PLL

Agent:

ALIEN EARS

AEW-12

Professional Wireless Monitor System

Thank you for purchasing this product, please read this instruction carefully so that can understand how to operate the product of style you bought correctly. Please store this instruction in a safe place after reading as a reference in the furture.

USER MANUAL

TABLE OF CONTENTS

System Features

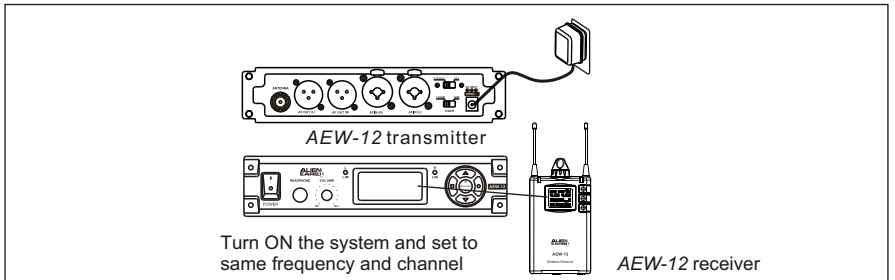
AEW12 Transmitter Features

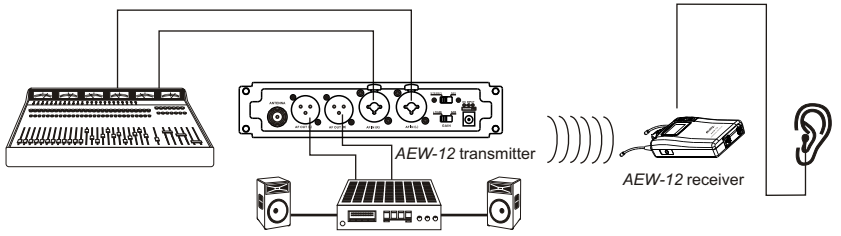
1. UHF-band PLL Synthesized design.
2. Frequency agility over a 25MHz bandwidth, with 48 pre-programmed frequencies available.
3. Built-in limiter circuitry eliminates distortion under excessive input levels.
4. Front panel monitoring headphone jack.

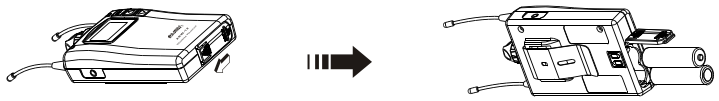
AEW-12 Receiver Features

1. UHF-band PLL Synthesized design.
2. Frequency agility over a 25MHz Bandwidth, with 48 Pre-programmed Frequencies available with the touch of a single button.
3. Dual-antenna true diversity reception Eliminating signal dropout and enhancing RF stability.
4. POWER on/off and RF signal indicators.

Quick Set-Up and Use Guide







Press the battery compartment door follow the direction instruction to open

Install the batteries follow the battery direction instruction which shown on the case of receiver

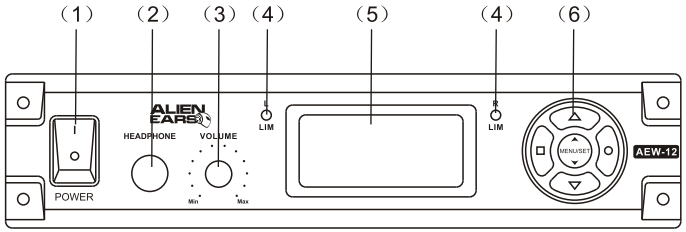
Performance Guide

Aim at the characteristic of ear, to care and prevent your ear and equipment, the normal sound pressure level of headphone is 90dB in a colsing circumstance. Hereinafter, the divisiory datum for user reference---on maximum time exposure to sound pressure levels before hearing damage occurs.

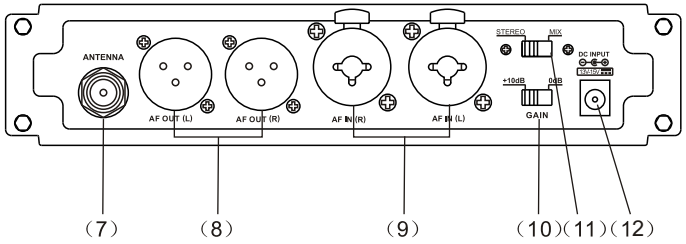
90 dB SPL at 8 Hours
95 dB SPL at 4 Hours
100 dB SPL at 2 Hours
105 dB SPL at 1 Hours
110 dB SPL at 30 Minutes
115 dB SPL at 15 Minutes
120 dB SPL -----Damage may occur

1. AEW-12 Transmitter

1.1 Controls and Features

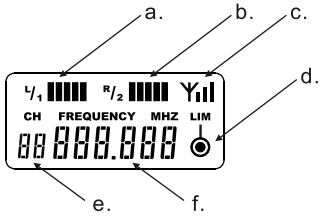


Front panel



Rear panel

1. Power Switch: Turns transmitter power ON/OFF.
2. Headphone Output Jack: Connects the headphone.
3. Headphone Volume Control: Adjust the volume of headphone.
4. Indicator of Volume Limiter: To indicate whether the limiter function works.
5. LCD: Display the working informations of transmitter.

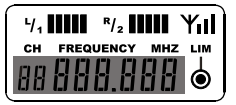


a. Level indicator of audio left/channel 1
b. Level indicator of audio right/channel 2
c. Indicator of transmission power
d. Indicator of volume limiter function
e. Channel indicator
f. Frequency indicator

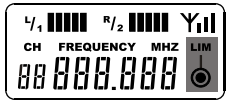
6. "Set" Button: To set and operate the transmitter.
7. Antenna.
8. Audio Output: Transport the audio signal to other equipment.
9. Audio Input: Input the audio signal from here.
10. Audio Gain Adjustment of Input.
11. Switching control for mono,stereo,mix mode.
12. DC Power Jack.

1.2 Transmitter Setting

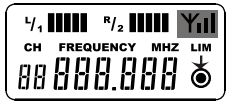
1) Frequency Setting: Short press "set" button to enter setting state; Then short press "MENU" setting button until the display of frequency/channel is flashing. Short press "▲" or "▼" setting button at one blow, the frequency/channel will turn up/down a level.
Length press "▲" or "▼" setting button, the frequency/channel will turn up /down continuously.



2) Volume Limiter Setting: Short press "set" button to enter setting state; Then short press "MENU" setting button until the indicator of volume limiter is flashing, short press "▲" or "▼" setting button to achieve the setting of volume limiter function.
"◉" Indicates that turn on the limiter function, to limit the volume in a range.
"○" Indicates that turn off the limiter function.

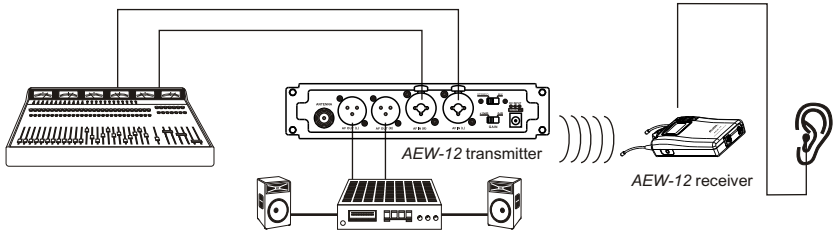


3) Transmission Power Setting: Short press "set" button to enter setting state; then short press "MENU" setting button until the indicator of transmission power is flashing, short press "▲" or "▼" setting button to achieve the setting of transmission power.



Attention
When progress setting, if none of action will be done for 3 seconds, the system will exit setting state automatically, and save the current setting.

1.3 System Configuration and Application



Here is one of the ways to configurate, connect the CD mixer or any audio equipment as the input parts . And connect to the amplifier, loudspeaker, recorder or any equipments as the output parts.

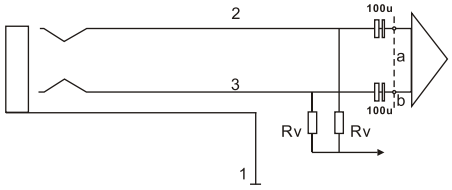
1.4 Transmitter Function

(1) Volume Limiter Function: When turnon the volume limiter,if the volume reach the level which set before, the volume will not increase anymore, at the same time, the limiter indicator will lights.
We suggest to turn on this function when using the system, it can protect the user’s audition and decrease the distortion.
To gain the best effect, turn on the transmitter, then adjust the output level of equipment until the volume limiter is flashing.

(2) Power: ▮ : RF Power≤10dBM
▮▮ : RF Power≤15dBM
▮▮▮: RF Power≤20dBM

(3) Gain Control Of Input Level: To the equipment in lower output level, operate in +10dB.

(4) Input Jack:

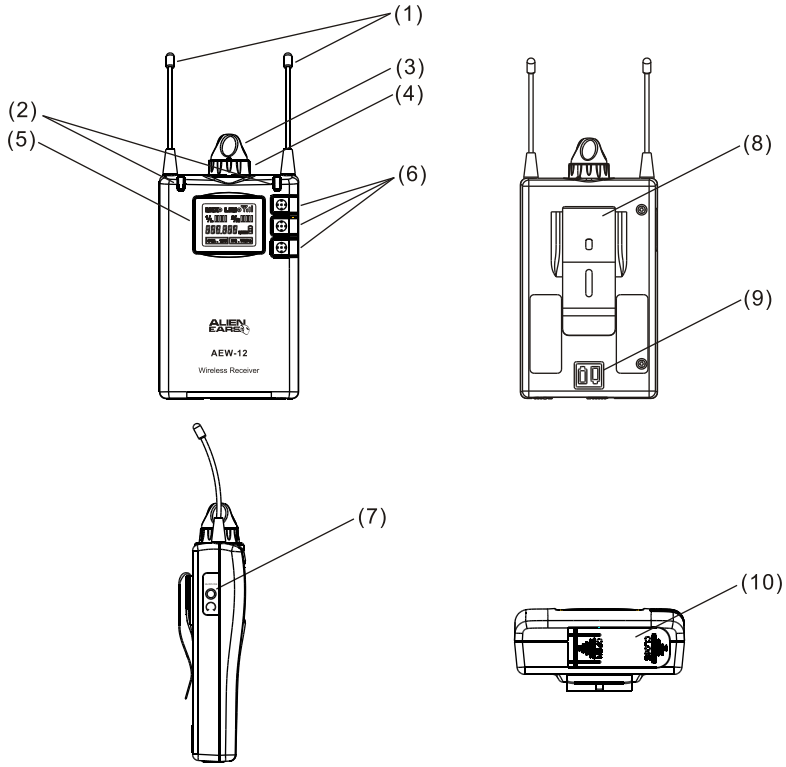


(5) Input Connector:

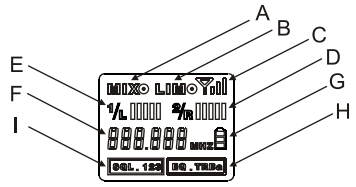
Unbalanced Input Connector Balanced Input Connector

2. AEW-12 Receiver

2.1 Controls and Features

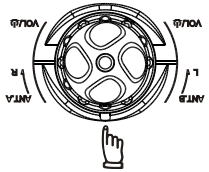


1. Antenna
2. Indicators of Antenna and Squelch: Indicates the signal of each channel.
3. Power On/Off and Volume control: Turn on the receiver and adjust the volume of headphone.
4. Audio Control: To replace the audio left and right.
5. LCD: Display the working informations of receiver.
6. “Set” Button: To set and operate the receiver.
7. Headphone Jack: Connect the headphone.
8. Belt Clip.
9. Direction Guide of battery installation: To install the battery follow the direction instruction.
10. Battery Compartment Door.

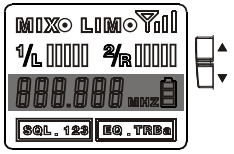


A. Stereo /Mix Output
B. Volume Limiting Function
C. Signal Intensity
D. Level of Channel2/Audio Right
E. Level of Channel1/Audio Left
F. Frequency/Channel
G. Battery Indicator
H. Audio Balanced Setting
I. Squelch Setting

2.2 Receiver Control



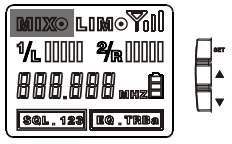
1. Audio Left/Right Control.
   In according to the indicator of receiver, rotate the audio control knob to adjust the audio left/right or channel 1/ 2.
   When indicating dot on the knob is turned to the mid-point, the audio left and right outputs are in geometric proportion.
2. ON/OFF/VOLUME Control.
   Rotate the ON/OFF/VOLUME knob to adjust the volume.
3. Frequency/Channel Setting.
   Length press the setting button "▲" or "▼" at one blow, the frequency/channel will flash to enter the state of frequency/channel setting.
   1) Short press "set" button to replace between frequency and channel.
   2) Short press the setting button "▲" or "▼", the frequency/channel will turn up/down a level.
   3) Length press the setting button "▲" or "▼", the frequency/channel will turn up/down continuously.



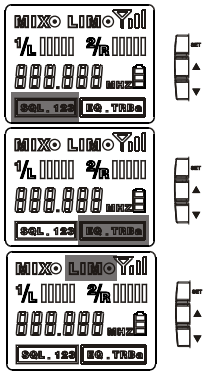
2.3 Receiver Setting

Short press "set" button to replace the states between "MIX" "LIM" "SQL" "EQ".

1) Mix/Stereo Output Setting: Short press "set" button until "MIX" is flashing, then short press "▲" "▼" button to turn on/off the "MIX" function. Turn on this function which will display as "MIX", it is the state of mix outputs to audio left and right(L+R). If adjust the audio left and right control knob in simultaneity, also can adjust the mix ratio of audio left and right. To turn off this function which will display as "MIX", meanwhile, it is the state of stereo output.



2) Volume Limiter Setting: Short press "set" button until "LIM" is flashing, then short press "▲" "▼" button to turn on/off the "LIM" function. To turn on this function which will display as "LIM", it will limit the volume in a range. To turn off this function which will display as "LIM".
3) Squelch Setting: Short press "set" button until "SQL" is flashing, then short press "▲" "▼" button to achieve the squelch setting.
4) Audio Balanced Setting: Short press "set" button until "EQ" is flashing, then short press "▲" or "▼" button to achieve the audio balanced setting.



Attention

When progress setting, if none of action will be done for 3 seconds, the system will exit setting state automatically, and save the current setting.

2.4 Battery Installation for Receiver

Press the battery compartment door follow the direction instruction to open

Install the batteries follow the battery direction instruction which shown on the case of receiver

2.5 Receiver Function

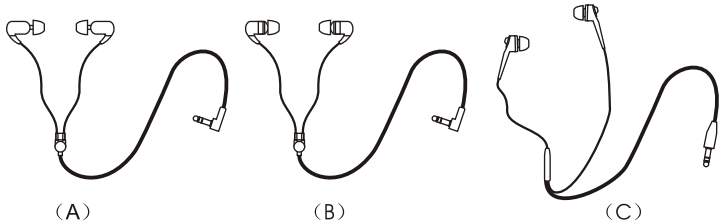
(1) Volume Limiter Function: When turn on the volume limiter, if the volume reach the level which set before, the volume will not increase anymore.
We suggest to turn on this function when use the system, it can protect the user's audition and decrease the distortion.

(2) Audio Balanced Setting:

EQ.TR	Alt up 6dB
EQ. Ba	Bourdon up 6dB
EQ.TRBa	Alt & Bourdon up 6dB
EQ.	Keep the original state

(3) Squelch Setting: When the signal is lower than the squelch setting, the signal indicator will light off, and the audio output is in squelch state.

2.6 Headphone



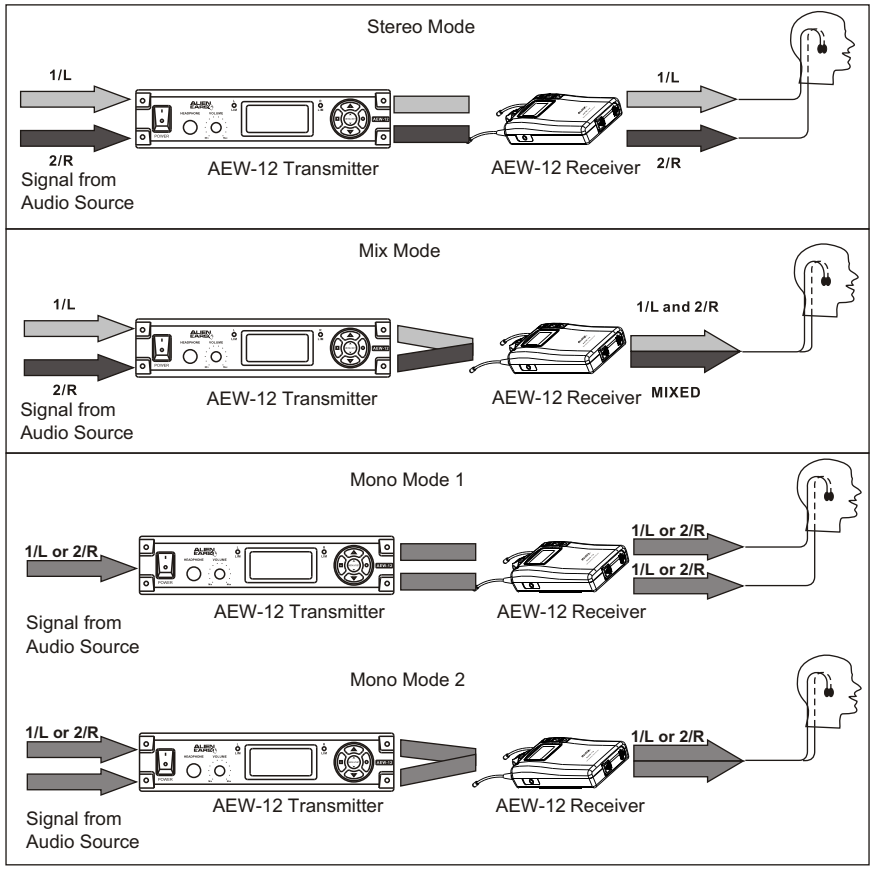
3. Mix Mode/Stereo Control

The receiver receives two signals (1/L and 2/R) from transmitter, then processes these signals in either mix mode or stereo:

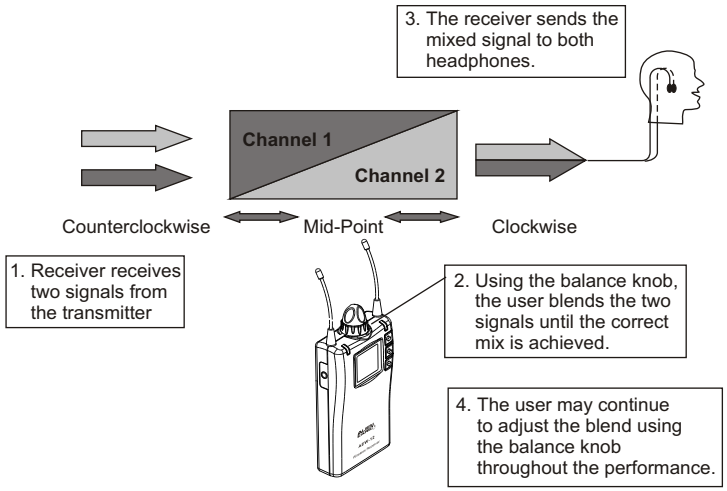
Stereo: In stereo, the signals remian separate so that 1/L is heard through the left headphone and 2/R is heard through the right headphone. The balance knob on receiver to adjusts the balance between the left and right headphones.

Mix Mode: In mix mode, the signals are "mixed" in relation to one another using the balanced into one signal. The one mixed signal is sent to both the left and right headphone.

Stereo Control	Used for conventional stereo monitor mixes
Mix Mode Control	Used for mixing and combining an individual mix between two distinct monitor sends
Mono Control	Used when only one(mono) monitor mix is available



4. Mix Mode Application



SYSTEM COMPONENTS

1.Receiver..... ×1
2.Transmitter ..... ×1
3.Headphone ..... ×1
4.Audio cable ..... ×2
5.AC power adapter for receiver..... ×1
6.19-inch equipment rack installation kit..... ×2
7.Battery 1.5V..... ×2
8.User guide..... ×1

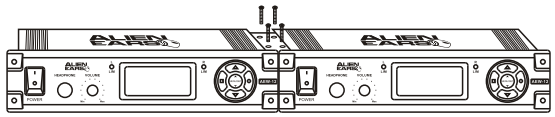
RACK MOUNTING DUAL RECEIVER

1.Align the receivers side by side so that front panels both face the direction

2.Place the supplied straddle bars in the recesses on the top and bottom of the receivers.

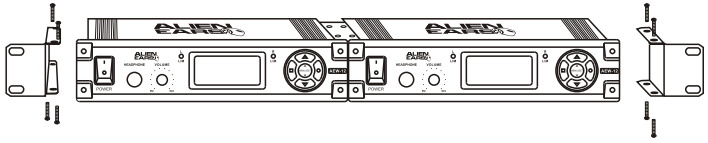
So the barsoverlap both receivesrs.

CAUTION:DO not over-tighten the screws.



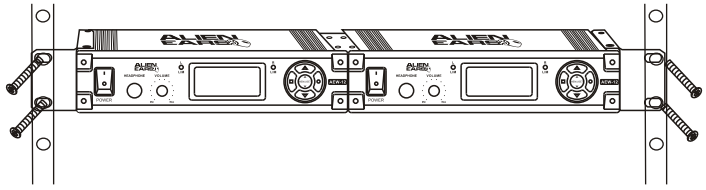
3.position the rack-mount brackets over the holes into the sides of each receiver.

4.Secure the brackets to the receivers with the supplied screws



5.Slide the linked receivers into a 19-inch audio equipment rack.

6.Secure the brackets to the rack using the supplied screws.



Specifications:

AEW-12 Transmitter

Frequency Range	720-865MHz
Bandwidth	25MHz
Oscillation Mode	PLL Synthesized
Frequency Stability	±0.005% 0℃~+50℃
Modulation	FM stereo modulation
Output Power	Low: <10mW; High: <100mW
Spurious Rejection	-60dBc
Max. Deviation Range	25KHz
Frequency Response	50~15,000Hz
T.H.D.	<0.5% (At maximum deviation range at 1KHz)
Audio Output	Line leve X2, XLR
Audio Input	6.3mm Φ phone jack X2
Headphone Output	6.3mm Φ stereo phone jack with adjustable volume
Headphone Output Impedance	⩾16Ω
Antenna Connector	TNT (50Ω impedance)
Dimensions	205X160X45mm

AEW-12 Receiver

Frequency Range	720-865MHz
Bandwidth	25MHz
Oscillation Mode	PLL Synthesized
Frequency Stability	±0.005% 0℃~+50℃
Modulation Mode	FM stereo modulation
Max. Deviation Range	±68KHz
Receiving Mode	Diversity receiving
Receiving Sensitivity	-107dBm
Squelch Level	-100dBm -90dBm -70dBm
T.H.D.	1%
Max. S/N Ratio	94dBA
Frequency Response	80-15,000Hz, ±3dB
Stereo Separation	35dB
Output Jack	3.5mm Φ stereo headphone jack
Output Power(32Ω)	2X50mW under 1KHz (T.H.D. 3%)
Headphone Impedance	⩾16Ω
Power Supply	2AA batteries
Current Consumption	150mA
Dimensions	123X65X27mm