

While thanking you for having chosen a PASO product, we would like to remind you that our company works according to a certified Quality System. This means that all our products are checked during every phase of manufacturing in order to ensure that you will be fully satisfied with your purchase. In any case, the guarantee will cover any manufacturing flaws during the guarantee period. We recommend that you read the following instructions for use and follow them carefully in order to exploit in full the performance of this product and use it correctly.

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APPENDIX

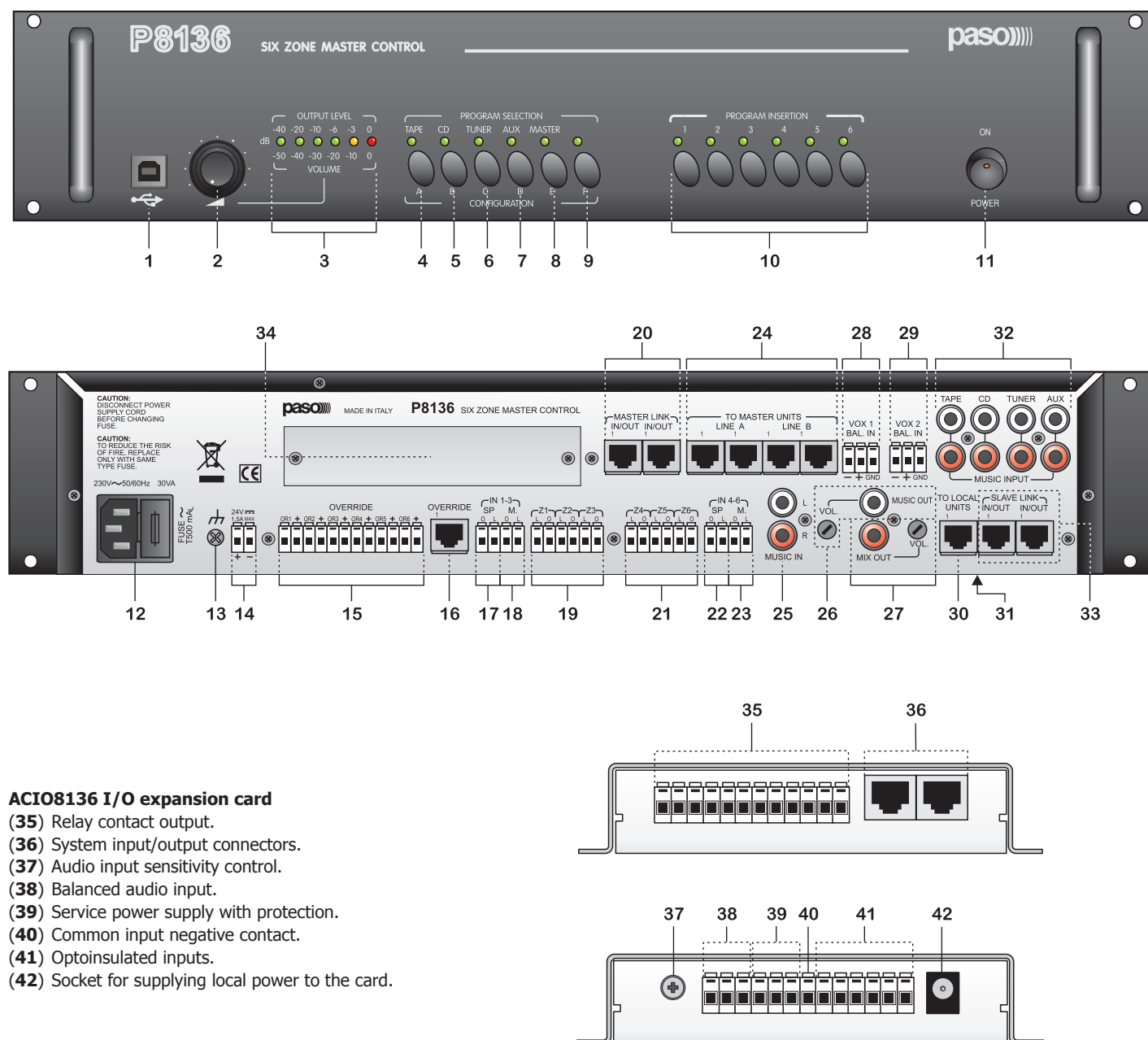
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1. NUMBERED REFERENCES

P8136 Master Control Panel

- (1) USB connector.
- (2) Volume control.
- (3) VuMeter/Volume output level indicator.
- (4) TAPE music input selection and associated volume control.
- (5) CD music input selection and associated volume control.
- (6) TUNER music input selection and associated volume control.
- (7) AUX music input selection and associated volume control.
- (8) Selection of music from master units and associated volume control.
- (9) Key for confirming chosen configuration.
- (10) Activation of music/programming in the zones.
- (11) Mains switch with ON/OFF lamp.
- (12) Mains plug with built-in fuse.
- (13) Frame connection.
- (14) Terminals for external 24 VDC power supply.
- (15) Terminal strip for override control output.
- (16) RJ45 socket for override control output.
- (17) Voice input terminal strip, zones 1 to 3.
- (18) Music input terminal strip, zones 1 to 3.
- (19) Output terminal strip, zones 1 to 3.
- (20) Connection between master units.
- (21) Output terminal strip, zones 4 to 6.
- (22) Voice input terminal strip, zones 4 to 6.
- (23) Music input terminal strip zones 4 to 6.
- (24) Connectors (Lines A and B) for connection to the Master Units*.
- (25) Local music source inputs.
- (26) Music output (MUSIC OUT) and associated volume control.
- (27) Voice /music output (MIX OUT) and associated volume control.
- (28) Balanced VOX 1 input.
- (29) Balanced VOX 2 input.
- (30) Connector for connection to the Local Units*.
- (31) Chime level control (accessible from the bottom of the apparatus).
- (32) Music inputs (sources pre-amplified at line level).
- (33) Connectors for connecting P8236 slave units.
- (34) Compartment for optional ACMG8136 card.

* Microphone stations and I/O cards.



ACIO8136 I/O expansion card

- (35) Relay contact output.
- (36) System input/output connectors.
- (37) Audio input sensitivity control.
- (38) Balanced audio input.
- (39) Service power supply with protection.
- (40) Common input negative contact.
- (41) Optoinsulated inputs.
- (42) Socket for supplying local power to the card.

2. GENERAL NOTICE

2.1 Installation

All **PASO** equipment is made according to the strictest international safety standards and complies with European Community requirements. For correct and effective use of the equipment it is important to read these instructions, and in particular the safety notes, carefully, so as to be aware of all its features. It is necessary to ensure suitable ventilation during operation of the equipment. Do not close the equipment inside a cabinet without ventilation and do not keep it close to sources of heat.

2.2 Power supply and connection to earth

This equipment is designed to operate on a mains voltage of 230 V \pm 10% 50/60 Hz. The ON/OFF switch (**11**) controls the mains power supply. The equipment is supplied with a power cable that has an earth wire. The earth terminal of the mains plug should not be removed under any circumstances. Connect the mains plug (**12**) of the equipment to the power mains using the cable included in the supply for this purpose. Make sure that the power outlet has a regulation connection to earth. The power circuit of the P8136 is protected by a fuse installed on the mains plug of the equipment.

2.3 Safety notes

Any activities, such as maintenance operations and so on, inside the equipment should be carried out only by qualified personnel. When the cover is removed, parts entailing a risk of electric shocks will be made accessible. Always make sure that the mains cable has been disconnected before removing the cover. If any liquid is accidentally spilt on the equipment disconnect the mains plug immediately and contact the nearest **PASO** Service Centre. The frame connection enables other equipment to be connected for the sole purpose of shielding low level signals: this socket must not be used for connecting the frame to earth for safety purposes.

3. INTRODUCTION

The **P8136** master panel has been designed for use in a vast number of applications with background music and handsfree announcements or automatic messages. It provides an advanced solution for creating all sorts of calling systems with at least 6 zones. The simplicity with which the system can be installed and the various different units and control bases can be connected enables the creation of both centralised systems and decentralised systems with remote installation of the various peripheral units. Its main features are:

- 4 line inputs (TAPE, CD, TUNER, AUX) for selecting the music source;
- 2 audio inputs with automatic VOX activation for calls from telephone exchanges with the necessary provisions and/or automatic message generators;
- 1 MASTER LINK input for connecting audio and music from another master unit;
- possible control of an ACMG8136 card, which includes a message player, a timer and an SD card player for a total of 127 messages in audio WAVE format;
- management of 6 ACIO8136 I/O cards configured as Master Units for a total of 36 optoinsulated inputs and 36 relay outputs;
- management of 6 ACIO8136 I/O cards configured as Slave Units.
- input volume control for each source of the MUSIC channel (PROGRAM) and of the SPEECH channel;
- connection via USB to a PC with the dedicated SW8136 software for configuring the broadcasting zones, programming the inputs and outputs and, with the ACMG8136, managing timed events and compiling the messages recorded on the SD.
- possibility of connecting up to 5 P8236 slave units to each master, for a total of 36 zones managed by a single master unit;
- 2 MASTER LINK inputs for connecting up to 6 master units with one another so as to enable management of music and audio in a total of 216 zones;
- 2 lines A and B for connecting up to 16 Master Units, microphone stations and/or I/O cards, for remote calls (max. line length: 1 km);
- 1 line for connecting up to 16 Local Units, microphone stations and/or I/O cards, for calls to the zones of the Master group (max. line length: 1 km);
- Terminals for unbalanced MUSIC and SPEECH inputs for connecting both amplified 100V signals and 0 dB line signals, depending on which system configuration is used;
- 6 zone outputs split into two groups of 3+3 lines for managing up to 500W+500W -100V incoming MUSIC and/or SPEECH signals, depending on which system configuration is used;
- 6 front-panel keys for including music in the various different zones;
- 6 front-panel keys for control and configuration;
- 24 VDC controls for by-passing local volume attenuators;
- 230 VAC and 24 VDC emergency power supplies.



The following units can be connected to the **P8136**:

- **PMB106**: 6-zone call station.
- **PMB112**: 12-zone call station.
- **PMB112-E**: expansion card for 12-zone **PMB112**.
- **ACIO8136**: I/O expansion card, with one balanced line input and 6+6 input/output contacts.



The connections between the master, slaves, microphone stations and expansion cards should be made using only CAT. 5 SF/UTP cable (see Appendix for details).

4. GLOSSARY AND GENERAL CRITERIA

Following is a list of definitions used in the following sections, completed by indications of a general nature:

- **Master address (M):** continuously ascending settings from **0** to **5** identifying the single **P8136** master units interconnected by means of the **MASTER LINK** sockets (**20**). In a multi-master system there must always be a master with the address **0** and there can be no two masters with the same address..
- **Slave address (S):** the address of the slave unit within each **P8136** master must be **0**. Any P8236 slave units interconnected to the same master by means of the **SLAVE LINK** sockets (**33**) must have addresses numbered progressively from **1** to **5**. There can be no two slaves with the same address in a subsystem formed by each master.
- **Master Units:** **PMB** microphone stations and **ACIO8136** I/O cards connected to the master by means of the **TO MASTER UNITS** connector (**24**). They can make remote calls to any zone throughout the system (up to max. 216 zones); the associations between call zones and keys/activation contacts are configured via a PC (using the P8136 Manager software).
- **Master Unit addresses:** ascending settings from **1** to **16** identifying the single Master Units univocally. There can be no two slaves with the same address connected to the same **TO MASTER UNITS** socket (**24**).



*When assigning the addresses of the Master Units, consider first of all the **ACIO8136** cards which, if any, must be set with addresses between **1** and **6**. Then set the **PMB** stations using the remaining free addresses (for a maximum total of **16**).*

- **Local Units:** **PMB** microphone stations and **ACIO8136** I/O cards connected to the master (or to the group-leader slave) by means of the **TO LOCAL UNITS** connector (**30**). They can ONLY make local calls to the zones managed directly by the group of the master (or of the group-leader slave). To programme the call zones, consult the station manual and the instructions for the ACIO8136 configured as the Slave Unit.
- **Local Unit addresses:** Ascending settings from **1** to **16** identifying the single Local Units univocally. There can be no two units with the same address connected to the same **TO LOCAL UNITS** socket (**30**).



*When assigning the addresses of the Master Units, consider first of all the **ACIO8136** cards which, if any, must be set with addresses between **1** and **6**. Then set the **PMB** stations using the remaining free addresses (for a maximum total of **16**).*

- **Group:** Common setting from **0** to **5** identifying the series of slaves associated with the same group. If more than one slave units are connected to the same amplifier for **SPEECH** signals, it is ESSENTIAL that they be associated with the same group value. Among slave units in the same group, the one with the lowest address is considered the Group-leader Slave.



Systems with several groups (including the limit case of 6 slaves in 6 groups) have the advantage that they can make more than one local call at the same time, each within the group to which the call belongs. The Local Unit, however, cannot call a zone of a slave belonging to a group other than its own. In a system with several slaves associated with the same group and the Local Units connected to the only Group Leader, on the other hand, it is possible to select the zones of all the slaves of the group to which the Local Unit belongs.

- **Priority:** Ascending settings from **1** to **7** identifying the level of priority with which the **SPEECH** channel can be engaged by the sources listed below:
- **PMB** microphone stations (refer to the **P8136 Manager** software, default setting = **1**)
- **VOX1** input (refer to the **P8136 Manager** software, default setting = **5**)
- **VOX2** input (refer to the **P8136 Manager** software, default setting = **2**)
- **Timer** Events (requiring an optional **ACMG8136** card, refer to the **P8136 Manager** software)
- Input contacts **ACIO8136** configured as a Master Unit (refer to the **P8136 Manager** software)
- **ACIO8136** expansion card configured as a Slave Unit (fixed setting = **5**)

Conflicts between calls from Local Units, that are therefore connected to the same group-leader slave, are managed on the basis of caller priority: a call in progress can only be cut off by one with a higher priority.

Conflicts between calls from Master Units connected to the same P8136 are governed on the basis of caller priority: a call in progress can only be cut off by one with a higher priority.

In any case, calls coming from any master always have priority over those from slaves.

5. SOUND-BROADCASTING SYSTEMS

This section suggests some system prototypes of a general nature, on which it is possible to base a configuration for the desired system:

- 5.1 System with amplification of a single speech/program channel**
- 5.2 System with dual amplification, separate for the Speech and Music channels**
- 5.3 System with dedicated amplification for each zone**
- 5.4 System with amplification according to multiple groups**

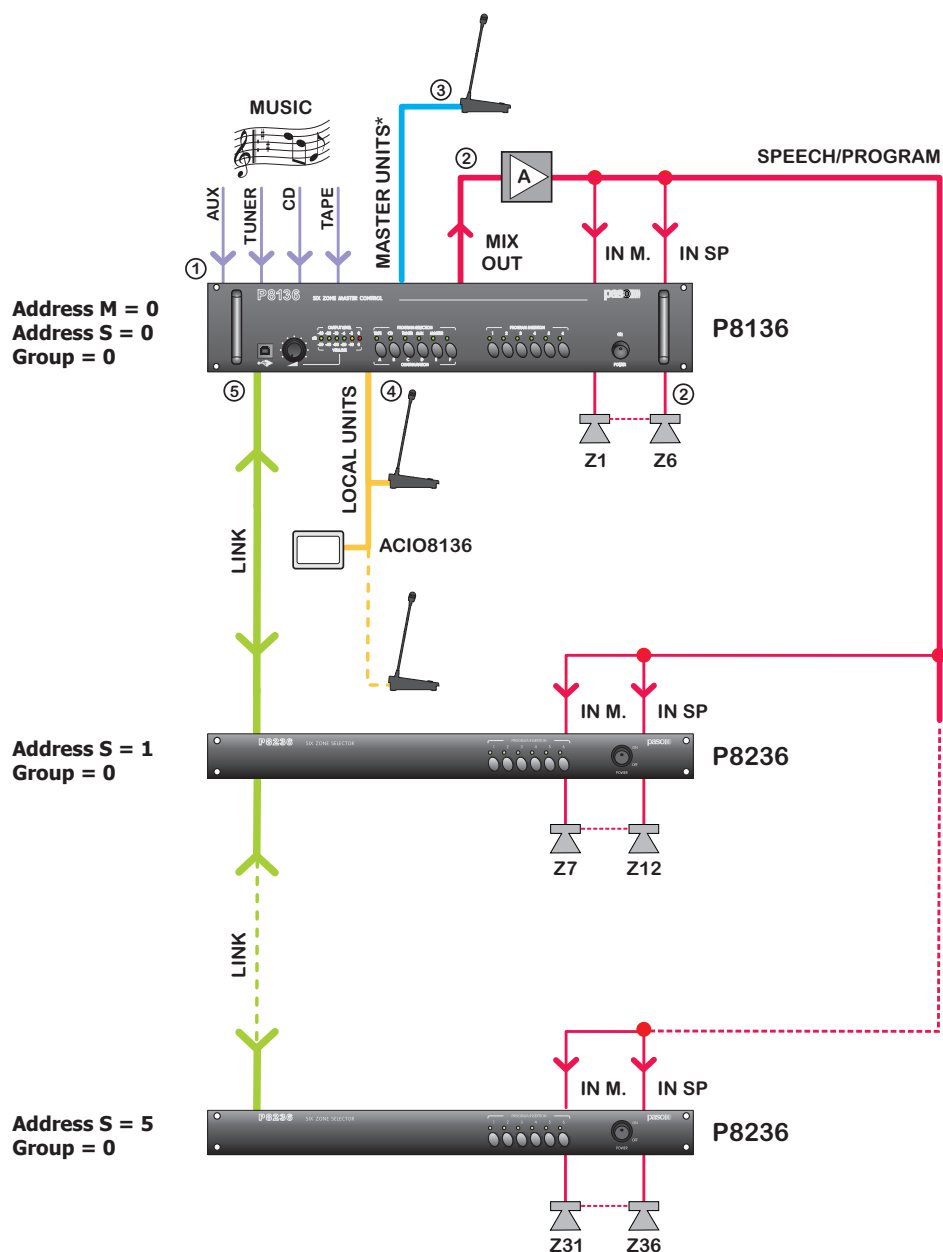


*For the sake of completeness, **P8236 slave unit control panels** will also be considered.*

5.1 System with amplification of a single speech/music channel

In this configuration it is possible to select the zones in which to broadcast music. In the event of a call these zones will be de-activated (and, if appropriate, activated for the call). They will automatically resume broadcasting music after the call. This configuration calls for a single amplifier for broadcasting both speech (the call) and background music, if available. The amplifier is connected to the **MIX OUT** output (27) of the master, while its output is connected in parallel to the **SP** (17) and (22) and **M.** (18) and (23) terminals of all the slaves provided. The call stations (and/or the **ACIO8136** cards), connected to one another in cascade fashion, can be connected either as Master Units to the **TO MASTER UNITS** socket (24) or as Local Units to the **TO LOCAL UNITS** socket (30) of the **P8136**. Lastly, the master and the slave are placed in communication with one another by means of Cat. 5 SF/UTP cables to be connected to the **SLAVE LINK IN/OUT** sockets (33).

*Tip: If it is wished to use the **MUSIC IN** socket on a **P8236** slave unit to connect a local music source rather than the one available on the **LINK** connection (from the P8136 Master Unit), it will be necessary to remove the **CN127** jumper from inside the equipment.*



Following are the criteria for sizing the system and the initial setting procedure.

Sizing for a system of up to 36 zones*

- Number of slaves = (number of zones)/6, rounded off to the next highest whole number.
- Max. number of **ACIO8136**'s = 6.
- Max. number of **PMB** stations = 16 – (number of **ACIO8136**'s)
- Sizes of **PMB** stations:
 - a. System of up to 6 zones: **PMB106**.
 - b. System of up to 12 zones: **PMB112**.
 - c. System of up to 24 zones: **PMB112** + 1 off **PMB112-E**.
 - d. System of up to 36 zones: **PMB112** + 2 off **PMB112-E**.

Max. distance between the master and the last slave: **1 km**

Max. distance between the master and the last station: **1 km** (see APPENDIX, Section B).

* the slaves are understood to include the one included in the P8136.

See APPENDIX, Section B

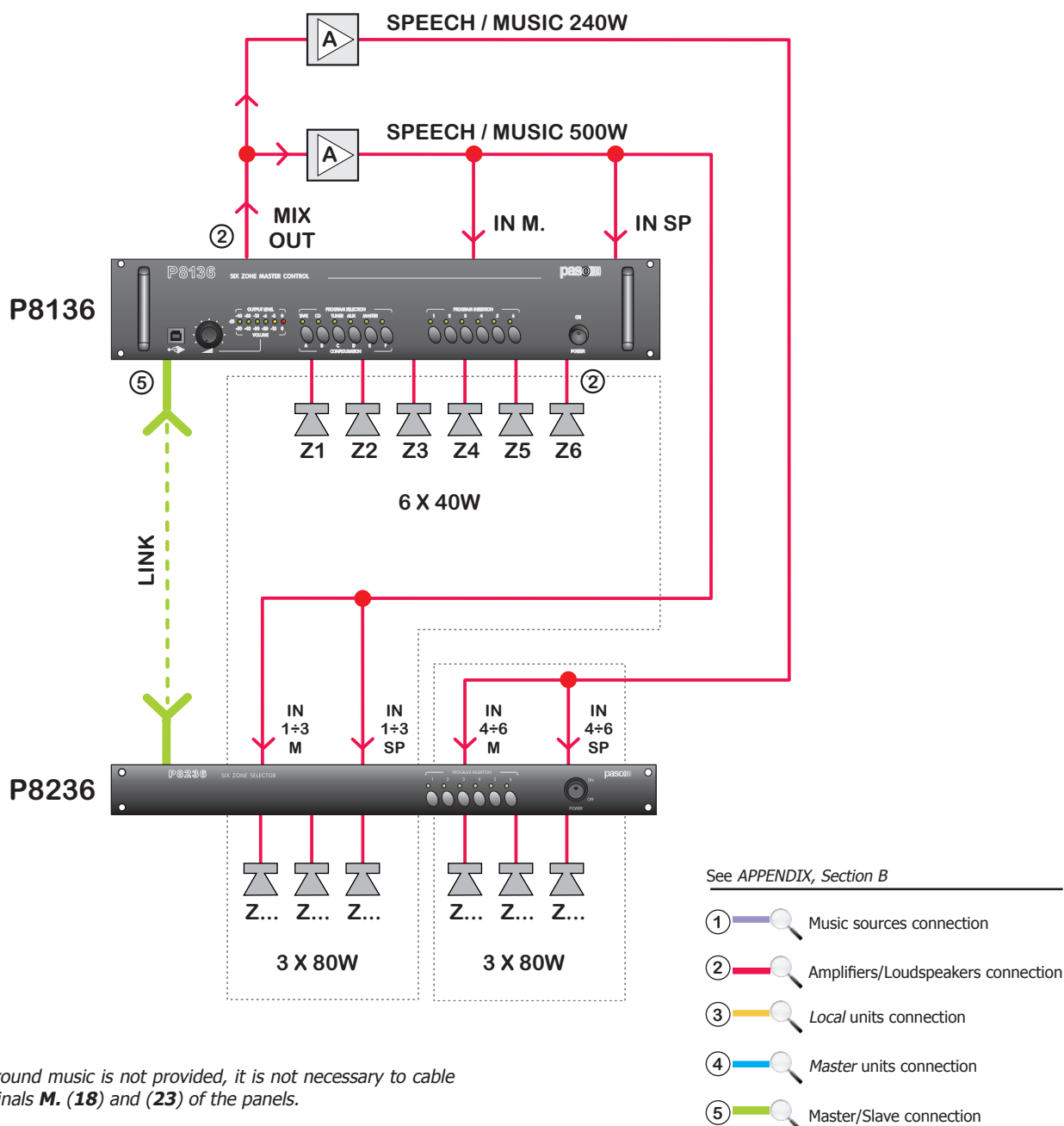
- ① Music sources connection
- ② Amplifiers/Loudspeakers connection
- ③ Local units connection
- ④ Master units connection
- ⑤ Master/Slave connection

System settings

1. Select the addresses of the *slaves* starting from **0** (considering also the one contained in the **P8136**).
2. Set the group number at **0** for all the *slaves*.
3. Set the operating mode of all the slaves – including the one contained in the P8136 – to **single** (see APPENDIX, Section A - page 18).
4. Activate/de-activate the **CHIME** function on the slave with the address **0** as required.
5. Connect the **ACIO8136** cards, set to the Master mode, and the **PMB** stations to the **TO MASTER UNITS** socket (**24**). Set the addresses and priorities as required, as indicated in section 4. **Note:** Keep in mind that on the ACIO8136 Master cards, each input can have a different priority (priorities to be set by means of the **P8136 Manager** configuration software).
6. Connect the **ACIO8136** cards, set as Slaves and in the required operating mode, and the **PMB** stations to the **TO SLAVE UNITS** socket (**30**). Set the addresses and priorities as required as indicated in section 4. **Note:** Keep in mind that the ACIO8136 Slave cards have a fixed priority level of **5**.
7. Set the **MIX OUT** (**27**), **MUSIC OUT** (**26**) and **CHIME** (**31**) controls to the minimum. First of all adjust the **MIX OUT** control (**27**) to the required call sound level.
8. Adjust the **CHIME** control (**31**) (if this function is not activated, it is preferable to leave the control on the minimum level).

Tips

- If an overall output power exceeding that of a **500W** amplifier (the largest in the **Paso** range) is required, it is possible to use more than one amplifier. The inputs should be connected in parallel to the **MIX OUT** output (**27**) of the slave unit with the address 0; the output of each amplifier will be used to drive a sub-group of zones having an overall output power compatible with the rated power of the amplifier. To facilitate this solution, the 6 output zones of the slave are split up into two groups of 3, electrically isolated from one another and each with its own speech and music inputs. This makes it possible to use up to two amplifiers per slave. An example of this type of system is illustrated in the figure.



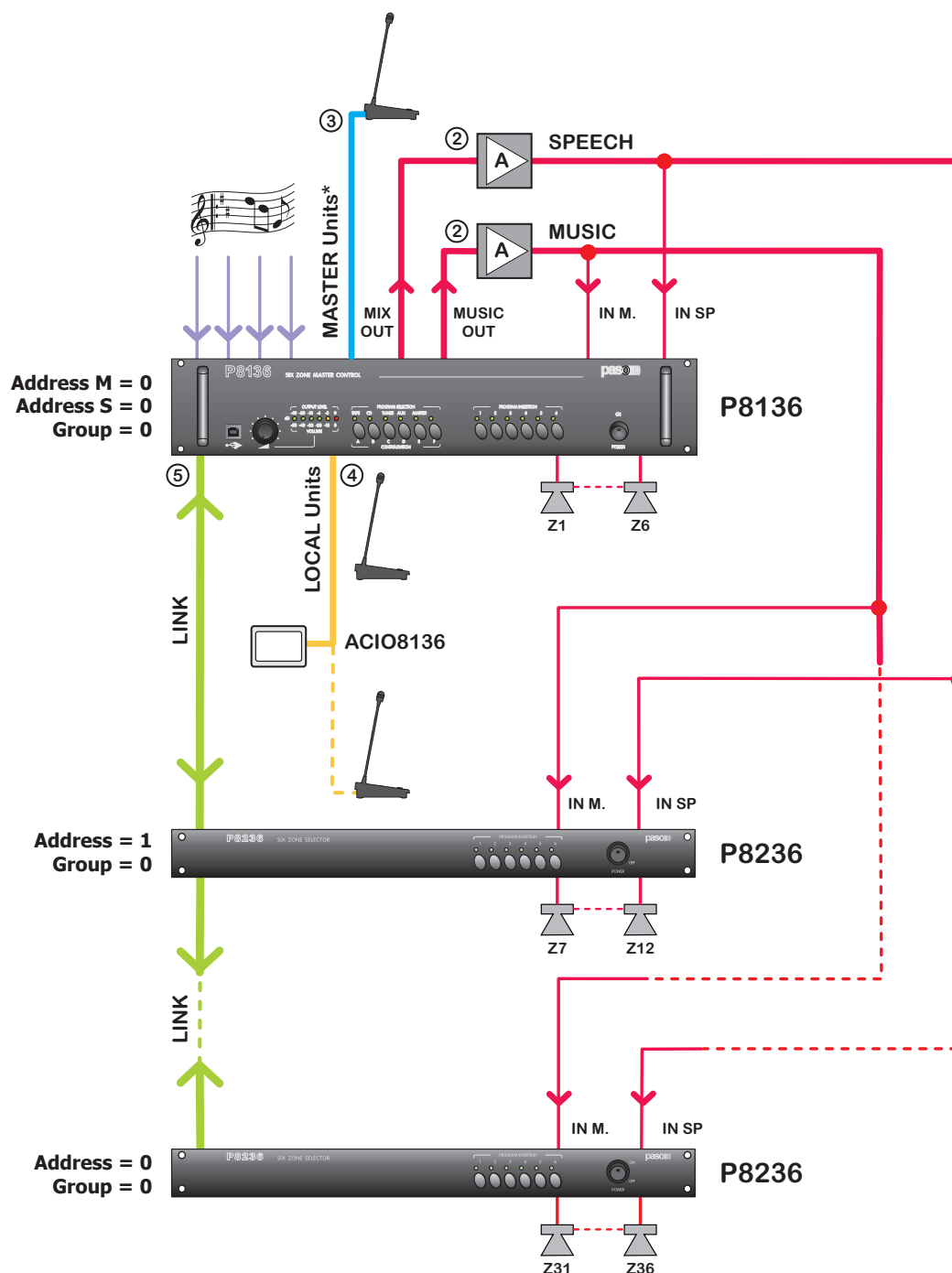
If background music is not provided, it is not necessary to cable the terminals **M. (18)** and **(23)** of the panels.

5.2 Systems with dual amplification, separate for the Speech and Music channels

This configuration is similar to that illustrated under point 5.1 above, with the addition of a dedicated amplifier for broadcasting background music.

A typical feature of this configuration is that the music is maintained in the zones not affected by the call.

In this case the speech amplifier, driven by the **MIX OUT** output (27), will have its outputs connected in parallel to the **SPEECH** terminals **SP**. (17) and (22) only of the master and of any slave units provided. The music amplifier will be driven by the **MUSIC OUT** output (26) and its outputs will be connected in parallel to the **M.** terminals (18) and (23) of the master and of any slave units provided.



Following are the criteria for sizing the system and the initial setting procedure.

Sizing

See section 5.1 above.

System settings

The settings are identical to those described in section 5.1 above, with the exception of point 3:

- Set the operating mode of all the *slaves* – including the one contained in the **P8136** – to **dual** (see APPENDIX, Section A - page 18).

See APPENDIX, Section B

- ① Music sources connection
- ② Amplifiers/Loudspeakers connection
- ③ Local units connection
- ④ Master units connection
- ⑤ Master/Slave connection

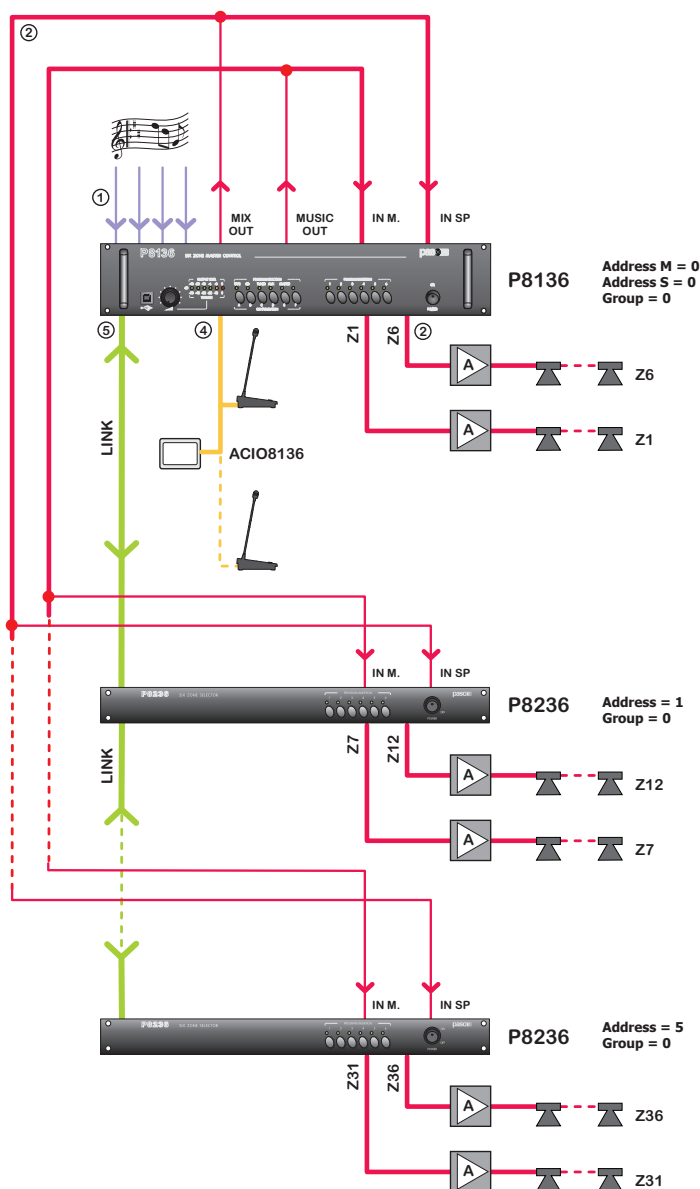
Tips

- Again in this case, if an overall output power exceeding that of a **500W** amplifier (the largest in the **Paso** range) is required, it is possible to use more than one amplifier, as described in the tips for section **5.1**.
- It is not necessary to cable the terminals **M. (18)** and **(34)** for the slaves with zones in which background music is not envisaged.
- Generally speaking, background music is distributed at a low level, requiring less power than for calls. In these cases, to make the system cheaper, it is possible to use an amplifier for music with a rated output of half that of the speech amplifier, and to use the 70 V output instead of 100 V for the speech amplifier.
- If the music amplifier has its own volume control, it is possible to connect the music source directly to the amplifier input rather than to the **MUSIC IN** input (**25**), saving one cable.

5.3 Systems with dedicated amplification for each zone

This type of system is used to drive high-power zones that require one amplifier each. Switching of the input signal of the amplifiers rather than of the power output is therefore used. The following diagram also shows the cabling of the signal for background music. As can be seen, the diagram is very similar to that in section 5.2, with the difference, however, that the inputs of the amplifiers are connected to the single zone outputs, and the lines of the speaker units are connected to the relevant power outputs of the amplifiers.

Like the configuration of section 5.2, this configuration **enables music to be maintained in the zones not affected by the call**.



See APPENDIX, Section B

- ① Music sources connection
- ② Amplifiers/Loudspeakers connection
- ③ Local units connection
- ④ Master units connection
- ⑤ Master/Slave connection

For the sizing and settings of the system in Figure 5.3.1, refer to section **5.2**.

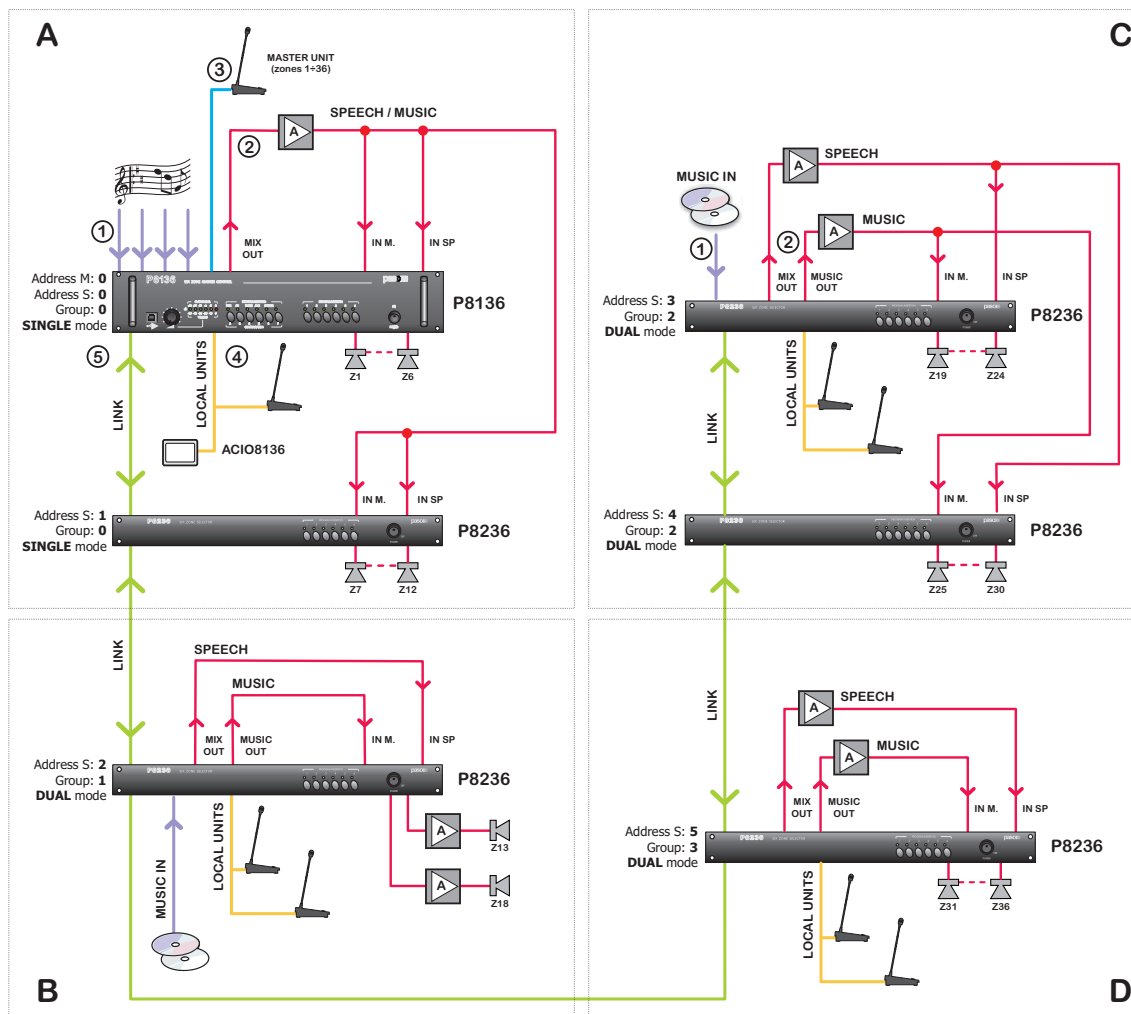
5.4 System with amplification according to multiple groups

This configuration is an application of the 3 illustrated above in sections 5.1, 5.2 and 5.3, showing that it is possible to size the system depending on a number of needs:

- splitting up the installation physically into a number of sub-systems at sites at a distance from one another;
- creating sub-systems with local call stations;
- optimising the use of amplifiers on the basis of the requirements of the system and of the power of the various different zones;

The diagram illustrates an example of system split up into four sub-systems or groups:

- The sub-system **A**, group **0** (12 zones), consists of the master/slave set with the addresses **0** and **1**.
- The sub-system **B**, group **1** (6 zones), consists of the slave with the address **2**.
- The sub-system **C**, group **2** (12 zones), consists of the slaves with the addresses **3** and **4**.
- The sub-system **D**, group **3** (6 zones), consists of the slave with the address **5**.



In the example, it is possible to note the following system features:

- A master system can be made up of several sub-systems of different types
- The local stations can make calls to all the zones in the group to which they belong (if permitted by the number of selection keys).
- Local stations belonging to different groups can make calls at the same time within their own groups, regardless of their priorities.

Sizing

For the sub-system of group **0**, follow the indications provided in section **5.1**.

For the sub-system of group **1**, follow the indications provided in section **5.3**.

For the sub-systems of groups **2** and **3**, follow the indications provided in section **5.2**.

Those slave units that share the signal of the same **SPEECH** amplifier or of the same **MIX OUT** output (**27**) on their Speech inputs (**17-22**) **MUST NECESSARILY** be set in the same group. The local stations in each group must be connected only to the slave unit with the lowest address (group leader).

See APPENDIX, Section B

- ① Music sources connection
- ② Amplifiers/Loudspeakers connection
- ③ Local units connection
- ④ Master units connection
- ⑤ Master/Slave connection



It is possible to use the SLAVE LINK interconnections (33) to create a system with several call groups sharing the music channel of the same source, connected to the master.

On the other hand, it is possible to use the single MUSIC IN inputs (25) of each slave unit to connect different sources of music to each slave, even if they belong to the same call group. This configuration is only permitted for systems in the DUAL mode, connecting the MUSIC inputs (18-23) suitably to their respective music channel amplifiers or to their respective MUSIC OUT outputs (26) or their slave units (for details see the section "Connection of music sources – Cutting off the music signal from the Slave Link connection" in the APPENDIX).

6. USE

6.1 Selecting the music input

It is possible to use the **PROGRAM SELECTION** keypad (**4 to 9**) to select the desired music source (**TAPE, CD, TUNER, AUX**).

Adjust the volume of the selected source by holding down the appropriate key and turning the knob (**2**). To include or exclude background music for a given zone it is sufficient to press the relevant **PROGRAM INSERTION** button (**10**) on the front panel of the equipment: the signalling lamps corresponding to the buttons will light up to indicate the zones that have been selected with inclusion of music.

6.2 PMB106/PMB112 microphone stations

It is possible to associate a specific group of call zones, output events and digital messages with each of the keys of the **PMB106/PMB112** Master microphone stations (including the **PTT/LOCK** and **ALL*** keys). Furthermore, the associated zones can be selected by means of each **P8136** interconnected within the system (multi-master system). In the default configuration the selection keys are associated with their respective zone numbers of the main master system. To change the call zone configuration, the keys must be programmed using the **P8136 Manager** software.

ATTENTION: If more than one key with various types of configuration (speech, messages and output events) are selected, the 'speech' selections will prevail: the outputs associated with messages will not be activated while any keys associated with output events will be activated.

* on PMB112-E expansion cards.

• Handsfree broadcasting

Select the zones in which you wish to activate handsfree broadcasting and press the PTT or LOCK keys: the LED on the base will light up to indicate that the microphone has been activated. The LEDs of the keys corresponding to the groups in which broadcasting can be carried out will remain illuminated. Once the call has been completed, release the PTT key or press the LOCK key again. If the ALL key on the main station is pressed, all 36 zones connected to the master P8136 will be called: the LED of the PTT will flash rapidly to indicate this type of call. Once the All Call has been



Any output events associated with the selected zones will be carried out for the whole duration of the call.

• Playing out of messages

To send pre-recorded messages - associated by means of the P8136 Manager software with the station keys - follow the procedure described above for handsfree calls.



The message will be played out repeatedly until it is unselected.

If even only one of the zones selected is busy (whether with speech broadcasting or pre-recorded messages), the call will be cancelled and any associated output configurations will not be performed.

If several keys associated with different messages are selected by mistake, the message corresponding to the key with the lowest number will be played out and broadcast in all the zones associated with the keys that were selected.

• Activation of output events

Each key of the stations can be associated with an output event configuration, even if no voice broadcasting (handsfree or messages) is envisaged. To activate these output events, select the relevant keys and press PTT/LOCK.

These keys can always be selected associated with speech keys or messages.



This must be considered a call to all effects and purposes, and the system will therefore be 'busy' with the base priority.

• Configuration of special keys

The first six keys of the stations can be configured to call up output events only - including SYSTEM RESET or MASTER RESET events, separately from the handsfree call or from despatch of the message associated with them. This means that the system will NOT be busy: activation of output events created in this way does not seize the voice line and the base can continue to function with all its other keys.

Pressing the key for more than two seconds will cause activation of the event. The LED of the corresponding key will flash to signal this activation. To de-activate the output configuration press the key associated with the flashing LED again. If no "Out Events" configurations are associated with the key, after the two seconds the LED will remain steady ON and will be considered an activation of zones, enabling of which will follow only after the PTT/(LOCK) key is pressed. If the base is being used for broadcasting, "Out Event" cannot be activated until the base is freed.

It is possible to activate several "Out Event" configurations simultaneously by selecting one or more of the first 6 keys of a console and holding one of them down for over two seconds. The LEDs of all the keys with OutEvent configurations selected will flash to indicate activation of the outputs.



All the output events activated by the bases can be status-related only and not transition events.

- **Line busy signalling LED**

Local Station

- In the idle condition the LED is OFF.
- While a call is in progress the LED remains steady ON to signal that the station is active.
- From the idle condition the LED starts to flash slowly to signal that a call is in progress by another station, that has seized at least one zone of the group in question
- While a call is in progress the LED switches from steady ON to fast flashing to signal that its call has been cut off by a station with a higher priority.
- Calls in progress, if any, by stations not belonging to the group in question and addressing zones outside the group are not signalled by the LED on the Local Station.

Master Station

- In the idle condition the LED is OFF.
- While a call is in progress the LED remains steady ON to signal that the station is active.
- From the idle condition the LED starts to flash slowly to signal that a call is in progress by another Master Station that has seized the line of the system to which the Master Station in question belongs.
- While a call is in progress the LED switches from steady ON to fast flashing to signal that its call has been cut off by a station with a higher priority.
- Calls in progress, if any, by a Local Station are not signalled by the LED on the Master Station, which can make calls with a higher priority at any time.

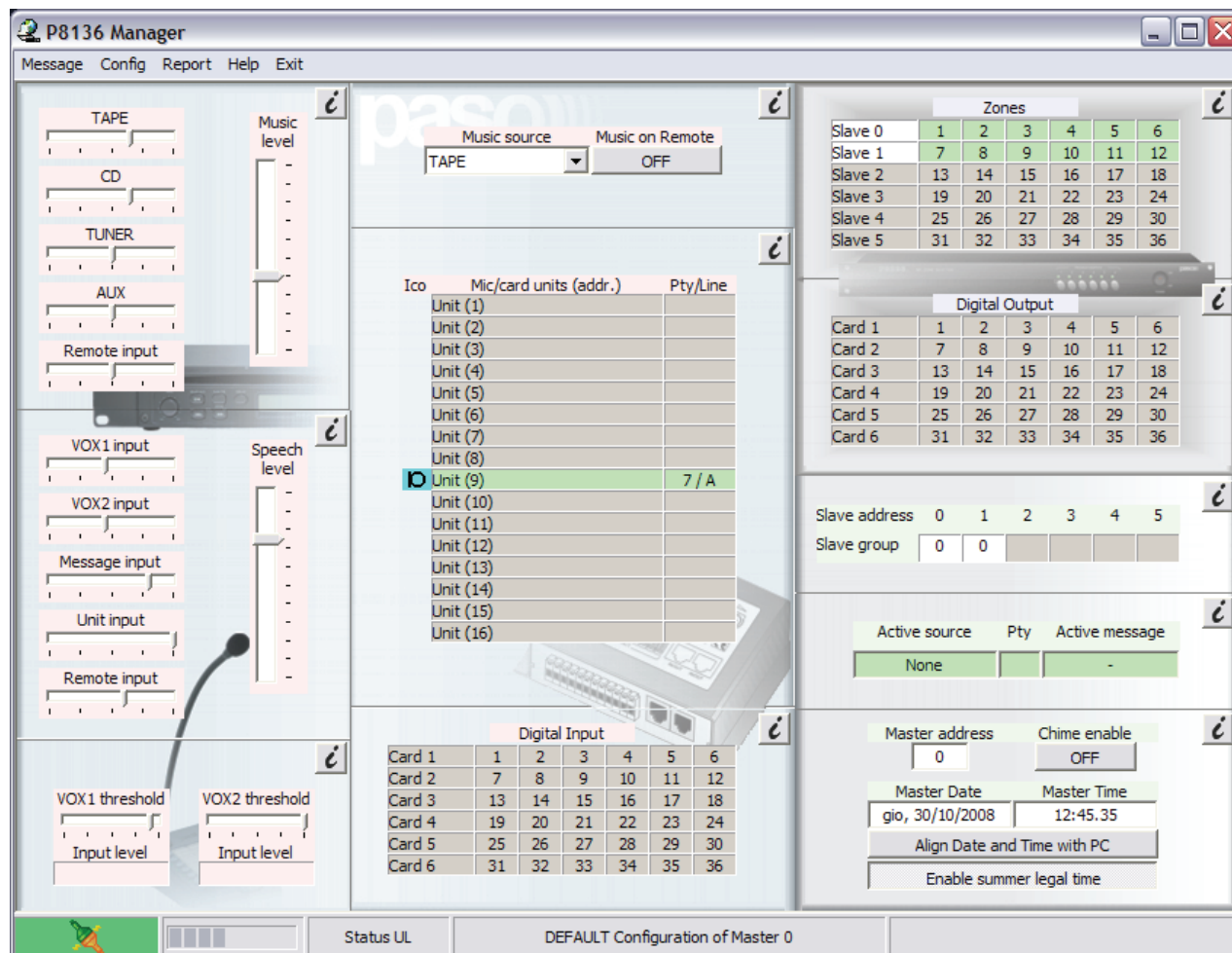
Multi-Master System

- Calls in progress, if any, by a station not belonging to the Master System in question and addressed to a zone outside the one to which the station belongs are not signalled by the LED on the Station. In these cases, calls may be made to zones outside the Master System in question only if the station in question has a higher priority than the one that is already active. If a call is made, the LED will be steady ON, otherwise it will remain extinguished.
- Similarly, when a call in progress from a system station addressed to outside the system is cut off by another with a higher priority, the LED will extinguish to signal that the call has been cut off.

7. P8136 MANAGER SOFTWARE

The **P8136 Manager** software can be used to manage the system entirely via a PC. Specifically, the software enables the following:

- Creation and downloading of the set-up configuration of microphone stations keys, digital inputs/outputs, timer events and calling up of digital messages (with the optional **ACMG8136** card installed inside the P8136 control panel);
- Checking and displaying of all the system parameters – speech/music level controls, selection of the music source, devices connected with the **P8136** Master Unit (e.g. microphone stations, I/O cards);
- Correct preparation of the SD card to be inserted into the optional **ACMG8136** card, following a simple guided procedure.



7.1 Preliminary operations

Minimum system requirements

To run the **P8136 Manager** software correctly, the PC must meet the following specifications

- Intel Pentium or equivalent processor
- OS: Windows XP, Windows Vista.
- 20 MB of free space available on the hard disk.
- CD-ROM drive.
- USB 1.0 / 2.0 socket.

Installing the software

- 1) Insert the CD into the CD-ROM drive of the computer.
- 2) Follow the instructions that appear on the screen.

If the installation does not start automatically, proceed as follows:

- 1) Press **"Start"** then **"Run"** in the Start-up menu;
 - 2) Select the **"install.exe"** file and press **"OK"**;
 - 3) Follow the instructions that appear on the screen to complete the installation.
- An icon will be created on the desktop upon completion of the guided procedure.

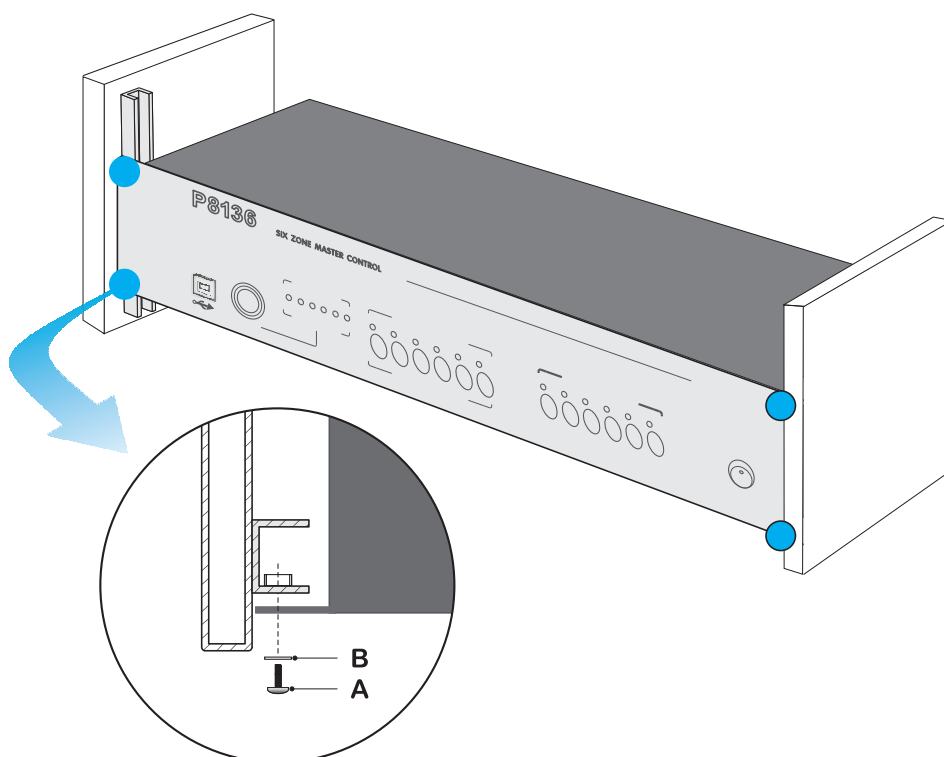
Initialisation

- 1) Connect the PC to the **P8136** via the USB socket (1) provided for this purpose on the front panel of the master unit using the cable included in the supply;
- 2) Switch on the master unit by positioning the main **POWER** switch (11) to **ON**;
- 3) Click twice on the **P8136 Manager** icon to run the software;
- 4) Select **"Config"** then **"Upload"** from the menu to load the settings of the master unit connected to the computer.

Consult the Help function of the P8136 Manager for all the settings and instructions for using the software.

8. RACK MOUNTING

Mount the equipment on a rack using the screws (A) and washers (B) provided, as illustrated in the figure.



TECHNICAL SPECIFICATIONS	P8136
Mains power	230 V _{CA} - 50/60 Hz
Mains power absorption	23 W
External DC power supply	24V
DC power absorption	1 A
Size	422 x 88 x 167 mm
Size of packaging	522 x 155 x 292 mm
Weight (net)	3,9 Kg
Weight (packaged)	4,7 Kg

APPENDIX

SECTION A | SETTINGS AND CONTROLS |

- 1. Controls and settings of the *Master* unit**
 - Save/restore configuration
 - General output volume of the music channel
 - Selection of the source of sound and control of the input level
 - Sending the selected music to the remote P8136's
 - Activation/de-activation of music in the single zones
 - Chime *master* (active for stations connected to the TO MASTER UNITS socket)
 - Volume control of 'speech' source
 - Adjustment of VOX activation threshold
 - Setting the address of the P8136 Master Unit
- 2. Slave Functions**
 - Address of slave unit within the P8136 master unit
 - Group
 - SINGLE/DUAL mode
 - *Local* chime (active for stations connected to the TO LOCAL UNITS socket)
- 3. ACMG8136 message playing card**
 - Installing ACMG8136 card
- 4. ACIO8136 expansion card**
 - 4.1 General settings for Master and Slave ACIO8136's
 - Master/Slave mode
 - Address
 - Common negative of the optoinsulated input contacts
 - Speech filter (Low Cut Filter)
 - Audio input
 - Power supply
 - 4.2 Settings for local ACIO8136's
 - Operating mode of audio input section and contacts
 - Operating mode section relay outputs

SECTION B | CONNECTIONS |

- **Connections of music sources (1)**
- **Connection of sources to the VOX inputs (1)**
- **Connection of amplifiers / speaker units (2)**
- **Connection of microphone stations and ACIO8136 cards (3) (4)**
- **Connection between Master and Slave (5)**

SECTION C | SYSTEM LIMITS |

A quick guide to the main manual controls accessible to the user for both common use and configuration settings is provided below.

Using the **PROGRAM SELECTION** keypad (4 to 9), it is possible to set and adjust the main parameters of the **P8136** Master Control Panel. It is also possible to save the last configuration or to return to the stored previous configuration if unwanted changes have been made. Some of the following controls, marked with ***SW***, can also be adjusted by means of the dedicated **P8136 Manager** software.

1. CONTROLS AND SETTINGS OF THE MASTER UNIT

• Save/restore configuration

To store the settings you have made press keys **A** and **F** at the same time. LED **F** will start to flash. Chose one of the following two options and press the appropriate key:

Key **A** = to save the current settings changed by you;

Key **B** = to return to the last configuration saved before making the changes.

Press **F** to confirm your choice.



Once you have entered the programming mode, to exit without saving the last setting and without calling up the stored configuration, simply switch off the equipment then switch it on again using the mains **POWER** switch (11).

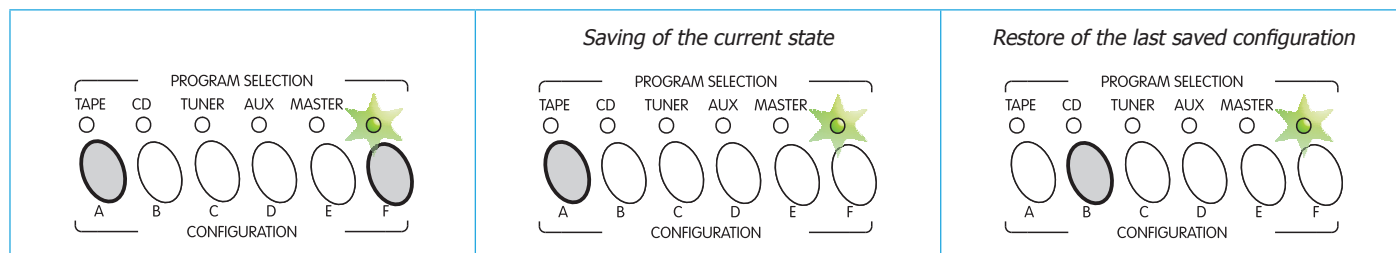


Fig. A1

• General output volume of the music channel *SW*

If none of the keys are pressed, the knob (2) controls the general (local) volume of the music channel.



In this case the **OUTPUT LEVEL** Vu-meter, that in normal operating conditions indicates the level of the music and/or voice signal of the system, acts as a level bar for controlling the volume.

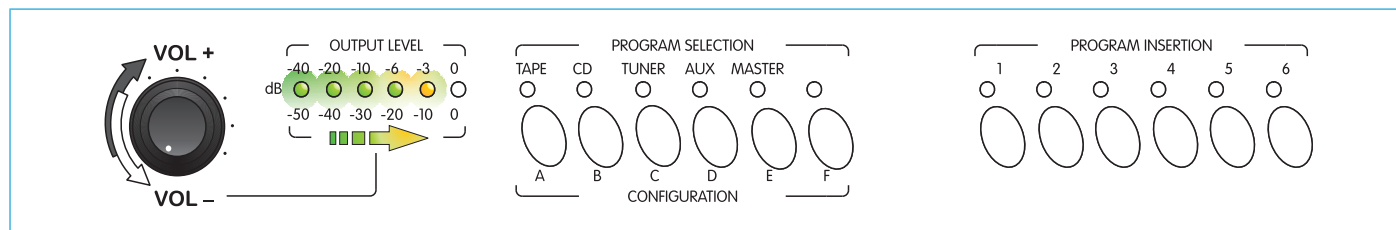


Fig. A2

• Selection of the source of sound and control of the input level *SW*

Press the key corresponding to the sound source you wish to select. Your selection will be confirmed by the relevant LED:

Led **ON** = source **activated**

Led **OFF** = source **not activated**

Once you have selected the sound source, you can control its volume by holding down the appropriate key and turning the knob (2). Selection of one of the sources – **TAPE**, **CD**, **TUNER** or **AUX** – refers to the source connected to the **MUSIC INPUT** sockets (32); selection of the **MASTER** source enables broadcasting of music from another remote **P8136** via the **MASTER LINK** connection (20).



In this case the **OUTPUT LEVEL** Vu-meter, that in normal operating conditions indicates the level of the music and/or voice signal of the system, acts as a level bar for controlling the volume.

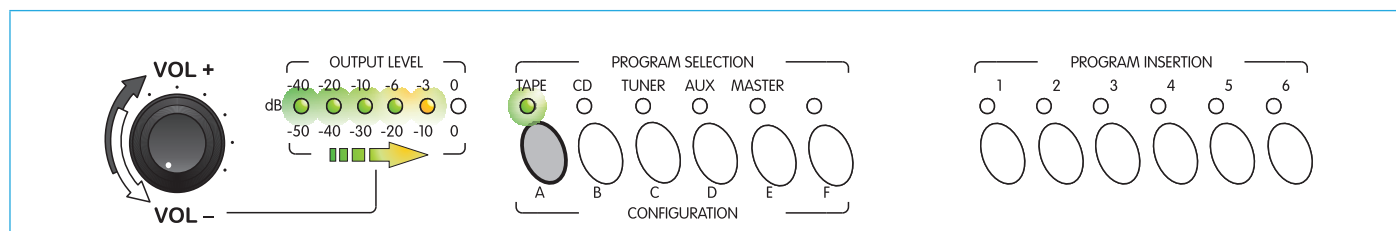


Fig. A3

• Sending the selected music to the remote P8136's *SW*

To enter the programming mode, press keys **A** and **E** at the same time; the LED **F** will start to flash. Press key **D** to enable the music to be sent to the remote master units: the appropriate LED will light up. Press **F** to confirm your choice.

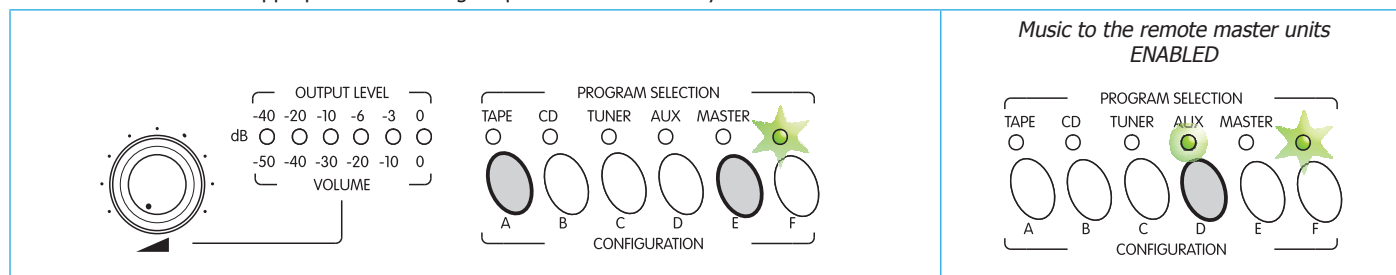


Fig. A4

• Activation/de-activation of music in the single zones *SW*

To activate broadcasting of background music in one or more zones, simply press the appropriate button on the **PROGRAM INSERTION** keypad (10). Your selection will be confirmed by the relevant LED:

LED **ON** = music **ON** ; LED **OFF** = music **OFF** ; LED **flashing** = zone busy on a PA call.

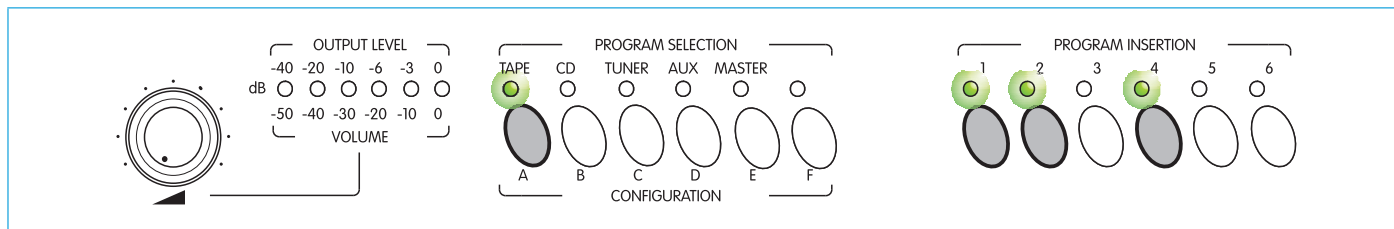


Fig. A5

• Chime master (active for stations connected to the TO MASTER UNITS socket) *SW*

To enter the programming mode, press keys **A** and **E** at the same time. LED **F** will start to flash.

Press key **E** to enable the warning signal: the relevant LED will light up. Press **F** to confirm your choice.



The volume of the Chime signal can be adjusted by means of the control (31) on the bottom of the equipment

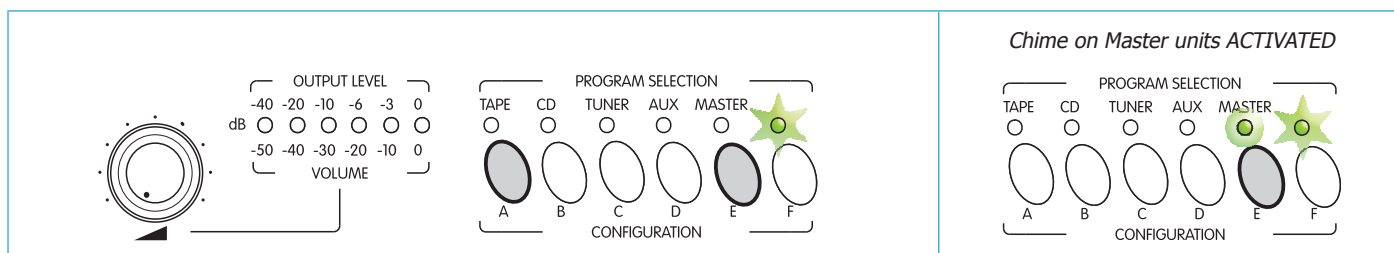


Fig. A6

• Volume control of 'speech' source *SW*

To enter the programming mode, press keys **A** and **C** at the same time; the LED **F** will start to flash.

Hold down the key corresponding to the parameter you require and turn the knob (2) to adjust:

Key **A** = General volume control of the microphone-base line (Master Unit)

Key **B** = VOX1 volume control

Key **C** = VOX2 volume control

Key **D** = Message generator volume control (optional ACMG8136)

Key **E** = Control of volume from master unit

Press **F** to confirm your selection.



In this case, the **OUTPUT LEVEL** Vu-Meter, that in normal operating conditions indicates the level of the music and/or voice signal of the system, acts as a level bar for controlling the volume.

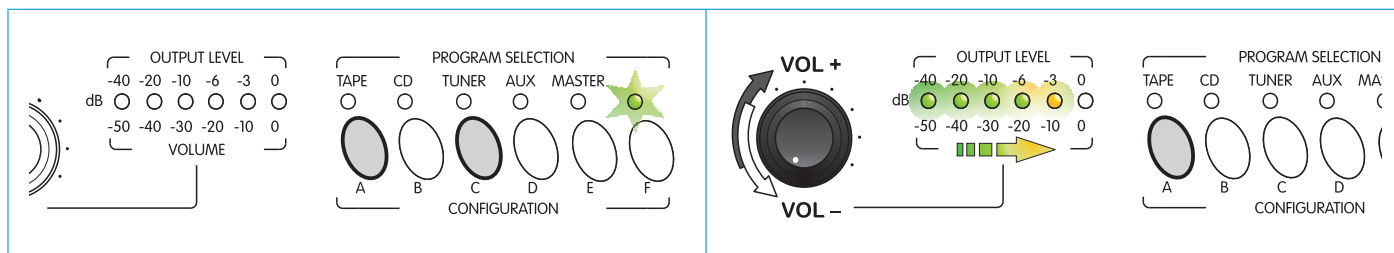


Fig. A7

• Adjustment of VOX activation threshold *SW*

To enter the programming mode, press keys **A** and **D** at the same time; the **F** LED will start to flash.

Hold down the key corresponding to the desired parameter and use the knob (2) to adjust:

Key **A** = Adjustment of **VOX1** activation threshold

Key **B** = Adjustment of **VOX2** activation threshold

Press **F** to confirm your selection.



In this case, the **OUTPUT LEVEL** Vu-Meter, that in normal operating conditions indicates the level of the music and/or voice signal of the system, acts as a level bar for controlling the sensitivity of VOX.

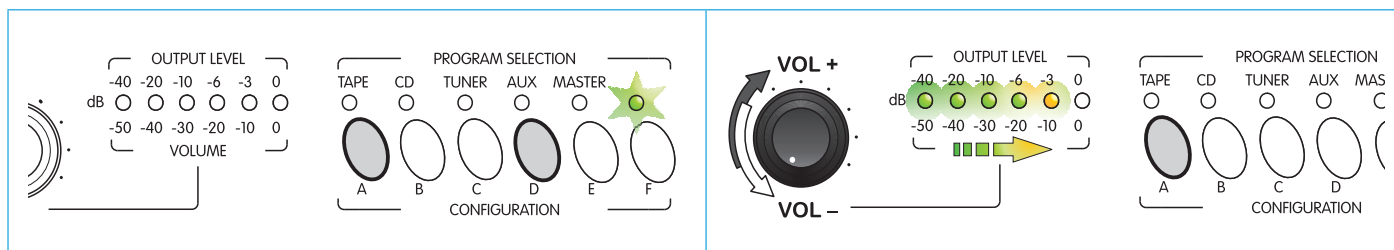


Fig. A8

• Setting the address of the P8136 Master Unit

To enter the programming mode, press keys **A** and **B** at the same time. LED **F** will start to flash while the other LEDs indicate the current address of the master unit. If they are all extinguished this means that the current address is that of the "pilot" master, that is to say **0**.

To change your selection press the key corresponding to the desired address; to select address **0** press the key corresponding to the illuminated LED. Press **F** to confirm your selection.

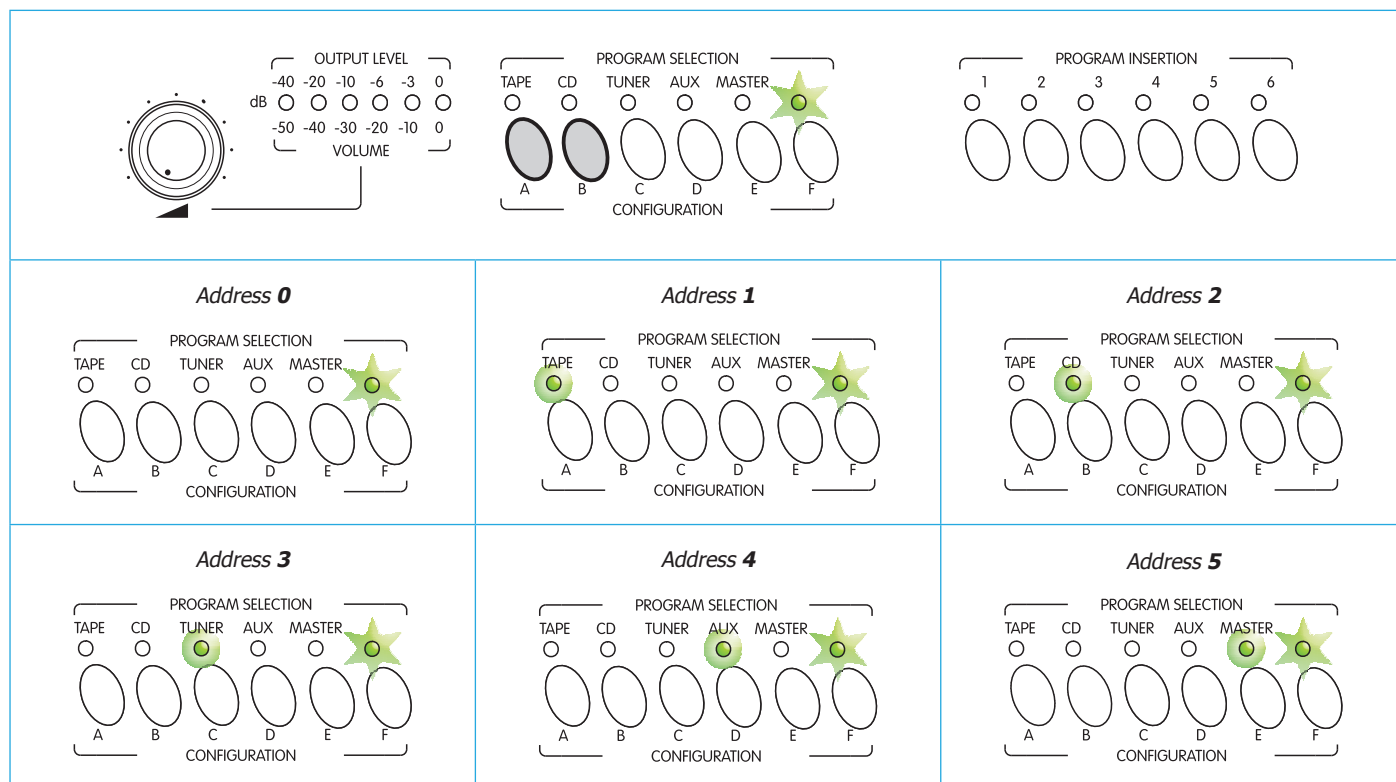


Fig. A9

2. SLAVE FUNCTIONS (PROGRAM INSERTION keypad)

• Address of slave unit within the P8136 master unit

The address of the Slave Unit is factory set at **0**. **This address MUST NOT BE OTHER THAN NOUGHT under any circumstances.**

It is, however, possible to check the factory setting and to correct it, if necessary:

To enter the programming mode, press keys **1** and **2** at the same time. LED **6** will start to flash.

If all the LEDs (from **1** to **5**) are extinguished, the address is **0** (correct). If any of the LEDs are illuminated, press the relevant keys to unselect them. Press key **6** to confirm your choice.

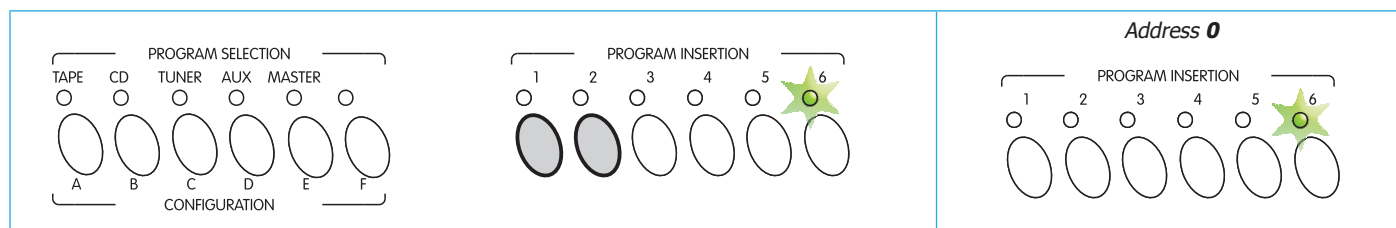


Fig. A10

• Group

To enter the programming mode, press keys **1** and **5** at the same time. LED **6** will start to flash.

Press the key corresponding to the number you wish to associate with the group (from **1** to **5**: **key 1 > group 1**; **key 2 > group 2** and so on).

To select group **0**, press the key corresponding to the illuminated LED so as to extinguish LEDs **1** to **5**.

Press key **6** to confirm your choice.

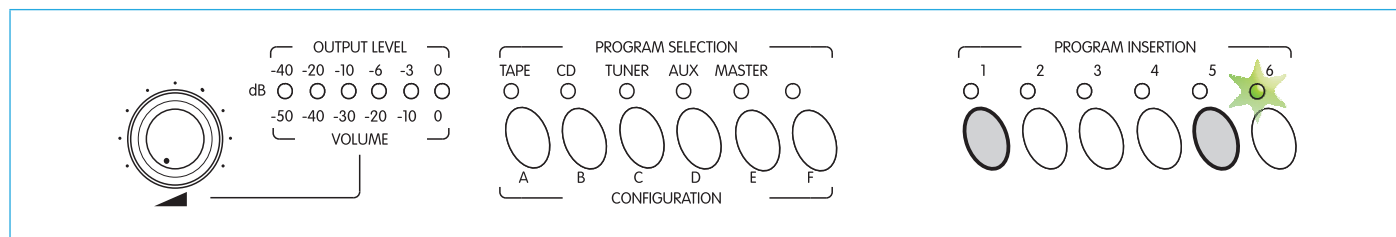


Fig. A11

• **SINGLE/DUAL mode**

To enter the programming mode, press keys **1** and **4** at the same time. LED **6** will start to flash.
LED **1** will show the current mode setting:
LED **OFF** = **SINGLE** mode (single amplification for both speech and music)
LED **ON** = **DUAL** mode (separate speech and music amplification).
To change the mode, press key **1**.
Press key **6** to confirm your choice.

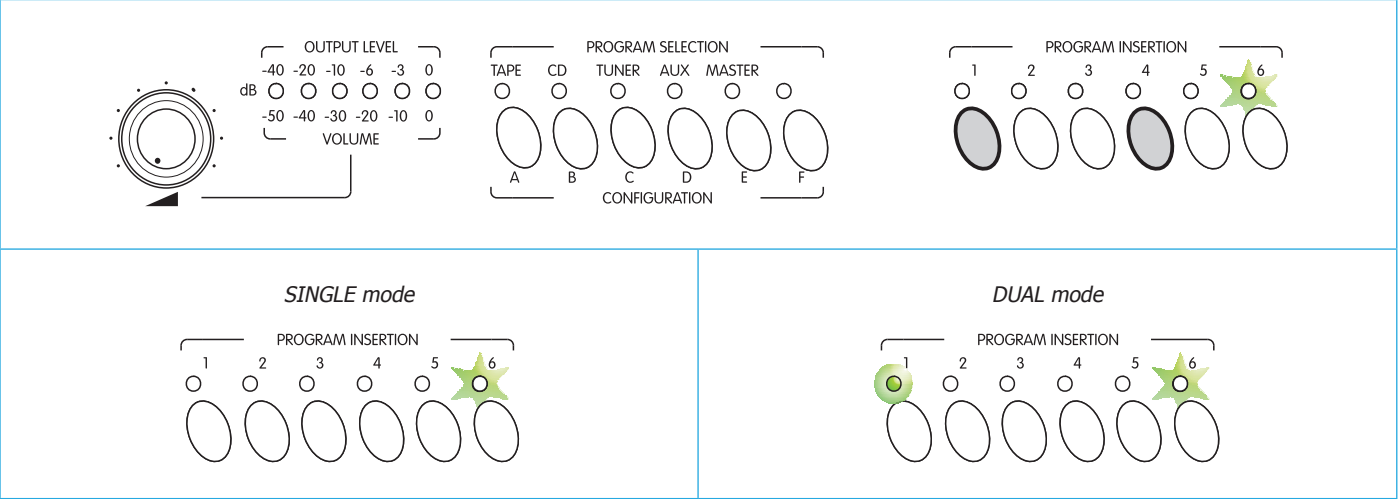


Fig. A12

• **Local chime (active for stations connected to the TO LOCAL UNITS socket)**

To enter the programming mode, press keys **1** and **3** at the same time. LED **6** will start to flash.
LED **1** will show the current mode setting:
LED **OFF** = Chime **not activated**
LED **ON** = Chime **activated**
To change the mode press key **1**; press key **6** to confirm your choice.



The volume of the Chime signal can be adjusted by means of the control (31) on the bottom of the equipment.

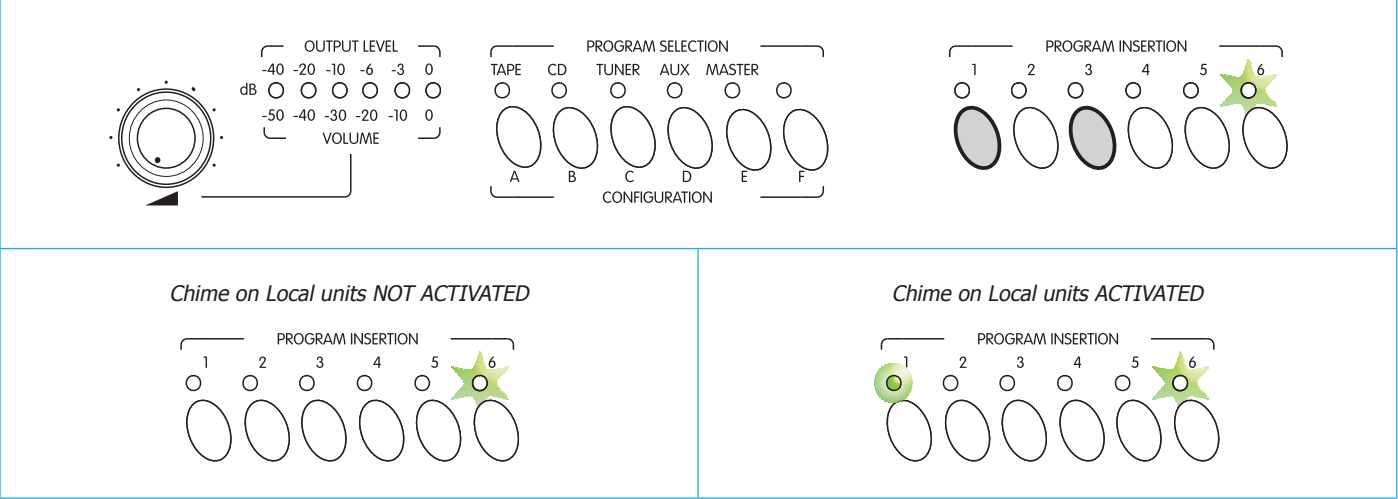


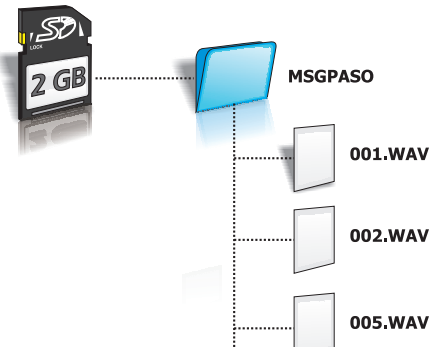
Fig. A13

3. ACMG8136 MESSAGE PLAYING CARD

The optional **ACMG8136** enables messages residing on the SD card to be played out by activating events programmed by means of the **P8136 Manager** software, specifically:

- Keys for selecting the Main Stations connected to the TO MASTER UNITS sockets.
- Input contacts of the ACIO8136 cards connected to the TO MASTER UNITS sockets.
- Timer Events with hourly, daily and weekly management, single or periodic cycles.

You can use a common application software for managing files in wave format to create messages to be transferred to the SD card, associated with an external drive for reading/writing to SD cards.



The SD card must have a capacity of at least 512 MB and not more than 2 GB (FAT16 or FAT32 formatting).

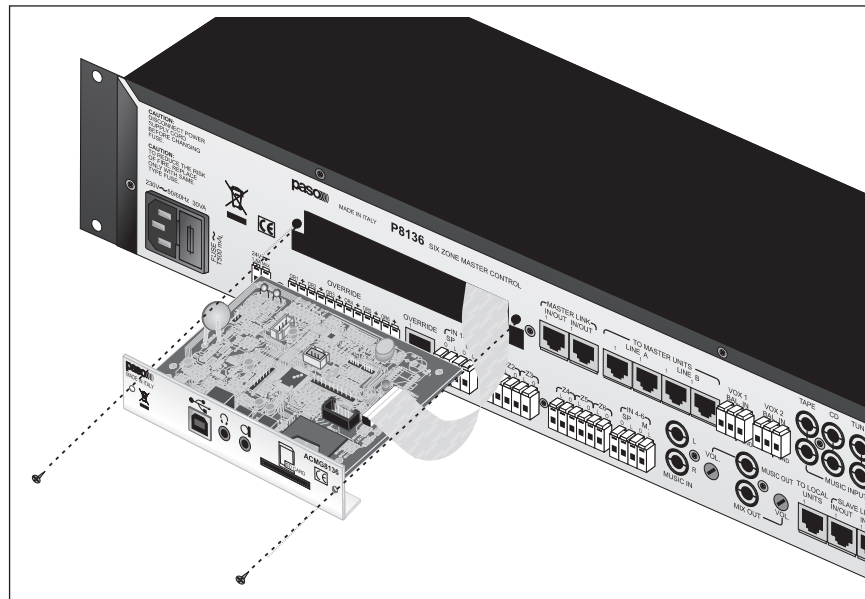


Fig. A14

***.WAV** files manageable by the system must be 16-bit files, 32.0 KHz or 44.1 KHz, mono or stereo. For stereo files, only the right-hand channel will be played out. To transfer the messages to the SD card and compile the Message Folder provided (MSGPASO), which can contain a list of up to a maximum of 127 associated messages, it is advisable to use the application included in the P8136 Manager software (P8136 Message Folder Compiler), together with the external drive.

If you do not use the P8136 Manager, the *.WAV files will have to be written in UPPERCASE characters.

Refer to the Help function of the **P8136 Manager** software for the programming procedure and for compiling the pre-recorded messages. When compilation of the Message Folder has been completed, the SD card will be ready to be removed from the external drive and used in the ACMG8136 unit.

• Installing ACMG8136 card

Remove the cover (34) from the rear of the **P8136** after unscrewing the two lateral screws, then insert the **ACMG8136** card into the compartment and connect it to the equipment by means of the 14-lead flat cable. Use the screws just removed to secure the card to the rear panel of the master unit. Once you have completed this mounting procedure, insert the SD card into the slot provided for it.

4. ACIO8136 EXPANSION CARD

The optional **ACIO8136** expansion card, for interfacing the system with external peripheral units, has:

- **6** optoinsulated input contacts.
- **6** relay type output contacts.
- **1** balanced audio line input with level control.

Depending on the required mode and on which connecting line is used, this card can function:

- as a **Master** Unit, connected to the **TO MASTER UNITS** socket (24) on the **P8136** panel – (*master mode*).
- as a **Local** Unit, connected to the **TO LOCAL UNITS** socket (30) of a **group-leader slave unit** – (*slave mode*).

In the **Master mode**, the **ACIO8136** card functions on the basis of the programming carried out by means of the P8136 Manager system software. The following can be defined for each input contact:

- its priority.
- idle status.
- emission of the signal present on its audio input or playing of a pre-recorded message in the zones configured (it is possible to program any zone in the whole system).
- activation of output events (it is possible to program the output contacts of any card in the whole system).



The optional **ACMG816** card is required in order to send out a pre-recorded message. The configuration software can be used to set the idle status of each output contact.

Before proceeding with the connection, check the general settings of the ACIO8136 described below.

In the **Local mode** the **ACIO8136** card functions as set at the time of installation by means of the jumper inside the card itself. Before proceeding with the connection, check the general settings of the ACIO8136 described below and the local settings of the ACIO8136 illustrated subsequently.

Attention: **ACIO8136** cards connected in the **slave mode** have a fixed priority of 5.

4.1 General settings for Master and Slave ACIO8136's

The settings of the ACIO8136 card are made by means of internal jumpers that are accessed by removing the four lateral fixing screws and the lid.



- = jumper connected
- = jumper not connected

• Master/Slave mode

Jumper **–S/M (J2)** selects the operating mode of the ACIO8136 card depending on whether it is connected as a Master Unit (**M**) or a Slave Unit (**S**):

Mode	-S/M
P8136	•
P8236	–

• Address

The three jumpers **ADDR2** to **ADDR0 (J1)** define the address of the card, which must be between **1** and **6**. The table shows the address selection:

ID	ADDR2	ADDR1	ADDR0
1	–	–	•
2	–	•	–
3	–	•	•
4	•	–	–
5	•	–	•
6	•	•	–

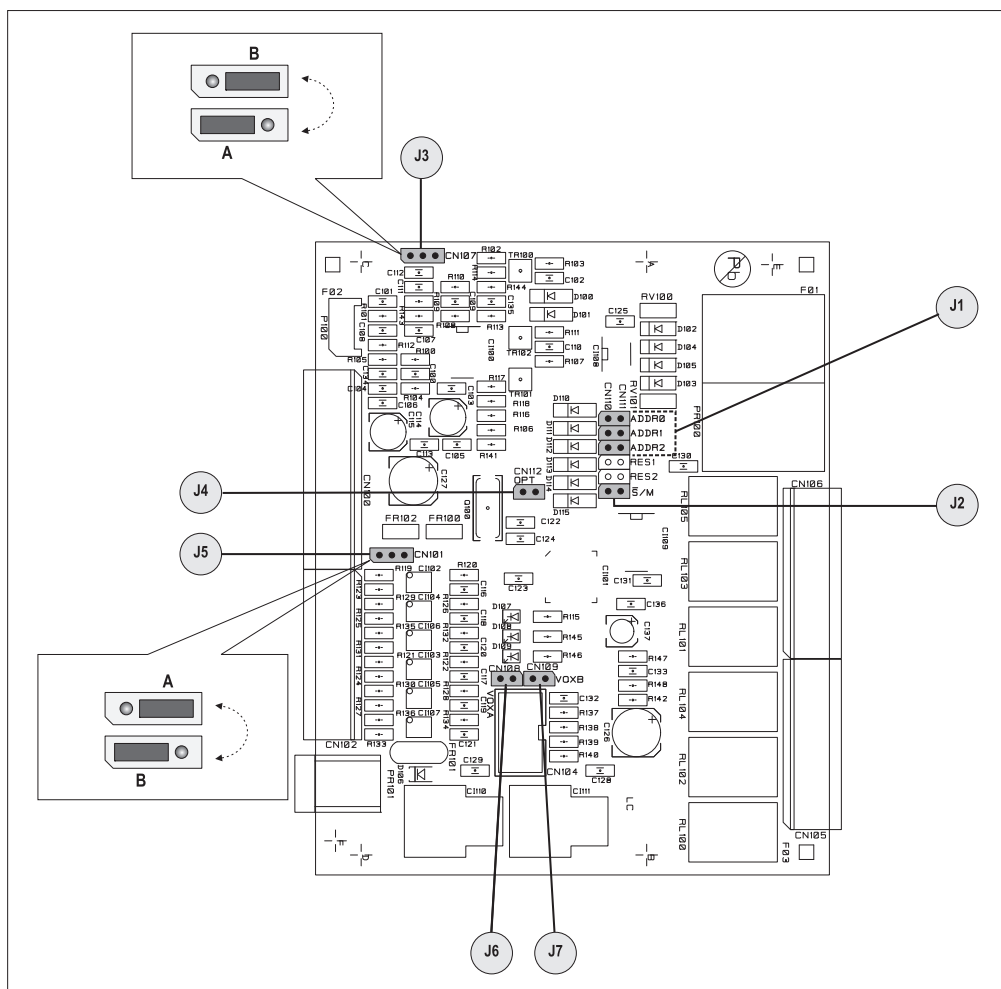


Fig. A15

- **Common negative of the optoinsulated input contacts**

The ports of the optoinsulated input contacts have one end (to which the negative pole of the driving tension refers) in common with each other, while the other end is connected directly to the 6-pole input terminal strip (41). The common end can be connected directly to the earth of the card by means of jumper **CN101 (J5)** in position **A** or it can be made available on the terminal (40) of the card with the jumper in position **B**. This possibility enables the inputs to be driven using the **+24V** service voltage (5) (jumper in position **A**) or by means of a voltage from another circuit (jumper in position **B**), keeping the card galvanically insulated from the equipment driving the inputs.

- **Speech filter (Low Cut Filter)**

Jumper **CN107 (J3)** in position **A** enables the lowest frequencies to be cut out so as to improve the intelligibility of speech. With the jumper in position **B** the full band is reproduced.

- **Audio input**

It is possible to connect a source of sound balanced at line level to the terminal strip (38). The level of the signal is of the semi-fixed type, adjustable by means of a screwdriver (37).

- **Power supply**

The card can be powered either directly by the slave unit by means of the connecting cable or locally by means of the socket provided for this purpose (42).

4.2 Settings for local ACIO8136's

- **Operating mode of audio input section and contacts ***

The two jumpers **VOXA (J6)** and **VOXB (J7)** define the operating mode of the card as far as concerns the activation and call criteria (see table opposite).

Operating mode	VOXB	VOXA
Activation via input contacts	•	•
Activation of VOX in All Call mode	•	-
Activation of VOX with zone selection	-	•
Activation of VOX with selection of slave units	-	-

- > **Activation via input contacts**

Closing of one or more input contacts (41) generates a request for a call send **to the Group-leader Slave**; the call refers to the zones corresponding to the contacts that are closed (**contact 1 – zone 1, contact 2 – zone 2** and so on).

The card accepts the contacts that close within **500 msec** starting from the first contact to close. Any closing occurring later will be ignored. If the slave enables the call, the card will activate the audio input line (38), otherwise it continues to wait to be enabled. The call ends when all the contacts open again.

- > **Activation of VOX in the All Call mode**

When there is a signal at the audio input (38), the card automatically generates an All Call request **to all the zones in the group**. If the group-leader slave enables the call, the card will activate the audio line, otherwise it continues to wait to be enabled. The call ends when there has been no input signal for over about four seconds.

- > **Activation of VOX with zone selection**

When a signal is present on the audio input (38), the card automatically generates a request for a call to the zones corresponding to the input contacts that are closed at the time of activation of **VOX (contact 1 – zone 1, contact 2 – zone 2** and so on); subsequent closing and/or opening of contacts will be ignored for the whole time during which VOX is active. If the group-leader slave enables the call, the card will activate the audio line, otherwise it continues to wait to be enabled. The call ends when there has been no input signal for over about four seconds.

- > **Activation of VOX with selection of slave**

When there is a signal at the audio input (38), the card automatically generates a request for a call referred to the input contacts that are closed at the time of activation of VOX. Subsequent closing and/or opening of contacts will be ignored for the whole time during which VOX is active. The input contacts will activate the corresponding zones as follows:

contact **1** = all the zones of the **group-leader slave**

contact **2** = all the zones of the **slave having the address 1 number higher than that of the group leader**

contact **3** = all the zones of the **slave having the address 2 numbers higher than that of the group leader**

.....

contact **6** = all the zones of the **slave having the address 5 numbers higher than that of the group leader**

* **In any case, calls can be made only by slaves belonging to the same group.**

If the group-leader slave enables the call, the card will activate the audio line, otherwise it continues to wait to be enabled. The call ends when there has been no input signal for over about four seconds.

- **Operating mode section relay outputs**

Jumper **OPT (J4)** enables operation of the relay contacts of the card to be configured (see table).

Relay mode	OPT
Replication of contacts	-
Card status	•

- > **Replication of contacts**

The contacts of the relays simply replicate closing of the input contacts in an orderly manner (**input 1 = relay contact 1, input 2 = relay contact 2** and so on).

- > **Card status**

The contacts of the relays are used to relay the information concerning the operational status of the card to outside:

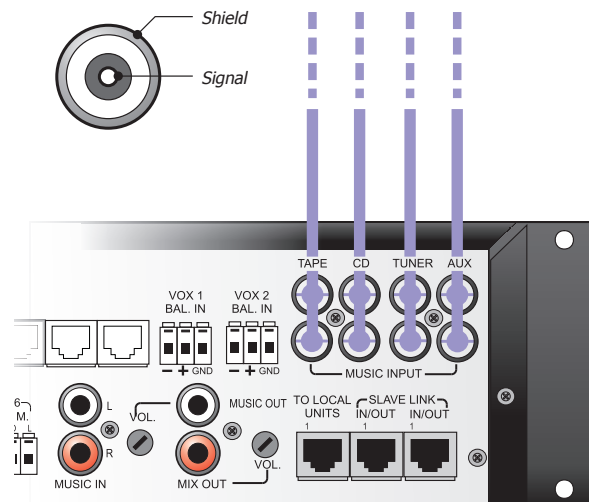
- **RL1 speech enable:** the contact is kept closed while the card is enabled to call;
- **RL2 speech enable negato:** the contact is kept open while the card is enabled to call;
- **RL3 busy:** the contact is kept closed while a call is in progress by another unit;
- **RL4 active input:** the contact is closed to indicate closing of one or more input contacts;
- **RL5 RL5 not used;**
- **RL6 VOX gate:** the contact closes to indicate the presence of a signal at the input of the card, **regardless of whether or not it is enabled**. The contact opens again when there has been no signal at the input for about 4 seconds.

CONNECTION OF MUSIC SOURCES

The music sources have to be connected to the **TAPE**, **CD**, **TUNER** and **AUX** inputs (32). The front-panel **PROGRAM SELECTION** keys (4-5-6-7-8) have the purpose of selecting one of the four sources connected or the music signal coming from another **P8136** master via the **MASTER LINK IN/OUT** sockets (20): it is possible to adjust the input volume of each source so as to balance their levels and adjust the general volume of the music channel that has been selected. The music signal will be present at the **MUSIC OUT** outputs (26) or **MIX OUT** outputs (27) of the slave, depending on whether the **DUAL** or **SINGLE** operating mode has been set, and including mixing of the signal, if any, at the **MUSIC IN** input (25).

If the music channel from the master selector switch is not used, it will be possible to use a local source connected directly to the **MUSIC IN** input (25). The music signal available at the output is also distributed to all the slave units connected, by means of **SLAVE LINK** socket (33). By enabling the music output on a remote Master Unit, it will be possible to send the program that has been selected to other P8136's of the system via the **MASTER LINK IN/OUT** sockets (20). This output is not affected by the general volume control.

ATTENTION: In a system with several interconnected Master Units, it is advisable that not more than one P8136 should convey the signal of the music source that has been selected on the **MASTER LINK** line so as to make it available to the remote Master Units.



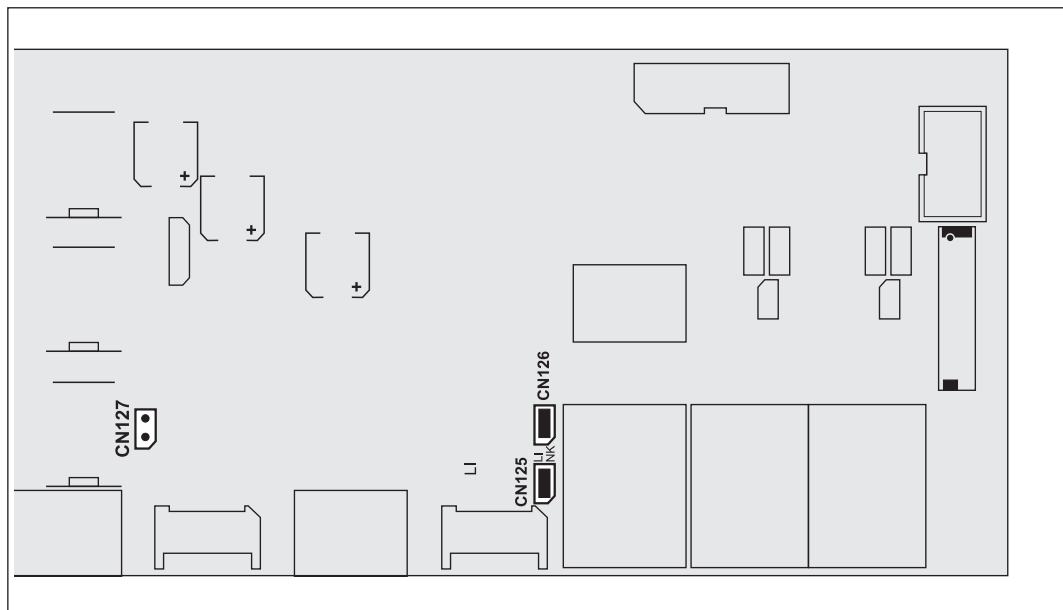
Settings and Controls see Appendix, Section A.

• Cutting of the music signal from a SLAVE LINK connection

If you wish to have local music only on a Slave Unit, rather than that selected for the Master Unit or available via the **LINK**, it is necessary to remove **CN127** from inside the equipment. This change will only affect the Slave Unit concerned and will not interfere with the signal sent to the subsequent Slave Units.



It is necessary to enter the **MUSIC IN** input with a signal at line level of maximum 0 dB and it is not possible to adjust the volume towards the other slave units. This volume can be set locally using the VOL trimmer referred to the output being used.



CONNECTION OF SOURCES TO THE VOX INPUTS

The two inputs with removable terminals **VOX1** (28) and **VOX2** (29) enable balanced or unbalanced sources at line level to be connected for automatic broadcasting of the input signal present without further activation controls. This makes it easier to implement applications with outside systems such as automatic message players, alarm tone generators, PABXs with audio outputs having provisions for PA calls, etc.

As soon as the input detects a signal higher than the threshold that has been set, the **SPEECH** channel is seized for broadcasting the signal in question to the zones set during programming.

A suitable GATE circuit enables the threshold to be adjusted so as to eliminate the effects of any background noise.

For each VOX input it is possible to set (referring to the P8136 Manager configuration *SW*):

- The input volume (this can also be adjusted via manual controls – See Appendix Section A)
- The sensitivity of the threshold (also adjustable via manual controls - See Appendix Section A)
- Priority (default setting: **VOX1=5, VOX2=2**)
- Any configuration of the broadcasting zones (default setting: all the zones covered by the Master Unit)
- A configuration of output events (the optional I/O ACIO8136 contact card will be required).



It is necessary to use cables with suitable shielding for line level audio signals to connect the VOX source.

CONNECTION OF AMPLIFIERS/SPEAKER UNITS

For connections on the amplifier input side refer to the amplifier manual, keeping in mind that the connection provides signals of the unbalanced type at line level.

• **System with amplification of a single speech channel/music (see point 5.1)**

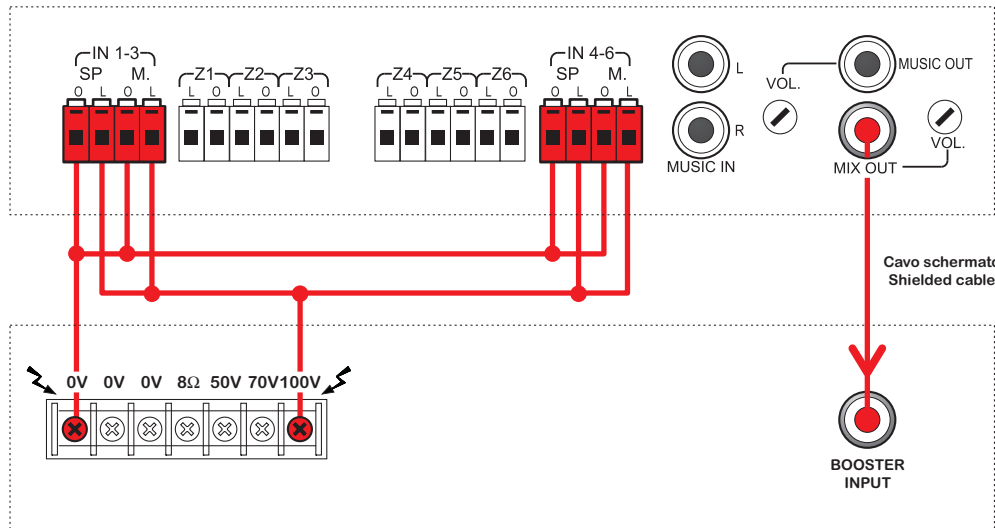
Connect the **MIX OUT** output socket (27) to the line input of the amplifier.

The **MUSIC OUT** output socket (26) is not used.

The output of the amplifier must be connected in parallel to the **SP** terminals (17) and (22) and to the **M.** terminals (18) and (23), as illustrated in the figure. If background music is not envisaged, it is possible to ignore the connection to the **M.** terminals.



Use only the constant-voltage outputs of the amplifiers (100, 70 or 50 V) and not those with a constant impedance (4, 8 or 16 Ohms): for correct power sizing of the system refer to the manuals of the amplifiers in question and to the features of the speaker units used.



• **System with dual amplification for separate Speech and Music channels (see point 5.2)**

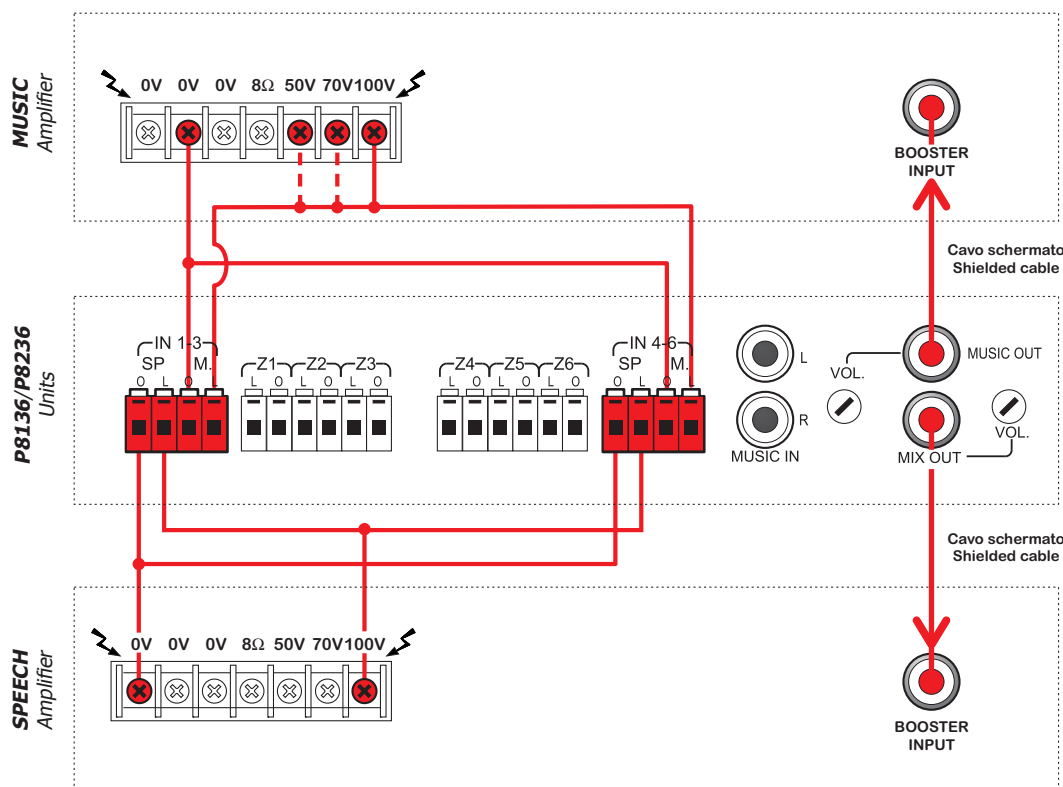
Connect the **MIX OUT** output socket (27) to the line input of the amplifier for the **SPEECH** signal.

Connect the **MUSIC OUT** output socket (26) to the line input of the amplifier for the **MUSIC** signal.

The output of the **SPEECH** amplifier must be connected in parallel to the **SP** terminals (17) and (22), while that of the **MUSIC** amplifier must be connected in parallel to the **M.** terminals (18) and (23), as shown in the figure.



Always pay great attention to the correct polarities between the amplifier output and the SP and M terminal strips: the 0V line of the amplifier on the 0 terminals of the panel and the 100V (or 70V or 50V) line of the amplifier on the L terminals of the panel. In the event of incorrect connection a short circuit could occur on the amplifier output.



Use only the constant-voltage outputs of the amplifiers (100, 70 or 50 V) and not those with a constant impedance (4, 8 or 16 Ohms): for correct power sizing of the system refer to the manuals of the amplifiers in question and to the features of the speaker units used.

• System with dedicated amplification for each zone (see point 5.3)

Connect the **MIX OUT** output socket (27) in parallel to terminals **SP** (17) and (22), then connect the **MUSIC OUT** output socket (26) in parallel to terminals **M**. (18) and (23).

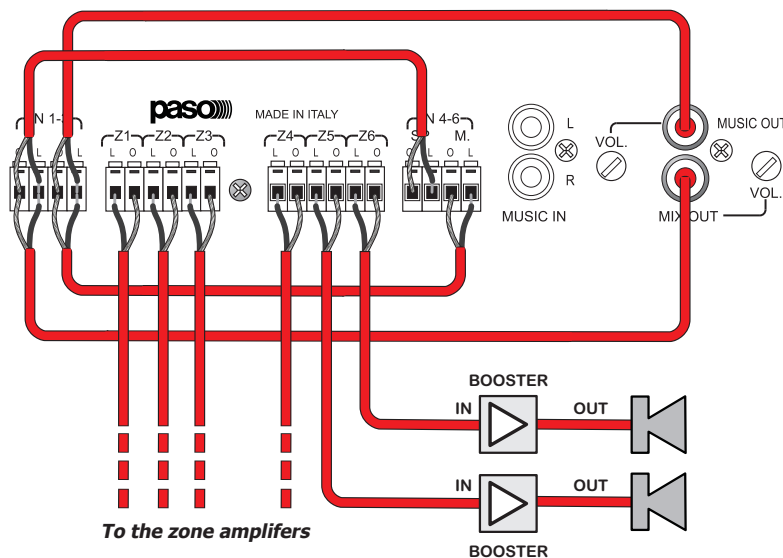
Use shielded cables and observe the signal polarities:

- The **signal** on the **L** terminal
- The **shield** on the **0** terminal

The signals to be sent to the inputs of the amplifiers are taken from the zone (19) and (21) output terminals.

Use shielded cables and observe the signal polarities:

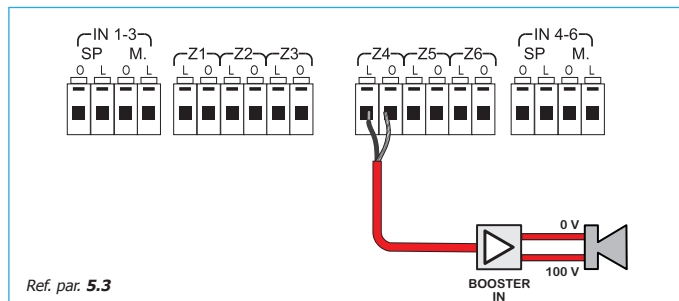
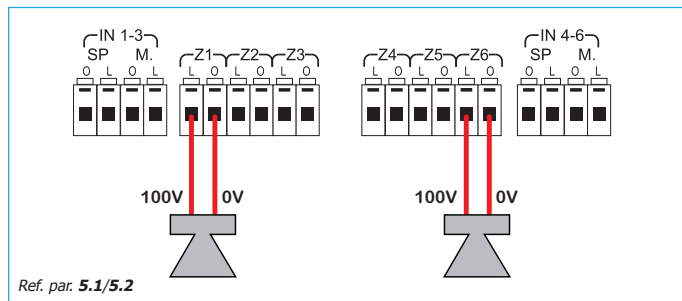
- The **signal** on the **L** terminal
- The **shield** on the **0** terminal



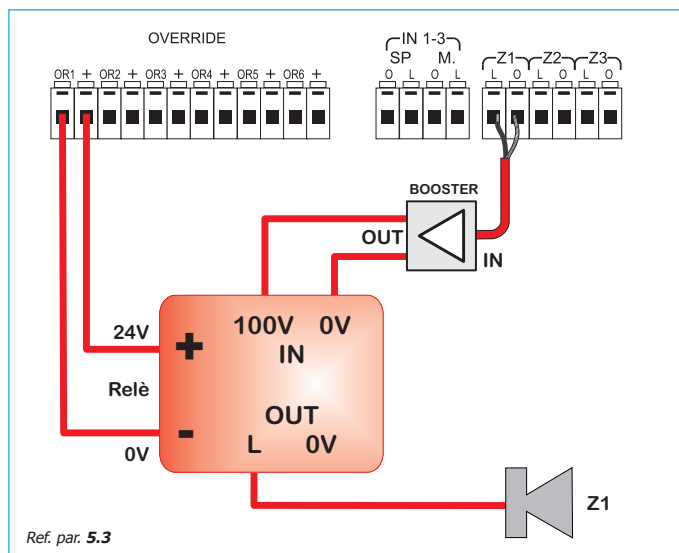
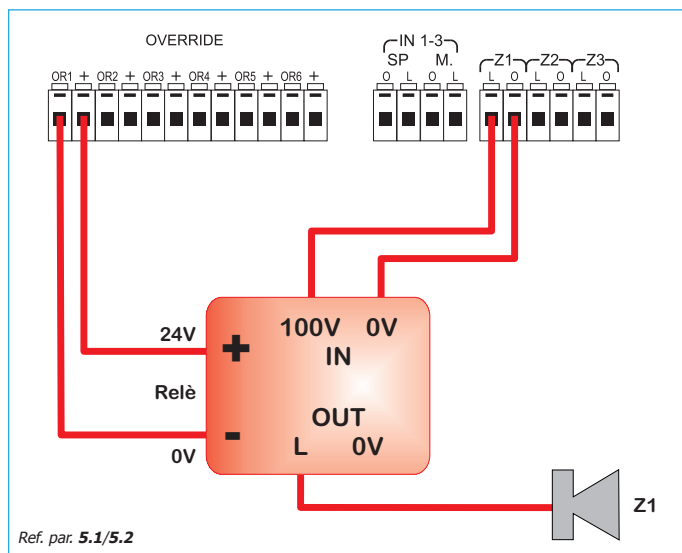
• Speaker units and override controls

For the cases referred to under points 5.1 and 5.2, the speaker unit lines are connected to the zone outputs of the panel using terminal strips **Z1** to **Z6** (19) and (21). Pay attention when connecting the line to observe the correct polarities **0** (0V) and **L** (100V, 70V or 50V) in order to maintain the correct phases of the speaker units. Consult the specific instructions for the speaker units used when making the connections.

For the case referred to under point 5.3, the speaker unit lines are connected directly to the power outputs of their respective zone amplifiers.



The 24 VDC controls for activating the by-pass relays of the volume controls for the speaker units are available on the **OVERRIDE** terminal strip (15), and replicated in parallel on the RJ45 socket (16). These controls are active for their respective zones subject to calls for enabling broadcasting of messages, always at the highest possible level. By way of example, the figure below shows the connection diagram of a control on **Zone 1**. The output voltages are protected by a resettable fuse. The maximum capacity of each of the 6 outputs is 100mA.



CONNECTION OF MICROPHONE STATIONS AND ACIO8136 CARDS

• Master Units

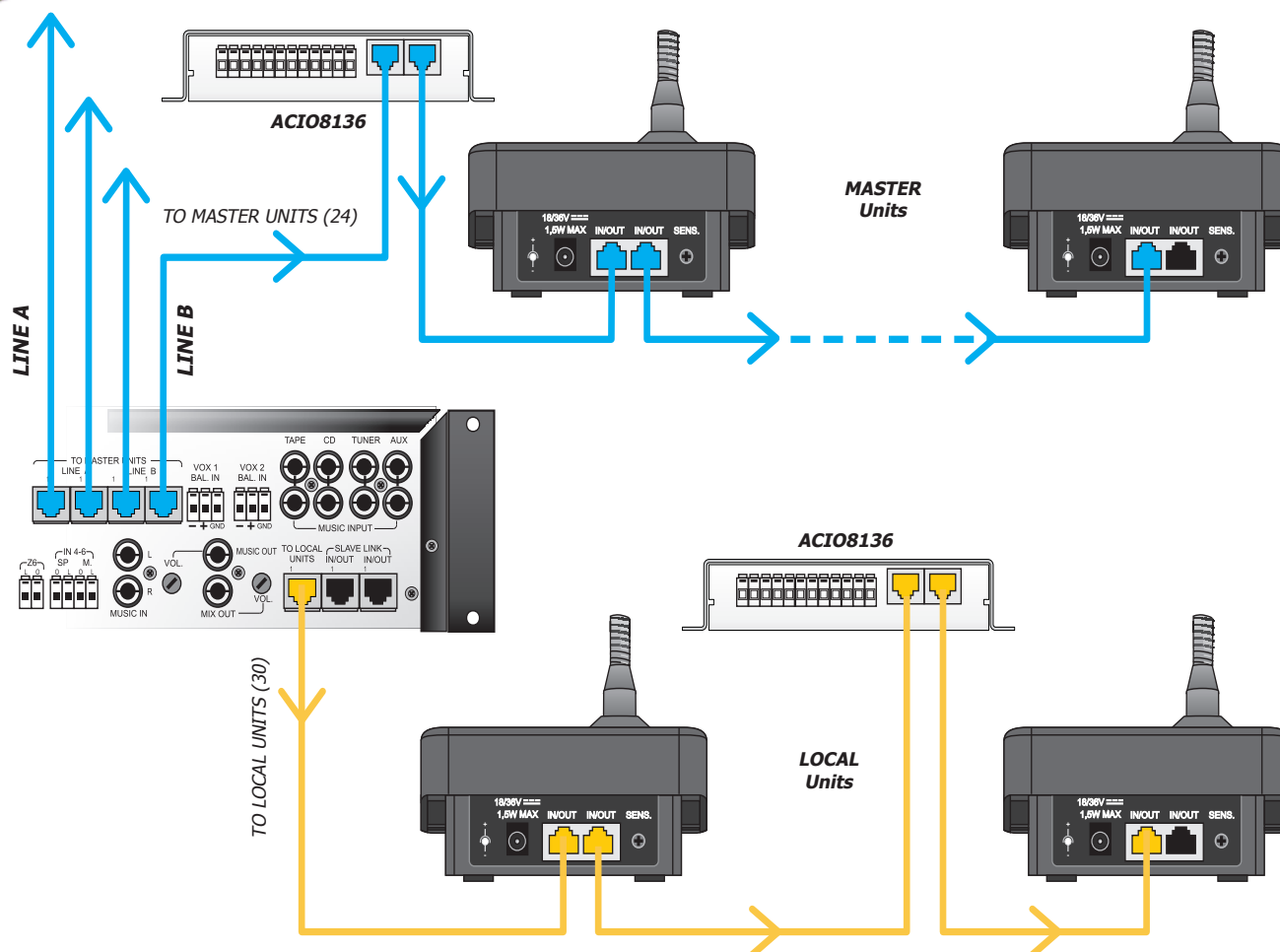
The microphone stations and the **ACIO8136** cards are connected to one another in cascade fashion using **CAT.5 SF/UTP** cable on the **TO MASTER UNITS** input (24). This input consists of 2 pairs of sockets **A** and **B**, to which it is possible to connect up to a maximum of **4** lines for a total of **16** Master Units.

• Local Units

The microphone stations and the **ACIO8136** cards are connected to one another in cascade fashion using **CAT.5 SF/UTP** cable on the **TO LOCAL UNITS** input (30). This input consists of a single socket to which it is possible to connect up to a maximum of **16** Local Units.



A call made from a Local Unit will always be cut off by any calls from a Master Unit.



Sizing

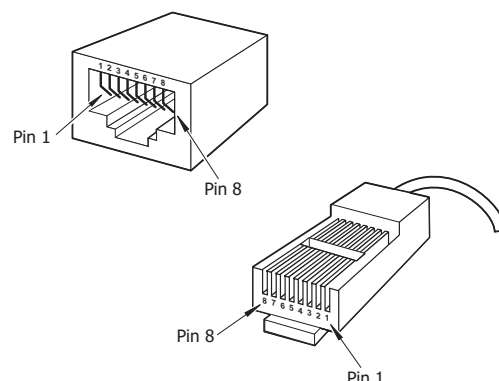
- Max. no. of units that can be connected to the **TO LOCAL UNITS** input: **16** (of which max. 6 ACIO8136's).
- Max. no. of units that can be connected to the **TO MASTER UNITS** input: **16** (of which max. 6 ACIO8136's).
- Maximum length of the line between the P8136/P8236 and the last Local Unit: **1 km**.
- Maximum length of the **A** line between the **P8136** and the last Master Unit: **1 km** (if the units are distributed along the 2 "A" lines, this distance refers to the sum of the lengths of the 2 lines).
- Maximum length of the **B** line between the P8136 and the last Master Unit: **1 km** (if the units are distributed along the 2 "B" lines, this distance refers to the sum of the lengths of the 2 lines).

It must be stressed that the sequence of connection is not conditioned in any way by the addresses of the stations and/or of the cards. The tables show the signals and the pinouts of the connectors.

STANDARD T568A	
Pin	Colour
1	white/green
2	green
3	white/orange
4	blue
5	white/blue
6	orange
7	white/brown
8	brown

STANDARD T568B	
Pin	Colour
1	white/orange
2	orange
3	white/green
4	blue
5	white/blue
6	green
7	white/brown
8	brown

Pin	IN/OUT
Shield	GND
1	Audio +
2	Audio -
3	GND
4	n.c.*
5	n.c.*
6	+DC
7	Serial +
8	Serial -



* = not connected

The **P8136** has two dedicated internal jumpers for setting the end-of-line load for the **TO MASTER UNITS** input, depending on the number of lines connected to the **LINE A** and **LINE B** sockets.

Adjustment is necessary above all in the event of connections over long distances (about 200-300 m upwards).

CN307 EOL A – CLOSED – Connection to **LINE A** socket on a **single** line (default setting)

CN307 EOL A – OPEN – Connection to **LINE A** socket on a **dual** line

CN305 EOL B – CLOSED – Connection to **LINE B** socket on a single line (default setting)

CN305 EOL B – OPEN – Connection to **LINE B** socket on a dual line



For connections over long distances, for both Master Units and Local Units, it is necessary to add an end-of-line plug on the free IN/OUT socket of the last unit connected. The circuit is made by connecting a 100 Ohm ¼ W resistor between PIN 7 and PIN 8 of the RJ45 socket on the PMB station or on the ACIO8136 card.

CONNECTIONS BETWEEN MASTER AND SLAVE

• Master/Slave

The **P8136** Master Unit and any **P8236** Slave Units are connected to one another by means of the **SLAVE LINK IN/OUT** link (**33**). This enables data to be exchanged between the Slave Units and places the audio signal of the Master Units connected to the P8136 in common. The **SLAVE LINK** (**33**) carries both the audio signal of the master stations and the music signal of the source selected on the P8136. In systems with no P8236 slave units the **SLAVE LINK** connection (**33**) is not used. The **P8136** – in its *slave* section – and the **P8236** each have a dedicated internal jumper for setting the end-of-line load for the SLAVE LINK connection, depending on the number of lines connected to the 2 **IN/OUT** sockets that is to say on its position in the sequence according to which the Slave Units are connected. Adjustment is necessary above all for connections over long distances (about 200-300 metres upwards).

CN106 – CLOSED – Connection of 1 line to own **SLAVE LINK** socket (default for P8136)

CN106 – OPEN – Connection of 2 lines to own **SLAVE LINK** socket (default for P8236).

• Master/Master

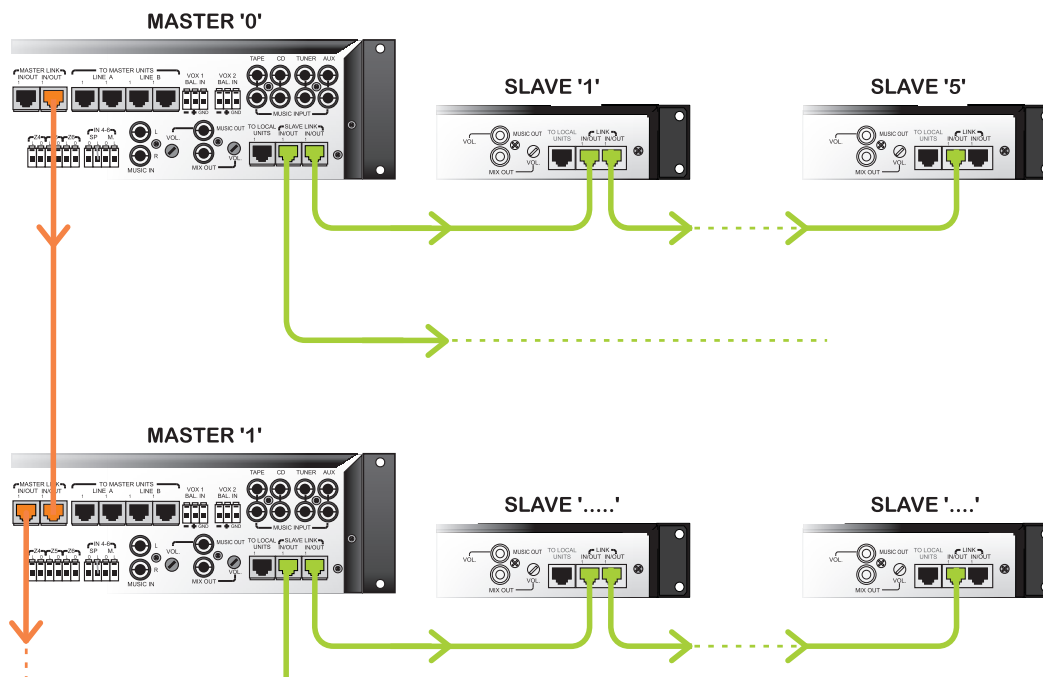
The various **P8136** Master Units are connected to one another by means of the **MASTER LINK IN/OUT** link (**20**); this enables data to be exchanged between the various different Master Units and enables them to call any zone that is available throughout the whole system. **MASTER LINK** (**20**) carries both the audio signal of the master stations and the music signal of the source selected on the P8136. In systems consisting of a single P8136 the **MASTER LINK** connection (**20**) is not used. The **P8136** has a dedicated internal jumper for setting the end-of-line load for the **MASTER LINK** connection, depending on the number of lines connected to the 2 **IN/OUT** sockets, that is to say on its position in the sequence according to which the various Master Units are connected. Adjustment is necessary above all in the event of long-distance connections (from about 200-300 metres upwards).

CN306 – CLOSED – Connection of 1 P8136 to own **MASTER LINK** socket (end-of-line Master Unit)

CN306 – OPEN – Connection of 2 P8136's to own **MASTER LINK** socket (default setting).

• Sizing

- Maximum no. of P8236's that can be connected to a P8136 via the **SLAVE LINK** line (**33**): **5**
- Maximum no. of P8136's that can be connected in a system via the **MASTER LINK** line (**20**): **6**
- Maximum length of the connecting line between the P8136 and the last P8236 connected to its **SLAVE LINK** line (**33**): **1 km** (if the P8236's are distributed on 2 lines, this refers to the sum of the lengths of both lines)
- Maximum length of the **MASTER LINK** connecting line (**20**) between the first **P8136** and the last **P8136**: **1 km**

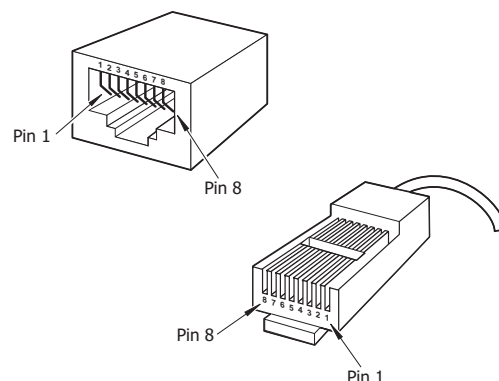


It must be stressed that the sequence of connection between the various different masters and/or between the various different slaves of a given line is not conditioned in any way by their addresses. The tables show the signals and the pinouts of the connectors.

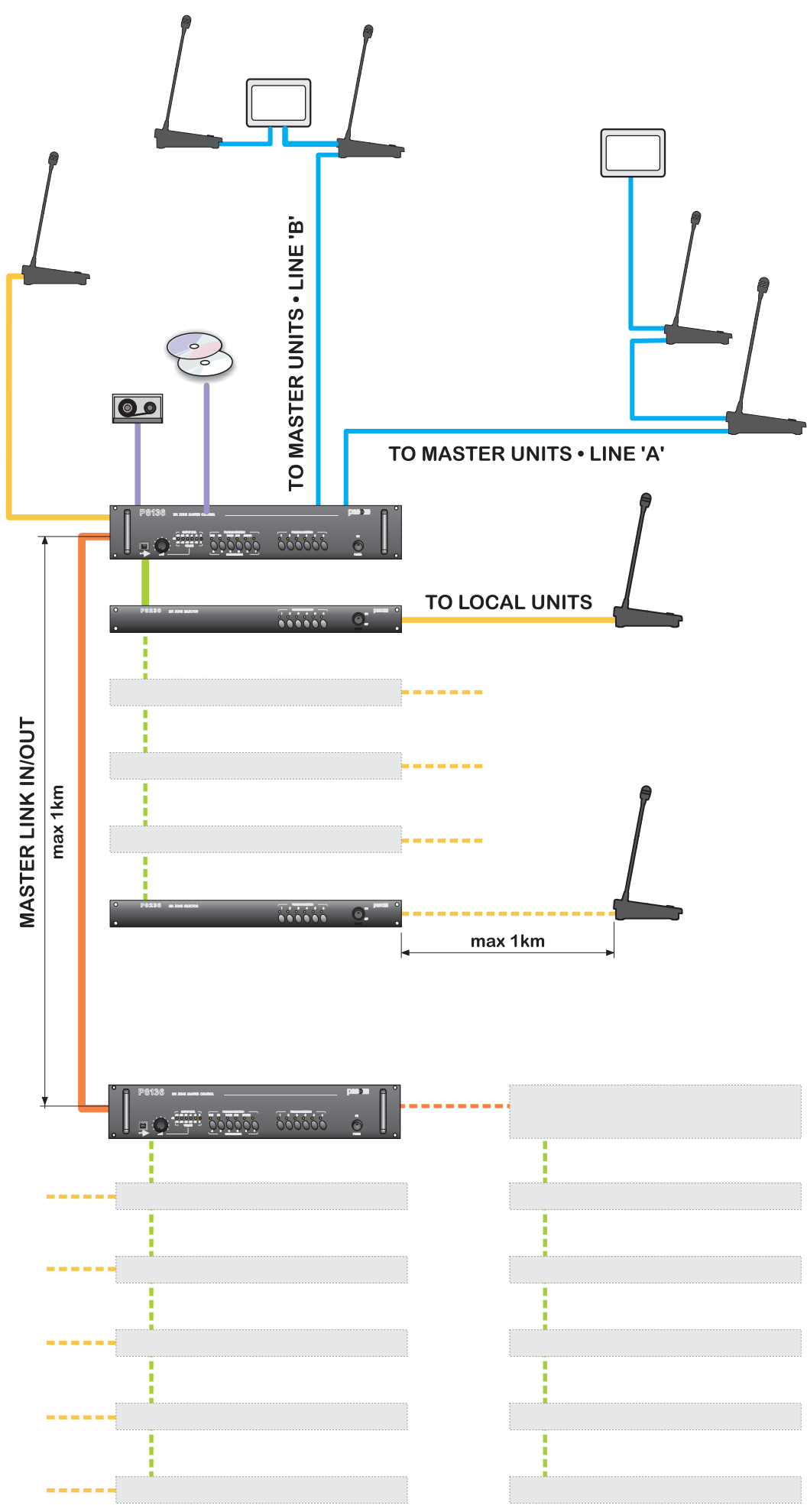
STANDARD T568A	
Pin	Colour
1	white/green
2	green
3	white/orange
4	blue
5	white/blue
6	orange
7	white/brown
8	brown

STANDARD T568B	
Pin	Colore
1	white/orange
2	orange
3	white/green
4	blue
5	white/blue
6	green
7	white/brown
8	brown

Pin	IN/OUT
Shield	GND
1	Audio +
2	Audio -
3	GND
4	n.c.*
5	n.c.*
6	+DC
7	Serial +
8	Serial -



* = not connected





WARRANTY

This product is warranted to be free from defects in raw materials and assembly. The warranty period is governed by the applicable provisions of law. **PASO** will repair the product covered by this warranty free of charge if it is faulty, provided the defect has occurred during normal use. The warranty does not cover products that are improperly used or installed, mechanically damaged or damaged by liquids or the weather. If the product is found to be faulty, it must be sent to Paso free of charges for shipment and return. This warranty does not include any others, either explicit or implicit, and does not cover consequential damage to property or personal injury. For further information concerning the warranty contact your local **PASO** distributor.

Important! Should the user wish to avail himself of servicing under the warranty, he must provide evidence of the purchase (invoice or receipt). The user shall also indicate the date of purchase, model and serial number indicated on the equipment. For this reason, you should complete the box below as a reminder of the data required.

MODEL:.....
SERIAL NUMBER:
PURCHASE DATE:



This product is in keeping with the relevant European Community Directives.

All **PASO** equipment is manufactured in accordance with the most stringent international safety standards and in compliance with European Community requisites. In order to use the equipment correctly and effectively, it is important to be aware of all its characteristics by reading these instructions and in particular the safety notes carefully.



Important information for correct disposal of the product in accordance with EC Directive 2002/96/EC This product must not be disposed of as urban waste at the end of its working life. It must be taken to a special waste collection centre licensed by the local authorities or to a dealer providing this service. Separate disposal of electric and/or electronic equipment (WEEE) will avoid possible negative consequences for the environment and for health resulting from inappropriate disposal, and will enable the constituent materials to be recovered, with significant savings in energy and resources. As a reminder of the need to dispose of this equipment separately, the product is marked with a crossed-out wheeled dustbin.

PASO S.p.A will not accept any liability for damage to property and/or persons arising out of incorrect use of the equipment or of procedures that do not comply with the instructions provided in this booklet. **PASO S.p.A.** strive to improve their products continuously, and therefore reserve the right to make changes to the drawings and technical specifications at any time and without notice.

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