

**JTS®**

# UHF

PLL WIRELESS SYSTEMS INSTRUCTION MANUAL



**JTS®**



59506-127

## TABLE CONTENTS

1. Important Cautions .....	1
2. Features.....	1
3. Specification.....	2
3-1 Receiver.....	2
3-2 Transmitter.....	2
3-3 Condenser Microphone.....	3
4. Parts Identification & Accessories.....	4
4-1 Receiver.....	4
4-2 Handheld Transmitter.....	4
4-3 Body-pack Transmitter.....	5
4-4 Condenser Microphone.....	5-6
4-5 Optional accessories.....	6
5. Preparing procedures & basic operation .....	7-12
6. Preparing procedures .....	13-14
7. Preparing procedures of condenser microphone & accessories.....	15-16
8. Recommendations.....	16

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.

## 1. Important Cautions

- 1-1 Always make all connections before plugging the unit into an AC power outlet.
- 1-2 Do not leave the devices in a place neither with high temperature nor high humidity.
- 1-3 Always do not handle the power cord with wet hands !
- 1-4 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 for choosing simultaneously.
- \* The true diversity reception with 2 independent RF receivers ensure the stable transmission and 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 circuitry & Mute function are available to restrain the interference for signals.
- \* Compact half-rack receiver design is considerable for the space saving.
- \* Rugged metal housing can pass through the difficult 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

<b>Model No.</b>	<b>US-1000D-TH</b>
<b>Frequency Preparation</b>	PLL Synthesized Control
<b>Frequency Stability</b>	.005%
<b>S/N Ratio</b>	100dB
<b>Display</b>	LCD
<b>Display Contents</b>	Frequency , Antenna A/B, Mute Status, RF/AF Level, Battery level
<b>Controls</b>	Power On/Off, Frequency Up/Down, Frequency Scan , Audio Level Volume
<b>Audio Output Level</b>	-12dB
<b>AF Output Impedance</b>	600
<b>Squelch</b>	Pilot Tone & Noise Mute
<b>Operation Voltage</b>	12VDC, 600mA
<b>Output Connector</b>	XLR Balanced/Unbalanced .3mm plug
<b>Dimension(m/m)</b>	211mm(W) * 40mm(H) * 167mm(D)

#### 3-2 Transmitter

<b>Model No.</b>	<b>Mh-8990-TH</b>	<b>PT-990B-TH(mi)</b>
<b>Frequency Preparation</b>	PLL Synthesized Control	PLL Synthesized Control
<b>Carrier Frequency Range</b>	494 ~ 870MHz	494 ~ 870MHz
<b>RF Output</b>	10mW	10mW
<b>Stability</b>	.005%	.005%
<b>Frequency Deviation</b>	48KHz	48KHz
<b>S/N Ratio</b>	102dB	102dB
<b>LCD Display</b>	Frequency, AF level, Battery level	Frequency, Battery level.
<b>Controls</b>	Power On/Off, Frequency, AF level control	Power On/Off, Frequency, AF level control
<b>Spurious Rejection</b>	-60 dBc	-60 dBc
<b>Dynamic Range</b>	+110 dB	+110 dB
<b>Audio Frequency Response</b>	50Hz~15kHz	—
<b>Battery</b>	UM3,AA 1.5V * 2	UM3,AA.1.5V * 2

#### 3-3 Condenser Microphone

<b>Model No.</b>	<b>CM-201</b>	<b>CM-501</b>
<b>Type</b>	Lavalier	Lavalier
<b>Frequency Range</b>	60Hz~15.000Hz	100Hz~15.000Hz
<b>Polar Pattern</b>	Omni directional	Cardioid
<b>sensitivity(at 1 kHz)</b>	-60dB ± 3dB	-70dB± 3dB
<b>Impedance</b>	2.2k Ω ±30%	2.2k Ω ±30%
<b>Max SPL for 1%THD</b>	130dB	130dB
<b>Connector type</b>	Mini XLR jack	Mini XLR jack
<b>Standard Accessories</b>	Windscreen	Windscreen

<b>Model No.</b>	<b>CM-204</b>	<b>CX-504</b>	<b>CX-508W</b>
<b>Type</b>	Headset	Headset	Wind Mic.
<b>Frequency Range</b>	60~15.000Hz	50Hz~18,000Hz	50Hz~18,000Hz
<b>Polar Pattern</b>	Omni directional	Cardioid	Cardioid
<b>sensitivity(at 1 kHz)</b>	-60dB ± 30%	-70dB± 3dB	-67dB ± 30%
<b>Impedance</b>	2.2k Ω ±30%	680 Ω ±30%	220 Ω ±30%
<b>Max SPL for 1%THD</b>	130dB	130dB	130dB
<b>Connector type</b>	Mini XLR jack	Mini XLR jack	Mini XLR
<b>Standard Accessories</b>	Windscreen	Windscreen	Windscreen

## 4. Parts Identification & Accessories

### 4-1 True-Diversity Receiver

#### 1.US-1000D-TH

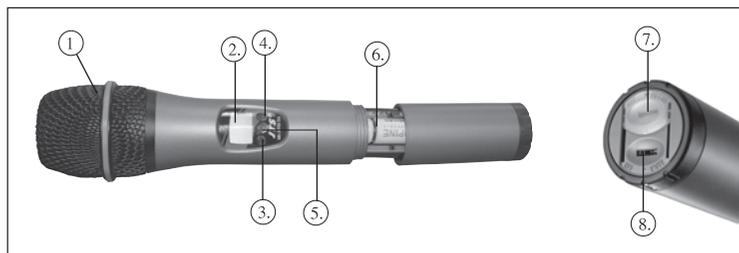
- ① Power On/Off switch
- ② Up button
- ③ Down button
- ④ Set button
- ⑤ LCD Display
- ⑥ Volume control
- ⑦ DC socket for connection of main unit
- ⑧ AF output, jack socket (AF UNBAL)
- ⑨ AF output, jack socket (AF BAL)
- ⑩ Antenna II input socket
- ⑪ Antenna I input socket
- ⑫ Antenna



### 4-2. Handheld Transmitter

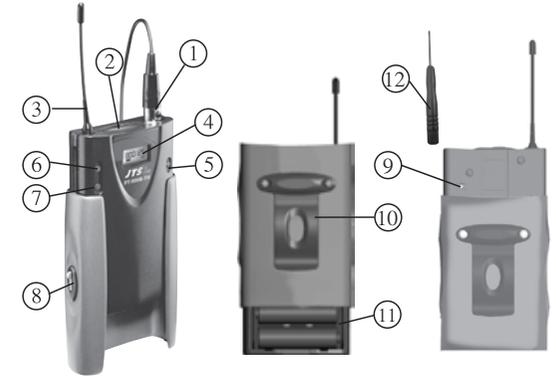
#### 1. Mh-8990-TH

- 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 PT-990B-TH(mi) Body-pack Transmitter

- 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 Audio adjusting sticker



### 4-4 Condenser Microphone

#### (1) CM-201 Lavalier Microphone

- ① Microphone
- ② Clip
- ③ Mini XLR
- ④ Windscreen



#### (2) CM-501 Lavalier Microphone

- ① Microphone
- ② Clip
- ③ Mini XLR
- ④ Windscreen



(3) **CM-204** Headset Microphone

- ① Microphone
- ② Gooseneck
- ③ Neck-Frame
- ④ Mini XLR
- ⑤ Windscreen



(4) **CX-504** Headset Microphone

- ① Microphone
- ② Gooseneck
- ③ Neck-Frame
- ④ Mini XLR
- ⑤ Windscreen



(5) **CX-508W** Wind Microphone

- ① Microphone
- ② Gooseneck
- ③ Neck-Frame
- ④ Mini XLR
- ⑤ Windscreen



4-5 Optional Accessories

- ① Dual Rack Adaptor Set
- ② Guitar Cable



## 5. Preparing procedures & basic operation

### 5-1 US-1000D-TH Receiver

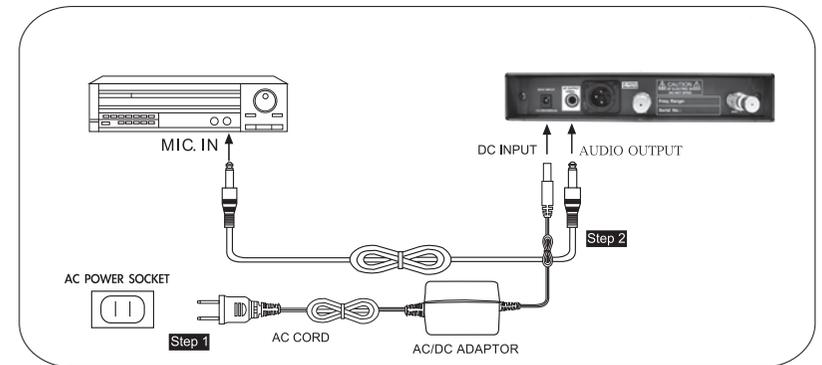
(1.) Power output connector

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 of Figure 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 of Figure 1).

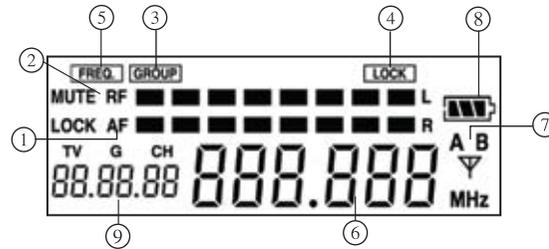
Receiver equipped with balanced XLR output and Unbalanced.3mm output, choose the proper way for use.



(Figure 1)

### (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



### Basic operation

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

### SET

#### 1. Setting group channel:

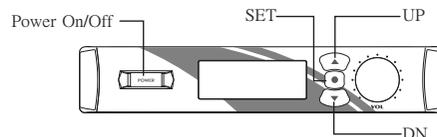
Press "SET" button three sec. till the "Freq" show up and then re-press "SET" button till the "Guoup"& "G" show up you can select group. After that press "UP" or "DN" button one sec. to increase or decrease group number.

Press "SET" button again the "GRUP"and"CH" starts showing up you can select channel, press "UP" or "DN" button one sec. to increase or decrease channel 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 "DN" button one sec. to increase or decrease frequency. In case the frequency meets the re-set group channel it will 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 "DN" 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 "Loc On" show up, to press "UP" button for lock-on mode and "DN" 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 "Loc On" during lock-on mock.

And it will not disappeared either electric off.

### 5-2 Handheld Transmitter

#### 1.Mh-8990-TH

1. Insert 2 pcs 1.5V batteries into the battery tray. (figure 1)
2. After putting into the battery, switch on the power on/off. (figure 2)



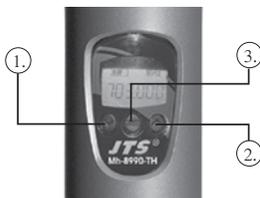
(figure 1)



(figure 2)

### 3. LCD operation

- (1.) Up button
- (2.) Down button
- (3.) SET button



(figure 3)

## 2. Setting group channel

### 1. Frequency displayed:

#### (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 "DN" button one sec. to increase or decrease group number

#### (2) channel set up

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

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

### 2. Group displayed:

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

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

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

## 3. Setting Frequency

### 3.1 Frequency displayed:

Press "SET" button for three sec. till the "MHz" show up and then you can press "UP" or "DN" button one sec. to increase or decrease frequency. Re-press "SET" button again the mic. will store the frequency automatically.

### 3.2 Group displayed:

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

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

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

## 4. Setting sensitivity

### 4.1 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.

### 4.2 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 "DN" button to increase or decrease sensitivity.

There are 4 sensitivity could be adjusted : 0dB, -6dB, -12dB, -24dB

## 5. Setting Lock-on

### 5.1 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 "DN" button for lock-off mode. Re-press "SET" button the lock function will store.

### 5.2 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 "DN" button for lock-off mode. Re-press "SET" button the lock function will store.

### 6. Relieved Lock-on :

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

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

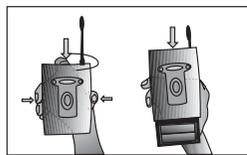
### 5-3 PT-990B-TH(mi) Body-pack Transmitter

#### (1.) Turning the transmitter on/off

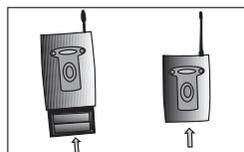
The on/off switch is located on the top of the transmitter.

#### (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.



(Figure 5)



(Figure 6)



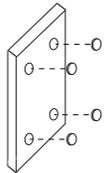
(Figure 7)

## 6. Preparing procedures

### 6-1 ( US-1000D-TH Receiver )

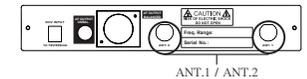
#### (1.) Setting the rubber pad

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



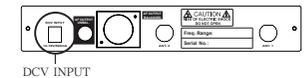
#### (2.) Connecting the antennas

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



#### (3.) Connecting the main unit

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



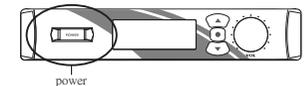
#### (4.) Connecting the amplifier/mixer console

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



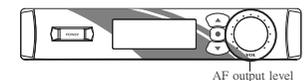
#### (5.) Turning the receiver on/off

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



#### (6.) Adjusting the AF output level

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



#### 6-4 Mh-8990 Press the SET button to select between frequency and sensitivity.

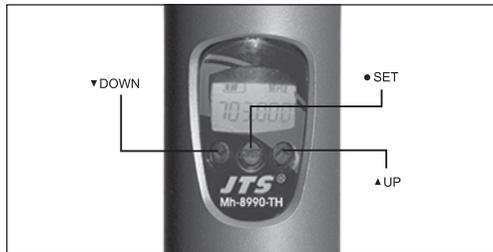
##### 1. Frequency adjusting

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

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

##### 2. Sensitivity adjusting

- 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".
- Use UP and DOWN buttons to adjust changes.
- Finally press SET button again to store your changes.



#### 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)

## 7. Preparing Procedures Of Condenser Microphone & Accesories

### (1) With CM-201/CM-501 Lavalier microphone

Attach CM-201/CM-501 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. (Figure 8)

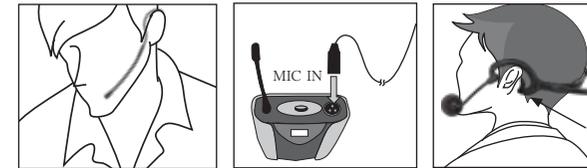


(Figure 8)

### (2) With CM-204/CX-504 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. (Figure 9)



(Figure 9)

### (3) Dual Rack Adaptor set

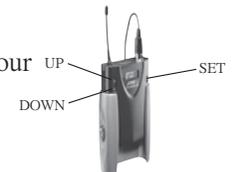
The dual rack adaptor is available to unify the half rack space into a standard EIA size with single or dual units.



## Basic operation

### 1. Frequency adjusting

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



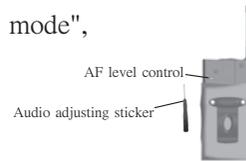
## 2. Sensitivity adjusting

-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"

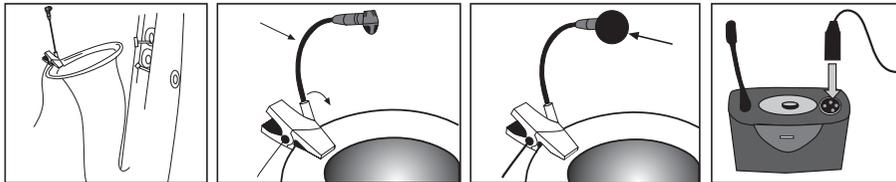
-Hold on to UP button for 3 seconds to activate "Lock mode", press again to unlock.

(Prevent accidental programming or switching off)



## (4) With CX-508W Wind Microphone

1. Outstanding for saxophone, brass, woodwind instruments. (Figure 10)
2. Flexible gooseneck together with adjustable axis allow accurate sound source aiming. (Figure 11)
3. Clamp with elastic grip ensures stable holding instrument without damaging (Figure 12)
4. Windscreen to prevent pop noise effectively. (Figure 13)



(Figure 10)

(Figure 11)

(Figure 12)

(Figure 13)

## 8. 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.