

## The Basics

The wired axxent intercom system was developed for safe communication between the members of the system operating staff. Contrary to "walkie talkies" all members communicate with each other in full duplex, meaning simultaneous speaking and listening.

The system is based on the successful "party line technique", which means that all communicating participants can listen and talk with each other (like in a conference) meaning that there is no necessity to address the individuals, for example via a matrix system.

The components are connected with each other via standard 3pin XLR, like regular balanced microphone cables, which are inexpensive and reliable and available almost everywhere. Total cable distance of 100 metres and more have been tried with the system without problems. Each intercom component is equipped with a minimum of 2 intercom connectors, making the system wiring easy.

A system consists of at least 2 components, e.g. 1 main station plus a belt-pack or 2 main stations. Each station requires to be voltage powered. Power for the beltpacks comes from a master station via the microphone cable. Same with the signal lights. Alternatively the supply voltage can be provided by external power supply model PS100. For talking and listening a professional headset is used, either with one or with 2 ear muffs.

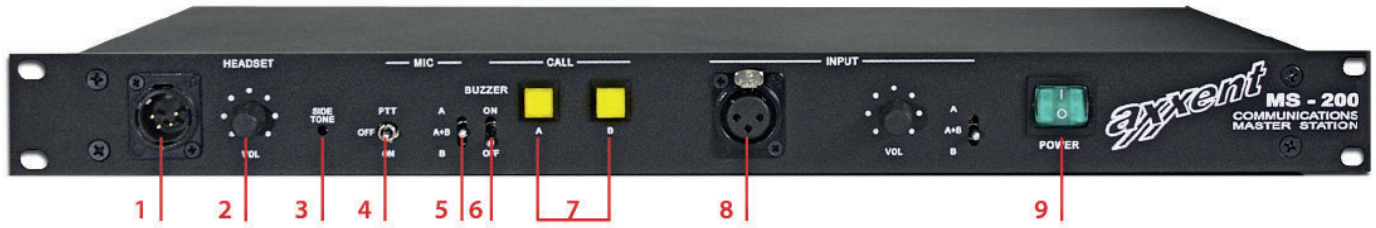
The call signalling is either handled by large separate signal light, looped in the regular wiring or via the built in signal lights of the components. In addition a piezo buzzer is integrated and can be activated when required, or preferred over a light signal. A beltpack (BP100V) also contains a vibration element, in case the light is overlooked.

Operating the axxent intercom system is almost self-explanatory, but here some help by giving you an oversight of the controls and their purpose as well as providing info on the system interfaces on the following pages. The index on the right hand side will guide you through this manual.



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### controls on the front side

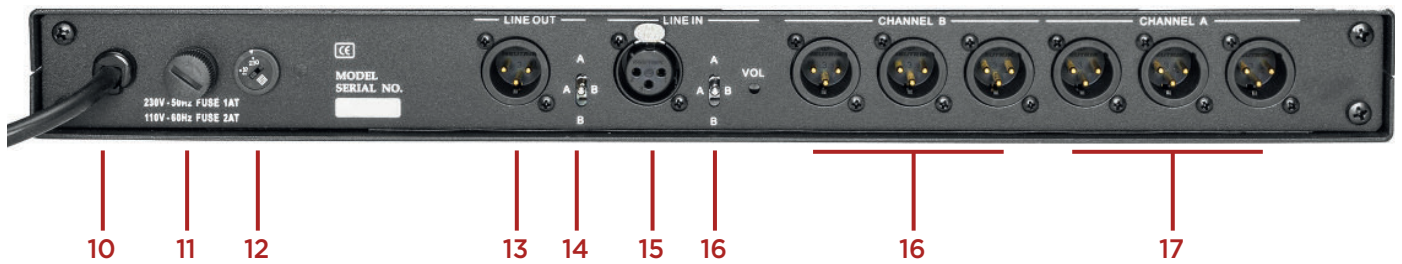
The model **MS200** is the standard main station of the axxent intercom system. It has two separate channels so that two user groups may communicate independently. These two groups can communicate separately from each other, but can not be interconnected. The operator of the main station, however, is able to communicate with both groups, either separately or with both groups simultaneously. The call buttons for both groups are also separate. One main station can supply the operating voltage for the attached intercom components via a standard XLR microphone cable. One main station provides supply voltage for more than 10 belt packs.

### controls in detail

On the front side of the main station you will find a couple of controls and plugs. On the left the 4 pin XLR male plug (1) for connecting a headset. Close by on the right (2), is the volume control for the earphone of the headset. Side-Tone controls (3): This control determines the volume of the headsets microphone. Adjust the volume according to your needs. Too high levels may lead to feedback, so it is recommended to stay below that level. The switch (4) has three positions: microphone **ON**; microphone **OFF** and microphone **PTT** = Push To Talk. The switch (5) **A**, **A+B** and **B** determines with which of the user groups you communicate from the master station. **BUZZER ON OFF** (6) is the **ON/OFF** switch for the piezo acoustical alarm.

While most likely not used during a theatre performance itself, it can be a helpful aid for rehearsals. Push buttons (7) for the alarm light, separately for channels **A + B**. 3 pin XLR female plug (8) is intended for an external input audio signal, such as program- or music signal. Line- and microphone levels are accepted. The input level control is located on the right hand side of the plug, so is the switch to determine the channels you want to use, either **A**, **B** or **both**. The **power switch** (9) is located on the right hand side of the panel.

We recommend to connect all components prior to turning on the unit. Controls and connectors on the rear side are described on the following page -->



### controls on the rear side

Left is the power cord outlet (10) and the fuse holder (11). In case the fuse should blow, please make sure you replace it with the same type e.g. 230 V, 1 Ampère, slow blow (regular commercially available glass fuse, 5 x 20 mm). Should the new fuse become defective again you most likely have to send in the unit for repair. Further right is the voltage selector (12) which in Europe should remain in the 230 V position. When switching to 110 V by accident the unit might be damaged and no warranty claim will help.



**LINE OUT:** This is a 3 pin XLR male line level output (13) providing a signal for recording, loudspeaker feed etc. The channels to be recorded can be determined by the close by switch (14).

**LINE IN:** 3 pin XLR female line level inputs. Here again the channel selector is located right hand (15). This input is also equipped with the (somewhat hidden) level control **VOL.** (14). The volume is adjusted with a mini crew driver.

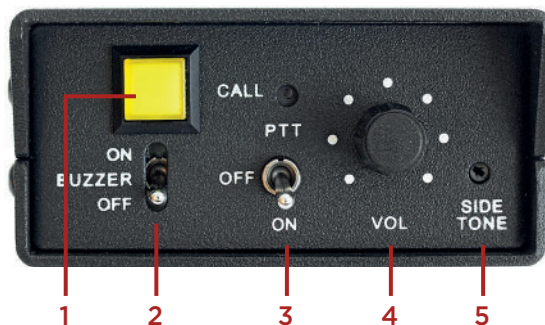


**CHANNEL B - (16)** These XLR connectors (male) carry the intercom connection signals. The three XLR plugs are wired in parallel, which means you do not have to care which of the connectors you use.

**CHANNEL A - (17)** the same applies to channel A. Please make sure that you only use high quality shielded microphone cable for the interconnection of the components, thereby avoiding hum and noise.

### Beltpack BP100

is the second important component of an intercom system: The beltpack is – as the name indicates – normally worn on the belt, using the steel clip. In case you break this rugged clip we recommend to order a new one as a replacement part. The front side of the BP100 carries the controls, while all connectors are located on the rear side.



**CALL**-button (1), with light indicator. Below is the buzzer **ON/OFF** switch (2), to generate an acoustical call buzz. In the middle of the panel is the 3-position microphone switch: **ON** (permanently), **PTT** = Push To Talk and **OFF** (3). Finally the volume control for the ear-phone (4) and the **SIDE-TONE**-control (5) for setting the cue volume of your own microphone. For all these controls the same hints apply as outlined for the master station MS200.



**Rear side:** Left is the 4 pin XLR male connector (6) for your headset. Right from this is the three pin XLR input (7) for the microphone cable from the main station or from other beltpacks and the 3 pin XLR male (8) connector for looping through the intercom signals to further beltpacks, signal lights, or loudspeaker stations.





### The beltpack BP100V

The difference between this model and the above described version BP100 is the lack of a piezo buzzer, providing a vibration alarm instead of it. This vibration alarm consists of a small rectangular unit with attached cable and a 3.5 mm phone jack, connecting to the BP100V. The vibration alarm unit can be carried in your pocket and calls your attention in case the signal light is not noticed. All other controls and connectors are identical to the belt-pack BP100.



### The beltpack BP101

This third axxent beltback model offers light and tone alarm like the model BP100 and a phone plug input to connect a vibration alarm module like the BP100V. This external module is available as an option.

An additional feature is a switch, located on the lower left hand side, allowing the alarm signal to either last for the time the CALL button is depressed, or (in the second position) for a period of appr. 4 seconds. The rear connectors are identical to those on the other axxent belt-pack models.

### CP100S half 19" mainstation with loudspeaker

Due to its compact size this loudspeaker station is also favourably used as a small main station. It may either be mounted in the optional 19" rack-mount kit RME100, or surface mounted (rubber feet included). Using the optional wallmount kit WMK100 it even can be mounted on a wall. The model CP100S may be looped in to the signal chain like any of the other intercom components. It derives its supply voltage from the included power supply PS24 (for more then 10 additional other units, like stations, beltpacks or signal lights) or via microphone cable from the main station. The optional model PS48 provides power supply for more then 20 units.



Wall-Mount-Kit WMK100



### Controls on the front side

**HEADSET** connector (1); **MIC** connector (2). Instead of connecting a headset here these inputs also can be used for connecting another external microphone such as a gooseneck or handheld (dynamic). In this case the loudspeakers will be used instead of the earphone. In case you use a headset you can disengage the built-in loudspeaker with the **SPKR** switch (3). Right from this you will find the **CALL** button (4). Beneath is an **ON/OFF** switch for the buzzer alarm. The 3-position talk switch (5) has the options: **OFF**, **PTT** (Push To Talk) and **ON**. The level of the loudspeaker or the earphone of the headset is controlled by the potentiometer (6). **SIDE-TONE**: To control the cue volume of your own microphone (7).





### Controls and connectors on the rear side

**LINE IN (1):** This is the XLR intercom connector for the microphone connection cable to the main station.

**LINE OUT (2):** Serves as loop through to other intercom stations. On the right hand is the RJ-45 connector (3) which can be used for power supply of the unit, either from the included **power supply PS24** or via microphone cable from the main station.

On the right hand side is the **power supply input (3)**. The unit needs approximately 24 volts DC. The included power supply PS24 not only delivers power for the CP100S but also for more than 10 additional components. If you need supply for over 20 units, we recommend use of the optional power supply PS48. The PS48 also has a ground connector for hum free operation.

On the lower right side you will find the switch **LINE TERMINATION (4)**. We recommend to activate this switch (ON). It's because it inserts a 300 ohms resistor for stabilising the normally somewhat "shaky" partyline signal chain. Within the intercom system only one line termination must be activated in order to avoid attenuation of the signal level.





Most important features of the MS100: Main station for 19" rack mounting 1 U (44 mm). Like the main station MS200 it operates as power supply for more than 10 belt packs. The model MS100 offers a 12 V cigarette lighter which may also serve as power supply for a mobile refrigerator or to charge a cell-phone. Also two rack light BNC connectors are provided.



### Controls on the front side

**ON/OFF** switch for both rack lights (1). **BNC** connector as input for rack light (2). Space for accessories, such as a mobile phone (3), 12 V cigarette lighter (4), **SIGNAL** light as call indicator (5), **CALL** button with light (6/7). Below this button is the **ON/OFF** switch for the **BUZZER** tone (6/7), switch for microphone: **PTT**= push to talk, **OFF** and **ON** (8), **VOLUME** control (9) for the earphone of the headset. **SIDE TONE** (10) volume control to set the cueing level of your own microphone. **COM CONNECT** (11) is a 3 pin XLR male plug for intercom connection. This for example connect to a belt pack or to another signal light (via a mic cable). **HEADSET** connector: 4 pin XLR male (12). **RACKLIGHT** BNC connector (13). **POWER ON/OFF** switch (14).

**Attention:** switch the unit on after you made all the connections to the intercom components.

### Controls on the rear side

**Fuse holder** (1). Standard glass fuses 5 x 20 mm, 1 A, slow blow, are used. Replace only with fuse of the same type. In case the fuse blows again the unit has to be sent in for repair. Voltage connector 110/230 V (2): in Europe this selector must be in the 230 V position. Switching to a 110 V position may damage the unit (no warranty). **Power cord outlet** (3), **LINE-OUT** (4) = 3 pin XLR male connector line level for recording or as a feed for PA systems. **COM CONNECT** (5) this 3 pin XLR male connector is the intercom output for connection of several intercom components using standard microphone cables.



Normally beltpacks, loudspeaker stations or signal lights receive their operating voltage from an intercom main station. These main stations are normally intended to be rack mounted. During the past few years a trend to the use of digital audio mixing consoles could be observed, eliminating in many cases the so called „side racks“ since these mixing consoles also have dynamic processors on board. Sound engineers therefore avoid additional 19" equipment. We have reacted to this trend and developed an external power supply for small intercom components such as beltpacks. The voltage supply is delivered by a standard microphone cable. With the new power supply PS100 up to 6 beltpacks may be connected.



### Controls on the front side

Power switch (1) – Please switch on only after connecting all other components. Voltage selector 110/230 V (2). In Europe leave this selector in the 230 V position otherwise the unit can be damaged. Fuse holder with glass fuses, 5 x 20 mm, 200 mA slow blow (3). Only replace with fuses of the same current. In case the fuse blows again sent in the unit must be return for repair. OVERLOAD LED (4) indicates that possibly too many components have been connected. POWER LED (5).

### Controls on the rear side

On the rear side of the power supply PS100 you will find the power cord outlet and the two XLR intercom connectors (6+7). A total of 6 beltpacks may be powered by the PS100 (for example 3 beltpacks per output or 6 on one output). The case of the power supply is very rugged and made of steel with a special coating for years of flawless operation. Rubber feet are provided for safe surface mounting. An XLR gender changer adaptor (Neutrik NC3FF), female to female is being provided with the PS100 power supply. It helps in certain cases, where you don't have two female XLR connections to the PS100 available.

The light dome of the LP100 is made of white matte glass and can be noticed even at large distances. The LP100 has no controls, solely an intercom connection in-/ and output. Models with colour light indicators are also available.

The operation voltage is carried by the microphone cable. The signal lights may be looped into the intercom signal chain as you like, e.g. main station, beltpack. The power is looped through. All axxent signal light models are equipped with identical 3pin connectors.



### signal splitter ILS3

In case you run into trouble with the single output on the main station MS100 or CP100S for looping through the signal, we provide a solution with the signal splitter ILS3. The ILS3 allows you to split an input signal into 3 output signals at any point of the intercom system. The installation is easy and self explanatory.



ILS3 input



ILS3 outputs