

# EM-201

SINGLE CHANNEL BELTPACK  
E-200 SERIES INTERCOM SYSTEM

## OWNERS MANUAL



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## INTRODUCTION

Congratulations on your purchase of the **ALTAIR E-200 SERIES** intercom system, single channel beltpack **EM-201**.

There are many characteristics that makes of the **ALTAIR EM-201** one of the most highlighted in the audio professional market, some are enumerated here:

- Metallic (Aluminium) low weight box. Oval shape. Plastic Belt Clip.
- Mic On/Off push switch (push to Talk / latching action) with led indication.
- Remote Mic-Off (Mic-Kill) operation.
- Buzzer on Call with On/Off push switch and indication led lamp.
- Remote Buzzer-Off (Buzz-Kill) operation.
- Large Call On/Off switch with high visibility light.
- Microphone compressor-Limiter

## SWITCHES, CONTROLS, ADJUSTMENTS AND CONNECTORS

These are the switches, controls, adjustments and connectors that you can find in your ALTAIR single channel beltpack. The description and explanation of each one will be found in the corresponding section.

### FRONT PANEL



ON/OFF/PTT



MIC ON/OFF/PUSH TO TALK SWITCH.

ON/OFF



BUZZER ON/OFF SWITCH.



CALL SWITCH.



VOLUME CONTROL.

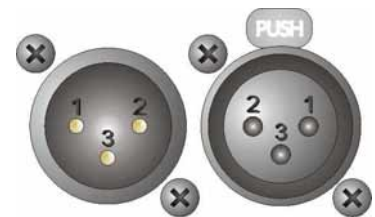


**REAR PANEL**



**INTERCOM LINE CONNECTION**

The intercom line connection takes place by means of shielded two-conductor microphone cable type and XLR-3-31/XLR-3-32 connectors. The belt pack has a XLR-3-31 and a XLR-3-32 connectors wired internally in parallel. The next chart shows the distribution of the signals in the XLR connectors.



XLR-3-31/XLR-3-32 – INTERCOM LINE	
<b>PIN 1</b>	0 V
<b>PIN 2</b>	<b>+VCC</b>
<b>PIN 3</b>	SIGNAL

In the installation and connection of the intercom network it is necessary to keep in mind important rules in order to avoid earth loops, minimize the power loss and the effect of electromagnetic fields as much as possible:

- Pin 1 should not be connected to the shell of the XLR connector.
- Don't close the intercom line connection. Each intercom line leaves from the main station toward the remote stations, but it doesn't return to the main station.
- Use high quality cables and minimize its longitude. The DC resistance of a low quality cable or with a great longitude affects to the power consumption, the channels crosstalk and the system frequency response.



## OPERATION

The E-200 series intercom system are designed to allow maximum easy communications operation between the different control areas in music or theatre live performances, television, cinema, conference halls, and whatever broad events where multiple and fast communications are required, by means of its simultaneous listening-speaking operation system.

The Single Channel Beltpack EM-201 unit was designed for intensive use in portable applications. An unbreakable plastic belt clip enables easy and secure suitability. Call signalling is Dual, visual and audible for improving adaptability. The unit can be configured for dynamic or electret microphones enabling the use of different types of headsets and hands-free earpieces in the market.

The EM-201 is designed for its connection to a intercom channel line and is provided with a CALL switch, a MIC on/off switch, BUZZER on/off switch, headphones volume control, side-tone control and connectors to it's connection to the intercom line.

## HEADSET CONNECTION

A XLR-4 type connector (XLR-4-32) allows to connect a headset and a microphone to the beltpack. The headset impedance must be of 200 Ω or higher (up to 2 KΩ) and the microphone may be dynamic or electret type.

For the electret microphone type is necessary to enable the phantom power of 9 VDC with an internal preset. In order to obtain more information, consult the special operation section.

The next list shows the XLR pins correspondence:



HEADSET - XLR-4-32	
<b>PIN 1</b>	0 V (MICROPHONE)
<b>PIN 2</b>	SIGNAL (MICROPHONE)
<b>PIN 3</b>	0 V (HEADPHONES)
<b>PIN 4</b>	SIGNAL (HEADPHONES)

**NOTE:** Headphones could be with a double or single muff. In case of using a double muff headphone, the two speakers should be wired in parallel mode.

## MIC ON/OFF/PUSH TO TALK SWITCH (TALK)

ON/OFF/PTT



The TALK switch allows to enable/disable the microphone, so that we are able to speak with other units connected to the same intercom channel.



If the microphone is activated, its associated LED will light up, and on the other hand, if it is disabled, its associated LED will turn off.

The TALK switch has two operation modes. When this switch is pressed quickly the microphone changes its state, if it was enabled, upon being pressed it gets disabled and turns off the associated LED, and if it was disabled, upon being pressed gets enabled and turns on the associated LED.

When the TALK switch is pressed and held, the unit will enter in the special function PUSH TO TALK, this means that the microphone will be enabled until the switch is released.

The unit provides a MIC-KILL (turns off the MIC) system, so that when the mic is enabled it is possible to muted it by the MIC-KILL function of the master station ALTAIR EF-200. This MIC-KILL system is compatible with other intercom systems of the market.

## **BUZZER ON/OFF SWITCH**

This switch enables/disables the buzzer sound when the unit receives a call. Whenever this switch is pressed, and the buzzer is enabled, it will be disabled, and the LED indicator will turn off. On the other hand, if the buzzer was disabled, it will be enabled and the LED indicator will lighten up.

ON/OFF



The buzzer also sounds when any switch is pressed, emitting a short hoot, whose level is higher when it is enabled than when it is disabled.

The unit provides a BUZZER-KILL (turns off the BUZZER) system, so that when the buzzer is enabled it is possible to muted it by the BUZZER-KILL function of the master station ALTAIR EF-200. This BUZZER-KILL system is compatible with other intercom systems of the market. The BUZZER-KILL system could be disabled with an internal preset. In order to obtain more information, consult the special operation section.

## **CALL SWITCH**

When this switch is pressed, a call signal is sent to the intercom channel in which it is connected the beltpack. The call signal makes the LED associated with the switch to start blinking; if the buzzer is enabled (see buzzer on/off section for more information) an intermittent sound takes place during about three seconds, the same as in all the units (beltpacks, desk stations, master stations, etc.), connected to the same intercom channel.





If the CALL switch is pressed continuously, the duration of the call signal will be higher (the time that the switch is pressed, and approximately 3 seconds more).

If a call signal is generated in an external unit (beltpacks, desk stations, master stations, etc.), the LED associated with the CALL switch will start blinking and if the buzzer is enabled (see buzzer on/off section for more information) an intermittent sound will take place during about three seconds.

## VOLUME CONTROL

The volume control allows attenuating or amplifying the signal sent to the headphones. This control adjusts the listen level to the headphones as you wish.



## SIDETONE CONTROL

The sidetone control adjusts the level of your own voice as you hear it in your headphones. It is designed to make approximately in the potentiometer halfway travelling the maximum cancellation of your own voice (that is to say that you won't hear your voice through the headphones), totally to the right or to the left giving the maximum level of voice, going by all the intermediates positions of level.



## SPECIAL OPERATIONS

In order to set-up some of the single channel beltpack, the unit must be opened, removing the two external screws of its rear panel.

**NOTE:** *This type of operations takes place with the unit open, for what it should be carried out by a qualified technician.*

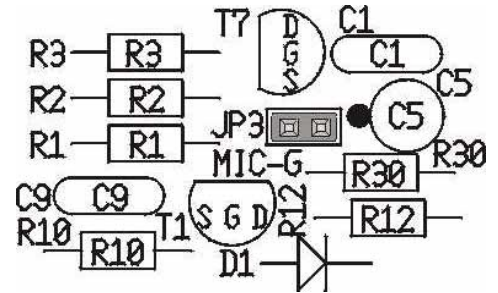
**DANGER:** *Before opening the unit, disconnect it from the intercom channel and from the headset.*

**CAUTION:** *Protect the single channel beltpack from the rain and moisture, mostly if it is opened. If liquid is spilled into the unit, disconnect it from the intercom channel and consult a qualified service technician.*



### CHANGING THE MIC GAIN

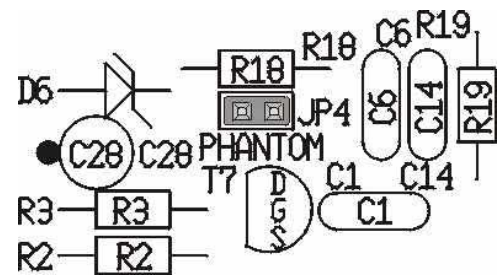
The microphone preamplifier gain could configure with an internal jumper (JP3/ MIC-G) in 30 or 40 dB. With this jumper removed, the gain of the microphone preamplifier is 30 dB, and with this jumper placed the gain is 40 dB.



### ACTIVATING THE MICROPHONE PHANTOM POWER

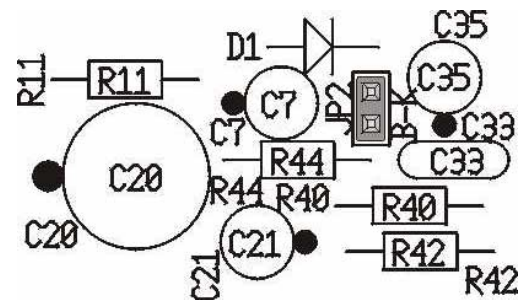
The microphone PHANTOM power could be activated or disabled with an internal jumper (JP4/ PHANTOM). With this jumper removed, the phantom power is disabled and with this jumper placed the phantom power is activated.

If an electret microphone is used, the PHANTOM power must be enabled and if a dynamic microphone is used, the PHANTOM power must be disabled. The microphone PHANTOM power is 9 VDC.



### ACTIVATING THE REMOTE BUZZER KILL

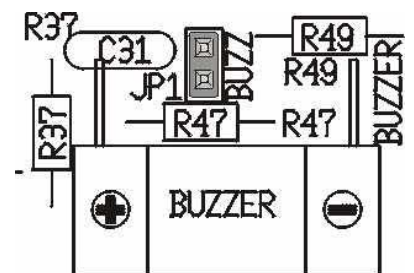
The remote buzzer kill function could be disabled with an internal jumper (JP2/ B-K). With this jumper removed, the remote buzzer kill function is disabled, and with the jumper placed the remote buzzer kill function is activated.



### CHANGING THE BUZZER LEVEL

The buzzer sound level could configure by means of an internal jumper (JP1/ BUZZ-L). With the jumper removed, the buzzer sound level is lower than with the jumper placed.

The buzzer sound level should be adapted to any circumstance (environments more or less noisy).



**TECHNICAL SPECIFICATIONS**

<b>PREAMPLIFIER</b>	
<b>MICROPHONE TYPE:</b>	• Dynamic or electret.
<b>INPUT IMPEDANCE:</b>	• 4,7 K $\Omega$ .
<b>NOMINAL/MAX LEVEL:</b>	• -45 dBu (H) / -20 dBu (L).
<b>PRESENCE FILTER:</b>	• +6 dB @ 4700 Hz.
<b>PHANTOM VOLTAGE:</b>	• +9 VDC (internal preset).
<b>HEADSET AMPLIFIER:</b>	
<b>IMPEDANCE:</b>	• 200 $\Omega$ (nominal) / 2 K $\Omega$ (maximum).
<b>MAXIMUM LEVEL (200 <math>\Omega</math>):</b>	• 20 Vpp.
<b>OUTPUT POWER (200 <math>\Omega</math>):</b>	• 250 mW.
<b>FREQUENCY RESPONSE:</b>	• 250 Hz – 15 KHz ( $\pm$ 3 dB).
<b>INTERCOM LINE:</b>	
<b>IMPEDANCE:</b>	• 220 $\Omega$ AC / 4700 $\Omega$ DC.
<b>NOMINAL LEVEL:</b>	• -10 dBu.
<b>MAXIMUM LEVEL:</b>	• 3 dBu.
<b>CALL THRESHOLD:</b>	• 3 VDC.
<b>REMOTE MIC KILL:</b>	• Power Interruption: 100 ms.
<b>REMOTE BUZZ KILL:</b>	• 100 Hz / 800 mVp.
<b>SIDETONE CANCELLATION:</b>	• Adjustable 0 – 30 dB @ 1 KHz.
<b>BUZZER:</b>	• 90 dBA / 100 dBA (internal preset).
<b>POWER SUPPLY:</b>	• 12 – 30 VDC. 24 VDC nominal.
<b>DC CURRENT:</b>	• 30 mA
<b>DIMENSIONS:</b>	• 84x38x130 mm.
<b>WEIGHT:</b>	• 270 gr.

**NOTE:** Technical specifications are subject to variation without previous notice.

**WARRANTY**

This unit is warranted by Equipos Europeos Electrónicos to the original user, against flaws in the manufacturing and in the materials, for a period of one year, starting from the date of sale. Flaws due to wrong use of the unit, internal modifications or accidents, are not covered by this warranty.

There is no other warranty expressed or implicit. Any faulty unit must be sent, to the dealer or the manufacturer. The serial number of the unit must be included with any request for the technical service. Equipos Europeos Electrónicos reserves the right to modify the prices or the technical specifications without notice.

**SERIAL NUMBER** .....



# European Union Waste Electronics Information Unión Europea Información sobre residuos electrónicos

## ***Waste from Electrical and Electronic Equipment (WEEE) directive***

The WEEE logo signifies specific recycling programs and procedures for electronic products in countries of the European Union. We encourage the recycling of our products. If you have further questions about recycling, contact your local sales office.

## ***Directiva sobre Residuos de Aparatos Eléctricos y Electrónicos (RAEE)***

El logotipo de la Directiva RAEE se refiere a los programas y procedimientos específicos de reciclaje para aparatos electrónicos de países de la Unión Europea. Recomendamos el reciclaje de nuestros productos. Si tiene alguna consulta, póngase en contacto con su Distribuidor.



Information based on European Union WEEE Directive 2002/96/EC

Información basada en la Directiva de la unión europea RAEE 2002/96/EC y el Real Decreto 208/2005

**AUDIO ELECTRONICS DESIGN**



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