US-1000D/Mh-8990(i)/PT-990B(mi)

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JTS PROFESSIONAL CO., LTD.

UHF PLL

US-1000D

WIRELESS SYSTEMS

Instruction Manual

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

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1. Important Caution

- Always make all connections before plugging the unit into an AC power outlet.
- Do not leave the devices in a place either with high temperature or high humidity.
- Always do not handle the power cord with wet hands !
- Keep the devices away from fire and heat sources.

2. Features

- Operated in UHF band where there is less RF interference than the VHF band.
- Due to the PLL synthesized technology, the system can offer up to 961 selectable frequencies togther with preset 4 groups each of 16 channels.
- The true diversity reception with 2 independent RF receivers ensure the stable reception.
- Adjustable Pilot tone squelch control can effectively reduce the noise.
- Equipped with S.A.W. filter benefits the interference-resistant.
- Tuned antennas can benefit the stable RF reception.
- Built-in Noise Squelch circuity & Mute function are available to restrain the interference for signals.
- Compact half-rack receiver design for space saving.
- Rugged metal housing can withstand rough environment.
- Equipped with balanced XLR and unbalanced output allow great convenience.
- Anti-interference design is available to work with every computer device.

3. Specification

3-1 Receiver // US-1000D

Frequency Preparation.....	PLL Synthesized Control
Carrier Frequency Range	502~960 MHz
S/N Ratio.....	> 105dB
T.H.D.....	<0.6%@1KHz
Display.....	LCD
Display Contents.....	Frequency, Antenna A/B, Mute Display, RF/AF Level Meter, Battery Fuel Gauge
Controls.....	Power On/Off, Frequency Up/Down, Frequency Scan, Audio Level, Lock-on
Audio Output Level.....	-12 dB
AF Output Impedance.....	600Ω
Squelch.....	Pilot Tone ,Noise and Mute
Operation Voltage.....	12-18VDC, 250mA
Output Connector.....	1 XLR Balanced Socket 1 Ø6.3mm Unbalanced phone jack
Dimension(m/m).....	212mm(W) * 40mm(H) * 137mm(D)

3-2 Handheld Transmitter // Mh-8990(i)

Frequency Preparation.....	PLL Synthesized Control
Carrier Frequency Range.....	502~960 MHz
RF Outputs.....	10mW
Stability.....	±10KHz
Frequency Deviation.....	±48KHz
LCD Display.....	Frequency, Battery Fuel Gauge, Sensitivity
Controls.....	Power On/Off, Mode Setting, AF Level, Frequency Up/Down, Lock-on Mode
Spurious Emissions.....	<-60 dBC
Audio Frequency Response	50~16,000 Hz
Battery.....	UM3, AA 1.5V*2

3-3 Body-pack Transmitter // PT-990B(mi)

Frequency Preparation	PLL Synthesized Control
Carrier Frequency Range	502~960 MHz
RF Outputs	10mW
Stability	±10KHz
Frequency Deviation	±48KHz
LCD Display	Frequency, Battery Fuel Gauge
Controls	Power On/Off, AF Level, Frequency Up/Down, Lock-on Mode.
Spurious Emissions	<-50 dBC
Audio Frequency Response	40~18,000 Hz
Battery	UM3, AA 1.5V*2

3-4 Optional Condenser Microphone

Lavaliere Microphone

Model No.	CM-501	CM-201i	CM-125i
Connector	4P Mini XLR	4P Mini XLR	4P Mini XLR
Frequency Response	100~15,000 Hz	60~15,000 Hz	50~18,000 Hz
PolarPattern	Cardioid	Omni-directional	Omni-directional
Sensitivity (at 1000Hz)	-60±3 dB	-60±3 dB	-53±3 dB
Impedance	2.2kΩ	2.2kΩ	4.4kΩ
Max. SPL for 1% THD	130dB	130dB	130dB
Dimension(mm)	Ø10.1mm(W) * 26.4mm(H)	Ø5mm(W) * 9mm(H)	Ø4mm(W) * 11mm(H)
Net Weight	21.5g	20.7g	7g (cable excluded)

Headset Microphone

Model No.	CM-214i	CM-214Ui	CM-214ULi
Connector	801C4 (4P Mini XLR)	4P Mini XLR	801C3 (3P Mini XLR) 801C4 (4P Mini XLR) 801CS (3.5 stereo plug)
Option Connector	801C3 (3P Mini XLR) 801CS (3.5 stereo plug) 801CR		801CR
Frequency Response	60~15,000 Hz	30~18,000 Hz	100 ~ 18,000Hz
PolarPattern	Omni-directional	Cardioid	Cardioid
Sensitivity (at 1000Hz)	-60±3 dB	-68±3 dB	-65±3 dB
Impedance	1.8kΩ	680Ω	1.8kΩ
Max. SPL for 1% THD	130dB	130dB	120dB
Dimension(mm)	125mm(W) * 134mm(H) * 157mm(D)	205mm(W) * 134mm(H) * 157mm(D)	125mm(W) * 134mm(H) * 157mm(D)
Net Weight	32.9g	38.4g	18g (cable excluded)

Model No.	CM-235i	CX-504
Connector	801C4 (4P Mini XLR)	4P Mini XLR
Frequency Response	50~18,000 Hz	30~18,000 Hz
PolarPattern	Omni-directional	Cardioid
Sensitivity (at 1000Hz)	-53±3 dB	-68±3 dB
Impedance	1.8kΩ	680Ω
Max. SPL for 1% THD	130dB	130dB
Dimension(mm)	155mm(W) * 134mm(H) * 157mm(D)	285mm(W) * 55mm(H) * 111.3mm(D)
Net Weight	17g (cable excluded)	56.3g

Ear-hook Microphone

Model No.	CM-801/CM-804i	CM-8015/CM-825i
Connector	801C4 (4P Mini XLR)	801C4 (4P Mini XLR)
Option Connector	801C3 (3P Mini XLR) 801CS (3.5 stereo plug) 801CR	801C3 (3P Mini XLR) 801CS (3.5 stereo plug) 801CR
Frequency Response	60~15,000 Hz	50~18,000 Hz
Polar Pattern	Omni-directional	Omni-directional
Sensitivity (at 1000Hz)	-64±3 dB	-53±3 dB
Impedance	1.8kΩ	1.8kΩ
Max. SPL for 1% THD	130dB	130dB

Compatible Instrument Microphone

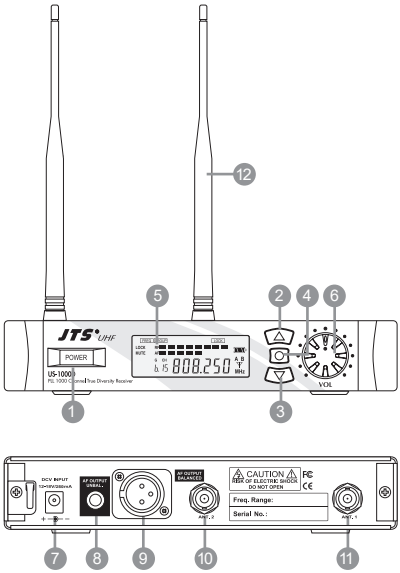
Model No.	CX-500	CX-500F	CX-520
Connector	4P Mini XLR	4P Mini XLR	4P Mini XLR
Frequency Response	20~20,000 Hz	20~20,000 Hz	50~16,500 Hz
Polar Pattern	Omni-directional	Omni-directional	Supercardioid
Sensitivity (at 1000Hz)	-58±3dB	-58±3dB	-78±3dB
Impedance	1.5kΩ	1.5kΩ	600Ω
Max. SPL for 1% THD	130 dB	130 dB	148 dB
Good For	Violin	Flutes	Harmonica

Model No.	CX-508W	CX-516W
Connector	4P Mini XLR	4P Mini XLR
Frequency Response	50~18,000 Hz	30~18,000 Hz
Polar Pattern	Cardioid	Cardioid
Sensitivity (at 1000Hz)	-67±3 dB	-67±3 dB
Impedance	220Ω	220Ω
Max. SPL for 1% THD	130 dB	130 dB
Good For	Winds	Accordion

4. Parts Identification & Accessories

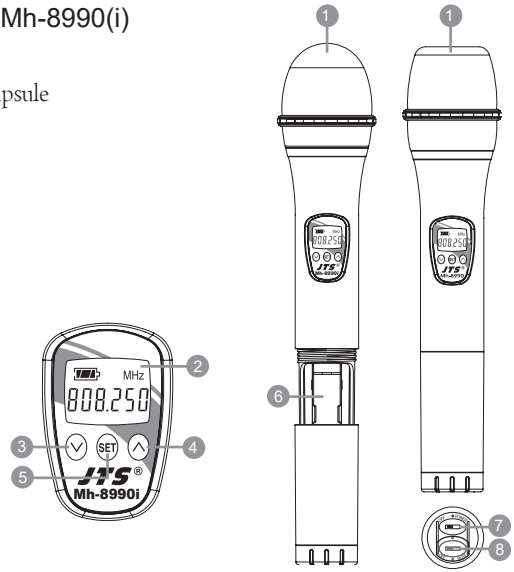
4-1 Receiver // US-1000D

1. Power On/Off switch
2. Up button (frequency adjustment)
3. Down button (frequency adjustment)
4. Set button (frequency adjustment)
5. LCD Display
6. Volume control
7. DC socket for connection of main unit
8. AF output, jack socket (AF UNBAL)
9. Balanced XLR socket
10. Antenna II input socket
11. Antenna I input socket
12. Antenna



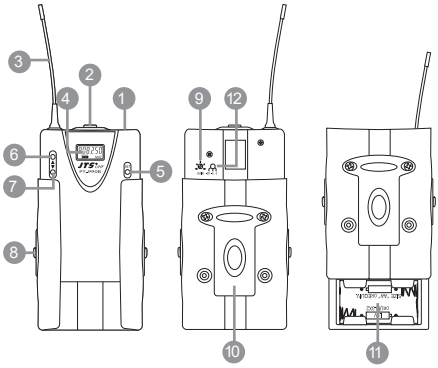
4-2 Handheld Transmitter // Mh-8990(i)

1. Interchangeable dynamic capsule
2. LCD display
3. Down button
4. UP button
5. Set button
6. Battery tray
7. Power On/Off switch
8. Mute On/Off switch



4-3 Body-pack Transmitter // PT-990B(mi)

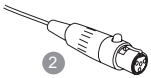
1. Mic. input
2. Power On/Off switch
3. Antenna
4. LCD display
5. Set button
6. Up button
7. Down button
8. Battery tray button
9. AF level control
10. Belt clip
11. Battery tray
12. Attenuation pad
    (only for PT - 990Bmi)

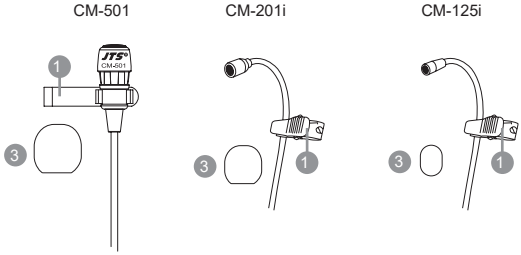


4-4 Optional Condenser Microphone

Lavaliere Microphone // CM-501 CM-201i CM-125i

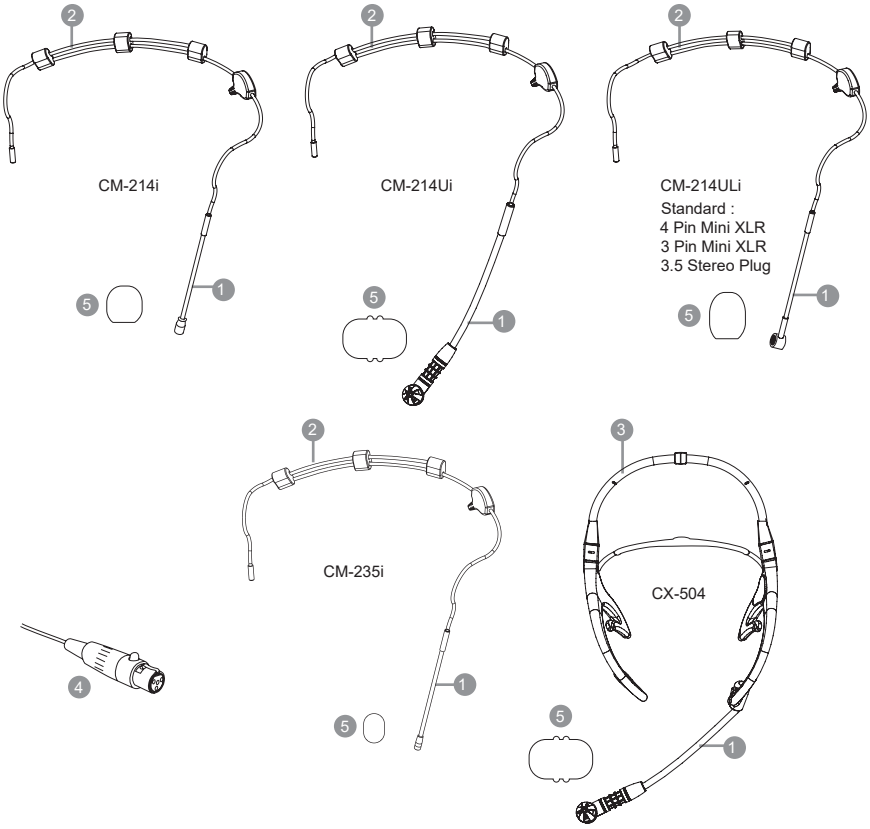
1. Clip
2. 4 Pin Mini XLR
3. Windscreen





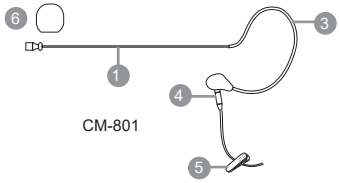
Headset Microphone // CM-214i CM-214Ui CM-214ULi CM-235i CX-504

1. Gooseneck
2. Adjustable headband
3. Headband
4. 4 Pin Mini XLR
5. Windscreen

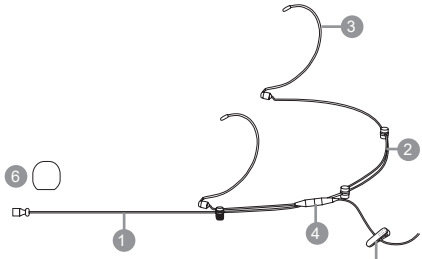


Ear-hook Microphone // CM-801 CM-804i CM-8015 CM-825i

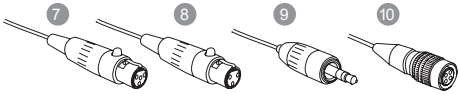
1. Boom
2. Adjustable Headband
3. Adjustable ear hook
4. Detchable Cable
5. Cable Clip
6. Windscreen
7. 4 Pin Mini XLR
8. 3 Pin Mini XLR Option
9. 3.5 Stereo Plug Option
10. 4Pin Hirose connecter Option

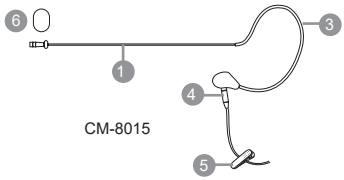


CM-801

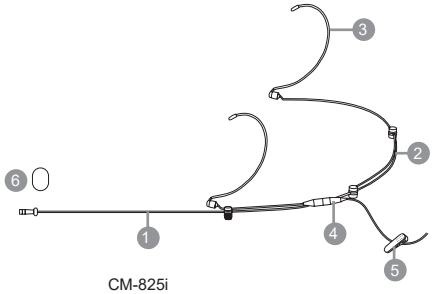


CM-804i





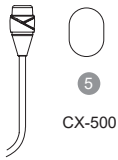
CM-8015



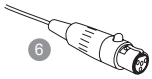
CM-825i

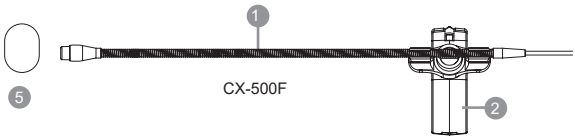
Compatible Instrument Microphone // CX-500 / CX-500F / CX-520 / CX-508W / CX-516W

1. Gooseneck
2. Clip
3. Bracket
4. Volume Control
5. Windscreen
6. 4 Pin Mini XLR

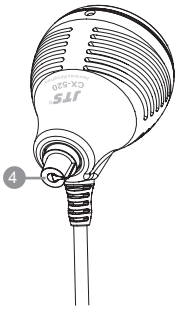


CX-500

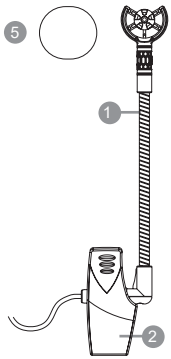




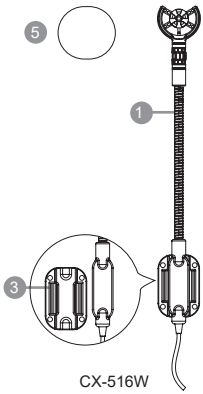
CX-500F



CX-520



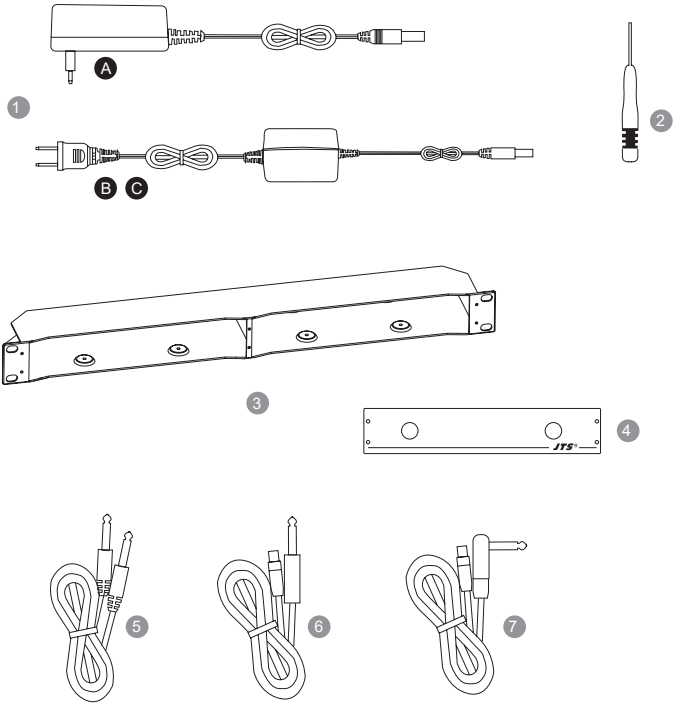
CX-508W



CX-516W

4-5 Accessories

1. AC/DC adaptor
   - A Switching Power Supply(100V~240V , 50~60Hz)
   - B Linear Power Supply (220V , 50Hz) Option
   - C Linear Power Supply (220V , 60Hz) Option
2. Screwdriver
3. DR-900 dual rack adaptor Option
4. RP-900 panel cover Option
5. AF output cable (with Ø6.3 plug at both ends)
6. GC-80/GC-100 Guitar Cable Option
7. GC-80L/GC-100L Guitar Cable Option



5. Preparing Procedures & Basic Operation

5-1 Receiver // US-1000D

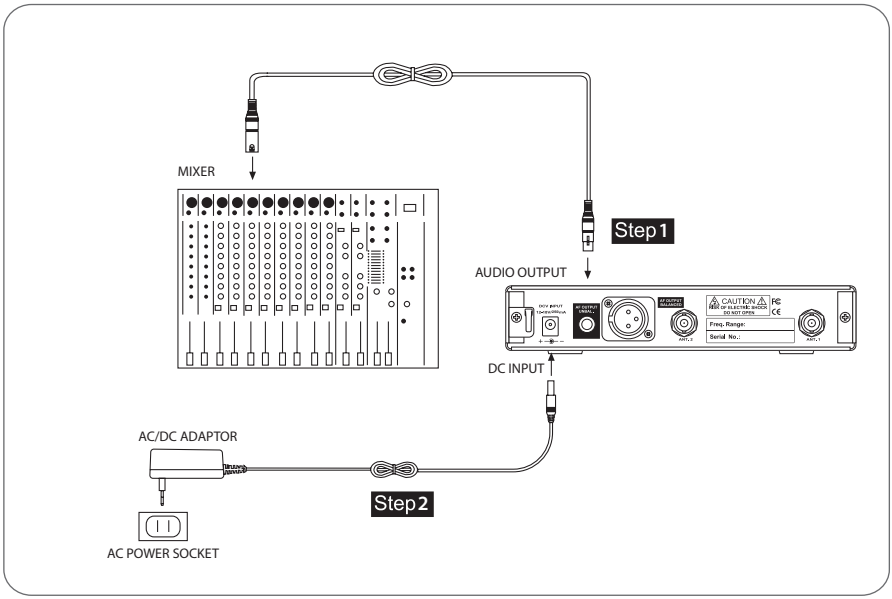
(1) Power output connector

Plug in 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)

(2) Audio Output Connector

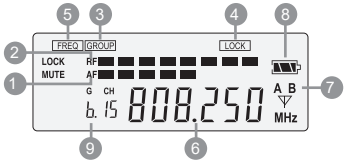
Connect one end of the AF output cable to the AF output socket in the rear panel, then plug another end to the "MIC IN" input socket of a mixer or amplifier.(Step 2)

Receiver equipped with balanced XLR output and Unbalanced φ6.3mm output, choose the proper way for use.



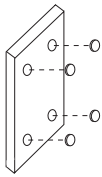
(3) LCD panel

1. AF signal
2. RF signal
3. Display for GROUP mode
4. Display for LOCK mode
5. Display for set FREQ. mode
6. Main display
7. Diversity display (A or B antenna)
8. Battery display for the transmitter
9. Group channel display



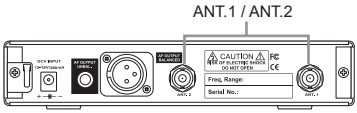
(4) Setting the rubber pad

Four self-adhesive rubber pads are provided to ensure the stability.
They are to be placed on the bottom side of the receiver.



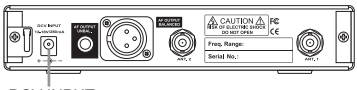
(5) Connecting the antennas

The user-friendly US-1000D antenna comes with easy mount on socket for effortless connection. Connect two antennas on the back of the receiver and align them upward.



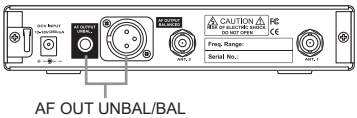
(6) Connecting the main unit

Plug in the DC connector on the back of the receiver (DCV INPUT).



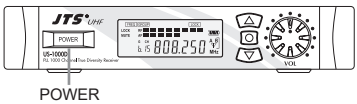
(7) Connecting the amplifier/mixer console

Plug in the amplifier/mixer console to the (AF OUT UNBAL / BAL) sockets.



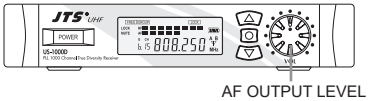
(8) Turning the receiver on/off

Turn the receiver on by pressing the (POWER) button.



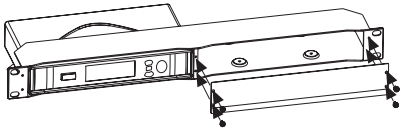
(9) Adjusting the AF output level

Use the AF output level control located on the front side of the receiver to adjustthe AF signal level that appears at output.



(10) Dual Rack Adaptor set

The dual rack adaptor is available to unify the half rack space into a standard EIA size with single or dual units.



(11) Basic operation

POWER Turning the receiver on and off by pressing the POWER button.

SET

1. Setting group channel:

Press "SET" button three sec. till the " FREQ " show up and then re-press "SET" button till the " GROUP " & " G " show up you can select group.

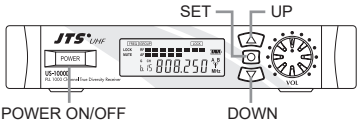
After that press "UP" or "DOWN" button one sec. to increase or decrease group number.

Press "SET" button again the" GROUP " & "CH " starts showing up you can select channel, press "UP" or "DOWN" button one sec. to increase or decreasechannel digit.

After there steps, press "SET" button again the"StorE " will display on the LCD, you can save the setting now.

2. Setting Frequency :

Press "SET" button three sec. till the " FREQ " show up and then you can press "UP" or "DOWN" button one sec. to increase or decrease frequency. In case the frequeney meets the re-set group channel it willl be displayed. Re-press "SET" button the"StorE " will display on the LCD, you can save the setting now.



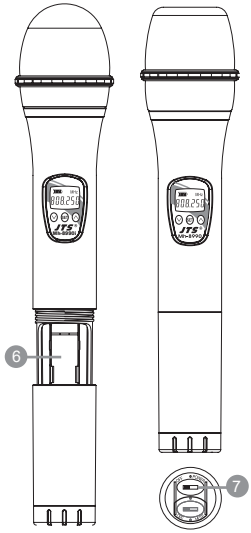
3. Setting Lock-on
Press "SET" button three sec. re-press "SET" button three times, after these procedure Press "UP" button for lock-on mode and "DOWN" button for lock-off mode. Re-press "SET" button the "StorE" will display on the LCD the lock function could stored.

4. Relieved Lock-on
Press "SET" button three sec. till "LocOn" show up, to press "UP" button for lock-on mode and "DOWN" button for lock-off mode. Re-press "SET" button the "Store" will display on the LCD the lock function could stored.

5. Press any button the display shows "LocOn" during lock-on mock. And it will not disappeared either electric off.

5-2 Handheld Transmitter // Mh-8990(i)

(1) Insert 2 pcs 1.5V batteries into the battery tray. 6
(2) After putting into the battery, switch on the power on/off. 7
(3) LCD operation
3 Down button
4 Up button
5 SET button



(4) Setting group channel

1. Frequency displayed:

1-1 group set up

Press "SET" button for three sec. till the "MHz" show up and then re-press "SET" button till the group digit show up. Now you can press "UP" or "DOWN" button one sec. to increase or decrease group number

1-2 channel set up

After 1-1 press "SET" button again the frequency display starts showing up, press "UP" or "DOWN" button one sec. to increase or decrease frequency digit.

3. After 1-1 & 1-2 step, press "SET" button again the mic. will store the frequency automatically.

2. Group displayed:

2-1 Press "SET" button for three sec. till the group digit show up then re-press "UP" or "DOWN" button one sec. to increase or decrease group digit.

2-2 After 2-1 press "SET" button again the frequency display starts showing up, press "UP" or "DOWN" button one sec. to increase or decrease frequency digit.

2-3 After 2-2 & 2-3 step, press "SET" button again the mic. will store the frequency automatically.

(5) Setting Frequency

1. Frequency displayed:

Press "SET" button for three sec. till the "MHz" show up and then you can press "UP" or "DOWN" button one sec. to increase or decrease frequency.

Re-press "SET" button again the mic. will store the frequency automatically.

2. Group displayed:

2-1 Press "SET" button for three sec. till the group digit show up then re-press "SET" button the frequency starts flashing.

2-2 After 2-1 press "SET" button till the "MHz" show up and then re-press "UP" or "DOWN" button one sec. to increase or decrease group digit.

2-3 After 2-1 & 2-2 step, press "SET" button again the mic. will store the frequency automatically.

(6) Setting sensitivity

1. Frequency displayed :

   Press "SET" button three sec. till "MHz" show up, re-press "SET" button the group digit starts flashing, after these procedure please press "SET" button again till frequency starts flashing then press "SET" to start the sensitivity setting.

2. Group displayed :

   Press "SET" button three sec. till group digit show up, re-press "SET" the frequency Starts flashing. Press "SET" button again till "MHz" show up, re-press "SET" button till sensitivity displaying then you can proceed the sensitivity setting. Press "UP" or "DOWN" button to increase or decrease sensitivity. There are 4 sensitivity could be adjusted : 0dB, -6dB, -12dB, -24dB

(7) Setting Lock-on

1. Frequency displayed :

   Press "SET" button three sec. till "MHz" show up, re-press "SET" button the group digit starts flashing, after these procedure please press "SET" button again till frequency starts flashing then press "SET" button till sensitivity displaying please press "SET" button to start the lock-on setting. Press "UP" button for lock-on mode and "DOWN" button for lock-off mode. Re-press "SET" button the lock function will store.

2. Group displayed :

   Press "SET" button three sec. till group digit show up, re-press "SET" the frequency. Starts flashing. Press "SET" button again till "MHz" show up, re-press "SET" button till sensitivity displaying, press "SET" button till " Loc OFF " starts flashing then you can proceed the lock-on setting. Press "UP" button for lock-on mode and "DOWN" button for lock-off mode. Re-press "SET" button the lock function will store.

(8) Relieved Lock-on

Press "SET" button three sec. till"Loc On" show up, then press "DOWN" button plus "SET" button to store the lock-on relieved.

1. Press any button the display shows"Loc On" during lock-on model. And it will not disappeared either electric off.

2. Mh-8990 Press the SET button to select between frequency and sensitivity.

2-1 Frequency adjusting

Press the UP or DOWN button to adjust the setting of a menu.

1. Hold SET button for 3 seconds to activate frequency.
2. Once you see "MHz" blanking, you are ready to select your desired frequency by using UP and DOWN buttons.
3. Press the SET button again to store your changes.

2-2 Sensitivity adjusting

1. Press the SET button twice to select sensitivity. Lasting for 3 seconds at the first press, then 1 second for the second press, and the display appears"SEnSit".
2. Use UP and DOWN buttons to adjust changes.
3. Finally press SET button again to store your changes.

2-3 UP button to activate "Lock mode"

Hold on to UP button for 3 seconds to activate "Lock mode", press again to unlock. (Prevent accidental programming or switching off)

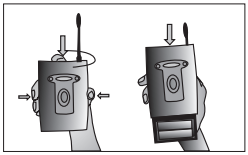
5-3 Body-pack Transmitter // PT-990B(mi)

(1) Turning the transmitter on/off

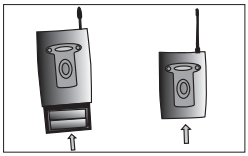
The on/off switch is located on the top of the transmitter.

(2) Inserting and changing the battery

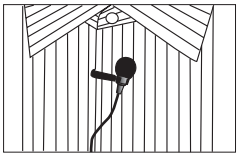
1. The battery tray is located on the back of the transmitter.
2. Hold on to both belt clip buttons to release it.



3. Insert 2 pieces of UM-3 1.5V batteries. Remember to match correct polarity.



4. Directly slide the belt clip back.

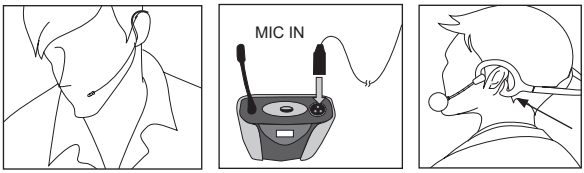


(3) With Lavalier microphone

Attach Lavalier microphone to clothing, tie, lapel, where is the suitable place of sound pick-up. Plug the mini XLR on the microphone cable into the "MIC. IN" on the body-pack transmitter.

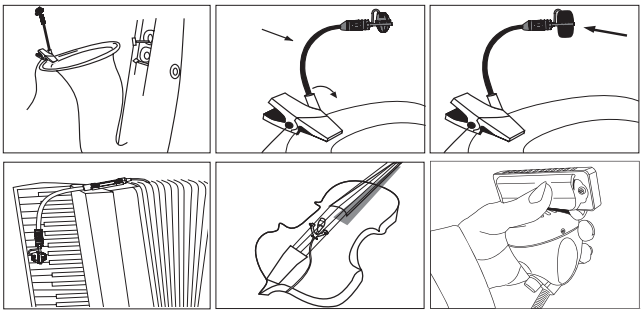
(4.) With Headset microphone

Put the neck-frame behind your neck meanwhile fix the temples on your ears. Adjust the gooseneck to aim the microphone toward the suitable sound source, which is about 1.5-2 inches distance from your mouth. Plug the mini XLR on the microphone cable into the "MIC. IN" on the body-pack transmitter.



(5) Instrument Microphones

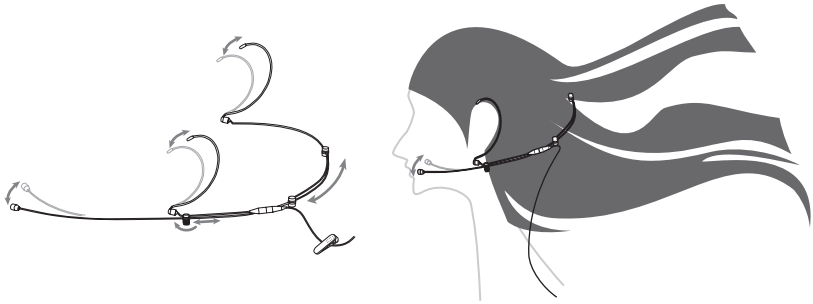
The system is compatible with JTS various instrument microphones.
For detail please refer to user's manuals of these microphones.



(6) Ear-hook Microphone

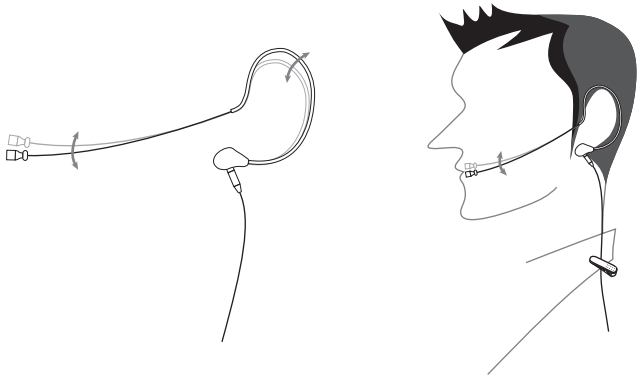
1. Lightweight Dual Ear Hook Microphone

Try on whether the headset is fit.
Adjust the headband to a suitable width.
Tighten or loosen the curve of the ear-hook by twisting the loop or expanding it.
Curve and bend the boom to fit your face.
Attach the detachable cable to a suitable place by a cable clip.



2. Lightweight Single Ear Hook Microphone

Try on whether the original curve is tight or loose.
Re-try and push the fixed curve against your earlobe.
Curve and Bend the boom to fit your face.
Attach the detachable cable to a suitable place by a cable clip.



(7) Basic operation

1. Frequency adjusting

1-1 Hold SET button for 3 seconds to activate frequency.

1-2 Once you see "MHz" blanking, you are ready to select your desired frequency by using UP and DOWN buttons.

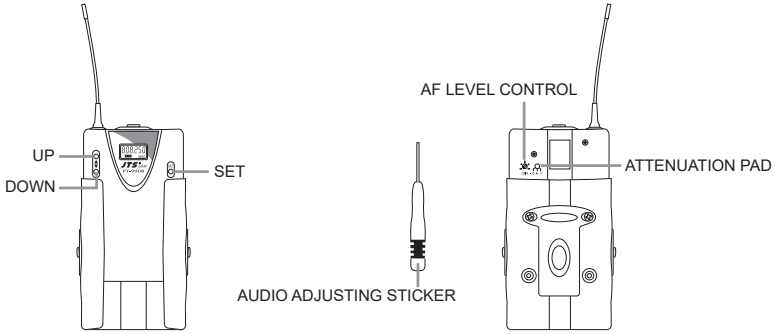
1-3 Press the SET button again to store your changes.

2. Sensitivity adjusting

The sensitivity control(AF level control) is in the up-left of the transmitter's back. Please use the adjusting sticker to adjust the proper level.

3. To activate "Lock mode"

Hold on to UP button for 3 seconds to activate "Lock mode", press again to unlock.(Prevent accidental programming or switching off)



6. 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.

7. Important Notice

(1) JTS offers wireless systems in a selection of bands that conform to the different government regulations of specific nations or geographic regions. These regulations help limit radio frequency (RF) interference among different wireless devices and prevent interference with local public communications channels, such as television and emergency broadcasts.

(2) For information on bands available in your area, consult your local dealer or phone JTS. More information is also available at JTS's website (www.jts.com.tw).

(3) This Radio apparatus may be capable of operating on some frequencies not authorized in your region. Please contact your national authority to obtain information on authorized frequencies and RF power levels for wireless microphone products.