

Summitwave RX

User Manual

Portable Auracast™ Receiver



UM-RX-EN • Rev. A • 2026-07

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1 Product overview and safe operation

The RX receives mono and stereo broadcasts over Bluetooth LE Audio and outputs them through headphones or compatible hearing loops.

Headphones

Direct output

The selected broadcast is sent through the 3.5 mm output to compatible headphones.

Inductive neck loop

Hearing assistance

A compatible neck loop can transfer the signal to a hearing system with its telecoil enabled.

Automatic roaming

Mobility

In a mesh setup with multiple Summitwave TX transmitters, the RX switches automatically between transmitters.

- Only use charging and audio accessories approved by Summitwave.
- The RX has an IP44 rating but is not waterproof. Do not immerse it or expose it to water jets.
- Operate the RX only between $-10\text{ }^{\circ}\text{C}$ and $+50\text{ }^{\circ}\text{C}$ and protect it from excessive heat, impact and improper mechanical stress.
- Follow the instructions for the connected headphones, hearing system and accessories.
- Immediately remove devices from service if they show visible damage, unusual heating or a deformed battery.

2 Technical data

The following specifications are based on the Summitwave RX product datasheet DS-RX-DE, Rev. A (2026-07). Range, frequency response and system latency partly depend on the broadcast and transmitter used.

RF / AURACAST

Radio standard	Bluetooth LE Audio (Core 5.3)
Device mode	Auracast receiver (RX)
Supported broadcasts	Mono · Stereo
Frequency range	2400–2483.5 MHz
Codec	LC3
Typical system latency	40 ms end-to-end · transmitter dependent
Typical range	up to 100 m · transmitter dependent
Channel control	selection using 2 buttons

AUDIO / OPERATION

Audio output	3.5 mm jack · TRS and TRRS with CTIA wiring
Use	common headphones and hearing loops
Frequency response	10 Hz–22 kHz · broadcast and mode dependent
Sample rate / bit depth	16 / 24 / 32 / 48 kHz · 16 bit
Output impedance	16–32 Ω
Display	1.2" OLED
Controls	Power · channel selection · volume +/-
Accessibility	Haptic feedback · easy-to-read display · straightforward operation

BATTERY / MECHANICAL

Battery	Li-Po · typ. 3.6 V · 2000 mAh
Runtime / charging time	20 h / 4 h
Charging	Docking station
Dimensions	90 × 60 × 20 mm (W × H × D)
Weight / colour	approx. 100 g · white or black
Operating temperature	–10 °C to +50 °C
Storage temperature	–40 °C to +60 °C
Ingress protection	IP44
Compliance	CE (RED) · EN 62368-1 · RoHS · REACH · WEEE

Verify typical RF values on site

The typical range of up to 100 m and typical 40 ms system latency depend on the transmitter, broadcast mode, installation and local RF conditions. Test the complete intended coverage area before each event.

3 Controls and connections

The RX uses a 1.2-inch OLED for channel, status and battery information, with controls for power, channel selection and volume.

PARAMETER	
Power	Switches the RX on or off. Follow the information shown on the OLED display.
Channel selection	Moves through available broadcasts or saved favourite channels using two buttons.
Volume +/-	Adjusts the playback level. Always begin at a low setting.
Volume + and - together	Opens <i>QC mode</i> after about 6 seconds, showing packet losses and signal strength. The same combination leaves it again.
OLED display	The 1.2-inch display shows the channel, operating status and battery state.
3.5 mm audio output	TRS and TRRS socket with CTIA wiring for compatible headphones and hearing loops.
Docking contacts	Charge the internal battery in the SW RX Charger 04.

4 Prepare and charge

A clear preparation process prevents empty or incomplete loan devices from being issued.

- 1 Carry out a visual inspection**
Check the enclosure, controls, audio connection, charging contacts and accessories for visible damage or contamination.
- 2 Place the RX in the docking station**
Insert the RX fully into a charging slot. A complete charge takes 4 hours.
- 3 Check the state of charge**
Check the battery indication on the OLED. A fully charged battery provides 20 hours of runtime according to the product datasheet.
- 4 Assign audio accessories**
Prepare tested headphones or an inductive neck loop as required.
- 5 Perform a function test**
Switch on the RX, select a test stream and verify audio output at low volume.

5 Select and listen to an Auracast stream

The RX receives an available broadcast. It does not require conventional one-to-one Bluetooth pairing with the transmitter.

- 1 Connect the audio output**
Fully insert the intended headphones or compatible inductive neck loop into the audio output.
- 2 Reduce the volume**
Set a low output level before putting on the headphones or switching the hearing system to the neck loop.
- 3 Switch on the RX**
Switch on the device and wait until it is ready for use.
- 4 Open the broadcast channels**
Display the available broadcasts or saved favourite channels and follow the information shown on the OLED.
- 5 Select the correct channel**
Use the two channel buttons to choose the clearly named broadcast for the room, language or application.
- 6 Adjust the volume**
Increase the volume slowly until playback is clear and comfortable.

Communicate stream names clearly

Issue staff and venue signage should use the same stream name shown by the RX, for example “Main Hall English” or “Audio description”.

6 Automatic roaming in a TX mesh

In installations with multiple Summitwave TX transmitters, the RX can switch automatically between transmitters while continuing the selected content without another channel selection.

- 1 Select the channel once**
Select the intended broadcast channel on the RX.
- 2 Walk through the venue**
Move through all areas covered by the Summitwave TX installation.
- 3 Check the transitions**
Confirm that content and volume remain consistent when the RX changes transmitters automatically.
- 4 Document edge areas**
Record any locations with dropouts or unexpected channel changes for optimisation of the TX mesh.

Roaming requires a coordinated TX setup

Automatic roaming is designed for a mesh with multiple Summitwave TX transmitters. Test it with the actual TX configuration used at the venue.

7 Lending and venue operation

A standard issue process makes operation simple for guests and traceable for staff.

Phase	Task	Control point
Before opening	Charge the RX, assign accessories and listen to a test stream.	Device is complete, clean and functional.
Issue	Select suitable accessories and briefly explain stream selection.	Guest knows the volume controls, stream selection and return point.
During use	Keep a replacement device and contact person available.	A fault can be resolved without a long interruption.
Return	Check the device and accessories for completeness and damage.	Mark the issue as returned in the inventory system.
After use	Clean according to the hygiene procedure, function-test and recharge.	RX is ready for the next session.

- Label every RX and its accessories with a unique inventory number.
- Provide a short, visible issue card with the stream name and basic operating instructions.
- Plan charged spare receivers for events.
- Document recurring faults and pass them to the technical team or support.

8 Cleaning, storage and transport

Careful handling improves availability and extends the useful life of the lending system.

PARAMETER	
Cleaning	Switch off the RX and disconnect accessories and charging power. Clean it according to the approved hygiene instructions; do not immerse it in liquid.
Storage	Store the RX and accessories in a dry, protected location within the approved range of -40 °C to +60 °C. Do not place controls, plugs or charging contacts under load.
Transport	Use a suitable transport solution with separate compartments for receivers, headphones and neck loops.
Long-term storage	Check the battery state regularly and recharge the RX in the docking station when required.

Clean with care

Only use cleaning products suitable for the RX and its connected accessories. Do not spray liquid directly onto the device, display, socket or charging contacts.

9 Quality control (QC mode)

QC mode (quality control) shows packet losses and signal strength of the received broadcast in real time. It is intended for commissioning, sign-off of coverage areas and technical fault finding, not for guest operation.

9.1 Open QC mode

- 1 **Switch on the RX and select a channel**
The values always refer to the broadcast currently being received. Without a selected channel there is nothing to measure.
- 2 **Hold the volume buttons + and – together**
Hold both buttons for about 6 seconds until the QC display appears on the OLED.
- 3 **Read the values**
Stay at the measuring point until the 10-second values have settled.
- 4 **Leave QC mode**
Hold the same button combination again until the RX returns to the normal display.

9.2 Values shown

VALUE	
Total packet losses	Total number of audio packets lost so far. If the figure stops rising at a fixed position, reception is stable there.
Packet losses, last 1 s	Packets lost during the last second. Responds immediately and reveals short disturbances while you change position, shading or transmit power.
Packet losses, last 10 s	Packets lost during the last 10 seconds. Smooths out single events and is the more meaningful value for assessing a location.
RSSI	Signal strength of the received broadcast in dBm. The value is negative; the closer to zero, the stronger the signal — –60 dBm is better than –85 dBm .
RSSI, 10 s average	Mean signal strength over the last 10 seconds. More reliable for assessing a location than the instantaneous value, because movement and shading make the RSSI fluctuate constantly.

9.3 Interpreting the readings

The two figures answer different questions: **RSSI** tells you how strongly the signal arrives at the RX. **Packet losses** tell you whether the audio data arrives complete. Only the combination gives the full picture.

- **Good RSSI but packet losses** — the signal is strong enough but is being disturbed. Check other transmitters in the 2.4 GHz band, Wi-Fi channel usage and active radio links at the venue.
- **Weak RSSI with packet losses** — the measuring point is too far from the TX or is shaded. Check TX position, transmit power and whether an additional TX is needed in the mesh.
- **Weak RSSI without packet losses** — reception works but has little margin. Areas like this are the first to drop out with a full room, that is with an audience between TX and RX.

9.4 Signing off a coverage area

- Define measuring points across the whole area of use, including edges, alcoves, positions behind columns and areas below galleries.
- Stay at each point for 10 to 15 seconds so that the 10-second values are meaningful.
- Record the 10-second RSSI average and the 10-second packet losses for each point. That record is the basis for optimising the TX setup.
- Check *transition areas between two transmitters* separately: that is where it is decided whether roaming works without interruption.

Measure under realistic conditions

People attenuate the signal noticeably. A sign-off in an empty room looks better than later operation. Where possible, re-check critical areas with an audience present.

Issue loan devices in the normal display

QC mode is a technical display. Leave it before issuing the device so that guests see the channel, operating status and battery state.

10 Troubleshooting

Check the state of charge, audio accessories, stream availability and selection first.

Problem	Check first	Next step
RX does not start	Check the battery state, correct position in the docking station and visible damage.	Charge the RX for up to 4 hours; remove it from service if it heats up or the battery is damaged.
No stream is visible	Is the TX active, is the RX in the intended coverage area, and has a scan been started?	Test with a second RX and check the stream name and transmit power at the TX.
Stream is selectable but there is no sound	Check that the headphones or neck loop are fully connected, and verify volume and stream selection.	Test the accessory on a second RX and check the stream at the TX.
Audio drops out	Check distance, obstacles, state of charge and local RF conditions.	Measure reception in <i>QC mode</i> : packet losses and RSSI show whether the signal is too weak or disturbed.
Controls do not respond	Check the device state and any lock indication.	Restart using the approved procedure or exchange the device.
Charging is not possible	Check the charging contacts, position in the docking station and its power supply.	Try another charging position; do not continue using damaged accessories.
Roaming is interrupted	Check the coverage area, active TX transmitters and consistent channel provisioning.	Measure the transition area in <i>QC mode</i> and check the TX mesh configuration.

Prepare information for support

Record the inventory or serial number, firmware version, state of charge, accessories used, stream name and a precise description of the fault.