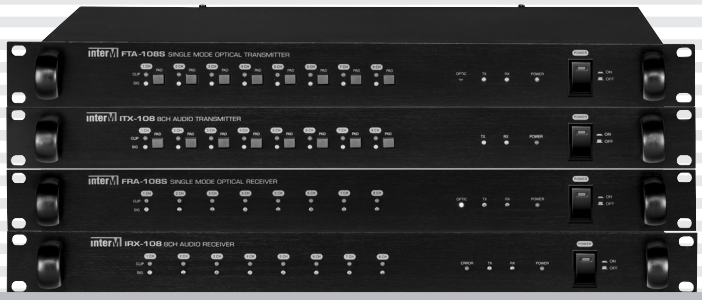
Operation Manual

2/8 Channel Audio Transmitter/Receiver

Transmitter: FTA-108S/ITX-108/ITX-102

Receiver: FRA-108S/IRX-108/IRX-102



* Rack mount products in the Western Hemisphere(North America, South America, and the Caribbean) do not have handles installed due to customer preference.

interM

Welcome

A personal welcome to you from the management and employees of Inter-M

All of the co-workers here at Inter-M are dedicated to providing excellent products with inherently good value, and we are delighted you have purchased one of our products.

We sincerely trust this product will provide years of satisfactory service, but if anything is not to your complete satisfaction, we will endeavor to make things right.

Welcome to Inter-M, and thank you for becoming part of our worldwide extended family!





This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Attentions: Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant on une autre sortie de courant, sauf si les lames peuvent étre insérées à fond sans en laisser aucune partie à découvert.
Pour deconnecter completement l’appareil du reseau d’alimentation. deconnecter le cordon d’alimentation de la prise murale.
La prise du reseau d’alimentation doit demeurer aisement accessible.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

*WARNING FOR YOUR PROTECTION PLEASE READ THE FOLLOWING-WATER AND MOISTURE: Unit should not be used near water(e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so than objects do not fall and liquids are not spilled into the enclosure through openings.
*Do not install this equipment in a confined space such as a book case or similar unit.
*Warning : To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.
*This apparatus shall be connected to a mains socket outlet with a protective earthing connection.
*To completely disconnect this apparatus from the AC mains, disconnect the power supply cord plug from the AC receptacle.
*The mains plug of the power supply cord shall remain readily accessible.

CAUTION
*These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

NOTE
*This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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Unpacking

Although your FTA-108S/ITX-108/ITX-102, FRA-108S/IRX-108/IRX-102 is neither complicated nor difficult to operate, we recommend you take a few minutes to read this brief manual and familiarize yourself with the important information regarding product features, setup and operation.

As with most electronic devices, we strongly recommend you retain the original packaging. In the unlikely event the product must be returned for servicing, the original packaging (or reasonable equivalent) is required.

Installation

Environment
Never place this product in an environment which could alter its performance or reduce its service life. Such environments usually include high levels of heat, dust, moisture, and vibration.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



Features

- TRANSMIT THE 2 CHANNEL AND 8 CHANNEL BALANCED AUDIO SIGNAL
2 Channel Model: ITX/IRX-102, 2 channel balanced audio signal transmission
8 Channel Model: FTA/FRA/ITX/IRX-108, 8 channel balanced audio signal transmission

- THE SOLUTION OF SENDING A SOUND SOURCE IN LONG DISTANCE
Optical Cable Communication [FTA/FRA-108S] : Sending a signal in long distance normal 24km(maximum 28km)
UTP Cable Communication [ITX/IRX-108(102)] : Sending a signal in long distance (maximum 150m)

- HIGH QUALITY AUDIO SIGNAL
It sends the digital signal converted to 24Bit, 48kHz to provide the high quality audio signal
(higher than S/N 90dB, less than THD 0.01%)

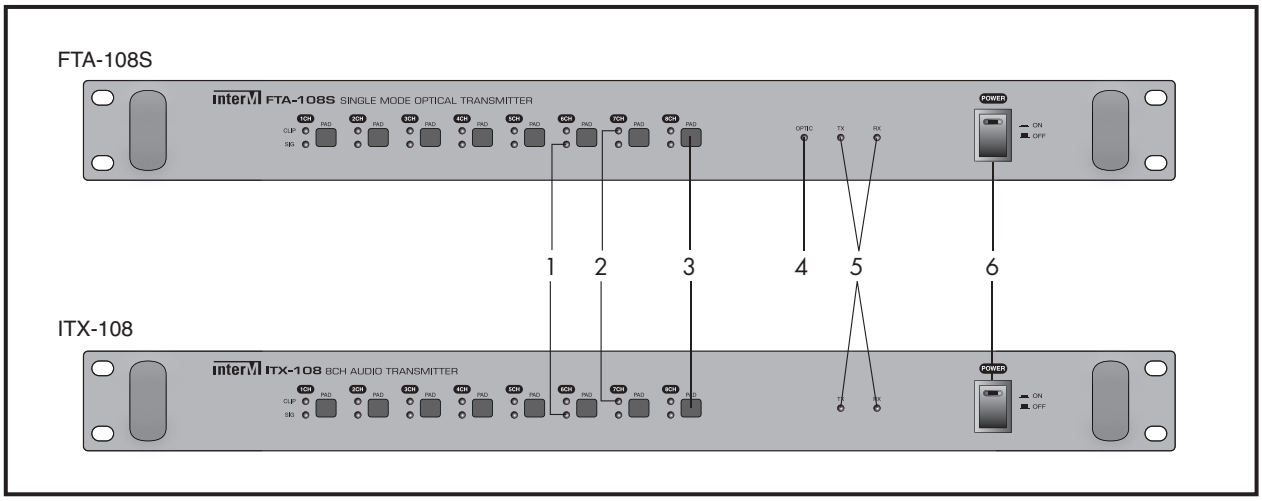
- AC/DC SUPPORTS
It responses to the field conditions with supporting AC and DC power input terminals

- INPUT SENSITIVITY CONTROL FUNCTION THROUGH PAD SWITCHES
If it is clipped due to high input audio signal level, push the PAD switch to decrease the input signal in 10dB

- INPUT SIGNAL DISPLAY
Detects the audio signal and clip approved to each channel and display on the front panel.

- RS-232/RS-422/CONTACT POINT DATA RECEIVING/SENDING (OPTION MODULE)
The optional module (CT-100M/CR-100M) can be installed to make a possible to receive and send a RS-232, RS-422 and 8 channel contact point data.

Transmitter Front Panel (FTA-108S/ITX-108/ITX-102)



1. INPUT SIGNAL DETECTING DISPLAY

Displays the input signal levels sending to each channel and green light will be on if -30dBV or higher is supplied.

2. INPUT SIGNAL CLIP DISPLAY

Displays the clip status of input signal sending to each channel and red light will be on before signal clip.

3. PAD SWITCH

Pad switch to control the input level of each channel, and if signal clip occurs, push the signal to decrease the input signal in 10dB to control the input level.

4. OPTICAL CABLE CONNECTION INDICATOR (FTA-108S)

Displays the connection of optical cable. Green light will be on if connection is normal and will be off if error occurs on the connection.

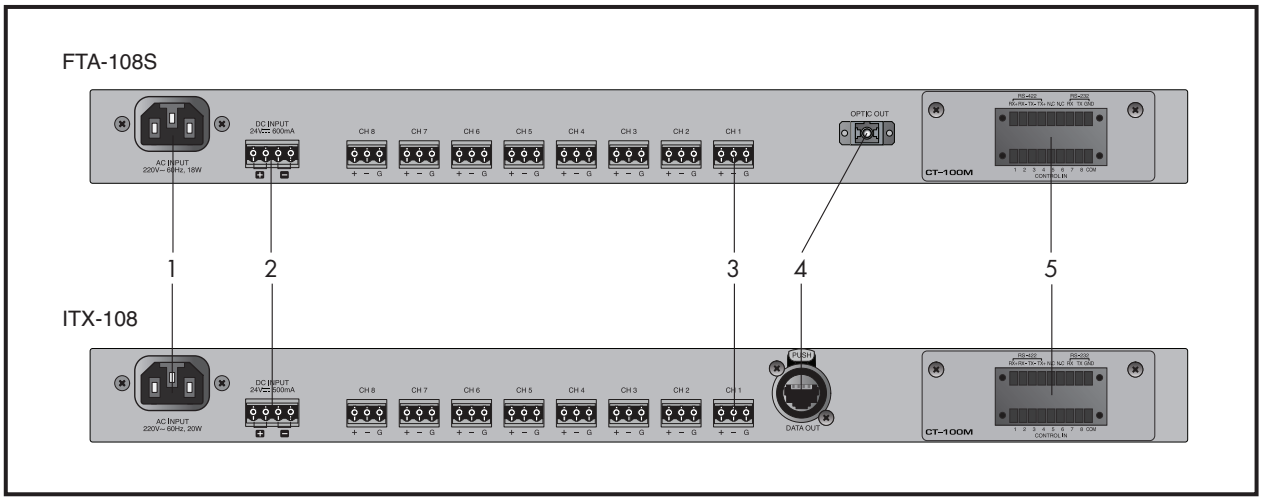
5. DATA COMMUNICATION STATUS DISPLAY

If communication module (CT-100M) is installed, it displays the TX/RX data communication status of RS-232C/RS-422.

6. POWER SWITCH AND INDICATOR

If this switch is pushed, power indicator will be on and equipment will be started.

Transmitter Rear Panel (FTA-108S/ITX-108/ITX-102)



1. AC POWER INPUT TERMINAL

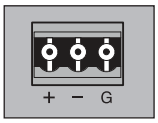
It receives the AC power.

2. DC POWER INPUT TERMINAL

It receives the DC 24V as the power input terminal.

3. AUDIO SIGNAL INPUT TERMINAL

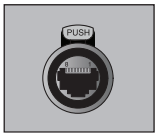
Balanced audio signal input terminal.



+ : HOT
– : COLD
G : GROUND

4. COMMUNICATION TERMINAL

Terminal for data communication with receiver.
FTA-108S : Optical cable connection
ITX-102/108 : UTP cable connection.

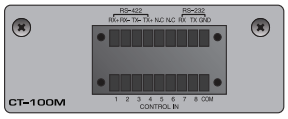


PIN	NAME	PIN	NAME	PIN	NAME
1	Rx+	4	Tx+	7	DA_OUT+
2	Rx–	5	N.C	8	DA_OUT-
3	Tx–	6	GND		

5. COMMUNICATION MODULE CONNECTION SLOT

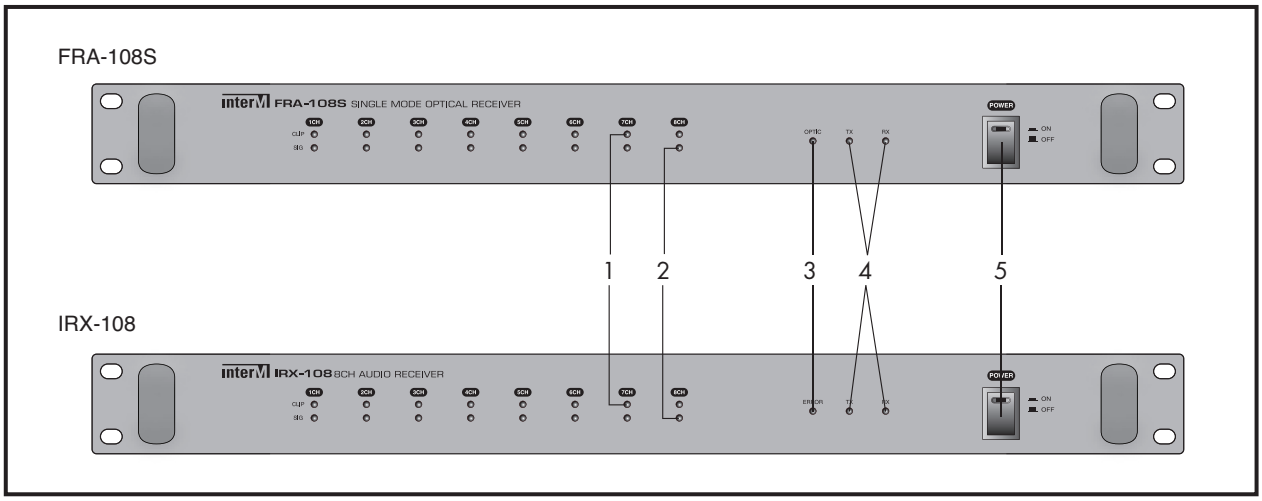
Slot for CT-100M communication module connection.

ITX-108/ITX-102
FTA-108S



※ CT-100M is compatible with transmitters (FTA-108S/ITX-108/ITX-102).
CR-100M is compatible with receivers (FRA-108S/IRX-108/IRX-102).
Please check the model name when installing the module.

Receiver Front Panel (FRA-108S/IRX-108/IRX-102)



1. OUTPUT SIGNAL CLIP DISPLAY

Displays the clip status of input signal sending to each channel and red light will be on before signal clip.

2. OUTPUT SIGNAL DETECTING DISPLAY

Displays the output signal levels sending to each channel and green light will be on if -30dBV or higher is output.

3. OPTICAL CABLE CONNECTION STATUS/ERROR INDICATOR

FTA-108S : if optical cable is connected normally, red light will be on.
ITX-108(102) : red light will be on if communication error occurs on the digital audio signal.

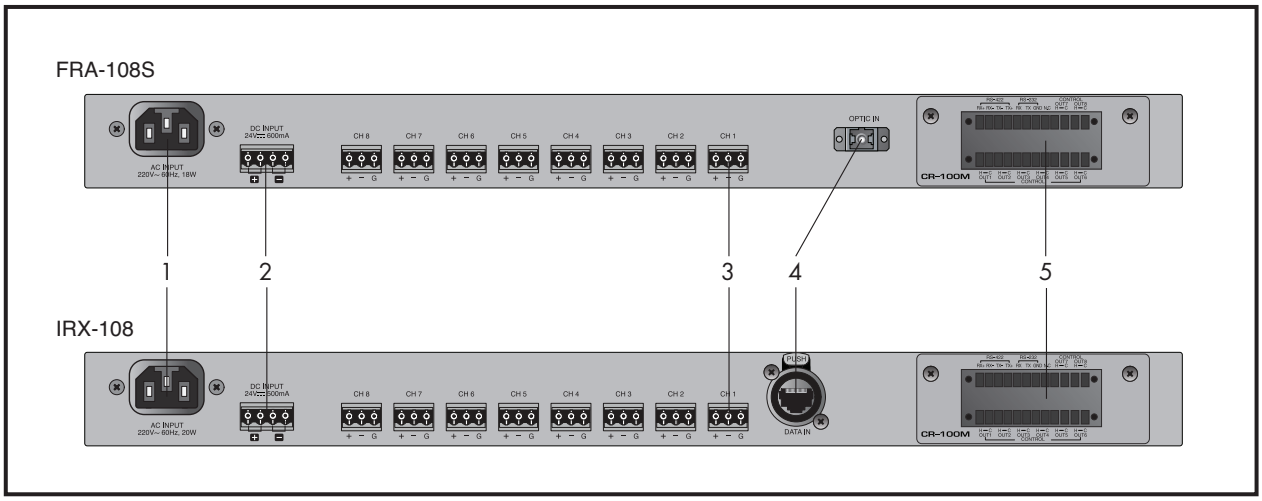
4. DATA COMMUNICATION STATUS INDICATOR

If communication module (CR-100M) is installed, it displays the TX/RX data communication status of RS-232C/RS-422.

5. POWER SWITCH AND INDICATOR

If this switch is pushed, power indicator will be on and equipment will be started.

Receiver Rear Panel (FRA-108S/IRX-108/IRX-102)



1. AC POWER INPUT TERMINAL

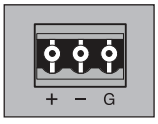
It receives the AC power.

2. DC POWER INPUT TERMINAL

It receives the DC 24V.

3. AUDIO SIGNAL INPUT TERMINAL

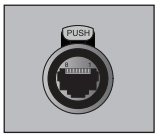
Balance audio signal input terminal.



+ : HOT
– : COLD
G : GROUND

4. COMMUNICATION TERMINAL

Terminal for data communication with receiver.
FTA-108S : Optic cable connection
ITX-102/108 : UTP cable connection.

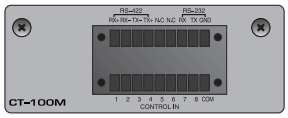


PIN	NAME	PIN	NAME	PIN	NAME
1	Tx+	4	Rx+	7	DA_OUT+
2	Tx–	5	N.C	8	DA_OUT-
3	Rx–	6	GND		

5. COMMUNICATION MODULE CONNECTION SLOT

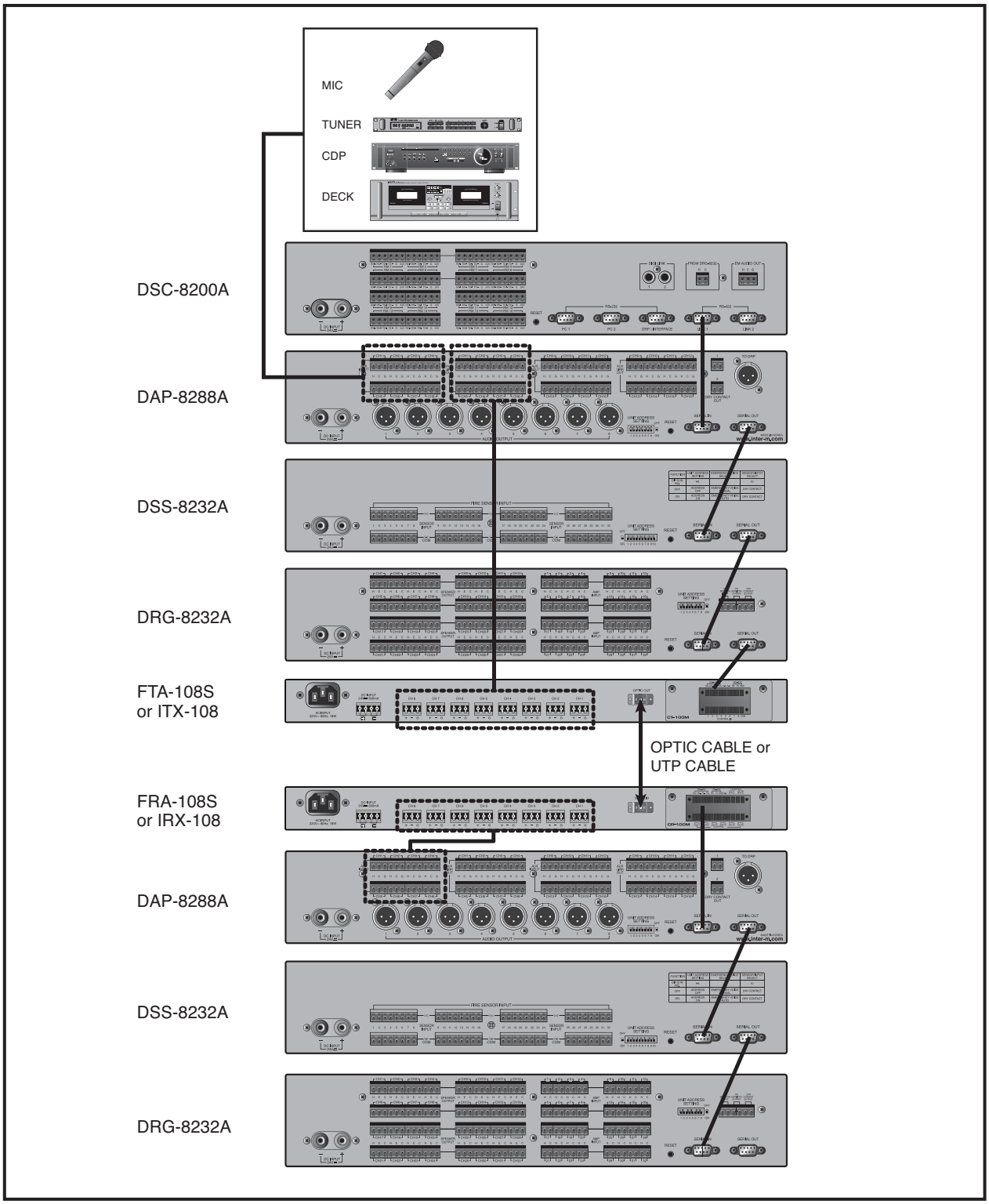
Communication Module Connection Slot
Slot for CT-100M communication module connection.

IRX-108/IRX-102
FRA-108S



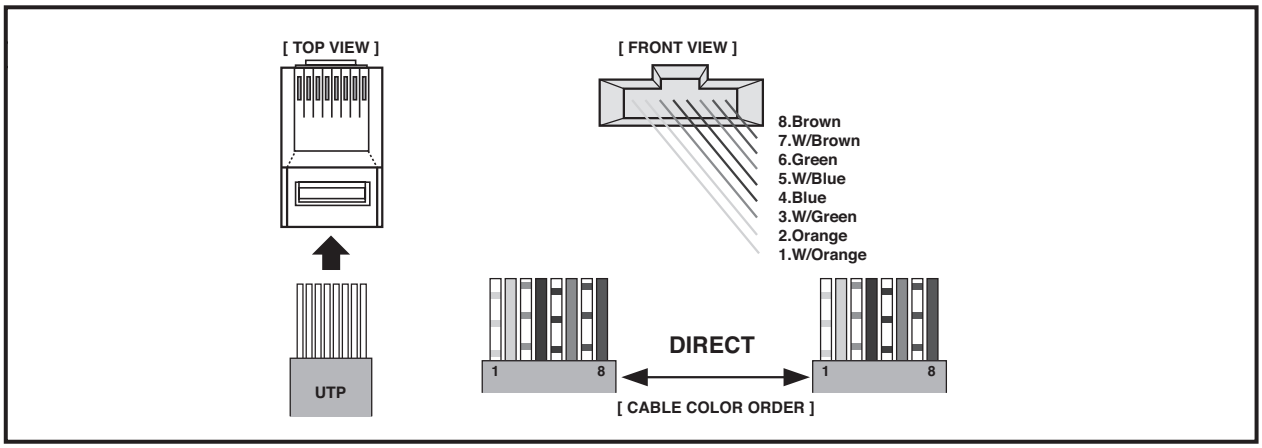
※ CT-100M is compatible with transmitters (FTA-108S/ITX-108/ITX-102).
CR-100M is compatible with receivers (FRA-108S/IRX-108/IRX-102).
Please check the model name when installing the module.

Applications



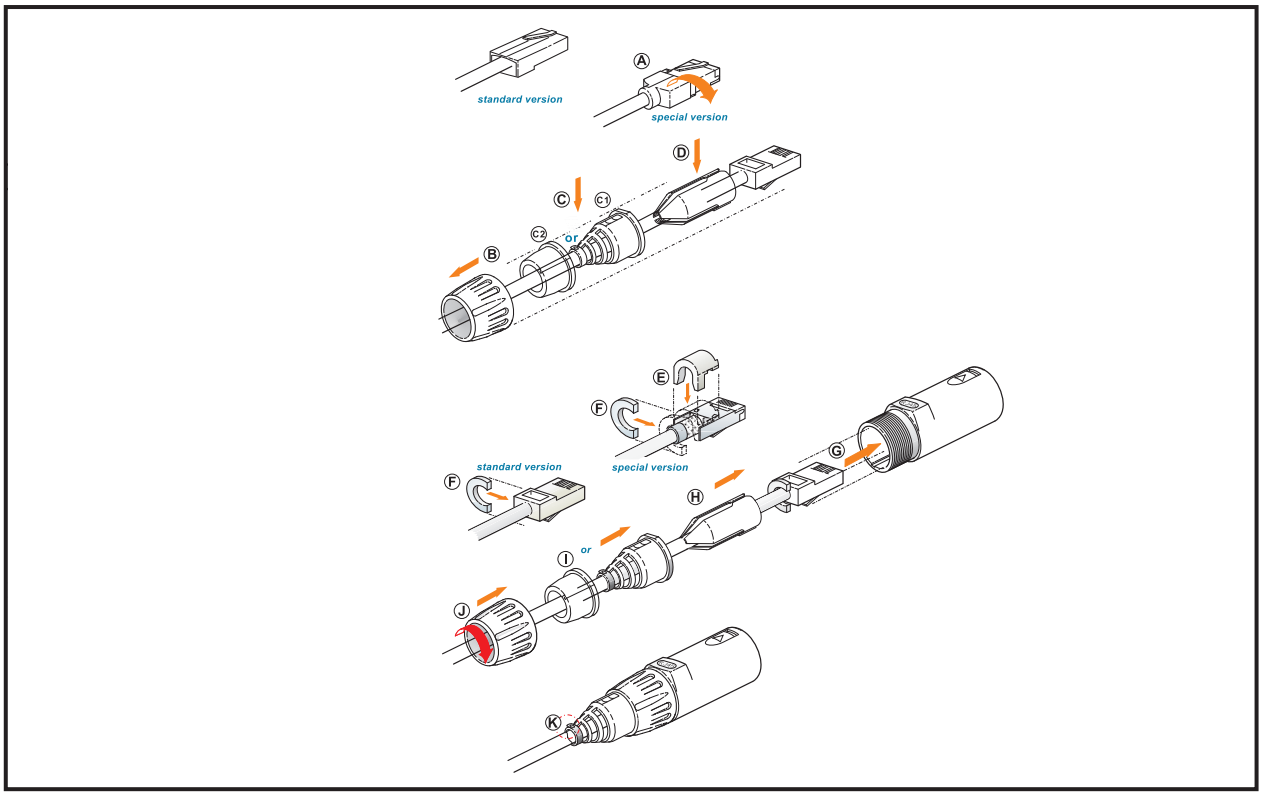
Assembling a Cable

ITX-108, IRX-108, ITX-102, IRX-102 is connected with CAT5 line.



※Caution : when making CAT5 CABLE, please make it with Direct

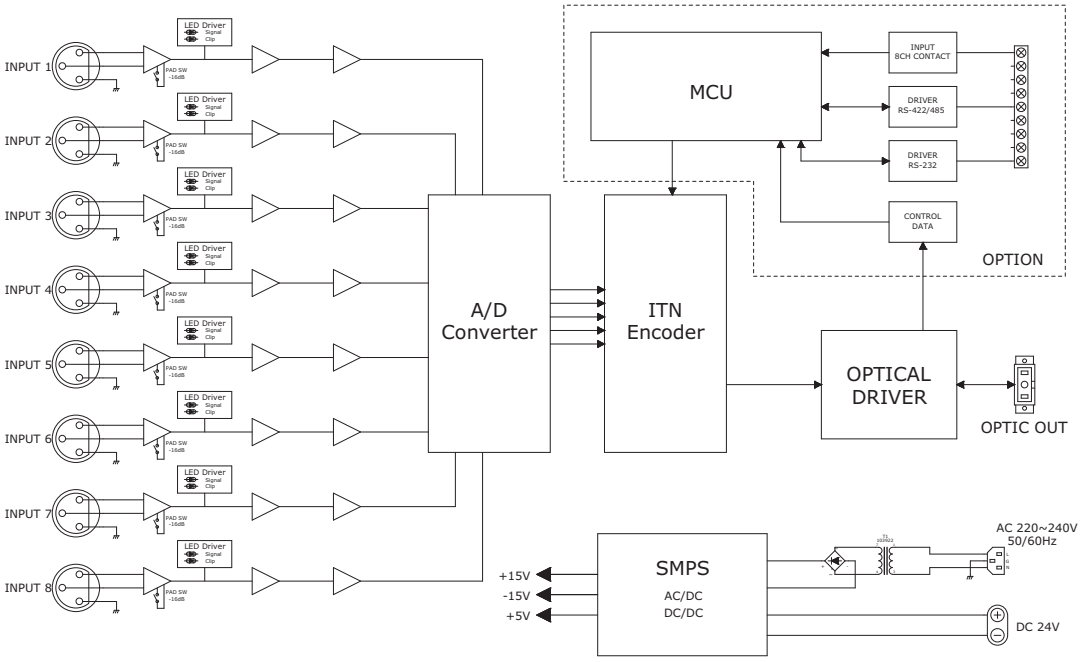
RJ45 Data Protection Connector



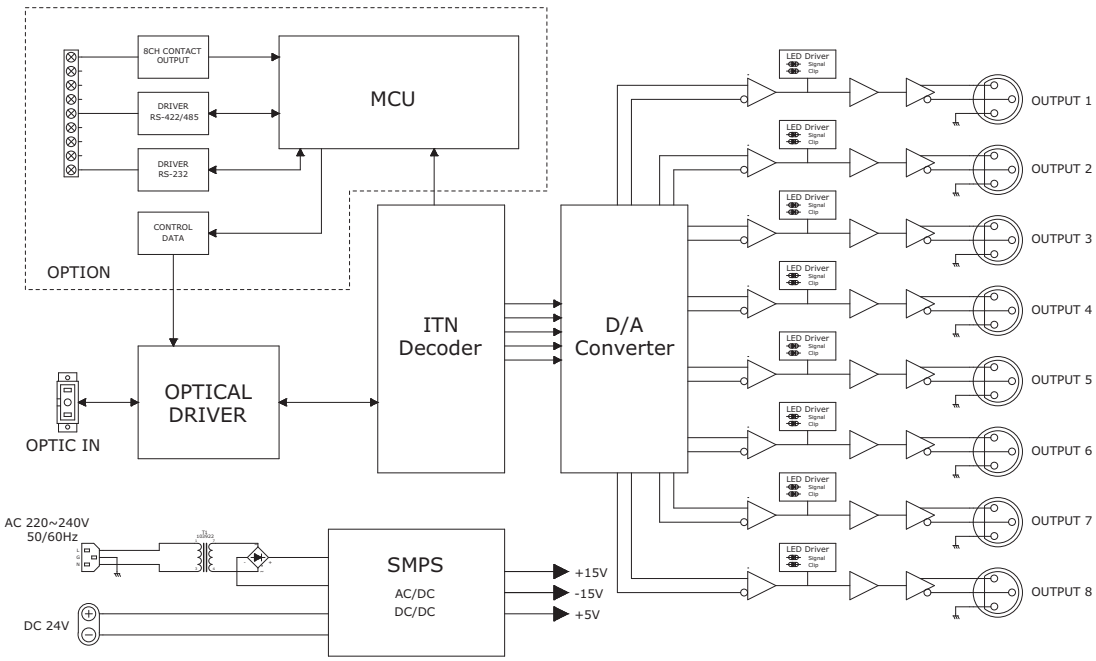
※Caution : [Related to protection connector assembling]
- Connector for ITX-108 and IRX-108 : assemble the both ends of UTP Cable by using NE8MC protection connector

Block Diagram

-FTA-108S/ITX-108/ITX-102



-FRA-108S/IRX-108/IRX-102

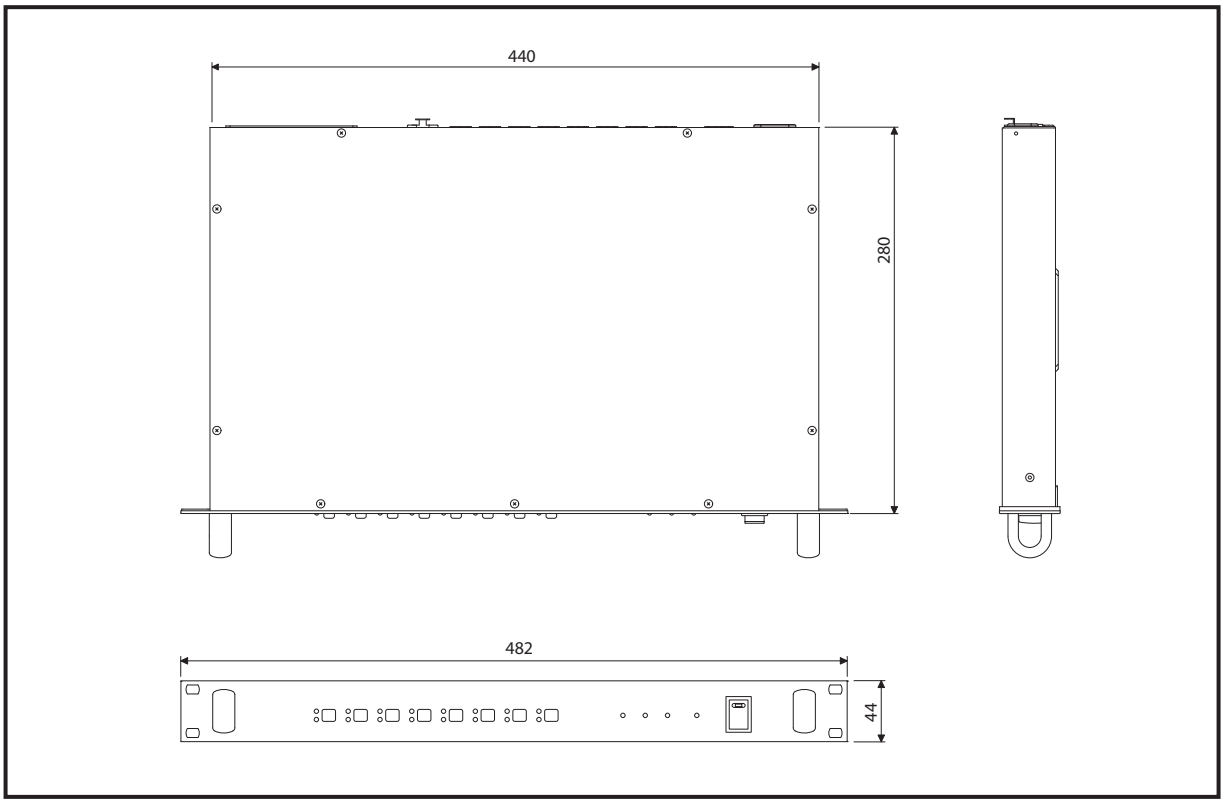


Specifications

	ITX-102/ITX-108/IRX-102/IRX-108/FTA-108S/FRA-108S
Input Sensitivility	0dBV/20kΩ
THD	Less than 0.01%
S/N(Rated input max)	More than 90dB
Frequency Response	20Hz ~ 20kHz
Channel Separation	More than -90dB
Data Rate	24Bit, 48kHz Sampling
Operating Temperature	-10°C ~ +40°C/14°F~104°F
Power Source	100–120VAC or 220–240VAC; 50/60Hz (Supplied AC mains transformer depends on country requirements)
Power Consumption	AC 18W, DC 24V, 600mA
Weight (Set)	4.2kg/9.3lbs
Dimensions (Set)	482(W)x44(H)x280(D)mm/19(W)x1.7(H)x11(D)in

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

※ **DIMENSIONS**



Service

Procedures
Take steps to insure the problem is not related to operator error or other products within the system. Information provided in the troubleshooting portion of this manual may help with this process. Once it is certain that the problem is related to the product contact your warranty provider as described in the warranty section of this manual.

Schematic
A Schematic is available by contacting your warranty provider.

Parts List
A Parts List is available by contacting your warranty provider.

Variations and Options

Variations
Variations of this product exist to reflect the variations in AC power requirements throughout the world. Product supplied through local sources are compatible with local AC power requirements.

Options
No optional items are available for this product.

Warranty

Warranty terms and conditions vary by country and may not be the same for all products. Terms and conditions of warranty for a given product may be determined first by locating the appropriate country which the product was purchased in, then by locating the product type.

To obtain specific warranty information and available service locations contact Inter-M directly or the authorized Inter-M Distributor for your specific country or region.

Inter-M, Ltd. (Korea) began operations in 1983.

Since then, Inter-M has grown to become one of the largest manufacturers
of professional audio and commercial sound electronics equipment in the world.

Inter-M has gained worldwide recognition for its own branded products,
as well as private label manufacturing of electronics sold under other names (OEM).

The company is no longer just a Korean company, but rather a global company
that is truly international in scope, with factories and offices in Korea and China,
and sales and marketing operations located in Japan, Europe, and the U.S.A.

With more than 850 employees around the globe,
Inter-M is well-poised for further growth and expansion.

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