

# Operation Manual

## Dante Amplifier Controller **DAC-288**



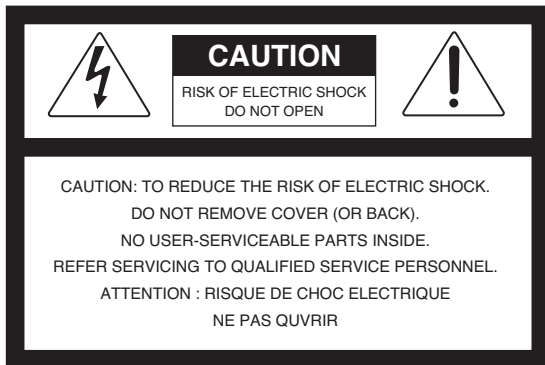
# Welcome

## 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 être insérées à fond sans en laisser aucune partie à découvert.  
Pour deconnecter complètement 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 DAC-288 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

The DAC-288 is a digital audio transport system utilizing Audinate's Dante™ network audio solution. The DAC-288 connects to your network with a single Ethernet cable. It offers eight channels (2 mic/line selectable) of line-level analogue in and out, using precision 24-bit A-D and D-A conversion for superb audio performance, and 119dB dynamic range at sample rates up to 192kHz. This product is used as the audio matrix, each having eight inputs, where you can send uncompressed audio with low latency using standard TCP/IP Ethernet network. It's remotely controlled via the network and can be placed anywhere in a facility. Data tunneling offers the transport of 8 contact closures in and 8 contact closures out together with either RS232 or RS485 serial data.

**- 8channel real-time audio signal transmission**

8channel audio input (Line/MIC Input 1~2, Line Input 3~8)

8channel audio output (Line output 1~8)

**- Data transmission via network**

RS-232C Serial Data transmission

Contact(Dry Contact) Data transmission

**- S-CONNECT : set up for equipment and system operating monitoring program**

**- Check out status of suitable equipment through webpage(CGI)**

※ Please refer to a special software manual for methods of webpage operation and system operation program (S-CONNECT)

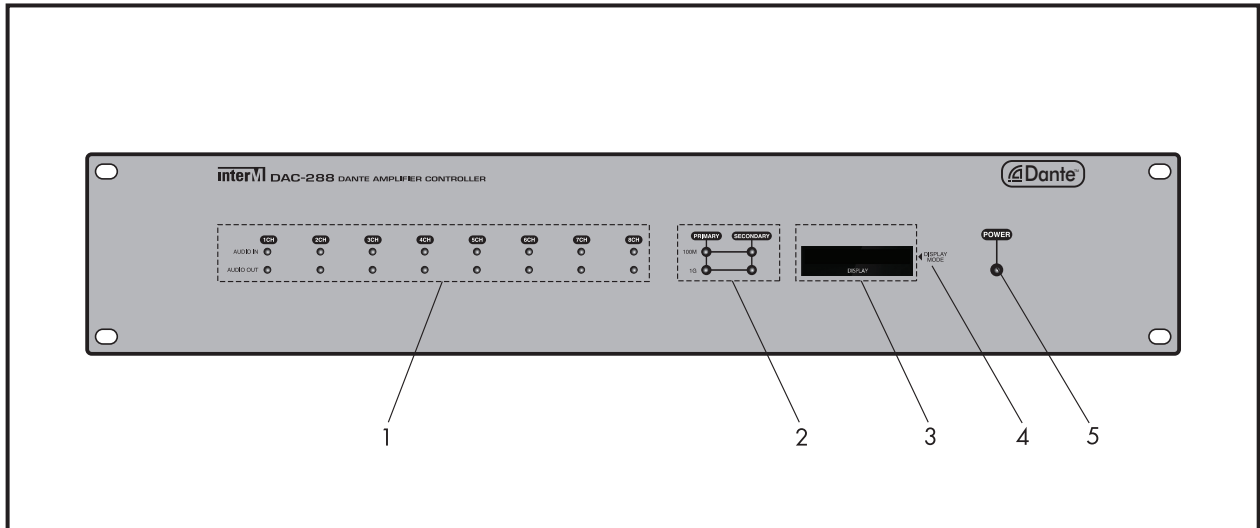
## Component and Accessory

- |                             |                            |
|-----------------------------|----------------------------|
| 1. DAC-288 main body x 1    | 6. RS-232C cable x 1       |
| 2. AC power supply cord x 1 | 7. Aux cable x 1           |
| 3. 3P terminal block x 16   | 8. Lack mounting screw x 4 |
| 4. 4P terminal block x 1    | 9. Lan cable x 2           |
| 5. 16P terminal block x 2   |                            |

## Consideration for network set-up

- DAC-288 support a set-up of fixed IP and current IP.
- It can change the setting connecting the webpage after attaching DAC-288 and PC with a line when setting a fixed IP.
- Recommend to use with organizing private network when using LAN.

## Front Panel



### 1. AUDIO IN/OUT LED

LED displaying audio signal input and output of each channel.

### 2. NETWORK STATUS LED (PRIMARY/SECONDARY)

LED displaying network data transmission and network access condition of equipment.

GREEN LED : 10 Base-T/100 Base-Tx Network

RED LED : 1000 Base-T Network

### 3. LCD

LCD displaying set-up condition of equipment (equipment name, IP, S/W version).

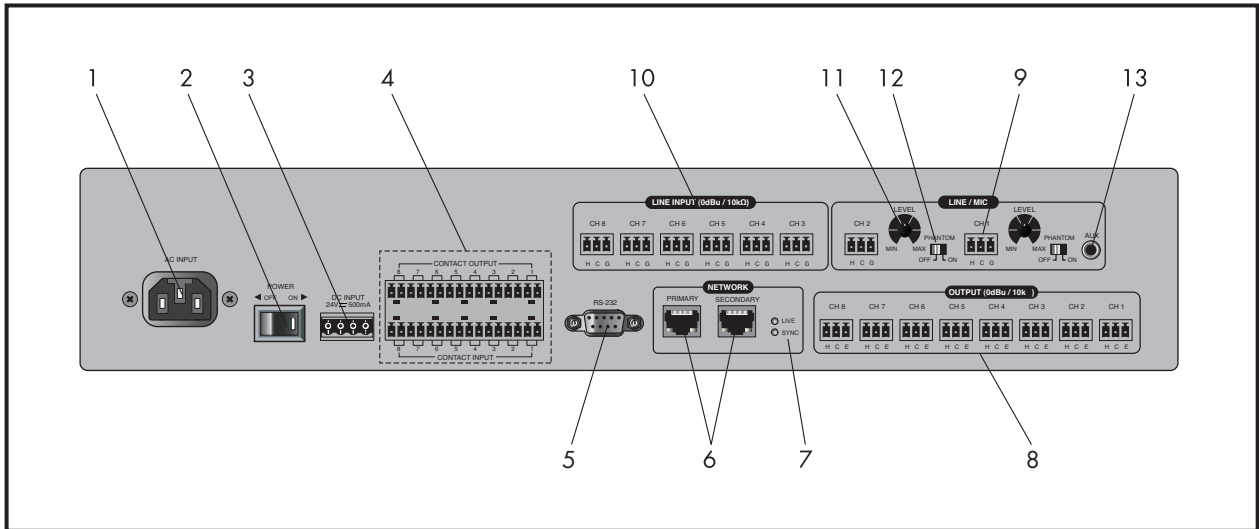
### 4. DISPLAY SELECTOR SWITCH

Switch verifying the contents of setting up.

### 5. POWER LED

LED displaying the status of power supply.

# Rear Panel



## 1. AC INPUT

AC Input terminal (Power supply is AC 120V - 240V, 50/60Hz)

## 2. POWER SWITCH

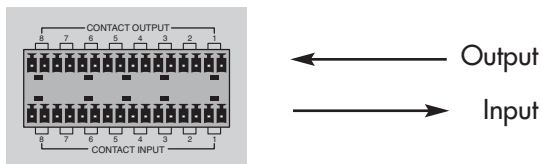
Power switch for on/off.

## 3. DC INPUT

This is a terminal to connect a preliminary battery(24VDC) for emergency. The device is operated via connected preliminary battery during a blackout from AC power.  
24VDC-- input supplies power to set regardless of power switch on/off.

## 4. DRY CONTACT INPUT AND OUTPUT TERMINAL

If inputting a dry contact signal into the contact terminal of transmitter, the dry contact signal is outputted in its contact output terminal of receiver.



Input contact: A dry contact signal can be inputted if making short each channel's pin.

Output contact: The same signal as input contact of transmitter outputs.

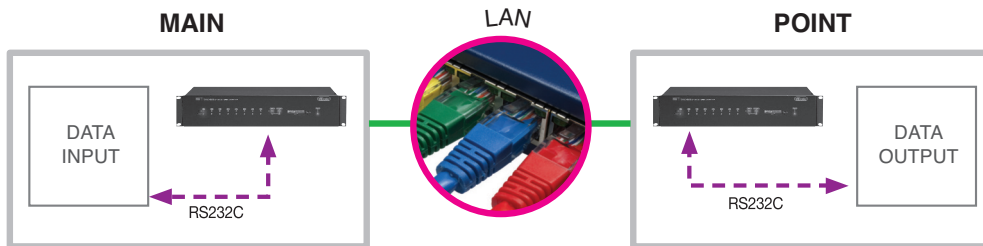
※ Note: A dry contact signal is transmitted only when the device is normally operating and please input the signal once you complete to check its operating status.

Input signal is not transmitted when the power is off because data is sent in real time.

Each device can transmit or receive only and is impossible to be duplicated for its use.

### 5. RS-232C COMMUNICATION TERMINAL

If inputting a signal into RS-232C terminal of transmitter, the signal is outputted via RS-232C of receiver. For example, the same signal from receiver is outputted when inputting 'A, B, C, D' into transmitter.



### 6. NETWORK TERMINAL

It supports 10/100/1000 Base-Tx as network connection terminal(RJ-45)

- PRIMARY PORT : This is a main network terminal and is possible to change the setting of a device.
- SECONDARY : This is auxiliary network terminal and is possible to keep the PRIMARY status.

### 7. NETWORK STATUS LED

- LIVE : When connecting a device to network normally, green led is off.
- SYNC : When a device is not connected to network or network line and sink are not matched, red led is off.

### 8. AUDIO OUTPUT (CH1 ~ CH8)

This is an output terminal of audio and consists of 8 channel including balanced outputs(Hot, Cold, GND).

### 9. LINE/MIC INPUT (CH1 ~ CH2)

This is a line/mic input terminal of audio and consists of 2 channel including balanced inputs(Hot, Cold, GND)

### 10. LINE INPUT (CH3 ~CH8)

This is a line input terminal of audio and consists of 6 channel including balanced inputs(Hot, Cold, GND)

### 11. LINE/MIC

Volume to control audio line/mic input level.

### 12. PHANTOM POWER ON/OFF SWITCH

Switch for on/off phantom power.

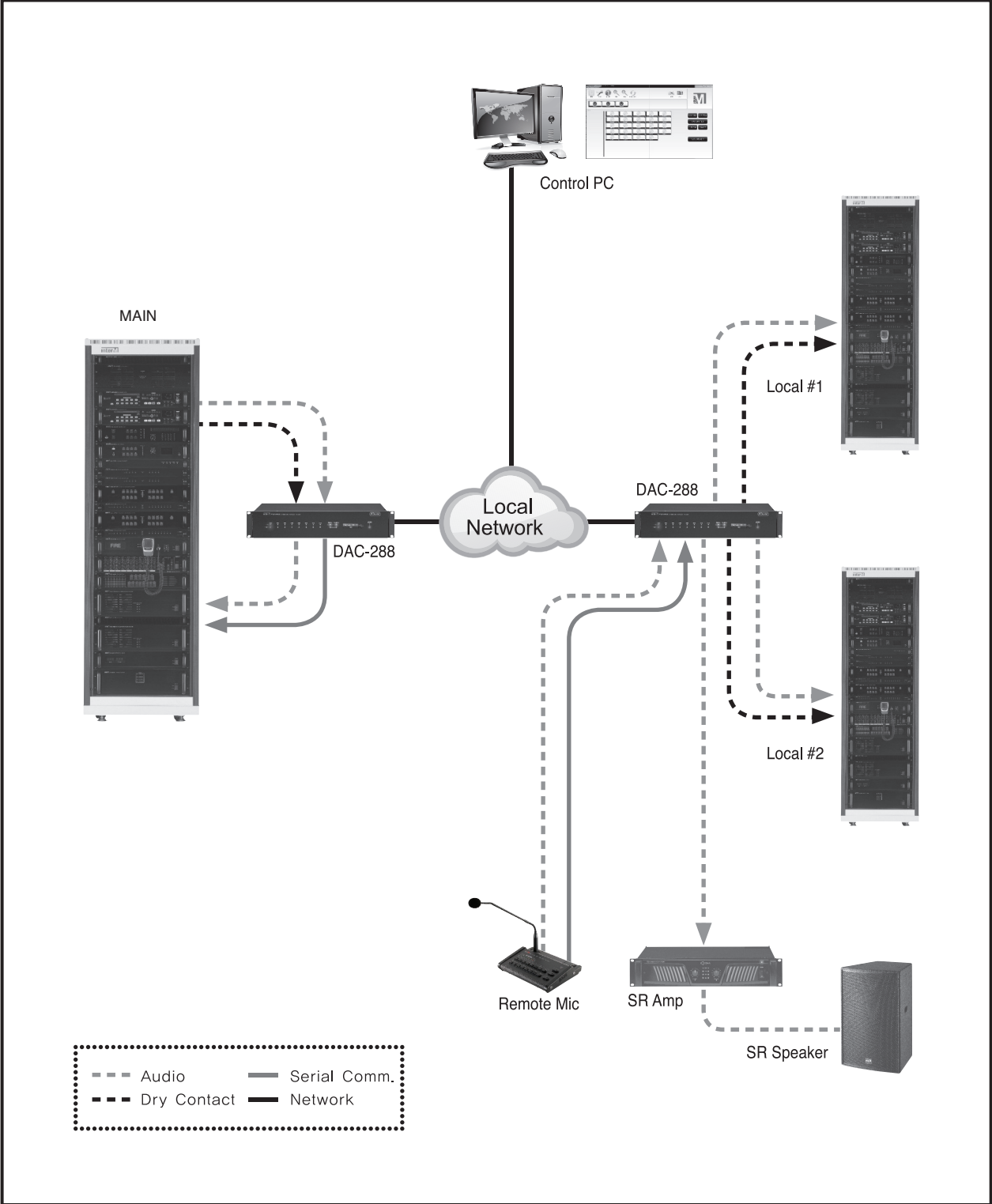
### 13. AUX INPUT JACK

It is possible to use connecting audio source equipment having 3.5ø output jack with AUX input jack.

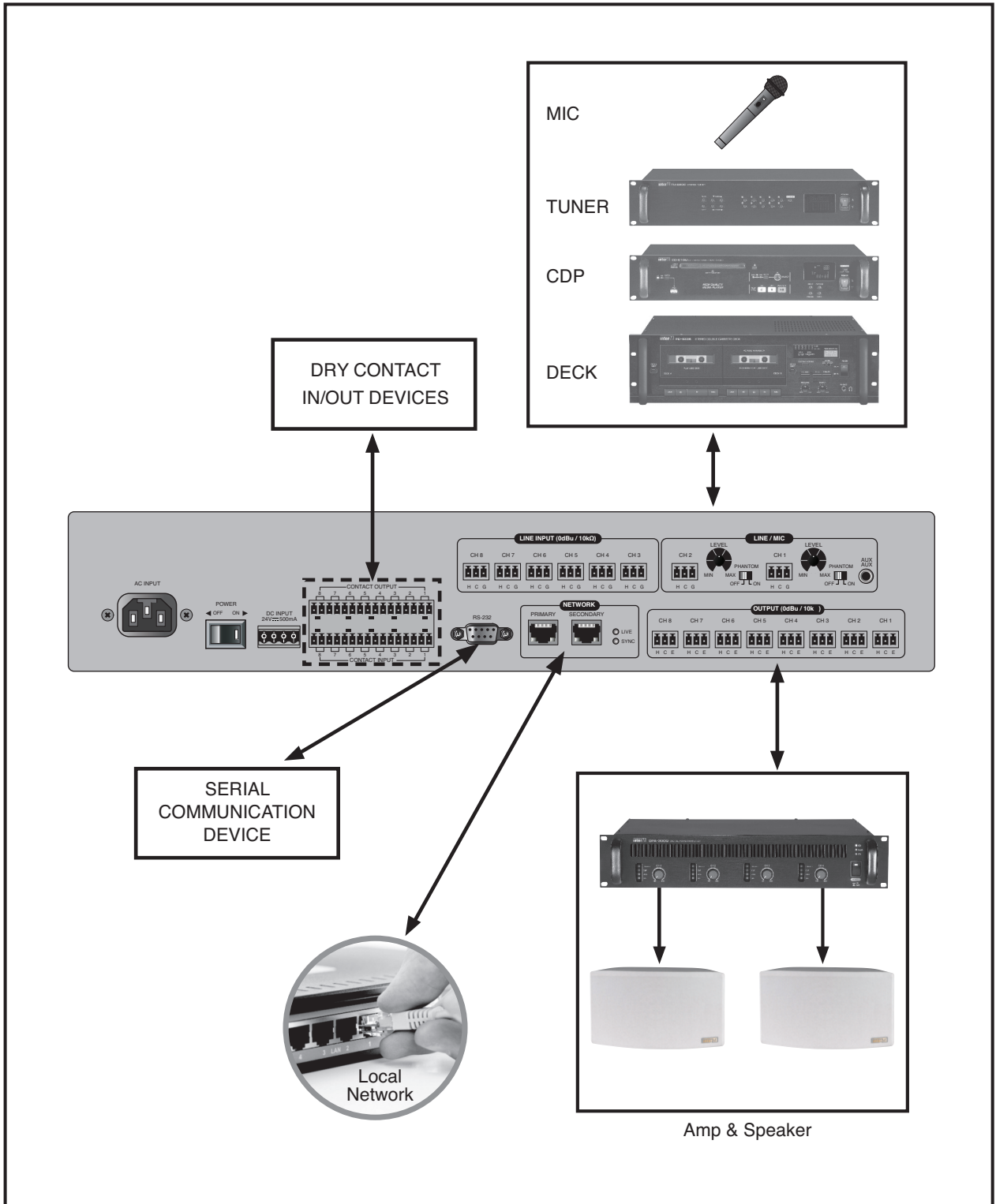
- Use of LAN (school, resort , theme park, exhibit, museum)

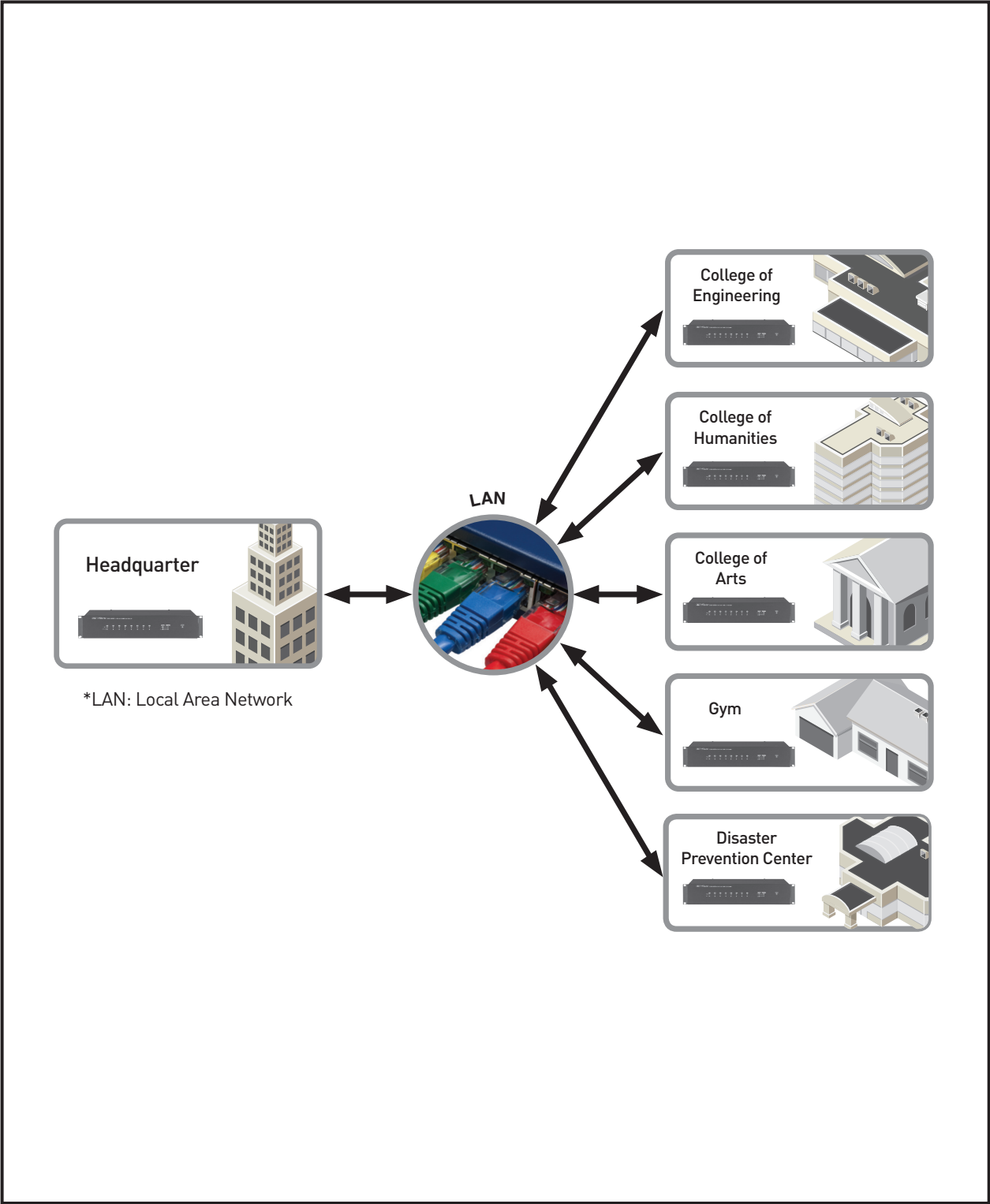


# System Connections

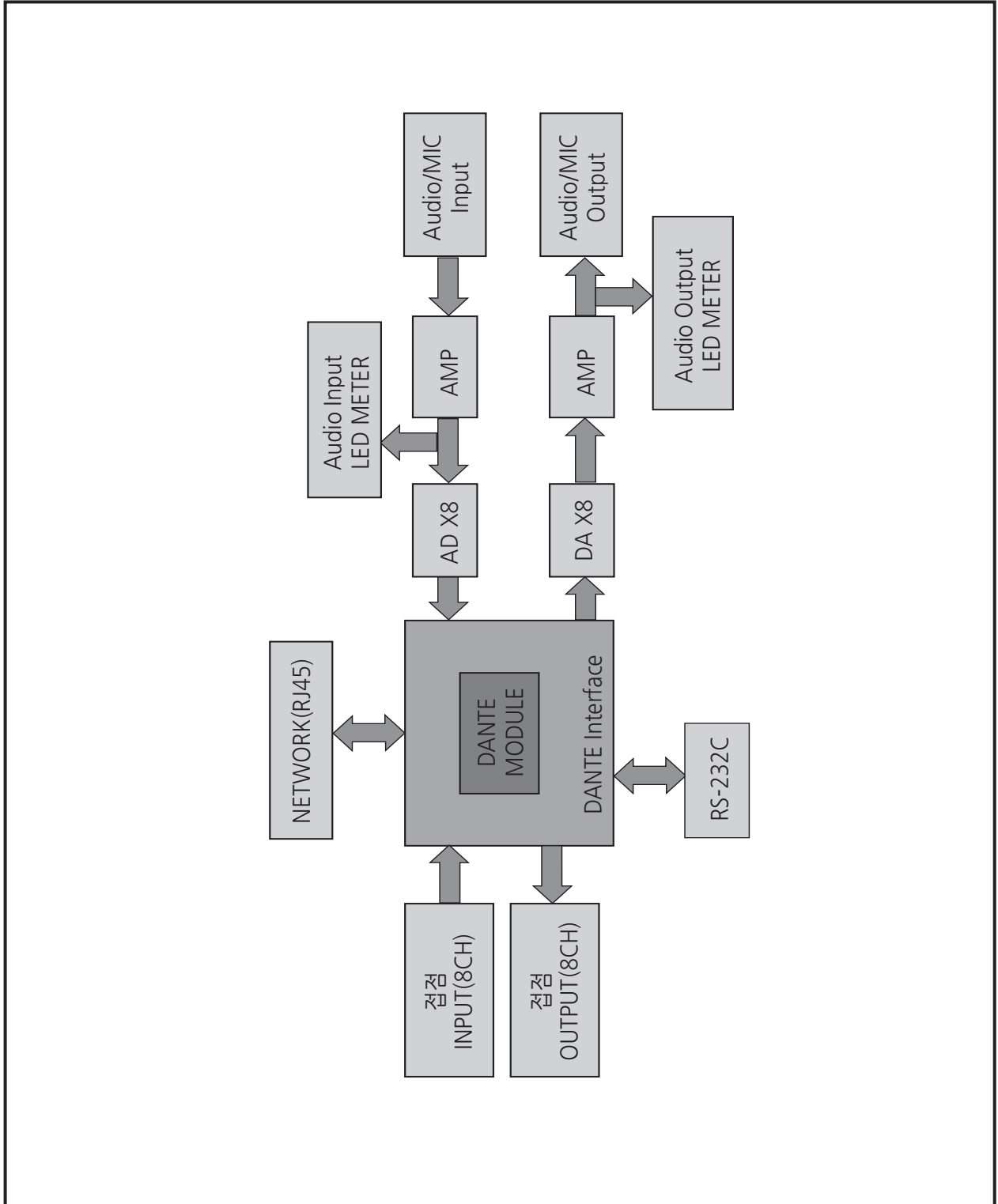


# Applications





# Block Diagram

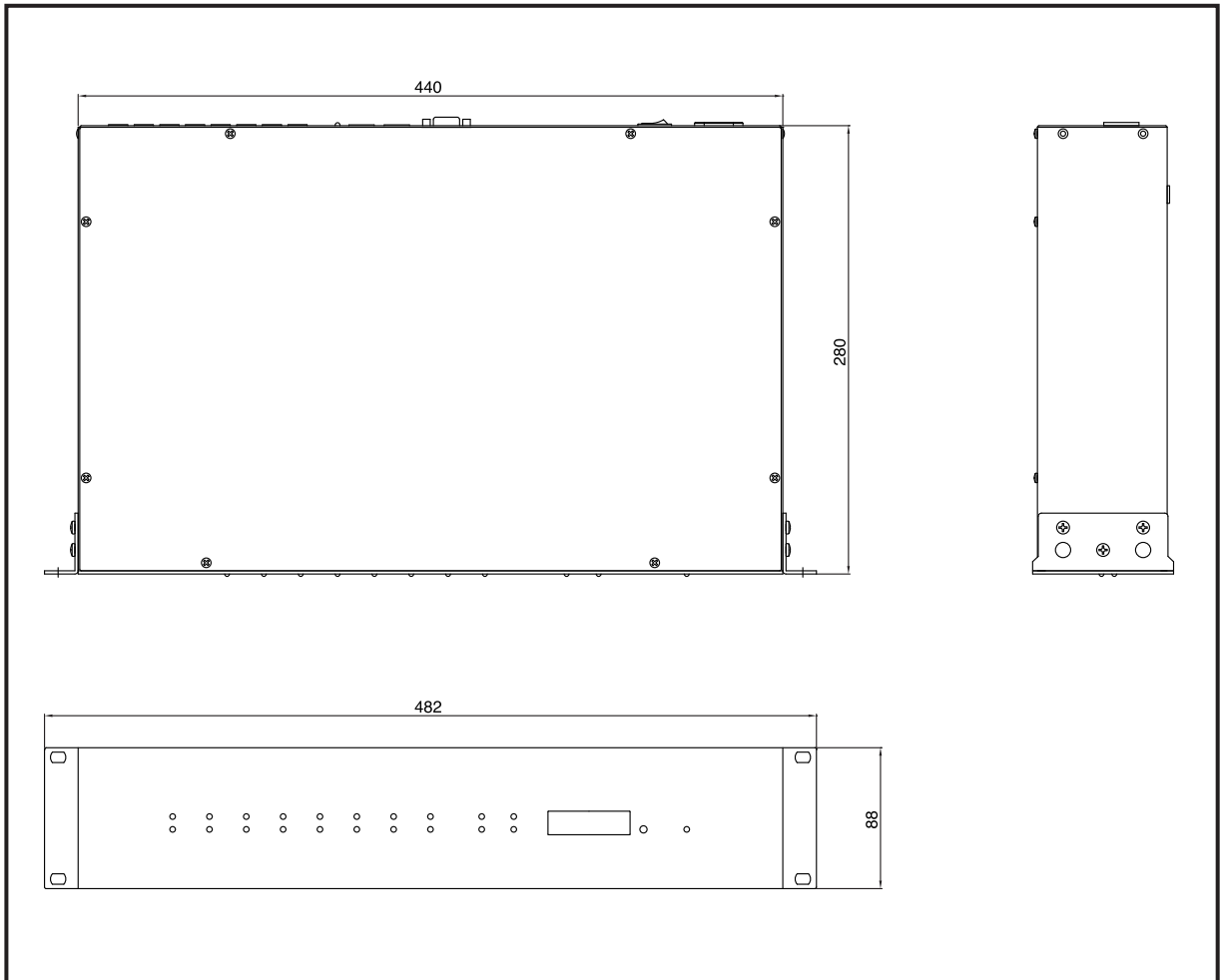


## Specifications

		DAC-288
AUDIO	Max Input Level	LINE : + 20dBu, MIC : -30dBu
	Max Output Level	+ 20dBu
	Frequency Response	20Hz ~ 20kHz
	T.H.D	Less than 0.1%
	Sampling Frequency	48kHz
	Quantization Bit	24bit
Data	Communication	Dry Contact, RS-232C
Communication	Dry Contact	8 Input, 8 Output
	Baudrate	9600 bps ~ 115200 bps
	Ethernet(LAN)	10/100/1000 Base - Tx (RJ-45)
General	Operating Temperature	0°C ~ +40°C
	Power Source	120 - 240VAC, 50/60Hz, DC 24V
	Power Consumption	25W
	Weight (SET)	6kg / 13.2lb
	Dimensions (SET)	482(W) x 88(H) x 280(D)mm/19(W)x 3.5(H) x 11(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

Products supplied through legitimate 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.

# interM



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.

**Inter-M Americas, INC.**

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