

MIPRO[®]

MT-90A Wireless Transmitter

MT-90 Wireless Transmitter Module

User Guide

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Design and specifications are subject to change without prior notice

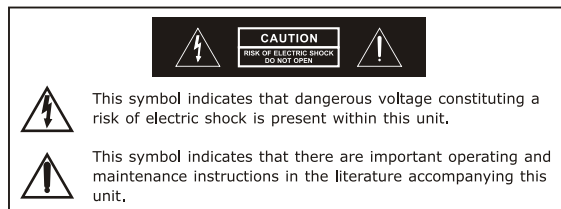


! IMPORTANT SAFETY INSTRUCTIONS !

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.



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



2008-08-13

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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FCC

THIS DEVICE COMPLIES WITH PART 74 OF THE FCC RULES.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

IC

This device complies with Industry Canada licence-exempt RSS-123 Issue 2 standard.

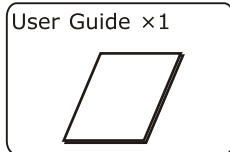
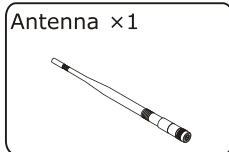
Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Key Features & Benefits

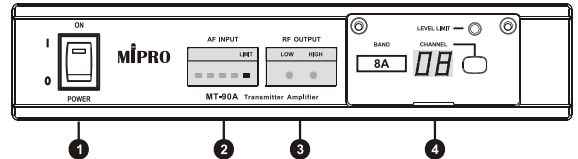
1. Modularized design for easy set-up, operation and maintenance.
2. Preset with 16 selectable channels
3. Bright LED channel display
4. Direct output for low level or switch to wideband amplifier for high level output.
5. Selectable input audio signal level for optimal modulation index.
6. Audio input and RF output LED indicators.

System Accessories Included:



Controls and Indicators

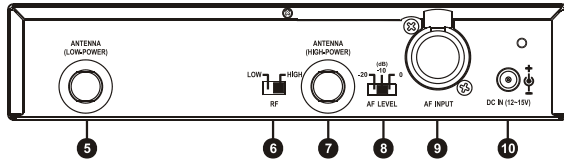
Front Panel:



- 1 **Power Switch & Indicator:** Red indicator is illuminated after power is turned on.
- 2 **AF Signal Indicators:** Indicate the input audio signal level.
- 3 **RF Signal Indicators:** Indicate the output RF signal level.
- 4 **Transmitter Module (MT-90):** Plug-in module preset with 16 selectable channels.

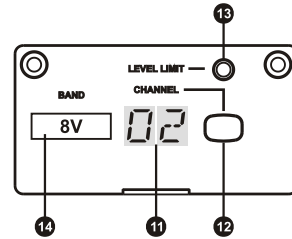
Controls and Indicators

Rear Panel:



- 5 **Low Power RF Output Connector:** Connect directly to a transmitting antenna or extend to external antenna by RF cable.
- 6 **RF Output Switch:** High or Low RF level switch.
- 7 **High Power RF Output Connector:** Connect directly to a transmitting antenna or extend to external antenna by RF cable.
- 8 **AF Level Switch:** 0 dB, -10 dB, -20 dB audio output for optimal modulation index.
- 9 **Combo Jack Connector:** Balanced (XLR) or unbalanced (1/4-inch) audio input signals.
- 10 **DC Voltage Input Connector:** 12~15V DC voltage, the center pole of the DC connector is positive voltage.

Controls and Indicators



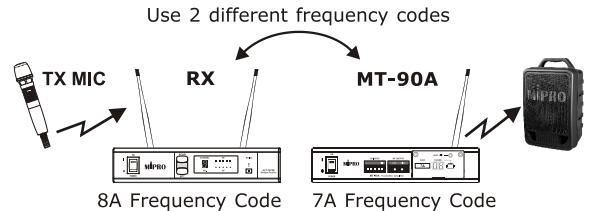
- 11 **LED screen:** Displays current numeric channel.
- 12 **Channel button.**
- 13 **Volume Limiter Indicator.**
- 14 **Frequency Code Sticker:** The code identifies the contained frequency range.

Transmitter Frequency Set-Up

- Press and hold Channel button **12** for 2 seconds until numeric LED blinks continuously to denote it is ready for changing channel.
- During blinking, press and release the Channel button until one of the 16 preset channels is selected.
- If Channel button is not pressed within 6 seconds during blinking the current numeric channel remains the same.
- Volume Limit Indicator **13** will not be illuminated under normal input signals.
- Volume Limiter Indicator **13** will be illuminated if over normal input signals. Reduce volume to desired level.

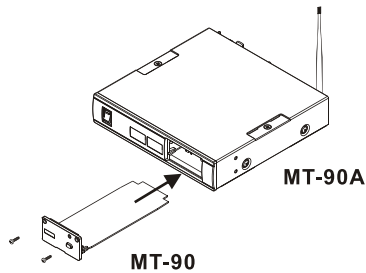
Operating Tips

- The transmitter functions when the module and antenna are inserted properly and powered on. Ascertain the frequency code sticker is the same between the transmitter and receiver.
- Select another module with a different frequency code if the existing operating frequency experiences continuous interference.
- MT-90 module is available in frequency codes between 620~934MHz and compatible with MIPRO wireless receivers or portable PA amplifiers with the same frequency codes.



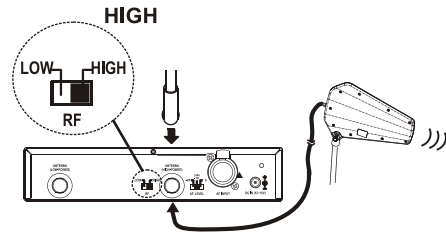
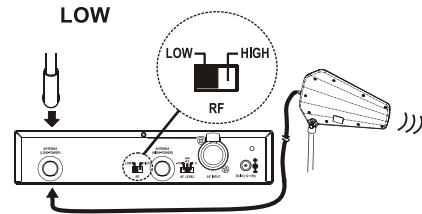
Insert and Remove the Module

- Remove the front cover plate.
- Insert MT-90 module gently into slot horizontally.
- Fasten the panel with the attached two screws.
- To remove, reverse the above steps.



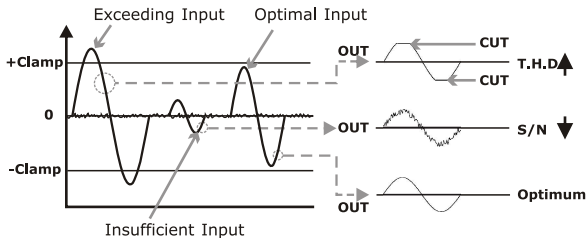
Proper RF Output Level and Output Connector Settings

- High or Low RF level switch is located at the rear panel. Front panel will display current High or Low RF output power setting.
- RF power will output from LOW-POWER ⑤ TNC connector when "LOW" setting is selected. RF power will output from HIGH-POWER ⑦ TNC connector when "HIGH" setting is selected.
- Therefore, it is important to observe the correct antenna connection or extension RF cable with the RF Output Switch selection.



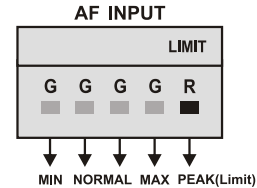
Proper AF (audio) Input and Connection

- Combo jack connector accepts balanced (XLR) or 1/4-inch/6.3mm unbalanced cable.
- Proper input volume adjustment is needed after AF signal is connected.
- Three selectable AF levels can be selected from AF Level Switch ⑧ for optimal audio sensitivity. Exceeding input volume will result in distortion for receiver AF output, and insufficient input volume will degrade the S/N ratio that increases higher background noise. Therefore, proper setting ensures optimal output audio quality.

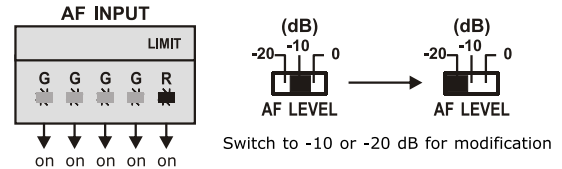


Optimal AF Input Volume Setting

- The AF Signal Indicators ② indicates the input audio signal level.
- Normal volume: 2~3 LEDs are illuminated.
- High volume: 4 LEDs are illuminated.
- Peak volume: Red Limit indicator will be illuminated to denote warning.



- When 4~5 LEDs are illuminated constantly it denotes exceeding input volume and input attenuation is required. Switch the input volume switch ⑧ to -10dB or -20dB for modification.



- When 1~2 LEDs are illuminated constantly it denotes insufficient input volume and less input attenuation is required. Switch the input volume switch ⑧ to -10dB or 0dB for modification.

