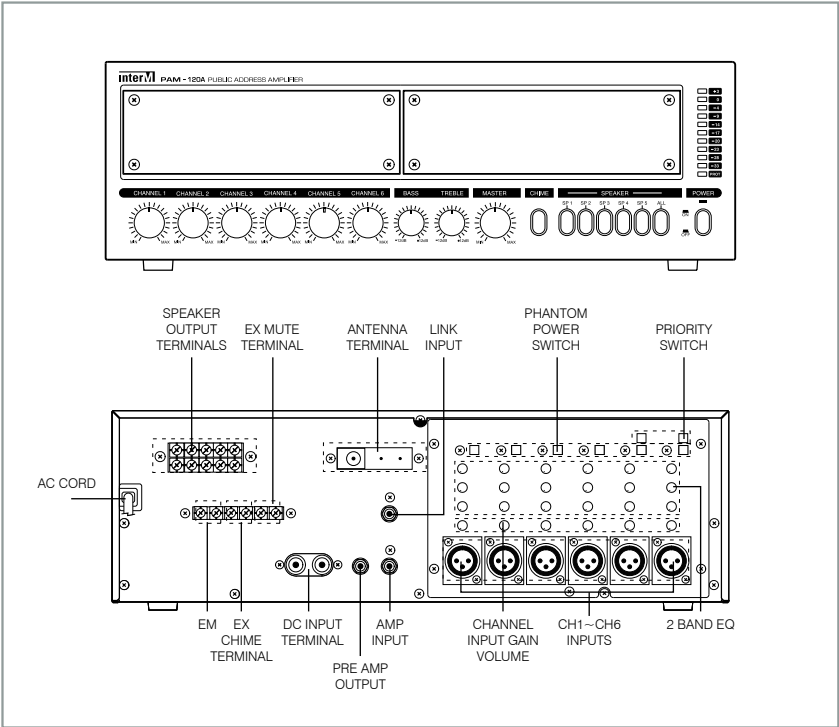
- 6 Mic/line inputs (3 Pin XLR)
 - 2 Module option slots (see page 16 for tuner & CD modules)
 - Link input (¼" jack)
 - Amp in (¼" jack)
 - Pre amp out (¼" jack)
 - External chime (screw terminal)
 - External mute (screw terminal)
 - Individual EQ per input channel
 - Individual phantom power (per mic input)
- Priority mic 1, mic 2 (switchable)
 - 5 Zone loudspeaker selector
 - Bar graph VU metre
 - 230v AC/24v DC powered
 - Optional 19" rack kit (BKT-PAM)
 - 3U high
 - Emergency message facility
(Only available as custom factory install - contact the sales office on 0115 9770075 for details and prices.)

◦ 19" Rack Mount Bracket Option: BKT-PAM Bracket



Specifications:

Model:	PAM-120A:
Output Power	120W RMS @ 100v/70v 120W RMS @ 4Ω
Inputs	6 x Mic/line (3 pin XLR)
Priority	Mic 1, Mic 2
Phantom Power	22v DC individually switched per input
Input Sensitivity/Impedance	Inputs 1~6 -60dB~16dB 1mv/10kΩ
Frequency Response	80Hz~20KHz
Link In	100mv/10kΩ
Amp In	1v/600Ω
Power Requirement	230v AC 50Hz 24vDC
Dimensions	420(W) x 132(H) x 360(D)mm
Weight	13kg



◦ PAM-340A / PAM-480A: 340W, 480W Modular Mixer Amplifiers

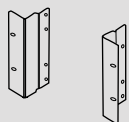
Larger power/output versions of the PAM-120A, however with a number of subtle differences;

No 24v DC power option, no low impedance 4Ω loudspeaker option, but with the addition of a multi-zone paging mic interface allowing simple 5 zone paging using optional RM-05A (see page 16 for details).

Features:

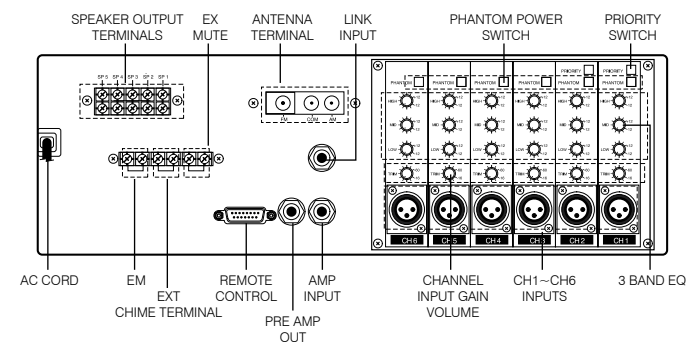
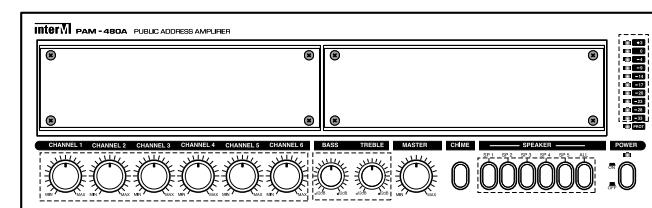
- 6 Mic/line inputs (3 pin XLR)
- 2 Module option slots (see page 16 for tuner and CD modules)
- Link input (¼" jack)
- Amp input (¼" jack)
- Pre amp out (¼" jack)
- External chime (screw terminal)
- Zone mic interface (15 pin D-type)
- External mute (screw terminal)
- Individual EQ per input channel
- Individual phantom power (per mic input)
- Priority mic 1, mic 2 (switchable)
- 5 Zone loudspeaker selector
- Bar graph VU metre
- Optional 19" rack kit (BKT-PAM)
- 3U high
- Emergency message facility
(Only available as custom factory install - contact the sales office on 0115 9770075 for details and prices.)

◦ 19" Rack Mount Bracket Option: BKT-PAM Bracket



Specifications:

Model:	PAM-340A:	PAM-480A:
Output Power	340W RMS @ 100v	480W RMS @ 100v
Inputs	6 x Mic/Line (3 pin XLR)	6 x Mic/Line (3 pin XLR)
Priority	Mic 1, Mic 2	Mic 1, Mic 2
Phantom Power	22v DC individually switched per input channel	22v DC individually switched per input channel
Input Sensitivity/Impedance	Inputs 1~6 -60dB ~ -16dB 1mV/10kΩ	Inputs 1~6 -60dB ~ -16dB 1mV/10kΩ
Frequency Response	80Hz~20KHz	80Hz~20KHz
Power Requirement	230v AC 50Hz	230v AC 50Hz
Dimensions	420(W) x 132(H) x 360(D)mm	420(W) x 132(H) x 360(D)mm
Weight	13.5kg	15.5kg



◦ PAM-CDA / PAM-T: PAM Series Music Modules

Easy to install and use modules for the PAM Series Amplifiers, comprising CD player with random play, scan, timer/counter, track skip facilities and an AM/FM Tuner with 30 pre-set station storage. Both use an internal input bus and will not take up any of the amplifier's mic/line inputs.

PAM-CDA: CD Player



Features:

- Single Compact Disc Player
- Random play function, music scan, time counter, repeat, forward track, reverse track, music search, play and pause

PAM-T: Tuner



Features:

- AM/FM Digital Tuner with 30 station memory
- It is recommended that an external antenna is fitted for optimum performance

◦ RM-05A: Remote 5 Zone Microphone

The RM-05A operates exclusively with the PAM-340A/480A and PCT-610/620 amplifiers and provides the facility of a simple 'one cable' multi-zone solution. The paging unit also includes output level LED VU metre, gain/level control and chime facility. Power is provided by the host amplifier.



Features:

- Individual channel selection or all-call
- Flexible condenser-type gooseneck microphone
- Pre-announcement chime
- LED output level indicator



◦ PCT-610 / PCT-620: Integrated Mixer Amplifiers

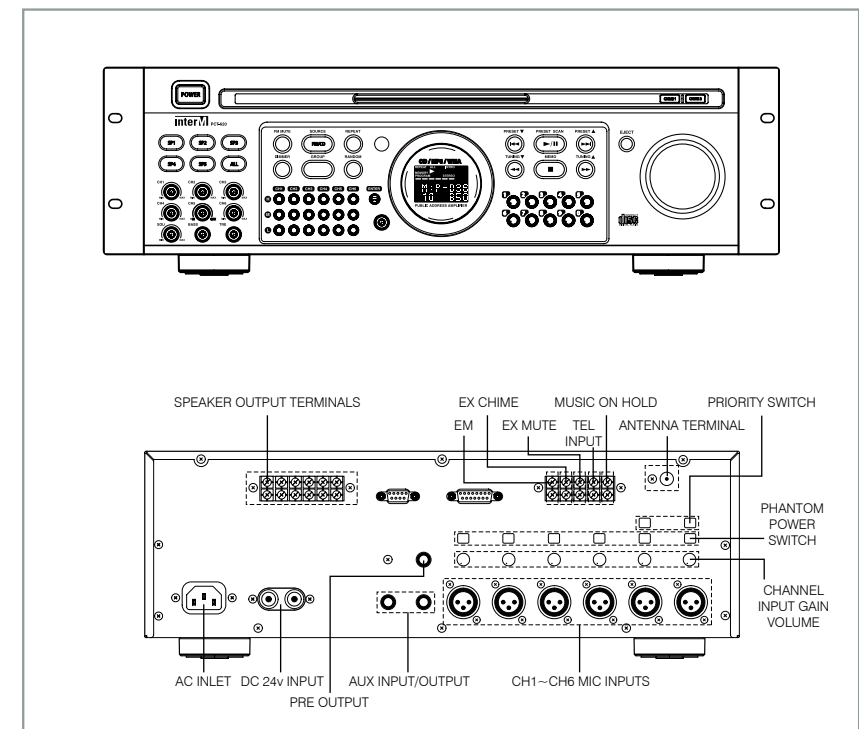
Fully integrated mixer amplifiers incorporating mic/line inputs with in-built Tuner and CD music sources. With a whole host of functions, the PCT Series is ideal for high specification PA systems, church and AV applications using the RS232 control option for remote access and control.

Features:

- 120W/240W Output
- 6 Inputs (Mic/Line XLR)
- Individual phantom power per input
- Priority mic 1, mic 2
- Telephone input (screw terminals)
- External mute (screw terminals)
- External chime (screw terminals)
- RM-05A Mic input (D-type) (see page 16 for details)
- RS232 Control (D-type)
- 230v AC/24v DC powered
- Aux in/out (1/4" jack)
- In-built CD and tuner music sources
- IR Remote control (optional)
- 3U high, 19" rack mounting

Specifications:

Model:	PCT-610:	PCT-620:
Output Power	120W RMS @ 100v	240W RMS @ 100v
Inputs	6 x Mic/Line Selectable (3 pin XLR)	6 x Mic/Line Selectable (3 pin XLR)
Priority	Mic 1, Mic 2, Chime, EM, Telephone Input	Mic 1, Mic 2, Chime, EM, Telephone Input
Phantom Power	Individually switched per input	Individually switched per input
Input Sensitivity/Impedance	Inputs 1~6 -60dB~-16dB 1mv / 10k Ω	Inputs 1~6 -60dB~-16dB 1mv / 10k Ω
Frequency Response	80Hz ~ 20KHz	80Hz ~ 20KHz
Link In	100mv / 10k Ω	100mv / 10k Ω
Amp In	1v / 47k Ω	1v / 47k Ω
Pre Amp Out	1v / 600 Ω	1v / 600 Ω
Power Requirement	230v AC 50Hz / 24v DC	230v AC 50Hz / 24v DC
Dimensions	482(W) x 132(H) x 380(D)mm	482(W) x 132(H) x 380(D)mm
Weight	8.5kg	9.5kg



PA-9312 / PA-9336 / PA-9348: Power Amplifiers

For installations which require pure power, the Inter-M PA-9000 Series of power amplifiers are reliable, robust work horses. Units can be mains or DC powered so can easily operate in a critical system or in event/hire applications using battery power. Connections and controls are rear panel mounted to deter tampering or accidental adjustment.

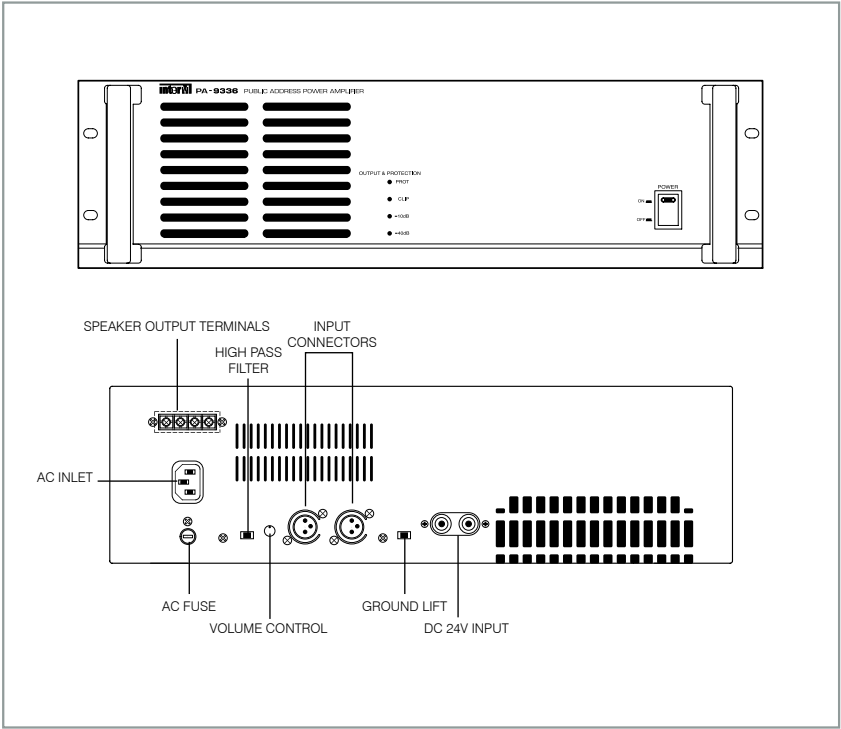
Features:

- 120W/360W/480W Output power (100v/70v and 8Ω and 4Ω*)
- Audio/line in - (3 pin XLR)
- Audio/line out - (3 pin XLR)
- Input level control (on rear)
- Ground lift and HPF switches
- Fan cooled
- Thermal protection circuit
- DC power terminals
- 3U high, 19" rack mounting

* PA-9312 only has 4Ω low Z output. PA-9336 / PA-9348 have 4Ω and 8Ω options.

Specifications:

Model:	PA-9312:	PA-9336:	PA-9348:
Output Power	120W RMS @ 100v / 70v and 4Ω	360W RMS @ 100v / 70v and 8/4Ω	480W RMS @ 100v / 70v and 8/4Ω
Input Sensitivity/Impedance	1v / 10kΩ	1v / 10kΩ	1v / 10kΩ
Output Sensitivity/Impedance	1v / 10kΩ	1v / 10kΩ	1v / 10kΩ
Frequency Response	70Hz ~ 18KHz	70Hz ~ 18KHz	70Hz ~ 18KHz
Power Requirement	230v AC 50Hz / 24V DC	230v AC 50Hz / 24V DC	230v AC 50Hz / 24V DC
Dimensions	482(W) x 132(H) x 280(D)mm	482(W) x 132(H) x 280(D)mm	482(W) x 132(H) x 280(D)mm
Weight	14kg	21kg	22kg



PA-2312: 2 x 120W Dual Channel Power Amplifier

A reliable dual-channel 100v line power amplifier for PA systems requiring 2 zones, or for space-saving integration into multi-zone rack builds.

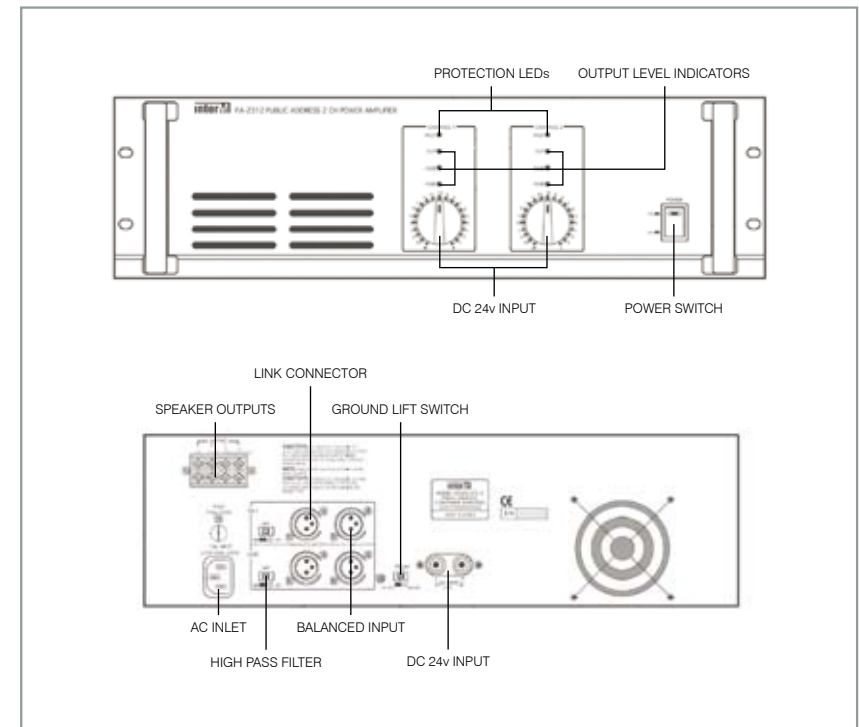
The PA-2312 can be mains or DC powered and will also operate, therefore, in critical system or portable event/hire applications using battery power.

Features:

- 2 x independent 120W output power
- 2 x XLR Balanced inputs
- 2 x Link outputs
- Thermal protection circuit
- High pass filter
- Fan cooled
- Ground lift switch
- 230v AC/24v DC powered
- 3U high, 19" rack mounting

Specifications:

Model:	PA-2312:
Output Power (THD 1%)	2 x 120W (23v/4 Ω , 70v/14 Ω , 100v/28 Ω)
Frequency Response (+1/-3dB)	70Hz ~ 18KHz
THD at 1KHz Rated Output	Less than 1%
HPF	6dB/Oct at 400Hz
Signal to Noise Ratio	Better than 95dB
Input Sensitivity/Impedance	1v/10k Ω Balanced
Power Source	230v AC 50Hz / 24v DC
Dimensions	482(W) x 132(H) x 280(D)mm
Weight	20kg



New

DPA-430H: 4 Channel 100v Line Power Amplifier

An ideal 100v line installation amplifier for applications where space is at a premium and for systems with multiple zones or requiring individual level control of each loudspeaker group.

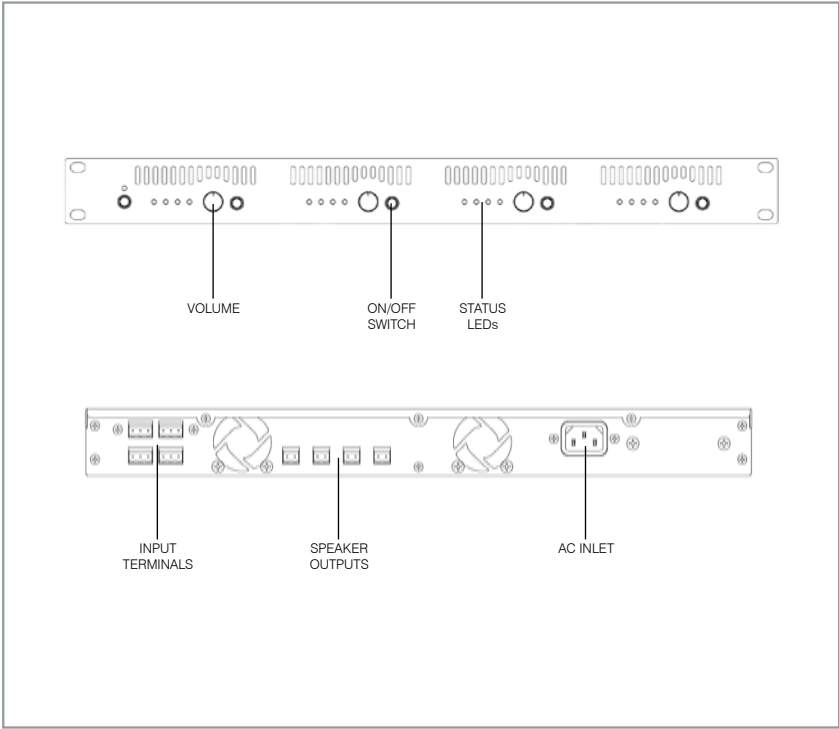
The DPA-430H can operate as 4 individual channels or 2 x bridged channel amplifiers. Featuring thermal, DC and overdrive protection, this powerful 4 x 300W amplifier is contained in a highly compact 1U 19" rack mounting enclosure.

- Features:
- 4 x independent 300W output power
 - 4 x phoenix balanced inputs
 - Thermal protection circuit
 - High pass filter
 - Fan cooled
 - Individual volume and trim (internal) control per channel
 - 1U high, 19" rack mounting

○ Ideal for use in conjunction with PX8000 Audio Matrix (see page 23)

Specifications:

Model:	DPA-430H:
Inputs	300W x 4 channels
Output Voltage/Impedance	100v / 33.3 Ω , 70v / 16.3 Ω
T.H.D (AES17)	
- Prated (300W, 1kHz)	Less than 0.1%
- 1/3 Prated (100W, 1kHz)	Less than 0.03%
High Frequency Response (+1, -3dB)	Over than 20kHz
High Frequency Response	
- High Pass Filter Off (-3dB $\pm$ 2dB)	65Hz
- High Pass Filter On (-3dB $\pm$ 2dB)	400Hz
S/N (20kHz LPF, A-WTD)	Better than 100dB
Input Sensitivity/Impedance	1v/10k Ω Balance
Operating Temperature	-10° ~ +40°C
Power Source	220~240vAC, 50/60Hz
Power Consumption	250W
Dimensions	482(W) x 44(H) x 420(D)mm
Weight	9.6kg



Ideal for use with PX8000

PP-9213: Mixer Pre-Amplifier

Comprehensive mixer pre-amplifier unit providing 12 inputs and 3 outputs.

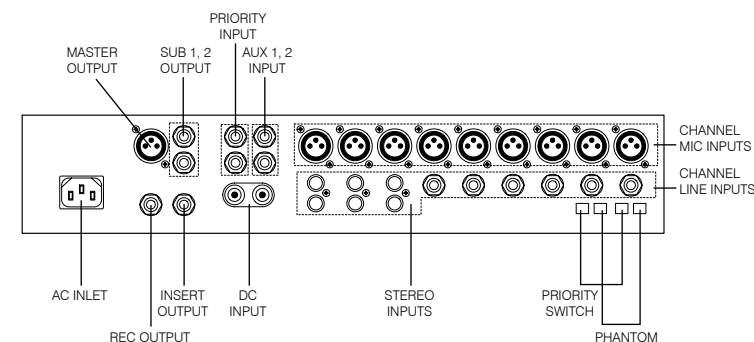
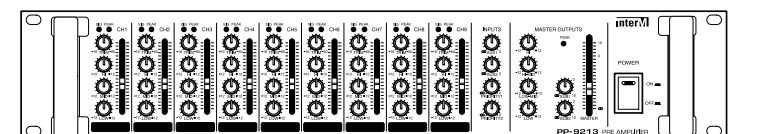
Ideal for multi-input applications such as church, conference, audio visual and complex PA systems where maximum system control is required.

Features:

- 9 x Mic inputs(XLR)
- 6 x Line mono (1/4" jack)
- 3 x Line stereo (2 x 1/4" jack)
- Line out (XLR~M)
- Sub 1, 2 out (1/4" jack)
- Record out (1/4" jack)
- Phantom power, inputs 1 & 2 (18v)
- Trim control per input
- EQ control per input
- Input/output level via fader
- EQ control of output
- 24v DC Terminal (binding post)
- 2U high, 19" rack mounting

Specifications:

Model:	PP-9213:
Inputs	9 Mic (XLR) 6 Mono Line (1/4" Jack) 3 Stereo Line (2 x 1/4" Jack)
Input Sensitivity/Impedance	Mic -60dB / 600Ω Line -30dB / 10kΩ
Output Sensitivity/Impedance Master	+4dBm / 600Ω Balanced
Sub Outs	+4dBm / 600Ω Balanced
Rec Out	-10dB / 10kΩ
Phantom Power	Mic 1, 2 ~ 18v DC
Frequency Response	20Hz ~ 20KHz
Power Requirement	230v AC 50Hz / 24v DC
Dimensions	482(W) x 88(H) x 280(D)mm
Weight	5kg





Vauxhall Reg Vardy

Leading car dealership Reg Vardy's Nottingham Vauxhall showroom features high quality background music and zoned paging for showrooms, forecourt, service and office areas all powered and controlled using Inter-M's PAM Series Mixer Amplifiers.

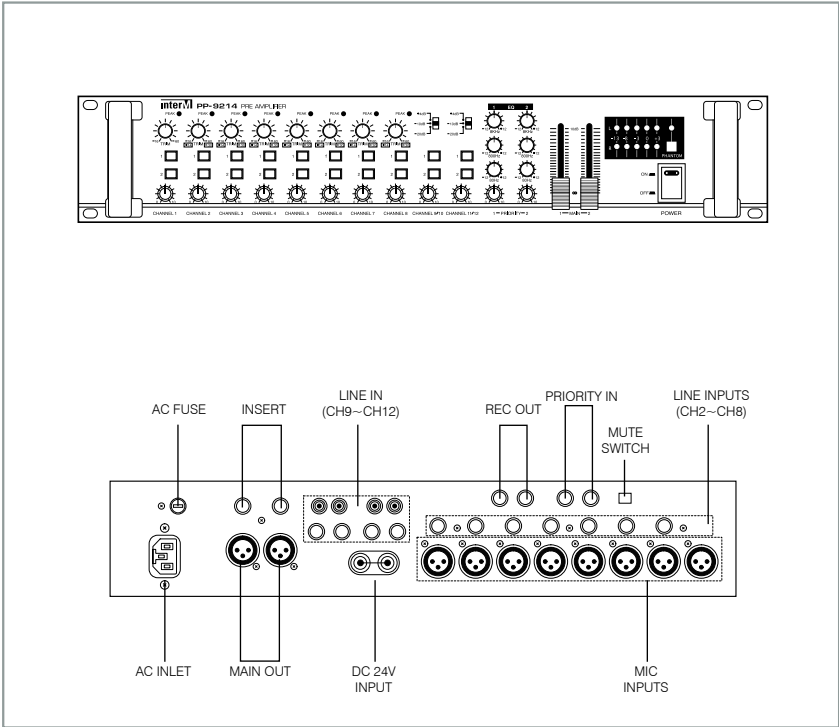
PP-9214: Mixer Pre-Amplifier

Two output pre-amplifier allowing any of the 10 input signals to be routed to either Output 1, Output 2 or both. Ideal for dual zone applications in factories, leisure centres, hotels and general PA installations.

- Features:
- 8 Mic inputs (XLR)
 - 8 Line inputs (1/4" jack)
 - 2 Stereo inputs (phono/1/4" jack)
 - 2 Outputs (XLR)
 - Phantom power (18v block switched)
 - Record output (2 x 1/4" jack)
 - Priority, mic 1, priority input 1, priority input 2
 - 3 Band EQ per output
 - Signal allocation per input channel
 - 24v DC powered option
 - 2U high, 19" rack mounting

Specifications:

Model:	PP-9214:
Inputs	8 Mic (XLR) 8 Mono Line (1/4" Jack) 2 Stereo Line (2 x 1/4" Jack / 2 x Stereo Phono)
Input Sensitivity/Impedance	Mic -60dB / 600Ω Balanced Line -30dB / 10kΩ Balanced
Stereo	+4dB, -10dB, -20dB / 10kΩ Unbalanced
Output Sensitivity/Impedance Master	+4dBm / 600Ω Balanced
Rec Out	-6dB / 10kΩ
Phantom Power	Mic 1~8 18v DC Block Switched
Frequency Response	20Hz ~ 20KHz
Power Requirement	230v AC 50Hz / 24v DC
Dimensions	482(W) x 88(H) x 280(D)mm
Weight	12.8kg



◦ PX8000: 8 x 8 Audio Matrix Controller

The InterM PX8000 provides a flexible, versatile, simple to operate multi-zone audio distribution system for applications such as hotels, leisure complexes, retail outlets and multi-room installations.

Features:

- 8 IN ~ 8 OUT Matrix Unit
- Simple and easy to use - clear LED indicators, illuminated buttons and fader-type volume controls
- BGM input level LED / output level meter (LEDs)
- Remote control per zone via LM8000 (selectable via front panel)
- Paging via remote MIC (up to 4 units) or via front panel zone control panel
- Auto address allocation for RM8000 / LM8000 on connection
- Monitor Loudspeaker - for monitoring the selected audio input source
- Emergency Message - in-built Digital Message Store allowing recording and broadcast of an emergency message, activated by dry contact closure per zone (If no emergency message is recorded, this facility can be used as an Emergency Mute)
- Multiple Units are linkable via D-sub 25pin

Specifications:

Model:	PX8000:	RM8000:	LM8000:
Paging MIC	-50dB (Balanced)	-	-
MIC Input	-	60dB (Balanced)	-50dB (Balanced)
BGM Audio Input	8 x -10dB (Unbalanced)	-	-10dB (Balanced)
Audio Output	0dB (Balanced)	0dB (Balanced)	0dB (Balanced)
Sampling Frequency	8kHz	-	-
Recording Duration	30 sec	-	-
Tone Control (Paging MIC)	±10dB @ 100Hz/10kHz	-	-
Tone Control (Audio Output)	±12dB @ 100Hz/10kHz	-	-
Total Harmonic Distortion	Less than 0.03% (20kHz LPF)	-	-
Signal to Noise Ratio	Greater than 75dB (20kHz LPF)	-	-
Power Source	230v AC	Powered from PX8000	Powered from PX8000 (option to fit to UK gang faceplate. Ref: PS/LM Plate)
Dimensions	482(W) x 380(H) x 132(D) mm	200(W) x 206(H) x 70(D) mm	70(W) x 114(H) x 60(D) mm
Weight	8.5kg	1.4kg	0.13kg

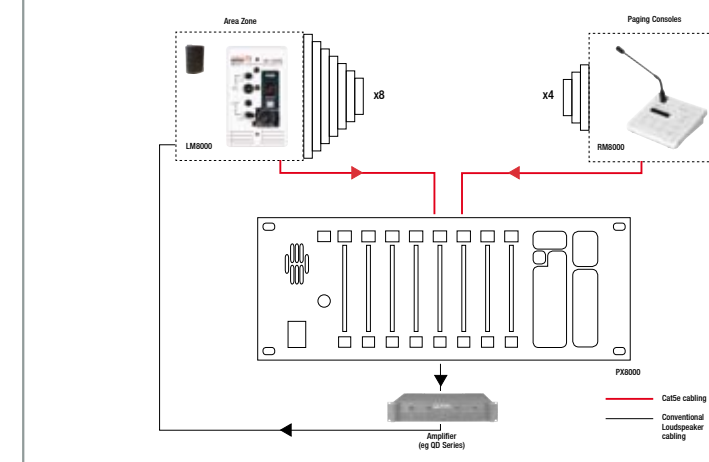


• RM8000 Remote Microphone Station (optional)



• LM8000 Remote Wall Controller with Audio Input (optional)

• PX8000 System Integration:



EQ-2131 / EQ-2231: 31 Band Graphic Equalisers

31 Band Graphic Equaliser (EQ-2131) and 31 Band Stereo EQ (EQ-2231) ideal for installations where detailed control of the sound is required, e.g. church, conference room or acoustically difficult environments. Stereo operation, bypass and HPF are standard.

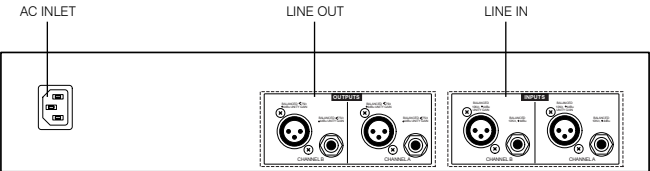
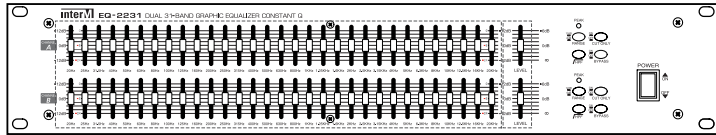
Features:

- 31 Band control (sliders/faders)
- Input gain/level (sliders/faders)
- Bypass switch (per channel)
- HPF Switch (per channel)
- Inputs (XLR~1/4" jack)
- Outputs (XLR~1/4" jack)
- Mains powered
- 2U high, 19" rack mounting



Specifications:

Model:	EQ-2131/EQ-2231:
EQ2131	1 x 31 Band
EQ2231	2 x 31 Band
EQ Frequency	1/3 Octave
Input Level/Impedance	0dB/600Ω Balanced
Output Level/Impedance	0dB/600Ω Balanced
High Pass Filter/HPF	80Hz
Frequency Response	20Hz ~ 20kHz
Power Requirement	230v AC 50Hz
Dimensions	482(W) x 88(H) x 280(D)mm
Weight	4.5kg



PT-9107SD: AM/FM Tuner

Slimline 19" rack-mounting tuner operating on AM and FM bands. 20 pre-set stations make the unit ideal for many commercial installations requiring radio broadcast.

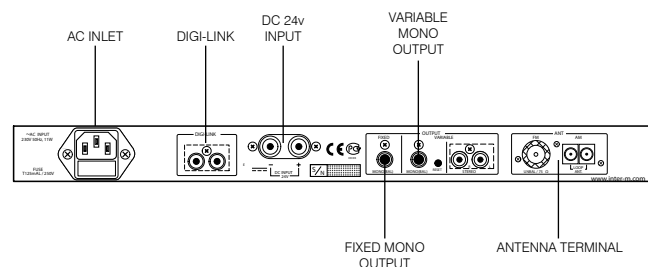
Fixed/variable and stereo/mono output options are also available.

Features:

- AM/FM bands
- 20 Pre-set stations
- Mono output /fixed (1/4" jack)
- Mono output/variable (1/4" jack)
- Stereo output/variable (stereo phono)
- 230v AC/24v DC powered
- 1U high, 19" rack mounting

Specifications:

Model:	PT-9107SD:
AM Range	522~1611 KHz
FM Range	87.5~108.0 MHz
Pre Set Stations	20
Output Levels	FM Stereo ~ 500mV Balanced FM Mono ~ 1v Balanced AM Mono ~ 240 mV Balanced
Power Requirement	230v AC 50Hz / 24v DC
Dimensions	482(W) x 44(H) x 280(D)mm
Weight	3.5kg



DHL Air Cargo Hub

Based at East Midlands Airport and covering both land-based and airside operations, this key distribution hub features an Inter-M integrated system as the backbone to its site-wide PA and VA.

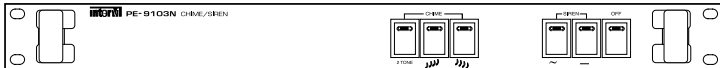
Integrated into the building management system of the site, the CIE-Group designed and built racks provide zoned paging and messaging functions as well as a structured evacuation system for use in emergency situations.

PE-9103N: Chime/Siren Generator

Tone Generator allowing the selection of 4 chime/tone options or 2 siren options. It can be used as part of a larger system or can be used as a stand-alone generator.

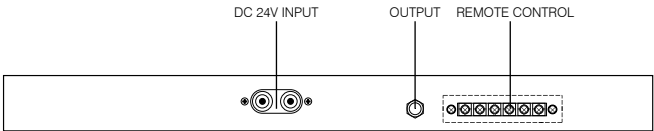
Features:

- Chime/tone options: Rising 4 note, falling 4 note, 2 note
- Siren options: Continuous, oscillating
- Activation on front panel
- Rear panel remote access for chime options (screw terminals)
- Line level output (1/4" jack)
- 24v DC powered
- 1U high, 19" rack mounting



Specifications:

Model:	PE-9103N:
Chime Options	4 note ascending, 4 note descending and 2 tone (ding dong)
Siren Options	Continuous and oscillating
Remote Control (Chime only)	Screw terminal on rear panel
Output Level/Impedance	1V / 10kΩ Unbalanced
Power Requirement	24v DC
Dimensions	482(W) x 44(H) x 280(D)mm
Weight	2.8kg



◦ PM-9208: 100v Line Monitor Panel

Ideal for large commercial installations, the PM-9208 allows 8 separate 100v signals (speaker lines/ amplifier outputs) to be monitored, using simple push switch selection and internal loudspeaker to select and listen to the required signal.

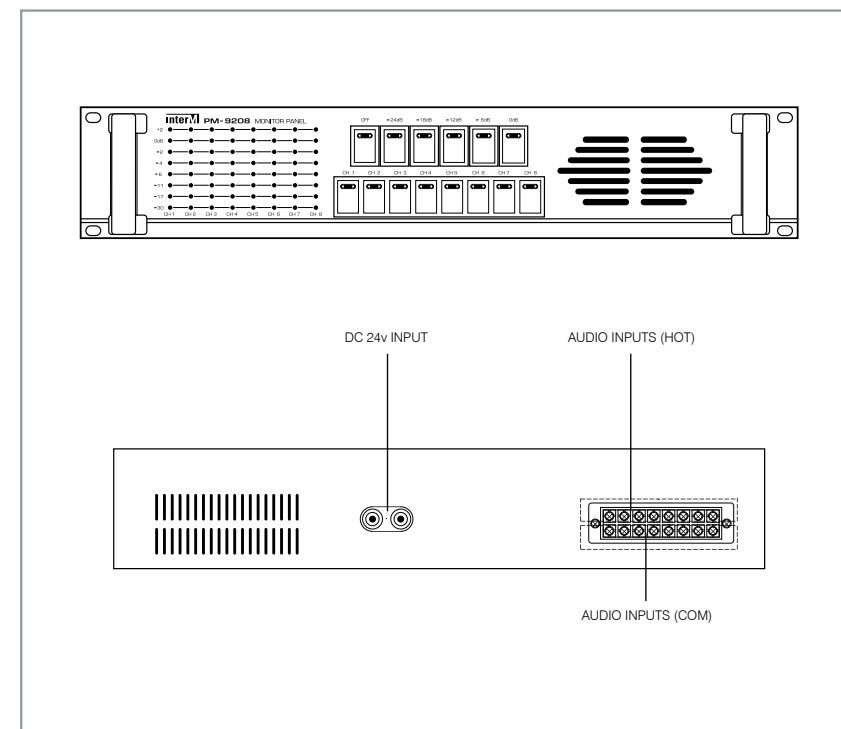
Visual indication of output is also provided via 10 segment LED meter.

Features:

- 8 Zone selection
- Monitor loudspeaker (1.5W)
- 10 Segment LED output meter
- 100v input/output (screw terminal)
- 24v DC powered
- 2U high, 19" rack mounting

Specifications:

Model:	PM-9208:
Zones/Channels	8 x @ 100v Line
100v In / Out	Screw terminal on rear panel
Loudspeaker Power	1.5W
Visual Display	10 Segment LED
Power Requirement	24v DC
Dimensions	482(W) x 88(H) x 280(D)mm
Weight	3.8kg



◦ LM-9228: Line Level Monitor Panel

Similar in operation to the PM-9208, the LM-9228 will monitor up to 8 separate line level audio signals. Split into 2 groups of 4, each group has an individual line selector with visual LED indicator and volume control for the internal loudspeaker.

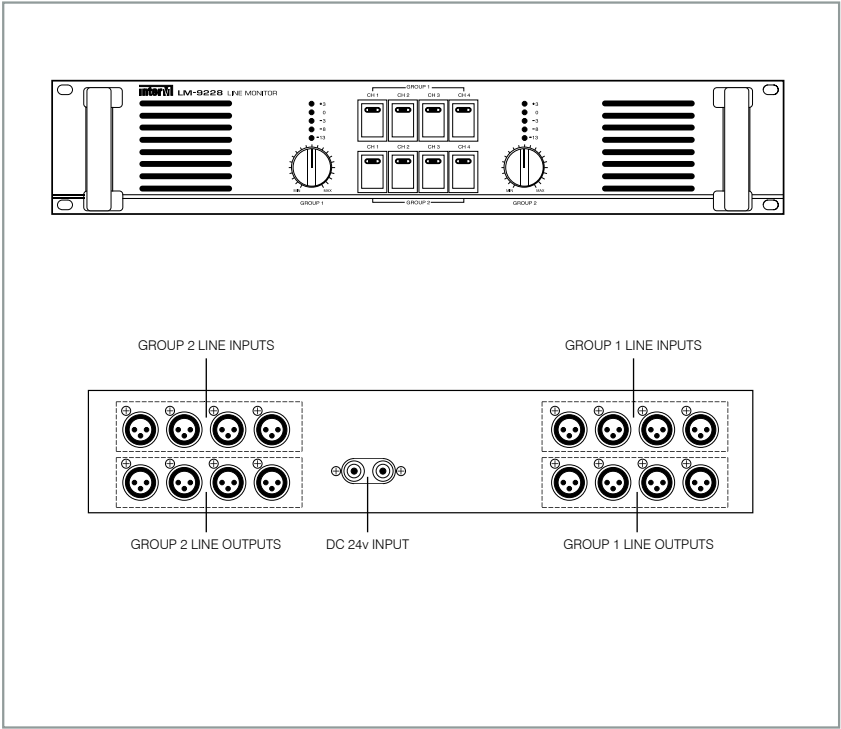
Inputs and outputs are XLR and the LM-9228 is simply integrated into any line level signal path.

Features:

- Group 1/4 individual channels
- Group 2/4 individual channels
- 2 x internal loudspeakers with volume control
- Inputs (XLR)
- Outputs (XLR)
- 24v DC powered
- 2U high, 19" rack mounting

Specifications:

Model:	LM-9228:
Zones/Channels	8 x @ Line Level (2 x Groups of 4)
Line In / Out (per channel)	XLR
Loudspeaker Power	1.5W
Channel Activation	Latching Switch with in-built LED
Power Requirement	24v DC
Dimensions	482(W) x 88(H) x 280(D)mm
Weight	7.5kg



PO-9106: Program Distributor

Allows the distribution of a line level signal to six separate outputs, ensuring no loss of signal when using multiple amplifiers in larger industrial systems or for distribution of the level signals over long distances and/or to multiple destinations.

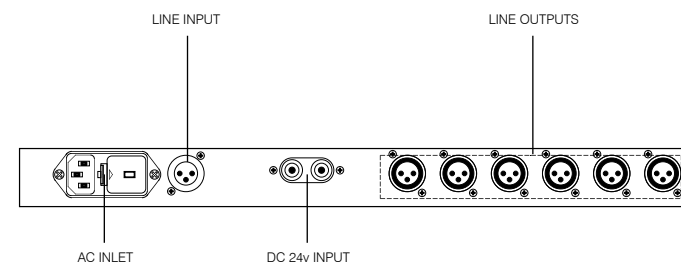
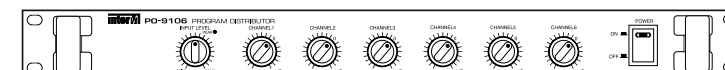
Features:

- 1 Input (XLR)
- 6 Outputs (XLR)
- LED output signal LEDs
- Independant level controls of input/output
- 230v AC/24v DC powered
- 1U high, 19" rack mounting



Specifications:

Model:	PO-9106:
Input	1 Variable Level ~ XLR
Outputs	6 x Variable Level ~ XLR
Input Level/Impedance	1v / 600Ω Balanced
Output Level/Impedance	1v / 600Ω Balanced
Frequency Response	20Hz ~ 20kHz
Power Requirement	230v AC ~ 24V DC
Dimensions	482(W) x 44(H) x 280(D)mm
Weight	4kg



◦ PS-9116: 100v Line Loudspeaker Selector

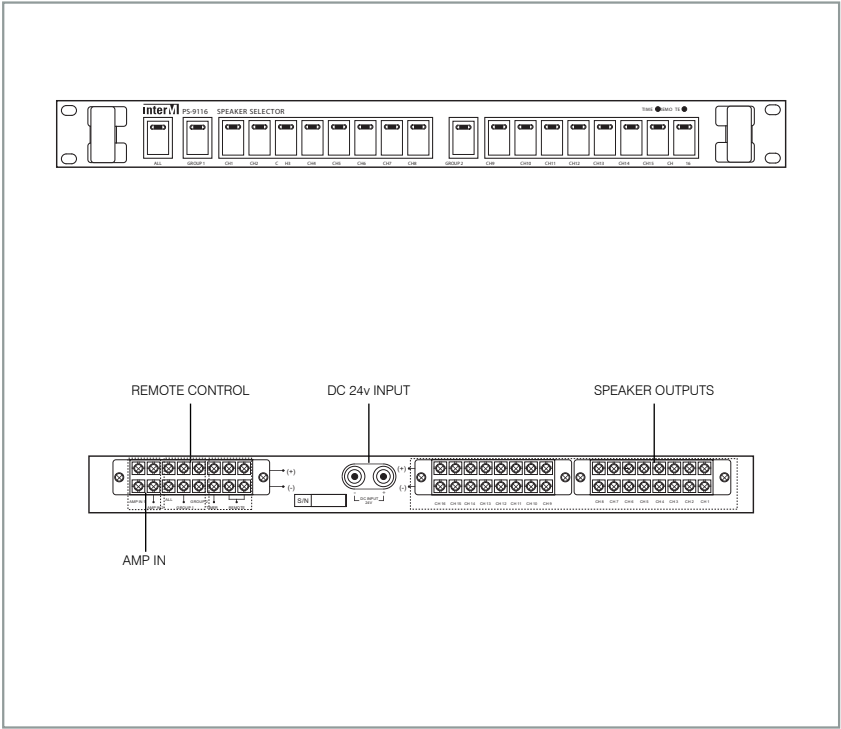
The PS-9116 allows the selection of up to 16 individual loudspeakers/zones fed by a 100v amplifier or 2 groups of 8 loudspeakers fed by 2 separate amplifiers. Loudspeakers/zones are selected using switches with in-built LED indicators or groups can be activated via voltage-free contacts on the rear.

Features:

- 16 Individual zones
- LED indicator of selected zone
- Remote control of 2 x 8 groups via voltage-free contact
- 24v DC powered
- 1U high, 19" rack mounting

Specifications:

Model:	PS-9116:
Loudspeakers/Zones	16 Individual 2 x Groups of 8
Remote Control (All or 2 x Groups of 8)	Voltage-free contact ~ screw terminal on rear
Power Requirement	24v DC
Dimensions	482(W) x 44(H) x 280(D)mm
Weight	4kg



◦ PB-9207A: Battery Charger

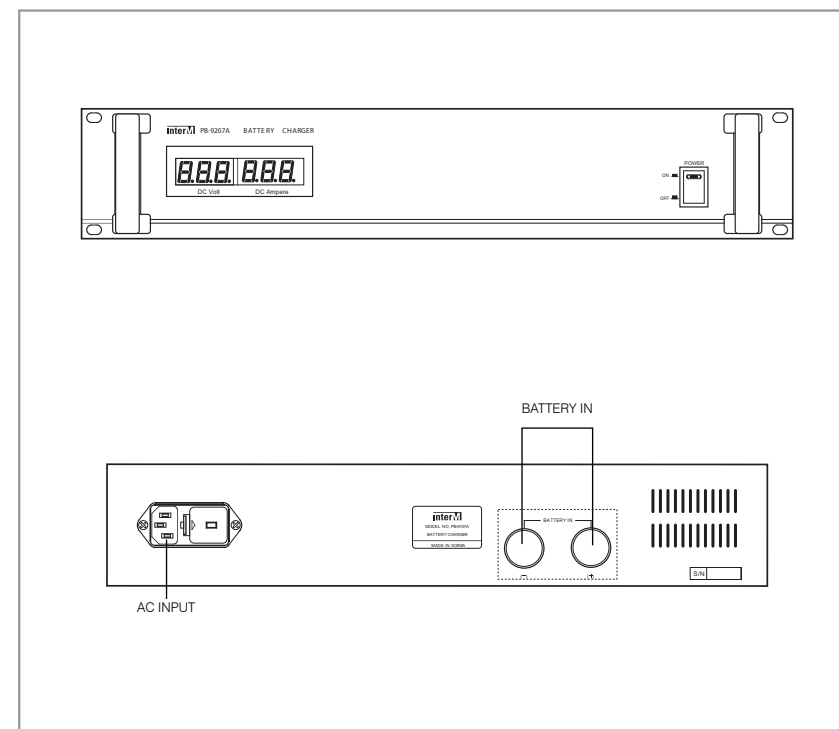
For use with all Inter-M power amplifiers, the PB-9207 allows the use of DC batteries for systems which require back-up in the event of mains failure. By continuous monitoring of the batteries, the PB-9207 will automatically charge, thus keeping the batteries in good condition until needed. Status and condition of the batteries is shown on a clear LED display on the front panel.

Features:

- 1 large LED status/display shows volts and amps
- DC input terminals (on rear)
- Mains powered
- 2U high, 19" rack mounting

Specifications:

Model:	PB-9207A:
Charging Current	3A
Charging Voltage	27.3v DC
Display	LED, volts and amps
Protection	Overcurrent and overcharge
Power Requirement	230v AC 50Hz
Dimensions	482(W) x 88(H) x 280(D)mm
Weight	6.2kg

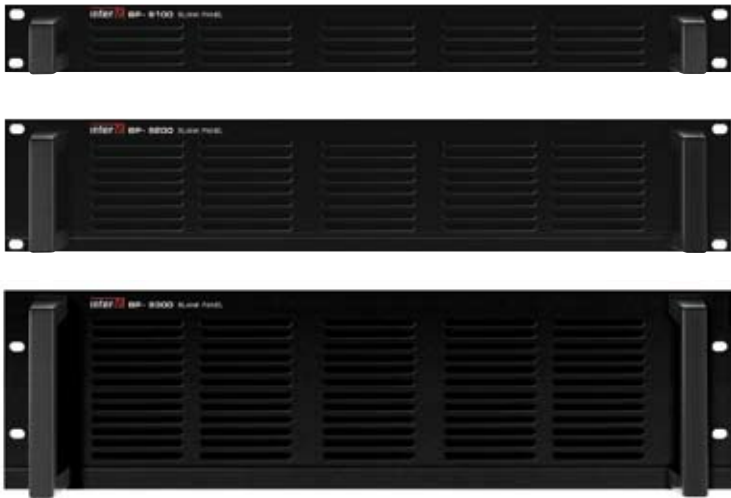


BP-9100 / BP-9200 / BP-9300: 19" Vent Panels

Matching the aesthetics of the 19" rack mount product range from Inter-M, the vent panels not only give a professional finish to an assembled rack system, but also allow appropriate air flow through the system, thereby keeping it cool and running efficiently.

Features:

- 19" Rack mounting
 - BP-9100 (1U high)
 - BP-9200 (2U high)
 - BP-9300 (3U high)



New WS203 / WS210 / WS230: Wall Speakers

Inter-M's new-design wall speakers combine discreet styling and simplicity to provide an elegant voice/background music wall speaker for use in offices, waiting rooms, cafeterias, retail sites, etc.

Features:

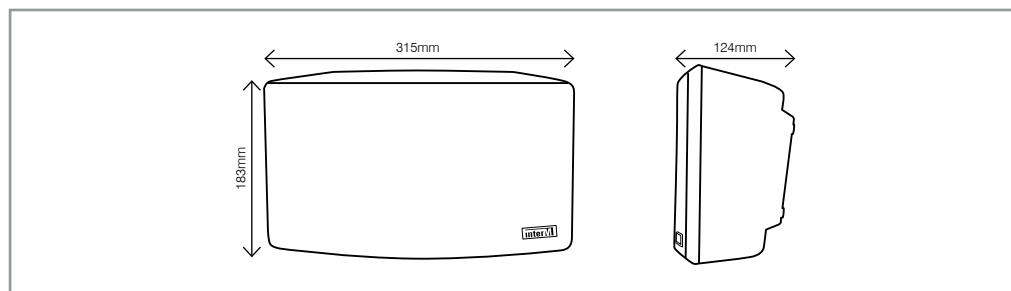
- Modern, discreet styling
- Available in black or white
- Screw terminal connection
- High quality 100v line transformer
- WS203/210 - 6" full range driver
- WS230 - 6" 2-way driver



Specifications:

Model:	WS203:	WS210:	WS230:
Rated Power:	3, 2, 1W @ 100v line	10, 5, 3W @ 100v line	30, 20, 10W @ 100v line
Frequency Response:	137Hz ~ 16kHz	136Hz ~ 16kHz	126Hz ~ 16kHz
SPL @ 1W/1m:	91dB	92dB	93dB
Dimensions:	315(W) x 183(H) x 124(D)mm	315(W) x 183(H) x 124(D)mm	315(W) x 183(H) x 124(D)mm
Weight:	1.2kg	1.4kg	2.2kg

Dimensions:



IWS-10AB/AW: 10W Slimline Wall Speakers

The slimline, modern appearance of the IWS Series makes it an ideal loudspeaker for use in offices, waiting rooms, retail sites, etc. Available in black or white, the units also come with a multi-step volume control fitted to the side, allowing easy volume adjustment.

Features:

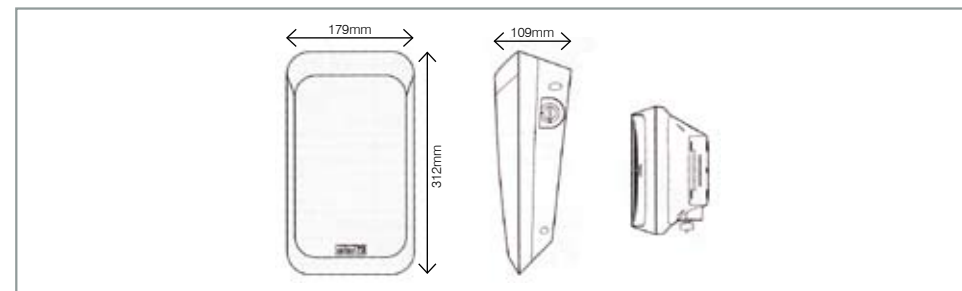
- Slimline
- Modern design
- Available in black (AB) or white (AW)
- Multi-step volume control



Specifications:

Model:	IWS-10AB/AW:
Power	10W @ 100v line
Connection	Spring-loaded push terminals on rear
Attenuator/Volume Control	Off, -12dB, -6dB and 0dB
Frequency Response	220Hz ~ 12KHz
SPL @ 1w/1m	90dB
Colour Options/Suffix	Black ~ AB White ~ AW
Dimensions	179(W) x 312(H) x 109(D)mm
Weight	1.3kg

Dimensions:



New

CS-6 / CS-20: Ceiling Loudspeakers

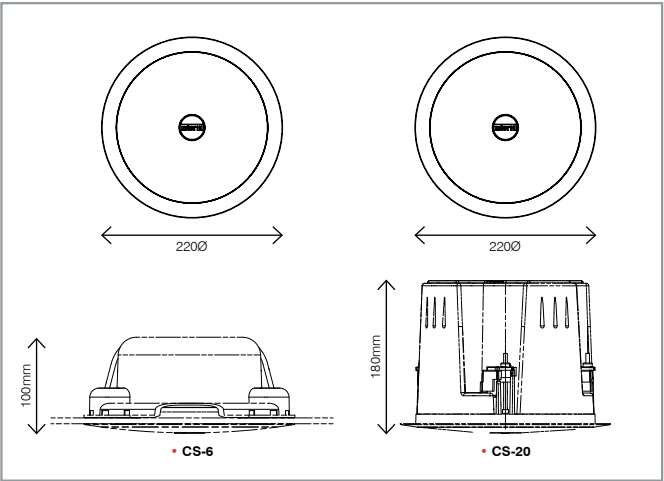
These high quality, fast-fit ceiling loudspeakers feature premium grade drivers for impressive acoustic performance and long-term reliability.

Ideal for paging and ambient background music applications such as offices, retail, waiting rooms, corridors, etc...

- Features:
- Metal construction
 - Fast-fit solution
 - Simple unobtrusive design
 - Premium grade speaker drivers
 - CS-20 supplied with comprehensive hardware/rails as standard

Specifications:

Model:	CS-6:	CS-20:
Rated Power	6W	20W
Impedance	COM, 1.7kΩ, 4kΩ, 8kΩ 6W/1.7kΩ, 3.5W/4kΩ, 1.75W/8kΩ	COM, 500kΩ, 1kΩ, 2kΩ 20W/500kΩ, 10W/1kΩ, 5W/2kΩ
Frequency Response	150Hz ~ 15kHz	150Hz ~ 15kHz
SPL (1W/1M)	92dB	92dB
Dimensions	220(ø) x 100(D)mm	230(ø) x 180(D)mm
Weight	0.7kg	2kg



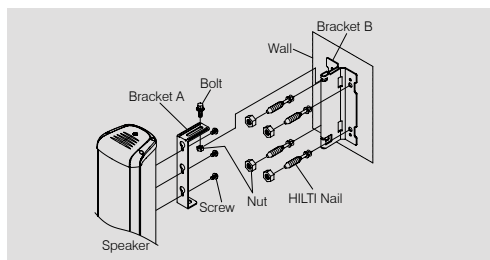
New CU420 / CU440: Indoor Column Loudspeakers

Inter-M's latest addition to their column speaker range, the new CU400 Series are stylish, high-quality loudspeakers featuring improved frequency response for both voice and music applications. Ideal for church, mosque, high quality background music and AV systems.

Features:

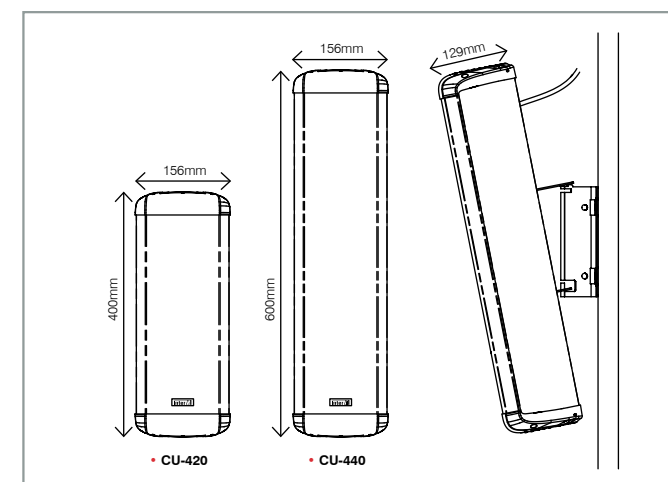
- Stylish new design
- Robust construction
- Multi-position mounting bracket
- 100v Power taps (rated and ½ power)
- Screw terminal connection

Multi-position Mounting Bracket:



Specifications:

Model:	CU420:	CU440:
Rated Power	20W (500Ω) / 10W (1000Ω)	40W (250Ω) / 20W (500Ω)
Frequency Response	180Hz ~ 14KHz	180Hz ~ 14KHz
SPL @ 1W/1m	94dB	97dB
Dimensions	156(W) x 400(H) x 129(D)mm	156(W) x 600(H) x 129(D)mm
Weight	3kg	5kg



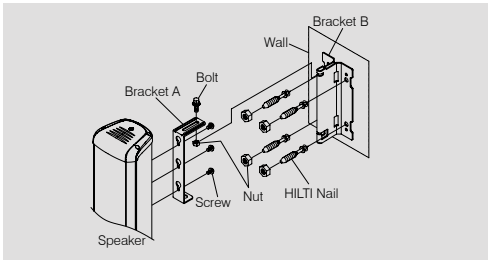
New

CU520 / CU540: Outdoor Column Loudspeakers

Stylish and robust loudspeakers for installation in both indoor and outdoor applications. Manufactured from aluminium extrusion with a steel grille, the loudspeaker drivers are proofed to withstand damp environments and can be used in indoor or protected outdoor installations, in shopping centres, car parks, atriums and leisure centres.

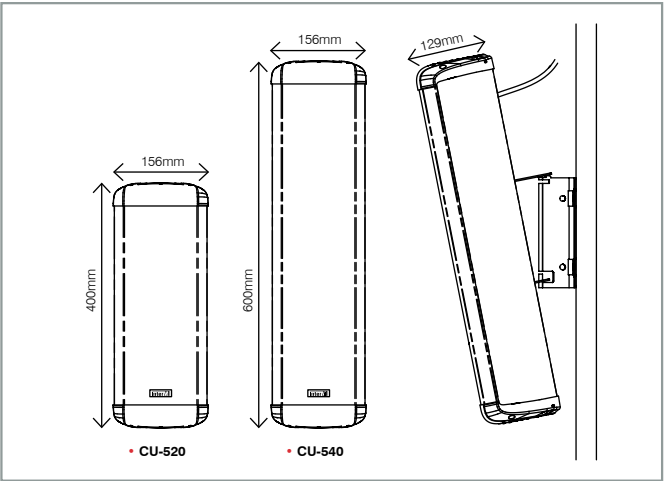
- Features:
- Proofed drivers/loudspeakers for use in damp environments
 - Robust construction
 - Multi-position mounting bracket
 - 100v Power taps (rated and 1/2 power)
 - Screw terminal connection

Multi-position Mounting Bracket:



Specifications:

Model:	CU520:	CU540:
Rated Power	20W (500Ω) / 10W (1000Ω)	40W (250Ω) / 20W (500Ω)
Frequency Response	180Hz ~ 14KHz	180Hz ~ 14KHz
SPL @ 1W/1m	94dB	97dB
Dimensions	156(W) x 400(H) x 129(D)mm	156(W) x 600(H) x 129(D)mm
Weight	3kg	5kg



New CU920 / CU930 / CU940: Indoor Column Loudspeakers

Attractive slimline column loudspeakers for installation in church, conference and sports hall applications.

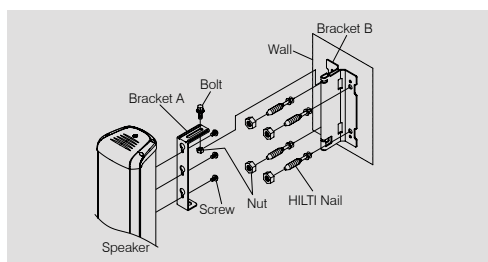
These models are also ideal for installation in audio visual applications, when placed either side of a projector screen or plasma/LCD screen.

Finished in matt white, the units also feature perforated steel grille and are supplied with multi-position wall bracket.

Features:

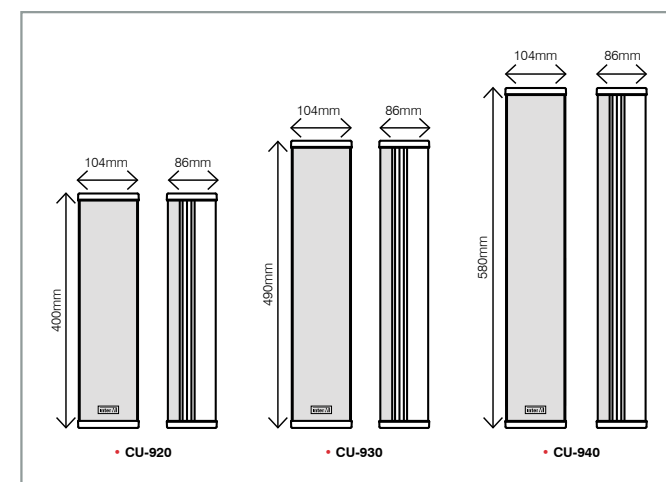
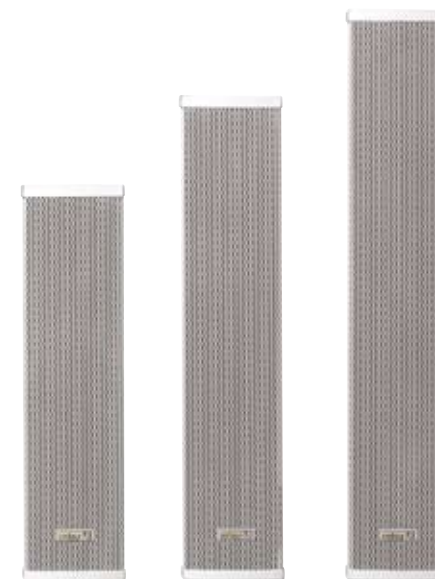
- Attractive slimline design
- Multi-position bracket
- 100v Power taps (rated and ½ power)
- Screw terminal connection

Multi-position Mounting Bracket:



Specifications:

Model:	CU920:	CU930:	CU940:
Rated Power	20W (500Ω) / 10W (1000Ω)	30W (333Ω) / 15W (660Ω)	40W (250Ω) / 20W (500Ω)
Frequency Response	220Hz ~ 15kHz	220Hz ~ 15kHz	220Hz ~ 15kHz
SPL @ 1W/1m	90dB	91dB	93dB
Enclosure Material	Aluminium	Aluminium	Aluminium
Dimensions	104(W) x 400(H) x 86(D)mm	104(W) x 490(H) x 86(D)mm	104(W) x 580(H) x 86(D)mm
Weight	2.35kg	2.85kg	3.35kg



○ HS-20 / HS-S20: Horn Loudspeakers

For use in environments where clear, precise voice messages, announcements or emergency tones or signals are required. The HS-20/HS-S20 horns can be used in indoor or protected outdoor installations.

Features:

- Re-entrant horns
- Metal/ABS construction
- Indoor and protected outdoor use
- 100v Line operation
- Power taps 20W/10W
- Conforms to IP-54



• HS-20 • HS-S20

Specifications:

Model:		HS-20/HS-S20:
Power/Taps		20/10W @ 100v line
Connection		Multicore cable
Frequency Response		380Hz ~ 6.5KHz
SPL @1W/1m		106dB
Dimensions	HS-20:	250 Ø x 280(D)mm
	HS-S20:	169 Ø x 230(D)mm
Weight	HS-20:	2.5kg
	HS-S20:	1.5kg

○ CH-522: Music Horn Loudspeaker

The CH-522 can be used in areas where high quality voice and music reproduction are required; for example, distribution centres, production areas and leisure applications. Proofed for outdoor use, the CH-522 can be used in protected outdoor installations such as garden centres, town centres and rail/bus terminals, etc.

Features:

- Modern design
- Indoor/outdoor mounting
- Full range driver/loudspeaker
- 100v Line taps (rated and ½ power)
- Universal mounting bracket
- Conforms to IP-54



Specifications:

Model:		CH-522:
Power/Taps		20/10W @ 100v line
Connection		Multicore Cable
Frequency Response		110Hz ~ 20KHz
SPL @1w/1m		95dB
Dimensions		294(W) x 209(H) x 326(D)mm
Weight		3.5kg

New SE8 / SE10 / SE12 / SE15 / SB15A: Music Cabinet Systems

The SE Series loudspeaker systems from Inter-M provide both high power and high sensitivity output. The accurate sound reproduction from the SE Series makes them ideal for a wide variety of applications such as houses of worship, night clubs, performing arts facilities, fitness centres, auditoriums and educational establishments for both portable and installed systems.

Trapezoidal in shape, the optimised enclosure design is constructed from high density MDF reducing internal resonance and optimising sound output. Each model is equipped with a heavy duty woofer providing distortion-free low frequency reproduction and 1" titanium diaphragm for smooth extended high frequency response, with in-built protection circuitry preventing the HF unit being overdriven.

The SUB BASS further enhances the series by providing support for the lower level frequencies required in todays demanding performance environments.

Also included are 35mm top hat pole mounts in the base of each cabinet and multiple embedded M8 fixing points allow the fitting of appropriate bracket work or flying hardware.

Features:

- Trapezoidal two-way speaker system
- HF driver protection circuitry
- Titanium compression drivers
- Pole mount top hat and M8 rigging points for suspension / mounting hardware
- Optimised enclosure designed for smooth and extended response
- High quality MDF construction
- Advanced crossover design provides smooth and clear response
- Heavy duty grille
- Robust painted finish (Black)



Specifications:

Model:	SE8:	SE10:	SE12:	SE15:	SB15A:
Rated Power	100W AES, 400W Peak	150W AES, 600W Peak	250W AES, 1000W Peak	300W AES, 1200W Peak	450W AES, 1800W Peak
Type	Ultra-compact, 2-way Passive	Compact, 2-way Passive	Compact, 2-way Passive	Compact, 2-way Passive	Compact, Sub Bass
Frequency Response	65Hz ~ 18KHz	55Hz ~ 18KHz	40Hz ~ 18KHz	38Hz ~ 18KHz	40Hz ~ 300KHz
Drivers	8" LF Driver, 1" HF compression driver	10" LF Driver, 1" HF compression driver	12" LF Driver, 1" HF compression driver	15" LF Driver, 1" HF compression driver	15" LF Driver
Sensitivity	93dB (1W/1m)	94dB (1W/1m)	96dB (1W/1m)	97dB (1W/1m)	98dB (1W/1m)
Maximum SPL	112dB (1m)	114dB (1m)	117dB (1m)	119dB (1m)	124dB (1m)
Nominal Impedance	8Ω	8Ω	8Ω	8Ω	8Ω
Crossover Frequency	2.5KHz	2.3KHz	2.15KHz	2KHz	-
Dispersion (-6dB)	75° horizontal, 60° vertical	75° horizontal, 60° vertical	75° horizontal, 60° vertical	75° horizontal, 60° vertical	-
Connectors	2 x NL4 (SPEAKON)	2 x NL4	2 x NL4	2 x NL4	2 x NL4
Fittings	3 x M8, 1 x mounting pole socket	6 x M8, 1 x mounting pole socket	6 x M8, 1 x mounting pole socket	6 x M8, 1 x mounting pole socket	1 x mounting pole socket (top)
Dimensions	296(W) x 460(H) x 290(D) mm	362(W) x 545(H) x 355(D) mm	422(W) x 665(H) x 415(D) mm	480(W) x 736(H) x 470(D) mm	470(W) x 636(H) x 540(D) mm
Weight	13kg	17.4kg	22.8kg	32kg	32kg

◦ R150+ / R300+ / R500+:
Reference Series Low Impedance Amplifiers

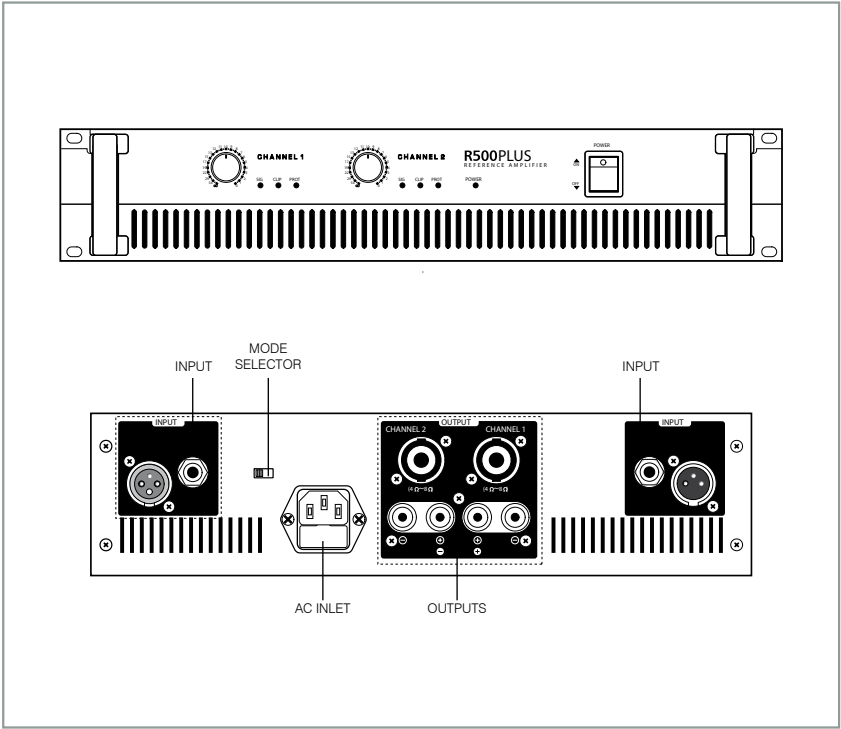
A series of 2 channel, convection-cooled (no fans) low impedance amplifiers. The units are ideal for 'silent' systems in church, audio visual and recording studios, etc. Simple controls and visual clip/signal/ protection LEDs complete a versatile, cost effective package.

Features:

- Convection cooled
- Stereo operation (4/8Ω)
- Bridged mono operation (8Ω)
- Inputs (XLR~1/4" jack)
- Outputs (speakon~binding posts)
- Mains powered
- 2U high, 19" rack mounting

Specifications:

Model:	R150+:	R300+:	R500+:
Output Power/Per Channel	50W @8Ω, 75W @4Ω	100W @8Ω, 150W @4Ω	160W @8Ω, 250W @4Ω
Output Power/Bridged Mono	150W @8Ω	300W @8Ω	500W @8Ω
Input/Sensitivity	0dB/0.775mV	0dB/0.775mV	0dB/0.775mV
Frequency Response	20Hz ~ 20KHz	20Hz ~ 20KHz	20Hz ~ 20KHz
Power Requirement	230V AC 50Hz	230V AC 50Hz	230V AC 50Hz
Dimensions	482(W) x 88(H) x 317(D)mm	482(W) x 88(H) x 317(D)mm	482(W) x 88(H) x 317(D)mm
Weight	7.2kg	8.4kg	10.4kg



◦ V-1000 / V-2000 / V-3000 / V-4000: Professional Low Impedance Amplifiers

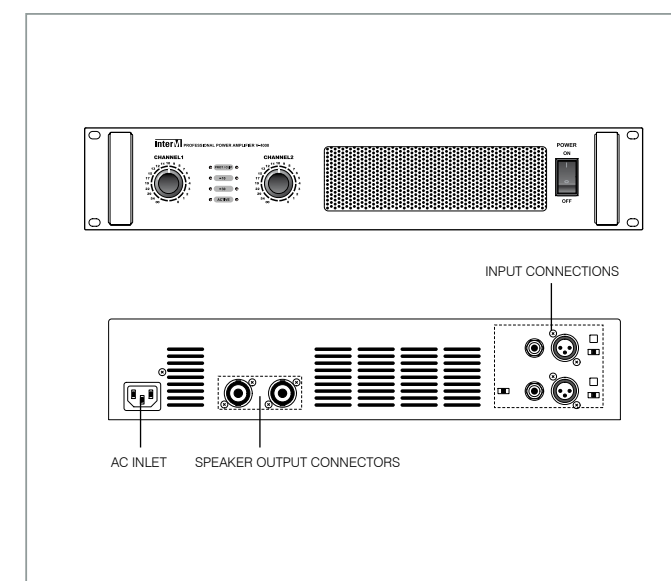
High quality professional power amplifiers ideal for most low impedance systems and applications. Combining compact size with power and flexibility, the V Series will operate down to 2Ω , and is further enhanced with comprehensive protection circuits for over-driving, DC and short circuit, as well as variable fan cooling.

Features:

- Variable fan cooling
- Comprehensive protection circuits
- Low impedance output ($2/4/8\Omega$)
- Bridge mono option
- Balanced inputs (XLR~ $\frac{1}{4}$ " jack)
- Outputs (speakon~binding post)
- Mains powered
- 2U high, 19" rack mounting

Specifications:

Model:	V-1000:	V-2000:	V-3000:	V-4000:
Continuous average output power per channel STEREO model (1kHz, both channels driven)	(THD 0.1%) 8Ω : 180W 4 Ω : 340W 2 Ω : 600W	300W 550W 900W	550W 1000W 1650W	750W 1300W 2100W
Bridged Mono Mode	(THD 0.1%) 8Ω : 700W (THD 0.5%) 4 Ω : 1200W	1100W 1900W	2000W 3300W	2600W 4200W
Input Sensitivity (Rated output power @ 4 Ω)	1v	1v	0.94v	1.04v
Frequency Response (1W @ 8 Ω)	20Hz~20kHz: ± 0.3 dB	20Hz~20kHz: ± 0.3 dB	20Hz~20kHz: ± 0.3 dB	20Hz~20kHz: ± 0.3 dB
Signal to Noise Ratio (Rated output power 8 Ω)	107dB	107dB	105dB	106dB
Input Impedance	12k Ω Balanced	12k Ω Balanced	12k Ω Balanced	12k Ω Balanced
Indicators	Active, Clip/Port	Active, Clip/Port	Active, Clip/Port	Active, Clip/Port
Protection Circuitry	Full Short Circuit, Thermal Protection, Power ON/OFF Muting, DC Output Protection	Full Short Circuit, Thermal Protection, Power ON/OFF Muting, DC Output Protection	Full Short Circuit, Thermal Protection, Power ON/OFF Muting, DC Output Protection	Full Short Circuit, Thermal Protection, Power ON/OFF Muting, DC Output Protection
Cooling	Variable Speed Fans, front to rear air flow	Variable Speed Fans, front to rear air flow	Variable Speed Fans, front to rear air flow	Variable Speed Fans, front to rear air flow
Power Source	230v AC 50Hz	230v AC 50Hz	230v AC 50Hz	230v AC 50Hz
Dimensions	482(W) x 88(H) x 407(D) mm	482(W) x 88(H) x 407(D) mm	482(W) x 88(H) x 407(D) mm	482(W) x 88(H) x 407(D) mm
Weight	10.3kg	10.5kg	11.7kg	11.8kg



◦ QD-4240 / QD-4480 / QD-4960:
4 Channel Low Impedance Amplifiers

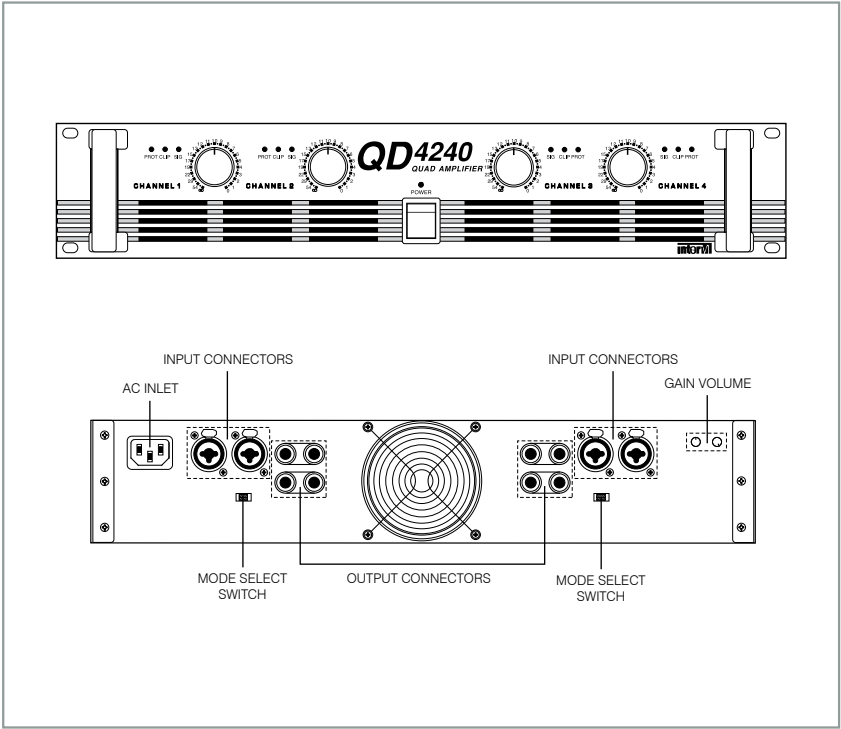
Ideal products if space is a premium, or if the system requires multiple zones or individual control of loudspeakers. Units can operate as 4 individual channels or as 2 stereo (2 channel) amplifiers. Features include delayed switch-on function, protection circuits for overdriven, overheating and DC detection, as well as variable speed fan cooling, all in a compact 2U enclosure.

Features:

- 8Ω or 4Ω low impedance
- Fan cooled (variable speed)
- Inputs (XLR~1/4" jack)
- Outputs (Binding post)
- LED indicators for clip/protection/signal
- Mains powered
- 2U high, 19" rack mounting

Specifications:

Model:	QD-4240:	QD-4480:	QD-4960:
Output Power Per Channel	40W @8Ω, 60W @4Ω	80W @8Ω, 120W @4Ω	170W @8Ω, 240W @4Ω
Output Power Bridged Mono	120W @8Ω	240W @8Ω	480W @8Ω
Input/Sensitivity	0dBm / 20kΩ Balanced	0dBm / 20kΩ Balanced	0dBm / 20kΩ Balanced
Frequency Response	20Hz ~ 50KHz	20Hz ~ 50KHz	20Hz ~ 50KHz
Power Requirement	230v AC 50Hz	230v AC 50Hz	230v AC 50Hz
Dimensions	482(W) x 88(H) x 369(D)mm	482(W) x 88(H) x 369(D)mm	482(W) x 88(H) x 369(D)mm
Weight	11.5kg	15.5kg	17kg

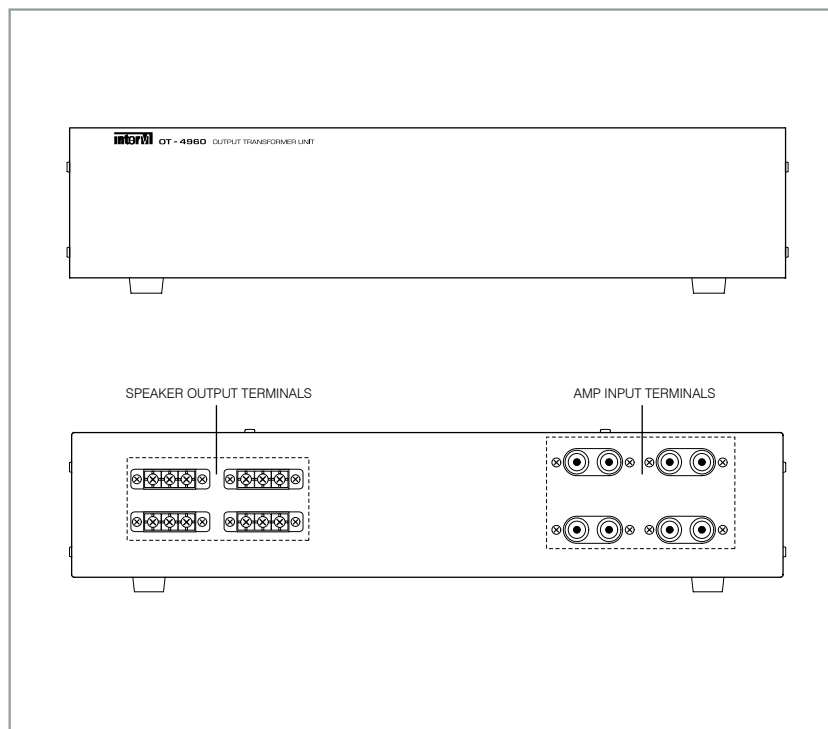


OT-4240 / OT-4480 / OT-4960: Transformer Converters for QD Amplifiers

Useful accessory for converting the 4 channel QD Series to power 100v line loudspeakers, offering space-saving benefits for amplifier systems with multiple loudspeakers or zones with small quantities of speakers.

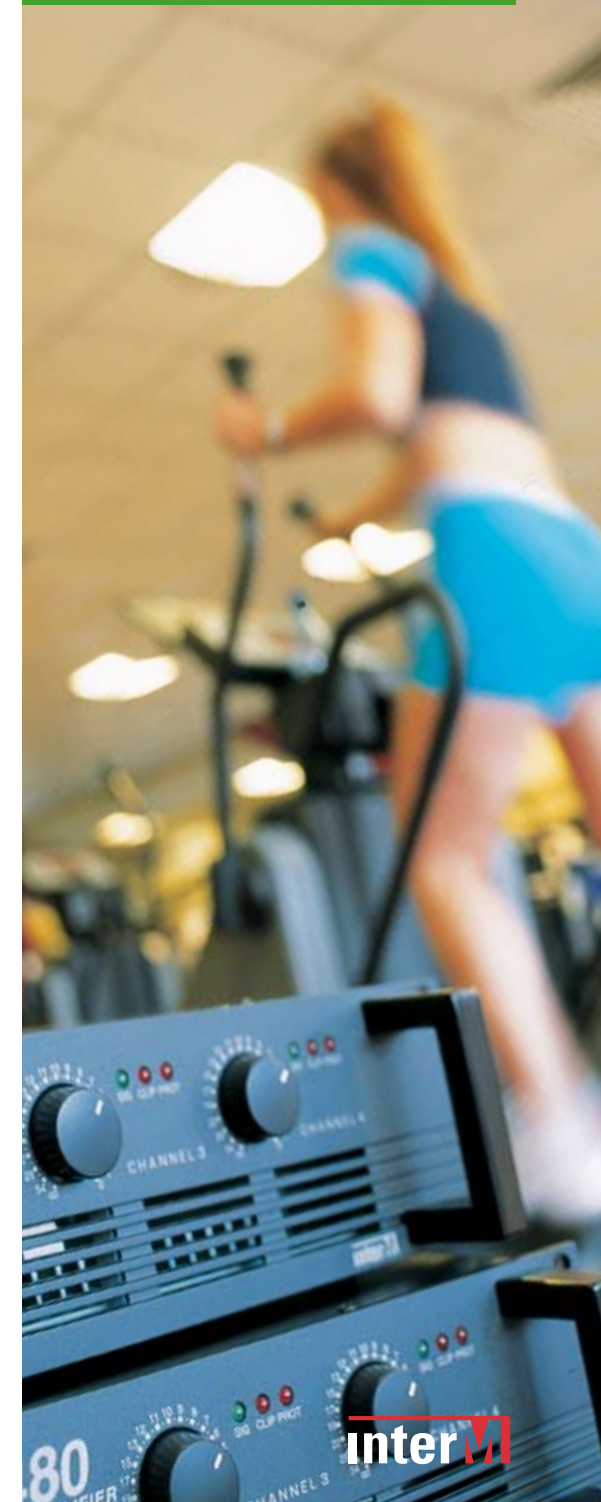
Features:

- 4 x 100v Transformers
- Inputs (binding posts)
- Outputs (screw terminals)
- 2U high, rack mounting



Specifications:

Model:	OT-4240/OT-4480/OT-4960:	
Output Power/Per Channel	OT-4240:	60W 100v / 166.7Ω
	OT-4480:	120W 100v / 83.3Ω
	OT-4960:	240W 100v / 41.6Ω
Input Power / Impedance	OT-4240:	60W @ 4Ω
	OT-4480:	120W @ 4Ω
	OT-4960:	240W @ 4Ω
Dimensions	OT-4240:	482(W) x 88(H) x 310(D)mm
	OT-4480:	482(W) x 88(H) x 310(D)mm
	OT-4960:	482(W) x 132(H) x 310(D)mm
Weight	OT-4240:	11.5kg
	OT-4480:	14.5kg
	OT-4960:	21.5kg



Installation Advice & Information ?

Inter-M - The Industry Standard for Commercial Sound

Inter-M provide a range of specially-developed installation loudspeakers for indoor and outdoor PA applications.

Designed to achieve optimum voice/BGM clarity in a wide range of commercial applications, Inter-M speakers continue to be specified into many of the UK's leading PA installations.

The basic principles of effective surface-mount ceiling loudspeaker installation

The first priority of a high quality sound reproduction system is that of providing listeners with an acoustic level higher than that of any possible background noise. The system must simultaneously ensure a wide frequency range and maximum intelligibility. It should also guarantee a flat frequency response and uniform sound pressure level to give optimum listening pleasure and clarity. To meet these criteria, the hypothetical ideal solution would be to place each sound source at an equal distance from all required listening points.

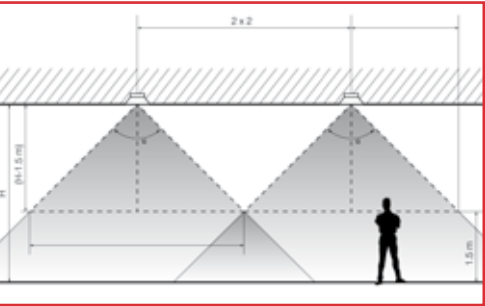


Figure 1

Ceiling-mounted Loudspeakers

In environments offering suitable ceiling height, this 'hypothetical' ideal standard can be approximated by using loudspeakers with very wide frequency response and dispersion angles which remain consistent at different frequencies, arranged in a ceiling or 'shower'-type configuration.

This provides the following acoustic benefits:

- Maximum sound distribution uniformity
- Maximum speech intelligibility
- Constant quality of music reproduction
- Reduced reverberation in the environment
- Sound source remains at a constant distance from the listening position

Once the required loudspeaker type has been chosen and the characteristic parameters considered (eg. dispersion angle, room shape and size), the number of loudspeaker units needed to obtain constant and uniform sound dispersion can easily be calculated. The required speaker quantity is calculated by dividing the floor area in square metres by the area of coverage of each loudspeaker on the listening plane.

[Figure 1 clearly illustrates this concept]

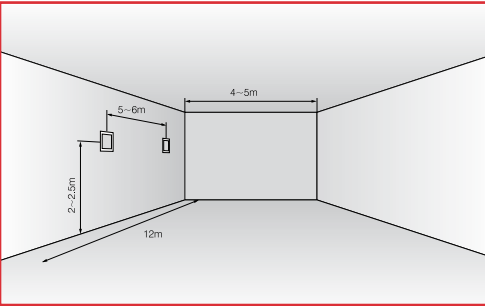


Figure 2

Wall-mounted Loudspeakers

If the architectural features of the room are not compatible with ceiling-mounted loudspeakers or if a wall-mounted solution is preferred, it is essential to observe a few basic rules to obtain the most effective sound distribution. In order to maintain the most efficient listening point inside the direct signal area, both in-wall and surface mounted loudspeakers with power from 6 to 20W should be installed at a height between 2 and 2.5m.

The maximum distance between adjacent loudspeakers must be no more than 5~6 metres along the length of the room, where the room is no wider than 4~5 metres.

For wider rooms (eg, 8~10 metres), it is recommended to install loudspeakers in an alternate pattern along both opposite walls, to provide adequate coverage and maintain sound pressure at the best possible constant level throughout the area for coverage.

[see Figures 2 and 3]

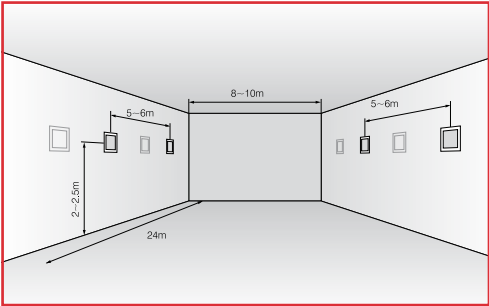


Figure 3

Corridor/Tunnel: Area Coverage

For effective sound distribution in corridors, tunnels or passenger platforms in railway/underground stations, horn speakers (A) are normally specified for increased voice clarity in these high ambient noise conditions. For higher quality sound reproduction, 'sound projectors' can be used as an alternative.

In all cases, these loudspeakers must be installed at a maximum distance of 15 metres from one another, mounted all in the same direction and in observance with the phase of each loudspeaker. Alternatively, bi-directional versions (B) of these loudspeakers can be considered, positioned at a maximum of 30 metres apart (again observing phasing).

[see Figure 4]

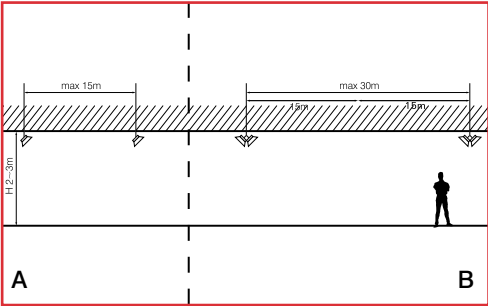


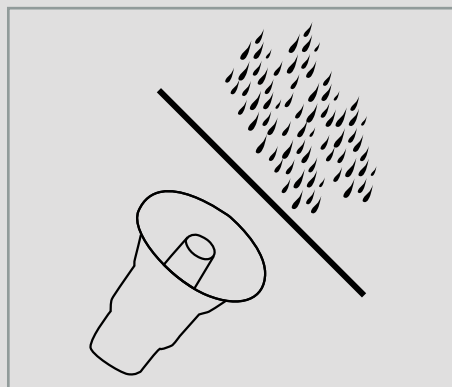
Figure 4

Degrees of protection (I.P. rating)

The characteristics of a product in terms of its resistance to the penetration of solid objects and liquids is indicated by the letters IP (International Protection) followed by two numbers in accordance with EN standards 60529-CEI 70-1.

IP degree of protection

- The first number identifies the level of protection against the ingress of solid objects. Number from 0 to 6.
- The second number identifies the level of protection against penetration of liquids. Number from 0 to 8.



First IP number:

- 0 Not protected
- 1 Protected against the ingress of solid objects larger than 50mm
- 2 Protected against the ingress of solid objects larger than 12mm
- 3 Protected against the ingress of solid objects larger than 2.5mm
- 4 Protected against the ingress of solid objects larger than 1mm
- 5 Protected against dust penetration
- 6 Totally dust-proof

Second IP number:

- 0 Not protected
- 1 Protected against vertically dripping water
- 2 Protected against water dripping at an angle (up to 15° from the vertical)
- 3 Protected against rain
- 4 Protected against water spray
- 5 Protected against water jets
- 6 Protected against waves
- 7 Protected against the effects of temporary immersion
- 8 Protected against the effects of permanent immersion

Speakers, Decibels, SPL

Lose 6dB each time distance is doubled from speaker

Add 3dB when power is doubled

Distance from speaker:	1m	2m	3m
SPL(dB)@1W	95	89	83
SPL(dB)@2W	98	92	86
SPL(dB)@4W	101	95	89
SPL(dB)@8W	104	98	92

Quantity of Ceiling Speakers per Sq/metre for background music

Ceiling Height = 2.5m Speaker Spacing = 5m Coverage = 25Sq.m

Floor Area:	Quantity of Speakers:	Wattage Taps in Area
100 Sq.m	4 x Speakers	Quiet 55dB Tap @1W
250 Sq.m	10 x Speakers	Normal 60dB Tap @2W
1000 Sq.m	40 x Speakers	Noisy 65dB Tap @3W



Low Impedance and 100v Line Systems

Constant impedance lines (low impedance) are used normally in the case of a low number of loudspeakers, placed at a minimum distance from the amplifier <20m.

The constant voltage connection system (e.g. 100V line) offers a host of advantages making it ideal for sound systems of all sizes, above all in the case of long distance speaker runs. This connection system requires each loudspeaker to be equipped with its own line transformer, which adapts the impedance of the loudspeaker (usually very low) to the much higher level of the line itself. In proportion to power transmitted, the current circulating on a line at 100V is considerably lower than that circulating on wires of a constant impedance system and, consequently, drops along the line are less frequent; therefore the cable gauge can be lower.

The function of the amplifier device is **to raise the signal of a sound source**, such as a microphone, CD player, MP3 player or an AM/FM tuner **to a sufficient level to pilot the transducer LOUDSPEAKER**. The amplifier has several inputs, to which the various sound sources are connected.

The sound sources have to be mixed (mixer) and acoustically modified with tone control and equalisers to optimise listening in relation to the environment's characteristics. A terminal board is also fitted on output indicating impedance and voltage to which the loudspeaker line is connected.

A few basic rules must always be observed:

1. When the load is on 'constant impedance'; it must be connected to the relative socket.

For example, a load of 4Ω must be connected to a socket marked 4Ω, and so on. The power that the load can withstand must always be greater than the amplifier's rated power.

For example in the case of a load of 100W, the amplifier must have a power equal to or less than 100W.

2. When the load is at 'constant voltage'; it must be connected to the sockets indicating output at constant voltage - 50, 70 or 100v; the power that the load can withstand must always be less than or equal to the amplifier rated power. For example, with a load of 100W, the amplifier must have a power equal to or greater than 100W.

To calculate the required value of a 100v line amplifier power, simply add together the power of each loudspeaker. (See Figure 5).

However, on a constant impedance system, the load must have an equivalent impedance (series/parallel) equal to or greater than the minimum value indicated on the amplifier output (See Figure 6).

The loudspeaker power supply lines, with no connected attenuator, must be with 2 sheathed wires; cables with 3 sheathed wires are required in the case of lines using attenuators which can be disabled if an emergency is activated. Adequate wire sections are required:

1.5mm² for lines up to 500W power, 2.5mm² for lines with power over 500W. The following general standards must also be observed:

- Never use a single cable (lead) for loudspeaker connections: this would cause disturbance producing a loud 'HUM'
- Never use shielded cables for the loudspeaker connections: this would cause serious damage to the power units.

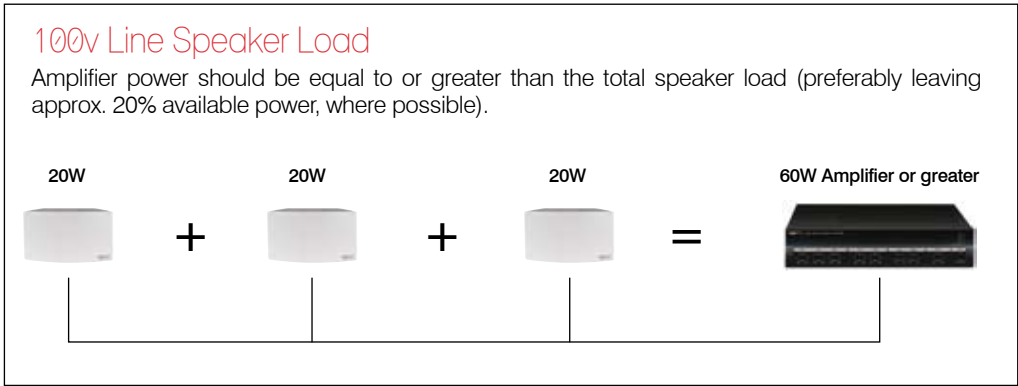


Figure 5

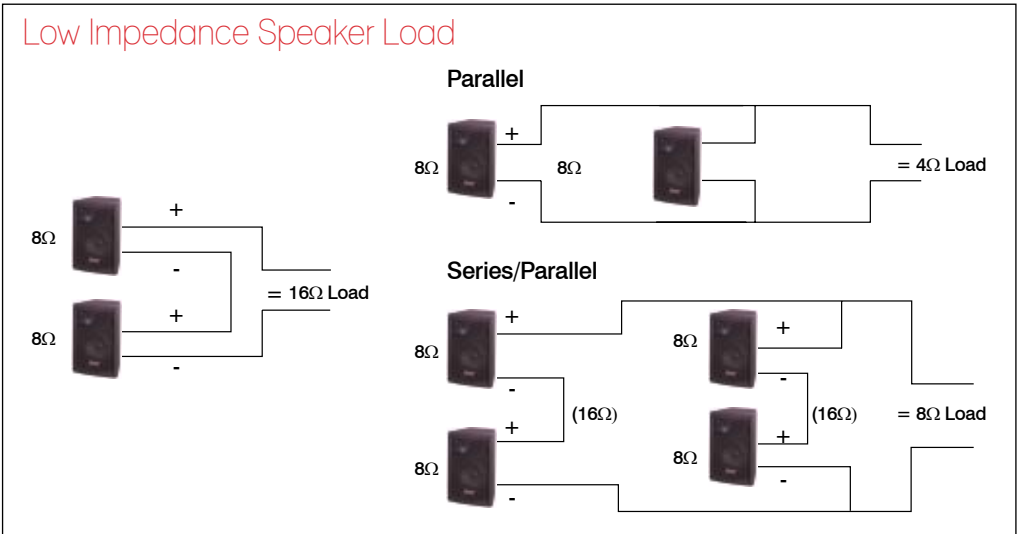


Figure 6

Dedicated Rack Design & Build Facility

For many years, our customers have also benefited from our comprehensive Inter-M Rack System Design & Build Service, to provide 'ready to install' PA, VA and AV Racks in some of the UK's largest and most successful installations.

Using our extensive portfolio of Inter-M products, our highly skilled, UK-based Technical Services Team have a reputation for consistently producing some of the UK's highest quality, ready-to-install PA rack systems to customers' specifications.

There is no set limit to the size of system we can produce; anything from a small single zone speech-only system, to a multi-zone system combining speech and music. Monitoring and battery back-up can also be accommodated by our in-house Technical Facility.

To ensure that we build your system to your specific requirements, we have produced a technical questionnaire which, once completed by yourselves or with our assistance, outlines requirements such as number of zones, music sources, number of microphones, etc.

Each system is supplied assembled, wired and fully tested before leaving our workshops. As part of the Build Package, each System is supplied with a comprehensive operations manual incorporating user instructions for each individual piece of equipment, a schematic drawing of the System, a visual of the Rack layout and easy to use connection details. Finally, each System is given a unique identification number specific to your installation which allows our Technical Services Team to easily identify any system we have assembled, to efficiently assist with any after sales service requirements.

Call the CIE-Group sales desk or your area representative on 0115 9770075 for advice, free UK site surveys and a highly competitive quotation.





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