

## SIEM-121T/SIEM-121R

UHF PLL Stereo In-Ear Monitoring System

Instruction Manual / 操作手冊



**ATTENTION**

Please pay high attention to the following information.

The guideline published by Occupational Safety Health Administration (OSHA) in United States indicates overload volume level for prolonged listening may harm your hearing. Here below are referenced data on maximum time exposure to sound level before hearing injury occurs.

Sound Level (dB)	Duration per day (hrs)
90	8
92	6
95	4
97	3
100	2
102	1.5
105	1
110	0.5
115	0.25
140	Avoid or injury may occur

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# 1.Features

## **SIEM-121T**

- » Your ultimate solution to affiliate the problems of interference and dropouts.
- » Designed with JTS exclusive 2.4GHz REMOSET technology, making data synchronization as simple as a one-button-touch to enable quick setup and easy operation.
- » Reliable wireless coverage that extends up to 300 meters.
- » Digital Volume control/adjustment at -40 to +20dB.
- » 6 programmable groups, each up to 24 channels.
- » Username programmable.
- » Rugged, all-metal construction for lasting durability.
- » Complete the system with our compact-sized SIEM-121R body-pack receiver.

## **SIEM-121R**

- » The SIEM-121R is a wireless stereo body-pack receiver for use with the SIEM-121 monitoring system.
- » Allow you to shape the sound of your monitor mix with stereo & mono, HF booster and volume limiting.
- » Adjustable volume limiter sets the maximum level range for the volume knob.
- » Enables adjustment of left/right balance.
- » Updated high-contrast LCD screen optimizes user visibility.
- » Compact design (lighter and thinner) optimizes your wearing experience.
- » Up to 6-hours continuous use from 2 x AA batteries keep you going all night.
- » Complete the system with our compact-sized SIEM-121T wireless transmitter.

## 2.Specification

### 2-1 UHF PLL Single Channel Transmitter // SIEM-121T

Carrier Frequency Range	470~960 MHz
RF Output Power	10 mW
Nominal Frequency Deviation	±40KHz (MAX)
Audio Input Impedance	20kΩ
Nominal Input Level	-12 dBu
Maximum Input Level	AUX:12dBu, LINE:22 dBu
LCD Display	Key lock, Stereo/Mono, RF power, User Name, Group/Channel, Frequency, Input Selection, Sensitivity, Remoset ID
Audio input Connector	2 x Balanced XLR / Ø6.3mm phone Combo Socket
Audio Output Connector	1 x 6.3mm Stereo Phone Jack
Loop Out Connector	2 x 6.3mm Balanced Loop Out Socket
Switching Power Supply	100-240V
Dimensions	210mm(W)*42mm(D)*225mm(H)
Weight	1140g

### 2-2 UHF PLL Body-Pack Receiver // SIEM-121R

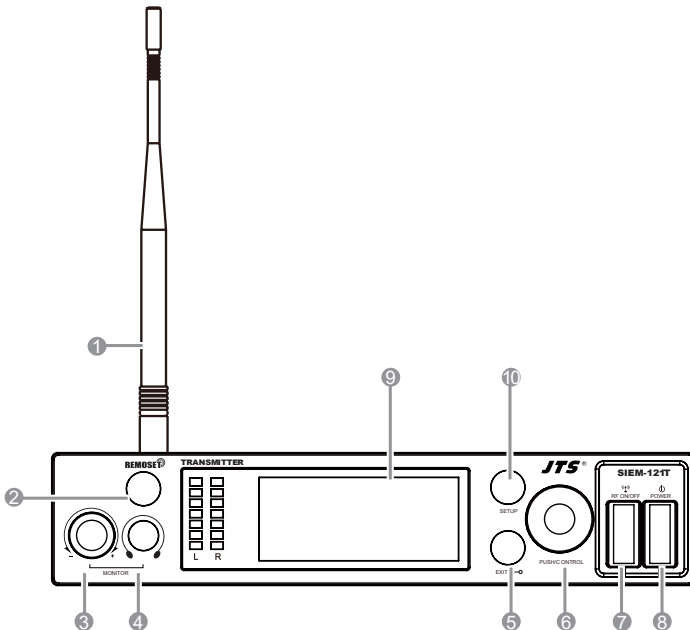
Carrier Frequency Range	470~960 MHz
Earphone Output.	60 mW
Minimum Load Impedance	16Ω
LCD Display	Antenna, RF, AF Level, User Name, Key lock, Battery Fuel Gauge, Stereo/Mono, HF booster, Limiter, Group/Channel, Remoset ID, Frequency
Output Connector	3.5mm Stereo Phone Jack
Battery	2*AA batteries or 2*MiNH rechargeable battery
Operation Hour.	Over 8 hours
Dimensions	65mm(W)*20mm(D)*95mm(H)
Weight	130g(without batteries)

# 3.Parts Identification

## 3-1 UHF PLL Single Channel Transmitter // SIEM-121T

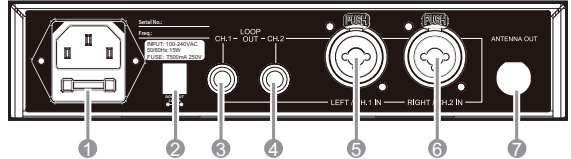
### 3-1-1 Front Panel

- ① Antenna
- ② REMOSET : When the setting is done on the transmitter, push REMOSET to transmit the settings to the receiver .
- ③ Volume Control
- ④ 6.3mm Stereo Phone Jack
- ⑤ EXIT/Lock Button: When the “Setup Menu” is displayed, you can press the EXIT Button to cancel the selection of any item or exit the menu. When the Setup Menu is not displayed, press and hold the EXIT Button for 3 seconds to lock/unlock the buttons. You can press the EXIT button to cancel the pairing when the device is in the process of pairing.
- ⑥ Knob: When in the “Function Setting Menu,” the Knob allows the selection of the desired functions up and down; push the rotary switch (or the SETUP) to enter the selection, rotate the Knob to select the desired setting and push SETUP to save it.
- ⑦ RF Power Switch
- ⑧ Power Switch
- ⑨ LCD Display
- ⑩ SETUP: Push and hold for 2 seconds to enter the “Setting Menu;” when the selection and setting is done with [ 6.Knob ], push SETUP to save the setting.



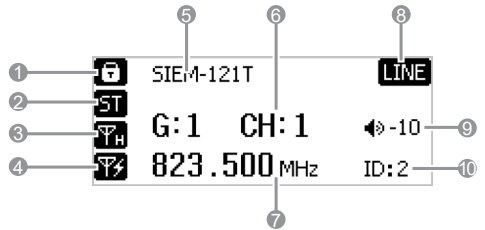
### 3-1-2 Rear Panel

- ① AC Power Socket and Fuse
- ② DC power socket: for 12V/1A DC power supply
- ③ Balanced Loop Out Connector CH.1
- ④ Balanced Loop Out Connector CH.2
- ⑤ Balanced XLR/φ6.3mm Combo Input Left / CH.1
- ⑥ Balanced XLR/φ6.3mm Combo Input Right / CH.2
- ⑦ BNC Antenna Output Socket



### 3-1-3 LCD Display

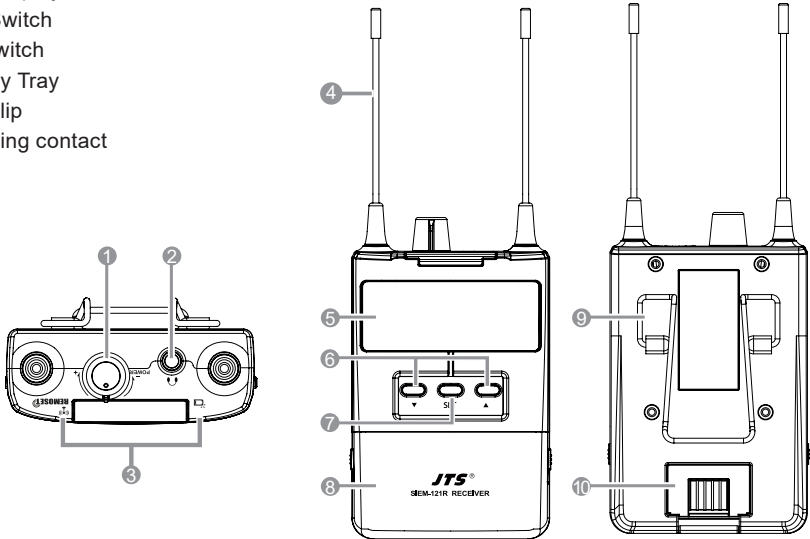
- ① Key lock status
- ② Stereo/Mono Indication: **ST**:Stereo, **Mo**:Mono
- ③ RF Power: **Yb**: High; **Yl**:Low
- ④ RF Switch status: **Yz**:RF ON, **Yx**:RF OFF
- ⑤ User Name
- ⑥ Current Group / Channel
- ⑦ Current Frequency
- ⑧ Input Selection: **LINE**:LINE input, **AUX**:AUX input
- ⑨ Sensitivity: -40 ~ +20 dB
- ⑩ Remoset ID



## 3-2 UHF PLL Body-Pack Receiver // SIEM-121R

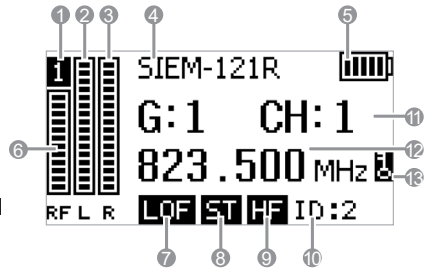
### 3-2-1 Receiver

- ① Power Switch and Volume Control
- ② 3.5mm Stereo Phone Jack
- ③ REMOSET/Battery indication
- ④ Antenna
- ⑤ LCD Display
- ⑥ ▲/▼Switch
- ⑦ Set Switch
- ⑧ Battery Tray
- ⑨ Belt Clip
- ⑩ Charging contact



### 3-2-2 LCD Display

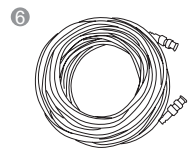
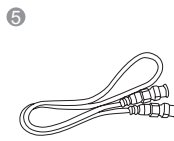
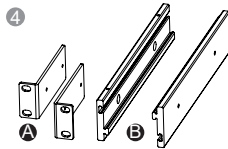
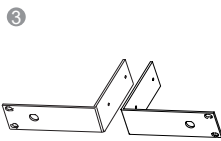
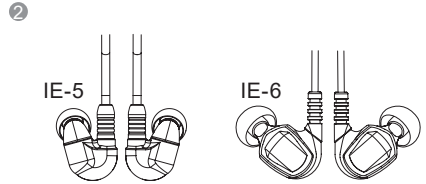
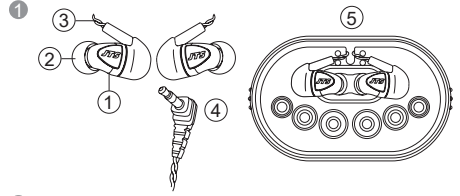
- ① Antenna indication 1 or 2
- ② AF Level Indication L-Channel
- ③ AF Level Indication R-Channel
- ④ User Name
- ⑤ Battery Indication
- ⑥ RF Level Indication
- ⑦ Limiter Indication: OFF **LOF** and LEVEL 1 **LT1** to 6 **LT6**
- ⑧ Stereo/Mono Indication: **ST** Stereo, **MO** Mono
- ⑨ High Frequency Booster Indication
- ⑩ Remoset ID
- ⑪ Current Group / Channel
- ⑫ Current Frequency
- ⑬ Key lock status





### 3-3 Accessories

- ① IE-1
  - 1. Earphone
  - 2. Silicon Sleeve
  - 3. Cord
  - 4. 3.5mm Stereo Phone Plug
  - 5. Case
- ② IE-5 / IE-6 (Optional)
- ③ RM-901 Rack Mount Kit (Optional)
- ④ RM-10 Rack Mount Kit (ARM-10E RM-10M) (Optional)
- ⑤ RTF-1 /RTF-3/RTF-10 Antenna Extension Cable (Optional)
- ⑥ RTF-20 Antenna Extension Cable (20 meters) (Optional)



## 4.Connection

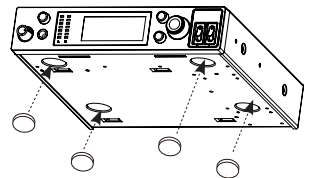
### 4-1 Connecting the SIEM-121T

#### 4-1-1. Set the rubber pad

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

#### 4-1-2. Attach the antenna

The user-friendly antenna comes with BNC connector. Connect the antenna on the rear of the transmitter and align it upward.



#### 4-1-3. Connect the main unit (Step 1)

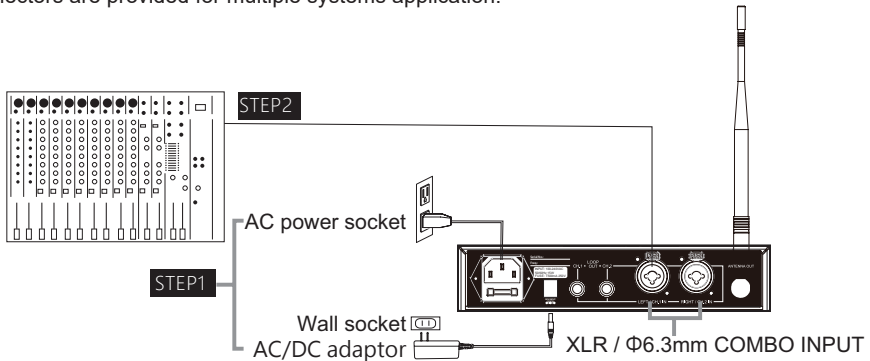
1. AC INPUT: Connect the AC INPUT in the rear panel of SIEM-121T to an AC power socket with the supplied AC power cord.
2. DC INPUT: Check that the DC current and voltage ratings of the adapter match the label on the unit. Connect the DC terminal to the "DC input" port on the unit, and the AC end to an AC socket.

#### 4-1-4. Connect the audio source, such as a mixer (Step 2)

Connect the mixer output to the XLR /  $\Phi 6.3\text{mm}$  combo input in the rear panel of SIEM-121T with the AF input cable.

NOTE1: Select either AC INPUT or DC INPUT to connect the main unit.

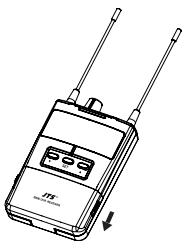
NOTE2: Two balanced XLR/  $\Phi 6.3\text{mm}$  combo inputs are provided. You may use either one input or both for a stereo source. Also, two balanced  $\Phi 6.3\text{mm}$  loop out connectors are provided for multiple systems application.



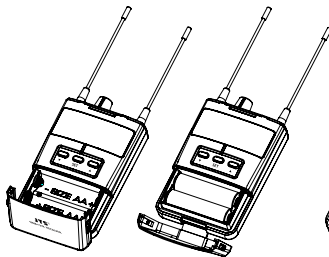
## 4-2 Installing the SIEM-121R

### 4-2-1 Receiver Battery Installation

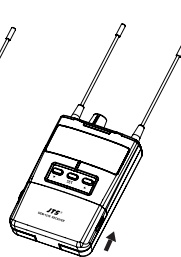
1. Open the battery cover by pulling down the magnetic latch on the side of the device. (Figure 1)
2. Place two AM3 batteries into the battery holder according to the polarity indication on it. (Figure 2)
3. Close the battery cover. (Figure 3)
4. Insert the headphone plug into the 3.5mm stereo headphone jack of the receiver to complete the installation.
5. Turn the power and volume knob to turn on the device/adjust its volume.
6. Set the parameters for the transmitter according to the instruction manual.



(Figure 1)



(Figure 2)

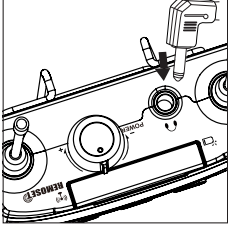


(Figure 3)

#### 4-2-2 Connect with the earphone

1. Plug the earphone into the jack of the receiver. (Figure 1)
2. Make sure the volume is at low level to avoid injury to your ears.
3. Insert earphones into your ear at a correct position. (Figure2)
4. Check if the silicon sleeve is suitable for your ear. If not, replace with other sizes of sleeves for comfort and best isolation. (Figure 3)
5. Make sure correct channels are chosen. The letter "R" and "L" on the earphones indicate the right and left channels respectively.

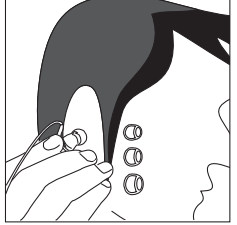
(Figure 1)



(Figure 2)



(Figure 3)



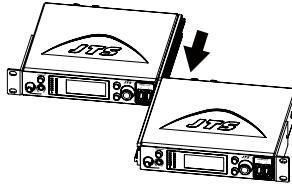
### 4-3 Optional Accessory

#### 4-3-1. RM-901/RM-10 Rack Mount Kit

Rack mount kit is available to install the half rack transmitter into a standard EIA rack.

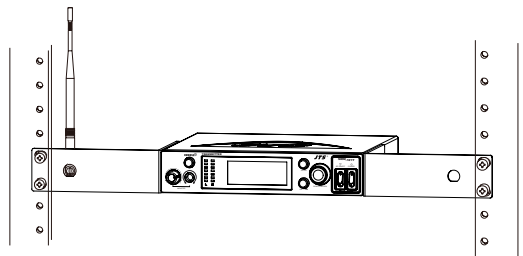
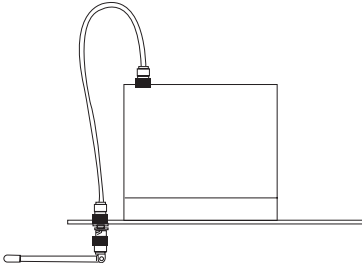


RM-10E/M



#### 4-3-2. RTF-1/RTF-3/RTF-10/RTF-20 Antenna Extension Cable

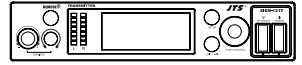
Antenna extension cable enables front mounting antenna which benefits reduction of RF interference.



# 5. Operation

## 5-1 Operation // SIEM-121T

1. Power On / Off: Turn on or turn off the transmitter by pressing the "POWER" switch.
2. Volume: Adjust the volume to a proper level.
3. Monitor Volume: Adjust the monitor volume to a proper level.



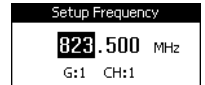
### Parameter setting

Push and hold "SETUP" for 2 seconds to enter the setting mode. Turn the Knob to select the desired item. Push the Knob (or SETUP) to enter the setting page. Spin the switch to select the desired value or function. Push SETUP to save the settings. Push EXIT to return to the previous page.

1. Frequency
2. Group
3. User Group
4. Stereo/Mono
5. Sensitivity
6. Input Selection
7. Remoset
8. RF Power
8. User Name
10. System Options
11. Exit

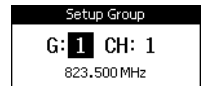
#### 1. FREQ: frequency setting

1MHz per unit	Select with ▲/▼
0.025MHz per unit	Select with ▲/▼



#### 2. Group: group/channel setting

G (group)	Select default group1~6
CH (channel)	Select default channel(s)



#### 3. User Group: groups and channels defined by user

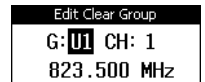
##### (1) Edit

G	U1~U6 (group no.)
CH	1~24 (channel)
---.---MHz (frequency setting)	

1. Edit
2. Clear Group
3. Return

##### (2) Clear Group

- #1 Turn the knob to select the group you want to delete and then press the knob to delete the group.
- #2 The frequency values of all channels in the group become "---.--- MHz".



Group: **U1**  
 Rotary to select  
 Push **[knob]** to clear  
 Push **[EXIT]** to return

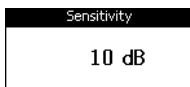
#### 4. Stereo/Mono

Turn the knob to select Stereo Mode or Mono Mode.



## 5. Sensitivity

Turn the knob to adjust the sensitivity, and the adjustable range is from -40 to +20 dB.



## 6. Input Selection

Turn the knob to select LINE/AUX input level.

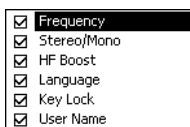
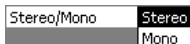
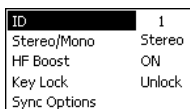


## 7. Remoset

Turn the knob to select an item to be set, and then press the knob to set its value. Press the knob again to return to the menu. After setting, press the SETUP Button to save the set value, or press the EXIT Button to cancel the setting.

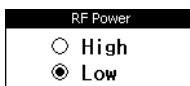
You can set the parameters for the receiver in this menu. After setting, return to the main menu and press the REMOSET Button to synchronize the pre-set receiver parameters to the receiver.

- » ID: Set the Remoset ID : 0~255
- » Stereo/Mono: Stereo/Mix setting of the receiver.
- » HF Boost: Set the high frequency boost function of the receiver.
- » Key Lock: Set the key lock of the receiver.
- » Sync Options: Selects the REMOSET synchronous transmission setting item. Rotate the knob to select the item, and press the knob to check the item; REMOSET only apply the sync transmission setting for the checked item.



## 8. RF Power

High	High transmitted power
Low	Low transmitted power



## 9. Edit User Name

Rotate the knob to select letters, numbers or symbols, then press the knob to enter and set the next word. 10 characters can be entered in total.



## 10. System Options

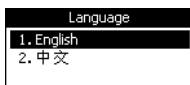
### (1) Display Options

Contrast	0~9 (default 5)
Brightness	0~9 (default 5)



### (2) Language

Rotate the knob to select "Language" in Chinese or English.



### (3) Factory Reset

YES	Restore factory settings
NO	Cancellation

This will erase all data from receiver's Internal Storage.

**No** **Yes**

## 5-2 Operation // SIEM-121R

### Parameter setting

Press the SET button for 2 seconds to enter the setting mode. By pressing the SET button repeatedly, you can enter different setting items in order, then you can press ▲/▼ button to set the parameters, and press SET again to save the setting and leave.

1. Frequency
2. Group/Channel
3. Scan
4. Stereo/Mono
5. HF Boost
6. Balance
7. Limiter
8. Audio Output
9. Remoset
10. User Name
11. Key Lock
11. System Options
13. Exit

#### 1. Frequency

1MHz per unit	Select with ▲/▼
0.025MHz per unit	Select with ▲/▼

Setup Frequency

**823.500** MHz  
G:1 CH:1

#### 2. Group/Channel

G (group)	Select default group1~6
CH (channel)	Select default channel(s)

Setup Group

G: **1** CH: **1**  
823.500 MHz

#### 3. Scan Settings

##### (1). Scan All Groups

To stop scanning at any time, just press the SET button.

Start Scanning	Press SET
To return to the menu	Press ▼

1. All Group
2. Scan Result
3. Current Group
4. Return

Scan All Group

**Return** **Start**

Scan All Group

Scanning... 10%

**Stop**

##### (2) Checking Scan Results

Once you've scanned all groups, you'll see the results on the screen. Use the ▲ or ▼ button to pick a group. Press SET, then choose a channel with ▲ or ▼.

Press SET again to save your choice (G/CH).

\*Remember, you need to scan all groups first to do this.

Scan Result

G: **1** CH: **1**  
Open Channel : 14

Scan Result

G: **1** CH: **1**  
Open Channel : 14

Scan Result

No Scan Data,  
Scan All Group First.

**Return**

### (3).Scan Current Group

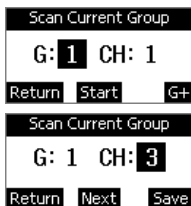
Choose a group with the ▲ button and press SET to start scanning it.

When it's done:

Press SET to go to the next channel.

Press ▲ to save your Group/Channel.

Press ▼ to go back to the main menu.



(4) If it's taking too long to find a channel, press SET to stop scanning.



### 4. Stereo/Mono

Stereo	Select ▲
Mono	Select ▼



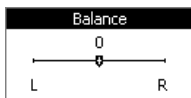
### 5. HF Boost

Enable	Select ▲
Disable	Select ▼



### 6. Balance

Adjust left and right channel volume balance: L10 ~ 0 ~ R10



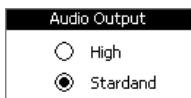
### 7. Limiter

Press ▲/▼ to turn off the function, LEVEL 1~6



### 8. Audio Output

High	Select ▲
Standard	Select ▼



## 9. Remoset

### (1) Remoset

Enabled (En)	Frequency can be matched to the transmitter.
Disabled (Dis)	No frequency can be matched to the transmitter.

### (2) Use ID

Enable	The ID must be the same as the transmitter in order to pair with the transmitter.
Disable	Pair with the transmitter regardless of the transmitter ID.

(3) Remoset ID : Press ▲/▼ button to select 0~255

(4) Save and leave: Save the setting value and return to the main menu.

(5) Leave without saving: Do not save the setting value and return to the main menu.

Note: Make sure the ID is the same on both receiver and transmitter.

1. Remoset	En
2. Use ID	Yes
3. ID	1
4. Save and Exit	
5. Exit without Save	

## 10. User Name

Press ▲/▼ key to select letters, numbers or symbols, press Set key to enter and set the next word.

Edit User Name	
SIEM-121R	1/10
NOPQR	STUVWX

## 11. Key lock

Lock	Select ▲
Unlock	Select ▼

Key Lock	
<input type="radio"/>	Lock
<input checked="" type="radio"/>	Unlock

## 12. System Options

### (1) Display Options

Contrast	0~9 (default 5)
Brightness	0~9 (default 5)

Display Options	
Contrast	5
Brightness	5

### (2) Light Time

Off, 5/10/15/20/25/30/60Sec, and Keep ON.

Light Time	
10 Sec	

### (3) Language

Rotate the knob to select "Language" in Chinese or English.

Language	
English	中文

### (4) Factory Reset

YES	Restore factory settings
NO	Cancellation

This will erase all data from receiver's Internal Storage.	
<input type="radio"/>	<input checked="" type="radio"/>
No	Yes



# 6. Installation Assignment

## 6-1 Basic Operation

### 6-1-1.Stereo

Set up the installation when two outputs from the mixer are left and right channels of a stereo mix. The left channel goes to the left ear, while the right channel goes to the right ear. Adjust the volume by using the balance control on the SIEM-121R.

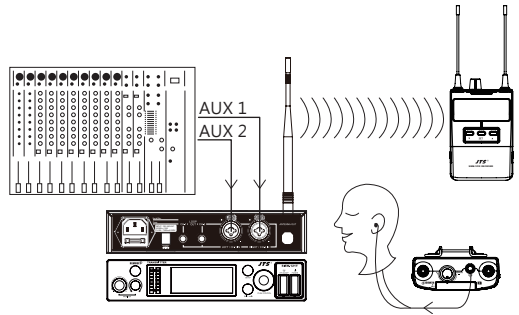
- 1.Connect the mixer outputs to the transmitter inputs.
- 2.Set SIEM-121 T to Stereo mode. (See 5-1)
- 3.Set SIEM-121 R to Stereo mode. (See 5-2)

### 6-1-2.Mix

Set up the installation when two outputs from the mixer are different mono mixes that go to both left and right earphones.

Make one mix louder than the other by using the balance control on the SIEM-121R. The total volume keeps at the same level in both ears.

1. Connect the mixer outputs to the transmitter inputs.
2. Set SIEM-121 T to Stereo mode. (See 5-1)
3. Set SIEM-121 R to Mix/Mono mode. (See 5-2)

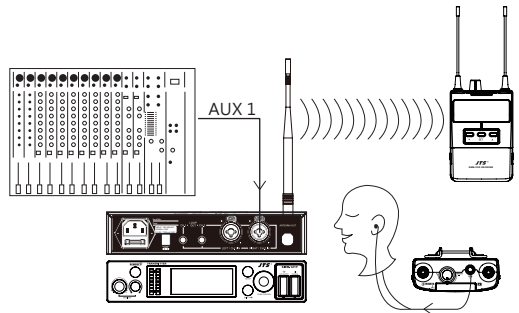


### 6-1-3.Mono

Set up the installation when only one output from the mixer.

1. Connect the mixer output to the transmitter input.  
( Either LEFT/CH.1 or RIGHT/CH.2 )
2. Set SIEM-121T to Mix/Mono mode. (See 5-1)

NOTE: Stereo or Mix/Mono mode of SIEM-121R will be no effect in this setup.

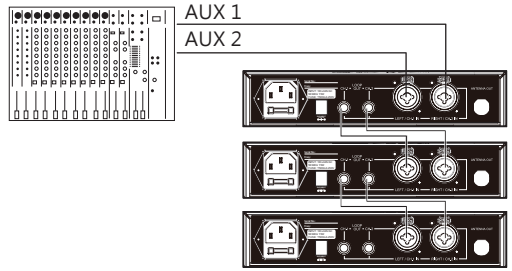


## 6-2 Loop Out Application

### 6-2-1. Stereo for Multiple Systems

Make use of the loop out connectors to deliver one stereo signal from the mixer to multiple SIEM-121T.

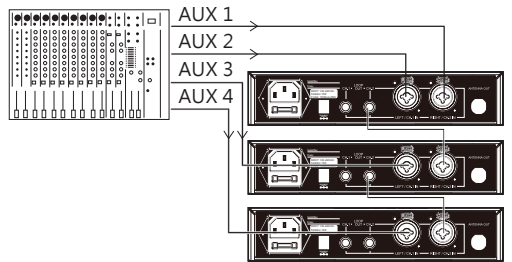
1. Connect the mixer outputs to inputs of the first transmitter.
2. Connect loop out connectors of the first transmitter to the second one.
3. Connect subsequent systems in the same way.



### 6-2-2. Mix For Multiple Systems

This installation enables each performer to create their own mix.

1. Send the band mix to input (Right / CH.2) of the first transmitter(AUX-1).
2. Connect loop out connector (CH.2) of the first transmitter to input (Right/CH.2) of the second transmitter.
3. Connect individual solo mix to input (Left/CH.1) of each performer's transmitter(AUX-2/AUX-3/AUX-4/...).



## 7. Recommendations

- » In order to achieve the optimum reception condition and also extend the operating distance, please leave an "open space" between the receiver and transmitter.
- » Keep the devices away from the metal objects or any interference sources, at least 50 cm.
- » Remove batteries from the battery compartment when the receiver will not be used for long time.
- » When you need to replace the batteries, please replace both batteries at the same time with new ones.
- » Make all connections before plugging the unit into an AC power outlet.
- » Do not leave the devices in a place with high temperature or high humidity.
- » Do not handle the power cord with wet hands.
- » Keep the devices away from fire and heat sources.
- » Avoid prolonged listening at overhigh volume. It may cause injury to your ears.
- » Caution : The suitable environment for this product is with a temperature between -10°C (14°F) and +50°C (122°F).



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