CALIFONE WS Series Wireless Audio System Receiver User Manual

**WS-series
Wireless Audio System**

User Manual

WS-series Wireless Audio System

Thank you for purchasing the Califone® WS-series Wireless Audio System.

We encourage you to visit our website **www.califone.com** to register your product for its warranty coverage, to sign up to receive our newsletter, download our catalog, and learn more about the complete line of Califone® audiovisual products, including portable and installed wireless PA systems, multimedia players and recorders, headphones and headsets, computer peripheral equipment, visual presentation products, and language learning materials.

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IMPORTANT SAFETY INSTRUCTIONS

Before using this product, read the instruction manual for important safety information. Please retain this manual for future reference and warranty information.

Troubleshooting & Servicing

Do not attempt to service or repair the device yourself. Refer all servicing to qualified service personnel. Do not attempt to modify the device in any way. Doing so could invalidate your warranty.

Moisture and heat sources

Do not use this apparatus near water (for example, sinks, baths, pools) or expose it to rain, moisture, dripping, or splashing liquids. Do not expose the unit to high temperatures, high humidity, or direct sunlight.

Cleaning

When cleaning the device, please use a soft, dry cloth. Never use benzene, paint thinner, or other chemicals on the device.

Location

Place the device in a stable location, so it will not fall causing damage to the device or bodily harm.

Intended use

The product may only be used with the original parts intended for it. The product may only be used in closed and dry rooms. The intended use includes adherence to the specified installation instructions. The manufacturer accepts no liability for damage arising due to improper use.

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

IMPORTANT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The unit's circuitry may cause interference to nearby radios. To prevent interference, either switch the unit off or move away from the affected radio.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on,

the user is encouraged to try to correct the interference by one or more of the following measures:
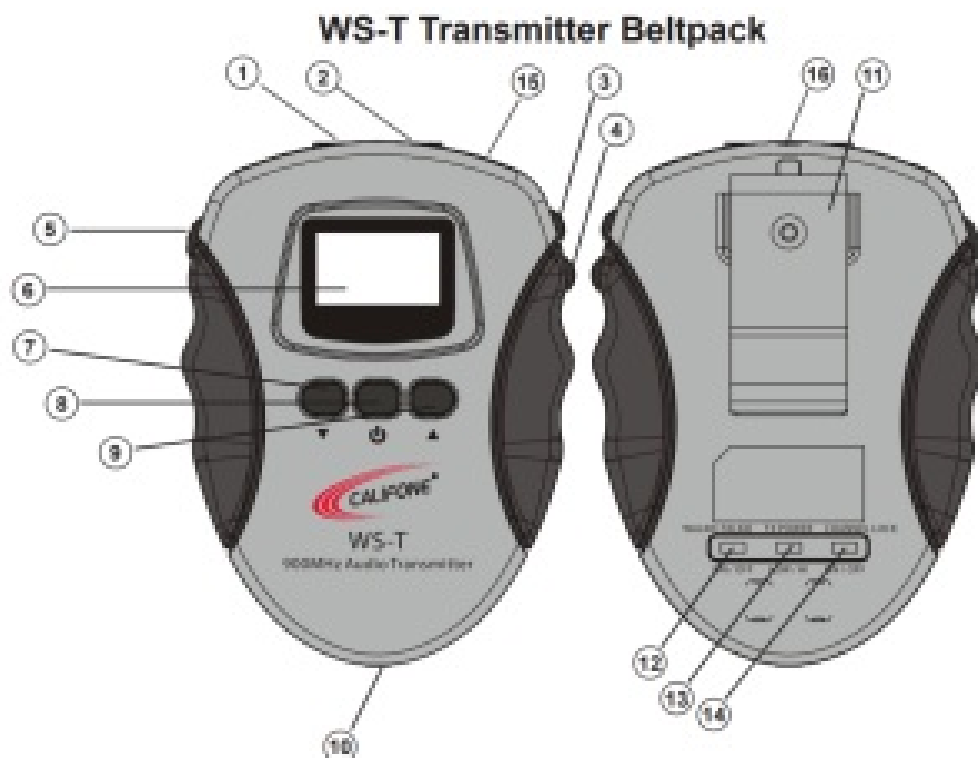
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

NOTE: Shielded cables may be required to be used with this unit to ensure compliance with the Class B FCC limits.
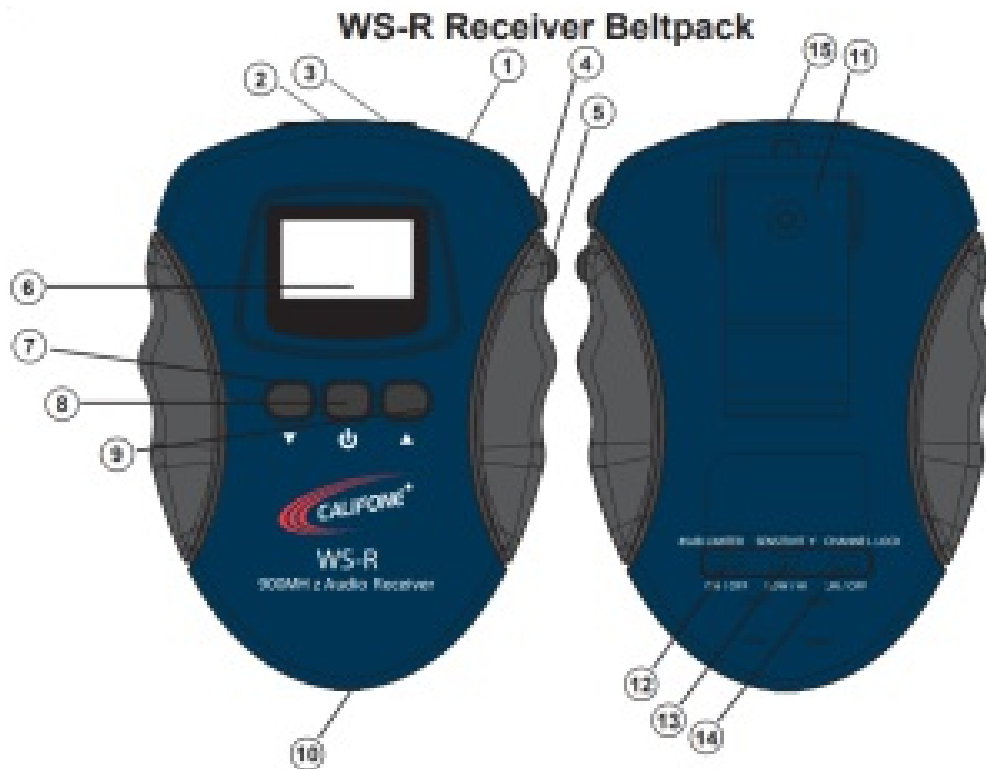
PACKAGE CONTENTS

- **NOTE:** Package contents will vary depending on the kit configuration chosen. The kit may or may not contain one or more of the following:
- WS-T Transmitter Beltpack
- WS-R Receiver Beltpack
- WS-CH 4x Charger
- WS-CHP Power Adapter for use with WS-CH
- WS-CR Charging Cradle with power adapter
- WS-CS12 Case (Includes 2 keys and 6 headphone pouches)
- User Manual

PART NAMES AND FUNCTIONS

WS-T Transmitter Beltpack

1. Line Input 2. Microphone Input 3. Volume Up 4. Volume Down 5. Walkie-talkie / Mute Button 6. LCD Screen 7. Channel Down 8. Power On/Off	9. Channel Up 10. Charging Jack 11. Belt Clip 12. Walkie-talkie On/Off Switch 13. TX Power Switch 14. Channel Lock Switch 15. Power Indicator LED 16. Hole for Lanyard

WS-R Receiver Beltpack

1. Power Indicator LED 2. Headphone Output 3. Headphone Output 4. Volume Up 5. Volume Down 6. LCD Screen 7. Channel Down 8. Power On/Off	9. Channel Up 10. Charging Jack 11. Belt Clip 12. 85 dB Limiter On/Off Switch 13. RX Sensitivity Switch 14. Channel Lock Switch 15. Hole for Lanyard

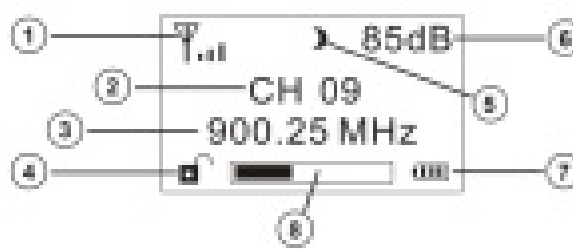## WS-CH 4x Charger

WS-CHP Power Adapter

WS-CR Charging Cradle

WS-CR Power Adapter

WS-T LCD Screen Layout

WS-R LCD Screen Layout

1. TX Power Indicator	1. RX Power Indicator
2. Channel Number	2. Channel Number
3. Channel Frequency	3. Channel Frequency
4. Channel Lock Indicator	4. Channel Lock Indicator
5. Walkie-Talkie Mode Indicator	5. Sensitivity Mode Indicator
6. Battery Level Indicator	6. 85dB Limiter Indicator
7. Volume Level Indicator	7. Battery Level Indicator
	8. Volume Level Indicator

SETUP AND INSTALLATION

4.1 USAGE AND POWER (WS-T & WS-R)

1. The WS-T and WS-R beltpacks may be worn on the belt for personal use (battery operation) or may be plugged into a WSCR cradle for use on a tabletop or mounting to a wall.
2. Before use, for best performance, be sure to recharge the belt packs using either the WS-CH 4x Charger or WS-CR cradle.

4.2 RECHARGING BELTPACKS WITH THE WS-CH

1. Connect the power adapter (WS-CHP) to the wall outlet and then to the DC IN jack on the back of the WS-CH 4x Charger.
2. Connect up to 4 WS-T or WS-R beltpacks to the charging leads on the WS-CH unit. The beltpacks will immediately begin charging. A red LED on the WS-CH indicates the unit is charging.

A green LED indicates that charging is complete.

3. For charging more than 4 beltpacks simultaneously, up to 3 WSCH chargers may be daisy-chained to recharge 12 beltpacks simultaneously.

NOTE: The belt pack may be operated while recharging.

4.3 RECHARGING A BELT PACK WITH THE WS-CR

1. Connect the power adapter (included with the WS-CR) to the wall outlet and then to the DC IN jack on the back of the WS-CR charging cradle.
2. Insert the WS-T or WS-R beltpack into the WS-CR unit until it clicks into place. The unit will immediately begin charging. A red LED on the WS-CR indicates the unit is charging. A green LED indicates that charging is complete; however, the LED will only turn green if the belt pack power is turned off.

NOTES:

- The belt pack may be operated while recharging.
- The cradle can be hung on the wall using standard screws.

4.4 POWER ON AND OFF (WS-T & WS-R)

1. To turn on the belt pack power, hold the power button for 2-3 seconds. The LCD will light up with the current settings. The power LED on the top of the belt pack will light green.
2. To turn off the belt pack power, hold the power button for 2-3 seconds.

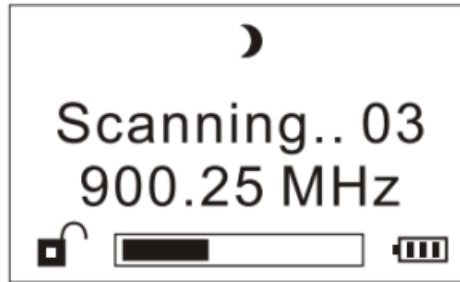**NOTE:** When the battery is running low, the power LED will turn red.

4.5 MANUAL CHANNEL SELECTION (WS-T & WS-R)

1. First, turn on the power of the WS-T or WS-R belt pack using the power-on procedure in section 4.4.
2. For the WS-T transmitter, ensure that the channel you want to use is not already in use and that the frequency is clear of any interference.
3. Change the channel on the belt pack. To do this, first ensure that the CHANNEL LOCK switch on the back of the unit is switched to OFF. Then press the CHANNEL UP or CHANNEL DOWN buttons to change the channel. To move quickly through the channel list, hold the CHANNEL UP or CHANNEL DOWN button.
4. Once the desired channel is selected, it's suggested to put the CHANNEL LOCK switch in the ON position so that the channel is not changed accidentally.

4.6 AUTO CHANNEL SELECTION (WS-T & WS-R)

1. First, power on all of the WS-T and WS-R beltpacks to be set on the same channel. Use the power-on procedure in section 4.4.
2. For the WS-T, ensure that the channel you want to use is not already in use and that the frequency is clear of any interference.
3. Change the channel of the WS-T transmitter to the desired channel using the procedure in section 4.5.

4. To automatically connect each WS-R receiver to the same channel as the WS-T, follow this procedure for each WS-R:

5. Ensure that the "CHANNEL LOCK" switch on the back of the unit is switched to OFF.

6. Position the WS-R within one foot of the WS-T transmitter to connect to.

7. Simultaneously press the CHANNEL UP and CHANNEL DOWN buttons and hold for > 3 seconds. The WS-R will now search for the transmitter.

8. Once successfully connected to the transmitter channel, the LCD will stop flashing. The channel should now be set to the same one as the WS-T.

9. Continue this process until all WS-R beltpacks have been set to the WS-T channel.

4.7 CONNECTING TO THE AUDIO INPUTS (WS-T)

1. To transmit audio from a microphone, connect the 3.5mm plug of the electret microphone into the mic jack.

2. To transmit audio from the line/headphone output from a media player/computer/etc. connect a 3.5mm adapter cable from the line output of the device to the line input jack on the WS-T.

4.8 CONNECTING HEADPHONES (WS-R)

1. Up to two headphones can be connected to each WS-R belt pack.

2. Use the VOLUME UP/DOWN buttons to adjust the volume to the desired level. Both headphone outputs are affected by the volume control.

4.9 SETTING VOLUME (WS-T & WS-R)
NOTE: Tapping the volume button will change the volume incrementally while holding down the button will result in a continuous increase or decrease.

1. Increase the volume on the WS-T.

2. Decrease the volume to a minimum on the WS-R.

3. Connect the headphones to the PHONE jack.

4. Increase the volume on the WS-R to the desired listening level.

5. To enable the 85 dB SPL limiter, switch the 85dB LIMITER switch on the back of the unit to the ON position. The LCD should display the "85 dB" indicator to indicate it's enabled.

CAUTION: Avoid excessive volume for long periods of time as this can result in hearing damage.
CAUTION: The 85 dB SPL Limiter will only work with headphones/headsets specifically sold by Califone for use with the WS-series products. Check with Califone to see if your headphones/headset is compatible with this feature.

BASIC OPERATION

5.1 WS-T OPERATION

TRANSMITTER POWER

The transmitter power of the WS-T can be adjusted using the TX Power switch on the back of the unit. If there is interference from other devices, the switch may be adjusted to the HIGH or LOW setting. Switch between the settings to achieve the desired range and audio quality.

NOTE: Due to FCC regulations, only the LOW setting should be used in the USA.

WALKIE-TALKIE FUNCTION

The transmitter may also function as a walkie-talkie. On the back of the unit, switch the walkie-talkie setting to ON. Then, press the side button while speaking to transmit sound. Audio will only be transmitted while the walkie-talkie button is pressed.

5.2 WS-R OPERATION

SENSITIVITY

The sensitivity of the WS-R can be adjusted using the sensitivity switch on the back of the unit. If there is

interference from other devices, the switch may be adjusted to the HIGH ⬤ or LOW 🌙 setting. Switch between the settings to achieve the desired range and audio quality.

TROUBLESHOOTING

Issue	Resolution
The unit does not power on.	Hold the Power button for 2-3 seconds. If the unit still does not power on, the unit may need to be recharged.
The channel will not change.	Check the back of the unit and make sure the channel lock is set to OFF.
The walkie-talkie does not work.	Check the back of the unit and make sure the walkie-talkie function is set to ON.
The audio does not work.	Check that the WS-T walkie-talkie switch is set to OFF. Or if it is ON, make sure to press the walkie-talkie button to transmit audio.
On the receiver, the volume does not increase sufficiently.	Set the volume on both the transmitter and the receiver.

SPECIFICATIONS & FEATURES

System Specs

Operational Range	Low TX Power / Low RX Sens.: > 100 feet ** Low TX Power / High RX Sens.: > 200 feet ** High TX Power / Low RX Sens.: > 200 feet ** High TX Power / High RX Sens.: > 300 feet ** ** Line-of-sight required. The range may be much lower due to obstructions and interference.
Frequency Response (Mic/Line Inputs)	100 Hz – 8 kHz +/- 3dB
THD + N% (Mic/Line Inputs)	< 3 %

WS-T Transmitter

Transmitter Channels / Frequency Range	16 channels 902 – 928 MHz
Power Requirements	Uses 3.7 V / 1800 mAh Li-Ion battery.
Transmit Channels	1 Channel (Mono)
Output Power	Low: 5 mW High: 10 mW
Sensitivity (Mic Input)	50 mV
Sensitivity (Line Input)	250 mV
Usage Time	> 11 hours
Battery Recharge Time	< 13 hours
S/N Ratio	> 60 dB
Product Dimensions	4″ x 3″x 1.25″
Product Weight (incl. accessories)	5 oz

WS-R Receiver

Receiver Channels / Frequency Range	16 channels 902 – 928 MHz
Receiver Sensitivity	Low: -85 dBm High: -95 dBm
Power Requirements	Uses 3.7 V / 1800 mAh Li-Ion battery.
Usage Time	> 7 hours
Battery Recharge Time	< 13 hours
Product Dimensions	4″x 3″x 1.25″
Product Weight (incl. accessories)	5 oz

WS-CH 4x Charger

Features / Description	Charges up to 4pcs WS-T or WS-R.
Power Requirements	WS-CHP Power adapter: 100-240VAC-50- 60Hz switching-type power adapter with DC 5V/6A output
DC IN Jack ID/OD	2.0 / 5.5 mm
Recharging Lead Plugs ID / OD	1.35 / 3.5 mm
Recharging Lead Length	4″
Product Dimensions	3.75″x 2.75″x 1.75″
Product Weight (incl. accessories)	4 oz (WS-CH) + 11 oz (WS-CHP) =15 oz (Total)

WS-CR Charging Cradle

Features / Description	Charges one WS-T or WS-R.
Power Requirements	Included 100-240VAC-50-60Hz switching-type power adapter with DC 5V/1A output
DC IN Jack Type	1.35 / 3.5 mm
Product Dimensions	4.5″x 3.25″x 4.5″
Product Weight (incl. accessories)	6 oz

WS-CS12 Case

Features / Description	- Carries up to 12pcs WS-T or WS-R + 1 pc WS-CR (w/ adapter) + 4pcs WS-CH + 1pc WS-CHP + 12pcs headphones + microphone accessories. 1.5″ Wheels - Retractable handle - Keyed Locks (Includes 2 keys) 6 pouches for headphones and accessories
Product Dimensions	21.5″x 15.5″x 9.25″
Product Weight	10 lbs

WARRANTY

Califone warrants this product to be free from defective material and workmanship for one year from the purchase date. Our "Project Intercept" Customer Satisfaction program will replace defective parts and repair malfunctioning equipment under this warranty when the defect occurs under normal use.

All Damage Claims Must Be Made With the Freight Carrier

Notify the freight carrier immediately if you observe any damage to the shipping carton or product. Repack the unit in the carton and await inspection by the carrier's claim agent. Notify your dealer of the pending freight claim.

Returning Your Unit for Service or Repairs

Should your unit require service, contact our Customer Service

Department online at califone.com/techsupport or via email **warranty@califone.com** or by phone at 800-722-0500 / 818-407-2400 to first obtain an RA (Return Authorization) number before returning it to Califone. The unit must be returned to our factory via prepaid transportation only after the factory issues an RA number, which must be clearly written on the outside of the box.

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Califone WS-series Rev 01 0110

Documents / Resources

CALIFONE WS Series Wireless Audio System Receiver [pdf] User Manual
WS Series, Wireless Audio System Receiver, WS Series Wireless Audio System Receiver, Audio System Receiver, Receiver

References

- 🌐 **califone.com**
- 🌐 **califone.com/techsupport**
- 🌐 **califone.com**