

# 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.

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**MADE IN KOREA**

August 29 2012

## Operation Manual

Emergency Combination System  
ECS-6216MS



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

## 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!



### 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.

\*This apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such vases, shall be placed on the apparatus.

\*This apparatus shall be connected to a mains socket outlet with a protective earthing connection.

\*It has heed to be easy to disconnect the device. To disconnect the device from power, separate AC input cable from inlet or unplug the AC Cord.

\*The socket-outlet shall be installed near the equipment and shall be easily 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.



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.

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## Unpacking

Although your ECS-6216MS 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

## **- COMPREHENSIVE SYSTEM**

System consists of RELAY GROUP, SPEAKER SELECTOR and TERMINAL BOARD.

## **- AUTOMATIC FIRE DETECTING FUNCTION**

16 trigger channels can be connected to sensors in order to automatically broadcast fire alarm and Emergency messaging to corresponding channel via the PX-6216.

## **- MANUAL BROADCAST CONTROL**

Manual broadcasting is possible via the front panel selector switches.

## **- CONTROL THE 3-WIRE TYPE SPEAKER TRACK**

It consists of the channels for the common and emergency broadcastings to make 3-wire type broadcast possible.

## **- CHANNEL EXPANSION AND RS-485 COMMUNICATION INTERFACE**

The system can be expanded to up to 160 zones by connecting additional ECS-6216S.

## **- INSTALLATION TIME AND SPACE**

The systems ease of installation reduces installation time and space.

# Equipment Setup and Inspection

## 1. Setup



- 1) Set the equipment number in accordance with wiring conditions by using rear panel DIP switch.
- 2) Setup method is shown in below table, and number on the ON switch will be the equipment number.

| DIP Switch    | 1  | 2  | 3  | 4  | 5 | 6 | 7 | 8 | 9 | 10 |
|---------------|----|----|----|----|---|---|---|---|---|----|
| Equipment No. | 1  | ON |    |    |   |   |   |   |   |    |
|               | 2  |    | ON |    |   |   |   |   |   |    |
|               | 3  |    |    | ON |   |   |   |   |   |    |
|               | 4  |    |    |    |   |   |   |   |   |    |
|               | 10 |    |    |    |   |   |   |   |   | ON |

- \* Caution: If an equipment number is not set, all zone indicator LEDs will blink.  
 If the number is already used, communication will not be available.  
 In the above case, please check the equipment number set-up.

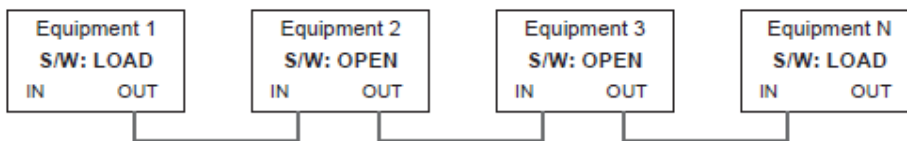
- 3) Zone allocations of set equipment are as follow.

| Equipment No.   | 1    | 2     | 3     | 4     | 5     | 6     | 7      | 8       | 9       | 10      |
|-----------------|------|-------|-------|-------|-------|-------|--------|---------|---------|---------|
| ZONE Allocation | 1~16 | 17~32 | 33~48 | 49~64 | 65~80 | 81~96 | 97~112 | 113~128 | 129~144 | 145~160 |

## 2. TERMINATION Switch (LOAD/OPEN) Setting

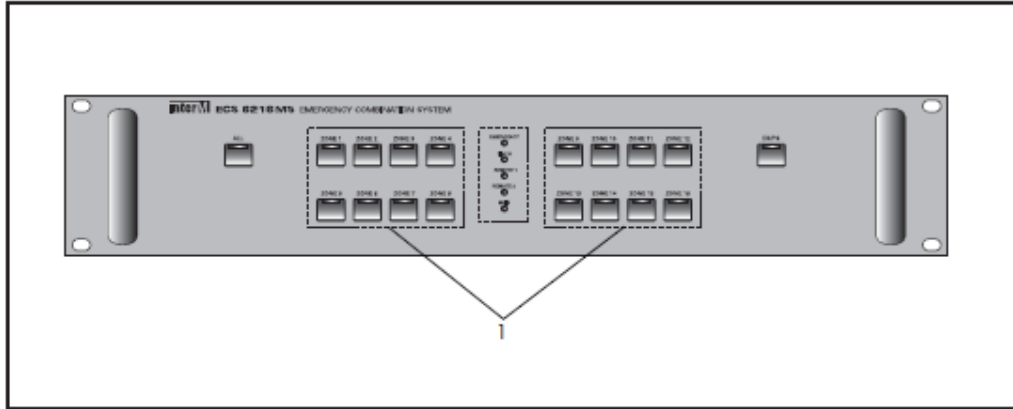


- 1) For systems linked by RS-485 communication interface, it is necessary to set the termination switch(LOAD/OPEN) on the rear panel to stabilize data transfer.
- 2) Set the termination switch to LOAD only for the first and last-numbered equipment units.  
 All others must be set to OPEN.



- \* Caution: Communication error may occur if setting is performed incorrectly..

## Front Panel



### 1. SPEAKER ZONE SELECT BUTTON AND DISPLAY (1~16)

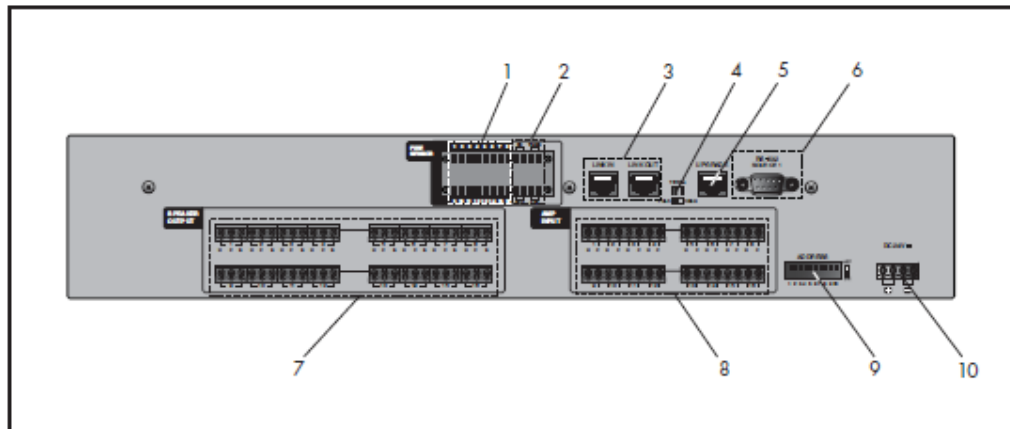
LED will be turned on for the selected zone by the corresponding button which selects the individual broadcast zone.

LED will be red in case of emergency broadcasting (ES) and will be green in case of general broadcasting (PS).

The zone broadcasting can be selected only if more than 1 zone in the same bus is being broadcasted.  
(Refer to system operation manual)



## Rear Panel



### 1. FIRE SENSOR or TRIGGER CONTACT INPUT TERMINAL

It is the terminal connected to the sensor output of the fire receiving panel or external trigger contact and sends the emergency, evacuation broadcasting or Emergency Messaging to the zone.

- 1) Using the MACRO function, selection and grouping of multiple broadcast zones can be assigned for each input channel.  
However, this function can be only be configured using the Windows program. The setting information is downloaded from PC to PX-6216 and saves in an internal memory.  
(Refer to System Operation Manual)
- 2) A maximum 160 zones can be selected and saved in one input channel.
- 3) For example, if you select and memory the zone 1, 2 and 3 to channel NO.1, emergency broadcasting will be transmitted to zone 1, 2 and 3 at the same time when a fire sensor is received on channel NO.1.

### 2. PD, COM TERMINAL

- 1) PD Contact Point Output Terminal  
This is the contact output terminal used for controlling the operations of the power distributor. Contact point will be transmitted when one speaker zone is ON or on fire sensor input. It is connected to REMOTE SW terminal of the power distributor.
- 2) Com Terminal  
It is connected to COM terminal of fire receiving panel.

### 3. LINK IN/OUT TERMINAL

LINK IN terminal is connected to previous equipment and LINK OUT terminal is connected to next equipment.



| PIN NO. | Functions       |
|---------|-----------------|
| 1       | RS-485 Data - A |
| 2       | RS-485 Data - B |
| 3       | RS-485 Data - Z |
| 4       | NA              |
| 5       | GND             |
| 6       | RS-485 Data - Y |
| 7       | NA              |
| 8       | NA              |

\* Same for all IN/OUT terminals.

#### 4. TERMINATION SWITCH (LOAD/OPEN)

This switch is set for stable data receive/transmit of LINK IN/OUT.

Please refer to Equipment Setting and Inspection (Page 3) for detail information.

\* Caution: Communication error may occur if setting is performed incorrectly..

#### 5. UPGRADE TERMINAL (ISP)

It is the terminal to upgrade the software of the equipment and is not used generally.

#### 6. VOICE FILE CONTROL TERMINAL

Communication terminal to be used for controlling Inter-M's VOICE FILE equipment on Windows program.

- 1) RS-232 communication terminal for controlling source equipment.
- 2) Maximum recommended communication distance is about 12M.
- 3) PIN OUT Specification



|         |          |         |          |          |        |          |
|---------|----------|---------|----------|----------|--------|----------|
| Pin No. | 1        | 2       | 3        | 4        | 5      | 6~9      |
| Purpose | Not Used | Receive | Transmit | Not Used | Ground | Not Used |

#### 7. SPEAKER OUT TERMINAL

3-wire type Speaker terminal connects each speaker channel.

- 1) In PS mode, transmit through HOT terminal only.
- 2) In ES mode, transmit through both HOT/EM terminal.

#### 8. AMP IN TERMINAL

Connected to output of AMP.

#### 9. ADDRESS SETTING SWITCH

Sets the address for each equipment when the system is expanded and linked.

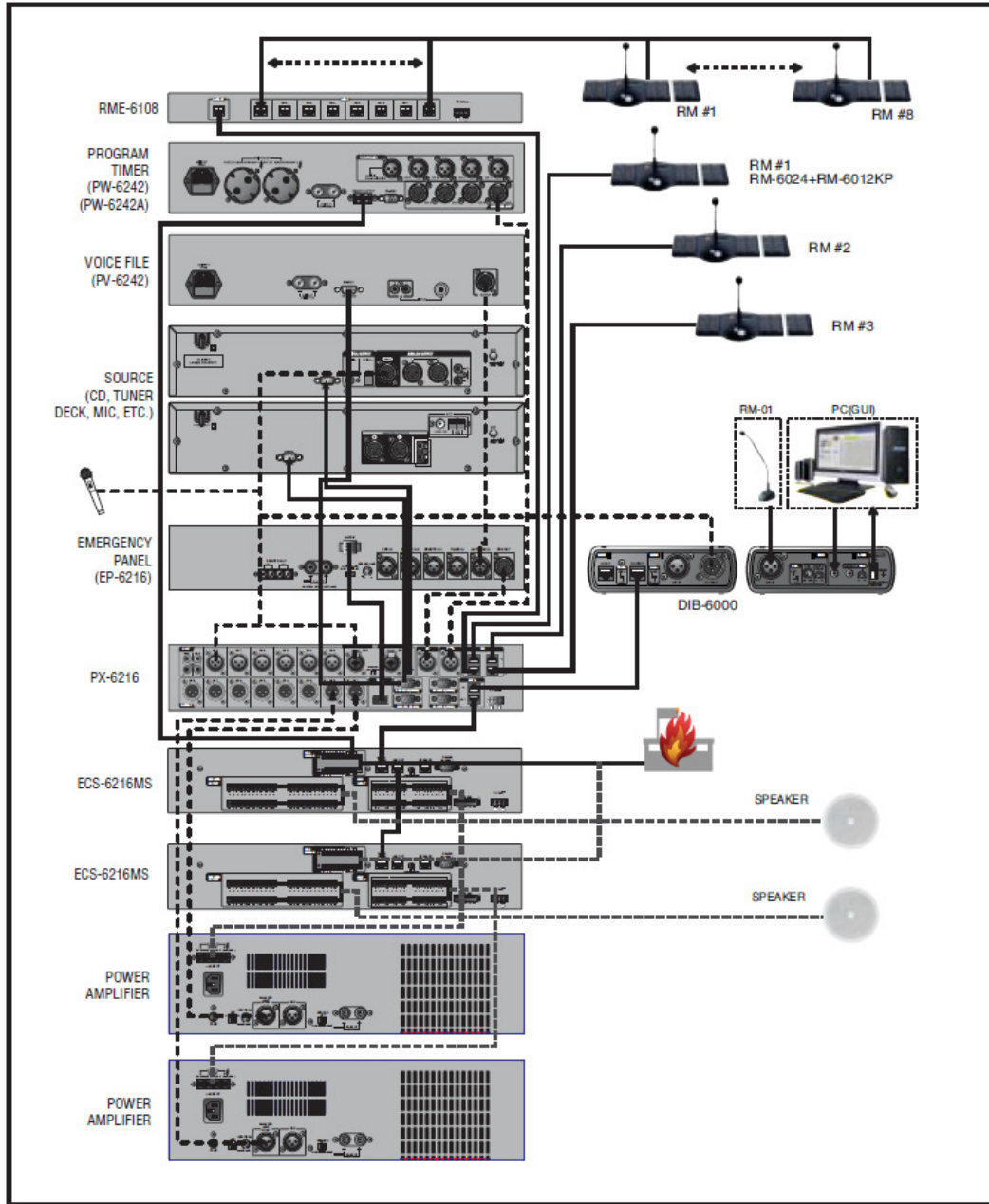
Please refer to Equipment Setting and Inspection (Page 3) for detail information.

#### 10. POWER INPUT TERMINAL

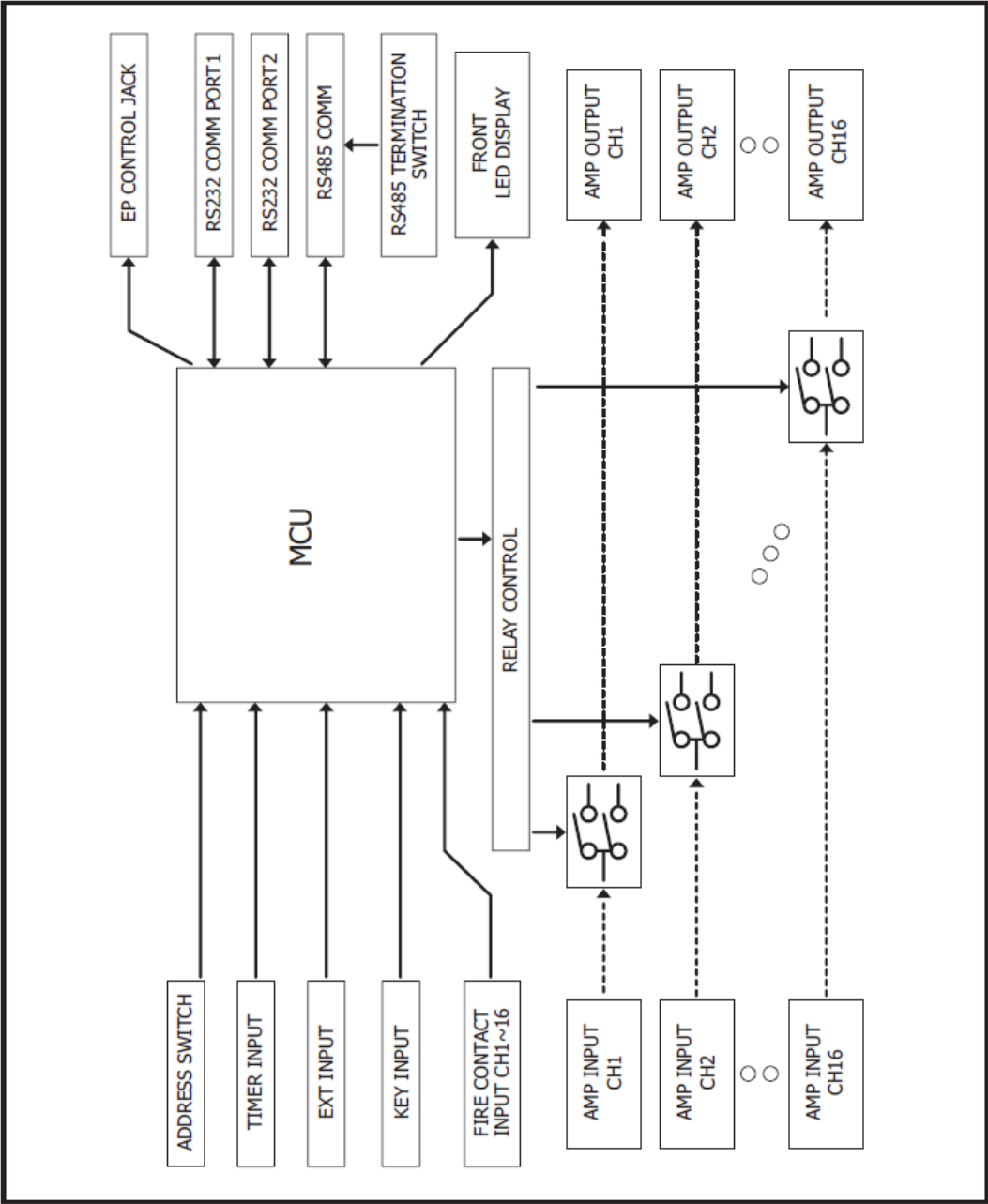
DC Power input terminal. Caution please observe polarity when connecting DC 24V.

Connect to an external power supply or inter-M power distributor. Connect to un-switched power supply.

# Applications



# Block Diagram

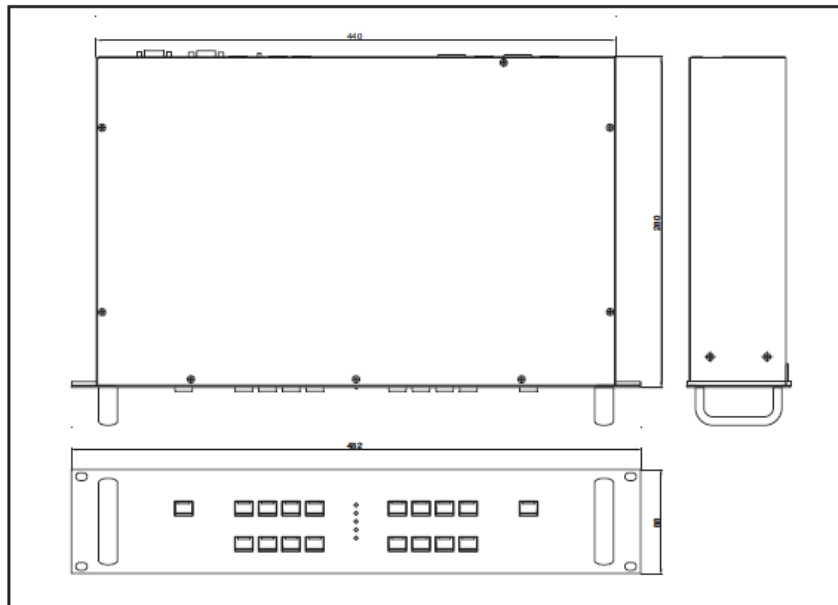


## Specifications

|                         |                     | ECS-6216MS                                 |
|-------------------------|---------------------|--|
| Channel                 |                     | 16CH                                       |
| Communications Protocol | LINK IN/OUT         | RS-485 (1km)                               |
|                         | Source & Voice File | RS-232 (12m)                               |
| Fire Sensor             |                     | Dry Contact                                |
| Operating Temperature   |                     | -10°C ~ +40°C/14°F~104°F                   |
| Power Source            |                     | DC 24V, 600mA                              |
| Weight (Set)            |                     | 4.3kg/9.5lbs                               |
| Dimensions (Set)        |                     | 482(W)x88(H)x280(D)mm/19(W)x3.5(H)x11(D)in |

※Specifications and design are subject to change without 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.