

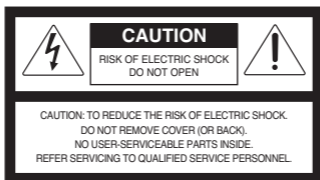
# Operation Manual

## PAM-MPM4A CD/USB/TUNER MODULE



**interM**

# Warning



## WARNING

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



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: 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.

Attentions: 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.

\*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."

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.

\* It can be heated up if you use this product in closed box or ill-ventilated place.

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# 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!

# Unpacking

Please take a few minutes to read this manual to familiarize yourself with important information regarding installation, product features, and operation.

As with most electronic devices, **ORIGINAL PACKAGING (OR EQUAL) IS REQUIRED** in the unlikely event that the product needs to be returned for servicing.

# 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/ap-



paratus 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.

**- AVOID EXCESSIVE HEAT, HUMIDITY, DUST AND VIBRATION**

Keep the unit away from locations where it is likely to be exposed to high temperatures or humidity—such as near radiators, stoves, etc. Also avoid locations which are subject to excessive dust accumulation, or to vibration that could cause mechanical damage.

**- AVOID PHYSICAL SHOCKS**

Strong physical shocks to the unit may cause damage. Handle the unit with care.

**- DO NOT OPEN THE CASE OR ATTEMPT REPAIRS OR MODIFICATIONS YOURSELF**

This product contains no user-serviceable parts. Refer all maintenance to qualified Inter-M service personnel. Opening the case and/or tampering with internal circuitry voids the warranty.

**- ALWAYS POWER OFF BEFORE MAKING CONNECTIONS**

Always turn the AC mains OFF before connecting or disconnecting cables. This is important to prevent damage to the unit itself as well as other connected equipment.

**- HANDLE CABLES CAREFULLY**

Always plug and unplug cables (including the AC mains power cord) by gripping the connector, not the cord.

**- CLEAN WITH A SOFT DRY CLOTH**

Never use solvents such as benzine or paint thinner to clean the unit. Wipe clean with a soft, dry cloth.

# Additional Explanation

## □ MP3 (MPEG AUDIO LAYER-3)

MP3 is one of music file formats that can contain music with stereo sound quality similar to audio CD using a type of MPEG which is compressive standards for audio and video. About 3~5MB is sufficient if recording music for 3min~5min as the compression ratio is average 1Mb per minute. In addition, 130 music or more can be contained in a CD for songs or folk song if making music files with MP3 differently from audio CD and MP3 has advantage in play time of 10 hours. MP3 has also advantage of compacting music into about 1/12 size while maintaining sound quality of the CD level as it can remove frequency range impossible for human to identify. For example, capacity of 50MB or so can be achieved if extracting music of a CD while maintaining sound quality of CD as it is but its size can be largely reduced to 4~5MB if compressing and converting it to a MP3.

## □ WMA (WINDOWS MEDIA AUDIO)

WMA is Microsoft's multimedia compression method and is technology to compress only music data from 'Window Media Technologies'. It provides sound quality equivalent to 128Kbps format of MP3 with 64Kbps format lower than MP3. In other word, the file size of 1.2 MP3 provides same sound quality as MP3.

## □ DIGITAL OUTPUT AND SPECIFICATIONS

Sound signal of a CD is recorded via digital-conversion and digital sound signal is converted to analog signal by digital-analog converter (DAC) within the usual player for output. Conversely, electrical digital signals are substituted with optical signal by coaxial cables, semiconductor or light emitting diode (LED), etc and can be connected with other devices with optical fiber cables. The device of the party which received optical signals converts optical signals to electrical signals for various treatments. Direct transmission of digital data has advantage that there is less data error as it is not affected by electrical noise than electrical signals.

Digital interface used in this product, which has format of S/PDIF (Sony/Philips/Digital/Interface), complies with standard specifications called IEC958.

## Method to treat Compact Disc (CD)

This device is a player only for a CD.

Please use a CD with following mark:



- Make the character surface where music name, etc is described on if mounting a CD on the disc tray of the DC player.
- Open a case with holding the right ending part of a case with the left hand and hold the both sides with the right hand from below.
- Take off the CD with lightly holding both sides with the right hand while pressing the center of the case with right thumb.
- Lightly wipe out the CD with a soft cloth if fingerprint or dirt is stained on the signal recording surface. There is no sound slot like general record in the CD. Wiping out dirt or fingerprint stained with a smooth cloth if necessary is sufficient. There is no obstacle to sound quality even if some dirt or fingerprint remains.
- Record spray, charge preventing agent, benzene and thinner, etc should not be used. The surface of a CD may be damaged by these chemical drugs as it is a plastic product.
- Please keep the disc whose play is completed in a case. If the disc is bent or damaged, sound may be broken or become impossible to play with the disc.
- Avoid of leaving the disc at a place where direct light is shone or which is disclosed to high temperature or a great of humidity. Leaving it for a place where temperature is high may cause deformation, etc.
- Do not paste papers, etc to the character surface or write letters on it.



# Features

## □ **MODULE FOR MOUNTING PAM SERIES**

This is a module for mounting and is used with connecting to PAM-SERIES.

## □ **VARIOUS SOUND SOURCES**

Desired sound source of the CD/USB/TUNER can be output.

## □ **USB DRIVE AUDIO PLAY FUNCTION**

USB thumb drive supports audio play.

## □ **SYSTEM INFORMATION VIA OLED DISPLAY**

The system information can be checked through the OLED display which is easy to operate.

## □ **SLIDING MOUNTING METHOD (PAM-312/324/336/348)**

It is convenient to install in PAM-Series by applying sliding mounting method.

※ The PAM-510/520/340A/480A systems are not sliding mounting types. Open the top cover for this model and connect it with the inner connector.

## □ **40 TOTAL MEMORIES OF TUNER**

40 total memory functions exist with high sensitivity of digital tuner. It is possible to conveniently memorize frequency of the desired broadcasting stations for convenient use.

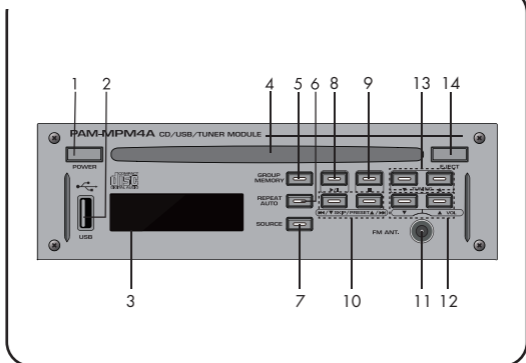
## □ **MP3/WMA/WAV RESPONSE**

This device responds to both CD-DA and MP3/WMA/WAV.

# Contents and Accessories

1. PAM-MPM4A x 1EA
2. FM TUNER Antenna x 1EA
3. Screws for PAM-Series x 4EA
4. Power and Audio Cable x 1EA
5. Operation Manual x 1EA

# Part Names and Function



## 1. POWER BUTTON

This is a button to turn ON/OFF your device. Press more than 3 seconds to switch power ON/OFF your device.

## 2. USB TERMINAL

This is a terminal to mount USB memory, which can play audio file from USB.

## 3. OLED DISPLAY

This is a window to display system operation information.

## 4. CD SLOT

This is a slot for CD. If inserting CD in the slot, it is automatically inserted.

※ Caution

1. Insert the CD with the label side facing up.
2. Never insert a 8cm CD into the slot.

## 5. GROUP/MEMORY BUTTON

1) Use this button to move between folders when files exist under various folders for MP3/WMA/WAV from CD/USB operation.

- 2) This button is used to memorize broadcasting frequency from TUNER operation.

## **6. REPEAT/AUTO BUTTON**

- 1) This is used when playing in the mode of Repeat (REPEAT ONE/REPEAT FLD/REPEAT ALL) from CD/USB operation.
- 2) This is a button to select Manual or Automatic frequency Select mode when moving frequency from TUNER operation.

## **7. SOURCE SELECT BUTTON**

This is a button to select input signal and is changed in order of CD > USB > TUNER.

## **8. PLAY/PAUSE BUTTON**

This is a button used for play and pause of audio files and the player temporarily stops if pressing this button during play.

## **9. STOP BUTTON**

This button is function to stop during play of CD/USB.

## **10. SKIP/PRESET BUTTON**

- 1) This button is function to move the previous or next music of the music currently played from CD/USB operation. Press and hold to fast forward or rewind.
- 2) This function is used to move the next channel of the memorized channel at TUNER.

## **11. FM ANTENNA TERMINAL**

This is a terminal to connect with FM antenna.

## **12. VOLUME BUTTON**

This button is function to tune volume.

## **13. TUNING BUTTON**

This function is used to decrease channel frequency from TUNER.

## **14. EJECT BUTTON**

This button is used when taking out a CD.

# Method to Use CD/USB

## 1. Play/Pause

### 1) Method to use CD

- (1) Lightly push a CD until it is automatically inserted into the CD slot.
- (2) Select CD by pressing SOURCE select button in the front panel.
- (3) Reading music information of CD is displayed on the OLED Display.
  - For the CD DA 00 (track numbers) 00:00:00 (total play time indication)
  - For the CD-MP3 00 (folder numbers) 000 (total file numbers)
  - "NO DISC" is displayed on the OLED Display if there is no CD.
- (4) Use the SKIP button to select the music to play.
  - CD-DA: Use the SKIP button to select the track to play.
  - CD-MP3: Press the GROUP button to display the GROUP in OLED DISPLAY. At this time, press the SKIP button to select a folder. However, you can select a folder only if it is divided into folders. Press the SKIP button to select your desired track or folder.
- (5) Press the PLAY button to play the selected music.
- (6) Press the SKIP button during playback to advance to the previous or next music. Press and hold the SKIP button to fast forward or rewind.
- (7) Press the PLAY button again to pause. Press the STOP button to stop playing.

#### ※ Caution

1. If the CD is poorly formatted or cannot be played, the CD will be in the stopped state.
2. When you insert a CD of a different format, NO FILES appears in the OLED DISPLAY.
3. When the CD is inserted upside down, CD READ ERR is displayed on the OLED DISPLAY.

### 2) Method to use USB

- (1) Insert USB memory.

- (2) Select USB by pressing SOURCE select button in the front panel.
- (3) Reading music information of USB is displayed on the OLED Display.
  - 00 (folder numbers) 000 (total file numbers)
  - If USB memory is not inserted, USB UNMOUNT is displayed in OLED DISPLAY.
  - If there is no playable sound source FILE, NO FILES is displayed on the OLED DISPLAY.
- (4) Use the SKIP button to select the music to play.
  - Press the GROUP button to display the GROUP in OLED DISPLAY. At this time, press the SKIP button to select a folder. However, you can select a folder only if it is divided into folders. Press the SKIP button to select your desired track or folder.
- (5) Press the PLAY button to play the selected music.
- (6) Press the SKIP button during playback to advance to the previous or next music. Press and hold the SKIP button to fast forward or rewind.
- (7) Press the PLAY button again to pause. Press the STOP button to stop playing.
  - ※ If there is a problem with the USB sound source file, USB READ ERR will be displayed on the OLED DISPLAY and the next sound source file will be played.

## **2. REPEAT Mode**

- 1) REPEAT ONE: Music currently played is continuingly and repetitively played.
- 2) REPEAT FLD: Repeat the song in the currently playing group (CD / USB).
- 3) REPEAT ALL: Repetitively play the whole sector of CD/USB.

## **3. EJECT**

- 1) This function is used to take out CD.
- 2) CD comes out if pressing this button irrespective of operation status of operation.

#### **4. Note**

- 1) In this unit, up to 99 songs are played on CD-DA, and up to 499 songs are played on CD-MP3.
- 2) The USB plays back up to 499 songs.
- 3) In case of CD-MP3, it may not be able to display all the files depending on the status of CD.
- 4) When CD contents are combined with CD-DA and MP3 file, both CD-DA track and MP3 file are played.
- 5) MP3 file can be played with 16 bit and 64kbps bit rate at sampling frequency 44.1kHz. WMA file can be played with 16bit ps ~ 320kbps bit rate at sampling frequency of 44.1kHz or 16bit 64kbps ~ 192kbps bit rate at sampling frequency of 48kHz. WAV file can play 16bit, PCM, stereo file at sampling frequency of 44.1kHz.

#### **5. Cautions**

- 1) Never insert an 8cm CD into the CD slot.
- 2) If CD READ ERR or USB ERR is continuously displayed on the OLED DISPLAY, please contact our A/S center.
- 3) USB memory is supported up to 32GB.

# Method to Use FM/Tuner

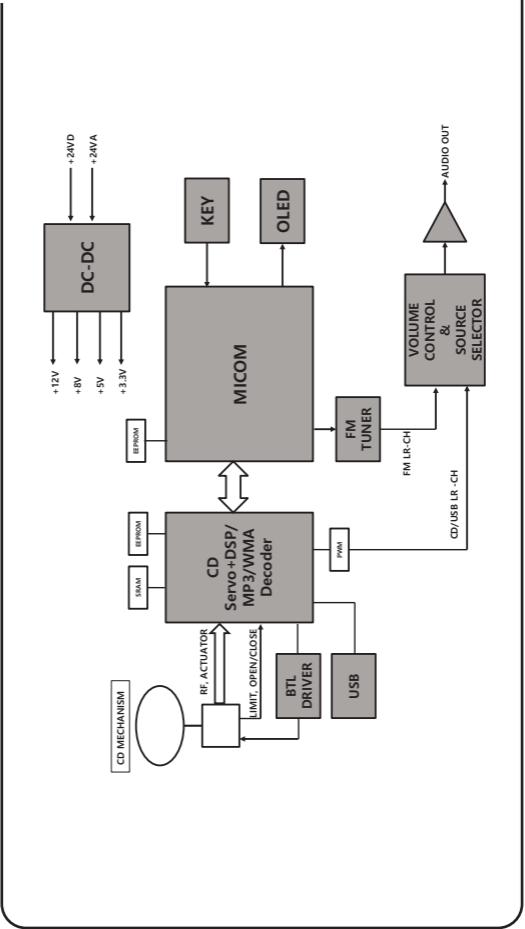
## 1. Auto and Manual selection method of broadcasting frequency

- 1) Select TUNER by pressing SOURCE select button in the front panel.
- 2) Frequency decreases or increases if pressing the TUNING button. You can select desired broadcasting frequency.
  - (1) Auto Music Select: Auto Broadcasting Station Select mode is selected if "AUTO" is displayed by pressing the REPEAT/AUTO button. Operation of the Auto Broadcasting Station Select starts if pressing the TUNING button (▲/▼) and automatically stops at the position of broadcasting frequency receivable. "TUNED" is displayed on the OLED Display and broadcasting is output.
  - (2) Manual Select: Frequency can be increases or decreases in unit of 50kHz (North America : 100kHz) for adjustment by pressing the TUNING button (▲/▼) shortly once. Frequency moves until unhand if holding to press it for a long time. If broadcasting frequency receivable is selected, "TUNED" is displayed on the OLED Display and broadcasting is output.

## 2. Memory method of frequency and recall of memorized broadcasting channel

- 1) Select desired frequency with the TUNING button.
- 2) Press the MEMORY button and the address to be stored in the OLED DISPLAY will blink.
- 3) Selected broadcasting frequency is saved at the relevant address if pressing the MEMORY button by selecting the address to memorize with the PRESET button. In this case, saving is done the given address even though current frequency is saved at other address.
- 4) No. 1 through No. 40 frequencies can be saved.
- 5) Memorized broadcasting frequency can select the desired broadcasting frequency using the PRESET button.

# Block Diagram





# Specification

	PAM-MPM4A
CD/USB	
Frequency Response	20Hz~20KHz
THD + N (20KHz LPF)	Less than 0.3%
S/N Ratio	More than 80dB
Output Signal Level	0dBV $\pm$ 3dBV
TUNER	
Range of receipt frequency	FM : 87.5-108.0MHz
Antenna input	75 $\Omega$ Unbal
Sensitivity for practical use	2 $\mu$ V
Operating temperature	-10 $^{\circ}$ C ~ +40 $^{\circ}$ C
Power Source	DC 24V
Weight(Set)	0.88kg/1.94lb
Dimensions(Set)	184(W) x 55(H) x 182(D)mm/ 7.24(W) x 2.16(H) x 7.16(D)in

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

# Service

## Procedures

Ensure the problem is not related to operator error, or external system devices, 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.

# 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.

NOTE



NOTE



NOTE



# 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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