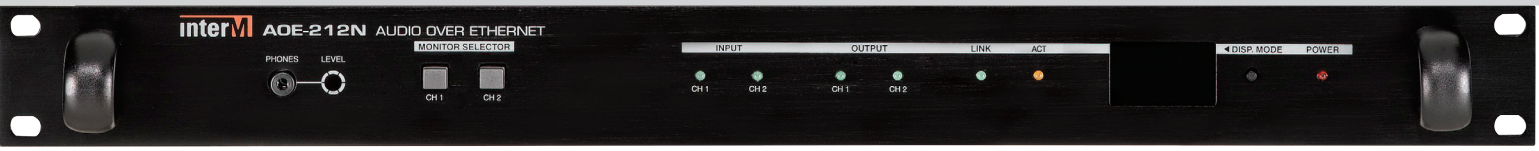
Audio Over Ethernet

AOE-212N

interM



Development Background

THE AOE AUDIO over ETHERNET NETWORK is an easy to use solution for transporting audio signals over Ethernet TCP/IP based local and wide area networks (LAN/WAN), as well as the Internet.
Applications include campus wide paging or messaging, background music, audio distribution for airports, railway stations, ground transportation, and anywhere audio required to be transported easily over long distances.

Type / Distance

	AOE-212N
Cable Type	UTP (ETHERNET)
Max Distance	No Limit
	1 : 70
Audio Channel	8 CH
Sampling Frequency	24 bit, 48 kHz
Frequency Response	100 Hz~20 kHz
S/N	92 dB
T.H.D	less than 0.1 %
Data Type	RS-232C, RS-422
Data Speed	Max. 115,200 bps
Power Source	100-120 V AC or 220-240 V AC, 50/60 Hz (Supplied AC mains transformer or DC 24 V depends on country requirements)
Operating Temperature	-10℃ ~ +40 ℃ / 14° F ~ 104° F
Dimension	482(W)×44(H)×280(D) mm/18.9(W)×1.73(H)×11(D) in
Broadcast	LAN/WAN Multicast : 1 : 70 unicast : 1 : 20

AUDIO OVER ETHERNET

Professional-quality audio and data transmission

- Audio + control transmission system over a single cat 5e cable
- Long-distance transmission using Ethernet network
- Multiple transfer functions (LAN/WAN, Multicast 1: 70, Unicast 1: 20)
- Uncompressed and compressed digital audio transmission
- High-quality audio, S/N greater than 92 dB, THD less than 0.1 %
- 2-channel bi-directional Data transfer (422/232/8x8 contact I/O)
- Supports 115,200 bps data communication.

Features

- Front panel monitor control and phone output jack
- Signal indicators
- Network connection, operation, power LED
- Network information display window
- Compact 1U size
- Hardware reset switch
- Audio Input volume control
- AC, DC simultaneous power

Contractors Convenience

- Easy audio wiring using Euroblock terminals
- Balance Audio input/output
- Removable front handles

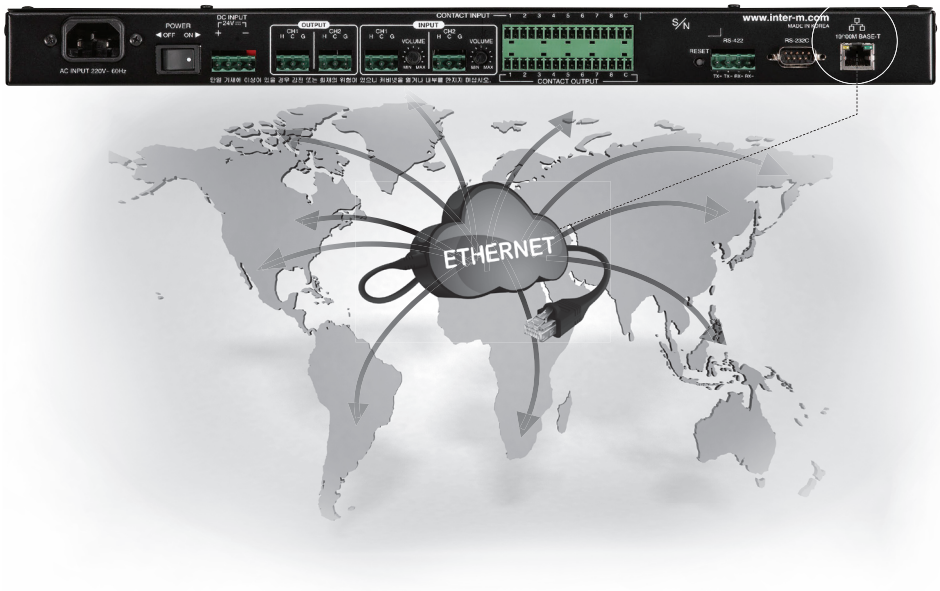
Software support

- User friendly web browser control
- System monitoring
- Software user security features
- Log file storage
- Transmission matrix control functionality(audio, contact support)

Ethernet Transport

Bi-directional 2 channel audio transmission over TCP/IP LAN or WAN ethernet network. Control of local and remote equipment is possible using the built-in eight programmable trigger inputs to initiate and terminate audio transmissions, 8 programmable open connector control outputs as well as the RS-232 and RS-422 serial port for data transmission/reception.

- Ethernet
- LAN/WAN
  Multicast : 1 : 70
  unicast : 1 : 20
- Compressed and uncompressed audio
  (Constant bandwidth)

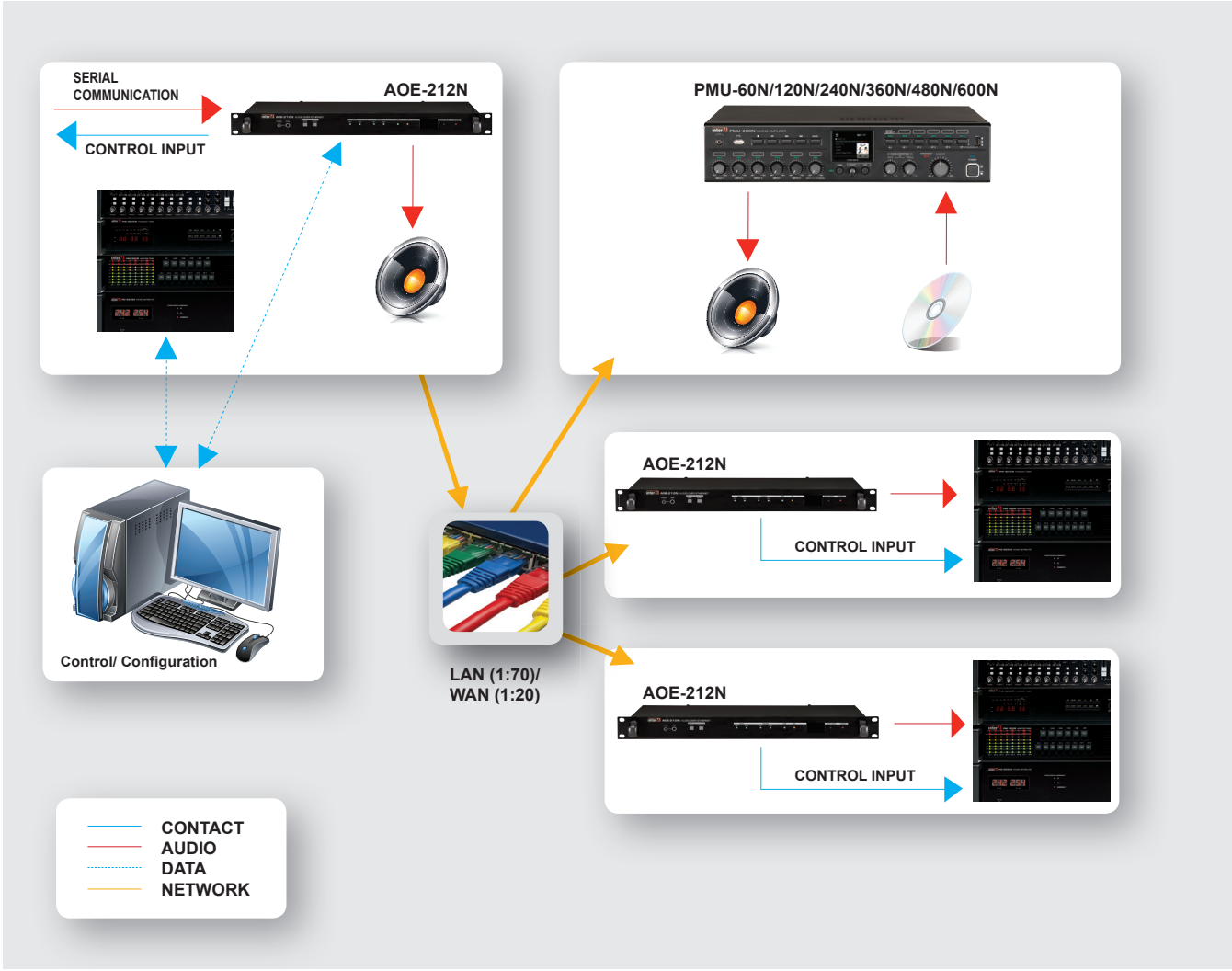


Professional Audio

Long-distance digital transmission of balanced analogue audio signal without electro-magnetic interference, signal loss or distortion. High quality uncompressed or compressed 24 bit digital audio at 48 kHz transmission over TCP/IP network with a S/N better than 92 dB, THD less than 0.1.

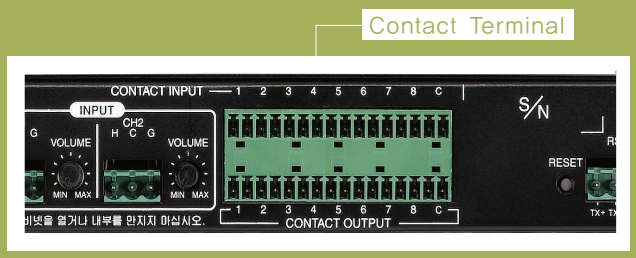
AUDIO OVER ETHERNET

System Block Diagram



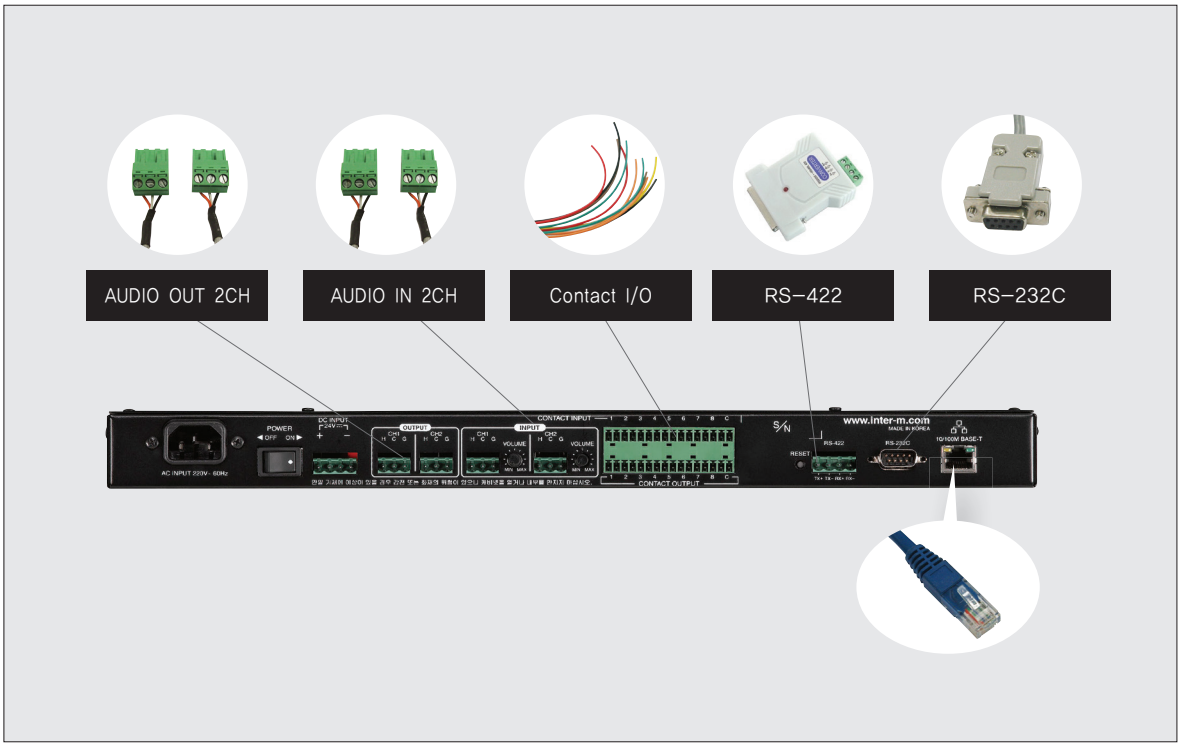
Data Tunneling

- 8 Contact inputs and 8 dry contact outputs
- Data transmit(422/232)
- 115,200 bps data transition



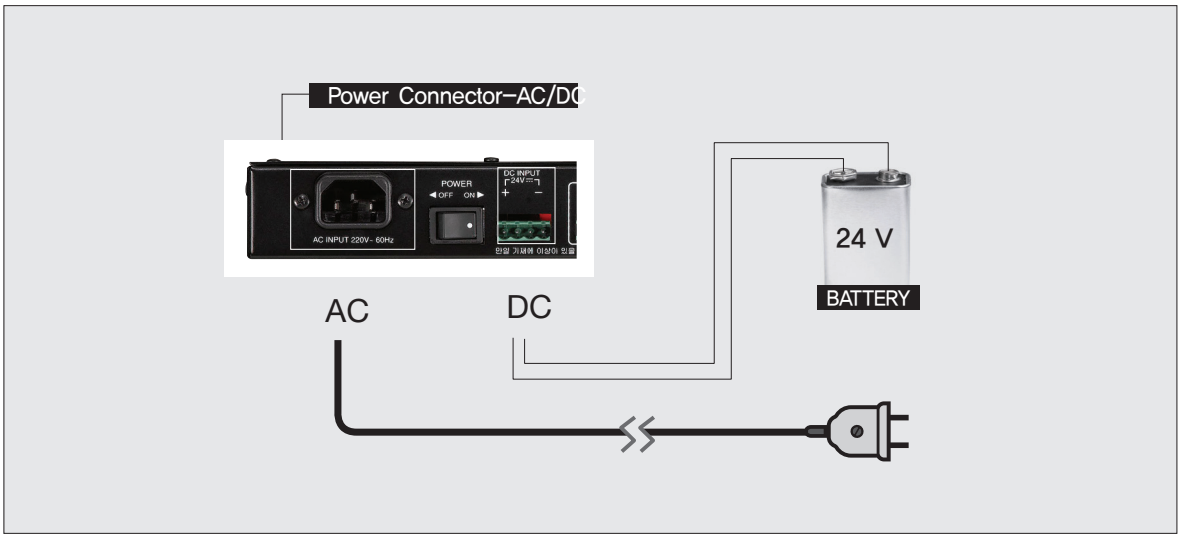
Single-cable transmission

Long-distance, 2-channel bi-directional audio and data transmission system over a single cable.



POWER

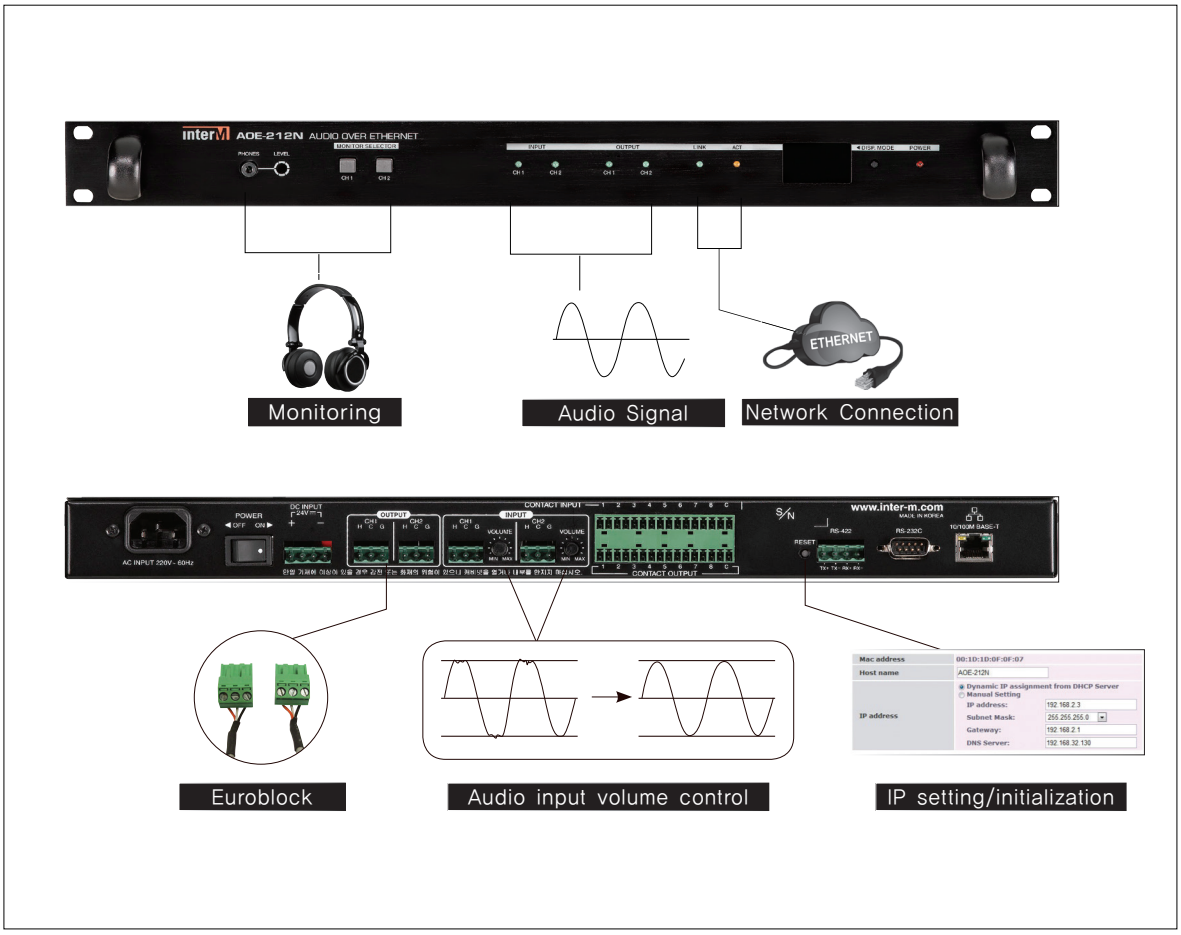
Simultaneous support of AC and DC power offering un-interrupted broadcast with emergency battery back up in the event of a power outage.



AUDIO OVER ETHERNET

Easy to use

Visual monitoring of the inputs and outputs signals as well as network status is possible via the front panel LED indicators. Monitoring of the audio signal is made possible using the front panel mounted headphone output jack.



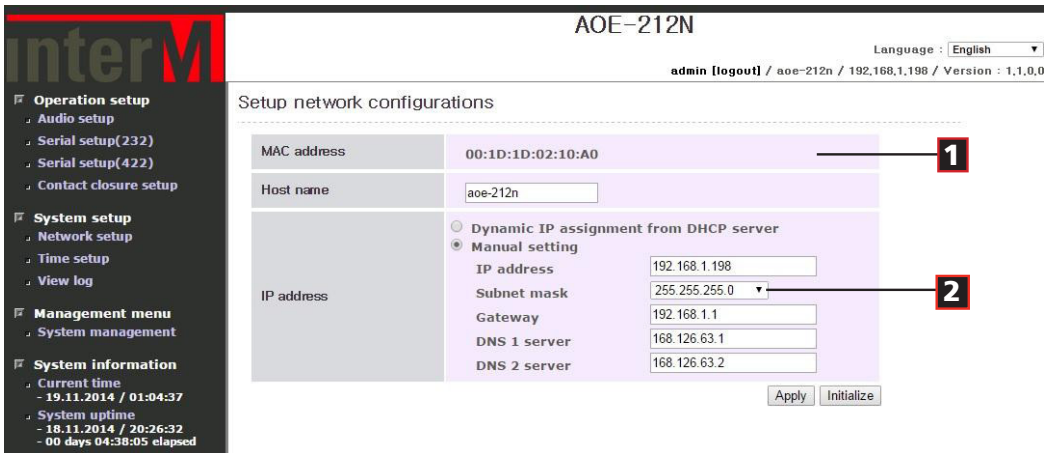
Software support

Easy to use web-browser based software allows for user system monitoring and control of the transmission.

System security prevents non-administrator users to tamper with the equipment operation and prevent malfunction.

Equipment operation history is stored in a log file , making it easy to identify system faults, the operating status of the equip- ment, and offering equipment malfunction traceability.

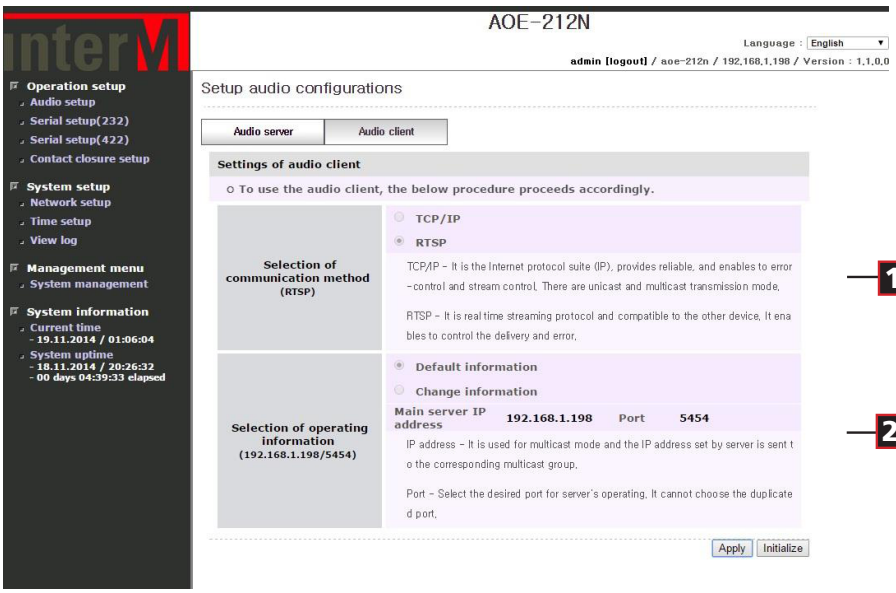
GUI – Network Setting



1. HOST NAME Setting Tab

2. Dynamic/Fixed IP Setting tab

GUI – Audio Network Setting



1. Server address(sender)

2. Server address(receiver)

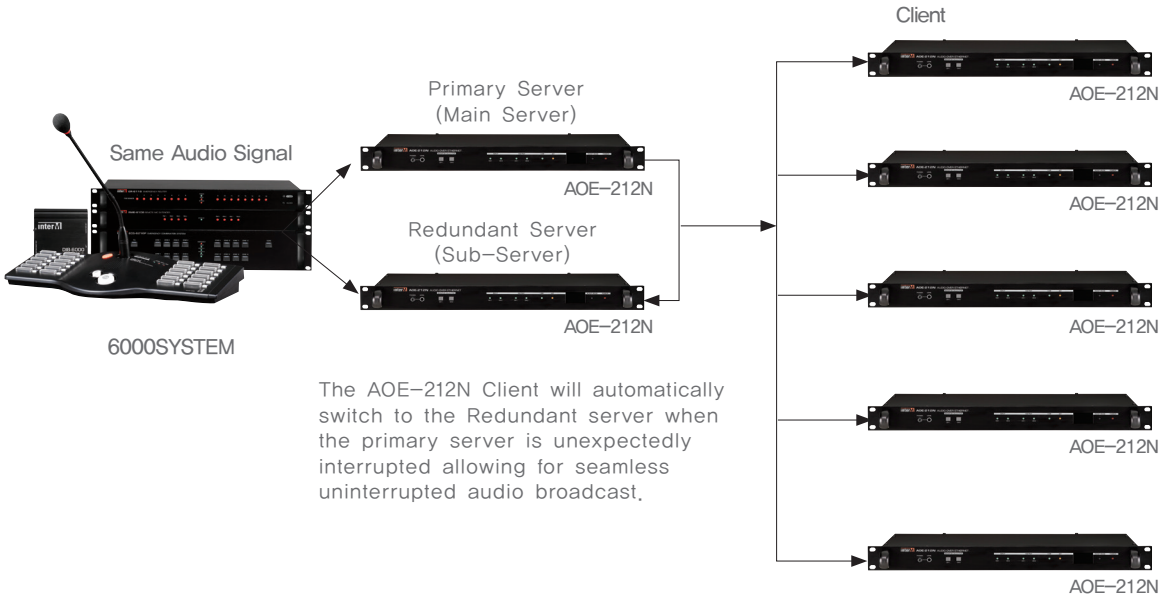
※ For further configuration information please refer to the operation manual.

Server Redundancy

Server info			
Main server		Secondary sever	
IP address	192.168.1.198	IP address	-
Port	5454	Port	-
Connection status	Connected	Connection status	-

Main Server Address

Secondary Server Address

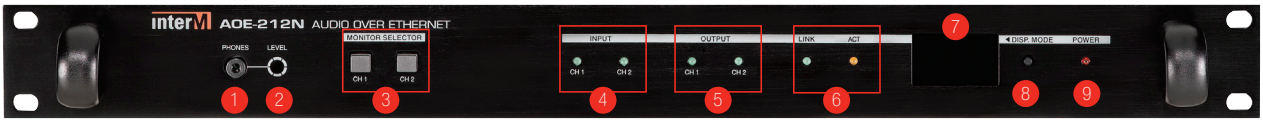


- The probability is a network data error when a using a single server is 1/1000 when a redundant server the data error probability is reduced to 1/1,000,000.

APPLICATION

AUDIO OVER ETHERNET

Front / Rear Panel



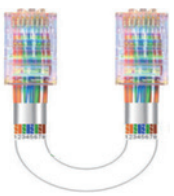
No	Desc	No	Desc
1	Monitoring Headphone	6	Network Connection Display LED
2	Monitor Volume	7	LED Display
3	Monitor Selector	8	Display Mode Selector
4	Input Signal Display LED	9	Power Display LED
5	Output Signal Display LED		

No	Desc	No	Desc
1	AC Power Input	6	Input Volume Control
2	Main Power Switch	7	Contact Terminal(8×8)
3	DC Power Input	8	RS-422 Terminal
4	Audio Signal Output	9	RS-232 Terminal
5	Audio Signal Input	10	RJ-45(Ethernet Input)

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		O	O			O		
RFA-102			O	O			O		
PMU-N			O	O			O		

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

Specifications

AUDIO	
Maximum Input Level	+20 dBu
Maximum Output Level	+20 dBu
Frequency characteristics (48 kHz Sampling, ±1 dB)	100 Hz~20 kHz
T.H.D (48 kHz Sampling)	0.1 %(under)
SNR	92 dB
Support Sampling Frequency	16, 32, 44.1, 48 kHz
Quantization bits	24 bit
Data Communication	
Communication type	Contact, RS-232C, RS-422
Contact Input, Output	Input 8-Channel, Output 8-Channel
Serial communication rate	2,400 bps~115,200 bps
ETHERNET(LAN)	10-100 Base-T,(RJ-45)
General Characteristics	
Operating temperature	-10 ℃~40 ℃
Using Power	100-120 V AC or 220-240 V AC, 50/60 Hz (Supplied AC mains transformer or DC 24 V depends on country requirements)
Power Consumption	28 W under
Weight(set)	3.27 kg/7.2 lbs
Dimensions(set)	482(W)×44(H)×280(D) mm/18.9(W)×1.73(H)×11(D) in

Inter-M Corp. (IMK)

719, Dobong-ro, Dobong-gu, Seoul, Korea
Overseas Sales Team
Tel_ +82-2-2289-8141~7 **Fax_** +82-2-2289-8149 **E-mail_** overseas@inter-m.com **www.inter-m.com**

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