

# MILLENNIUM

EGi



## Technical Manual

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Electroacústica  
General  
Ibérica, S.A.

Tel. +34 976 40 53 56



# Cables & technical data

Mr. Installer: First, we thank you for choosing our products. We hope that the installation works perfectly and on the first try. To accomplish it, please follow carefully the guidelines provided in this Manual.

We, for our part, have provided all our modules with the appropriate protections so they don't get damaged even in case of a connection error. If, in spite of everything, you have any problem or doubt to solve, don't hesitate to contact our representatives or our Customer Technical Support directly. We are here to help you.


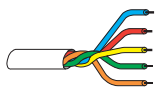

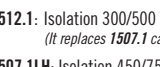
GENERAL LINE 15 V <sub>DC</sub> (wires 2 & 4)				
Audio power in the line	Intensity	Max. length for a voltage drop of 2,5 V (m)		
W	A	1 mm <sup>2</sup>	1,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>
5 W	0,3	370	—	—
10 W	0,6	185	277	460
15 W	1	110	166	275
20 W	1,3	85	128	215

100 V SPEAKER LINE		
Power	Length	Cable section
40 W	1.200 m	1,5 mm <sup>2</sup>
40 W	2.000 m	2,5 mm <sup>2</sup>
120 W	450 m	1,5 mm <sup>2</sup>
120 W	750 m	2,5 mm <sup>2</sup>
240 W	225 m	1,5 mm <sup>2</sup>
240 W	375 m	2,5 mm <sup>2</sup>
500 W	100 m	1,5 mm <sup>2</sup>
500 W	200 m	2,5 mm <sup>2</sup>

LOW IMPEDANCE SPEAKER LINE		
Total impedance	Length	Cable section
2 ohms	34 m	1,5 mm <sup>2</sup>
	56 m	2,5 mm <sup>2</sup>
4 ohms	70 m	1,5 mm <sup>2</sup>
	115 m	2,5 mm <sup>2</sup>
8 ohms	70 m	0,75 mm <sup>2</sup>
	140 m	1,5 mm <sup>2</sup>
	225 m	2,5 mm <sup>2</sup>
16 ohms	140 m	0,75 mm <sup>2</sup>
	280 m	1,5 mm <sup>2</sup>
	450 m	2,5 mm <sup>2</sup>

(Assuming homogeneous speaker distribution)

Maximum length for audio wires 1, 5, 6, 7 & 8: 500 m. To prevent the possibility of diaphony troubles over 500 m use balanced wires or contact our Customer Technical Support.

CABLES WITH COLOR WIRES			
	<b>1512:</b> Isolation 300/500 V (It replaces 1507 cable)		<b>1512.1:</b> Isolation 300/500 V (It replaces 1507.1 cable)
	<b>1507LH:</b> Isolation 450/750 V		<b>1507.1LH:</b> Isolation 450/750 V
<b>1512</b>	9 wires twisted cable (1 x 1,5 mm <sup>2</sup> , 1 x 1 mm <sup>2</sup> , 5 x 0,5 mm <sup>2</sup> , 2 x 0,5 mm <sup>2</sup> - twisted pair).	<b>6504</b>	Loudspeaker cable with cover 2 x 2,5 mm <sup>2</sup> . Halogen free.
<b>1512.1</b>	Same features as 1512 cable. It comes with cover.	<b>CML100V</b>	Twisted-pair cable for 100 V line (2 x 1,5 mm <sup>2</sup> ). Halogen free.
<b>1507LH</b>	9 wires twisted cable (1 x 1,5 mm <sup>2</sup> , 1 x 1 mm <sup>2</sup> , 5 x 0,5 mm <sup>2</sup> , 2 x 0,5 mm <sup>2</sup> - twisted pair). Halogen free.		
<b>1507.1LH</b>	Same features as 1507.1 cable. Halogen free.		

Num	COLOUR	mm <sup>2</sup>	COLOUR	FUNCTION	VOLTAGE
1	brown	0,5	1	Message audio w/priority over music (+ if balanced).	3 V audio + 7 V <sub>DC</sub>
10	brown-black	0,5	1 0	Message audio (- if balanced).	3 V audio + 7 V <sub>DC</sub>
2	red	1 to 1,5	2	Power supply +15 V <sub>DC</sub>	+15,5 V <sub>DC</sub>
4	yellow	1,5 to 2,5	4	GROUND	0 V <sub>DC</sub> & audio
5	green	0,5	5	Channel 1 Audio: (+) if it is balanced.	3 V audio + 7 V <sub>DC</sub>
50	green-black	0,5	5 0	Channel 1 Audio: (-) if it is balanced.	3 V audio + 7 V <sub>DC</sub>
6	blue	0,5	6	Channel 2 Audio: (+) if it is balanced.	3 V audio + 7 V <sub>DC</sub>
60	blue-black	0,5	6 0	Channel 2 Audio: (-) if it is balanced.	3 V audio + 7 V <sub>DC</sub>
7	violet	0,5	7	Channel 3 Audio: (+) if it is balanced.	3 V audio + 7 V <sub>DC</sub>
70	violet-black	0,5	7 0	Channel 3 Audio: (-) if it is balanced.	3 V audio + 7 V <sub>DC</sub>
8	grey	0,5	8	Channel 4 Audio: (+) if it is balanced.	3 V audio + 7 V <sub>DC</sub>
80	grey-black	0,5	8 0	Channel 4 Audio: (-) if it is balanced.	3 V audio + 7 V <sub>DC</sub>
9	white	0,5	9	DIGITAL channel (+) RS-485, all control signals for the system are transmitted in a codified way.	Data
90	white-black	0,5	9 0	DIGITAL channel (-) RS-485.	Data
0	black	0,5	0	Wire for message priority activation using a logical signal.	5 V <sub>DC</sub> (max. 15 V <sub>DC</sub> )
IN	non defined	0,5	IN	Input without priority for local connection.	3 V audio + 7 V <sub>DC</sub>
PIN	non defined	0,5	PIN	Input with priority for local connection. It has priority over the IN inputs.	3 V audio + 7 V <sub>DC</sub>
OUT	non defined	0,5	OUT	Audio output for local connection.	3 V audio + 7 V <sub>DC</sub>

## SPEAKER OUTPUT CABLES

+	red	0,75 to 2,5	+	Speaker Output (+)	7 V <sub>DC</sub> + audio
-/+	black/red	0,75 to 2,5	-/+	Speaker Output Common	0 V audio / 7 V <sub>DC</sub> + audio
-	black	0,75 to 2,5	-	Speaker Output (-)	0 V audio

## DIGITAL AMPLIFIERS

⏏	non defined	0,5	⏏	Control cable common	0 V <sub>DC</sub>
T	non defined	0,5	T	Keyboard information	15 V <sub>DC</sub>
L	non defined	0,5	L	Control of channel indicators	max. 14 V <sub>DC</sub>

**IMPORTANT:** The pairs of wires: 1-10, 5-50, 6-60, 7-70, 8-80 should only be installed complete in big systems with balanced lines, from 500 m on. For smaller systems it is enough to install wires 1, 5, 6, 7 and 8. Wires: 9-90 must always be installed.

\* Voltage on modules ref. 1305.1, 1319 and 1320 is 100 V.



# What is Millennium?

**MILLENNIUM** is an industrial sound system that allows to control and distribute intercommunication and public-address system along an installation. The system layout can be configured either in centralized or decentralized mode, and even mixed as the most versatile way, open to the needs of an installation.

**MILLENNIUM is divided into two product ranges:**

- For 2+1 zones: for covering up to 3 zones, designed and planned for small shops and establishments.
- For larger-sized facilities, which allow to control from 1 to 127 zones independently, from one to several control points and with a wide range of possibilities.

## Installation philosophy

**MILLENNIUM** architecture is mainly based on one 9-wire bus (15 Vdc power supply included), with 4 independent audio-programmes, messages and digital communication between its units and modules. We can add as many units/modules as desired, connected in parallel and including power supply units distributed along the installation.

Once this concept is known, the installation can be set up in different ways: centralized or decentralized power supply, or a combination or both.

## Centralized installation

In a centralized power distribution, the system management units as well as control and amplifier units are located in the same place to distribute the amplified sound signal to the speakers in each zone. This type of distribution can be of low or high impedance. Low impedance output will be used when the loudspeakers are relatively close to the centralization point. Transmitted power is low due to audio signal reduction along the bus-wire length. If opposite, that is remote loudspeakers, transmitted power is high and then a high impedance installation would be advisable.

A centralized installation has all its amplifiers in the same place, however, control from other places through any **1202** control unit is allowed.

## Decentralized installation

A decentralized installation is based on the audio and digital control distribution with low level signals (with less reduction or loss along the wires, which guarantees a higher quality signal). This type of installation has the advantage of being controlled from any or several control points.

A decentralized installation must have at least one amplifier in each place where we want the sound to reach for the loudspeakers situated there. Their regulation can be made by using local control units, from any **1202** control console available along the installation as well as from a computer (**0801** software). The amplifier/s and loudspeakers in each zone can play the audio programmes (music and messages) shared by the whole installation as well as autonomous audio signals generated in such zone, like microphones or audiovisual equipments on special occasions, to make the most of the electroacoustic resources.

## Mixed installation

The mixed installation is the ideal installation as it allows both previous configurations, depending on the needs of the installation.

Is in this situation when **MILLENNIUM** enables us to combine installation areas with centralized power and other areas with decentralized power distribution.

We only have to install the appropriate **MILLENNIUM** units/modules, all of them interconnected through a general bus line, usually called "**GENERAL LINE**" so that we can control and amplify as needed.

# Requirements and safety regulations

All the **MILLENNIUM** electrical elements meet the electrical safety regulations and electromagnetic compatibility (CEM) according to the following guidelines:

- 73/23 EEC, modification 93/68 EEC. Low voltage guideline
- 89/366/EEC, modification 92/31/EEC. EMC guideline

All the sound system installation devices must be connected to the same functional 230 V~ circuit, and this will be of the exclusive use of such installation, therefore no other electrical devices that are not part of the installation should be connected.

The mains wires section and acceptable voltage loss, etc, will be established according to the R.E.B.T. 02 criteria (UNE EN 24060).

Mains circuit will go from the electrical general panel through its respective control and protection devices (PIA), as well as overvoltage protection devices.

Regarding the **MILLENNIUM** sound signal conductors and wires (audio, digital data and power supply) those indicated by the manufacturer or any other that meets at least the same constructive specifications will be used.

Conductors supplied by **EGi 1507LH**, **1507.1LH** and **CML100V** to install **MILLENNIUM** devices comply with intrinsic safety requirements: 750 V isolation, flame-resistant (UNE EN 50265 and UNE EN 50266), toxic and halogen fumes reduced emission (UNE EN 50267) and/or low fumes emission (UNE EN 50268).



## Millennium 2 + 1 message zones

When we say **2 + 1 message zones**, what we mean is that the system is able to broadcast messages in three different zones, that can be selected from the **1201.xx** control console.

Two of the zones are centralized, that is, their sound amplifiers are in the **1301.xx** audio processor and their control is carried out exclusively from the **1201.xx** audio console (only one control console can be present in the system).

The third area is a "general line", made of a 15 V~ power supply line, two music programs and a message channel (5 wires in total), all these provided from the audio processor. Various control units, amplifiers and local items (microphone preamplifiers, and so on) can be added to this general line, so locally controlled sound areas can be created, but they work as a single, common zone for messages.

### Product structure

CONTROL CONSOLE	AUDIO PROCESSOR	SERVICE MODULES
<b>1201</b> Control console  <b>1201.11</b> Control Console with speaker + gooseneck microphone	<b>1301.1</b> Audio Processor with built-in radio	<b>1501.10</b> Connection base for control console / music source. White. <b>1501.12</b> Connection base for control console / music source. Black.  <b>1204.10</b> 2 channels control unit. 5 W. White. <b>1204.12</b> 2 channels control unit. 5 W. Black.  <b>1203.10</b> Intercom unit 2 zones. White. <b>1203.12</b> Intercom unit 2 zones. Black.  <b>1105.10</b> XLR microphone base. White. <b>1105.12</b> XLR microphone base. Black.  <b>1106.10</b> Volume regulator and auxiliary input. White. <b>1106.12</b> Volume regulator and auxiliary input. Black.  <b>1107.10</b> Volume regulator for <b>1105</b> base. White. <b>1107.12</b> Volume regulator for <b>1105</b> base. Black.  <b>1307.1</b> Power supply unit 15 Vdc; 20 W; 230 V~. <b>1309.1</b> Amplifier 20 W; 230 V~.

In the next pages we can see several examples of this kind of systems: bar, fashion shop, car dealer, fast-food, restaurant or middle-size company.



# Audio Processor | 1301.x



## 1301.x Audio processor 2 + 1 zones

- Procesador de audio de 3 zonas para instalaciones de sonido comerciales.
- It includes a 10 + 10 W (20 W) amplifier for zone 1 and another of 10 W for zone 2, in addition of a 15 V $\approx$  line output for the connection of control units.
- The 15 V $\approx$  line is expandable.
- Messages with pre-warning tone and door bell in the 3 zones.
- Dual 12 Vdc, 1 A output for operation of external systems.
- White housing.
- FM radio tuner (only in 1301.1)

## Schematics <sup>1</sup>

This processor allows you to provide sound for facilities with 2 centralised zones plus 1 de-centralised zone (general line), being these "zones" understood as the different areas which must be considered for message broadcast. Version 1301.1 incorporates a FM tuner and a dual RCA input for external musical sources.

### 1 ON/OFF switch for the installation

### 2 Input for 1201 module

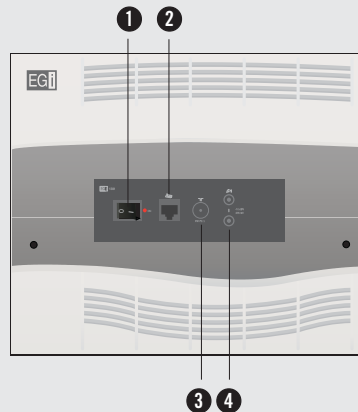
Phone type input RJ45 for the connection of the 1201 control console. There is also the possibility of connecting it internally.

### 3 Antenna input

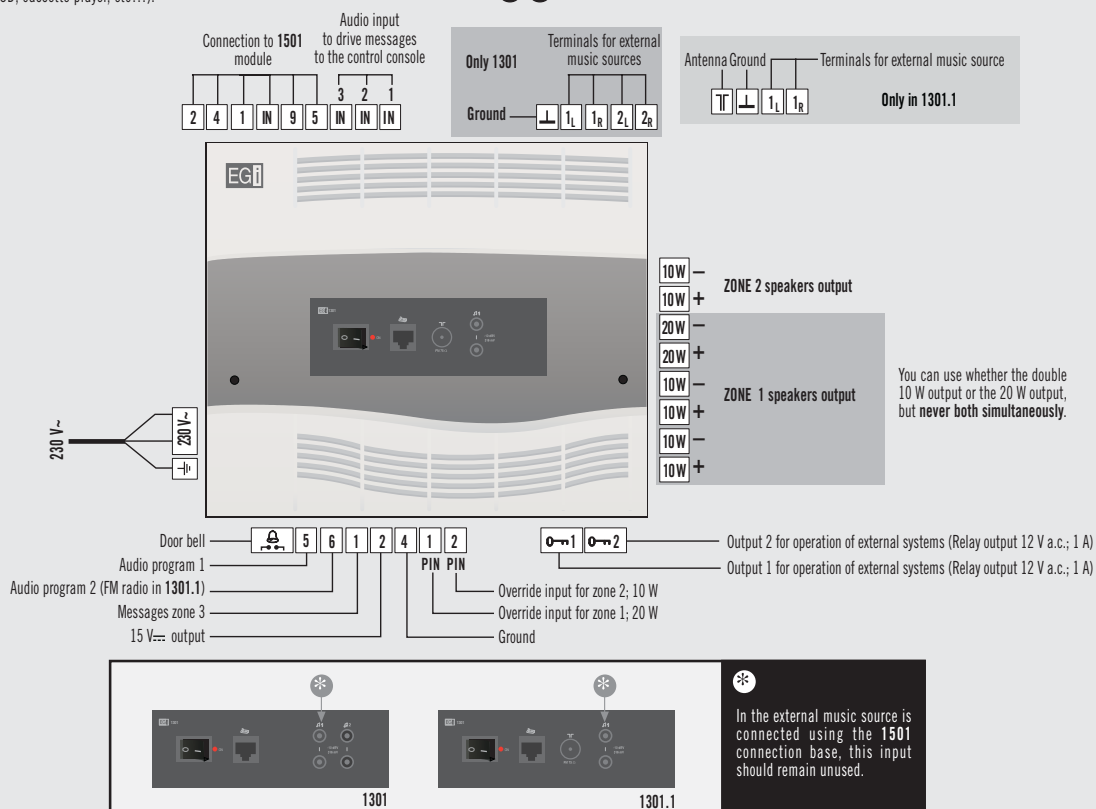
Coaxial input for FM antenna. It enables the connection of a FM antenna to improve the reception of radio stations.

### 4 Input for external music source

RCA input for external music sources. It enables the connection of an external, music source (CD, cassette player, etc...).



		NUMBER OF SPEAKERS PER LINE		
Zone 1		4 $\Omega$	16 $\Omega$	32 $\Omega$
	20 W	1	4	8
Zone 2		4 $\Omega$	16 $\Omega$	32 $\Omega$
	10 W + 10 W	2 + 2	8 + 8	16 + 16
Zone 2		4 $\Omega$	16 $\Omega$	32 $\Omega$
	10 W	-	2	4



### TECHNICAL SPECIFICATIONS

#### 1301 • 1301.1 with FM radio

Power supply	230 V $\approx$	General line	Up to 1 A nominal current (máx. 1,5 A)	Zone 1 power	20 W; min line impedance 4 $\Omega$
Consumption	100 W full power	Antenna	External input 75 $\Omega$ (only 1301.1)		or 10 + 10 W; min line impedance 2 $\Omega$
Voltage output	15 V $\approx$ for power supply through general line	Radio sensitivity	17 dB ( $\mu$ V)	Zone 2 power	10 W; min line impedance 8 $\Omega$



## Control console | 1201



TECHNICAL SPECIFICATIONS	1201
Power supply	15 V....
Current consumption (@ max. power)	80 mA
Frequency response	30 Hz - 11.3 KHz

**1201 Control console for 2 + 1 areas**

- Control console for 2 + 1 areas with message microphone, keyboard and display.
- It controls the music, messages, door locks and door bell in sound installations with up to 3 zones based in **1301.x** audio processors.
- It is operated through menus in a 2-line, 16-character display.
- It incorporates a unidirectional gooseneck microphone for issuing messages (only in version **1201.11**).
- It is connected to the rest the installation using a 8-way phone connector.

**1201.1 Control console for 2 + 1 areas**

- Same features as the **1201** with built-in 2" loudspeaker.

**1201.11 Control console for 2 + 1 areas**

- Same features as the **1201.1** with gooseneck microphone.

## Operation <sup>1</sup>

It is connected with the 2+1 zones audio processor **1301.x** using the provided cable with an 8-way phone connector **RJ-45**, directly or using the **1501** connection base when the distance is bigger than the supplied cable.

**Operation mode**

Although it depends on the function to be controlled, the button presses sequence is quite standardized; see it below, classified according to the function:

**MUSIC**

Press the wanted zone (**ZON1** or **ZON2** ) and then the music key (). A menu appears showing the following options:

**VOL+**, **VOL-** to raise or lower the music volume.  
**PROGRAM** to change the music source; the display will show it as **J/FM**.

Additionally, the shortcut key **TUNING** can be used to change the tuning of the radio, if this is available. When the key is pressed, a menu will appear with the tuned frequency and two keys, **<and>** for changing it.

**NOTE:** Area 3, corresponding to control units connected to the 15 V- general line, can not be controlled from the control console, but by the control units themselves.

**MESSAGES**

Press the wanted zone(s) (**ZON1** , **ZON2** or **ZON3** ) and then the big «talk» key to issue a message.

Press the wanted zone (**ZON1** , **ZON2** ) and then the message menu key () to see the menu that allows the adjustment of the message volume in that zone and for enabling and disabling the pre-warning chime.

**BELL**

Press the wanted zone (**ZON1** , **ZON2** or **ZON3** ) and then the Bell () key to show the menu that allows the adjustment of the door bell volume in that area. In area 3 it is only possible to enable or disable the bell, as the volume is set individually in each control unit.

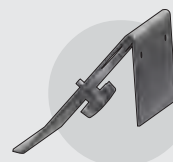
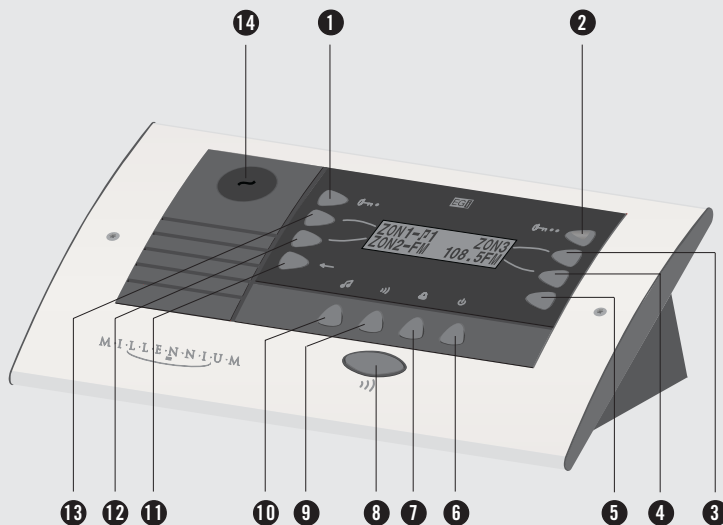
**LOCKS**

Keys marked with a key symbol and , are shortcut keys for opening the electric locks.

**ON-OFF**

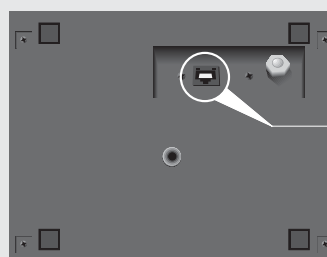
Press the wanted area (**ZON1** , **ZON2** ) and then the key () to turn on or off the music in installation zones 1 and 2.

**NOTE:** Only one **1201.xx** module can be connected in an installation.



Support for wall setting

Rear view of the 1201 control console



Phone connection RJ-45



# Connection base | 1501



## 1501.10 Base for connection of control console / music source. White

- Connection base for connecting the 1201.x and 1202 control consoles, as well as external music sources far from the 1301.x or 1316 audio processor.
- With RCA audio input for connecting an external music source to the sound installation. Mono output.
- Lamp indicating signal presence.

## 1501.10 Base for connection of control console / music source. Black

- Same features as the 1501.10 in black.

## Schematics 1

### 1 Pilot lamp for RCA signal reception

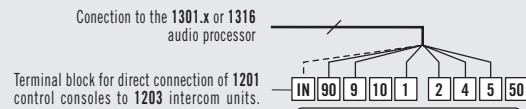
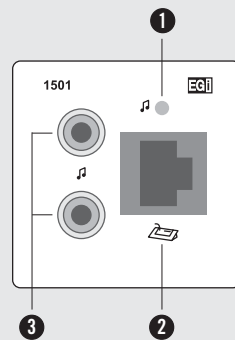
It lights when the RCA connectors are receiving an audio signal from an external music source which is over the minimum sensitivity threshold.

### 2 Inlet for 1201.x or 1202 control consoles

RJ-45 phone-type inlet for the connection of the 1201.x or 1202 control consoles.

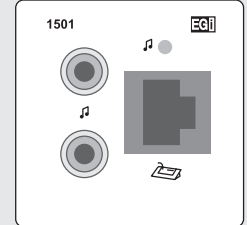
### 3 Inlet for external audio source

RCA input for the connection of external audio sources.



This connection base is used for connecting the 1201.x or 1202 control consoles, as well as any external audio source to the 1301.x or 1316 audio processor.

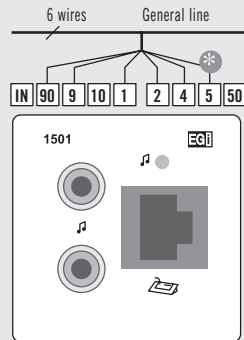
Both connections can be used at the same time. The music source coming from this module is the "1" music program.



**WARNING:** In case program 1 comes from RCA input, make sure to connect wires 5 and 50 to the audio processor. This input is only for program 1.

## 1501 connection with 6 wires 2

Connection to the 1301.x or 1316 audio processor



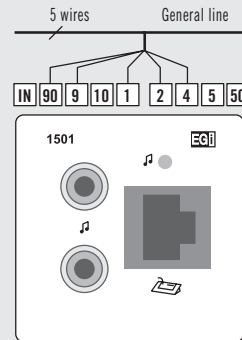
With input for music program through the 1501 module.

If this music program input is used, the music source input "1" of the 1316 audio processor must not be used.

\* Borne no 5 will correspond to wire no 5 of the general line, if audio program no 1 has been assigned to it. If not, it will correspond to wires 6, 7 or 8 depending on the assigned audio program.

## 1501 connection with 5 wires 3

Connection to the 1301.x or 1316 audio processor



Without input for music program through the 1501 module.

The wires "10, 90 and 50" are only used with 1316 audio processor.

Connect only "5 and 50" if a music source provides one of the four audio programs.

**Use terminals "10 and 50" only for distances over 1500 ft. (500 m). In that cases, an audio de-balancer is also needed.**  
**NOTE:** If this input is used for the connection of an external music source, a monoaural program will be provided to the system.

### TECHNICAL SPECIFICATIONS

	1501
Power supply	15 V=
Input impedance	20 KΩ
Sensitivity of the RCA input	automatic, from 316 mV to 3.16 V
Current consumption (@ max. power)	80 mA



## Intercom unit | 1203

**1203.10 2-zone intercom unit with built-in amplifier. White**

- 2-zone intercom unit with 2 x 1.5 W built-in amplifier, separate volume setting for each zone and lock key for keeping the zone 2 pressed.
- It can be used with internal built-in ambient microphone or with an external microphone.

**1203.12 2-zone intercom unit with built-in amplifier. Black**

- Same features as the 1203.10 in black.

**Schematics****1 Push button to select zone 1**

By pressing this push button a call will be made to zone 1. It is possible to talk to zone 1 as long as we keep on pressing the button.

**2 Push button to select zone 2**

By pressing this push button a call will be made to zone 2. It is possible to talk to zone 2 as long as we keep on pressing the button.

**3 LOCK push button**

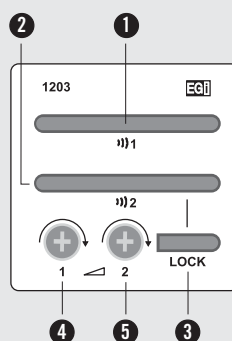
By pressing this button the zone 2 will stay permanently selected: you can talk to zone 2 even if the push button 2 is released. A red lamp informs you that the communication with zone 2 is permanently open. If this button is pressed again the lock function is disabled.

**4 Volume regulator zone 1**

By turning this screw clockwise we will raise the volume level of the message broadcast in zone 1.

**5 Volume regulator zone 2**

By turning this screw clockwise we will raise the volume level of the message broadcast in zone 2.



2 Power supply output 15 V=

4 Ground terminals

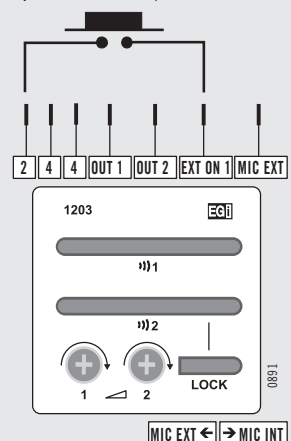
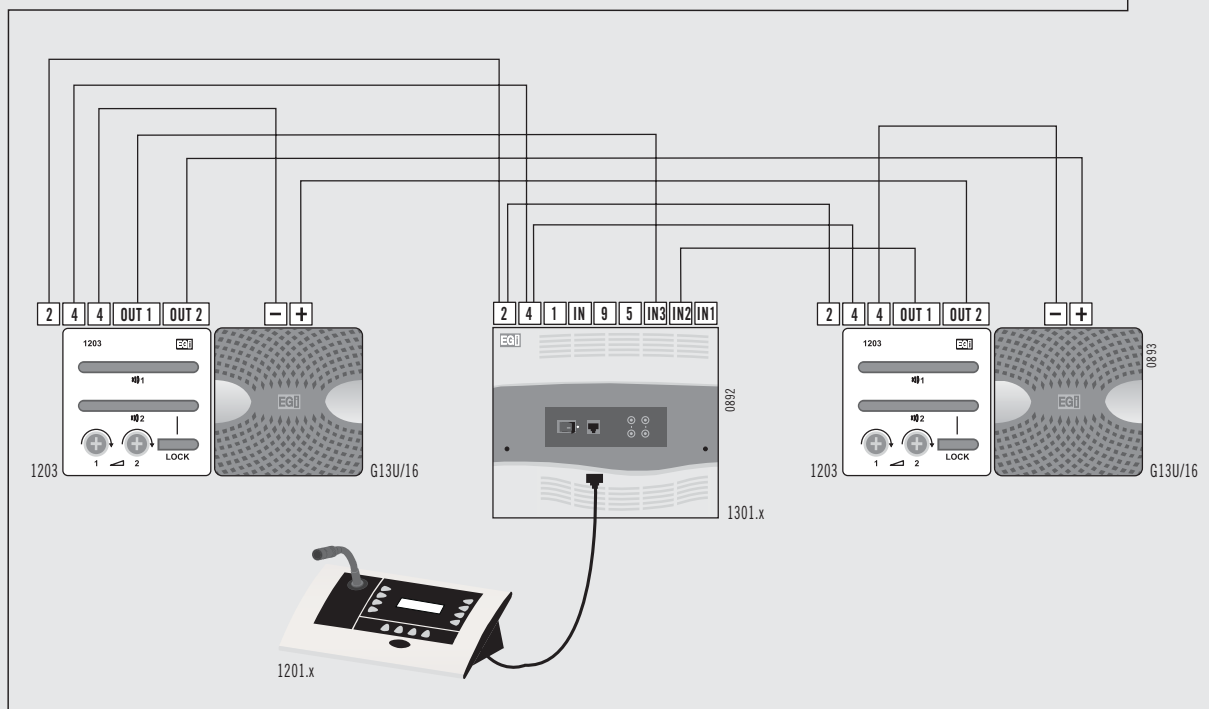
OUT 1 Outputs to a PIN/IN input, or to a speaker

EXT ON 1 Zone 1 remote ON (15 V=)

MIC EXT External microphone input (only electret-type)

MIC EXT ← → MIC INT Internal/external microphone selection jumper

Remote activation of zone 1 (15 V=) by means of an external push-button.

**Connection of 2 intercom units to a 1201 control console****TECHNICAL SPECIFICATIONS**

	1203
Continuous power supply	15 V= by general line
Power	1.5 W per output
Minimum line impedance	16 Ω
Push button input	0 Vdc • 15 Vdc external
Current consumption (@ max. power)	200 mA



# 2-channel control unit. 5 W | 1204



## 1204.10 2-channel control unit. 5 W, 1-8 speakers. Message override. White

- 2-channel control unit, 5 W power for connecting from 1 to 8 speakers.
- Digital volume regulation with 80 steps of 1 dB and loudness.
- It recognizes the number of channels in the installation and adapts its selector for them.
- Message override.
- Unconditional message priority.
- To be connected to audio processors 1301.xx only.

## 1204.12 2-channel control unit. 5 W, 1-8 speakers. Message override. Black

- Same features as the 1204.10 in black.

## Schematics

### 1 ON/OFF push button

One press turns on and the next press turns off the sound system in that zone.

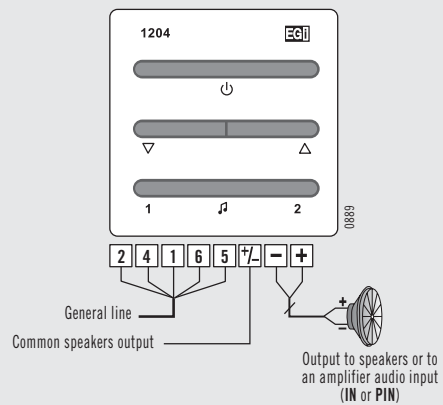
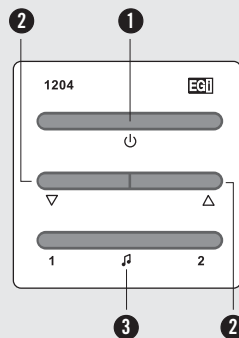
### 2 Volume selector

For raising  $\Delta$  or lowering  $\nabla$  the sound level of the control unit.

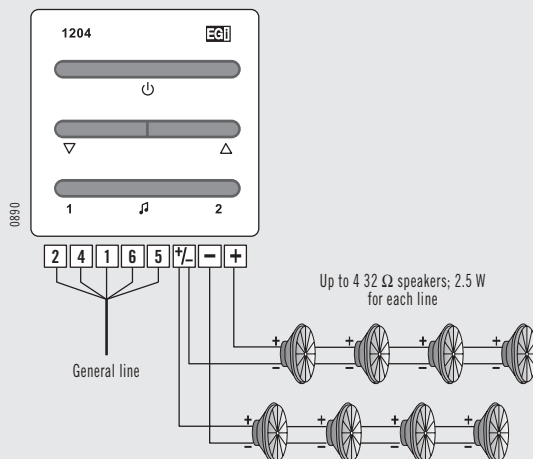
### 3 Channel selector

This push button enables the user to select the sound channel ("1" or "2") that will be played in a zone. Every time that it is pressed, it will change between the available channels. The selection will be showed by the light of a red lamp.

**NOTE:** The adjustment of the message volume level is done by push-button 2 while a message is being received. This level is so recorded for future use.

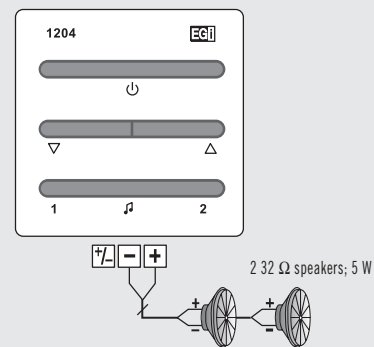


## 1204 2 x 2.5 W outputs over a 8 $\Omega$ minimum load



NUMBER OF SPEAKERS IN PARALLEL		8 $\Omega$	16 $\Omega$	32 $\Omega$
2.5 W	Min impedance 8 $\Omega$	1 + 1	2 + 2	4 + 4

## 1204 1 x 5 W outputs over a 16 $\Omega$ minimum load



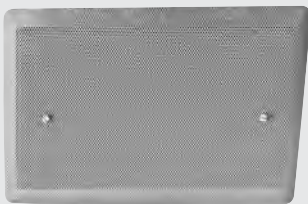
NUMBER OF SPEAKERS IN PARALLEL		8 $\Omega$	16 $\Omega$	32 $\Omega$
5 W	Min impedance 16 $\Omega$	➔	1	2

### TECHNICAL SPECIFICATIONS

		1204
DC Power supply		15 V= by general line
High power output (+ and -)		5 W; minimum line impedance 16 $\Omega$
Low power output between the terminals (+ and +/-) or (- and +/)		2 x 2.5 W; minimum line impedance 8 $\Omega$
Current consumption (@ max. power)		540 mA



## Amplifier | 1309.1

**1309.1 20 W Amplifier with override input. 230 V~**

- To be used when the audio output of another **MILLENNIUM** device requires whether a higher power or the connection with a bigger number of loudspeakers.
- 10 + 10 W (2  $\Omega$ ) / 20 W (4  $\Omega$ ) amplifier.
- With 3 mixed audio inputs, one of them adjustable plus another with override.
- It can be used as general line junction box.
- 230 V~ power supply.

- There are three **IN** inputs in the amplifier. The gain of two of them is constant, while the gain of the third one is adjustable. These inputs are added (mixed) internally giving as a result an input signal to the multiplexer.

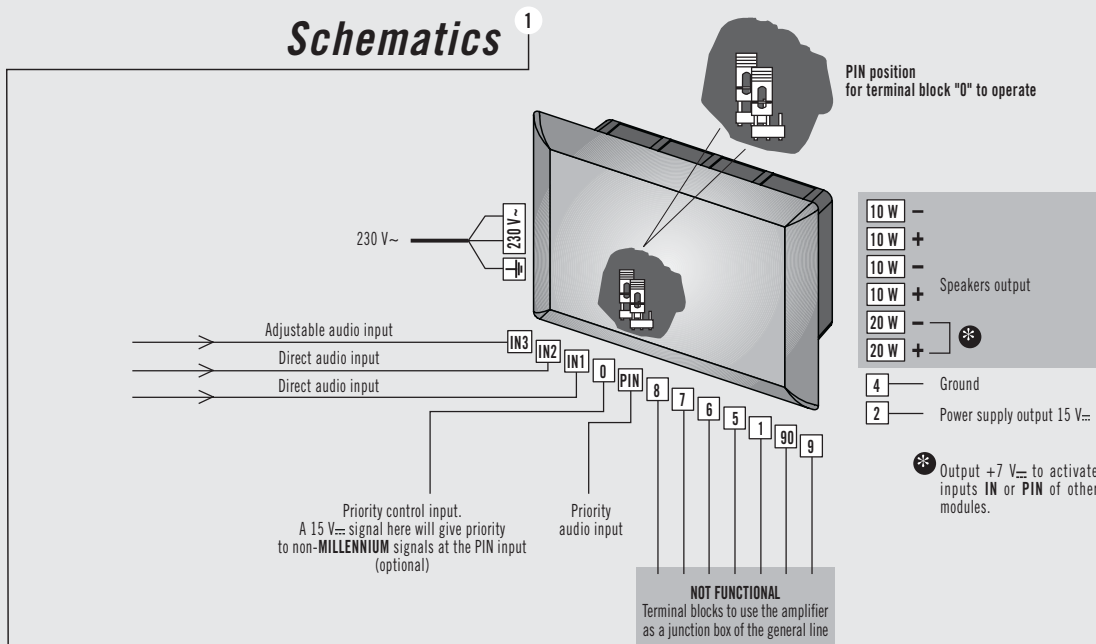
If the audio signal reaching a **PIN** or a **IN** input of this amplifier comes from a **MILLENNIUM** device, its origin can be a **OUT** output (such as those present in auxiliary input modules or in volume regulators for microphone bases) or the "+" terminal of a control unit. In these cases, the micro-controller of the amplifier detects a direct voltage component (7V~) that is transmitted together with the audio signal and it reacts to that signal by giving access to it according to the above explained priority order. This 7 V~ signal is typical of the **MILLENNIUM** devices, except for the **1205**.

- The order of priority of the amplifier inputs is the following (from higher to lower):
  - 1) Audio signals arriving at the "1" terminal block –if the digital information at wires "9" and "90" confirms that there is a general call or a private message to this zone-.
  - 2) Audio signals arriving to the **PIN** input (see below for connection of non-**MILLENNIUM** devices).
  - 3) Audio signals arriving to the **IN** inputs.

Whenever an audio signal reaches one of these inputs, all the inputs that have a lower priority level fade down and remain silent as long as the new signal is present.

- Normally non-**MILLENNIUM** audio sources should be connected to the sound system through their specific pre-amplifiers (**1105**, **1106** and **1107**). If we wanted an audio signal that does not come from a **MILLENNIUM** device to directly enter the amplifier, we must connect it to the **PIN** input. In order for this signal to be detected by the **PIN** input, a signal of 15V~ must be provided to the terminal block "0", and it will have to remain present as long as we want the signal to keep being broadcast.
- Regarding the amplified output, it can be configured in two different ways: two 10 W outputs over a minimum load of 2 W each or as a single 20 W output over a minimum 4  $\Omega$  load. The amplifier itself is able to detect how the speakers are connected (if connected only to the 20 W output or if distributed between the two 10 W outputs) and gets automatically self-configured according to this.

**ONLY ONE CONFIGURATION CAN BE USED.**

**Schematics**

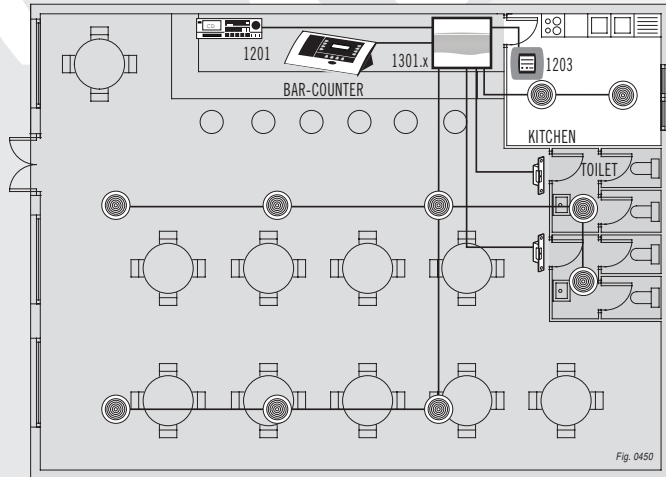
		NUMBER OF SPEAKERS		
		4 $\Omega$	16 $\Omega$	32 $\Omega$
	20 W	1 speaker	Up to 4 speakers	Up to 8 speakers
	10+10 W	2 + 2 speakers	8 + 8 speakers	16 + 16 speakers

TECHNICAL SPECIFICATIONS	1309.1
Power supply	230 V~
Consumption	40 VA
Power	20 W; minimum line impedance 4 $\Omega$ or 10 + 10 W; minimum line impedance 2 $\Omega$

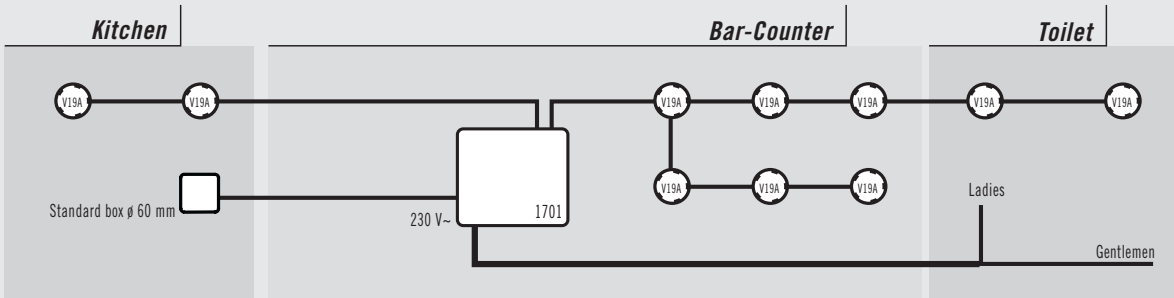


## Bar Installation example

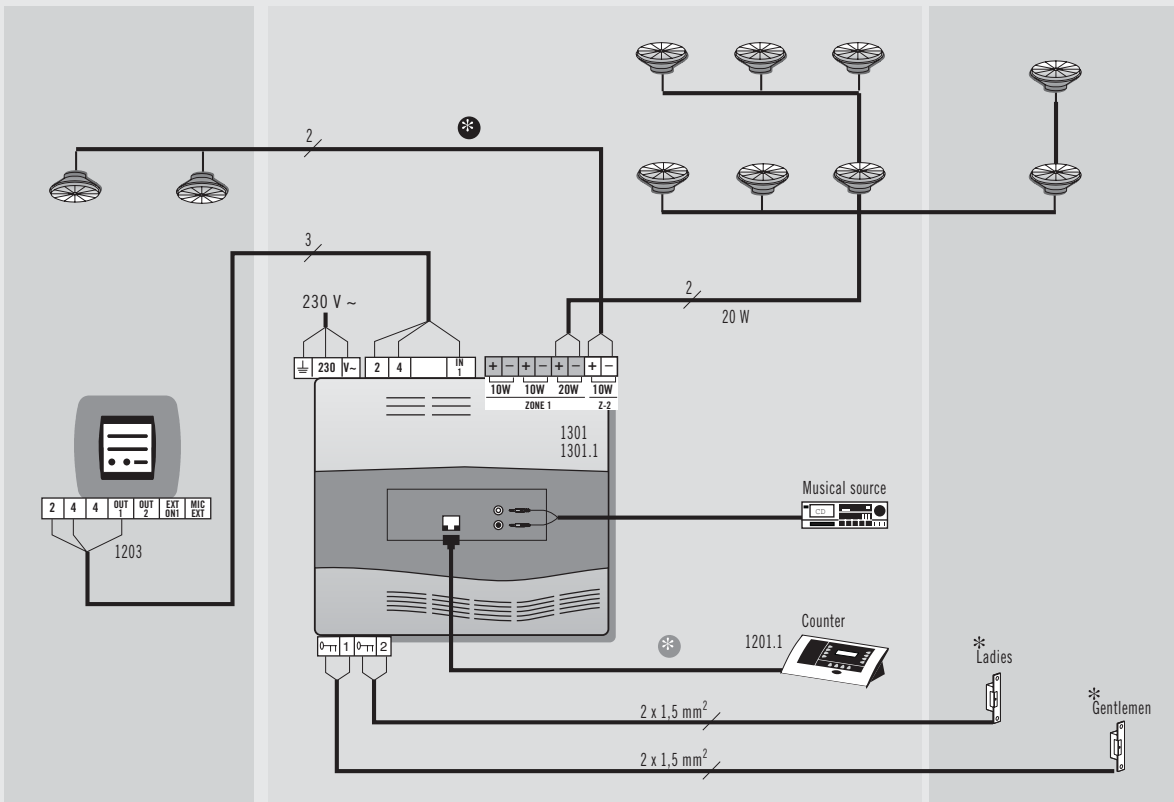
1 or 2 music channels.  
2 Zones: kitchen and bar + toilets.  
Intercom kitchen-counter.  
Electric locks in toilets.



Preinstallation



Installation



Materials

1 intercom unit \_\_\_\_\_ 1203  
2 speakers \_\_\_\_\_ G14A/16

1 control console \_\_\_\_\_ 1201.1  
1 audio processor \_\_\_\_\_ 1301.X  
6 speakers \_\_\_\_\_ G14A/32

2 speakers \_\_\_\_\_ G14A/32  
2 electric locks \_\_\_\_\_ 12 V~

\* Use 1501 connection base for distances longer than the cable provided.

\* Valid for any electric drive.

\* NOTE: See page 2 for further information about loudspeaker cable sections.



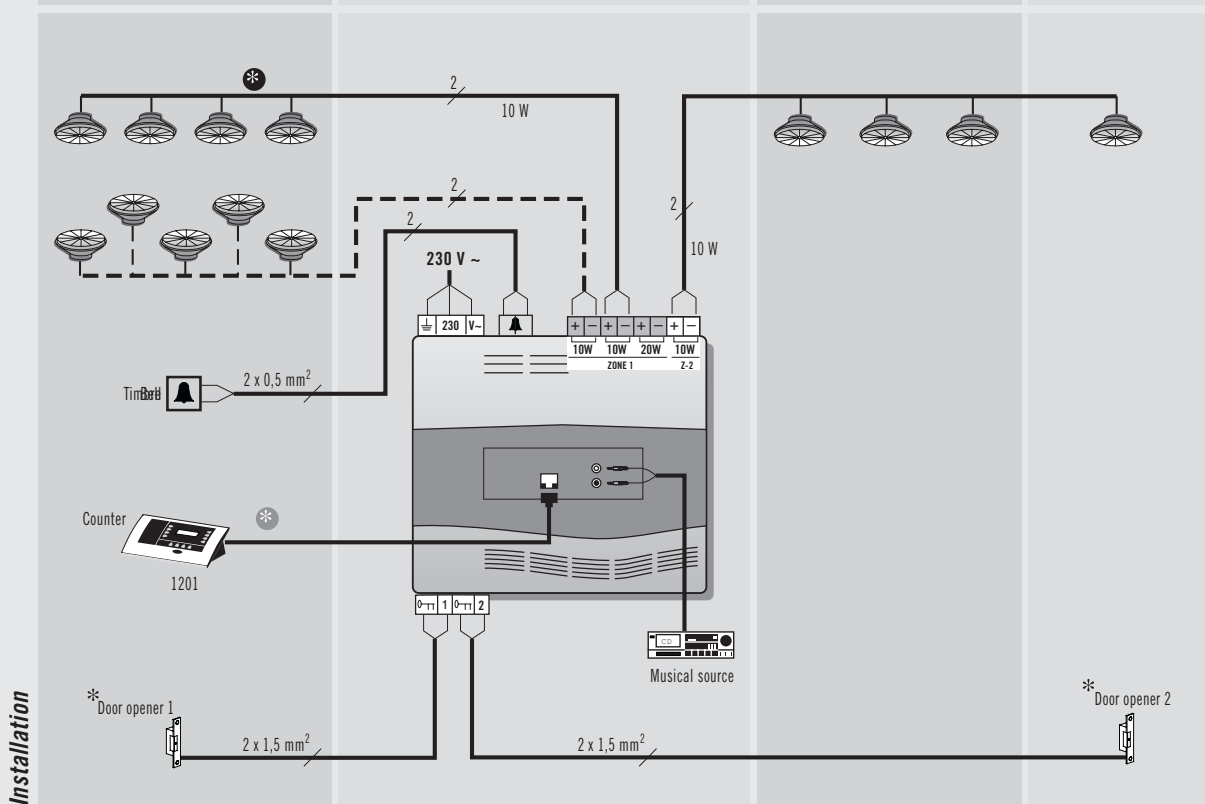
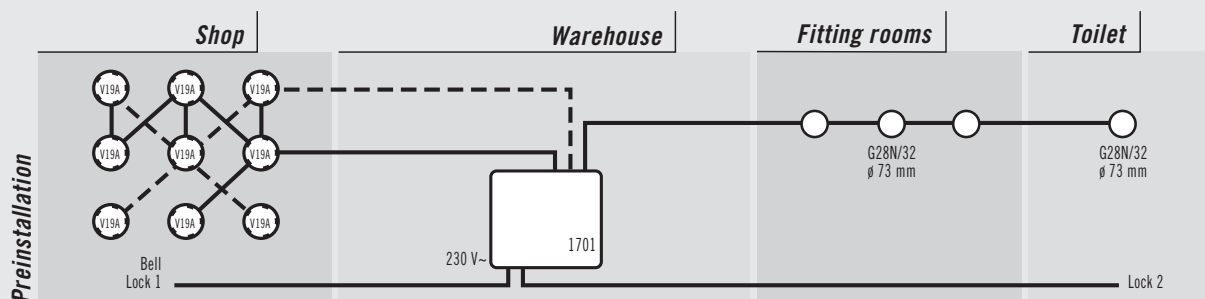
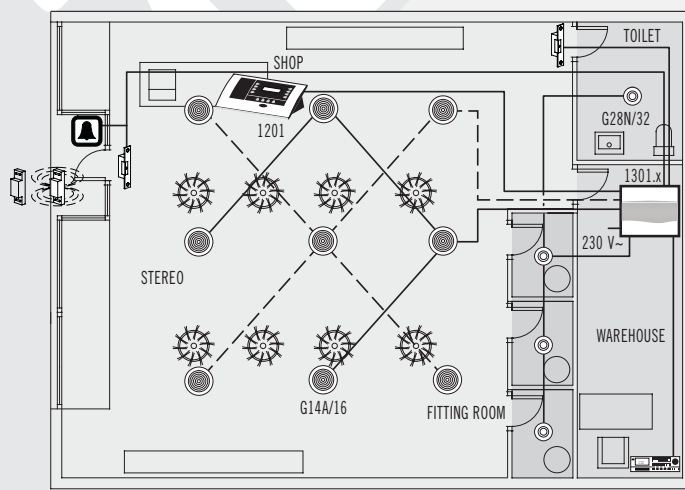
# **Fashion shop** Installation example

1 or 2 channels of stereo music.

2 Zones:  
shop and fitting room + toilet.

Door bell through the speakers  
of one or both areas.

Electric door opener.



<p>1 control console _____ 1201 9 speakers _____ G14A/16 1 electric lock _____ 12 V~ 1 push-button</p>	<p>1 audio processor _____ 1301.1</p>	<p>3 speakers _____ G28N/32</p>	<p>1 speaker _____ G28N/32 1 electric lock _____ 12 V~</p>
--	---------------------------------------	---------------------------------	--

⌘ Use 1501 connection base for distances longer than the cable provided.

⌘ Valid for any electric drive.

⌘ NOTE: See page 2 for further information about loudspeaker cable sections.



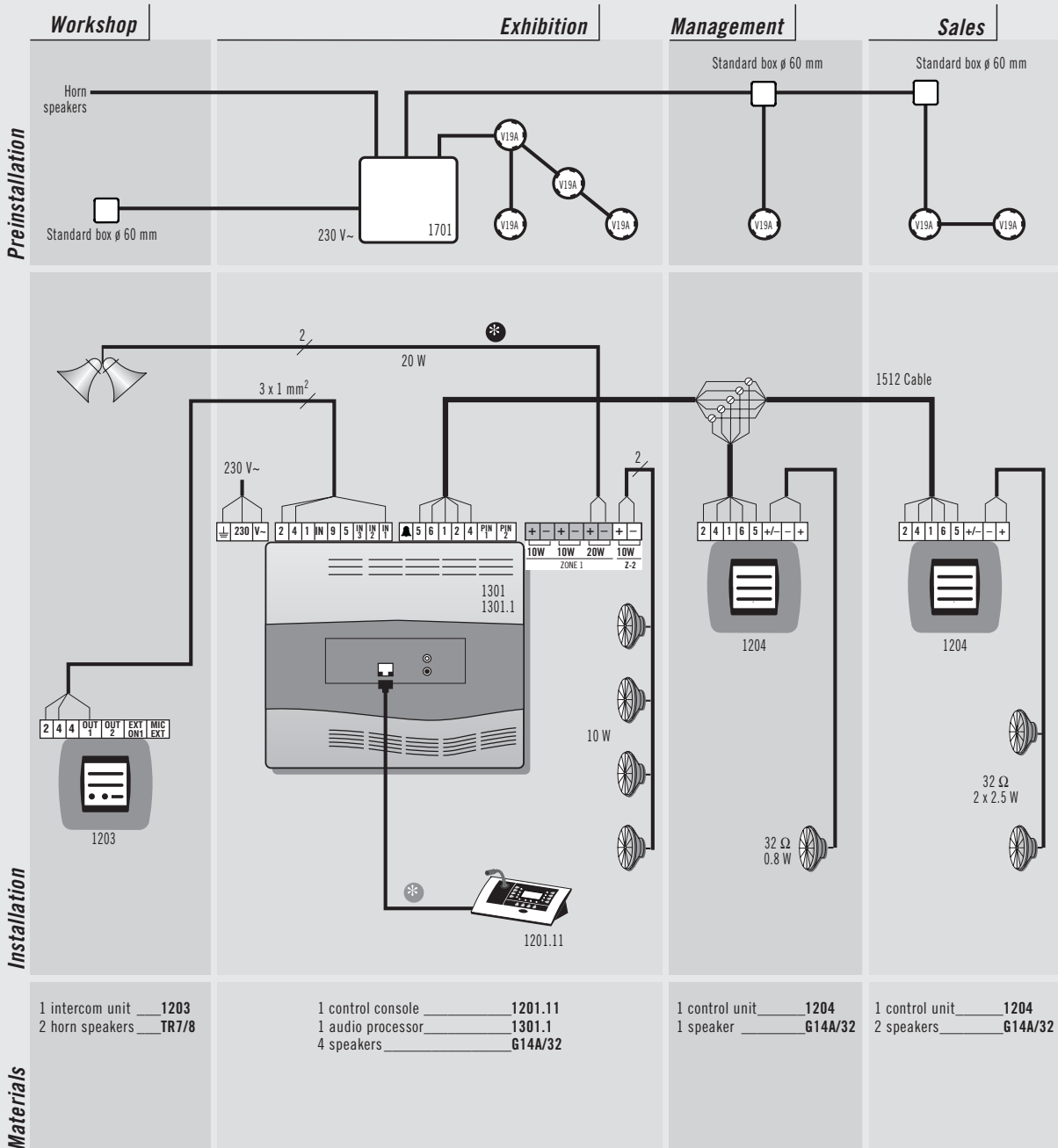
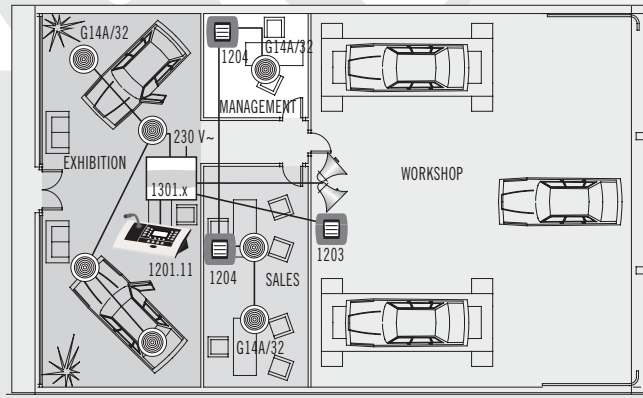
# **Car dealer** Installation example

1 or 2 music channels.

Separate message broadcast to workshop, exhibition and offices.

Message answering from workshop to exhibition.

General call, emergency evacuation.



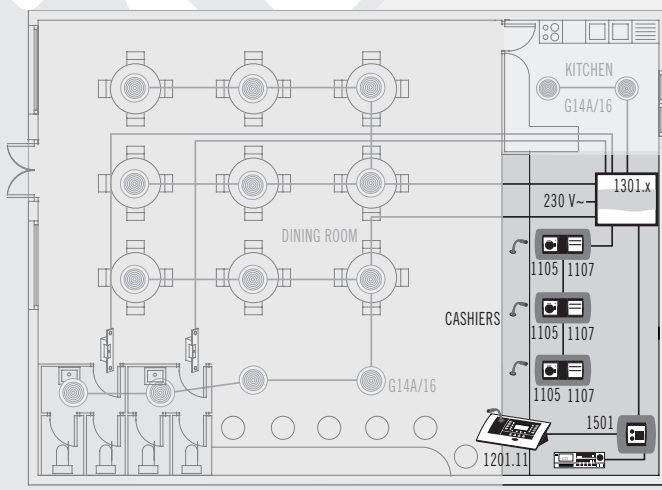
⊛ Use 1501 connection base for distances longer than the cable provided.

⊛ NOTE: See page 2 for further information about loudspeaker cable sections.



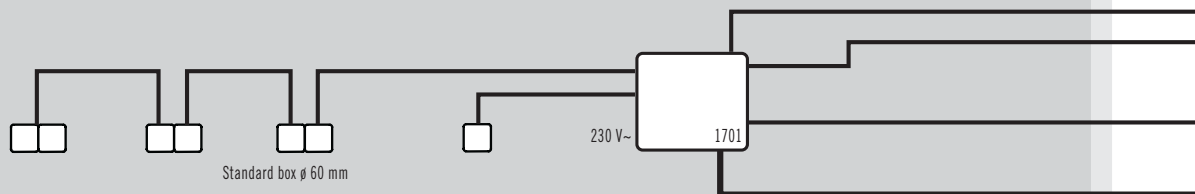
# **Fast food restaurant** Installation example

- 1 or 2 music channels.
- Food ordering to kitchen through 4 microphones.
- Music in restaurant.
- Lock release in toilets.
- General call.
- Emergency evacuation.

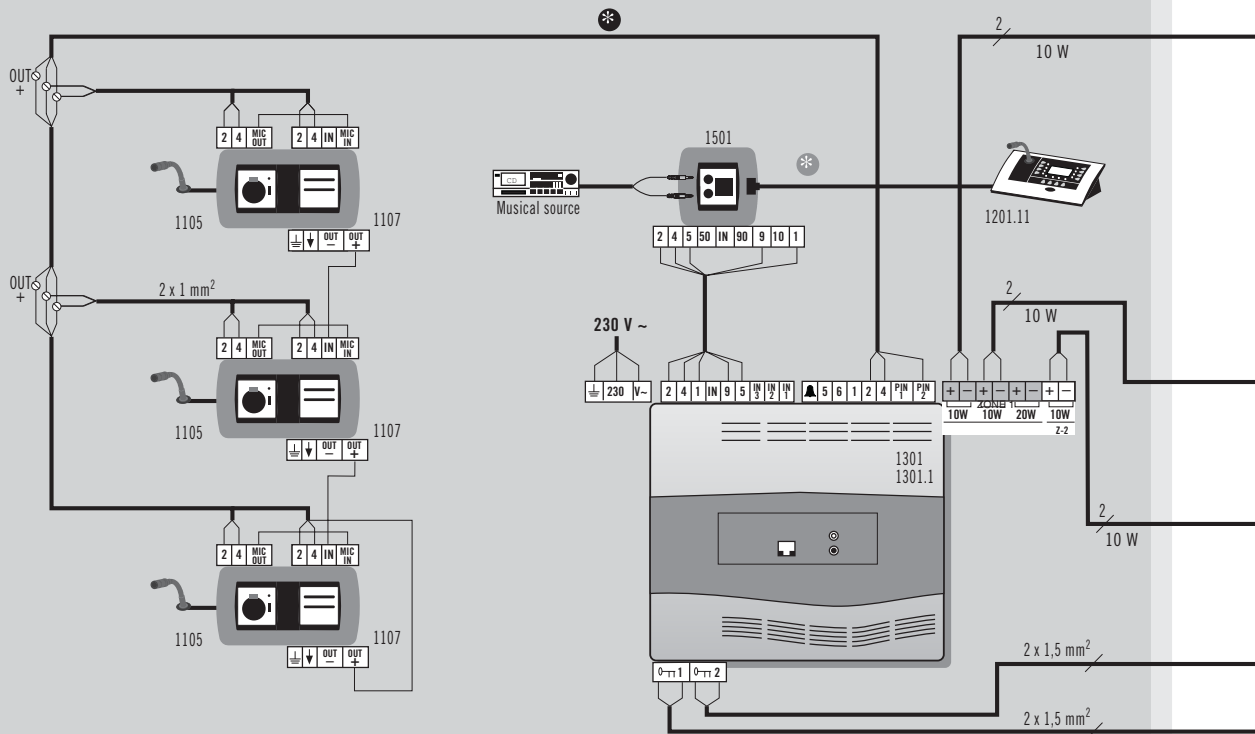


## **Cashiers**

Preinstallation



Installation



Materials

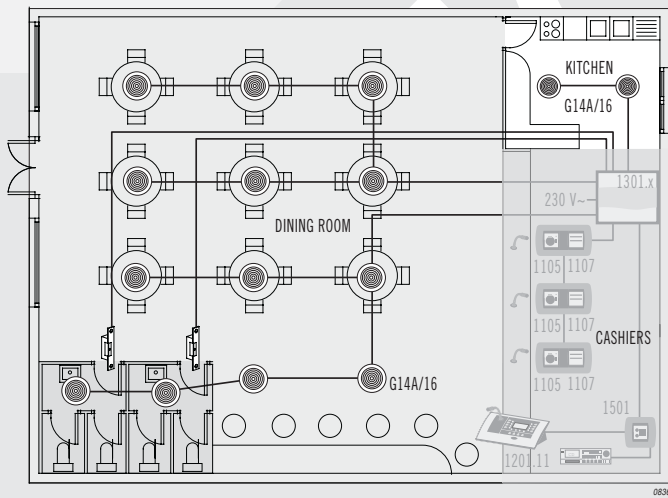
- |  |         |
|--|---------|
| 1 audio processor                                  | 1301.1  |
| 3 microphone bases                                 | 1105    |
| 3 volume regulators                                | 1107    |
| 1 connection base for control console/audio source | 1501    |
| 1 control console                                  | 1201.11 |

\* Use 1501 connection base for distances longer than the cable provided.

\* NOTE: See page 2 for further information about loudspeaker cable sections.



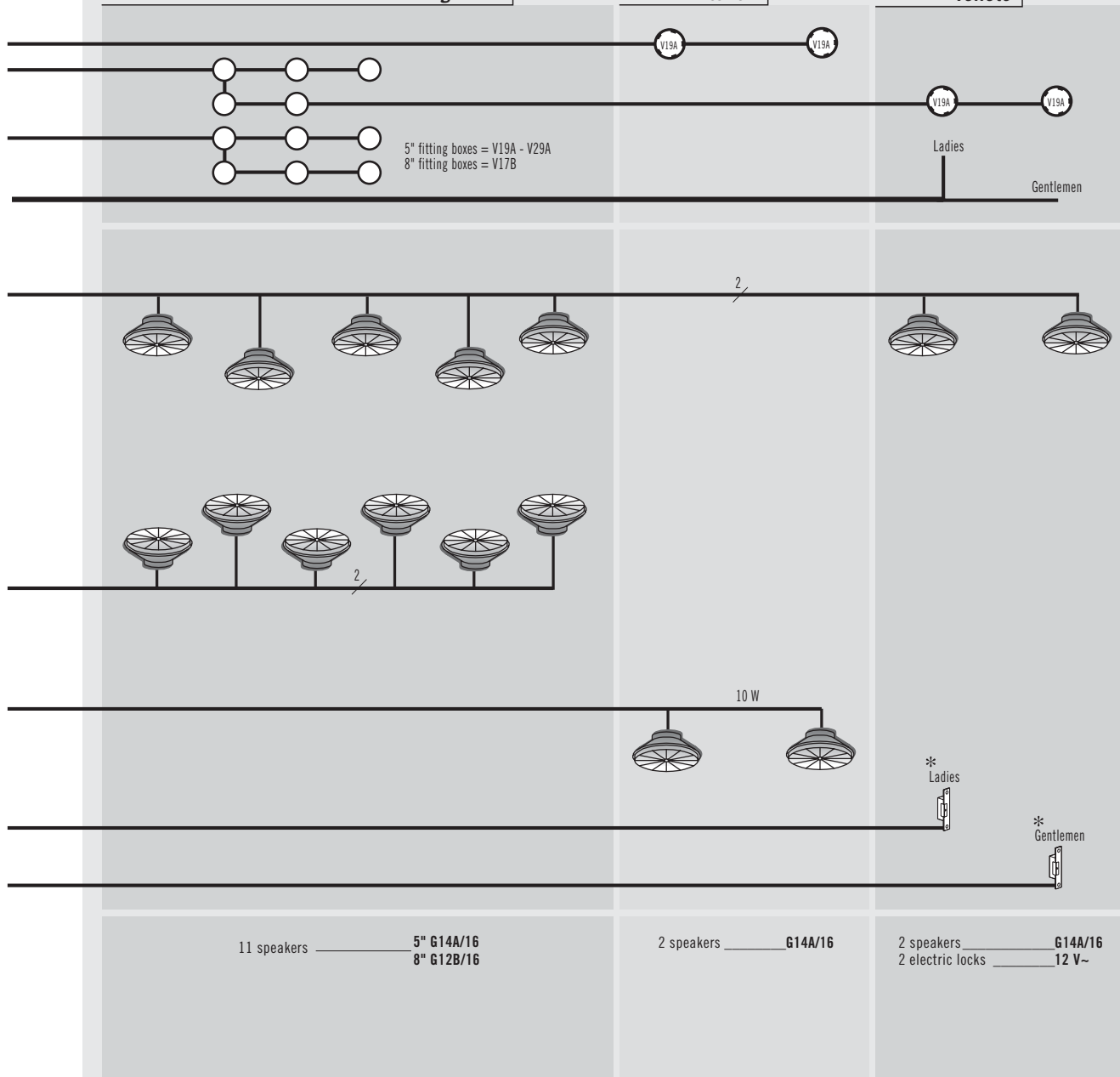
**Fast food restaurant**  
Installation example



**Dining room**

**Kitchen**

**Toilets**



\* Valid for any electric drive.



# **Restaurant** Installation example

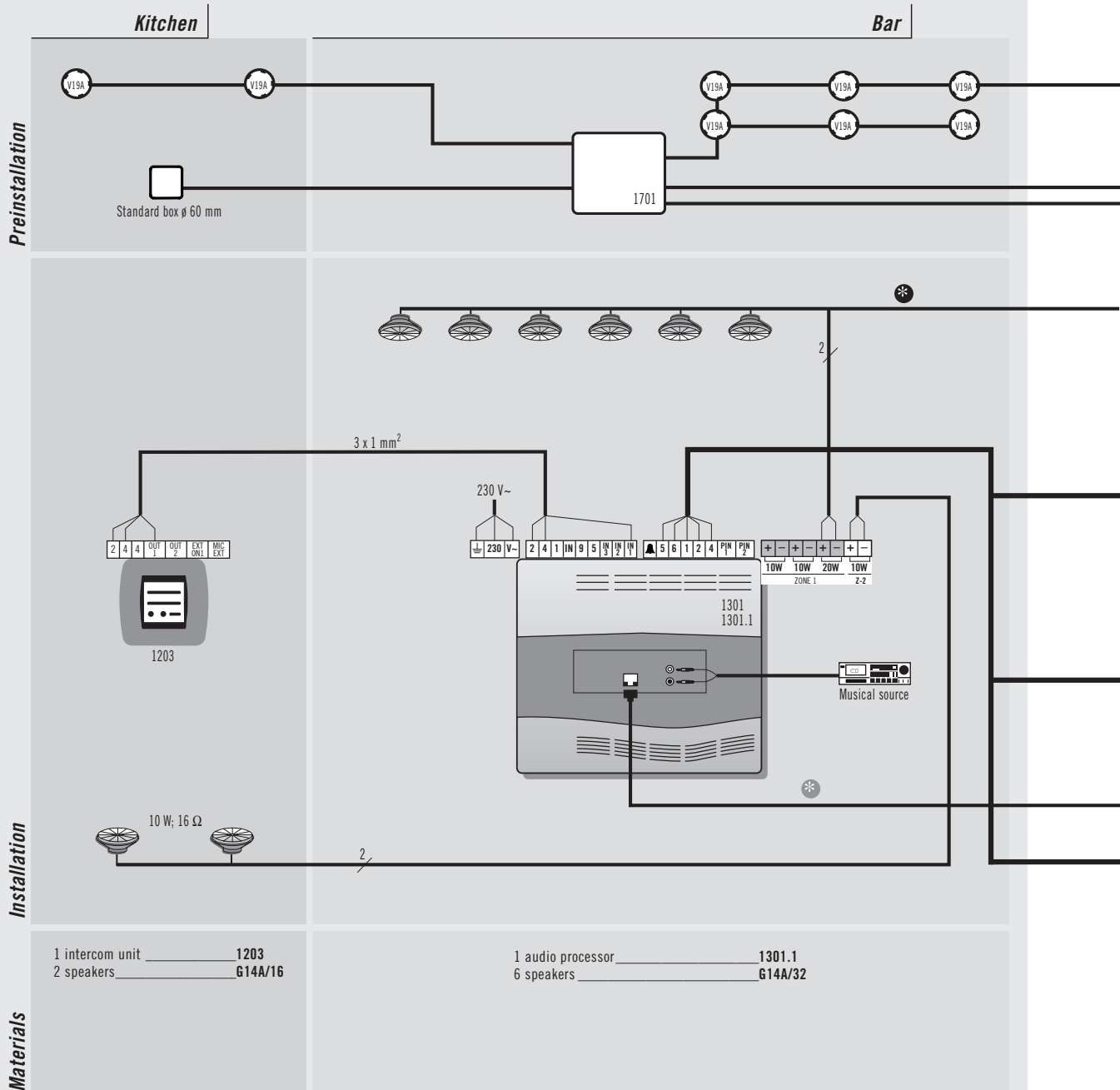
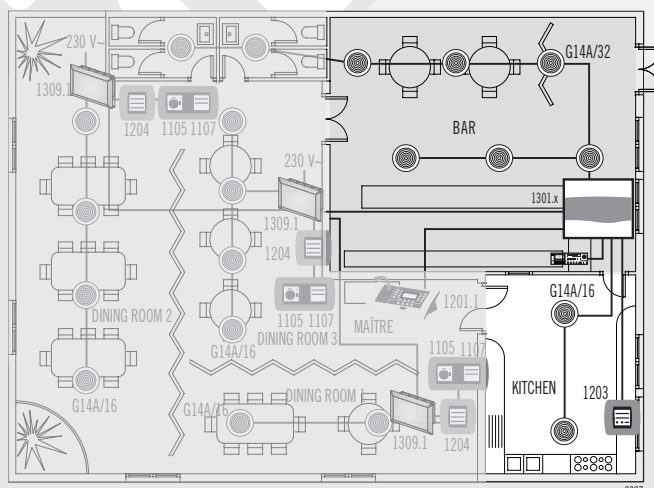
1 or 2 music channels.

Separate message broadcast to bar, kitchen and dining rooms with chime.

External music source input for each dining room.

Intercom maître-kitchen.

Emergency evacuation.

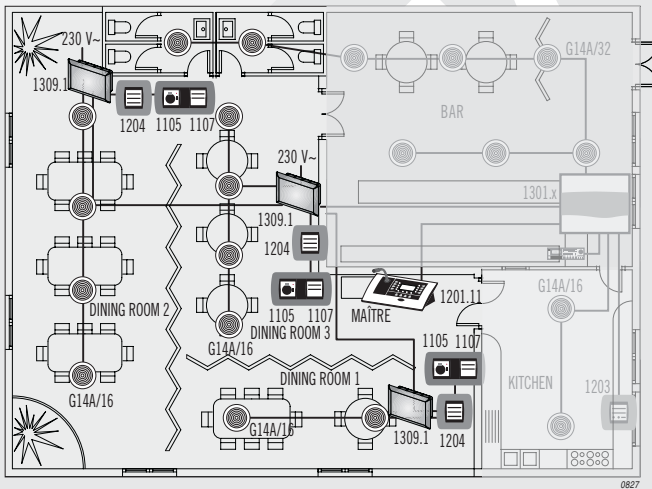


⚡ Use 1501 connection base for distances longer than the cable provided.

⚡ NOTE: See page 2 for further information about loudspeaker cable sections.

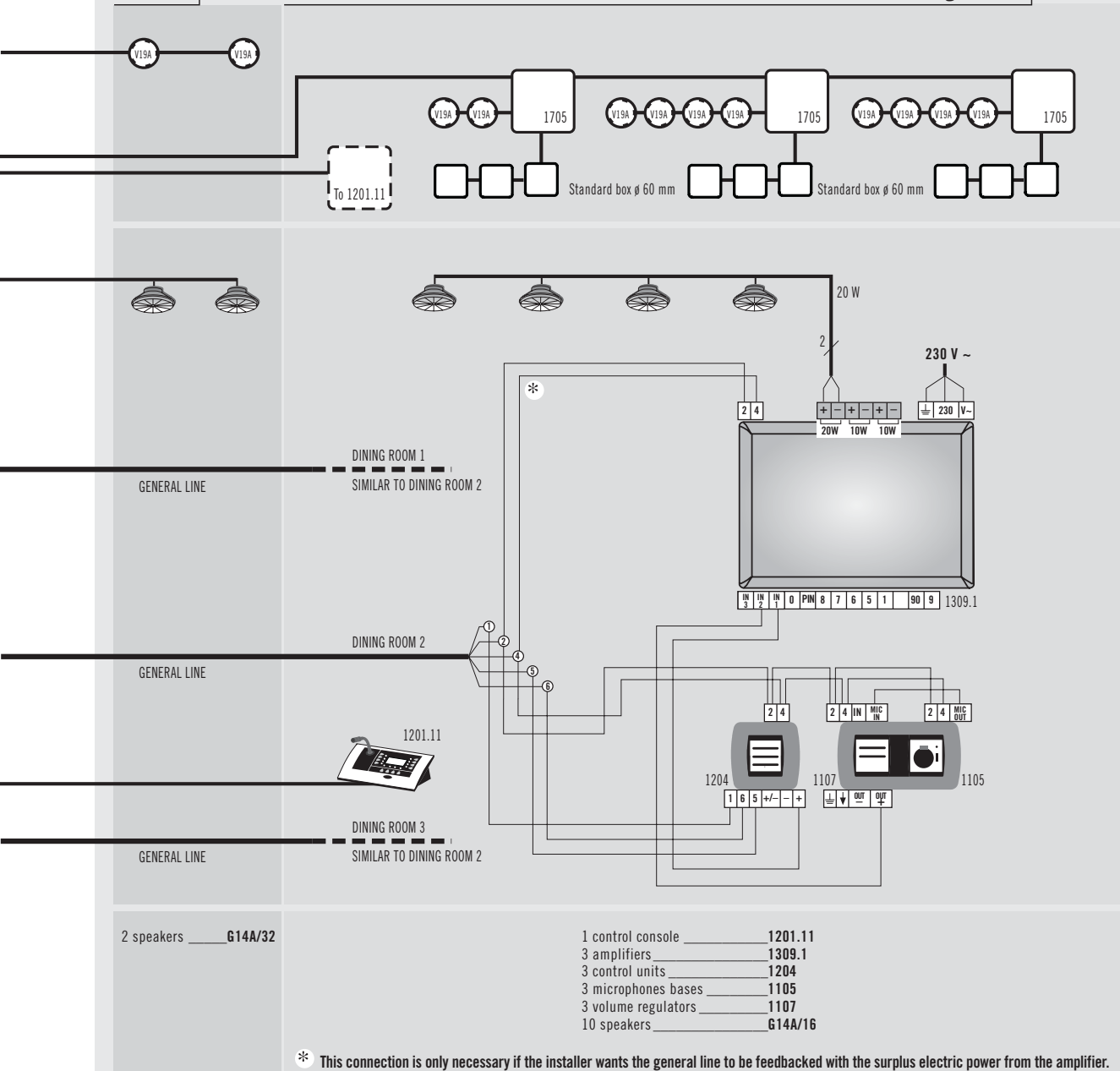


# **Restaurant** Installation example



## **Toilet**

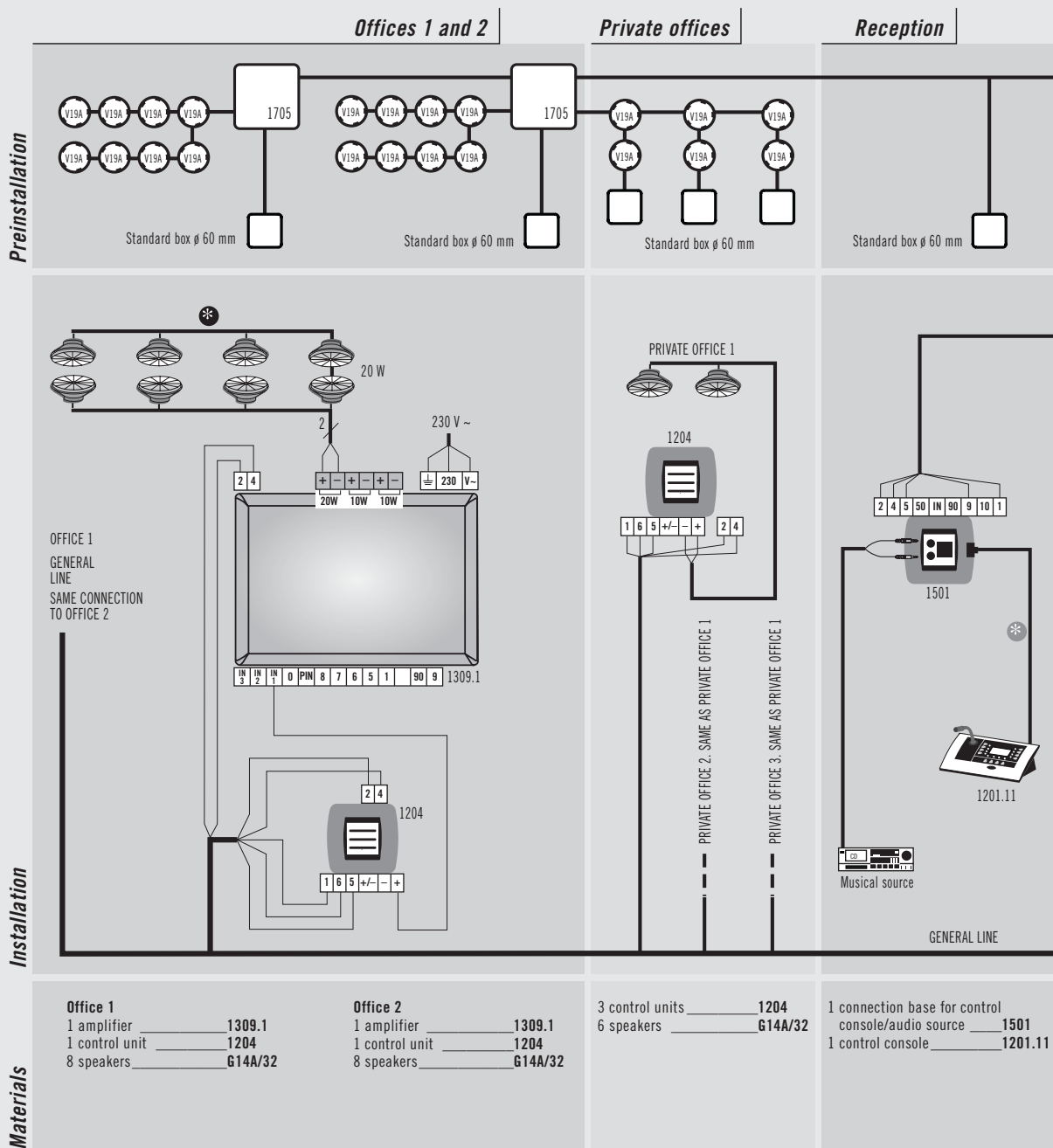
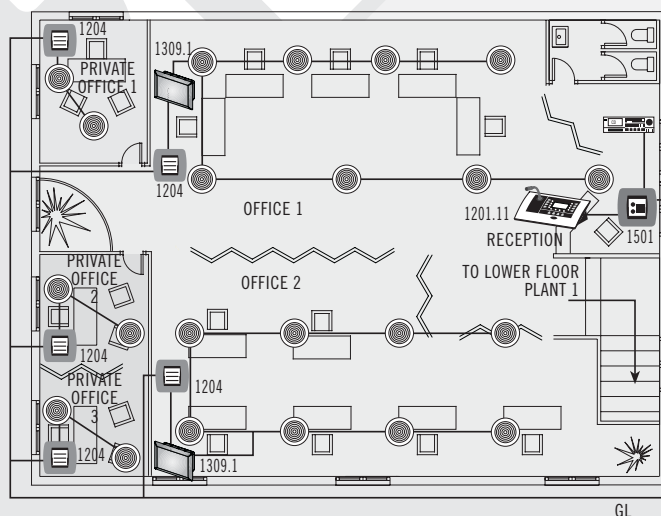
## **Dining rooms**





# **Middle size business** Installation example

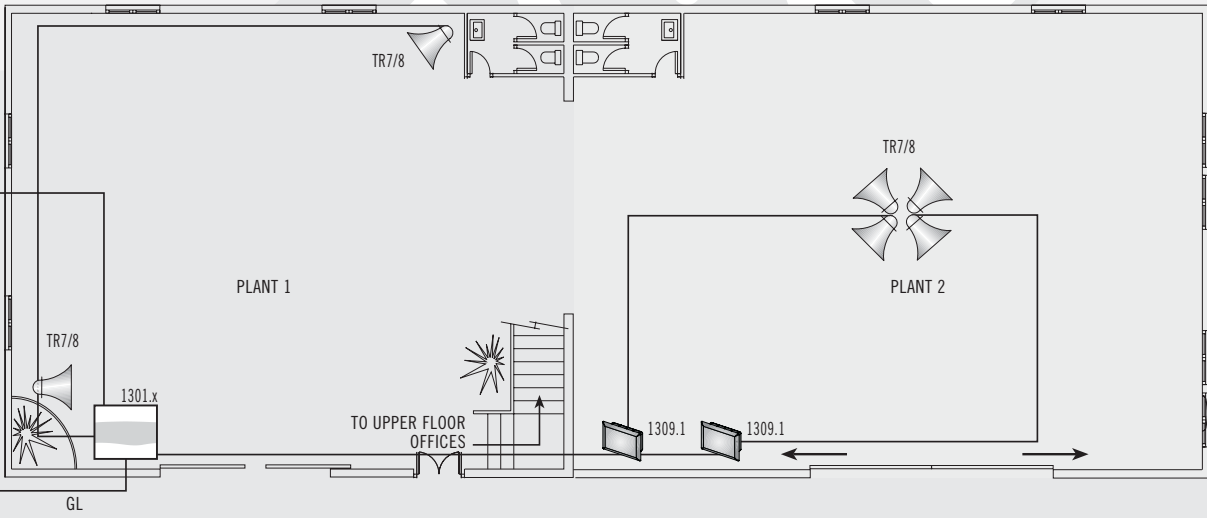
1 or 2 music channels.  
Separate message broadcast  
to Plant 1, Plant 2 and Offices.



⚙ Use 1501 connection base for distances longer than the cable provided.

⚙ NOTE: See page 2 for further information about loudspeaker cable sections.



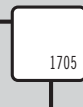


Plant 1

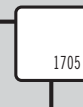
Plant 2



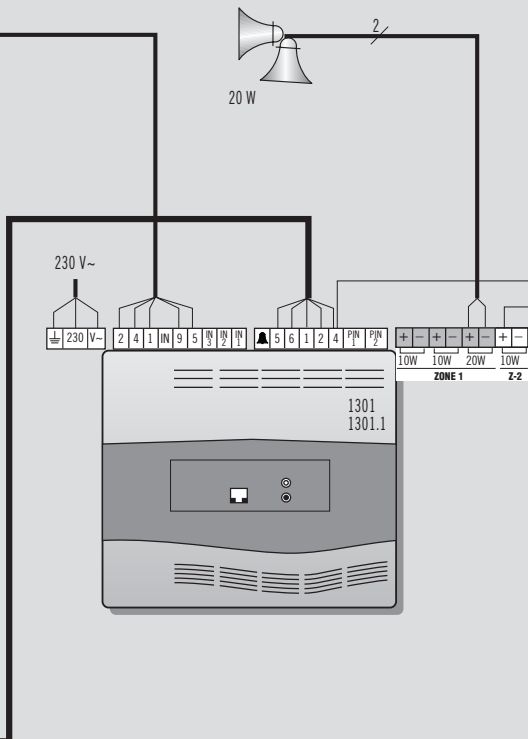
Horn speakers



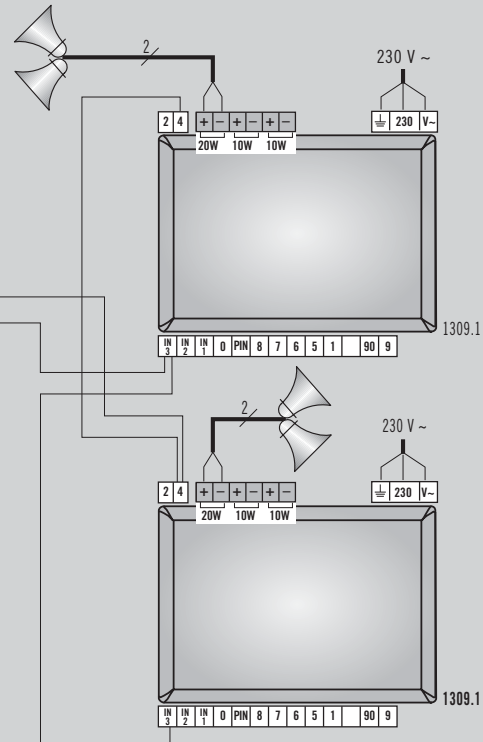
Horn speakers



Horn speakers



2 horn speakers **TR7/8**  
1 audio processor **1301.1**



4 horn speakers **TR7/8**  
2 amplifiers **1309.1**



## Millennium up to 127 message zones

The system can handle up to 127 message zones, selectable from the **1202** control console. They can also be grouped in up to 15 groups.

Depending on the features that we want for the system, there can be centralized areas and non-centralized areas. An area is said to be centralized when its audio amplifier is inside the processor and non-centralized when its audio amplifier is in the area itself.

### Product structure

CONTROL CONSOLE	AUDIO PROCESSOR	SERVICE MODULES
<p>⊗ <b>1202</b> Control console.</p> <p><b>1501.10</b> Connection base for control console/audio source. White.</p> <p><b>1501.12</b> Connection base for control console/audio source. Black.</p>	<p><b>1316</b> Central audio processing unit.</p>	<p><b>1315</b> Power supply unit.</p> <p><b>1101.1</b> Modular RCA audio input with compressor for 2 audio programs.</p> <p><b>1102.1</b> Modular digital FM tuner.</p> <p><b>1103.1</b> Modular pre-recorded message player.</p> <p><b>1104.10</b> Telephone messages module.</p> <p>⊗ <b>1303.1</b> 2-zone x 10 W amplifier.</p> <p>⊗ <b>1304.1</b> 1-zone 10 + 10 / 20W amplifier with digital control.</p> <p>⊗ <b>1305.1</b> Amplifier 1 zone 40 W / 100 V with digital control.</p> <p>⊗ <b>1306.1</b> Adapter for 100 V power amplifiers with message override relay.</p> <p>⊗ <b>1318</b> 3-zone relay module with message override.</p> <p><b>1509</b> Module for audio signal selection.</p> <p><b>1510</b> Converter module from general line to ribbon wire.</p> <p>⊗ <b>1308.1</b> Buffer-Power supply 15 V<math>\overline{=}</math>, 20 W. 230 V<math>\sim</math>.</p> <p><b>1205.10</b> 4-channel control unit, 1 W, 1-2 speakers. Message override. White.</p> <p><b>1205.12</b> 4-channel control unit, 1 W, 1-2 speakers. Message override. Black.</p> <p><b>1307.1</b> Power supply unit 15 V<math>\overline{=}</math>, 20 W; 230 V<math>\sim</math>.</p> <p>⊗ <b>1207.10</b> 4-channel control unit, 2 W, 1-4 speakers. Message override. White.</p> <p>⊗ <b>1207.12</b> 4-channel control unit, 2 W, 1-4 speakers. Message override. Black.</p> <p><b>1206.10</b> Digital control keyboard. White.</p> <p><b>1206.12</b> Digital control keyboard. Black.</p> <p>⊗ <b>1311</b> Digital 10 W amplifier. 15 V<math>\overline{=}</math>.</p> <p>⊗ <b>1310.1</b> Digital 20 W amplifier. 230 V<math>\sim</math>.</p> <p><b>1105.10</b> Pre-amplified XLR microphone base. White.</p> <p><b>1105.12</b> Pre-amplified XLR microphone base. Black.</p> <p><b>1107.10</b> Volume regulator for <b>1105</b> base. White.</p> <p><b>1107.12</b> Volume regulator for <b>1105</b> base. Black.</p> <p><b>1106.10</b> Volume regulator and auxiliary input. White.</p> <p><b>1106.12</b> Volume regulator and auxiliary input. Black.</p>
CENTRAL PROCESSOR ACCESSOIRES AND MISCELLANEOUS MODULES		
<p><b>1707</b> Chassis for 19" rack (84 UP; 3 UA).</p> <p><b>1709</b> Tabletop cabinet (84 UP; 3 UA).</p> <p><b>1710</b> Blind cover (7 UP).</p>		

⊗ These devices need to be configured as a zone in the system during the **SETUP** process (max. 126 digital zones).

In the next pages we can see several examples of this kind of systems.



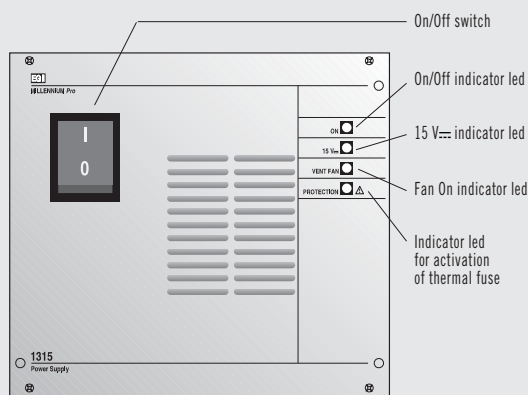
# 120 W Power supply | 1315



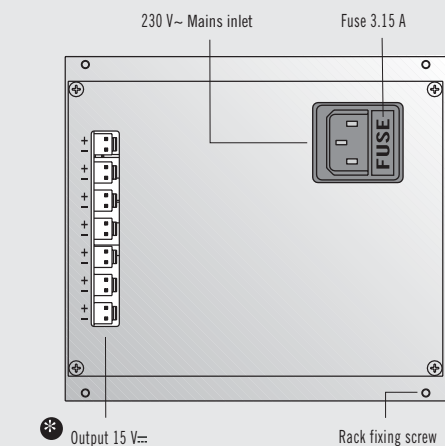
## 1315 120 W; 15 V= Power supply

- It takes 28 UP of rack space.
- Up to 7 devices (15 V= operating voltage) of a maximum total consumption of 120 W (8 A) can be supplied.

## Schematics <sup>1</sup>

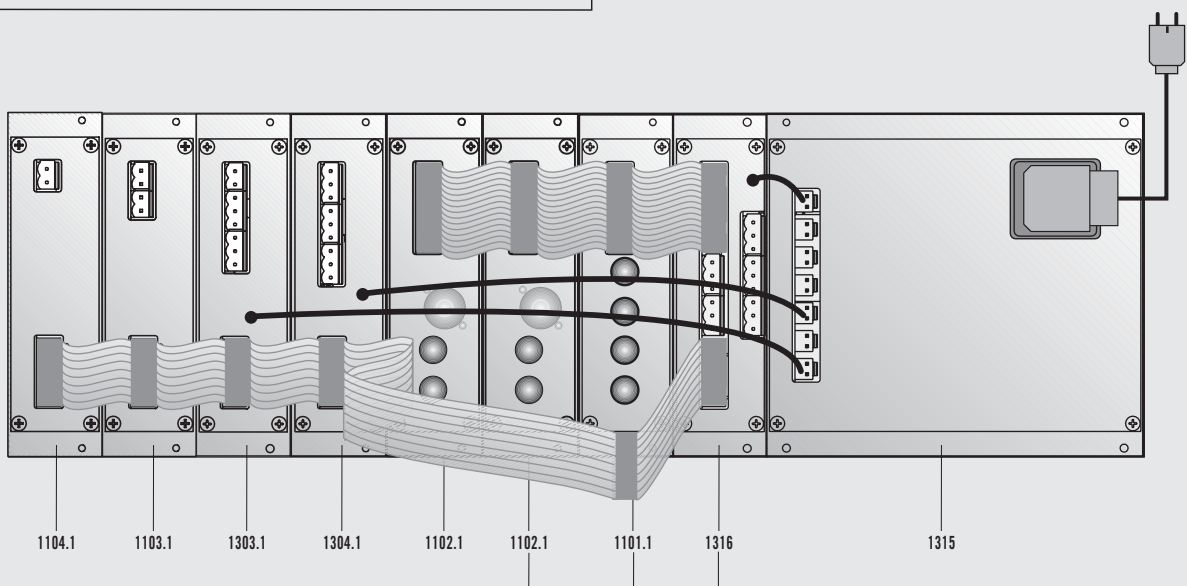


\* These outputs are designed to supply centralised modules like 1303.1, 1304.1, 1316 and 1510.



\* Output 15 V=  
Max. current per power cord: < 2 A

## 1315 Cascade layout example <sup>2</sup>



\* 1101.1 - When there's only one audio program in the system, use the "A" input.

### TECHNICAL SPECIFICATIONS

	1315
DC power supply	230 V~, 50/60 Hz
Max. power consumption	175 VA
Rack module width	28 UP



# CPU- Central audio Processing Unit | 1316



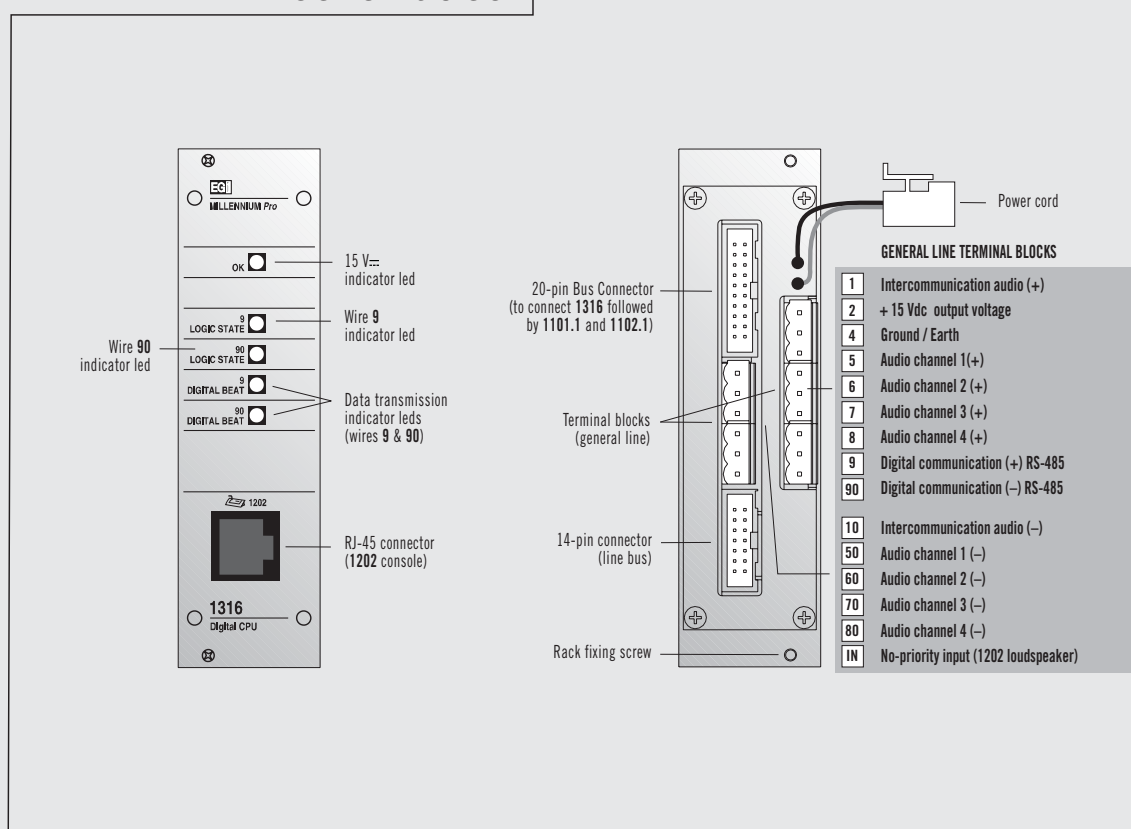
## Description

- This module controls the installation. Only one per installation.
- It is fitted in a 7u/3u aluminium chassis and stainless steel front cover, to be assembled in a 19" rack.
- Both rack-mounted **MILLENNIUM** modules and decentralized units can be controlled by this CPU. Therefore, a great installation flexibility can be carried out.

## Functions

- Zone information storage (No. of zones, No. of groups and group names).
- It controls the audio inputs and their functions: input switching and **1102.1** tuning.
- It initializes the installation when powered-up. A digital communication with every digital module of the installation is made.
- Connection to system general line through terminal blocks.
- Connection to **1102.1** and **1101.1** is made through a 20-pin connector, whereas other rack modules connection is made through a 14-pin connector.
- System status is displayed through indicator leds: power, digital communication.
- Front connection to **1202** is made through a RJ-45 connector.

## Schematics <sup>1</sup>



TECHNICAL SPECIFICATIONS	1316
DC power supply	15 V <sub>DC</sub> general line (red/black wires)
Max. power consumption	180 mA
Max. output - flat cable connector or terminal block 2	1.2 A
Audio output	3 V <sub>RMS</sub> + 7 V <sub>DC</sub> (1, 5, 6, 7, 8, 10, 50, 60, 70 and 80)
Rack module width	7 UP



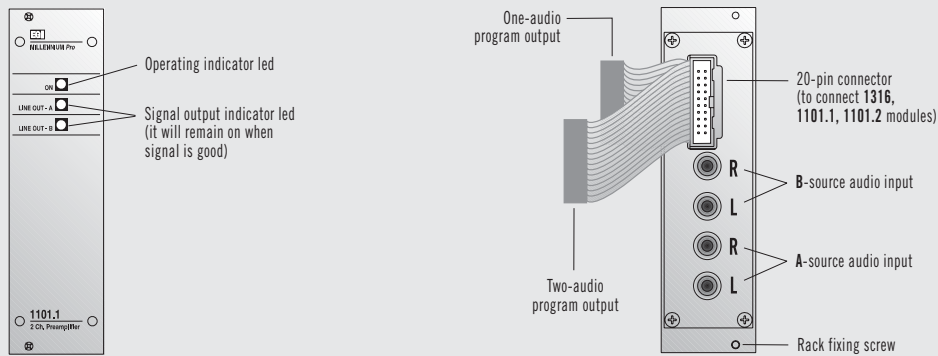
# Audio source preamplified input | 1101.1



## 1101.1 Audio source preamplified input

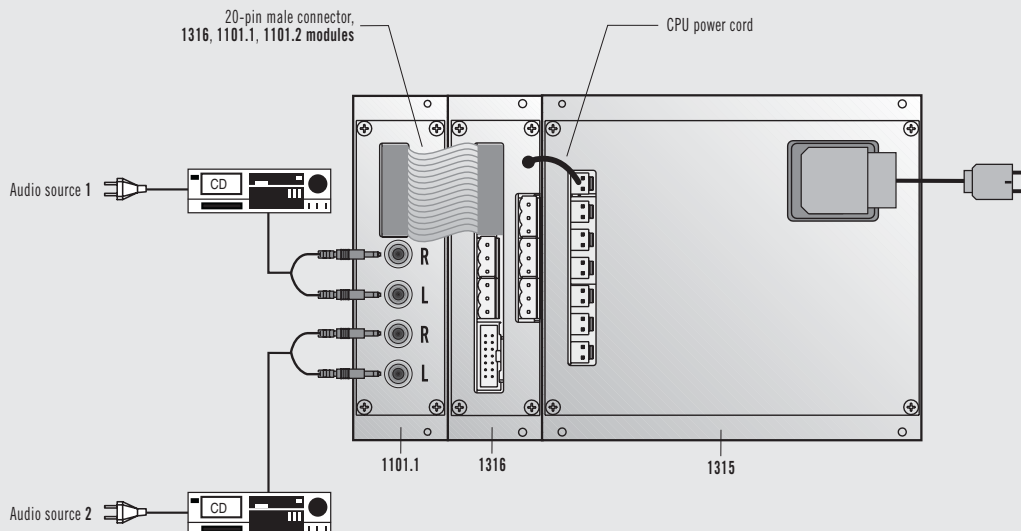
- This module allows to connect two audio sources and assigns an audio program to each of them. The combination of two 1101.1 and four audio sources will give four audio programs to the system.
- Every audio sources low level output can be connected with a RCA connector to the 1101.1 module.
- Automatic sensitivity adjustment. Built-in signal compressor.

## Schematics



⚠ When there is only one audio program in the system, only the "A" input is active.

## 1101.1 Connection into a 19" chassis or a tabletop container



### TECHNICAL SPECIFICATIONS

	1101.1
DC power supply	15 V $\pm$ flat cable
Max. power consumption	180 mA
RCA input impedance	18 K $\Omega$
RCA input sensitivity	0.316 $\div$ 3.16 V (automatic)
Rack module width	7 UP

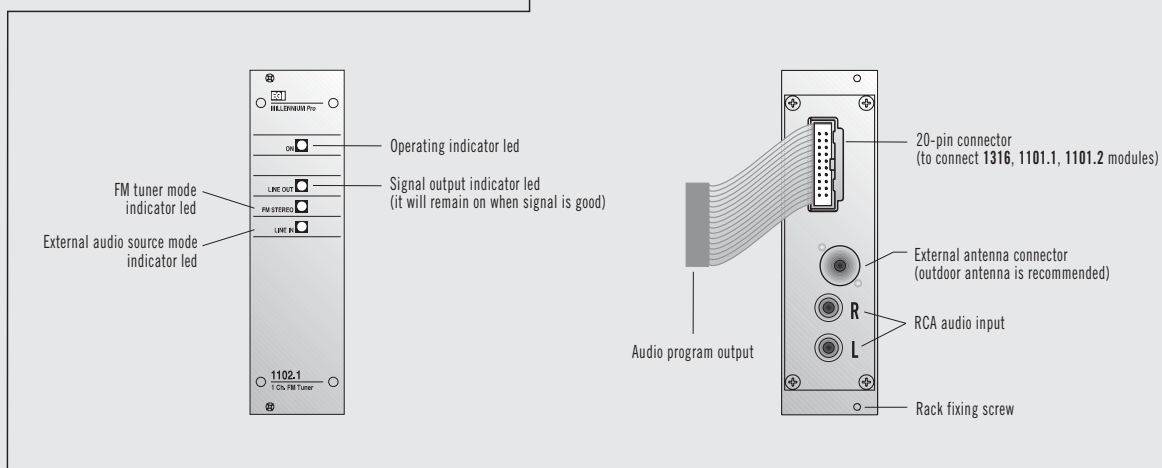
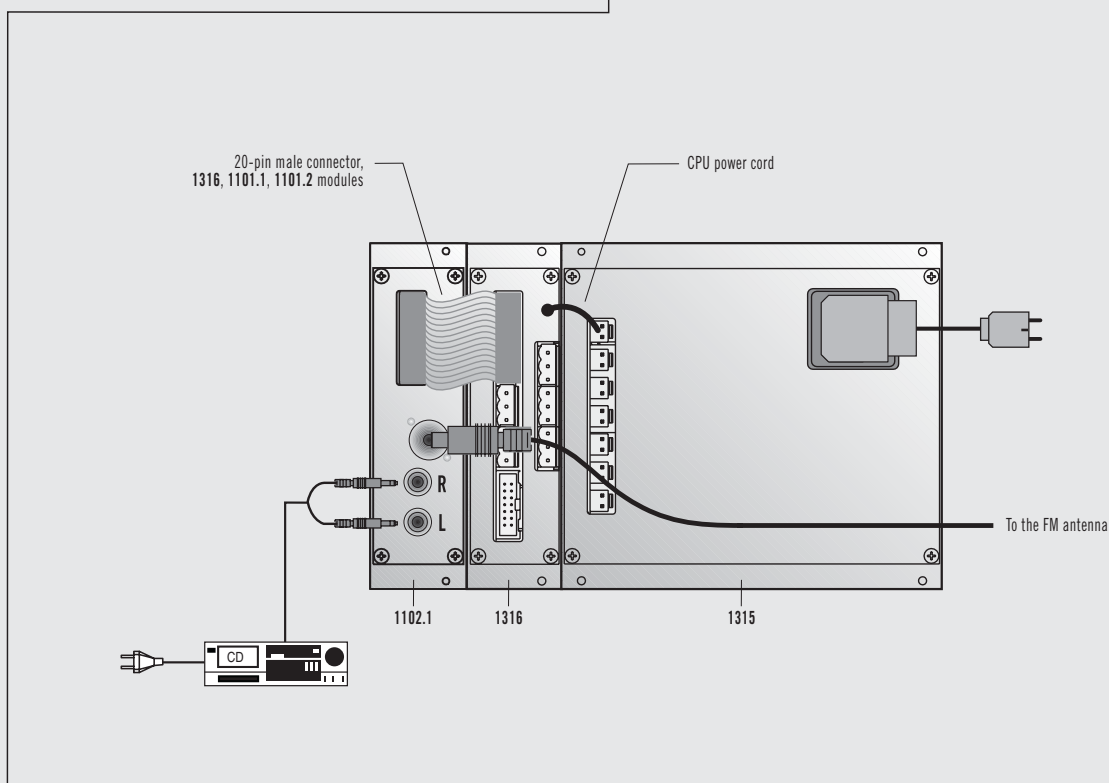


## FM tuner and preamplified audio input

1102.1

**1102.1 FM tuner and preamplified audio input**

- This module incorporates an FM tuner to provide the **MILLENNIUM** installation with an audio program.
- A low level input through a RCA connector is available. This input will not provide the installation with an additional audio program. The **1202** controller module will allow to switch between the FM tuner or an external audio source in order to assign the corresponding audio program.

**Schematics** <sup>1</sup>**1102.1** Connection into a 19" chassis or a tabletop container <sup>2</sup>

## TECHNICAL SPECIFICATIONS

	1102.1
DC power supply	15 V $\pm$
Max. power consumption	180 mA
RCA input impedance	18 K $\Omega$
RCA input sensitivity	0.316 $\div$ 3.16 V (automatic)
Rack module width	7 UP



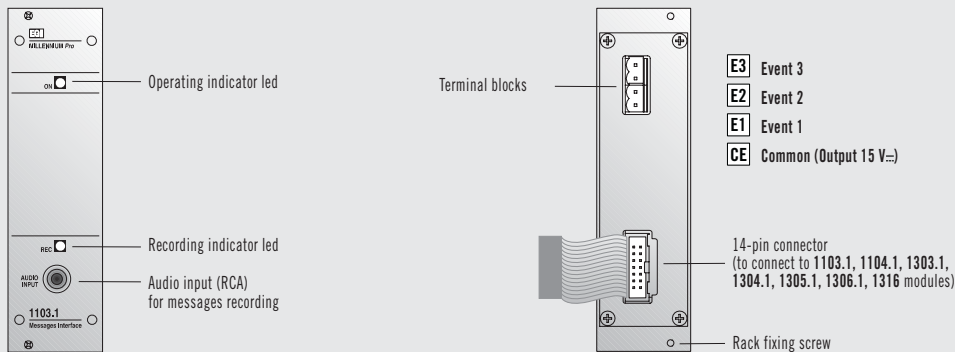
# Modular pre-recorded message player 1103.1



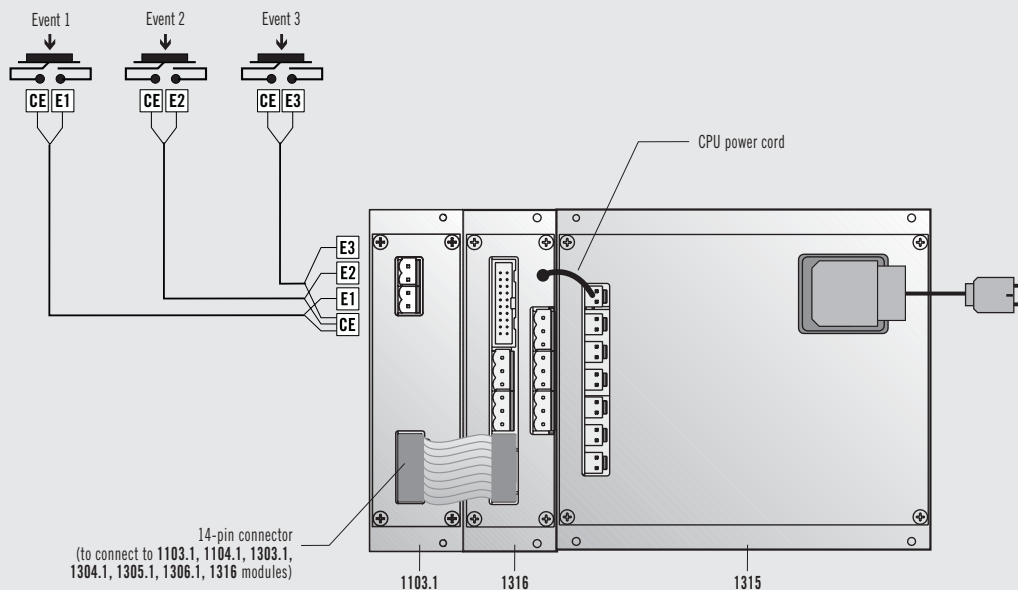
## 1103.1 Modular pre-recorded message player

- It allows to digitally record and store in memory up to 8 different voice messages of 15 seconds long each.
- Two ways of messages broadcast: 1) by programming the activation time and the recurrence interval or, 2) detection of any event (e.g. when pushing a button or activating a relay). In both cases the playing zone(s) are to be indicated.
- Voice messages recording can be carried out from any device which gives an analogic audio signal (0.316 ÷ 3.16V) or from any 1202 console by simulating a voice message broadcast.
- Should the system be occupied emitting a voice message of any other kind, either through console or phone, the pre-recorded voice message will be automatically emitted once the active voice message is finished.

## Schematics 1



## 1103.1 Connection into a 19" chassis or a tabletop container 2



### TECHNICAL SPECIFICATIONS

	1103.1
DC power supply	15 V=
Max. power consumption	115 mA
CE output for E1, E2, E3 inlets	15 V=
RCA input sensitivity	316 mV ÷ 3.16 V (automatic)
Rack module width	7 UP



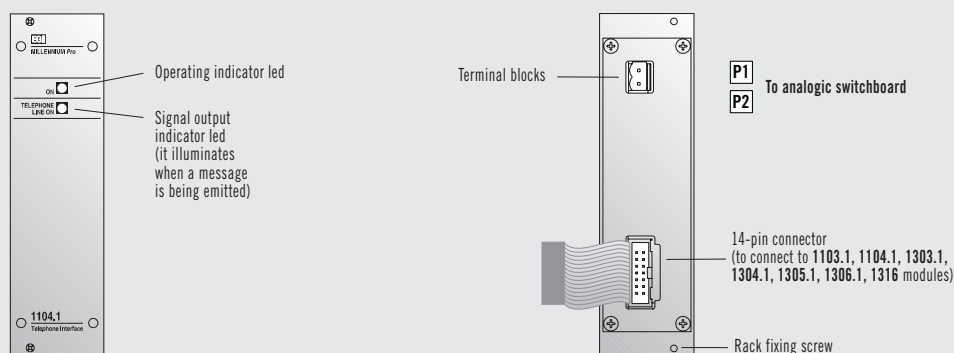
# Phone line connection interface 1104.1x



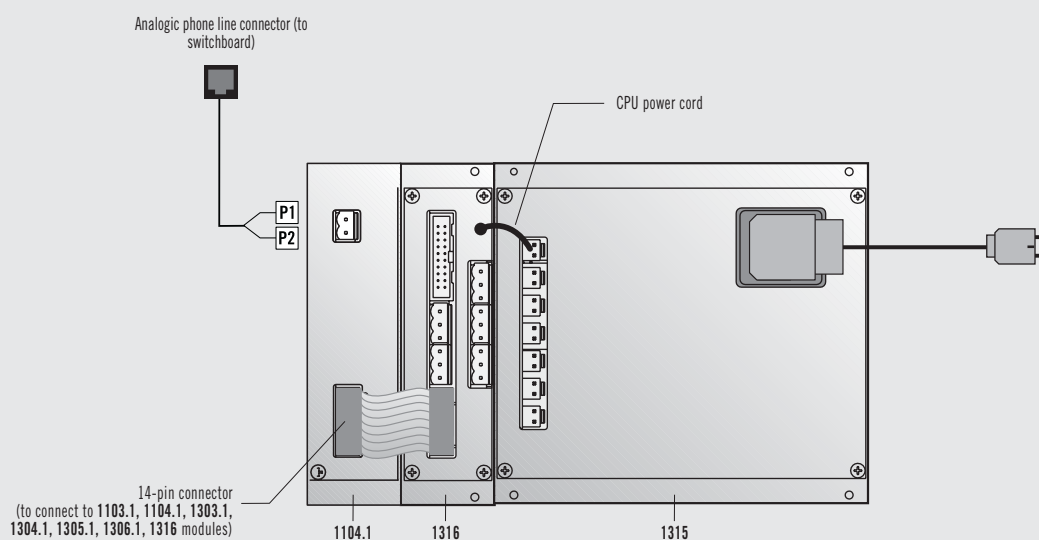
## 1104.1x Phone line connection interface

- It allows direct connection to an analog and multifrequency extension of an telephone switchboard and broadcast voice messages from any other telephone.
- Disconnection can be made either manually (by pressing "0" on the telephone keyboard) or automatically (by setting a message maximum duration between 10 and 60 seconds).

## Schematics <sup>1</sup>



## 1104.1 Connection into a 19" chassis or a tabletop container <sup>2</sup>



### TECHNICAL SPECIFICATIONS

	1104.1
DC power supply	15 V=
Max. power consumption	115 mA
Rack module width	7 UP



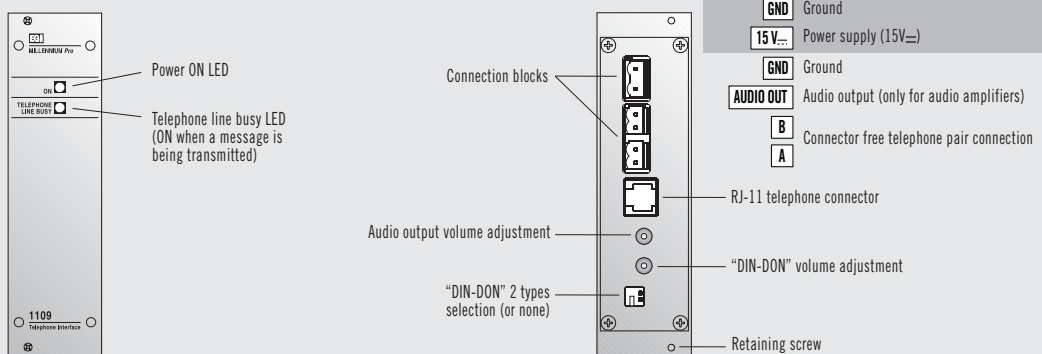
# Telephone extension adapter 1109



## 1109 Telephone extension adapter

- It allows the direct connection to an analogue telephone extension using always the standard multifrequency extension of a switchboard and spread voice messages from any telephone.
- The audio output activates EGi's **DOMOS** and **MILLENNIUM** series amplifiers.
- Once the module is correctly installed it can be contacted from any other telephone extension connected so that once the call has been made, it answers with a "din-don" for 1 or 2 seconds and after that, plays the telephone message using the speakers.
- **The disconnection can be manually done by hanging the phone, or automatically after 54 seconds after the call.** This time is defined by EGi.

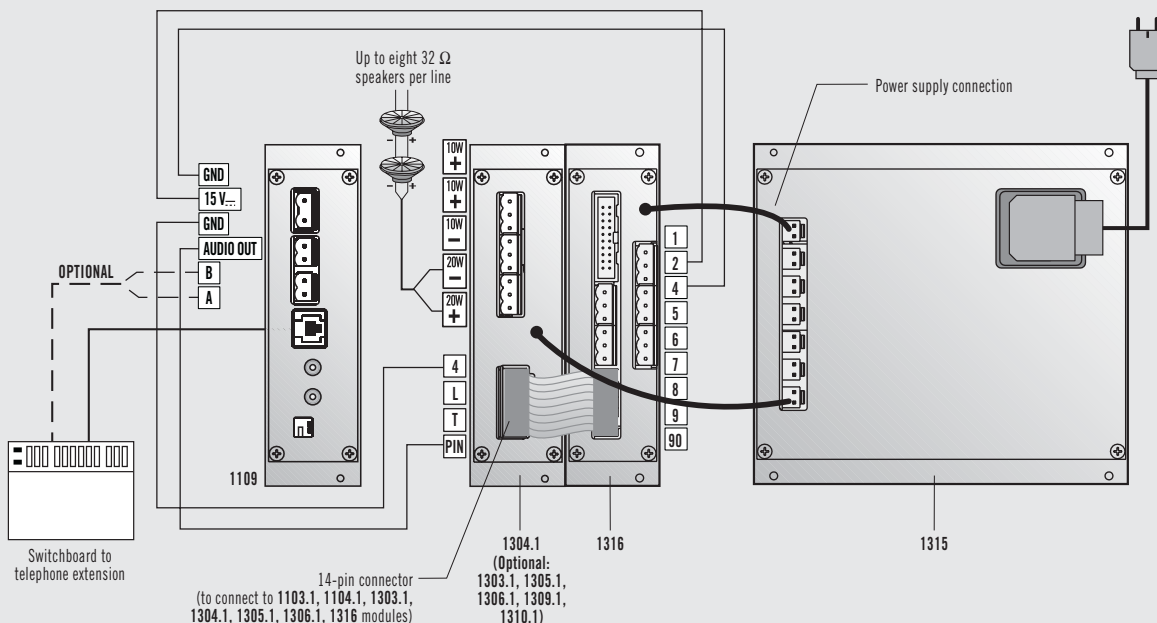
## Schematics <sup>1</sup>



## 1109 Chassis or rack module connection <sup>2</sup>

Two types of connection can be used:

- Using rack modules with 1303.1, 1304.1, 1305.1 and 1306.1.
- Using desktop amplifiers **DOMOS** (E176.1) or **MILLENNIUM** (1309.1 and 1310.1).



### TECHNICAL SPECIFICATIONS

	1109
DC power supply	15 V=
Audio output (OUT)	1 V~ (audio); 7 V~ (activation)
Maximum power consumption	115 mA
Rack units (UP)	7 UP



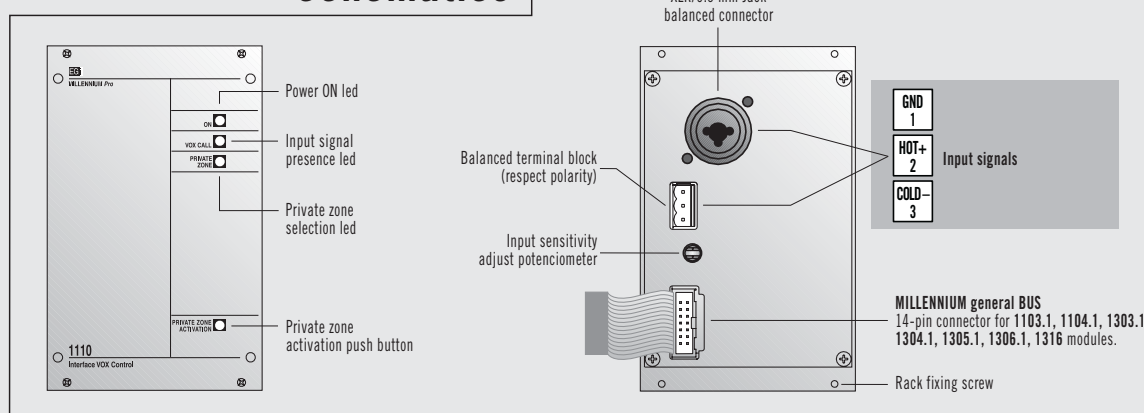
# Messaging interface for receiving audio signal. VOX control 1110



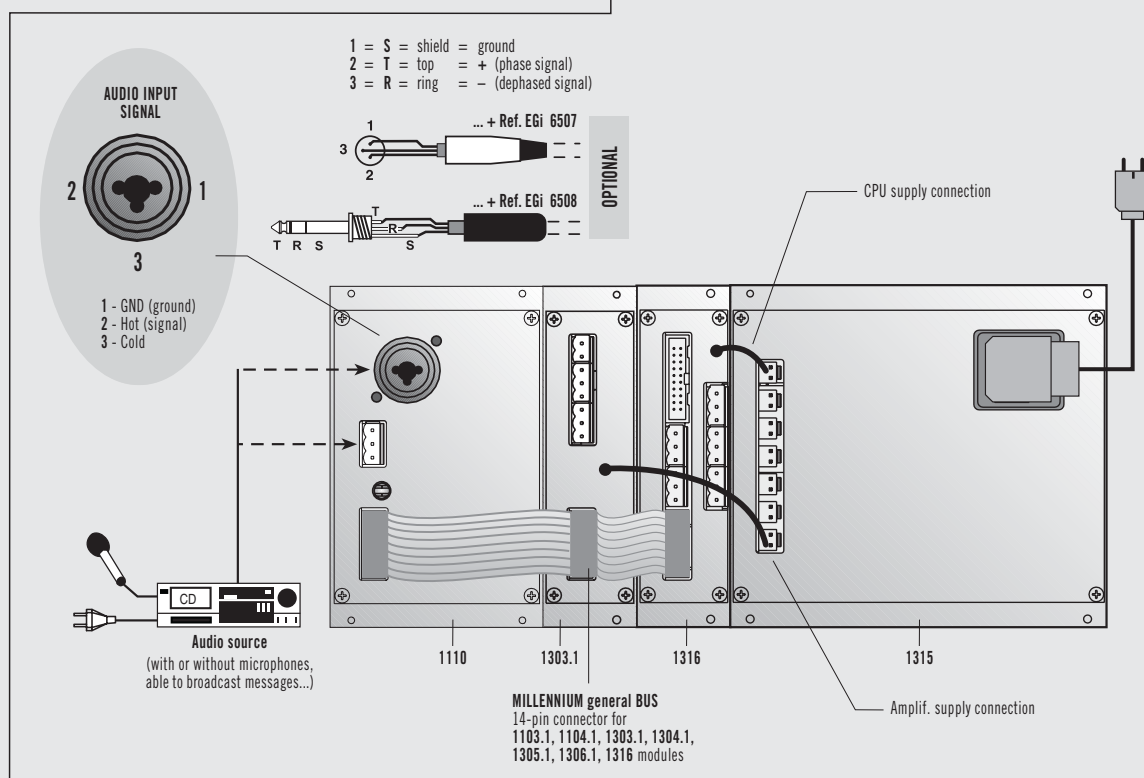
## 1110 Messaging interface for receiving audio signal. VOX control

- It allows direct connection to voice, music or message generators in order to reproduce the audio as a **MILLENNIUM** general message.
- Digital interface module compatible with **MILLENNIUM 1316** processor only.
- Audio equipment may be connected through XLR, 6.3 mm Jack or terminal block balanced connectors.
- The **1110** module sensitivity potentiometer allows adjusting the minimum sensitivity threshold and the output signal gain.
- Once correctly adjusted and connected, module **1110**, when a strong enough input signal is found, will playback this signal through a general message in every **MILLENNIUM** digital zone. When the input signal is over, the module will finish the message in 2 seconds.
- General messages to Private zones may be omitted or not throughout the front push button.

## Schematics <sup>1</sup>



## 1110 Chassis or rack module connection <sup>2</sup>



### TECHNICAL SPECIFICATIONS

	1110
DC power supply	15 V ~
Input sensitivity	0.3 - 3 V~ (audio)
Maximum power consumption	110 mA
Rack units (UP)	14 UP



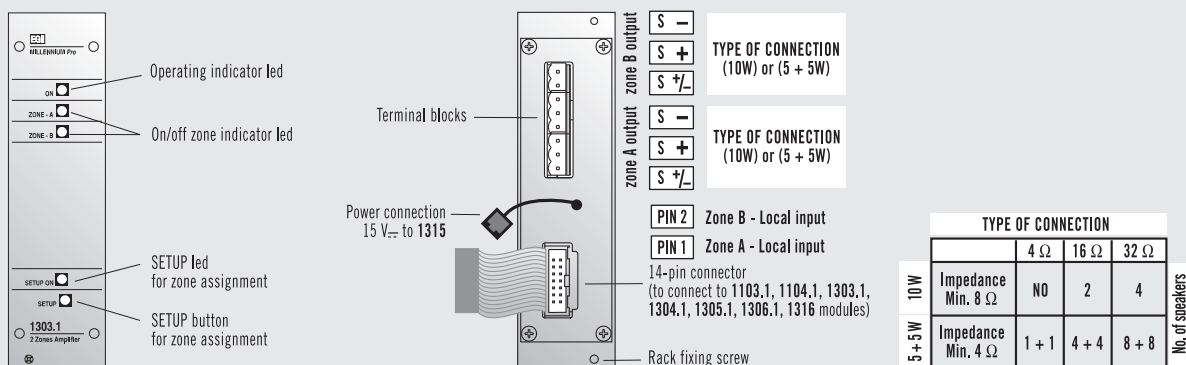
# 10 + 10 W amplifier for independent zones 1303.1



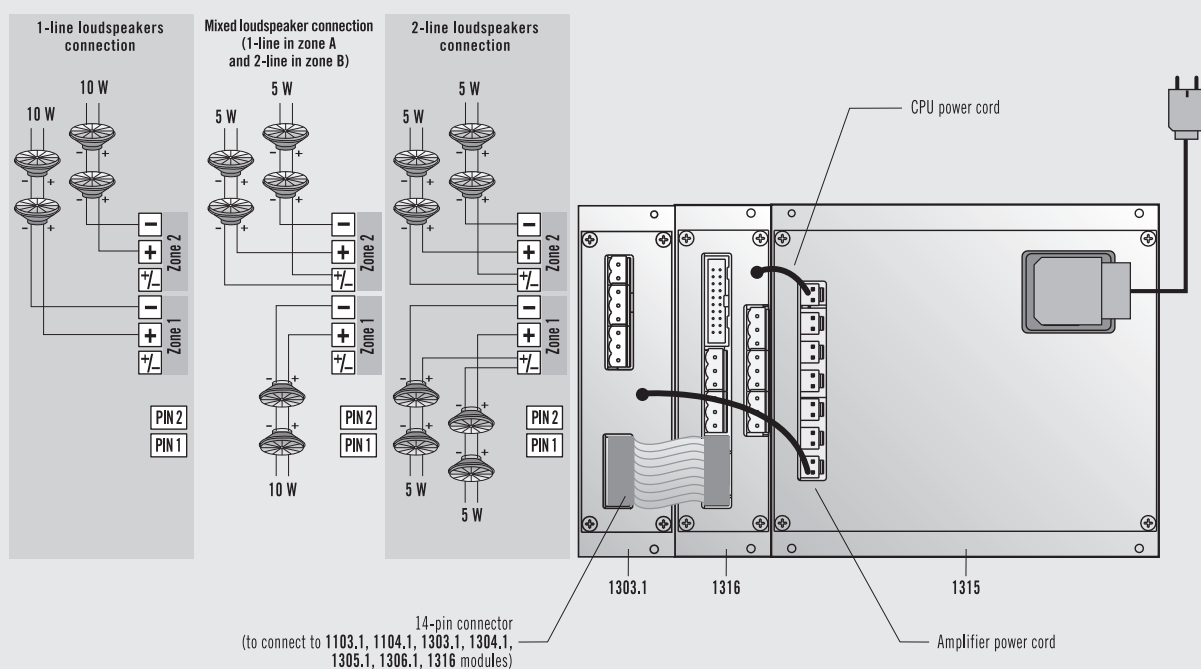
## 1303.1 10 + 10 W amplifier for independent zones

- Amplifier to control two zones independently.
- Each zone will be able to manage up to 16 loudspeakers and will share out a 10W total power output.
- Audio program selection and volume level regulation for each zone from any **1202** console. A local audio signal (from **1105 + 1107** or **1106**) can be connected through a **PIN** inlet. Voice messages priority when emitted from **1202**, **1103.1** or **1104.1**.

## Schematics <sup>1</sup>



## 1303.1 Connection into a 19" chassis or a tabletop container <sup>2</sup>



### TECHNICAL SPECIFICATIONS

	1303.1
DC power supply	15 V <sub>DC</sub>
Max. power consumption	2.13 A
Rack module width	7 UP



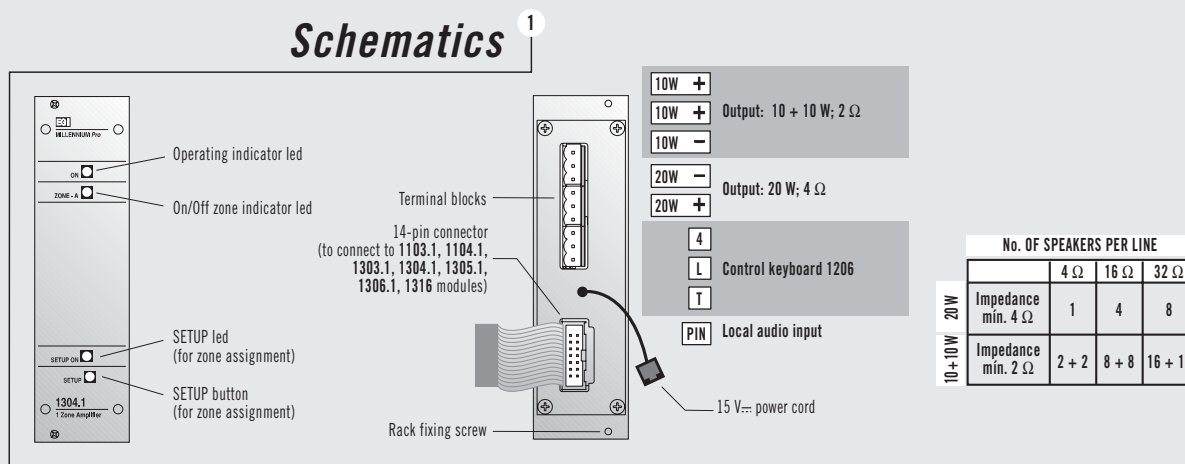


### 1304.1 1-zone 20W amplifier with digital control

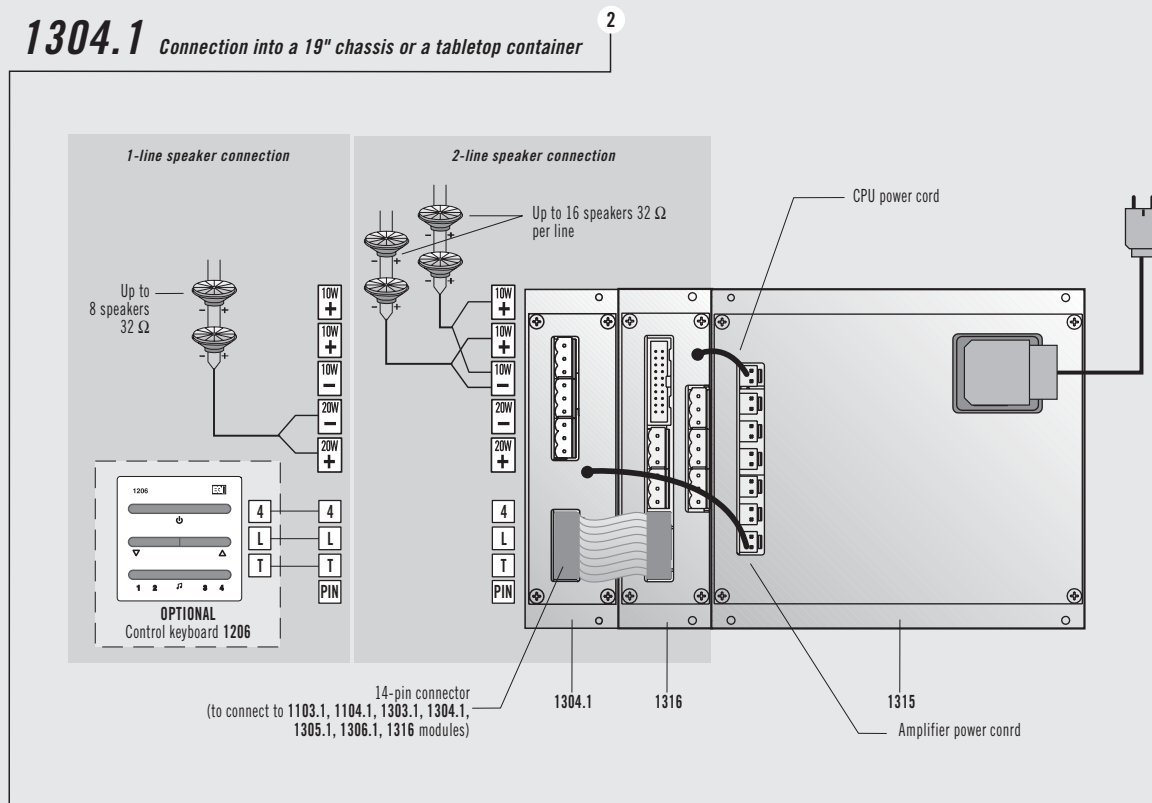
- Amplifier to control one zone. It will be able to manage up to 32 loudspeakers and will share out a 20 W total power output.
- Audio program selection and volume level regulation from any **1202** console. A local audio signal (from **1105 + 1107** or **1106**) can be connected through a **PIN** inlet. Voice messages priority when emitted from **1202**, **1103.1** or **1104.1**.
- A digital control keyboard **1206** connected to terminal blocks **T**, **L** and **4** (0.5 mm<sup>2</sup> wire) will enable a local control of the zone.
- Respecto a la salida amplificada, ésta puede ser configurada en 2 modos:
  - 2 salidas de 10 W con carga mínima de 2 Ω, o
  - 1 salida de 20 W con carga mínima de 4 Ω.

El amplificador puede detectar por sí mismo cómo pueden estar conectados los altavoces y automáticamente configurarse de acuerdo a la conexión. **ONLY ONE CONFIGURATION CAN BE USED.**

## Schematics



### 1304.1 Connection into a 19" chassis or a tabletop container



#### TECHNICAL SPECIFICATIONS

	1304.1
DC power supply	15 V <sub>DC</sub>
Max. power consumption	1.86 A
Rack module width	7 UP



# 100 V 1-zone amplifier

## 40 or 120 or 240 W digital control

### 1305.1

### 1319, 1320

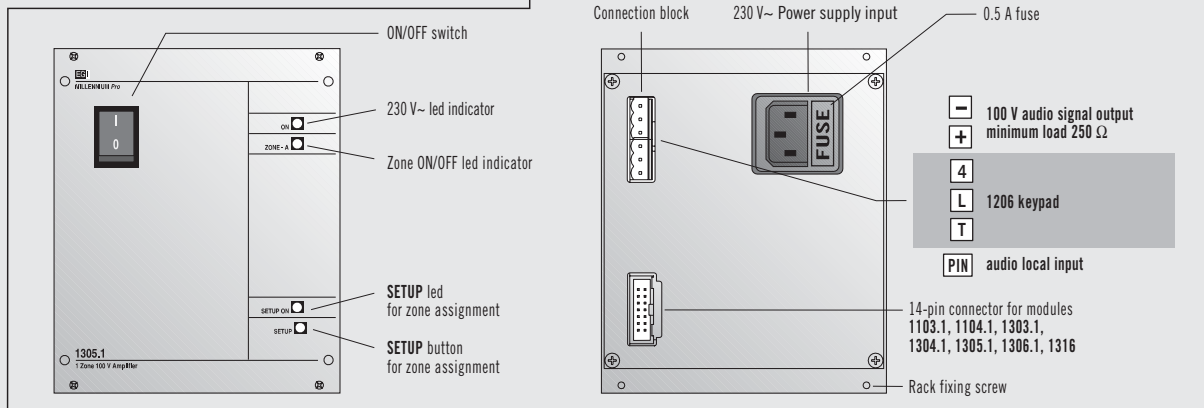


1305.1

#### 1305.1 1-zone amplifier, 100 V and 40 W with digital control

- 40 W mono 1-zone amplifier with 100 V output.
- Any program can be selected and volume adjusted from a 1202 console. Using PIN input, a local audio signal (generated from 1105 + 1107 or 1106) can be connected, keeping emergency calls generated from 1202, 1103.1 or 1104.1.
- For local regulation, a 1206 digital control keypad can be connected using 3 conductors (0.5 mm<sup>2</sup>) to terminals T, L and 4.

### Schematics 1



1319

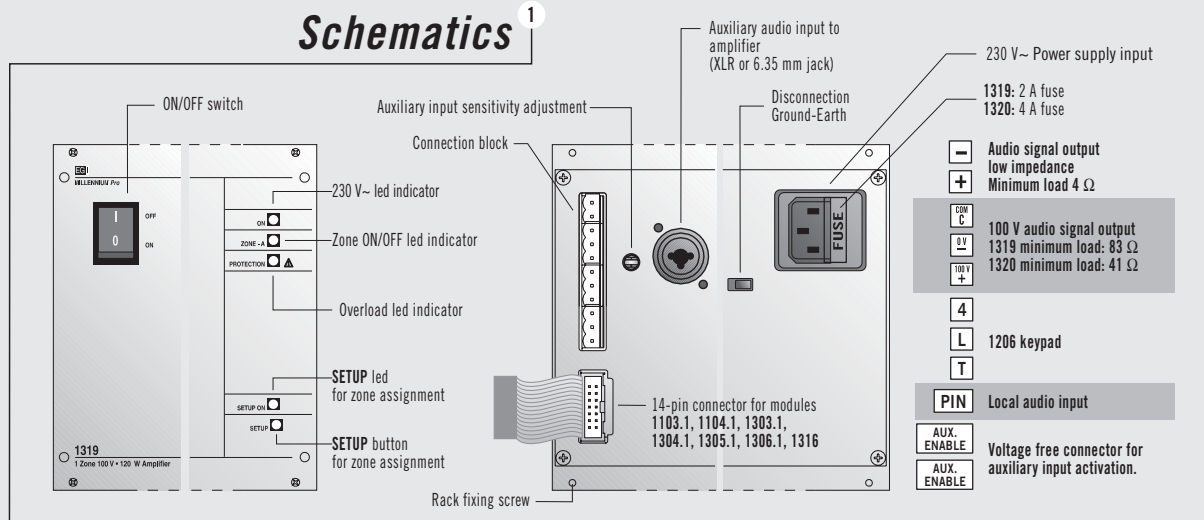
#### 1319 1-zone amplifier, 100 V and 120 W with digital control

- 120 W mono 1-zone amplifier with 100 V output or low impedance (4  $\Omega$ ).
- Any program can be selected and volume adjusted from a 1202 console. Using PIN input, a local audio signal (generated from 1105 + 1107 or 1106) can be connected, keeping emergency calls generated from 1202, 1103.1 or 1104.1.
- For local regulation, a 1206 digital control keypad can be connected using 3 conductors (0.5 mm<sup>2</sup>) to terminals T, L and 4.
- Preferent calls integrated relay. The emergency calls are listened at maximum power, overriding local regulation.
- Auxiliary input is relay activated. It allows to be used as an independent audio amplifier connected to mixing tables or similar devices.

#### 1320 1-zone amplifier, 100 V and 240 W with digital control

- 240 W mono 1-zone amplifier with 100 V output or low impedance (4  $\Omega$ ).
- Same features as 1319.

### Schematics 1



#### TECHNICAL SPECIFICATIONS

##### 1301.5

Power supply	230 V~ ; 50/60 Hz; 70 VA
100 V Output	250 $\Omega$ ; 40 W
PIN input impedance	60 K $\Omega$ PIN
Rack module width	21

#### TECHNICAL SPECIFICATIONS

##### 1319

Power supply	230 V~ ; 50/60 Hz; 1 A
100 V output	83 $\Omega$ ; 120 W
Low impedance output	4 $\Omega$ ; 120 W
PIN input impedance	60 K $\Omega$ PIN
AUX input impedance	>10 K
AUX input sensitivity (adjustable)	250 - 1000 mV
Rack module width	35

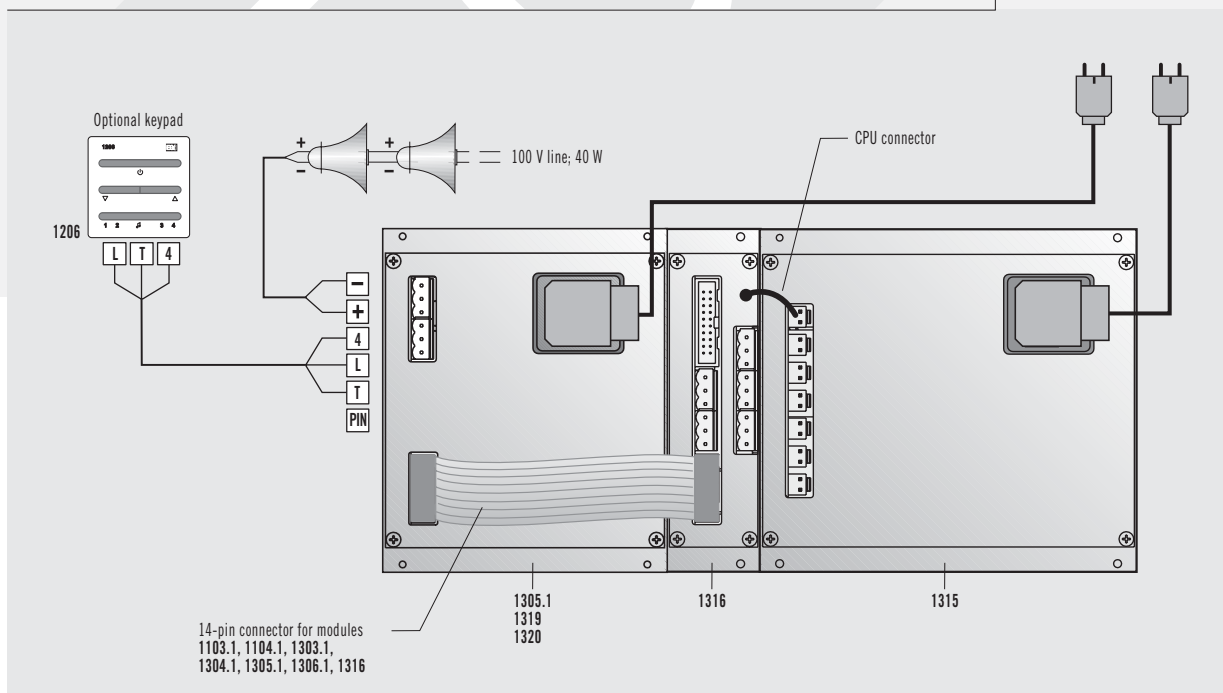
#### TECHNICAL SPECIFICATIONS

##### 1320

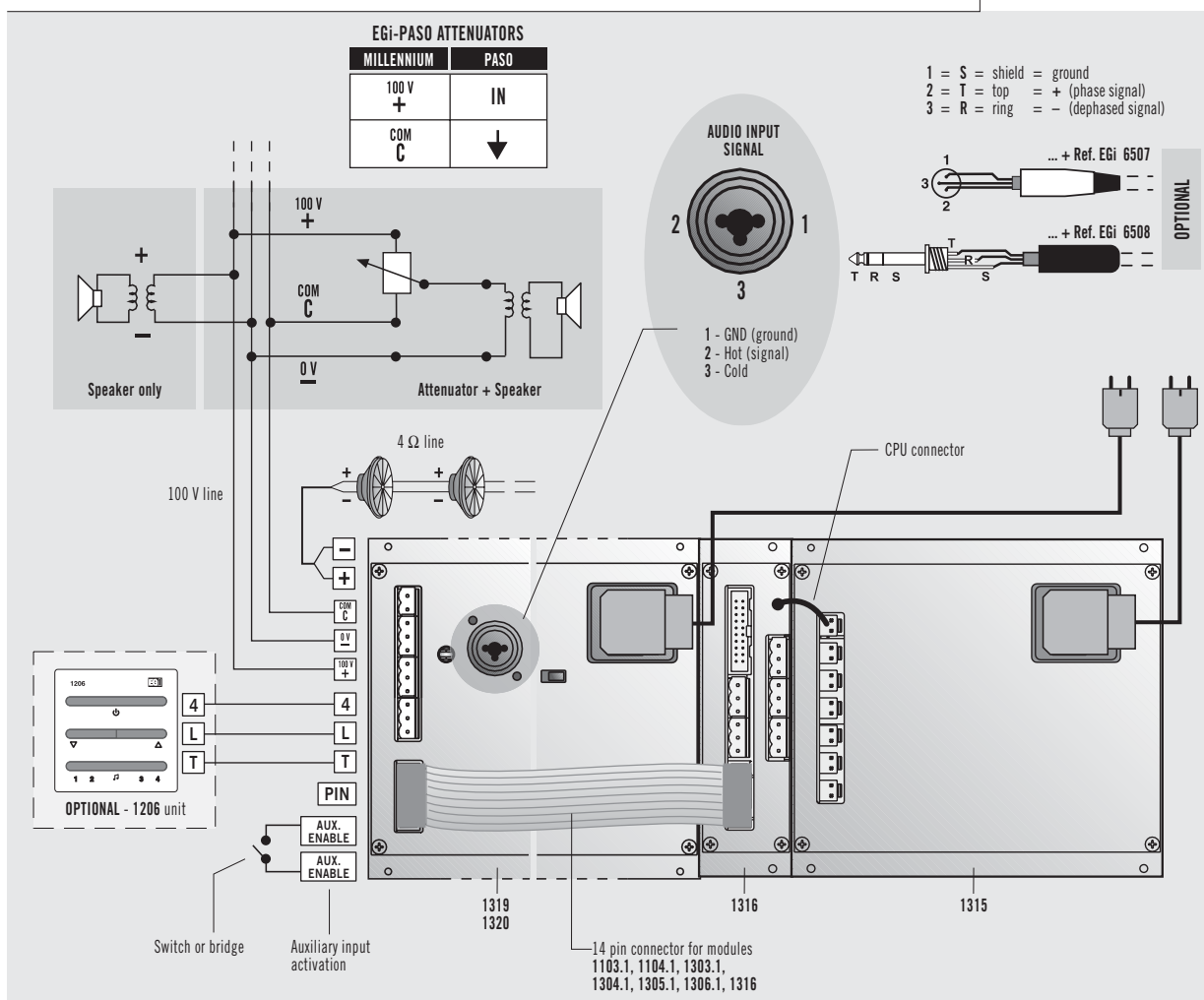
Power supply	230 V~ ; 50/60 Hz; 2 A
100 V output	41 $\Omega$ ; 240 W
Low impedance output	4 $\Omega$ ; 240 W
PIN input impedance	60 K $\Omega$ PIN
AUX input impedance	>10 K
AUX input sensitivity (adjustable)	250 - 1000 mV
Rack module width	63



## Connection detail | 1305.1



## Connection detail | 1319, 1320





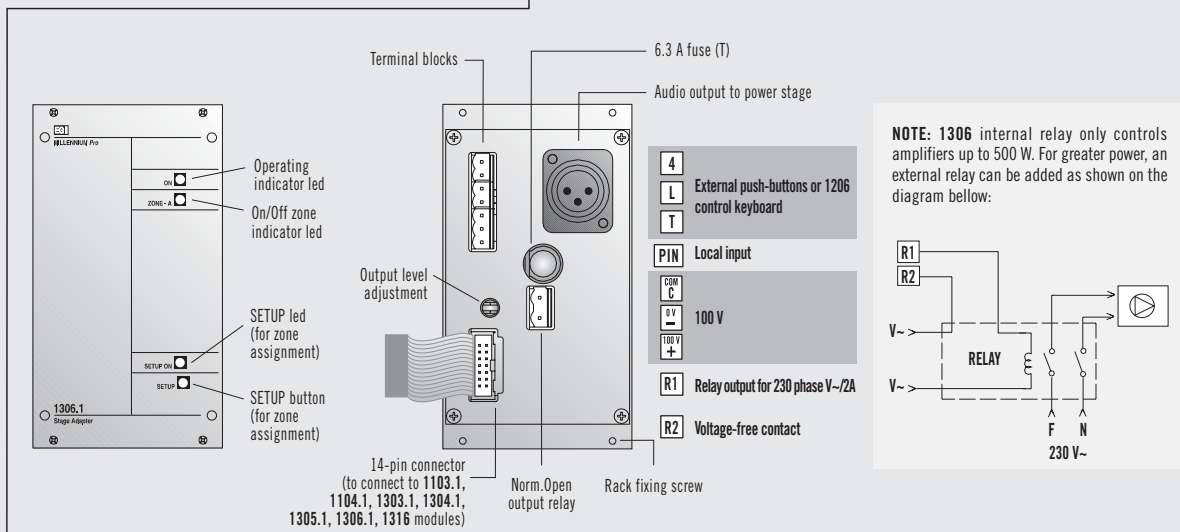
# Output power stage adapter with message override relay 1306.1



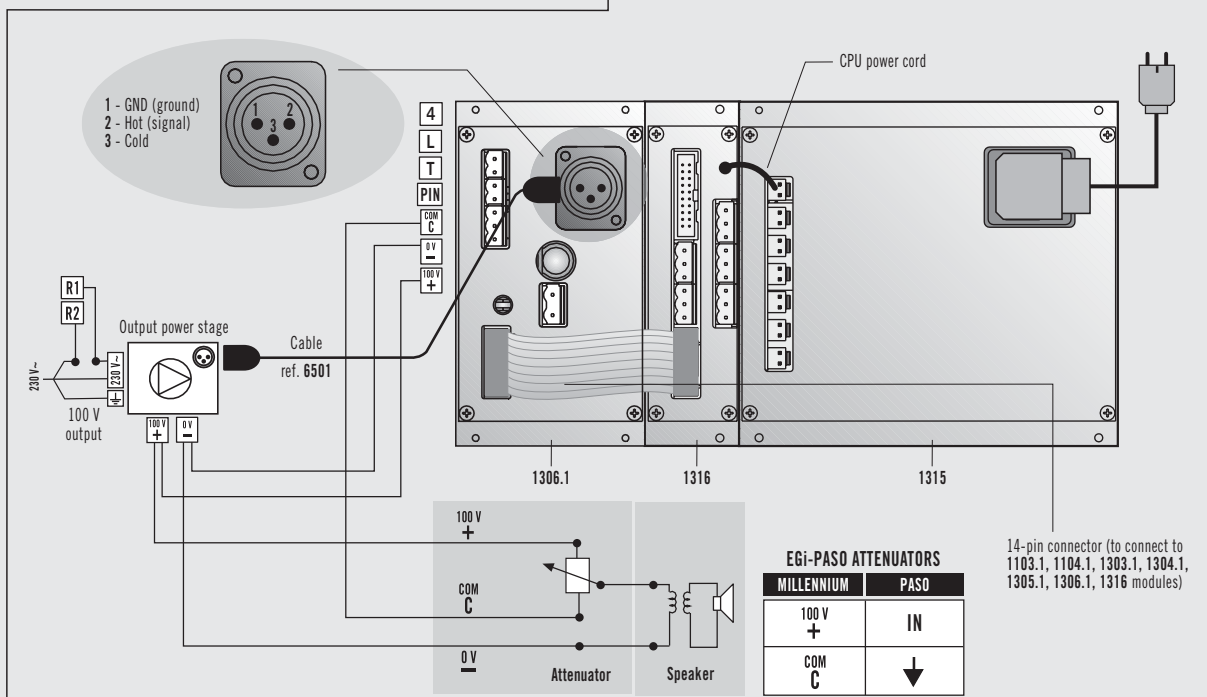
## 1306.1 Output power stage adapter with message override relay

- Power stage adapter for up to 500 W consumption to connect large 100 V power boosters to the sound installation.
- A conventional relay will allow the amplifier to turn on automatically. Isolated audio output through a transformer.
- 2 relays of 2 switching contacts for message override on 100V line attenuators.
- The control of the output power stage can be enabled whether from a 1202 control console or from a local control keyboard 1206.

## Schematics



## 1306.1 Connection into a 19" chassis or a tabletop container



### TECHNICAL SPECIFICATIONS

	1306.1
DC power supply	15 V=
Max. power consumption	70 mA
Output impedance	600 Ω (XLR Audio OUT)
Output level	3 V • 9.54 dB (V)
Rack module width	14 UP



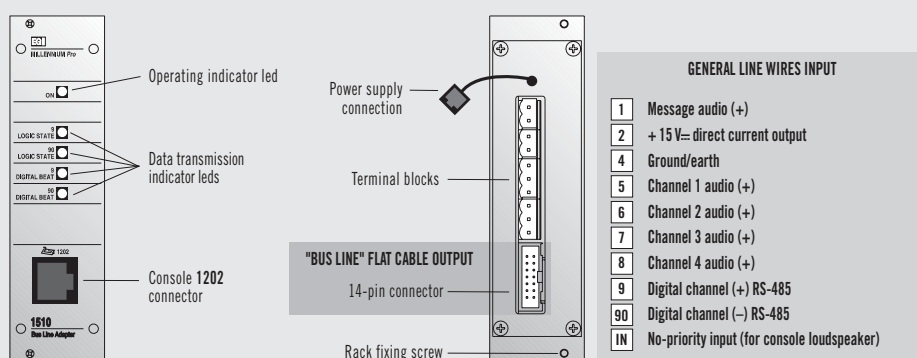
# General line to flat cable converter 1510



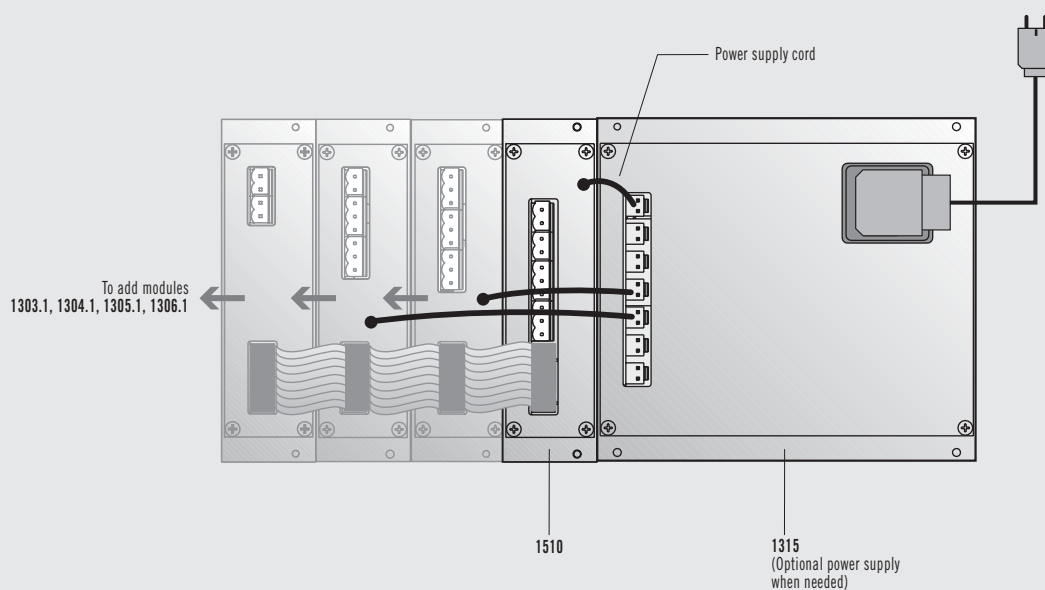
## 1510 General line to flat cable converter

- This module allows general line wires connection and converts them into ribbon wire format for the connection of **MILLENNIUM** modules.
- This module will be used whenever we want to place other devices in a 19" rack located in an outlying point from the central rack.
- E.g.: imagine an installation located in a room and we need to place another rack with its corresponding elements in another place far-off the first one. General line will be installed from the central rack to the remote one. This connection module **1510** will be used to link all the remote rack devices to the installation.

## Schematics <sup>1</sup>



## 1510 Connection into a 19" chassis or a tabletop container <sup>2</sup>



### TECHNICAL SPECIFICATIONS

	1510
DC power supply	15 V= from general line
Max. power consumption	37 mA
Output power	1200 mA to "Bus Line" by flat cable
Rack module width	7 UP



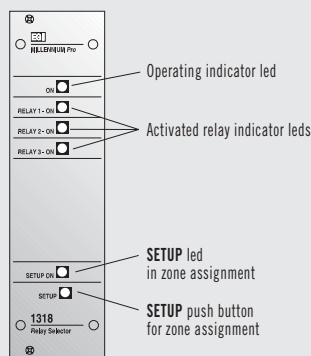
# Relay activation module for message override 1318



## 1318 Relay activation module for message override

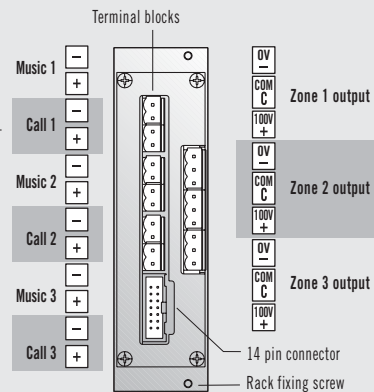
- As local attenuators are used in high impedance lines (100 V, e.g.), the transmission of a message over the loudspeaker which are regulated by the attenuator must be guaranteed, independently of its functional situation (even if the regulator is off).
- This type of installation uses a 3-wire connection, one for the 100V positive output, one for the negative (0V) and the third one guarantees the message override through the switching of a relay in the **1318**.
- This module has 3 relays to differentiate 3 different messages zones (areas). When setting up the zones, each relay is assigned one zone automatically. Therefore, when setting up the installation and this module is **SETUP**, the control console will show 3 assigned zones at a time.

## Schematics 1



**Music 1, Music 2 and Music 3:**  
100 V input from music amplifiers.

**Call 1, Call 2 and Call 3:**  
100 V input from message amplifiers.



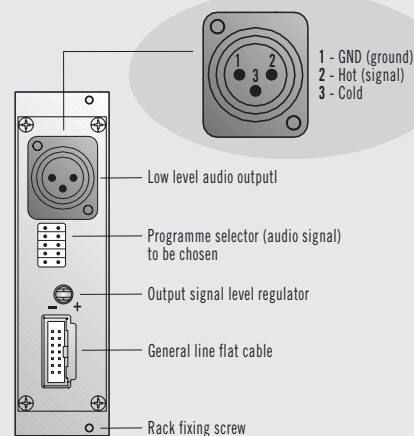
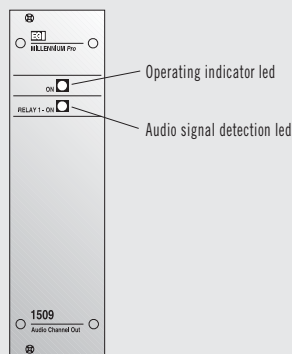
# Audio signal selection module 1509



## 1509 Audio signal selection module

- This module allows to select one of the 5 audio signals that flow along general line (4 audio programmes + messages), and isolate this selected signal through a 1/1 audio transformer thus making it possible to send this signal to another device.
- The more common use is to pick-up an audio programme and send it to the telephone switchboard as background music.
- The connection between this device's output and the receivers audio input will be made using an audio shielded cable.

## Schematics 1



TECHNICAL SPECIFICATIONS	1318
Power supply	15 V=
Consumption	200 mA
Output max. power	500 W
Rack units	7 UP

TECHNICAL SPECIFICATIONS	1509
Power supply	15 V=
Consumption	15 mA
Audio output level	0.063 V <sub>r</sub> ; - 2.7 V <sub>r</sub>
Rack units	7 UP



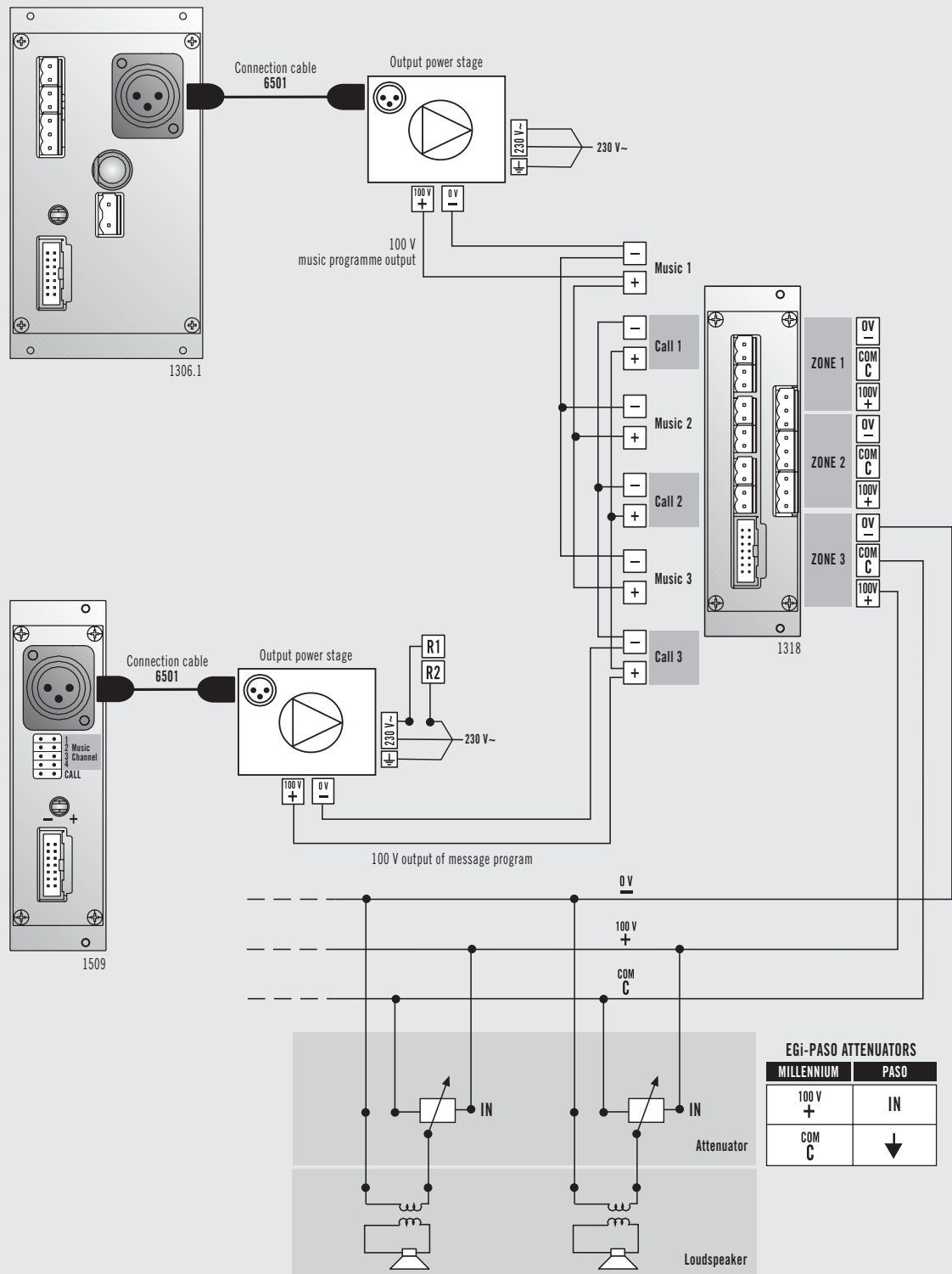
# Connection specifications 1318 and 1509

## Background music installation with message override in high impedance line (100V) with local regulation

2

**Music 1, Music 2 and Music 3** inputs square with normally closed relay contacts and **Call 1, Call 2 and Call 3** inputs square with normally open relay contacts of zones 1, 2 and 3 respectively.

Inputs **Music 1, Music 2 and Music 3** can receive their signal from the same or from different amplifiers. Besides this, the output of a set of amplifiers (music + messages) can be connected to many **1318** modules in parallel (in systems with many zones).





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and forthcoming products



# Control software | 0801



## 0801 Control software

- If the system must have several control points, we can choose between **1202** control console and/or a personal computer (a dedicated PC is not necessary) which runs **0801** software. A computer with "Windows 98/XP" operative system and sound card is recommended. Along with the software a special control console "ad-hoc" is supplied to be used with it and to be connected to the general line through a **1501.10** base.

# Control console | 1202



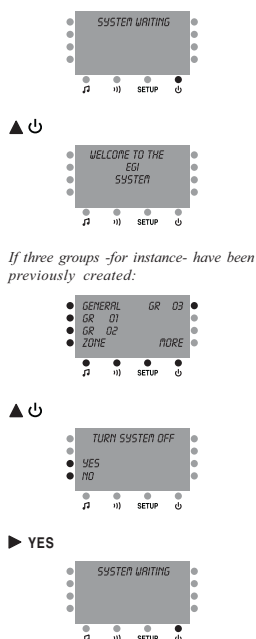
## 1202 Control console

- Control console **1202** is a desk console witch incorporates a cardioid microphone to emit PA messages or to record messages in the **1103.1** player. It manages all installation zones through a 4-line 16-characters menu-driven screen. Up to 6 configuration languages are available. Pre-warning tone before message broadcast is also selectable (up to 6 **DING-DONG** options).
- The number of control consoles can be as many as required, but each console needs one zone-code. The maximum number of zones is 127. In **SETUP** configuration, every system device will be assigned a zone by pressing an available push-button on it.
- No matter if the **MILLENNIUM** system has been designed according to a "centralised" or a "non-centralised" structure, the power management and parameter control of every amplifier can be done from every control console.
- From the console **1202** the user can reach every zone and power it up and/or down, change the audio programme, adjust the volume both in audio and in warning calls, adjust the maximum volume in audio programmes (independently of local control units **1206** or **1207**). To facilitate the use and control of the installation, up to 15 groups of zones can be configured (each zone can be assigned to a maximum of all devices of two groups). Audio source of **1102.1** tuner can also be tuned **1202** console as well as setting up all devices of the installation.

TECHNICAL SPECIFICATIONS		1202
Power supply		15 V <sub>DC</sub>
Current consumption (@ max. power)		180 mA
Frequency response		20 Hz - 12 KHz

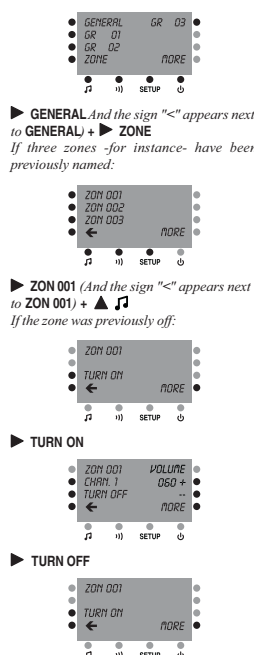
## Control console 1202. Basic operation | 1202

### 1 Turning the system "On" and "Off"



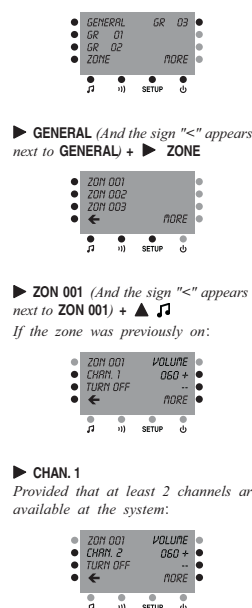
### 2 Turning a zone "On" and "Off"

If three groups -for instance- have been previously created:



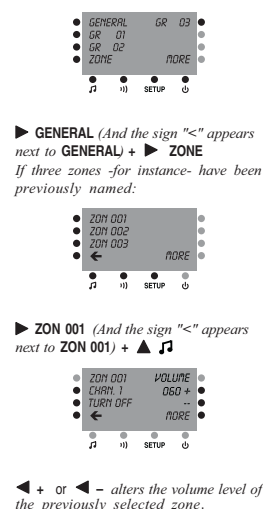
### 3 Changing the audio channel in a zone

If three groups -for instance- have been previously created:



### 4 Altering the volume level of a zone

If three groups -for instance- have been previously created:

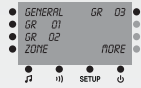




# Control console 1202

## Control console 1202. Basic operation 1202

### 5 Turning a Group of zones "On" and "Off" in a specific channel



► **GR 01** (And the sign "<" appears next to **GR 01**) + ▲ **♪**  
Provided that there are -for instance- 4 channels available at the system:



► **CHAN. 1**; ► **CHAN. 2**; ◀ **CHAN. 3**;  
◀ **CHAN. 4** turn the group **ON** at the selected channel or ◀ **TURN OFF** turns the audio **OFF** in the selected group.

### 6 Changing an audio channel from external (AUX) music source to internal radio

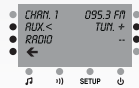
If three groups -for instance- have been previously created:



► **GR 01** (And the sign "<" appears next to **GR 01**) + ▲ **♪**  
Provided that there are -for instance- 4 channels available at the system:



► **CHAN. 1**  
Provided that there is an internal **RADIO** tuner available for **CHANNEL 1**, but the channel is in **AUXILIAR** mode:



► **RADIO** (And the sign "<" appears next to **RADIO**).

### 7 Tuning of a channel with internal radio



► **GR 01** (And the sign "<" appears next to **GR 01**) + ▲ **♪**  
Provided that there are -for instance- 4 channels available at the system:



► **CHAN. 1**  
Provided that there is an internal radio tuner available for **CHANNEL 1**, and the channel is in **RADIO** mode:

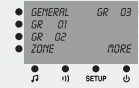


◀ + or ◀ - (short press) tunes the radio 0.1 MHz up or down.

◀ + or ◀ - (long press) searches for the next available radio station in a higher or in a lower frequency.

### 8 Making a call to zones which are not in "private" mode

If three groups -for instance- have been previously created:



► **GR 01** (And the sign "<" appears next to **GR 01**) + ▲ **♪**

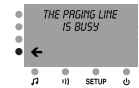


As long as we keep the button ▲ **♪** pressed, what is said to the microphone will be broadcast in all the zones belonging to group **GR 01**.

If the selected group is **GENERAL** the call will be broadcast in every zone of the installation.

It is also possible to select several groups or zones, or even a combination of groups and zones -taking into account that if we enter a group to select some of its zones, the selection of that group (as a whole unit) will automatically be cancelled-

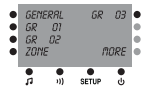
If the paging line is busy because another call is being broadcast or a pre-recorded message is being played or saved from another console 1202, instead of the last two screens, the following message will appear:



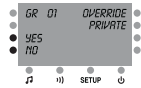
## Control console 1202. Basic operation 1202

### 9 Making a call when any of the targeted zones is in "private" mode

If three groups -for instance- have been previously created:



► **GR 01** (And then the sign "<" appears next to **GR 01**) + ▲ **♪**  
If, in the selected group, any of the zones is in "private" mode:



If, instead of a group, a zone had been selected which was in "private" mode, the name given to that zone would appear in the screen.

► **YES** will send the message to the whole group.

► **NO** will send the message only to the zones of the selected group which are not in "private" mode.



As long as we keep the button ▲ **♪** pressed, what is said to the microphone will be broadcast in all the selected zones.

It is also possible to select several groups or zones, or even a combination of groups and zones -taking into account that if we enter a group to select some of its zones, the selection of that group (as a whole unit) will automatically be cancelled-

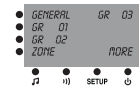
If the paging line is busy because another call is being broadcast or a pre-recorded message is being played or saved from another console 1202, instead of the last two screens, the following message will appear:



## Control console 1202. Access restrictions 1202

### 1 Enabling and disabling the general access password

If three groups -for instance- have been previously created:



► **GR 01** (And then the sign "<" appears next to **GR 01**) + ▲ **♪**  
Provided that there is NEITHER a pre-recorded message player (1103) NOR a module for sending messages over the telephone (1104) in the system:



► **MESSAGE**



► **PASSWORD**



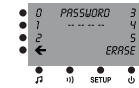
► **NO** disables the general access password.  
► 1 + ► 2 + ◀ 3 + ◀ 4 will turn on the led lamp next to **YES**.

If then we press ◀ **YES** then the code 1234 has been enabled as general access password.

The 4 bottom keys ▲ **♪**; ▲ **1**; ▲ **2**; ▲ **3** act here as numeric keys.

### 2 Entering the general access password

If the general access password is active, whenever we want to access to the advanced functions of the system, the module for sending messages over the telephone, or the pre-recorded message player, a password will be required by the following screen:



The 4 bottom keys ▲ **♪**; ▲ **1**; ▲ **2**; ▲ **3** act here as numeric keys.

If we make a mistake when entering the password, it is possible to start again by pressing ◀ **ERASE**.

For each entered digit, a " - " symbol will be substituted by a " \* " symbol.



## Control console 1202

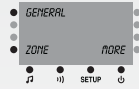
## Control console 1202. Advanced functions

1202 If the general access password is active the system will require us to introduce it every time we try to operate one of the advanced functions (see point 2 of "access restrictions").

## 1 Giving a number to each zone

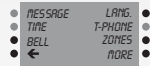
This is the first thing that has to be done in order to configure a system (and it does not have to be done again if the system configuration is not modified).

Provided that no groups have been created yet:

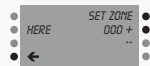


## ▲ SETUP

If the general access password is **NOT** active and there is **NEITHER** a prerecorded message player (1103) **NOR** a module for sending messages over the telephone (1104) in the system:



## ◀ ZONES



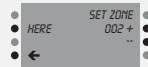
◀ ZONE SET cancels all the numbers that have been given to the zones until pressed.

## ◀ +



▶ HERE gives to the control console 1202 the zone number 1 (the console needs a zone number only if it must be ready to receive messages).

◀ ZONE SET When pressed, the system is ready to assign number 1 to a zone, and all the "zone set" led lamps of the devices which can be given a zone number will blink. If, in the mentioned devices, one of the ZONE SET buttons is pressed, that specific device will be identified as ZONE NR. 1, and the system will get ready to assign number 2 to the following device / zone.



By following this procedure we can give consecutive numbers to all the zones of the installation without going back to the console 1202 (this is useful for the initial configuration of the installation).

It is also possible to select a specific zone number by pressing ◀ + or ◀ - and, after pressing ◀ ZONE SET and following the ZONE SET button of the corresponding device, the selected number will be given to that device (this is useful to replace an old device by a new one which must have the same number without repeating the set up procedure).

## ▶ ◀



When a zone number has been assigned to all the zones of the installation, we will quit the labelling procedure and all the ZONE SET led lamps of the different devices will stop blinking. Now it is recommended to start up the system (point nr. 13) prior to label the zones with names.

## 2 Labelling the zones with names

If NO groups have been created yet:



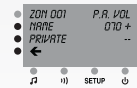
▶ GENERAL (and the sign "<" appears next to GENERAL) + ▶ ZONE

If three zones -for instance- have been previously created:



▶ ZON 001 (and the sign "<" appears next to ZON 001) + ▲ 11

If the general access password is **NOT** active:



## ▶ NAME



◀ >>> (the cursor is placed in letter O) + ◀ + (O is replaced by P) + ▶ ◀



## 3 Creating a group and giving it a number

If NO groups have been created yet:



▶ GENERAL (and the sign "<" appears next to GENERAL) + ▲ 11

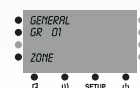
If the general access password is **NOT** active:



## ◀ NEW



## ▶ YES

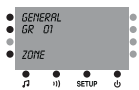


## Control console 1202. Advanced functions

1202 If the general access password is active the system will require us to introduce it every time we try to operate one of the advanced functions (see point 2 of "access restrictions").

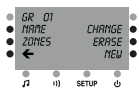
## 4 Labelling groups with names

If one group has already been created:

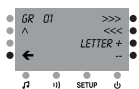


▶ GR 01 (And then the sign "<" appears next to GR 01) + ▲ 11

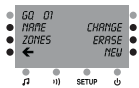
If the general access password is **NOT** active:



## ▶ NAME

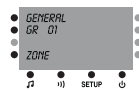


◀ >>> (the cursor is placed in letter "R") + ◀ - ("R" is replaced by "Q") + ▶ ◀



## 5 Assigning a zone to a group

If one group has already been created:



▶ GR 01 (And then the sign "<" appears next to GR 01) + ▲ 11

If the general access password is **NOT** active:



## ▶ ZONES

Provided that there are 3 numbered zones in the system and zone number 2 belongs to group number 1.



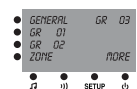
▶ ZON 001 + ▶ ZON 002

Now zone number 1 belongs to group number 1 and zone number 2 does not.



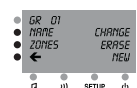
## 6 Changing the order of appearance of groups in the screen

If three groups -for instance- have been previously created:

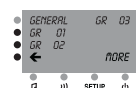


▶ GR 01 (And then the sign "<" appears next to GR 01) + ▲ 11

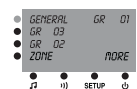
If the general access password is **NOT** active:



## ◀ CHANGE



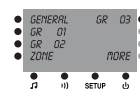
## ◀ GR 03



Now it is recommended to initialise the system again (like in point number 13) so that the system checks again the relationships between groups and zones.

## 7 Erasing a group

If three groups -for instance- have been previously created:



◀ GR 03 (And then the sign ">" appears next to GR 03) + ▲ 11

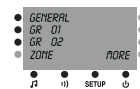
If the general access password is **NOT** active:



## ◀ ERASE



## ▶ YES





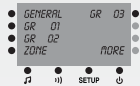
# Control console 1202

## Control console 1202. Advanced functions

**1202** If the general access password is active the system will require us to introduce it every time we try to operate one of the advanced functions (see point 2 of "access restrictions").

### 8 Changing the Public Address volume level in a zone

If three groups -for instance- have been previously created:



► **GENERAL** (And then the sign "<" appears next to GENERAL) + ► **ZONE**  
Provided that there are 3 numbered zones in the system:



► **ZON 001** (And then the sign "<" appears next to ZON 001) + ▲ **1**)



◀ + or ◀ - modifies the volume level of the paging in the selected zone.

### 9 Enabling and disabling the "private" mode in a zone

If three groups -for instance- have been previously created:



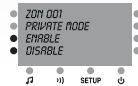
► **GENERAL** (And then the sign "<" appears next to GENERAL) + ► **ZONE**  
Provided that there are 3 numbered zones in the system:



► **ZON 001** (And then the sign "<" appears next to ZON 001) + ▲ **1**)



► **PRIVATE**



► **ENABLE** or ► **DISABLE** enables or disables the private mode of a zone.

### 10 Changing the pre-warning tone of an announcement

If three groups -for instance- have been previously created:

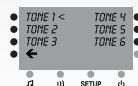


▲ **SETUP**

Provided that the general access password is NOT active, and there is NEITHER a pre-recorded message player (1103) NOR a module for sending messages over the telephone (1104) in the system:



► **BELL**



► **TONE 2** (And then the sign "<" appears next to TONE 2) changes the pre-warning tone of the announcement.

### 11 Changing the operation language

If three groups -for instance- have been previously created:



▲ **SETUP**

Provided that the general access password is NOT active, and there is NEITHER a pre-recorded message player (1103) NOR a module for sending messages over the telephone (1104) in the system:



◀ **LANG.**



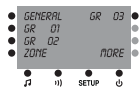
► **ENGLISH** (And then the sign "<" appears next to ENGLISH) changes the operation language.

## Control console 1202. Advanced functions

**1202** If the general access password is active the system will require us to introduce it every time we try to operate one of the advanced functions (see point 2 of "access restrictions").

### 12 Checking the software versions

If three groups -for instance- have been previously created:

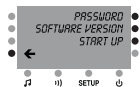


▲ **SETUP**

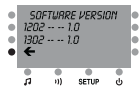
Provided that the general access password is NOT active, and there is NEITHER a pre-recorded message player (1103) NOR a module for sending messages over the telephone (1104) in the system:



◀ **MORE**



◀ **SOFTWARE VERSION**



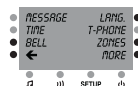
### 13 Initialising the system

It is recommended to proceed with this operation after the options described in points 1 and 6.  
If three groups -for instance- have been previously created:

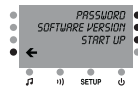


▲ **SETUP**

Provided that the general access password is NOT active, and there is NEITHER a pre-recorded message player (1103) NOR a module for sending messages over the telephone (1104) in the system:



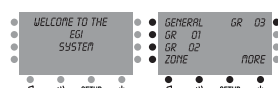
◀ **MORE**



◀ **START UP**



► **YES**





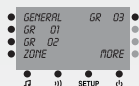
## Control console 1202

## Control console 1202. Operation of the module for sending messages over the telephone

**1202** If the general access password is active the system will require us to introduce it every time we try to operate this module (see point 2 of "access restrictions").

**1** Changing the length of the time while a message over the telephone can be broadcast

If three groups -for instance- have been previously created:

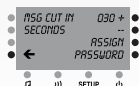


**▲ SETUP**

Provided that the general access password is NOT active, and there is NOT a pre-recorded message player (1103) in the system but THERE IS a module for sending messages over the telephone (1104):



**◀ T-PHONE**



◀ + or ▶ - modifies the maximum time length while a message can be broadcast.

**2** Assigning a telephone number to a zone

If three groups -for instance- have been previously created:



**▲ SETUP**

Provided that the general access password is NOT active, and there is NOT a pre-recorded message player (1103) in the system but THERE IS a module for sending messages over the telephone (1104):



**◀ T-PHONE**



**◀ ASSIGN**



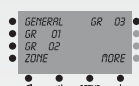
▶ + or ▶ - modifies the telephone number.

◀ + or ▶ - modifies the zone number.

◀ ASSIGN assigns the selected telephone number to the desired zone number.

**3** Assigning a telephone number to a group

If three groups -for instance- have been previously created:

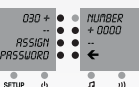


**▲ SETUP**

Provided that the general access password is NOT active, and there is NOT a pre-recorded message player (1103) in the system but THERE IS a module for sending messages over the telephone (1104):



**◀ T-PHONE**



**◀ ZONE**



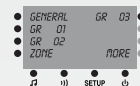
▶ + or ▶ - modifies the telephone number.

◀ + or ▶ - modifies the group number.

◀ ASSIGN assigns the selected telephone number to the desired group number.

**4** Enabling and disabling the password for messages over the telephone

If three groups -for instance- have been previously created:

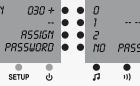


**▲ SETUP**

Provided that the general access password is NOT active, and there is NOT a pre-recorded message player (1103) in the system but THERE IS a module for sending messages over the telephone (1104):



**◀ T-PHONE**



**◀ PASSWORD**



▶ NO disables the password for messages over the telephone.

▶ 1 + ▶ 2 + ▶ 3 + ▶ 4 will turn on the led lamp next to YES. If then we press ▶ YES then the code 1234 has been enabled as password for messages over the telephone.

The 4 bottom keys ▶, ▶, ▶, ▶; ▶, ▶, ▶, ▶; ▶, ▶, ▶, ▶; ▶, ▶, ▶, ▶ act here as numeric keys.

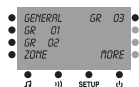
This password will have to be entered in the telephone keyboard whenever the user tries to broadcast a message over the telephone. This will be requested by means of a set of commands recorded in the module 1104. The user will listen to these commands in his telephone handset after dialling the extension reserved for the Public Address system.

## Control console 1202. Operation of the pre-recorded message player

**1202** If the general access password is active the system will require us to introduce it every time we try to operate this module (see point 2 of "access restrictions").

**1** Broadcasting a message at a definite time

If three groups -for instance- have been previously created:



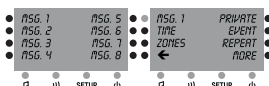
**▲ SETUP**

Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):



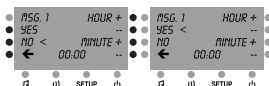
**▶ MESSAGE**

**▶ MSG. 1**



**▶ TIME**

**▶ YES**



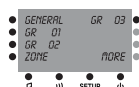
◀ HOUR + or ▶ - changes the hour.

◀ MINUTE + or ▶ - changes the minute.

◀ programs message number one to be launched at the selected time.

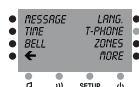
**2** Broadcasting a message as a reaction to an event

If three groups -for instance- have been previously created:



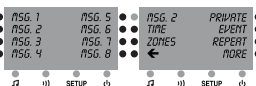
**▲ SETUP**

Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):



**▶ MESSAGE**

**▶ MSG. 2**



**▶ EVENT**



◀ -----; ▶ EVENT 1; ▶ EVENT 2 or ▶ EVENT 3 (and then the sign ">" appears next to the selected option).

◀ Assigns message number 2 to no event, or to event 1, 2 or 3 (depending on the previously pressed key).

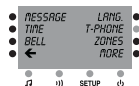
**3** Selecting the destination of a message

If three groups -for instance- have been previously created:



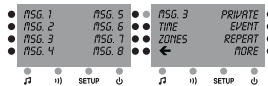
**▲ SETUP**

Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):

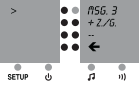


**▶ MESSAGE**

**▶ MSG. 3**



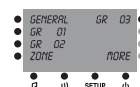
**▶ ZONES**



▶ assigns ZON 001 as first destination of message number 3, and leaves empty the three other possible destinations. In order to assign a 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> destination, move vertically the symbol ">" with the 4 buttons on the right and select destination between the different zones and groups by pressing ▶ + or ▶ -. When everything is according to our preferences, we must press ▶.

**4** Respecting or overriding the "private" mode of the zones

If three groups -for instance- have been previously created:



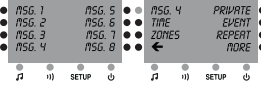
**▲ SETUP**

Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):



**▶ MESSAGE**

**▶ MSG. 4**



**▶ PRIVATE**



▶ YES (and then the sign ">" appears next to YES) + ▶ ensures the broadcast of the message in ALL the destination zones.

▶ NO (and then the sign ">" appears next to NO) + ▶ will only broadcast the message in those destination zones which are not in "private" mode.



# Control console 1202

## Control console 1202. Operation of the pre-recorded message player

1202 If the general access password is active the system will require us to introduce it every time we try to operate this module (see point 2 of "access restrictions").

### 5 Replay of a message

If three groups -for instance- have been previously created:

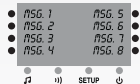


#### ▲ SETUP

Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):



#### ► MESSAGE

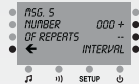


#### ◀ MSG. 5



#### ◀ REPEAT

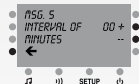
Provided that message number 5 is already recorded:



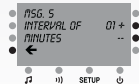
#### ◀ + +



#### ◀ INTERVAL



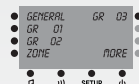
#### ◀ +



◀ + or ◀ + programs message 5 to be played 2 times, with an interval of 1 minute between 2 repeats.

### 6 Changing the volume level of a message

If three groups -for instance- have been previously created:



#### ▲ SETUP

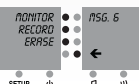
Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):



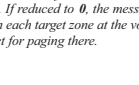
#### ► MESSAGE



#### ◀ MSG. 6



#### ◀ MORE



◀ + or ◀ + modifies the volume level of the message. If reduced to 0, the message will be played in each target zone at the volume level that is set for paging there.

### 7 Monitoring a message

If three groups -for instance- have been previously created:



#### ▲ SETUP

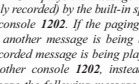
Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):



#### ► MSG. 7



#### ◀ MORE



◀ MONITOR plays the message number 7 (if previously recorded) by the built-in speaker at the control console 1202. If the paging line is busy because another message is being broadcast or a pre-recorded message is being played or saved from another console 1202, instead of playing the message the following message will appear:



## Control console 1202. Operation of the pre-recorded message player

1202 If the general access password is active the system will require us to introduce it every time we try to operate this module (see point 2 of "access restrictions").

### 8 Recording a message

If three groups -for instance- have been previously created:

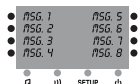


#### ▲ SETUP

Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):



#### ► MESSAGE



#### ◀ MSG. 8



#### ◀ MORE



#### ◀ RECORD



◀ EXT MIC (And then the sign ">" appears next to EXT MIC)

#### ● 11)

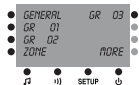
Starts recording the message from the gooseneck microphone in the control console or from an external microphone connected to the RCA socket in the pre-recorded message player, depending on where the symbol ">" is. As long as we keep the key ● 11) pressed a countdown -starting from 15- will let us know the time remaining to finish up the record. The message record will finish when the countdown reaches 0 or when we release the button ● 11), whatever comes first.

If the paging line is busy because another message is being broadcast or a pre-recorded message is being played or saved from another console 1202, instead of starting the record the following message will appear:



### 9 Erasing a message

If three groups -for instance- have been previously created:

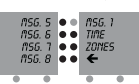


#### ▲ SETUP

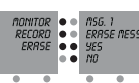
Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):



#### ► MESSAGE



#### ◀ MSG. 1



► YES erases message number 1.

### 10 Time setting

If three groups -for instance- have been previously created:



#### ▲ SETUP

Provided that the general access password is NOT active, and there is a pre-recorded message player (1103) in the system but NOT a module for sending messages over the telephone (1104):

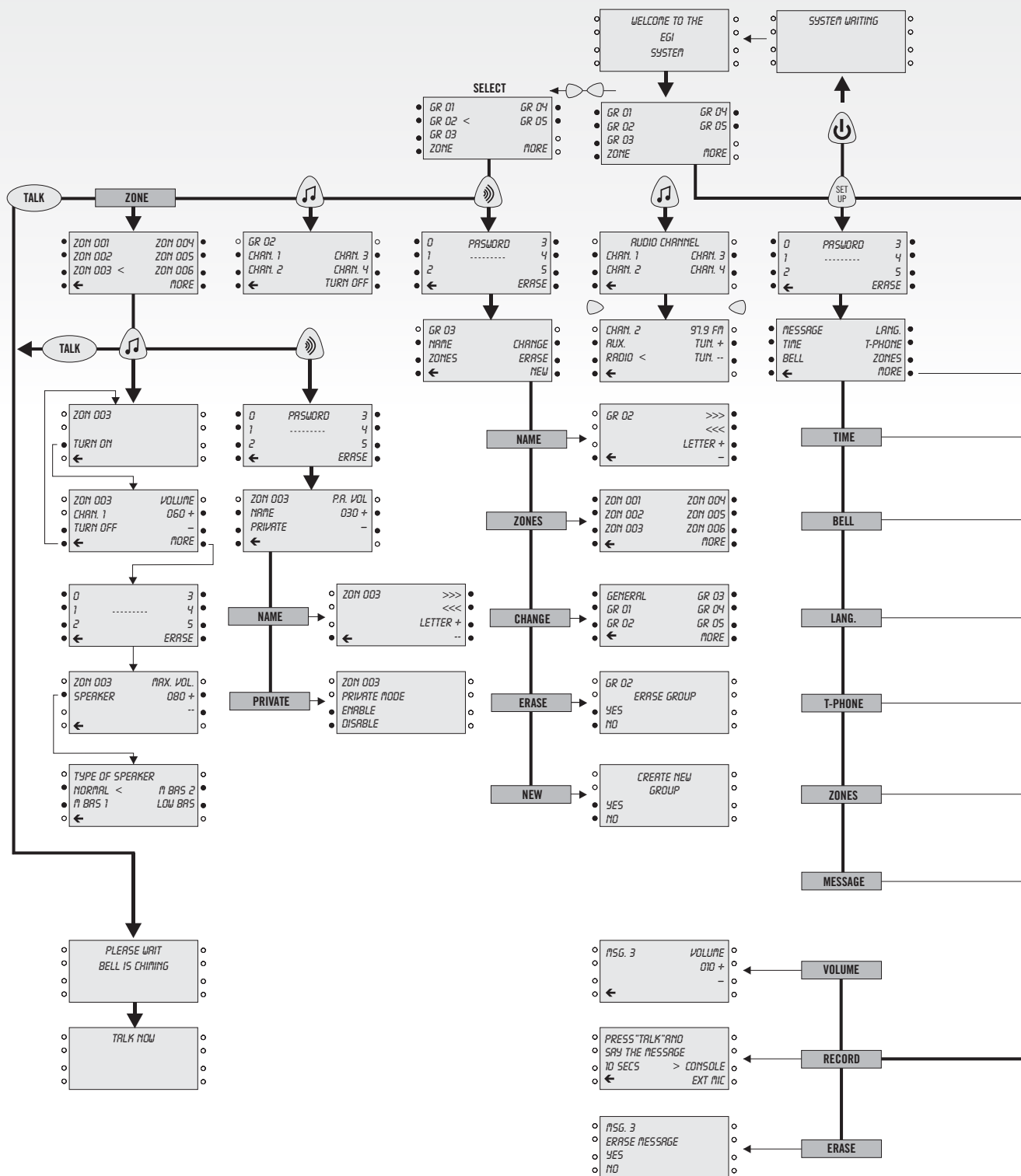


#### ► TIME



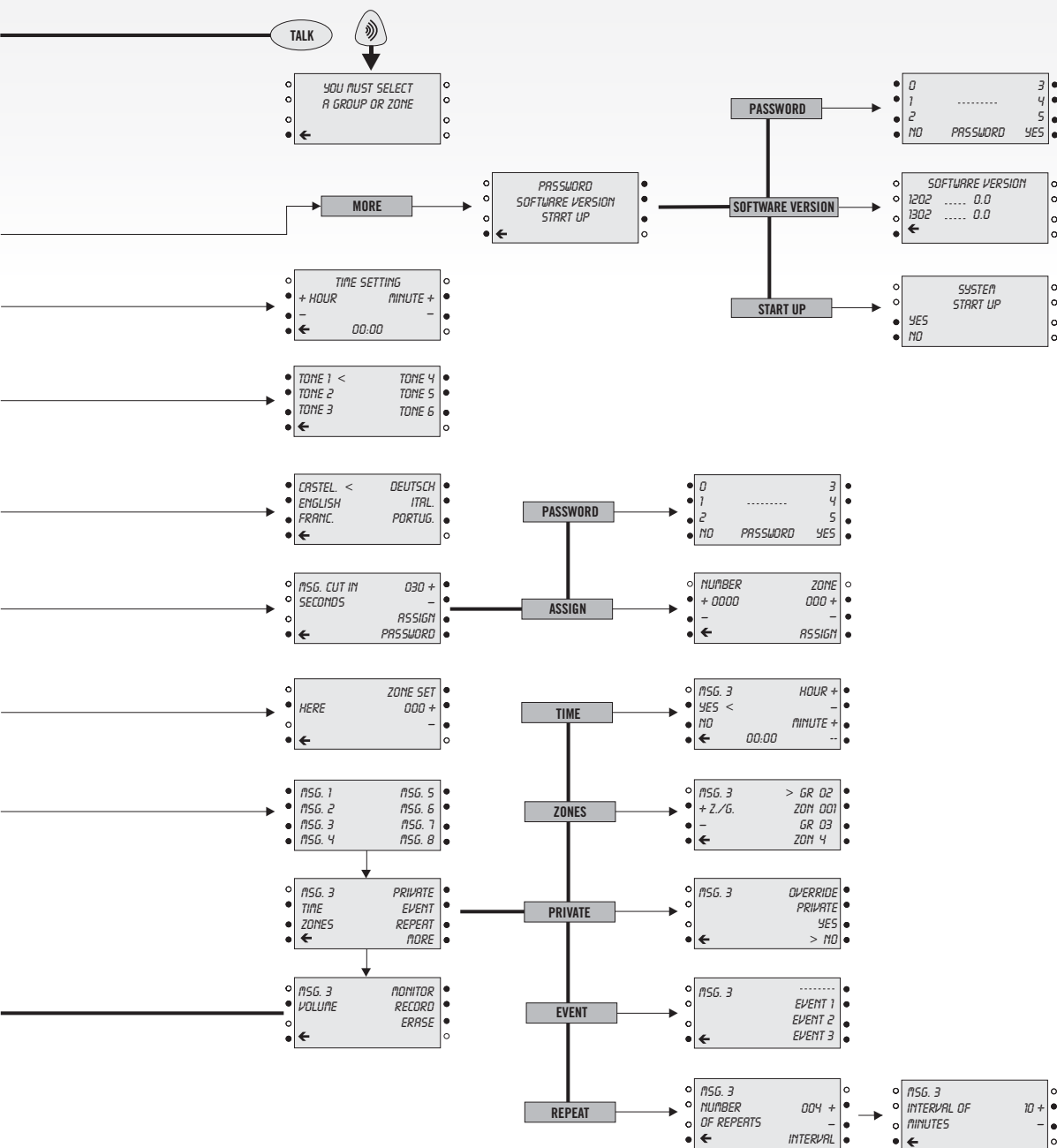
► + or ► - modifies the hour.  
◀ + or ◀ + - modifies the minute.  
► ◀ adjusts the time of the system.







# Control console menu tree | 1202





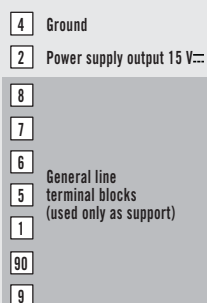
# Power supply | 1307.1



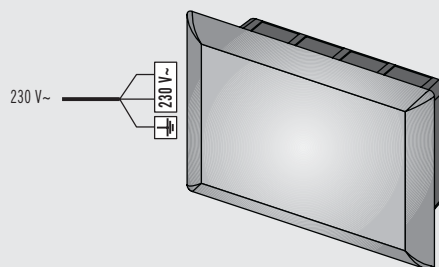
## 1307.1 15 V $\overline{\text{=}}$ , 20 W power supply powered at 230 V $\sim$

- 15 V $\overline{\text{=}}$ , 20 W power supply with protection against short-circuits and polarity inversion.
- It can be connected in parallel with other units.
- It can be used as general line connection box.
- 230 V $\sim$  input.
- If several units are installed in the same system, do NOT link the 15 V $\overline{\text{=}}$  terminal blocks (nr. "2") of more than 3 units.

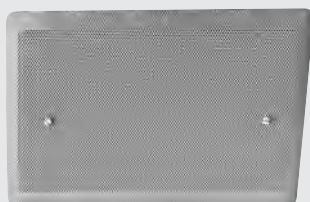
## Schematics <sup>1</sup>



**NOTE:** If several units are working in the same installation, they should better be divided among the installation, so that each one powers only a group of modules. **Do not link more than 3 units.**



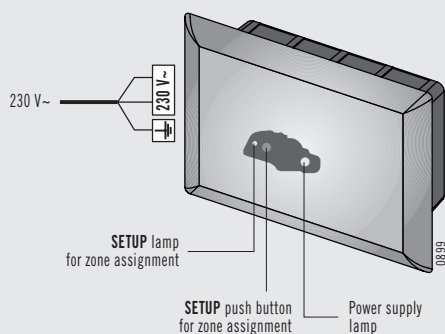
# Power supply & buffer | 1308.1



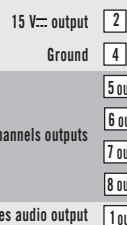
## 1308.1 15 V $\overline{\text{=}}$ , 20 W power supply & buffer powered at 230 V $\sim$

- 15 V $\overline{\text{=}}$ , 20 W power supply with protection against short-circuits and polarity inversion.
- It can be used as general line connection box.
- Equipped with buffer for separation between the general line and the audio lines, and re-generates the audio signal towards the control units **1205**.
- This device can be assigned with a zone number, which applies to all the control units that depend on it.

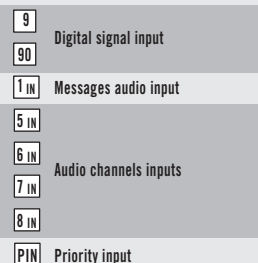
## Schematics <sup>1</sup>



### OUTPUTS



### INPUTS



### TECHNICAL SPECIFICATIONS

	1307.1
Power supply	230 V $\sim$
Consumption	25 VA
Output	15 V $\overline{\text{=}}$
Current supply	20 W (1.3 A)

### TECHNICAL SPECIFICATIONS

	1308.1
Power supply	230 V $\sim$
Consumption	25 VA
Output	15 V $\overline{\text{=}}$
Current supply	20 W (1.3 A)



# 4-channel control unit. 1 W | 1205



## 1205.10 4-channel control unit. 1 W, 1-2 speakers. Message override. White

- Module for local sound control in hotel rooms, offices, etc. that must always be connected to the output of a buffer/power supply 1308.1.
- 4-channel control unit, 1 W power for connecting 1 or 2 speakers.
- Digital volume regulation with 32 steps of 2 dB.
- Automatic message override through wire "1".
- It can be configured for its automatic disconnection after 6 hours.

## 1205.12 4-channel control unit. 1 W, 1-2 speakers. Message override. Black

- Same features as the 1205.10 in black.

## Schematics

### 1 ON/OFF push button

One press turns on and the next press turns off the sound system in that zone.

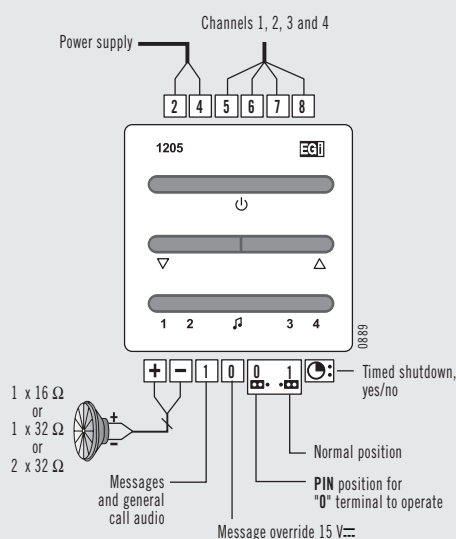
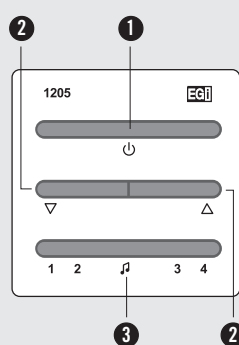
### 2 Volume selector

For raising  $\Delta$  or lowering  $\nabla$  the sound level of the control unit.

### 3 Channel selector

This push button enables the user to select the sound channel that will be played in a zone. Every time that it is pressed, it will change between the available channels. The selection will be showed by the light of a red lamp.

**WARNING:** The speaker output of this unit does not carry the 7 V $\sim$  component necessary to be connected to the "IN" or "PIN" input of a MILLENNIUM amplifier (only 3 V). If the result signal of a control unit must be directed to a "PIN" or "IN" input, please use control unit 1207.xx.

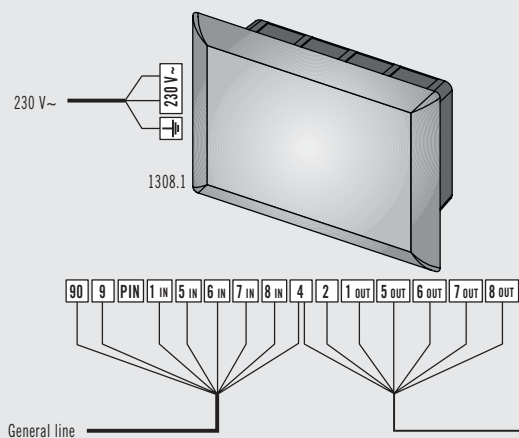


### TECHNICAL SPECIFICATIONS

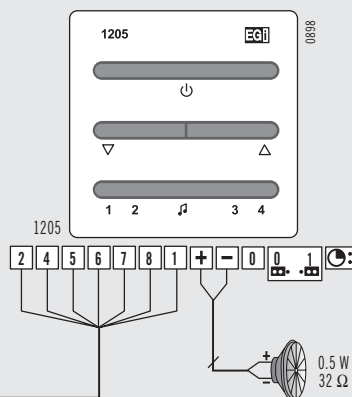
	1205
DC power supply	15 V $\sim$ by general line
Current consumption (@ max. power)	250 mA
Power	1 W; minimum line impedance 16 $\Omega$

## Connection details

1205 4-channel control unit  
1308.1 Power supply & buffer



Control units line output up to 14 control units with only 1 x 32  $\Omega$  speaker  
or up to 7 control units 2 x 32  $\Omega$  speakers





# 4-channel control unit. 2 W | 1207



## 1207.10 4-channel control unit 2W. 1-4 speakers. Message override. Zone assignment. White

- 4-channel control unit, 2 W power for connecting up to 4 speakers.
- Digital volume regulation with 80 steps of 1 dB.
- It can store a zone number in the setup process.
- Digital message broadcast with override facility.
- It can be controlled from a control console 1202.
- The PIN input allows the connection of a set 1105 + 1107 (microphone input + volume regulator), as well as AUX inputs 1106. By doing this, the room where the 1207 unit is installed will improve its performance for audiovisual events line multimedia presentations, speeches, conferences, etc.

## 1207.12 4-channel control unit. 1 W, 1-4 speakers. Message override. Zone assignment. Black

- Same features as the 1207.10 in black.

### Operation mode

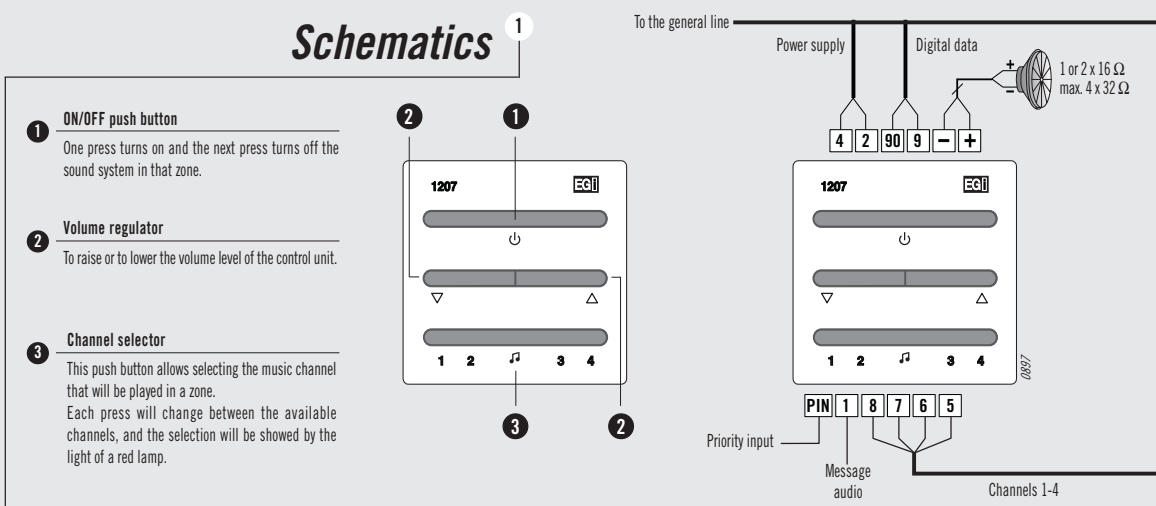
#### SETUP

During the setup of the system, when zone numbers are being assigned, the channel indicator lamps corresponding to channels 3 and 4 will blink slowly. When pressing any key the zone number is assigned and the leds will stop blinking. When the setup process is finished, the control keyboard will turn back to its normal operation mode again.

#### Message Broadcast With Priority

While a priority message (received at the PIN inlet) is being broadcast, the lamps of channels 2 and 3 will light, and the control unit is self-configured at its maximum volume level. The volume level of the audio signal should be regulated at the device that is connected to the PIN input.

## Schematics

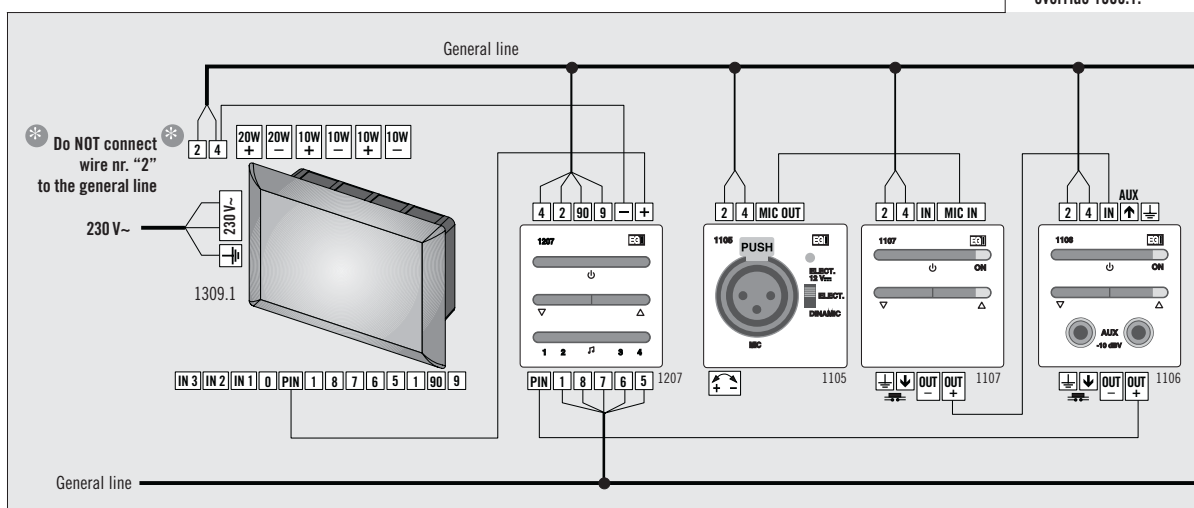


### TECHNICAL SPECIFICATIONS

	1207
Power supply	15 V= by general line
Power	2 W; min line impedance 8 Ω
Current consumption (@ max. power)	340 mA

## Connection details

4-Channel control unit 1207.  
Amplifier with message  
override 1309.1.





# Digital control keyboard 1206



## 1206.10 Digital control keyboard. White.

- Digital control keyboard for up to 4 sound channels, to be installed in standard Ø 60 mm box.
- Selected channel indicator lamps.
- To combine with 1310.1, 1311, 1306.1, 1305.1, and 1304.1 digital amplifiers.
- Up to 3 can be installed in parallel, in the same zone. (To the same amplifier.)
- It can only activate one digital amplifier.

## 1206.12 Digital control keyboard. Black.

- Same features as the 1206.10 in black.

### Operation mode

#### SETUP

During the setup of the system, when zone numbers are being assigned, the channel indicator lamps corresponding to channels 1 and 2 will blink slowly. When pressing any key the zone number is assigned and the leds will stop blinking. When the setup process is finished, the control keyboard will turn back to its normal operation mode again.

## Schematics

### 1 ON/OFF push-button

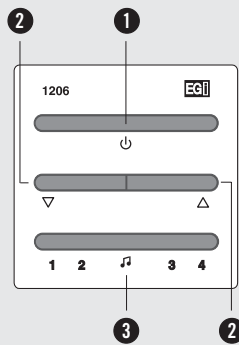
One press turns on and the next press turns off the digital amplifier that drives the speakers of that zone.

### 2 Volume regulator

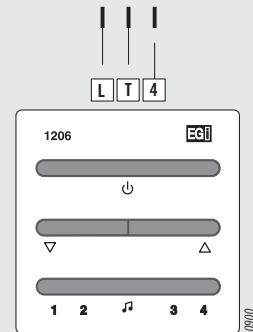
To raise or to lower the volume level of the amplifier to which the digital keyboard is connected.

### 3 Channel selector

This push button allows selecting the music channel that will be played in a zone. Each press will change between the four available channels, and the selection will be showed by the light of a red lamp.



- L Ledcontrol
- T Keyboard control
- 4 Ground



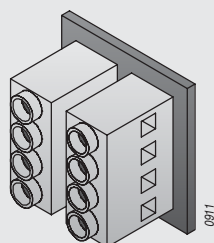
# Push-button adapter for digital amplifiers 1503



## 1503 Push-button adapter for digital amplifier

- Electric push-buttons adapter for digital amplifiers.
- By using this small device (20 x 16 x 20 mm) you can use 4 conventional electric push-buttons as if they were a digital keyboard 1206. This is specially usefull in places with an aggressive environment (outdoor facilities, kitchens, factories, etc.) where a heavy-duty regulation device is necessary.
- The combination of a 1503 and four heavy-duty electric push-buttons brings an IP XX protection degree suitable to resist any environmental conditions.

## Schematics



- C Push-buttons common
- 4 Ground
- T Keyboard control
- ON/OFF control
- CH Channel control
- Lower volume
- Raise volume



Control keyboard 1206.

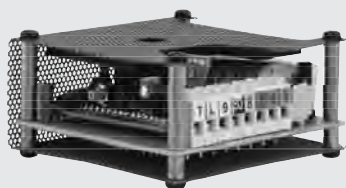


**Push-button adapter for digital amplifiers 1503.**





# Digital 10 W amplifier 1311



## 1311 Digital 10 W amplifier. 15 V $\overline{\text{DC}}$

- 10 W digital amplifier with 4 channels.
- With 3 mixed audio inputs with priority, one of them adjustable.
- To be installed in 100 x 100 mm standard connection box.
- It can be controlled from the **1202** control console, from **1206.xx** digital control keyboards or using standard electric push buttons.
- 15 V $\overline{\text{DC}}$  power supply from the general line or from an auxiliary power supply **1307.1**.

- The order of priority of the amplifier inputs is the following (from higher to lower):
  - 1) Audio signals arriving at the "1" terminal block –if the digital information at wires "9 and 90" confirms that there is a general call or a private message to this zone-.
  - 2) Audio signals arriving to the **PIN** inputs (see below for connection of non-MILLENNIUM devices).
  - 3) Audio signals from the general line channels arriving through the inputs "5, 6, 7 and 8".

Whenever an audio signal reaches one of these inputs, all the inputs that have a lower priority level fade down and remain silent as long as the new signal is present.

- There are three **PIN** inputs in the amplifier. The gain of two of them is constant, while the gain of the third one is adjustable. These inputs are added (mixed) internally giving as a result an input signal to the multiplexer.
- If the audio signal reaching a **PIN** input of this amplifier comes from a **MILLENNIUM** device, its origin can be a **OUT** output (such as those present in auxiliary input modules or in volume regulators for microphone bases) or the "+" terminal of a control unit. In these cases, the micro-controller of the amplifier detects a direct voltage component (7 V $\overline{\text{DC}}$ ) that is transmitted together with the audio signal and it reacts to that signal by giving access to it according to the above explained priority order. This 7V $\overline{\text{DC}}$  signal is typical of the **MILLENNIUM** devices, except for the **1205**.
- Normally non-MILLENNIUM audio sources should be connected to the sound system through their specific pre-amplifiers (**1105**, **1106** and **1107**). If we wanted an audio signal that does not come from a **MILLENNIUM** device to directly enter the amplifier, we must connect it to one of the **PIN** inputs. In order for this signal to be detected by the **PIN** inputs, a signal of 15 V $\overline{\text{DC}}$  must be provided to the terminal block "0", and it will have to remain present as long as we want the signal to keep being broadcast.
- Regarding the amplified output, it can be configured in two different ways: **two 5 W** outputs over a minimum load of 4  $\Omega$  each or as a single **10 W** output over a minimum 8  $\Omega$  load.
- The amplifier itself is able to detect how the speakers are connected (if connected only to the 10 W output or if distributed between the two 5 W outputs) and gets automatically self-configured according to this.

## Schematics 1



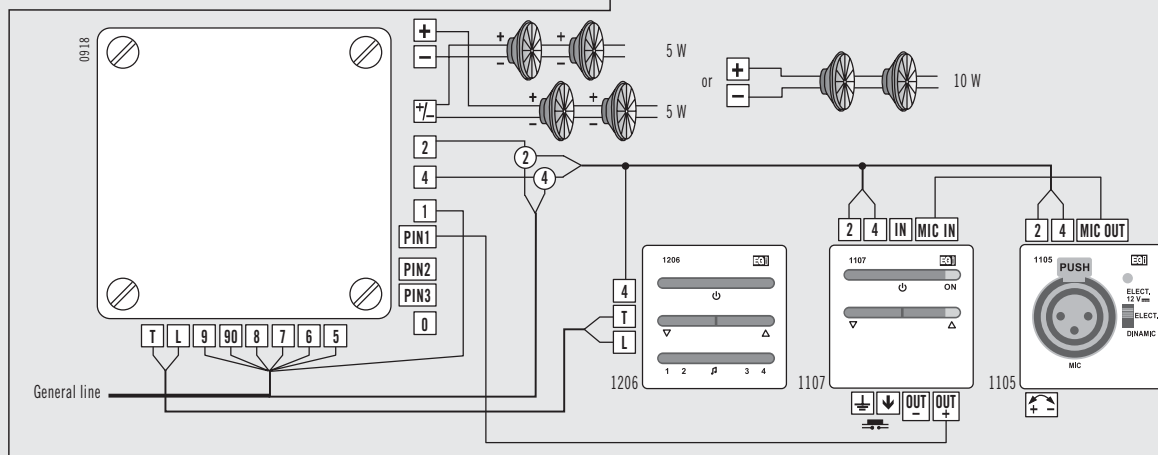
- + Speakers output \*
- Speakers common output
- 2 15 V $\overline{\text{DC}}$  power supply
- 4 Ground
- 1 Message audio and general call
- 0 15 V $\overline{\text{DC}}$  priority input
- PIN1 Priority audio inputs
- PIN2
- PIN3 Adjustable priority audio input

\* Output +7 V $\overline{\text{DC}}$  to activate inputs **IN** or **PIN** of other modules.

		NUMBER OF SPEAKERS IN EACH ZONE		
		4 $\Omega$	16 $\Omega$	32 $\Omega$
10 W	Min. impedance 8 $\Omega$	→	2	4
	Min. impedance 4 $\Omega$	1 + 1	4 + 4	8 + 8

- Jumper position for "0" to operate
- Input of 4 music channels
- Digital data
- Connection to external push buttons or to 1206 digital control keyboard

## 1311 connection to 1105 pre-amplified XLR microphone base and 1206 digital control keyboard 2



### TECHNICAL SPECIFICATIONS

	1311
Power supply	15 V $\overline{\text{DC}}$
Consumption	16 W
Power	10 W; min. line impedance 8 $\Omega$ or 5 + 5 W; min. line impedance 4 $\Omega$



# Digital 20 W amplifier

## 1310.1



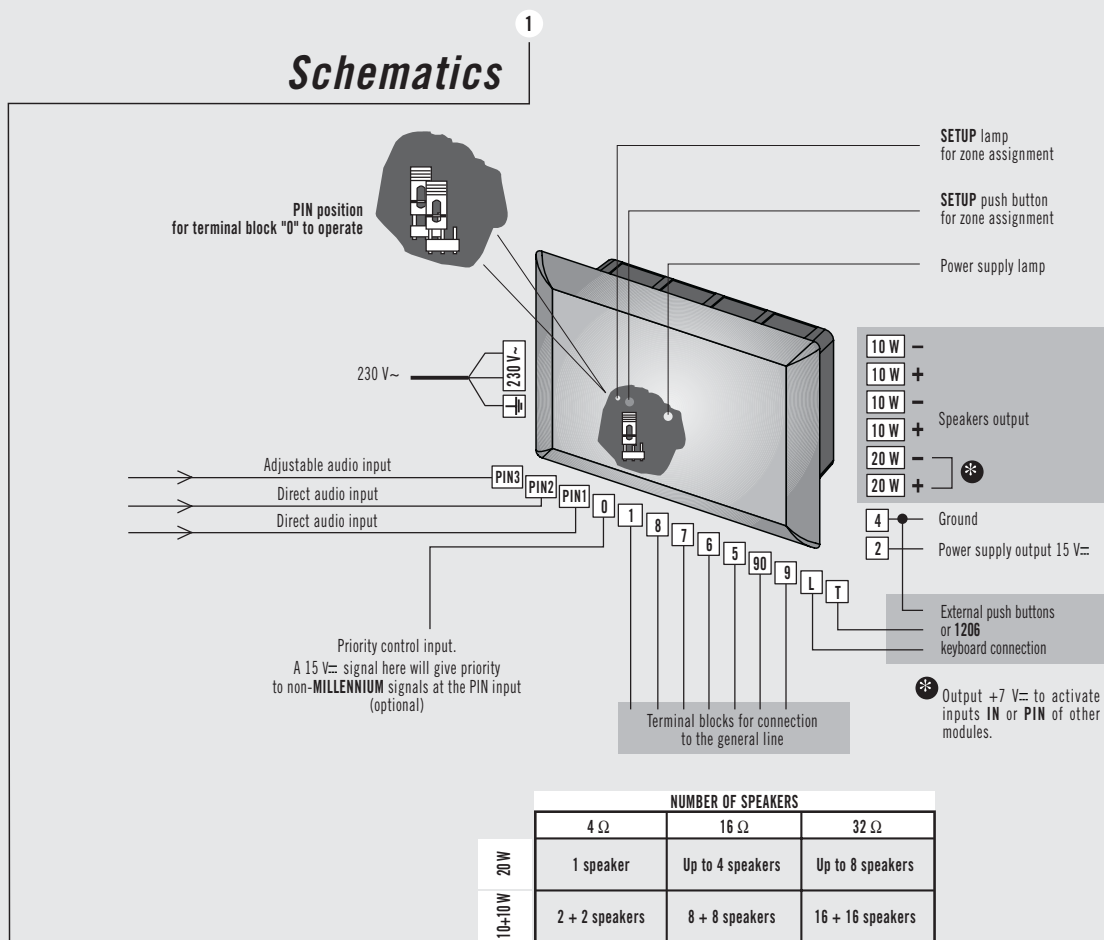
### 1310.1 Digital 20 W amplifier. 230 V~

- 10 + 10 W (2  $\Omega$ ) / 20 W (4  $\Omega$ ) amplifier.
- With 3 mixed audio inputs, one of them adjustable.
- Message broadcast with override input.
- Digital assignment of zone number.
- Functional terminals for connection to general line.
- 230 V~ power supply.

- The order of priority of the amplifier inputs is the following (from higher to lower):
  - 1) Audio signals arriving at the "1" terminal block—if the digital information at wires "9" and "90" confirms that there is a general call or a private message to this zone-.
  - 2) Audio signals arriving to the **PIN** input (see below for connection of non-MILLENNIUM devices).
  - 3) Audio signals arriving to the **IN** inputs.
  - 4) Audio signals from the general line channels arriving through the inputs "5", "6", "7" and "8".
- Whenever an audio signal reaches one of these inputs, all the inputs that have a lower priority level fade down and remain silent as long as the new signal is present.
 

There are three **PIN** inputs in the amplifier. The gain of two of them is constant, while the gain of the third one is adjustable. These inputs are added (mixed) internally giving as a result an input signal to the multiplexer. If the audio signal reaching a **PIN** input of this amplifier comes from a **MILLENNIUM** device, its origin can be a **OUT** output (such as those present in auxiliary input modules or in volume regulators for microphone bases) or the "+" terminal of a control unit. In these cases, the micro-controller of the amplifier detects a direct voltage component (7 V $\approx$ ) that is transmitted together with the audio signal and it reacts to that signal by giving access to it according to the above explained priority order. This 7V $\approx$  signal is typical of the **MILLENNIUM** devices, except for the **1205**.
- Normally non-MILLENNIUM audio sources should be connected to the sound system through their specific pre-amplifiers (**1105**, **1106** and **1107**). If we wanted an audio signal that does not come from a **MILLENNIUM** device to directly enter the amplifier, we must connect it to one of the **PIN** inputs. In order for this signal to be detected by the **PIN** inputs, a signal of 15 V $\approx$  must be provided to the terminal block "0", and it will have to remain present as long as we want the signal to keep being broadcast.
- Regarding the amplified output, it can be configured in two different ways: two 10 W outputs over a minimum load of 2  $\Omega$  each or as a single 20 W output over a minimum 4  $\Omega$  load.
- The amplifier itself is able to detect how the speakers are connected (if connected only to the 20 W output or if distributed between the two 10 W outputs) and gets automatically self-configured according to this.

## Schematics



### TECHNICAL SPECIFICATIONS

	1310.1
Power supply	230 V~
Power	20 W; minimum line impedance 4 $\Omega$
Power	10 + 10 W; minimum line impedance 2 $\Omega$
Consumption	40 VA



# Volume regulator and aux. input | 1106



## 1106.10 Volume regulator and auxiliary input. White

- Volume regulator, with auxiliary input for local audio sources including on/off switch and indicating lamp.
- It incorporates a slow signal compressor for preventing distortion.
- Self-mixing for up to 5 units.
- 1.25 W built-in amplifier (16  $\Omega$  min.).

## 1106.12 Volume regulator and auxiliary input. Black

- Same features that the 1106.10 in black.

## Schematics

### 1 ON/OFF push button

One press turns on and the next press turns off the auxiliary input 1106.

### 2 ON lamp

It lights when the module is activated by pressing the ON push button or, automatically, when a signal coming from a previous module is passing through.

### 3 Volume regulator

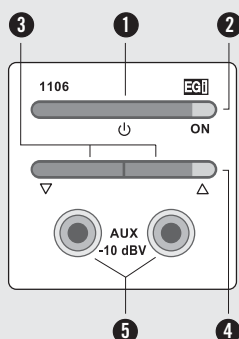
For raising  $\Delta$  or lowering  $\nabla$  the sound level of the auxiliary input.

### 4 Pilot lamp for volume regulation

It blinks when the volume level has reached its top.

### 5 Inlet for audio source

An external audio source (CD player, cassette deck, soundblaster, etc.) can be connected here for local use.



2 Power supply output 15 V $\approx$

4 Ground

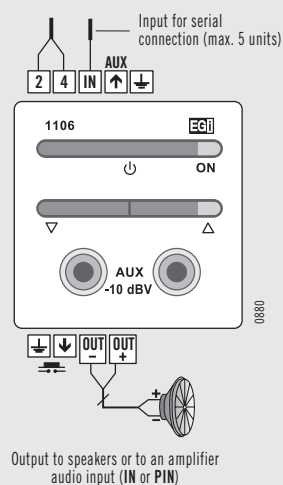
IN Inlet for self-mixing

$\uparrow$  Audio auxiliary input (replaces the frontal RCA input)

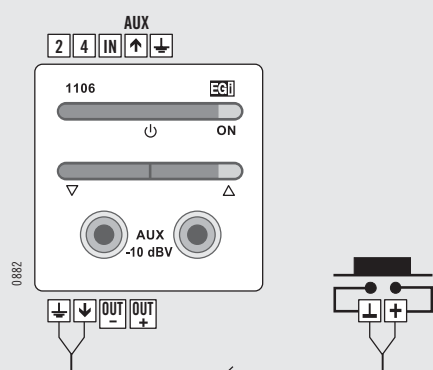
$\downarrow$  Auxiliary input ground

$\downarrow$  Ground of remote push button

$\downarrow$  Terminal for connection of remote push button

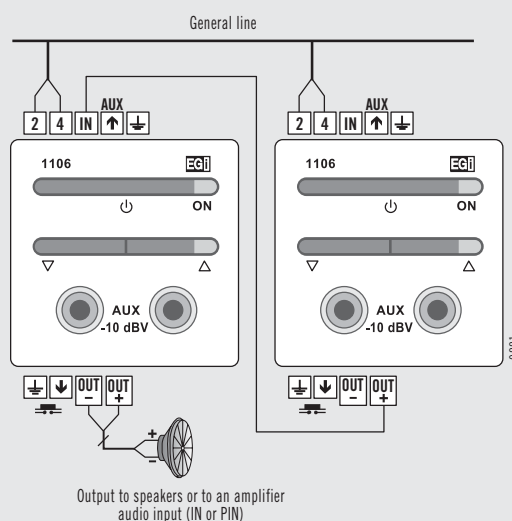


## 1106 connection of a remote push button



If we wanted to control the on/off status of this auxiliary input using a remote push button, the connection of it should be in the following way:

## 1106 serial connection of several 1106



### TECHNICAL SPECIFICATIONS

	1106
DC Power supply	15 V $\approx$ by general line
Power	1.25 W; minimum line impedance 16 $\Omega$
Input impedance	20 K $\Omega$
Auto-mixing input	5 units serially
Current consumption (@ max. power)	162 mA
Sensitivity of the RCA input	(-10 dBV) = 316 mV



# Pre-amplified XLR microphone base | 1105



## 1105.10 Pre-amplified XLR microphone base. White

- Pre-amplified XLR base for the connection of local microphones to a sound installation.
- Voice compressor included for preventing distortion.
- The connected microphone can be either dynamic (balanced or not) or electret (with or without phantom power supply). The mic output of a wireless microphone receiver can also be connected here.

## 1105.12 Pre-amplified XLR microphone base. Black

- Same features that the 1105.10 in black.

## Schematics

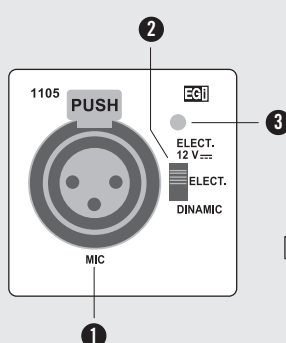
### 1 Professional XLR microphone socket

### 2 Microphone type selector

This key enables the user to select which type of microphone will be connected to the XLR socket: dynamic, electret without power supply, or electret with phantom power supply.

### 3 Led indicating operation and compression

It indicates that the module has a 15 V $\pm$  power supply and, when blinking, the operation of the voice compressor.



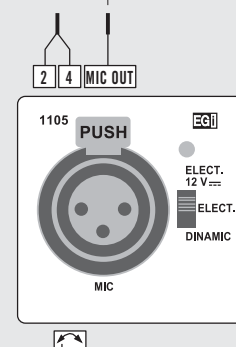
2 Power supply output 15 V $\pm$

4 Ground

MIC OUT Pre-amplified microphone output

+ Microphone input sensitivity

To the "MIC IN" input of module 1107



# Volume regulator for 1105 base | 1107



## 1107.10 Volume regulator for 1105 base. White

- Pre-amplified module (1.25 W @ 16  $\Omega$ ).
- Digital volume regulator with 80 steps of 1 dB.
- Push button inlet for remote activation of the microphone.
- Self-mixing up to 6 units.

## 1107.12 Volume regulator for 1105 base. Black

- Same features that the 1107.10 in black.

## Schematics

### 1 ON/OFF push button

One press turns on and the next one turns off the microphone base 1105.

### 2 ON lamp

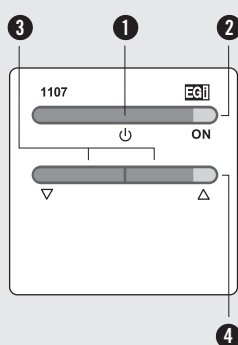
It lights when the module is activated by pressing the ON push button or, automatically, when a signal coming from a previous module is passing through.

### 3 Volume selector

To raise or lower mic volume level.

### 4 Volume selection indicating lamp

It blinks when the microphone volume level reaches the maximum.



2 Power supply output 15 V $\pm$

4 Ground

IN Inlet for self-mixing

MIC IN Pre-amplified microphone input

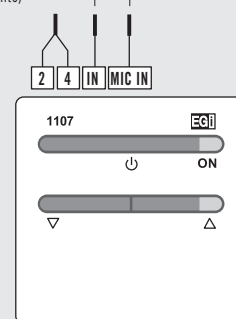
Ground of remote push-button

Push-button

Terminal for connection of remote push-button that will work same as 1.

Signal input coming from a "MIC OUT" of one 1105

Input for serial connection (max. 5 units)



Output to speakers or to IN or PIN audio input in amplifier or control unit

### TECHNICAL SPECIFICATIONS

	1105
DC Power supply	15 V $\pm$ by general line
Input impedance	2 K $\Omega$
Current consumption (@ max. power)	30 mA

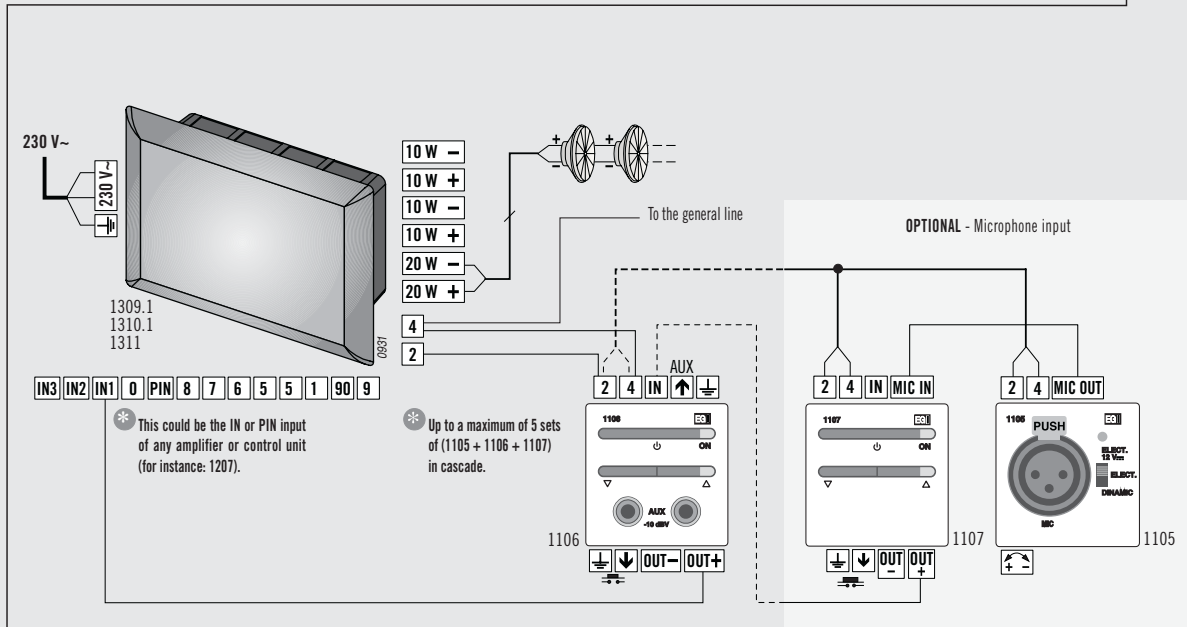
### TECHNICAL SPECIFICATIONS

	1107
DC Power supply	15 V $\pm$ by general line
Max. consumption	150 mA
Power	1.25 W; minimum line impedance 16 $\Omega$
Input impedance	20 K $\Omega$
Self-mixing input	up to 5 units



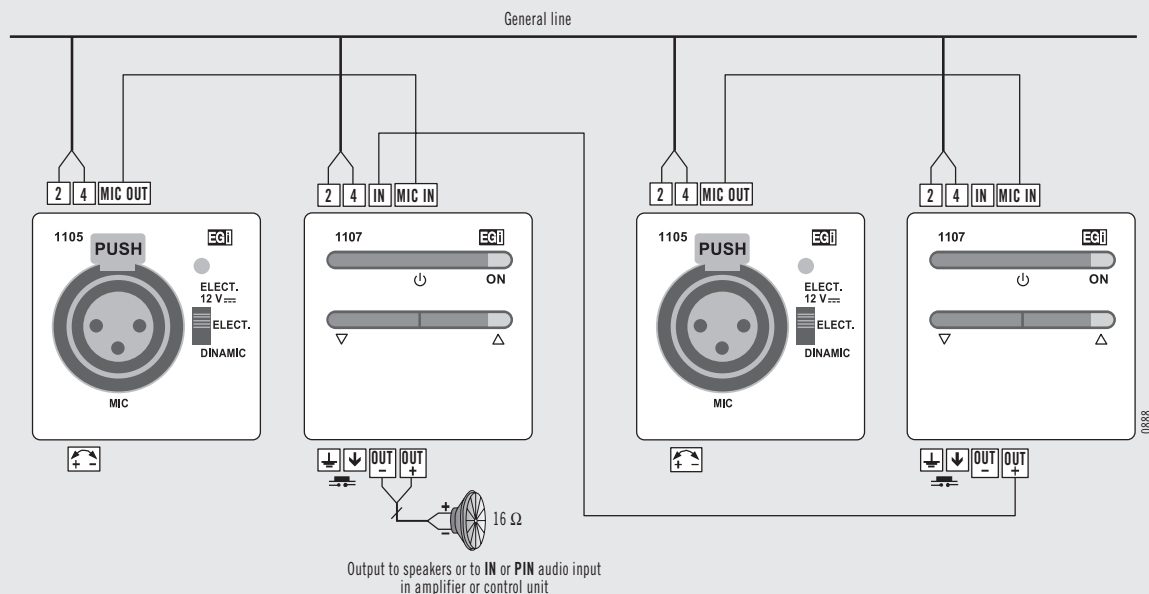
# Connecting details 1105 + 1107

## Cascade connection of a pre-amplified microphone input + an auxiliary audio input



## Serial connection of several 1105 and 1107

Self-mixing up to 5 sets of 1105 + 1107.





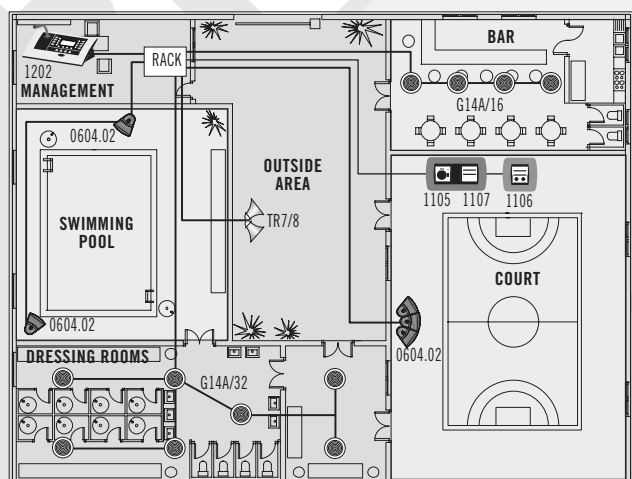
# **Sports arena. Swimming pool** Installation example

Messages to outside & common areas,  
court and swimming pool.

2 music programs.

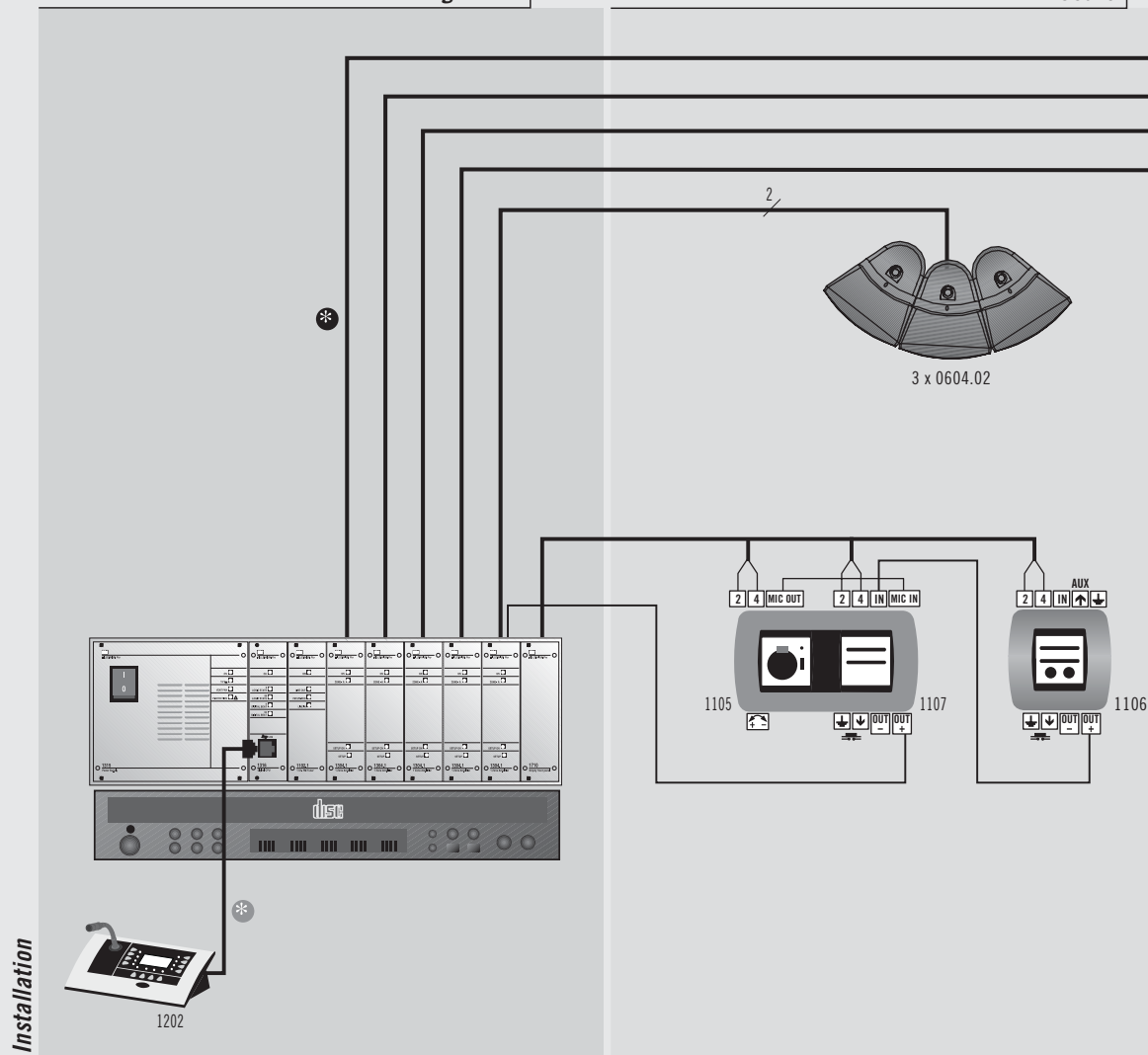
Microphone input in the court.

Emergency evacuation/General call.



## **Management**

## **Court**



Installation

Materials

- 1 power supply 1315
- 1 CPU 1316
- 1 FM tuner and preamplified audio input 1102.1
- 5 amplifiers 1304.1
- 1 blind cover 1710
- 1 tabletop container 1709
- 1 multiple CD-player RDC6
- 1 control console 1202

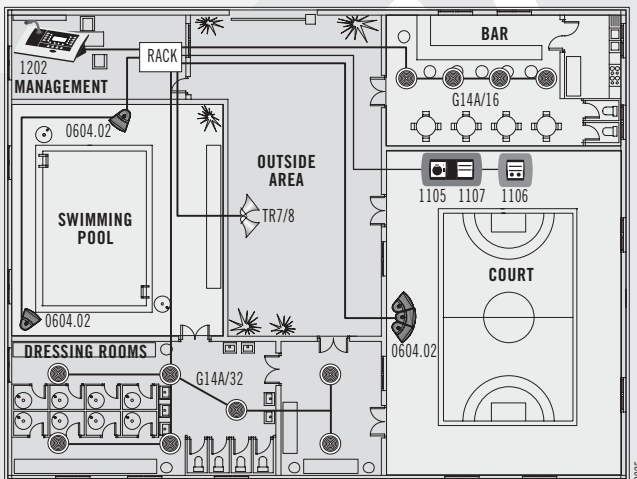
- 1 pre-amplified XLR microphone base 1105
- 1 volume regulator for 1105 base 1107
- 1 volume regulator and aux. input 1106
- 3 sound projectors 0604.02

\* Use 1501 connection base for distances longer than the cable provided.

\* NOTE: See page 2 for further information about loudspeaker cable sections.



# *Sports arena. Swimming pool* Installation example

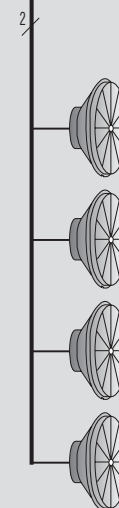
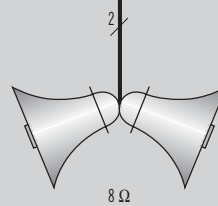
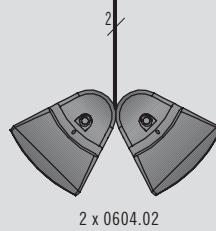
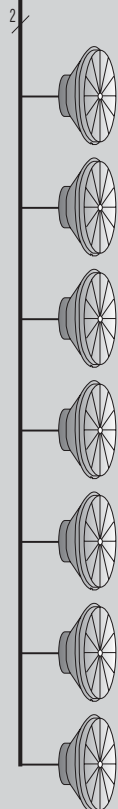


## *Dressing rooms*

## *Swimming pool*

## *Outside area*

## *Bar*



7 speakers \_\_\_\_\_ **G14A/32**

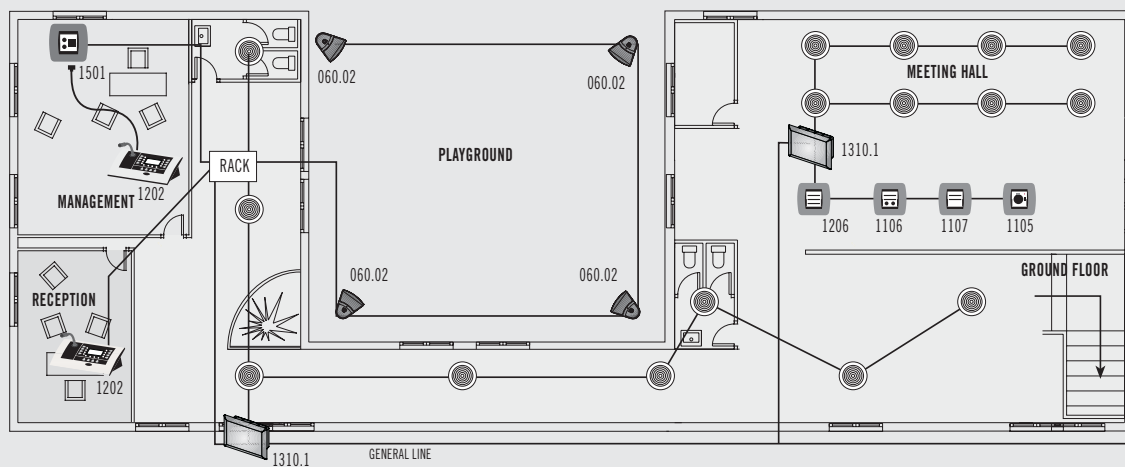
2 sound projectors \_\_\_\_\_ **0604.02**

2 horn speakers \_\_\_\_\_ **TR7/8**

4 speakers \_\_\_\_\_ **G14A/16**



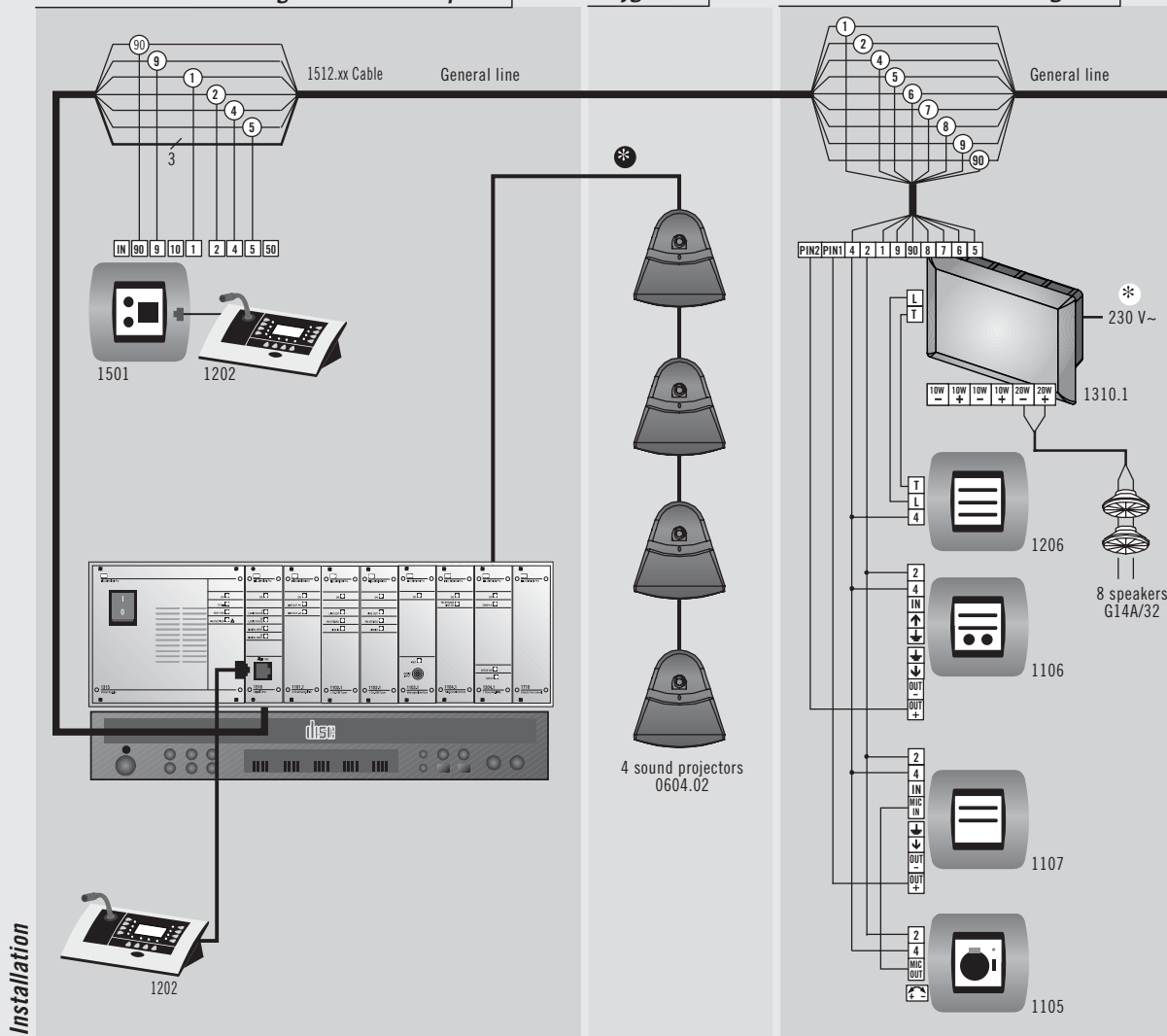
# School Installation example



## Management and Reception

## Playground

## Meeting Hall



Installation

Materials

1 power supply	1315	1 amplifier	1304.1
1 CPU	1316	1 blind cover	1710
1 audio source preamplified input	1101.1	1 tabletop container	1709
2 FM tuner and preamplified audio input	1102.1	2 control consoles	1202
1 modular pre-recorded message player	1103.1	1 connection base	1501
1 phone line connection interface	1104.1		

4 sound projectors  
0604.02

1 digital amplifier	1310.1
1 digital control keyboard	1206
1 volume regulator and aux. input	1106
1 volume regulator for 1105 base	1107
1 pre-amplified XLR microphone base	1105

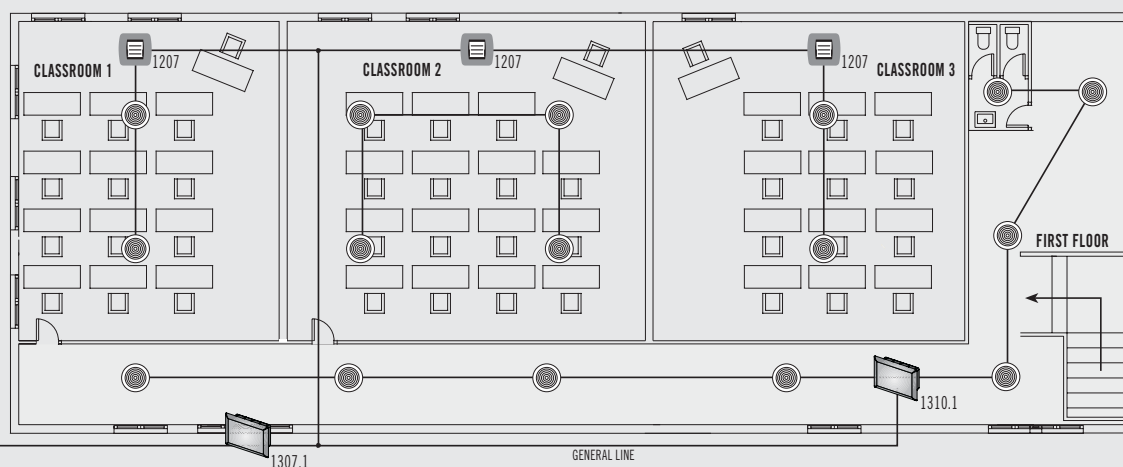
\* Use 1501 connection base for distances longer than the cable provided.

\* NOTE: See page 2 for further information about loudspeaker cable sections.



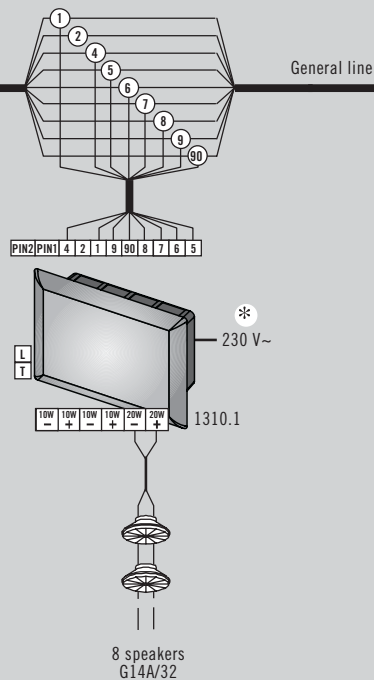
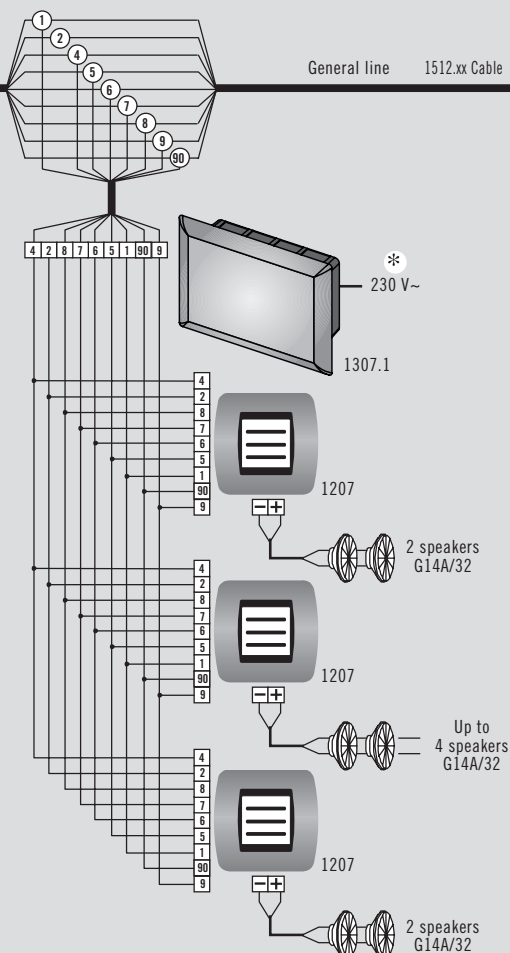
# School

## Installation example



### Classrooms

### Corridor



\* The max. number of classrooms will vary according to the consumption of control units 1207.

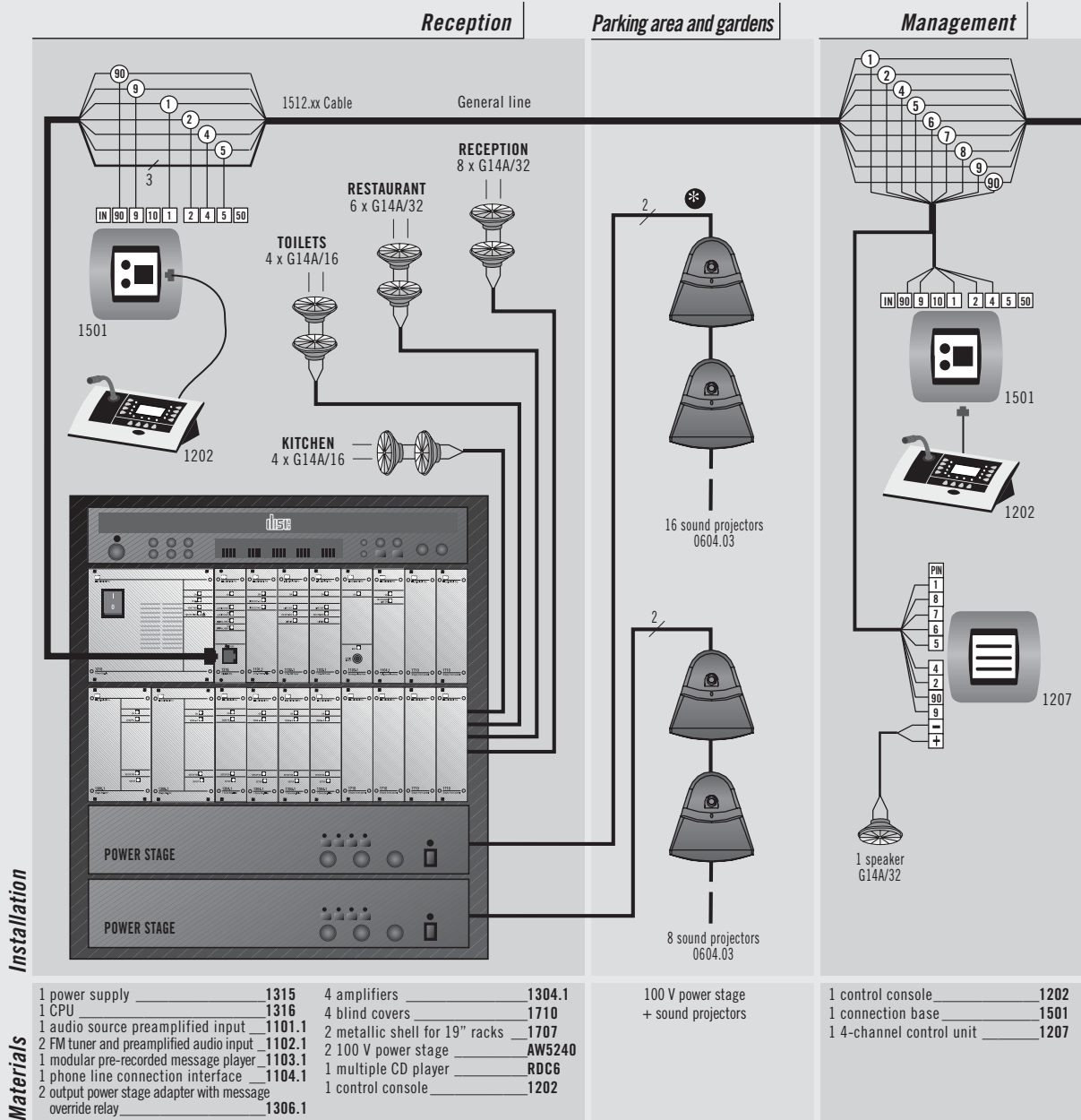
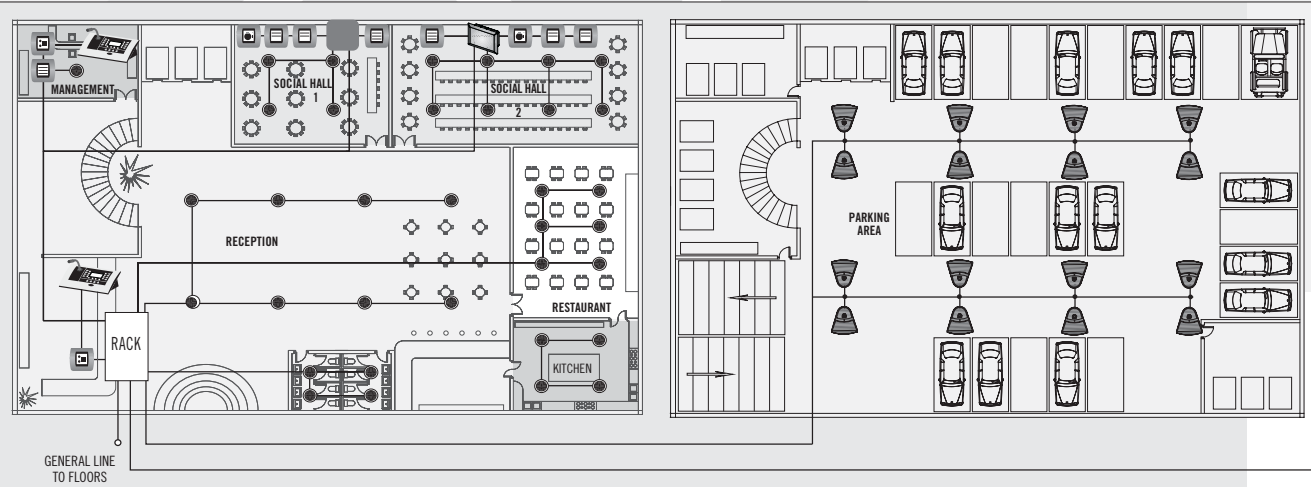
\* Use the same installation example for the corridor at first floor.

1 power supply \_\_\_\_\_ 1307.1  
3 4-channel control units \_\_\_\_\_ 1207

1 digital amplifier \_\_\_\_\_ 1310.1

\* See page 3, section: "Requirements and safety regulations".



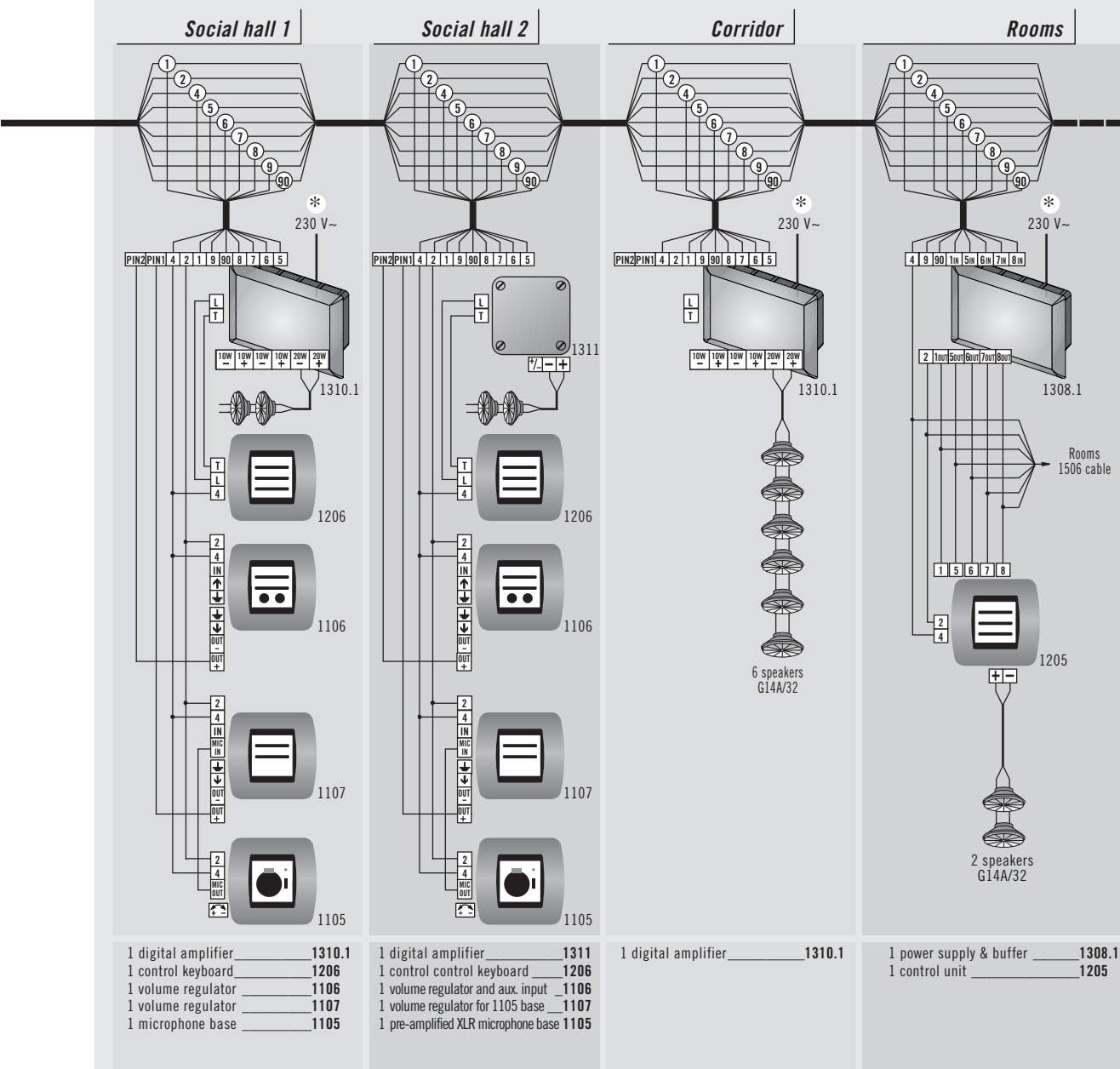
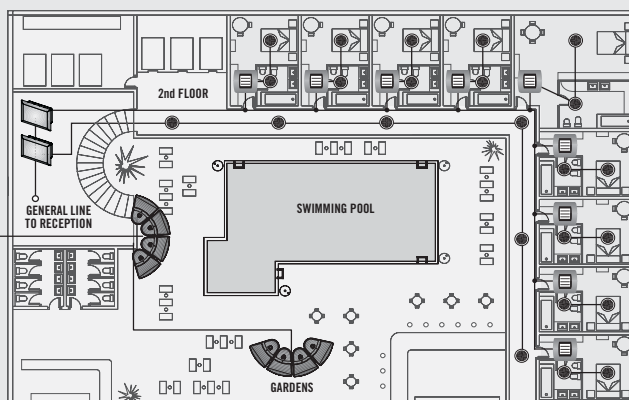
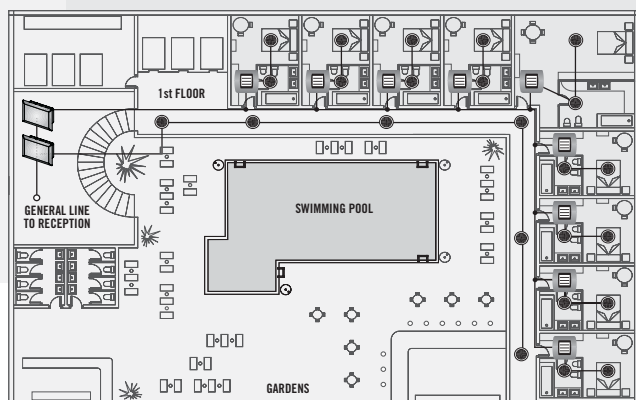


\* Use 1501 connection base for distances longer than the cable provided.

\*NOTE: See page 2 for further information about loudspeaker cable sections.



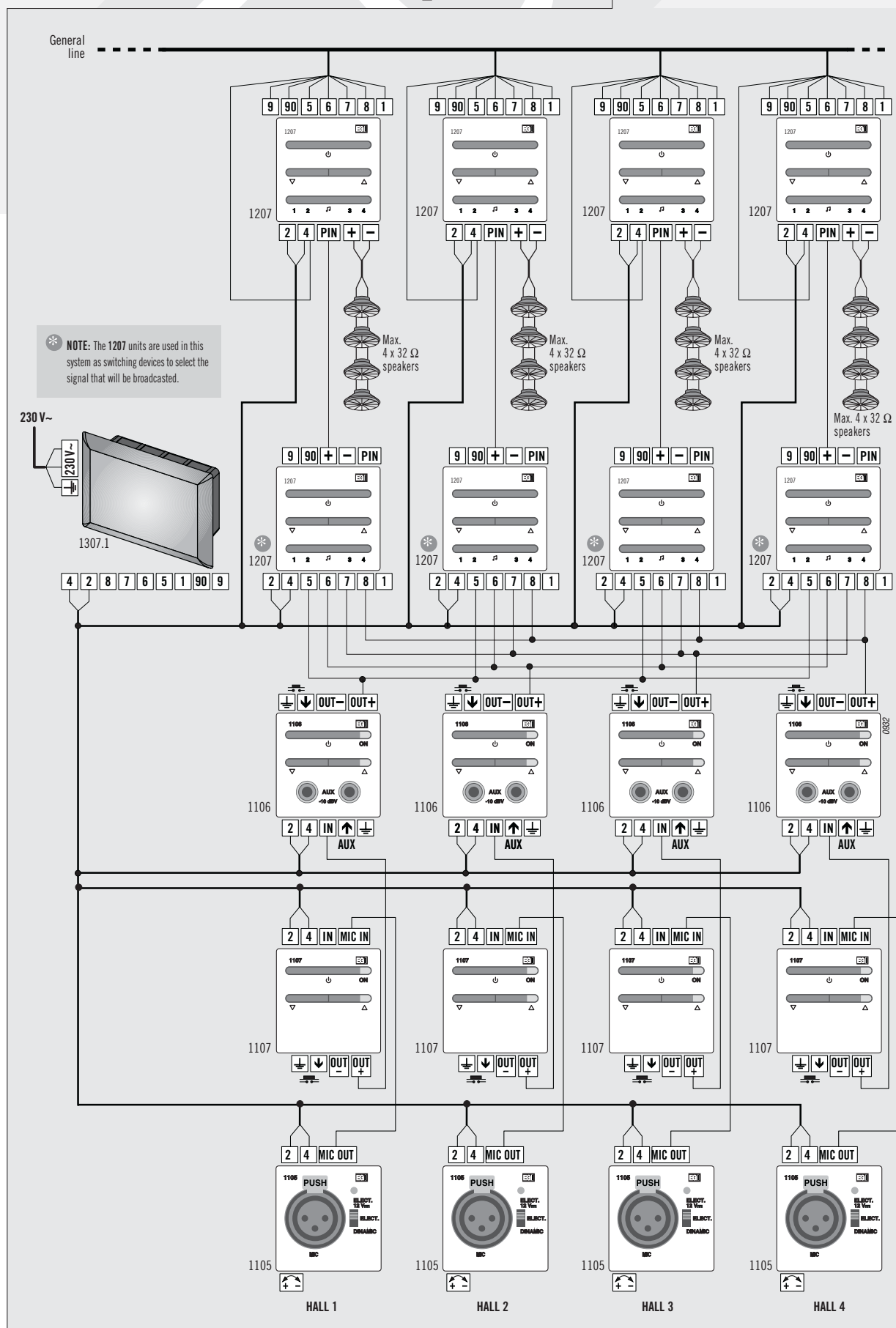
# Installation example | Hotel



\* See page 3, section: "Requirements and safety regulations".



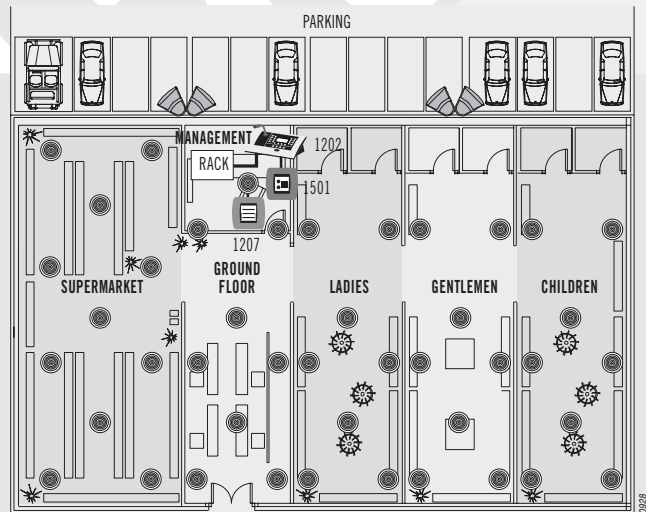
# Sound reinforcement in halls with removable partitions





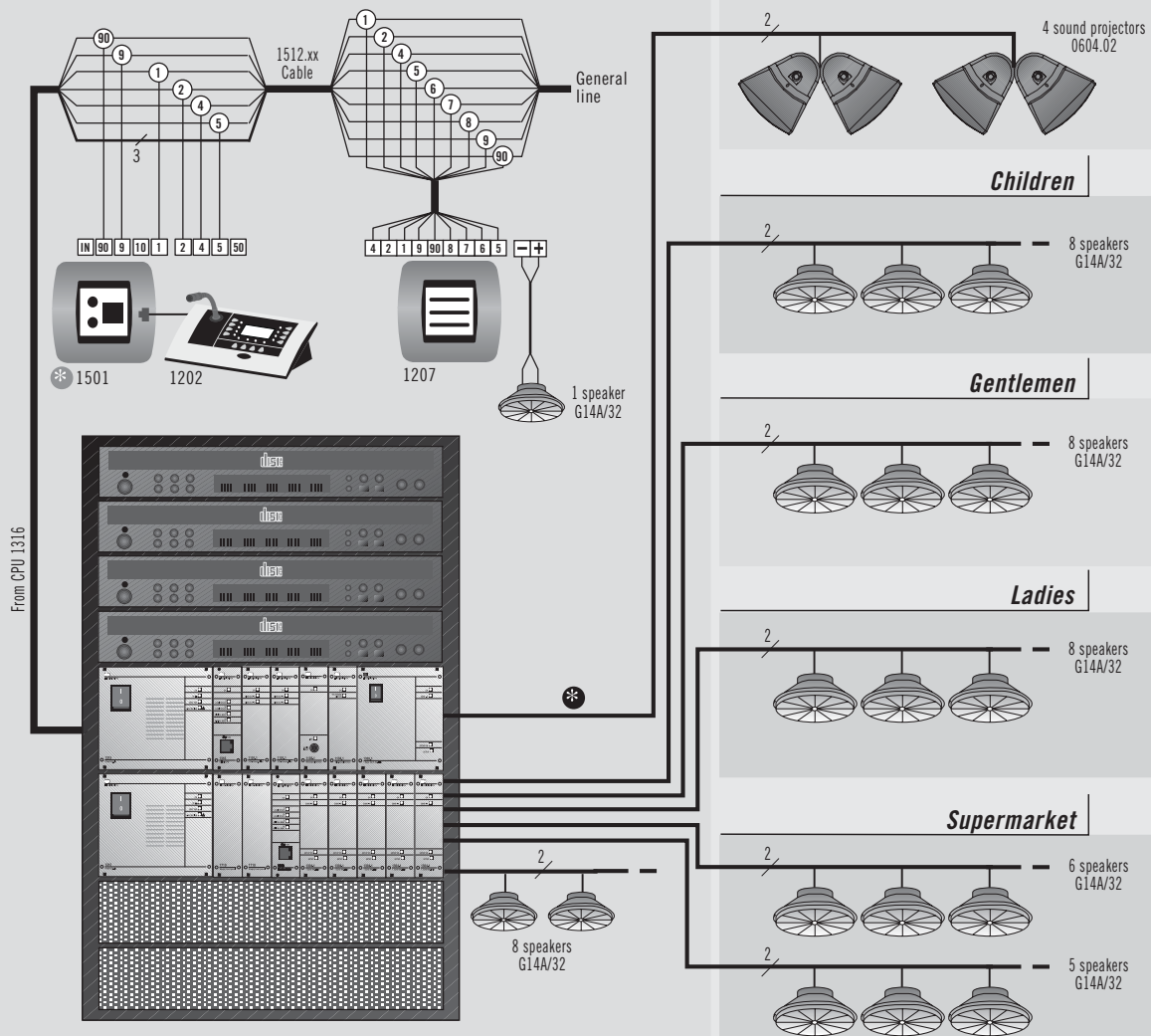
## Shopping mall Installation example

Individual message  
broadcast for each section.  
4 music programs.  
Pre-recorded message playing.  
Emergency/General call.



### Ground Floor and Management

### Parking area



#### Ground Floor and Management

2 power supply	1315	1 general line to flat cable converter	1510
1 CPU	1316	5 amplifiers	1304.1
2 audio source preamplified input	1101.1	2 metallic shell for 19" racks	1707
1 modular pre-recorded message player	1103.1	2 multiple CD player	RDC6
1 phone line connection interface	1104.1	1 connection base	1501
1 digital control amplifier	1305.1	1 control unit	1207
2 blind cover	1710	1 control console	1202

#### Parking area

4 sound projectors \_0604.02

#### Ladies

8 speakers \_G14A/32

#### Children

8 speakers \_G14A/32

#### Supermarket

11 speakers \_G14A/32

#### Gentlemen

8 speakers \_G14A/32

\* Use 1501 connection base for distances longer than the cable provided.

\* NOTE: See page 2 for further information about loudspeaker cable sections.



# Installation start up

## CPU 1316 + control console 1202.

Once all the system elements have been connected and checked, we will power the system by activating the mains circuit breaker of the sound system, as well as turning **ON** the main switches of those elements where this switch exists (1305.1, 1315, etc.). Then we will press the **⏻** push-button in the control console, and the welcome text will appear in the display.

The zone assignment and the zone groups creation will be performed through the **SETUP** menu in the 1202 control console.

Pressing the **SETUP** key, we will see the different options, among them **ZONE**. When we select this option; the following display appears.

Using the **«000+»** key we will set the zone number to **«1»**, the display will be **«001+»**. Press **«ZONE SET»**.

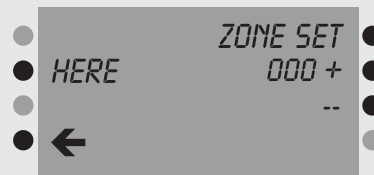
Then, all the zone lamps (leds) of the digital modules will start blinking.

Afterwards, we will only need to press sequentially the zone assignment **SETUP** button in each of the digital modules, without need of returning to the 1202 console.

It is important to do so in the same order that we want to assign the zone numbers (to that end, we advise using the accompanying sheet). The console will memorize automatically the zone order.

When we finish pressing all the zone assignment **SETUP** buttons, we will return to the console, where we just have to assign it a zone number (preferably the last one). In order to do it, we will press the **«HERE»** button.

Finally, pressing the **«←»** button we will return to the previous menu where we can configure the **«MESSAGE»**, **«LANG.»**, **«TIME»**, **«T-PHONE»**, **«BELL»**, and **«ZONES»**.



## Modification of an installation.

If we increase or decrease the number of zones in an installation, it will be necessary to reprogram it.

### - If we decrease the number of zones (in the «ZONE SETUP» display):

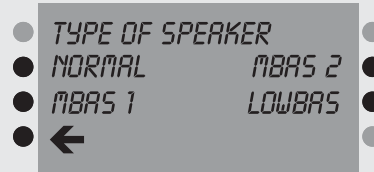
With the **«000+»** key we will set **«001+»** as zone number and we will press sequentially all the zone assignment **SETUP** buttons of the various digital modules, as we described previously.

### - If we increase the number of zones:

Using the **«000+»** key, we will go to the next zone number that we want to assign (Ex: if we change from 15 to 20 zones we will go to the zone **«016+»**) and sequentially press the zone assignment **SETUP** buttons in the new digital modules as we previously described.

## SETUP from the 1206 module.

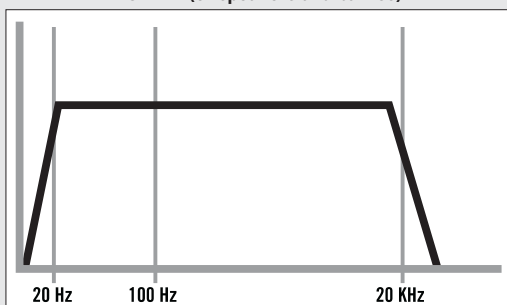
It is possible to perform the **SETUP** from the 1206 module if it is connected to a 1304.1, 1305.1, 1306.1, 1310.1, or 1311 amplifier. When the **SETUP** is being performed, the channel leds 1 and 2 blink in the 1206 keyboard. When any button of the control unit is pressed, the zone number is assigned to the amplifier. This is shown by the leds, that stop blinking.



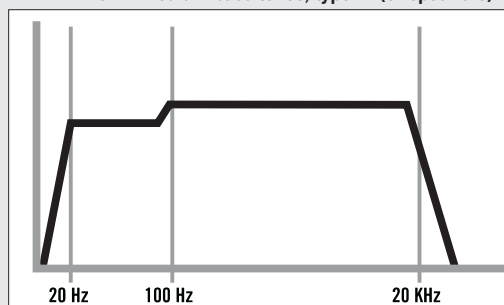
## Speaker type selection.

Depending on the speakers connected to the different areas of the installation, their equalization could be selected per zone according to the accompanying graphics. This will allow a better audition.

**NORMAL (8" speakers and baffles)**

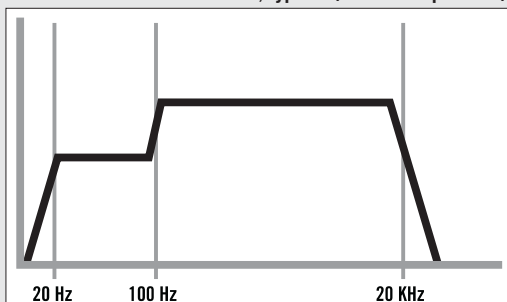


**M BAS 1 - medium bass tones, type 1- (5" speakers)**

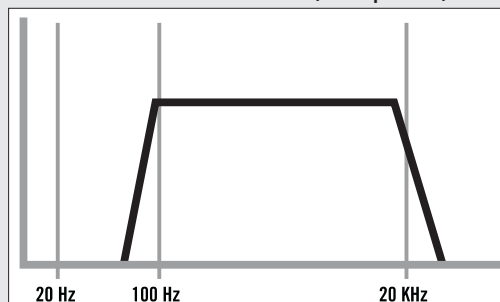


When selecting "G.M.1" in 1319 and 1320 modules, you have a flat response without loudness.

**M BAS 2 - medium bass tones, type 2- (2" and 3" speakers)**



**LOW BAS - Low bass tones - (horn speakers)**





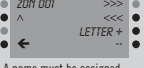

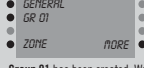
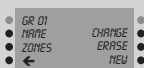
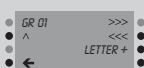
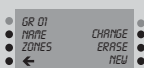
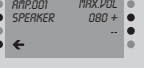
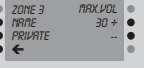
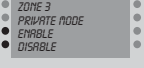
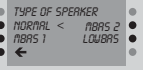
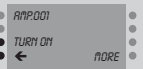
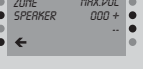
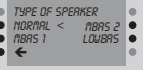




# Installation start up

## Zone and group assignment and parameter adjustment

Example of key sequence to press

Assigning zone numbers	Assigning zone names	Creating and labelling groups	Setting maxi. volume level	Setting private mode	Setting the speaker type
<p><b>▲ SETUP</b></p> <p><b>◀ ZONES</b></p> <p><b>◀ + (DISPLAY SHOWS 001)</b></p>  <p><b>◀ ZONE SET</b></p> <p>All the <b>SETUP</b> lamps in the modules blink. Go through the rooms according to the zone assignment order.</p> <p>1... </p> <p>When the <b>SETUP</b> button is pressed, the lamp stops blinking and remains on, indicating that the zone number for that device has been selected.</p> <p>...n </p> <p><b>REPEAT THE PROCEDURE IN ALL THE ZONES TO BE ASSIGNED.</b></p> <p>Then, return to the control console and press <b>HERE</b> to assign its zone number to it.</p>  <p>Number of zones that have already been assigned</p> <p><b>◀ ◀</b></p> <p>The <b>SETUP</b> lamps turn off.</p> <p><b>◀ MORE</b></p> <p><b>◀ START UP</b></p> <p><b>▶ YES</b></p>	<p><b>▶ GENERAL &lt;</b></p> <p><b>▶ ZONE</b></p> <p><b>▶ ZON 001 &lt;</b></p> <p><b>▲ ))</b></p> <p><b>▶ NAME</b></p>  <p>A name must be assigned.</p> <p><b>▶ ◀</b></p> <p>And so for each zone that we have in the system.</p>	<p><b>▶ GENERAL &lt;</b></p> <p><b>▲ ))</b></p> <p><b>◀ NEW</b></p>  <p><b>◀ GENERAL</b></p>  <p><b>◀ ZONE</b></p> <p><b>◀ MORE</b></p> <p>Group 01 has been created. We must select it to label it with a name.</p> <p><b>▲ ))</b></p>  <p>By pressing "NAME" we assign a name to the group.</p>  <p><b>▶ ◀</b></p> <p>By pressing "ZONES" we set the zones that will form the group.</p> 	<p><b>▶ GENERAL &lt;</b></p> <p><b>▶ ZONE</b></p> <p><b>▶ AMP. 001 &lt;</b></p> <p><b>▲ ))</b></p> <p><b>◀ MORE</b></p>  <p><b>Setting PA volume level</b></p> <p><b>▶ GENERAL &lt;</b></p> <p><b>▶ ZONE</b></p> <p><b>▶ ZONE 3 &lt;</b></p> <p><b>▲ ))</b></p> <p>Use Keys "+" And "-" To Adjust The Volume Level</p> 	<p><b>▶ GENERAL &lt;</b></p> <p><b>▶ ZONE</b></p> <p><b>▶ ZONE 3 &lt;</b></p> <p><b>▲ ))</b></p> <p><b>▶ PRIVATE</b></p>  <p><b>▶ ZONE</b></p> <p><b>▶ ZONE 3 &lt;</b></p> <p><b>▲ ))</b></p> <p><b>▶ SPEAKER</b></p> 	<p><b>▶ GENERAL &lt;</b></p> <p><b>▶ ZONE &lt;</b></p> <p><b>▶ AMP. 001 &lt;</b></p> <p><b>▲ ))</b></p>  <p>We Select "MORE".</p>  <p><b>▶ SPEAKER</b></p> 

Zone name	Zone Nr.	Assigned to group	Max. volume level	Max. PA vol. level	Private	Speaker type
Mr. Low	1	Sales	60	80	No	5" (M BAS 1)
Smith	2	Sales	60	80	No	5" (M BAS 1)
Clarke	3	Mkting	50	70	No	5" (M BAS 1)
Cohen	4	Mkting	55	65	No	5" (M BAS 1)
Stores	5	— (Direct)	70	80	Yes	Horn sp. (LOW BAS)
Garden	6	Common	60	70	No	Horn sp. (LOW BAS)
Bckyard	7	Common	60	70	No	Horn sp. (LOW BAS)
Corridr	8	Common	60	70	No	Horn sp. (LOW BAS)
QA Lab	9	— (Direct)	60	70	Yes	2" (M BAS 2)
Rcptn	10	— (Direct)	40	50	No	8" (NORMAL)

## TROUBLESHOOTING

SYMPTOM	POSSIBLE REASON	SOLUTION
Control console shows "Error 001".	The communication between the control console and the selected module fails (no matter if the module is placed inside or outside the audio processor).	Check the connection of wires "9" and "90" to the module (amplifier or control unit) of that zone.
Control console shows "Error 002".	Failure in the communication between the control console and the audio processor or one of its audio modules (programs 1 to 4).	Check the connection of wires "9" and "90" in the audio processor.
Control console shows "Error 003".	Failure in the digital communication with the pre-recorded message player 1103.	Check the connection of module 1103 in the audio processor.
Control console shows "Error 004".	Failure in the digital communication with the module for telephone messages 1104.	Check the connection of module 1104 in the audio processor.
Control console shows "Error 005".	Sporadic failure in the digital communication.	If not permanent, maintenance is not necessary.
Control console shows "Error 006".	1302 Hardware error.	Replace the 1302 by a new one.
Control console shows "Error 007".	1302 Hardware error.	Replace the 1302 by a new one.
Control console shows "Error 008".	1302 Hardware error.	Replace the 1302 by a new one.



### Public address automatic message scheduling

**Example of key sequence to press**

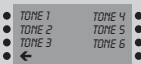
Message	Target zone / group	Activation time	Repeats	Interval	Volume	Private	Event
Closing time	General	19:45	5	3'	75	No	
Welcome	Lobby		0	0'	65	No	Presence Detector
Promotion	Coffee Shop	09:00	12	10'	70	No	

### ***Enabling general access password and telephone PA password***

### Selecting chime tones

**▲ SETUP**

**▶ BELL**

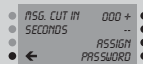


We can select the **TONE** type.


### Assigning a telephone number to a zone or group

**▲ SETUP**

**◀ T-PHONE**



**▲ ASSIGN**



Pressing **ZONE** we will change to **GROUP**.  
 Using «**000+**» and «**←**», we can select the zone or group number.  
 Using «**+0000**» and «**←**», we can select the number assigned to that zone or group.  
 Once the number is selected, we must press **ASSIGN**.

### Bell tone

Reception	Tone 1
Management	Tone 2
Phone operator	Tone 3



# Intercom unit | 1208



## 1208.10 2-Zone multipurpose intercom unit. White

- 2-Zone multipurpose intercom unit with independent volume regulation for each zone.
- Voice driven by internal or external microphone.
- Several units can be connected in parallel.

## 1208.12 2-Zone multipurpose intercom unit. Black

- Same features that the 1208.10 in black.

## Schematics

### 1 Push button to select zone 1

By pressing this push button a call will be made to zone 1. It is possible to talk to zone 1 as long as we keep on pressing the button.

### 2 Push button to select zone 2

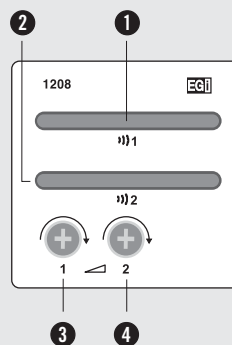
By pressing this push button a call will be made to zone 2. It is possible to talk to zone 2 as long as we keep on pressing the button.

### 3 Volume regulator zone 1

By turning this screw clockwise we will raise the volume level of the message broadcast in zone 1.

### 4 Volume regulator zone 2

By turning this screw clockwise we will raise the volume level of the message broadcast in zone 2.



2 Power supply input 15 V<sub>DC</sub>

4 Ground terminals

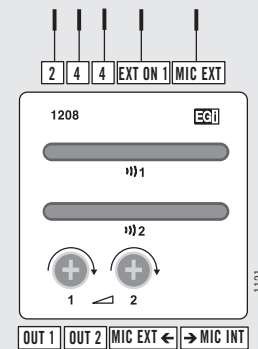
OUT 1 Outputs to a PIN input

OUT 2

EXT ON 1 Zone 1 remote ON (15 V<sub>DC</sub>)

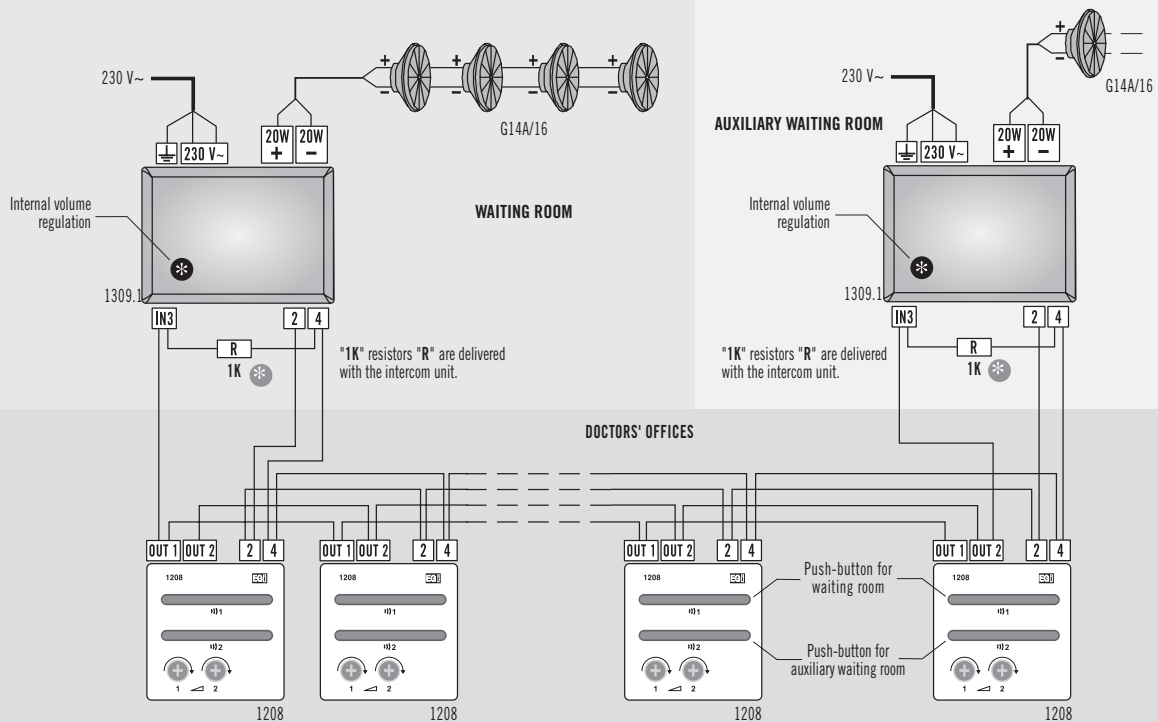
MIC EXT External microphone input (only electret-type)

MIC EXT ← Internal/external microphone selection jumper



⚠ **WARNING:** Do not forget to connect the resistor (supplied with the intercom unit) between the "PIN" or the "IN" input of the amplifier and the ground terminal.

## Connection of 4 intercom units to send messages to 2 different areas



### TECHNICAL SPECIFICATIONS

### 1208

Continuous power supply 15 V<sub>DC</sub> by general line

Push button input 0 V<sub>DC</sub> • 15 V<sub>DC</sub> external

Current consumption (@ max. power) 200 mA



# Hotel rooms control unit with 2 message zones

1209



## 1209.10 Hotel rooms control unit with 2 message zones. White

- Control unit 1+1 W mono. It can drive 2 zones (for bedroom + toilet). Zone #1 broadcasts only messages and zone #2 broadcasts TV audio + messages.
- ON/OFF push-button.
- Digital volume adjustment.
- Audio input with 2 sensitivity levels.
- Message override activation input.
- **MILLENNIUM 1307.1** power supply.

## 1209.12 Hotel rooms control unit with 2 message zones. Black

- Same features that the **1209.10** in black.

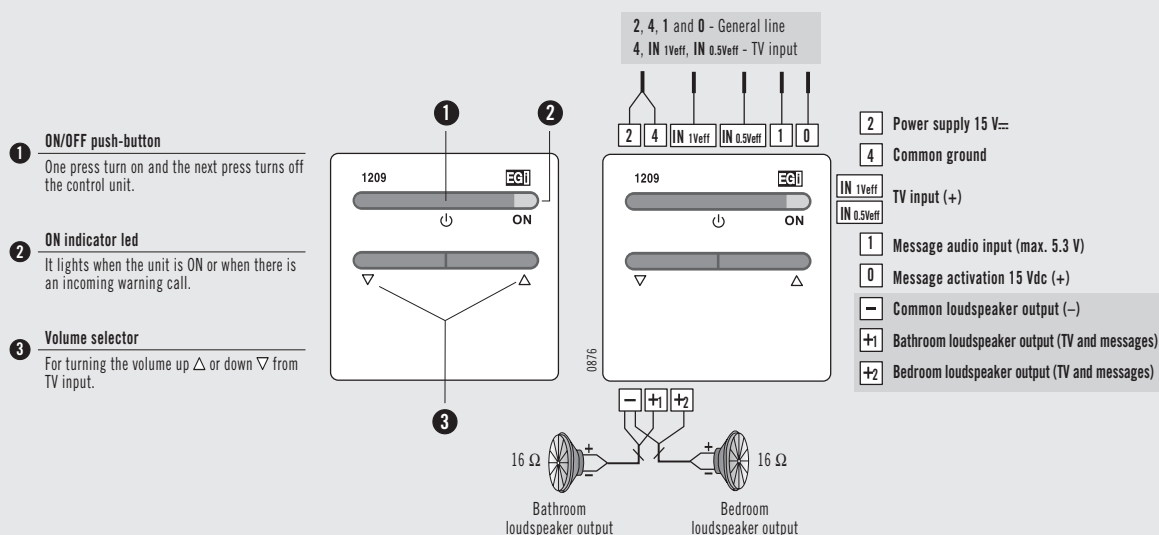
### Functions

- Amplifies and regulates scart signal from a TV receiver and plays it in the bathroom (while TV audio is listened in the bedroom through TV speakers).
- In case of a message (emergency), the call will be listened both in the bedroom and in the bathroom loudspeakers.

### Installation accessories

- **Power supply:** 1307.1.
- **Loudspeaker:** any EGi loudspeaker with 16  $\Omega$  impedance minimum.
- **Message generator:** any compatible module available in the market.

## Schematics

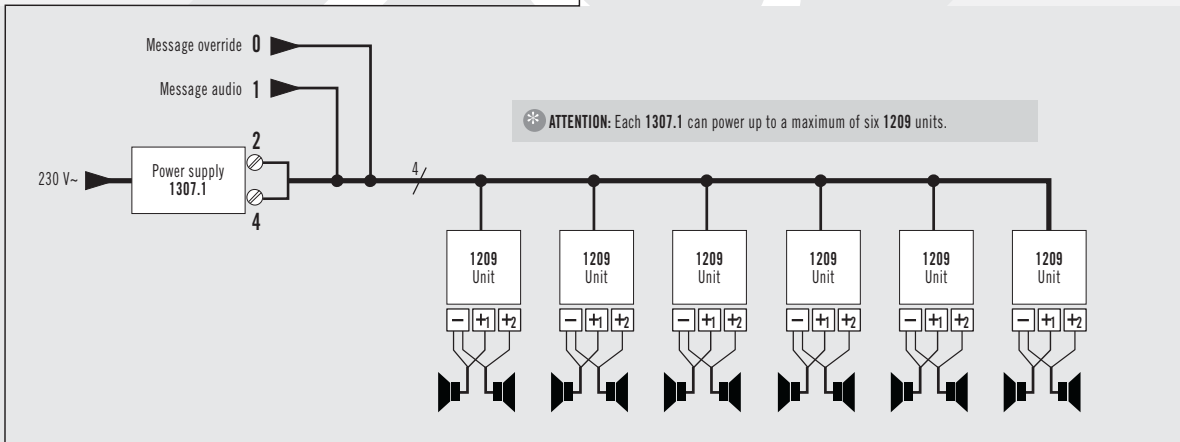


### TECHNICAL SPECIFICATIONS

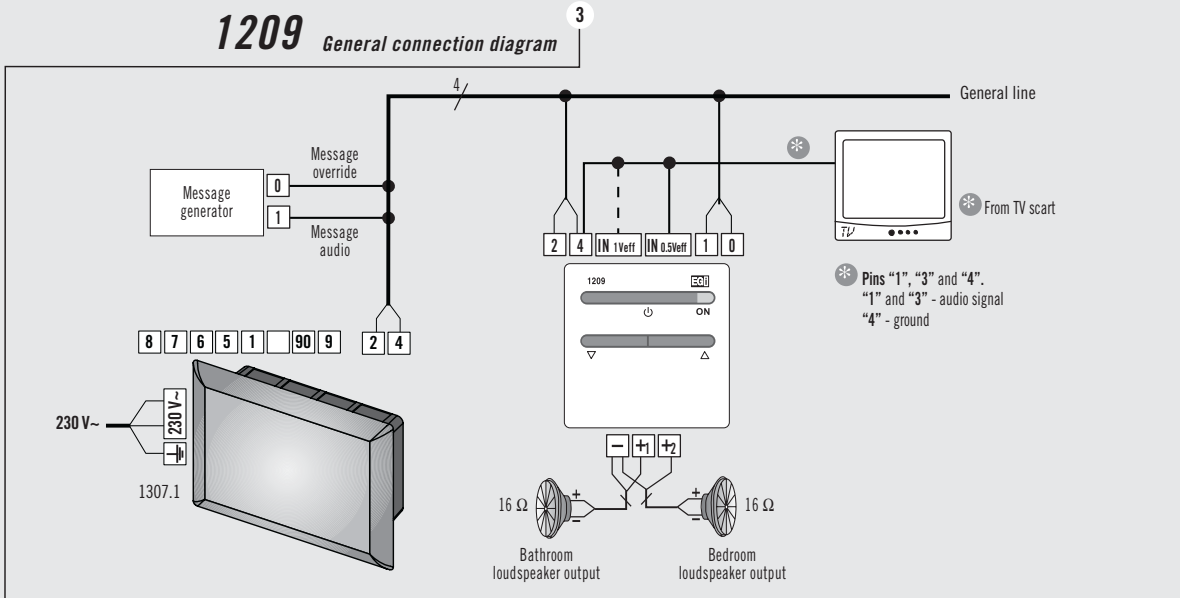
	1209
Power supply	15 V $\approx$ from general line
Max. current consumption	max. 210 mA
Audio output	3 VRMS
Input impedance "1"	13 K $\Omega$
Input "IN 1Veff"	1 V / 40 K $\Omega$
Input "IN 0.5Veff"	0.5 V / 25 K $\Omega$ (scart)
Warning activation "0"	15 V $\approx$
Audio warning	5.3 V max.
Loudspeaker output max. power	1+1 W; 16 $\Omega$



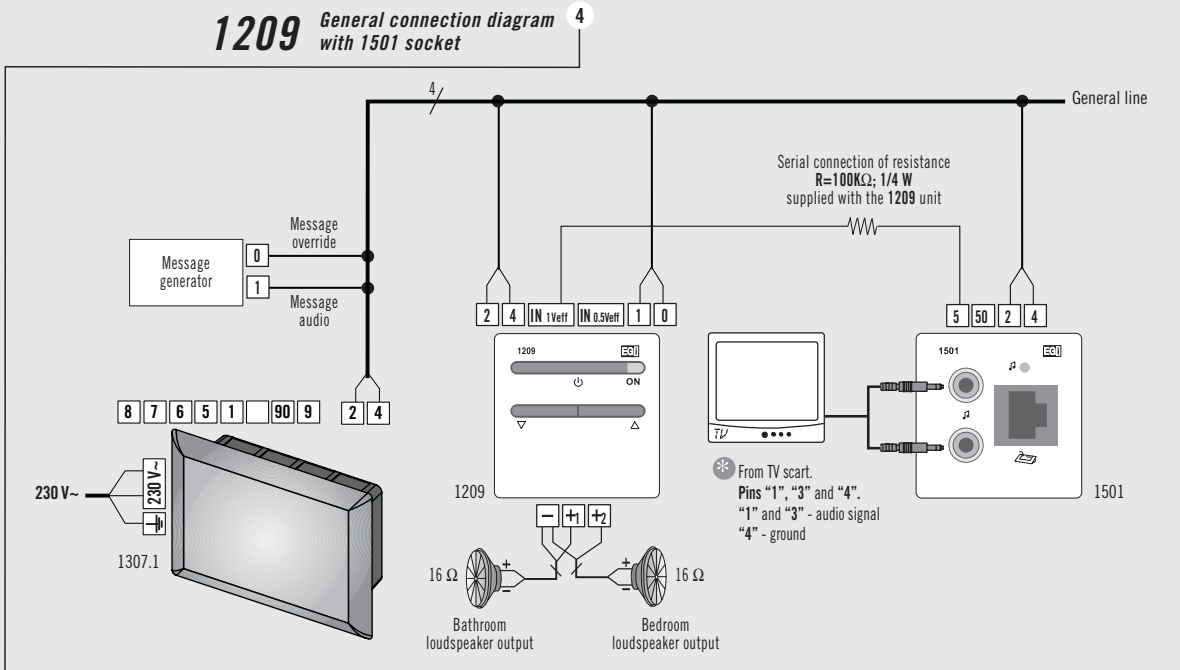
## 1209 Connection diagram in hotels with non-Millennium paging systems



## 1209 General connection diagram



## 1209 General connection diagram with 1501 socket

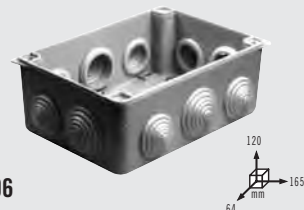




## Covers and fitting boxes



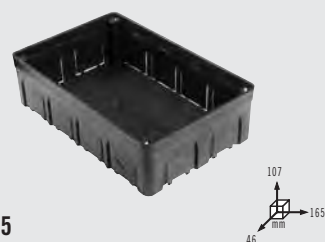
1701



1706



1702



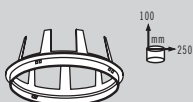
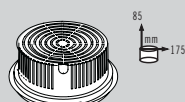
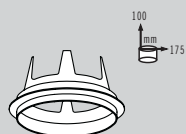
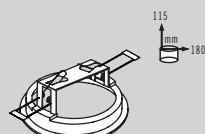
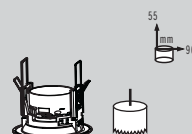
1705

## Applications

Box Use with modules  
Ref. **MILLENNIUM** **MILLENNIUM**

1701 1702	1301.x
1705 1706	1307.x 1308.x 1309.x 1310.x

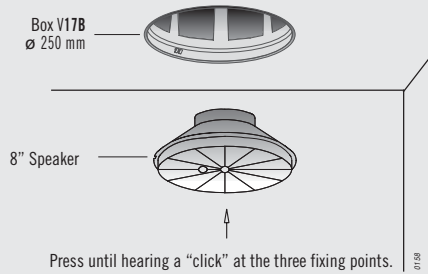
## Covers and flush mounting boxes for speakers

V18B (8" cover)  
diameter 265 mmV21A (5" cover)  
diameter 185 mmV17B Open flush mounting box  
for 8" speakerV29A Closed flush mounting box  
for 5" speakerV22E Flush mounting frame  
for baffle 622E/4V19A Open flush mounting box  
for 5" speakerH28N Ring with springs for easy  
installation of 5" speakers in drop ceilings  
• Hole:  $\varnothing$  160 mm2" Ceiling speaker  
• Hole:  $\varnothing$  73 mm

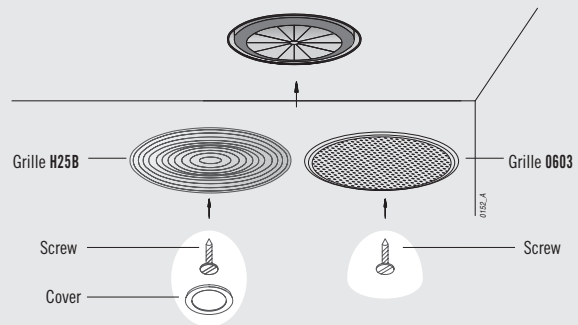


# 8" speaker mounting

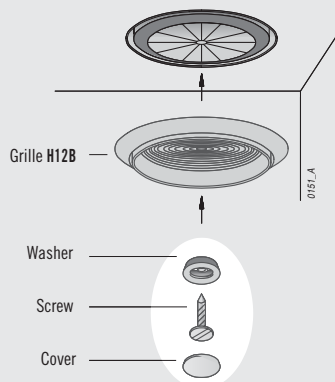
## 8" speaker in V17B flush mounting box



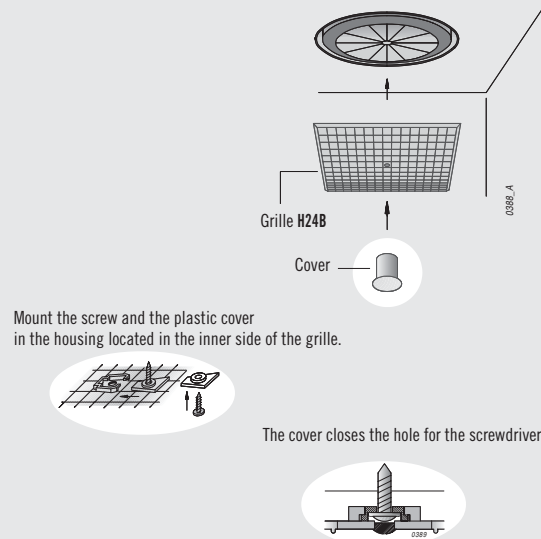
## Placement of the H25B and 0603 grilles



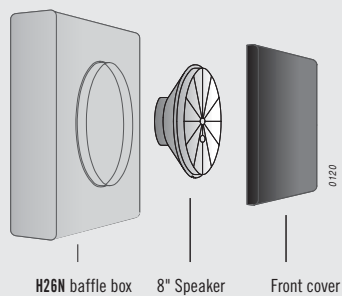
## Placement of the H12B grille



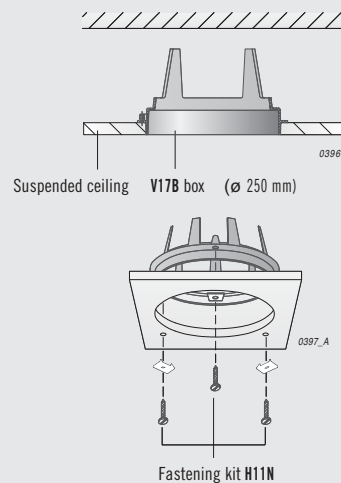
## Placement of the H24B grille



## 8" speakers in H26N baffle box



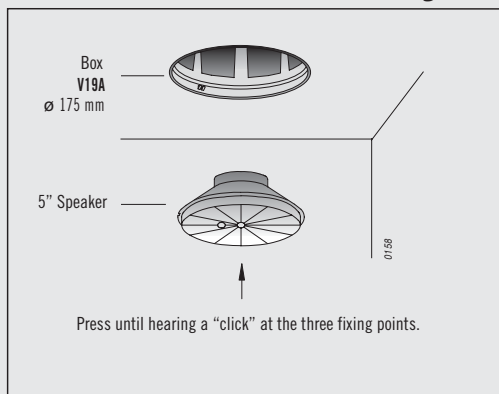
## 8" flush mounting box with H11N kit in suspended ceilings



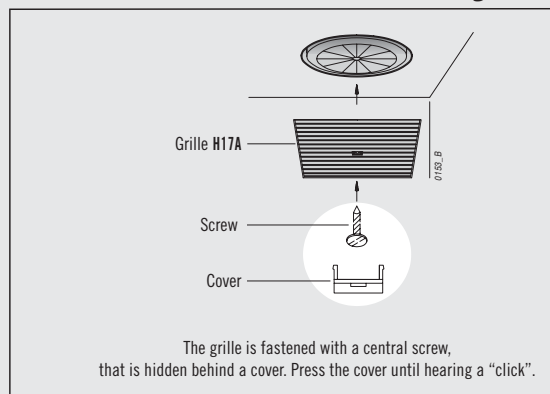


# 5" speaker mounting

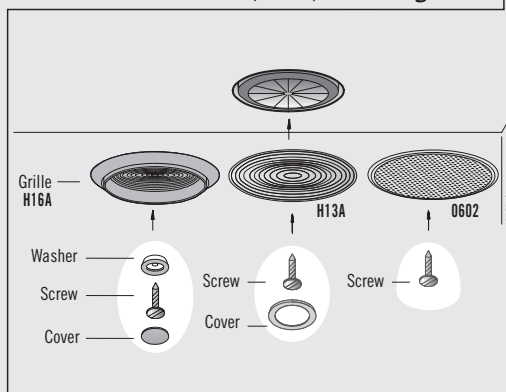
## In V19A flush mounting box



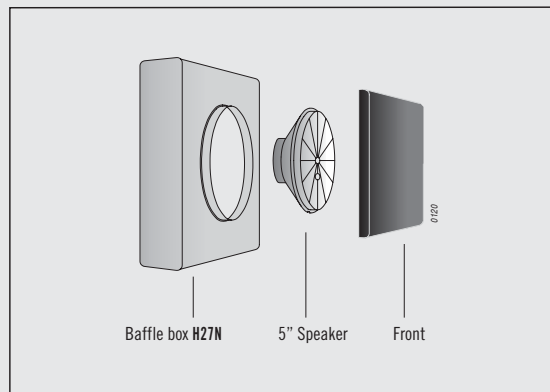
## Placement of the H17A grille



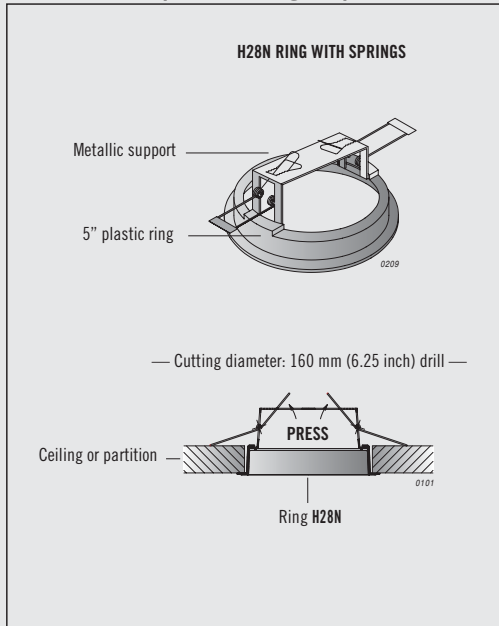
## H16A, H13A, and Ø602 grilles



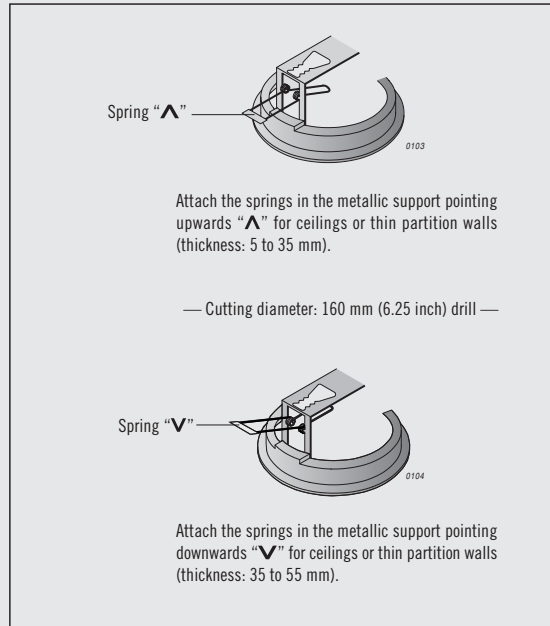
## In H27N baffle box



## For flush mounting without mason works in suspended ceilings or partition walls

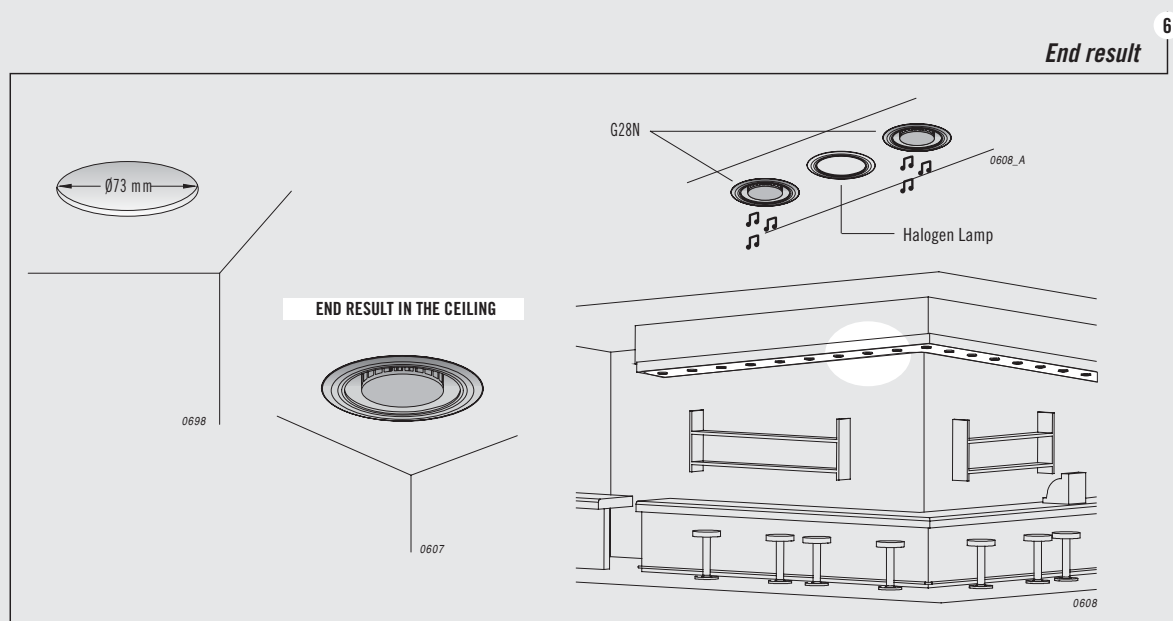
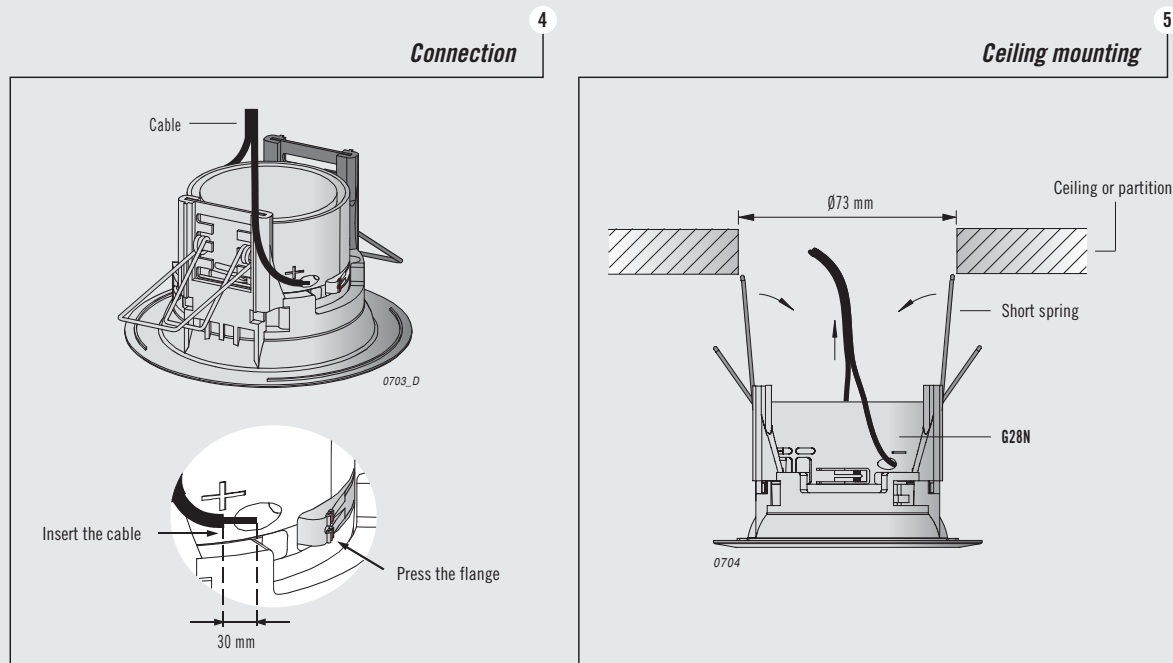
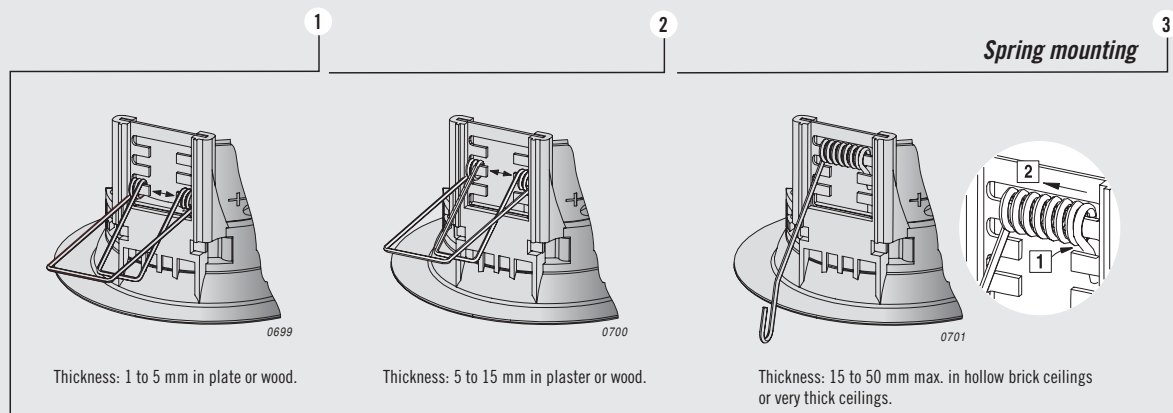


## Spring mounting according to the ceiling width





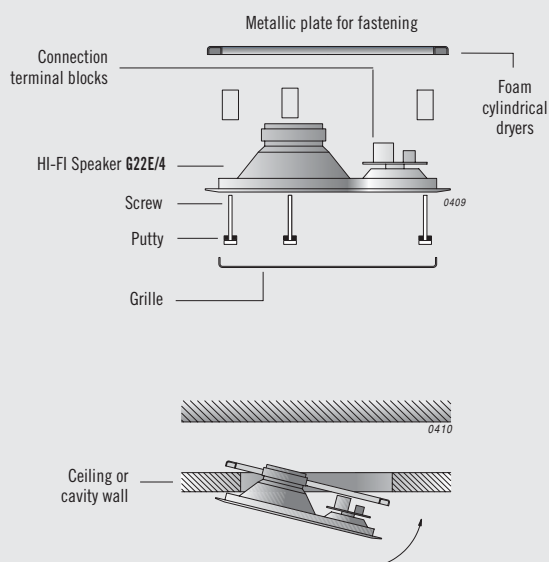
# 2" speaker mounting





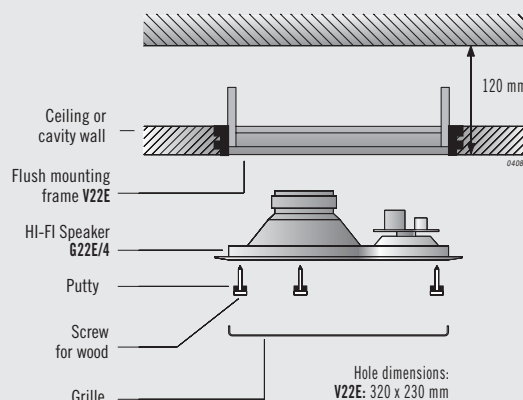
# Baffles mounting

## 1 G22E/4 baffle in ceiling or cavity wall



NOTE: Use the cardboard template to mark the mounting hole.

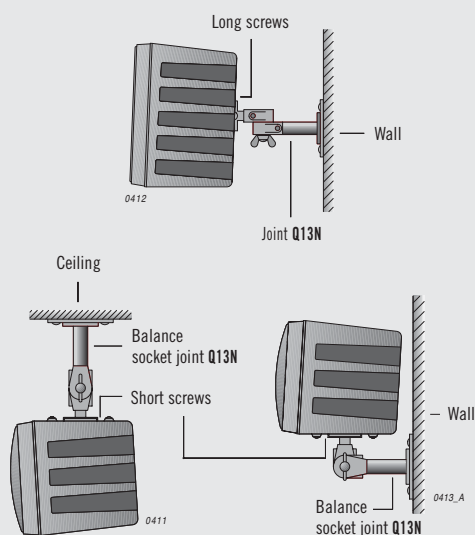
## 2 Fastening in V22E flush mounting frame



### ADVICE:

- 1.° Disassemble the grille (it is easy if a screw is inserted in the inner side of the support holes).
- 2.° Put the putty, from the pieces of paper in the accompanying bag, in the screws thread, right under the heads.
- 3.° Notice the fastening position in the V22E frame.

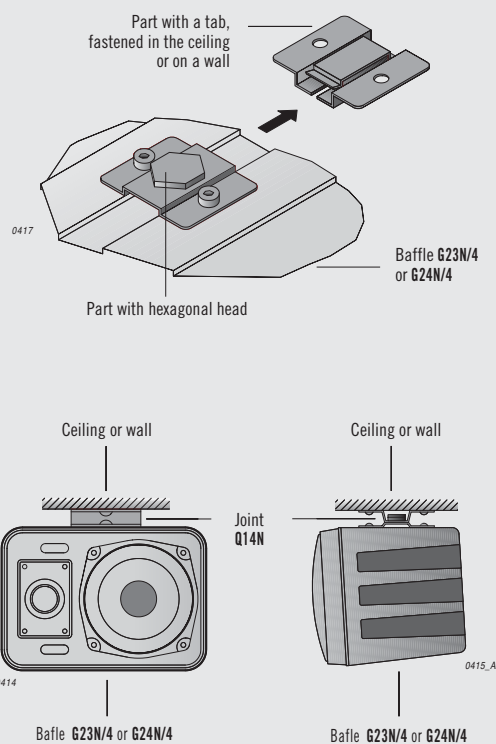
## 3 Fastenings of G23N/4 baffle in the Q13N balance socket joint



### ADVICE:

- 1.° Disassemble the wing nut that joins both pieces of the Q13N balance socket joint.
- 2.° Fasten the balance socket joint longest arm in the ceiling or on the wall at the desired height.
- 3.° Fasten the balance socket joint shortest arm to the baffle (also notice the orientation).
- 4.° Place the wing nut, position the baffle and, if needed, turn the balance socket joint using the big spanner.
- 5.° If there is need to unfasten the baffle from the balance socket joint, use the small spanner.

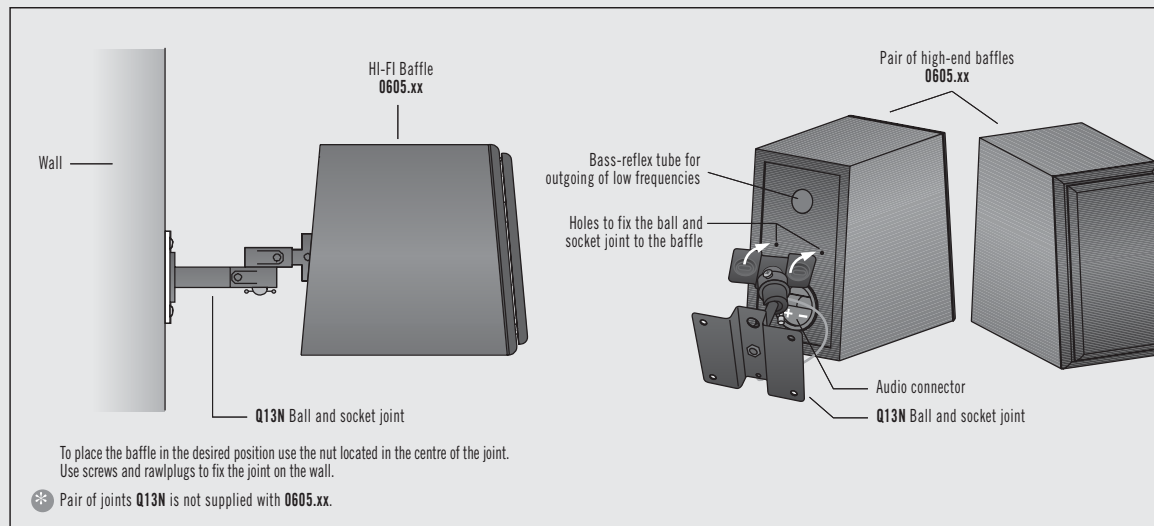
## 4 Fastenings of G23N/4 baffle in the Q14N joint



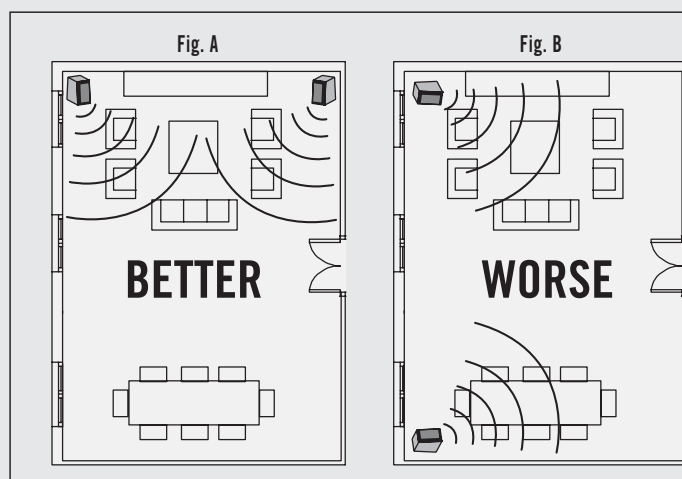


# Pair of high-end quality wooden baffles | 0605.xx

## Wall assembly with ball and socket joint Q13N



## Advice for assembly and positioning

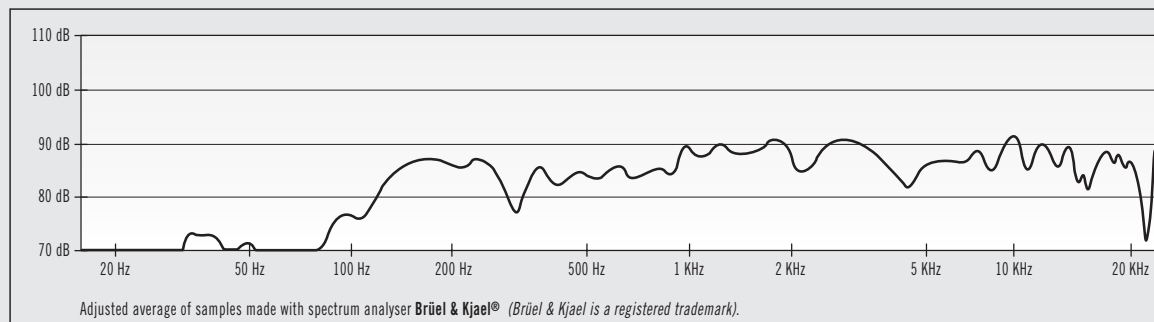


Besides the assembly with ball and socket joints on the wall, these baffles can be placed on top of book shelves, floor stands or any kind of furniture.

For an even better performance in all the audible range of frequencies (mainly in bass tones), there are a few basic positioning norms:

- When connecting pairs of baffles 0605, the polarity of the baffles must be strictly respected.
- It is recommendable to place the baffles along the shorter wall of a rectangular room (whenever it is possible). See fig. A.
- Try to focus the rear bass reflex outlet towards the wall and at a distance of 20-30 cm, preferably close to a corner.
- The distance between the two baffles can be anyone, but the sound performance and the stereo perception will be improved as long as the baffles are closer, always respecting a minimum distance of 1 m.
- We recommend to focus the baffles towards the ear level.

## Frequency response curve



TECHNICAL SPECIFICATIONS	0605.04	0605.16
Nr. of ways	2	2
Speaker size	3" and 1"	3" and 1"
Frequency response (+/- 6dB)	90 Hz - 20 KHz	90 Hz - 20 KHz
Power	10 W <sub>RMS</sub>	10 W <sub>RMS</sub>
Max. peak power	30 W	30 W
Sound pressure level (@ 1 W, 1 m)	84.2 dB	84.2 dB

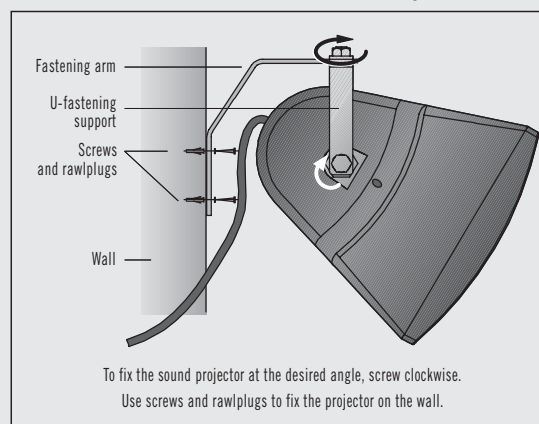
TECHNICAL SPECIFICATIONS	0605.04	0605.16
Impedance	4 Ω	16 Ω
Cabinet type	Bass reflex	Bass reflex
Colour	Cherry tree	Cherry tree
Dimensions (mm)	210 x 120 x 220	210 x 120 x 220
Weight (Kg)	1.86	1.86

\* If connected to 30-50 W HI-FI systems, use the pair of baffles 0605.16 for a higher protection of the amplifier.

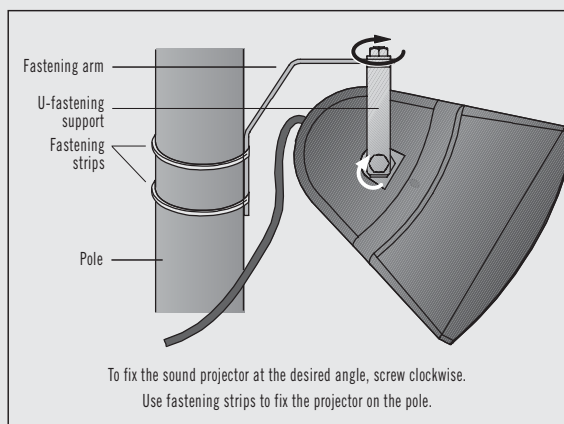


# Modular sound projector | 0604.xx

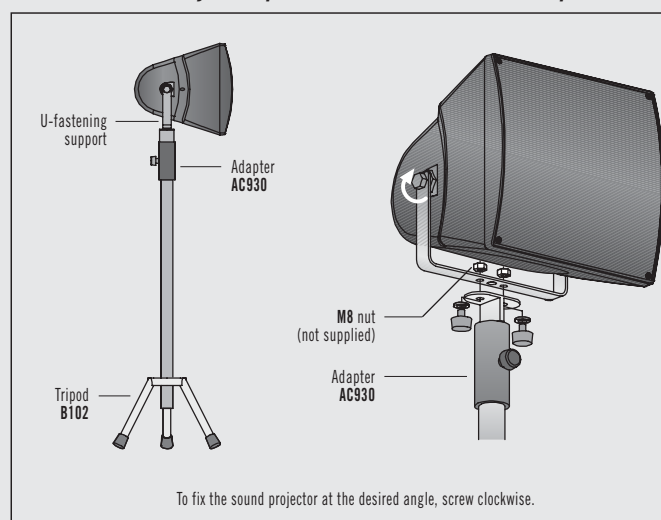
## Assembly on a wall <sup>1</sup>



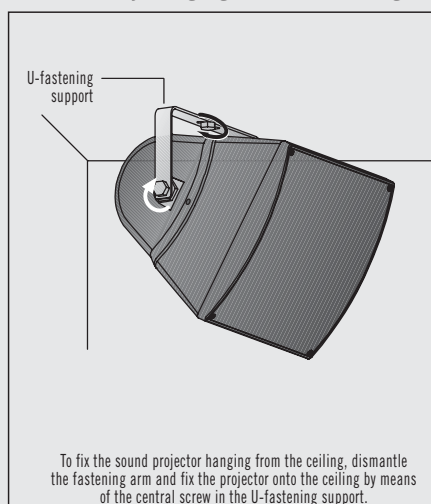
## Assembly in a pole <sup>2</sup>



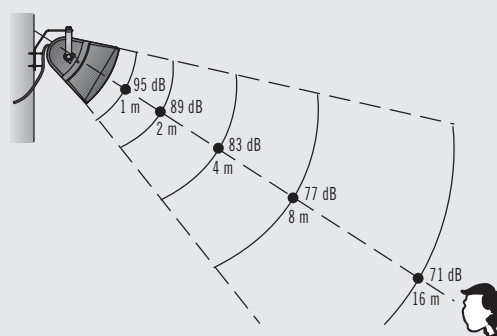
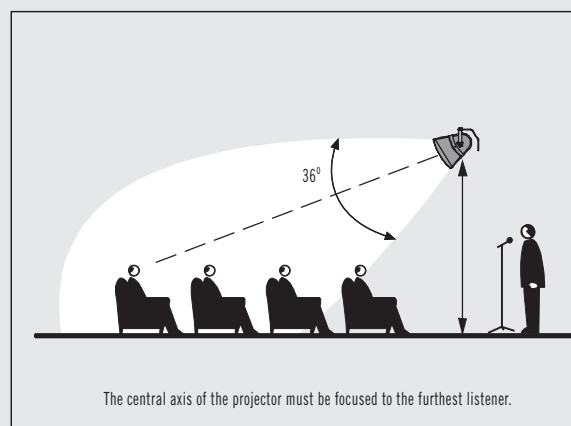
## Assembly in tripod ref. PASO B102 with adapter AC930 <sup>3</sup>



## Assembly hanging from the ceiling <sup>4</sup>



## Acoustic considerations <sup>5</sup>



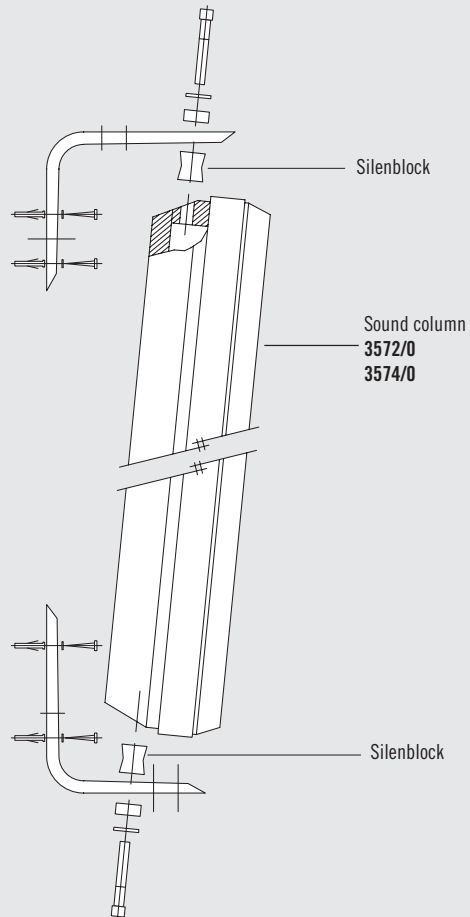
TECHNICAL SPECIFICATIONS	0604.01	0604.02	0604.03
Loudspeaker size	6.5"	6.5"	6.5"
Power	20 W	20 W	20 W (red); 10 W (blue); 5 W (white); 0 W (black)
Impedance	4 Ω	16 Ω	100 V: 500 Ω; 1000 Ω; 2000 Ω
Frequency response	128 Hz; 12.8 KHz	128 Hz; 12.8 KHz	128 Hz; 12.8 KHz
Sensitivity (@1 W / 1 m)	95 dB	95 dB	95 dB

TECHNICAL SPECIFICATIONS	0604.01	0604.02	0604.03
Protection rating	IP54	IP54	IP54
Covering angle	36 °	36 °	36 °
Colour	black	black	black
Dimensions (mm)	240 x 240 x 300	240 x 240 x 300	240 x 240 x 300
Weight (Kg)	3.4	3.4	4



# Sound columns and horn speakers mounting

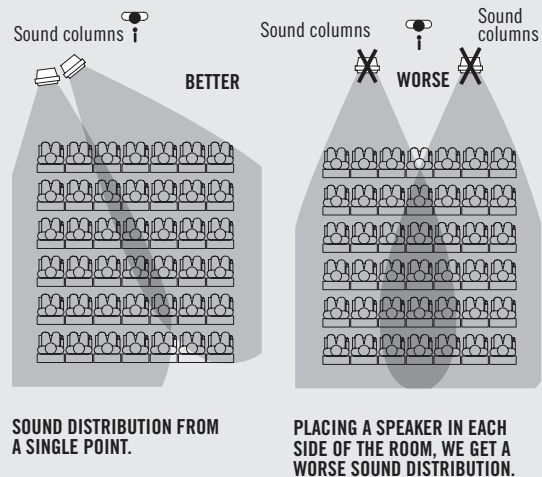
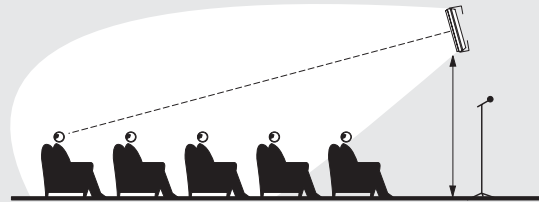
## 1 Sound column mounting in walls



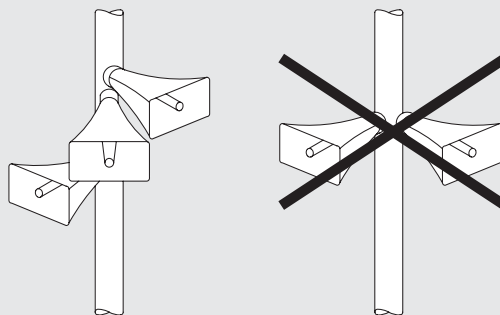
**NOTE:** All these accessories form the **K3870** reference.

## 2 Sound distribution with columns for meeting halls

The column axis pointing to the furthest listener.



## 3 Horn speakers



To widen the horizontal covering angle of the horn speakers, stack them over the vertical of their acoustic center and position them in a way that each of them covers a part of the desired horizontal angle.

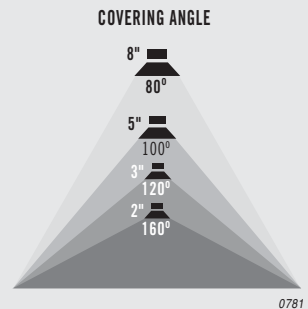


## Speakers deployment in the ceiling

The correct deployment of the speakers in the ceiling is very important to achieve a consistent sound level in all the area. This is a prime factor in the understandability of the PA messages and in the quality of the background music.

### BASIC RULES FOR CHOOSING CEILING SPEAKERS (and attaining good message understandability):

- A big speaker concentrates the sound in a narrower but more intense focus than a smaller one.**  
In the same way that some lamps concentrate the light beam in a narrow but intense angle and others illuminate in a wide but more uniform angle, speakers have a different "covering angle", depending on their size.
- The bigger the size, the greater the acoustic performance for a speaker, that is, more sound with the same amplifier power.**  
The 8" speakers compensate with their high performance the bigger distance to the listener when they are located in high ceilings. This is the reason why we advise 8" speakers for high ceilings and 5" ones for mid and low ceilings. The 3" should only be used in rooms with small ceiling height AND very little ambient noise.
- The 5" EGi speakers offer a trade off between good performance and wide covering.**  
With a exceptional performance for its size (92 dB @ 1 W), and a wide covering angle (100°), the 5" speaker is the right solution for providing sound from the ceiling when it is not very high and there is not a high level of noise.

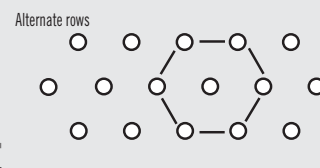
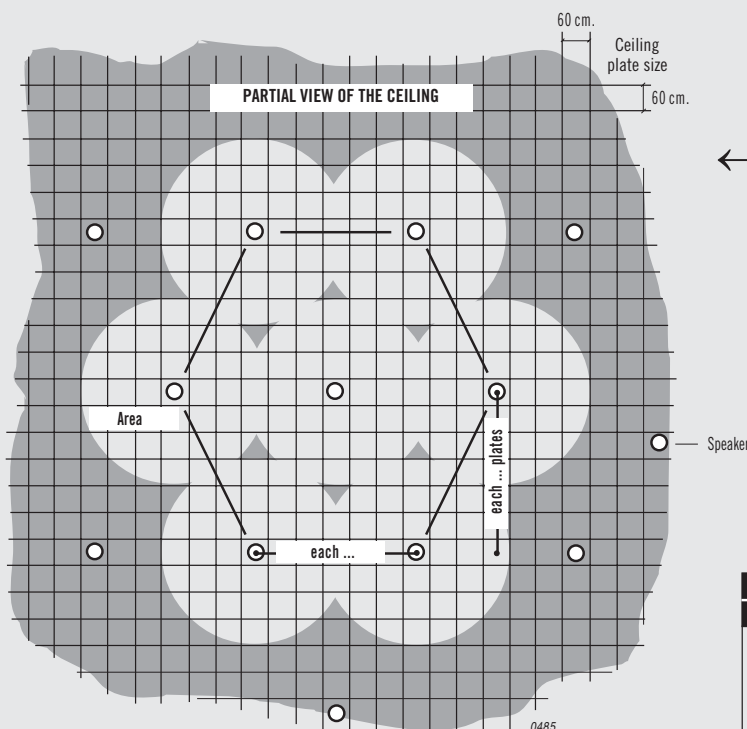


SURFACE COVERED BY A SPEAKER			
HEIGHT	NOISE LEVEL		
	LOW	MEDIUM	HIGH
> 4 meters	If it is possible, hang the speakers to lower them to 14 feet (approx. 4 m)		
4 meters	5" : 35 m <sup>2</sup>	8" : 18 m <sup>2</sup>	8" : 18 m <sup>2</sup>
3,5 meters	5" : 24 m <sup>2</sup>	5" : 24 m <sup>2</sup>	8" : 12 m <sup>2</sup>
3 meters	3" : 30 m <sup>2</sup>	5" : 16 m <sup>2</sup>	5" : 16 m <sup>2</sup>
2,5 meters	2" : 10 m <sup>2</sup> 2" : 10 m <sup>2</sup> 2" : 10 m <sup>2</sup>	3" : 16 m <sup>2</sup> 5" : 8 m <sup>2</sup>	5" : 8 m <sup>2</sup> 8" : 4 m <sup>2</sup>

NOISE LEVEL		
LOW	MEDIUM	HIGH
Office	Youth shop	Bus or railroad station
Bank branch office	Bar	Public areas
Shop	Restaurant	Hall
Travel agency	Bingo	Gaming parlour
Luxury restaurant	Gym	Music bar
Doctor's surgery	Store	

Advisory rating. For special cases, please contact EGi.

### EXAMPLE OF 5" SPEAKERS LAYOUT IN 2 x 2 ft PLATES CEILING.



### RECOMMENDED FLUSH MOUNTED SPEAKERS DEPLOYMENT IN A PREMISES CEILING

PLACE A SPEAKER EACH... PLATES				
HEIGHT SPEAKER / FLOOR	SPEAKER			
	8"	5"	3"	2"
3,5 meters	7 plates	9 plates	NO	NO
3 meters	5 plates	7 plates	10 plates	NO
2,5 meters	4 plates	5 plates	7 plates	6 plates

EGi SPEAKER FEATURES			
8"	5"	3"	2"
Performance: 94 dB @ 1 W	Performance: 92 dB @ 1 W	Performance: 86 dB @ 1 W	Performance: 83 dB @ 1 W
Covering angle: 80°	Covering angle: 100°	Covering angle: 120°	Covering angle: 160°

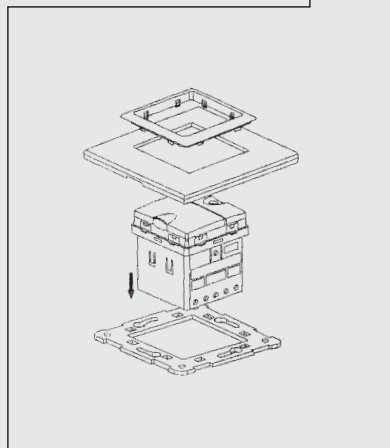


# Module assembly | Accessories

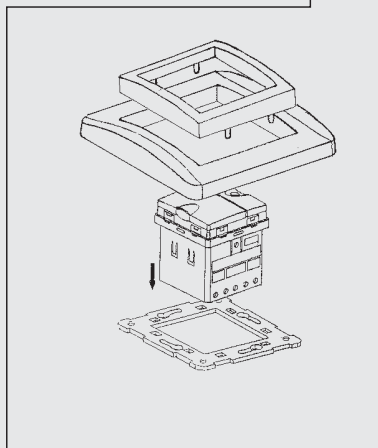
*Adapting EGi modules to the electrical switchgear of other manufacturers*

1

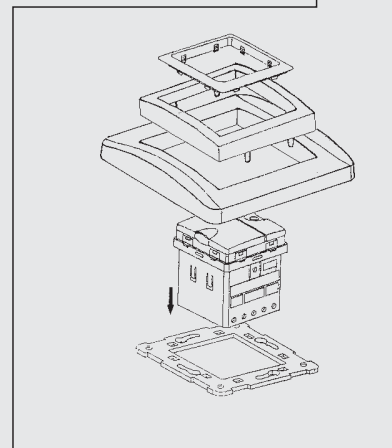
**Mode A**



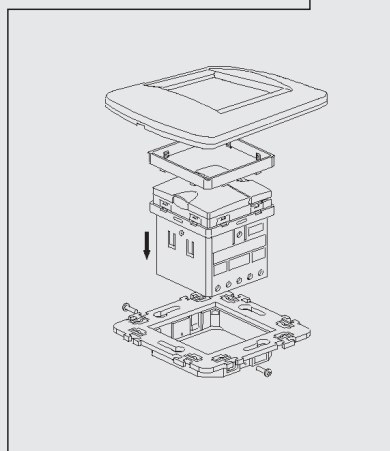
**Mode B**



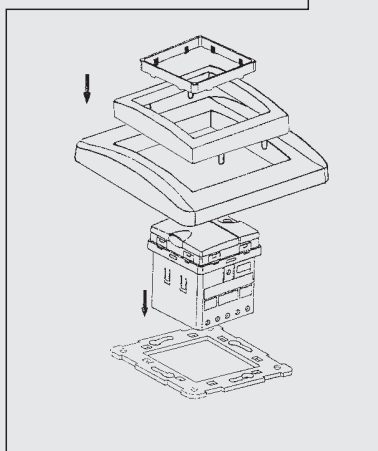
**Mode C**



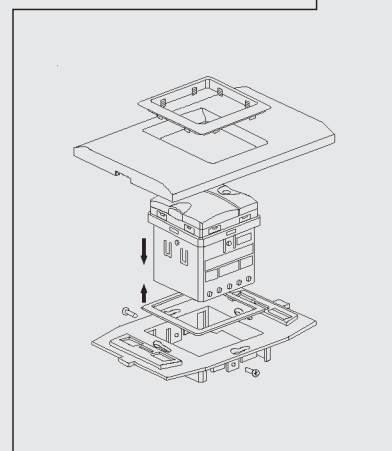
**Mode D**



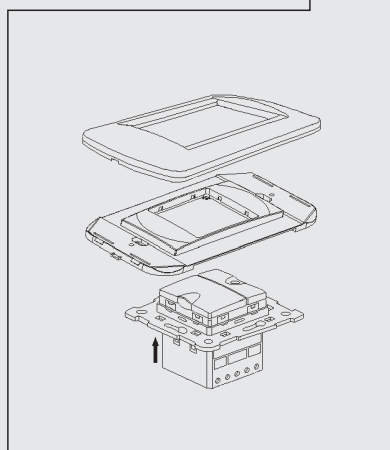
**Mode E**



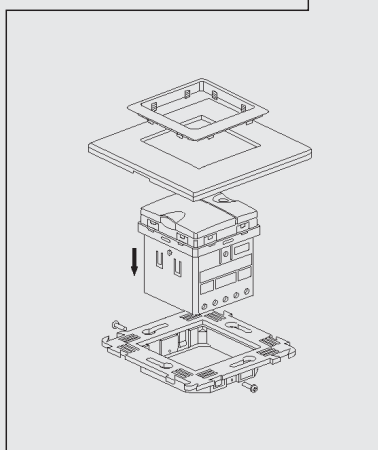
**Mode F**



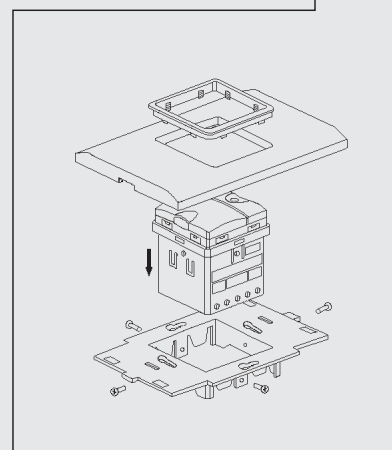
**Mode G**



**Mode H**



**Mode I**



✱ For more information about the adaptation to electrical switchgear from other brands, please see our General Catalogue.



D I S T R I B U T O R



Electroacústica  
General  
Ibérica, S.A.

Avda. de la Almozara, 79  
Tel. 976 40 53 53  
Fax 976 40 53 54  
50003 ZARAGOZA - Spain  
e-mail: [info@egiaudio.com](mailto:info@egiaudio.com)  
<http://www.egiaudio.com>



**COFME**

CONSORCIO DE FABRICANTES DE MATERIAL ELECTRICO, S.A.



# Verification of the digital line in a Millennium installation

## *How to isolate a malfunction in the installation by following the schematics:*

### *Diagram nr. 1*

The first thing that must be done is to check the voltage levels of the general line at the **1316** module, and to follow the flow chart at **diagram nr. 1-A** (if any of the voltages was not correct).

If the voltage levels are correct, but there is any malfunction when doing the zone setup, then the flow chart at **diagram nr. 1-B** must be followed, and the malfunction will be located.

### *Diagram nr. 2*

The example at **diagram nr. 2** explains how to locate a malfunction in the installation by gradually excluding alternative options, what should be usual for electrical installers.

The first step will be to disconnect the wires “9” and “90” at the general line in every floor of the building except for the ground floor (provided that the audio processor is located at that floor). Then we will go to the control console and press “**SETUP**” → “**ZONE**”, select “**001**” and then press “**ZONE SET**”. This way, the system can assign a zone number to every digital module installed in the ground floor. If the process came out well without any incidence, we would proceed to connect the part of the general line corresponding to the second floor (**point #2**) and assign a zone number to the digital modules installed on it. We must follow this procedure gradually floor by floor until we discover which line is generating the malfunction in the digital line.

As soon as we discover in which floor is the part of the line that is generating the malfunction, we will have to disconnect the wires “9” and “90” at all the different junctions of that floor (**points #5, #6, #7 and #8** in our diagram) except for one (**point #5** in our example), and then to proceed with the zone set-up again. We will repeat this procedure, connecting more and more junctions of the line until we discover the specific part that is generating the trouble.

**NOTE:** Please, remember that it is not necessary to start from “**Zone 001**” each time that we have to assign a zone number to a new module in the system (provided that there were already other modules present with their zone number assigned). For instance, if there are 20 assigned zones and we need to add zone number to three new amplifiers, we would press “**SETUP**” → “**ZONE**” in the control console, select “**021**” and then press “**ZONE SET**” and assign their corresponding number to the three new amplifiers without the need to repeat the set-up of the currently installed modules.



**Diagram 1-A**

First we will check the voltage levels in the general line.



Between wires "4" and "5": 7V... (program #1).

Between wires "4" and "6": 7V... (program #2).

Between wires "4" and "7": 7V... (program #3).

Between wires "4" and "8": 7V... (program #4).

Verify these voltages only when there are any modules 1101.1 and 1102.1 installed.

Between wires "4" and "2": 15V...

Between wires "4" and "9": From 4 to 15V...

Between wires "4" and "90": From 0 to 5V...



To guess where is the failure located, we will gradually disconnect the wires that correspond to the function that does not work correctly (with the general line connected to CPU 1316) in different parts of the line, until we isolate the section where there's the wrong cable or module.



De-centralised part of the system (those modules that are placed outside the rack 1707).



If any of the voltage levels is not correct, we will divide the installation into two parts:



Centralised part of the system (those modules directly mounted in the rack 1707).



See **diagram #2** where an example shows how to isolate a malfunction in the wires "9" and "90", that could be applied to any other malfunction in any other wire.

If the voltage levels are correct, then the problem is originated in the de-centralised part of the installation.



Disconnecting first the general line from the CPU 1316 (15-pin terminal strip) and with the control console connected directly into the audio processor, we will measure the voltage levels again.



The voltage levels are not correct.



We will disconnect all the modules installed in the rack, leaving only 1315, 1316 and 1202. Then we will measure again.



If the voltage levels are still wrong, the most possible reasons are the following:



- If there are more than 15 Vdc between wires "4" and "2", the 1315 is faulty.
- If there are 3V between wires "4" and "9", then the 1316 is faulty.
- Remember that, as there is not any other module connected, there must be no voltage at wires "5", "6", "7" or "8".

If the new levels are correct, we will connect the rack modules one by one and measure the voltage levels until we discover which is the module that is generating the problem.





## Diagram 1-B

If the voltage levels described in diagram 1-A are correct, but the different modules do not work correctly during the setup process, we will have to test the digital line of the system.



We will start a setup procedure and will look at the condition of the setup LED indicators of the different modules, that can show one of the following symptoms:

- The setup LED indicators do not blink.
- The setup LED indicators blink very fast.
- The setup LED indicators remain permanently on after we press the setup button, but the zone number does not change in the display of the control console.
- When we remove the 230V~ voltage from the modules their corresponding zones do not appear anymore in the display of the control console.



Centralised installation: Only those modules directly installed in the rack 1707.



We will disconnect the general line from the CPU 1316 (15-pin terminal strip) and with the control console connected we will do a zone setup, verifying the correct operation of the modules.



If the modules work correctly, the origin of the malfunction is located in the de-centralised part of the installation.



If the modules do not work correctly, we will disconnect the rear flat cable of all the modules, leaving only interconnected the control console 1202, the CPU 1316 and the power supply unit 1315.



We will check the system by dividing it into two parts:



De-centralised installation: Only those modules installed outside the rack 1707.



After verifying that the centralised modules work correctly, we will disconnect the wires “9” and “90” of the different branch lines of the installation. First we will leave only one branch line connected. Then we will press “SETUP” → “ZONES” and assign a zone number to each device in the line. If this works well, we will continue adding more and more branch lines until we discover which one is causing the problems in the line (see diagram 2).

We will check the software versions in the control console (by pressing “SETUP” → “MORE” → “SOFTWARE VERSION”). If it does not appear an error in the display of the control console, the basic modules are OK, and then we will gradually add the rest of the centralised modules –one by one– and will try to assign them a zone number until we discover which is the one that is affecting the digital line.



Diagram N-2

