

Table of Contents:

Introduction.....**2**
 Precautions.....**3**
 Box Contents**3**
 Overview**4-9**
 Getting Started**10-12**
 Basic Operation **13-18**
 Setting Input Levels**19**
 Setting Output Levels**20-24**
 Advanced Functions.....**25-29**
 Common Advanced Functions.....**30-32**
 Frequency Chart.....**33**
 Troubleshooting..... **33-34**
 Specifications**35**
 Warranty.....**36**



| AWS-2000

BROADCAST ADVANCED WIRELESS MICROPHONE SYSTEM

Thank you for choosing Senal.

The Senal AWS-2000 is a versatile, lightweight, yet rugged wireless system that is ideal for a wide variety of professional uses such as ENG, interviews, conferences, lectures, and live theater production. The included AWS-2000T beltpack transmitter, AWS-2000R camera mount receiver, and optional AWS-2000P plug-on transmitter have an operating range of up to 500 feet. Each component is packed with features that will enable production sound mixers and ENG camera operators to capture broadcast-quality audio. The intuitive design and an uncomplicated menu structure make the AWS-2000 system easy to set up and effortless to use.

The portable receiver features a one-touch frequency scan and infrared sync that allows you to effortlessly find a clear channel for your devices. This true-diversity receiver uses dual antennas and reception circuits that eliminate audio dropouts and RF interference. To further protect audio from unwanted interference, the AWS-2000 system includes 3-level squelch and pilot tone. Other features such as selectable mic/line input and variable RF power output give this wireless system the ability to deliver clean, accurate, and pristine audio.

Each component is powered by two AA batteries. An integrated Micro-USB port can be used to charge NiMH batteries without removing them from the battery compartments. Advanced OLED display technology provides easy-to-see screens, even in dim lighting conditions. Top display orientation assures that the displays are easy to read regardless of where they're mounted or carried. Removable antennas make this wireless system compact and easy to transport, and allows you to easily change an antenna if it's damaged. Rugged metal housing on each component makes the AWS-2000 system ideal for travel or location use and able to withstand the rigors of the most demanding environments.

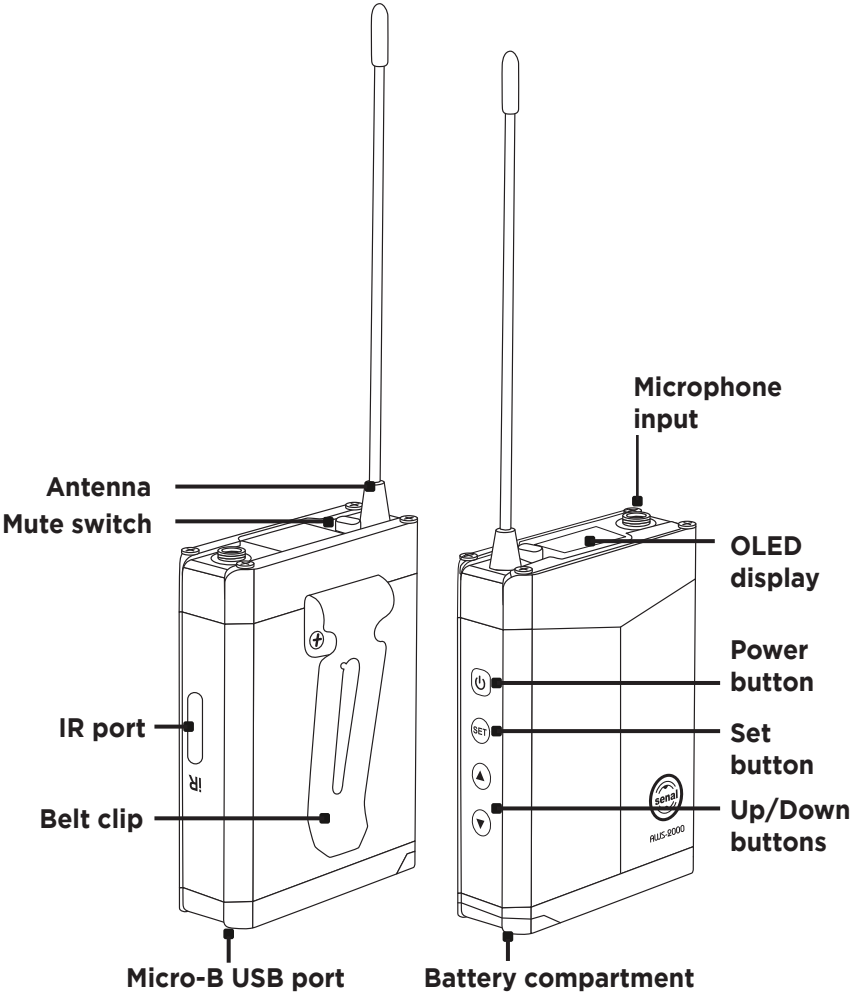
Precautions

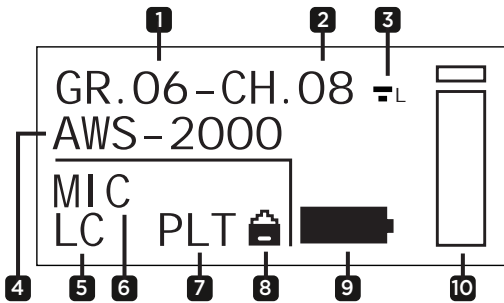
- Please read and follow these instructions, and keep this manual in a safe place.
- Keep this unit away from water and any flammable gases or liquids.
- Use only the correct, recommended voltage.
- Do not attempt to disassemble or repair the equipment—doing so will void the warranty, and Senal will not be responsible for any damage.
- Clean the units with only a soft, dry cloth.
- Use only parts, accessories, and attachments provided by the manufacturer.
- Make sure that this product is intact and that there are no missing parts.
- To avoid damage to this product, be careful not to overtighten or improperly thread any of the threaded fittings.
- Exposure to high sound levels can cause permanent hearing loss. Avoid listening at high volumes for extended periods of time.
- All images are for illustrative purposes only.

Box Contents

- AWS-2000T Beltpack transmitter
- AWS-2000R Portable true-diversity receiver
- Balanced locking Mini-to-XLR output cable
- Locking Mini-to-Mini output cable
- Camera mount for AWS-2000R
- Dual mounting bracket
- Carry case
- Antennas (×2)
- AA batteries (×4)

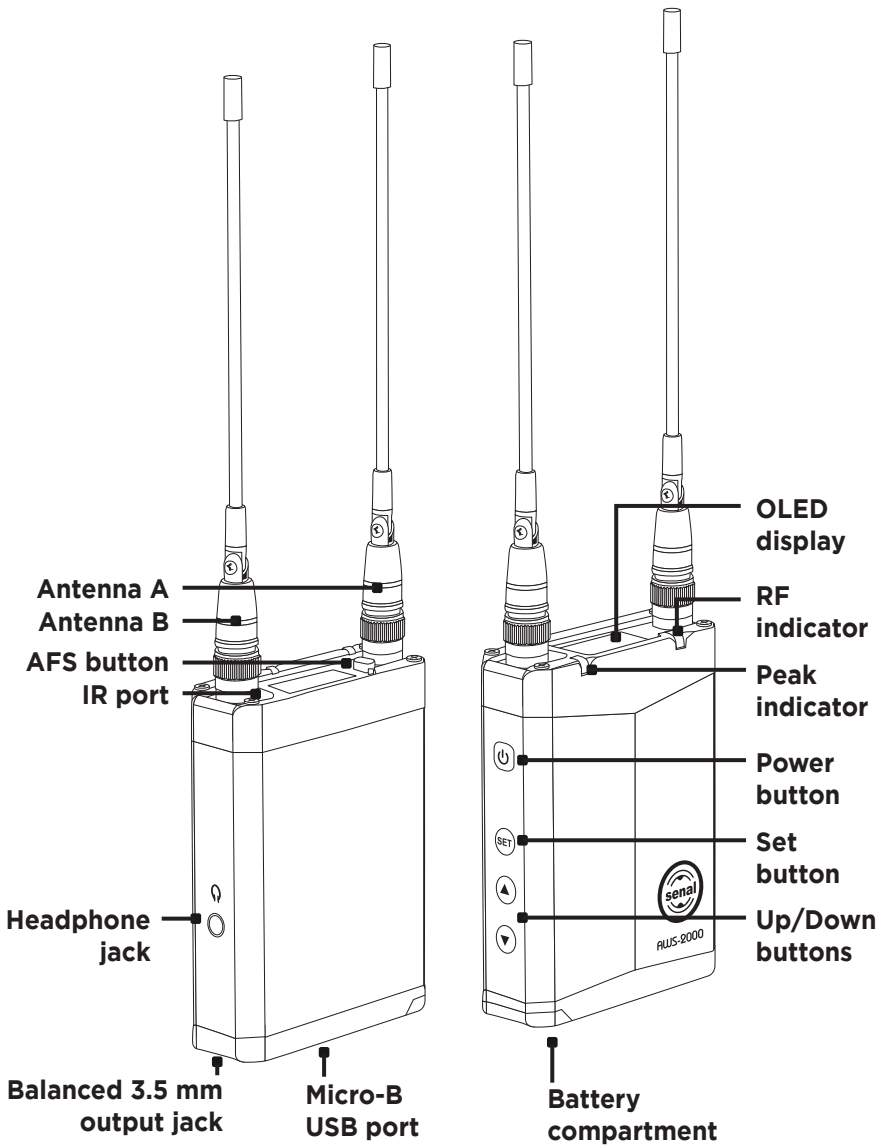
Overview AWS-2000T Body-Pack Transmitter

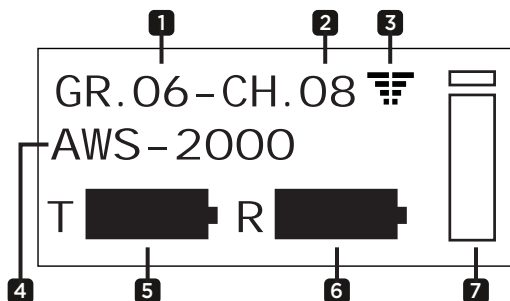




1. Group number
2. Channel number
3. Transmission power indicator
4. Device name
5. Low cut filter
6. Input level indicator
7. Pilot tone indicator
8. Lock indicator
9. Battery level indicator
10. Audio input level meter

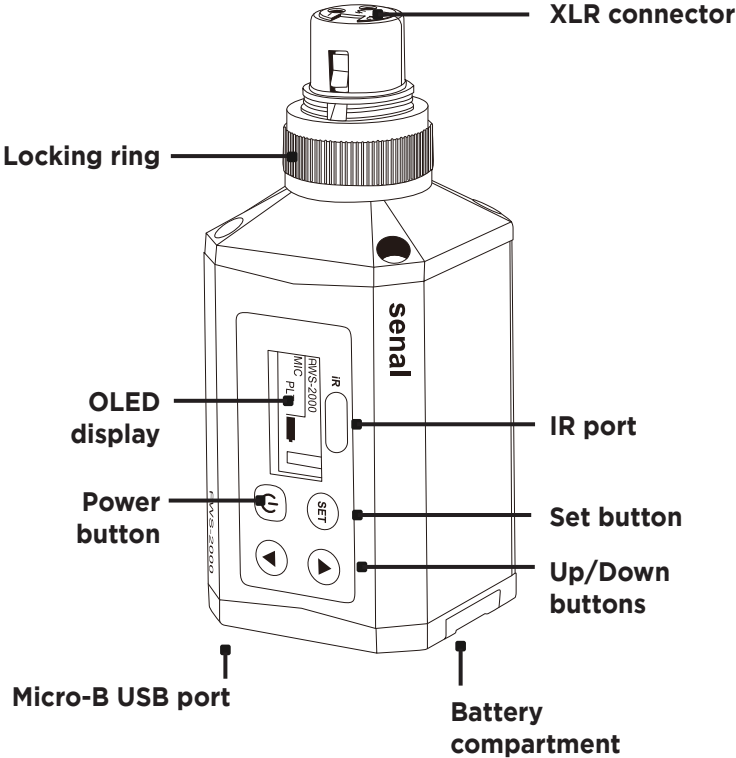
Overview AWS-2000R True Diversity Receiver

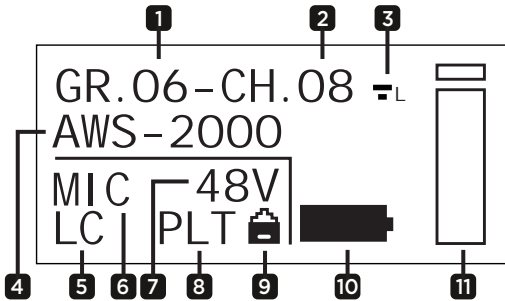




1. Group number
2. Channel number
3. Antenna reception level indicator
 - Icons for left and right antenna reception level should appear as pictured. If they don't, refer to the *Troubleshooting* section at the end of this manual.
4. Device name
5. Transmitter battery level indicator
 - The transmitter's battery level indicator will not appear on the receiver screen unless pilot tone is turned on (see *Pilot Tone* on page 25).
6. Receiver battery level indicator
7. Audio input level meter

Overview AWS-2000P Plug-On Transmitter



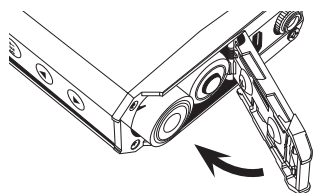
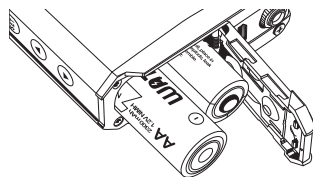


1. Group number
2. Channel number
3. Transmission power indicator
4. Device name
5. Low cut filter
6. Input level indicator
7. Phantom power indicator
8. Pilot tone indicator
9. Lock indicator
10. Battery level indicator
11. Audio input level meter

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.

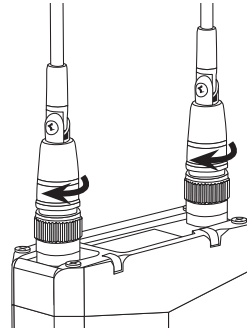
Powering On the Units

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

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

Attaching the Antennas

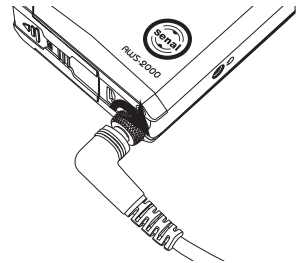
Screw the antennas clockwise into the threaded antenna sockets. Make sure they are tightly attached.



Connecting the Receiver

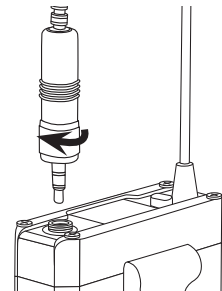
The AWS-2000 microphone system includes two output cables for devices with an XLR input or a 3.5 mm TRS input. The output cables feature right-angled locking 3.5mm connectors to allow for flexible positioning, whether the receiver is mounted on a camera or used in a bag. Choose the appropriate cable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



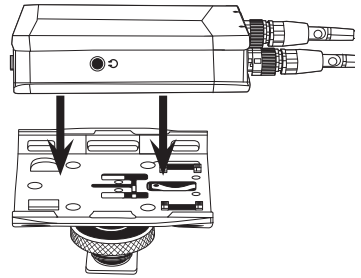
Connecting the Microphone

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:

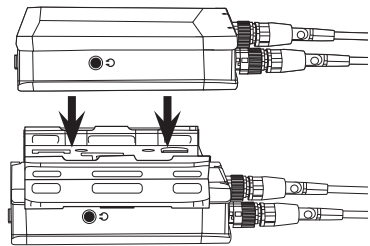


Camera Mount (for Use with One Receiver)

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.



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).

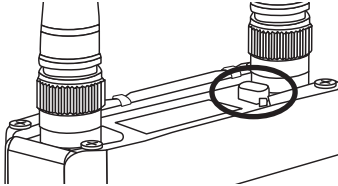
- Navigate through menus.
- Change the values of menu items.

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.A line drawing showing a receiver and a transmitter. The receiver is on the left and the transmitter is on the right. Both have cylindrical IR ports. A circle highlights the IR port of the receiver, and another circle highlights the IR port of the transmitter, indicating they are facing each other.
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.

4. Press the Up/Down buttons until [SYNC YES] appears on the screen. Press Set to begin 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.

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.

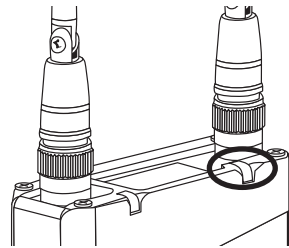
Solid blue:

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 not 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.

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.

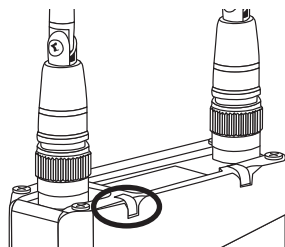
Occasional red flashes

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.



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 of 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 allows you to permanently change the output level functions of the Up/Down buttons.

To activate Toggle Lock, 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 [TOG LOCK], and press the Set button.
5. When you have returned to the main screen, double-press the power button to open the output menu. Use the Up/Down buttons to select [MAIN] or [PHONE], and press the Set button. The Up/Down buttons are now permanently set to control the output of the desired selection. To change the function of the Up/Down buttons, repeat these steps, and change the selection.

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.

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:

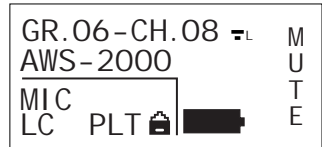
1. Press and hold the Set button to enter menu mode.
2. Scroll to [ADVANCED MENU], and press the Set button.
3. In the advanced menu, scroll to [MUTE], and press the Set button. The menu selection will blink.

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.

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.

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.

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.

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).

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

Pilot Tone

For a description of pilot tone, see page 25.

Important! In order for pilot tone to protect against interference, the pilot tone option must be activated on 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 screen, and the transmitter's battery meter illuminates on the receiver.

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

Low Cut Filter

The low-cut filter minimizes low-frequency noise that can come from fans, air conditioners, or ambient room noise. The filter rolls off at 100 Hz to prevent unwanted rumble from compromising your audio.

To activate the low-cut filter, 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 [**LO CUT**], 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 low-cut filter.

When [LO CUT] is active, [LC] is displayed on the transmitter's screen.

To turn off the low-cut filter, select [OFF] in the [LO CUT] menu.

Mute

For instructions on setting the mute button function, see *Mute (Transmitter)* on page 23 and *Mute (Plug-On Transmitter)* on page 24.

Common Advanced Functions (AWS-2000R Receiver, AWS-2000T Transmitter, and AWS-2000R Plug-On Transmitter)

Name

Naming the units makes them easy to identify. This is useful when working with several pairs of transmitters and receivers on a production or shoot. To change the name of the unit, follow these steps:

Note: Changing the name can be done on either the transmitter or receiver.

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 [**NAME**].
4. Press the Set button to enter the name menu. The first character of the name will blink.
5. Select a character by using the Up/Down buttons.
6. Press the Set button to move to the next character. Press the Power button to return to the previous character.
7. Repeat steps 3 and 4 until you have completed the name.
8. Continue to press the Set button until the cursor reaches the end of the line.
9. Pressing the Set button automatically opens the [**SYNC**] menu. Press the Set button.
10. [**YES**] will blink on the screen. Press the Set button to sync the name with the other unit.

Note: Make sure the transmitter and receiver are powered on, and the IR ports face each other.

[**SYNC** ✓] will appear to indicate that the name has been changed, and the name will appear on both the transmitter's and receiver's main screens.

If [SYNC ERROR!] appears on the screen, the name selection will be saved on the renamed device. To sync the name with the other device, follow the steps for performing a manual sync on page 15.

Brightness

This menu selection controls the brightness of the characters on the screen.

1. Press and hold the Set button to enter menu mode.
2. In the menu mode, scroll to [BRIGHTNESS]. Press Set to enter the menu. The brightness level will blink.
3. Use the Up/Down buttons to select the level. The characters' brightness level will change as you scroll through the menu.
4. Press the Set button to save the change.

Battery

The correct battery type selection ensures that the meter gives an accurate readout of your battery level. If you select the wrong battery type, the unit will still function, but the battery level indicator might not be accurate.

To change the battery type selection:

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 [BATTERY]. Press the Set button to enter the menu.
4. Use the Up/Down buttons to scroll to your battery type.
5. Press the Set button to accept the battery type.

Restoring the Factory Presets

To restore all factory presets, 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 [**RESET**].
4. Press the Set button. [**RESET???**] will appear on the screen.
5. Press Set, and the menu selection will blink.
6. Use the Up/Down buttons to choose [**YES**], and press the Set button to reset the factory defaults.

Frequency Chart

AWS-2000A (522 to 554 MHz)

	Gr. 1	Gr. 2	Gr. 3	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 9	Gr. 10
Ch. 1	523.025	522.725	522.800	522.925	522.650	523.550	523.750	523.850	523.950	523.000
Ch. 2	525.475	523.450	526.000	525.375	525.100	526.650	525.500	527.625	526.100	524.050
Ch. 3	526.875	526.475	528.400	529.375	529.100	529.250	527.375	531.175	528.500	527.825
Ch. 4	529.475	530.925	530.150	534.225	533.950	532.200	529.500	537.200	530.250	531.375
Ch. 5	532.425	532.350	533.200	538.875	538.600	534.100	531.375	541.600	533.300	537.400
Ch. 6	534.325	534.825	537.200	543.425	543.950	538.750	533.375	547.675	537.300	541.800
Ch. 7	538.975	536.300	539.950	548.175	547.900	544.100	537.375		540.050	547.875
Ch. 8	544.325	540.625	544.975			548.050	538.625		545.075	
Ch. 9	548.275	545.175	547.675				542.625		547.775	
Ch. 10		553.725	549.000				548.125		549.100	
Ch. 11			552.400				552.000			

AWS-2000B (554 to 586 MHz)

	Gr. 1	Gr. 2	Gr. 3	Gr. 4	Gr. 5	Gr. 6	Gr. 7	Gr. 8	Gr. 9	Gr. 10
Ch. 1	559.750	558.800	558.000	558.350	559.575	558.825	560.250	554.550	561.425	557.800
Ch. 2	560.850	560.250	559.750	561.425	561.900	561.225	562.050	558.225	563.150	562.350
Ch. 3	562.700	565.300	560.850	564.425	563.475	565.350	564.000	560.700	566.300	564.375
Ch. 4	564.850	570.700	562.700	567.275	565.725	567.375	567.500	568.575	569.525	566.625
Ch. 5	567.500	572.775	564.850	569.675	569.625	572.550	569.050	570.675	571.250	570.000
Ch. 6	569.050	574.325	573.450	573.875	574.725	575.625	577.600	573.300	574.550	572.925
Ch. 7	571.450	576.450	578.325	576.425	576.150	578.925	580.050	575.175	576.575	575.775
Ch. 8	581.000	584.375	584.100	583.250	581.475	583.575	585.300	579.450	579.875	578.475
Ch. 9				584.225	585.900	585.975		582.375	582.725	580.800

Troubleshooting

Problem	Solution
SYNC ERROR appears when syncing devices.	<ul style="list-style-type: none"> Make sure that both the transmitter and receiver are powered on. Make sure that both IR ports are facing each other, and that they are no more than 8 inches (20 cm) apart. If you are using multiple transmitters and receivers, make sure that the transmitter and receiver are from the same frequency group (see <i>Frequency Chart</i> above).

Problem	Solution
<p>One of the antenna reception indicators is always off.</p>	<p>This indicates that one of the antennas is not operating correctly. Replace the antenna on the side of the missing level indicator.</p> <p>Note: The receiver will operate with only one antenna, but it will no longer operate as a true-diversity receiver. You will run a greater risk of interference or dropouts.</p>
<p>The receiver or the transmitter won't operate. LOCKED appears on the screen.</p>	<p>Unlock either device by pressing and holding the Set button to access the menu mode. Scroll to the LOCK menu, and press the Set button to make the menu selection blink. Use the Up/Down buttons to select UNLOCK or ON W/LEVEL, and press the Set button (see page 18).</p>
<p>Pilot tone is on, squelch is on, but there is still too much interference.</p>	<p>Rescan to find a frequency that is free of interference, and sync your devices.</p>
<p>The receiver input signal is too high/too low.</p>	<ul style="list-style-type: none"> • Make sure you have selected the correct input level on the transmitter (line/mic) (see page 19). • Use the Up/Down buttons to adjust the transmitter output level.
<p>Everything is set properly, but there is no signal from the microphone.</p>	<ul style="list-style-type: none"> • If you're using a condenser microphone, make sure phantom power is turned on. • Make sure that pilot tone is activated on both the receiver and transmitter. If pilot tone is active on only one device, there will be no audio. • Make sure the transmitter is not muted.
<p>My input device is not receiving signal from the receiver.</p> <p>Signal is too low/too high.</p>	<ul style="list-style-type: none"> • Make sure you have made the correct connections to your input device. • Use the Up/Down buttons to adjust the receiver's main output. • Refer to the input device's user manual to enable the recording function.
<p>I installed fresh batteries, but the battery meter does not read full.</p> <p>The meter shows that the battery is fully charged, but the battery runs out sooner than expected.</p>	<p>Confirm that you have selected the correct battery type. To change the battery type, see the <i>Battery</i> section under <i>Common Advanced Functions</i> on page 30.</p>

Specifications

AWS-2000T Transmitter

Reference input level	-26 dBV
Frequency response	80 Hz to 15 kHz
Signal-to-noise ratio	<100 dB
Pilot tone frequency	32.768 kHz
Power requirement	2.0 to 3.6 V
Operating temperature	32°F to 131°F (0°C to 55°C)
Dimensions without antenna (H × W × D)	2.8 × 2.3 × 0.8 in. (7 × 5.08 × 2 cm)
Weight	3 oz. (84 g)

AWS-2000R Receiver

Frequency response	80 Hz to 15 kHz
Total harmonic distortion	<0.9%
Pilot tone frequency	32.768 kHz
Power requirement	2.0 to 3.6 V
Operating temperature	32°F to 131°F (0°C to 55°C)
Dimensions without antennas (H × W × D)	3.1 × 2.3 × 0.8 in. (8 × 5.8 × 2 cm)
Weight	4 oz. (116 g)

AWS-2000P Plug-On Transmitter

Reference input level	-20 dBV
Frequency response	80 Hz to 15 kHz
Phantom power voltage	48 V
Signal-to-noise ratio	<100 dB
Pilot tone frequency	32.768 kHz
Power requirement	2.0 to 3.6 V
Operating temperature	32°F to 131°F (0°C to 55°C)
Dimensions (H × W × D)	4.1 × 1.7 × 1.7 in. (10.5 × 4.3 × 4.3 cm)
Weight	4.7 oz. (133 g)

One-Year Limited Warranty

This Senal product is warranted to the original purchaser to be free from defects in materials and workmanship under normal consumer use for a period of one (1) year from the original purchase date or thirty (30) days after replacement, whichever occurs later. The warranty provider's responsibility with respect to this limited warranty shall be limited solely to repair or replacement, at the provider's discretion, of any product that fails during normal use of this product in its intended manner and in its intended environment. Inoperability of the product or part(s) shall be determined by the warranty provider. If the product has been discontinued, the warranty provider reserves the right to replace it with a model of equivalent quality and function.

This warranty does not cover damage or defect caused by misuse, neglect, accident, alteration, abuse, improper installation or maintenance. EXCEPT AS PROVIDED HEREIN, THE WARRANTY PROVIDER MAKES NEITHER ANY EXPRESS WARRANTIES NOR ANY IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This warranty provides you with specific legal rights, and you may also have additional rights that vary from state to state.

To obtain warranty coverage, contact the Senal Customer Service Department to obtain a return merchandise authorization ("RMA") number, and return the defective product to Senal along with the RMA number and proof of purchase. Shipment of the defective product is at the purchaser's own risk and expense.

For more information or to arrange service, visit www.senalsound.com or call Customer Service at 212-594-2353.

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