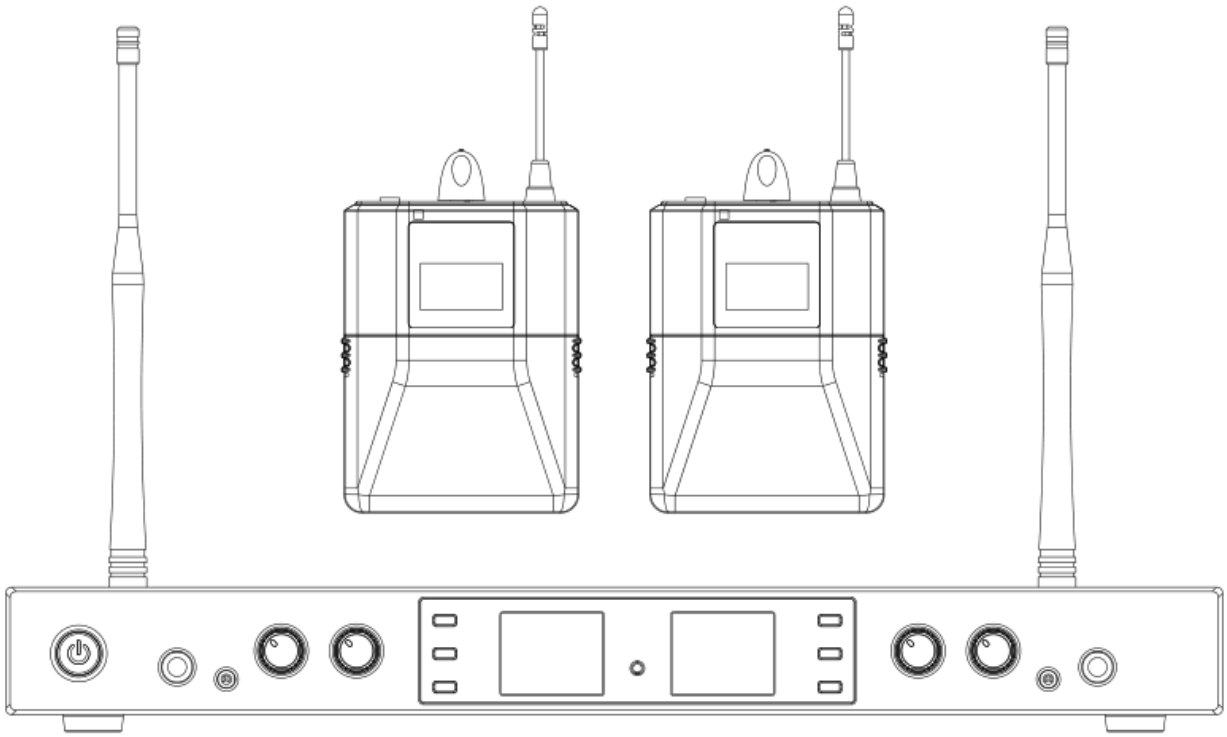
QIEM-20

Dual-Channel Stereo UHF Wireless In-Ear Monitoring System

2 independent channels | Mono / Stereo | 2 bodypack receivers



MODEL
QIEM-20

PRODUCT
Dual-Channel Stereo UHF Wireless In-Ear Monitoring System

Read this manual before operating the system. Retain it for future reference.

Important Safety Information

Protect your hearing

- Always turn the bodypack headphone level to minimum before inserting earphones or switching on.
- Increase volume gradually. High sound pressure levels can cause permanent hearing damage.
- Do not remove an earphone during a loud performance without first reducing its volume.

Electrical and general safety

- Use only the specified power adaptor and confirm that its output matches the transmitter rating.
- Keep the transmitter, bodypacks and connectors dry. Do not expose the equipment to rain or splashes.
- Keep the unit away from excessive heat, open flames and blocked ventilation openings.
- Disconnect the power adaptor before cleaning or servicing. Do not open the enclosures.

Battery and RF safety

- Insert AA batteries according to the polarity markings. Do not mix used and new batteries.
- Remove batteries if the receiver will be stored unused for a prolonged period.
- Only use operating frequencies permitted at the venue and in the country of use.

> **!** **Before every performance**
> Check the selected channel, the receiver signal indication and a safe headphone level. Never rely on the IEM system as the only method of communicating critical safety instructions.

Product Overview

The Q-Audio QIEM-20 contains two independent UHF transmitter channels in one half-rack unit. Each channel can send its own monitor mix to a bodypack receiver, with selectable mono or stereo operation. Two receivers are supplied for two performers or independent mixes.

Key Features

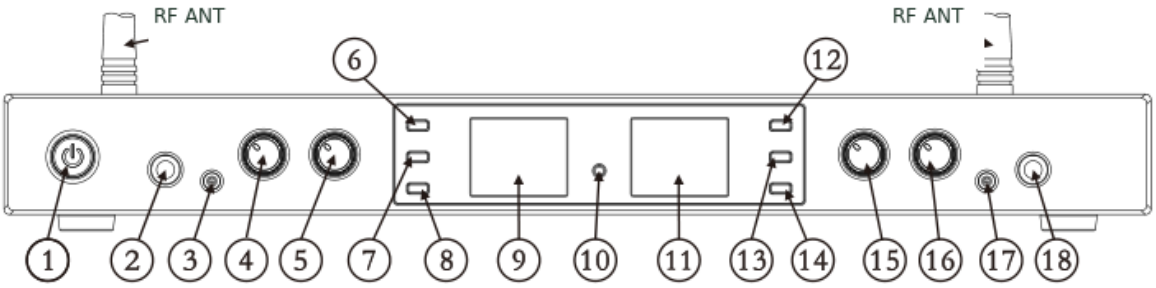
- Two independent monitor channels with separate transmitter displays and RF settings.
- 100 preset frequency channels with infrared synchronisation.
- Four balanced XLR/6.35 mm combo audio inputs: left and right for each channel.
- Individual mono/stereo switches, 12 dB input pads and 6.35 mm loop outputs.
- High/low RF transmission power and two AA-powered OLED bodypack receivers.

Package Contents

Item	Supplied quantity
Dual-channel QIEM-20 transmitter	1
Bodypack receivers	2
In-ear earphones	Included for monitoring
RF antennas	2
Power adaptor	1
Audio cable	1
AA batteries, 1.5 V	4
User manual	1

Transmitter: Front-Panel Controls

The transmitter incorporates two independent sections, CH-A and CH-B. The numbering matches the original technical line drawing.



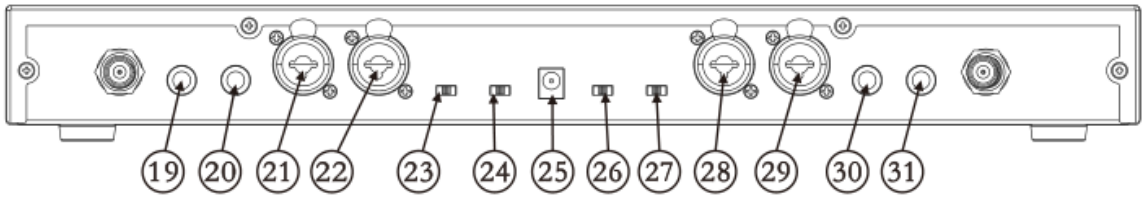
Transmitter front panel, including separate CH-A and CH-B control groups

No.	Control	Function
	POWER	Switches the transmitter on/off.
2 / 3	CH-A monitor outputs	6.35 mm and 3.5 mm stereo monitoring output sockets.
4 / 5	CH-A volume / monitor	Separate channel level and local monitor controls.
6 / 7 / 8	CH-A UP / SET / DOWN	Changes channel and output-power settings.
9	CH-A TFT	Shows frequency, channel, RF output power and L/R input levels.
10	IR window	Transfers frequency settings to a receiver.
11	CH-B TFT	Display for second independent transmitter channel.
12 / 13 / 14	CH-B UP / SET / DOWN	Settings controls for channel B.
15 / 16	CH-B monitor / volume	Second-channel monitor and level controls.
17 / 18	CH-B monitor outputs	3.5 mm and 6.35 mm stereo monitoring output sockets.

Independent monitoring

CH-A and CH-B each transmit their own RF feed. Set and synchronise them separately to the required bodypack receivers. The front-panel monitor outputs are for local monitoring and should be kept at a safe level.

Transmitter: Rear Connections



Rear panel, including two independent stereo inputs and loop outputs

No.	Connection	Function
19 / 20	6.35 mm loop outputs	Channel B loop outputs for passing audio onward.
21 / 22	CH-B LEFT / RIGHT	Balanced XLR/6.35 mm input sockets for channel B.
23	CH-B PAD	Applies 12 dB of input attenuation.
24	CH-B MONO / STEREO	Selects monitoring mode for channel B.
25	DC power input	12 V DC, 1.5 A power supply socket.
26	CH-A MONO / STEREO	Selects monitoring mode for channel A.
27	CH-A PAD	Applies 12 dB of input attenuation.
28 / 29	CH-A LEFT / RIGHT	Balanced XLR/6.35 mm input sockets for channel A.
30 / 31	6.35 mm loop outputs	Channel A loop outputs for passing audio onward.

Mode selection and audio connection

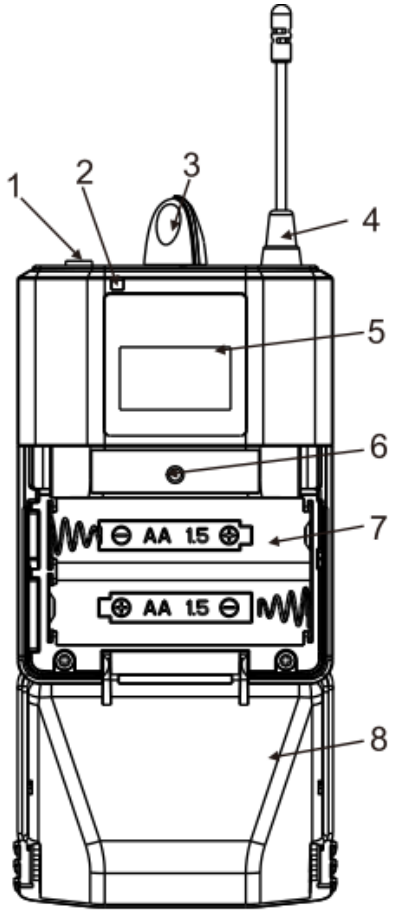
For stereo, connect the mix left and right to the corresponding channel inputs and set that channel to STEREO. For mono, set the relevant channel to MONO and provide the required mono source feed. Use the 12 dB PAD when a strong source signal causes overload or distortion.

!

Do not confuse channels
Channel A and Channel B have independent audio inputs, RF settings and bodypack pairings. The two channels are not automatically the left and right sides of a single stereo link.

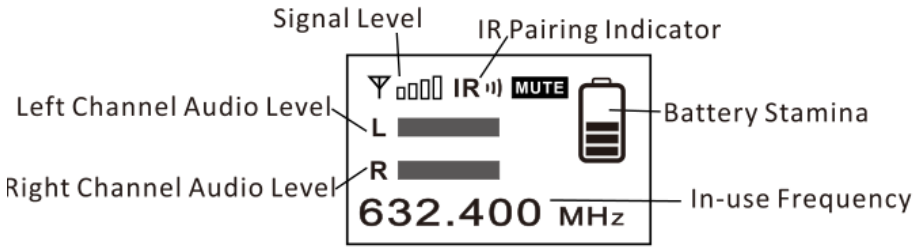
Bodypack Receivers

Two receivers are supplied. Each receiver has a stereo earphone output, integrated power/volume control and OLED display.



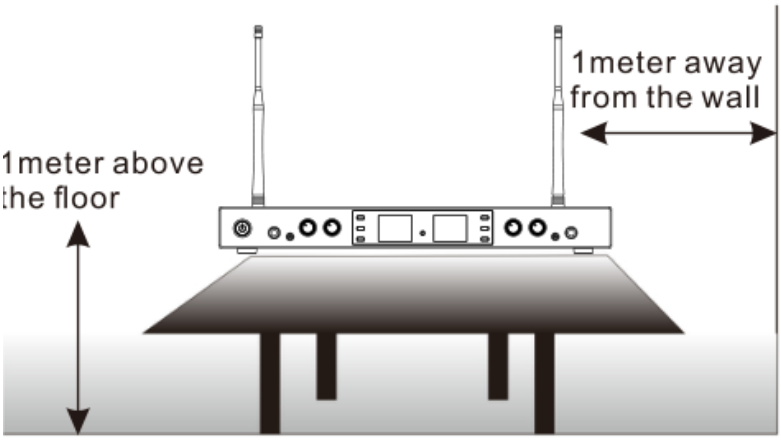
Bodypack receiver with battery compartment open and numbered controls

o.	Part	Function
	Earphone output	Connects the supplied earphones.
	Power indicator	Indicates that the receiver is switched on.
	POWER / volume	Switches receiver on/off and sets listening level.
	Antenna	Receives the corresponding transmitter signal.
	OLED display	Displays signal level, L/R audio, battery and current frequency.
	IR window	Receives synchronisation settings from the transmitter.
/ 8	Battery compartment / cover	Two 1.5 V AA batteries in each receiver.



Receiver OLED display: RF level, L/R audio indicators, battery, frequency and IR status

Installation and First Setup



Recommended transmitter placement and vertical RF antenna orientation

01 **Position the transmitter** Place the unit on a stable, dry surface, ideally at least 1 m above the floor and clear of walls, large metal objects and other RF equipment.

02 **Attach both RF antennas** Fit the antennas securely and keep them vertical.

03 **Connect the power adaptor** Verify the specified 12 V DC, 1.5 A supply. Turn down all audio and local monitoring levels before switching on.

04 **Connect audio for channel A** Connect a mono or stereo output from the mixer to CH-A inputs. Set the CH-A MONO/STEREO switch correctly.

05 **Connect audio for channel B** Connect a separate monitor mix to CH-B if needed, and set CH-B MONO/STEREO independently.

06 **Prepare both bodypacks** Insert two correctly orientated AA batteries in each bodypack and connect the earphones with volume at minimum.

07 **Switch on and match channels** Power on the transmitter and receivers. Coordinate the channel settings, synchronise the bodypacks and check RF reception.

Channel Settings and IR Synchronisation

Set each transmitter channel

01 **Unlock the channel menu** Press and hold SET for CH-A or CH-B until the channel number on its display flashes.

02 **Select a preset** Use that channel's UP or DOWN buttons to choose a clear frequency preset.

03 **Choose output power** Press SET to reach the TXPWR setting, then select HI or LO using UP or DOWN.

04 **Repeat for the second channel** Set CH-B separately from CH-A. Choose distinct, coordinated RF channels to avoid mutual interference.

Synchronise a receiver

01 **Switch on the correct bodypack** Use the bodypack intended to hear the mix from the transmitter channel being set.

02 **Start IR synchronisation** Press and hold SET again until the transmitter IR indicator flashes.

03 **Align infrared windows** Bring the bodypack's IR window close to the transmitter IR window.

04 **Confirm the link** Wait for the IR indication to stop flashing and check that the bodypack frequency matches the selected transmitter channel.

05 **Repeat for the other bodypack** Synchronise the second bodypack to the other transmitter channel if it requires a separate monitor mix.

! **RF coordination**
Use only permitted frequencies between 606.5 and 636 MHz. For two independent monitor feeds, do not set CH-A and CH-B to the same RF frequency. Verify that every selected channel operates within the published frequency band.

Operation and Audio Modes

Mono and stereo monitoring

e	How to use
NO	Select MONO on the appropriate channel and feed the desired mono monitor mix to that channel's audio input.
EREO	Select STEREO and feed left and right signals to the matching L/R balanced input sockets.
IB PAD	Use when the input source is too strong, producing high input levels or audible distortion.
/ HI RF	Use the lowest transmission power that delivers reliable reception within the venue.

During use

- Check each channel's display for the selected frequency, RF power and left/right input levels.
- Use the local monitor outputs only with appropriate headphones and safe listening levels.
- Use each bodypack's power/volume control for the performer's personal listening level.
- The two bodypacks may be on different frequencies to receive separate CH-A and CH-B feeds.
- Replace low batteries promptly; typical bodypack operating time is approximately 5-6 hours.

Troubleshooting

roblem	Checks and corrective action
o sound	Check channel assignment, transmitter power, bodypack power, frequency match, earphones, mixer feed and levels.
Wrong monitor mix	Check whether the bodypack is paired to CH-A or CH-B and whether source cables go to the correct L/R inputs.
ound only on one side	Check stereo source cables, L/R inputs, mono/stereo switch and the earphone connector.
istortion	Reduce mixer output or input gain, enable the channel 12 dB PAD if necessary and lower listening level.
F dropouts	Improve antenna position and line of sight; coordinate a clear channel; use HI only where required/permitted.
R sync fails	Bring IR windows close together, confirm bodypack power, restart the IR operation and verify the displayed frequency.

Technical Datasheet

Specification	QIEM-20
System type	Dual-channel wireless in-ear monitoring; selectable mono/stereo
Operating frequency	606.5-636 MHz
Preset channels	100
Modulation / stability	FM; PLL frequency stabilisation
RF output power	HIGH 30 mW / LOW 10 mW
Transmitter channels	2 independent (CH-A and CH-B)
Audio inputs	4 x XLR/6.35 mm combo inputs (L/R per channel)
Input facilities	MONO/STEREO switches and 12 dB PAD per channel
Loop outputs	6.35 mm loop outputs on both channels
Transmitter power	12 V DC, 1.5 A
Transmitter displays	2 x TFT screens
Bodypack receivers	2 supplied; OLED display
Receiver power	2 x 1.5 V AA batteries each
Bodypack operating time	Approximately 5-6 hours each
Signal-to-noise ratio	>90 dB
Total harmonic distortion	<0.5%
Receiver image rejection	>80 dB
Earphone impedance	32 ohms
Frequency stability	±0.005%

Maintenance and Disposal

Switch off and disconnect the transmitter before cleaning. Wipe with a soft dry cloth, check cables and connectors, and remove AA batteries before long-term storage. Dispose of electrical equipment and batteries via suitable recycling facilities.

! **Specification note**
Product-specific RF data are taken from Q-Audio's QIEM-20 listing. Range and receiver battery life depend on venue conditions, RF environment, listening level and battery condition.