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JTS PROFESSIONAL CO., LTD.

*UHF PLL*
*Single/Dual Channel Diversity System*

# E-7R/E-7Du
# E-7TH(D)/E-7TB(D) 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.

# INDEX

# 1. Important Caution

- Always makes all connections before plugging the unit into an AC power outlet.
- Do not leave the device in a place neither with high temperature nor 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 offer 16 selectable channel.
- Advanced antenna diversity ensure the stable transmission and reception.
- Tuned antennas can benefit the stable RF reception.
- Built-in Tone key Squelch & Noise Mute detection are available to restrain the interference signal.
- Rugged plastic housing can pass through the difficult environment.
- Equipped with balanced Ø6.3 mm phone Jack.
- Body-pack transmitter provides phantom powering for condenser lavaliere and headset microphones.

# 3. Specification

## 3-1 Receiver

| | |
|---|---|
| Model No | E-7R / E-7Du |
| Frequency Preparation | PLL Synthesized Control |
| Carrier Frequency Range | 470~960 MHz |
| S/N Ratio | > 100dB |
| T.H.D | <0.6%@1KHz |
| Display | LED |
| Display Contents | RF/AF Status |
| Controls | Power On/Off, Channel Selecting, Audio Level |
| Audio Output Level | -15dB |
| AF Output Impedance | 600Ω |
| Squelch | Pilot Tone, Noise and Mute |
| Operation Voltage | 12 VDC, 150mA (E-7R)<br>12 VDC, 250mA (E-7Du) |
| Output Connector | 1 Balanced Ø6.3mm phone jack |
| Dimension(m/m) | 221mm (W)* 40mm (H)* 152mm (D) |

## 3-2 Handheld Transmitter

| | |
|---|---|
| Model No | E-7TH(D) |
| Frequency Preparation | PLL Synthesized Control |
| Carrier FrequencyRange | 470~960 MHz |
| RF Outputs | 10mW |
| Stability | ±10KHz |
| Frequency Deviaion | ±48KHz |
| LED Display | Power On/Off, Low battery, mute |
| Controls | Power On/Off, Channel Selecting, mute |
| Spurious Emissions | <-60 dBC |
| Audio Frequency Resonse | 50~16,000 Hz |
| Battery | UM3, AA 1.5V*2 |

## 3-3 Body-pack Transmitter

| | |
|---|---|
| Model No. | E-7TB(D) |
| Frequency Preparation | PLL Synthesized Control |
| Carrier Frequency Range | 470~960 MHz |
| RF Outputs | 10mW |
| Stability | ±10KHz |
| Frequency Deviation | ±48KHz |
| LED Display | Power On/Off, Low battery , mute |
| Controls | Power On/Off, Channel Selecting, mute |
| 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 |
| Polar Pattern | 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) | Ø5mm(W) | Ø4mm(W) |
| | * 26.4mm(H) | * 9mm(H) | * 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)<br>801C4 (4P Mini XLR)<br>801CS (3.5 stereo plug) |
| Option Connector | 801C3 (3P Mini XLR)<br>801CS (3.5 stereo plug)<br>801CR | | 801CR |
| Frequency Response | 60~15,000 Hz | 30~18,000 Hz | 100 ~ 18,000Hz |
| Polar Pattern | 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) | 205mm(W) | 125mm(W) |
| | * 134mm(H) | * 134mm(H) | * 134mm(H) |
| | * 157mm(D) | * 157mm(D) | * 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 |
| Polar Pattern | 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) | 285mm(W) |
| | * 134mm(H) | * 55mm(H) |
| | * 157mm(D) | * 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 (4 pin mini XLR) | 801C4 (4 pin mini XLR) |
| Option Connector | 801C3 (3 pin mini XLR)<br>801CS (3.5 stereo plug)<br>801CR | 801C3 (3 pin mini XLR)<br>801CS (3.5 stereo plug)<br>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 | 1.2kΩ |
| Max. SPL for 1% THD | 130dB | 130dB |

## Compatible Instrument Microphone

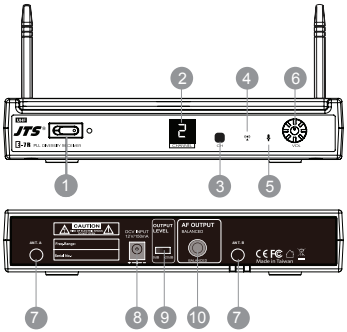
| | | | |
|---|---|---|---|
| Model No. | CX-500 | CX-500F | CX-520 |
| Connector | 4P Mini XLR | 4P Mini XLR | 4P Mini XLR |
| Frequency Response | 20~20,000 Hz | 50~18,000 Hz | 50~18,000 Hz |
| Polar Pattern | Omni-directional | Omni-directional | Supercardioid |
| Sensitivity (at 1000Hz) | -58±3dB | -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 |

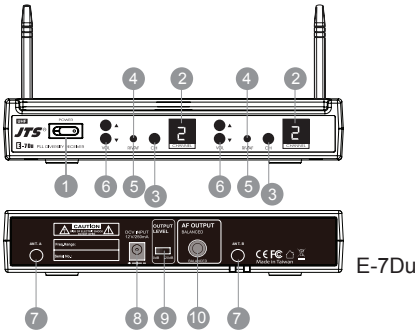
| | | |
|---|---|---|
| Model No. | CX-508W | CX-516W |
| Connector | 4P Mini XLR | 4P Mini XLR |
| Frequency Response | 50~18,000 Hz | 50~18,000 Hz |
| Polar Pattern | Cardioid | Cardioid |
| Sensitivity (at 1000Hz) | -67±3 dB | -67±3 dB |
| Impedance | 220Ω | 220Ω |
| Max. SPL for 1% THD | 130 dB |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

# 4. Parts Identification & Accessories

## 4-1 Receiver // E-7R / E-7Du

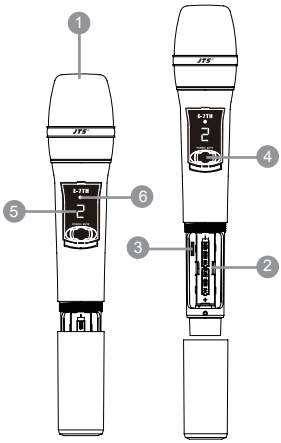
1. Power On/Off
2. 7-SEG Display
3. Channel Selector
4. RF indicator
5. AF indicator
6. Volume control
7. Antenna
8. DCV Input
9. 0dB/-20dB Switch
10. Balanced 6.3mm phone Jack



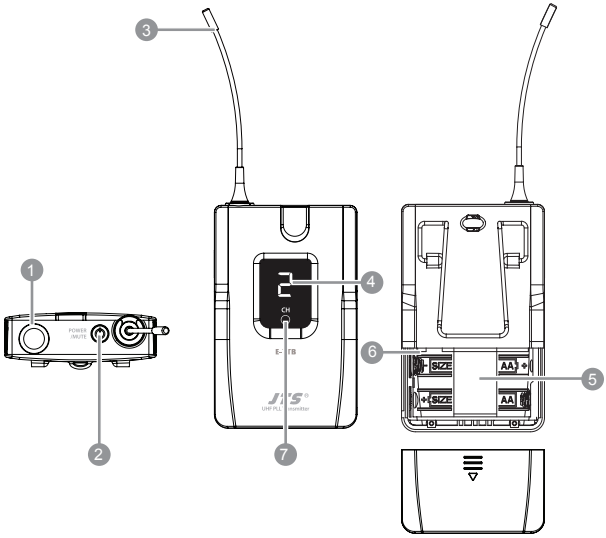

## 4-2 Handheld Transmitter // E-7TH(D)

1. Interchangeable capsule module
2. Battery tray
3. Channel selector
4. Power On/Off, mute switch
5. 7-SEG Display
6. Power ON/OFF, mute, Low Batt. LED



## 4-3 Body-pack Transmitter // E-7TB(D)

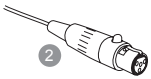
1. Mic. input (4 pin mini XLR socket)
2. Power On/Off, mute switch. LED
3. Antenna
4. 7-SEG Display
5. Battery tray
6. AF leavel control
7. Channel selector

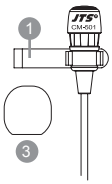


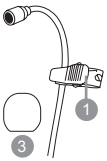

## 4-4 Optional Condenser Microphone

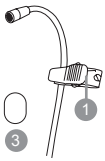
### Lavaliere Microphone // CM-501 / CM-201i / CM-125i

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



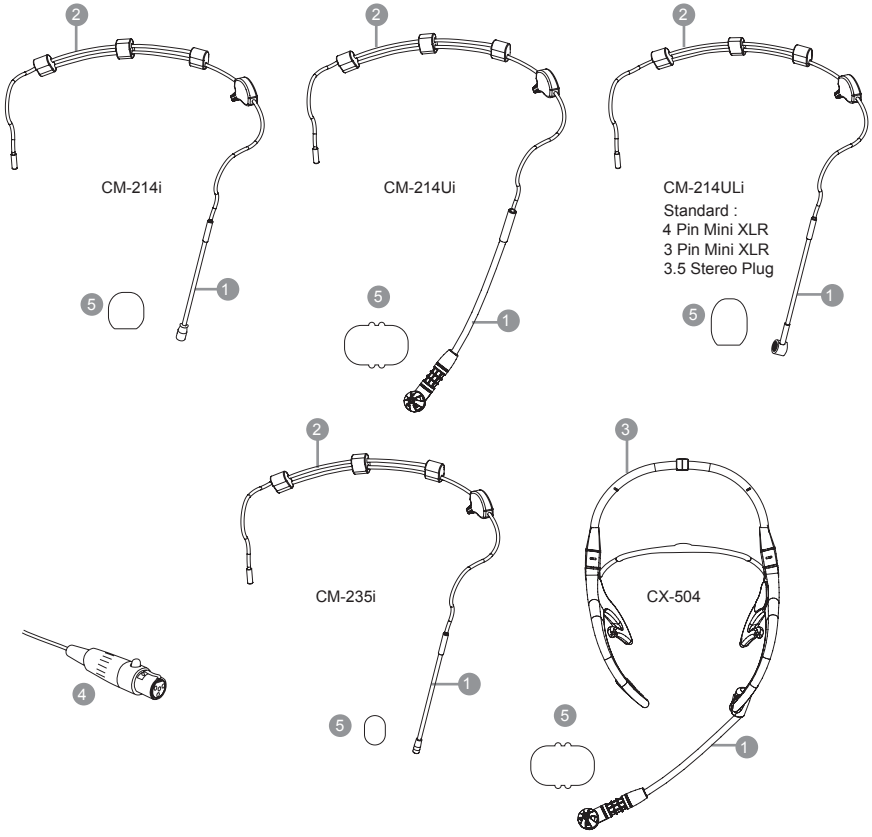



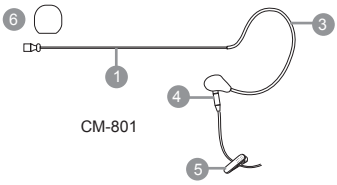
## Headset Microphone // CM-214i / CM-214Ui / CM-214ULi / CM-235i / CX-504

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

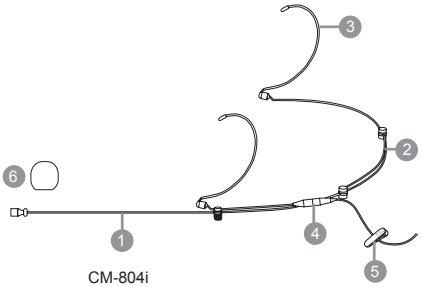


## Ear-hook Microphone // CM-801 / CM-804i / CM-8015 / CM-825i

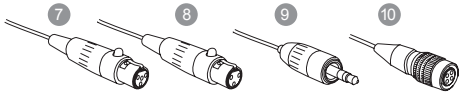
1. Boom
2. Adjustable Headband
3. Adjustable ear hook
4. Detchable Cable
5. Cable Clip
6. Windscreen
7. 4 Pin Mini XLR
8. 3 Pin Mini XLR Option
9. 3.5 Stereo Plug Option
10. 4Pin Hirose connecter Option

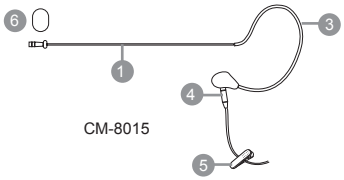


CM-801

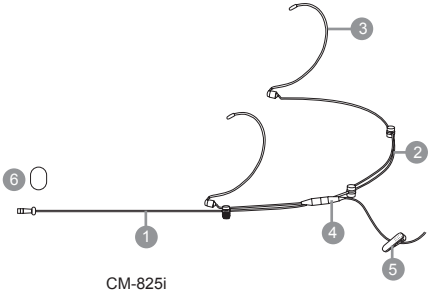


CM-804i



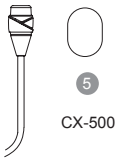
CM-8015



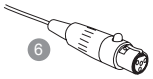
CM-825i

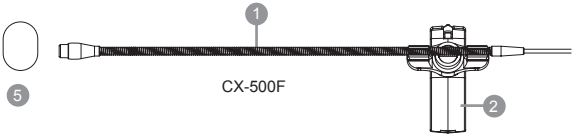
## Compatible Instrument Microphone // CX-500 / CX-500F / CX-520 / CX-508W / CX-516W

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

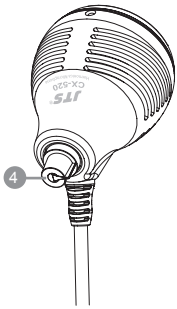



CX-500

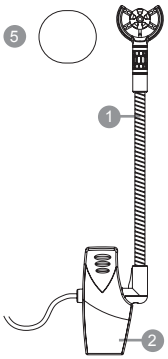


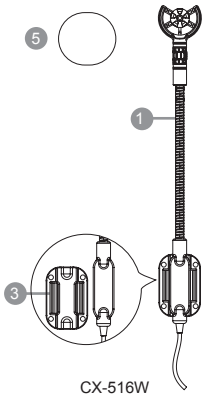

CX-500F




CX-520



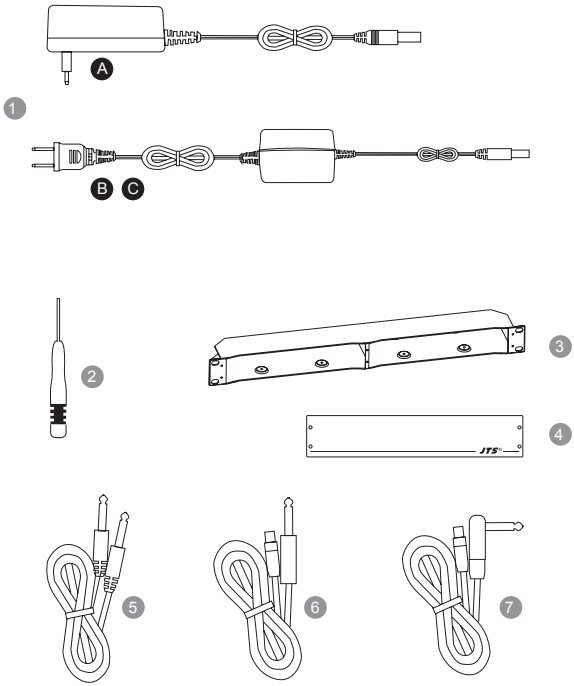

CX-508W




CX-516W

## 4-5 Accessories

1. AC/DC adaptor
   - Ⓐ Switching Power Supply(100V~240V , 50~60Hz)
   - Ⓑ Linear Power Supply (220V , 50Hz) Option
   - Ⓒ 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

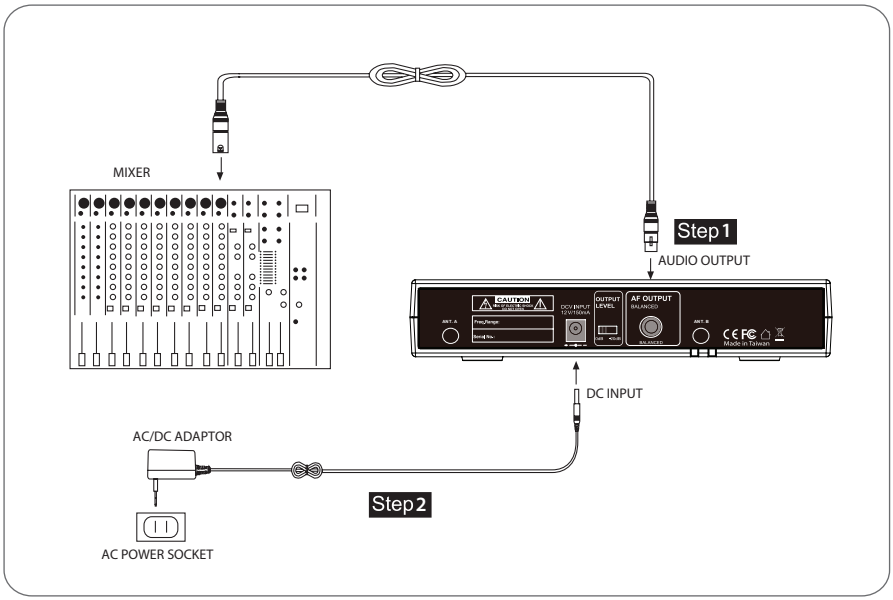


# 5. Preparing Procedures & Basic Operation

## 5-1 Receiver // E-7R / E-7Du

(1) Audio Output Connector
The receiver equipped with both balanced XLR output and unbalanced φ 6.3mm jack output; you can choose the proper way for using.
Connect one end of the Audio cable to the AF output socket in the rear panel of the receiver and plug another end to the "MIC IN" input socket of a mixer or amplifier. (Step 1 of Figure 1)

(2) Power connection
Connect one end of AC/DC adaptor cable to DC input socket in the rear panel of the receiver, and plug another end into an AC outlet. (Step 2 of Figure 1)



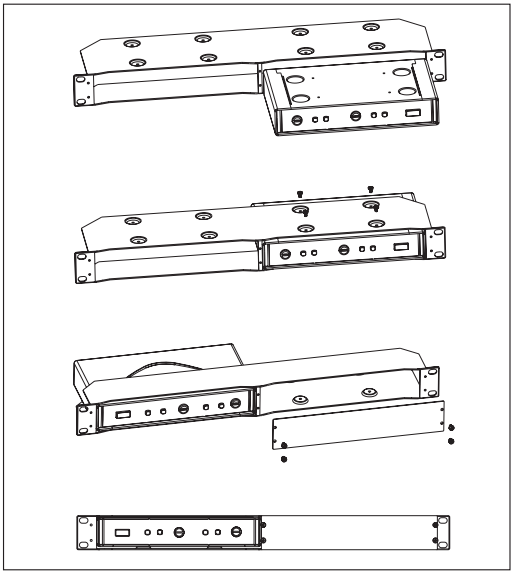
## 5-2 Rack Mounting

(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 4)

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

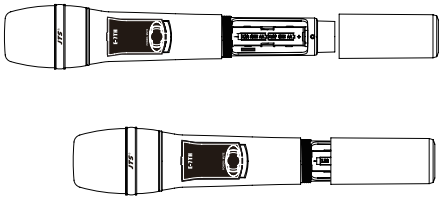


(Figure 4)

## 5-3 Battery Insertion of the transmitter

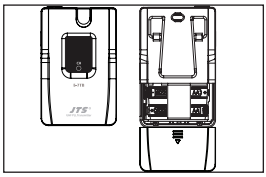
E-7TH(D) Series Handheld Transmitter

1. Insert 2 pcs 1.5V AA batteries into the battery tray.
2. After putting into the battery, switch on the power switch.



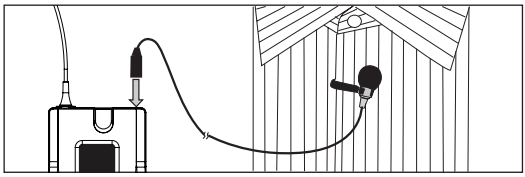
## 5-4 Body-pack Transmitter // E-7TB(D)

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



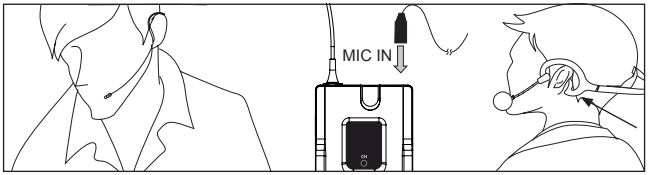
(2) Lavaliere microphone

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



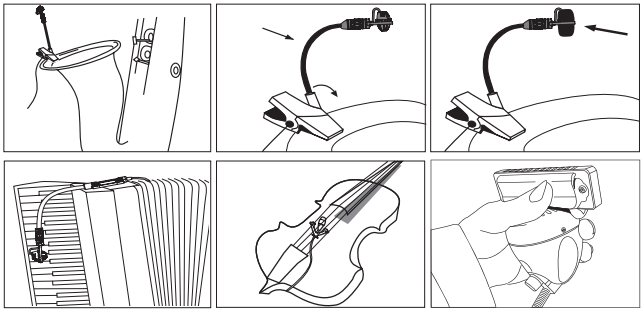
(3) Headset microphone

Put the headband behind your head, and fix the temples on your ears as shows, then adjust the gooseneck to have best miking. Plug the connector into input socket on the body-pack transmitter.




(4) Instrument Microphones

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

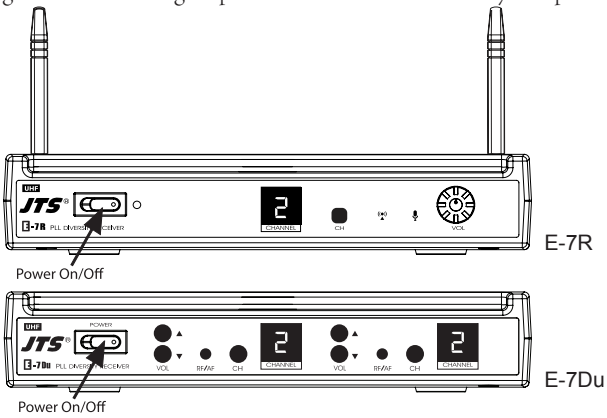


# 6. System operation

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

(1)Power on

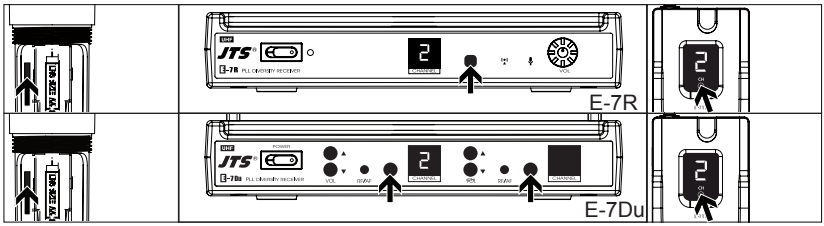
Turn AF level on the receiver completely counter-clockwise to the minimum level, and switch on the receiver. As soon as you turn power of the receiver on, the power LED lights red, meanwhile the RF signal and AF LED light up to indicate the receiver is ready for operating.




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

(2) Selecting channel for the receiver and transmitter

1. Select a desired channel for the receiver and transmitters.
   Both receiver and transmitters are preprogrammed with 16 channels.

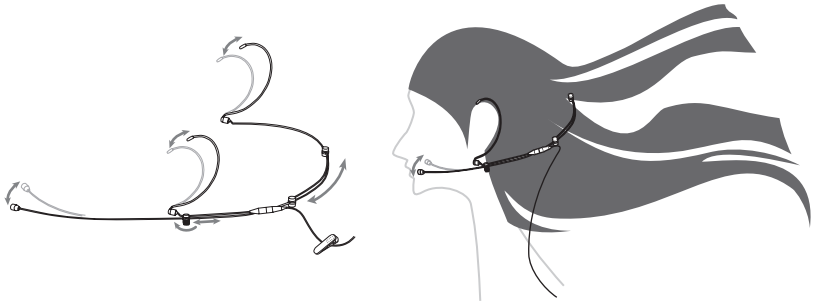



2. Make sure the channel of receiver matches that of the transmitter.
3. When 2 or more transmitters and receivers are being used in the same location, they must be set up to use different channels. If existing channel is being interfered, please change to another non-interference channel.

(6) Ear-hook Microphone

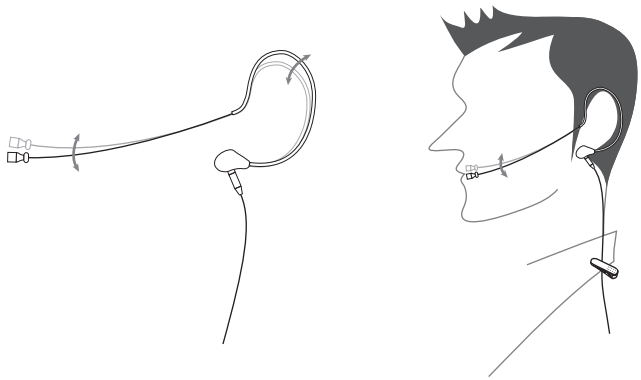
1. Lightweight Dual Ear Hook Microphone

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. 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.

# 8. 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.