# CLOCKAUDIO®

## CW-7000

### UHF PLL WIRELESS MICROPHONES SYSTEM INSTRUCTION MANUAL

# INDEX

# 1. Important Caution

- 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.
- Never handle the power cord with wet hands !
- Keep the devices away from fire and heat sources.

# 2. Features

- PLL synthesized technology allows upto 1441 selectable frequencies.
- 6 groups, maximum 23 channels in one group.
- The true diversity reception with 2 independent RF receivers ensures stable reception.
- Adjustable Pilot tone squelch control can effectively reduce the noise.
- Fitted with S.A.W. filter to resist interference.
- Fitted with squelch circuitry & Mute function.
- Rugged metal housing.
- Balanced output via 3 Pin XLR or 6.3mm (1/4") Jack socket.
- Anti-interference design for computer compatability.
- Transmission power selectable between 10 and 50mW (depends on local regulation).

# 3. Specification

## 3-1 Receiver / CW-7000R

Frequency ................................... UHF PLL Synthesized Control
Frequency Range .................. 502~960 MHz (Subject to local regulation)
S/N Ratio.................................... > 105dB
T.H.D............................................ <0.6%@1KHz
Display......................................... LCD / LED
Display Contents................... Frequency, Antenna A/B, Mute Display,
                                        LED Meter , Battery Fuel Gauge
Controls...................................... Power On/Off , Frequency Up/Down, Frequency Scan,
                                        Audio Level, Lock-on
Audio Output Level.............−12dB
AF Output Impedance........ 600Ω
Squelch......................................... Pilot Tone & Noise Mute
Operation Voltage.................. 12~18VDC, 200mA
Output Connector................. 1 XLR Balanced Socket
                                        1 Ø6.3mm un-balanced phone jack
Dimension(m/m)................. W 212mm (8.35") H 38mm (1.50") D144mm (5.67")

## 3-2 Handheld Transmitter / CW-7000

Frequency ....................................... UHF PLL Synthesized Control
Frequency Range ........................ 502~960 MHz (Subject to local regulation)
RF Outputs.................................... 10mW / 50mW
                                        (Subject to local regulation)
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 ................... <-50 dBC
Audio Frequency Response.. 50~16,000 Hz
Battery .............................................. 2 x UM3, AA 1.5V
Battery Life ..................................... 12 Hours at 10mW 7 Hours at 50mW

## 3-3 Body-pack Transmitter / CW-7001

Frequency ........................................... UHF PLL Synthesized Control
Frequency Range ......................... 502~960 MHz
RF Outputs ...................................... 10mW / 50mW
(Subject to local regulations)
Stability ............................................. ±10KHz
Frequency Deviation ................. ±48KHz
LCD Display .................................... Frequency, Battery Fuel Gauge
Controls ............................................ Power On/Off, AF Level, Frequency Up/Down,
Lock-on Mode
Output connector ........................ 4P mini XLR
Spurious Emissions ................... <-50 dBC
Audio Frequency Response .. 40~18,000 Hz
Battery ............................................... UM3, AA 1.5V*2
Battery life ........................................ 12 Hours at 10mW. 7 Hours at 50mW

## 3-4 Lavalier Condenser Microphone

Model No ......................................... CL-6
Connector ....................................... 4P Mini XLR
Frequency Response ................ 100~15,000 Hz
Polar Pattern ................................. Cardioid
Sensitivity (at 1000Hz) ........... -60±3 dB
Impedance ....................................... 2.2kΩ
Max. SPL for 1% THD ........... 130dB
Dimension(mm) ........................... W 10mm (0.39") H 26.4mm (1.04")

# 4. Parts Identification & Accessories

## 4-1 Receiver / CW-7000R

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 input socket
11. Antenna
A. AF signal level
B. RF signal level

# 4-2 Handheld Transmitter / CW-7000

12 Interchangeable capsule
13 LCD display
14 Down button
15 UP button
16 Set button
17 Battery with release button
18 Battery holder
19 Power On/Off switch

⑳ LCD Display
㉑ Battery Tray
㉒ Set button: set the configuration of bodypack transmitter
㉓ Up button: select the settings of transmitter
㉔ Down button: select the settings of transmitter
㉕ 4 Pin mini XLR mic. input
㉖ Power Switch / Mute
㉗ Antenna
㉘ Belt Clip

## LCD Panel of the Body-Pack Transmitter

㉙ Battery status: display battery status
㉚ Group & Channel
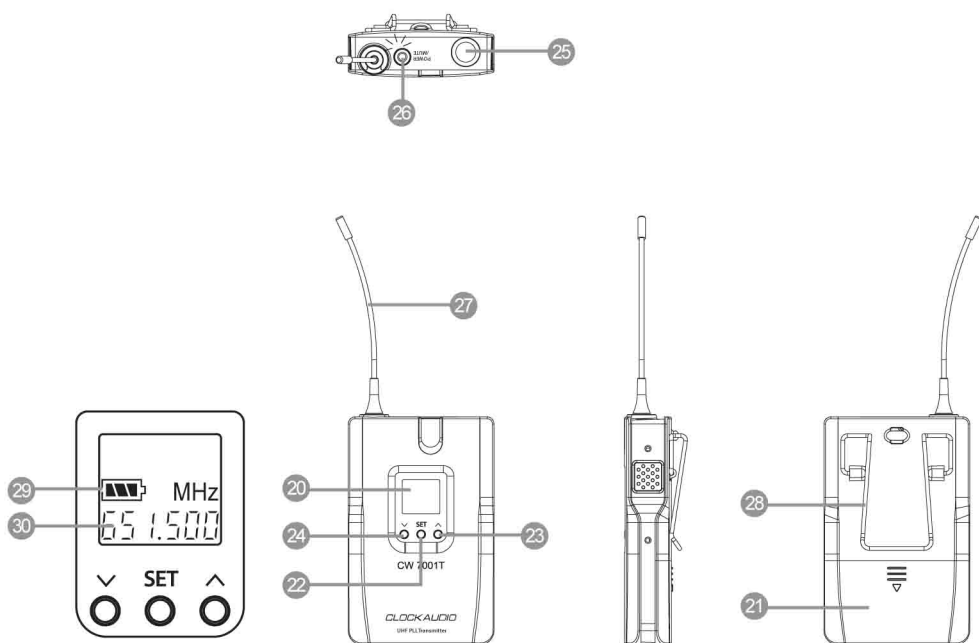
## 4-4 Accessories

③ AC/DC power adaptor
   Switching Power Supply (100V~240V , 50~60Hz)

③ Screwdriver

③ RRM-9000 Dual Rack Adaptor

③ RCP-9000 Panel Cover ~~Option~~

③ AF output cable (with Ø6.3 plug at both ends)
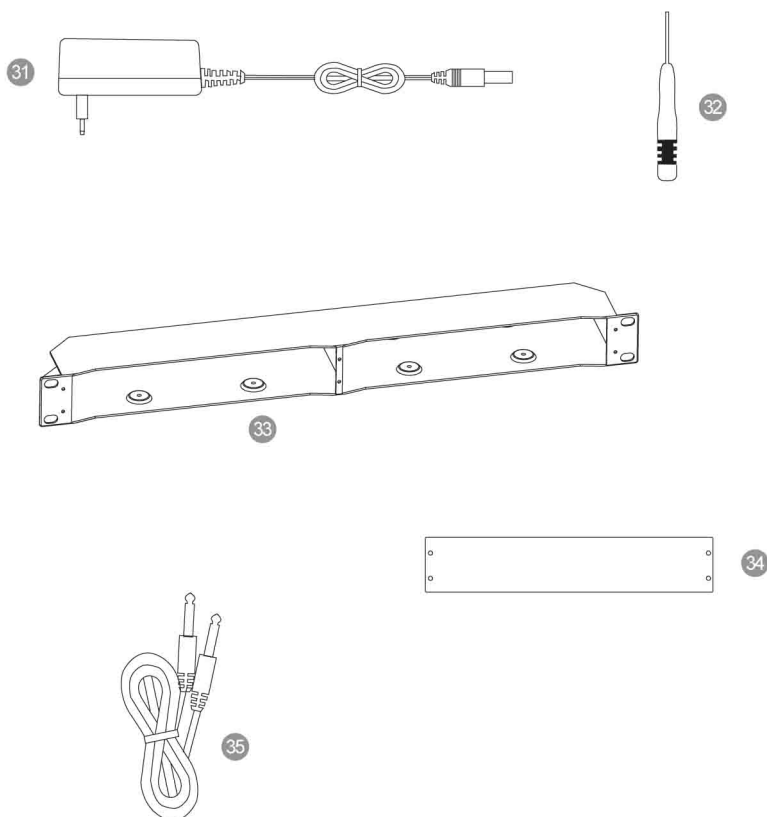
# 5. Preparing Procedures

## Receiver / CW-7000R

(1) Power output connector

Plug in the DC connector into the Receiver and the Power Supply into an AC outlet socket. (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 the other end to the "MIC IN" input socket of a mixer or amplifier.(Step 2)

Receiver equipped with balanced XLR output and Unbalanced Ø6.3mm output, choose the proper way for use.
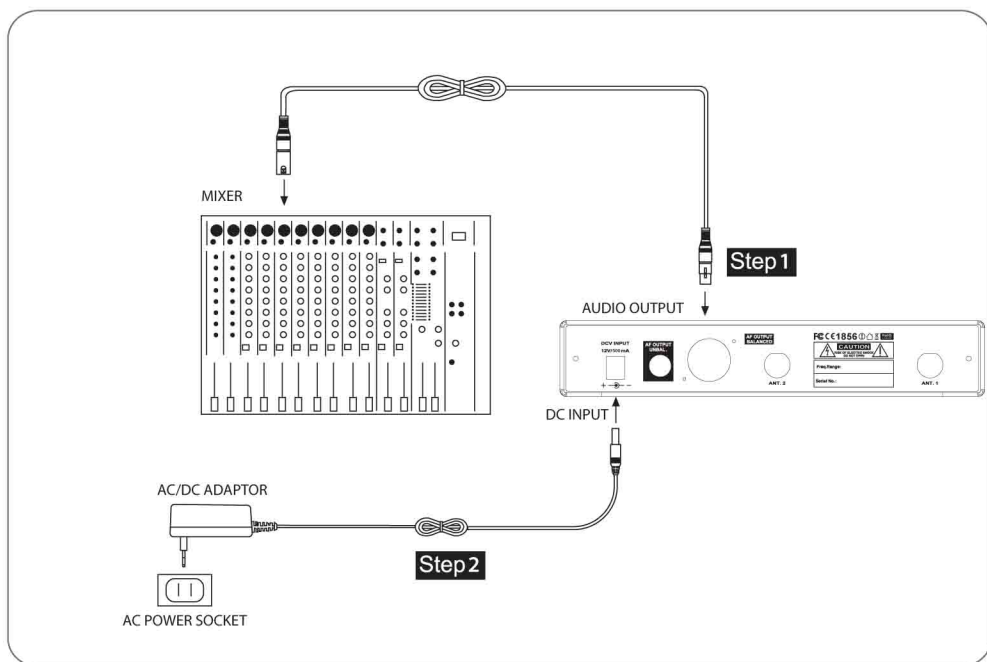
# 6. Basic Operation

## 6-1 Receiver / CW-7000R

1. Power on: Press 【POWER】 ❶ key once to turn power on.
   Shut down: press and hold power key for 2 seconds.

**POWER**
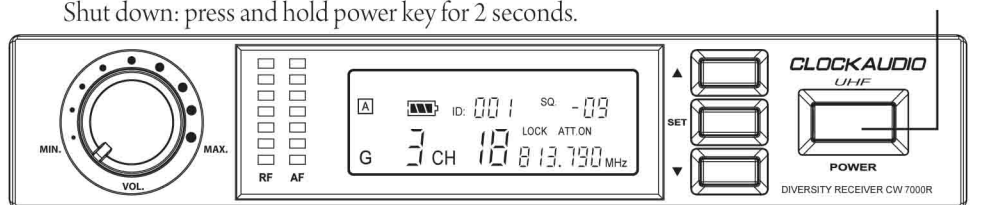


2. Group adjusting
   2-1 Press down SET button for 3 seconds.
   2-2 the group (G) will flash.
   (1)Press ▲ or ▼ button to select a desired group(1~6), Press SET key to set.
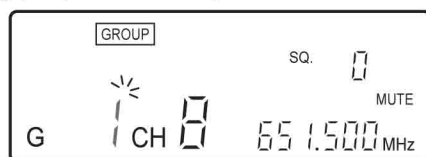


   (2)The Channel flash, Press▲ or ▼button to select a desired channel, Press SET key to set
      Number of channels for each group:
      Group 1→ Channel 1~21 ；Group 2→ Channel 1~22
      Group 3→ Channel 1~18 ；Group 4→ Channel 1~21
      Group 5→ Channel 1~21 ；Group 6→ Channel 1~21
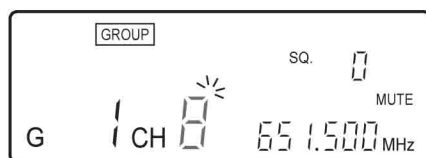


3. Frequency adjusting
   3-1 Press down SET button for 3 seconds.
   3-2 Press SET key twice, With the 3 digits of the LCD blinking.
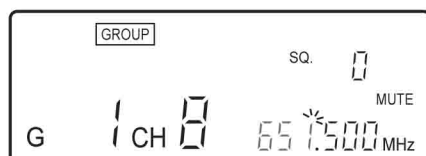
(1)Press ▲ or ▼ keys to change the frequency at an increment of "+/-" 1MHz . Press SET key to set.

(2)The 3 digits on the right of the LCD blinking ; press ▲ or ▼ keys to change the frequency at an increment of "+/-" 0.025MHz,Press SET key to set.
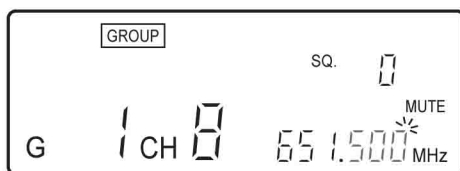


## 4. SCAN

4-1 Press down SET button for 3 seconds.

4-2 Press the SET button several times until the"Sc ON" or "Sc OFF" is displayed on screen.
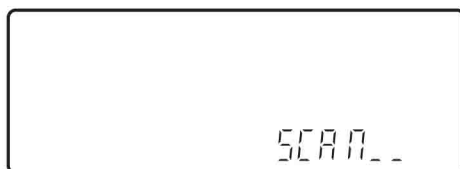
(1)press ▲ : Sc ON -- Turn on the channel scan; The receiver will automatically scan the environment and identify the frequencies that have been occupied, and will skip to next available frequency.
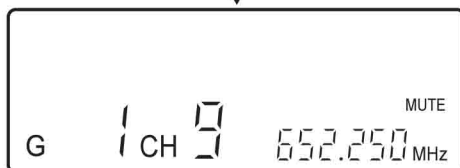
(2)press ▼ : Sc OFF -- Turn off the channel scan.

(3)Press SET key to save the setting.

**When "Sc ON":**
When enter group and channel menu, the receiver will start to scan when "SCAN" display on LCD.



Receiver will scan every channel in the selected group.


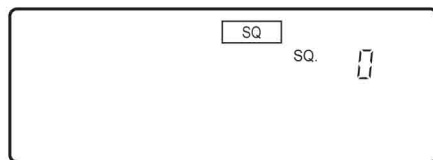
Scan funtion will stop at first channel that is available.

When 𝘕𝘰𝘍𝘳𝘌𝘌 displayed:
Means there is no available channel in this group, please select another group to scan.

5. Squelch: Adjust receiving sensitivity
    5-1 Press down SET button for 3 seconds.
    5-2 Press the SET button several times until the "SQ" is displayed on screen.

```
             ┌────┐
             │ SQ │
             └────┘
                   SQ.    []
```

  (1)press ▲ or ▼ button keys to adjust receiving sensitivity in the range of -5~+10 ;
      higher number represents lower sensitivity ; Lower number represents higher sensitivity.
  (2)Press SET key to save the setting.


6. Attenuate: Set audio output level
    6-1 Press down SET button for 3 seconds.
    6-2 Press the SET button several times until the " At ON " or " At OFF " is displayed on
       screen.

```
                    ┌──────┐
                    │ ATT. │
                    └──────┘
                        ATT.ON
      Ht on
```

```
                    ┌──────┐
                    │ ATT. │
                    └──────┘

      Ht off
```
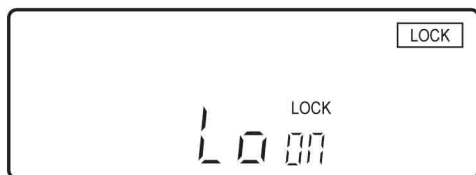
  (1)press ▲ : At ON -- XLR MIC Output volume is lower than Ø6.3 mm output by -10dB.
  (2)press ▼ : At OFF -- XLR MIC Output and Ø6.3mm output volume level is same.
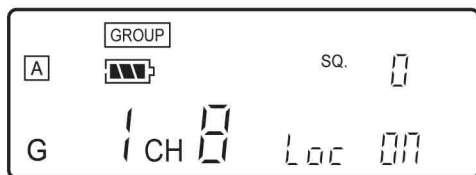  (3)Press SET key to save the setting.

11

7. Setting key lock
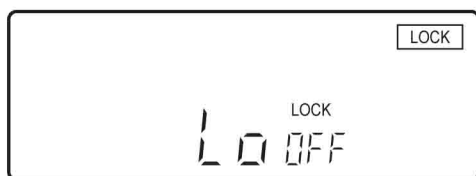
    7-1 Press down SET button for 3 seconds.

    7-2 Press the SET button several times until the "Lo ON" or "Lo OFF" is displayed on screen.

(1)press ▲ :Lo ON -- the receiver panel key functions are locked; To unlock, press "SET" button for 3 second ("Lo ON" is displayed on screen). Press ▼ to unlock.
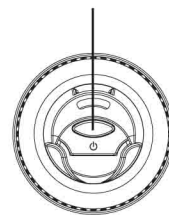
(2)press ▼ : Lo OFF -- Unlock.

(3)Press SET key to save the setting.

Power

1. Power
   1-1. Power On: Press the Power switch to turn on the power.
        Shut down: Keep pressing down the Power switch and the
        power is off about 3 seconds later.

2. Frequency adjusting
   2-1 Press down SET button for 3 seconds.
   2-2 When frequency is displayed on screen.
   (1) The 3 digits on the left of the LCD blinking , press ▲ or ▼ keys to change the frequency
       at an increment of "+/-" 1MHz . Press SET key to set.

   651.500 MHz

   (2) The 3 digits on the right of the LCD blinking, press ▲ or ▼ keys to change the
       frequency at an increment of "+/-" 0.025MHz. Press SET key to set.
   PS.: keeping the ▲ or ▼ keys pressed down makes the number change faster.

   651.500 MHz

   2-3 When setting your desired frequency while a preset channel is displayed on screen:
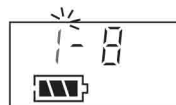   (1) Press down SET key for 3 seconds.
   (2) The "Group" on the left of the LCD begin to blink; press SET key twice to display the
       frequency on LCD, now adjust the frequency by the same step of (2-2 When frequency
       is displayed on screen) – Point (1)~(2)".

3. Group adjusting

 3-1 Press down SET button for 3 seconds.

 3-2 the group will flash.

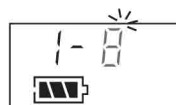 (1)Press ▲ or ▼ button to select a desired group (1~6). Press SET key to set.

 (2)The Channel flash, Press ▲ or ▼ button to select a desired channel. Press SET key to set.

  Number of channels for each group :

  Group 1→ Channel 1~21 ; Group 2→ Channel 1~22

  Group 3→ Channel 1~18 ; Group 4→ Channel 1~21

  Group 5→ Channel 1~21 ; Group 6→ Channel 1~21

 3-3 When using a preset channel while the frequency is displayed on screen:

 (1)Press down SET key for 3 seconds.

 (2)The 3 digits on the left of the LCD begin to blink; press SET key twice to display the channel on LCD, now adjust the channel by the same step of (3-2 the group will flash) – Point (1)~(2).

4. Sensitivity adjusting

 4-1 Press down SET button for 3 second. The 3 digits of frequency or channel on the left of the LCD begin to blink.

 4-2 Press the SET button four times to enter the sensitivity adjustment screen.

 (1)press ▲ or ▼ button keys to adjust the microphone sensitivity in the range of -18~+12dB at an increment of 3dB.

 (2)After the adjustment, press SET key to save the setting.
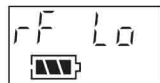
5. RF Outputs adjusting

    5-1 Press SET button for 3 second, The 3 digits of frequency or channel on the left of the LCD begin to blink.

    5-2 Press the "SET" button several times until the "rF Hi " or "rF Lo" on screen.

    (1)Press ▲ : "rF Hi", high transmitting power

    (2)Press ▼ : "rF Lo", low transmitting power

    (3)Press SET key to save the setting.

6. Setting key lock

    6-1 Press down SET button for 3 second, The 3 digits of frequency or channel on the left of the LCD begin to blink.

    6-2 Press the "SET" button several times until the "Loc On " or "Loc OFF" on screen.

    (1)Press ▲ : "Loc On ", the handheld panel key functions are locked; To unlock, press "SET" button for 3 second("Loc On "begin to blink), Press ▼ to unlock.

    (2)Press ▼ :"Loc OFF".

    (3)Press SET key to save the setting.

1. Power/MUTE

 1-1 Power On: Press the Power switch to turn on the
  power to the transmitter.
  Green light: Power on　　Red light: low battery
  Shut down: Keep pressing down the Power switch
  and the power is off about 3 seconds later.
 1-2 MUTE: After the transmitter's power is on, pressing the
  "Power Switch " will mute the microphone ；
  Press the "Power Switch" again will re-activate the
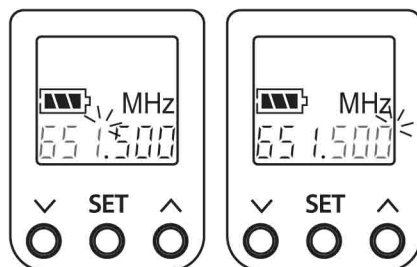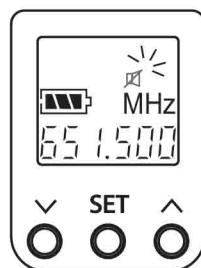  microphone .
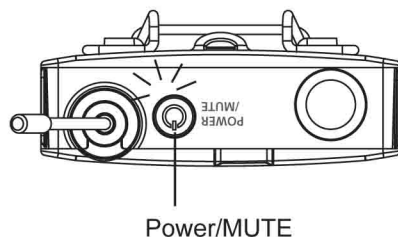
Power/MUTE

2. Frequency adjusting

 2-1 Press down SET button for 3 seconds.
 2-2 When frequency is displayed on screen.
 (1)The 3 digits on the left of the LCD blinking , press ▲ or ▼ keys to change the frequency
  at an increment of "+/-" 1MHz . Press SET key to set.
 (2)The 3 digits on the right of the LCD blinking; press ▲ or ▼ keys to change the fre-
 quency at an increment of "+/-" 0.025MHz, Press SET key to set.
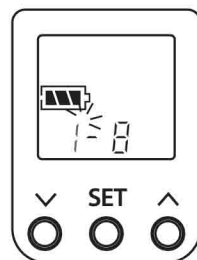 PS.: keeping the ▲ or ▼ keys pressed down makes the number change faster.

 2-3 When setting your desired frequency while a preset channel is displayed on screen:
 (1) Press down SET key for 3 seconds.
 (2) The "Group" on the left of the LCD begin to blink; press SET key twice to display the
  frequency on LCD, now adjust the frequency by the same step of (2-2 When frequency
  is displayed on screen )– Point (1)~(2)".

## 3. Group adjusting

3-1 Press down SET button for 3 seconds.

3-2 the group will flash.

(1)Press ▲ or ▼ button to select a desired group (1~6), Press SET key to set.

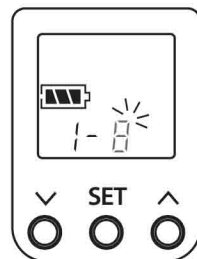(2)The Channel flash, Press ▲ or ▼ button to select a desired channel,
Press SET key to set.

Number of channels for each group:

Group 1→ Channel 1~21 ; Group 2→ Channel 1~22
Group 3→ Channel 1~18 ; Group 4→ Channel 1~21
Group 5→ Channel 1~21 ; Group 6→ Channel 1~21

3-3 When using a preset channel while the frequency is displayed on screen:

(1)Press down SET button for 3 seconds.

(2)The 3 digits on the left of the LCD begin to blink; press SET key twice to display the channel on LCD, now adjust the channel by the same step of (3-2 the group will flash) – Point (1)~(2)".
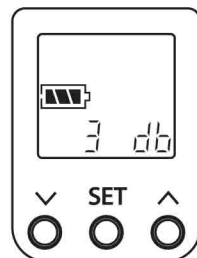
## 4. Sensitivity adjusting

4-1 Press down SET button for 3 second,
The 3 digits of frequency or channel on the left of the LCD begin to blink.

4-2 Press the SET button four times to enter the sensitivity adjustment screen.

(1)Press ▲ or ▼ button keys to adjust the microphone sensitivity in the range of -18~+12dB at an increment of 3dB.

(2)After the adjustment, press SET key to save the setting.
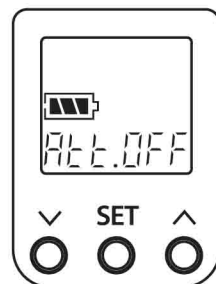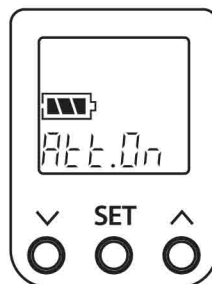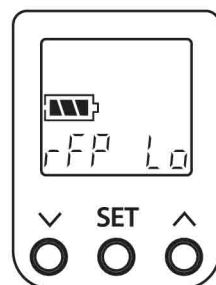
## 5. Microphone Attenuate

5-1 Press down SET button for 3 second, The 3 digits of frequency or channel on the left of the LCD begin to blink.

5-2 Press the SET button several times until the "Att On " or "Att OFF" on screen.

(1)Press ▲ : Att ON; -10dB attenuation.
(2)Press ▼ : Att OFF; No attenuation.
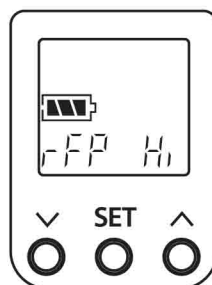(3)Press SET key to save the setting.

## 6. RF Outputs adjusting

6-1 Press down SET button for 3 second, The 3 digits of frequency or channel on the left of the LCD begin to blink.

6-2 Press the SET button several times until the "rFP Hi " or "rFP Lo" on screen.

(1)Press ▲ : "rFP Hi", high transmitting power.
(2)Press ▼ : "rFP Lo", low transmitting power.
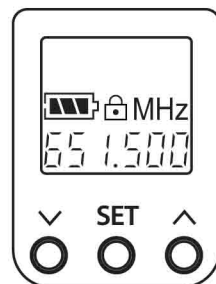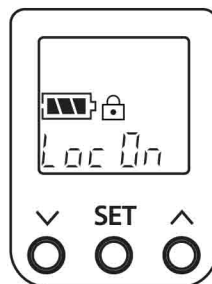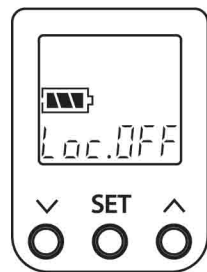(3)Press SET key to save the setting.

## 7. Setting key lock

7-1 Press down SET button for 3 second, The 3 digits of frequency or channel on the left of the LCD begin to blink.

7-2 Press the "SET" button several times until the "Loc On " or "Loc OFF" on screen.

(1)Press ▲ : "Loc On ", the Body-pack panel key functions are locked; To unlock, press "SET" button for 3 second ("Loc On "begin to blink), Press ▼ to unlock.
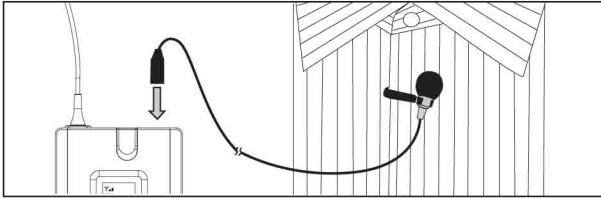
(2)Press ▼: "Loc OFF".



(3)Press SET key to save the setting.

## 6-4 Installation of Condenser Microphones

(1) Lavalier microphone

Attach the lavalier microphone to a tie, lapel or suitable postition for maximum sensitivity. Plug the connector into input socket on the body-pack transmitter.



(2) Headset microphone

Put the headband behind your head and fix the ears supports over your ear as shown, then adjust the gooseneck for maximum **sensitivity.** Plug the connector into input socket on the body-pack transmitter.
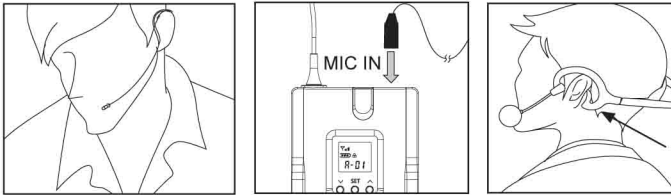
# 7. Recommendation

(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. Warranty

Thank you for purchasing a Clockaudio product. We are confident that this product will give you many years of trouble free operation and is backed up with a 1 year warranty.

The product is guaranteed for 12 months from the date of purchase. Any defect that arises due to faulty materials or workmanship will either be replaced, or repaired free of charge by the agent from whom you purchased the unit. Please noto charges will be incurred on any products returned for servicer/repair not in warranty or has been subject to customer abuse or incorrect wiring.

The guarantee is subject to the following provisions:

- The warranty does not cover accidental damage, misuse, cabinet part, knobs, batteries or consumable items. Any product returned to Clockaudio failing to meet the terms listed will incur a repair and postage charge.
- The product must be correctly installed and operated in accordance will the instructions supplied with the product.
- Unauthorised modifications and alterations to the original specifications will render the warranty void.
- The product must be used for the sole purpose that it was designed for.
- The warranty given is strictly with the original owner and becomes invalid if the product is resold or becomes damaged by inexpert repair.
- Product purchased outsides of the countries served by Clockaudio designated / approved Agents are not covered by the warranty.
- Specifications / improvements are subject to change without notice.
- Clockaudio disclaims any liability for incidental or consequential damages.
- The warranty is in addition to and does not diminish your statutory legal rights.
- As part of a continuous product improvement programme we reserve the right to alter specifications without notice.