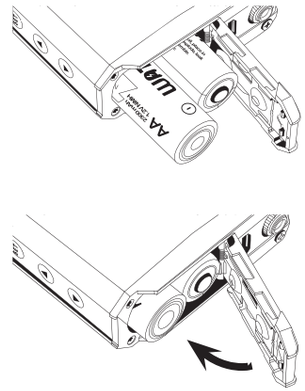
Getting Started

Installing the Batteries



1. Open the battery compartment by sliding the battery compartment door in the directions indicated by the arrow.
2. Install the batteries into the battery compartment. Make sure to match the polarity indicated on the inside of the battery compartment door.
3. Press the battery compartment door down, and slide it back into place until it locks shut.

Selecting the Battery Type

The first time the batteries are installed, the battery selection window will appear.

Select the setting that matches the type of battery you're using (Alkaline, Lithium, or rechargeable NiMH) by following these steps:

1. Use the Up/Down buttons to scroll to the appropriate battery type. [BATTERY ALKALINE]
2. Press the Set button.

Note: If you select the wrong battery type, the unit will still function, but the battery meter will be inaccurate.

To change the battery type from the main menu during use, see the *Battery* section under *Common Advanced Functions* on page 31.

Powering On the Units

Press and hold the power button. The OLED screen and LED indicators will illuminate.

Main Output

The receiver is capable of sending a balanced mic- or line-level output signal to devices with XLR inputs or 3.5 mm mini-plug inputs.

To set the output signal:

1. Press and hold the Set button to enter menu mode.
2. In menu mode, scroll to [MAIN OUT], and press the Set button. The menu selection will blink.
3. Use the Up/Down buttons to set the output level for your input device [-29 dB] to [8 dB].
4. Press the Set button to confirm the setting.

Headphone Output Volume

The headphone output signal can be preset to a preferred volume. Before you begin, make sure to determine a listening level that is comfortable for you.

1. Press and hold the Set button to enter menu mode.
2. In menu mode, scroll to [PHONEOUT], and press the Set button. The menu selection will blink.
3. Preset the headphone level to any value between [-29 dB] and [8 dB].
4. Press the Set button to save the change.

Note: The headphone level can still be adjusted with the Up/Down buttons (see *Setting Output Levels* on page 20).

Important! In order for pilot tone to protect against interference, the pilot tone option must be activated on both the transmitter and the receiver.

To activate pilot tone, follow these steps:

1. Press and hold the Set button to enter menu mode.
2. Scroll to [ADVANCED MENU], and press the Set button.
3. In the advanced menu, scroll to [PILOT], and press the Set button. The menu selection will blink.
4. Use the Up/Down buttons to select [ON]. Press the Set button to save the setting and activate the pilot tone.

When the pilot tone is active, [PLT] is displayed on the transmitter screen, and the transmitter's battery level indicator illuminates on the receiver.

To turn the pilot tone off, select [OFF] in the [PILOT] menu.

Display Orientation

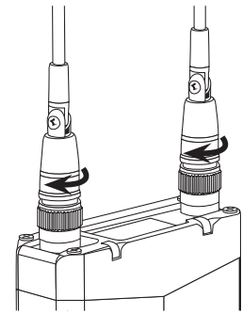
The orientation of the display can be changed so the display will always appear right side up. This provides extra flexibility for use, can be especially helpful when using the receiver in a bag as part of a larger setup.

To reverse the display, follow these steps:

1. Press and hold the Set button to enter menu mode.
2. Scroll to [ADVANCED MENU], and press the Set button.
3. In the advanced menu, scroll to [DISPLAY], and press the Set button. The menu selection will blink.
4. Use the Up/Down buttons to select [REVERSE], and press the Set button to save the change.

To return to normal screen orientation, select [REGULAR] in the display menu.

The battery icon indicates the battery level. The icon blinks to indicate a critically low battery level.



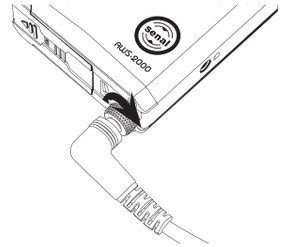
Attaching the Antennas

Screw the antennas clockwise into the threaded antenna sockets. Make sure they are tightly attached.

Connecting the Receiver

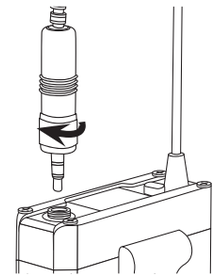
The AWS-2000 microphone system includes two output cables for devices with an XLR input or a 3.5 mm TRS input. The output cables feature right-angled locking 3.5mm connectors to allow for flexible positioning, whether the receiver is mounted on a camera or used in a bag. Choose the appropriate cable for your device, and follow these steps:

1. Plug the right-angle male 3.5 mm plug into the output jack on the bottom of the AWS-2000R receiver, and turn the locking sleeve clockwise until tight.
2. Connect the other end of the cable to your device.



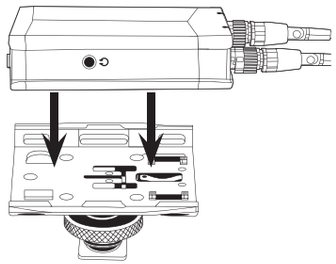
Connecting the Microphone

1. Plug the microphone's male 3.5 mm plug into the input jack on the top of the AWS-2000T transmitter.
2. Secure the cable by turning the locking sleeve clockwise until tight.



Mounting the Receiver

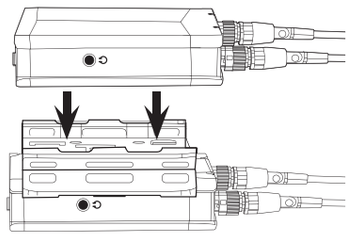
To use the AWS-2000 as a shoe-mounted wireless system mounted on a camera, follow these steps:



Camera Mount (for Use with One Receiver)

1. Align the camera mount with the back of the AWS-2000R receiver. Press it onto the receiver until it snaps into place.
2. Loosen the locking ring by turning it counterclockwise, and slide the mounting foot into your camera's shoe mount.
3. Tighten the locking ring by turning it clockwise until it's secure.

Dual Mount (for Use with Two Receivers)



1. Align the dual mount with the back of both AWS-2000R receivers. Press the receivers onto the mount until they snap into place.
2. Place the camera mount over the front of one of the receivers, and press it until it snaps into place.
3. To mount both receivers onto your camera, loosen the locking ring by turning it counterclockwise, and slide the mounting foot into your camera's shoe mount.
4. Tighten the locking ring by turning it clockwise until it's secure.

Advanced Functions

Receiver

Squelch

The squelch circuit prevents unwanted interference from compromising your audio. If the signal falls below a certain level, the output of the receiver is muted.

Squelch should be set at a level that is slightly above the level of audible interference.

Note: A high squelch setting requires a strong signal from the transmitter. Since the transmitter signal strength decreases with distance, a high squelch setting will decrease the range of your wireless system.

To activate squelch and set the level, follow these steps:

1. Press and hold the Set button to enter menu mode.
2. Scroll to [ADVANCED MENU], and press the Set button.
3. In the advanced menu, scroll to [SQUELCH], and press the Set button. The menu selection will blink.
4. Use the Up/Down buttons to select [HIGH], [MEDIUM], [LOW], or [OFF]. Press the Set button to save the setting.

Important! If you are experiencing a great deal of interference even when squelch is activated, scan for a clear frequency or channel (see *Auto Frequency Scanning* on page 14).

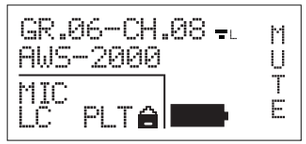
Pilot Tone

Pilot tone is an additional dimension of protection against unwanted interference. A 32.768 kHz tone is added to the signal from the transmitter. If the receiver doesn't detect this tone, it mutes the output. Without pilot tone, the receiver might not mute a strong interfering signal. Unless you're confident that there's no RF interference in your area, it's recommended to use the pilot tone at all times.

Mute (AWS-2000P Plug-On Transmitter)

Double-press the power button to automatically mute the transmitter in latch mode.

Double-press again to resume transmission.



Phantom Power (Plug-On Transmitter Only)

Phantom power is necessary if you are using a condenser microphone. To activate phantom power, follow these steps:

1. Press and hold the Set button to enter menu mode.
2. Scroll to [PHANTOM], and press the Set button. The menu selection will blink.
3. Use the Up/Down buttons to scroll to [ON], and press the Set button to save your selection.

To deactivate phantom power, return to the [PHANTOM] menu, select [OFF], and press the Set button.

Basic Operation

Power Button

- Press and hold to power the unit on and off.
- In menu mode, press to return to the main screen.
- In the advanced menu, press to return to the main menu.
- Double-press to toggle main and headphone output control function of the Up/Down buttons (Receiver only). See *Setting Output Levels* on page 20.

Set Button

- Press and hold to enter menu mode.
- Press to select a menu item in order to change its value.
- Press to select and save a new value of a menu item.

Up/Down Buttons

Use the Up/Down buttons to

- Adjust output level.

Note: The AWS-2000R receiver's Up/Down buttons are preset to adjust the main output level. The buttons can be changed to control the headphone output level (see *Setting Output Levels* on page 20).

- Navigate through menus.
- Change the values of menu items.

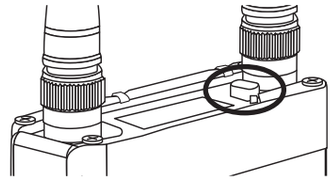
Frequency Scanning and Syncing Devices

Important! You should always scan for a clear frequency and sync your devices before each use.

The AWS-2000 offers an innovative one-touch scanning process to get you up and running in seconds.

Auto Frequency Scanning (AFS)

1. Power on the receiver and transmitter.
2. Press and hold the AFS button on the receiver to initiate a frequency scan. The receiver will scan all available frequencies and select one that is free of interference, [SCANNING] will appear on the screen. Once the scan is complete, [SYNC >>>] will appear on the screen, and the receiver will automatically send out a sync signal from its IR port.



3. Position the transmitter and receiver so their IR ports face each other. [SYNC ✓] will appear on the receiver's screen when the devices have been successfully synced.

If [SYNC ERROR!] appears on the screen, rescan by pressing and holding the AFS button again. Make sure the transmitter is turned on and that the IR ports are facing each other.

Note: The receiver sends an IR sync signal for approximately 10 seconds. If syncing is not accomplished in that time, you can restart the process by pressing and holding the AFS button again.

Manual Sync

To manually sync the receiver and transmitter to the same frequencies, follow these steps:

1. On the receiver, press and hold the Set button to enter the menu.
2. Use the Up/Down arrow buttons to scroll to [ADVANCED MENU]. Press Set to enter the advanced menu.
3. Use the Up/Down buttons to scroll to [SYNC], and press Set.

Lock

To lock the transmitter to prevent accidental changes to the output level, follow these steps:

1. Press and hold the Set button to enter menu mode.
2. Scroll to [LOCK], and press the Set button. The menu selection will blink.
3. Use the Up/Down buttons to select [LOCKED], and press the Set button to save your selection.

Mute (AWS-2000T Transmitter)

The mute button can be set for three different modes:

- **Latch:** Pressing the mute button mutes the transmitter. Pressing the mute button again resumes transmission.
- **Momentary:** The transmitter will be muted as long as the mute button is pressed down. Releasing the mute button resumes transmission.
- **Off:** This turns off the mute button and should be selected if there is a concern that the mute button could be accidentally pressed.

To set the mute button function, follow these steps:

1. Press and hold the Set button to enter menu mode.
2. Scroll to [ADVANCED MENU], and press the Set button.
3. In the advanced menu, scroll to [MUTE], and press the Set button. The menu selection will blink.
4. Use the Up/Down buttons to select between [LATCH], [OFF], or [MOMENTARY], and press the Set button to save your selection.
5. When muted, [MUTE] will appear in place of the audio input level meter.

3. In the advanced menu, scroll to [OUTPUT], and press the Set button. The menu selection will blink.
4. Use the Up/Down buttons to scroll to [TOG LOCK], and press the Set button.
5. When on the main screen, double-press the power button to toggle between Up/Down button control of the main output or the headphone output.

Transmitter & Plug-On Transmitter

Power Output Level

The AWS-2000T and AWS-2000P Transmitters feature two output level settings:

- **Lo (5 mW)** is ideal when the transmitter is relatively close (150 feet or less) to the receiver. It also provides the transmitter with approximately 20% more battery runtime.
- **Hi (30 MW)** allows the microphone to cover a wider area and more range. This setting is recommended if your subject is moving around or is consistently more than 200 feet from the receiver.

To change the transmitter's power output setting, follow these steps:

1. Press and hold the Set button to enter menu mode.
2. Scroll to [POWEROUT], and press the Set button. The menu selection will blink.
3. Use the Up/Down buttons to select the power output, and press the Set button to save your selection.

Input Level

The Up/Down buttons control the input level from [-15 dB] to [0 dB] on the transmitter or [-30 dB] to [0 dB] on the plug-on transmitter.

4. Press the Up/Down buttons until [SYNC YES] appears on the screen. Press Set to being syncing.
5. Position the receiver's IR port so it faces the transmitter's IR port. This will sync the transmitter to the frequency from the receiver. [SYNC ✓] will appear on the receiver's screen when the devices have been successfully synced.
6. When syncing is complete, confirm that the receiver and transmitter are tuned to the same channel.

If [SYNC ERROR!] appears on the screen, repeat the previous steps. Make sure the transmitter is turned on and that the IR ports are facing each other.

Manual Channel or Frequency Selection

The frequency or channel selection can be initiated on either device. To manually select the operating frequency, follow these steps:

By Channel

The AWS-2000 operating frequency can be adjusted with preset channels that are programmed to be intermodulation free. If two AWS-2000 systems are operating in the same space, selecting different channels will assure that the two systems will not cause any disruptive intermodulation with each other.

1. On the receiver, press and hold the Set button to enter the menu.
2. Use the Up/Down buttons to scroll to [TUNE], and press the Set button.
3. Use the Up/Down buttons to scroll to the [CHANNEL] prompt, and press the Set button. The group number will flash.

4. Use the Up/Down buttons to select the group number, and press the Set button to store it. The channel number will flash.
5. Scroll to the desired channel number, and press Set to store it. The receiver will automatically prompt you to sync the system.
6. With [SYNC] on the screen, press the Set button. The Yes/No prompt will flash on the screen.
7. Press the Up/Down buttons until [YES] flashes on the screen, and press the Set button. The sync indicator arrow will show on the screen.
8. Make sure the Transmitter and the Receiver IR ports are facing each other until [SYNC ✓] appears on the screen of the device that's initiating the sync.
9. When syncing is complete, confirm that the receiver and transmitter are tuned to the same channel.

By Frequency

1. Press and hold the Set button to enter menu mode.
2. Use the Up/Down buttons to scroll to [TUNE], and press the Set button.
3. Use the Up/Down buttons to scroll to the [FREQUENCY] prompt, and press the Set button.
4. Use the Up/Down buttons to manually tune the frequency in 0.025 MHz increments.

   Press and hold to scroll rapidly through the available frequencies.
5. Once you have selected the desired frequency, press Set to store it. The receiver will automatically prompt you to sync the system.

2. Use the Up/Down buttons to adjust the headphone output. The screen will read [PHONE OUT] along with the output level [-29 dB] to [8 dB].
3. Press the Set button to save the change.

After approximately 7 seconds, the Up/Down buttons will return to control the main output.

Note: Double-pressing the power button will toggle to control the main output level if the Up/Down buttons are preset to control the headphone output (see *Headphone Output* below).

Headphone Output

To preset the Up/Down buttons to control the headphone output, follow these steps:

1. Press and hold the Set button to enter menu mode.
2. Scroll to [ADVANCED MENU], and press the Set button.
3. In the advanced menu, scroll to [OUTPUT], and press the Set button. The menu selection will blink.
4. Use the Up/Down buttons to scroll to [PHONE], and press the Set button to save the selection.

The Up/Down buttons will now control over the headphone volume.

Double-press the power button for temporary control the main output with the Up/Down buttons (see *Toggling the Output Control* on page 20).

Toggle Lock

When Toggle Lock is activated, double-pressing the power button permanently changes the output level functions of the Up/Down buttons.

1. Press and hold the Set button to enter menu mode.
2. Scroll to [ADVANCED MENU], and press the Set button.

Setting Output Levels

AWS-2000R Receiver

Main Output

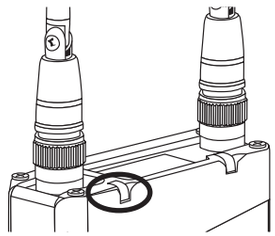
The main output controls the signal level that is sent to the input device (camera or recorder) via the 3.5 mm jack on the bottom of the AWS-2000R receiver.

1. Use the Up/Down buttons to adjust the output. The Screen will read [MAIN OUT] along with the output level [-29 dB] to [8 dB].
2. Press the Set button to save the change.

Set the output level so the input device receives a high signal level without distorting.

Peak Indicator

The peak indicator lets you know if the output signal to the recording device is too strong and distorting.



Solid blue

The output level is normal and is not distorting.

Occasional red flashes

The output signal is peaking and possibly causing distortion. Adjust the levels of the transmitter and receiver down to avoid these signal peaks.

Toggling the Output Control

The AWS-2000R receiver features a toggle function that lets you quickly switch the Up/Down buttons' control of the main or headphone output.

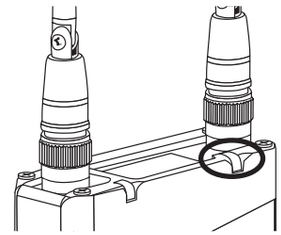
1. Double-press the power button. [OUTPUT PHONE] will appear on the screen.

6. With [SYNC] on the screen, press the Set button. The Yes/No prompt will flash on the screen. Use the Up/Down buttons until [YES] flashes on the screen, and press the Set button. The sync indicator arrow will show on the screen.
7. Make sure the Transmitter's and the Receiver's IR ports are facing each other until [SYNC ✓] appears on the screen of the device that's initiating the sync.
8. When syncing is complete, confirm that the receiver and transmitter are tuned to the same channel.

If [SYNC ERROR!] appears on the screen, repeat steps 1 through 7 above. Make sure the transmitter is turned on and that the IR ports are facing each other.

RF Indicator

The RF indicator will display the status of the connection between the transmitter and receiver.



Solid red:

The receiver does not detect an RF signal. If the transmitter and receiver are synced and set to the same channel, a solid red LED indicates that the transmitter is out of range.

Solid blue:

The receiver detects a strong RF signal.

Intermittent red and blue:

If the transmitter is synced with the receiver, this indicates that the transmitter is nit receiving a strong signal and the transmitter is almost out of range. Move the transmitter closer to the receiver until you see a steady blue light.

If the transmitter has not been synced with the receiver, the receiver is set to a frequency that has interference. Rescan for an open frequency.

Lock

- **Locked** disables all of the buttons to prevent accidental changes to the settings.
- **On w/Level** locks all functions except the output level control (Up/Down buttons). Use this setting for quick access to output level changes without changing any of the other settings.
- **Unlock** restores the functions of all the buttons.

To change the lock setting, follow these steps:

1. Press and hold the Set button to enter menu mode.
2. Scroll to the [LOCK] menu, and press the Set button. The menu selection will blink.
3. Select [LOCKED], [ONW/LEVEL], or [UNLOCK], and press the Set button to store the change.

Note: Even when the transmitter or receiver is locked, you can still access menu mode by pressing and holding the Set button.

Setting Input Levels

AWS-2000T Transmitter and AWS-2000P Plug-On Transmitter

The transmitter and plug-on transmitter can be set to MIC or LINE input.

- Select [LINE] when sending a line-level signal from devices such as a mixer or playback device. Selecting [LINE] sets the input level to a fixed line level.
- Select [MIC] when connecting a microphone to the transmitter. Selecting [MIC] allows you to adjust the input level from -15 to 0 dB on the transmitter, or -30 to 0 dB on the plug-on transmitter.

To set the input level, follow these steps:

1. Press and hold the Set button to activate menu mode.
2. Use the Up/Down buttons to scroll to the [INPUT] menu, and press the Set button to enter the input preferences. The current input selection will blink.
3. Use the Up/Down buttons to select [MIC] or [LINE].
   - If you choose [LINE], press the Set button to store the selection.
   - If you choose [MIC], press the Set button. The input dB level, e.g., [-6dB] will appear on the screen. Use the Up/Down buttons to raise or lower the input level. Press the Set button to store the change.

FCC Caution:

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.

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

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.

The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types AWS-2000T (FCC ID: 2ACZKAWS2KT) AWS-2000P (FCC ID: 2ACZKAWS2KP) has also been tested against this SAR limit. The highest reported SAR values for 1g body-worn Tissue is 0.55 W/kg for AWS-2000T, 0.07W/kg for AWS-2000P, respectively. This device was tested for typical body-worn operations with the back of the handset kept 5mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain a 5mm separation distance between the user's body and the back of the handset. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.