AXT400

Dual Channel Receiver

Online user guide for AXT400 dual channel receiver.

Version: 2 (2019-G)

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IMPORTANT SAFETY INSTRUCTIONS

1. READ these instructions.
2. KEEP these instructions.
3. HEED all warnings.
4. FOLLOW all instructions.
5. DO NOT use this apparatus near water.
6. CLEAN ONLY with dry cloth.
7. DO NOT block any ventilation openings. Allow sufficient distances for adequate ventilation and install in accordance with the manufacturer's instructions.
8. DO NOT install near any heat sources such as open flames, radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not place any open flame sources on the product.
9. DO NOT defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. PROTECT the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. ONLY USE attachments/accessories specified by the manufacturer.
12. USE only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. UNPLUG this apparatus during lightning storms or when unused for long periods of time.
14. REFER all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. DO NOT expose the apparatus to dripping and splashing. DO NOT put objects filled with liquids, such as vases, on the apparatus.
16. The MAINS plug or an appliance coupler shall remain readily operable.
17. The airborne noise of the Apparatus does not exceed 70dB (A).
18. Apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.
19. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
20. Do not attempt to modify this product. Doing so could result in personal injury and/or product failure.
21. Operate this product within its specified operating temperature range.

AXT400 Dual Channel Receiver

The AXT400 Dual Channel Receiver combines advanced analog and digital technology to deliver exceptional RF and audio performance. The receiver features ShowLink™ Remote Control for real-time transmitter adjustments, Frequency Diversity mode for seamless dual-frequency operation, and Interference Detection & Avoidance. It offers up to 228 MHz of wideband tuning and supports Axient and UHF-R series transmitters. Connectivity options include transformer balanced audio outputs, AES3 digital audio output, RF Cascade ports and dual Ethernet ports for networked control and monitoring via Shure Wireless Workbench® 6 software.

Features

ShowLink™ Remote Control

The AXT400 offers comprehensive real-time remote control of a linked transmitter when used with the AXT610 ShowLink Access Point. Axient transmitters can be Linked to each receiver channel using the Infrared Sync feature. The ShowLink Access Point maintains a 2.4 GHz wireless network communication with the transmitters and connects to the receiver over Ethernet. All functions of the Linked transmitter including gain adjustments and synchronized frequency changes can be controlled from the front panel menu of the AXT400 in real-time.

Interference Detection and Avoidance

During operation, the AXT400 receiver can detect the presence of an interfering analog or digital signal. When a potential interference source is detected, a warning message is displayed along with options for changing frequency. When used with the AXT600 Spectrum Manager, the receiver can switch to a 'backup' frequency deployed by the Spectrum Manager, either manually or automatically. The Spectrum Manager constantly monitors a compatible frequency list to ensure the best available frequencies are used. With ShowLink™ Remote Control, the receiver and transmitter can execute a synchronized switch to a clear frequency, resolving the interference.

Frequency Diversity

Frequency Diversity provides seamless audio in environments where there is a risk of dropouts or interference by using transmission from a single audio source on two independent radio frequencies. In Frequency Diversity mode, the AXT400 Receiver continuously analyzes signal quality and uses both signals to provide optimized audio on a single channel. In the case of RF interference on one frequency the receiver automatically uses the other frequency, delivering clean, uninterrupted audio.

Wideband Tuning

Up to 228 MHz tuning bandwidth accommodates multiple transmitter bands, providing flexibility and simplifying receiver inventories. A single receiver can cover the entire US UHF TV band.

Networking

The AXT400 Receiver shares information with other system components via Ethernet, enabling advanced features such as remote control of transmitters and management using WWB 6 software. The receiver has two RJ45 Ethernet ports capable of 10/100 Mbps network speeds. The Ethernet ports are power over Ethernet (PoE) enabled, which can be used to supply power to a ShowLink Access Point. To verify the network is correctly configured, the list of network-ready devices can be identified using the Find All utility in the front panel menu.

Groups and Channels

The receiver includes a wide selection of frequency Groups which allow easy access to compatible Channels for multiple receivers. Channel Scan finds an open frequency within the current Group. Group Scan finds the open Channels in all Groups and allows easy programming of compatible frequencies to other AXT400 receivers over the network.

RF Cascade Ports

The cascade ports share RF signal with up to 5 receivers within the same frequency band. RF cascade allows antenna signal to be conveniently distributed for up to 10 channels without using splitters or distribution amplifiers.

Compatible Transmitters

The receiver is compatible with the following Shure transmitters:

- AXT100 Bodypack Transmitter
- AXT200 Frequency Diversity Handheld Transmitter
- UR1 Bodypack Transmitter
- UR1H Bodypack Transmitter
- UR1M Micro-Bodypack Transmitter
- UR2 Handheld Transmitter
- MW2 Handheld Transmitter
- MW3 Handheld Transmitter

Included Components

1-foot Coaxial Cascade Cable (2)	95N2035
IEC AC Power Cable (1)	95A9128
IEC AC Extension Cable (1)	95A9129
Shielded 3-foot Ethernet Cable (1)	C803
Shielded 8-inch Ethernet Jumper Cable (1)	C8006
Hardware Kit (1)	90XN1371
22-inch Coaxial Cable* (1)	95B9023
33-inch Coaxial Cable* (1)	95C9023

* with integrated bulkhead for front mounting antennas.
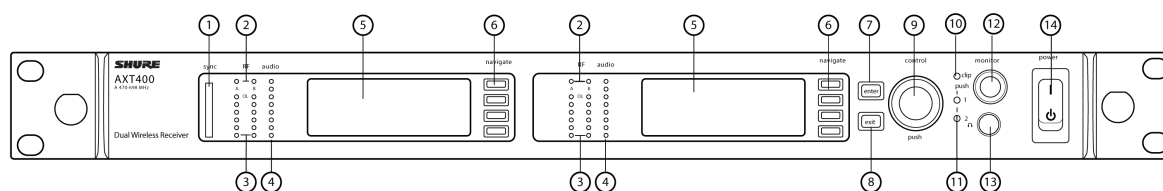
Mounting Instructions

This component is designed to fit into an audio rack.

WARNING: To prevent injury this apparatus must be securely attached to the rack.
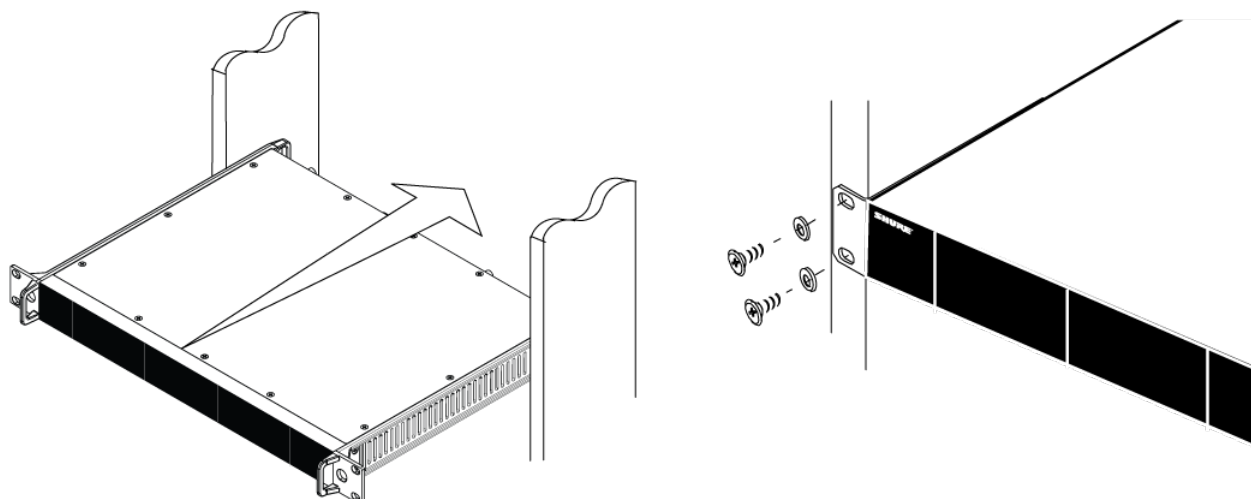
Front Panel

① Sync - Infrared (IR) Port

Infrared (IR) port. For sending parameter presets (IR Preset) to a transmitter and linking the transmitter and receiver to the same channel.

② Squelch LEDs

◦ Blue (On) = transmitter signal detected
◦ Off = no signal or signal squelched because of poor reception or no tonekey

③ RF LEDs

Indicates the RF signal strength from the transmitter.

◦ Amber (1-5) = -90 to -70 dBm in 5 dBm increments
◦ Red = RF overload

④ Audio LEDs

Indicates the audio signal strength from the transmitter.

◦ Green = signal present
◦ Yellow = normal peak
◦ Red = overload

To correct an overload, adjust the transmitter gain.

⑤ **LCD display**

Each channel has an LCD display for viewing settings and parameters.

⑥ **Menu navigation buttons**

Use to select and navigate through parameter menus.

⑦ **Enter button**

The *Enter* button flashes when an action or parameter change is pending. Press Enter to save the value.

⑧ **Exit button**

Cancels parameter changes or returns to a previous menu screen.

⑨ **Control wheel**

- Push to select menu items for editing
- Turn to edit a parameter value

Tip: Press and hold the control wheel for 1 second to activate the Hardware Identify feature in WWB.

⑩ **Monitor clip LED**

Indicates audio overload when illuminated.

⑪ **Monitor output LED**

Indicates channel selection for monitoring.

⑫ **Monitor volume knob**

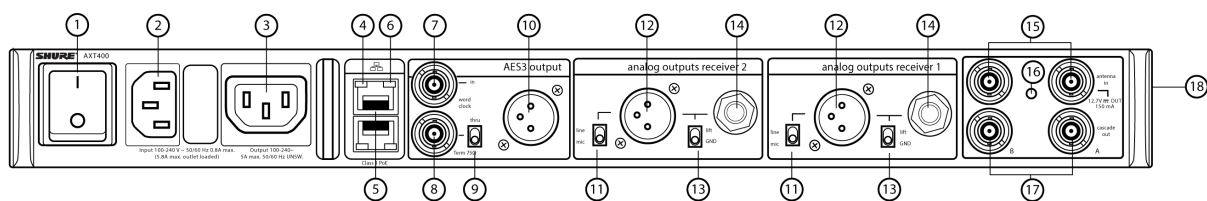Adjusts monitor volume. Push to monitor channel 1 or channel 2.

⑬ **Monitor jack**

6.5 mm (1/4") output jack for headphones.

⑭ **Power switch**

Power the unit on or off.

Rear Panel

① **AC power primary switch**	AC main power switch.
② **AC power in**	IEC connector 100 - 240 V AC.
③ **AC power cascade**	Use IEC extension cables to connect up to 5 rack components to a single AC power source.
④ **Network speed LED (amber)**	• Off = 10 Mbps • On = 100 Mbps
⑤ **Ethernet ports: Class 1 PoE enabled (2)**	Connect to an Ethernet network to enable remote control and monitoring.
⑥ **Network status LED (green)**	• Off = no network link • On = network link active • Flashing = network link active, flash rate corresponds to traffic volume
⑦ **Word clock input**	Connect to resolve the AXT400 AES3 digital output to an external word clock source.
⑧ **Word clock thru output**	Passes word clock signal to additional components.
⑨ **Word clock termination switch**	Set to *thru* when passing signal to additional components. Set to *75Ω* when *thru* connection is not used.
⑩ **AES3 digital audio output**	24-bit digital audio output for channel 1 and channel 2.
⑪ **Line/Mic switch**	Changes the output level 30 dB (XLR outputs only).
⑫ **Transformer balanced XLR audio output**	For channel 1 and channel 2.
⑬ **Ground lift switch**	Lifts the ground from pin 1 of the XLR connector and the sleeve of the ¼" jack.
⑭ **Transformer balanced 1/4" output jack**	For channel 1 and channel 2.
⑮ **RF antenna input jacks**	For antenna A and antenna B.
⑯ **RF input status LED**	Indicates the voltage status of the RF input. • Green = DC voltage on • Red flashing = fault condition • Off = DC voltage off
⑰ **RF cascade ports**	Passes the RF signal from one receiver to the next, allowing up to 5 receivers to share a single pair of antennas.
⑱ **Temperature activated fan**	Ensures top performance in high temperature environments. Clean fan screen as needed to maintain airflow.

Screen Icons

Screen icons indicate the status of advanced features and provide details of receiver settings.

Network

Indicates connectivity with other devices on the network. IP Address must be valid to enable networked control.

ShowLink

Indicates ShowLink control active between the receiver and the Linked transmitter.

Lock

Indicates transmitter controls locked.

Link Status

Displayed when the receiver channel is Linked to a transmitter.

Frequency Diversity Bodypack Mode

Frequency Diversity configured for use with bodypack transmitters.

Frequency Diversity Handheld Mode

Frequency Diversity configured for use with handheld diversity transmitters.

Asterisk

Appears next to the tuned frequency if it is not included in the compatible frequency list (CFL) of the Spectrum Manager.

From:

References the source of the currently tuned frequency. For example, a Group and Channel or the Device ID of a Spectrum Manager currently controlling the receiver.

OUT:

Displays the current level of the audio output (0 to -30 dB or Mute)

In Talk Switch mode, the switch configuration is displayed: (**TS-TRS, TS-XLR, TS-Toggle**)

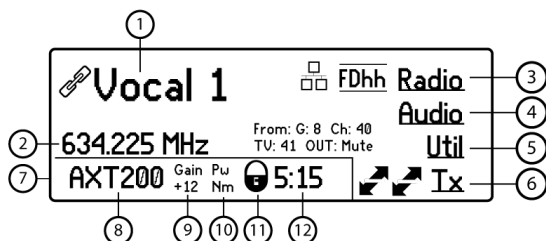**Note**: varies by region

TV:

Displays the TV channel that contains the tuned frequency.

Access Control Icon

Displayed when Access Control PIN is enabled from Shure control software.

Home Screen

The home menu displays a summary of receiver parameters and the top-level menu choices. When a transmitter is received, its key settings are displayed.

① Audio channel name

The audio channel name is shared by a receiver and a Linked transmitter

② Frequency setting

The tuned frequency of the receiver

③ *Radio* menu

Select to access Radio sub-menus

④ *Audio* menu

Select to access Audio sub-menus

⑤ *Util* menu

Select to access Utility sub-menus

⑥ *Tx*

Select to access Transmitter sub-menus

⑦ Received Transmitter Data

Solid line: Receiving signal from a Linked transmitter

Dashed line: Received signal is not from a Linked transmitter

⑧ Transmitter Device ID

Displays the Device ID or model number of the received transmitter

⑨ Transmitter Gain

Gain setting for received transmitter

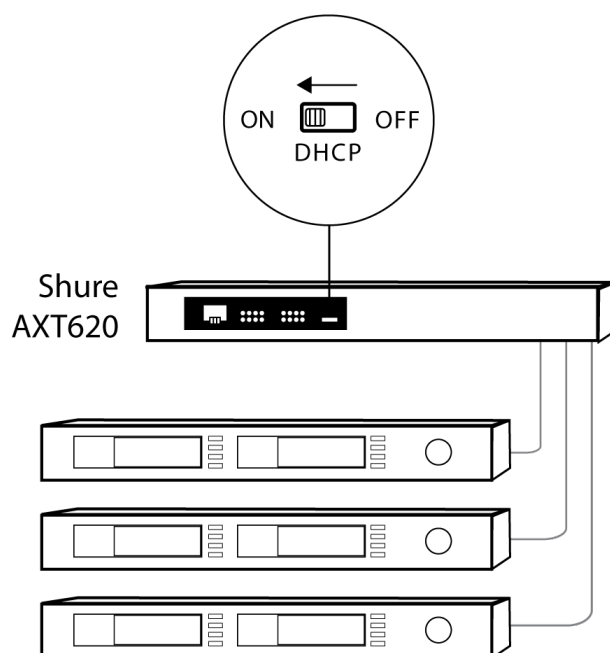**⑩ RF Power**

Power level for received transmitter

⑪ Lock Status

Icon indicates transmitter controls locked

⑫ **Battery Life**

Remaining runtime for the transmitter battery is displayed numerically, alternating with a segmented battery icon. Displays battery fault codes.

Networking Receivers

The receiver uses an Ethernet connection to network with other components. For automatic network configuration, use a DHCP enabled Ethernet switch such as the Shure AXT620 or an Ethernet router with DHCP service. Use multiple Ethernet switches to extend the network for larger installations.

Note: For smaller systems, connect the receivers to one another using the Ethernet ports on the back panel. The devices fall back to compatible addresses if the IP mode is set to automatic and there is no DHCP server.

Automatic IP Addressing

1. If using a Shure AXT620 Ethernet switch, set the *DHCP* switch to *ON*.
2. Set the IP mode to automatic for all devices (*Util* > *Network* > *Mode* > *Automatic*)

Manual IP Addressing

1. Connect the Spectrum Manager and receivers to an Ethernet switch.
2. Set the IP Mode to *Manual* for all devices:
   ◦ Menu: *Util* > *Network*
   ◦ Use the control wheel to set valid IP addresses for all devices. Set the subnet mask for all devices to the same value.

Troubleshooting

Use only one DHCP server per network

All devices must share the same subnet mask

All devices must have the same level of firmware revision installed

Look for the network icons on the display of each device:

- If the icon is not there, check the cable connection and the LEDs on the network jack.
- If the LEDs are not on and the cable is plugged in, replace the cable and recheck the LEDs and network icon.

Use the Find All utility (*Util > Network > Find All*) to view devices on the network:

- The Find All report lists all devices on the network.
- Check the IP address for devices not shown in the Find All report to ensure that they are on the same subnet.

To check connectivity of WWB6 to the network:

1. Start WWB6 software and use Inventory view to see devices connected to the network.
2. If not, find the IP address from one of the devices on the network (such as an AXT400 receiver) and see if you can ping it from the computer running WWB6.
3. From a WINDOWS/MAC command prompt, type "ping IPADDRESS" of the device (e.g. "ping 192.168.1.100").
4. If the ping returns success (no packet loss), then the computer can see the device on the network. If the ping returns failure (100% packet loss), then check the IP address of the computer to ensure it's on the same subnet as the device.
5. If the pings are successful and the devices still do not show up in the WWB6 inventory, check to ensure all firewalls are either disabled or allow the WWB network traffic to pass to the application. Check that firewall settings are not blocking network access.

Adding ShowLink for Remote Control

Adding a ShowLink Access Point enables remote control of a linked Axient transmitter from the front panel of the receiver.

Connecting a ShowLink Access Point

1. Connect the Access Point to the Ethernet port of the receiver to establish a network connection and supply power.
2. Position the access point within range of the transmitter.
3. Check the transmitter and receiver menus for the ShowLink icon, indicating that remote control is possible.

Remote Control of Transmitters

When a linked transmitter is within range of a ShowLink Access Point, the transmitter adjustment menu is enabled.

1. From the home screen, select *Tx > Adjust*
2. Press the control wheel to highlight a parameter for adjustment.
3. Turn the control wheel to change a parameter value.

```
┌──────────────────────────────────────────┐
│ [Device ID]            ↗          Edit ID │
│   Gain: +10                         Flash │
│ Power: 10mW  Lock: OFF                    │
│   RF Output: On                 ← Mute    │
└──────────────────────────────────────────┘
```
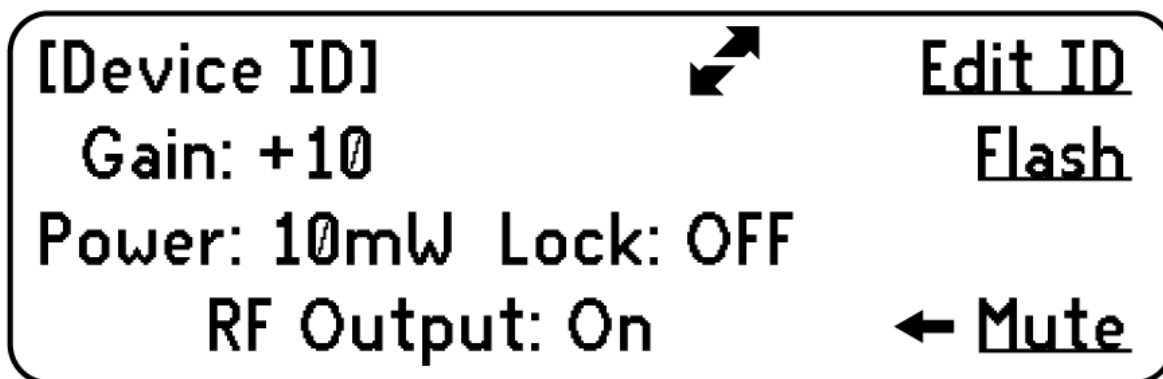
ShowLink Test

To check the ShowLink network and connectivity, you can use the ShowLink test mode in the AXT400 receiver:

1. Connect the AXT610 Access Point to the network.
2. Link a transmitter to the receiver by doing an IR sync.
3. You should see the ShowLink icon on the receiver display next to the transmitter information.
4. From the receiver menu: *Util > More > ShowLink Test*.
5. Use the control wheel to highlight a transmitter to test, and then press *Start*.
6. The ShowLink test will run and display a signal strength indication.
7. If the ShowLink signal strength is low, check the antenna connection on the AXT610 and the transmitter.

Interference Detection

Dual Digital Signal Processors (DSP) in the receiver analyze the RF signal for signs of interference that can degrade the audio signal. When interference is present, the receiver screen turns red and displays one of the following warning messages:

Interference Alert

Displayed on the home screen when low-level interference is detected. Interference at this level may not be audible or may only cause a slight disruption to the audio signal. All receiver controls can still be accessed, and If the interference is not audible, a frequency change may not be necessary.

If Interference Avoidance is set to *Auto* mode, a frequency change will not occur unless the strength of the interference increases to trigger an Interference Detected message.

Interference Detected

Displayed when high-level interference likely to disrupt the audio signal is detected. The menu screen displays on-screen options for changing to a clear frequency or if Interference Avoidance mode is set to *Auto*, the channel will automatically switch to a clear frequency deployed by the Spectrum Manager.

If the Interference clears without being addressed or if a frequency change is made by the Spectrum Manager, the LCD screen will return to its normal color. The detection message indicating time elapsed since the interference occurred will remain on the screen for up to 60 minutes or until dismissed.

On-Screen Frequency Change Options

When Avoidance mode is set to Prompt, the following on-screen options are available when interference is detected:

- **Switch:** Deploys a clear backup frequency from the Spectrum Manager when selected
- **Manual:** Accesses the frequency menu to make a frequency change using the control wheel
- **Ignore:** Suppresses the interference warning message

Detection Sensitivity

The sensitivity setting allow you to vary the timing of warning messages to match the RF conditions and the need to avoid interference.

Normal

- Generates a message in response to low levels of interference well below the audibility threshold
- Provides more time to react to messages
- Interference Detection is suppressed when received signal strength is below the Exclusion threshold

More Sensitive

- Generates a message in response to moderate levels of interference below the audibility threshold
- Provides more time to react to messages
- Interference Detection can trigger at low received signal levels, regardless of the Exclusion threshold setting

Less Sensitive

- Detects interference at a level just below the audibility threshold
- Fewer detection messages
- Less time to react to messages
- Interference Detection is suppressed when received signal strength is below the Exclusion threshold

Setting up an Audio Channel

Setting the Frequency Band

Set to the Receiver to the same frequency band as the transmitter.
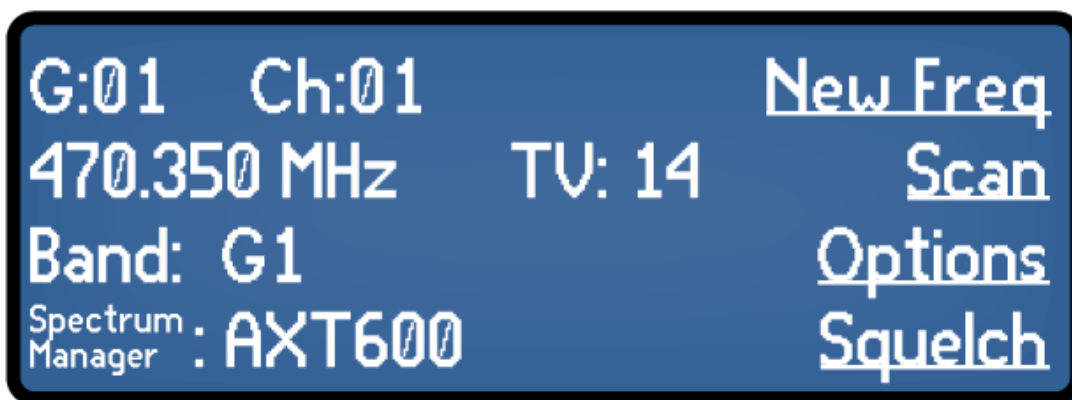
1. From the home menu screen, select *Radio*.
2. Press the control wheel to highlight *Band*.
3. Turn the control wheel to set the receiver band to match the transmitter band.
4. Press the *ENTER* button to save.

Linking a Transmitter using IR Sync

The IR Sync function forms a link between a transmitter and the receiver and automatically sets the transmitter frequency.

1. Menu: *Tx*
2. Align the transmitter with the IR port on the front panel. The red IR sync LED on the receiver IR port will illluminate to indicate correct alignment. Press *Sync*.
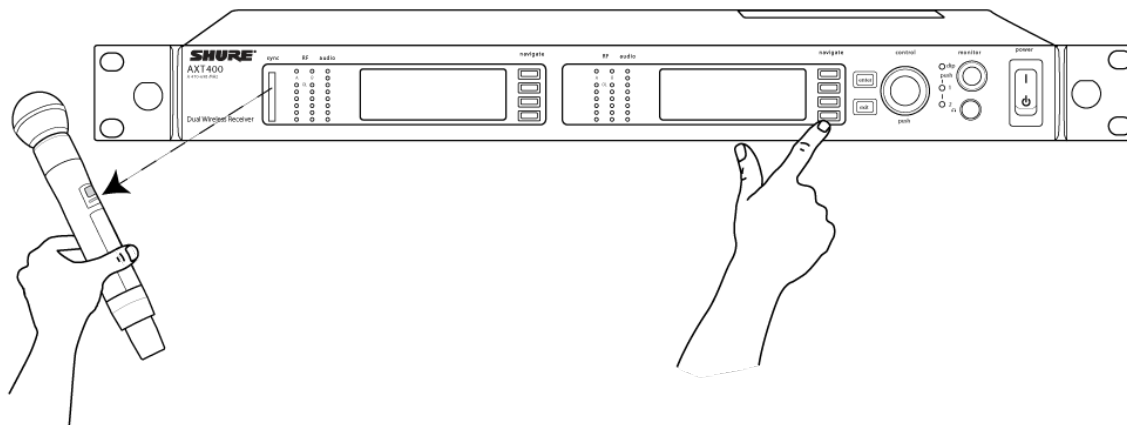
3. The display indicates if the IR sync is successful. Check transmitter alignment and select *Retry* if a failure occurs. The receiver passes an audio signal if successful.
4. Linking a transmitter creates a persistent control relationship with the receiver channel, enabling remote control and synchronized frequency changes when ShowLink is active.
   ◦ Up to 2 transmitters can be linked, which allows alternate transmitters to be added to the channel and remotely controlled.

- ◦ Turn the control wheel to select the transmitter in slot 1 or slot 2 before pressing *Sync*.
5. When a transmitter is successfully linked, a confirmation is displayed and the link status icon appears to the left of the channel name on the receiver home menu. Link status is not maintained with UHF-R series transmitters.
6. Transmitters can be unlinked from the channel, clearing the link relationship.
   - ◦ From the home screen menu, select *Tx*
   - ◦ Turn the control wheel to select the device ID of the transmitter to be unlinked
   - ◦ Press the *Unlink* menu option or link another transmitter to overwrite the selected link slot

Frequency Diversity

Frequency Diversity uses two independent radio frequencies sent from an AXT200 handheld transmitter or from two AXT100 bodypack transmitters connected with a "Y" cable to deliver a single uninterrupted audio channel. To optimize performance, Frequency Diversity mode must match the transmitter type.

To set Frequency Diversity mode:

1. Menu: `Options > Diversity`
2. Turn the control wheel to select *FD-Bodypack* for AXT100 bodypack transmitters or to select *FD-Handheld* for AXT200 handheld transmitters.

Specifications

Specifications AXT400 Receiver

RF Carrier Frequency Range
470–952 MHz

Note: varies by region

Working Range

Under typical conditions	150 m (500 ft)
Line of Sight, outdoors for a single system	500 m (1600 ft)

Note: Actual range depends on RF signal absorption, reflection and interference.

Audio Frequency Response
40 Hz

– 18 kHz (+1, -3 dB)

Note: Dependent on microphone type

RF Tuning Step Size
25 kHz

Modulation
45 kHz max. deviation

FM, Audio Reference Companding with pre- and de-emphasis

Signal-to-Noise Ratio
A-weighted, 1% THD

XLR Output	>118 dB
AES3 Output	>130 dB

Image Rejection
>120 dB, typical

RF Sensitivity
-110 dBm for 12 dB SINAD, typical

Spurious Rejection
>110 dB, typical

Ultimate Quieting
>110 dB, A-Weighted

Squelch Quieting
>115 dB, A-Weighted

Latency
<1 ms

Total Harmonic Distortion
45 kHz max. deviation

<0.3%, A-weighted, typical

System Audio Polarity
Positive pressure on microphone diaphragm (or positive voltage applied to tip of WA302 phone plug) produces positive voltage on pin 2 (with respect to pin 3 of low-impedance output) and the tip of the high impedance 1/4-inch output.

Gain Adjustment Range
0 to -30 dB (in 1 dB steps), plus Mute setting

Dimensions
44 mm x 483 mm x 366 mm (1.7 in. x 19.0 in. x 14.4 in.), H x W x D

Weight
5.5 kg (12.0 lbs)

Housing
Steel; Extruded aluminum

Power Requirements
100 to 240 V AC, 50-60 Hz

Current Drain

1.1 A RMS (referenced at 120 V AC)

Operating Temperature Range

-18°C (0°F) to 63°C (145°F)

Storage Temperature Range

-29°C (-20°F) to 74°C (165°F)

RF Input

Connector Type

BNC

Configuration

Unbalanced, active

Impedance

50 Ω

Bias Voltage

12 V DC, 150 mA (300 mA maximum)

Cascade Output

Connector Type

BNC

Configuration

Unbalanced, filtered to receiver band

Impedance

50 Ω

Digital Audio Output

Configuration

AES3 Type 1, XLR connector	Channel 1	Left
	Channel 2	Right

Word Clock Input

Level	3 Vpp
Frequency	48/96 kHz

Impedance

75 Ω

Pin Assignments

1	ground
2	audio +
3	audio -

Phantom Power Protection
Yes

Networking

Power Over Ethernet (PoE)
50 V DC, Class 1

Network Interface
Dual Port Ethernet 10/100 Mbps

Network Addressing Capability
DHCP or Manual IP address

Analog Audio Output

Configuration

Monitor	Unbalanced mono, 1/4 in. (will drive stereo phones)
6.35 mm (1/4")	Transformer Coupled Balanced
XLR	Transformer Coupled Balanced

Impedance

Monitor	50 Ω
6.35 mm (1/4")	<50 Ω
XLR	<150 Ω

Maximum Signal Level
45 kHz max. deviation

Monitor	1 W@ 63 Ω
6.35 mm (1/4")	9 dBu
XLR	+18 dBu

Mic/Line Switch
30 dB

Pin Assignments

Monitor	Tip	audio +

	Ring	audio +
	Sleeve	ground
6.35 mm (1/4")	Tip	audio +
	Ring	audio -
	Sleeve	ground
XLR	1	ground
	2	audio +
	3	audio -

Phantom Power Protection

Monitor	No
6.35 mm (1/4")	Yes
XLR	Yes

System Gain

In an audio system containing both AXT400 and UR4 receivers, the overall system audio gain at the XLR (line) output varies depending on the receiver model and the type of transmitter.

The table below offers a comparison of the output gain at the XLR output for AXT400 and UR4 receivers for each transmitter model. Use the information in the table to achieve consistent gain levels when using systems comprised of both Axient series and UR series components.

System gain from transmitter input to receiver XLR output (line) when transmitter gain = 0 dB

		AXT100 Body-pack	AXT200 Hand-held	UR1 Body-pack	UR1M Body-pack	UR2 Handheld
Transmitter		**gain = 0 dB**	gain = 0 dB	gain = 0 dB	gain = 0 dB	gain = 0 dB
				sens = 0 dB	sens = 0 dB	
Receiver	**AXT400**	+10 dB gain	+15 dB gain	+15 dB gain	+15 dB gain	+15 dB gain
gain setting = 0 dB	**UR4**	N/A	N/A	+18 dB gain	+18 dB gain	+18 dB gain

Firmware Updates

Firmware is embedded software in each component that controls functionality. Periodically, new versions of firmware are developed to incorporate additional features and enhancements. To take advantage of design improvements, new versions of the firmware can be uploaded and installed using the Firmware Update Manager tool available in WWB6 software. Firmware is available for download from http://www.shure.com/wwb.

Certifications

Meets essential requirements of the following European Directives:

- R&TTE Directive 99/5/EC

- WEEE Directive 2002/96/EC, as amended by 2008/34/EC
- RoHS Directive 2011/65/EU

    Note: *Please follow your regional recycling scheme for batteries and electronic waste*

- Conforms to European Regulation (EC) No. 1275/2008, as amended.

Meets requirements of the following standards:

EN 300 422 Parts 1 and 2
EN 301 489 Parts 1 and 9
EN60065

Approved under the Declaration of Conformity (DoC) provision of FCC Part 15.

Certified in Canada by ISED to RSS-123.

IC: 616A-AXT400

Industry Canada ICES-003 Compliance Label: CAN ICES-3 (B)/NMB-3(B)

Note: EMC conformance testing is based on the use of supplied and recommended cable types. The use of other cable types may degrade EMC performance.

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

The CE Declaration of Conformity can be obtained from Shure Incorporated or any of its European representatives. For contact information please visit www.shure.com

The CE Declaration of Conformity can be obtained from: www.shure.com/europe/compliance

Authorized European representative:
Shure Europe GmbH
Headquarters Europe, Middle East & Africa
Department: EMEA Approval
Jakob-Dieffenbacher-Str. 12
75031 Eppingen, Germany
Phone: +49-7262-92 49 0
Fax: +49-7262-92 49 11 4
Email: info@shure.de

Information to the user

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

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

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 deter-

mined 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 the receiver.
- Connect the equipment to 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.