

# SHURE

LEGENDARY  
PERFORMANCE™



## AXT200 Handheld Frequency Diversity Transmitter



## 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. Install in accordance with the manufacturer's instructions.
8. DO NOT install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
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.



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.



**WARNING:** No user-serviceable parts inside. Refer all servicing to qualified service personnel.

**WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.



### WARNING

- Battery packs may explode or release toxic materials. Risk of fire or burns. Do not open, crush, modify, disassemble, heat above 212°F (100°C), or incinerate
- Follow instructions from manufacturer
- Never put batteries in mouth. If swallowed, contact your physician or local poison control center
- Do not short circuit; may cause burns or catch fire
- Do not charge or use battery packs with other than specified Shure products
- Dispose of battery packs properly. Check with local vendor for proper disposal of used battery packs



## AXT200 Axient Handheld Transmitter

The AXT200 Handheld Frequency Diversity Transmitter is a rechargeable, remotely controllable handheld transmitter with Frequency Diversity for seamless, uninterrupted audio in even the most challenging RF environments. In addition to Frequency Diversity, the AXT200 delivers ultra-linear RF performance for more channels on-air and superb audio quality. Its advanced power management supports extended battery life and highly accurate status metering. ShowLink™ Remote Control enables comprehensive real-time remote control of all transmitter parameters, including real-time frequency adjustments.

### Features

- Frequency Diversity enables simultaneous transmission on two independent frequencies to ensure seamless, uninterrupted audio for mission-critical transmitters. Single carrier mode is available if Frequency Diversity is not required.
- Ultra-linear RF performance enables more channels on-air
- IR Sync function automatically tunes transmitter to the receiver frequency
- Comprehensive real-time remote control of all transmitter parameters when a Linked transmitter is within range of a ShowLink Access Point
- Shure lithium-ion rechargeable battery delivers up to 9 hours of runtime from a single charge
- Advanced control menu to adjust frequency and audio settings from the transmitter
- 42 dB of adjustable gain for optimal audio quality
- Lockable user interface prevents accidental or inadvertent changes to controls once settings are made

## Transmitter Overview

### ① Microphone Cartridge

Interchangeable with a variety of Shure cartridges

### ② LCD Display

View menu screens and settings. Momentarily press power button to activate backlight.

### ③ Infrared (IR) Port

Use for automated transmitter programming. Links transmitter to AXT400 Receiver

### ④ Shure Rechargeable Lithium-ion Battery

Delivers up to 9 hours of runtime from a single charge

### ⑤ Locking Ring

Secures the battery and protects the control buttons

### ⑥ Dual-Band Antenna

Covers UHF tuning range and 2.4 GHz ShowLink signal

### ⑦ Arrow Buttons

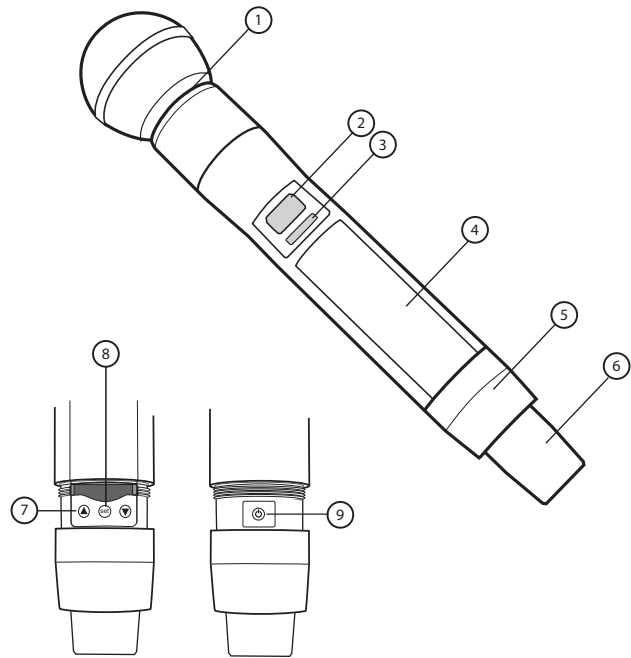
Use to scroll through menu screens and to change parameter values

### ⑧ Set Button

Enables parameter editing. After editing is complete, press to save changes and return to the main menu screen

### ⑨ Power Button

Hold for 1 second to turn the transmitter on. To power off, press and hold for 2 seconds until the display reads "**Powering Off**". When editing parameters, acts as an exit button to cancel changes and return to a previous parameter or to the main menu screen.



## Included Components

Handheld Rechargeable Battery (2)	AXT920 or AXT920SL		
Transmitter Carrying Case	95A15475		
Zipper Bag	26A14		
Microphone Stand Adaptor	WA371		
Choice of (1) Shure Microphone Cartridge from the following list:			
<b>SM58</b>	RPW112	<b>BETA 87C</b>	RPW122
<b>BETA 58A</b>	RPW118	<b>KSM9 Champagne</b>	RPW180
<b>BETA 87A</b>	RPW120	<b>KSM9 Black</b>	RPW184

## Optional Accessories

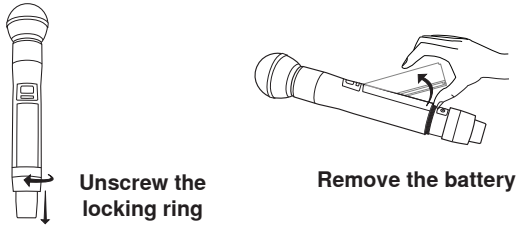
Handheld Rechargeable Battery	AXT920 or AXT920SL		
Portable Handheld Charging Station	AXT904		
1-AA Battery Carrier for AXT200 Handheld Transmitter	AXT921		
Talk Switch (may not be available in all regions)	AXT651 or AXT651 SL		
Microphone Stand Adaptor	WA371		
Shure Microphone Cartridges:			
<b>SM58</b>	RPW112	<b>BETA 87A</b>	RPW120
<b>SM86</b>	RPW114	<b>BETA 87C</b>	RPW122
<b>SM87A</b>	RPW116	<b>KSM9 Champagne</b>	RPW180
<b>VP68</b>	RPW124	<b>KSM9 Black</b>	RPW184
<b>BETA 58A</b>	RPW118		

## Batteries

Axient transmitters are powered by a Shure lithium-ion rechargeable battery.

**Caution:** Turn off the transmitter before changing batteries.

**Note:** Refer to your battery charger manual for charging instructions.



## Battery Runtime

Battery runtime varies according to the transmitter's operating mode. High power settings or operating in Frequency Diversity mode will reduce battery runtime.

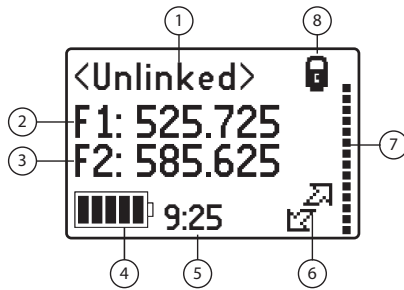
Remaining battery runtime is shown on the display in hours and minutes (accurate to within 15 minutes).

The times shown in the table represent a battery with a minimum of 5 charge cycles, fully charged, at 100% health.

RF Power	Mode	Runtime
10 mW	Single Carrier	9:45
	Frequency Diversity	6:40
50 mW	Single Carrier	8:00
	Frequency Diversity	4:40

## Main Menu Screen

The main menu screen displays the following transmitter parameters:



### ① Link Status

- **Linked** : Displays Linked receiver channel name
- **Unlinked** : Not Linked to a receiver

### ② Frequency 1

Tuned frequency 1 of the transmitter

### ③ Frequency 2

Tuned frequency 2 of the transmitter  
(**Frequency Diversity** mode enabled)

### ④ Battery Charge Indicator

5-segment icon visually indicates battery life

### ⑤ Remaining Battery Life

Displays remaining battery life in hours and minutes

### ⑥ Showlink Icon

Indicates remote control of transmitter possible via ShowLink is possible

### ⑦ Audio Meter

Indicates the audio signal level

### ⑧ Control Lock Icon

Displayed when buttons are locked

## Locking the Buttons

Lock the buttons of the transmitter to prevent accidental or unauthorized parameter changes.

Press and hold the ▼ and ▲ buttons for 2 seconds to lock.  
Repeat to unlock.

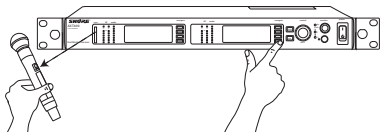
## Power-on RF Mute

The transmitter can be powered-on in **RF Mute** mode to prevent transmission of the audio signal.

Press and hold the ▼ button during power-on until the **RF Muted** message is displayed.

## Linking a Transmitter using IR Sync

The IR Sync function forms a Link and sets the frequency between the transmitter and an AXT400 Receiver.



1. Align the **IR Sync** ports of the transmitter and the receiver. The red **IR Sync** LED on the front panel of the receiver will illuminate to indicate correct alignment.

2. Access the IR Sync function in the AXT400 Receiver menu: **Tx > Sync**

3. The receiver display indicates if the **IR Sync** is successful.  
Check the transmitter alignment and select **Retry** if a failure occurs.

The transmitter device ID will be shown in the receiver Tx menu and the receiver channel name and frequency will be shown on the transmitter display, indicating a successful IR Sync.

## Using an AXT200 for Frequency Diversity

Operating an AXT200 in Frequency Diversity mode with an AXT400 receiver enables simultaneous transmission of audio on 2 independent frequencies.

1. From the AXT400 Receiver menu: **Radio > Options > Diversity**

2. Use the control wheel to set the mode to **On-Handheld**.

3. Use the **IR Sync** function to Link the transmitter to the receiver.

---

## Parameter Menus

To adjust transmitter settings, use the arrow buttons to access and edit the parameter menus.

### Group (G) and Channel (Ch)

A group is a set of compatible frequencies. A single frequency within a group is a channel.

Navigate to the **F1** or **F2** group and channel menus to make changes.

**G:** Change the group

**Ch:** Change the channel

### Frequency

Navigate to the **F1** menu to edit frequency 1 or to the **F2** menu to edit frequency 2.

Use the **set** and arrow keys to change the frequency in 25 kHz increments.

### F2: ON or OFF

**ON:** Frequency Diversity mode

**OFF:** single carrier mode

**Note:** This function is available in the **F2:** frequency menu and the **F2** group and channel menu.

### Gain

Adjust the gain to set the input sensitivity level. Gain range is -10 to +32 dB in 1 dB steps.

### RF Mute

Disables or enables the RF carrier signal.

**TX On:** RF signal enabled

**TX Off:** RF signal disabled

### Firmware

Displays the firmware version installed in the transmitter

### Device ID

The Device ID identifies the transmitter on a network in WWB software or when Linked to a receiver.

- ID length can be up to 8 characters
- Use arrow buttons to scroll through characters
- Use **set** button to save and move to the next character

### AA Type

Sets the AA battery type (**Alkaline**, **NiMH**, **Lithium**) to ensure accurate battery metering when using the optional AXT921 Battery Carrier. The AA menu is only displayed when the transmitter is powered by the carrier.

### ShowLink Test

Activates the ShowLink test 5-bar display to measure the remote control range of a ShowLink Access Point.

- 5 bars indicate the center of the coverage area
- 1 bar indicates the outer boundary of the coverage area
- If bars are not displayed, ShowLink control is not available

### Unlink

The **Unlink** command ends the Linking relationship between a transmitter and a receiver.

**YES:** Ends the Link between a transmitter and a receiver.

**NO:** Preserves the Link between a transmitter and a receiver.

**Note:** When a transmitter is Unlinked, the channel name will revert to **Unlinked**.

### RF PWR

From the main menu screen, press and hold the **set** button and the **▼** button to edit the RF power level.

Use lower power settings to conserve battery life and to prevent RF overload at the receiver.

**Note:** A password is required in some regions.

### PCB Serial Number

Use this menu to view the serial number of the printed circuit board (**PCB**) installed in the unit.

1. From the main menu screen, press and hold the **▼** and "set" buttons to enter the **RF Power** screen.
2. Press the **▲** button to access the serial number.
3. Momentarily press the power button to return to the home menu screen.

---

## Troubleshooting

### No ShowLink Alert

This alert appears when frequency is edited on a linked transmitter that is beyond the range of an active ShowLink access point. Choose **OK** to unlink the transmitter and complete the frequency change, or **Cancel** to return to the home screen.

### Input Overload

The **Input Overload** message indicates an excessive signal level at the transmitter input. To prevent overload, reduce the gain setting.

### Deeply Discharged Batteries

Deep discharge occurs when a battery is discharged to less than 3.0 volts. The battery chargers have a Recovery mode designed to restore charge to a deeply discharged battery.

When the charger detects a deeply discharged battery, it automatically enters Recovery mode which supplies reduced current to the battery for up to 30 minutes.

If recovery is successful, the charger will exit Recovery mode and charge the battery to capacity. If the battery cannot be recharged, charging stops and the battery must be replaced.

---

## Firmware Updates

Firmware is embedded software used to control features and the user interface. Periodically, new versions of firmware are available for download from [www.shure.com/wwb](http://www.shure.com/wwb) to incorporate additional features and enhancements. New versions of the firmware can be downloaded to AXT400 Receiver using the Firmware Update Manager tool available in WWB6 software and installed on the transmitter using the infrared ports on the transmitter and receiver.

To access the AXT400 receiver firmware update menu: **Tx > IR Presets > FW Update**

# Specifications- AXT200 Handheld Transmitter

<b>RF Carrier Frequency Range</b>	470–814 MHz Note: varies by region
<b>Working Range</b>	<p><b>Under typical conditions:</b> 150 m (500 ft)</p> <p><b>Line of Sight, outdoors for a single system:</b> 500 m (1600 ft)</p> <p>Note: Actual range depends on RF signal absorption, reflection and interference.</p>
<b>Audio Frequency Response</b>	40 – 18 kHz (+1, -3 dB) Note: Dependent on microphone type
<b>RF Tuning Step Size</b>	25 kHz
<b>Modulation</b> 45 kHz max. deviation	FM, Audio Reference Companding with pre- and de-emphasis
<b>Dynamic Range</b>	>113 dB, A-weighted (referenced at 0 dB setting on the transmitter)
<b>Total Harmonic Distortion</b> 45 kHz max. deviation	<0.3%, A-weighted, typical
<b>System Audio Polarity</b>	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.

## AXT200

<b>Gain Adjustment Range</b>	-10 to +32 dB (in 1 dB steps)
<b>Battery Type</b>	Shure AXT920/920SL (Rechargeable Li-Ion)
<b>Battery Life</b>	up to 9 hours (low power mode, Single Carrier Mode)
<b>Dimensions</b>	261 mm x 37 mm (10.3 in. x 2.6 in.) L x Dia.
<b>Weight</b>	395 g (13.9 oz.), with batteries
<b>Housing</b>	Machined aluminum
<b>Operating Temperature Range</b>	-18°C (0°F) to 63°C (145°F) Note: Battery characteristics may limit this range.
<b>Storage Temperature Range</b>	-29°C (-20°F) to 74°C (165°F) Note: Battery characteristics may limit this range.

## Audio Input

<b>Configuration</b>	Unbalanced		
<b>Impedance</b>	>30 kΩ		
<b>Maximum Input Level</b> 1 kHz at 1% THD	<b>Gain Setting:</b>	<b>-10 to +11 dB:</b>	5.5 dBu
		<b>+12 to +32 dB:</b>	-6.5 dBu

## RF Output

<b>Connector</b>	SMA (UHF and ShowLink); Shell=Ground, Center=Signal		
<b>Antenna Type</b>	Integrated Dual Band Helical		
<b>Power</b>	See Frequency Range and Output Power table		
<b>Mode</b>	<b>Frequency Diversity:</b>	Dual Carrier	
	<b>Single Carrier:</b>	Single Carrier	
<b>Impedance</b>	50 Ω		

## ShowLink

<b>Network Type</b>	IEEE 802.15.4
<b>Frequency Range</b>	2.40 to 2.4835 GHz (16 Channels)
<b>RF Output Power</b>	10 dBm (ERP)

## Tables and Diagrams

### Frequency Range and Transmitter Output Power

Band	Frequency Range ( MHz)	Power ( mW)
G1	470 to 530	10/50
G1E	470 to 530	10/50
H4	518 to 578	10/50
H4E	518 to 578	10/50
J5	578 to 638	10/50
J5E	578 to 638	10/50
K4E	606 to 666	10/50
L3	638 to 698	10/50
L3E	638 to 698	10/50
L3HK	638 to 698	10
M8	666 to 730	10/50
P8	710 to 790	10/50
P9	710 to 787	10/50
Q5	740 to 814	10/50
Q5HK	740 to 814	10
MA24	779 to 806	10
MJBX	806 to 810	10



## System Gain

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

Transmitter		AXT100 Bodypack gain = 0dB	AXT200 Handheld gain = 0dB	UR1 Bodypack gain = 0dB sens = 0dB	UR1M Bodypack gain = 0dB sens = 0dB	UR2 Handheld gain = 0dB
Receiver gain setting = 0dB	AXT400	+10dB gain	+15dB gain	+15dB gain	+15dB gain	+15dB gain
	UR4	N/A	N/A	+18dB gain	+18dB gain	+18dB gain

## Certifications

Meets essential requirements of European R&TTE Directive 99/5/EC, eligible to bear the CE mark:

WEEE Directive 2002/95/EC as amended by 2008/34/EC.

RoHS Directive 2002/95/EC as amended by 2008/35/EC.

Meets requirements of EMC standards EN 300 328, EN 300 422 Parts 1 and 2, and EN 301 489 Parts 1 and 9.

Certified under FCC Part 15 and FCC Part 74.

Certified in Canada by IC to RSS-123 and RSS-210.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

**FCC ID:** DD4AXT200. **IC:** 616A-AXT200.

Operation of this device 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.

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](http://www.shure.com)

The CE Declaration of Conformity can be obtained from: [www.shure.com/europe/compliance](http://www.shure.com/europe/compliance)

Authorized European representative:  
Shure Europe GmbH  
Headquarters Europe, Middle East & Africa  
Department: EMEA Approval  
Wannenacker Str. 28  
D-74078 Heilbronn, Germany  
Phone: +49 7131 72 14 0  
Fax: +49 7131 72 14 14

Email: [EMEAsupport@shure.de](mailto:EMEAsupport@shure.de)

## Licensing Information

Licensing: A ministerial licence to operate this equipment may be required in certain areas. Consult your national authority for possible requirements.

Changes or modification not expressly approved by Shure Incorporated could void your authority to operate the equipment. Licensing of Shure wireless microphone equipment is the user's responsibility, and licensability depends on the user's classification and application, and on the selected frequency. Shure strongly urges the user to contact the appropriate telecommunications authority concerning proper licensing, and before choosing and ordering frequencies.

## Information to the user

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 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.







**United States, Canada, Latin  
America, Caribbean:**

Shure Incorporated  
5800 West Touhy Avenue  
Niles, IL 60714-4608 USA

Phone: 847-600-2000  
Fax: 847-600-1212 (USA)  
Fax: 847-600-6446  
Email: info@shure.com

**Europe, Middle East, Africa:**

Shure Europe GmbH  
Wannenäckestr. 28,  
74078 Heilbronn, Germany

Phone: 49-7131-72140  
Fax: 49-7131-721414  
Email: info@shure.de

**Asia, Pacific:**

Shure Asia Limited  
22/F, 625 King's Road  
North Point, Island East  
Hong Kong

Phone: 852-2893-4290  
Fax: 852-2893-4055  
Email: info@shure.com.hk