

TX-NR656 7.2-Channel Network A/V Receiver



* Image after DTS:X firmware update.



Set Your Home Entertainment to “EPIC”

Unbeatable features meet unbeatable sound in the TX-NR656, a state-of-the-art A/V powerhouse that revolutionizes entertainment. Check it out: DTS:X™ and Dolby Atmos® decoding with advanced AccuReflex phase calibration for crystal-clear object-based audio; Google Cast™, AirPlay, and Wi-Fi® with Spotify and Tidal for music on demand; and FireConnect™ multi-room audio that sends any A/V receiver source to a wireless speaker in another room*. Select HDMI® terminals support 4K/60 Hz/HDR/HDCP 2.2, while the 32-bit DAC extracts all the depth and detail of Hi-Res Audio. Unlike other products, the TX-NR656 has high-current Dynamic Audio Amplification to accurately control and drive your speakers with phenomenal clarity. Whether it's pulling you deep into Middle Earth, waking the neighbors with *Fallout 4*, or pumping out the latest on Spotify, the TX-NR656 rekindles passion for the things you love.

* Firmware update and optional Onkyo wireless speaker required

HIGHLIGHTS

- DTS:X™ and Dolby Atmos® up to 5.1.2 Channels
- Wireless Audio Streaming with Google Cast™ and AirPlay
- Bluetooth Audio / Wi-Fi® with Spotify and Tidal
- HDMI® 8 In / 2 Out Including 1 Front (HDCP 2.2 / HDR)
- Dynamic Audio Amplification for Realistic Sound
- AccuEQ Room Calibration with AccuReflex Technology
- FireConnect™ Multi-Room Technology
- Phono Input and Hi-Res Audio Playback
- 384 kHz/32-bit Hi-Grade DAC

ADVANCED FEATURES

- DTS:X™ New-Generation Sound Format Ready
- Supports Dolby Atmos® Format for Exciting Multidimensional Sound
- 4K/60 Hz-Capable 4:4:4 HDMI® Terminals for UltraHD Entertainment^{*1}
- Supports HDCP 2.2 and HDR for Future 4K/Full HD Video Streaming and Broadcast^{*2}
- Built-in Wi-Fi® Certified Wireless LAN Capability
- Bluetooth Version 2.1 + EDR Capability (Compatible Profile: A2DP v1.2, AVRCP v1.3) with Advanced Music Optimizer DSP Technology
- Internet Radio and Music Streaming Subscription Services Included (TuneIn Radio, Pandora®, Spotify, Tidal, and Deezer)^{*3}
- Play Compressed, Lossless, and Hi-Res Audio via Local Network (MP3, WMA, FLAC, WAV, AAC, Apple Lossless, DSD 5.6 MHz, and Dolby® TrueHD)
- Digital and Analog Audio Transmission to Optional Wireless Speaker via FireConnect™ Technology

- AccuEQ Room Calibration Featuring AccuReflex Technology for Seamless Object-based Sound from Compatible Speakers (Mic Included)
- Advanced Music Optimizer to Improve Compressed Digital Audio Quality (Bluetooth Audio Included)
- Control and Stream with Free Onkyo Remote Streaming Apps for iPod touch/iPhone™ and Android™ Devices^{*5}
- Powered Zone 2 and Zone 2 Line Out for Distributed Analog/Digital Audio Playback in Another Room
- Bi-Amping Capability for Front Channels

^{*1} 6G video is supported on HDMI inputs 1/2/3, Main Out, and Sub Out. ^{*2} HDCP 2.2 is supported on HDMI inputs 1/2/3, Main Out, and Sub Out. ^{*3} Availability of services depends on region. Some services may require a paid subscription and firmware update. Availability of third-party services advertised here is accurate at the time of publication, but may be subject to change without notice. ^{*4} Compatible with iPod touch (3rd generation or later) and iPhone 3GS or later. All models require iOS 4.2 or later. ^{*5} Requires Android 2.1 or later.

AMPLIFIER FEATURES

- 160 W/Ch (6 Ω, 1 kHz, 1% THD, 1 Channel Driven, IEC); 175 W/Ch (6 Ω, 1 kHz, 10% THD, 1 Channel Driven, JEITA)
- Dynamic Audio Amplification for a Thrilling Audio Experience
- H.C.P.S. (High Current Power Supply) Massive High Power Transformer
- High Current Amp Design to Effectively Drive the Speakers
- Non-Phase Shift Amp Circuits for Realistic Imaging
- VLSC™ for a Clear Audio Experience
- Optimum Gain Volume Circuitry
- PLL (Phase Locked Loop) Jitter-Cleaning Circuit Technology for S/PDIF Audio

PROCESSING FEATURES

- HDMI Support for 4K/60 Hz, 3D, Audio Return Channel, DeepColor™, x.v.Color™, LipSync, Dolby Atmos®, Dolby® TrueHD, DTS:X™, DTS-HD Master Audio™, DVD-Audio, Super Audio CD, Multichannel PCM, and CEC
- Dolby® TrueHD and DTS-HD Master Audio™ Decoding
- AK4458 384 kHz/32-bit DAC (8 Channels x 1)

- 32-bit Digital Signal Processing Engines
- 4 DSP Modes for Gaming: Rock, Sports, Action, and RPG
- Theater-Dimensional Virtual Surround Function
- CinemaFILTER™
- Direct Mode
- Double Bass Function

CONNECTION FEATURES

- 8 HDMI Inputs (1 Front/ 7 Rear) and 2 Outputs
- USB 2.0 Port
- Mass Storage Class USB Memory Playback Capability
- 2 Component Inputs
- 2 Composite Video Inputs
- 3 Digital Audio Inputs (2 Optical and 1 Coaxial)
- 8 Analog Audio Inputs (1 Front^{*}/7 Rear)
- Phono Input for Turntable Connection
- 2 Parallel Subwoofer Pre-Outs
- Location-Numbered Speaker Terminals

^{*} 3.5mm pin jack type.

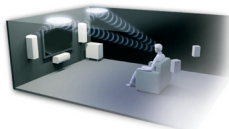
OTHER FEATURES

- 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 kHz)
- Graphical Overlaid On-Screen Display (OSD) via HDMI with Quick Set-Up
- Hybrid Standby Function with HDMI Passthrough
- Tone Control (Bass/Treble) for Front L/R Channels
- 3-Mode Display Dimmer (Normal/Dim/Dimmer)
- 40 FM/AM Random Presets
- Firmware Updates via Ethernet and USB
- RIHD (Remote Interactive Over HDMI) for System Control
- Simple Remote Control

TX-NR656 7.2-Channel Network A/V Receiver

DTS:X™ and Dolby Atmos® Ready

Discover the best in object-based surround-sound with Dolby Atmos® and DTS:X™. Free from the traditional channel-based audio bed, sound flows above and around you in three dimensions for a movie and gaming experience that will take your breath away.



Wireless Audio Playback with Google Cast™ and AirPlay

TX-NR656, now with Google Cast™ and AirPlay, frees your music from your smartphone. You can stream your music stored in your phone or using Google Cast™ / AirPlay Compatible apps.

* Google Cast™ enabled via future firmware update. Please consult the Onkyo website for firmware update scheduling information.

Bluetooth Audio / Wi-Fi® with Spotify and Tidal®

In addition to Google Cast™ and AirPlay, stream virtually any audio from your smartphone, tablet, or PC to your home cinema for clear and powerful sound. Available internet radio and music subscription services include Pandora, Spotify and more.

* Support for some services including TIDAL and Deezer will be enabled via future firmware update. Please consult the Onkyo website for scheduling information as it becomes available.

FireConnect™ Multi-room Audio

A firmware update enables any audio source connected to the receiver—from vinyl to streaming audio—to be sent wirelessly via FireConnect™ to an optional speaker* placed anywhere in your home. Stable, fast, and easy to control with a mobile, it's the smart way to set audio free.

* Unavailable at press time. Release date TBA.



FireConnect™ by Blackfire Research Corp. is a stable wireless protocol that mirrors any audio source connected to the receiver—from vinyl to streaming audio.

HDMI® 8 In / 2 Out Including 1 Front (HDCP 2.2 / HDR)

Select HDMI terminals support 4K/60 Hz, as well as HDCP 2.2 and HDR for next-generation UltraHD streaming and broadcasting.



HDCP 2.2 / HDR

Dynamic Audio Amplification for Clear and Realistic Sound Reproduction

Power your speakers like never before with Onkyo's Dynamic Audio Amplification. Sound comes alive thanks to accurate, noise-free signal processing and hi-current power that dynamically controls your speakers for precise, authentic audio reproduction.



Powered Zone 2 for Audio Playback in Second Room

TX-NR656 has Powered Zone 2 capability to bring audio to a second room connected to your A/V Receiver. Now with dedicated Zone 2 DAC, you can bring Digital Audio input sources such as Spotify to a second room.

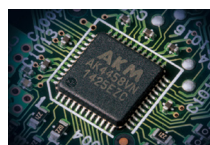


Play Everything from Vinyl to Hi-Res Audio

Onkyo A/V receivers feature a dedicated Phono input for turntable connection as well as universal Hi-Res compatibility for ease of use. Use the remote app to locate your 192/24 and 96/24 albums (including 5.6 MHz DSD playback) on PC or NAS and bask in the clarity, depth, and detail of high-resolution music.

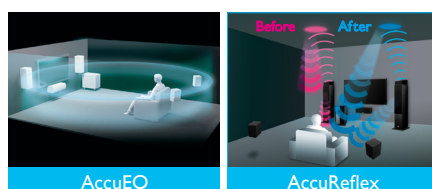
384 kHz/32-bit Hi-Grade DAC

A premium-quality AK4458 digital-to-analog converter from AKM unlocks the full potential of any audio format with unique low-distortion filtering technologies for clear sound.



AccuEQ Calibration Featuring AccuReflex Technology

AccuEQ equalizes the surround-sound to suit the room acoustics for crisply focused sound, while AccuReflex aligns the phase of upfiring "height" speakers with the sound coming directly from your other speakers. Any delay is resolved so that everything arrives at your ears at the same time. The result is a cohesive reproduction of object-based soundtracks.



SPECIFICATIONS

Amplifier Section

Power Output	
All Channels	160 W/Ch (6 Ω, 1 kHz, 1% THD, 1 Channel Driven, IEC)
	175 W/Ch (6 Ω, 1 kHz, 10% THD, 1 Channel Driven, JEITA)
Dynamic Power	240 W (3 Ω Front)
	210 W (4 Ω Front)
	120 W (8 Ω Front)
THD+N (Total Harmonic Distortion + Noise)	0.08% (20 Hz–20 kHz, Half Power)
Input Sensitivity and Impedance	200 mV/47 kΩ (Line)
	3.5 mV/47 kΩ (Phono MM)
Rated RCA Output Level and Impedance	200 mV/23 kΩ (Zone 2 Line Out)
	1 V/470 Ω (Subwoofer Pre Out)
Phono Overload	70 mV (MM, 1 kHz, 0.5%)
Frequency Response	10 Hz–100 kHz/±1 dB, -3 dB (Direct/Pure Audio)
Tone Control	±10 dB, 90 Hz (Bass)
	±10 dB, 7.5 kHz (Treble)
Signal-to-Noise Ratio	106 dB (Line, IHF-A)
	80 dB (Phono MM, IHF-A)
Speaker Impedance	6 Ω–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/Cs, Pr/Cr)
	1.0 Vp-p/75 Ω (Composite)
Component Video Frequency Response	+0 dB, -3 dB

Tuner Section

Tuning Frequency Range	
FM	87.5 MHz–108 MHz
AM	530 kHz–1,710 kHz
	522 kHz–1,611 kHz
	522 kHz–1,611 kHz (Taiwan Model)
FM/AM Preset Memory	40 Stations

General

Power Supply	AC 220–240 V~, 50/60 Hz
	AC 120 V~, 60 Hz (Taiwan Model)
Power Consumption	570 W
No-Sound Power Consumption	65 W
Standby Power Consumption	0.15 W
Dimensions (W x H x D)	435 x 173.5 x 378 mm
Weight	10.0 kg

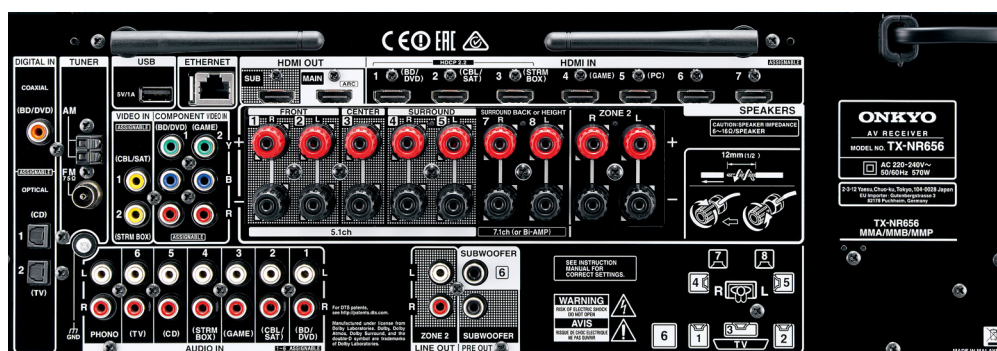
CARTON

Dimensions (W x H x D)	570 x 288 x 468 mm
Weight	13.0 kg

Supplied Accessories

- Indoor FM antenna • AM loop antenna
- Speaker set-up microphone • Instruction manual
- Remote controller • AAA (R03) batteries* x 2

*Not included with Chinese model



Text on receiver may vary with region.

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