IPcom Series

Digital Intercom Audio Interface Over IP

ALTAIR IPCOM IPX-301
2W-4W Intercom Audio Interface

USER MANUAL

March 2023 version

EN

ALTAIR

AUDIO | BROADCAST | **COMMUNICATION PRODUCTS**

Index

Included in the supply

1x IPX-301 One channel IP >< Intercom/Analogue audio

2x 3 pin 3.50 Euroblock connectors

1x Operating Manual

INTRODUCTION

ALTAIR IPCOM IPX-301
2W-4W Intercom Audio Interface

INTRODUCTION

The **IPX-301 Interface** unit acts as a **multi-purpose bridge** between the Altair IPcom Series systems and the following systems:

- **Two-wire** wired intercom systems (**2W**) -Altair E-200 Series- and other brands.
- **Two-wire** wireless intercom systems (**2W**) -Altair WB-200 Series-.
- Standard systems based on **four-wire** input/output analog audio (**4W**)
- Analogue professional audio devices. Balanced In/Out.

The IPX-301 unit includes two modes of operation in the 2W (two-wire) section: Beltpack Mode and Base Mode.

- Beltpack Mode: In this mode the IPX-301 unit is capable of powering up to 5 wired beltpacks without the need for any additional power or master station.
- Base Mode: This mode is used to connect to complete powered systems such as wired/wireless intercom systems.

The device is mounted in a robust metal case whose dimensions have been designed so that up to four units can be mounted in a 1U rack space using the rack accessory kit.

The IPX-301 Interface model is powered remotely via PoE (Power over Ethernet), either directly from the network switch or via an external PoE source. In addition, it includes a 24V DC input with anti-pull safety connector on the front panel, which can be used as a main power supply if PoE is not available, or as part of a redundant power supply design (recommended).

The IPX-301 Interface connects via an Ethernet network supporting 100/1000 Mbps with 24-bit / 24 KHz (High Quality) uncompressed digital audio transported as "Audio over IP" (AoIP). The model gives the option of reducing the audio quality, to improve performance in cases where the network is over saturated, to 16 bits / 12 KHz (Lower Quality).

Like the rest of the Altair IPcom Series device, the NEBULA Configuration Software will be used to assign intercom groups, define the different audio levels and configure all the parameters of the unit. Up to 6 intercom groups (Party-Line, One-To-Many) can be assigned at the same time. Each of these groups can have their individual parameter settings.

INTRODUCTION

The control of the Input Gain and Output Level levels is independent of the operating mode (**2W Mode / 4W Mode**) in which the IPX-301 unit is configured through NEBULA IpCom Configuration Software.

A single control is available to adjust the Input Gain which will affect the input of all channels.
For the Output Level there are independent controls for each of the six possible channels in the IPX-301 unit and a control (Output Level) to adjust the Output Level of all the channels or Mater level.
The following scheme graphically shows what was explained above:
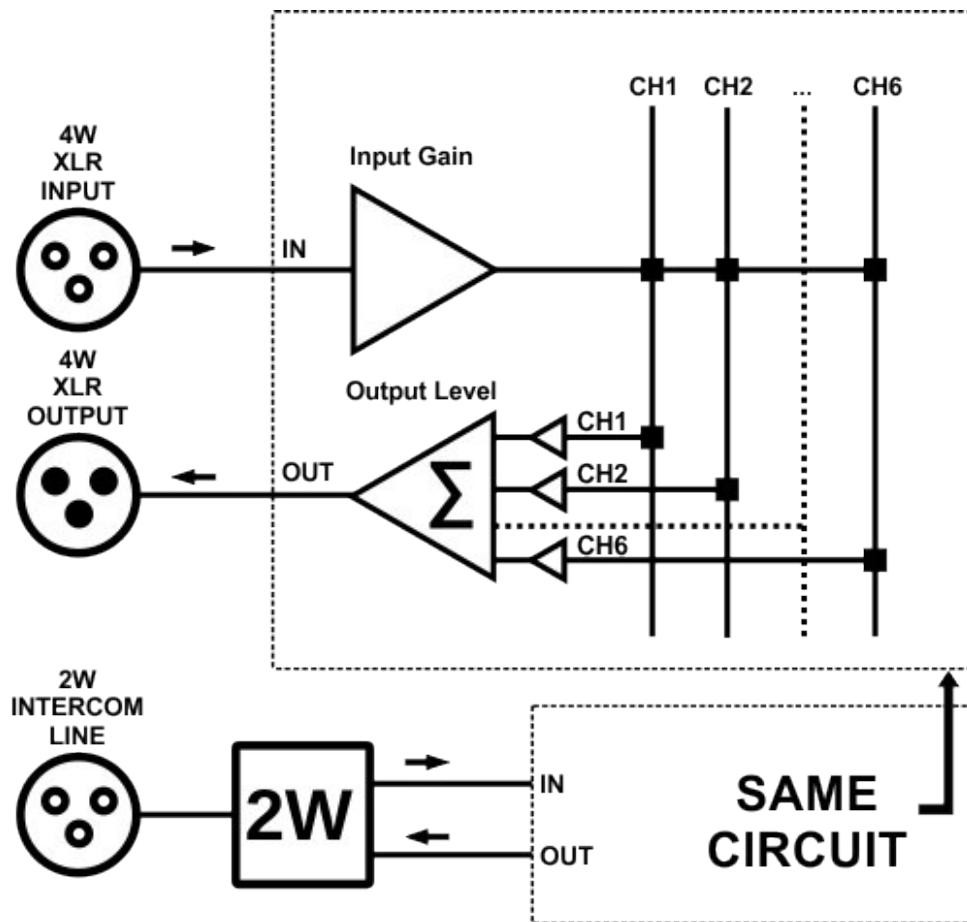
The Interface unit provides connection to up to 6 different communication GROUPS.

For each group you can determine whether the audio connection is allowed or disabled the LISTEN or TALK function, as well as disable the possibility of latching the MIC with the TALK LATCH option. This function makes sense when the unit is being controlled remotely from an IPF-316 Panel unit or an IPB-306 Beltpack unit (This options are available to configure on the Groups windows from the configuration software NEBULA).

HARDWARE

Front Panel

The front panel of the IPX-301 Interface contains the following elements:

Controls
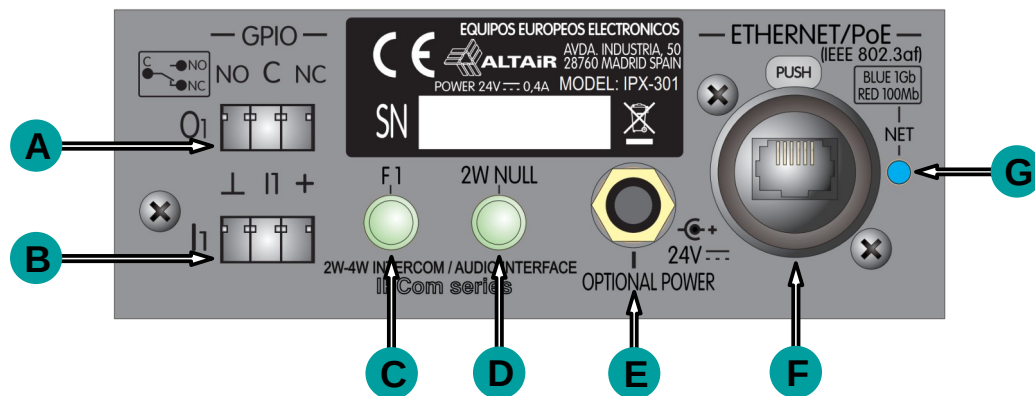
GPO Port (A)

Fitted standard (3.5 pitch) Phoenix™ connector for General Purpose Output signals. The IPX-301 includes 1 general purpose logic output. This GPO has a relay that commutes when it gets activated. The GPO can be activated via: Channel (of another device), State of a CUE Light, incoming Call (of a Group), TALK state (of a channel of a device), LISTEN state (of a channel of a device) and GPI/Function Keys.
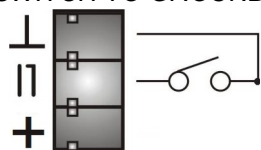
A convenient + 3V supply pin (located on the GPI connector) capable of up to 100 mA current is included for additional uses as relay/led powering of external circuits in series with GPO.
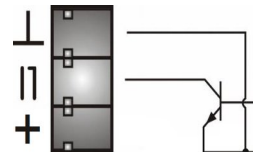
GPI Port (B)

Fitted standard (3.5 pitch) Phoenix™ connector for General Purpose Input signals. The IPX-301 includes 1 general purpose logic input.

The GPIs is a digital input, with an internal 100 Kohm pull-up tied internally to 3V rail, and therefore the simplest assembly is a simple switch to ground. Assemblies can also be connected to an open collector

output from an ancillary equipment.

GPIs can perform the following actions: Key (remotely control a key of another device), Private Call, CUE Transmitter (activate a CUE status), GPIO (activate a GPO) and Function (Call to Group, Mic Kill to User/Group, Buzzer Kill to User/Group and Replay last seconds).

HARDWARE

F1 Key **(C)**

F1 is a programmable key to which the user can assign an action of their choice. The available options are: Key (to act remotely on a key of another device), GPIO (acts on a GPIO of the selected user) and Function (to carry out actions such as: Call to Group, Mic Kill to User, Mic Kill to Group, Buzzer Kill to User, Buzzer Kill to Group and Replay Last Seconds).

LED F1 indicator light **(C)**

This indicator will illuminate in response to the functions assigned to its F1 programmable key as well as at device startup.
A temporary blink indicates that the unit is starting up and is therefore not operational.
A 2-burst flash indicates that the unit is being identified by pressing HIGHLIGHT on the device within the Configuration Software NEBULA.

2W NULL Key **(D)**

Key that, in two-wire mode (2W), performs an automatic cancellation function (NULL) that eliminates the microphone signal (input signal to the IPX-301) from the listening signal, so that unwanted coupling does not occur with the speaker or headphones on the IP unit channels assigned.

LED indicator light 2W NULL **(D)**

This indicator will light up when the "auto-null" action is being performed as well as on device start-up and other events:
A temporary blink indicates that the unit is starting up and is therefore not operational.
A 2-burst flash indicates that the unit is identifying itself by pressing HIGHLIGHT on the device within the Configuration Software.

Safety DC Connector **(E)**

DC to 24V safety connector with anti-pull lock.

> **Note:**
> In case of using **PoE** power, it is not necessary to use this connector, but the redundant use of power is recommended.

Ethernet Connector **(F)**

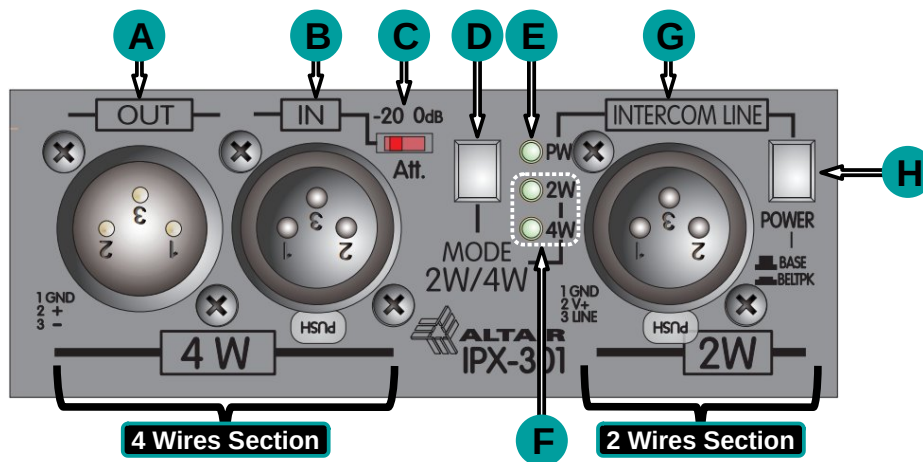Ethernet RJ45 connector that supports PoE power.

Net Status **(G)**

This LED will indicate the status of the Ethernet connection.

HARDWARE

Rear Panel

The rear panel of the IPX-301 panel contains the following elements:

Output Connector 4W **(A)**

4W XLR output connector. Transformer balanced output. Allows universal galvanic interface.

Input Connector 4W **(B)**

4W XLR input connector. Standard analog balanced signal.

Input Attenuator Switch 4W **(C)**

Input Attenuator switch. Positons 0/ -20 dB. **Set it to -20 dB** for normal operation (default). Set to 0 dB for weak signal inputs.

MODE Selection Button **(D)**

Button that allows switching between 2-Wire Mode (Altair and others wired/wireless Intercom Systems) and 4-Wire Mode (for standard systems based on four-wire input/output analog audio).

Power LED **(E)**

Indicates the power status of the XLR Intercom line whereas it comes from an external powered base (BASE mode) or generated internally when PW (power) is active (BELTPK mode). Up to 5 standard wired beltpacks can be powered through a single IPX-301 unit.

2W/4W LEDs **(F)**

They indicate the operating mode in which the unit is working: 2 Wires (**2W**) or 4 Wires (**4W**).

HARDWARE

2W Connector **(G)**

3-pin XLR connector allows connection to Altair Systems wired/wireless 2-wire intercom systems as well as other clearcom (TM) and RTS (TM) compatible systems.

POWER Switch **(H)**

Switch that enables/disables external powering of devices through the IPX-301 unit by switching between Base Mode and Beltpack Mode.

- Base Mode (BASE) power **OFF**, used to connect to complete wired/wireless intercom systems. Equivalent to the SLAVE mode of Altair base stations (in previous series) when connected to a complete system.
- Beltpack Mode (BELTPK) power **ON**, it allows to supply up to 5 wired beltpacks without the need of a base station or power supply. Equivalent to MASTER mode in Altair base stations (in previous series).

  Note:
  It is highly recommended to verify the status of this switch in relation to the connected intercom system: BELTPK (beltpack mode) or BASE (complete powered system).
  This connection is not a standard audio connection, so it should only be connected to compatible intercom systems.
  Incoming power will only activate its led PW to indicate its presence but does not enable power to the interface unit.

Operation

Interface turn-on

The IPX-301 interface stations as well as the rest of the devices of the Ipcom series do not have a power button and their operation is subject to the switch-on of the switch to which they belong.

In many installations that do not require a 24/7 intercom system, a power button will be needed to turn on/off the switch or switches dedicated to the intercom system for this purpose.

The power indication led corresponds to the Net Status LED on the back. Devices equipped with power over Ethernet -PoE- ports, usually lack of this power switch running all time.

Initialization. Operational Interface

In the initialization process the interface LEDs C and D blinks intermittent for about 30 to 60 seconds.

Boot time may vary depending on the configured IP mode and configuration as well as other network factors. This start time is tipically 60 seconds during which the interface will not be operational.

Number of Channels. One analogue to six IP channels

The IPX-301 interface allows one channel of audio/intercom to be converted to IP data signals in both directions: Tx -input signal goes into IP data flow and Rx -data from the IP flow goes to the output.

For convenience, the input/output analogue signal can be assigned in the IP domain up to six different groups. The group configuration, levels and related functions must be carried out on the NEBULA software and by default is one group. Consult section "GROUPS" and "ADVANCED SETTINGS" page XX.

Above functionality allows as an example, to make a group 1 with two participants: the wireless team and a beltpack and at the same time make another group 2 with the wireless team and a Director´s Panel unit.

Functions assigned to F1 key.

The functionality of the function key F1 must be carried out on the NEBULA software > F. Keys/GPIO tab.

Remote mode.

In order to remote control the interface levels and switches follow next steps:

In the main User Window, select the unit to be controlled and select in which channel you need it.
Then select the function needed: Mic or listen or both. In the example IPX-301 Group 1, Mic+ Listen

Unit Config   IPF DIR

TYPE	REMOTE MIC KILL	BUZZER ACTIVE	PROG. INTERRUPT....	⇓ PROGRAM INPUT	⇓ SOURCE	TEXT SEND	TEXT RECEPTION	⇓ CUE RECEPTION	PRIVATE CALLS RECEPTION	⇓ PRIVATE C. PRIORITY
Panel St. - 16 channels	✓	✓	✓	28 - IPB-306 IPB	Mic	☐	✓	.	✓	Normal

Channels Config

CHANNEL	⇓ TYPE	⇓ USER/CUE GROUP	⇓ DESTINATION	⇓ SOURCE	ENABLE LISTEN	ENABLE TALK	TALK LATCH	CALL SEND	CALL RECEPTION	SEND PROG. ...	⇓ PRIORITY	⇓ CHANNEL/REMOTE/G...
1	Remote	10 - IPX-301 Station										CHANNEL 1 - Mic + Listen

Then go to the unit that you want to set as controller and set one channel as Remote in the TYPE column of the Channel Config tab.

Then set the device you want to control, in this case the IPX-301 in the USER/CUE/GROUP tab

Unit Config   IPF   DIR

TYPE	REMOTE MIC KILL	BUZZER ACTIVE	PROG. INTERRUPT....	⇩ PROGRAM INPUT	⇩ SOURCE	TEXT SEND	TEXT RECEPTION	⇩ CUE RECEPTION	PRIVATE CALLS RECEPTION	⇩ PRIVATE C. PRIORITY
Panel St. - 16 channels	☑	☑	☑	28 - IPB-306 IPB	Mic	☐	☑	-	☑	Normal

Channels Config

CHANNEL	⇩ TYPE	⇩ USER/CUE GROUP	⇩ DESTINATION	⇩ SOURCE	ENABLE LISTEN	ENABLE TALK	TALK LATCH	CALL SEND	CALL RECEPTION	SEND PROG. ...	⇩ PRIORITY	⇩ CHANNEL/REMOTE/G...
1	Remote	10 - IPX-301 Station										CHANNEL 1 - Mic + Listen

Talk

The Talk concept in this device refers to the signal entering the interface. This signal can be either a balanced analogue signal (IN XLR) when in 4W mode or the signal (voices) from the operators of the party-line or wireless intercom system when in 2W mode.

The TALK function is enabled or disabled in the NEBULA Advanced Settings AUDIO window by clicking on the Talk tab. This switch makes sense when configuring some installations to mute the conversations from the intercom system entering the IP intercom. In this case, the interface is working in simplex mode.

As the interface can be remote controlled by another device from the IP system, Talk operation mode makes sense in this mode. The function has two modes of operation, depending on how the remote user interacts with it:

- **Push to Talk:** Holding the remote TALK key down for more than a second will activate this function, enabling the input from the analogue signal entering into the IP device: you will be able to open momentary the voice of the intercom line or input signal the time the remote TALK key is down.
  NOTE. This concept must be understood reverse as pressing a Talk in remote is like pressing a Listen in a normal channel key.
- **Latched (ON/OFF):** Pressing the remote TALK key quickly (less than 1 second) will activate the remote signals. The moment you quickly press the TALK key again, the remote signal will be muted.

When the interface is not controlled remotely, it is advisable to **check this switch active** all the times.

> **Note:** Special care must be taken not to set groups that includes interfaces in **One to Many** Intercom mode as the Talk could be disabled by someone. The Talk must be set ON again from the NEBULA soft only, unless the interface were operated remotely (a key set to Remote)

Listen

The Listen concept in this device refers to the signal going out the interface. This signal can be either a balanced analogue signal (OUT XLR) when in 4W mode or the signal (voices) from the operators of the IPcom system that are listened on the party-line or wireless intercom system when in 2W mode.

The LISTEN function is enabled or disabled in the NEBULA Advanced Settings AUDIO window by clicking on the listen tab. This switch makes sense when configuring some installations to mute the conversations from the IP intercom system entering the party-line or wireless system. In this case, the interface is working in simplex mode.

As the interface can be remote controlled by another device from the IP system, Listen operation makes sense in this mode.

> **Note**: Depending on the group priority settings, certain users may be muted by the microphone opening action of other users and will not be heard. Consult your intercom system administrator to restore priorities to the specific use of the intercom system.

Listening volume

As a not attended device, the interface has not front panel level controls and settings must be carried out by accessing to NEBULA soft or by setting one of the interface channels in remote, controlled by other IPcom unit. See above Remote paragraph.

Call signaling from unit

To make a CALL attention to all members of a group, press F1 function key on the interface unit buttons.

This key must be set previously programmed as a Call to Group function. To do so, enter to the NEBULA window F. Keys/GPIOs and set Function Keys as bellow:

Function Keys	IPX-301 lab0					
Key ▲	↓ TYPE	↓ USER/CUE GROUP	↓ KEY/CUE MODE/GPIO OUT/ FUNCTION CONTROL	↓ NUMBER	STATUS
1	Function		Call to Group	⊹ 1 – Group 1	✖

Private Calls

The IPX-301 has no Private Calls permitted by the nature of the multi-users destination, normally a party-line system with more than an operator in the same group.

Intercom mode: 2W mode > WIRELESS SYSTEM

The unit can connect to an intercom line channel by setting the 2W/4W switch to 2W mode and connecting the intercom channel to the corresponding XLR female 2W

Intercom XLR 3 PINOUT	
Pin 1	GND
Pin 2	Power
Pin 3	Line

Depending on the intercom system connected you can select BELTPK or BASE modes:

BELTPK Used to connect a single wired beltpack/desk station or a chain of up to 5 units. The interface will power the units so it is non necessary the use of a power supply, PS-200 or equivalent.

BASE Used to connect to an intercom system that is working and powered. The intercom system can be a wired or a wireless base station or combination of both. A led PW on the interface rear will indicate that the external wired intercom system is powered.

Audio mode: 4W mode > Tx + Rx

The unit can connect to a standard analogue audio signal by setting the 2W/4W switch to 4W mode and connecting the Input/Output accordingly.

IN/OUT XLR 3 PINOUT	
Pin 1	GND
Pin 2	+Positive
Pin 3	- Negative

Both IN and OUT ports are balanced. The input is electronically balanced and the output is transformer balanced for enhanced noise suppression, better coupling and full electric isolation.

AUTO NULL. In both modes it is imperative to run a NULL to compensate for line length and other anomalies on the intercom line:

To do so press briefly the rear panel AUTO NULL key. The switch lights for a while during the null process.

Nulling must be done on the installation phase and in not needed to repeat unless intercom installation changes in cable or number of units.

NOTE As the process inject an annoying signal into the intercom line, it is imperative to advert all intercom users to **remove the headsets** from their head and switch OFF the mic/talk keys on all the equipment: inercom: beltpacks, desk units, base stations, etc.

CALL interfacing

The IPX-301 includes reception and transmission of CALL signaling in both directions when set to 2W mode:

From the Intercom system. A CALL generated on any device along the intercom system would be transmitted to the group assigned to the interface.

From the IPcom system. A CALL generated on a group -from a device- assigned to the interface would be transmitted to the intercom system connected to the interface.

The CALL properties as time period of call signaling and pulses are similar to the classic Altair intercom.

In both cases, it is possible to configure the channel in the NEBULA Users window to permit CALL sending and receiving. See detail:

Channels Config

CHANNEL	↓ TYPE	↓ USER/CUE GROUP	↓ DESTINATION	↓ SOURCE	ENABLE LISTEN	ENABLE TALK	TALK LATCH	CALL SEND	CALL RECEPTION	SEND PROG. ...	↓ PRI...	↓ CHANNEL/REMOTE/GPI...
1	⊕ Intercom	⊹ 1 - Group 1	Interface 2W ... ▾	Interface 2W In	✓	✓	✓	✓	✓	☐	Normal	-

2W Compatibility

The IPX-301 is compatible with clearcom [TM] and RTS [TM] systems in both CALL signaling and audio. Audio levels on both system may differ, so it is necessary to accommodate it to the installation. Set it on the NEBULA Users>Advanced Settings>Audio

When connecting to RTS [TM] systems, due to pinout and technology differences, only the channel 2 would be the operative channel interfaced to the IP intercom, leaving channel 1 free, not interfaced. When the interface mode is to beltpacks only (BELTPK), channel 1 is to be muted due the presence of power on this pin connection. An enhaced compatibility is ensured by using appropriate inter systems analogue interfaces.

Default levels are set for Altair wired/wireless intercom.
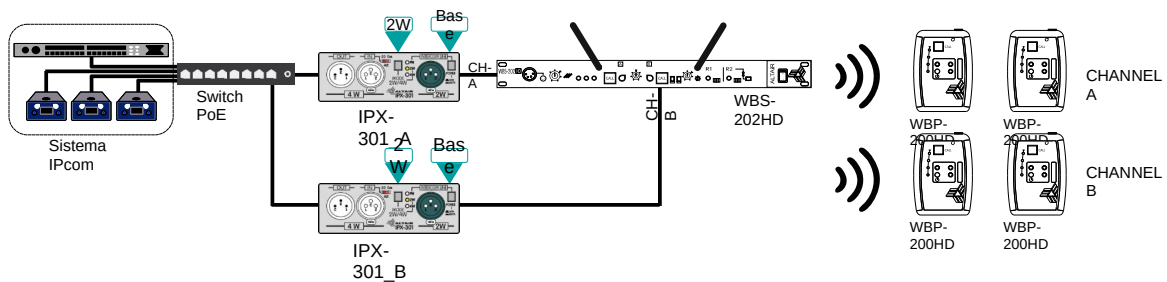
USE CASES

Use Cases

IPcom 2W Mode ↔ Altair Wireless WBS-200/200HD // Full Wired System EF-200
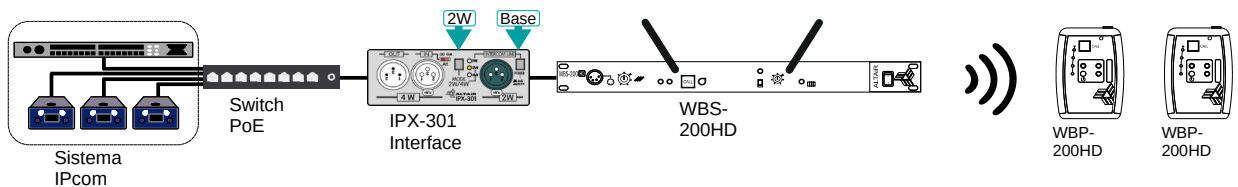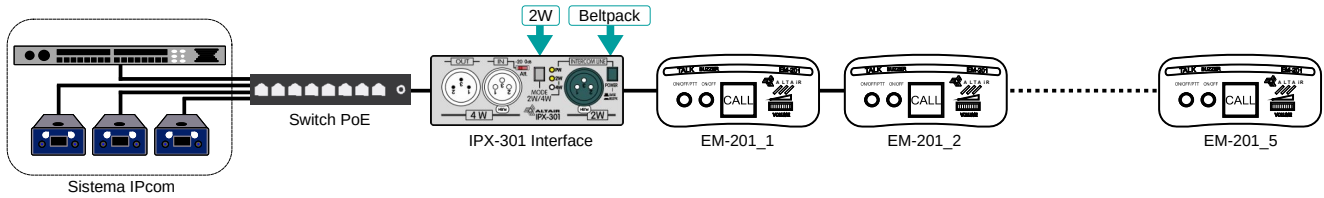

The example shows how the elements must be connected to use the IPX-301 unit as a communication bridge between an Altair IPcom System and an Altair Wireless System with a Single Channel Base Station and two WBP-200HD (thus allowing communication between both systems).

The IPX-301 unit must be set to 2W Operating Mode and Base Mode. It must be connected with an Ethernet cable to a PoE switch and through the INTERCOM LINE connector, with an XLR cable, connected to the Single Channel Base Station of the Altair Wireless WBS-200/200HD system.

IPcom 2W Mode ↔ Altair Wireless WBS-202/202HD

The example shows how the elements must be connected to use the IPX-301 unit as a communication bridge between an Altair IPcom System and an Altair Wireless System with a Dual Channel Base Station and four WBP-200HD (with two beltpacks configured in Channel A and the other two beltpacks on Channel B).

Two IPX-301 units will be needed; both must be configured in 2W Operating Mode and Base Mode. The IPX-301_A unit must be connected with an Ethernet cable to the PoE switch and through the INTERCOM LINE connector, with an XLR cable, connected to channel A of the Dual Channel Base Station of the Altair Wireless WBS-202HD system. Likewise, the IPX-301_B unit will have the same connection except that it will be connected to the wireless base's B channel.
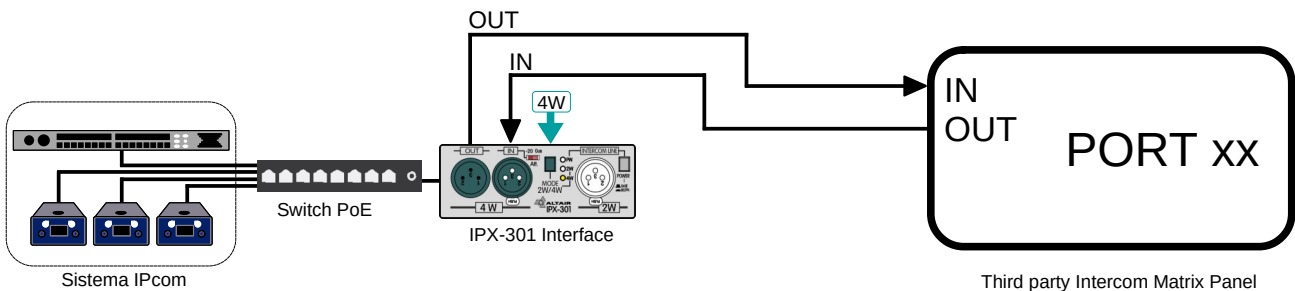
USE CASES

IPcom 2W Mode ↔ Altair some Wired Beltpacks

The example shows how the elements must be connected to use the IPX-301 unit as a communication bridge between an Altair IPcom System and up to five Altair Wired Beltpack (EM-201) thus allowing communication between both systems.

The IPX-301 unit must be configured in 2W Operating Mode and Beltpack Mode. It must be connected with an Ethernet cable to a PoE switch and through the INTERCOM LINE connector, with an XLR cable, connected to the first Wired Beltpack (EM-201) with which you want to establish a connection.

IPcom 4W Mode ↔ Intercom Matrix Panels

The example shows how the elements must be connected to use the IPX-301 unit as a communication bridge between an Altair IPcom System and an Intercom Matrix Panel port from A third party manufacturer.

The IPX-301 unit must be configured in 4W Operating Mode. The wiring connection will be as follows:

- ETHERNET/PoE Connector ======> Ethernet Cable ===> PoE Switch

- IN Connector =====> XLR Cable ===> Intercom Matrix Panel port output connector

- OUT Connector ===> XLR Cable ===> Intercom Matrix Panel port input connector

IPcom 4W Mode ↔ Audio Streaming

The example shows how the elements must be connected to use the IPX-301 unit to transmit Audio Streaming. This configuration is especially useful when you want to transmit the audio from a standard 4W system (such as an alarm message) over the network to another remote standard 4W player system.

Two IPX-301 units will be required and must be configured in 4W Operating Mode.
The wiring connection for the IPX-301_A unit will be:

- ETHERNET/PoE Connector ===> Ethernet Cable ===> PoE Switch
- IN Connector ==============> XLR Cable ======> Audio source

The wiring connection for the IPX-301_B unit will be:

- ETHERNET/PoE Connector ===> Ethernet Cable ===> PoE Switch
- OUT Connector ============> XLR Cable ======> Remote player system
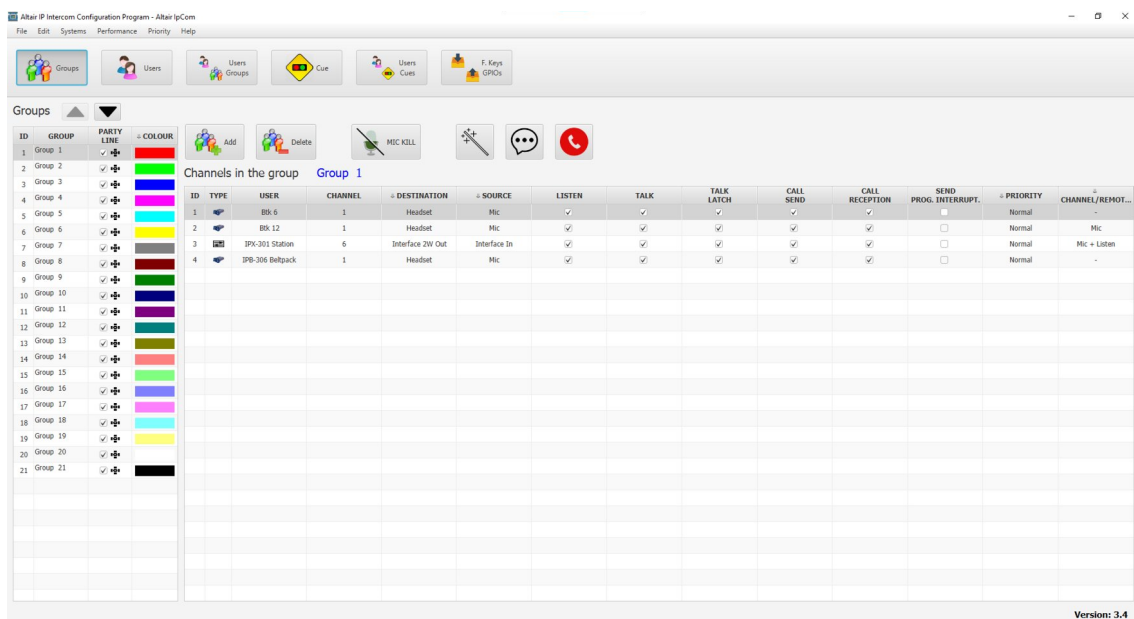
NEBULA CONFIGURATION SOFTWARE

Altair IPcom Software

Configuration windows

The configuration software for the entire ALTAIR IPcom Series contains 6 main windows:

Groups **(A)**

It shows all the groups created in the system, indicates the different devices that belong to each group and allows assigning a group configuration for each particular device.

Users **(B)**

Shows all devices belonging to the system. In this window you will also have access to the Advanced Settings window of each device (This window will be shown later).
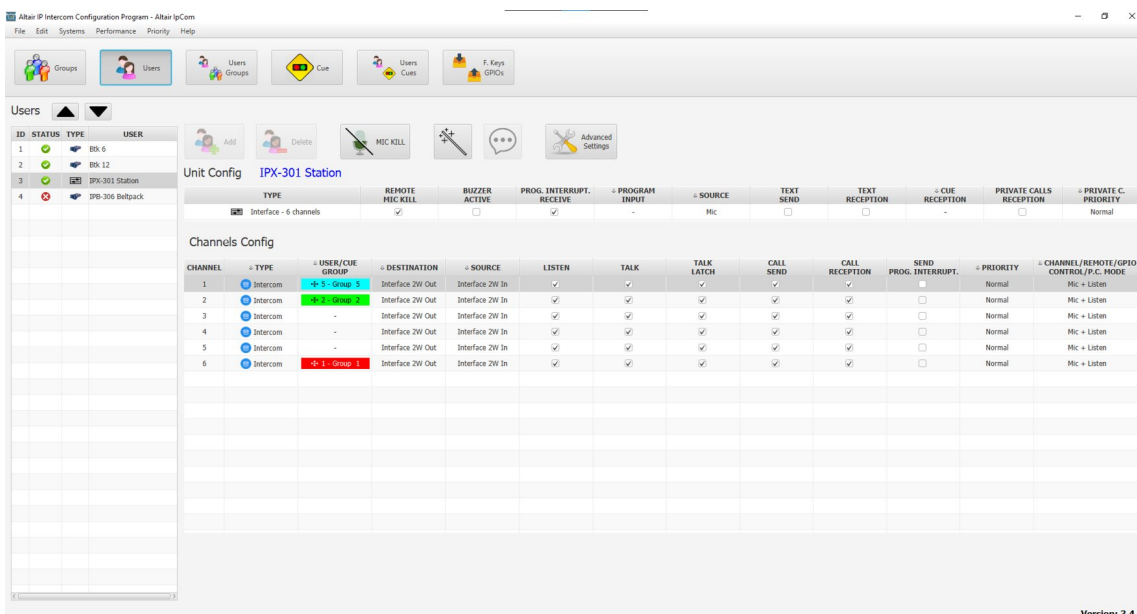
NEBULA CONFIGURATION SOFTWARE

Users Groups **(C)**

It shows a "matrix" with all the devices and groups of the system, indicating which groups each device is assigned to. If the user has a group assigned to any of their channels, a circle of the same color as the group will be shown in the corresponding column.

Clicking on the arrow located to the left of the username will display its available channels. To the left of the name of each channel, an icon is displayed representing the operating mode of the configured channel. If it is Intercom type, the same icon will be displayed in the column of the group assigned to said channel. Double-clicking on any cell in a channel's row will assign / unassign the corresponding group.
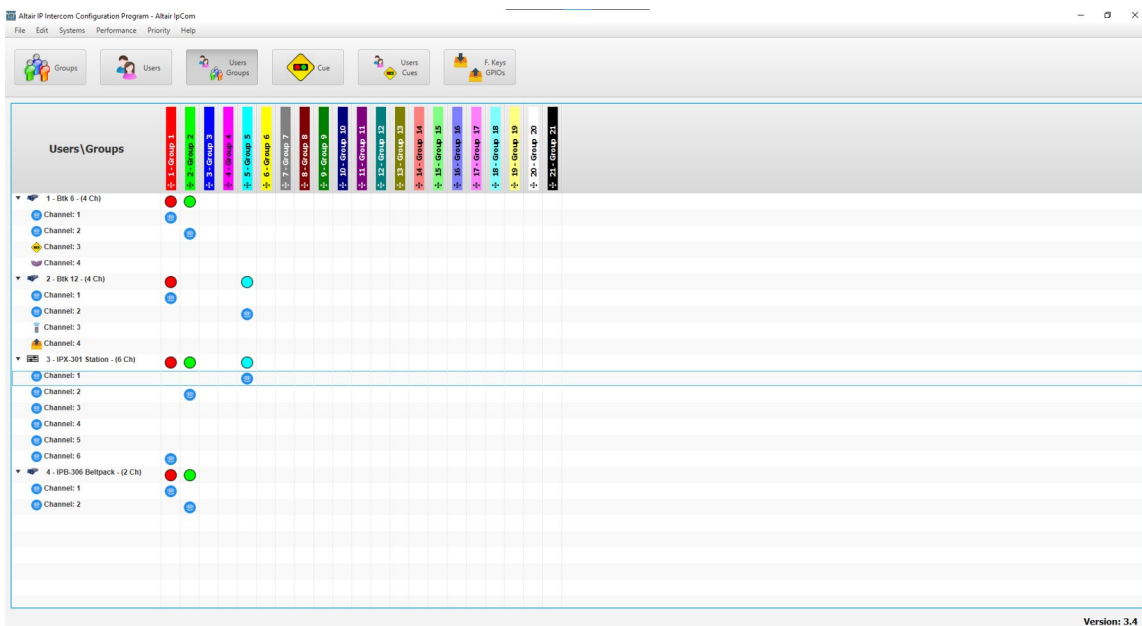
Cue **(D)**

It shows the Cues created in the system, their status and the devices to which these Cues have been assigned.
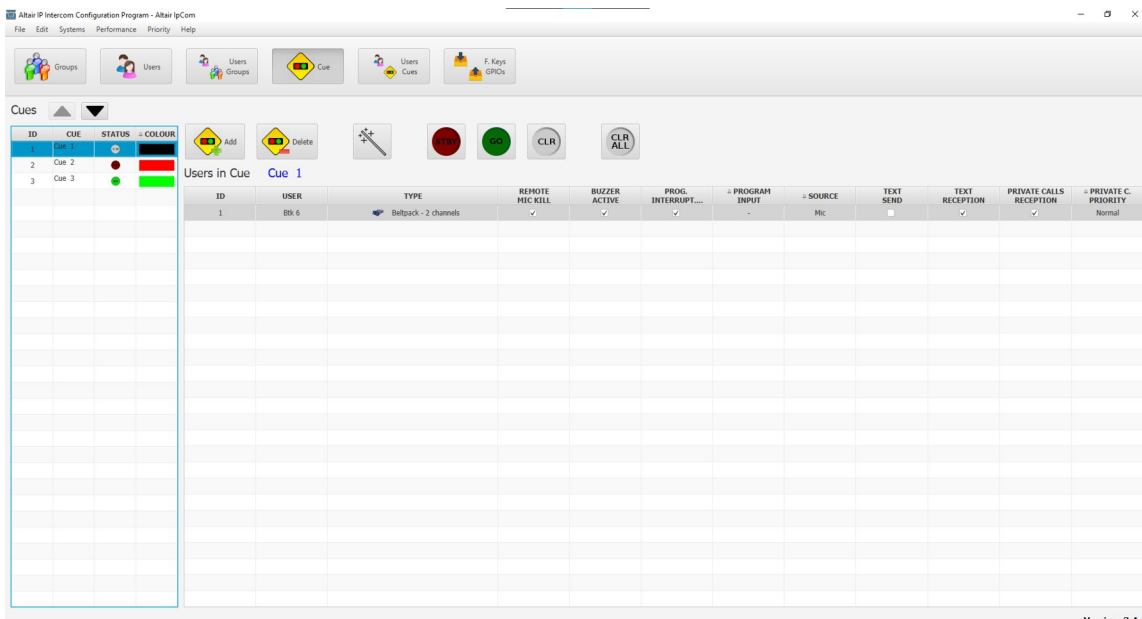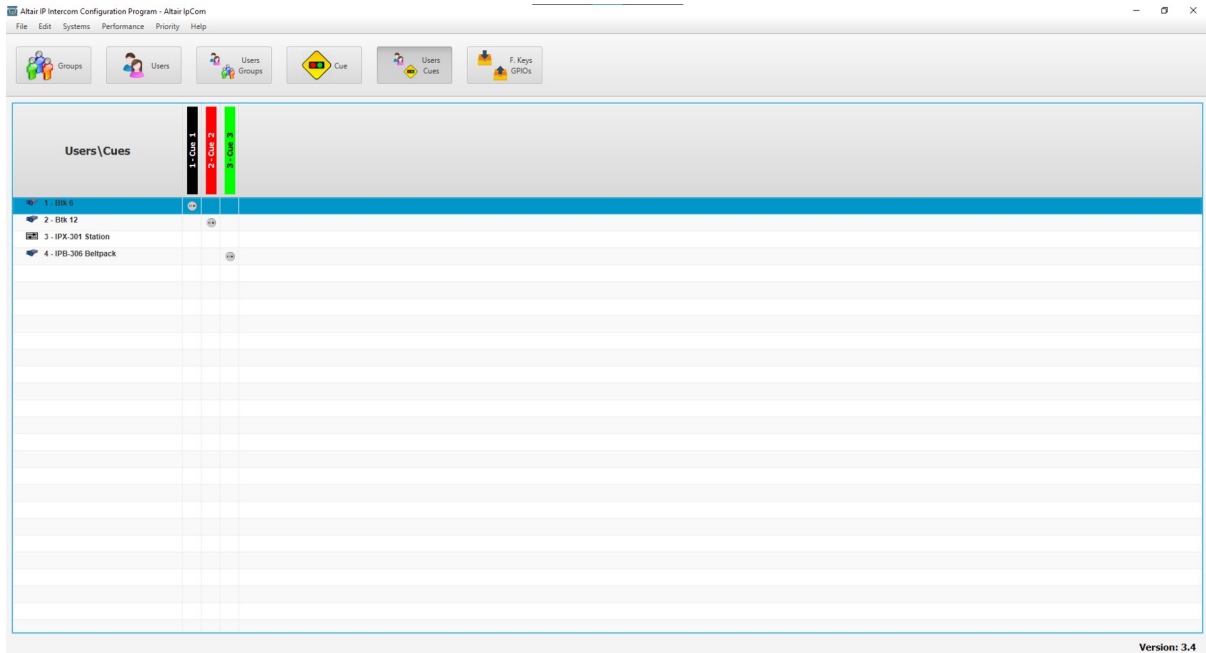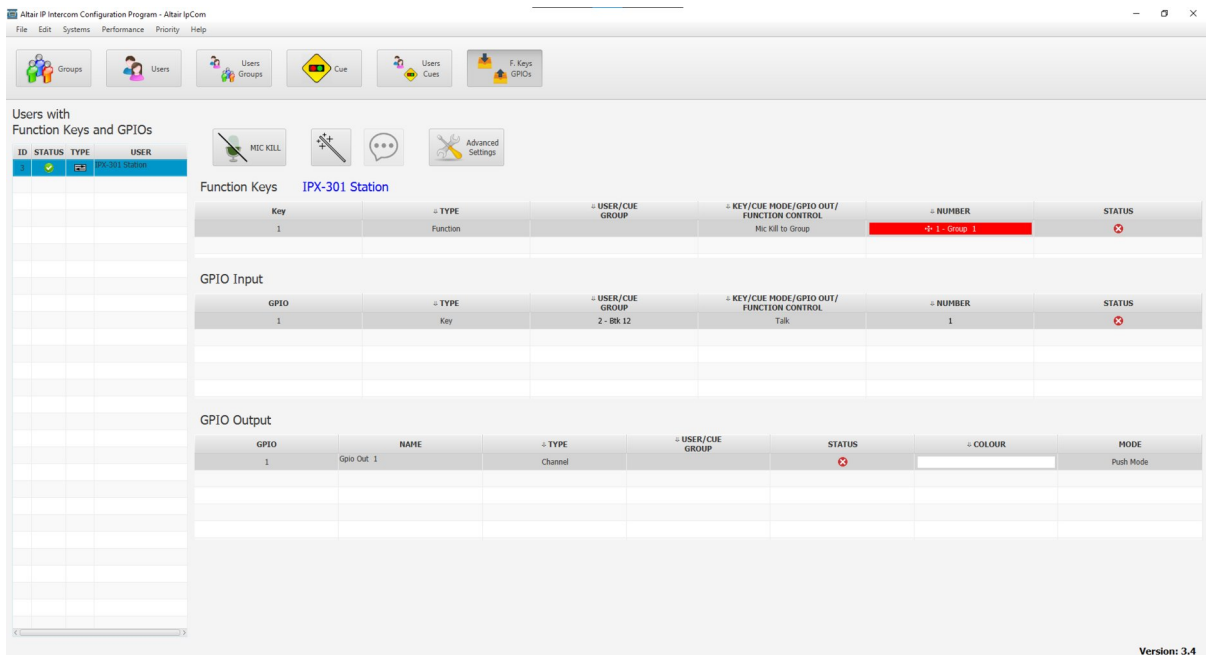
NEBULA CONFIGURATION SOFTWARE

Users Cues **(E)**

It shows a "matrix" with all the devices and Cues of the system, indicating which devices each Cue is assigned to and its status. Double clicking on a cell will assign the corresponding the CUE on the selected device. Devices with a channel configured as Cue Transmitter cannot get assigned a CUE.

Function keys and GPIOs **(F)**

Shows the available settings for Function keys and GPIOs (General Purpose Input/Output).

NEBULA CONFIGURATION SOFTWARE

Advanced Settings

IPX-301 Interface Advanced Settings Window

The window gives access to the **complete configuration** of the IPX-301 Interface. The window contains 3 tabs that show the different configuration parameters available:

General **(A)**

General configuration parameters: device name (User), LED brightness, option to send a call when the TALK key is activated, option to activate the microphone when listening is activated, option to activate listening when the microphone is activated, option to activate listening when a call is received and the time period that will be audio replayed when the REPLAY function is activated.
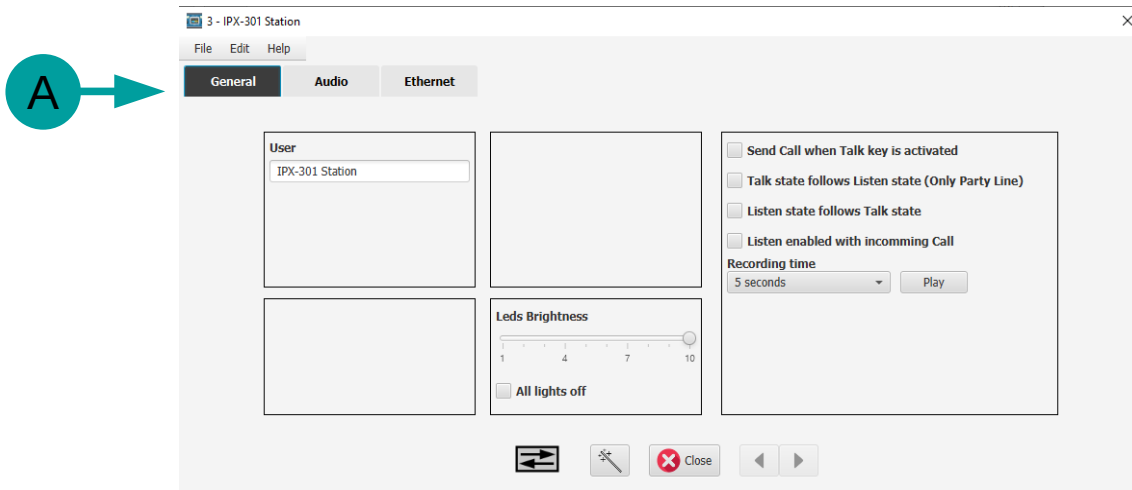
Audio **(B)**

IPX-301 audio configuration parameters: microphone gain, noise gate, program input volume, general volume, individual volume of each channel, microphone status (Talk), listening status and individual lock per channel.
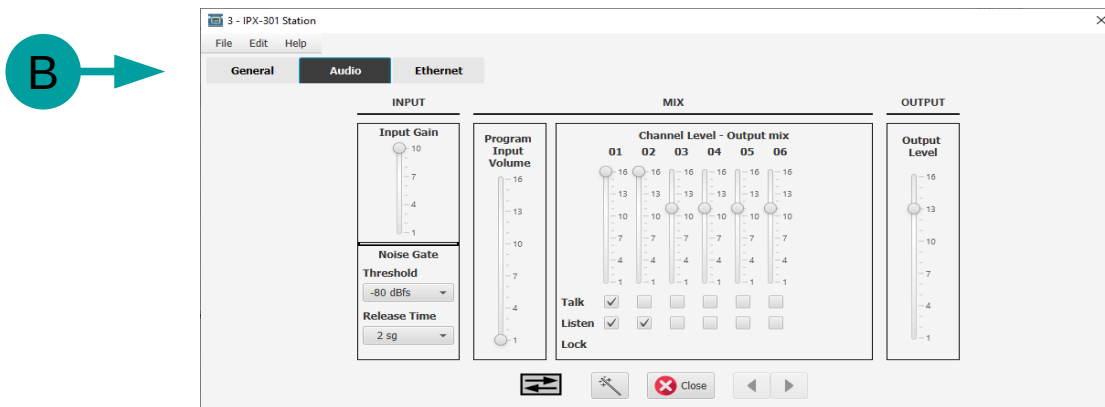
NEBULA CONFIGURATION SOFTWARE

Ethernet **(C)**

Allows you to activate/deactivate DHCP and, where appropriate, allows you to assign a static IP to selected IPX-301.
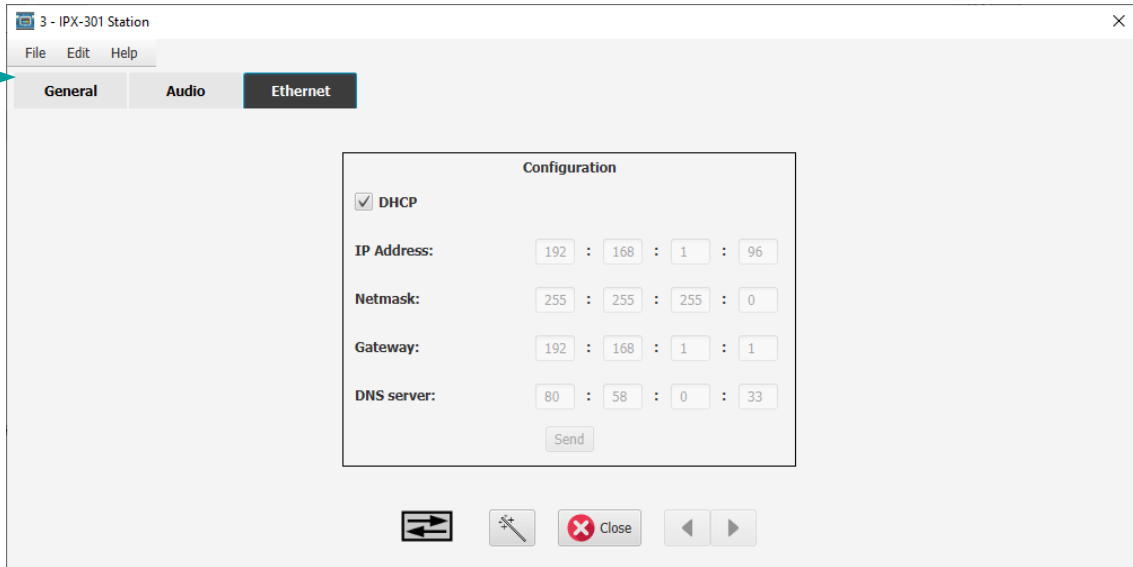
Note: For further information on the operation of the Configuration Software, review the specific manual.
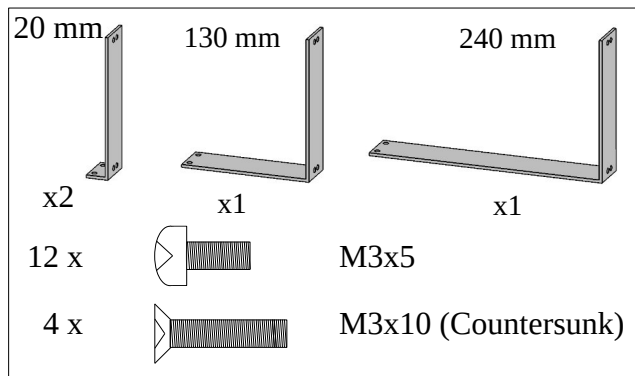
TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS		
SYSTEM SPECIFICATIONS	**NUMBER OF CHANNELS**	1x ANALOGUE to IP (6 x groups)
	FREQUENCY RESPONSE	100 Hz – 10 KHz (-3 dB)
	DYNAMIC RANGE	80 dB
	SIDE-TONE CANCELLATION (2W)	Automatic (Auto-NULL)
	POWER REQUIREMENTS (alternate)	● +24V / 120 mA nominal. AC/DC adapter ● PoE 3 Class
AUDIO 2W MODE (INTERCOM LINE)	**LINE LEVEL (NOM/MAX)**	-10 dBu/ +5 dBu
	SYSTEM COMPATIBILITY (AUDIO, CALL SIGNALING)	Altair, Cleracom, RTS
	BELTPACK POWERING	Sourcing 24V/300 mA max. Auto limiting
AUDIO 4W MODE	**INPUT LEVEL(NOM/MAX) Elec. Balanced**	0/+6 dBu (Att 0 dB)	+10/+17 dBu (Att -20dB)
	OUTPUT LEVEL(NOM/MAX) Xformer Balanced	0/+18 dBu
GPIO PORTS	**LOGIC SIGNALS IN-OUT**	One GPI, One GPO by relay NO/NC
	LOCAL POWERING	3V 100mA max.
ETHERNET PORT	**100/1000-Mbit/s Ethernet**	IEEE802.3-2002 standard
	PoE supported	IEEE802.af standard
ETHERNET CABLE (Recommended)	**RECOMMENDED CABLE TYPE**	CAT. 5E or higher (1000BASE-T)
	Maximum cable length recommended	100m
ACCESSORIES (optional)	**Rack mounting hardware**	OR-1-301
	AC/DC adapter	REF: VET-24
DIMENSIONS	**Longitudinal measures**	110×40×170 mm (LxAxP)
WEIGHT	**Net without accessories**	280 gr
ENVIRONMENTAL CONDITIONS	**Temperature (operating)**	0ºC a 50ºC
	Humidity (operating)	10% a 90% (HR, not condensed)

Note: Specifications subject to change without notice.

ASSEMBLY INSTRUCTIONS:

1. Attach the IPX-301 using 4 **M3x5 screws**, 2 at the front and 2 at the rear of both IPX-301s (**Figure 1**).

2. Remove the original side screws of the IPX-301´s located at the ends (**Figure 2**).

3. Assemble brackets according to the figure, using 2 **M3x10 screws (countersunk)** per side at the ends and using the upper holes of each bracket (**Figure 3**).
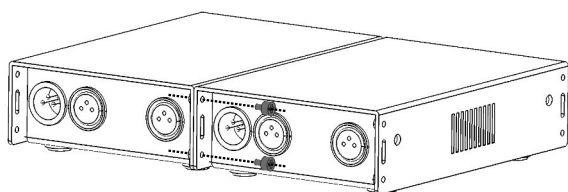
NOTE. Select rear or front view at your convenience.

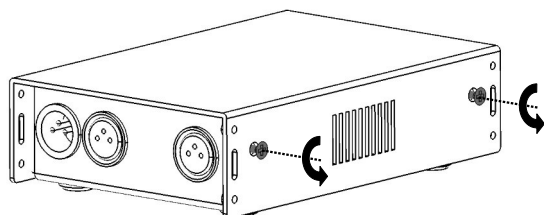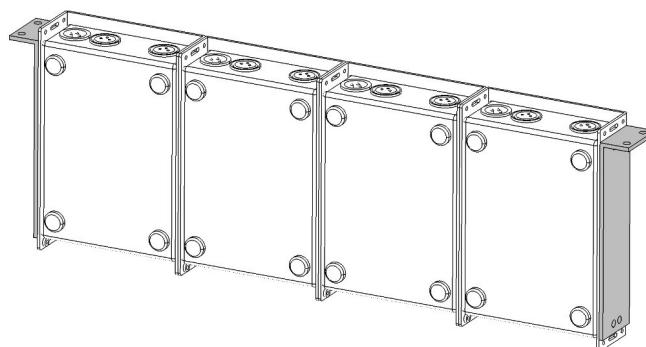|		
20 mm	130 mm	240 mm
x2	x1	x1
12 x	M3x5	
4 x	M3x10 (Countersunk)	

Figure 1

Figure 2

Figure 3

RIGHT SIDE — BACK SIDE

BACK SIDE — LEFT SIDE

4 UNITS ASSEMBLY
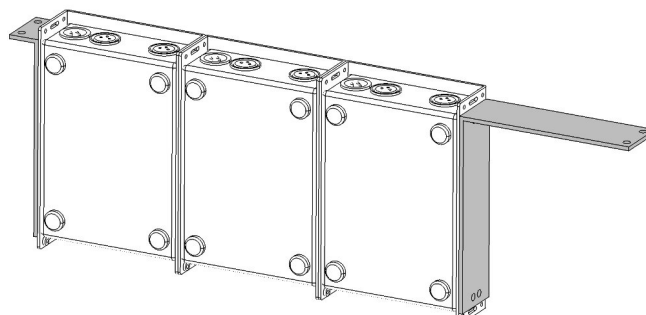
3 UNITS ASSEMBLY

2 UNITS ASSEMBLY
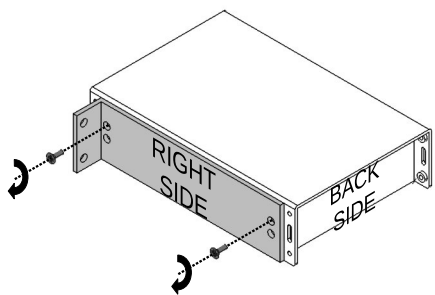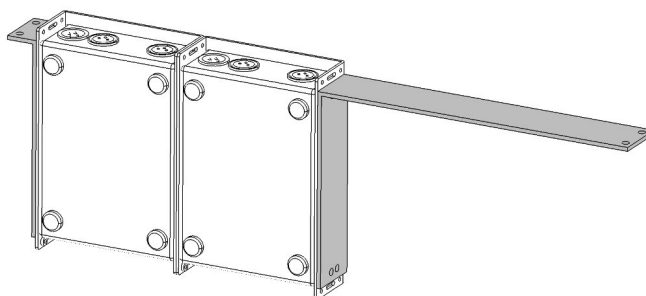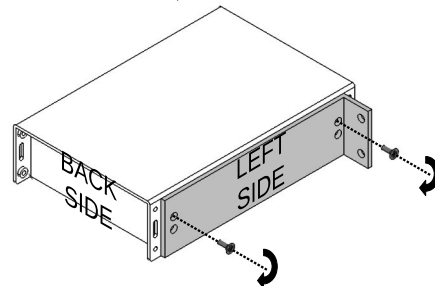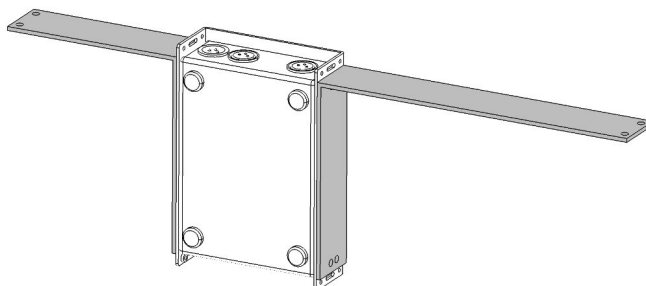
1 UNIT ASSEMBLY

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 two years (one year depending on some countries), 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 for any request to the technical service.

Equipos Europeos Electrónicos reserves the right to modify the prices or the technical specifications without further notice.

SERIAL NUMBER: ....

Extract of the Declaration of Conformity (DoC)

"We, Equipos Europeos Electrónicos, S.A. declare, that the above mentioned product is manufactured according to our Full Quality Assurance System in compliance with Directive 99/5/EC. The presumption of conformity with the essential requirements regarding Council Directive 99/5/EC is ensured."

The Declaration of Conformity (DoC) has been signed. In case of needing a copy of the original DoC, it can be made available via the internet direction:
http://www.altairaudio.com/DoC

Disclaimer

You shall not use the IPX-*316 INTERFACE* in any safety critical or functional applications, including but not limited to using in life supporting, military or nuclear applications. Altair expressly disclaims any responsibility for such usage which shall be made at your sole risk, even if Altair has been informed in writing of such usage. Unless expressly designated in writing by Altair as suitable for use in aerospace applications, you shall not use the above products in such areas.

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

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