



Sound Devices Astral Mini

Digital Wireless Mini Bodypack Transmitter
with GainForward, SpectraBand, and NexLink

User Guide v8.40

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Chapter 1: Introduction

Sound Devices' first miniature transmitter incorporates state-of-the-art features such as full remote control via the Astral Remote app, long range modulation, GainForward Architecture, SpectraBand's 470 MHz – 1525 MHz tuning range, internal 32-bit float recording, and more. The Astral Mini is fully compatible with the Astral ARX32, Astral ARX16, Astral ARX8, Astral-RX2 and the A10-RX.

1.1 Key Features

- Worldwide tuning range of 470 MHz – 1525 MHz.
- Full remote control of the Mini via the Astral ARX32, Astral ARX16, Astral ARX8 or Astral Remote app.
- State-of-the-art 100% digital long-range modulation delivers the longest transmission distance of any system on the market. Three modulation modes available: Standard, Long Range, and T&M (Test and Measurement).
- GainForward Architecture – no gain control to worry about on the Astral TX.
- Full 10 Hz – 20 kHz audio bandwidth; 100% digital RF modulation and transmission. Same excellent range and audio quality as the A10-TX.
- Built-in 32-bit float, 48 kHz recorder with 64 GB storage for over 80 hours of record time.
- USB-C for pairing with the Astral Receivers, file offload, charging, and timecode jamming.
- Bluetooth for remote control from Astral Remote iOS/Android App and for wireless pairing.
- Powering via Lithium AAA or NP-BX1 (Li-Ion) batteries with built-in charging for NP-BX1.
- Double the battery run time with the Astral-BatteryDoubler accessory

- Internal timecode generator with supercapacitor backup can be jammed via USB-C.
- Water-resistant with a rounded form factor.

Our friendly and knowledgeable support team, based in the USA and the UK, is here for all your questions and comments. Our job is to make your job easier.

Terminology used throughout this guide: Astral Receiver refers to the Astral ARX32, Astral ARX16, and Astral ARX8 multichannel receivers.

1.2 SpectraBand

The Astral Mini introduces SpectraBand, a technology that enables the Astral Mini to tune over a super wide range of 470-1525 MHz.

Tuning within this range varies by country. For instance:

In the USA, the available frequency ranges are:

- The entire UHF TV band (470-608 MHz)
- The 600 MHz guard band (614-616 MHz)
- The 600 MHz duplex gap (653-663 MHz)
- The 900 MHz ISM Band (902-928MHz)
- The 950 MHz STL Band (941.5-960 MHz)
- The 1.5 GHz AFTRCC band (1435-1525 MHz), with an appropriate license.

In the UK, the available frequency ranges are:

- The core UK UHF TV band (470-702 MHz)
- The 800 MHz duplex gap (823-832 MHz)
- The 800 MHz guard band (863-865 MHz)

- The DME bands (961-1015 MHz, 1045-1075 MHz, 1105-1154 MHz), with an appropriate license.
- The IMT band (1518-1525 MHz)

Please see <https://www.sounddevices.com/available-frequencies/> for further detailed information on which frequency ranges are available for each country and also [Frequency Authorization](#) for details on using restricted frequencies.

1.3 NexLink Wireless Transmitter Control

NexLink is a proprietary 2.4 GHz bidirectional wireless data link technology that allows multiple Astral Mini transmitters to be controlled, monitored, and timecode synced from an Astral Receiver over long distances. NexLink is designed to offer robust and reliable control over distances far exceeding that of the wireless audio transmission, even in the presence of Wi-Fi, Bluetooth, and other 2.4 GHz interference. Astral Receivers can pair with up to 64 NexLinked transmitters at a time.

1.4 GainForward

The Astral Mini transmitter supports GainForward, a technology that eliminates the need to adjust audio gain at the wireless transmitter. Audio levels from the transmitter are controlled either directly at the mixer's trim control or at the wireless receiver. If the source is too soft or too loud, adjust the transmitter's audio level with a downstream mixer's digital trim gain control. There is absolutely no noise penalty when the audio path remains 100% digital (i.e., Astral transmitter -> Astral receiver, Astral receiver digital audio output -> mixer digital audio input). Read more about [GainForward](#).

1.5 Safety Information



Follow all safety and operating instructions in this guide.

RETAIN INSTRUCTIONS: These safety and operating instructions should be retained for future reference.

HEED WARNINGS: All warnings on the product and in the operating instructions should be adhered to.

FLAME SOURCE: The product should be situated away from any naked flames such as candles, open fires or gas, oil or wood burning heaters.

BATTERY WARNINGS: The product should be used only of the type described in these operating instructions or as marked on the product.

- Do not open, crush, modify, disassemble, heat above 140°F (60°C), or incinerate.
- Danger of explosion if battery incorrectly replaced. Replace only with same or equivalent type.
- Do not short circuit; may cause burns or catch fire.
- Do not subject to extremely low air pressure.
- Battery misuse may result in explosion and/or the leakage of flammable liquid or gas.
- Dispose of batteries properly. Check with local vendor for proper disposal of used battery packs.
- Do not immerse the battery in liquid such as water, beverages, or other fluids.
- Do not insert batteries with polarity reversed.
- Never put batteries in mouth. If swallowed, contact your physician or local poison control center.
- Keep away from small children.
- Pack the battery securely for transport.

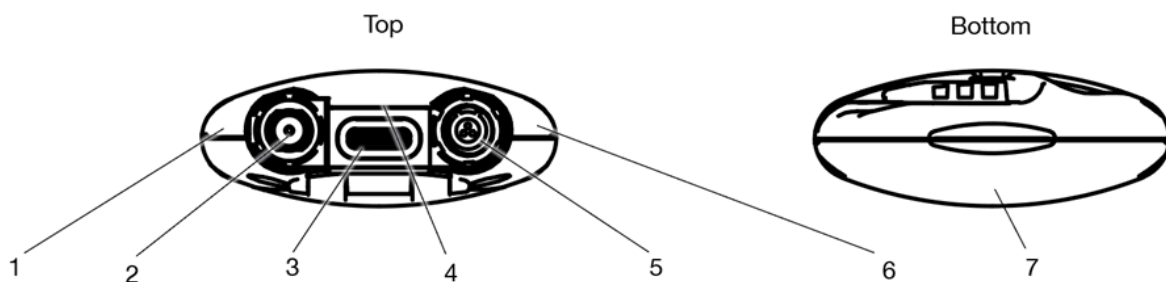
ATTACHMENTS / ACCESSORIES: Only use attachments and /or accessories specified and approved by the manufacturer.

CLEANING: The product should only be cleaned with a soft dry cloth.

SERVICING: The user should not attempt to service the product beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Chapter 2: Interface Description

2.1 Top and Bottom Panels



1: Battery Power LED

Indicates the state of battery life.

Green = Good.

Orange = Marginal, about an hour of battery life remaining.

Red = Low, 15-20 minutes of battery life remaining.

Flashing Red = Critically low, RF, audio, and recording disabled.

Blue = Batteries inserted. Power LED is blue when batteries are inserted and goes off when the unit is ready to be powered on by the red button or from the Astral Remote app.

Alternating blue, red, green = Astral Mini is being ID'd.

2: Antenna Connector

SMA connector. Attach antenna with a length specific to the frequency in use. Using the wrong length of antenna reduces RF range. See Antenna Guide for more information.

3: USB-C Port

Multifunction port used for:

- Powering Astral Mini
- Charging internal Sony NP-BX1 rechargeable battery (not included)
- Timecode input and output
- Transferring files to and from a computer

4: Charge/Pairing/Record/Media/Timecode Jam LED

Indicates charging, Bluetooth pairing, recording, media activity, and timecode status.

- Solid Orange = Charging
- Solid Green = Charging complete
- Off = No charging
- Solid Red = Recording
- Flashing Red = Recording stopped due to full media or recording error
- Flickering Blue = Media activity
- Flashing Blue = Timecode Jam in progress or receiving firmware update file via BLE.
- Pulsing Blue = Timecode Output active
- Rapid Flashing Blue = Bluetooth Pairing
- Alternating blue, red, green = Astral Mini is being ID'd.

5: Lavalier Microphone Input

3-Pin LEMO connector for connecting a lavalier microphone. Can be set to power transmitter on and off via lav mic connection and disconnection.

6: Audio/Timecode LED

- Audio/Timecode LED indicates audio activity and timecode status.

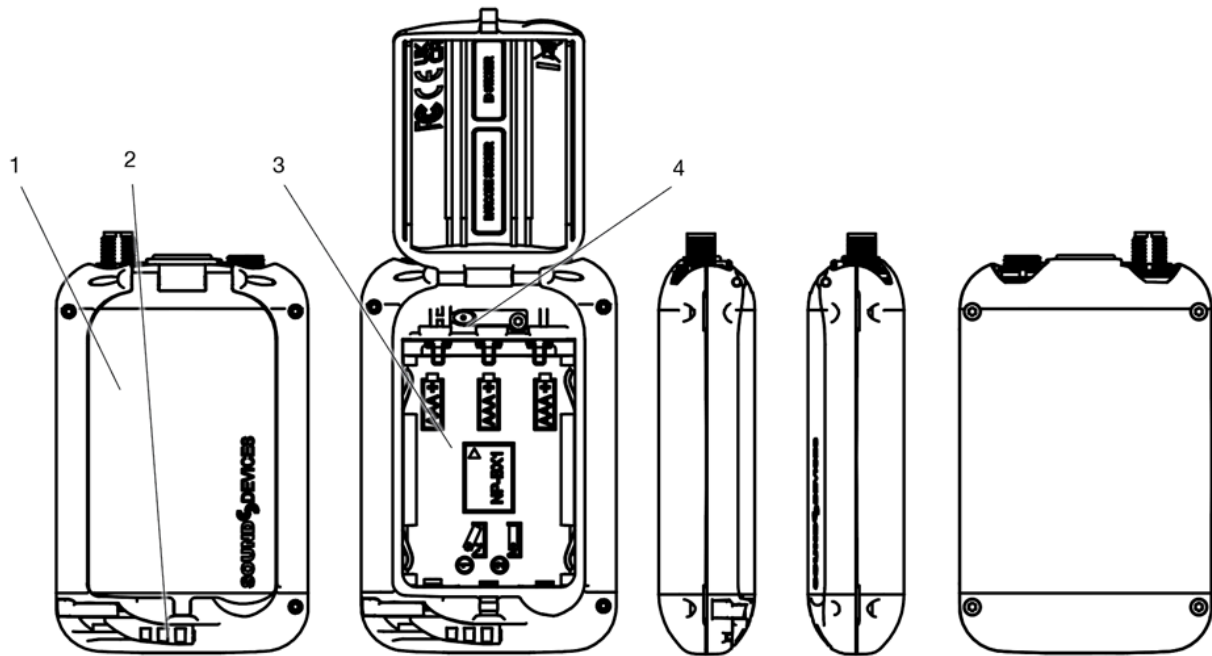
- Green (variable intensity) = Audio activity from lavalier microphone
- Solid Blue = Microphone is muted
- Pulsing Blue = Timecode 00 frame (only when unit is off)

7: Bottom Panel Charge/Pair/Record/Media/Timecode LED

LED indicates charging status, timecode sync, Bluetooth pairing, recording, and media activity. Positioned on the bottom of the Astral Mini to make it easily visible when slotted into the optional PowerStation-8M.

- Solid Orange = Charging
- Solid Green = Charging complete
- Off = Not charging
- Solid Red = Recording
- Flashing Red = Recording stopped due to full media or recording error
- Flickering Blue = Media activity
- Alternating blue, red, green = Astral Mini is being ID'd.
- Pulsing Blue = Timecode 00 frame (when unit is off and jammed timecode is held or when Timecode Output is active following a jam)
- Rapid Flashing Blue = Bluetooth Pairing
- Flashing Blue = Receiving firmware update file via BLE

2.2 Front, Left, Right, Back Panels



1: Battery Door

Access to the battery compartment and red button. The battery door can be easily swapped with the Astral-BatteryDoubler accessory which gives double the battery run time.

2: Door Latch

Slide left to unlock the battery door.

3: Battery Compartment

Accepts either 3x AAA Lithium batteries or one rechargeable Sony NP-BX1 Li-Ion battery. Sound Devices recommends using genuine Sony NP-BX1 or Energizer AAA Lithium primary batteries for best performance. Alkaline and NiMH are not recommended because of compromised run times.

4: Red Button

This button is used to power the Astral Mini on or off and enter Bluetooth Pairing mode.

- Power On = Press and release button.
- Power Off = Press and hold button for 3 seconds.
- Pairing Mode = While Astral Mini is off, press and hold button for 5 seconds. The Pairing LED on the bottom and top panel flashes blue rapidly while in Pairing mode.

Chapter 3: Power

The Astral Mini powers via USB-C, 3x Energizer AAA Lithium primary batteries, one Sony NP-BX1 Li-Ion battery, or two Sony NP-BX1 Li-Ion batteries (when fitted with the Astral-BatteryDoubler accessory).

Opening the Battery Door

To open the Astral Mini battery door:

- Slide the door latch to the left to unlock the battery door.
- Lift the battery door using the indented space on the bottom right-hand side of the battery door.

Closing the Battery Door

To close the Astral Mini battery door:

- Slide and hold the door latch to the left.
- Close the battery door.
- Release the door latch to lock the battery door.

Powering from AAA or Sony NP-BX1 Li-Ion

To power the Astral Mini using AAA batteries or Sony NP-BX1 Li-Ion:

- Open the Astral Mini battery door.

- Insert three AAA batteries or one Sony NP-BX1 Li-Ion into the battery compartment, taking care to place the batteries in the correct orientation.
- AAA batteries should be inserted with the negative side (without springs) first.
- Sony NP-BX1 should be inserted with the contact side (with springs) first.
- Power LED is blue when batteries are inserted and goes off when the unit is ready to be powered on. Press and release the red button to power on the Astral Mini.
- Close the Astral Mini battery door.
- To power off the Astral Mini, press and hold the red button for three seconds. The Power LED flashes rapidly while the Astral Mini powers off. The Power LED is off when the unit is off.
- To remove the batteries, open the battery door and remove the AAA or NP-BX1 battery with the non-spring side first.

Note: *The Astral Mini resumes its prior power state upon battery insertion.*

Powering from Two NP-BX1 Batteries for Extended Run Time

Use the optional Astral-BatteryDoubler accessory to double the Astral Mini run time.

USB-C

USB-C can be used to power the Astral Mini and/or to charge inserted Sony NP-BX1 batteries. The Astral Mini does not charge AAA batteries. USB-C is the priority power source whenever connected.

To power the Astral Mini via USB-C:

- Connect a USB power source to the Astral Mini's USB-C port.
- Open the battery door then press the red button.
- To power the Astral Mini off, press and hold the red button for three seconds.

To charge the Sony NP-BX1 from USB-C:

- Open the battery door and insert a Sony NP-BX1 into the battery compartment.
- Connect a USB power source to the Astral Mini USB-C port.

- The Charge/Pair/Rec LED glows solid orange while the battery is charging. The Charge LED turns solid green when charging is complete.

The Astral Mini is fully operational when charging batteries from USB-C.

PowerStation-8M

The PowerStation-8M is an optional accessory for the Astral Mini. An Astral Mini using a Sony NP-BX1 battery can be inserted into a charging bay of the PowerStation-8M to charge the battery. See PowerStation-8M for more details.

Auto Power On and Off with PowerStation-8M

The Astral Mini automatically powers off when inserted into a charging bay of the PowerStation-8M. To save time from having to manually power on the Astral Mini, use the Power On When Removed from the PowerStation-8M feature. When this feature is selected, removing an Astral Mini from the PowerStation-8M immediately powers on the transmitter. This feature is turned on or off in the Astral Remote application. See Astral Remote for more details.

Auto-Power with Lemo Connection

When the 'Auto power with Lemo connection' feature is enabled using Astral Remote or an Astral Receiver via NexLink, connecting a lav mic to the Lemo connector automatically powers on the transmitter. Disconnecting the Lemo automatically powers the Astral Mini off.

Estimated Battery Runtime

The Astral Mini can operate for up to 5.5 hours (or 9 hours with the BatteryDoubler) at 2mW RF power. Utilize the Astral Mini's has the ability to be powered on and off remotely from the Astral Remote app or Astral Receiver via NexLink to extend its battery runtime.

Astral Transmitter Battery Runtimes

The following chart lists battery runtimes for all Astral transmitters at 10 mW RF power.

Transmitter Model	Battery Runtime	Battery Type	Audio Source
<i>RF Power = 10 mW, Recording Off, LEDs Off</i>			
Astral-Mini	~ 3.5 hours	Sony NP-BX1	Lav mic
Astral-Mini w/BatteryDoubler	~ 7 hours	Sony NP-BX1 (Qty 2)	Lav mic
Astral-TX	~ 9.5 hours	Sound Devices XL-B14500 (Qty 3)	Lav mic
Astral-HH	~ 10 hours	Sound Devices XL-B18650	Sound Devices CD1 capsule

Chapter 4: Connecting Lavalier Mics to Astral Mini

Connect a 2-wire lavalier microphone to the Astral Mini transmitter's 3-Pin LEMO connector. Lock the connection by turning clockwise until the connector is firmly attached to the Astral Mini.

The AC-BALXLR-4 3-pin LEMO to XLR female cable is not compatible with the Astral Mini as it does not

Chapter 5: Tuning the Astral Mini and Receiver

RF signals transmitted by the Astral Mini transmitter are received by Astral Receivers, the Astral-RX2 and Audio Ltd A10-RX. Set the same modulation and frequency on the transmitter and receiver. See the Astral ARX32, Astral ARX16, Astral ARX8, Astral-RX2 and A10-RX User Guides for more details.

Frequency

The Astral Mini transmits on frequencies ranging from 470 MHz – 1525 MHz. The frequencies available are determined by geographic location and whether you have entered a unique license code issued by Sound Devices to unlock the use of restricted frequencies.

Because the Astral digital RF transmission is inherently immune to intermodulation, multiple Astral Digital Wireless transmitters can be used simultaneously on nearby adjacent frequencies without

worry of intermodulation interference. Systems can be used together when separated by at least 400 kHz. When operating in the 902-928 MHz Band, it is recommended to separate channel frequencies by at least 1 MHz.

Set the Astral Mini's transmit frequency via the Astral Remote App or Astral Receiver via NexLink.

Ensure an antenna with a length specific to the frequency in use is attached to the SMA connector. Using the wrong length of antenna reduces RF range. See the [Antenna Guide](#) for more information.

Modulation

The Astral Mini offers three types of modulation, Long Range, Standard, and T&M. Long Range modulation has better sensitivity resulting in more robust performance in challenging RF environments. Standard modulation has lower latency (2ms versus the 3.9ms of Long Range). T&M modulation has been specifically optimized for the flattest frequency and phase response possible for test and measurement applications. The Modulation setting must match between the Astral Mini and Astral receivers, for the transmitted signal to be received.

RF Power

RF power is the strength of the transmitting signal. The Astral Mini offers the following RF power settings:

- Low - 2 mW
- Normal - 10 mW
- High - 20 mW
- *Extra High - 40 mW. *This RF Power setting must be enabled from the Astral Remote app or from an Astral Receiver via NexLink.

Set the Astral Mini's RF Power via the Astral Remote App or Astral Receiver.

RF Power settings are based on the selected Country of the device running Astral Remote as some legal restrictions may apply.

In situations where the transmitter is relatively close to the receiver, the Low - 2 mW setting offers good range and best battery life. For most common wireless microphone applications, the Normal - 10 mW setting provides excellent range. In situations where body absorption may be an issue or extended range is required, the High - 20 mW setting can be helpful. If significant body absorption is unavoidable or maximum range is required, the Extra High - 40 mW setting can be enabled via the Settings menu. Please be aware that the Extra High - 40 mW RF Power setting can reduce battery life by over 20%.

Tip: Use Long Range Modulation to increase RF range prior to increasing the RF Power setting.

Chapter 6: Audio Levels - GainForward

The Astral Mini transmitter introduces GainForward, a new feature that eliminates the need to adjust microphone preamplifier gain at the wireless transmitter. Audio levels from the transmitter are controlled either directly at the mixer's trim control or at the wireless receiver. If the talent speaks too softly or emotes too loudly after being "wired" with the transmitter, simply adjust the transmitter gain with the mixer's gain trim. Read more about [GainForward](#).

Adjusting Audio of the Astral Mini Signal from the Astral-RX2 and A10-RX Receiver

From the Astral-RX2 or A10-RX home screen, press the channel's arrow button twice to enter the Input menu. From the Input menu, press the middle button to select a sub-menu to adjust gain, low cut, or limiter of the incoming Astral Mini transmitted signal.

Gain is adjustable from 0 to 60 dB. Low cut can be set to Off, 40 Hz, 60 Hz, 80 Hz, 100 Hz, or 200 Hz. Limiter can be turned on or off. The information menu displays the status of the tuned Astral Mini. See the Astral-RX2 or A10-RX User Guides for more details.

Adjusting Audio of the Astral Mini Signal from Astral Receivers

See the Astral ARX32, Astral ARX16 and Astral ARX8 User Guides for details.

Adjusting Audio of the Astral Mini Signal from the 8-Series or 688

When the Astral-RX2 or A10-RX receiving Astral Mini signal is slotted into the SL-2 or SL-6, the Astral-RX2 or A10-RX Input menu settings are bypassed and all gain, low cut, and limiter activity are performed and controlled by the 688, 833, 888, or Scorpio. This is also the case when using an Astral ARX16 docked to an 8-Series. See the Mixer-Recorder User Guides for more information.

Chapter 7: Recording WAV Files

The Astral Mini records 32-bit float Broadcast WAV (under 4 GB) or RF64 WAV (over 4 GB) files at 48 kHz sampling rates to an internal SSD. 32-bit float files are recorded such that gain decisions can be made after recording. Because of the Astral Mini's high dynamic range, audio levels are never too high or too low. [Learn more about 32-bit float.](#)

The Astral Mini must be set to REC+RF or REC Only Mode.

Astral Mini recording can be initiated in several ways including from the:

- Astral Remote App
- Astral Receivers via NexLink

The file name format of recorded files is "transmitter name-YYMMDDHHMMSS.WAV".

For example, if the Astral Mini name has been changed to "Barney" and a recording is created on July 10, 2021 at 09:30 (24 hour format), the resulting file is named Barney-210710093000.WAV. All files are recorded at the root of the internal SSD.

About recording formats:

- The Astral Mini records 1-ch monophonic 32-Bit float / 48 kHz wav files.
- The internal SSD is formatted as ExFAT which can record file sizes > 4 GB. Recordings that exceed 4 GB are automatically converted from standard broadcast wav to RF64 wav format.

Chapter 8: Jamming Timecode

The Astral Mini accepts timecode from external LTC sources. The timecode can also be wirelessly 'jammed' into the Astral Mini's internal timecode generator via NexLink from an Astral Receiver. The timecode value and frame rate are taken from incoming LTC. If timecode has not been jammed, the Astral Mini starts rolling timecode from 00:00:00:00 when it is powered on.

Jammed timecode values are held for up to four hours after powering off, and up to one hour after the battery has been removed. This allows for time to swap batteries without having to re-jam timecode.

To jam timecode, connect a valid LTC source using one of the optional accessories, Sound Devices XL-TC-USBC-LEMO or XL-TC-USBC-BNC, to the Astral Mini USB-C port. Timecode is automatically jammed once a valid LTC source is connected. After a successful timecode jam, the Audio/LTC LED flashes blue on the 00-frame crossing.

Timecode is output from the USB-C using the Sound Devices XL-TC-USBC-LEMO, so that you can verify the Astral Mini timecode is in sync with the LTC source. The Audio/LTC LED stops flashing blue when USB-C is disconnected.

For more information about the Astral Mini timecode accessory cables visit:

<https://www.sounddevices.com/product/xl-tc-usbc-bnc/>

<https://www.sounddevices.com/product/xl-tc-usbc-lemo/>

Astral Mini can also jam timecode from 8-Series Mixer-Recorders using a standard USB-C to USB-A cable. Connect the Astral Mini to the 8-Series USB-A port. Enter the 8-Series Menu>Timecode/Sync>Jam Astral Transmitter then select Jam. The 8-Series Jam Astral Transmitter menu displays the current timecode frame rate and values for the 8-Series and Astral Mini and displays the difference between the two units.

When the Astral Mini is powered off, the Audio/LTC LED and the Charge & Timecode LED flash blue on the 00-frame crossing to indicate timecode is being held.

The Astral Mini can also receive and jam timecode while connected to the optional PowerStation-8M via USB-C. See PowerStation-8M for more details.

Chapter 9: File Transfer to a Computer

The Astral Mini connects via USB-C to a computer as an ExFAT-formatted mass storage device. Copy WAV files from the

Astral Mini to the computer. When file transfer is complete, eject the drive from the operating system and disconnect USB.

Recording must be stopped on the Astral Mini before connecting to the computer. While connected to a computer RF transmission, audio, and recording are disabled.

Up to eight Astral Mini transmitters can be connected to a computer for file transfer using the optional PowerStation-8M. See PowerStation-8M for more details.

Chapter 10: Updating Astral Mini Firmware

Register your Astral Mini to stay informed of firmware updates.

Firmware can be updated via micro-SD card or wirelessly from an Astral receiver (ARX 32, ARX 16, or ARX 8).

10.1 To update Astral Mini firmware using a Micro-SD Card

To update your Astral Mini firmware:

- Connect the Astral Mini to the computer for file transfer using a USB-C cable or the PowerStation-8M. See File Transfer and PowerStation-8M for more information.

- Download the [Astral Mini firmware PRG file](#) from:
- Copy the PRG file to the root of the Astral Mini media.
- Eject the Astral Mini from the computer.

At this point, the LEDs “dance” to indicate the firmware update is in progress. The firmware update can take a few minutes to complete. Wait for all LED activity to stop before using or powering off the Astral Mini.

When the firmware update completes, the Astral Mini automatically deletes the PRG file from the media. Firmware version information is displayed in Astral Remote Manage Transmitter view and in the Transmitter View Information menu.

10.2 To update Astral Mini firmware wirelessly from an Astral Receiver

It is not necessary to have a micro-SD card installed in the transmitter when updating firmware wirelessly.

1. Download the [transmitter firmware PRG file](#).
2. Copy the PRG file to the root of a USB thumbdrive.
3. Insert the USB thumbdrive in the Astral receiver’s USB-A or C port.
4. Install charged batteries in the transmitter and ensure the transmitter is paired to the Astral receiver.
5. Select Firmware Update in the Astral receiver’s System menu to display a list of all paired transmitters
6. Select the transmitter to be updated from the list.
7. Tap the Start Update button in the Astral Receiver’s OLED 4.
8. Select the Astral Mini firmware update file from the drop-down list, then tap OK at the confirmation popup.
9. Ensure the transmitter is kept nearby the Astral receiver during the update.

At this point, the Astral receiver starts sending the firmware update file to the transmitter wirelessly. OLED 3 displays the sending progress in %. The Astral Mini top and bottom LEDs flash blue.

Note that it can take a few minutes to send the file and another minute or so for the transmitter to update.

Once the complete file has been successfully received by the Astral Mini, all the LEDs “dance” to indicate the firmware update is in progress. The Astral receiver’s OLED 3 displays ‘Updating’. Once the update is completed, the Astral Mini reboots.

The firmware version is displayed in the Astral Remote App’s Manage Devices view, the Astral Mini’s Settings>System>Info menu, and in the Astral Receiver’s TX List >TX View.

Chapter 11: Astral Remote App

Astral Remote is an application for Android/iOS phones and tablets designed to pair with Astral transmitters (Astral HH, Astral TX, Astral Mini). All transmitter settings are conveniently controlled using Astral Remote.

Please refer to the [Astral Remote User Guide](#) for complete operational details.



When connected via Bluetooth LE to the Astral Mini, Astral Remote offers control and display of all Astral Mini parameters, including:

- Power on and off the Astral Mini
- Monitor battery status
- Frequency, Modulation, and RF power setup

- Set Privacy Key
- Monitor audio signal presence
- Microphone mute
- Transport controls (Record, Stop)
- Timecode display
- Media formatting and monitoring of remaining space
- Astral Mini settings (Mode, power options, and more)
- Group control of powering, recording, and more

Download and install the [Astral Remote app](#) from the Google Play Store or Apple App Store.

Astral Remote has the following minimum operating requirements: Android tablets and phones running Android 8+, or iPad and iOS devices running iOS 13+. The device must have Bluetooth and Location Services on in order to connect with an Astral Mini.

IMPORTANT: The mobile device's location is used to determine available frequencies, RF power levels, and TV channel mapping of the Astral Mini. The Country setting is automatically set using the mobile device's Location Services.

The mobile device's system date and time are used in the metadata of recorded files.

Chapter 12: SD-Utility

Sound Devices SD-Utility is a companion application for MacOS and Windows that supports Sound Devices wireless products. This application can be used to process files recorded by Astral transmitters to be more suited to the given workflow. Astral transmitter 32-bit float, 48 kHz, monophonic WAV, 2ch polyphonic WAV, and RF64 WAV files can be imported, renamed, snipped by timecode values, converted to 24 bit, conformed to a CSV Sound Report, exported as monophonic or polyphonic WAV, and more.

Please refer to the [SD-Utility User Guide](#) for complete install and operational details.



Chapter 13: Accessories

13.1 Included

The Astral Mini includes the following accessories.

- Antenna set (1 straight 470-548 MHz, 1 straight 548-638 MHz, 1 straight uncut, 3 antenna caps)
- Astral Mini Holster

13.1.1 Astral Mini Holster

The Astral Mini ships with an easy-to-assemble holster. The Astral Mini can be inserted with the antenna and lavalier microphone coming out of the top or bottom of the holster.

Inserting the Astral Mini in the Astral Mini Holster

Slide the Astral Mini into the Astral Mini Holster's pocket in the

orientation that works best for the situation. Fold the security flap over, securing the transmitter in place using the hook-and-loop fastener strips. Use the clip on the back of the holster to attach the transmitter to the talent's garments.



13.2 Optional

13.2.1 Astral BatteryDoubler

The Astral BatteryDoubler dual-battery adapter for the Astral Mini is an optional accessory that doubles the Astral Minis run time by using two NP-BX1 batteries. With the BatteryDoubler fitted, the Astral Mini's height and width are unchanged; only its depth is increased. Both batteries can be charged simultaneously when the Astral Mini is connected to a USB-C power source.

Swapping the Astral BatteryDoubler with the Astral Mini battery door

The Astral-BatteryDoubler and standard Astral Mini battery door can be easily and quickly swapped back and forth by using the 1.4mm screwdriver that comes with the Astral-BatteryDoubler.

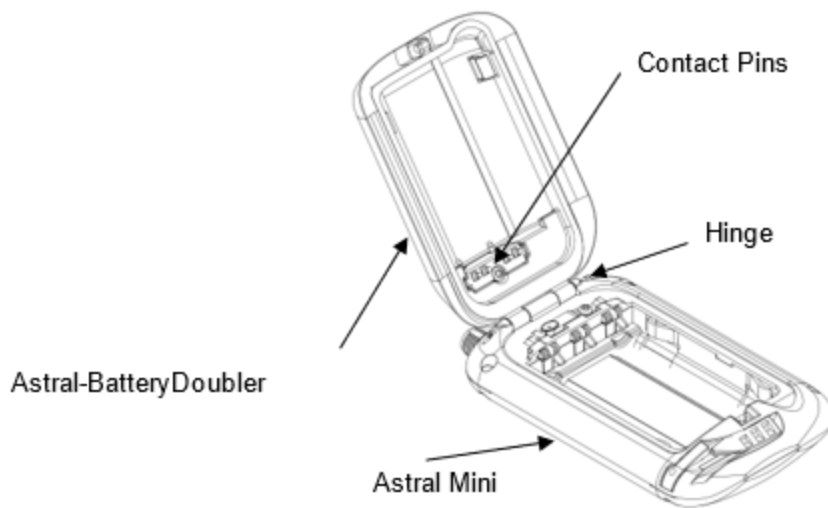
- Open the Astral Mini battery door by sliding the Astral Mini door latch to the left.
- Using the 1.4 mm included screwdriver, unscrew the hinge pin cap screw from the right side of the Astral Mini.
- From the right, push out the hinge pin and remove. Put the Astral Mini battery door safely to one side.
- Align the Astral-BatteryDoubler door with the Astral Mini and insert the hinge pin all the way through.
- Screw in the hinge pin cap screw until snug. Do not over tighten.

Hinge Pin Cap
Screw



Hinge Pin





After Astral-BatteryDoubler installation, we recommend testing the Astral-BatteryDoubler by powering the transmitter with a single Sony NP-BX1 installed in the door (leaving the main battery compartment empty). If the unit doesn't turn on, please remove and reinstall the hinge and test again. If issues persist, please contact our support team via our website, email or phone.

Opening the BatteryDoubler Door

To open the Astral-BatteryDoubler door:

- Slide the Astral Mini door latch to the left to unlock the battery door.
- Lift the battery door using the indented space on the bottom right-hand side of the battery door.

Closing the Battery Door

To close the Astral-BatteryDoubler door:

- Slide and hold the door latch to the left.
- Close the battery door.
- Release the door latch to lock the battery door.

Powering from the Astral-BatteryDoubler

To power the Astral Mini using two Sony NP-BX1 Li-Ion batteries:

- Open the Astral-BatteryDoubler door.
- Insert one Sony NP-BX1 Li-Ion into the Astral Mini battery compartment, taking care to place the batteries in the correct orientation.
- Insert the second Sony NP-BX1 battery into the Astral-BatteryDoubler door so that the NP-BX1 battery terminals mate with the BatteryDoubler's contact pins. The door is designed to prevent the NP-BX1 from being inserted the wrong way.
- Close the Astral-BatteryDoubler door.
- The Astral Mini is ready for turning on.

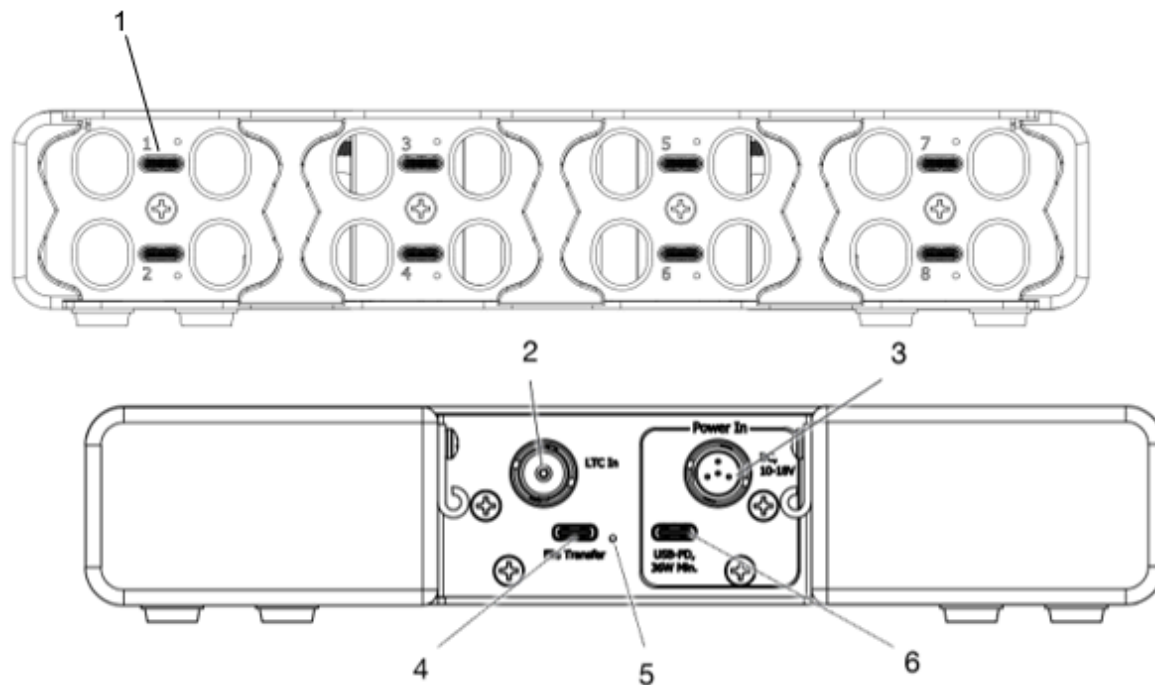
Setting the Battery Type in Astral Remote

To ensure accurate battery remaining power indication in the Astral Remote app when using the Astral-BatteryDoubler:

- Set Battery Type to 'Battery Doubler' in the Astral Remote app >Transmitter View > Options menu.
- Always start with two fully charged Sony NP-BX1. If one is more discharged than the other, remaining indication will not be accurate.

13.2.2 PowerStation-8M

The PowerStation-8M Eight Slot Charger for Astral Mini is an optional accessory. It offers battery charging, Astral Mini timecode jamming, and USB file transfer to and from a computer for up to eight Astral Mini transmitters or four Astral Mini transmitters fitted with the Astral-BatteryDoubler.



- 1: Charging Bay
- 2: BNC LTC Input
- 3: TA-4 10-18 Volt DC Input
- 4: USB-C for File Transfer
- 5: File Transfer Status LED
- 6: USB-PD Power Input

Charging Batteries from the PowerStation-8M

Enabled charging bays are indicated by LEDs within each charging bay. If a TA-4 or USB-PD with proper rating is used, all eight charging bay LEDs illuminate. If a USB adapter is used which does not supply sufficient power, then only three of the charging bay LEDs will illuminate.

The PowerStation-8M only charges Sony NP-BX1 batteries within an Astral Mini. AAA battery charging is not supported. Inserting Astral Minis with AAA batteries into the charging bay will not damage anything, but the unit will not charge.

Insert the Astral Mini into an enabled charging bay of the PowerStation-8M. The Astral Mini slides into a charging bay with the antenna-side first, the antenna may be left attached. Sound Devices recommends disconnecting lavalier microphones before inserting the Astral Mini into the charging bay.

Charging status is indicated by the Astral Remote application and the Astral Mini bottom panel Charge LED.

- Solid Orange = Charging
- Solid Green = Charging complete
- Off = Not charging

Astral Mini transmitters are powered off when inserted into a charging bay. The Astral Mini powers on when removed from the charging bay if 'Power On When Removed from PowerStation-8M' is active.

Bottom Panel 1/4"-20 Mounting Point (not pictured)

The PowerStation-8M offers a 1/4"-20 mounting point on the bottom panel for securely attaching to a rack shelf, such as the Pyle 1U Server Rack Shelf Mount Tray PLRSTN14U.

<https://pyleusa.com/products/plrstn14u>

Powering the PowerStation-8M

The PowerStation-8M is powered via 12 VDC TA-4 connector or USB-PD power supply. The supplied 36 W USB-PD power supply supports full operation. Make certain third-party USB-C power supplies offer 36 W or higher to charge all eight Astral Mini transmitters at a time. Make certain any external supply connected to the TA-4 connector supplies at least 36 W.

Distributing Timecode to Astral Mini Transmitters

The PowerStation-8M is equipped with a Timecode input on BNC. Connecting a valid LTC timecode source to the

PowerStation-8M jams the frame rate and timecode value to all inserted Astral Mini transmitters. The Astral Mini bottom panel Timecode LED flashes blue on the 00-frame following a successful jam.

Transferring Astral Mini Files via PowerStation-8M

The File Transfer USB-C connector is used to connect Astral Mini transmitters slotted into the PowerStation-8M to a computer as mass storage devices. Each connected Astral Mini transmitter will appear as its own mass storage device when the

PowerStation-8M is connected to a computer. The PowerStation-8M USB-C connector is SuperSpeed USB (5 Gb/s) offering maximum transfer speeds when all eight slots are filled.

The File Transfer LED lights red when USB-C File Transfer is plugged in without a power adapter connected. The File Transfer LED lights green when USB-C File Transfer and either TA-4 or USB-PD are plugged in.

See [File Transfer to a Computer](#) for more information.

Updating Astral Mini Firmware via PowerStation-8M

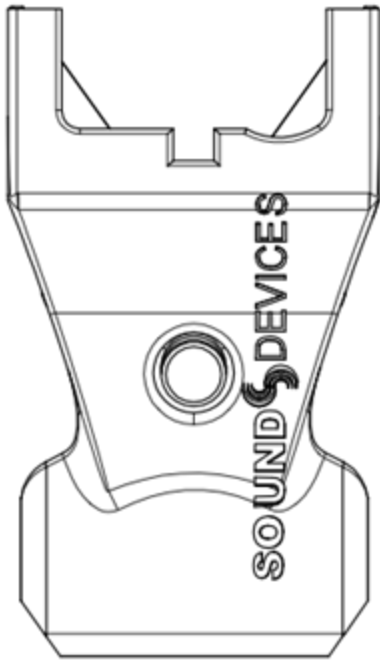
Using File Transfer in combination with the PowerStation-8M, Firmware can be updated on up to eight Astral Mini transmitters.

PowerStation-8M Astral Mini Extraction Tool

The PowerStation-8M ships with an Astral Mini Extraction tool for easy removal of Astral Mini transmitters from PowerStation-8M charging bays. When multiple Astral Mini transmitters are in the charging bays, the Extraction tool provides more finger room.

The Extraction tool comes with an 18-inch steel lanyard for securing it to a rack. The lanyard can be removed by sliding the loop end of the lanyard over the center pillar of the extraction tool.

For safe keeping, insert the Astral Mini Extraction tool handle side first while pinching into an empty charging bay.



Removing Astral Mini from PowerStation-8M with the Astral Mini Extraction Tool

Align the Sound Devices logos of the Extraction tool and the Astral Mini battery door, then slide Extraction tool onto the Astral Mini until you hear a click. Pull the Astral Mini out of the slot. Pinch the handle to release the Astral Mini from the Extraction tool.

13.2.2.1 PowerStation-8M Specifications

Specifications are subject to change without prior notice. For the latest information available on all Sound Devices products, visit our website: www.sounddevices.com.

Power

- USB-C: PD (Power Delivery), 36 W or higher, or
- TA-4: 10 - 18 VDC, 36 W or higher
- Pin-4 hot, pin-1 ground, pin-2 and pin-3 data for smart batteries. Leave pins-2 and pin-3 disconnected if not using smart batteries.

LTC Input

- Input impedance: 5k ohm
- Signal level: 0.3 - 5 Vp-p

USB-C

- USB 3.0 SuperSpeed, internal hub

Dimensions (HxWxD)

- 40 mm x 220 mm x 136 mm (without feet)
- 1.58 in x 8.66 in x 5.35 in (without feet)

Weight

- 670 g
- 1.5 lb

Included Accessories

- Power Supply
- 2x USB-C to USB-C Cables, USB 3.0

Chapter 14: Astral Mini Specifications

Specifications are subject to change without prior notice. For the latest information available on all Sound Devices products, visit our website: www.sounddevices.com.

Frequency Range

- 470 to 1525 MHz
- Transmitters are tunable in 25 kHz steps
- Available frequencies are dependent on region

RF Output Power

- Off, Low - 2 mW, Normal - 10 mW, High - 20 mW, Max -40 mW, selectable

Modulation Mode

- Proprietary, 100% digital RF modulation
- Standard, Long Range or T&M, selectable

Latency - Lemo input to Receiver analog output

- Standard (2 ms)
- Long Range (3.9 ms)
- T&M (7 ms)

Antennas

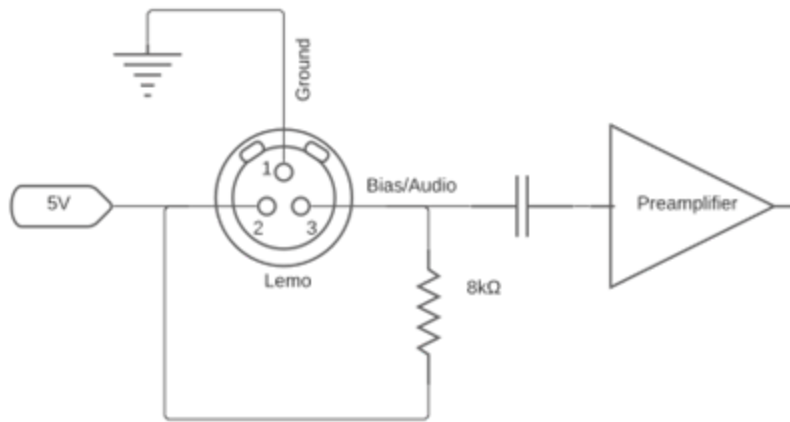
- UHF RF: SMA connector, removable
- 2.4 GHz built-in

Audio Frequency Response

- 10 Hz - 20 kHz, +/- 1 dB re 1 kHz

Audio Input Type

- Lavalier Microphone via 3-pin LEMO
- Pin-1 ground
- Pin-2 5 V bias
- Pin-3 audio/bias (8k ohm to 5 V)



Bias Power

- 5 V

Input Impedance

- 8k ohms

Input Clipping Level

- +5 dBu

Dynamic range

- 130 dB min (A-weighted)

Menu and Controls

- Power & Pair button protected inside battery compartment
- Astral Remote, mobile device application of iOS, iPad, and Android

Remote Control

- Astral Remote Android, iOS, and iPad app via Bluetooth 5.2 LE
- Astral ARX16 and Astral ARX8 via NexLink

Recording Media

- Internal 64 GB
- 10% over-provisioned for optimum performance

Recording File Format

- 32 Bit Float, 48 kHz, Monophonic
- Broadcast WAV (<4 GB), RF64 WAV (>4 GB)

Simultaneous Record and Transmit mode is not available on Astral Mini units sold or operated in the United States of America.

Timecode (LTC)

- Input via XL-TC-USBC-LEMO or XL-TC-USBC-BNC:
- 0.3 V - 3 V p-p (−17 dBu to +3 dBu), 20k ohm impedance
- Output via XL-TC-USBC-LEMO:
- 3 V p-p, 400-ohm impedance

Timecode Clock

- 0.2 ppm accuracy
- Holds accurate clock for four hours while powered down with batteries inserted, holds for one hour without batteries via internal supercapacitor
- Auto Jams timecode from LTC source via USB-C connector, or from optional PowerStation-8M

Timecode Frame Rates

- 23.98, 24, 25, 29.97 DF, 29.97 ND, 30 DF, 30 ND

Frame rates are auto detected from incoming source

USB-C

- Mass Storage (USB-C): USB 2.0 high speed for file transfer

- Powers Astral Mini

Powering

- 3x AAA batteries (Energizer Ultimate AAA Lithium primary batteries recommended), or Sony NP-BX1 rechargeable Li-Ion
- Extended battery run time via the optional Astral-BatteryDoubler
- Built-in Li-Ion charger via USB-C (7.5 W or more needed)
- Sony NP-BX1 is rechargeable via optional PowerStation-8M

Battery Runtime

- Up to 9 hours with Astral-BatteryDoubler accessory; up to 5.5 hours with standard battery door
- Unit can be completely powered off remotely via app to extend battery runtime.

Environmental

- Operating: -10° C to 38° C
- Storage: -40° C to 85° C
- Water Resistant
- 0 to 90% relative humidity (non-condensing)

Dimensions (H x W x D)

- 75.8 mm (2.98 in) x 48 mm (1.88 in) x 19 mm (0.74 in); with standard battery door
- 75.8 mm (2.98 in) x 48 mm (1.88 in) x 26.5 mm (1.04 in); with Astral-BatteryDoubler

Weight

- 51 g (without batteries)
- 1.8 oz (without batteries)

Chapter 15: Frequency Authorization

The wireless system operator needs to be aware of local regulations and comply with all applicable laws regarding operation of wireless devices.

Frequency Authorizations allow the unlocking of restricted frequencies that require proof of a valid license before they can be used. Once a license has been granted, please contact Sound Devices (RF_Request@SoundDevices.com) to obtain the necessary authorization. An Authorization ID and License Code will be generated by Sound Devices based on the license provided. The Authorization ID or License Code can be entered into the Astral Remote App and then synchronized with an Astral ARX8, Astral ARX16, or Astral ARX32 receiver and its paired Astral transmitters.

An example of a frequency band requiring an unlock code in the United States is 1435-1525 MHz. Program Making and Special Events (PMSE) wireless operators typically call 1435-1525 MHz the "AFTRCC band". AFTRCC stands for Aerospace and Flight Test Band Coordinating Council. This organization coordinates several frequency bands for use by air and spacecraft in the United States. This includes 1435-1525 MHz.

Per the United States Federal Communications Commission (FCC) rules, wireless microphones are allowed as secondary users in the 1435-1525 MHz AFTRCC band. This is detailed in the FCC Part 74 rules:

<https://www.ecfr.gov/current/title-47/chapter-I/subchapter-C/part-74>

One section of the Part 74 rules that's of particular interest to operators seeking an AFTRCC band license is 74.803(d):

[https://www.ecfr.gov/current/title-47/chapter-I/subchapter-C/part-74#p-74.803\(d\)](https://www.ecfr.gov/current/title-47/chapter-I/subchapter-C/part-74#p-74.803(d)).

Generally speaking, a wireless operator needs to show they've used all other available spectrum before the AFTRCC will consider a license request in the 1435-1525 MHz range. If granted, the license is normally assigned for a specific location and a specific time range.

Sound Devices encourages all wireless operators to obtain a Part 74 license, and specifically to make sure applicable parts of the 600 MHz and 950 MHz range are included with their license application. This can help show an operator is aware of the available spectrum and is utilizing it responsibly.

More information on Part 74 licensing can be found here: <https://www.local695.com/fcc-licensing/>.

Chapter 16: Antenna Guide

The Astral Mini ships with an antenna set with three antennas (1 straight 470-548 MHz, 1 straight 548-638 MHz, 1 straight uncut, set of antenna caps).

Sound Devices offers additional pre-cut and uncut antennas as available options.

Attach antennas with a length specific to the frequency in use. Using the wrong length of antenna reduces RF range.

Cutting Antennas to Length

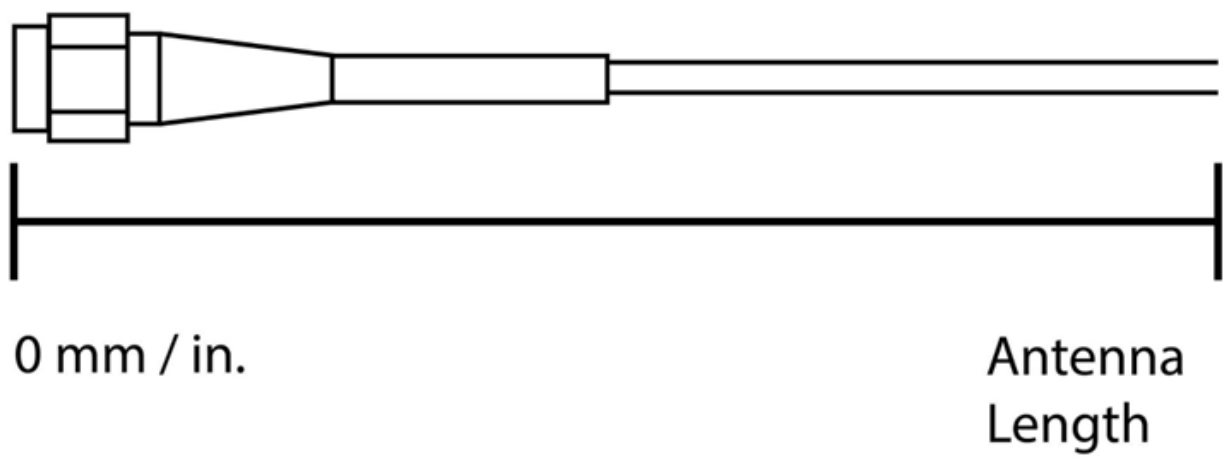
Uncut antennas need to be cut to the length specific to the frequency for intended use.

- Determine the frequency range intended for the uncut antenna using the Antenna Length chart.
- Measure the antenna for the cut point. Measurements should begin from the bottom of the SMA connector.
- Using a pair of cutters, cut the quarter-wave antenna at the specified cut point.
- Position the antenna cap onto the cut-end of the antenna and push the cap firmly onto the antenna.

Tip: Use an Astral ARX receiver's built-in Antenna Length Tool to assist in cutting antennas to the correct length.

Antenna Length Chart

#	Frequency Range	Antenna Length in mm	Antenna Length in inches
1	470 - 548 MHz	140 mm	5.51"
2	548 - 663 MHz	120 mm	4.72"
3	638 - 738 MHz	104 mm	4.09"
4	738 - 865 MHz	89 mm	3.50"
5	902 - 1015 MHz	74 mm	2.92"
6	1045 - 1154 MHz	65 mm	2.55"
7	1240 - 1260 MHz	57 mm	2.24"
8	1350 - 1525 MHz	49 mm	1.93"



Chapter 17: Servicing the Astral Mini

Do not attempt to service the Astral Mini. The case is factory-sealed and needs to have new gaskets installed if taken apart. The internal parts are microscopic and not user serviceable. Please send to Sound Devices for any service needs.

<https://support.sounddevices.com>

Chapter 18: Warranty

Sound Devices, LLC warrants the items listed above against defects in materials and workmanship for a period of ONE (1) year from date of original retail purchase. Users who register their product directly with Sound Devices Technical Support using the online form or by phone, will receive an additional ONE (1) year of warranty coverage, extending the complete warranty period to TWO (2) years from the date of original retail purchase. To extend the warranty coverage period, registration must be completed within the initial ONE (1) year warranty period. Products must be purchased through authorized Sound Devices resellers to qualify for Warranty coverage. Damage resulting from the opening of a Sound Devices product or attempted repairs by a non-authorized Sound Devices repair technician will void warranty coverage.

This is a non-transferable warranty that extends only to the original purchaser. Sound Devices, LLC will repair or replace the product at its discretion at no charge. Warranty claims due to severe service conditions will be addressed on an individual basis.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE. SOUND DEVICES, LLC DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOUND DEVICES, LLC IS NOT RESPONSIBLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING FROM ANY BREACH OF WARRANTY OR UNDER ANY OTHER LEGAL THEORY. Because some jurisdictions do not permit the exclusion or limitations set forth above, they may not apply in all cases.

For all service, including warranty repair, please contact Sound Devices for an RMA (return merchandise authorization) before sending your unit in for repair. Product returned without an RMA number may experience delays in repair. When sending a unit for repair, please do not include accessories, including SSD drives, CF cards, batteries, power supplies, carry cases, cables, or adapters unless instructed by Sound Devices. Sound Devices repairs and replacements may be completed using refurbished, returned or used parts that have been factory certified as functionally equivalent to new parts.

Sound Devices, LLC

Services Repair RMA #XXXXXX

E7556 State Road 23 and 33

Reedsburg, WI 53959 USA

Telephone: +1-608-524-0625

Chapter 19: Legal Notices

Product specifications and features are subject to change without prior notification. Read and fully understand this manual before operation.

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FCC Conformity



This device complies with part 74 and 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.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Warning! Any modifications or changes made to this device, unless explicitly approved by Sound Devices may invalidate the authorization of this device. Operation of an unauthorized device is prohibited under Section 302 of the Communications act of 1934, as amended, and Subpart 1 of Part 2 of Chapter 47 of the Code of Federal Regulations.

FCC & ISED User Statement

This device complies with FCC and ISED RF exposure limits for general population / uncontrolled environments.

Cet appareil est conforme à la norme FCC et ISED les limites d'exposition pour la population générale / l'exposition incontrôlée

FCC Interference Statement

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

Industry Canada Conformity

This device operates on a no-interference, no-protection basis. Should the user seek to obtain protection from other radio services operating in the same TV bands, a radio licence is required. For further details, consult Innovation, Science and Economic Development Canada's Client Procedures Circular CPC-2-1-28, Voluntary Licensing of Licence-Exempt Wireless Microphones in the TV Bands.

This radio transmitter 22225-9295W has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

The transmitter is supplied with the above unique antenna types; to replace a lost, damaged or faulty antenna, please contact Sound Devices, LLC.

Part #	Manufacturer	Description	Maximum Gain	Impedance
1122 4	Sound Devices, LLC	Antenna straight 470-548 MHz (140 mm / 5.51 ")	+2.15 dBi	50 ohms
1122 5	Sound Devices, LLC	Antenna straight 548-638 MHz (120 mm / 4.72 ")	+2.15 dBi	50 ohms

This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions:

- 1) this device may not cause interference, and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Conformité à Industrie Canada

Cet appareil opère selon un régime de non-brouillage et de non-protection. Si l'utilisateur veut obtenir une protection par rapport aux autres services radio opérant sur les mêmes bandes TV, une licence radio est requise. Pour plus de détails, veuillez consulter le circulaire de procédures client CPC-2-1-28 Délivrance de licences sur une base volontaire pour les microphones sans fils exempts de licence exploités dans les bandes de télévision, publié par Innovation, Sciences et Développement économique Canada.

Ce transmetteur radio 22225-9295W a été approuvé par Innovation, Sciences et Développement économique Canada pour opérer avec les types d'antennes listés ci-dessous, avec gain maximum permissible indiqué. Les types d'antennes non inclus dans cette liste et dont le gain excède le gain maximum indiqué sur n'importe quel type listé ci-dessous sont strictement prohibés d'utilisation avec cet appareil.

Ce transmetteur est fourni avec les types d'antenne unique ci-dessus; pour remplacer une antenne perdue, endommagée ou défectueuse, veuillez contacter Sound Devices, LLC.

# Pièce	Manufacturier	Description	Gain Maximum	Impédan ce
11224	Sound Devices, LLC	Antenne droite 470-548 MHz (140 mm / 5.51 ")	+2.15 dBi	50 ohms
11225	Sound Devices, LLC	Antenne droite 548-638 MHz (120 mm / 4.72 ")	+2.15 dBi	50 ohms

Cet appareil est conforme aux normes CNR exemptes de licence d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes:

- 1) ce dispositif ne peut pas causer d'interférences, et
- 2) ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

Chapter 20: Declaration of Conformity



Manufacturer's Name: Sound Devices, LLC

Manufacturer's Address: E7556 State Road 23 and 33 Reedsburg, WI 53959 USA

We, Sound Devices LLC, declare under our sole responsibility that the product

Product Name: Astral Mini

Model Number: 9295

Description: Digital Wireless Microphone Transmitter

is in conformity with the essential requirements of the following relevant Union harmonisation legislation:

Radio Equipment Directive (RED) 2014/53/EU

Low Voltage Directive 2014/35/EU

RoHS Directive 2011/65/EU

The following harmonized standards and/or normative documents were applied:

Health & Safety (Article 3.1(a) of RED) EN 62368-1:2014

EN 50566:2017

EMC (Article 3.1(b) of RED) EN 301-489-1 v2.2.3:2019

EN 301-489-9 v2.1.1:2019

EN 301-489-17 v3.2.4:2020

RF Spectrum (Article 3.2 of RED) EN 300 422-1 v2.1.2:2017

EN 300 328 v2.2.2:2019

EN 300 440 v2.1.1:2017

Signed for and on behalf of Sound Devices LLC:



July 20th, 2021

Date

Matt Anderson - Sound Devices, LLC President



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