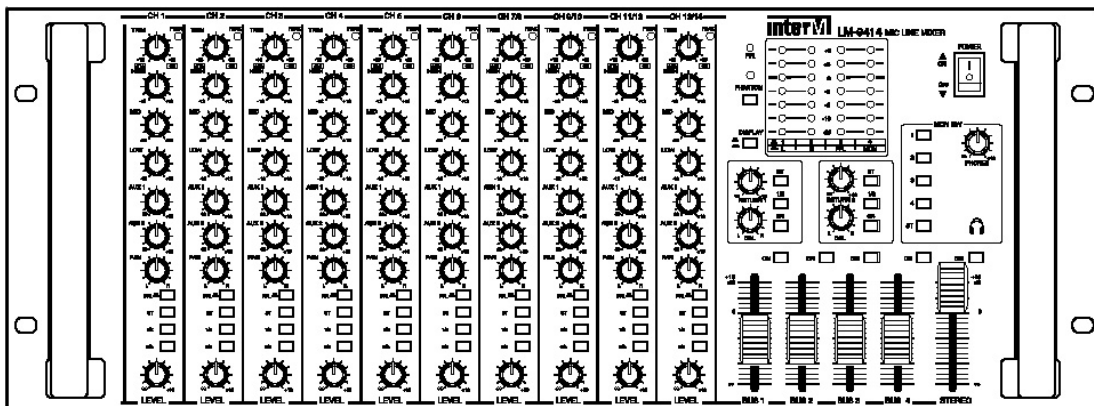


Operating Manual

LM-9414 Mic/Line Mixer



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interM

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Welcome

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

Thank you for purchasing this fine Inter-M product. All of us here at Inter-M are dedicated to providing you with the highest quality products and the best value.

We sincerely trust this product will provide you with 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 a part of our worldwide extended family!

Unpacking

Although your LM-9414 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.

Warnings




Environment

Never place this product in an environment that could alter its performance or reduce its service life. Such environments are usually characterized by high levels of heat, dust, moisture, or vibration.

Safety

1. Read these instructions carefully.
2. Follow all instructions.
3. Keep all warnings.
4. Do not operate this apparatus near water.
5. Clean only with a damp cloth.
6. Do not block any of the ventilation openings.
7. Install only in accordance with the instructions in this manual.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other devices (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 is 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 it is attached to the apparatus.
11. Use only the attachments/accessories specified.
12. Use only with a cart, stand, tripod, bracket, or table specified, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid overturning.
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.

 <p>CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN</p> <p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>	 <p>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.</p>
<p>WARNING</p> <p>To prevent fire or shock hazard, do not expose the unit to rain or moisture.</p>	 <p>This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.</p> <p>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.</p> <p>Attention: Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans en laisser aucune partie à découvert.</p>
<p>*Do not install this equipment in a confined space such as a book case or similar unit. *The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus. *Worded: "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 that objects do not fall and liquids are not spilled into the enclosure through openings."</p>	

Operation

Make certain that speakers and input sources are properly connected before switching on.

Keep volume levels at minimum gain before switching on.

NOTE: The system's operation is delayed by approximately three seconds after pressing the AC Mains power switch. This is due to the built-in protection circuitry, designed to protect speakers and other system components.

LM-9414 Mic/Line Mixer

Features

Multiple Inputs and Outputs

- Fourteen channel inputs including six mono and four stereo channels to accommodate a wide array of sound sources including microphones, instruments, cassette and CD players. Four channel outputs plus stereo output for complete routing flexibility.

Three-Band EQ

- Three-band equalization on all input channels for maximum control of audio mix.

Full-Featured Input Channels

- Trim control, peak indicators and constant-level pan controls on each channel.

Input and Output Monitoring

- PFL function on input channels for convenient headphone monitoring, plus switches for selectable output monitoring.

LED Output Display

- Output display is switchable between four output busses, stereo buss, PFL or monitor level.

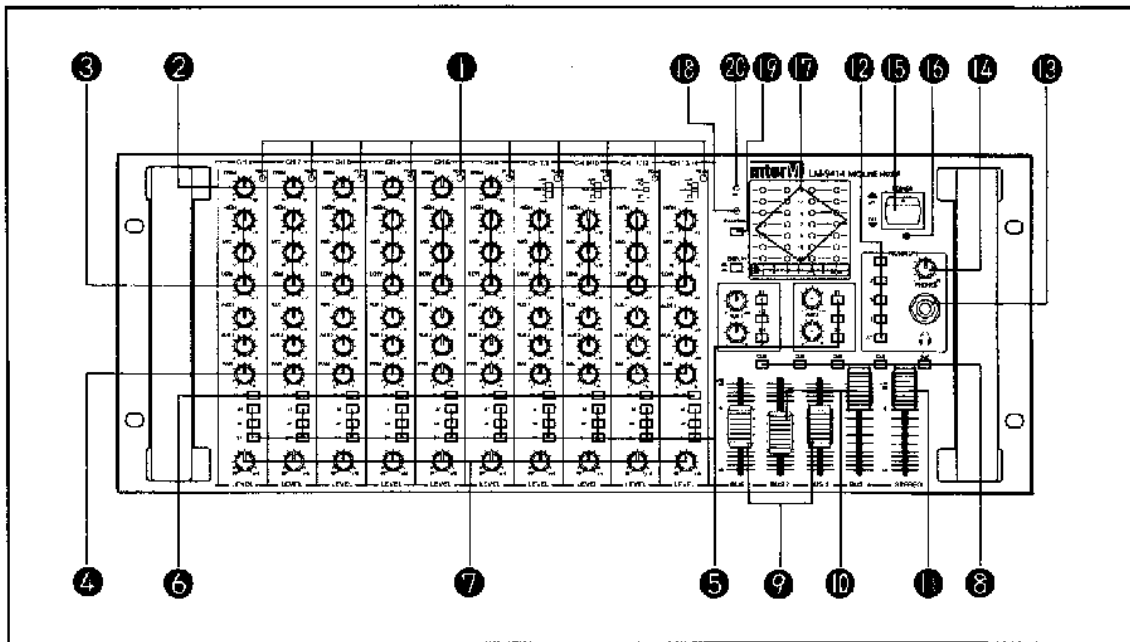
On-Board Phantom Power

- Built-in +48VDC phantom power for condenser microphones

AC/DC Operation

- Operates on AC or DC power for true portability.

Front Panel Controls



1. Peak Indicators

These LED indicators light when the input signal to the associated channel is 3dB below clipping. If the indicator is lit steadily, reduce the channel's Trim level (2) to avoid distortion.

2. Channel Trim (Gain) Controls

These knobs control the input level for the associated input channel.

3. EQ and Aux Send Controls

These knobs control the equalization for the associated input channel. Three bands of equalization are provided:

- Low: 100Hz, ± 15 dB, Shelving type
- Mid: 1kHz, ± 15 dB, Shelving type
- High: 10kHz ± 15 dB, Shelving type

Below the EQ Controls are Aux 1 and Aux 2 Send Controls. These knobs control the amount of signal sent to the Aux busses.

4. Pan Controls

These knobs control the L/R balance position for the associated input channel. Depending on which output sources are selected with the channel's Assign Switches (9), the Pan Controls will adjust the signal between Left and Right on the stereo buss, and/or between Buss 1/3 and 2/4 on the Output busses 1-4.

If the knob is rotated to the center, the channel's signal will be sent equally to the stereo Left and Right, Buss 1/2 and Buss 3/4 outputs.

If the knob is rotated fully counter-clockwise (to the left), the channel's signal will be sent only to the stereo Left, Buss 1 and Buss 3 outputs.

If the knob is rotated fully clockwise (to the right), the channel's signal will be sent only to the stereo Right, Buss 2 and Buss 4 outputs.

5. Channel Output Assign Switches

These buttons assign the channel's input signal to the stereo output buss, or to the Buss 1/2 or Buss 3/4 outputs. Any combination of output busses may be chosen.

6. PFL Switches

These buttons are used to monitor each channel's output status via the headphone jack.

When monitoring the channel's input signal, PFL position allows you to hear the input at a level unaffected by the position of the channel's Output, FX Send and Pan settings. AFL position will allow you to hear the input as it appears in the final mix, with Output, FX Send and Pan settings as selected for the channel.

7. Channel Output Levels

These knobs control the output level (the level sent to the output buss) for the associated input channel. Levels of unused channels should be set to the minimum setting.

8. Cue Switches

These buttons are used to select the associated output buss as active, sending signals routed to that buss to the rear-panel output connector.

9. Buss 1 and 3 Master Faders

These faders adjust the output level of signals routed to Buss 1 and Buss 3.

10. Buss 2 and 4 Master Faders

These faders adjust the output level of signals routed to Buss 2 and Buss 4.

11. Stereo Master Fader

This fader adjusts the output level of signals routed to the Master Buss.

12. Output Monitor Selector

These buttons are used to select the output source for monitoring and headphones output.

13. Headphone Output

This is a balanced 1/4" stereo jack for connection of headphones for monitoring the outputs of the busses as selected by the Output Monitor Selector (12), or to monitor input channels where PFL switches (6) are selected.

14. Headphone Gain

This knob controls the output level of the headphone jack.

15. Power Switch

This switch is used to switch the unit on and off. When the unit is on, the Power Indicator LED (16) is lit.

16. Power Indicator

This LED is lit when the power is switched on to the unit.

17. Output Level Meters

These multi-segment LED meters display the output level as selected by the Output Monitor Selector Switch (12).

18. Phantom Power Indicator

This LED indicator lights when phantom power is active at the microphone inputs.

19. Phantom Power Switch

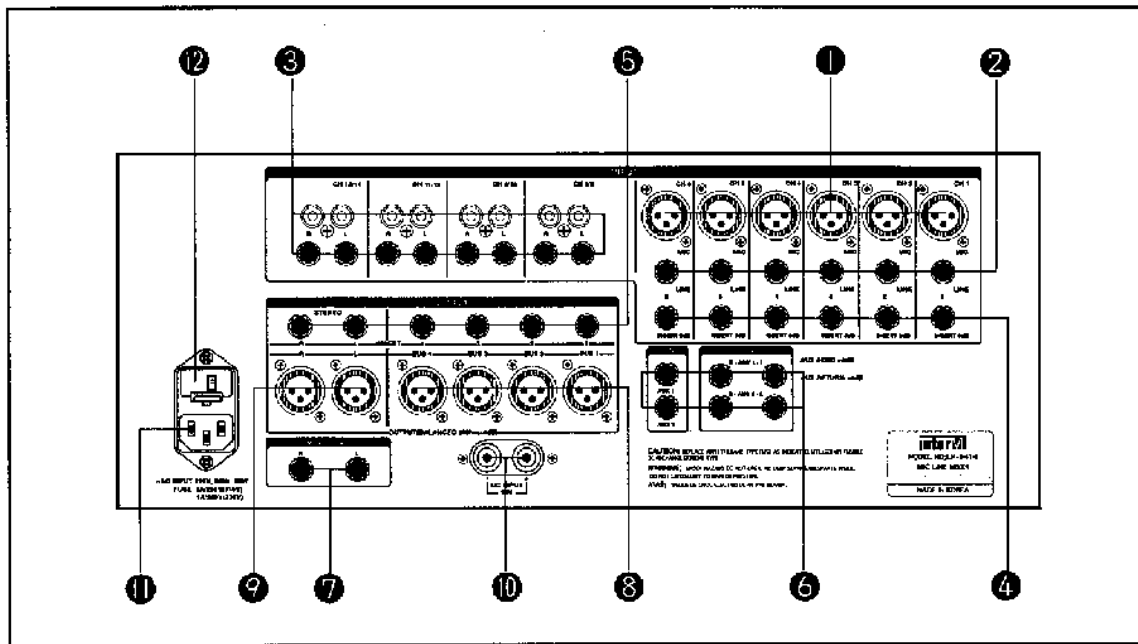
Pressing this switch activates the +48VDC phantom power supply to all Input Channels, for use with condenser mics requiring external power.

NOTE: It is safe to connect most modern dynamic microphones or line level devices to the channel inputs when phantom power is activated. However, some older ribbon microphones may be damaged by phantom power, and certain unbalanced line level devices may malfunction or produce an audible hum when phantom power is active.

20. PFL Indicator LED

This LED lights when any of the Input Channel PFL switches are activated.

Rear Panel Controls



1. Mic Inputs 1-6

Mic-level inputs on balanced three-pin XLR connectors.

2. Line Inputs 1-6

Line-level inputs on balanced 1/4" phone connectors..

3. Line Inputs 7-14

Line-level inputs on unbalanced 1/4" phone and RCA connectors. These are provided for input of signal from line-level sources such as keyboards, guitar preamps, tuner, cassette or CD players, or line outputs from an external mixer.

4. Channel Insert I/O

These unbalanced 1/4" TRS jacks are provided for input and output of an external processor on the individual channel. The Insert signal is unaffected by the Channel Input levels.

5. Stereo Channel Insert I/O

These unbalanced 1/4" TRS jacks are provided for input and output of an external processor on the individual stereo channel. The Insert signal is unaffected by the Channel Input levels.

6. EFX send and Return

Line-level inputs on unbalanced 1/4" phone connectors. These are provided for the connection of external effects processors on the master buss.

7. Monitor Outputs

Line-level outputs on balanced 1/4" phone connectors. These are provided for output of signal routed to the Monitor output busses.

8. Buss Outputs 1-4

Line-level outputs on balanced 1/4" phone connectors. These are provided for output of signal routed to the Buss 1-4 output busses.

9. Stereo Outputs L/R

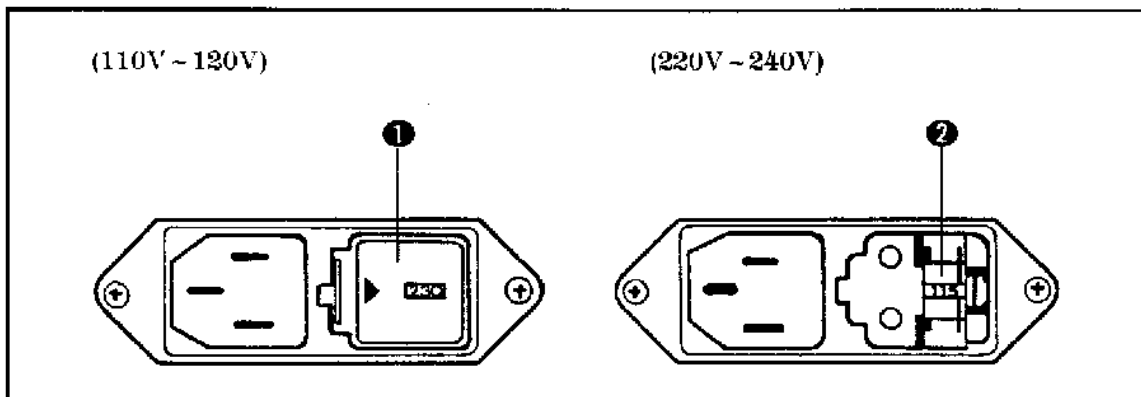
Line-level outputs on balanced 1/4" phone connectors. These are provided for output of signal routed to the Stereo L/R output busses.

10. DC Input Terminals

These terminals are provided for the connection of DC battery power. Connect a 24VDC battery source to these terminals. Make certain the red terminal is connected to the battery's positive (+) side, and the black terminal to the battery's negative (-) side.

11. AC Power Input

Connect a standard three-pin AC cable to this connector. As shown in the illustration below, if you are connecting a 110-120VAC power source, remove the fuse over (1) and change the voltage selector tap (2) from the 230V to 115V setting.

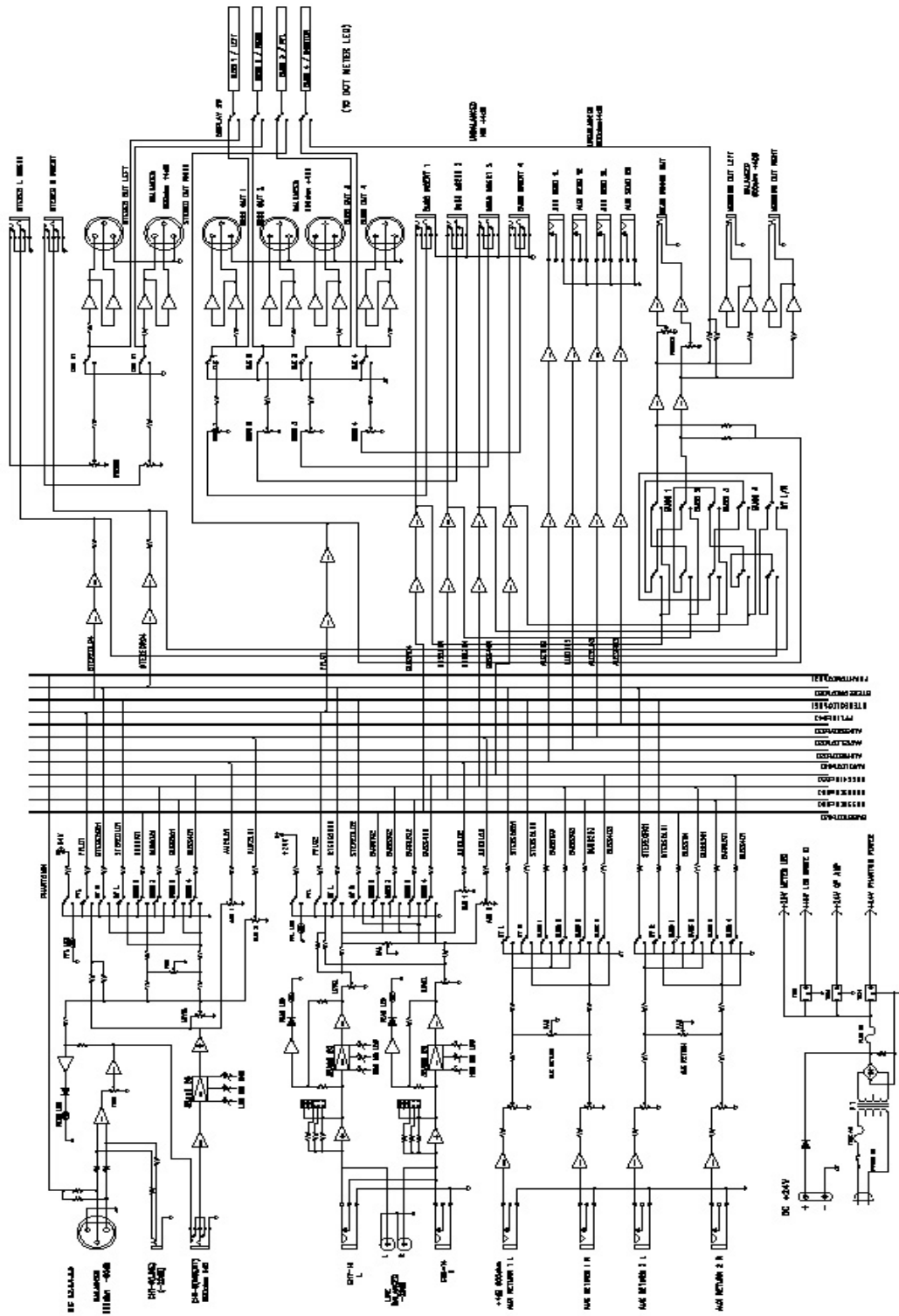
**12. AC Fuse Holder**

This holder contains the AC overload protection fuse. If the fuse has blown out, replace it with a fuse of the same type and rating, as shown below.

If the fuse continues to blow, refer servicing to a qualified service technician.

Voltage	100VAC – 120 VAC	230VAC-240VAC
Fuse Rating	0.5A / 250V	0.25A / 250V

Block Diagram



Specifications

ELECTRICAL

Input Sensitivity/Impedance

Mic Input	-60dB/600Ω Balanced
Line Input	-30dB/47kΩ Balanced

Maximum Voltage Gain

Mic to Buss 1~4, ST Out	84dBm
Mic to Monitor	74dBm (PFL: 64dBm)
Mic to AUX	84dBm
Line to Buss 1~4, ST Out	54dBm
Line to Monitor	44dBm (PFL: 34dBm)
Line to AUX	44dBm

Output/Impedance

Stereo, Buss 1-4 Output	+4dB/600Ω Balanced
Monitor Output	+4dB/600Ω Balanced
Headphone Output	1.0V/33kΩ before clipping

Frequency Response (+1/-2dB)

20Hz-30kHz

T.H.D (20Hz – 20kHz)

Less than 0.5%

Equalization

High	±12db, 10kHz
Mid	±12db, 1kHz
Low	±12db, 100Hz

Phantom Power

+24VDC

GENERAL

Power Source

100 –240VAC, 50/60Hz, 24VDC

Weight

8.3 Kg (18.3 lbs)

Dimensions

482(W) x 177(H) x280(D) mm
19(W) x 6.7(H) x 11(D) in.

Specifications and design subject to change without notice for improvements.



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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