



INSTRUCTION MANUAL

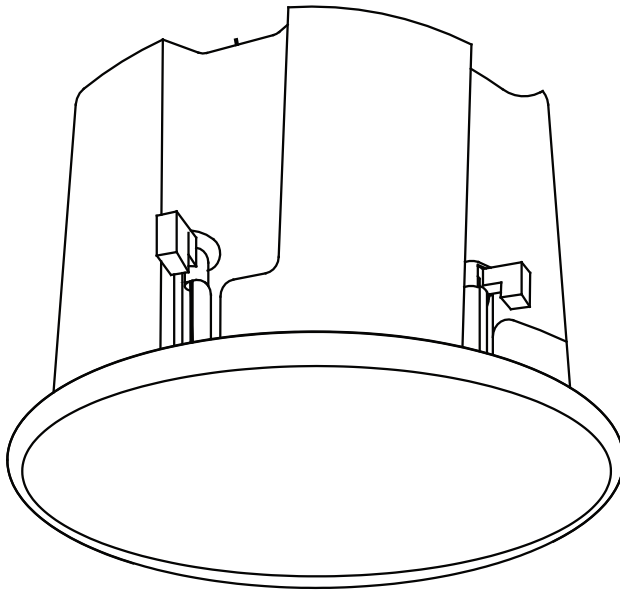
iFS4020

iCS6020

iPS8020

iHS8020

Ethernet IP PoE Speakers



Thank you for choosing another quality product from Amperes Electronics.

IP PoE speakers provide a convenient way to place your speakers in whatever locations, be it for BGM or Paging purpose in IP PA setup. Home run of speaker cables is not necessary and what it need is availability of network port, thus a great savings in cabling cost plus faster deployment of the audio point.

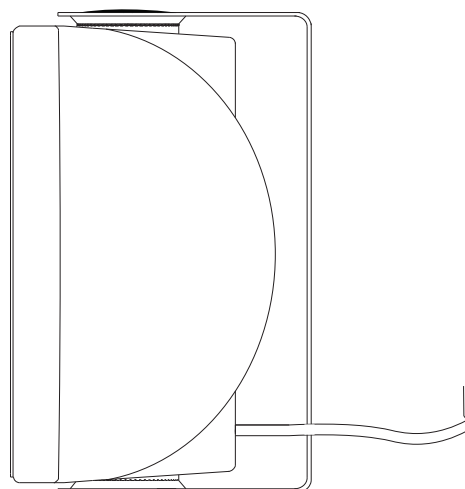
Amperes offers four types of IP PoE speakers to suit your needs, ranging from ceiling mounted, horn, full range speaker to hanging type pendant ball. The speakers are driven by high efficiency Class D amplifier circuit and compatible with all IP equipment from Amperes.



Parts Identification

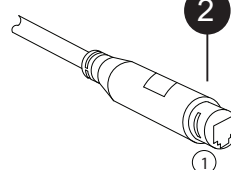
Speaker Unit
iFS4020
iCS6020
iHS8020
iPS8020

1



Female weatherproof receptacle. Male Plug provided as a full set

2

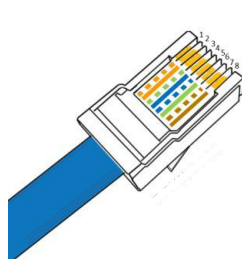


1. SPEAKER UNIT

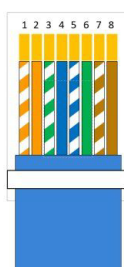
The speaker unit has built in class D amplifier module.

2. CONNECTION CABLE

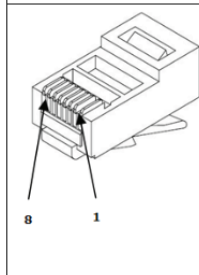
This water-proof RJ45 receptacle is to be connected to PoE switch (48V). The pin configuration is shown.



RJ45 Pinout
T-568B (most common)



Pin 1 : Orange / white
2 : Orange
3 : Green / white
4 : Blue
5 : Blue / white
6 : Green
7 : Brown / white
8 : Brown

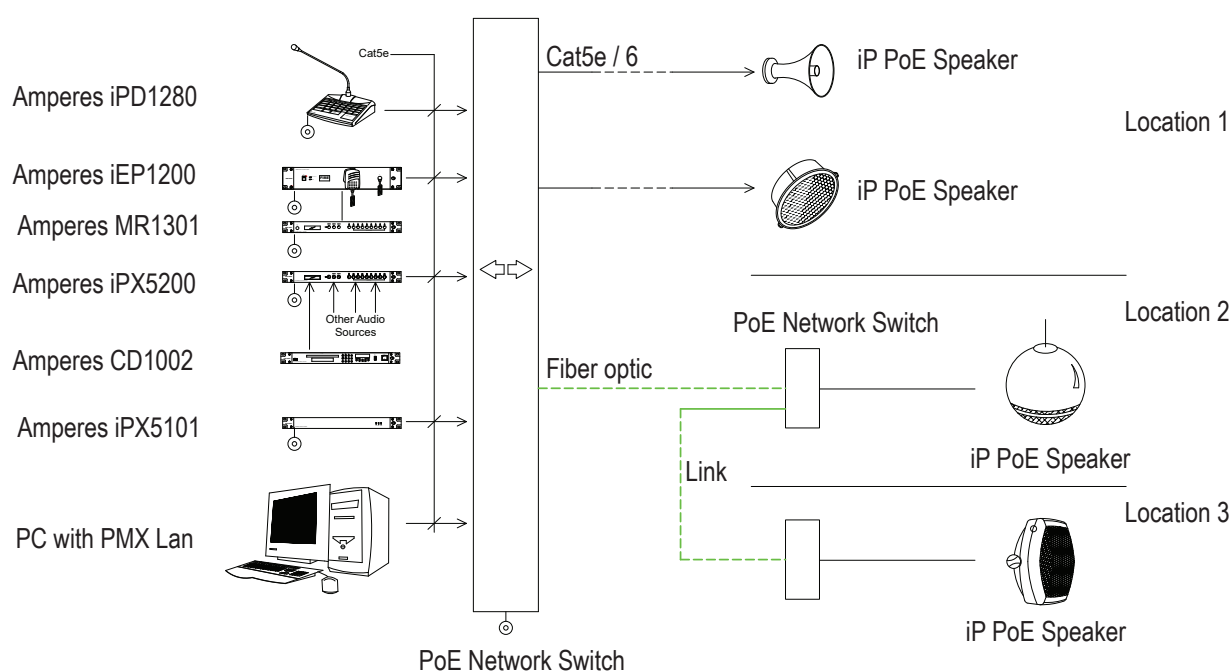
	Nr. de pin	Identif.	Color
	1	Tx+	
	2	Tx -	
	3	Rx+	
	4	PoE -	
	5	PoE -	
	6	Rx -	
	7	PoE +	
	8	PoE +	

Note that PoE used is IEEE802.3 at : 48V.

Ensure total load of speakers does not exceed the power capacity of the PoE switch.

General Schematic

The diagram below shows simple connections of iP PoE speakers in Amperes iPX environment for music and paging broadcast. For details and further integration with other equipment, please visit our website for more information with the link : www.ampereselectronics.com/product-guidelines. or scan the QR code.



Application with music streaming only

If the IP speakers are intended to be used as music broadcast only, ie. using iPX5200 / PMX Lan, iPX5101 shall not be required.

The slider at paging setup page must be switched off to avoid audio jittering.

Paging

Paging Enabled ☐

Auto Connect ☒

Zone Address
20 ☐ Restricted Zone

SAVE

Device Setup

Some device configurations are required such as setting IP address, zone number and some optional configurations such as equalisation, naming of speaker before the IP speakers can be used. Log on the speaker with default IP address as **192.168.0.100**. Default username and password are both “**admin**”.

IP Speakers are designed to work in Amperes iPX environment, working to receive BGM audio from iPX5200 music server / PMX LAN software and also to receive paging audio from iPD / iEP paging mic in accordance to PA requirement, such as muting on paging and priority broadcast.

Device Info

Device Information	
Firmware Version	1.04
Serial Number	00000000000000000000
Build Date	27 Apr 2021
Device Name	IPX Device

Network Information	
MAC Address	114:106:118:28:121:55
IP Address	192.168.0.42
Subnet Mask	255.255.255.0
Gateway Address	192.168.0.1
Data Port	3000

Paging Server Status	
Server Name	IPX Device
Server IP	192.168.0.101
Server Version	2.31

Music Server Status	
Server Name	IPX Device
Server IP	192.168.0.120
Server Version	2.07

The first page appears upon login shall be Device Info, showing information as firmware version, networking address and paging server status.

No configuration is needed for this page

Network Configuration

IPv4 Configuration	
IP Address	192.168.0.42
Subnet Address	255.255.255.0
Gateway Address	192.168.0.1
Data Port	3000

SAVE

Edit the IP address of the speaker. Each speaker must have unique address.

Leave the data port number unchanged. Click “Save” to save your changes.

Device Configuration

System configuration page allows the user to rename the Speaker ID for easier identification with access controls.

Device Name : Key in your unique device name for easier speaker location identification.

Authentication : Change the username and password to protect your speaker from unwanted access.

For device firmware updates, please refer to section “ Firmware Updates ”

Unit Configuration	
Device Name	IFS4020

SAVE

Authentication	
Enter new username	
Enter new password	

SAVE

Update Firmware	
SELECT FIRMWARE	

Backup & Restore	
BACKUP CONFIGURATION	
RESTORE DEFAULTS	

Device Setup

BGM Setup

 **BGM Server - IPX5200 / PMX**

BGM Enabled ☒

Auto Connect ☒

SAVE

 **Audio Configuration**

Volume

80%

5 Band Equalizer

0_{dB}

0_{dB}

0_{dB}

0_{dB}

0_{dB}

100_{Hz}

250_{Hz}

1k_{Hz}

4k_{Hz}

10k_{Hz}

SAVE

Enable the speaker to connect to music streaming source, ie. iPX5200 or PMX Lan software.

Set the unit to “auto connect”, which would enable the speaker to search for the audio source whenever it is turned on.

5 band equaliser is provided for some simple audio tuning to suit the listening preference. Audio output of each speaker can be controlled remotely.

Note that there are separate EQ and Volume for BGM and Paging.

Click “ Save ” whenever a changes is made.

Paging Setup

Paging

Paging Enabled ☒

Auto Connect ☒

Zone Address

20

☐ Restricted Zone

SAVE

Audio Configuration

Volume

MAX

5 Band Equalizer

0_{dB}

0_{dB}

0_{dB}

0_{dB}

0_{dB}

100_{Hz}

250_{Hz}

1k_{Hz}

4k_{Hz}

10k_{Hz}

SAVE

The speaker can be set to receive BGM only or both BGM and Paging audio. Enable “Paging Enabled” slider to allow the speaker to receive both BGM and Paging. Disable this slider to receive only BGM and when there is no iPX5101 in the system.

Zone Address : You can assign zone number to the particular speaker. Several speakers in the same area can be assigned same zone numbering.

Restricted Zone : Some speaker with both Paging and BGM enabled can have to choice to reject normal paging but would enable emergency paging to pass through.

iP PoE Speakers

PAGE 5

Firmware Update

Update Firmware

SELECT FIRMWARE

Update Firmware

File Name	iFS4020.acfr
Firmware Version	1.16
Build Date	12-10-2022

CANCEL

UPLOAD

Update Firmware in Normal operation mode.

Click on “Select Firmware” tab to update firmware which is available from time to time. Check the version number of the existing unit against the latest available version in the website : www.ampereselectronics.com/downloads-amperes

1. Open browser with the unit's IP address
2. Select the binary file with “.acfr” extension and click “Upload”
3. Once update is completed, the browser shall enter the login page.

Update firmware in Bootloader Mode (applicable to speakers with reset button only)

If it is required to update using bootloader mode, in situation such as device “hanged” or operating in abnormal mode :

1. Press & hold the reset button until “ STREAMING ” LED is turned ON. This will set the IP address to default address 192.168.0.100.
2. Open a browser and enter the IP address 192.168.0.100. A web page as shown below shall appear.
3. Select “ Upload Firmware ”, choose a binary file with “.acfr” extension and click “UPLOAD”
4. Once the uploading is completed, the browser shall enter the login page.

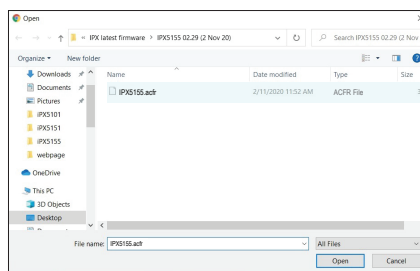
amperes Bootloader Interface
Amperes Electronics

Upload Firmware

Restore Factory

Exit Bootloader

Click the Upload Firmware button to find the updated firmware file.



Find the updated firmware file.

File: IPX5155
Size: 394 KB
Version: 02.29

Cancel

Upload

Restore Factory

Exit Bootloader

Ready to upload, click Upload button to upload the firmware.

After finish updating firmware, the browser automatically restart.

Firmware update in progress

Please do not power off the device

This page will be reloaded once the update process is complete

The device IP Address is 192.168.0.100

File: IPX5155
Size: 394 KB

Uploading

Updating progress

Backup and Restore

Backup & Restore

BACKUP CONFIGURATION

RESTORE DEFAULTS

To back up configurations set on a drive for safe keeping, click on the “Backup Configuration”, whereas “Restore Defaults” is to revert the unit to factory default settings.

Technical Specification

	iFS4020	iCS6020	iPS8020	iHS8020
Power rating		20 W		
Power source		PoE+ (IEEE802.3 at : 48V)		
Standby power consumptions		0.5W		
Operating power consumptions		15W Max		
Amplifier rating		20W 4 Ohm		
Speaker type	2 way : 4" + 1" tweeter	2 way : 6" + 1" tweeter	2 way : 8" + 1" tweeter	Compression coil
Speaker driver diameter	4" (100 mm)	6.5" (165 mm)	8" (200 mm)	2 " (50mm)
Sensitivity @1kHz / w / m	87 dB	90 dB	110 dB	92 dB
Frequency response @ 1 kHz +/- 3dB	105 - 18 kHz	115 - 19 kHz	90 - 18 kHz	200 - 8 kHz
S/N ratio		85 dB		
Audio codec		IMA ADPCM / MP3 / WAV		
Network & Protocols		100Base T / TCP/IP, UDP, IGMP, HTTP, ADMP, ADP		
User interface incl. firmware upgrade		Google Chrome, IE V8+ / via web browser		
Priority controls		Paging over BGM		
Operating temperature / humidity		0 - 70 degree C / 70%		
Housing		ABS enclosure /Aluminum grille		
Dimensions (mm) WxHxD	165 x 270 x 170	250 dia x 142 H	254 dia	293 x 212 x 290
Net weight (kg)	1.95	1.85	1.90	1.80
Colour	Black	White		

Note:

The above specifications are correct at time of printing but subjected to changes without prior notice due to product improvements.

Warranty Conditions

Only Amperes Electronics Service Centres are allowed to make warranty repairs : a list of Amperes Electronics Service Centres may be asked for by the purchaser or send directly to Amperes Electronics Sdn Bhd at 70 Jalan Industri PBP 3, Tmn Perindustrian Pusat Bandar Puchong, 47100, Puchong, Selangor, Malaysia or its authorized dealers. This warranty is not valid if repairs are performed by unauthorized personnel or service centres.

This warranty covers only repairs and replacement of defective parts ; cost and risks of transportation as well as removal and installation of the product from the main system are for the account of the purchaser. This warranty shall not extend to the replacement of the unit.

This warranty does not cover damages caused by misuse, neglect, accident of the product as well as using the product with power supply voltage other than shown on the product, or any other power supply source / adaptor not recommended by the manufacturer.

This warranty does not cover damages caused by fire, earthquakes, floods, lightning and every cause not directly related to the unit.

This warranty does not include any indemnity in favor of the purchaser or the dealer for the period out of use of the unit; moreover the warranty does not cover any damages which may be caused to people and things when using the product.

This warranty certificate is valid only for the described product, and is not valid if modifications are made on this certificate or on the identification label applied on the product.

This warranty covers all the material and manufacturing defects and is valid for a period of 36 months from the date of purchase or for a specified period in countries where this is stated by a national law. In this case, the extension is valid only in the country where the product is purchased.

Amperes Electronics Sdn Bhd is not obliged to modify previously manufactured products under warranty if the design changes or improvements are made.

Disclaimer

Information contained in this manual is subject to change without prior notice and does not represent a commitment on the part of the vendor. AMPERES ELECTRONICS SDN BHD shall not be liable for any loss or damages whatsoever arising from the use of information or any error contained in this manual.

It is recommended that all services and repairs on this product be carried out by AMPERES ELECTRONICS SDN BHD or its authorized service agents.

AMPERES series must only be used for the purpose they were intended by the manufacturer and in conjunction with this operating manual.

AMPERES ELECTRONICS SDN BHD cannot accept any liability whatsoever for any loss or damages caused by service, maintenance or repair by unauthorized personnel, or by use other than that intended by the manufacturer.



ISO 9001: 2015
Design & Manufacture of Public Address Equipment and Systems
Certificate No. 16895 / A / 0001 / UK / En



AMPERES ELECTRONICS SDN BHD
MADE IN MALAYSIA
PUBLISHED : AUG 2022