MIPRO®

MR-811 / MR-811T
MR-812 / MR-812T
Single/Dual/Quad Channels Diversity Receivers

User Guide

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! 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 main disconnected device.

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.

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

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.

Disposal 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!

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Single/Dual/Quad Channels Diversity Receivers

Product Overview

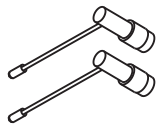
For over a decade the MIPRO MR Series systems have been popular in the semi-professional and karaoke markets. It started with VHF models and then the less interference, quartz fixed-frequency UHF models quickly replaced the VHF models. MR-series is mass-produced for a period of time. Reliable quality, stable characteristics, easy to use and affordable price make it ideal choice for entry applications.

MR 8-Series combines the best features of traditional models. It utilizes EIA standard rack-mountable metal case instead of cheap plastic ones. Innovative modularized design assembling the PCB, the new clear bright LED control panel and rear panel together without wiring and adjustment procedures can make several combinations of models to meet the user's preferences.

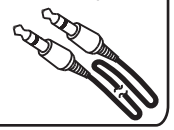
This series has advanced RF circuitry and proprietary RF filter to improve anti-interference characteristics and increase more interference-free channels. Advanced diversity receiving circuit enhances reception distance and eliminates signal drop-out and interference.

Receiver Accessories Included

Detachable 1/2 Wave Antenna ×2



Audio Output Cable:
1-pc for MR-811/MR-812
2-pcs for MR-811T/ MR-812T

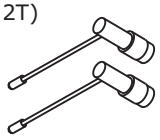


AC/DC Adapter ×1

User Guide ×1

Receiver Accessories not Included

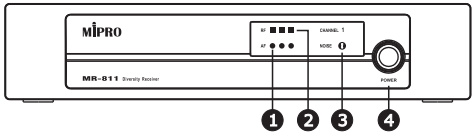
Detachable 1/2 Wave Antenna ×4 (MR-811T/ MR-812T)



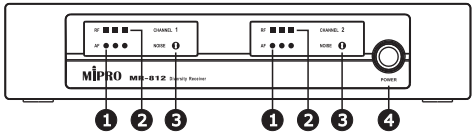
Receiver Controls and Indicators

Front Panel

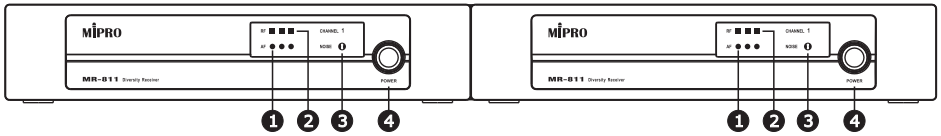
MR-811 Single Channel



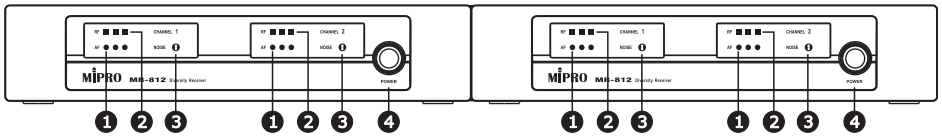
MR-812 Dual Channel



MR-811T Dual Channel (Detachable 1/2 Wave Antenna ×4)



MR-812T Quad Channel (Detachable 1/2 Wave Antenna ×4)



❶ **Audio Level Indicators:** Indicates transmitted audio signal strength from the transmitters.

❷ **RF Level Indicators:** Indicates received RF (Radio Frequency) signal strength.

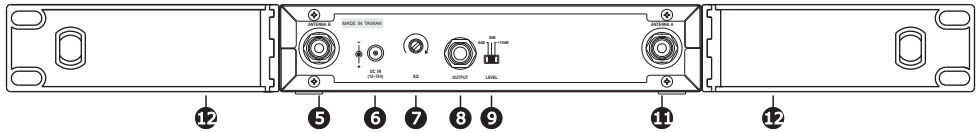
❸ **Noise Warning Indicator:** Red light glows denoting the presence of interference.

❹ **Power On/Off Button:** Press and hold button to turn the receiver on and off.

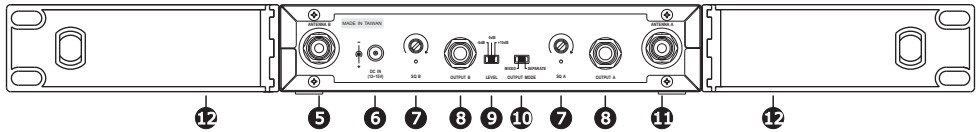
Receiver Controls and Indicators

Rear Panel

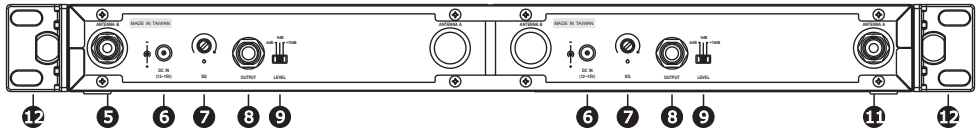
MR-811 Single Channel



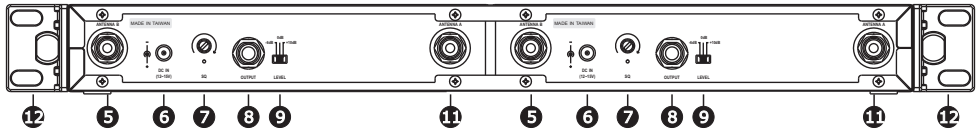
MR-812 Dual Channel



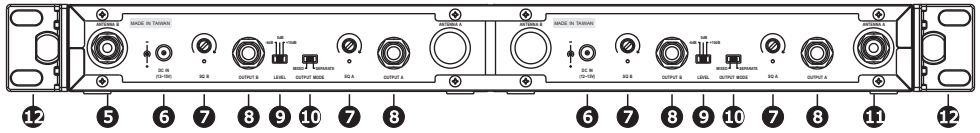
MR-811T Dual Channel (Detachable 1/2 Wave Antenna ×2)



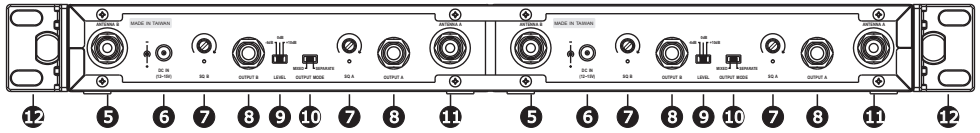
MR-811T Dual Channel (Detachable 1/2 Wave Antenna ×4)



MR-812T Quad Channel (Detachable 1/2 Wave Antenna ×2)



MR-812T Quad Channel (Detachable 1/2 Wave Antenna ×4)



❺ **Antenna B Input Connector:** To install TNC-type Antenna.

❻ **DC Input Jack:** Accepts +12V DC to +15V DC (center pin is positive and sleeve is ground).

❼ **Squelch Control:** This control affects the operating range and signal quality. It is factory pre-set at "+" position and no further adjustment is normally required.
"+": (Default) High sensitivity and longest operating range.
Adjust counterclockwise (left direction) accordingly to minimize interferences. However, such action decreases operating range.

❽ **Unbalanced Audio Output Jack:** 6.3mm (1/4") phone-jack type connector provides unbalanced audio output signal from this jack to the mixer.
Selectable: "-6dB"、"0dB" or "+10dB".

❾ **Unbalanced Level Switch:**
0dB - selection is for microphone-level output.
+10dB - selection is for auxiliary level output.
-6dB - selection is for half of cable microphone volume.

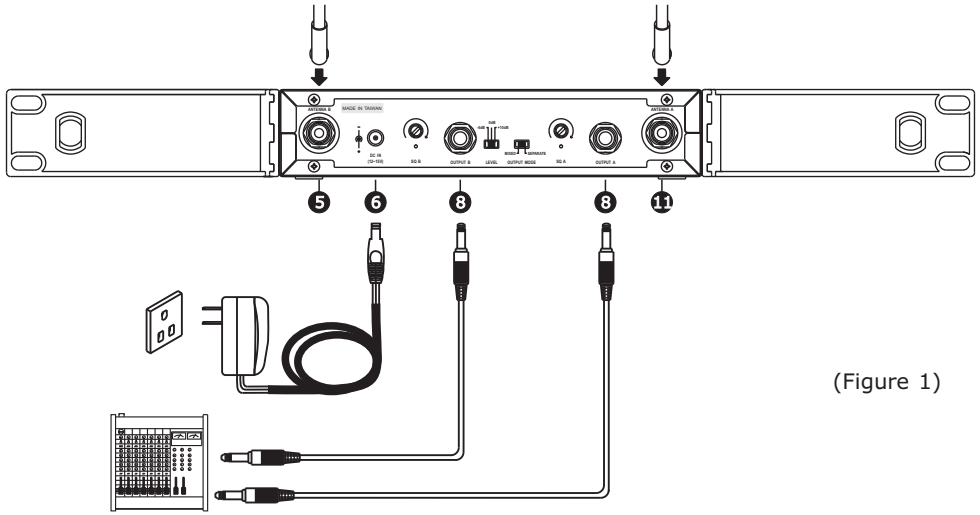
❿ **Unbalanced Mixed Switch:**
MIXED - Audio signal from both Channel A & B will be mixed into Output B and no audio output from Output A.
SEPARATE - Audio signal will be transmitted separately from Output A and Output B.

⓫ **Antenna A Input Connector:** To install TNC-type Antenna.

⓬ **Rack-Mount Brackets (optional):** Fits into a standard EIA 19-inch rack case. Optional MIPRO FBC-71 rear-to-front cables can be installed for front antenna placement to improve reception quality.

Single/Dual/Quad Channels Diversity Receivers

Receiver Installation



(Figure 1)

Antenna Installation:

- Install 2 separate antennas on the antenna sockets ❺ ⓫ on the rear panel. Illustrated in Figure 1.

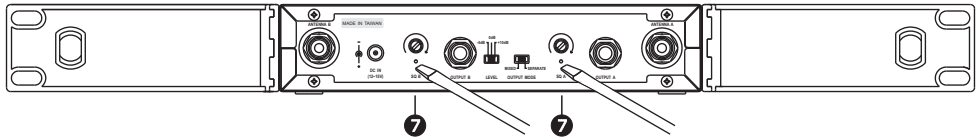
Connecting the power supply:

- Plug DC plug into the DC-input jack ❻ and the power cord, into a power outlet. MR-811T / MR-812T receiver has two DC input jacks. Either is acceptable for connecting.

Audio output connection:

- **Unbalanced Audio Outputs:**
  - **SEPARATE:** From output jack B and A.
  - **MIXED:** From output jack B only.
- **Electric Guitar/Bass Output:**
  Switch the Unbalanced Level Switch ❾ to "+10dB" position.
- **Unbalanced Level Switch ❾ :**
  - **0dB:** Microphone input of a mixer or amplifier.
  - **+10dB:** Electronic guitar/bass.
  - **-6dB:** If audio is distorted due to high vocal or instrument levels.

Operation Instructions



(Figure 2)

1. Turn volume controls of the receiver and mixer in use to a minimum setting before turn on the microphones or transmitters. After switches on the receiver, the power switch red indicator illuminates to denote normal power status.
2. If RF LED indicators ❷ of the receiver light on before switches on the microphone or transmitter, it indicates the receiver is receiving interference signals. This system has Pitlotone and NoiseLock dual-squelch features and no noise output will occur. If multiple channels are used and both RF and AF LEDs glow and interference noise appear, simply adjust the Squelch controls ❼ clockwise until AF signal indicators to extinguish. (Figure 2). However, by adjusting the squelch controls, it affects the sensitivity level of the receiver, therefore, shorten the operating distance and decreases the stability.
3. Under normal circumstances, the RF indicator lights up when a microphone or transmitter is turned on near the receiver to indicate the receiver is ready for normal operation. Once sounds to the microphone and the AF LED indicators ❶ will glow according to the strength of sound level. If no LED glows or no sound outputs, the system is not function properly, thus it must be checked.
4. The microphone output level needs to be adjusted at the amplifier or mixer. No need to adjust at the receiver itself.

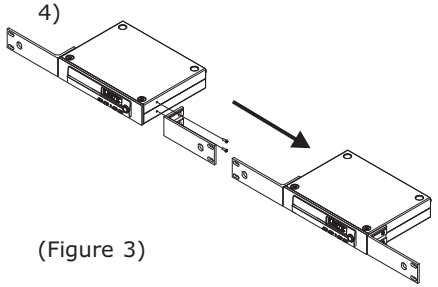
Rackmount Installation for Receivers

Half-Rack Unit Receiver

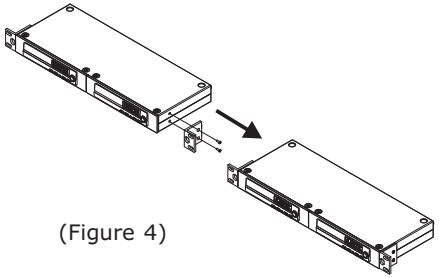
- Install the optional FB-71 rackmount kit & fasten with screws on both sides. (Figure 3)

1-Rack Unit Receiver

- Install the optional FB-72 rackmount kit & fasten with screws on both sides. (Figure 4)

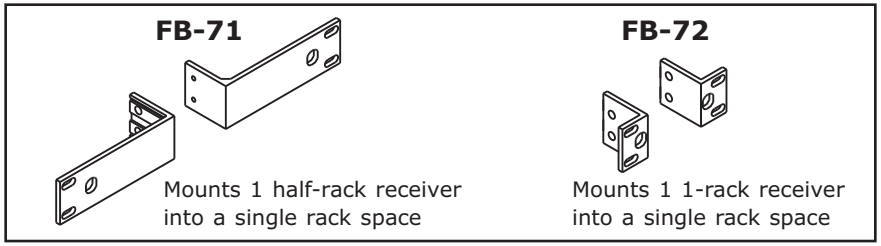


(Figure 3)

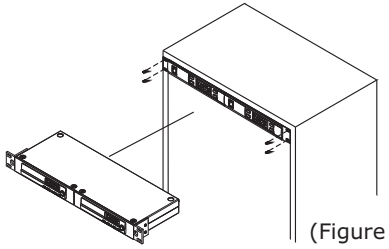


(Figure 4)

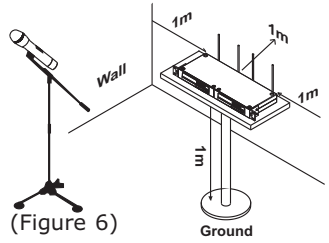
Receiver Rack-Mount Kits



- The rack mountable kits are pre-drilled with 4 opening holes to be fitted on an EIA standard 19-inch rack case. (Figure 5)
- For ideal reception and performance, install the receiver at least 1 meter (3 feet) above the ground and away from EMI / RFI "noise" sources. In addition, place the transmitter/microphone at least 1 meter (3 feet) away from the receiving antenna, as shown. (Figure 6)



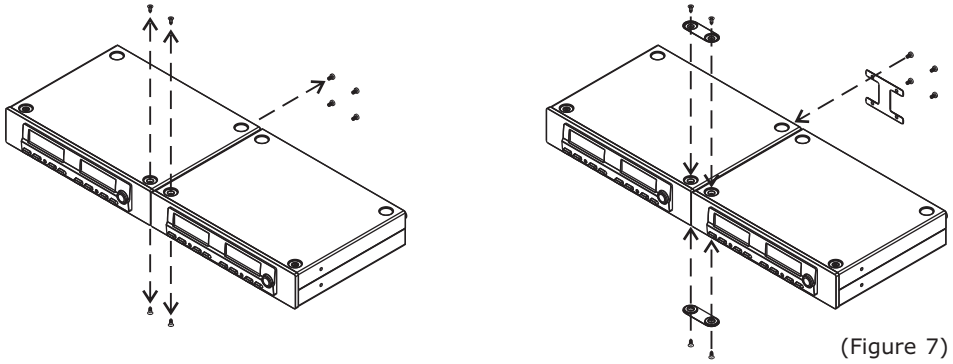
(Figure 5)



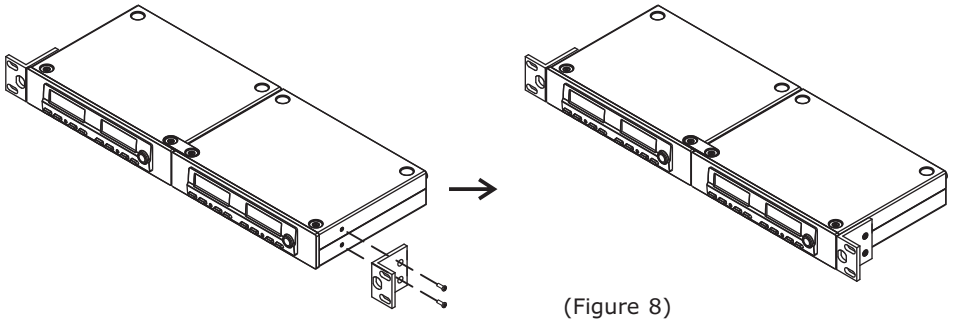
(Figure 6)

Installation for dual half-rack receivers into a 1-rack unit for rackmount purpose

- Unfasten screws for each receiver. Push the receivers next to each other.
- Place holding plates on top and bottom of the two receivers first, and following the directions, slide both plates into position over the screw holes. Then tighten screws. Place another holding plate on the rear panel and repeat same procedures. (screws should be used in their original location; i.e., top screws for top holding plate and bottom screws for bottom holding plate).
- After both receivers are fixed together, fasten the optional rack mount kit on both sides of the joined receivers as shown in Figure 7.
- Align and install the optional rack mount kit and fasten with screws on both sides. (Figure 8)



(Figure 7)



(Figure 8)

Wireless Accessories & Replacement Parts

FB-71: Rackmount kit fits 1 MR-811 or MR-812 receiver alone.

FB-72: Rackmount kit fits 1 MR-811T or MR-812T receiver alone.

FBC-71: Rear-to-front cables only(1-pair). It allows front mount antenna placement for improved reception quality.

AT-20: Detachable 1/2 Wave Coaxial Antenna.

AD-707a: UHF 4-channel Wideband Antenna Divider System (480MHz ~ 1GHz).

AD-90W: UHF Wideband Directional Antenna (480MHz ~ 1GHz).

AT-70: UHF Ground Plane Antenna (1-pc, 2-pcs recommended)

AT-70B: UHF Antenna Signal Booster (1-pc, 2-pcs recommended)

AD-90S: UHF 4-Channel Wideband Power Splitter.

AT-90A: UHF 4-Channel Wideband Power Amplifier.

AD-808: UHF 4-Channel Active Antenna Combiner.

General Tips for Improving System Performance

1. Strive for unobstructed, line-of-sight arrangement between transmitter and receiver antennas for best operating range. Solid metal objects, electronic equipment & digital devices in between will usually greatly reduce range.
2. Minimize the distance as much as possible between the transmitter and receiver antennas for improved reception and system performance.
3. Use supplied antennas and cables to preserve receive sensitivity and minimize signal loss.
4. Fresh, high-quality alkaline batteries is highly recommended to ensure reliable transmitter operation as weak or worn-out batteries are common cause of wireless problems, including failure, poor range, distorted audio and interference.
5. External electrical current should exceed 500mA for MR-811 receiver and 1A for MR-811T, MR-812 or MR-812T receiver.
6. External DC power supply should not fall under 12V, otherwise it would not work properly. If it is over 15V, some components of the receiver will be damaged.
7. If extended reception distance is needed, installing a MIPRO AT-90W wideband dual directional antenna, which includes internal boosters will increase the reception distance.
8. Proper antenna distribution is vital to achieving ideal performance from multiple wireless systems operating in the same venue. To greatly reduce antenna clutter in multi-system installations, a MIPRO AD-707a, UHF antenna divider system is recommended. Each AD-707a supports up to four UHF diversity receivers to operate from a single pair of antennas. When combined with an AT-70A omni-directional extension antenna and an AT-70B antenna booster or an AT-90W wide-band directional antenna, the AD-707a antenna divider provides optimal signal reception with minimal dropouts or interference.
9. See "Troubleshooting" section for wireless symptoms and possible solutions.

Notes

- Refer to actual product in the event of product discrepancy.
- Frequency range and maximum deviation comply with the regulations of different countries.

Single/Dual/Quad Channels Diversity Receivers

Troubleshooting

Symptom	Solutions
No Sound	• Power-on receiver & transmitter. • Receiver is plugged into a power outlet and cable connected to mixer/amplifier. • Fresh batteries in transmitter and inserted with correct polarity. • Match receiver & transmitter frequency.
Signal Drop-outs	• Close proximity between the transmitter and receiver antenna. • Line-of-sight path between the transmitter and receiver antenna. • Reposition the receiver and/or receiver antennas. • Receiver antennas are connected. • Elevate receiver antennas as high as possible. • Keep hands off of the transmitter antenna.
Limited Range	• Close proximity between the transmitter and receiver antenna. • Adjust antenna orientation. • Reposition the receiver and/or receiver antennas. • Receiver antennas are connected. • Undamaged antennas. • Fresh batteries in transmitter. • Adjust for proper squelch level setting.
No RF Signal	• Match receiver & transmitter frequency. • Adjust for proper squelch level setting.
Distortion	• Reduce transmitter gain, if set too high. • Recommendation: set to 0dB (Mic Level). • Reduce receiver output setting. • Proper setting on mixer input gain or integrated amplifier mic level control. • Fresh batteries in transmitter.

Symptom	Solutions
RF Interference	• Press AutoScan button to locate a clear, interference-free channel. • Use preset compatible channels in the same group when operating multiple systems. • Place receivers away or remove the sources of RF interference like solid metal objects, electronic equipment & digital devices, dimmers, effect equipment, motors. • Avoid operating a frequency on a local TV channel. • A higher squelch setting improves protection against interference. (however, resulting in limited range) • Turn off one transmitter, if both transmitters are operating on the same frequency. • Fresh batteries in transmitter.
Feedback	• Turn down the sound system volume. • Move microphone closer to the performer's mouth. • Reduce transmitter gain if set too high. • Position microphone further away from the speakers. Do not point towards speakers. • Use right type of microphone for the specific applications. Uni/Omni, Supercardioid / Cardioid. • Power off all unused microphones.

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