

NETWORK STREAMING AUDIO MIXING AMP

PMU-N SERIES

PMU-60N/120N/240N/360N/480N/600N





The PMU-60N/120N/240N/360N/480N/600N are 6-Input 60/120/240/360/480/600-watt mixer/amplifier with a built in digital portable media player that will playback MP3/WMA/WAV audio files. The PMU-N Series offers input flexibility with its 6 microphone and line level selectable inputs. Direct PC USB connection is possible using the built in USB PC sound card. A network audio connection makes the PMU-N Series amplifier great for BGM applications that receive their audio program via network, LAN, Dedicated WAN and internet TCP/IP or RTSP.



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The PMU-N Series uses SMPS, Switch mode power supply for added energy efficiency in a compact size. SMPS-Switch mode power supply provides high efficiency and low weigh. Among their advantages is their reduced physical size and lower heat dissipation. SMPS offer power efficiency and reduced power consumption over traditional amplifiers.

The master output volume can be remote controlled using the VCA terminal. This feature is ideal for Hotel meeting rooms, Bars and restaurants.

Listen to Internet Radio.

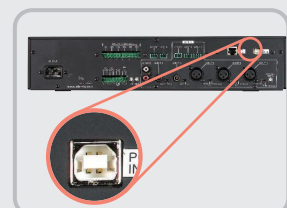
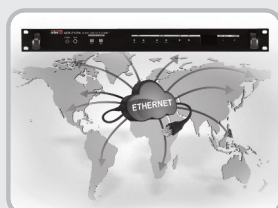
This is the perfect solution for enjoying a virtually unlimited amount of free music, talk, and more. Don't be limited to what you can tune in from your old AM/FM analog radio anymore. Ideal for where standard radio waves are not available with an easy Ethernet connection to your home or office broadband router.

Access 13,000+ Radio Stations Worldwide

Once the PMU-N Series internet radio player is connected to the Internet you will have access to 13,000+ live streaming Internet radio stations from around the globe at your fingertips. This includes any genre you can think of, from music to talk, sports, and local news from over 150 countries.

What is Internet radio?

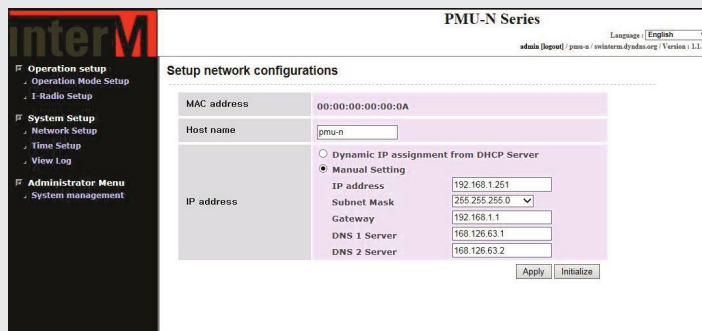
Internet radio also known as web radio, net radio, or webcasting is an audio service transmitted via the Internet. Broadcasting on the Internet is usually referred to as webcasting since it is not transmitted broadly through wireless means. An Internet Radio is a radio receiver, a piece of hardware, that is designed to receive Internet radio streams. Most Internet radios are manufactured to be used in conjunction with a local Wi-Fi, local router, or other broadband connection.



Web-Browser Control Panel

The Web-browser control panel is a web-based interface(control panel), used to interact directly with the player, both for making configuration changes and for requesting information from the player.

The Web-browser control runs directly on the player's internal web server on port 80 and can be accessed from any regular browser including web enabled devices such as tablets and smart phones.



You can access Web-Browser Control panel interface by opening a browser and typing http://device_ip_address. The default IP address is [http:// 192.168.1.98](http://192.168.1.98). The web-browser interface will allow you to setup and configure the Network Settings, Security, Date/Time, User definable Web Stations, Timed Broadcast Automation, Firmware Update, Maintenance and Log Files. Through the web-browser interface, you can easily select the desired channel to broadcast.

Easy to use Menu

Using the media feature of the PMU-N Series amplifiers is as easy with the 2.8" Color LCD Display. Press and hold the SELECT KNOB control switch on the front panel. Rotate left or right until the desired service Icon is displayed briefly press the KNOB again to enter that service menu.



USB PLAY MODE

USB media player. Playback of audio files from a USB memory Stick.



AOE STREAM MODE

Receives real-time streaming audio transmission over a TCP/IP LAN or Dedicated WAN network from a remote AOE-212N



INTERNET RADIO MODE

Playback of streaming internet radio feeds



NETWORK BGM MODE

Real-time music program(provision of services)



SETUP MODE

Display of system Information, firmware version and network configuration.

- Built in MP3/WMA/WAV player. Audio files are accessible via the front panel USB connector.
- Built in USB PC sound card permits direct input of PC Audio via rear panel USB connector.
- Streaming Network audio input via rear panel RJ45 connector.
- Large 2.8" Color LCD Display displays operation status as well as song title, artist, album art and output Level.
- SMPS – Switch Mode Power Supply technology design delivers high power output with low-power consumption and low weight.
- 6 input mixer amplifier with 5 microphone or line level selection (line-level input, mic level input, and phantom power)
- Signal indicator confirms and displays signal present for each input.
- Base and Treble tone adjustment.
- Five zone speaker selector switches, allows for independent or all zone broadcast.
- Output zone 5 features a 3 position attenuator.
- Front panel CHIME and SIREN with external trigger.
- External MUTE and Telephone paging input.
- VCA remote master volume level control.



1. INPUT 1~6 input volume control
INPUT 1~5, Mic/Line input control
INPUT 6, volume of the USB/PC AUDIO/Internet Radio/AOE STREAM, and summing RCA.

2. INPUT 1~6 Signal LED

3. CHIME switch
Activates 4 tone CHIME.

4. LCD DISPLAY Control Switch



- SELECT

Press and hold the KNOB to enter the MENU MODE, briefly press to select desired function. Press and hold again to return to the main MENU.

- ESC

Exits the current screen back to previous.

5. Tone controls

These controls will boost or cut the bass or treble by ± 10 dB.

6. Protection circuit indicator(PROTECTION)

The PMU-N employs a protection circuit to protect the amplifier from momentary or long-term overload and overheating. The PROTECTION LED on the front panel when lit indicates that the protection circuit is activated. No audio will be heard when the amp is in protection mode.

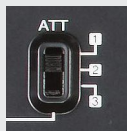
7. MASTER VOLUME CONTROL

8. Power switch(POWER)

9. Power indicator

10. ZONE 5 ATTENUATION

Attenuates the output of ZONE 5. The speakers may be attenuated in three steps.



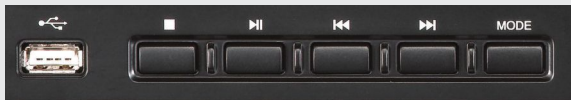
- 1 : 100 V nominal output (0 dB)
- 2 : 70 V output (-3 dB)
- 3 : 50 V output (-6 dB)

11. The speaker selector switch

12. LCD

A large 2.8" Color LCD displays the operation status as well as USB MP3 song title, artist, album art and output Level.

13. USB playback controls



- 1) USB input
- 2) ■ (stop) button
- 3) ► / || (play and pause) button
- 4) |◀◀ / ▶▶| (previous, next) button

Press briefly to skip a song you want to choose one. Press and hold for 2 seconds to rewind, fast-forward operation.

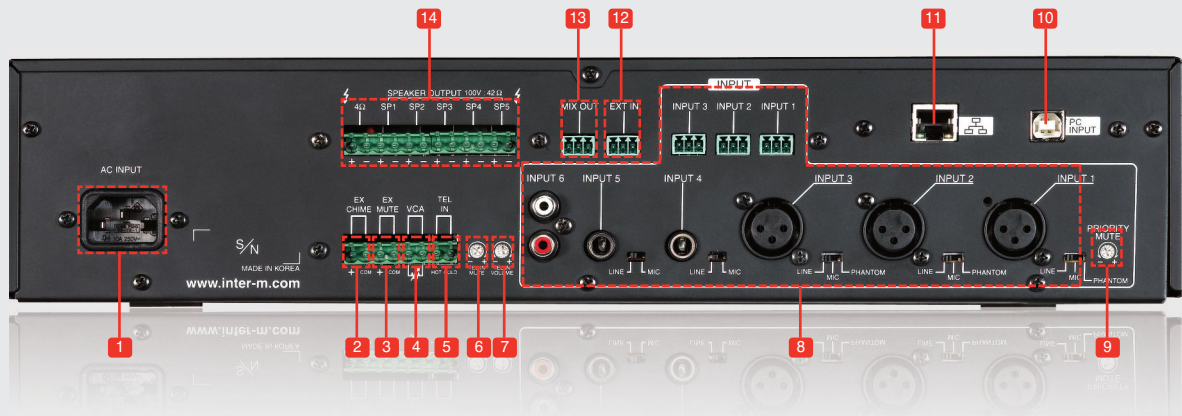
- 5) MODE button

Press the button to change the play mode.

Repeat Random, Repeat All, Play Folder Random, Repeat Folder.

14. AUX INPUT

A ø3.5 front panel mounted mini-jack makes it easy to plug-in a portable music source, such as an mp3 player or smart phone.



1. AC power input(AC INPUT)

2. External CHIME connector(EX CHIME)

The CHIME can be remotely activated by connecting a push button switch to this terminal

3. External MUTE connector(EX MUTE)

The External Mute feature is useful when the background system needs to be muted from a remote location. When shorting the Remote Mute terminals together, the amplifier will be muted.

4. VCA(Voltage Controlled Amplifier) terminal

By connecting a 10K potentiometer to this terminal, the master volume can be remotely controlled.

5. TEL-IN input

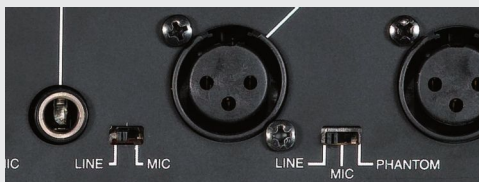
This terminal is used to connect to the paging port output of a telephone system. It allow a telephone system to make a voice page over the PA system.

6. TEL-IN volume control

7. TEL-IN-priority volume control

8. INPUT 1~6 inputs

INPUT 1~5 are balanced inputs, INPUT 6 consists of pair of summing RCAs. INPUT 1~5, are microphone or line level inputs selectable.



INPUT 1~3 inputs/input selector switch

LINE(LINE input), MIC(BALANCED MIC input), PHANTOM(condenser MIC input)

INPUT 4~5 inputs/input selector switch

LINE(LINE input), MIC(BALANCED MIC input)

INPUT 6 inputs

A pair of summing RCA inputs, ideal for connecting BGM inputs.

9. Priority volume control(PRIORITY MUTE)

This adjust the ducking volume of the other inputs giving priority to INPUT 1~2, EXT-IN, CHIME.

(※ Priority: TEL-IN> CHIME> EXT-IN> INPUT 1 ~ 2)

10. PC INPUT connector(USB B-TYPE)

This is the input to the integrated sound card. It is connected to a PC. It is recognized as a USB AUDIO CODEC from the PCs using WINDOWS XP or later operating systems.

11. Network Connector

Connects to TCP/IP Dedicated WAN or LAN and 10/100 Mbps network devices for control by web-enabled devices and for internet access. Supports AUTO MDIX detects the relative interface automatically, regardless of DIRECT/CROSS cable.

12. External input(EXT IN)

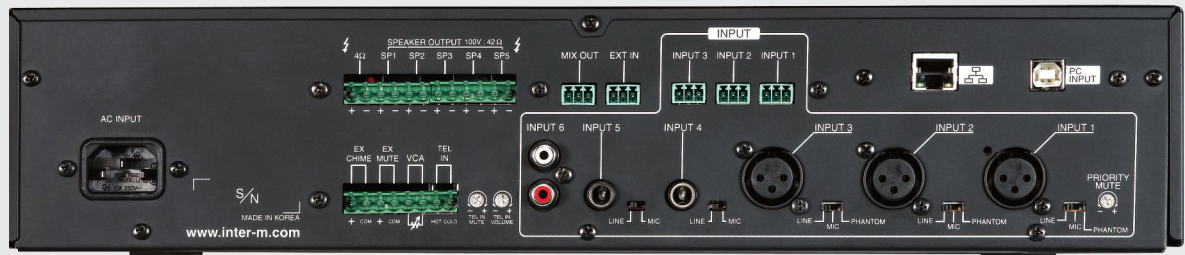
This input can be used to expand the mixer inputs. It is the input to the power amp stage of the mixer amp. An external mixer can be connected to this input and expand the input capacity of the Mixer amplifier.

13. Mix output(MIX OUT)

The MIX-out is a line level signal output of the mix bus. It can be used for recording, linking to another amplifier for additional power, or linked to a processor and subwoofer amplifier.

14. Speaker output(SPEAKER OUT)

Speaker output terminals. 70 V/100 V speakers are connected to the 5 ZONE output terminals. Lo Z speakers, down 4 Ω and 8 ohms are connected to the 4 Ω terminal. Note : Always observe proper impedance loading for optimum operation.



		PMU-60N	PMU-120N	PMU-240N	PMU-360N	PMU-480N	PMU-600N
Rated Output		60 W	120 W	240 W	360 W	480 W	600 W
Frequency Response (SP OUT/1 W output)		80 Hz - 15 kHz					
T.H.D @ Rated output, 1 kHz		Less than 0.5 %					
S/N @ Rated output		Better than 78 dB			Better than 70 dB		
Graphic Equalizer (100 Hz, 330 Hz, 1 kHz, 3.3 kHz,10 kHz)		±10 dB					
Input Sensitivity/Impedance							
INPUT 1~5	MIC	-50 dBu/2 kΩ					
	LINE	-10 dBu/2 kΩ					
INPUT 6		-10 dBu/10 kΩ					
TEL IN		0 dBu/10 kΩ					
EXT IN		0 dBu/20 kΩ					
Mix Out / Impedance		0 dBu/10 kΩ					
Speaker Output / Impedance	LOW-Z	15.5 V/4 Ω	22 V/4 Ω	31 V/4 Ω	76V/8Ω+8Ω 70 V/8 Ω+8 Ω	88 V/8 Ω+8 Ω 70 V/8 Ω+8 Ω	100V/8Ω+8Ω 70 V/8 Ω+8 Ω
	HIGH-Z	100 V/167 Ω 70 V/83 Ω	100V/83 Ω 70 V/42 Ω	100 V/42 Ω 70 V/21 Ω	100 V/28 Ω 70 V/14 Ω	100 V/21 Ω 70 V/10 Ω	100V/16Ω 70 V/8 Ω
Operating Temperature		-10 °C~+40 °C					
Power Source		100-120 VAC or 220-240 VAC 50/60 Hz [Supplied AC mains transformer depends on country requirements]					
Power Consumption(1/8 W output)		38 W	50 W	75 W	80 W	100 W	160 W
Weight		5.4 kg/11.9 lbs	6.7 kg/14.8 lbs	8 kg/17.6 lbs	5.2 kg/11.5 lbs		
Dimensions		420(W)×88(H)×319(D) mm/16.5(W)×3.5(H)×12.6(D) in					

APPLICATION 1

The PMU-N Series mixer-amplifiers provide outstanding value and functionality for installed sound applications in a wide variety of commercial installations including: Education, Fitness Centers, Retail, Restaurants, dance studios, and BGM. The network audio connection makes the PMU-N Series amplifier great for BGM applications that receive their audio program via network, LAN, Dedicated WAN and internet TCP/IP or RTSP.

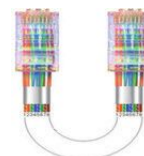
- Restaurants and Lounge
- Coffee shops
- Seminar rooms and lecture halls
- K through 12
- Higher education
- Department Stores
- Retail Shops



Recommended Network Type

Type Product	Area	Single Mode Dedicated Fiber	Fiber Media Networking	UTP	Wi-Fi	PLC	POE	xDSL	Coaxial Modern
AOE-212N	LAN Dedicated WAN		○	○			○		
RFA-102			○	○			○		
PMU-N			○	○			○		

Used for UTP



Within only 100M

* Installation within 100M

- Use one L2 Switch to Operate

* Installation over 100M

- Use L2 Switch to operate
- Length Extension using Fiber Media Converter

※ Digital Network Transmission Equipment of Inter-M transmits audio and data through the network.

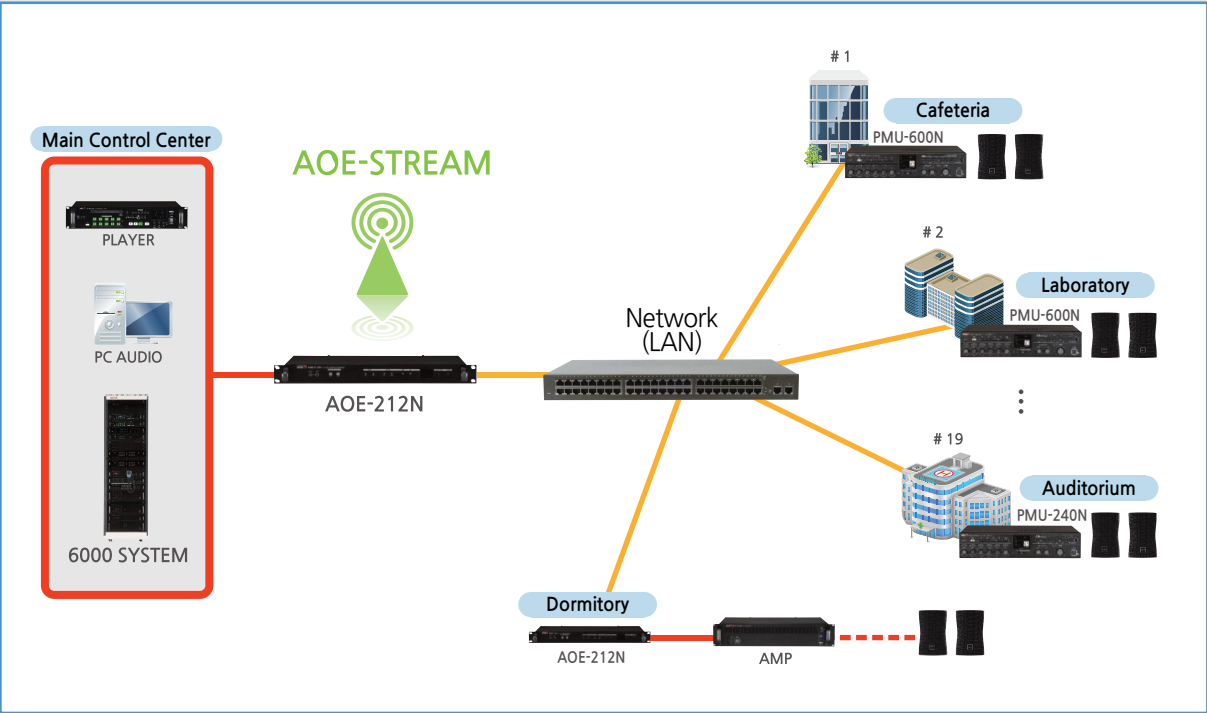
If a different packet of the network is used instead of the exclusive data used for the equipment, it may lose the bandwidth.

So, it is highly recommended to use a over 100M private network due to expected long network load and lose of the signal after being used for the business use and with network CCTV.

APPLICATION 2

LAN/Dedicated WAN & TCP/IP DISTRIBUTED BGM AUDIO FOR GLOBAL BROADCAST

Distribute BGM Audio from a single source anywhere in the world to any destination anywhere in the world.



DESCRIPTION

In this application, an AOE-212N is used to broadcast BGM and corporate news to branches around the world. Streaming your own dedicated and custom audio program to anywhere in the world is easy using the AOE-212N Audio over Ethernet Server.

A background music source such as a PC or a Media/CD Player is connected to the input of the AOE-212N. This is connected to the router/network switch and broadcasts over the Dedicated WAN/LAN or Internet via TCP/IP. The Audio is received from either PMU-N Series Network amplifier or another AOE-212N Client which are connected to the internet via routers and switches.

The user can choose the quality of compression of the MP3 stream as to either minimize network traffic or improve audio quality.

※ In case of receiving AOE-212N from INTERNET RADIO MODE

Title	URL	Add
AOE-212N	rtsp://192.168.1.99:5454/128_48000.mp3	Add

Export

Import

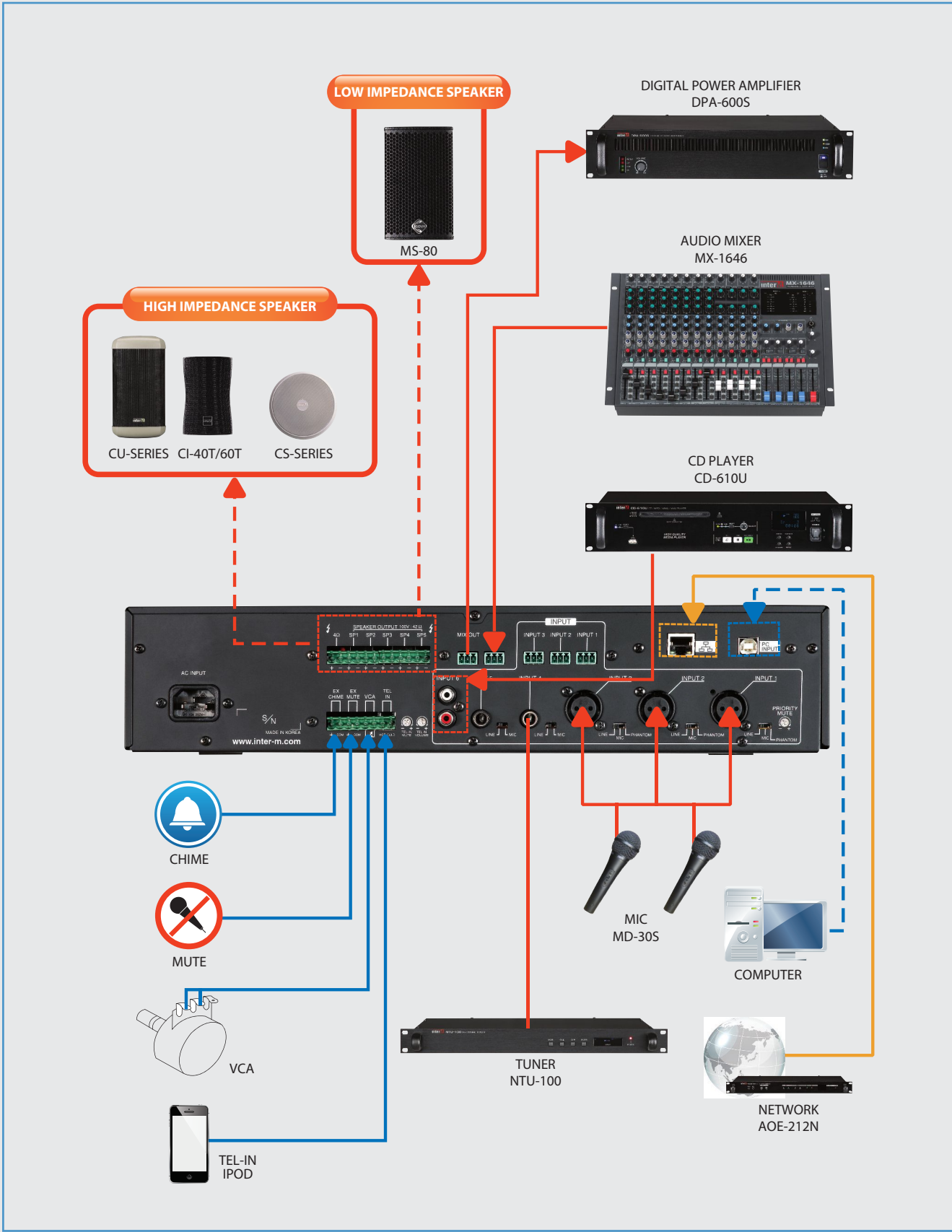
Apply

Initialize

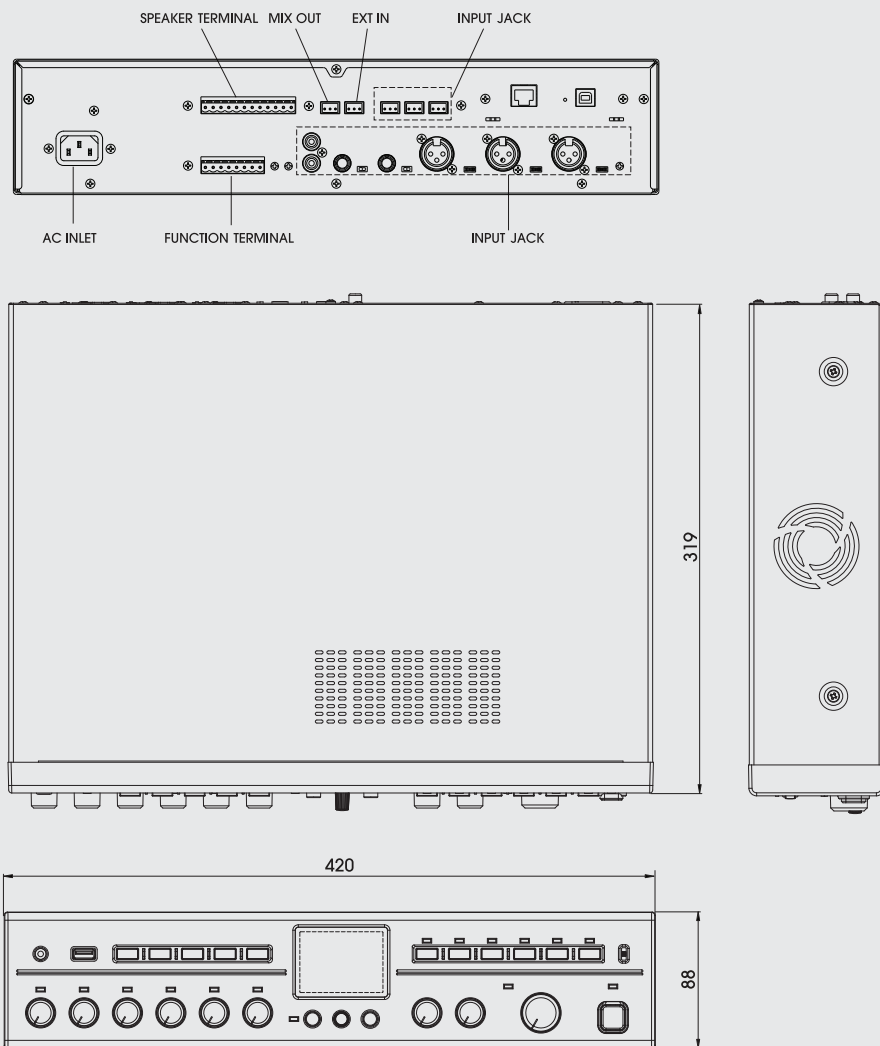
- Set up the Audio by RTSP not Unicast or Multicast in WEB of AOE-212N
- Input relevant IP address(ex:192.168.1.99)of AOE-212N server and port(5454) in broadcasting station address bar user defined.

rtsp://AOE-212N IP:5454/128_48000.mp3

APPLICATION 3



□ DRAWING



□ RELATED PRODUCTS



□ ACCESSORIES

- BKT-A120



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※ Design and specification are subject to be changed for the improvement of product quality without pre notice.

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