

IP Audio Remote I/O Unit

IP-ARIO Getting Started



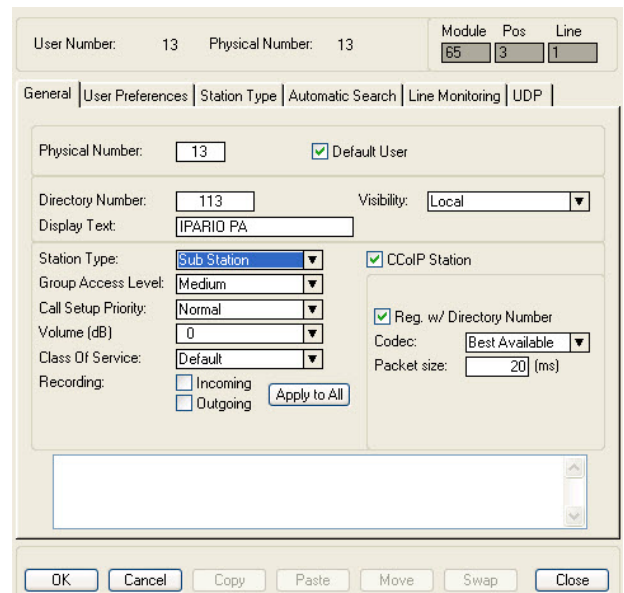
The IP Audio Remote I/O (IP-ARIO) unit has a wide set of hardware functions and can be used as a PA Interface, a Radio Interface, or as a pure IP-based Remote I/O Unit.

2 Configuration using AlphaPro

2.1 Mandatory Configuration



Open the AlphaPro programming tool on your PC and click the **Users & Stations** icon.



IP-ARIO should be configured as a CCoIP station:

- For **Station Type**, select **Sub Station**
- Check the **CCoIP Station** box
- Check the **Reg. w/ Directory Number** box

1 Installation

The table below is an overview of the main connections involved when installing the IP-ARIO unit.

LAN	10/100 Mbps RJ45 port for LAN (uplink) connection. Supports PoE (802.3af). Draws power from either spare line or signal line.
AUX	10/100 Mbps RJ45 port for auxiliary equipment such as PC and IP camera.
RS232	RJ45 port (pinout: 3=TX, 4&5=GND, 6=RX)
PA interface	Dual Balanced 600 Ohm 0dB audio out (adjustable 0 to -10 dB)
Radio interface	Single 600 Ohm 0dB audio in/out (adjustable 0 to -10 dB)
Digital Inputs	8 inputs (2 referred to GND, 6 shorting or referred to GND)
Digital Outputs	8 relay outputs (4 closing, 4 change-over)
Local Power	Pluggable screw terminal, 19-27 VDC Idle 4W, max. 8W

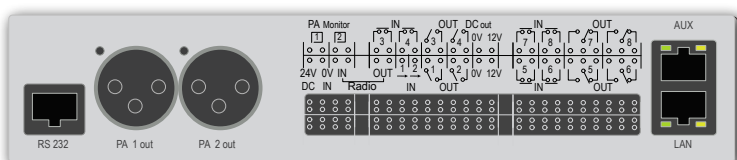
1.1 Power Supply

The IP-ARIO unit supports Power over Ethernet (PoE, IEEE 802.3af) where power can be drawn from either the spare or signal line. If PoE is not available, the IP-ARIO unit can be connected to a local power supply of 24 VDC.

1.2 Network Connection

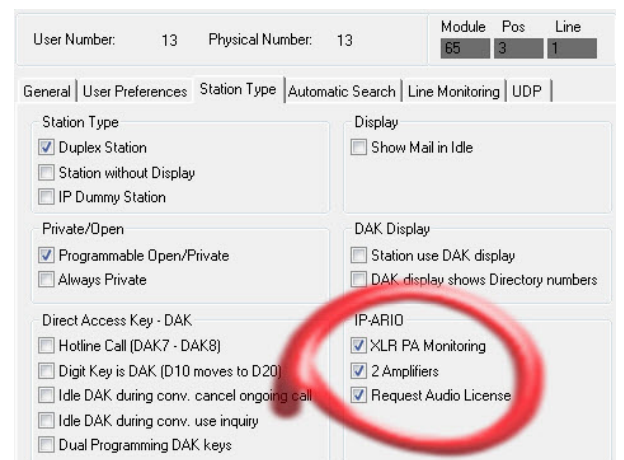
There are three RJ45 ports at the rear of the IP-ARIO unit:

- **LAN** port is for connecting to the network and the AlphaCom server/exchange.
- **AUX** port is for connecting to auxiliary equipment such as a PC.
- **RS 232** port is for remote signalling



2.2 Configuring PA interface

Under **Users & Stations** click the **Station Type** tab.



Under **IP-ARIO**, set the following flags:

- Check the **XLR PA Monitoring** box
- Check the **2 Amplifiers** box
- Check the **Request Audio License** box

2.3 Configuring Radio Interface

For this configuration, the IP-ARIO unit has to be defined as Default Speaker in the Simplex Conference used for radio listening.



- Click the **Simplex Conferences** icon.
- Select a Conference and click **Change**

Update Records...

Conference Number: 1
 Description: Radio Channel 1
 Default Member: 113 IP-ARIO TUN
 Default Member is Default Speaker

- For **Default Member**, select the IP-ARIO unit
- Check the **Default Member is Default Speaker** box

2.4 Configuring Inputs & Outputs



Remote Control Inputs & Outputs are configured under the **Exchange & System** menu.

For Remote Control Inputs:

- Click **RCI**
- Click **Change** to set **RCI Type** to **Station**
- Enter the IP-ARIO **station number** in the **Station** field

Remote Control Inputs

Description	Device/Pin Number	On/Off
Input 1	[1] 65/ 1	
Input 2	[2] 65/ 2	
Input 3	[3] 65/ 3	
Input 4	[4] 65/ 4	
Input 5	[5] 65/ 5	
Input 6	[6] 65/ 6	
Input 7	[7] 0/ 0	
Temperature Alarm	[8] 65/ 8	MST 1
Input 9	[9] 0/ 0	
Input 10	[10] 0/ 1	LOG "
Input 11	[11] 0/ 2	LOG "
Input 12	[12] 0/ 3	LOG "
Input 13	[13] 0/ 4	LOG "
Input 14	[14] 0/ 5	LOG "
Input 15	[15] 0/ 6	LOG "

Inputs | **Faults**

RCI Number: 12
 Description: Input 12
 RCI Type: Station
 Station Number: 11 111 - IP-ARIO_LOGIC
 Pin Number: 3
 ON Action: LOG "Logical RCI 12 ON"
 OFF Action: LOG "Logical RCI 12 OFF"

For Remote Control Outputs:

- Click **RCO**
- Click **Change** to set **RCO Type** to **Station**
- Enter the IP-ARIO **station number** in the **Station** field

Remote Control Outputs

Description	No	Device/Pin Number
RCD 1	[1] 65/ 1	
RCD 2	[2] 65/ 2	
RCD 3	[3] 65/ 3	
RCD 4	[4] 65/ 4	
RCD 5	[5] 65/ 5	
RCD 6	[6] 65/ 6	
RCD 7	[7] 65/ 7	
RCD 8	[8] 65/ 8	
RCD 9	[9] 65/ 9	
RCD 10	[10] 11/ 1	
RCD 11	[11] 11/ 2	
RCD 12	[12] 65/12	

RCD Number: 10
 Description: RCD 10
 RCD Type: Station
 Station: 11 111 - IP-ARIO_LOGIC
 Pin Number: 1

2.5 Configuring Remote Serial Port

Click the **Exchange & System** icon and click **Serial Ports**.

Serial Ports / Data Links

Drivers	Type
MFC Data Protocol	
Telco	
Ericsson	
Multitone	
System Logging	
ACDP Link 1	
ACDP Link 2	
ACDP Link 3	
ACDP Link 4	
ACDP Link 5	
ACDP Link 6	
ACDP Link 7	
Fire Alarm	
Inter Module	
EDIO 1	Srv
EDIO 2	
EDIO 3	
EDIO 4	
EDIO 5	
EDIO 6	
EDIO 7	
EDIO 8	
EDIO 9	
EDIO 10	

Enabled
 Port Type: N/A
 Link Type:
 Broadcast
 Destination:
 EDI - External Data Input
 Start Character: 0xFFFF
 Stop Character: 10 0x000A
 Change Close

- Select one of the **EDIO** drivers and click **Change**

Update Records... (EDIO 1)

Enabled
 Port Type: IP-ARIO Bit Rate: 9600
 Parity: None Data Bits: 8 Stop Bits: 1
 Link Type:
 Broadcast
 Destination:
 Station: 13
 Port: 4000
 Keep Alive
 EDI - External Data Input
 Start Character: 0xFFFF
 Stop Character: 10 0x000A
 OK Cancel Record will be Changed

- Check the **Enabled** box
- Set **Port Type** to **IP-ARIO**
- Enter the **physical number** of the unit in the **Station** field
- Enter the **port number** in the **Port** field
 - The port number (e.g. 4000) must be defined and opened under **Filters** in AlphaWeb
- Click **OK**

3 Configuration using Web Browser

3.1 IP-ARIO Web Interface

The IP-ARIO unit features an embedded web server, which allows users to log in via a standard web browser.

At commissioning, the IP-ARIO unit needs to be configured to enable it to subscribe to an AlphaCom server/exchange. To do this, your PC and the IP-ARIO unit have to be connected together via a PoE switch using network cables:

- Connect the PC to the PoE switch
- Connect the **LAN** port on the IP-ARIO unit to the PoE switch

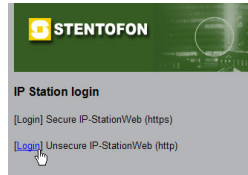
The factory default IP address of the IP-ARIO unit is **169.254.1.100**. In order for your PC to communicate with the unit it is necessary to change its **Internet Protocol Properties** to use an IP address that is in the same range as 169.254.1.100, e.g. 169.254.1.1 with subnet mask 255.255.0.0.

After the IP properties have been changed, access the IP-ARIO unit by logging into the web interface using a standard web browser:

1. Open a web browser on your PC
2. In the browser's address bar, type **http://169.254.1.100** and press the ENTER key
 - The station Login page is displayed.

To log into the IP-ARIO unit:

1. Click **Login**
2. Enter the default user name: **admin**
3. Enter the default password: **alphaadmin**

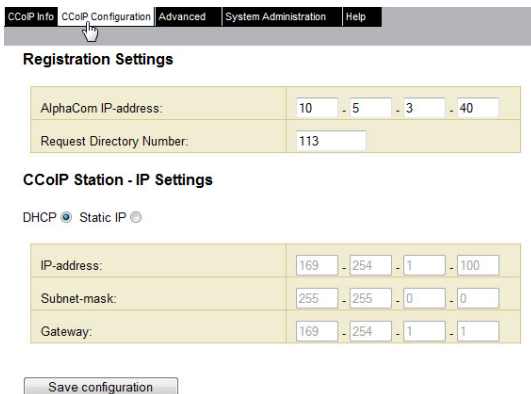


The **Station Info** page will now be displayed, showing the IP-ARIO unit configuration.

Use the menu bar at the top of each page to browse through the various pages.

3.2 CCoIP Configuration

- Click **CCoIP Configuration** to access the page for configuring IP parameters.



Registration Settings

- Enter the IP address of the AlphaCom server/exchange in which the IP-ARIO unit is to be a subscriber in the **AlphaCom IP-address** field.
- Enter the directory number of the IP-ARIO unit in the **Request Directory Number** field.
- If a directory number is not entered, the IP-ARIO unit will register with its MAC address. The MAC address is found on the **Station Info** page and needs to be entered into the AlphaPro programming tool.

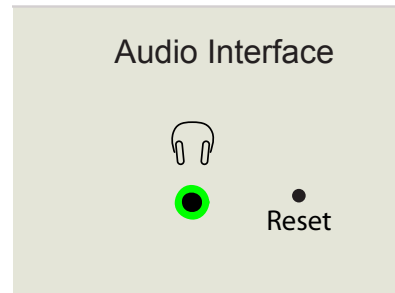
CCoIP Station – IP Settings

- **DHCP** – Use this option if the IP-ARIO unit shall receive IP Settings from a DHCP server.
- **Static IP** – Use this option if the IP-ARIO unit shall use a static IP address. Enter the IP address, subnet mask and gateway address.
- Click **Save configuration** followed by **Apply** to apply the new configuration settings.

4 Factory Default IP Settings

To configure the IP-ARIO unit with **Factory Default IP Settings** do the following:

1. Disconnect power to the unit.
2. Reconnect power and within 5 seconds, use a pin to press and hold the pinhole Reset button (on the front-right of the unit).
3. Keep the Reset button pressed until the **CALL** LED emits 3 slow flashes followed by 3 fast flashes as confirmation that the unit is reset.
 - This takes approximately 25 seconds.
4. Release the Reset button.



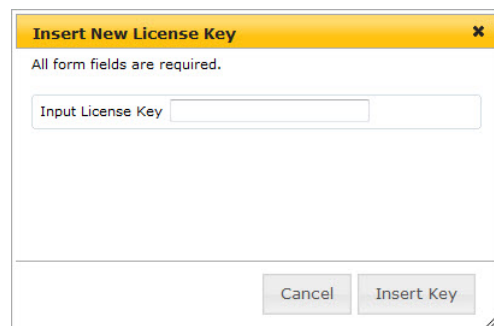
The unit's IP settings will now be reset to the factory default values with IP address **169.254.1.100**.

5 License Requirements

An IP-ARIO Audio License is required when the audio part of IP-ARIO is used, i.e. PA and Radio.

To install the license, open AlphaWeb on AlphaCom by entering its IP address in a browser:

- Select **System Configuration > Licensing**
- Click **Insert new License Key**



- Enter the key string in the **Input License Key** field
- Click **Insert Key** to install the license.

① When only the I/Os of IP-ARIO are used, no license is required.

6 Software Requirements

AlphaCom XE: AMC-IP version 11.2.3.x or higher

AlphaPro: Version 11.2.3.x or higher

7 Local Status Monitoring

The Local Status Monitoring (LSM) feature can be started anytime after booting up the IP-ARIO unit. LSM will show the status on the following monitored items:

- PA 1 and PA 2 for 20 kHz speaker monitoring
- XLR 1 and XLR 2 for XLR connectors connection status
- RCI 1 to RCI 8 showing active or non-active RCI inputs
- RCO 1 to RCO 8 showing active or non-active RCO outputs

LSM is started by using a pin to press the pinhole **Reset** button located on the front-right of the unit. All LEDs at the front of the unit will be lit as long as the Reset button is pressed (as visual verification of the LED status).

When the Reset button is released, LSM continues and the LEDs will show the following:

- **CALL** LED fast flashing to indicate that the LSM feature is active.
- **STATUS** LED indicates monitored group (3 groups)
 - PA/XLR (green off, red off)
 - RCI (green on, red off)
 - RCO (green off, red on)

- **RADIO** LED indicates monitored item within group, mix of LEDs on, off, slow and fast flashing.
- **ERROR** LED indicates status of monitored item, on if fail or active, off if OK or non-active.

PA/XLR needs approximately 10 seconds to be updated if the status changes, i.e. if the XLR connector is disconnected and then reconnected.

RCI and RCO will show instant updating if the status changes, i.e. if RCI 1 changes status, this will be immediately indicated on the **ERROR** LED if RCI 1 is monitored.

Each time the Reset button is toggled, the status of the next LSM item is indicated on the **ERROR** LED.

The LSM can be terminated at any time by pressing and holding the Reset button for at least 2 seconds. LSM will auto-terminate 2 minutes after the last Reset button activity.

The table below shows the relation between the current status of the monitored item and the different LED indicators.

Local Status Monitoring								
		Front LEDs						
		CALL	STATUS		RADIO		ERROR	
Toggle #	Monitored Item	Green	Color	Indication	Color	Indication	Red:ON	Red:OFF
0	PA 1	FAST	NONE	OFF	GREEN	ON	Fail	OK
1	PA 2	FAST	NONE	OFF	GREEN	SLOW	Fail	OK
2	XLR 1	FAST	NONE	OFF	RED	ON	Fail	OK
3	XLR 2	FAST	NONE	OFF	RED	SLOW	Fail	OK
4	RCI 1	FAST	GREEN	ON	GREEN	ON	Active	Non-active
5	RCI 2	FAST	GREEN	ON	GREEN	SLOW	Active	Non-active
6	RCI 3	FAST	GREEN	ON	GREEN	FAST	Active	Non-active
7	RCI 4	FAST	GREEN	ON	RED	ON	Active	Non-active
8	RCI 5	FAST	GREEN	ON	RED	SLOW	Active	Non-active
9	RCI 6	FAST	GREEN	ON	RED	FAST	Active	Non-active
10	RCI 7	FAST	GREEN	ON	YELLOW	ON	Active	Non-active
11	RCI 8	FAST	GREEN	ON	YELLOW	SLOW	Active	Non-active
12	RCO 1	FAST	RED	ON	GREEN	ON	Active	Non-active
13	RCO 2	FAST	RED	ON	GREEN	SLOW	Active	Non-active
14	RCO 3	FAST	RED	ON	GREEN	FAST	Active	Non-active
15	RCO 4	FAST	RED	ON	RED	ON	Active	Non-active
16	RCO 5	FAST	RED	ON	RED	SLOW	Active	Non-active
17	RCO 6	FAST	RED	ON	RED	FAST	Active	Non-active
18	RCO 7	FAST	RED	ON	YELLOW	ON	Active	Non-active
19	RCO 8	FAST	RED	ON	YELLOW	SLOW	Active	Non-active

SLOW means slow flashing at 500 ms on and 500 ms off.

FAST means fast flashing at 250 ms on and 250 ms off.