

TX-RZ50 9.2-Channel Network A/V Receiver

RZ SERIES

SMART AV RECEIVER

EISA AWARD Best Product 2023-2024 BEST BUY AV RECEIVER Onkyo TX-RZ50



BLACK SILVER



COMPATIBLE WITH



Revitalize Your Entertainment Lifestyle

Start your new entertainment life in the media room, where the RZ50 passes 8K HDR video to your display via HDMI®—optimized for lag-free gameplay—and feeds Dolby Atmos® or DTS:X® sound to your 5.2.4-ch speaker system with high-current power behind it. Move to another space and music follows with three-zone powered audio and the SMART AV Receiver™ suite controlled by voice with easy access to streaming services. The AVR fits into your Sonos system and plays to headphones over bidirectional Bluetooth® wireless technology. With 75 years of hi-fi knowhow elevating our THX® Certified Select and IMAX® Enhanced certified RZ Series custom amp design, music, film scores, and game soundtracks thrill with emotion, sound perfected by Dirac Live® Room Correction. This receiver has features others don't, such as front-to-height stereo switching for background listening, DSP vocal/dialog enhancement, My Volume presets, and an OSD function that compares source data to output settings so playback can be optimized before entertainment kicks off.

PRODUCT HIGHLIGHTS

- 215 W/Ch THX® Certified Select RZ Series Dynamic Audio Amplification
- Wide 5 Hz–100 kHz frequency response
- HDMI® inputs 1–3, Main Out, and Sub/Zone 2 Out (Sub Mode output) support 8K/60p (4:2:0/10-bit), 8K/30p (4:4:4/10-bit), 4K/120p (4:4:4/10-bit) video passthrough
- HDMI terminals¹ support HDR10+, Dolby Vision™, and BT.2020 color; VRR (Variable Refresh Rate), ALLM (Auto Low Latency Mode), and QFT (Quick Frame Transport) passthrough; eARC (Main Out), and HDCP 2.3
- SMART AV Receiver™ Works with Sonos², Chromecast built-in™, AirPlay 2, DTS Play-Fi³, Spotify⁴, Amazon Music HD⁵, TIDAL, Deezer, Tunes⁶
- Dolby Atmos® and DTS:X® playback (5.2.4-ch)
- 11.2-ch processing and pre-outs for 7.2.4 layouts
- Dolby Atmos Height Virtualizer
- IMAX Enhanced⁷ certified signature sound by DTS:X
- Supports Dirac Live® Room Correction
- AccuReflex™ phase-matching solution for Dolby Atmos enabled speakers
- HDMI Main Out with eARC (enhanced Audio Return Channel)
- HDMI Sub/Zone 2 Out⁸ connects a second display or projector
- Refined HDMI grounds, isolated SoC board, reinforced power lines
- Quad-core SoC supports 802.11ac (2x2 MIMO) Wi-Fi^{9,10}
- Powered Zone 2 and Zone 3 speaker outputs
- Zone 2/Zone B and Zone 3 pre/line-outs distribute D/A audio
- Stereo Assign Mode supports Height-channel playback
- DSP-based Vocal Enhancer improves vocal/dialog audibility
- OSD function shows A/V input/output signal data, playback settings, and network info
- Volume memory presets for A/V inputs via front panel

discrete output stage

- Anti-resonant extruded aluminum heat-sink
- High current capability drives 4-ohm loads through 9 channels
- High-quality DAC supports 192 kHz/24-bit multichannel D/A conversion
- VLS-C™ (Vector Linear Shaping Circuitry) noise filtering (Front L/R)
- PLL (Phase Locked Loop) anti-jitter technology for SPDIF audio
- Independent tone controls (bass/treble) for all channels (excluding Zone 3)

VIDEO & AUDIO SUPPORT

- HDMI¹ supports 8K/60p (4:4:4/12-bit¹¹, 4:2:2/12-bit¹², 4:2:0/10-bit¹³), 8K/30p (4:4:4/12-bit¹⁴, 4:4:4/10-bit¹⁵, 4:2:2/12-bit¹⁶, 4:2:0/12-bit¹⁷), 4K/120p (4:4:4/12-bit¹⁸, 4:4:4/10-bit¹⁹, 4:2:2/12-bit²⁰, 4:2:0/12-bit²¹) video passthrough, VRR, ALLM, QFT, DSC (Display Stream Compression), QMS (Quick Media Switching), eARC (Main Out), HDR10+, Dolby Vision, HDR10, HLG, BT.2020, DeepColor™, x.v.Color™, LipSync, and HDCP 2.3
- Dolby Atmos, DTS:X, Dolby® TrueHD, and DTS-HD Master Audio²² decoding
- Dolby Atmos Height Virtualizer 3D audio processing
- Dolby Surround²³ and DTS²⁴ Neural:X 3D upmixing technology
- IMAX Mode for IMAX Enhanced content
- THX²⁵ listening modes for movies, music, and games
- Theater-Dimensional virtual surround-sound function
- Sound optimization for games (Rock, Sports, Action, and RPG)
- Hi-Res Audio playback via network (DSD256/DSD128/DSD64 [PCM conversion], FLAC, WAV [RIFF], AIFF, and ALAC to 192 kHz/24-bit²⁶)
- Pure Audio Mode and Direct Mode for source-authentic sound quality

NETWORK FEATURES

- SMART AV Receiver multi-room platform with integrated streaming services, voice assistant support, and remote app control¹⁰
- Works with Sonos certified for the Sonos Home Sound System, control with Sonos app¹⁰
- Works with Alexa supporting multi-room music¹¹
- Works with Ok Google¹² and Chromecast built-in
- Supports Apple AirPlay 2 enabling Siri voice control
- DTS Play-Fi multi-room audio via Onkyo Music Control App¹³
- 1.8 GHz quad-core SoC supports 802.11ac (2x2 MIMO) Wi-Fi
- Roon Tested for the Roon Core

CONNECTION FEATURES

- 7 HDMI inputs (1 front), 2 outputs (Main [eARC], Sub/Zone 2)
- 1 component video input (assignable)
- 2 composite video inputs (assignable)
- 2 digital audio inputs (1 coaxial, 1 optical, assignable)
- 6 analog RCA audio inputs (assignable)
- 1 phono input with built-in low-noise MM equalizer for turntable
- 3.5 mm setup mic input for AccuEQ/Dirac Live (front)
- 6.35 mm headphone jack (front)
- 11.2-ch pre-outs (analog RCA, variable)
- Zone 2/Zone B and Zone 3 analog RCA pre/line-level outputs¹³
- 9 screw-type speaker posts
- 10BASE-T/100BASE-TX Ethernet terminal for network and IP control
- USB input (5 V/1 A) for audio playback (rear)
- RS-232 serial port for remote control

- IR (infrared) input for remote-control extenders
- 12 V trigger output (Main, assignable, 100 mA)
- AC inlet for detachable IEC power cord

ADVANCED FEATURES

- Dirac Live improves staging, localization, clarity, and bass
- Bluetooth® wireless technology can receive audio sent from mobiles and PC, transmit audio to wireless headphones (RX mode: SBC/AAC, TX mode: SBC/Qualcomm® aptX™/aptX HD)
- Advanced Music Optimizer improves compressed audio playback quality
- Vocal Enhancer boosts vocal/dialog audibility via remote control or front-panel keys
- Front-to-Surround/Height speaker switching in Stereo Assign Mode for background listening
- Overlay OSD function displays A/V input signal data, output data/settings, and network information
- My Input Volume one-touch volume memory preset assignment to individual A/V inputs
- Transmit HQ audio from compatible TVs to the A/V receiver via eARC (HDMI Main Out)
- Aluminum front panel, concealment flap door, and volume control
- Play three audio sources via dedicated DACs and MAIN, Powered Zone 2, and Powered Zone 3 speaker outputs¹⁴
- Share MAIN audio or a second source (including HDMI/SPDIF¹⁵) to a hi-fi via Zone 2 pre/line-out
- Share any MAIN audio source to a wireless headphone dock via Zone B line-out¹⁶
- 4K to 8K, 1080p to 8K/4K video upscaling via HDMI
- GUI with overlaid OSD via HDMI
- IP control and AVR setup via web browser
- Crossover adjustment for each channel (40/50/60/70/80/90/100/120/150/180/200 Hz)
- A/V Sync Control (up to 500 ms in 5 ms steps at 48 kHz¹⁷)
- Efficient standby modes including HDMI Passthrough Mode
- Optional rack-mounting kit (IRK-180-4C)
- FM/DAB and AM tuners with 40-station random preset memory
- 3-Mode display dimmer (Normal/Dim/Dimmer)

^{*1} Features defined in HDMI 2.1 specification, HDR10+, and passthrough capabilities described are supported on HDMI inputs 1–6, Main Out, and Sub/Zone 2 Out in Sub Mode output. ^{*2} Requires a Sonos Connect or Port (sold separately). Connection of 1–3 Sonos devices is supported with volume control enabled via the Sonos app for compatible iPhone, iPad, and Android™ devices. ^{*3} Amazon Music HD is supported via DTS Play-Fi. ^{*4} Service availability varies with region and subscriptions may be required. ^{*5} HDMI Zone 2 Mode output supports signals via HDMI inputs 1–3. ^{*6} Some countries or regions have regulations that affect wireless signal strength and use of Wi-Fi channels. ^{*7} DSC signals only. ^{*8} DSC signals only when input via HDMI inputs 4–6. ^{*9} Supported sampling rates may vary depending on network environment. DSD is converted to PCM upon playback. ALAC is supported to a maximum 96 kHz. ^{*10} Available free for compatible iPhone and iPad at the App Store. Available free for compatible Android devices at the Google Play Store. ^{*11} Voice control requires an Amazon Alexa enabled device. Alexa multi-room music may require a firmware update. ^{*12} Voice control requires a Google Assistant enabled device. ^{*13} Zone B is line-level output only. ^{*14} HDMI/SPDIF/NET supported in Zone 2. Analog/NET supported in Zone 3. When set to Zone 2, HDMI audio is available on inputs 1–3. SPDIF and HDMI support PCM signals only. Simultaneous playback of multiple audio sources is enabled. ^{*15} HDMI audio is available on inputs 1–3. SPDIF and HDMI support PCM signals only. Simultaneous playback of multiple audio sources is enabled. ^{*16} When set to Zone B mode, playback of encoded and PCM audio via any input is enabled in MAIN and Zone B. ^{*17} Max. 400 ms (5 ms steps) at 96 kHz, and max. 200 ms (5 ms steps) at 192 kHz.

AMPLIFIER FEATURES

- 215 W/Ch (6 Ω, 1 kHz, 10% THD, 1-ch driven), 180 W/Ch (6 Ω, 1 kHz, 1% THD, 1-ch driven, IEC)
- Certified for IMAX Enhanced and THX Certified Select
- Exclusive Dynamic Audio Amplification (DAA) RZ Series build
- Wide 5 Hz–100 kHz frequency response
- Custom High-Current Low-Noise Power Transformer
- Custom 15,000 µF high-current smoothing capacitors
- Refined chassis, HDMI board, DAC, digital/analog inputs, power-amp grounds, and power lines
- Isolated network module reduces high-frequency interference on audio circuitry
- Original 2-stage non-phase-shift amplifier circuitry with

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Unleash the IMAX® Enhanced experience

IMAX Enhanced uses DTS:X® technology optimized for the IMAX signature experience and reproduces the full dynamic range of IMAX theatrical mixes. IMAX Mode delivers IMAX Enhanced content as the filmmakers intended.



THX® Certified Select cinema-reference sound

Experience the same reference volume of at a commercial cinema in rooms where the screen-to-seat distance is about 3.5 m. Certified receivers must pass 2,000 bench-tests in 75 categories.

Welcome to 8K Ultra HD with the latest HDMI®

Features defined in HDMI 2.1 enable 8K/60p passthrough to a compatible display. As well as HDR10 and HLG, HDR10+ and Dolby Vision™ formats optimize brightness, contrast, and color frame-by-frame. All HDMI terminals support HDCP 2.3, while eARC on Main Out passes multichannel audio (including Dolby Atmos® or DTS:X) from TV to AVR for decoding and amplification. QMS (Quick Media Switching) reduces screen blanking when switching HDMI sources.

Note: features defined in HDMI 2.1 supported on HDMI inputs 1-6, Main Out, and Sub/Zone 2 Out in Sub Mode output.

Experience lag-free gameplay

Transform virtual worlds with 3D sound and get a competitive edge with all-new HDMI features for gamers. VRR (Variable Refresh Rate), ALLM (Auto Low Latency Mode), and QFT (Quick Frame Transport) eliminate lag, stutter, and frame-tearing for more fluid and responsive gameplay.

Note: features supported on HDMI inputs 1-6, Main Out, and Sub/Zone 2 Out in Sub Mode output.

Dolby Atmos and DTS:X

Dolby Atmos and DTS:X formats map sound origins as they are perceived in real life and transpose them around your audience for a captivating entertainment experience. Enjoy 3D sound through a 5.2.4 or 7.2.2 layout or connect a stereo amp and expand to 7.2.4 channels. Rediscover classic titles through your height-enabled system with Dolby Surround™ and DTS® Neural:X. These technologies analyze legacy soundtracks for spatial cues and upmix for immersive 3D playback.

Dolby Atmos Height Virtualizer

Dolby Atmos Height Virtualizer enhances Dolby® formats for a more immersive experience. It creates virtual surround and height effects using a traditional speaker layout.

Exclusive refinements for clear sound

HDMI board has short signal-paths and well-finished grounds that suppress noise. SoC board is isolated from audio circuitry, reducing interference. Reinforced power-supply line and refined power-amp grounds with copper bus bar reduce circuit noise for thick, clear, and detailed sound.

SMART AV Receiver™ multi-room entertainment

SMART AV Receiver is the heart of your home entertainment system. Access streaming content from Amazon Music HD*, Spotify®, TIDAL, Deezer, and Tunes and share sound as part of a multi-room system via Works with Sonos, Chromecast built-in, AirPlay 2, and DTS Play-Fi®.



** Amazon Music HD is supported via DTS Play-Fi.*

Works with Sonos

Add this receiver to your Sonos Home Sound System just by pairing it with a Sonos Connect or Port*. The AVR ties into the Sonos ecosystem, changing inputs and responding to volume commands from the Sonos app*.

** Sonos Connect and Port sold separately. Connection of 1-3 Sonos devices is supported. Sonos app is available free for compatible iPad, iPhone, and Android™ devices at the App Store and the Google Play Store.*

Chromecast built-in™ works with Ok Google

Stream music from your smartphone, laptop, or PC to the receiver via Chromecast built-in and control playback from Chromecast-enabled apps from iPhone, iPad, Android™ phone or tablet, Mac or Windows® PC, or Chromebook™. Cue, play, and control audio on this and other supported devices just by using your voice.

Works with Alexa

Use your voice to control the AVR by issuing commands through an Alexa device. Whether you want to listen to music, radio stations, or podcasts, all you have to do is ask. It also supports multi-room music* played on multiple devices.

** Multi-room music may require a firmware update.*

Connect speakers for powered multi-room sound

Powered Zone 2 and Zone 3 outputs connect passive speakers in two other rooms with a 5.2-ch speaker system in your main listening space. Together with MAIN, Zone 2 and Zone 3 DACs support D/A audio playback (including HDMI, SPDIF, and NET) in three rooms. You can sync the same track or play different songs in each room using Onkyo Controller to manage your entertainment.

Note: Zone 3 supports analog/NET only. Zone 2 HDMI audio available via inputs 1-3. HDMI and SPDIF support PCM only.

5 GHz/2.4 GHz Wi-Fi® supports 802.11ac standard

Isolated 1.8 GHz quad-core SoC performs multiple processing tasks at once. It evolves network functions and supports the 802.11ac (2x2 MIMO) standard for stable multi-room audio streaming.

Note: some countries or regions have regulations that affect wireless signal strength and the use of Wi-Fi channels.

Bidirectional Bluetooth® wireless technology

Send or receive audio via Bluetooth wireless technology. Stream from your laptop, digital audio player, or mobile to the receiver over SBC or AAC, or share what's playing in the main zone* to a pair of wireless headphones using SBC, aptX™, or aptX HD codecs.

** Audio via Chromecast built-in and Works with Alexa excluded.*

Convenient Zone 2 and Zone B pre-/line-out

RCA pre-/line-out has two modes: Zone 2 supports connection of active speakers or a hi-fi system, and can sync D/A audio in MAIN and Zone 2 or play a different source in each. Zone B plays MAIN audio through compatible wireless headphones via a connected headphone dock.

Note: Zone 2 mode supports HDMI audio via inputs 1-3. SPDIF and HDMI support PCM only. Zone B mode is line-level only and supports encoded or PCM signals (all inputs) in MAIN and Zone B.

Dirac Live® Room Correction

Dirac Live analyzes your audio system and listening environment by examining acoustic data measured with a setup mic. It corrects both the timing and amplitude aspects of sound coloration using a mixed-phase correction filter throughout the listening area, not just a particular zone. Correction is performed automatically using a proprietary app for smartphone or tablet*. Dirac Live improves staging, localization, clarity, voice intelligibility, and bass response.

** Mobile device and AVR must be connected to the same local network.*



Flexibility for customized setups

Connect an external power amp or motorized projector screen via the AVR's 12 V trigger output and power them up automatically with your AVR, with CEC performing the same task for media players over HDMI. An IR repeater input lets you conceal the AVR away from the screen, ideal for bespoke cinemas. Ethernet and RS-232 terminals integrate the AVR into your automation system, with the former supporting setup and web browser control via PC.

SPECIFICATIONS

Amplifier Section

Power output (All channels)	
	215 W/Ch (6 Ω, 1 kHz, 10% THD, 1 channel driven) 180 W/Ch (6 Ω, 1 kHz, 1% THD, 1 channel driven, IEC)
Dynamic power	250 W (3 Ω, Front) 220 W (4 Ω, Front) 130 W (8 Ω, Front)
THD+N (Total Harmonic Distortion + Noise)	
	0.08% (20 Hz-20 kHz, half power)
Input sensitivity and impedance	
	200 mV rms/47 kΩ (Line) 3.5 mV rms/47 kΩ (Phono MM)
Rated RCA output level and impedance	
	1 V rms/470 Ω (Subwoofer pre-out) 200 mV rms/470 Ω (Zone 2/Zone B line-out)
Frequency response	5 Hz-100 kHz/+1 dB, -3 dB (Direct Mode)
Tone control	±10 dB, 20 Hz (Bass) ±10 dB, 20 kHz (Treble)
Signal-to-noise ratio	106 dB (Line, IHF-A) 80 dB (Phono, IHF-A)
Speaker impedance	4-16 Ω

Video Section

Input sensitivity/output level and impedance	
Video	1.0 Vp-p/75 Ω (Component Y) 0.7 Vp-p/75 Ω (Component Pb/Pz) 1.0 Vp-p/75 Ω (Composite)

Tuner Section

Tuning frequency range	
FM	87.5 MHz-108 MHz
DAB	174.928 MHz-239.2 MHz (European model)
AM	522 kHz-1.611 MHz (Asian/Oceania model)
FM/DAB/AM preset memory	
	40 stations

General

Power supply	AC 220-240 V~, 50/60 Hz
Power consumption	870 W
Power consumption (standby)	0.15 W
Dimensions (W x H x D)	435 x 201.5 x 398 mm
Weight	14.0 kg

CARTON

Dimensions (W x H x D)	570 x 335 x 490 mm
Weight	17.0 kg

Supplied Accessories

- Power cord • Indoor FM/DAB antenna • AM loop antenna
- Speaker setup microphone • Quick Start Guide • Remote controller
- AAA (R03) batteries x 2



Text on receiver may vary with region.

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