

MIPRO[®]

MA-707

Portability

Simplicity

Flexibility

PORTABLE WIRELESS PA SYSTEM

User Guide



MIPRO[®]
MICROPHONE PROFESSIONALS

MIPRO Electronics Co., Ltd

Headquarters : 814 Pei-Kang Road, Chiayi, 60096, Taiwan

Tel : +886.5.238.0809

Fax : +886.5.238.0803

www.mipro.com.tw

mipro@mipro.com.tw

CE FC



All rights reserved.

Do not copy or forward without prior approvals MIPRO. Specifications and design subject to change without notice. MN 014/02

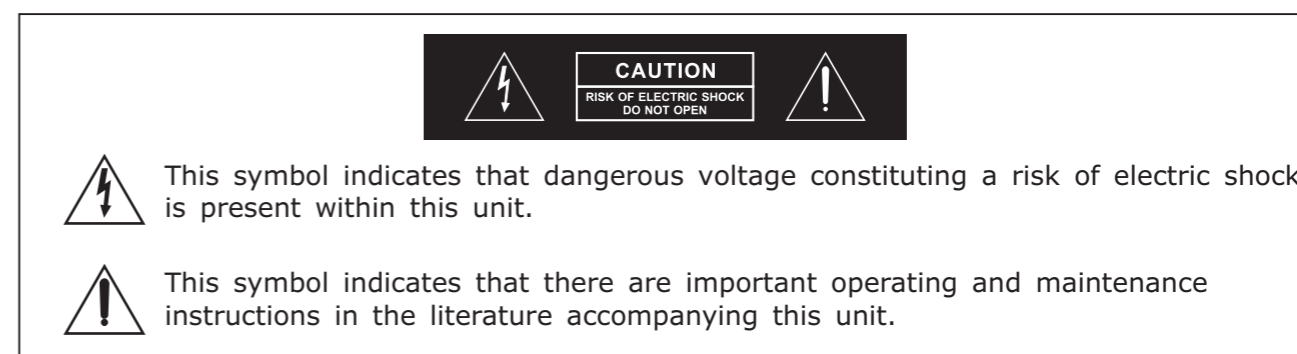
IMPORTANT SAFETY INSTRUCTIONS

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 a 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 polarised or ground plug: A polarised plug has two blades with one wider than the other. The wide blade is provided for your safety. When 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 plug, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a 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.
15. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
16. Apparatus should not be exposed to dripping or splashing and no objects filled with liquids, should be placed on the apparatus.
17. Use only with the battery which specified by manufacturer.
18. The power supply cord set is to be the mains disconnected device.
19. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



WARNING

1. **FOR OUTDOOR USE:**
To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
2. **UNDER WET LOCATION:**
Apparatus should not be exposed to dripping or splashing and no objects filled with liquids, such as vases should be placed on the apparatus.
3. **SERVICE INSTRUCTIONS:**
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.



FC & IC - ID

THIS DEVICE COMPLIES WITH PART15 OF THE FCC RULES AND RSS-123 ISSUE2 OF CANADA. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

"This product can only be used at the area that the altitude is lower than 2000m for safety purpose."

"This product can be used in non-tropical locations only for safety purpose."

Disposal



2005-08-13

Dispose of any unusable devices or batteries responsibly and in accordance with any applicable regulations.

Disposing of used batteries with domestic waste is to be avoided!

Batteries/NiCad cells often contain heavy metals such as cadmium(Cd), mercury(Hg) and lead(Pb) that makes them unsuitable for disposal with domestic waste. You may return spent batteries/accumulators free of charge to recycling centres or anywhere else batteries/accumulators are sold.

By doing so, you contribute to the conservation of our environment!

PORTABLE WIRELESS PA SYSTEM

2 CONTROLS AND INDICATORS - Front Panel

3 CONTROLS AND INDICATORS - Rear Panel

5 CONTROL PANEL

6 OPERATING THE MRM-70/MRM-70B UHF DIVERSITY RECEIVER MODULE

7 SET UP RECEIVER AND TRANSMITTER FREQUENCIES

8 HELPFUL WIRELESS MICROPHONE OPERATING TIPS

9 CONNECTION FOR EXTERNAL AUDIO SOURCES

10 HELPFUL OPERATING TIPS

11 TROUBLESHOOTING-PORTABLE PUBLIC ADDRESS

12 TROUBLESHOOTING-WIRELESS MICROPHONE SYSTEMS

13 FAQ - PORTABLE PA

14 FAQ - RECHARGEABLE BATTERY

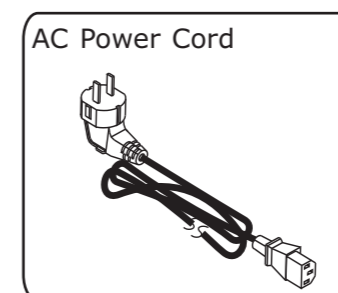
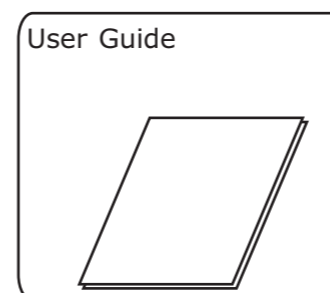
15 RECHARGEABLE BATTERY GUIDE

16 OPTIONAL MA-707 ACCESSORIES

17 MIPRO WIRELESS MICROPHONE SYSTEMS

ACCESSORIES

The following accessories are included:

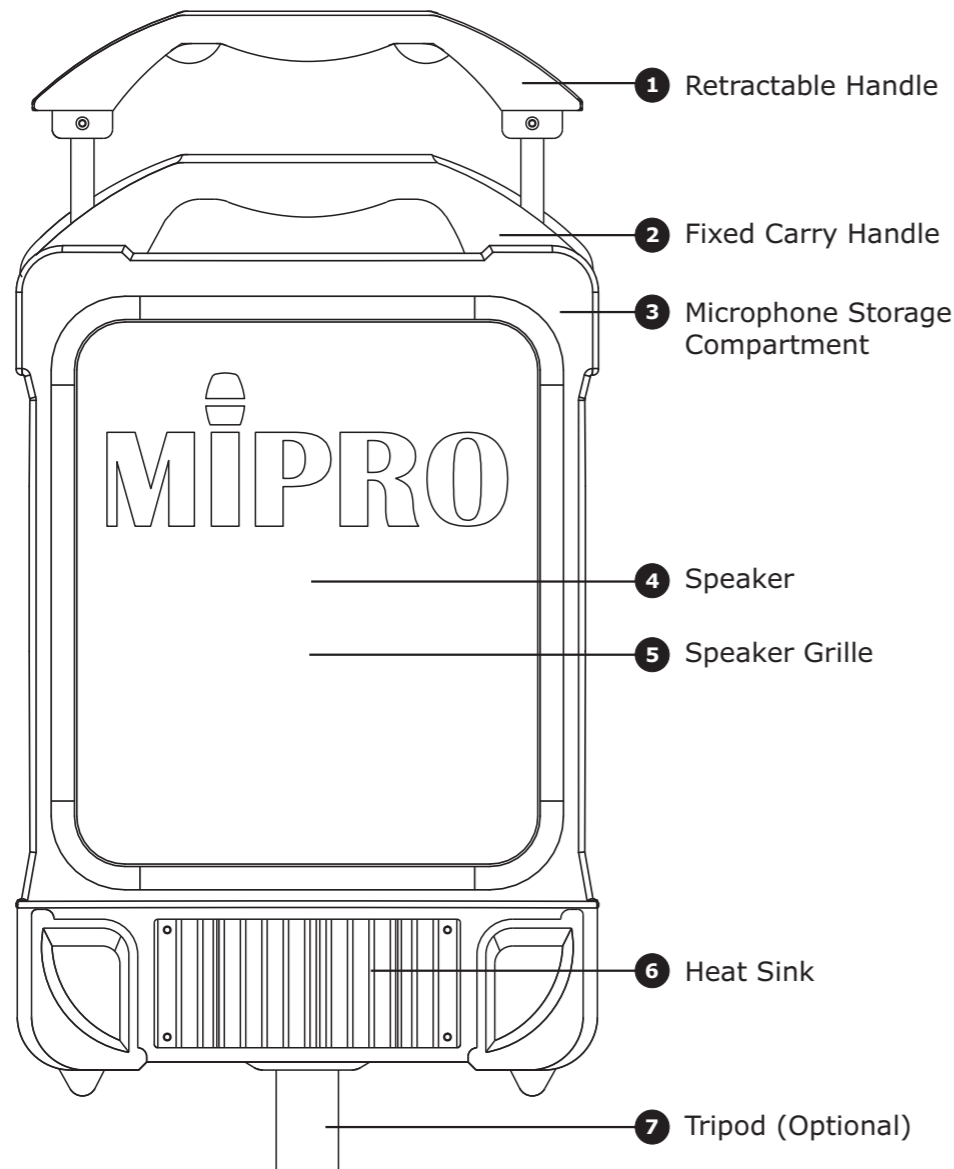


The following accessories are not included:



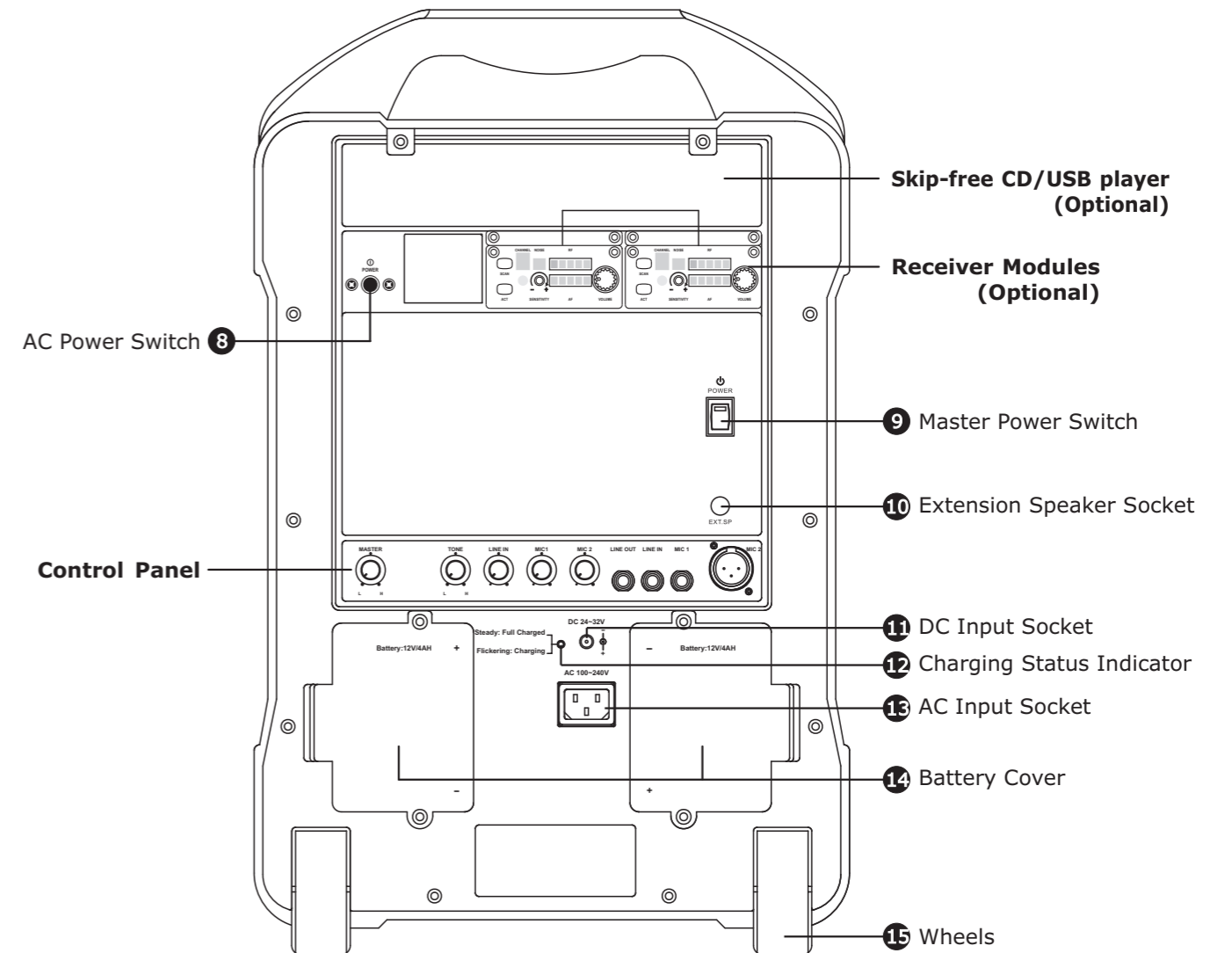
CONTROLS AND INDICATORS

Front Panel



- ❶ **Retractable Handle:** Push up from underneath the handle to expose the retractable extension. Simply push down again for storage and lifting.
- ❷ **Fixed Carry Handle:** For balanced, easy hand carrying.
- ❸ **Microphone Storage Compartment:** A handy storage compartment for 2 handheld or bodypack transmitters.
- ❹ **Speaker:** A powerful, 8-inch full-range speaker.
- ❺ **Speaker Grille:** To protect the speaker cone from damage.
- ❻ **Heat Sink:** Designed specially for the built-in amplifier, please keep it adequately ventilated.
- ❼ **Tripod (Optional):** There is a tripod mating socket mounted in the base of the MA-707 to accommodate a 35mm tripod stand.

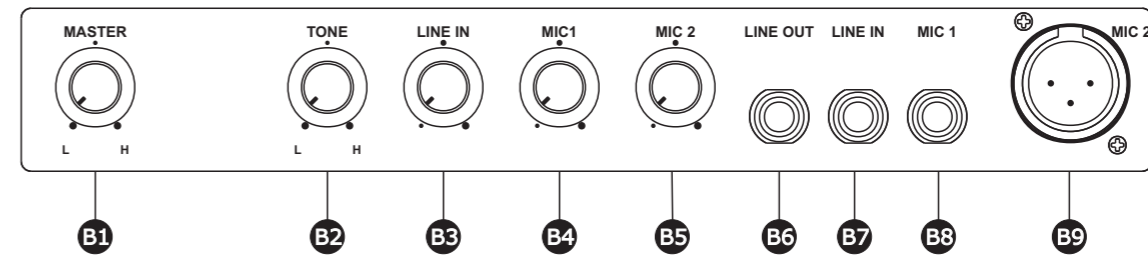
Rear Panel



- ❸ **AC Power Switch:** Switch must be pressed in order to activate charging of built-in MB-70 rechargeable batteries.
- ❹ **Master Power Switch:** Turns AC/DC power on/off to the unit. The indicator glows when you turn the power On. Please note that to avoid the over-discharging or stressing of the built-in battery supply, it is recommended that you charge the unit immediately the LED indicator flashes (to warn of low battery charge). Otherwise, the unit will turn off automatically once a pre determined low charge level is reached (and this may interrupt your usage of the unit)
- ❺ **Extension Speaker Socket:** Allows you to connect an optional MA-707-EXP extension speaker for increased directional coverage. The MA-707-EXP is rated at 70 watts @ 4 ohms and connects in series to the speaker in the MA-707.
- ❻ **DC Input Socket:** Allows you to connect an external 24-32V DC power supply if required. Please note that the polarity of the central pin in the socket is positive (+).

- 12 Charging Status Indicator (For the inbuilt MB-70 12V rechargeable batteries):** A flashing red light indicates charging is in progress while a steady red light indicates that the batteries are fully charged. However, if the indicator remains flashing after normal charging hours, it means the inbuilt rechargeable batteries are damaged and both damaged inbuilt batteries must be replaced immediately.
- 13 AC Input Socket:** A built-in switch mode power supply allows for AC power inputs ranging from 100V to 240V.
- 14 Battery Cover:** There are two battery covers, one for each rechargeable battery. In the event that you ever have to change a battery, please observe the correct polarity and always keep the battery full-charged. Unless you experience some battery failure, changing or uninstalling batteries should not be necessary. If in doubt, please contact your nearest service agent or supplier.
- 15 Wheels:** Heavy duty and a truly user friendly feature.

CONTROL PANEL



- B1 Master Volume Control:** Adjust the volume of all mixed audio inputs.
- B2 Tone Control:** Turn counterclockwise to increase bass or turn clockwise to increase treble. Positioned at 12 o'clock for a flat response.
- B3 LINE IN Volume Control:** Controls the volume of an input from an external source. **B7**
- B4 Mic 1 Volume Control:** Control the volume of the wired microphone. **B8**
- B5 Mic 2 Volume Control:** Control the volume of the wired microphone. **B9**
- B6 Line Out Socket:** Line level output. Allows you to use the MA-707 as a program input source for some other audio device.
- B7 Line In Socket:** Allows you use an external device with unbalanced audio output signal as an input to the MA-707.
- B8 Wired Microphone Input Socket (6.3mm/ 1/4" Unbalanced):** Allows you to use an unbalanced, wired microphone as an input source.
- B9 Wired Microphone Input Socket (XLR Balanced):** Allows you to use wired microphone with a balanced XLR connector as an input source.

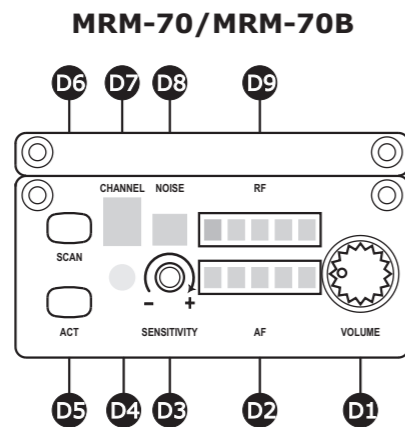
MRM-70/MRM-70B: UHF DIVERSITY RECEIVER MODULE

MIPRO offers an optional industry-leading diversity wireless receiver module. Up to 2 receiver modules can be installed quickly and easily for wireless microphone operation. Each receiver module has 16 preset UHF frequencies. Simply press the "scan" button once to quickly autoscans for an interference-free receiver frequency. A built-in "noise" interference indicator (when lit) detects the presence of interference. Once lit during operation simply press scan button to autoscans for another interference-free frequency.

INSTALLING MRM-70/MRM-70B DIVERSITY RECEIVER MODULE

Power off system. Unscrew the 2 screws. Take out the front cover. Insert the receiver module and align the edge connector with the empty slot. Applying even pressure at both corners, push in until it is firmly seated in the slot. Fasten the 2 screws.



OPERATING THE MRM-70/MRM-70B UHF DIVERSITY RECEIVER MODULE

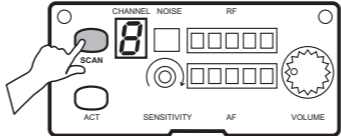
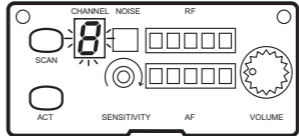
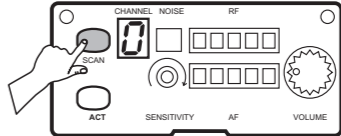
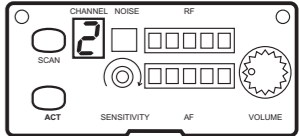


- D1 Receiver Power Switch/Volume Control:** Turns on/off of receiver module. After power on, AF LED will flash. Turns knob clockwise to turn up volume.
- D2 Audio Signal Level Indicator:** Indicate the audio signal level.
- D3 Sensitivity Adjuster:** Higher sensitivity (+) to increase receiving distance. Lower sensitivity (-) to minimize noise interference.
- D4 ACT Infrared (IR) Port:** Transmits IR signal to transmitter to synchronize frequencies.
- D5 ACT Sync Button:** Press to synchronize the receiver and transmitter frequencies.
- D6 Scan Button:** Press for an interference-free frequency.
- D7 LED Screen:** displays current channel.
- D8 Noise Indicator:** Denotes the presence of interference.
- D9 RF Signal Level Indicator:** Indicate the RF signal strength received.

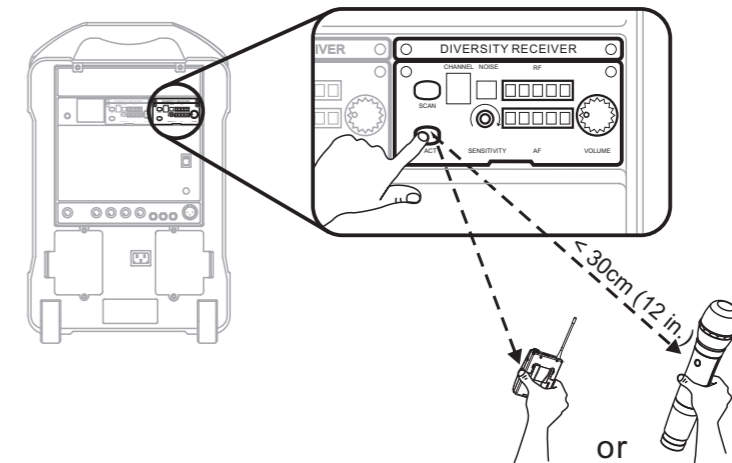
SET-UP RECEIVER AND TRANSMITTER FREQUENCIES

AUTOMATIC "RECEIVER" FREQUENCY SELECTION

1. POWER "ON" the portable PA. 
2. POWER on receiver by turning "VOLUME" knob. 

3. Press & hold "SCAN" button for 1 second 
4. Existing channel blinks 
5. Press & release "SCAN" button 
6. New interference-free channel appears 

AUTOMATIC "TRANSMITTER" SYNC



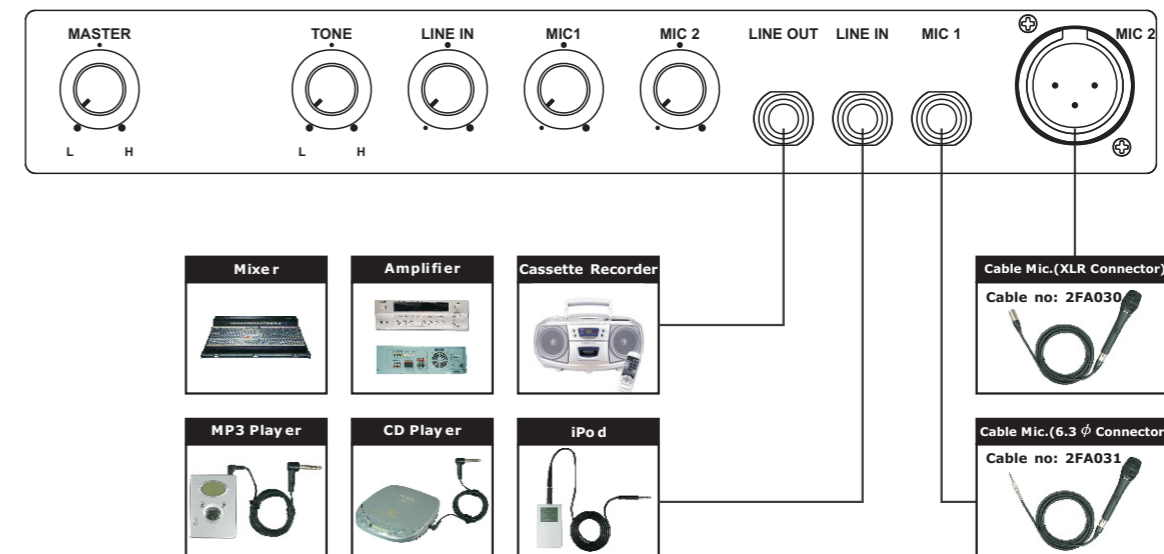
1. **POWER** on transmitter (ensure fresh batteries are properly installed with the correct polarity). Replace transmitter battery when LED glows red during powered-on. (glows red = low battery)
2. Locate and bring an ACT transmitter *infrared (IR) port within **30cm (12-inch)** of receiver's ACT button.
3. Press and release "**ACT**" button to synchronize transmitter and receiver frequencies.
4. When the frequencies are synchronized successfully the receiver channel stops flashing and the RF meter is fully lit, the microphone is now ready for use.

NOTE: The transmitter infrared IR port is normally located by a round-shaped red color spot.

HELPFUL WIRELESS MICROPHONE OPERATING TIPS

1. Maintain an unobstructed line-of-sight, at all times, between the transmitter and receiver for maximizing operating range.
2. Try place portable PA system above crowds' heads or as high as possible for improved reception quality.
3. Avoid placing transmitter and receiver where metal objects or other dense materials may be present.
4. Avoid placing the receiver near computers or other RF generating equipment such as CD/DVD players, digital signal processors and other digital devices
5. A body-pack transmitter should not be worn where it is immediately adjacent to such a medical device like implanted cardiac pacemakers or AICD devices. If you're attaching a transmitter to an older person or someone wearing it, it doesn't hurt to ask. Note also that any medical-device disruption will cease when the RF transmitting source is turned off.
6. Both transmitter and receiver must be on the same channel.
7. If two transmitters are operating on the same channel, severe interference will occur and the wireless system will be unusable. Two transmitters cannot be used with one receiver at the same time. You can use a handheld and a body-pack transmitter with one receiver — one at a time.
8. Weak or worn-out transmitter batteries are a common cause of wireless problems, including complete failure, poor operating range, signal strength, distorted audio, and susceptible to interference.
9. Use only high-quality alkaline or other higher performance batteries for transmitters.
10. Try reducing the distance between the transmitters and receivers by moving the transmitters closer to the receivers if problems with clear reception.
11. Ensure external wire antenna is not coil or bundle when wearing and using a bodypack transmitter as it severely impairs its transmission, reduces range and it may break.

CONNECTION FOR EXTERNAL AUDIO SOURCES



HELPFUL OPERATING TIPS

1. We recommend placing sound system between the target audience and the presenter, facing the audience and raised above their heads using a speaker stand or table. This set-up helps prevent the annoying feedback by keeping wireless & wired microphone users behind the sound system. The internal power supply rechargeable, lead-acid batteries should be kept fully charged. Always charge the system after use.
2. If you operate the system from an external AC power supply, then the internal battery supply will charge at the same time, a very useful feature.
3. If the LED indicator on the power switch flashes after first turning the unit on or it starts to do so during use on the internal DC supply (low battery warning), you should switch to the AC power supply by using the AC power cord.
4. Before turning power on to the unit, please set all volume controls to their minimum level. This prevents any loud 'thumps' at power on. Adjust the volume controls afterward.
5. Never place any microphone in front or close in front of the speaker otherwise damaging feedback (both to the operators ears and the system) could occur.
6. The MA-707 features a retractable handle and wheels for easy transport. However, Do not pull the unit for long distances or over uneven or rough surfaces. And, Do not pull it up or down stairs. Vibration caused by long distance travel or travelling over uneven surfaces may result in function failure not covered by warranty.
7. Please take care not to short out the speaker cables otherwise unwarranted damage could be done to the system amplifier.

TROUBLESHOOTING-PORTABLE PUBLIC ADDRESS

PROBLEM	POSSIBLE CAUSE	SOLUTION
No Sound or Faint Sound From Speaker	Volume turned down	Adjust volume
	Power switch is turned off	Turn power switch on
Power Indicator Not On	Power switch is turned off	Turn power switch on
	Rechargeable Battery is discharged	Plug into AC outlet to recharge
	Rechargeable Battery is "dead"	Replace battery and plug into AC outlet to recharge
Distorted Sound From Speaker	Volume set too high	Reduce volume
	Excessive wind noise or breath "pops"	Use windscreen on wireless & wired microphones.
	Input signal too strong	Adjust input signals
Excessive Feedback	Microphone too close or directly in front of the speaker	Move microphone away from the speaker
	Volume set too high	Reduce volume
	Microphone too far from sound source (requiring the volume to be turned up to compensate)	Speak closer to the microphone or move microphone closer to sound source
Weak, Distorted Sound Power Indicator Flickers	Batteries level is low	Plug into AC outlet to recharge
Excessive Hum or Noise	Input Cable not shielded	Use shielded cable
Shortened Battery Life	Old or overused battery	Recharge or replace battery
	Battery is not charged for over 3~4 months	Recharge or replace battery
Battery CHARGE Indicator Not Flickering when plugged into AC Outlet	Rechargeable Battery is "dead"	Replace battery
	Battery is not charged for over 3~4 months	Recharge or replace battery
	Battery is fully charged (CHARGE indicator is lit)	N/A

TROUBLESHOOTING-WIRELESS MICROPHONE SYSTEMS

PROBLEM	POSSIBLE CAUSE	SOLUTION
No Sound From Speaker	Master or receiver volume turned down	Adjust volumes
	Transmitter or receiver switch is turned off	Turn transmitter or receiver switch on
	Receiver and transmitter have different frequencies	See "Set-up Receiver & Transmitter Frequencies" section
	Transmitter battery is low or no battery inside	Replace or insert new battery
	Headset or lavalier microphone is not plugged into bodypack transmitter	Plug headset or lavalier microphone into bodypack transmitter
Distortion or Unwanted Noise Bursts	Interference	Remove nearby sources of RF interference (computers, amplifiers, karaoke machines, digital effects, CD players, etc)
	Noise Indicator is lit	Adjust "Sensitivity" on receiver
		If problem persists, change Receiver & Transmitter frequencies.
	See "Set-up Receiver & Transmitter Frequencies" section	
Sound Dropouts	Out of operating range	Move transmitter closer to receiver
	Obstructions between the receiver and transmitter	Remove obstructions or reposition
		Line-of-sight between receiver & transmitter
	Weak Transmitter Battery	Replace Transmitter Battery
	Interference	Change Receiver & Transmitter frequencies
See "Set-up Receiver & Transmitter Frequencies" section		

FAQ - PORTABLE PA

Q: Why is my MA-707 not recharging (indicator is not flashing) when plugged into an AC outlet?

A1: Ensure AC Power button is pressed in (next to the MRM-70 receiver module slot). An unpressed button (out) will prevent recharging of the battery.

A2: The rechargeable battery life has ended. Replaced with new, fresh rechargeable battery.

Q: How to adjust for optimal sound volume?

A: If the portable system has both Master & Microphone volumes, we recommend turning the Master volume to about 3pm (clockwise) first and about 1~2pm (clockwise) for Microphone or other volumes.

Q: How to prevent and minimize the annoying feedback?

A1: Do not stand directly in front of the speakers; keep mics away from speakers.

A2: Avoid pointing microphone towards the speakers.

A3: The microphones should be behind the speakers wherever possible.

A4: Locate the portable PA between the crowd and the presenters and facing the crowd.

A5: Turn down the sound level coming out of the portable PA / speakers if necessary.

A6: Place the speakers above the head of the crowd.

Q: What if I need more power to cover a larger crowd?

A: Two or more portables can be used with one wireless microphone transmitter. Ascertain that the receiver frequency in each portable coincides with the wireless microphone.

Q: Can I play music through the systems?

A: Yes. All MIPRO portables have auxiliary inputs (3.5mm min-jack, RCA or 1/4"phone), which will accept input from an external iPod, MP3, CD, cassette, VCR, DVD players. As well, modular CD players can be inserted into most models.

FAQ - RECHARGEABLE BATTERY**Q: How to Charge the Battery?**

A: Simply plug into a power outlet using the included power cable and adapter. "Flashing" LED indicates it is charging. The main power switch can be on or off position during charging. Microphones or music can be used during charging & power is on.

Q: How to Spot System Low Battery?

A: When Power LED is lit (MA-705 & MA-707) or Charge LED is lit (MA-101, MA-101a & MA-101A) or one indicator remaining in battery meter (MA-100, MA-202, MA-303, MA-708, MA-808). Plug into a power outlet to re-charge ASAP.

Q: Average Life Span of Sealed Lead-Acid Rechargeable Battery?

A: The batteries should have a life of approx. 2 years if used and maintained properly. Battery life is determined by temperature, depth and rate of discharge, and the number of charges and discharges (called cycles).

Q: When to Replace the Battery?

A1: Power LED indicator is not "lit" when power on. (No battery voltage).

A2: LED indicator or meter is not "flashing" when plugged-in.

A3: Getting 1~2 hours operating time per charge.

A4: When battery has been used extensively for 2~3 years or more.

RECHARGEABLE BATTERY GUIDE

Tips - To Prolong the Life of Rechargeable Batteries

- Always charge the batteries before first and after use.
- Always store portable system with batteries in a fully charged condition.
- Always power off the portable system and transmitter/mic when NOT in use.
- It is OK to leave the system plugged into a power outlet when not being used for a long time. The built-in automatic protection circuitry will auto shut-off when fully charged. It will not harm the system or the battery.
- Fully charge the system at least once every 3 months. Battery may not charge if not charged for a prolonged periods of time.
- Store in dry, cool place away from heat. Elevated temperature reduces longevity.
- CAUTION: DO NOT recharge other types of batteries and connect a battery's negative terminal to another batteries positive terminal. An explosion and/or a fire could occur as a result.

OPTIONAL MA-707 ACCESSORIES**MA-707EXP: Extension Speaker for MA-707**

Unpowered extension speaker (10-meter speaker cable included)

MB-70: 12V/4.5AH Rechargeable Battery

Gell-cell (Sealed lead-acid) type rechargeable battery (MA-707 requires 2 MB-70 batteries)

MB-80: LiFePo4-LFP Battery Case**MS-70 - Speaker Tripod Stand**

Adjustable stand for MA-707 portable PA system

SC-70 Storage Cover

Storage cover and separate storage for mic cable, transmitters, microphone & battery

MM-107 - Handheld Wired Microphone

MIPRO's Hypercardioid Dynamic Microphone with cable.

CDM-2P CD/USB Player

Plays standard 12cm (5") audio CD & MP3 CD.

CDM-2AP CD Player Module**CDM-3AP CD/USB Player/Recorder Module****ASP-10 Aerobic Sports Pouch**

Sweat-resistant transmitter pouch belts for MIPRO bodypack transmitters.

MIPRO WIRELESS MICROPHONE SYSTEMS**MRM-70/MRM-70B UHF 16-Channel Diversity Receiver Module**

Automatic receiver frequency scan & ACT functions

ACT-30H/ACT-32H - Handheld Transmitter Microphone (AA x 2: not included)**ACT-50H/ACT-52H - Handheld Transmitter Microphone (AA x 2: not included)****ACT-30T/ACT-32T - Body Pack Transmitter (AA x 2: not included)****ACT-50T/ACT-52T - Body Pack Transmitter (AA x 2: not included)**

(Headworn microphone is optional and not included - see below)

MU-53HN (black) ; MU-53HNS (beige) Premium Headworn Microphone

Uni-directional, Premium 10mm, Ideal for speech and vocal. Works with all MIPRO bodypack transmitters

MU-55HN (black) ; MU-55HNS (beige) Subminiature Headworn Microphone

Omni-directional, 4.5mm, Sweat-proof, Ideal for speech. Works with all MIPRO bodypack transmitters

MU-13/MU-13d (beige) Premium Single-sided Earworn Microphone

Omni-directional, ultra small & lightweight 3mm, Ideal for speech. Works with all MIPRO bodypack transmitters

MU-23/MU-23d (beige) Premium Dual-sided Headworm Microphone

3 mm Ø omni-directional condenser microphone. Works with all MIPRO bodypack transmitters

MU-210/MU-210d (beige) Premium Dual-sided Headworm Microphone

10 mm Ø uni-directional condenser microphone. Works with all MIPRO bodypack transmitters

(Lavalier microphone is optional and not included - see below)

MU-53L (black) ; MU-53LS (beige) Premium Lavalier Microphone

Uni-directional, 10mm, Works with all MIPRO bodypack transmitters

MU-55L (black) ; MU-55LS (beige) Subminiature Lavalier Microphone

Omni-directional, 4.5mm, Low visibility, Works with all MIPRO bodypack transmitters