

UHF

PLL WIRELESS SYSTEMS



Thank you for choosing the JTS wireless system. In order to obtain the best efficiency from the system, you are recommended to take few minutes to read this instruction manual carefully.

LICENSING REQUIREMENTS

This equipment complies with Part 74 of the FCC Rules.

A license is required for operation subjective device will be issued only to the following:

- (1) A licensed of an AM, FM, TV or international broadcast station or low power TV station. Low power auxiliary stations will be licensed for used with a specific broadcast or low power TV station or combination of stations licensed to the same licensee within the same community.**
- (2) A broadcast network entity.**
- (3) A cable television system operator who operates a cable system that produces program material for origination or access cablecasting as defined in §76.5(r).**
- (4) Motion picture producers as defined in §74.801.**
- (5) Television program producers as defined in §74.801.**
- (6) Licensees an conditional licensees of stations in the Multipoint Distribution service and Multichannel Multipoint Distribution Service as defined in §21.2 of this chapter, or entities that hold an executed lease agreement with an MDS or MMDS licensee or conditional licensee or with an Instructional Television Fixed service licensee or permitted.**

CAUTION:

Any changes of modifications not expressly approved by the grantee of this device could void the users authority to operate the equipment.

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1. Important Cautions

1. Always make all connections before plugging the unit into an AC power outlet.
2. Do not leave the devices in a place neither with high temperature nor high humid.
3. Always do not handle the power cord with wet hands!
4. Keep the devices away from fire, and heat sources.

2. Features:

- * Operated in UHF band where there is less RF interference than the UHF band.
- * Equipped with a SAW filter can benefit to reducing spurious RF content.
- * Pre-set 16 UHF selectable-channels.
- * Including balanced XLR output and unbalanced 1/4" output.
- * Integrated antenna of the handheld transmitter benefits less hindrance for performer.
- * Built-in noise mute and squelch circuit mode can validly resist extraneous noise.
- * Body-pack transmitter is available to work together with a lavalier mic. or headset mic.
- * Space-saving half-rack housing design.

3. Specification

3-1 Overall system

RF Frequency Range	692~806MHz
Oscillation Type	PLL Synthesized Control OSC
Channels	16 Channels
Audio Frequency Response	50 ~ 18KHz \pm 3dB
Bandwidth	24MHz
Operation Range	100 M

3-2 Receiver

Model No.	US-8001D	US-8002D	US-8001	US-8002
Receiving Mode	Diversity	Diversity	Non-Diversity	Non-Diversity
Frequency Stability	±0.005%	±0.005%	±0.005%	±0.005%
S/N Ratio	> 100dB	> 100dB	> 100dB	> 100dB
RF Sensitivity	-107dBm (12dB S/N AD)	-107dBm (12dB S/N AD)	-107dBm (12dB S/N AD)	-107dBm (12dB S/N AD)
Image Rejection	> 60dB	> 60dB	> 60dB	> 60dB
T.H.D.(1 KHz)	< 0.6%@ 1 KHz	< 0.6%@ 1 KHz	< 0.6%@ 1 KHz	< 0.6%@ 1 KHz
Display	LED	LED	LED	LED
Display Contents	RF/AF Status, Channel, Antenna A/B.	RF/AF Status, Channel, Antenna A/B.	RF/AF Status, Channel, Antenna	RF/AF Status, Channel, Antenna A/B.
Controls	Power On/Off, Volume Control, Channel selector	Power On/Off, Volume Control, Channel selector	Power On/Off, Volume Control, Channel selector	Power On/Off, Volume Control, Channel selector
Audio Output Level	-12dB	-12dB	-12dB	-12dB
AF Output Impedance	600Ω Unbalance	600Ω Unbalance	600Ω Unbalance	600Ω Unbalance
Squelch	Pilot Tone & Noise Mute	Pilot Tone & Noise Mute	Pilot Tone & Noise Mute	Pilot Tone & Noise Mute
Operation Voltage	12-18VDC,500mA	12-18VDC,500mA	12-18VDC,500mA	12-18VDC,500mA
Output Connector	1 Balanced XLR socket 1 Φ 6.3mm Phone Jack	2 Balanced XLR socket 1 Φ 6.3mm Phone Jack	1 Balanced XLR socket 1 Φ 6.3mm Phone Jack	2 Balanced XLR socket 1 Φ 6.3mm Phone Jack
Dimension(m/m)	221mm(W)*40mm(H) *152mm(D)	221mm(W)* 40mm(H) *152mm(D)	221mm(W)*40mm(H) *152mm(D)	221mm(W)* 40mm(H) *152mm(D)

3-3. Transmitter

Model No.	Mh-850	Mh-750	PT-850B
Type	Handheld	Handheld	Boby-pack
Ball grille shape	Square	Round	×
Spurious Rejection	< -60dBc	< -60dBc	< -60dBc
Stability	±0.005%	±0.005%	±0.005%
Frequency Deviation	± 48KHz	± 48KHz	± 48KHz
S/N Ratio	> 100dB (1KHz-A)	> 100dB (1KHz-A)	> 100dB (1KHz-A)
Current Consumption	100mA	100mA	100mA
LED Indicates	Power On/Off, Low batt.	Power On/Off, Low batt.	Power On/Off, Low batt.
Battery	UM3,AA 1.5V * 2	UM3,AA 1.5V * 2	UM3,AA 1.5V * 2

3-4. Optional Condenser Microphone

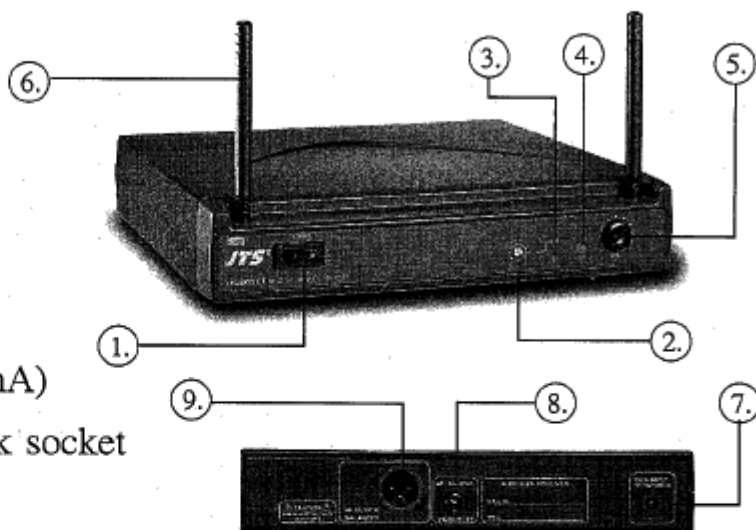
Model No.	CM-501	CX-504
Type	Lavalier	Headset
Frequency Range	100 Hz ~ 12,000 Hz.	50 Hz ~ 18,000 Hz.
Polar Pattern	Cardioid	Cardioid
Sensitivity (at 1 kHz)	-70dB ± 3dB	-70dB ± 3dB
Impedance	2.2kΩ ± 30%	680 Ω ± 30%
Max. SPL for 1% THD	130 dB	130 dB
Connector type	Mini XLR.	Mini XLR.
Standard Accessories	Windscreen	Windscreen

4. Parts Identification & Accessories

4-1 Receiver

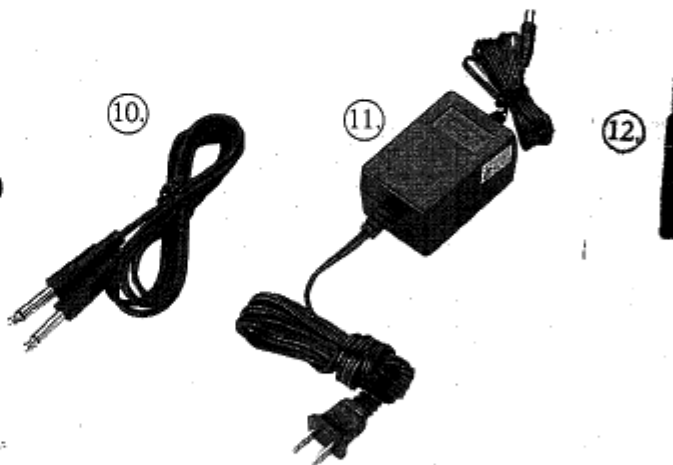
US-8001D UHF Single Channel PLL Diversity Receiver

- ①. Power On/Off
- ②. Channel Selector
- ③. RF indicator
- ④. AF indicator
- ⑤. Volume control
- ⑥. Antenna
- ⑦. DCV Input (12-18V/500mA)
- ⑧. Unbalanced Φ 6.3mm jack socket
- ⑨. Balanced XLR socket



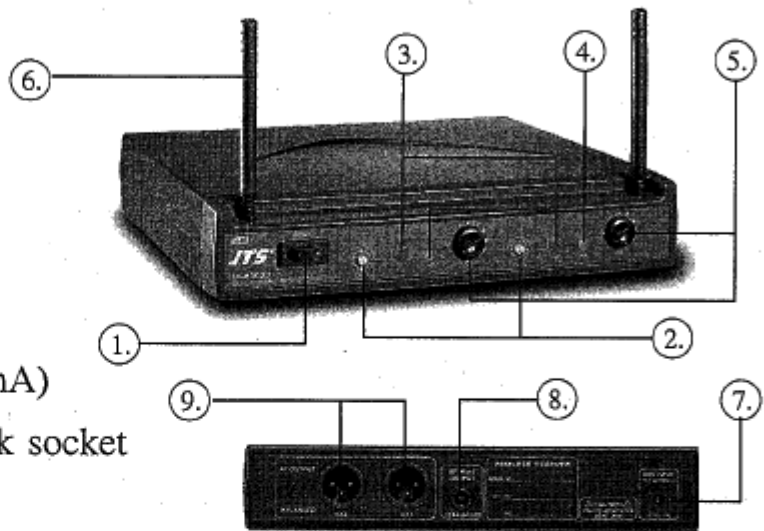
Accessories

- ⑩. AF output cable
(With unbalanced Φ 6.3 plug)
- ⑪. AC/DC adaptor
- ⑫. Plastic screwdriver



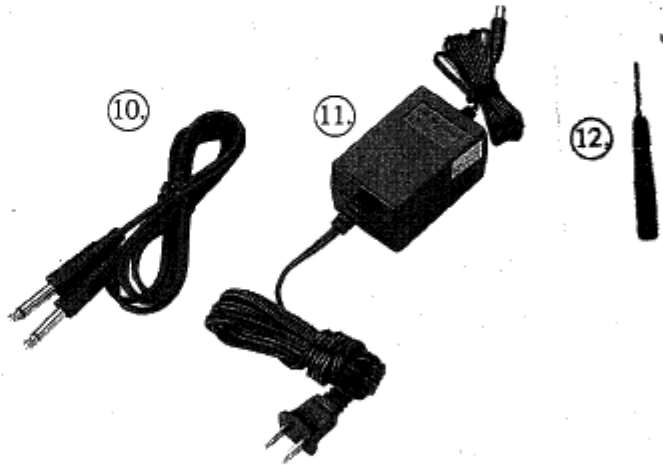
US-8002D UHF Dual Channel PLL Diversity Receiver

- ①. Power On/Off
- ②. Channel Selector
- ③. RF indicator
- ④. AF indicator
- ⑤. Volume control
- ⑥. Antenna
- ⑦. DCV Input (12-18V/500mA)
- ⑧. Unbalanced Φ 6.3mm jack socket
- ⑨. Balanced XLR socket



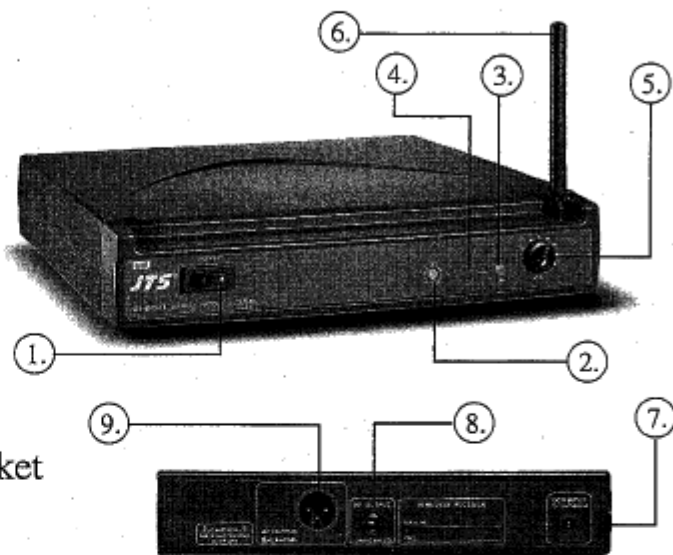
Accessories

- ⑩. AF output cable
(With unbalanced Φ 6.3 plug)
- ⑪. AC/DC adaptor
- ⑫. Plastic screwdriver



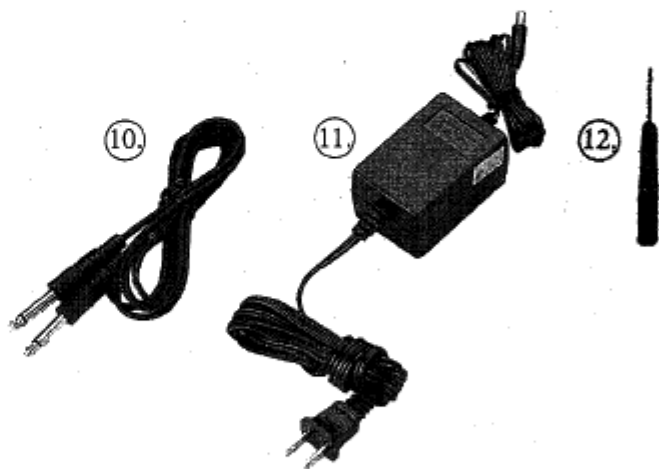
US-8001 UHF Single Channel PLL Receiver

- ① Power On/Off
- ② Channel Selector
- ③ AF indicator
- ④ RF indicator
- ⑤ Volume control
- ⑥ Antenna
- ⑦ DCV Input (12-18V/500mA)
- ⑧ Unbalanced Φ 6.3mm jack socket
- ⑨ Balanced XLR socket



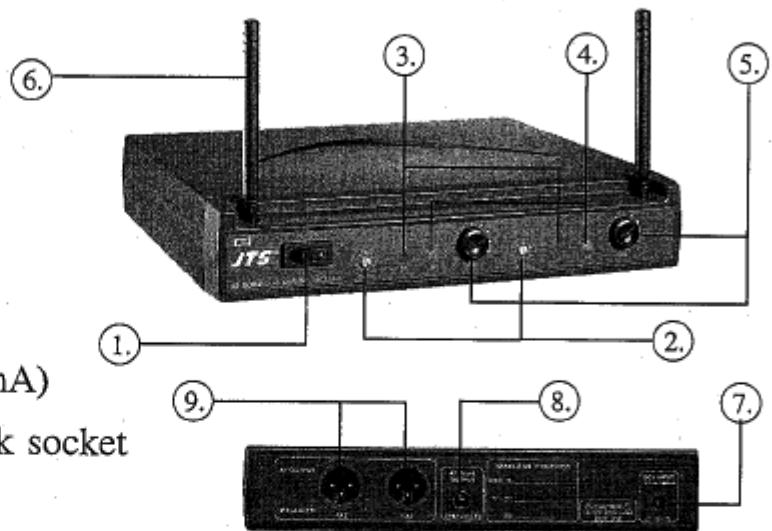
Accessories

- ⑩ AF output cable
(With unbalanced Φ 6.3 plug)
- ⑪ AC/DC adaptor
- ⑫ Plastic screwdriver



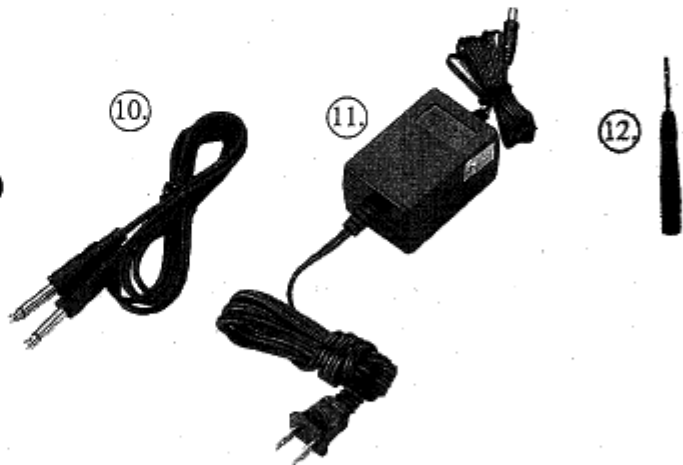
US-8002 UHF Dual Channel PLL Receiver

- ① Power On/Off
- ② Channel Selector
- ③ RF indicator
- ④ AF indicator
- ⑤ Volume control
- ⑥ Antenna
- ⑦ DCV Input (12-18V/500mA)
- ⑧ Unbalanced Φ 6.3mm jack socket
- ⑨ Balanced XLR socket



Accessories

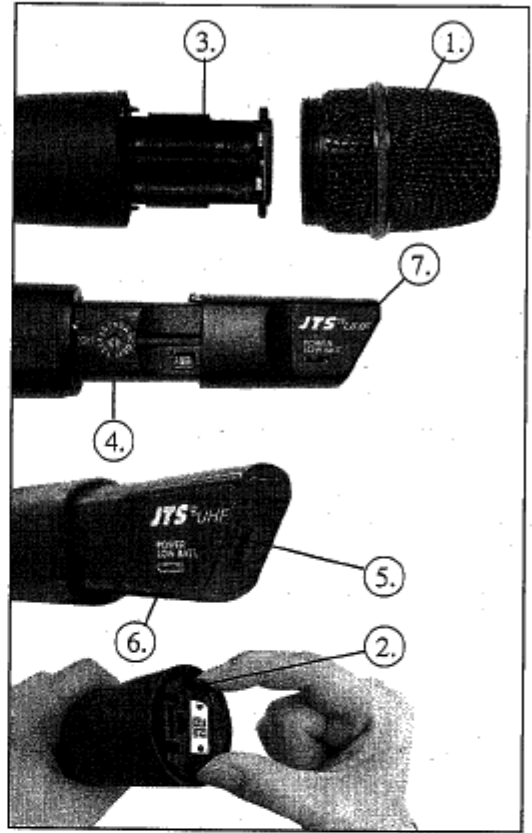
- ⑩ AF output cable (With unbalanced Φ 6.3 plug)
- ⑪ AC/DC adaptor
- ⑫ Plastic screwdriver



4-2 Handheld Transmitter

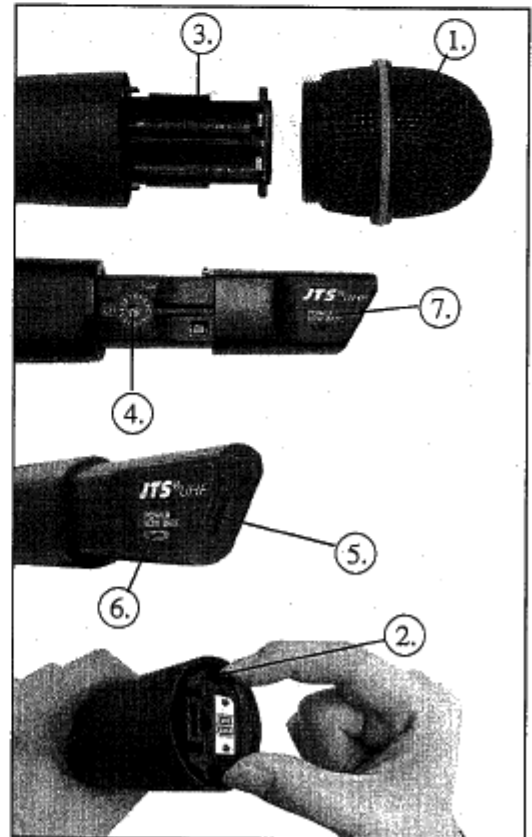
Mh-850

- ① Interchangeable element(Square grille)
- ② Battery tray release
- ③ Battery tray
- ④ Channel selector
- ⑤ Power On/Off switch
- ⑥ LED Indicator
- ⑦ ID housing



Mh-750

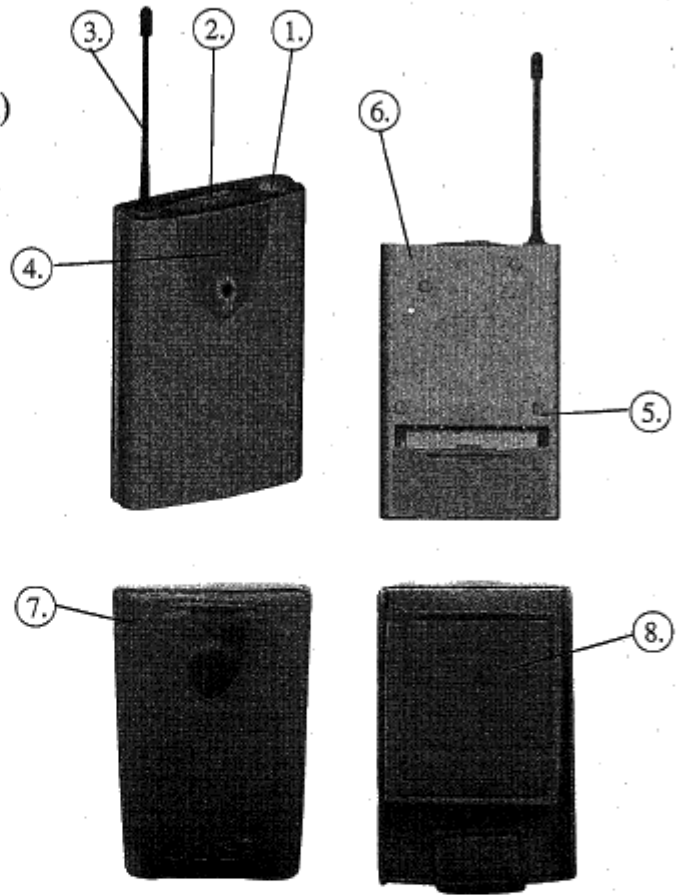
- ① Interchangeable element(Round grille)
- ② Battery tray release
- ③ Battery tray
- ④ Channel selector
- ⑤ Power On/Off switch
- ⑥ LED Indicator
- ⑦ ID housing



4-3 Body-pack Transmitter

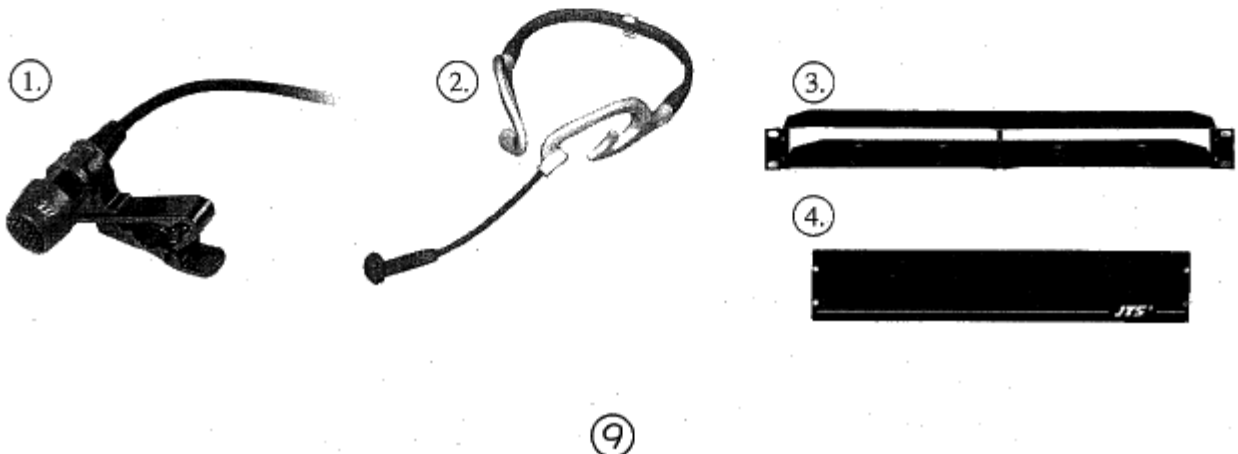
PT-850B

- ① Mic. input (Mini XLR socket)
- ② Power On/Off switch
- ③ Antenna
- ④ LED indicator for power and battery status
- ⑤ Battery tray
- ⑥ AF level control
- ⑦ Carry case
- ⑧ Belt-loop



4-4 Optional accessory

- ① CM-501 Condenser Lavalier Microphone
- ② CX-504 Condenser Headset Microphone
- ③ DR-900 Dual Rack Adaptor
- ④ RP-900 Panel Cover



5. Installation Assignment

5-1. Installation of the receiver

(1.) Power Output Connector

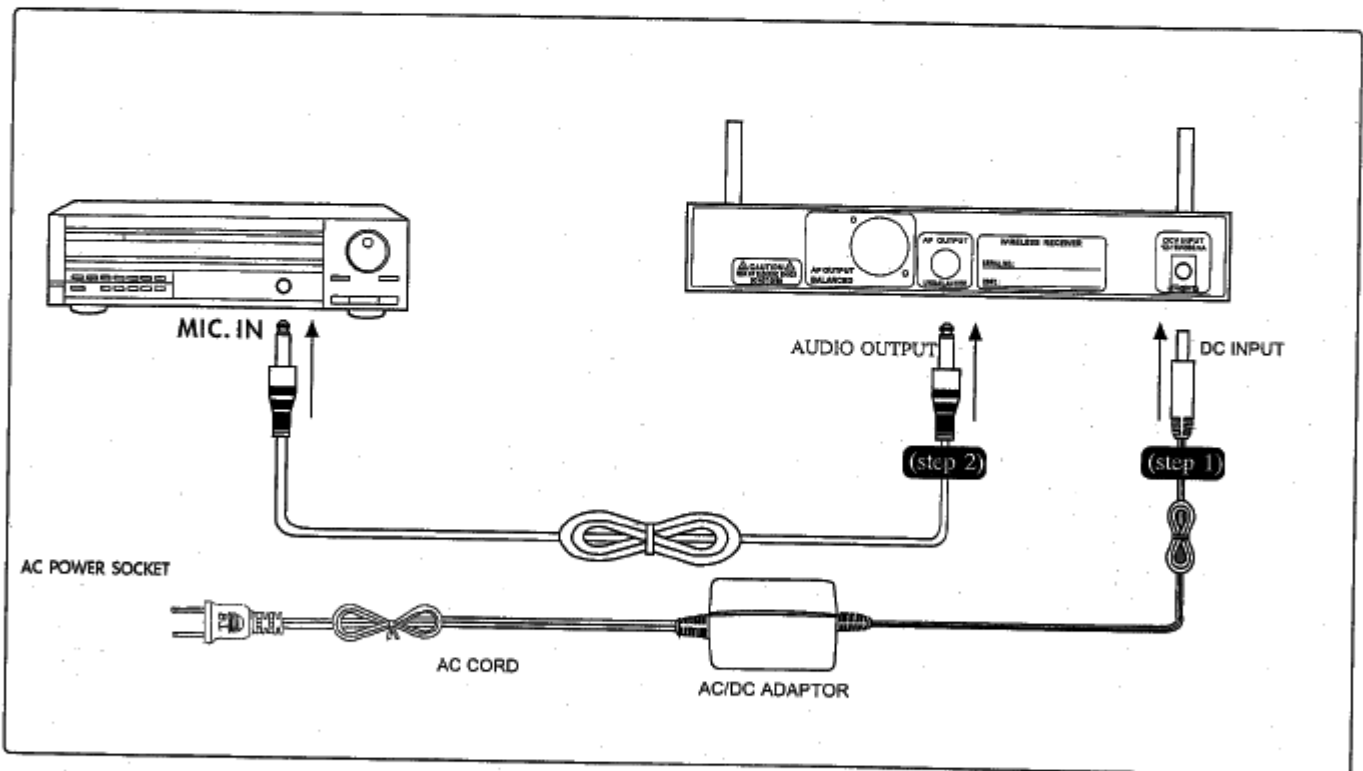
Connect one end of AC/DC adaptor cable to DC input socket in the rear panel of receiver, and plug another end into an AC outlet.

(Step 1 of Figure 1)

(2.) Audio Output Connector

The receiver equipped with both balanced XRL output and Unbalanced Φ 6.3mm jack output, you can choose the proper way for using.

1. Connect one end of AF output cable to the AF output socket in the rear panel of receiver and plug another end to the "Mic. In" input socket of the mixer or amplifier. (Step 2 of Figure 1).

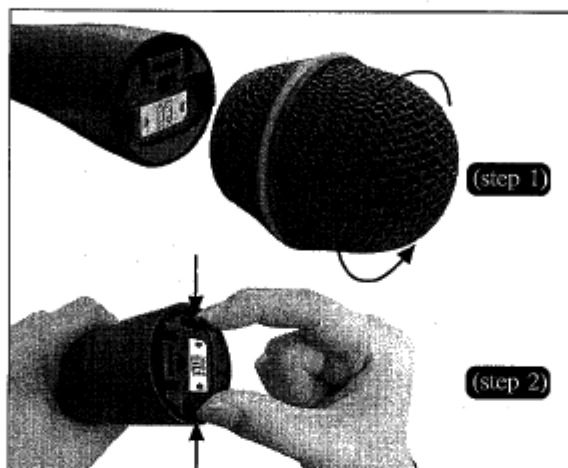


(Figure 1)

5-2. Battery Insertion of the transmitter

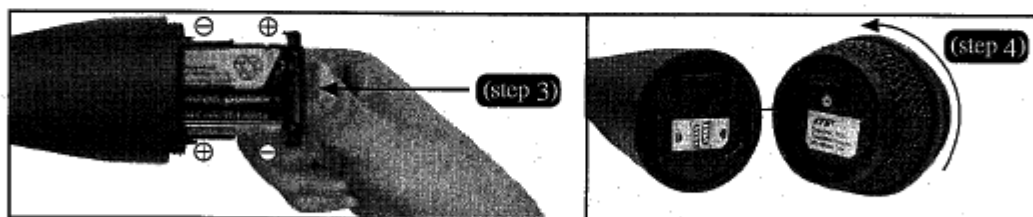
(1.) Mh-850 & Mh-750 Handheld Transmitter

1. Loosen the microphone element counter-clockwise (step 1 of Figure 2), press both release knobs inside to remove the battery tray from the mic. housing (step 2 of Figure 2).



(Figure 2)

2. Insert two 1.5V batteries according the correct polarity, and return the battery tray back to housing (step 3 of figure 3). Aim the connecting pins exactly toward the cavities on the bottom side of detachable mic. element (step 4 of figure 3) , and tight it clockwise !

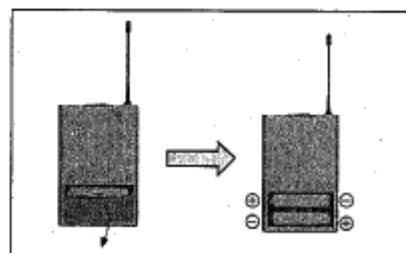


(Figure 3)

(2.) PT-850B Body-pack Transmitter

1. Slide the battery tray cover in the direction of the arrow to open it. Insert two 1.5V batteries according the correct polarity, and return the cover. (Figure 4)

As soon as the batteries are installed well, the LED on transmitter will light up.



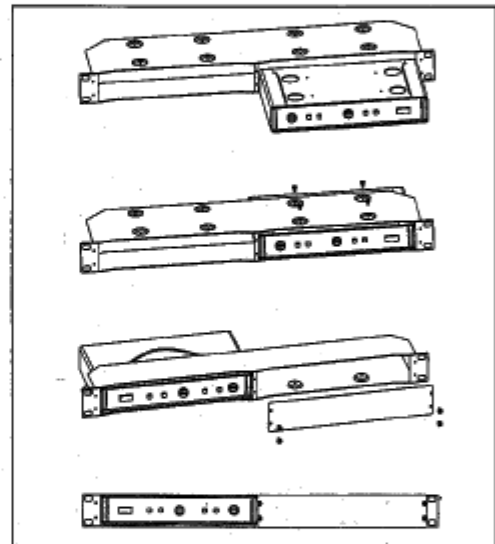
(Figure 4)

5-3. Rack Mounting

- (1.) Before mount receivers onto DR-900 rack adaptor, please release any cables from the rear of the receiver.
- (2.) Turn over receiver and DR-900 rack adaptor simultaneously, there are 4 threaded holes each in the bottom of receiver and rack adaptor for inserting screws.
- (3.) Single receiver
Insert in a receiver through the front of DR-900 until it is firmly attached to the rack , then screw on a RP-900 to another side of the rack.

(Figure 5)

- (4.) Dual receivers
The same way as above, put one receiver to each rack space.



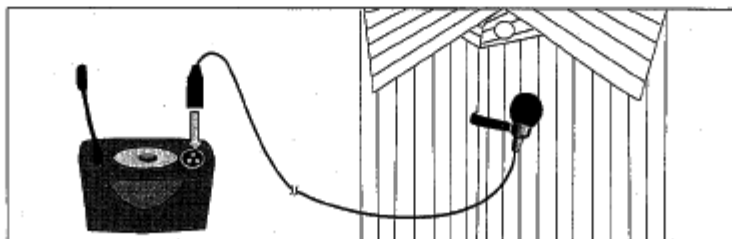
(Figure 5)

5-4. Installation of condenser microphones

- (1.) CM-501 Lavalier microphone

Attach CM-501 to clothing, tie, lapel, where is suitable for sound pick-up. Plug the connector into input socket on the body-pack transmitter.

(Figure 6)



(Figure 6)

(2.) CX-504 Headset microphone

Put the neck-frame behind your head, and fix the temples on your ears as (Figure 7), then adjust the gooseneck to make microphone aim to the suitable place of sound pick-up. Plug the connector into input socket on the body-pack transmitter. (Figure 7)



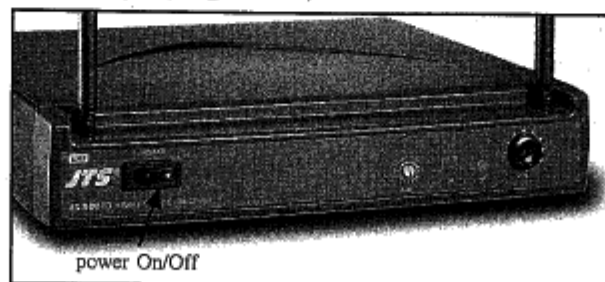
(Figure 7)

6. System operation

Be sure to mute the audio signal of mixer or amplifier before turning on the receiver or transmitter.

(1.) Power on

Turn AF level on the receiver completely counter-clockwise to the minimum level, and press the power On/Off switch on the front panel of receiver. As soon as you turn power on of receiver, the power LED lights red, meanwhile the RF signal and AF LED light up to indicate the receiver is ready for operating. (Figure 8)



(Figure 8)

Always it's a good idea to keep "open space" between transmitter and receiver, that is able to improve RF reception.

(2.) Selecting channel for the receiver and transmitter

1. Use the supplied plastic stick to select a desired channel for the receiver and transmitter. Both receiver and transmitter are preprogrammed with 16 channels. Please use the plastic stick to switch the channel selector on receiver, handheld transmitter and body-pack transmitter.(Figure 9)



(Figure 9)

2. Make sure the receiver channel matches that of the transmitter.
3. When 2 or more transmitters and receivers are being use in the same location, they must be set up to use different channels. If existing channel is being interfered, please change another channel non-interference.

(3.) Using the PT-850B Body-pack transmitter

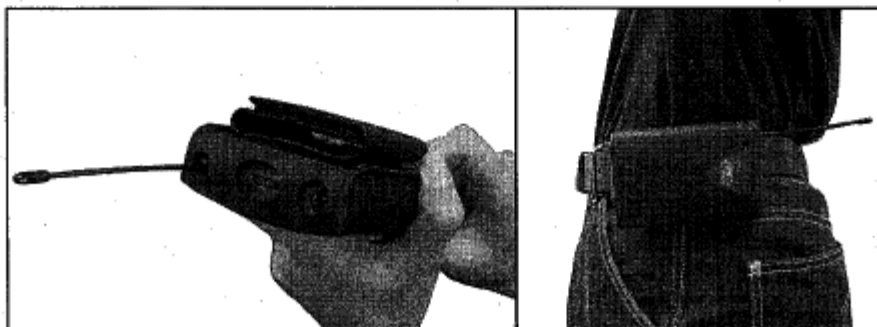
1. On the rear panel of PT-850B body-back transmitter, equipped the AF level control. Use the supplied plastic stick to adjust a proper level. (Figure 10)



(Figure 10)

2. The carry case allows the PT-850B to be attached to performer's belt, place the antenna towards the back of his body. The Velcro tag ensures tight fixing and less hindrance during performance.

Wind the Velcro tag around the belt and fix it. (Figure 11)



(Figure 11)

7. Recommendation

1. In order to achieve the optimum reception condition and also extend the operating distance, please leave a "open space " between the receiver and transmitter.
2. Keep the devices away from the metal objects or any interference sources, at least 50 cm.
3. To avoid the feed-back effect, don't leave the mic. to aim at the speakers directly.
4. For best pick-up pattern, please hold the middle of the mic. body.
5. Remove batteries from the battery compartment when the transmitter will not be used for a long time.
6. When you need to replace the batteries, please replace both batteries at the same time with new ones.