

general catalogue

# PUBLIC ADDRESS INTERCOMMUNICATION



Security



Paging



Information



Communication



Music

OPTIMUS, the reference company in sound and communication, provides its customers with the extensive experience it has acquired since its creation in 1933.

OPTIMUS is now the leader in PA systems design and supply with an extensive commercial network throughout the country and projects implemented in 81 countries on the 5 continents.

OPTIMUS offers engineering offices & prescriptors, wholesalers, installers and end users a large team of professionals to advise them in all phases of the work. From project preparation and site assistance to training courses for the end user, our customers are accompanied by our experts in sound and intercommunication at all times.

The large OPTIMUS product range resolves the sound needs of large complexes such as airports or railway station networks, but also small facilities like schools, petrol stations and restaurants. Hotels, gymnasiums, sports halls, office buildings, hospitals, industries, etc.; countless projects whose needs are met by our sound systems.

OPTIMUS, the best solution in PA systems, distributed sound and intercommunication.



SECURITY



INFORMATION



MUSIC



COMMUNICATION



PAGING



**OPTIMUS S.A.**

Thanks to our on-going commitment to product quality and innovation, we reserve the right at all times to suspend or change the technical features, designs, configuration, model and units without notice.

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# COMPACT SERIES

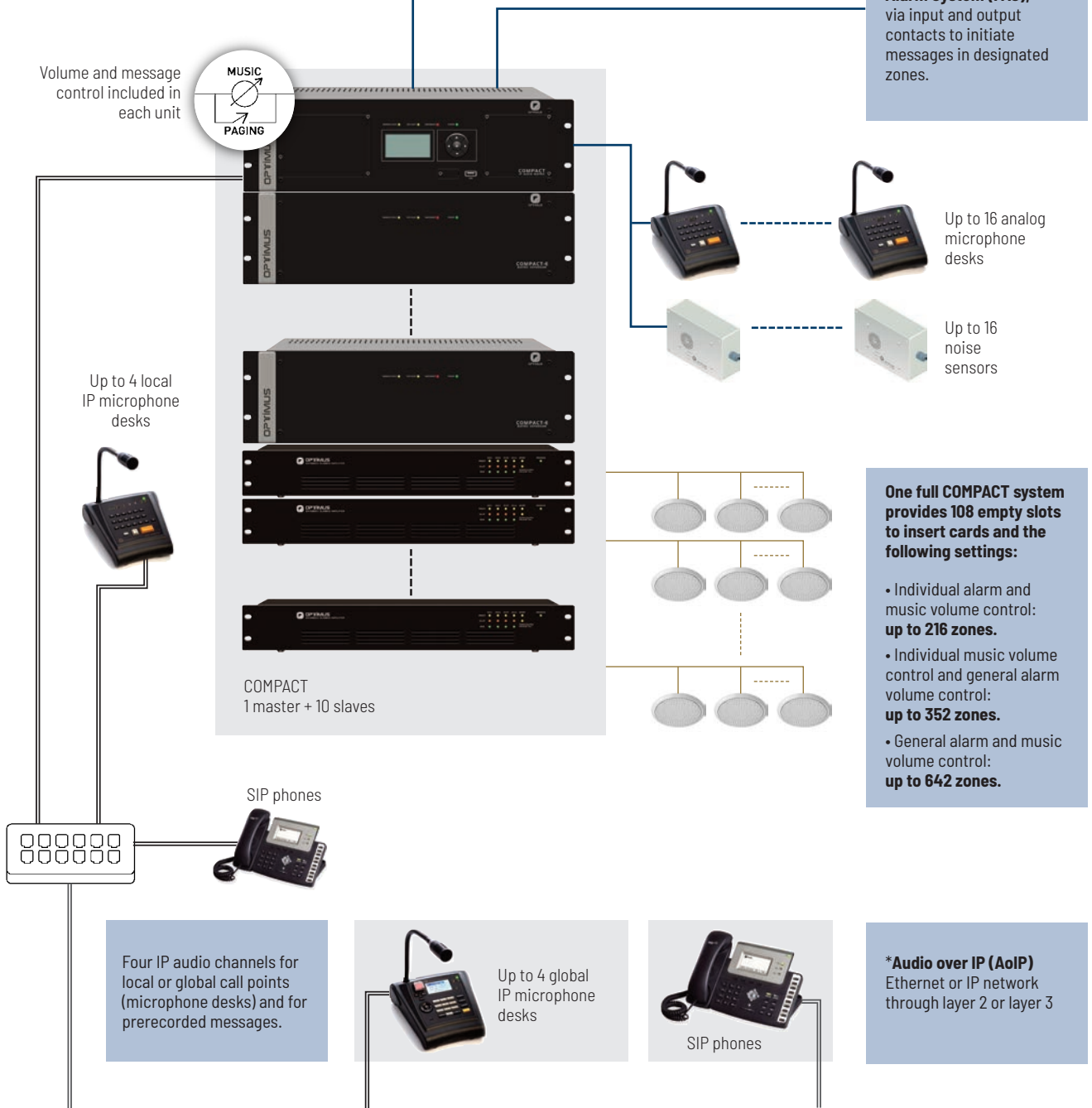


Frontal USB input, 2 audio inputs + 16 optional

Volume and message control included in each unit



**Connection with Fire Alarm System (FAS),** via input and output contacts to initiate messages in designated zones.



**One full COMPACT system provides 108 empty slots to insert cards and the following settings:**

- Individual alarm and music volume control: **up to 216 zones.**
- Individual music volume control and general alarm volume control: **up to 352 zones.**
- General alarm and music volume control: **up to 642 zones.**

## data communication backbone\*

Up to 20 main units COMPACT/IF accessible from IP global control points



### TYPE A

IF-704ETH / IF-722ETH  
Interface & audio matrix

### TYPE B

COMPACT / COMPACT-E  
Modular audio matrix

### TYPE C

IF-7P4ETH / IF-7P4/E  
Modular amplifier & audio matrix



## Compact SYSTEM

Public Address and Voice Alarm system with EN certification

Suitable for both centralized or distributed systems, scalable and modular, for infrastructures of any type and size, linked through the corporate data network.

### Audio switching matrix

#### COMPACT

main

Audio matrix with IP connection and supervision functions, for the complete management of public address and voice alarm systems. It's the COMPACT SYSTEM main unit.



Power supply	24 V dc (duplicated)
Consumption	730 mA
Audio inputs	2 (-60 dB / -20 dB / 0 dB) + frontal USB1
Contacts	16 x input plus 4 x outputs
Capacity	8 cards
Internal audio channels	16
Connectivity	IP Layer 3 & Layer 2 Network
Network connections	ETH A / ETH B (redundant system)
Fire alarm connection	3 in / 3 out
Outputs	failrelay (NO/NC)
Finishing	black iron RAL9005
Weight	9 kg
Dimensions (mm)	482,6 (length) x 133 (high) x 280 (deep)
Rack units	3

- Alarm, prerecorded and live messages.
- Music broadcasting.
- Management of speaker zones.
- Microphone desks connected by bus or through the corporate data network.
- Reception of 4 simultaneous digital audio channels via IP connection.
- Output/input contacts for emergency functions, message activation, zone control ...
- Audio outputs with individual volume control.
- Critical path supervision: speaker lines, amplifiers, cards, power, contacts, prerecorded messages ...
- Call point software for live or prerecorded messages, alarm notification ...
- PC integration and direct integrations (XML, API/DLL).
- Control data reception and transmission via IP connection.
- Compatible with SIP protocol.
- Linked systems through corporate network and accessible from IP points (microphones, SIP protocol phones ...).
- Double Ethernet connection and double power supply input for redundant installations.

#### COMPACT-E

expansion (x 10)

System expansion with capacity for 10 more cards. The system allows up to 10 COMPACT-E units.



# COMPACT SERIES

## Insertable cards COMPACT & COMPACT-E

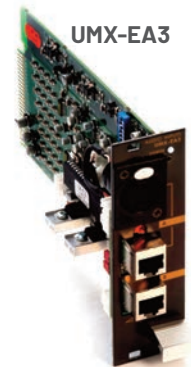
### UMX-2M3 **2 audio inputs for music** **EN 54**

- RCA stereo connector with L&R internal sum for each input.
- Audio level adjustment.
- Configurable sensitivity via software: AUX H (775 mV) & AUX L (100 mV)



### UMX-EA3 **2 audio inputs** **EN 54**

- Audio level adjustment.
- Possibility to pre-set the zones for each input, activated by priority (PTT/VOX).
- Signal of activated zones ACK.
- Configurable sensitivity 0 dB | -20 dB | -60 dB | -60 dB + speechfilter



### UMX-C16 **Contacts I/O** **EN 54**

- 16 input contacts with supervision possibility.
- 4 output contacts (dry contact or referred to ground).



### UMX-2SA **2 audio outputs** **EN 54**

- 2 x 0 dB / 600 Ω & priority (RJ45).
- Speakers line & amplifier measurement.
- Transformer balanced outputs.
- Volume control from front panel or remote device.
- Fault detection and indication in amplifier or speaker lines.
- Bass / treble equalization or 10 bands from PC.



### UMX-MC6 **6 sub-zones outputs** **EN 54**

- Security paging (compatible with 3 or 4 wire attenuators).
- Double 100 V input: channel I (music) and channel II (warnings and / or backup).



### UMX-LNK | UMX-LNKE **audio link**

- Links audio channels 1 to 4 and the emergency channel between COMPACT and COMPACT-E.
- Simplified wiring (2 x RJ45), suitable for linking equipment in different racks.
- Allows you to create a ring bus.
- Notification of disconnection.



### UMX-PS **power supply**

- Provides primary power to the audio matrix.
- 100-240 V AC input.
- 24 V DC output.



## Microphone console

### DC-700ETH

Live or pre-recorded messages broadcasting through the Ethernet network, supervision of the system and configuration of parameters. Also prepared for broadcast made by firemen in emergency situations. Equivalent to a VACIE remote control unit.



- Sending notifications to zones / groups.
- Activation of pre-evacuation & evacuation messages (EN 54-16).
- Activation of generic prerecorded messages.
- Alerts, with or without warning tone (gong).
- Music source connection and music program sending via Ethernet.
- Alarm LED.
- System alarm list.
- Monitor speaker.



## Microphone console with touch screen

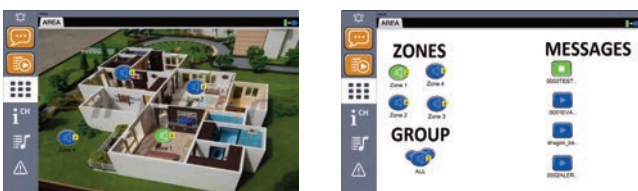
### DT-700ETH

Tactile control central and microphone paging desktop unit with ethernet connection. Allows broadcasting announcements through an IP network in streaming as well as unit control and configuration parameters



- Digital audio and control data via an IP connection.
- Ethernet connection.
- AC 100-240 full range power supply.
- Runs the PA Manager control software for OPTIMAX 2 installations inside.
- Graphic display with configurable position of buttons and background images to facilitate the user operation.
- IP control of all the situations in the installation:
  - Zones and groups buttons for selection.
  - Live or pre-recorded messages activation.
  - PA system surveillance.
  - Modification of zones volume or equalization.
  - Zone status indication.

- Announcements with or without a pre-announcement tone (Gong).
- Recording and sending adhoc messages.
- Different operating modes: Zones Selection mode and Emergency mode.
- Monitor speaker.



# COMPACT SERIES

## Microphones



### MD-30ETH

Microphone desk with 18 configurable keys for sending messages to individual zones, groups of zones or to activate prerecorded messages. Ethernet connection.



### MD-30C

Microphone desk with 18 configurable keys for sending messages to individual zones, groups of zones or to activate prerecorded messages. Bus connection.



### ME-200C

Remote equipment for sending emergency messages (warning | evac | live). With safety key and push buttons to activate the emergency mode. It incorporates warning microphone.



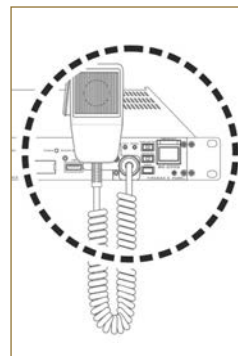
### ME-200B

Designed to be used for emergency broadcasts made by firemen in order to evacuate building occupants in emergency situation. With hand-held microphone to send messages directly, the panel allows the activation of the emergency mode and sends prerecorded messages of warning and evacuation.

To be installed on the front of the audio matrix COMPACT.



### ME-200D



Fire panel to activate or deactivate emergency mode, start or stop alert and evacuation messages and emit voice messages with absolute priority during an evacuation. Includes a supervised handheld microphone and monitor speaker.

The equipment is installed on the front of IF interfaces and IF-P modular IP amplifiers

## Analog to IP audio streaming converter

### M12-700ETH



Two-channel analog audio converter (usually from music sources) to digital format for COMPACT systems. It allows the simultaneous broadcasting of both music channels through the streaming IP network.

## Noise sensor

**NS-CAN** Noise sensor for bus connection to a COMPACT system (up to 16 units)

## Speed adapter

**CAN-AV** Bus speed adapter between COMPACT and NS-CAN / MD-30C in systems with COMPACT-E expansion units.



# COMPACT SERIES

## IP Interface

**IF-702ETH** 2 outputs - **IF-704ETH** 4 outputs - **IF-722ETH** 2 inputs / 2 outputs

Interface for connecting power units anywhere in the network. It receives messages from global IP microphone desks and SIP telephones of a COMPACT system, as well as the general music channels. It has 16 GB for storing audio messages. IP interfaces can be equipped with the **ME-200D** microphone.



## Digital class D power units

**DA-500D2** 2 x 500 W - **DA-500D4** 4 x 500 W

Digital power unit with 2 or 4 outputs of 500 W of RMS power at 100V. Its design allows high energy efficiency and minimum heat generation (class D), in addition to a reduction of the rack space required. It offers protection circuits and voltage, current and temperature monitoring, with automatic disconnection to avoid possible overload, short circuit or overheating.



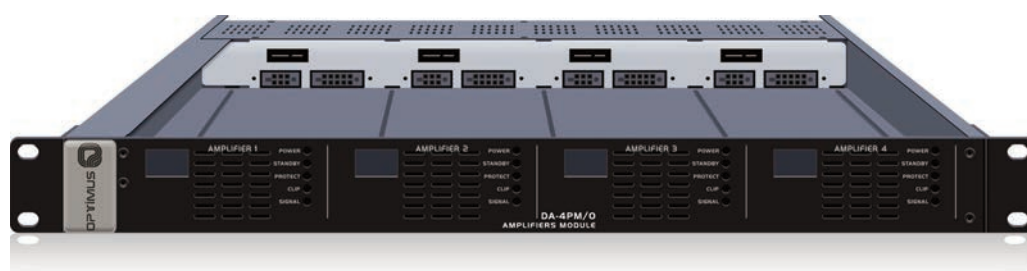
	DA-500D2	DA-500D4
Power supply	230 V AC, 50 ~ 60 Hz / 24 V DC	230 V AC, 50 ~ 60 Hz / 24 V DC
Channels	2	4
Power per channel	2 x 500 W (100 V)	4 x 500 W (100 V)
Inputs	2 x aux 0 dB, 10 kohm, unbalanced	4 x aux 0 dB, 10 kohm, unbalanced
Frequency Response	80 ~ 16.000 Hz (+1 dB, -3 dB)	80 ~ 16.000 Hz (+1 dB, -3 dB)
S/N Ratio	> 80 dB	> 80 dB
Total Harmonic Distortion	< 0,5 % (1/3 rated power)	< 0,5 % (1/3 rated power)
Maximum dissipation power	2 x 750 W at 24 V C	4 x 750 W at 24 V C
Dimensions (mm)	484 x 88.8 x 445,5 (2u rack mount)	484 x 88.8 x 445,5 (2u rack mount)
Weight	8.03 kg	9.80 kg



## Modular power unit

**DA-4PM/0** up to 4 x 460 W

Modular power unit with four slots for MP series class D power modules, with independent power supply and replaceable with the equipment running (hot swap). The power unit has a standby mode and, together with the high efficiency (90%) of the class D power modules, facilitates considerable energy savings.



# COMPACT SERIES

## Interface & modular IP amplifier

### IF-7P4ETH/0 **main** - IF-7P4/OE **expansion (x 10)**

Audio interface with IP connection (COMPACT system), with DSP and monitoring functions. With four slots that allow to insert module amplifiers from MP series (not included) and four local analog inputs (program / priority) of configurable sensitivity. Each zone output has connections for A / B lines and input for backup amplifier. With Dual Ethernet connection to decode up to 4 simultaneous IP channels.

IP amplifiers can be equipped with the **ME-200D** microphone.

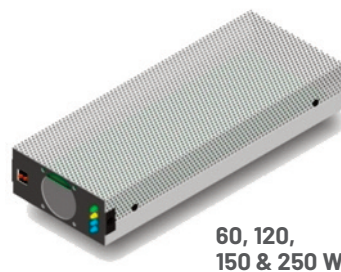


Each IF-7P4ETH/0 can be expanded with up to 10 x IF-7P4/OE.

The IF-7P4/OE has four slots to expand the capacity of the system. Communicates with the main IF-7P4ETH/0 unit via CAN bus.

## Class D power modules for IF-7P4 & DA-4PM

<b>MP-60WDC</b>	<b>60 W</b>
<b>MP-120WD1   MP-120WDC</b>	<b>120 W</b>
<b>MP-150WD1   MP-150WDC</b>	<b>150 W</b>
<b>MP-250WD1   MP-250WDC</b>	<b>250 W</b>
<b>MP-300WD1   MP-300WDC</b>	<b>300 W</b>
<b>MP-460WD1   MP-460WDC</b>	<b>460 W</b>



60, 120,  
150 & 250 W



300 & 460 W

Power modules to insert into the IF-7P / IF-8P Modular IP Amplifiers and DA-4PM Modular Amplifier. Available in versions powered at 90 ~ 240VAC (WD1) or 90 ~ 240VAC / 24VDC (WDC).

## Emergency power supply

### MS-150

Emergency power supply and battery charger (battery not included) in 2U and 19" rack format, for voice evacuation and alarm systems (PA / VA), certified according to EN 54-4.



## Configuration & control from computer

### COM-PAM server - COM-PCC computer

Control computers with the necessary hardware and software for managing the units of the PA control systems. The programs installed and configured in-factory for each application, allows the configuration, programming and supervision of the system.

The **COM-PAM** hardware is prepared for constant operation (**24/7**) and comes with a three-year "in situ" manufacturer guarantee against errors or breakdowns in the operating system or the machine.



- Live or pre-recorded messages.
- Selection/editing of zones and groups of zones.
- Graphic interface with plans and presentation of units on them.
- Assignment of priority levels, musical programs, pre-recorded announcements...
- Control and dynamic assignment of announcement volume.
- Digital announcement recording (WAV, MP3, WMA...)
- Time programming.
- User profiles.
- System parameters and unit status on-screen supervision.
- Events log and alarm files.

### Software

- SCM-01** Control and setup | Call Point
- SCIN-01** Integration

### Integration

- XML** eXtensible Markup Language
- DLL** Dynamic Link Library
- API** Application Programming Interface
- JSON** JavaScript Object Notation
- SNMP** Simple Network Management Protocol
- SIP** Session Initiation Protocol

### Streaming music channels

#### SL7-CM



Software for the configuration and management of up to 8 music channels in streaming for the diffusion of ambient music.

To stream audio files stored on the disc or external audio connected to the computer's sound card.

### Microphone desk

#### ME-F30SMP

Microphone with flexible gooseneck for broadcasting of announcements.



# OPTIMAX2 SERIES

## OPTIMAX2 platform

**1** OPTIMUS provide a wide range of IP sound products that are mainly designed to comply with the Railway's industry requirement as well as customized products (hardware & software) to achieve specific demands and integrations with other services.

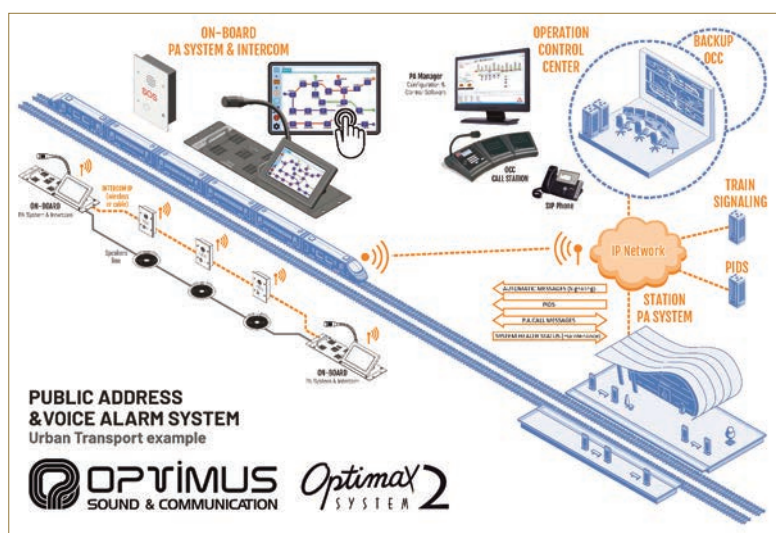
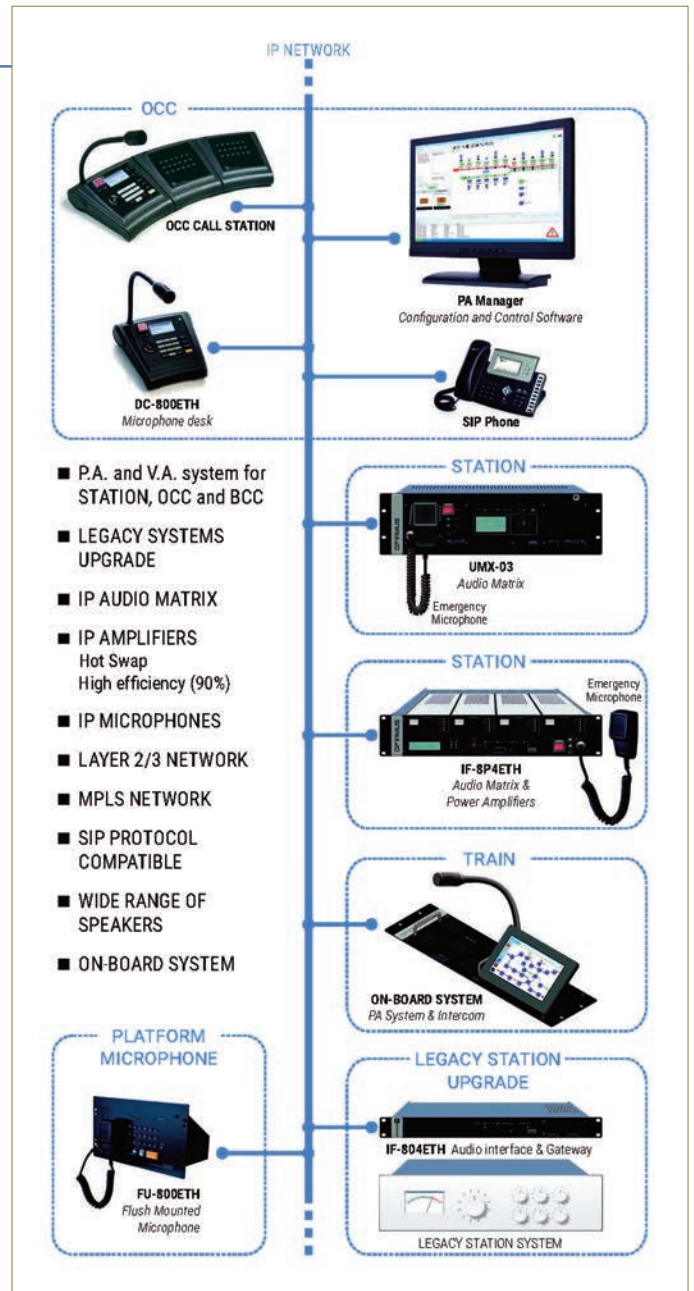
**2** In the Optimax2 platform we have implemented all the experience achieved in the most restrictive MRT/LRT and Railways installations done in the last 30 years.

**3** Using Optimax2 platform we can project a completely new PA solution and/or convert a legacy existing system into a new IP based technology system.

**4** As specialist in Public Address & Voice Alarm Systems, OPTIMUS aim is to provide a service with specific and tailor-made solutions.

**5** Optimax2 System is suitable for both centralized or distributed systems, scalable and modular, for infrastructures of any type and size, linked through the corporate data network.

**6** Its flexibility, scalability and integration capability allows it to adapt or create new hardware and/or develop customized software to meets the needs of the installation.



## UMX-03

Central unit of the OPTIMAX2 system, with redundant connection to IP, reception and emission of 4 simultaneous IP audio channels and internal bus of 16 audio channels. It supports up to 10 cards and can be expanded with secondary UMX-03 matrices.



## DC-800ETH

Microphone desk for live or pre-recorded messages broadcasting through the Ethernet network, supervision of the system and configuration of parameters.



## DT-800ETH

Tactile control central and microphone paging desktop unit with ethernet connection. Allows broadcasting announcements through an IP network in streaming as well as unit control and configuration parameters

## IF-802ETH - IF-804ETH - IF-822ETH

Interface for connecting power units anywhere in the network.



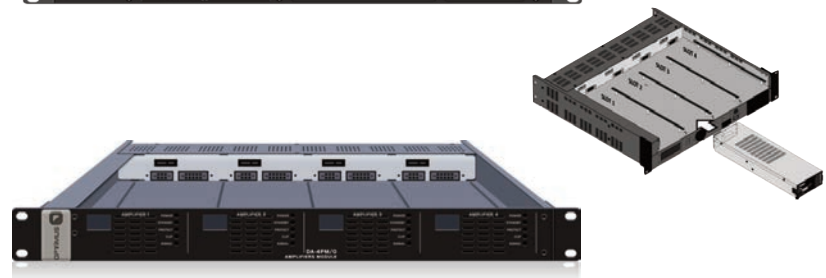
## IF-8P4ETH

Modular IP amplifier with slots for 4 class D power modules (one for backup if necessary) of 60, 120, 150, 250, 300 and 460 W. Prepared for hot swapping of class D power modules.



## DA-4PM/O

Modular amplifier with slots for 4 class D power modules (one for backup if necessary) of 60, 120, 150, 250, 300 and 460 W. Prepared for hot swapping of class D power modules.



The **OPTIMAX2** platform uses its own hardware and software, as well as some standard elements of the **COMPACT** system (s others, cards, microphone desks and power units)... A specialized department of OPTIMUS works to adapt or create new hardware and/or develop customized software.

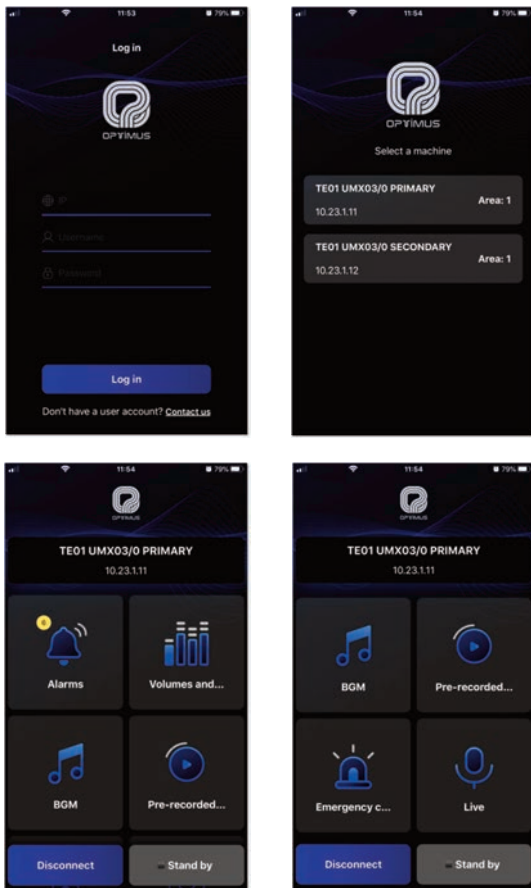
Only part of the **OPTIMAX2 platform** products are shown in this catalog. Our technical & sales department is at your disposal to study your installation needs and advise you on the best solution.

# APP COMPACT / OPTIMAX2 SERIES

## Smartphone / tablet application

### APP-OPT1

Application (Android and iOS) to manage COMPACT and OPTIMAX2 Public Address and Voice Alarm systems. It connects directly to equipment without intermediate servers. Suitable to control the music, announcements and system status in hotels, shopping centers, transport stations...



- Live messages (in playback mode).
- Sending of pre-recorded messages.
- Assignment (and modification) of music channels to zones and groups.
- Adjust music volume and announcements of zones and groups.
- Equalization of music and announcements of zones and groups.
- Display and confirmation of alarms.
- Activation of emergency mode.
- Access protected with user passwords.



**Compact**  
SYSTEM

**Optimax2**  
SYSTEM

## Public Address system up to 54 zones

PA system with 240 W amplifier and control from the front panel, from microphone desk/s and/or from remote control.. Expandable in zones, up to 54, and power.

Power supply	115/230 Vac, 50/60 Hz, 24 Vdc, 720 W
RMS power	240 W
Frequency response	Mic: 60 ~ 15,000 Hz +1/-3dB Aux: 50 ~ 20,000 Hz +1/-3dB
Distortion	< 1%
Audio inputs	4 x microphone (MIC1 to MIC4) 2 x adjustable (MIC5/LINE1 and MIC6/LINE2) 3 x auxiliary (AUX1 to AUX3) 1 x TEL/EMEG
100-V inputs	for AWP-06 and for 6 x APS-06 (cascade)
Outputs	TEL/EMEG 100-V and Amp In REC Out, PRE Out, MOH, external amplifier Z1 to Z6 (100-V), direct (100-V, 70 V, 8 Ω)
Phantom power supply.	ON/OFF, MIC 1 - 6, 16 Vdc
S/N	MIC > 60 dB, TEL/LINE > 70 dB/AUX > 75 dB
Tone control	bass: ± 10 dB, 100 Hz, Treble: ± 10 dB, 10 kHz
Control inputs	for AWP-06 and remote start (24 Vdc)
Volume controls	MIC1 to 6/Source/AUX 1 to 3/Master
Level controls	VOX Mute/TEL/MOH/Gong
Output volume control	ZONE 1 to 6, 6 positions
Temperature margin	-10 ~ 45°C
Dimensions (mm)	133 x 430 x 365 (3 u)
Weight	18 Kg

## Amplifier

### A-8240X 240 W 6 zones

PA central with output for 6 zones of loudspeakers and power of 240 W RMS in 100-V line. With individual level and tone adjustment. The unit, in addition to the inputs for the 6 APS-06 desks and the AWP-06 control, has multiple standard inputs with configurable priority and microphone-selectable phantom power supply.



## Remote panel

### AWP-06

Wall-mounted panel for zone and musical source selection, with output volume adjustment. It has local MIC/LINE input and the possibility of adjusting the signal mixing.



## Musical source

### CD-7

AM/FM tuner (10 memory), CD player, SD card reader and USB devices (MP3 and WMA).



## Expansion unit

### AEX-8000 12 zones

Expansion module of 12 zones for A-8240X (max. 4 units, up to 48 additional zones)



## Microphone desk

### APS-06

Control microphone desk for 6 zones of loudspeakers, with general call and key programming.

Connection to PA central via CAT5 cable (up to a distance of 600 m).



### APS-EX

Expansion keyboard with 12 key for APS-06. Max. 4 units for up to 48 additional zones.

# 5-ZONE COMPACT AMPLIFIER

## 5-zone compact amplifier with sound source

**A-240MZ** 240 W 5 zones - **A-480MZ** 480 W 5 zones

100 V amplifiers with six inputs and five speaker output zones, individual input level adjust, master volume control, 7-band graphic equalizer, gong and siren tones... Both include a music source with radio FM and SD and USB port to play MP3 files. It allows recording from the inputs in the SD card or USB memory.

	A-240MZ	A-480MZ
Power supply	110/230 Vac, 50/60 Hz	110/230 Vac, 50/60 Hz
Power	240 W RMS	480 W RMS
Outputs zones 1 to 5	100 V / 70 V / 25 V	100 V / 70 V / 25 V
Low impedance output	4 ohm	4 ohm
Input channels	6 (3 MIC + 3 MIC/AUX)	6 (3 MIC + 3 MIC/AUX)
Priorities	selectable in MIC1 and MIC2	selectable in MIC1 and MIC2
Additional inputs	audio with total priority zone select remote microphone	audio with total priority zone select remote microphone
Musical source	FM, MP3, USB / SD Bluetooth, recording.	FM, MP3, USB / SD Bluetooth, recording.
Frequency response	80 ~ 18,000 Hz	80 ~ 18,000 Hz
Signal-to-noise ratio	> 80 dB	> 80 dB
Harmonic distortion TDH	< 0,1%	< 0,1%
Dimensions (mm)	420 x 88 x 320 (2 u rack)	420 x 88 x 320 (2 u rack)
Weight	7,30 kg	5,50 kg



## Microphone desk

### PM-5Z

Microphone desk with zone selector switch for all call or individual call. Talk & chime switch.

It incorporates a gain control, a switch to lock the zone keys and an RJ45 connector to link with the amplifier.



## Public Address Kits for Schools and Industry



### A-240KIT | A-480KIT

The kit includes the necessary equipment to configure complete public address systems for schools, industries (or similar installations), with power enough for all speaker zones, schedule of audio messages, live announcements to speaker zones, MP3 music...

The kit consists of a compact amplifier **A-240MZ | A-480MZ**, a 5-zone microphone desk **PM-5Z** and a prerecorded message manager **SMM-8SA** with 50 schedules.



# MX-88. AUDIO MATRIX 8x8

## Audio matrix

### MX-88

Multi-channel audio matrix with 8 music inputs and 8 outputs, 4 inputs for zone microphones and a priority microphone input with phantom power. It has recording/playback of audio message (up to 55 s) and 8 contacts to reproduce this message or the priority input to the desired areas. The matrix can be linked with a maximum of 4 x MX-88, configuring systems of up to 32 output zones.

This equipment is suitable to be part of a permanent sound system in pubs, bars, restaurants, hotels, offices, factories, terminals, stations, airports, etc., where multiple sources of audio are used and it is necessary to integrate it easily with the broadcast of announcements and notices to one or more speaker zones.

Audio Output	0 dB (balanced)
Audio Input	
MIC (priority, PM, WP-8A)	mic: -50 dB ±3 dB (balanced)
LINE (WP-8A, 8 x BGM)	line: -20 dB ±3 dB (unbalanced)
Tone Control	100 Hz ±12 dB / 10 kHz ±12 dB (unbalanced)
Frequency response	
MIC (priority, PM, WP-8A)	100 Hz ~ 10 kHz ±3 dB
LINE (WP-8A, 8 x BGM)	60 Hz ~ 15 kHz ±3 dB
Signal to Noise Ratio	BGM > 80 dB / MIC > 65 dB
THD	< 0.05%
Priority Control	priority MIC > Alarm > PM > WP-8A > BGM
Recording Time	55 s
Cross Talk	75 dB
Operation temperature	-10° C ~ +40 °C
Power supply	100-240 V AC   50/60 Hz   35 W
Weight	5.8 kg
Dimensions (mm)	482 x 132 x 315



## Microphone desks

**PM-8Z** 8 zones - **PM-32Z** 32 zones

Microphone desks with selection of zones, edition/selection of groups, volume adjustment, previous gong selectable ...

Each matrix supports up to 4 microphones.

Distance up to 300 m with UTP cat5.



## Wall control panel

**WP-8A**

Remote control (1 per output) with MIC/LINE inputs, BGM selection and volume adjustment.

Distance up to 300 m with UTP cat5.



# PM-804A. MATRIX MIXER 8x4

## Matrix Mixer

### PM-804A

Matrix mixer with 8 audio inputs and 4 outputs. First four inputs have selectable sensitivity (microphone / line) and three band EQ, and the other four are with line sensitivity. The eight inputs are assignable to any output. The mixer can be controlled remotely from a microphone desk (PM-4Z), wall controls (WP-1) or from message managers type SMM-8SA.



- 4 micro / line selectable audio inputs with phantom power and 4 line inputs.
- 1 priority audio input.
- Output zone selectors for each audio input
- Independent volume controls for all audio inputs and outputs.
- Independent tone controls for all audio outputs.
- Input for alarm message with zone selection (compatible with SMM-8SA).
- Monitor speaker with zone selector and volume control.
- Desktop microphone with zone selection and all call.
- Connection of up to 4 remote panels (1 per output) for local micro / line input with volume control.

Rated output level / impedance	0 dB / 600 Ω balanced
Input sensitivity / impedancia	
MIC input	-60 dB ~ -16 dB / 20 kΩ balanced
LINE input	-20 dB ~ +4 dB / 20 kΩ balanced
Remote input	0 dB / 600 Ω balanced
Alarm message	0 dB / 600 Ω balanced
Frequency response (-1 dB)	20 Hz ~ 20 kHz
T.H.D.	< 0,1%
Crosstalk	> 70 dB
Equalization	
Input	High: 12 kHz ± 15 dB   Mid: 2,5 kHz ± 15 dB Low: 80 Hz ± 15 dB
Output	High: 10 kHz ± 15 dB   Low: 100 Hz ± 15 dB
Signal to Noise ratio	> 90 dB
Power supply	100 ~ 240 V AC, 50 ~ 60 Hz / 24 V DC
Net weight	9 kg
Dimensions (width x height x depth)	420 x 88 x 320 mm

## Microphone Desk

### PM-4Z

Microphone desk that allows to send live announcements to any zone or all of them,



Input sensitivity	- 60 dB ± 3 dB / 600 Ω balanced
Frequency response (-1 dB)	45 Hz ~ 15 kHz / ± 1 dB
Signal to Noise ratio	> 90 dB
Rated output level	0 dB / 600 Ω unbalanced
T.H.D.	< 0,1% (a 1 kHz)
Operating temperature	0° ~ 40° C with 95 % humidity
Net weight	0,9 kg
Dimensions (width x height x depth)	140 x 60 x 205 mm

## Wall control panel

### WP-1

Wall control to remotely adjust the volume of the outputs and connect a Microphone or audio source.



Rated output level / impedance	1 dB / 600 Ω balanced
Input sensitivity / impedancia	
MIC input	-50 dB / 20 kΩ balanced
LINE input	-0 dB / 20 kΩ balanced
Frequency response (-1 dB)	20 Hz ~ 20 kHz
T.H.D.	< 0,1%
Signal to Noise ratio	> 100 dB
Power supply	15 V CC
Net weight	0,12 kg
Dimensions (width x height x depth)	80 x 80 x 50 mm

## Feedback suppressor with DSP

### LS-320

Digital acoustic feedback (larsen effect) suppressor, with two channels of 24 bits. Automatically locates the feedback frequencies and eliminates them with notch filters. The filters only eliminate the problematic frequencies and faithfully maintain the quality of the audio signal.

Amongst other things the LS-320 has 24 manually or automatically adjustable programmable parametric filters and 10 programs to adapt to different environments.



Power supply	230 Vac, 50/60 Hz, 10 W
Frequency response	20 ~ 20,000 Hz
Noise	98 dB
Distortion (THD)	0.0065% (4 dB, 1 kHz)
Diaphony	-95 dB
MIDI	DIN 5P (IN/OUT/THRU)
Digital processor	24 bits sigma-delta
Dimensions (mm)	45 x 482 x 152 (1 u)
Weight	3 Kg
Finish	skinplate, black

- DSP and A/D and D/A 24-bit converters.
- 24 programmable parametric filters.
- Constant supervision and immediate elimination of feedback frequencies.
- Symmetric inputs and outputs with XLR and jack connectors.
- Possibility of independent programs for right and left channel.
- Back-lit 2 x 16-character LCD display.
- MIDI (Musical Instrument Digital Interface).

## Mixer preamplifier with 6 inputs and sound source

### PM-61M

Simple but versatile preamplifier, offering a multi-functional solution for installations where multiple voice and music sources need to be mixed to one output zones. The design with six balanced inputs allows connecting any type of audio source. The first two channels are for microphone and line level audio sources, with 3-band tone control, phantom power and talk over for priority announcements. Four more channels are prepared to connect line level audio sources. The audio output is also balanced.

Output	0 dB, 600 ohm, balanced
Inputs MIC/LINE (x2)	-50 dB ~ -6 dB, 20 kΩ, balanced
Inputs LINE (x4)	-20 dB ~ +4 dB, 20 kΩ, balanced
Frequency response	20 ~ 20,000 Hz
THD	< 0.01 %
Crosstalk	> 70 dB
Equalization input	high: 12 kHz ±15 dB mid: 2,5 kHz ±15 dB low: 80 Hz ±15 dB
Equalization output	high: 10 kHz ±15 dB low: 100 Hz ±15 dB
Power source	100 ~ 240 V AC, 50/60 Hz, 24 V DC
Weight	3.4 kg
Dimensions	482 x 44 x 320 (1 u rack)



# PREAMPLIFICATION

## Preamplifier with modular mainframe

### PM-812/0

A modular electronic preamplifier with capacity for up to 12 electronic modules\* and two internal audio channels (0 dB and 600 Ω), one priority for announcements and other program for music.

- Two internal audio channels, 0 dB and 600 Ω.
- Management of priorities between announcement and program signals.
- Preamplification for any kind of audio signal.
- Configuration of the type of input signal via dipswitch.
- Program signal mixer.
- RJ45 connections for audio inputs and outputs from the chassis.
- RJ45 and DIN 5P connections for audio signals according to card.
- Large variety of cards available with a multitude of functions such as pre-recorded messages, telephone announcements, supervision, amplification...

Capacity	12 slots
Power supply	24 Vdc
Consumption	2.5 mA (only chassis)
Dimensions (mm)	433 x 89 x 290 (2 u rack)
Weight	3.2 Kg
Finish	black skinplate



### Cards

#### C-810PAL

Pre-amplifier  
DIN/RJ45



#### C-810PRJ

Pre-amplifier  
RJ45/RJ45



#### C-810PPA

Word preference  
manager



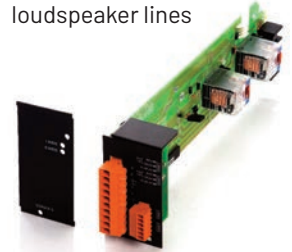
#### C-710MP3

MP3 Message  
player



#### C-812RZ2

Switching Card for two  
loudspeaker lines



## Wall preamplifier

**PM-4E** flush - **PM-4P** surface

Preamplifier and mixer of small size, flush-mounted (PM-4E) or surface-mounted (PM-4S) in wall. With two microphone inputs and two auxiliary inputs, individual volume control and mixed output 0 dB. Suitable for facilitating decentralized connection of sound sources in halls, meeting rooms, classrooms...

Power supply	230 Vac/24 Vdc (50 mA)
MIC inputs	2 x XLR, balanced
AUX outputs	2 x RCA stereo
Mix output	balanced, 0 dB and 600 Ohm
Phantom power supply.	selectable MIC1 and/or MIC2
Dimensions (mm)	PM-4E: 220 x 164 x 9 PM-4P: 223 x 167 x 59
Mounting	flush-mounted (PM-4E) surface-mounted (PM-4P)



## IP/SIP interface

**IA-10SIP** IP/SIP → analog audio - **IA-20SIP** IP/SIP ↔ analog audio

IP/SIP audio interfaces to analog audio. They allow to transmit audio from any SIP device to an analog public address system: amplifier, preamplifier, power unit... The model IA-20SIP is bidirectional, it also allows to connect an analog audio source (microphone, musical source ...) and transmit the signal to SIP devices.



- Parameter configuration via WEB server.
- Local power supply 5 Vdc (I905SIP) oPoE.
- Direct audio output for loudspeaker (8 Ohm, 2 W).
- AUX audio outputs (0 dB) and MIC (-60 dB).
- Relay contact output (activation by DMTF).
- Open collector priority output (activated in connection).
- Indicators: power supply, call and audio level.

### IA-20SIP only

- Audio input with selectable level, AUX/MIC.
- Input contact for call (intercommunication) or priority (PA).
- Operating mode: broadcaster, receiver or bidirectional.

## Telephone - Public Address interface

### IT-100

Allows access to PA systems from an analogue telephone line (external or switchboard). The configurable audio output allows connection to any PA equipment. Amongst other functions, the unit includes access key, conversation limit and noise door.

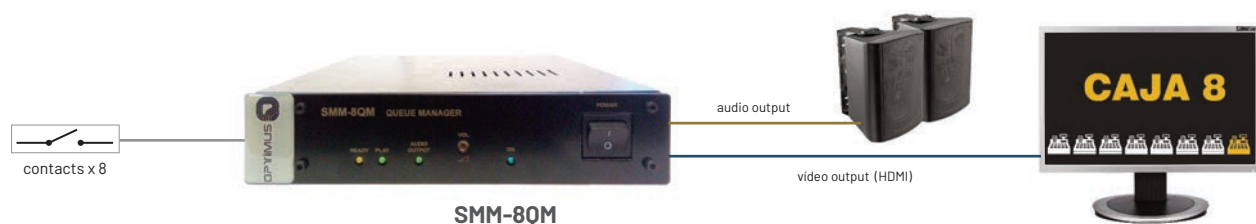


Input	analogue telephone line
Audio output	configurable (-60, -20, 0 and +4 dB), RJ45
Priority	announcement security contact and relay output
Volume control	in rear and front panel (disconnectable)
Power supply	230 Vac, 50 - 60 Hz
Consumption	4,6 W
Weight	1,6 Kg
Dimensions (mm)	213 x 44 x 235
Finish	RAL 9005 black metal

## Queue manager with audio and video output

### SMM-8QM

Queue management module with eight input contacts, each of one activates an audio and a video output. The audio output plays a message stored in the equipment and the video output is background image with a text definable in the software itself. Suitable for managing cashiers in a supermarket or store, to indicate to the first person in line which cashier to go to, with the audio message reproduced via loudspeakers and with the image indicating the cashier number displayed on a monitor.



# SOUND SOURCES

## Messages manager with zones & time programming

### SMM-8SA

Management system for sending sequences of pre-recorded audio messages with time programming and control of loudspeaker zones. Easily integrated in any public address system, new installation or already in operation. Equipment included in A-240KIT, public address kit for schools.

- Management of up to 50 hourly programmations to send prerecorded messages.
- Each message can combine up to 3 different audio files (WAV, OGG, MP3).
- Audio output (0 / -60 dB) with priority by relay and front panel volume control.
- 8 zones management through open collector outputs.
- Advanced time programming, start and end, time of launch, frequency, repetition and exceptions (holidays).
- Built-in RTC (Real Time Clock).
- Input contacts (8) for remote activation of messages, with selectable priority, higher than scheduled messages.
- Programming from computer via Ethernet connection and integrated WebServer.
- Stand-alone operation without computer.



Power supply	115 - 230 Vac 50/60 Hz
Consumption (max)	40 mA
Frequency response	50 Hz - 15 kHz $\pm$ 3 dB
Memory capacity	4 GB
Audio files formats	MP3, WAV, OGG
Sampling frequency	11, 22 or 44.1 kHz
Audio level	MIC: -60 dB, 1 mV AUX: 0 dB, 775 mV
Weight	1,75 Kg
Dimensions	213,5 x 44 x 235 mm (1 u rack)
Finished	metal, black colour RAL 9005

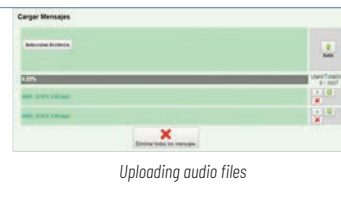
### Software & diagram



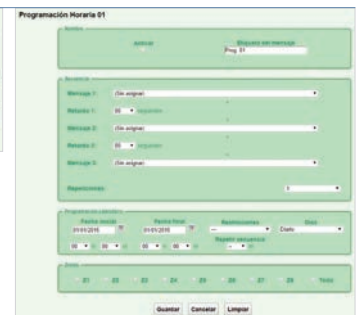
Accessing the WebServer



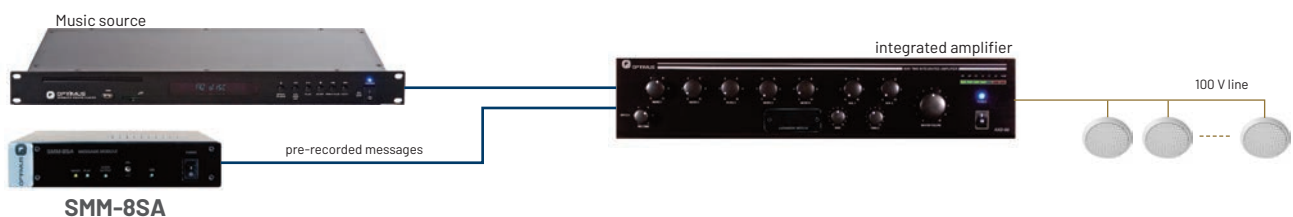
Input contacts configuration



Uploading audio files



Time scheduling of messages



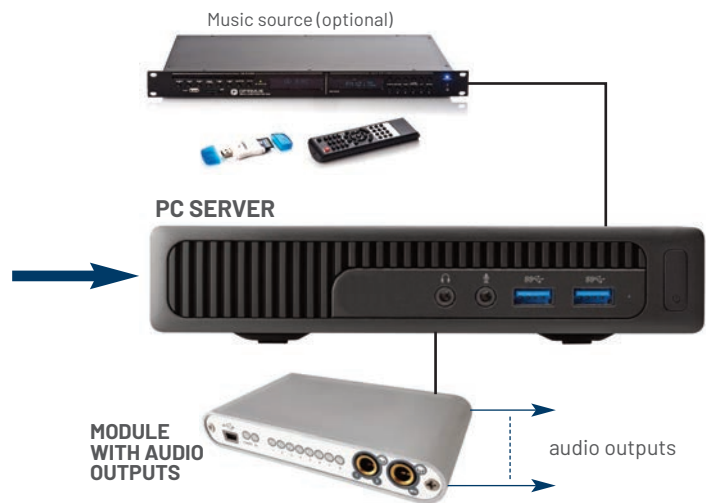
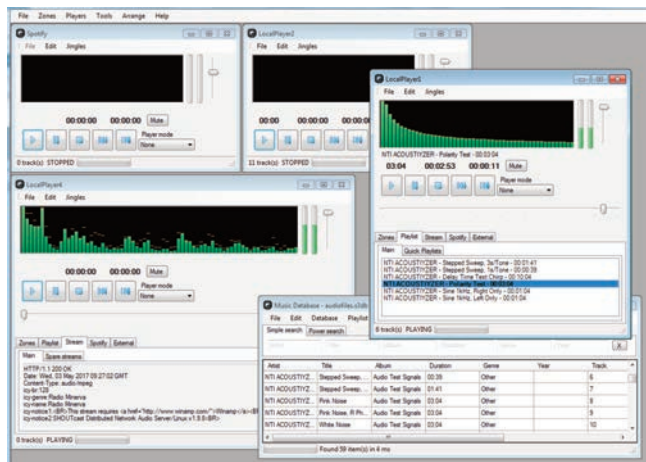
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## Audio server

**MR-8Z** 8 zones rack - **MR-16ZD** 16 zones desktop

Audio server to control and send audio to 8/16 independent zones. In combination with the Public Address system of the venue allows to distribute different musical programs to different areas in hotels, malls, office buildings... The system consists of a server computer (MR-8Z: rack, MR-16ZD: sobremesa), a software for controlling the audio players and the audio outputs modules.

### CONTROL SOFTWARE



- Control software with 8 audio players, one per output. Each player controls playlists generated from computer files, external audio channel or internet radio.
- Editing playlists is easily done from your computer:
  - Manually with direct song selection (folder navigation)
  - Automatically adjusting the time, or number of songs, filtered by author, title...
- Timer to program, according to calendar, functions such as volume adjustments, playback of songs or playlists, channel muting...

## Music sources

**MM-ITC** CD / MP3 USB / SD AM / FM - **CP30MP3** CD / MP3 USB / SD

Musical sources with compact disc player (audio CD/MP3), SD card and USB memory reader. MM-ITC model also has an AM/FM tuner and independent output for each musical source, with audio level adjustment.

	MM-ITC	CP30MP3
Output level	500 mV	500 mV
Output impedance	1 KΩ	1 KΩ
Consumed power	10 VA	30 W
Frequency range	FM: 87 ~ 108 MHz AM: 522 ~ 1611 kHz	-
Sensitivity	FM ≤ 20 μV AM ≤ 6 mV	-
SNR	FM ≥ 40 dB AM ≥ 36 dB	-
Communication protocol	20 Hz ~ 20 kHz (±1 dB)	20 Hz ~ 20 kHz (±1 dB)
Communication mode	RS-422	-
Power supply	220 ~ 240 VCA 50/60 Hz	115 ~ 230 VCA 50/60 Hz
Dimensions	484 x 48 x 215 mm	484 x 44 x 220 mm
Net weight	3.7 Kg	3.6 kg



# AMPLIFICATION

## AXD series | Mixer amplifiers with security paging

**AXD-30 30 W** - **AXD-60 60 W** - **AXD-120 120 W** - **AXD-240 240 W**

Amplifiers with line output of 100, 70 and 50 V, and low impedance (4, 8 and 16 Ohm), for application in all kinds of fixed PA installations, for music distribution and broadcasting of priority announcements. Incorporating heat protection and security relay of announcements (for attenuator management).

They have a slot to insert cards to extend functions (telephone input, pre-recorded announcements...)

AXD-30



AXD-60 (AXD-120, AXD-240)



	AXD-30	AXD-60	AXD-120	AXD-240
Power supply	230 Vac/24 Vdc, 50/60 Hz	230 Vac/24 Vdc, 50/60 Hz	230 Vac/24 Vdc, 50/60 Hz	230 Vac/24 Vdc, 50/60 Hz
Power	30 W	60 W	120 W	240 W
Loudspeaker outputs	100, 70, 50 V or 4, 8, 16 Ω	100, 70, 50 V or 4, 8, 16 Ω	100, 70, 50 V or 4, 8, 16 Ω	100, 70, 50 V or 4, 8, 16 Ω
Microphone inputs	2 x -60 dB, balanced, XLR	5 x -60 dB, balanced, XLR	5 x -60 dB, balanced, XLR	5 x -60 dB, balanced, XLR
Auxiliary inputs (2)	150 mV ~ 1 V, unbalanced, RCA	150 mV ~ 1 V, unbalanced, RCA	150 mV ~ 1 V, unbalanced, RCA	150 mV ~ 1 V, unbalanced, RCA
EMG emergency input	unbalanced, 0 dB, RJ45	unbalanced, 0 dB, RJ45	unbalanced, 0 dB, RJ45	unbalanced, 0 dB, RJ45
Priority function	EMG>MIC1>MIC2>AUX	EMG>MIC1>MIC2>AUX	EMG>MIC1>MIC2>AUX	EMG>MIC1>MIC2>AUX
Frequency response	50 ~ 18.000 Hz	50 ~ 18.000 Hz	50 ~ 18.000 Hz	50 ~ 18.000 Hz
Other services	phantom, gong, mixer, relay	phantom, gong, mixer, relay	phantom, gong, mixer, relay	phantom, gong, mixer, relay
Dimensions (mm)	430 x 89 x 250 (2 u)	430 x 89 x 280 (2 u)	430 x 89 x 290 (2 u)	430 x 89 x 380 (2 u)
Weight	6.0 kg	7.5 kg	9.0 kg	13.0 kg

### Telephone interface

#### AXD-TEL

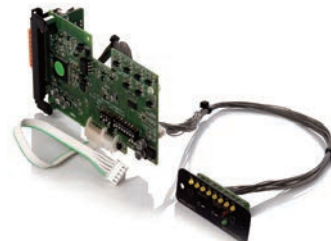
DTMF telephone interface for access to PA from the telephone installation (analogue line or extension, DMTF dialling). With volume adjustment and maximum priority (except for emergency).



### Message player

#### AXD-MP3

MP3 message player with storage capacity of up to 255 messages, with remote activation or from front plate, volume adjustment and maximum priority (except for emergency).





## Amplifiers with sound source

**A-065M 65 W** - **A-120M 120 W**

65 / 120 W RMS, 100 V amplifier with five inputs and three priority levels. It includes a music source with radio FM and SD and USB port to play MP3 files, and allows recording from the inputs in the SD card or USB memory.



	A-065M	A-120M
Output power (RMS)	65 W	120 W
THD at 1 kHz	Less than 0.5%	Less than 0.5%
Signal to noise ratio	> 90 dB	> 90 dB
Mic inputs	-50 dB ±3 dB, balanced	-50 dB ±3 dB, balanced
AUX channels	-30 dB ±3 dB, unbalanced	-30 dB ±3 dB, unbalanced
TEL-PAGING input	-21 dB ±3 dB	-21 dB ±3 dB
Tone controls	100 Hz, 10 kHz ±12 dB (±3 dB)	100 Hz, 10 kHz ±12 dB (±3 dB)
Frequency Response	100 Hz ~ 18 kHz (+1.5 dB / -3 dB)	100 Hz ~ 18 kHz (+1.5 dB / -3 dB)
Phantom Power	15 Vdc	15 Vdc
Speaker Outputs	4 Ω, 8 Ω, 70 V & 100 V	4 Ω, 8 Ω, 70 V & 100 V
Crosstalk	-70 dB at 1 kHz	-70 dB at 1 kHz
Input Power	110-240 Vac 50-60 Hz	110-240 Vac 50-60 Hz
Consumption	maximum 108 W, stand-by 8,5 W	maximum 163 W, stand-by 10,5 W
Dimensions	270 x 76 x 230 mm	270 x 76 x 230 mm
Weight	3.59 kg	4.40 kg

## 35 W amplifier

**A-035**

35 W RMS, 100 V amplifier with five inputs and three priority levels.



Output power (RMS)	35 W
THD at 1 kHz	Less than 0.5%
Signal to noise ratio	> 80 dB
Mic inputs	-54 dB to -10 dB, 20 kΩ, balanced
AUX channels	-34 dB to +10 dB, 10 kΩ, unbalanced
TEL-PAGING input	-15 dB, 600 Ω, unbalanced
Tone controls	100 Hz, 10 kHz ±10 dB
Frequency Response	80 Hz ~ 18 kHz
Phantom Power	15 Vdc
Speaker Outputs	4 Ω, 8 Ω, 70 V & 100 V
Input Power	110-240 Vac 50-60 Hz
Dimensions	270 x 76 x 230 mm
Weight	3.31 kg

## Amplifier for hotel rooms

A system designed for local amplification of the audio signal from the television in a hotel room. Its output of 5 W (8 Ω) allows 1 or 2 loudspeakers to be connected in the lounge or bathroom and the audio signal selected on the television to be heard. The unit is powered at 230 Vac and includes a Euroconnector with the right audio output. It supports signals of announcements with priority from the distributed audio system installed in the common areas of the hotel.

**2653-AS**  
Local amplifier



**PC-53**  
Volume control



# INDUCTION LOOP SYSTEMS



## Induction loop amplifiers

**PLS-X1** **small space** - **PLS-X3** **medium space** - **PLX-X5** **big space**

Amplifiers with induction loop for the hearing impaired. Consult with us to carry out a customized study of the installation requirements



## Countertop system

### CTC-121

Complete induction loop system for installation in receptions, information desks, supermarket cashiers and ticket booths. The system includes induction loop amplifier, microphone and loop pad. When installed, the system grants for hearing aid users to communicate with the staff with high speech perception.

## Portable induction loop

### SMARTLOOP

The device is an induction loop driver and a loop conductor integrated into a single unit. Suitable for a quick and simple installation in counter/desk applications, such as ticket-, service- and retail counters or reception desks.



## Automatic hearing loop amplifier

### AUTOLOOP 2.0P

Automatic hearing loop simple to set up and use without compromise in areas up to 50 m<sup>2</sup>. The level in the loop is based on real-time analysis of the relation between the chosen loop solution and the created field strength, and also it's manually adjusted with the level control at the bottom of the product. The automatic level control delivers a smooth and comfortable sound in the loop. Loop pad included. Suitable for many purposes like waiting rooms, customer service, taxis/cars, domestic environments...



# POWER AMPLIFIERS

## UP series | AB class | 60, 120, 240 & 360 W

**UP-67 60 W** - **UP-127 120 W** - **UP-247 240 W** - **UP-367 360 W**

Power units with high impedance line output (100-V, 70 V or 50 V) or low impedance (4, 8 and 16 Ohm). With inputs and outputs of program -music- and priority -announcements-, each with independent volume control and announcements security function (compatible with attenuators). They support the supervision of loudspeaker lines and operation via external devices as an integral part of larger security and voice alarm systems.



	UP-67	UP-127	UP-247	UP-367
Power	60 W RMS	120 W RMS	240 W RMS	360 W RMS
Power supply	230 Vac/24 Vdc, 50/60 Hz	230 Vac/24 Vdc, 50/60 Hz	230 Vac/24 Vdc, 50/60 Hz	230 Vac/24 Vdc, 50/60 Hz
Consumption	138 VA maximum	253 VA maximum	460 VA maximum	736 VA maximum
Inputs/Outputs 0 dB	program-priority	program-priority	program-priority	program-priority
Loudspeaker outputs	100, 70, 50 V / 16, 8, 4 Ω	100, 70, 50 V / 16, 8, 4 Ω	100, 70, 50 V / 16, 8, 4 Ω	100, 70, 50 V / 16, 8, 4 Ω
Frequency response	50 ~ 18.000 Hz	50 ~ 18.000 Hz	50 ~ 18.000 Hz	50 ~ 18.000 Hz
Signal-to-noise ratio	> 80 dB	> 80 dB	> 80 dB	> 80 dB
Security paging	incorporated (relay)	incorporated (relay)	incorporated (relay)	incorporated (relay)
Total harmonic distortion	< 0,5 % (1 kHz)	< 0,5 % (1 kHz)	< 0,5 % (1 kHz)	< 0,65 % (1 kHz)
Dimensions (mm)	482,6 x 88,8 x 368,5 (2 u)	482,6 x 88,8 x 368,5 (2 u)	482,6 x 88,8 x 368,5 (2 u)	482,6 x 88,8 x 368,5 (2 u)
Weight	8,6 kg	10 kg	13,6 kg	15,7 kg

## UP series | AB class | 480 W

**UP-480 480 W**

480 W power unit with program (music) and priority (announcements) input, volume control, security relay of announcements and circuit with protection against heat, overloading and short-circuits in the loudspeaker line.



Power	480 W RMS
Power supply	230 Vac/24 Vdc, 50/60 Hz
Consumption	1400 VA maximum
Loudspeaker outputs	100, 70 V or 8 Ω
Frequency response	55 ~ 18.000 Hz
Signal-to-noise ratio	> 80 dB
Input	program and priority (775 mV)
Announcement security	Incorporated (relay)
Controls	program and priority volume
Total harmonic distortion	< 1 % (1 kHz)
Ventilation	of variable speed
Dimensions (mm)	483 x 133 x 360 (3 u rack 19")
Finish	black metal
Weight	23,4 kg

# POWER AMPLIFIERS

## UP series | AB class | Modular 4x60, 4x120 & 2x240 W

### UP-67M4 4 x 60 W - UP-127M4 4 x 120 W - UP-247M2

Equipment with two (2 x 240 W) or four (4 x 120 W and 4 x 60 W) power units with independent power supply, housed in a chassis of 3 units high for 19" rack. Each unit has program (music) and priority (announcements) input, volume control, security relay of announcements and circuit with protection against heat, overloading and short-circuits in the loudspeaker line.



UP-67M4  
UP-127M4

UP-247M2

	UP-67M4	UP-127M4	UP-247M2
Power	4 x 60 W RMS	4 x 120 W RMS	2 x 120 W RMS
Power supply	230 Vac/24 Vdc, 50/60 Hz	230 Vac/24 Vdc, 50/60 Hz	230 Vac/24 Vdc, 50/60 Hz
Consumption	700 VA maximum	1400 VA maximum	1400 VA maximum
Loudspeaker outputs	100, 70 V or 8 Ω	100, 70 V or 8 Ω	100, 70 V or 8 Ω
Frequency response	55 ~ 18.000 Hz	55 ~ 18.000 Hz	55 ~ 18.000 Hz
Signal-to-noise ratio	> 80 dB	> 80 dB	> 80 dB
Input	program and priority (775 mV)	program and priority (775 mV)	program and priority (775 mV)
Announcement security	incorporated (relay)	incorporated (relay)	incorporated (relay)
Controls	program and priority volume	program and priority volume	program and priority volume
Total harmonic distortion	< 0.6% (1 kHz)	< 0.6% (1 kHz)	< 1% (1 kHz)
Ventilation	of variable speed	of variable speed	of variable speed
Dimensions (mm)	483 x 133 x 360 (3 u rack 19")	483 x 133 x 360 (3 u rack 19")	483 x 133 x 360 (3 u rack 19")
Finish	black metal	black metal	black metal
Weight	20.0 Kg	25.3 Kg	24.3 Kg

## UP series | AB class | 1000 W

### UP-1000U3 1000 W

A 1000 W amplifier with line output of 100 and 70 V, and low impedance (4-16 Ohm), for application in all kinds of fixed PA installations. With temperature, protection, power supply, clip and signal indicators. Audio input and output with XLR and JACK connectors.



Power	1000 W RMS
Loudspeaker outputs	4-16 Ω, 70 V and 100-V
Input	775 mV
Frequency response	50 Hz ~ 18 kHz (±1.5 dB)
Total harmonic distortion	< 1% (1 kHz)
Signal-to-noise ratio	> 75 dB
Ventilation	Four internal fans
Status indicators	POWER, CLIP, SIGNAL, PROT and TEMP
Protections	AC fuse, temperature, DC voltage and short-circuit
Power supply	CA 110 ~ 230 V, 50 ~ 60 Hz
Consumption	2600 VA
Dimensions (mm)	483 (w) x 133 (h) x 486 (d)
Net weight	32 Kg

## Digital power module | D class | 120 W

### MP-120D1 120 W

Class D digital power unit with loudspeaker output for 100 V line, volume control, protection circuits against peaks, short circuits, overheating and overload, and power and protection LED indicators.

Power supply	230 V CA, 50 Hz
Nominal power	120 W
Audio input	775 mV / 0 dB
Loudspeaker output	100V
Frequency response	80 - 18,000 Hz
Signal-to-noise ratio	> 85 dB
Harmonic distortion THD	< 0,1%
Refrigeration	fans
Consumption	150 W
Dimensions (mm)	132 x 92 x 385
Weight	2.4 kg



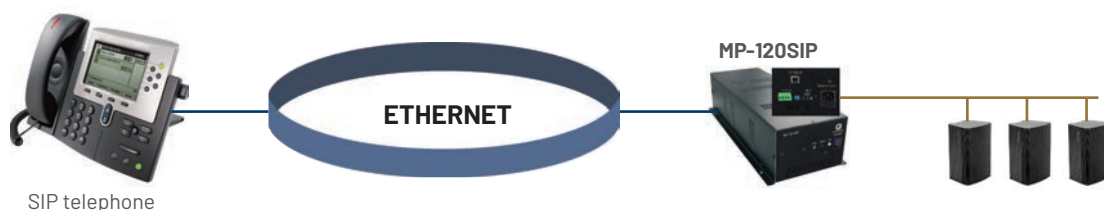
## Digital power module | D class | 120 W

SIP

### MP-120SIP 120 W

Class D digital power with IP/SIP interface, 0 dB audio output and loudspeaker output for 100 V line, volume control, protection circuits against peaks, short circuits, overheating and overload, and power and protection LED indicators.

Power supply	230 V CA, 50 Hz
Nominal power	120 W
Audio input	via interface IP/SIP
Loudspeaker output	100V
Audio output	775 mV / 0 dB
Frequency response	80 - 18,000 Hz
Signal-to-noise ratio	> 85 dB
Harmonic distortion THD	< 0,1%
Ethernet	10 / 100 Mbsp
Refrigeration	fans
Consumption	150 W
Dimensions (mm)	132 x 92 x 385
Weight	2.4 kg



# POWER AMPLIFIERS

## Digital power unit | D class | Modular 4 x 120 W

### DA-120D4 4 x 120 W

Class D digital power unit with four independent amplifiers integrated in a single chassis. Includes four symmetric inputs, four loudspeaker outputs for 100-V line, independent volume controls for each of the inputs, protection circuits against peaks, short-circuits, overheating and overloading, and LED indicators for power supply, signal, peak and protection.

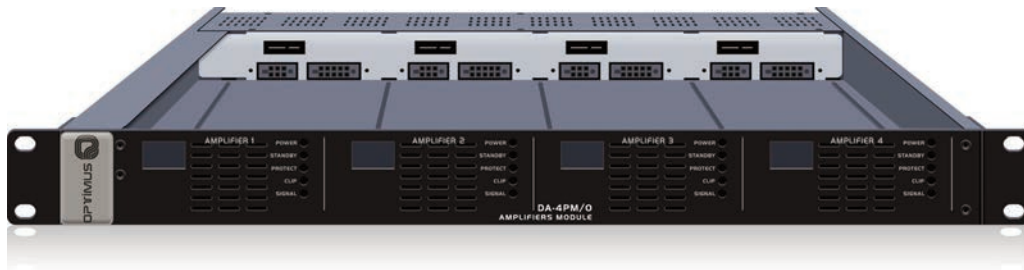


Power supply	230 Vac, 50 Hz
Nominal power	4 x 120 W
Loudspeaker output	4 x 100-V
Input signal	4 x 775 mV/0 dB
Frequency response	80 ~ 18,000 Hz
Signal-to-noise ratio	> 85 dB
Harmonic distortion THD	< 0.1%
Refrigeration	fans
Consumption	600 W
Dimensions (mm)	484 x 88 x 400 (2 u rack)
Weight	8.5 Kg

## Modular power unit

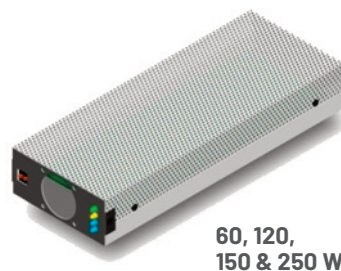
### DA-4PM/0 up to 4 x 460 W

Modular power unit with four slots for MP series class D power modules, with independent power supply and replaceable with the equipment running (hot swap). The power unit has a standby mode and, together with the high efficiency (90%) of the class D power modules, facilitates considerable energy savings.

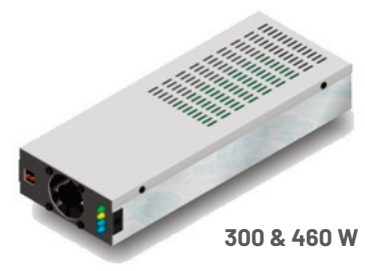


### Class D power modules for DA-4PM

<b>MP-60WDC</b>	<b>60 W</b>
<b>MP-120WD1   MP-120WDC</b>	<b>120 W</b>
<b>MP-150WD1   MP-150WDC</b>	<b>150 W</b>
<b>MP-250WD1   MP-250WDC</b>	<b>250 W</b>
<b>MP-300WD1   MP-300WDC</b>	<b>300 W</b>
<b>MP-460WD1   MP-460WDC</b>	<b>460 W</b>



60, 120,  
150 & 250 W



300 & 460 W

Power modules to insert into the DA-4PM Modular Amplifier. Available in versions powered at 90 ~ 240VAC (WD1) or 90 ~ 240VAC / 24VDC (WDC).

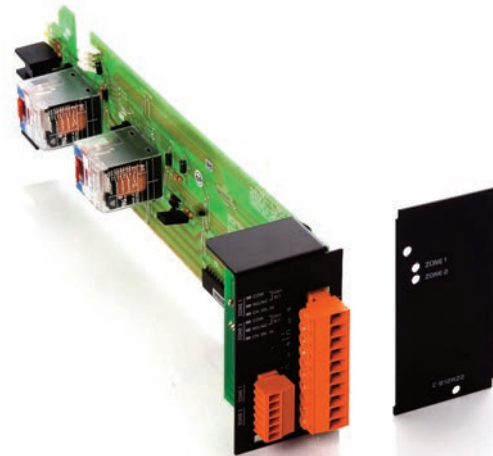
## Switching card

### C-812RZ2

Switching Card for two loudspeaker lines, designed to be inserted in the PM chassis. Up to 6 cards can be installed in one PM, to switch a maximum of 12 zones.

Each card can be connected to two amplifiers (music and messages). In standby mode the music signal and activate switches to signal warnings. Compatible with attenuator with safety warnings. It has auxiliary output contacts to control maneuvers.

Number of zones	2
Power supply	24 V CC through PM bus
Consumption	80 mA
Relay	6 A / 250 V
Weight	0.26 Kg
Format	card for PM (two slots)



## Switching module

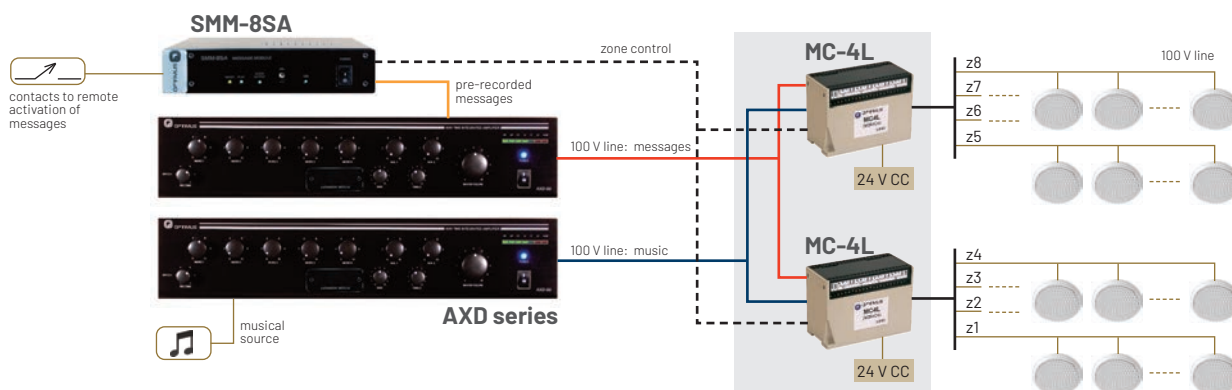
### MC-4L

Switching module for 4 lines of loudspeakers of up to a power of 500 W. Allows the connection of a music amplifier and one for announcements, selects by closing remote contact and incorporates announcement security to combine with the AV series attenuators.



Power supply	24 Vdc
Consumption	220 mA
Power per zone	500 W (100 V line)
Number of zones	4
Channels	2 (music/announcements)
Selection	contact close
Security paging	incorporated (AV series)
Dimensions (mm)	150 x 110 x 75 (3 u)
Weight	0.585 Kg
Format	for DIN rail

Ex: 8 zones of loudspeakers with one amplifier for music and one for messages. The management system for sending pre-recorded audio messages with time programming controls both 4-line switchers. The system only cuts music in zones where message is sent.



# CEILING LOUDSPEAKERS

## 6,5" ceiling loudspeaker

**EN 54**
**A-266EN 6,5" 6 W 99 dB**

A 6.5" loudspeaker, 100 V line, with metal rear cover, ceramic terminals, thermal fuse and fire-resistant internal cabling.



Loudspeaker	6.5"
RMS power	6, 3 and 1.5 W
Frequency response	85 ~ 20,000 Hz
SPL 1 m, 1 kHz	90 dB (1 W)/99 dB (6 W)
Ceiling Cut-out (mm)	Ø 200 mm
Dimensions (mm)	Ø 220 x 96 (depth)
Weight	1.34 Kg
Finish	white steel (RAL 9010) and red dome
Mounting	pressure-fitted springs and dome
Normative	EN 54-24

## 5" ceiling loudspeaker

**EN 54**
**A-225EN 5" 6 W 106 dB**

A 5" ceiling loudspeaker of 6 W, 100 V line, with high sound pressure level. It can be installed in shallow suspended ceilings and has a antistatic PET-plastic contact protection



Loudspeaker	5"
RMS power	6, 3 & 1.5 W
Frequency response	104 ~ 17,200 Hz
SPL 1 m, 1 kHz	98,3 dB
Mounting hole (mm)	Ø 150
Dimensions (mm)	Ø 181.5 x 66
Weight	0.50 kg
Finish	RAL 9016
Mounting	spring clamp
Normative	EN 54-24

## 3" ceiling loudspeaker with rear box

**EN 54**
**A-223EN 3" 6 W 92,4 dB**

A 3" ceiling loudspeaker of 6 W, 100 V line with metal cover. Diameter of the grid of only 104 mm.



Loudspeaker	3"
RMS power	6, 3 & 1.5 W
Frequency response	93 ~ 20,100 Hz
SPL 1 m, 1 kHz	84,6 dB
Mounting hole (mm)	Ø 86
Dimensions (mm)	Ø 104 x 128
Weight	0.68 kg
Finish	RAL 9016
Mounting	automatic springs
Normative	EN 54-24



# CEILING LOUDSPEAKERS

## BTM Series | Flush mount ceiling loudspeakers

<b>A-252BTM</b>	<b>2,5"</b>	<b>6 W</b>	<b>94 dB</b>	-	<b>A-256BTM</b>	<b>6"</b>	<b>6 W</b>	<b>101 dB</b>
<b>A-255BTM</b>	<b>5"</b>	<b>6 W</b>	<b>98 dB</b>	-	<b>A-258BTM</b>	<b>8"</b>	<b>20 W</b>	<b>107 dB</b>

Series of 2.5", 5", 6" and 8" loudspeakers with 6 W RMS, for 100 V line (except the 8" model, with 20 W). Flush-mounting on the ceiling, with metal circular grille and frame ABS. Spring mounting system, quick and automatic.



	<b>A-252BTM</b>	<b>A-255BTM</b>	<b>A-256BTM</b>	<b>A-258BTM</b>
Loudspeaker	2.5"	5"	6"	8"
Rated Power (RMS)	6 W	6 W	6 W	20 W
Power Taps	6 W, 3 W & 1 W	6 W, 3 W & 1 W	6 W, 3 W & 1 W	20 W, 10 W, 5 W, 2.5 W & 1 W
Sensitivity	87 dB SPL (1 W, 1 m, 1 kHz)	93 dB (1 W, 1 m, 1 kHz)	93 dB (1 W, 1 m, 1 kHz)	93 dB (1 W, 1 m, 1 kHz)
Sound Pressure	94 dB SPL (6 W, 1 m, 1 kHz)	100 dB (6 W, 1 m, 1 kHz)	101 dB (6 W, 1 m, 1 kHz)	112 dB (20 W, 1 m, 1 kHz)
Frequency Range	120 ~ 20,000 Hz	100 ~ 15,000 Hz	100 ~ 15,000 Hz	100 ~ 15,000 Hz
Cutout Size	Ø 95 mm	Ø 145 mm	Ø 170 mm	Ø 210 mm
Dimension (mm)	Ø 103 x 78 (depth)	Ø 160 x 54 (depth)	Ø 186 x 71 (depth)	Ø 232 x 90 (depth)
Weight	0.44 kg	0.5 kg	0.76 kg	1 kg
Finish	ABS plastic, metal grille	ABS, metallic grille	ABS, metallic grille	ABS, metallic grille
Colour	White, RAL 9016	White	White	White
Mounting	Springs	Springs	Springs	Springs
Power selection	By cables	Transformer tabs	Transformer tabs	Transformer tabs

## Ceiling loudspeaker with rear box

<b>A-262IP</b>	<b>2,5"</b>	<b>6 W</b>	<b>94 dB</b>	<b>IP 55</b>	-	<b>A-254ATC</b>	<b>4"</b>	<b>20 W</b>	<b>99 dB</b>
<b>A-264IP</b>	<b>4"</b>	<b>6 W</b>	<b>95 dB</b>	<b>IP 55</b>					

Loudspeakers for flush installation in the ceiling with a circular metal grille, and frame and rear box in ABS with spring mounting system. The A-262IP and A-264IP models have IP55 protection according to IEC529 and support temperatures from -30° to + 60° C



	<b>A-262IP</b>	<b>A-264IP</b>	<b>A-264ATC</b>
Loudspeaker	2.5"	4"	4"
RMS power	6 W (9 W max)	6 W (9 W max)	6 W
Power selection	6, 3, and 1.5 W (& 8 Ω)	6, 3, and 1.5 W (& 8 Ω)	6, 3 and 1 W
Frequency response	220 ~ 25,000 Hz	150 ~ 25,000 Hz	150 ~ 18,000 Hz
SPL 1 m, 1 kHz	86 dB (1 W) / 94 dB (6 W)	88 dB (1 W) / 95 dB (6 W)	91 dB (1 W) / 99 dB (6 W)
Dimensions (mm)	Ø 100 mm x 92 (depth)	Ø 140 mm x 135 (depth)	Ø 140 x 130 (depth)
Mounting hole	Ø 92 mm	Ø 125 mm	Ø 125 mm
Weight	0.59 Kg	0.96 Kg	0.90 Kg
Finish	ABS and aluminium	ABS and aluminium	ABS and metal
Colour	white (RAL 9016)	white (RAL 9016)	white (RAL 9016)
Protection	IP55 (IEC529)	IP55 (IEC529)	-

# CEILING LOUDSPEAKERS

## 5" ceiling loudspeaker | Surface-mounted

EN 54

**AS-265EN**    **5"**    **6 W**    **98 dB**

A 5" ceiling loudspeaker for surface installation. Made in steel with a vandal resistant finish. It has ceramic terminals, thermal fuse and fireproof internal cabling.



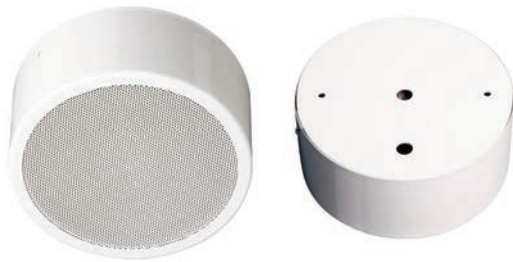
Loudspeaker	5"
RMS power	6 W for 100 V line
Power selection	6, 3, 1.5 and 0.75 W (100 V)
Frequency response	150 Hz ~ 18 kHz
SPL 1 m, 1 kHz	91 dB (1 W) / 98 dB (6 W)
Dimensions	ø 195 x 75 mm
Weight	1.9 Kg
Finish	white steel (RAL 9010)
Normative	EN 54-24

## 6,5" ceiling loudspeaker | Surface-mounted

EN 54

**AS-226EN**    **6,5**    **10 W**    **112 dB**

A 6.5" ceiling loudspeaker of 10 W, 100 V line, with high sound pressure level, for surface mounting. EN 54-24 certified. The speaker is also compliant with the British Standard BS 5839, part 8.



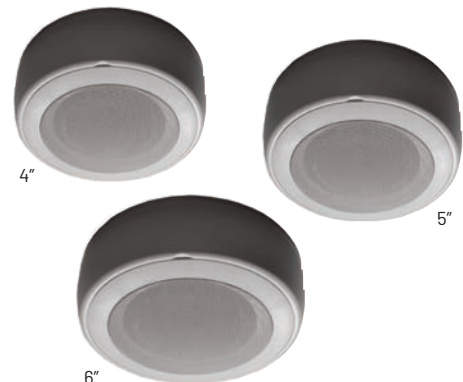
Loudspeaker	6.5"
RMS power	10 / 6 / 3 / 1.5 W
Frequency response	290 ~ 23,400 Hz
SPL 1 W / 1 m, IEC 268-5	102.2 dB
Temperature range	-20 / +80 °C
Protection	IP 21C
Dimensions (mm)	170 x 75
Weight (net)	1.30 kg
Color	RAL 9010
Mounting	screws
Normative	EN 54-24 / BS 5839 p.8

## ATS series | Surface-mounted ceiling loudspeakers

**A-254ATS**    **4"**    **6 W**    **100 dB**    -    **A-256ATS**    **6"**    **6 W**    **101 dB**
**A-255ATS**    **5"**    **6 W**    **100 dB**

Loudspeakers for mounting on the surface of the ceiling with a circular metal grille and frame and box in ABS plastic.

	A-254ATS	A-255ATS	A-256ATS
Loudspeaker	4"	5"	6"
RMS power	6 W (9 W max)	6 W (9 W max)	6 W (9 W max)
Power selection	6, 3 and 1 W	6, 3 and 1 W	6, 3 and 1 W
Frequency response	100 ~ 15,000 Hz	100 ~ 15,000 Hz	100 ~ 15,000 Hz
SPL 1 m, 1 kHz	92 dB (1 W)/100 dB (6 W)	92 dB (1 W)/100 dB (6 W)	93 dB (1 W)/101 dB (6 W)
Dimensions (mm)	ø 207 x 70	ø 210 x 74	ø 246 x 86
Weight	0.70 Kg	0.70 Kg	0.75 Kg
Finish	ABS/metal	ABS/metal	ABS/metal
Colour	RAL 9016 white	RAL 9016 white	RAL 9016 white

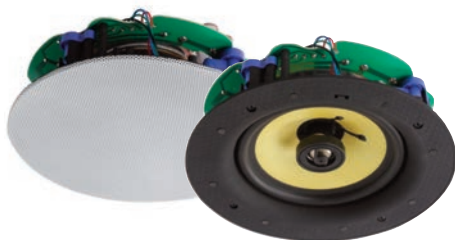


# CEILING LOUDSPEAKERS

## Two-way ceiling loudspeaker

**A-257DTM** 6,5" + 0,75" 20 W 103 dB

A 2-way loudspeakers for building into a ceiling, for 100-V line or low impedance installations (8 Ω).



Loudspeaker	woofer 6.5" Kevlar, Tweeter 0.75"
Rated Power (RMS)	20, 10 & 5 W (100 V) / 60 W (8 Ω)
Sensitivity	90 dB SPL (1 W, 1 m y 1 kHz)
Sound Pressure	103 dB (20 W, 1 m y 1 kHz)
Frequency Response	65 ~ 20,000 Hz
Mounting hole	Ø 205 mm
Dimension (mm)	Ø 227 x 87 ( depth)
Weight	1.75 kg
Finish	white ABS, metallic grille
Mounting	rotary tabs

## Two-way ceiling loudspeaker | WiFi

**A-257WIFI** 30 W WiFi

Two-way ceiling speaker with Kevlar® membrane with a WiFi receiver and a 2 x 30 W class D stereo amplifier. From your smartphone you can send music to one or more A-257WIFI, from your local library or using an online service. You can create stereo zones by adding a passive speaker connected to the A-257WIFI's own amplifier.



App SmartSonix available in



- Each speaker emits a WiFi signal and makes it easy to customize music distribution.
- Multi-room: Distributes the same music to different areas or different music to separate areas.
- App to play music stored on your smartphone, online services or thousands of free radio stations. It also allows you to store your favorite music and create personal playlists.
- Airplay function, to play any music without the need of an app.
- Compatible with the DLNA standard of music transmission.
- RCA connection, to distribute the signal from other devices, such as HiFi equipment or television.

## Ceiling subwoofer

**A-258SB** 50 W

Ceiling speaker for low frequencies reproduction, with 8" speaker and 50 W RMS power, high sound pressure level (up to 107 dB) and with the possibility of connection to 8 ohms and 100 V line. Suitable as bass reinforcement in any public address installation.

Loudspeaker	8"
Rated power (RMS)	50 W (100 W program)
Selection	100 V, 8 Ω, OFF
Sensitivity	90 dB SPL (1 W, 1m, 1 kHz)
Sound pressure	107 dB SPL (50 W, 1m, 1 kHz)
Frequency range	50 ~ 200 Hz
Cutout size	Ø 250 mm
Ceiling thickness	10 ~ 35 mm
Dimensions (mm)	Ø 280 x 192 (depth)
Weight	4 kg
Finish	ABS and metallic grille
Colour	white RAL9003
Mounting	rotary tabs



# TWO-WAY CEILING LOUDSPEAKERS

## Two-way ceiling loudspeakers | 10 & 30 W

EN 54

### A-226CEN 2 way 10 W 101 dB - A-226FEN 2 way 30 W 110 dB

Two-way ceiling loudspeakers (6,5" & neodymium tweeter) for 100 V line. Available low impedance connection (8 Ω). EN-54 certified. The speaker is also compliant with the British Standard BS 5839, part 8.

	A-226CEN	A-226FEN
Loudspeaker	6,5" + tweeter (Bassreflex)	6,5" + tweeter (Bassreflex)
RMS power	30, 15, 7,5 y 3,75 W	30, 15, 7,5 y 3,75 W
Frequency Response	100 ~ 19,300 Hz	100 ~ 19.300 Hz
SPL 1 W / 1 m, IEC 268-5	95,5 dB SPL at 1 W / 1 m	95,5 dB
Mounting hole (mm)	Ø 208 mm	Ø 208 mm
Dimensions (mm)	Ø 239,5 x 141	Ø 239,5 x 141
Protection	2,20 kg	-
Weight	ABS, metallic grille. White	2,20 kg
Finish	(RAL9016)	ABS, rejilla metálica (RAL9016)
Mounting	rotating tabs	engüetas rotatorias
Normative	EN 54-24 / BS 5839, p.8	EN 54-24 / BS 5839, p.8



A-226CEN



A-226FEN

## Two-way ceiling loudspeakers | 30 & 60 W

### A-256MHQ 2 way 30 W 103 dB - A-258MHQ 2 way 60 W 110 dB

Two-way speakers for flush mounting for 100 V and connection available at low impedance (8 Ω, 75 W). Great sound quality with wide frequency response. Rear box and rotating tabs for quick assembly.

	A-256MHQ	A-258MHQ
Loudspeaker	6,5" woofer + 1" tweeter	8" woofer + 1" tweeter
Rated Power (RMS)	30 W (100 V), 75 W (8 Ω)	60 W (100 V), 75 W (8 Ω)
Power Taps	30, 15, 7,5 & 3,75 W (100 V)	60, 30, 15, 7,5 & 3,75 W (100 V)
Low impedance	75 W (8 Ω)	80 W (8 Ω)
Sound Pressure 1 m, 1kHz	88 dB (1 W)   103 dB (30 W)	92 dB (1 W)   110 dB (60 W)
Frequency Range	60 ~ 20,000 Hz	55 ~ 20,000 Hz
Cutout Size	Ø 240 mm	Ø 292 mm
Dimension (mm)	Ø 267 x 162 (depth)	Ø 320 x 245 (depth)
Weight	2,7 kg	5,2 kg
Finish	ABS, metallic grille	ABS, metallic grille
Colour	white (RAL9016)	white (RAL9016)
Mounting	rotary tabs	rotary tabs



A-256MHQ



A-258MHQ

## Two-way ceiling loudspeakers | 30 & 40 W

### A-256MAC 6" + 0,5" 30 W 105 dB - A-258MAC 8" + 0,5" 40 W 107 dB

Two-way speakers for flush mounting, with rear box to avoid depending on the acoustic characteristics of a false ceiling, transformer for 100-V line and rotating tabs for fast mounting.



	A-256MAC	A-258MAC
Loudspeaker	6.0" + 0.5"	8.0" + 0.5"
RMS power	30 W (45 W max)	40 W (60 W max)
Power selection	30, 15, 7,5 and 3,8 W / 8 Ω	40, 20, 10 and 5 W / 8 Ω
Frequency response	100 ~ 20,000 Hz	100 ~ 18,000 Hz
SPL 1 m, 1 kHz	90 dB (1 W) / 105 dB (30 W)	91 dB (1 W) / 107 dB (30 W)
Mounting hole (mm)	Ø 210 mm	Ø 250 mm
Dimensions (mm)	Ø 240 mm x 155 (depth)	Ø 280 mm x 190 (depth)
Weight	2,00 Kg	2,80 Kg
Finish	white ABS (RAL9016)	white ABS (RAL9016)
	RAL 9016 white metal grille	RAL 9016 white metal grille

## TWO-WAY LOUDSPEAKERS

### Two-way speaker | 15 W

**EN 54 IP 65**
**CA-915EN 15 W 101 dB black** - **CA-915WEN 15 W 101 dB white**

Two-way compact speaker, power of 15 W RMS at 100 V line, also with connection available at 8 ohms. Suitable for voice alarm systems, it complies with BS-5839, part 8 and is EN 54-24 certified. Protection degree IP65

Rated power (RMS)	15 W, 7.5 W, 3.75 W & 1.8 W (100 V)   15 W (8 Ω)
Frequency response	82 ~ 23,500 Hz
SPL 1 W / 1 m, IEC 268-5	89.1 dB
Dispersión -6 dB, 1 KHz	186° (H) x 186° (V)
Connector	6-pin screw terminal
Protection degree	IP65
Dimensions (mm)	210 x 130 x 120 mm
Weight	1.70 kg
Finish	CA-915EN: Black (RAL9011)   CA-915WEN: White (RAL9010)
Mounting	swivel bracket
Normative	EN 54-24



### Two-way speaker | 50 W

**EN 54 IP 65**
**CA-950EN 50 W 105 dB black** - **CA-950WEN 50 W 105 dB white**

Two-way compact speaker, power of 50 W RMS at 100 V line, also with connection available at 8 ohms. Suitable for voice alarm systems, it complies with BS-5839, part 8 and is EN 54-24 certified. Protection degree IP65

Rated power (RMS)	50 W, 25 W, 12.5 W & 6.25 W (100 V)   50 W (8 Ω)
Frequency response	53 ~ 20,300 Hz
SPL 1 W / 1 m, IEC 268-5	88.2 dB
Dispersión -6 dB, 1 KHz	152° (H) x 114° (V)
Connector	6-pin screw terminal
Protection degree	IP65
Dimensions (mm)	330 x 205 x 192
Weight	3.65 kg
Finish	CA-950EN: Black (RAL9011)   CA-950WEN: White (RAL9010)
Mounting	swivel bracket
Normative	EN 54-24



### Two-way speaker | 32 W

**IP 56**
**WCM-32BT 32 W 105 dB black** - **WCM-32WT 32 W 105 dB**

Two-way speaker for outdoors (IP56) with power rating of 60 W @ 8 Ω or 32 W @ 100 V line, selectable by rotary switch. 5.25" woofer for low and medium frequencies and 1.42" tweeter for high frequencies. ABS black or white enclosure, metallic grille and adjustable bracket.

Loudspeaker	woofer 5.25" + tweeter 1.42"
Rated power (RMS)	60 W (8 Ω) / 32 W (100 V)
Power taps (100 V)	32, 16, 8, 4 & 2 W, rotary switch
Low impedance	8 Ω
Frequency response	60 ~ 20,000 Hz
SPL 1 m, 1 kHz	90 dB (1 W), 105 dB (32 W)
Dimensions (mm)	190 (width) x 256 (height) x 225 (deep)
Weight	2.6 kg
Finish	ABS & aluminium grille
Protection	IP56
Mounting	type U adjustable bracket



# TWO-WAY LOUDSPEAKERS

## Two-way speaker | 20 W

**IP 55**
**WCM-20BT 20 W 101 dB**

Two-way speaker for outdoors (IP55) with maximum power rating of 20 W and selectable, through wires connection, to 20, 10, 5 and 2.5 W. Also available the low impedance connection (8 ohm). 4" woofer for low and medium frequencies and 1" tweeter for high frequencies. ABS HIPS black, aluminium grille and adjustable bracket.

Loudspeaker	woofer 4" + tweeter 1"
Rated power (RMS)	20 W
Power selection (100 V)	20, 10, 5 and 2.5 W
Low impedance	8 Ω
Frequency response	90 ~ 20,000 Hz
SPL 1 m, 1 kHz	88 dB (1 W) / 101 dB (20 W)
Protection	IP55 (IEC-529)
Dimensions (mm)	158 x 129 x 238
Weight	2.38 kg
Finish	black ABS HIPS & aluminium grille



## Two-way speaker | 60 W

**BS-60BA 60 W 106 dB black - BS-60WA 60 W 106 dB white**

Two-way speaker with 8" woofer and 1" tweeter, maximum power of 60 W RMS in 100 V line, with power taps of 30, 15 & 7.5 W. Also available the low impedance connection of 8 Ω.

Loudspeaker	woofer 8", tweeter 1"
RMS power	60, 30, 15 & 7.5 W
Sensitivity	88 dB SPL (1 W, 1 m, 1 kHz)
Sound Pressure	106 dB SPL (60 W, 1 m, 1 kHz)
Frequency Response	40 ~ 20,000 Hz
Dimensions (mm)	289 (width) x 417 (height) x 255 (depth)
Weight	6.6 kg
Finish	box in ABS & powder coated iron grille
Colour	black (BS-60BA), white (BS-60WA)
Mounting	U type mounting bracket



## Two-way speakers | 20 & 40 W

**BS-20BA 20 W 102 dB black - BS-20WA 20 W 102 dB white**
**BS-40BA 40 W 104 dB black - BS-40WA 40 W 104 dB white**

Two-way speakers for quality music and intelligible announcements in restaurants, bars, musical bars, shopping centres, conference halls, fashion stores... With universal mounting bracket to place and direct them on the wall or ceiling and rotating switch for the power selection (100 V / 8 Ω).

	BS-20BA / BS-20WA	BS-40BA / BS-40WA
Loudspeaker	woofer 4" + tweeter 1"	woofer 6" + tweeter 1"
RMS power	20 W	40 W
Power selection	20, 10, 5 and 2.5 W	40, 20, 10 and 5 W
Connection at 8 Ω	yes	yes
Frequency response	100 ~ 20,000 Hz	70 ~ 20,000 Hz
SPL 1 m, 1 kHz	89 dB (1 W), 102 dB (20 W)	88 dB (1 W), 104 dB (40 W)
Dimensions (mm)	170 x 215 x 150	215 x 284 x 190
Weight	2.2 Kg	3.5 Kg
Finish	black (BA) or white (WA) ABS	black (BA) or white (WA) ABS



# TWO-WAY LOUDSPEAKERS

## Two-way speaker | 6 W

**BS-6BA** 6 W 98 dB black - **BS-6WA** 6 W 98 dB white

Two-way speakers for quality music and intelligible announcements in restaurants, bars, musical bars, shopping centres, conference halls, fashion stores... where musical quality is needed and also ease of installation due to its small dimensions. Universal anchoring for wall or ceiling.

Loudspeaker	woofer 3" + tweeter 1"
RMS power	6 W
Power selection	6, 3 and 1.5 W
Connection at 8 Ω	yes
Frequency response	100 ~ 20,000 Hz
SPL 1 m, 1 kHz	90 dB (1 W), 98 dB (6 W)
Dimensions (mm)	95 x 141 x 100
Weight	0.8 Kg
Finish	black (BA) or white (WA) ABS



## High-power two-way speaker

IP 44

**PU-10T** 120 W 116 dB 100 V - **PU-10** 200 W 118 dB 8 ohm

High power and compact size speaker for mobile or fixed applications, with U-type brackets available for individual installation on wall/ceiling or for array installation. Models with low impedance connection (8 ohm, up to 200 W RMS) and in 100 V line (120 W RMS).

	PU-10T	PU-10
Speaker	10"	10"
Line	100 V	8 Ω
Power (RMS) / impedance	120 W / 83.33 ohm	200 W / 8 Ω
Sound pressure SPL (1 W / 1 m)	95 dB at 1 W   116 dB at 120 W	95 dB at 1 W   118 dB at 200 W
Frequency range	60 ~ 18 kHz	60 ~ 18 kHz
Protection degree	IP-44	IP-44
Dimensions (mm)	350 x 460 x 340	350 x 460 x 340
Weight	13.5 kg	10.5 kg
Finish	black ABS	black ABS
Input / output connector	speakon	speakon
Mounting	S-PU10A: U type   S-PU10B: array type	S-PU10A: U type   S-PU10B: array type



## Pair of active + passive speakers

**BSA-215B** 2 x 15 W black - **BSA-215W** 2 x 15 W white

Two-way stereo system, consisting of one active and one passive loudspeaker, suitable for classrooms, hotel rooms, meeting rooms, gyms, bars...



Power (RMS)	2 x 15 W at 8 Ω
Speakers	5.25" Woofer and 0.5" Tweeter
Sensitivity	86 dB
Frequency response	70 Hz ~ 16 kHz (±3 dB)
Tone control	bass & treble, ±12 dB
Connectivity	Bluetooth V4.2 (10 m)
Power supply	100~240 VCA / 50~60 Hz
Color	black (BSA-215B)   white (BSA-215W)
Finish	polypropylene box, metallic grille
Consumption	0.5 W stand-by, 50 W Max.
Dimensions	183 x 164 x 245 mm
Weight	2.53 kg
Accessories	AC mains cable

# SPECIAL LOUDSPEAKERS

## Pendant speaker with 360° dispersion

**M8764B**    **64 W**    **106 dB**

Pendant speaker with 360° H x 180° V dispersion for high ceilings, with 64 W RMS power in 100 V line and with 8 ohm connection available (150 W). Composed of 6 speakers (1x8", 4x3" and 1x1") and two bass ports. The unit includes 2 gripple cable of 6 m. For indoors and covered outdoors.

Loudspeakers	woofer 8" + 4 x midrange 3" + tweeter 1" + 2 bass ports
RMS Power	64, 32, 16 & 8 W (100 V) / 8 Ω (150 W)
Frequency response	60 – 20,000 Hz
SPL 1 m, 1 kHz	93 dB (1 W) / 111 dB (64 W) / 115 dB (150 W)
Crossover	900 Hz & 5 kHz, 12 dB
Dispersion	360°H x 180° V
Dimensions (mm)	495 (Ø) x 305
Finished	enclosure in polyethylene and metallic grill. Black
Weight	9.2 kg
Accessories	2 gripple cable of 6 m



## Pendant sphere with 360° dispersion

**IP 34**

**SAT360B**    **50 W**    **106 dB**    **black**    -    **SAT360W**    **50 W**    **106 dB**    **white**

Pendant sphere with 360° H x 180° V dispersion for high ceilings, with 50 W RMS power in 100 V line and with 8 ohm connection available (65 W). Composed of 5 speakers (1x5" and 4x0.5"). For indoors and outdoors (protection grade IP34).

Speakers	woofer 5" + 4 x tweeter 0,5"
RMS Power	50, 25, 12, 6 & 3 W (100 V) / 8 Ω (65 W)
Frequency response	115 – 12,000 Hz
SPL 1 m, 1 kHz	89 dB (1 W) / 106 dB (50 W) / 107 dB (65 W)
Crossover	5 kHz, 6 dB
Dispersion	360°H x 180° V
Dimensions (mm)	229 (Ø) x 203
Finished	enclosure in polyethylene and metallic grill
Color	white (SAT360W) or black (SAT360B)
Weight	2.48 kg (unit), 3.64 kg (total)



## Hemisphere with 360° dispersion

**IP 55**

**NEPTUNEB**    **30 W**    **103 dB**    **black**    -    **NEPTUNEW**    **30 W**    **103 dB**    **white**

Hemisphere with 360° H x 180° V dispersion for high ceilings, with 30 W RMS power in 100 V line or 50 W nominal power @ 8 ohm. Composed of 5 speakers (1x5" and 4x0.5"). For indoors and outdoors (protection grade IP55).

Speakers	woofer 5" + 4 x tweeter 0,5"
RMS Power	30, 15 & 7 W (100 V) / 8 Ω (50 W)
Frequency response	80 – 20,000 Hz
SPL 1 m, 1 kHz	88 dB (1 W) / 103 dB (50 W) / 105 dB (65 W)
Crossover	5 kHz
Dispersion	360°H x 180° V
Protection	IP 55
Dimensions (mm)	248 (Ø) x 190,5
Finished	plastic & aluminium
Color	white (NEPTUNEW) or black (NEPTUNEB)
Weight	2.48 kg





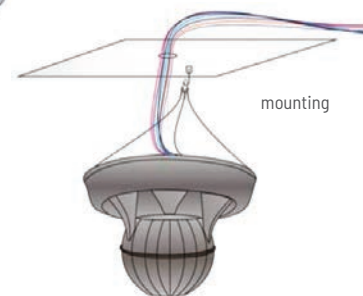
# SPECIAL LOUDSPEAKERS

## 60 W acoustic sphere

**ES-60W** 60 W 120 dB

Sphere with an external reflector and 360° horizontal and 180° vertical radiation angle, suitable for achieving a uniform acoustic coverage in large zones with high ceilings.

Loudspeakers	6"
RMS power	60 W, 100 V
Power selection	60, 30, 20, 15, 10 & 7.5 W
Frequency response	100 ~ 13,000 Hz
SPL 1 m, 1 kHz	102 dB (1 W) / 120 dB (60 W)
Dimensions (mm)	385 (Ø) x 302
Weight	3.4 kg
Finish	high impact ABS, white
Mounting	pendant, three hooks



## Garden speaker, rock shape

**AER-60T** 32 W 103 dB

32 W, two-way loudspeaker with a rock-shaped envelope, suitable for outdoor use like parks, gardens, courtyards ...

Type	rock
Loudspeaker	8" woofer, 1.2" tweeter
RMS power	64 W
Power selection	64, 32, 18, 8 & 4 W / 8 Ω
Frequency response	60 ~ 20,000 Hz
SPL 1 W, 1 m, 1 kHz	88 dB
SPL max. at 1 m, 1 kHz	106 dB
Dimensions (mm)	440 x 300 x 300 aprox.
Weight	5.8 kg
Finish	fiberglass, gray-black



## Garden speaker, mushroom shape

**AEM-15T** 20 W 108 dB

20 W, two-way loudspeaker with a mushroom-shaped envelope, suitable for outdoor use like parks, gardens, courtyards ...



Type	mushroom
Loudspeaker	8" woofer, 0.5" tweeter
RMS power	20 W
Power selection	20 and 10 W
Frequency response	80 ~ 15,000 Hz (+/- 6 dB)
SPL 1 W, 1 m, 1 kHz	95 dB
SPL max. at 1 m, 1 kHz	108 dB
Dimensions (mm)	245 x 215 x 215 aprox.
Weight	2.04 Kg
Finish	ABS, metal grille, green

# ACOUSTIC COLUMNS

## C1000 series

<b>C-1120</b>	<b>1 x 5"</b>	<b>20 W</b>	<b>105 dB</b>
<b>C-1240</b>	<b>2 x 5"</b>	<b>40 W</b>	<b>110 dB</b>
<b>C-1360</b>	<b>3 x 5"</b>	<b>60 W</b>	<b>112 dB</b>
<b>C-1480</b>	<b>4 x 5"</b>	<b>80 W</b>	<b>115 dB</b>

Acoustic columns formed by 5" loudspeaker with treble disperser in a metal enclosure allowing outdoor installation. The columns include brackets for wall mounting.

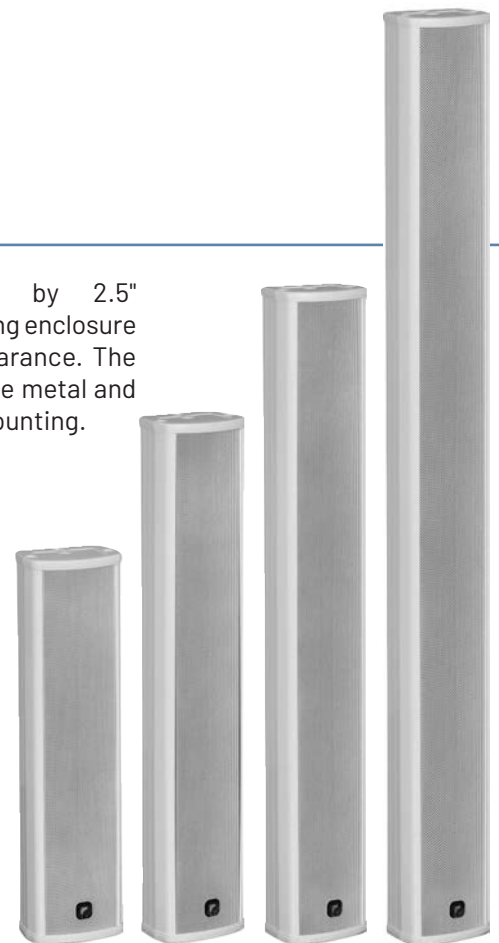


	<b>C-1120</b>	<b>C-1240</b>	<b>C-1360</b>	<b>C-1480</b>
Loudspeakers	1 of 5", disperser	2 of 5", disperser	3 of 5", disperser	4 of 5", disperser
RMS power	20 W	40 W	60 W	80 W
Power selection	20, 15 & 10 W	40, 30 & 20 W	60, 45 & 30 W	80, 60 & 40 W
Frequency response	100 ~ 17,000 Hz	100 ~ 17,000 Hz	100 ~ 17,000 Hz	100 ~ 17,000 Hz
SPL (1 m, 1 kHz)	92 dB (1 W)	94 dB (1 W)	95 dB (1 W)	96 dB (1 W)
SPL max (1 m, 1 kHz)	105 dB (20 W)	110 dB (40 W)	112 dB (60 W)	115 dB (80 W)
Dimensions (mm)	197 x 290 x 118	197 x 485 x 118	197 x 700 x 118	197 x 905 x 118
Finish	metal	metal	metal	metal
Color	RAL 7035/7037	RAL 7035/7037	RAL 7035/7037	RAL 7035/7037
Weight	2 kg	3.1 kg	4.4 kg	5.7 kg

## C600A series

<b>C-620A</b>	<b>4 x 2,5"</b>	<b>20 W</b>	<b>104 dB</b>
<b>C-630A</b>	<b>6 x 2,5"</b>	<b>30 W</b>	<b>107 dB</b>
<b>C-640A</b>	<b>8 x 2,5"</b>	<b>40 W</b>	<b>109 dB</b>
<b>C-660A</b>	<b>12 x 2,5"</b>	<b>60 W</b>	<b>111 dB</b>

Acoustic columns formed by 2.5" loudspeakers in a narrow and long enclosure with an elegant exterior appearance. The outdoor and indoor columns are metal and include the brackets for wall mounting.



	<b>C-620A</b>	<b>C-630A</b>	<b>C-640A</b>	<b>C-660A</b>
Speakers	4 x 2,5"	6 x 2,5"	8 x 2,5"	12 x 2,5"
RMS power	20 W	30 W	40 W	60 W
Power selection	20 & 10 W	30 & 15 W	40 & 20 W	60 & 30 W
Frequency response	170 ~ 15,000 Hz	170 ~ 15,000 Hz	170 ~ 15,000 Hz	170 ~ 15,000 Hz
SPL (1 m, 1 kHz)	91 dB (1 W)	92 dB (1 W)	93 dB (1 W)	93 dB (1 W)
SPL max	104 dB (20 W)	107 dB (30 W)	109 dB (40 W)	111 dB (60 W)
Dimensions (mm)	106 x 405 x 75	106 x 548 x 75	106 x 691 x 75	106 x 985 x 75
Weight	2.04 kg	2.74 kg	3.46 kg	5.20 kg
Finish	white aluminium	white aluminium	white aluminium	white aluminium
	RAL 9016	RAL 9016	RAL 9016	RAL 9016

## Sound projector | 20 W

EN 54 IP 66

### SP-20EN 20 W 106 dB

Sound projector, 20 W RMS power, 100 V line, with ABS plastic enclosure and aluminium grille. Degree of protection IP66.

Loudspeaker	5"
RMS power	20, 10, 5 & 2.5 W
Frequency response	150 ~ 20,000 Hz
SPL 1 m 1 kHz	92 dB (1 W) / 106 dB (20 W)
Dispersion	167° (1 kHz) / 55° (4 kHz)
Temperature range	-30 ~ +60 °C
Protection	IP66 (IEC-529)
Dimensions (mm)	203 (long), 146 (mouth)
Weight	2.0 kg
Finishing	ABS and aluminium, ivory colour
Accessories	wall/ceiling bracket
Regulations	EN 54-24



## Bidirectional sound projector | 10 W

EN 54 IP 66

### SP-910DEN 10 W 106 dB

Bidirectional sound projector with 2 x 6,5" loudspeakers, 10 W RMS power, 100 V line. Powder coated aluminium housing. Degree of protection IP66.

RMS power	10W
Speaker	2 x 6.5"
Frequency Response	79 ~ 17,500 Hz
SPL 1 m 1 kHz	96 dB (1 W) / 106 dB (10 W)
Degree of protection	IP66 (IEC-529)
Dimensions (mm)	165 x 200 x 162
Weight	2.35 kg
Finishing	aluminium RAL 9010
Accessories	wall/ceiling bracket
Normativa	EN 54-24, BS 5839 p.8



## Pendant sound projector | 16 W

EN 54 IP 35

### SP-916PEN 16 W 102 dB

Acoustic projector of spherical enclosure, for suspended installation in ceiling (cable of 4,5 m). Equipped with a 130 mm full-range speaker and connection to 100 V with three power adjustments. Built in UV-resistant ABS (UL 94 HB) in RAL 9010. Ceramic block and thermal fuse are provided. Protection IP35.

RMS Power	16, 8 & 4 W
Loudspeaker	1 x 5"
Frequency Response	130 ~ 13,200 Hz
SPL 1 m 1 kHz	90 dB (1 W) / 102 dB (16 W)
Protection	IP 35 (IEC-529)
Dimensions (mm)	185 x 157
Weight	1.58 kg
Colour	ABS UL 94 HB, RAL 9010
Mounting	hook & cable 4,5 m
Normative	EN 54-24, BS 5839 p.8



Installation suspended in ceiling. Includes 4.5 m hook and cable

# SOUND PROJECTORS

## Sound projector | 20 W

IP 66

**SP-20** 20 W 104 dB - **SP-20D** 20 W 99 dB

Sound projector, 20 W RMS power, 100 V line, with ABS plastic enclosure and aluminium grille. The sound projector SP-20D is bidirectional.



	SP-20	SP-20D
RMS power	20 W (30 W max)	20 W (30 W max)
Loudspeaker	5"	2 x 5"
Power selection (W)	20, 10 and 5 W	20, 10, 5 and 2.5 W
Low impedance connection	8 Ohm	-
Frequency response	120 ~ 20,000 Hz	120 ~ 20,000 Hz
SPL 1 m 1 kHz	91 dB (1 W)/104 dB (20 W)	86 dB (1 W)/99 dB (20 W)
Protection	IP66 (IEC-529)	IP66 (IEC-529)
Dimensions (mm)	203 (long), 150 (mouth)	203 (long), 150 (mouth)
Weight	2.0 Kg	2.6 Kg
Finishing	ABS and aluminium, ivory colour	ABS and aluminium, ivory colour
Accessories	wall/ceiling bracket	wall/ceiling bracket

## Wide range sound projectors | 30 W

**SP-30BC** 30 W 112 dB - **SP-30BR** 30 W 111 dB

Sound projector of 30 W, 100 V line, with high sound pressure and very good sound quality. For applications where it is necessary both the high performance of sound projectors and music broadcast. The speaker has several power taps and can be mounted on wall or ceiling with the included U-type bracket.

IP 66



IP 55



	SP-30BC	SP-30BR
Speaker	5"	5"
Rated Power (RMS)	30 W (100 V / 8 Ω)	30 W (100 V / 8 Ω)
Power Taps	30 W, 15 W, 7.5 W & 3.75 W	30 W, 15 W, 7.5 W & 3.75 W
Sound Pressure SPL (1 W, 1 m)	97 dB SPL (1 W)   112 dB SPL (30 W)	96 dB SPL a 1 W   111 dB SPL a 30 W
Frequency Range	100 ~ 10,000 Hz	100 ~ 15,000 Hz
Protection degree	IP66	IP55
Dimension (mm)	366 width x 172 height x 272 depth	170 ø x 272 depth
Weight	3 kg	2 kg
Finish	ABS, aluminium grille	ABS, aluminium grille
Colour	light grey (RAL7035)	light grey (RAL7035)
Mounting	U type bracket	U type bracket

## Sound projector, two-way | 30 W

EN 60849 IP 66

**FR-30VA** 30 W 113 dB

Two-way acoustic projector. Both the enclosure and its wide mouth give this loudspeaker a broad response in terms of frequency, a dispersal angle of 85° and a high acoustic pressure of 113 dB at maximum power.

Loudspeakers	1 x 5" + 1 x 1.5"
RMS power	30 W
Power selection	3.75 W, 7.5 W, 15 W and 30 W
SPL 1 m 1 kHz	98 dB (1 W)/113 dB (30 W)
Dispersal (1 kHz)	85°
Frequency response	80 ~ 20,000 Hz (-20 dB)
Dimensions (mm)	370 x 255 x 291
Protection	IP66
Weight	4.6 Kg
Finish	ABS and polypropylene with fibre glass, grey (RAL 7035)
Accessories	U-type aluminium bracket
Regulations	EN 60849



## Sound projector wall / ceiling / pendant | 30 W

IP 66

**SP-30SW** 30 W 99 dB

Sound projector of 30 W, 100 V line, prepared for outdoor installation with several power taps. The projector has two mounting possibilities; on wall/ceiling with the swivel bracket or suspended from the ceiling with the 1 m steel cable. All mounting accessories are included with the equipment.

Speaker	woofer 5,25", tweeter 1"
Rated power (RMS)	30 W
Power selection	30, 15, 7,5 y 3,75 W (100 V)   30 W (8 Ω). Rotary switch
Sensitivity	84 dB SPL (1 W, 1m, 1 kHz)
Sound pressure	99 dB SPL (30 W, 1m, 1 kHz)
Frequency response	110 ~ 20,000 Hz
Operating temperature	-30°C ~ 90°C
Protection degree	IP66
Dimensions (mm)	170 x 240
Weight	2,2 kg
Finish	polypropylene & metallic grille. White colour RAL9003
Mounting	swivel bracket or steel cable (included all accessories)

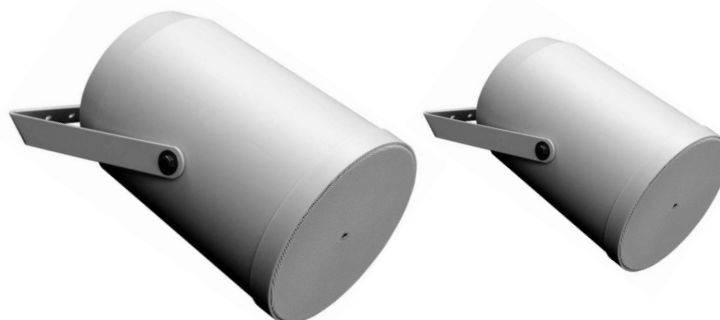


## Sound projectors | 10 & 20 W

**PJ-10** 10 W 101 dB - **PJ-20** 20 W 105 dB

Acoustic projectors in a cylindrical enclosure in ABS (10 W model) or high impact polystyrene (HIPS), highly resistant to violent impacts (20 W model). U-type aluminium bracket for wall/ceiling mounting.

	PJ-10	PJ-20
RMS power	10 W (15 W max)	20 W (30 W max)
Loudspeaker	5"	6.5"
Power selection	10, 5 and 2.5 W	20, 10 and 5 W
Frequency response	130 ~ 15,000 Hz	110 ~ 15,000 Hz
SPL 1 m, 1 kHz	91 dB (1 W)/101 dB (10 W)	92 dB (1 W)/105 dB (20 W)
Dimensions (mm)	205 (long), 138 (mouth)	245 (long), 170 (mouth)
Weight	1.5 Kg	1.75 Kg
Finishing	ABS, white	HIPS, white
Mounting	wall and ceiling	wall and ceiling



# HORN SPEAKERS

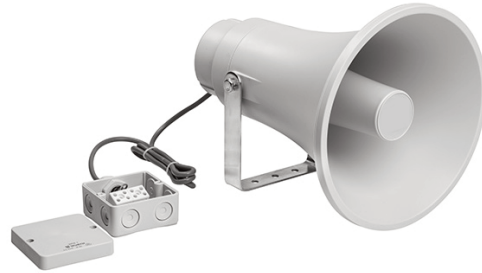
## Horn speaker | 30 W

**EN 54** **IP 66**

### AC-930EN 30 W 125 dB

Horn speaker of 30 W RMS, 100 V line. Low impedance connection available (20 Ω). Degree of protection IP66. EN-54 certified.

RMS power	30 W (45 W máx)
Power selection	30, 20, 10 and 5 W
Low impedance connection	20 Ω
Frequency response	250 ~ 15,000 Hz
SPL 1 m, 1 kHz	110 dB (1 W) / 125 dB (30 W)
Temperature range	-20° C to 90° C
Degree of protection	IP66 (IEC-529)
Finishing	ABS UL94V0
Dimensions (mm)	303 (length), 235 (mouth)
Weight	2.17 kg
Normative	EN 54-24 / BS 5839, p.8



## AC600 series

**IP 66**

### AC-615T 15 W 119 dB - AC-630T 30 W 124 dB - AC-650T 50 W 126 dB

Horn loudspeakers with a circular mouth made in aluminium and steel. 100 V line and low impedance connection.



	AC-615T	AC-630T	AC-650T
RMS power	15 W	30 W	50 W
Power selection	15, 7.5, 3.75 & 1.9 W   8 Ω	30, 15, 7.5 & 3.8 W   8 Ω	50, 25, 12.5 & 6.25   16 Ω
SPL 1 m, 1 kHz	107 dB (1 W) / 119 dB (15 W)	109 dB (1 W) / 124 dB (30 W)	109 dB (1 W) / 126 dB (50 W)
Frequency response	300 ~ 10,000 Hz	380 ~ 10,000 Hz	380 ~ 6,500 Hz
Grado de protección	IP66 (IEC-529)	IP66 (IEC-529)	IP66 (IEC-529)
Dimensions (mm)	Ø 207 x 245	Ø 246 x 292	Ø 327 x 350
Weight	1.3 kg	2.1 kg	2.8 kg
Finishing	aluminium and steel	aluminium and steel	aluminium and steel

## Compact horn speaker

**IP 66**

### AC-520W 20 W 122 dB

Small horn loudspeaker, 20 W, 100V line. Low impedance connection (8 Ohm).

RMS power	20 W (30 W max)
Power selection	20 and 10 W
Low impedance	8 Ω
Frequency response	500 ~ 7,000 Hz
SPL 1 m, 1 kHz	105 dB (1 W) / 118 dB (20 W)
Protection	IP66 (IEC-529)
Dimensions (mm)	175 (long), 130 (mouth)
Weight	1.7 Kg
Finishing	white ABS plastic



# HORN SPEAKERS

## Marine environments horn speaker

IP 67

**AEI-12T** 12 W 109 dB

Horn loudspeaker with a high degree of protection (IP67) to work in extreme weather conditions and maritime environments.

RMS power	12 W
Power selection	12, 6, 3 and 1 W
Low impedance connection	8 Ω
Frequency response	510 ~ 12,000 Hz
SPL 1 m, 1 kHz	98 dB (1 W)/109 dB (12 W)
Working temperature	-30°C to 70°C
Protection	IP67 (IEC-529)
Finish	HIPS RAL 7035
Dimensions (mm)	110 (long), 143 (mouth)
Weight	1.0 Kg



## Industrial environments horn speaker

IP 67

**AEE-30T** 30 W 124 dB

Horn loudspeaker with a high degree of protection (IP67) and high SPL to work in extreme weather conditions and industrial environments.

RMS power	30 W
Power selection	30, 15, 10, 7.5, 3.5 and 2 W
Frequency response	310 ~ 8,000 Hz
SPL 1 m, 1 kHz	110 dB (1 W)/124 dB (30 W)
Working temperature	-50°C to 150°C
Protection	IP67 (IEC-529)
Finish	RAL 7035 polyamide
Dimensions (mm)	286 (long), 237 (mouth)
Weight	2.3 Kg



## ATEX horn speaker

ATEX IP 66

**AEX-25TB** 25 W 124 dB

Exponential speaker for use in potentially dangerous atmospheres, with a high degree of protection, to install in all types of adverse environments.

RMS power	25 W
Power selection	25, 6.5, 5, 2.5 and 1.5 W
Frequency response	380 ~ 7,000 Hz
SPL 1 m, 1 kHz	105 dB (1 W) / 118 dB (25 W)
Working temperature	-50°C to 50°C
Protection	IP66 (IEC-529)
Finish	polyamide, black
Dimensions (mm)	207 (long), 144 x 170 (mouth)
Weight	2.2 Kg
Certification	ⓧII2G Ex of mb IIB+H2 T4 Gb



# ATTENUATORS

## CV series

**CV-4** 4 W - **CV-40** 40 W - **CV-P** 6 channels  
**CV-12** 12 W - **CV-60** 60 W

The CV attenuators adjust the power delivery with a rotating switch with 6 attenuation positions and another 6 for silencing the signal. They have announcement security function, and the 12, 40 and 60 W models a transformer, suitable for systems with loudspeaker line supervision. The CV selector supports 6 100-V line inputs and uses a rotating switch to select one of them.

	atenuadora CV	selector CV-P
Input	1 x 100-V line	6 x 100-V line
Output	1 x 100-V line	1 x 100-V line
Adjusted power	4 / 12 / 40 / 60 W maximum	-
Volume control	in 6 steps	-
Channel selection	-	up to 6 channels
Announcement security	yes	yes
Power supply	24 Vdc / 10 mA	24 Vdc / 10 mA
Finish	white, ivory, silver, graphite	white, ivory, silver, graphite
Mounting	in universal box	in universal box



CV-4WE (+ M-420W)

## Models

	Ivory	Graphite	White	Silver
4 W attenuator (without frame)	CV-4I	CV-4B	CV-4W	CV-4S
12 W attenuator (without frame)	CV-12I	CV-12B	CV-12W	CV-12S
40 W attenuator (without frame)	CV-40IE	CV-40BE	CV-40WE	CV-40SE
60 W attenuator (without frame)	CV-60I	CV-60B	CV-60W	CV-60S
6-program selector (without frame) framework	CV-PI	CV-PB	CV-PW	CV-PS
	M-420I	M-420B	M-420W	M-420S

## AV series

**AV-4** 4 W - **AV-4P** 4 W 6 channels  
**AV-40** 40 W - **AV-40P** 40 W 6 channels  
**AV-100** 100 W

Volume attenuators for 100-V line loudspeakers. They have announcement security function for announcements broadcasting at maximum power even with the attenuator closed. Available models of 4 W, 40 W and 100 W without program selection, and 4 W and 40 W with musical program selector.



AV-4E

AV-40E



AV-40P

	AV-4E	AV-40E / AV-100	AV-4P / AV-40P
Input	1 x 100-V line	1 x 100-V line	6 x 100-V line
Output	1 x 100-V line	1 x 100-V line	1 x 100-V line
Adjusted power	Up to 4 W	Up to 40 W/100 W	Up to 4 W/40 W
Volume control	in 6 steps	in 6 steps	in 6 steps
Announcement security	three lines (+, S & -C)	three lines (+, S & -C)	four lines (priority relay)
Channel selection	-	-	up to 6 channels
Dimensions (mm)	78 x 78 x 50	150 x 78 x 50	150 x 78 x 50
Weight	90 g	360 g / 650 g	190 g / 325 g
Finish	white ABS	white ABS	white ABS
Mounting	in universal box	in universal box	in universal box

## Priority paging relay

### MPP-02

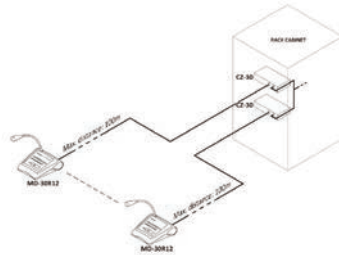
Priority paging relay for amplifiers not including this function. The MPP-02 is DIN rail & powered at 24 Vdc. For any type of amplifiers, desktop or rack-mounted.



## 12 zones microphone desk

### MD-30R12

Microphone desks with 12 zone selection keys. To send messages to one, several or all areas of the public address system. Last message repeat function.



The distance between the desk and the junction box can be increased up to 100 meters, using an FTP category 5 cable and RJ45 connectors.

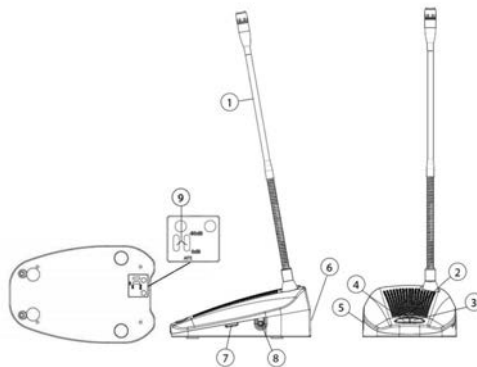
This way you can install the CZ-30 box in the PA rack and the microphone desk at the required distance.

Capsule	dynamic, unidirectional
Output impedance	600 ohm, balanced
Frequency response	1,300 ~ 14,000 Hz
Output level	-60 dB / 0 dB
Power supply	24 V dc
Gong	3 or 4 notes
Dimensions	218.2 x 226.2 x 75 mm gooseneck 300 mm
Weight	1.6 kg
Finish	Bayblend color RAL 7021
Message repetition	last 16 seconds

## Microphone desk -60 dBm / 0 dBm

### MD-18

Microphone desk for all call announcements. Selectable output level: microphone (-60 dB) or 0 dB. Power supply included.



Power	12-24 V DC
Consumption	50 mA
Output level	-60 dB / 0 dB selectable
Connector	DIN 7P (DIN 5P compatible)
Frequency response	250 - 10.500 Hz
Output contact	Solid state relay
Audio controls	Mic volume, chime volume, compressor
Priority controls	1st in 1st / Cascade, ACK
Gong	Start
Talk mode	PTT or lock
Finish	ABS cover, zinc base
Dimensions	Base: 170 x 112.5 x 63.6 mm Gooseneck: 342 mm
Weight	0.8 kg
Accessories (included)	Power supply 12 V DC 0.5 A

- 1 Microphone.
- 2 Talk/Gong/Busy indicator (Green/Red/Orange).
- 3 Gong + talk key.
- 4 Call button.
- 5 Power connector.
- 6 Output connector.
- 7 Mic volume.
- 8 Chime level.
- 9 Gain selector and configuration dipswitch (removing the cover).

# MICROPHONE DESKS

## Microphone desk -60 dBm / -20 dBm

### MD-15

Microphone desk for all call announcements. Selectable output level: microphone (-60 dB) or aux (-20 dB). Power supply included.



Power supply	12-24 V DC
Consumption	100 mA
Output level	-60 dB / -20 dB selectable
Connector	DIN 5P
Frequency response	100 - 15 kHz
Output contact	solid state relay
Audio controls	mic volume, chime volume, noise gate
Gong	start, start/end, none
Talk mode	PTT or lock
Finish	ABS cover, zinc base
Dimensions	base: 170 x 112.5 x 63.6 mm gooseneck: 342 mm
Weight	0.8 kg
Accessories (included)	power supply 12 V DC 0.5 A

## Microphone desk with inhibition system

### 2693

A microphone for announcements with inhibition system if several are working on the same loudspeaker zone (habitual in medical clinics), and "pilot pass output" function with adjustable timing. Suitable, for instance, in managing announcements in waiting rooms.



Switched channels	1 stereo or 2 mono
Frequency response	200 - 15,000 Hz
Nominal audio output	4.4 V pp (+6 dBu)
Line output	775 mV RMS (0 dBu)
Priority control	24 Vdc, max 500 mA
Pass pilot control	24 Vdc, max 100 mA, 2 - 15 s
Power supply	24 Vdc
Consumption	90 mA

## Microphone with gooseneck

### ME-F45D

Pencil type microphone mounted on flexible gooseneck with XLR connector to insert in a base. Suitable for conferences, conventions, meeting rooms, etc.



Capsule type	electret
Power supply	phantom 9 - 52 V
Directability	cardioid one-way
Output impedance	1,000 Ω, symmetric
Frequency response	150 - 16,000 Hz
Sensitivity	-30 dB
Connection	XLR
Dimensions (mm)	capsule Ø 8 x 25, flex 450
Weight	170 g
Finish	black metal

## Hand-held microphone

### DM-10DS **cardioide**

Hand-held microphone for general PA applications; announcements, conferences, speeches... With metal body and start switch.

Capsule type	dynamic
Directability	hyper cardioid
Output impedance	250 Ω, balanced
Frequency response	50 ~ 16,500 Hz
Sensitivity	- 77 dB
Controls	start-stop switch
Power supply	-
Dimensions (mm)	Ø 48,4, longitud 195
Connection	XLR
Finish	matt grey steel



## Levalier microphone

### TCM-130

Electret levalier microphone, with clip to fix the microphone capsule to the clothes and to talk with hands free.



Capsule type	electret
Power supply	battery 1.5 Vdc, R6 (AA)
Directability	all-way
Output impedance	1,000, asymmetric
Frequency response	60 ~ 16,000 Hz
Sensitivity	- 65 dB at 1 kHz and 1 µbar
Connection	cable 2 m with Jack 6.35 mm
Dimensions (mm)	Ø 13, length 25
Weight	20 g (only capsule)
Accessoires	lapel clip
Finish	metal, black

## Wall microphone with inhibition system

### 2694M

A microphone for announcements with inhibition system if several are working on the same loudspeaker zone (habitual in medical clinics), and "pilot pass output" function with adjustable timing. Suitable, for instance, in managing announcements in waiting rooms.



Switched channels	1 stereo or 2 mono
Frequency response	200 ~ 15,000 Hz
Nominal audio output	4.4 V pp (+ 6 dBu)
Line output	775 mV RMS (0 dBu)
Priority control	24 Vdc, max 500 mA
Pass pilot control	24 Vdc, max 100 mA, 2 ~ 15 s
Power supply	24 Vdc
Consumption	90 mA

# MICROPHONES

## Desk - counter intercom

### SIV-40

Microphone desk with loudspeaker (interior), microphone and loudspeaker (exterior), for window intercommunication. Suitable for ticket sales (transport, shows...) or for dealing with the public (administration, bank...).

Power supply	14 Vdc
Consumption	300 mA
Power	4W + 4W (RMS)
Frequency response	20 ~ 16,000 Hz
Communication	half-duplex & automatic switching
Sensitivity	-47 dB
Elements	microphone desk with loudspeaker external loudspeaker external microphone power supply (14 Vdc, 300 mA) recording output and noise reducer
Others	



## Microphones for supervision

### ME-PS1 flush - ME-PS2 compact, in box

Microphones designed to capture, monitoring or recording audio in situations and areas where their concealed installation is required and / or integrated into tables, podiums, walls or ceilings. They are used in audience halls of courts and prisons, conference podiums and town councils, control panels in security rooms, controlled access areas, pulpits of religious services ....

	ME-PS1	ME-PS2
Type	electret omnidirectional	electret omnidirectional
Signal-to-noise ratio	59 dB	59 dB
Output signal	600 Ω, balanced	600 Ω, balanced
Output nominal level	selectable -60 / -30 / 0 dB	selectable -60 / -30 / 0 dB
Output connector	RJ-45 (audio, control, 24 V CC)	RJ-45 (audio, control, 24 V CC)
Power supply	24 V CC through RJ-45	24 V CC through RJ-45
Consumption	60 mA	60 mA
LED indicator	blue LED "talk"	blue LED "talk"
Box dimensions (mm)	106 x 77 x 29 mm	125 x 85 x 60 mm
Microphone dimensions	70 x Ø 18 mm (hidden part) 6 x Ø 30 mm (visible part)	(built-in) -
Finish	metal (box and microphone)	plastic and metal (microphone)
Complements	power supply cable mini jack - mini - jack PC-ADAPTER	power supply cable mini jack - mini - jack PC-ADAPTER



ME-PS1



ME-PS2

## Microphone Adder

### 2695

Microphone Adder (Microdesk Adder) with four symmetric microphone inputs and one output with input mixing.



# WIRELESS MICROPHONES

## Microphones

**MI-MMU16** hand - **MI-MDU16** headset  
**MI-MSU16** levalier - **MI-MAU16** aerobic

Wireless microphone system in UHF band, with diversity, selection of up to 16 frequencies and remotely configurable from the receiver with ultrasounds and the REMOSET pairing system.

- Frequency band :823 ~ 832 MHz and 863 ~ 865 MHz.
- Automatic configuration.
- Display on transmitters and receivers.
- No interference with 4G.
- Up to 15 simultaneous microphones.
- Receptors of 1 and 2 channels with diversity.



**MI-MMU16**  
 Wireless handheld microphone with cardioid polar diagram and possibility of configuration from the equipment itself.



**MI-MDU16**  
 Unidirectional condenser stage headset wireless microphone, lightweight for freedom of movement and great comfort thanks to its ergonomic design.



**MI-MSU16**  
 Lavalier microphone with cardioid polar diagram, lightweight and small size for minimum visibility. Includes a clip to hold the microphone in tie or lapel.



**MI-MAU16**  
 Double ear-hook wireless microphone designed especially for aerobics or similar activities.

## Receivers

**MI-RD2CU16** 2 channels - **MI-RD1CU16** 1 channel

Receivers of wireless microphones of one or two channels and with the possibility of automatically configuring and synchronizing the microphones, matching the frequencies, with ultrasounds (REMOSET system).

Frequency Oscillation	phase-locked loop (PLL)
Remote set	ultrasonic
Diversity	antenna diversity
Bandwidth	2 MHz
Signal / Noise Ratio	> 105 dB
THD	< 0.6 % @ 1 kHz
Receiving Sensitivity	-95 dBm, S/N > 80 dB
Frequency Response	50 Hz ~ 16 kHz ± 2 dB
Antenna	1/2" BNC detachable, DC 12 ~ 15 V / 100 mA
Audio Frequency Output Level	6.35 mm Jack: -10 dBV, XLR: -4 dBV (Line) / -24 dBV (MIC)
Impedance	600 Ω
Output Port	XLR balanced & 6.35 mm jack unbalanced (per channel)
Power Supply	12 ~ 15 Vdc (power supply included)
Dimensions (mm)	212.3 x 38.3 x 144



## Microphone desk

**MI-PMU16**

Microphone desk with flexible gooseneck & transmitter in the base for cable-free use as a wireless microphone.



## Accessories

- UB-900** Wall antenna
- UA-900** Antenna signal distributor
- MI-CH2** Microphones charger

# CONFERENCE SYSTEMS

## TL3300 series - Cable

### TL-Z4 central unit - ZJ-KR expansion

Conference system with cable connection with headphone jack and volume control. The system allows activating up to 4 delegate microphones at the same time. Optionally it can be controlled from a computer and integrated with CCTV cameras.



### TL-VD3300 delegate

### TL-VX3300 chairman



- Built-in 410 mm gooseneck microphone.
- Built-in speaker with headphone jack.
- Audio output for recording.
- Supports hot plugging.
- Highly resistant to mobile phone interference.
- Easily hidden unit connecting cables.
- Chairman unit can override/mute the active delegate units
- Accessories.
  - extension cables with connector of 3, 5, 10, 15, 20 & 40 m.
  - type T cable with 1,2 + 1,5 m.

## DCS3021 series - Radiofrequency (RF)

Conference system with RF connection, for up to 500 conference units, with headphone jack and volume control. Compatible with the infrared simultaneous translation systems. Optionally it can be controlled from a computer and integrated with CCTV cameras.



SERVER



WIRELESS  
ACCESS POINT

### DCS-3021D-W delegate

### DCS-3021C-W chairman



TRANSPORT  
CASE



CHARGER



- Built-in 310 mm gooseneck microphone with AUTO, FIFO and VOX modes.
- Built-in speaker.
- FS-FHSS frequency selection and skip technology.
- High definition CD sound quality.
- Very resistant to interference from mobile phones.
- Battery usage time (talk mode) greater than 20 hours.
- Loading via USB interface.
- Detection of battery capacity with low voltage alarm and automatic shutdown.
- Available transport case (16 units) and transport & charger case for a complete system (server and up to 16 units).
- Supports SD and DH cameras for automatic tracking, with pre-set panoramic position.

# SIMULTANEOUS TRANSLATION

## Infrared simultaneous translation

Wireless simultaneous translation system with distribution of up to 12 audio channels using advanced infrared transmission technology in the frequency range from 2 to 6 MHz. It is immune to the distortion that the lighting of the room can produce and is free of radio interference. Suitable for official and business conferences, international conventions and other multilingual applications.

### IR transmitters

<b>TC-Z904B</b>	<b>4 channels</b>
<b>TC-Z906B</b>	<b>6 channels</b>
<b>TC-Z908</b>	<b>8 channels</b>
<b>TC-Z912</b>	<b>12 channels</b>



Central unit of the system to modulate and transmit the audio channels to different carrier frequencies. Independent audio outputs per channel, connection for two lines of infrared radiators and for multiple interpreter desks.

### Interpreter desks

<b>TC-F06</b>	<b>6 languages</b>
<b>TC-F16</b>	<b>16 languages</b>

Interpreter desks with LCD screen for configuration and control of the channels, gooseneck microphone, loudspeaker and connection for headsets.



### Camera Tracking

The video tracking function can be added to the conference and simultaneous translation systems, with software-controlled cameras with positioning and automatic focusing.

Check with our technical department the needs of your project.



### IR radiator

<b>TC-H25</b>	<b>25 W</b>	<b>40 m</b>
<b>TC-H35</b>	<b>35 W</b>	<b>60 m</b>



GX-315 tripod (option)

### IR receivers

<b>TC-J904LC</b>	<b>4 channels</b>
<b>TC-J906LC</b>	<b>6 channels</b>
<b>TC-J908LC</b>	<b>8 channels</b>
<b>TC-J912LC</b>	<b>12 channels</b>

Portable infrared receivers with LCD screen to view the selected channel and the battery level, channel selector, volume control and headphone jack.



### GX-60

The batteries are rechargeable, Li-Ion, with the GX-60 suitcase (sold separately).



# DISTRIBUTED AUDIO

## Central units

<b>K811U2</b>	<b>1 channel</b>	<b>10 controls</b>
<b>K811U6</b>	<b>1 channel</b>	<b>20 controls</b>
<b>K814U2</b>	<b>4 channels</b>	<b>10 controls</b>
<b>K814U6</b>	<b>4 channels</b>	<b>20 controls</b>

Units for connecting the general sound sources, musical program distribution and power supply of the controls. With automatic gain control and energy use over 80%

**K835D** Power supply source for connecting an additional 20 controls.



Power supply	230 Vac
Consumption at rest	5.17 W
Consumption (6 controls)	14.96 W
Efficiency	78 ~ 82%
Power supply output	12 Vdc / 2.1 A
External socket base	230 Vac / 500 W
Dimensions (mm)	235 x 155 x 81
Finish	ABS/Zamack

- Audio input (connector 2 x RCA)
- Audio level indicators
- Automatic gain control
- Socket base for connecting and controlling musical sources.

## Evacuation and alarm interface

**K828E** A module for announcements from an external system to be broadcast as a priority through all of the loudspeakers of the distributed audio system.



## Microphone zone desk

**K810A**



Microphone desk for live announcements and to send them to loudspeakers of the dSOUND system with selective and general call.

Keyboard, LCD display and microphone with flexible gooseneck.

## Control with domotic functions

**K801RLD**

Control with a stereo audio channel, FM radio and home automated functions. Allows "hands free" telephone calls and answering, answering the automatic doorphone and opening the door, all from a single remote control.

- 1 stereo channel 1.5 W + 1.5 W (8 Ohm).
- Control of bass, treble, balance, 3D sound...
- FM stereo digital radio.
- Auxiliary sound input.
- Time functions: clock, alarm...
- Intercommunication: individual call (16 zones) and general call.
- Home automated functions with IR control and connection to telephone and doorphone.

## Interfaces

**Doorphone**



**K820P**

**Telephone**



**K824T**



**K801RLD**  
(with frame K861W)



## Controls

Controls with 1, 2, 3 or 4 audio channels, announcement preference, programmable disconnection time, auxiliary audio input and digital volume control with memory... Some models include additional functions such as LCS display, bluetooth connection, alarm clock, intercommunication, listening and FM radio.

### 1 ST channel + FM (bluetooth option)

#### K801R | K801RB

Audio input: 1 stereo channel  
 Audio output: 1,5 W + 1,5 W (8 Ω)  
 FM radio with 4 stations  
 Headphone output  
 Bluetooth connection (only K801RB)



K801R (+ K861W)

### 1 ST channel (bluetooth option)

#### K801 | K801B

Audio input: 1 stereo channel  
 Audio output: 1,5 W + 1,5 W (8 Ω)  
 Headphone output  
 Bluetooth connection (only K801RB)



K801 (+ K861S)

### 1 ST channel + intercom + LCD + FM

#### K801RL

Audio input: 1 stereo channel  
 Audio output: 1,5 W + 1,5 W (8 Ω)  
 FM radio with 9 stations  
 Intercommunication, general messages and simultaneous listening  
 LCD display



K801RL (+ K861W)

### 1 ST channel + intercom + LCD

#### K801L

Audio input: 1 stereo channel  
 Audio output: 1,5 W + 1,5 W (8 Ω)  
 Intercommunication, general messages and simultaneous listening  
 LCD display



K801L (+ K861S)

### 2 ST channels + intercom + LCD + FM

#### K802RL

Audio input: 2 stereo channels  
 Audio output: 1,5 W + 1,5 W (8 Ω)  
 FM radio with 9 stations  
 Intercommunication, general messages and simultaneous listening  
 LCD display



K802RL (+ K861S)

### 4 channels (bluetooth option)

#### K804 | K804B

Audio input: 4 mono channels  
 Audio output: 1,5 W + 1,5 W (8 Ω)  
 Headphone output  
 Bluetooth connection (only K804B)



K804 (+ K861B)

### 3 channels + LCD + FM

#### K803RL

Audio input: 3 mono channels  
 Audio output: 1,5 W + 1,5 W (8 Ω)  
 FM radio with 9 stations  
 LCD display



K803RL (+ K861B)

### 4 channels + LCD

#### K804L

Audio input: 4 mono channels  
 Audio output: 1,5 W + 1,5 W (8 Ω)  
 LCD display



K804L (+ K861B)

## Frames



- |              |                     |              |                      |
|--------------|---------------------|--------------|----------------------|
| <b>K861W</b> | 1 module, white     | <b>K862W</b> | 2 modules, white     |
| <b>K861I</b> | 1 module, off-white | <b>K862I</b> | 2 modules, off-white |
| <b>K861B</b> | 1 module, graphite  | <b>K862B</b> | 2 modules, graphite  |
| <b>K861S</b> | 1 module, silver    | <b>K862S</b> | 2 modules, silver    |

Adapters available for the most habitual market series: SIMON, LEGRAND, BJC, BTICINO, JUNG, NIESSSEN... Consult our technicians.

# DISTRIBUTED AUDIO

## Loudspeakers

Loudspeakers to connect to the controls, low impedance (8 Ω). The range covers the series loudspeakers of 2", 3.5", 5" and 8" and is completed with the OPTIMUS models with low impedance connection.

### 5" active - passive ceiling loudspeaker

**K855A** **active**

**K855** **passive**

By combining passive and active loudspeakers (self-amplified) the possibilities of distributed audio installations are increased. The amplifier in each active loudspeaker supplies up to five passive loudspeakers.



K855A - active



K855 - passive



**Grilles (supplied separately)**

**K875W** White  
**K875B** Graphite  
**K875S** Silver

ABS grilles, Ø 185 mm and 9 mm thick. Hole for flush installation Ø 150 mm

Speaker (K855/K855A)	
Loudspeaker	5"
RMS power	15 W
Frequency response	90 - 19,000 Hz
Dimensions	Ø 132 mm x depth 56 mm
Amplifier (K855A)	
RMS power	10 + 10 W stereo, 20 W mono
Output impedance	2 Ω
Capacity	3 right channel loudspeakers 2 left channel loudspeakers
Accessories	
Grille	K875W/K875B / K875S
Box for flush installation	K885
Spring hooks	K885M <sup>(1)</sup>
Pressure hooks	K885G <sup>(2)</sup>

<sup>(1)</sup> Special fixing system for plaster and false ceilings.

<sup>(2)</sup> Fixing system for 5" market boxes for flush installation.

### 3,5" & 8" Ceiling loudspeakers

**K853P** **3,5"** **10 W** - **K858M** **8"** **15 W**

Passive loudspeakers (8 Ω) with white ABS grille, for ceiling flush installation.



K853P



K858M

	K853P	K858M
Loudspeaker	3,5"	8"
RMS power	10 W	15 W
Frequency response	125 - 18,000 Hz	50 - 17,000 Hz
Dimensions	Ø 120 mm, depth 66 mm	Ø 270 mm x depth 78 mm
Installation hole	Ø 105 mm	Ø 240 mm

### Loudspeakers for universal flush box

**K852PC** **2"** **8 W** - **K852P2** **2"** **8 W**

With ABS grille and chassis for fixing to universal box either alone (K852PC) or combined with a control (K852P2 with K865C2 chassis).

Loudspeaker	2"
RMS power	8 W
Frequency response	150 - 16,000 Hz
Dimensions	Ø 50 mm x depth 39 mm
Mounting	in universal box



K852PC



K852P2

### Amplifiers

**K842** **10 + 10 W** **20 W (mono)**

**K844** **20 + 20 W** **40 W (mono)**



K842



K844

Request information if you need a loudspeaker from our catalog adapted to work with the distributed audio system dSOUND.

# PUBLIC ADDRESS RACKS

## Rack cabinets (19" frames)

### AR-18K

Furniture for housing the elements of the PA units with a standard width of 19", 800 mm in depth and height as needed (18, 27, 37 and 42 units).

### AR-27K

### AR-37K

### AR-42K

They incorporate wheels, practicable side panels, rear panel with key, top fans and optionally a tempered glass front door with key.



	AR-18K	AR-27K	AR-37K	AR-42K
Height units	18	27	37	42
Interior width	488 mm (19")	488 mm (19")	488 mm (19")	488 mm (19")
Exterior dimensions				
Width (mm)	600	600	600	600
Depth (mm)	800	800	800	800
Height (mm)	985	1385	1830	2055
Ventilation	4 fans	4 fans	4 fans	4 fans
Wheels	incorporated	incorporated	incorporated	incorporated
Front door (optional)	PK-18	PK-27	PK-37	PK-42

Consult OPTIMUS if you want the cabinet supplied assembled, wired, checked and with the specific technical documentation of your installation.

There are 18, 27, 37 and 42 unit height versions for Public Address & Voice Alarm COMPACT systems, as well as the required accessories for an installation to comply with **EN54** regulations (differential switches, sockets, line speaker protection, Ethernet, power filters...). **Consult with us to carry out the study according to your installation.**



## Transport racks

### AR-60H

Furniture for assembly and transport of audio equipment: metal edge pieces, butterfly closures, metal handles, rubber feet...

### AR-60

### AR-80

The AR-60H model is prepared for installing a horizontal mixing table.



AR-60H



AR-60 | AR-80

	AR-60	AR-60H	AR-80
Height units	6	6 V + 10 H	8
Interior width (mm)	488 (19")	488 (19")	488 (19")
Exterior dimensions			
Width (mm)	520	590,5	520
Depth (mm)	620	552,5	620
Height (mm)	295	590,5	380

## Desktop rack (10 U)

### AR-10C

A model for fixed installations and with a size suitable for tabletop due to its reduced dimensions.

Height units	10
Interior width (mm)	488 (19")
Exterior dimensions	
Width (mm)	546
Depth (mm)	600
Height (mm)	520



## Accessories

OPTIMUS has a wide range of accessories to configure the rack of the public address system for your installation: switch modules, thermomagnetic, battery disconnect key, volume control, monitor speaker, channel selector ... We also have all the mechanical and electrical elements necessary to install their equipment, from mounting brackets & blank panels to patch panels for the rack wiring.

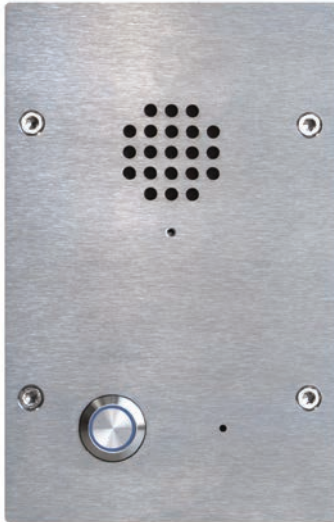
# IP/SIP INTERCOMMUNICATION

## Intercommunicators

### EP-42SIP - EP-42SIPH

Vandal-resistant and weatherproof intercom station with SIP protocol. Bi-directional full duplex audio, echo cancellation, noise reduction, web server, metal call button, led for active call, remote control for door unlocking, signalling output to activate external Systems.

EP-42SIP



EP-42SIPH



Special model for emergency call points, such as those installed in the **refuge areas**, with large SOS letters in red, pre-recorded message for call in progress, accessibility pictogram and CALL word in braille.

### MECHANICS

#### EP-42SIP | EP-42SIPH

- Sturdy 3mm metal front panel.
- Mylar speaker (weatherproof) and protected by an inner metal grill.
- Metal vandal-proof call button.
- Security Torx Scre.
- IP65 protection against dust and water.

### AUDIO

- Most common codecs: G711, G722, G726, DVI4, linear PCM, Speex... included.
- Noise reduction.
- Echo cancellation.
- Ringtone in process customizable by WAV file.
- Door open acoustic alarm.
- Microphone and speaker volume setting.

### CONTROL

- Temporary door opening from zone control using DTMF code.
- DTMF codes to leave the door open or closed permanently.
- Additional contact, active in communication or call, to control external systems such as CCTV.

### EK-30SIP

IP/SIP Intercom electronic board in metallic box, with speaker, microphone and push-button, to integrate into ATMs, elevators, barriers...



### EM-42SIP

Intercom in sealed IP66 & IK10 box, with gooseneck microphone, metallic call button, active call indicator LED and output for external loudspeaker connection (8 Ω, not included). Optionally the box can incorporate lock with key.



# IP/SIP INTERCOMMUNICATION

## IP/SIP servers

**U-20** 30 extensions - **U-50** 100 extensions - **U-100** 500 extensions

Servers enhance the performance of intercom and PA interfaces and allow to configure systems with additional functions to those based on point to point p2p.

Among other features, servers allow audio recording, output to analogue DTMF telephones, use of generic SIP smartphone applications, running behind a NAT (in different networks without VPN), sequential call, multiple call, call paging, use of generic SIP smartphone applications (simultaneous audio) simplex and duplex...

- 30 / 100 / 500 extensions.
- 15 / 30 / 100 concurrent calls.
- Codecs G711, G722 HD, G726...
- Hardware echo cancellation.
- Modular design for flexible solutions.
- Web server.
- No need for software licenses.



**U-20** | 30 extensions | 15 concurrent calls



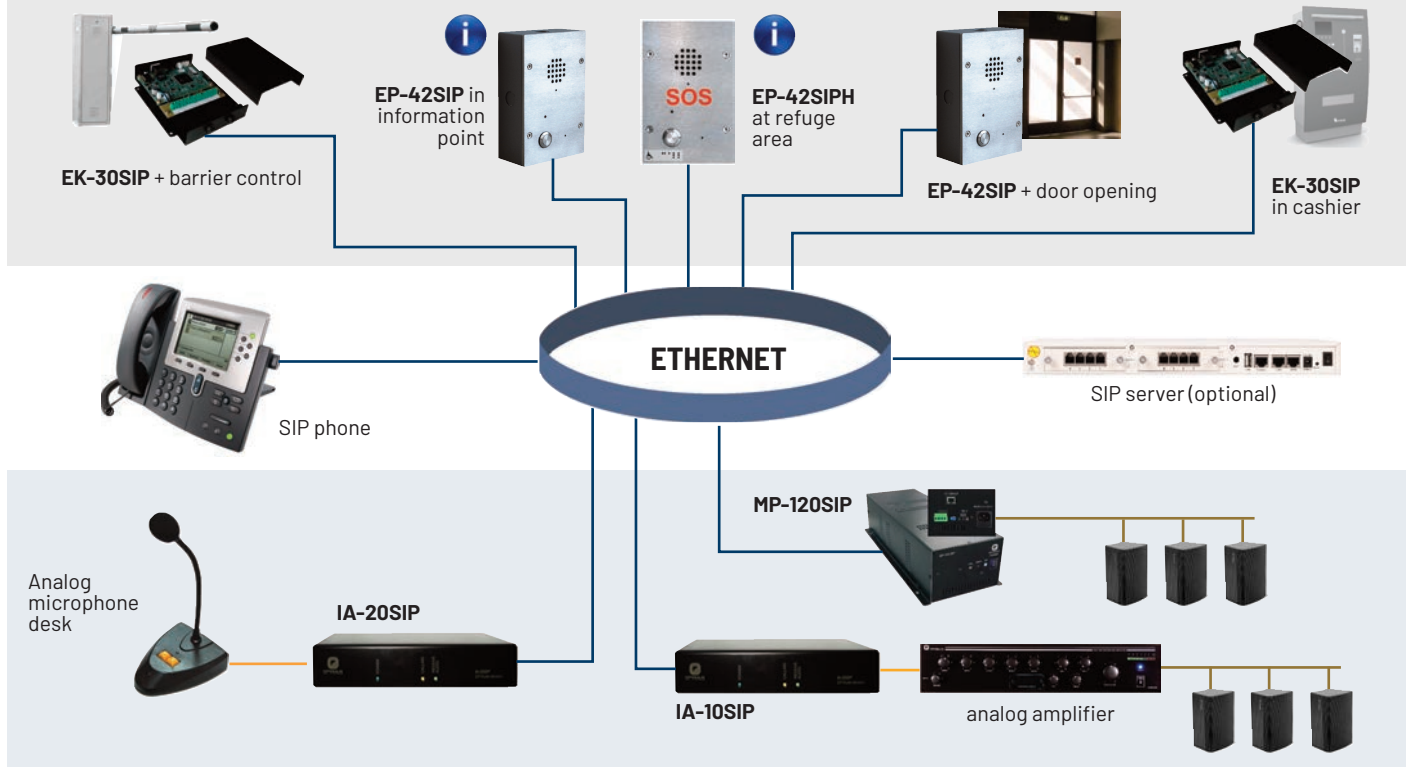
**U-50** | 100 extensions | 30 concurrent calls



**U-100** | 500 extensions | 100 concurrent calls

## IP/SIP Intercommunication & Public Address

### INTERCOMMUNICATION



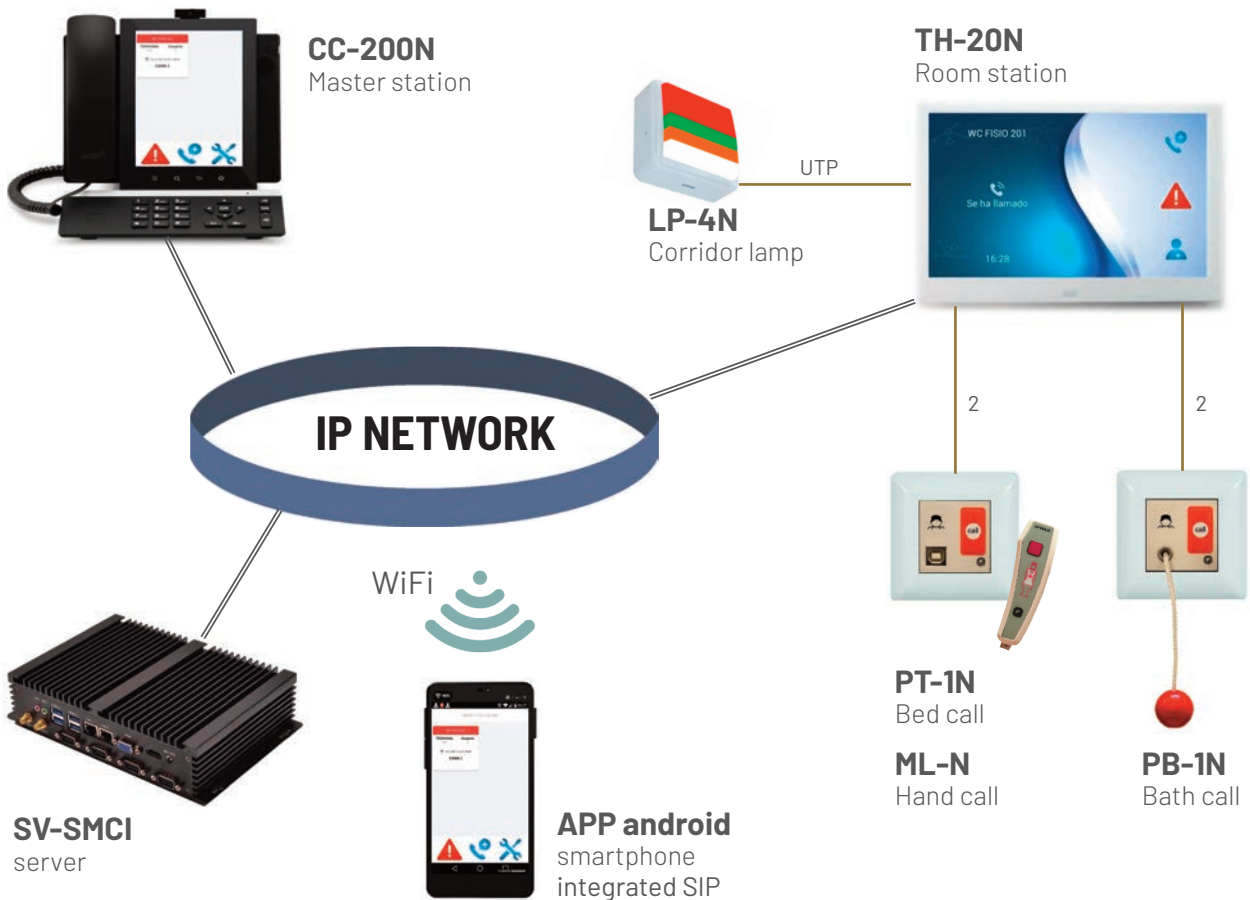
### PUBLIC ADDRESS

# SMCi SYSTEM

## Nurse call system IP/SIP

### SMCi

IP-based patient-nurse intercom system for hospitals, clinics and nursing homes, with devices in patient rooms and nurse controls with touch screen, audio communication via open SIP protocol, assistance from mobile phones via WiFi and easily integrable with the management software ResiPlus®



### SYSTEM ELEMENTS

<b>SV-SMCI</b>	SMCi server with management software accessible from web browser
<b>CC-200N</b>	Master station with touch screen 10"
<b>TH-20N</b>	Substation with touch screen 10" & integrated software
<b>LP-4N</b>	Corridor lamp with with red, green, amber and white LEDs
<b>PT-1N</b>	Call module with connector for handheld calling unit ML-N. Standar box, without frame (M420 series)
<b>PB-1N</b>	Call module with pull-cord. Standar box, without frame (M420 series)
<b>ML-N</b>	Handheld calling unit with call button (connected to PT-1N)
<b>FA-12150</b>	Power Supply 12 V DC 150 W
<b>CE-TH</b>	Flush mount panel for TH-20N with I/O circuit to connect call buttons
<b>CS-TH</b>	Surface mount panel for TH-20N with I/O circuit to connect call buttons

## Control centrals

### CC-123F

A control central for receiving incidents of the SMC system, dealing with them and communicating with the call points.



Signalling & Intercommunication

### CC-119F

Control central with signalling only to receive the incidents of the SMC system.



Signalling

- Reception of calls and presence, identifying origin and type.
- Display presentation of all calls pending ordered by priority.
- Transfer of selective control to four possible receiver centres.

- Simultaneous attention of calls and presence along with other centrals.
- Connection for programming names of intercommunicators from the computer.
- Indicators of status and type of call.
- External call signalling.

### CC-142F

Intercommunication central with 19" touchscreen and graphic presentation of incidents on plan. It receives calls and presences from the SMC system, presents them on the plan, establishes communication, registers and deals with the information, facilitates the statistical study of the incident management...



- Plant plans with informative icons of the location of call points.
- Call display table / incidents and record in file (historical).
- Immediate connection by pressing on the plane, the call display table or by means of a control keypad.
- Programming of substations and transfer management.
- File with photograph and data identifying the call point.
- Export of XLS files and statistical graphics for control and improvement of service quality.
- Check the availability of supply the software and the interface (only for functions of supervision and management of information, without audio communication)

## Control modules

### MT-DA/B

A transfer control module for systems with several centrals and with control transfers between them. It has one input and four outputs, electrically isolated and with regenerated data.



### SC-BUS

Control module to electrically sectorise and isolate the communications bus, to separate different sections of connection and avoid the propagation of errors or breakdowns.



# SMC SYSTEM

## Intercommunicators - hospitals, clinics and residences

### TH-03F | TH-02F

A multifunction intercommunicator with the possibility of establishing all kinds of call and presence with the central, communicating with it and with other intercommunicators. Suitable for rooms in hospitals, clinics and residences. The two models can make a connection with the intercommunicator that has produced the most priority call. The TH-03F includes a small display that shows the origin and type of the call.



TH-03F



TH-02F

Power supply	24 Vdc
Central connection	5-line SMC bus
Local connection buttons	2 x 0.5 mm <sup>2</sup> , max. 20 m
Local connection lamps	3 x 0.5 mm <sup>2</sup> , max. 20 m
Loudspeaker	8 Ohm, 4 W maximum
Dimensions (mm)	230 x 140 x 10
Finish	ABS, ivory colour
Box for flush installation	2010 model
Surface box	CAJ-TH model

## Audio modules

### AM-1F | U-AM

Communication modules with loudspeaker and microphone to make an audio connection through the UR control units.



AM-1F



U-AM (+ M-420W)

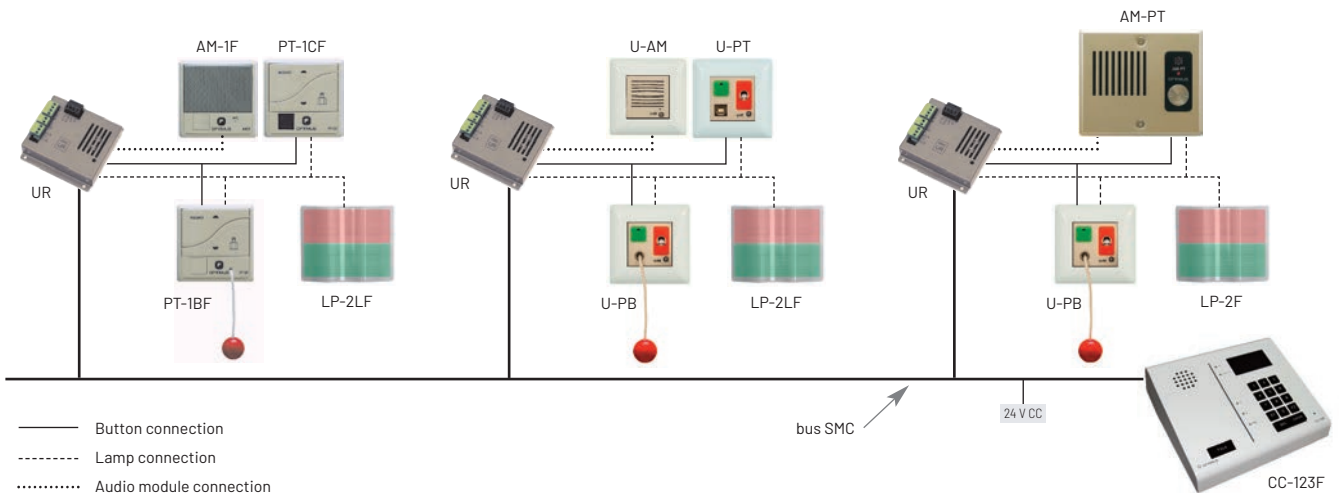


- Front plate
- Stainless steel call button
- Allen screws
- LED call in progress
- High sensitivity omnidirectional microphone
- Humidity resistant speaker

## Audio module for access points

### AM-PT

Intercom with call button, microphone and speaker. It connects to the control units of the UR series.





## Remote control units

<b>UR</b>	audio + data	1 zone
<b>UR-4</b>	audio + data	4 zones

Control electronics that establishes communication of audio + data between the centrals, the call and signalling devices of the system and the audio modules, with amplification and transmission volume adjustment from the central. Models available to control a series of mechanisms (a room) or four units (four rooms).



<b>UC-S</b>	data	1 zone
<b>UC-4S</b>	data	4 zones

Control electronics that establishes data communication between the centrals and the different system call devices and signalling. Models available to control a series of mechanisms (a room) or four units (four rooms).



	UR	UR-4	UC-S	UC-4S
Power supply	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Consumption (rest/max.)	25 mA/230 mA	45 mA/230 mA	25 mA/200 mA	45 mA/200 mA
Capacity	1 set of devices	4 sets of devices	1 set of devices	4 sets of devices
Central connection	5-line SMC bus	5-line SMC bus	3-line SMC bus	3-line SMC bus
Local connection buttons	2 x 0.5 mm <sup>2</sup> , max. 20 m	2 x 0.5 mm <sup>2</sup> , max. 20 m	2 x 0.5 mm <sup>2</sup> , max. 20 m	2 x 0.5 mm <sup>2</sup> , max. 20 m
Local connection lamps	3 x 0.5 mm <sup>2</sup> , max. 20 m	3 x 0.5 mm <sup>2</sup> , max. 20 m	3 x 0.5 mm <sup>2</sup> , max. 20 m	3 x 0.5 mm <sup>2</sup> , max. 20 m
Local audio connection	4 x 0.5 mm <sup>2</sup> + display, (20 m)	4 x 0.5 mm <sup>2</sup> + display, (20 m)	-	-
Dimensions (mm)	102 x 102 x 23	165 x 120 x 23	102 x 102 x 23	165 x 120 x 23
Finish	grey metal	grey metal	black metal	black metal

## Calling modules

### U-ML | ML-F | ML-P

Handheld call controls for patients, with 1.9 m cable and RJ45 or USB connector.



- ML-P**
- Call button.
  - 1.9 m cable .
  - RJ45 connector.



- ML-F | U-ML**
- Call button.
  - Call under way LED.
  - Buttons (2) to activate lights (by 24 Vdc teleswitches).
  - 1.9 m cable.
  - ML-F: RJ45 connector.
  - U-ML: USB connector

## Corridor light

### LP-2LF

Light to signal the state of the calls and presences generated by the devices and intercoms in the room.



## Wireless system

The wireless call controls avoid breakage due to accidental pulling, are always within the patient's reach and are more hygienic as the cable and connector are eliminated. The patient's model works by radio, synchronising with the receiver and long range; the nurse's by infra-red, short range.

### ML-R



### ML-RP



### ML-RC



### RL-1

Wireless control receiver both via radio and infra-red, to accept calls, presences and programming of the wireless controls.



# SMC SYSTEM

## Mechanisms for signalling & call

Signalling and call mechanisms for flush mounting and signalling of call to the centres. They are connected to a remote unit (UR or UC series) or to a TH-02F/TH-03F intercommunicator to complete the equipment of the call points.

### U series for universal box

#### Call button

##### U-PT

Buttons: presence and normal call.  
LEDS: call under way and active presence.  
USB connector for U-ML control.  
Disconnected control warning.



U-PT (+ M-420W)

#### Sealed bathroom pull cord IP65

##### U-PBI

Urgent call with pull-cord.  
IP65 protection.



U-PBI (+ M-420W)

#### Bathroom pull cord

##### U-PB

Buttons: presence and normal call.  
Urgent call with pull cord.  
LEDS: call under way and active presence.  
Emergency call.



U-PB (+ M-420W)

#### Metal call button

##### U-PM

Configurable button for call (normal or emergency) or presence.  
LEDS: call under way and active presence.  
Entirely metal.



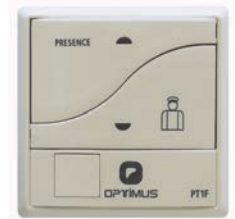
U-PM (+ M-420W)

### PT series (built-in frame)

#### Call button

##### PT-1F

Buttons: presence and normal call.  
LEDS: call under way and active presence.  
Emergency call.

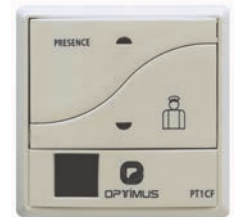


PT-1F

#### Call button

##### PT-1CF

Buttons: presence and normal call.  
LEDS: call under way and active presence.  
Emergency call.  
RJ45 connector for ML controls.

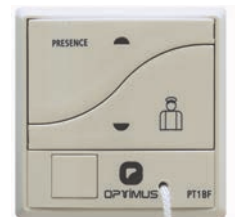


PT-1CF

#### Bathroom pull cord

##### PT-1BF

Buttons: presence and normal call.  
Urgent call with pull cord..  
LEDS: call under way and active presence.  
Emergency call.



PT-1BF

#### Fall sensor

##### MDC-01

Element that detects the fall of a person and made an emergency call. It has two sensors, one motion detection and another fall detection, and is commonly used in geriatric bathrooms, residences and hospitals.



## Anti-vandal intercoms - industry

### EP-405 - EP-405H

Weatherproof anti-vandal intercom with robust metal front 3 mm thick, mylar loudspeaker (weatherproof) and protected by an internal metal grille, metal call button, torx safety screws and protection against dust and water IP65.



EP-405

EP-405H

Special model for emergency call points, such as those installed in the **refuge areas**, with large SOS letters in red, pre-recorded message for call in progress, accessibility pictogram and CALL word in braille.

Power supply	24 Vdc
Consumption (rest/max.)	25 mA / 230 mA
Central connection	5-line SMC bus
Door opening connection	2 x 0.5 mm <sup>2</sup> , max. 20 m
Loudspeaker	2,5" mylar, 16 Ω
Dimensions (mm)	123 x 186 x 3,0 ( flush)
Finish	stainless steel
Box for flush installation	CE-EP model
Surface box	CS-EP model
Relay (optional)	RY-PA5

## Intercoms - industry

### SAM-M

An intercommunicator with front plate and stainless steel call button, allen screws, one-way high sensitivity microphone and damp-proof loudspeaker.

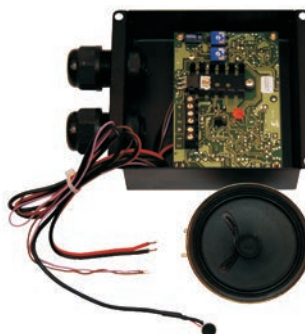


Power supply	24 Vdc
Consumption (rest/max.)	25 mA/230 mA
Central connection	5-line SMC bus
Door opening connection	2 x 0.5 mm <sup>2</sup> , max. 20 m
Loudspeaker	2.5" mylar, 16 Ω
Dimensions (mm)	128 x 110 x 5 (flush)
Finish	stainless steel
Box for flush installation	CAJ-24206 model
Surface box	CAJ-SAM model
Relay (optional)	RY-PA5

## Integration kit

### SAM-M2

Also available as a kit (SAM-M2) for integration in lifts, payment machines, cashpoints, barriers...

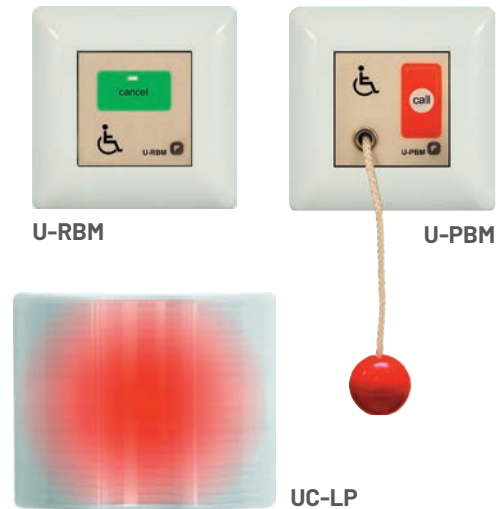


## Signaling for assisted bathrooms

### KB-10F

A set of devices for equipping assisted baths as per the Building Technical Code (CTE - DB SUA - SUA3), to give assisted baths a call system that allows users to know that their call has been received with acoustic and light signalling in a control centre or a place they frequently pass.

	U-PBM	U-RBM	UC-LP
Power supply	24 Vdc	24 Vdc	24 Vdc
Consumption	34 mA	34 mA	100 mA
Dimensions (mm)	45 x 45 x 45	45 x 45 x 45	102 x 125 x 61
Finish	ABS white	ABS white	ABS & metal
Included accessories	frame M-420W 2 x bola roja	frame M-420W	power supply 24 Vdc
Surface box	C-417S	C-417S	Direct
Flush box	L-170E	L-170E	L-170E
Connection	4 x 0,25 mm <sup>2</sup> (bus)	3 x 0,25 mm <sup>2</sup> (bus)	4 x 0,25 mm <sup>2</sup> (bus) 2 x 2,5 mm <sup>2</sup> (24 Vdc)



## Centralization

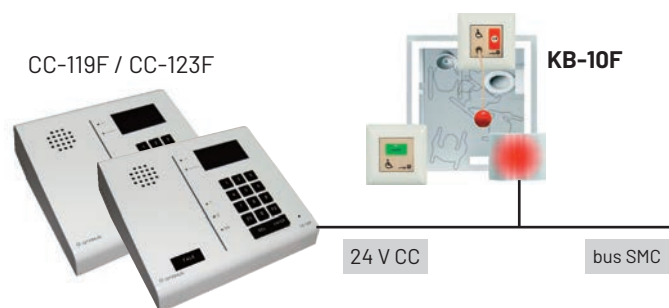
### CC-40F

Call signaller for up to four assisted baths, with four LEDs and MUTE button to temporarily cancel the sound while waiting for the call to be attended and cancelled from the bath reset button.



### KB-10F and SMC

The KB-10F kits can be connected to an SMC intercommunication and signaling system installed in a hospital or nursing home. The UC-LP unit behaves as one of the remote control units of the UC / UR series and signals the call in the SMC system control centrals.



Signaling for assisted bathrooms

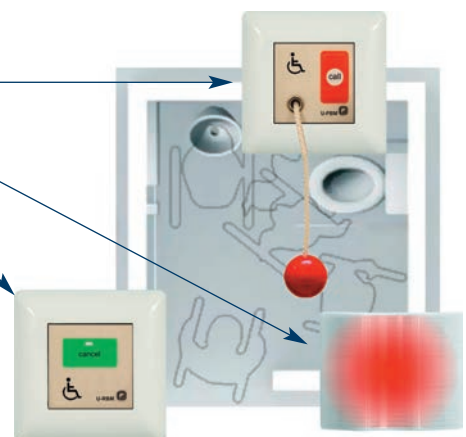
### Spanish Building Technical Code\* DB SUA - SUA3

#### 2- Seguridad frente al riesgo de aprisionamiento en recintos

"En zonas de uso público, los aseos accesibles y cabinas de vestuarios accesibles dispondrán de un dispositivo en el interior fácilmente accesible, mediante el cual se transmita una llamada de asistencia perceptible desde un punto de control y que permita al usuario verificar que su llamada ha sido recibida, o perceptible desde un paso frecuente de personas."

Real Decreto 173 / 2010, de 19 de febrero, por el que se modifica el Código Técnico de la Edificación. Boletín Oficial del Estado, jueves 11 de marzo de 2010.

\*original standard in Spanish, not intentionally translated



# INTERCOMMUNICATION

## Point to point intercommunication - high power 6 W

High power point-to-point intercom system, with intercoms of the wall / desktop type or to be embedded in the ceiling. The power provided by the central unit (up to 6 W) generates a high SPL in the intercom and allows its use in noisy environments.

### Master station

#### MP-C1

Desktop intercom with 6 W power output and "talk" button to control the conversation with the substation.



Power supply: 12 V DC (1 A max)  
Output impedance: 8 ohm  
Output power: 6 W  
Dimensions: 138 x 190 x 17 mm  
Weight: 0.85 kg

### desktop substation

#### MP-A1

Desktop intercom with call pushbutton.



Power: 6 W  
Dimensions: 138 x 190 x 17 mm  
Weight: 0.81 kg

### Ceiling substation

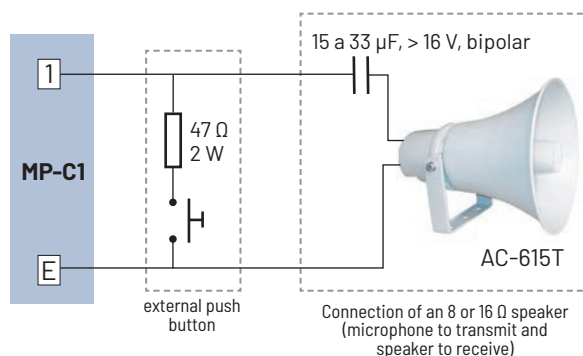
#### MP-A254

Ceiling speaker with intercom functions.



Power: 6 W  
Dimensions: Ø 150 x 52 mm  
Mounting hole: Ø 120 mm  
Weight: 0.35 kg

### Connection with 8 Ω speaker



### Counter intercom

#### SIV-40

Microphone desk with loudspeaker (interior), microphone and loudspeaker (exterior), for window intercommunication. Suitable for ticket sales (transport, shows...) or for dealing with the public (administration, bank...).



Power supply	14 Vdc
Consumption	300 mA
Power	4W + 4W (RMS)
Frequency response	20 ~ 16,000 Hz
Communication	half-duplex & automatic switching
Sensitivity	-47 dB
Elements	microphone desk with loudspeaker external loudspeaker external microphone power supply (14 Vdc, 300 mA) recording output and noise reducer
Others	

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