

# TX-NR5007 9.2-Channel AV Surround Home Network Receiver

2009 New Product Release

**ONKYO**  
IMAGINATIVE SIGHT & SOUND

## ADVANCED FEATURES

- THX® Ultra2 Plus™ Certified
- DTS-HD Master Audio™, DTS-HD High Resolution Audio™, Dolby® TrueHD, and Dolby® Digital Plus Decoding
- HDMI™ Version 1.3a to Support Deep Color™, x.v.Color™, LipSync, Dolby TrueHD, DTS-HD Master Audio, DVD-Audio, Super Audio CD, Multichannel PCM, and CEC
- DSD Direct for Super Audio CD
- Audio and 1080p Video Processing via HDMI (1 Front/7 Rear Inputs and 2 Outputs [Main/Sub])
- HDMI Video Upscaling to 1080p with HQV Reon-VX
- New Custom-Designed, Large-Size Transistors to Drive High Currents
- Push-Pull Amplification Design with Three-Stage Inverted Darlington Circuitry
- Massive Toroidal Transformer and Two Separate Transformers for Audio and Video Processing
- Customized 22,000 µF Capacitors for Effective Power Supply
- Burr-Brown 192 kHz/32-Bit DACs (PCM1795 x 6) for All Channels
- Ultra-Low-Jitter PLL (Phase Locked Loop) Circuitry to Improve Audio Quality
- Three TI (Aureus™) 32-Bit DSP Chips (DA830 x 1, DA788 x 2) for Advanced Processing
- VLSC™ (Vector Linear Shaping Circuitry) for All Channels
- ISF (Imaging Science Foundation) Video Calibration
- Audyssey DSX™ and Dolby® Pro Logic® IIz for New Surround Channels
- Audyssey MultEQ™ XT to Correct Room Acoustic Problems and to Calibrate Speakers
- Audyssey Dynamic Volume™ to Maintain Optimal Listening Level and Dynamic Range
- Audyssey Dynamic EQ™ for Loudness Correction
- Dolby® Volume for Reference-Quality Listening Experience at Any Volume
- Network Capability for Streaming Audio Files (MP3, WMA, WMA Lossless, FLAC, WAV, Ogg Vorbis, AAC, LPCM)
- Internet Radio Connectivity Through vTuner
- Certified with Windows 7 and DLNA Version 1.5
- Bi-Amplifying and BTL (Bridged Transless) Capability
- Powered Zone 2 and Zone 3 for Playback of Separate Sources in Other Rooms
- Zone 2 Monitor Output (Composite)
- Universal Port for Single-Cable Connection of Optional Onkyo Dock for the iPod
- 4 DSP Modes for Gaming: Rock, Sports, Action, and RPG (Role Playing Game)
- 2 Independent Subwoofer Pre Outs

## AUDIO & VIDEO FEATURES

- 280 W/Ch at 6 Ω, 1 kHz, 1 Channel Driven, JEITA
- H.C.P.S. (High Current Power Supply) Massive High Power Transformer
- WRAT (Wide Range Amplifier Technology)
- Linear Optimum Gain Volume Circuitry
- DTS Surround Sensation™ Speaker/Headphone Technology
- Neural-THX® Surround Decoder
- Music Optimizer™ for Compressed Digital Music Files
- Theater-Dimensional Virtual Surround Function
- RIHD (Remote Interactive over HDMI) for System Control
- A-Form Listening Mode Memory
- Double Bass Function
- Direct Mode and Pure Audio Mode
- Non-Scaling Configuration
- Tone Control (Bass/Treble) for All Channels
- Front-Side Auxiliary A/V Input (for Camcorders, Game Consoles, etc.)
- 2 USB Ports (Front/Rear) for MP3 Audio Devices (Audio Only)
- Component Video Upscaling (Up to 1080i)
- Component Video Switching (3 Inputs and 1 Output)
- Color-Coded, 9 Multichannel Pre Outs
- 7 Digital Inputs (4 Optical and 3 Coaxial)
- Independent Crossover Adjustment for F/C/S/SB/FH/FW (40/50/60/70/80/90/100/120/150/200 Hz)
- A/V Sync Control Function (Up to 250 ms in 5 ms Steps)
- 40 FM/AM Random Presets

## OTHER FEATURES

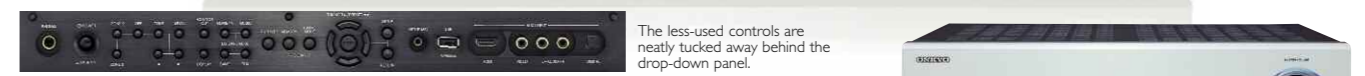
- Gold-Plated A/V Inputs and Outputs
- Customized, Gold-Plated Speaker Posts
- High-Rigidity Flat Chassis (1.6 mm Thick)
- 4 S-Video Inputs and 1 Output
- 5 A/V Inputs and 1 Output
- Monitor Outputs (Component, Composite, and S-Video)
- 3 Audio Inputs and 1 Output
- Phono Input
- Wide-Spaced, Gold-Plated, Machined Solid Brass Audio Inputs for High-Grade RCA Audio Cable (CD and Phono)
- RS232 and IR (In/Out) Connectivity
- 12 V Trigger Out (Zone 2/Zone 3)
- IntelliVolume
- Headphone Jack
- Onscreen Display (OSD)
- Display Dimmer (Normal/Dim/Dimmer)
- Aluminum Front Panel and Volume Knob
- Firmware Updates via Ethernet and USB
- Compatible with RI (Remote Interactive) Dock for the iPod
- Bi-Directional, Preprogrammed, and Customizable RI Remote Control with Backlight, Onscreen Setup, Mode-Key LEDs, and Macro Presets for Four Activities

## SPECIFICATIONS

AMPLIFIER SECTION	
<b>Power Output</b>	280 W/Ch (6 Ω, 1 kHz, 1 channel driven, JEITA)
Front L/R	280 W (6 Ω, 1 kHz, 1 channel driven, JEITA)
Center	280 W (6 Ω, 1 kHz, 1 channel driven, JEITA)
Surround L/R	280 W/Ch (6 Ω, 1 kHz, 1 channel driven, JEITA)
Surround Back L/R	280 W/Ch (6 Ω, 1 kHz, 1 channel driven, JEITA)
Front Wide L/R or Front High L/R	280 W/Ch (6 Ω, 1 kHz, 1 channel driven, JEITA)
<b>Dynamic Power</b>	400 W (3 Ω, Front)
	300 W (4 Ω, Front)
	180 W (8 Ω, Front)
<b>THD (Total Harmonic Distortion)</b>	0.05% (Rated power)
<b>Damping Factor</b>	60 (Front, 1 kHz, 8 Ω)
<b>Input Sensitivity and Impedance</b>	200 mV/47 kΩ (Line)
	2.5 mV/47 kΩ (Phono MM)
<b>Output Level and Impedance</b>	200 mV/470 Ω (Rec out)
<b>Phono Overload</b>	70 mV (MM, 1 kHz, 0.5%)
<b>Frequency Response</b>	5 Hz–100 kHz+1 dB, -3 dB
<b>Tone Control</b>	±10 dB, 50 Hz (Bass)
	±10 dB, 20 kHz (Treble)
<b>Signal-to-Noise Ratio</b>	110 dB (Line, IHF-A)
<b>Speaker Impedance</b>	4 Ω–16 Ω or 6 Ω–16 Ω
VIDEO SECTION	
<b>Input Sensitivity/Output Level and Impedance</b>	Video
	1.0 Vp-p/75 Ω (Component and S-Video Y)
	0.7 Vp-p/75 Ω (Component Pa/Cs, Pb/Cr)
	0.28 Vp-p/75 Ω (S-Video C)
	1.0 Vp-p/75 Ω (Composite)
<b>Component Video Frequency Response</b>	5 Hz–100 MHz, -3 dB
TUNER SECTION	
<b>Tuning Frequency Range</b>	FM
	87.5 MHz–108 MHz
	AM
	522 kHz–1.611 kHz
<b>FM/AM Preset Memory</b>	40 stations
GENERAL	
<b>Power Supply</b>	AC 220–240 V~, 50/60 Hz
<b>Power Consumption</b>	1,160 W
<b>Dimensions (W x H x D)</b>	435 x 198.5 x 463.5 mm
<b>Weight</b>	25.0 kg
<b>CARTON</b>	
<b>Dimensions (W x H x D)</b>	594 x 337 x 576 mm
<b>Weight</b>	30.8 kg

# TX-NR5007 9.2-Channel AV Surround Home Network Receiver

SILVER BLACK



## Top-of-the-Line Networking Powerhouse Sets the Standard

As Onkyo's flagship model for the network generation, the TX-NR5007 offers a mouthwatering feature set designed to satisfy even the most demanding home theater purist. The expanded 9.2-channel configuration allows you to enjoy multi-zone playback as well as the latest surround formats by Dolby, DTS, and Audyssey. Advanced networking capability, meanwhile, enables you to incorporate PC-based audio and internet radio into your home theater set-up. Video signals fed through this receiver get the luxury treatment, thanks to HQV Reon-VX processing, ISF calibration, and 1080p upscaling of all video sources via HDMI™ 1.3a. In the engine room, the TX-NR5007 boasts an impressive array of audiophile-grade components, including large, customized transistors to drive high currents and 22,000 µF capacitors to support a huge and stable power supply. Add to that high-quality 32-bit Burr-Brown DACs; ultra-low-jitter circuitry; and independent power supplies for amp, video, and audio circuitry, and you have a networking powerhouse equipped to deliver an immaculate A/V performance every time.

### PC Audio and Internet Radio via Network Function with DLNA 1.5 and Windows 7 Compatibility

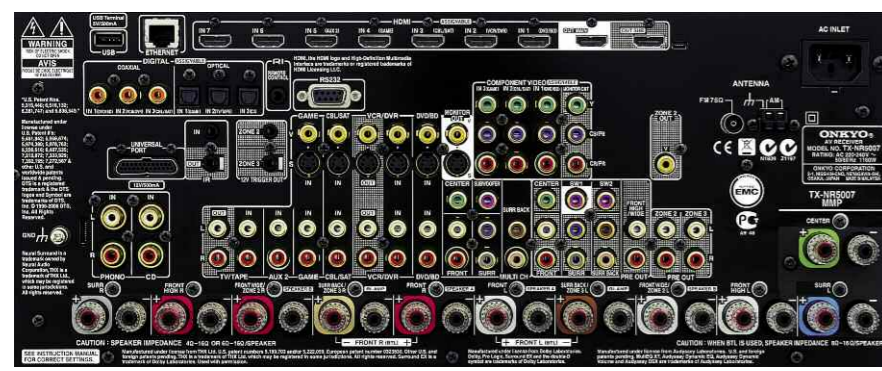
As one of Onkyo's new breed of receivers that can link directly to the internet or to your home PC via a local network, the TX-NR5007 takes streaming audio and internet radio to a whole new level. MP3, WMA, WMA Lossless, FLAC, WAV, Ogg Vorbis, AAC, and LPCM audio files—whether from your PC or from the internet—can now be played back through your main system with unprecedented power and fidelity. The TX-NR5007 brings to life a wide array of internet radio sources through the vTuner application. As well as being compatible with earlier radio platforms, the receiver is compatible with Microsoft's new Windows 7 platform, which includes the DLNA 1.5-specified "Play To" media-streaming feature. Another benefit of having the TX-NR5007 connected to the internet is that you can then easily update its firmware.

### Audyssey DSX™ Adds Extra Dimensions to Surround Sound

Audyssey DSX lets you augment a standard 7.1-channel surround set-up with two "front wide" channels. Two extra speakers expand the width of the soundstage and help to produce a more realistic and immersive listening experience. Alternatively, Audyssey DSX can be configured to deliver "front height" channels. These channels carry non-directional audio that adds a new vertical dimension to your movies and games.

### Dolby® Pro Logic® IIz for a More Enveloping Sound Field

As with previous versions of Pro Logic, Pro Logic IIz creates a surround-sound experience from any movie or music source—even a stereo one. Pro Logic IIz also enables you to incorporate two "front height" speakers in one of several configurations, depending on the available speaker channels. The front height channels carry ambient audio effects that help immerse you even more deeply into your games and movies.



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**Processing 1080p Video and High-Def Surround Sound via HDMI 1.3a\***

Incorporating HDMI version 1.3a and advanced processing capabilities, the TX-NR5007 works as a powerful A/V control center. Seven rear-side HDMI inputs, along with a convenient front-side one, enable connection of up to eight components, including Blu-ray Disc players, gaming consoles, and set-top boxes. The system can then receive and switch high-definition video signals and send a pristine digital signal to two different output locations—for example, to two separate high-definition displays. On the audio front, lossless Dolby® TrueHD and DTS-HD Master Audio™ provide a bit-for-bit multichannel soundtrack identical to the studio master track.

\*HDMI version 1.3a supports Deep Color™, xv.Color™, LipSync, Dolby TrueHD, DTS-HD Master Audio, DVD-Audio, Super Audio CD, Multichannel PCM, and CEC.



**THX Ultra2 Plus Certified with New THX® Loudness Plus™ Technology**

The ultimate benchmark for home audio performance, THX Ultra2 Plus is specified for rooms where the screen-to-seat viewing distance is more than 4 meters and the room volume is 85 cubic meters or greater. To achieve THX Ultra2 Plus certification, the TX-NR5007 must meet the world's most demanding standards for home theater audio quality and performance, and must play at reference volume levels with minimal distortion. THX Loudness Plus is a volume control technology included in THX Ultra2 Plus that compensates for the tonal and spatial shifts that occur when the volume level is lowered. It automatically adjusts the levels of ambient sound and bass frequencies, so you can enjoy the true impact of movies, music, and games no matter what volume setting you use.



**Advanced Video Processing and 1080p Upscaling with HQV Reon-VX**

HQV Reon-VX is the most sophisticated video-processing chip available for home theater. It provides the ultimate support for 1080p scaling; for filtering of jaggies and artifacts; and for the reduction of random, "mosquito", and block (codec) noise. HQV Reon-VX also enables color region enhancement and the rendering of more than one billion colors.



Standard chips process pixels in blocks, creating unwanted artifacts.

HQV chips process pixels individually, for enhanced pixel accuracy.



Images scaled by Reon-VX contain 80% new pixels to augment the original video data.

**Tailor Multichannel Audio to Your Home with Audyssey and Dolby Technologies**

The TX-NR5007 makes use of Audyssey's MultEQ™ XT, to counter distortion caused by walls and furniture in dedicated home theaters. This solution focuses on the frequency response and time domain across the entire listening area to deliver a clear, well-balanced, and natural sound. Two other Audyssey technologies, Dynamic EQ™ and Dynamic Volume™, work to optimize frequency response and dynamic range at all volume levels. In a similar vein, Dolby® Volume performs independent loudness adjustments to different frequencies and channels to produce a listening experience that includes all the dynamics of the original mix. It also enables users to enjoy a consistent playback volume for different input sources.



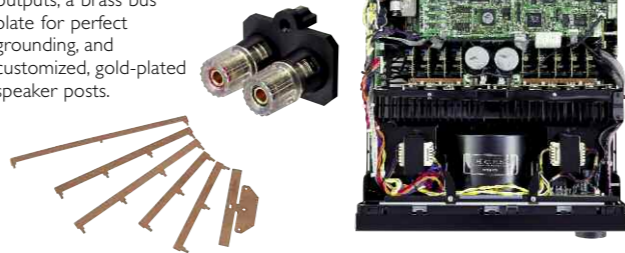
**ISF Video Calibration for Accurate Video Reproduction**

The TX-NR5007 comes equipped with industry-leading ISF (Imaging Science Foundation) video calibration to dramatically improve your home theater by enabling you to adjust the brightness, hue, contrast, saturation, and gamma levels on all video inputs. Transforming your A/V receiver into a video hub, this function ensures that every video source is independently calibrated for your connected high-definition display. What's more, ISF video calibration has been shown to improve energy savings in displays and projectors by up to 50%.



**A Fresh Approach to the Internal Construction of A/V Receivers**

Our design philosophy for the TX-NR5007 is based on a consideration of how each individual part interacts with the others and affects audio and video performance. The end result is a receiver design where the power amplifier block and the pre-amplifier coexist, but are perfectly isolated. Furthermore, the circuit boards have been affixed to the chassis so that vibrations from the base are suppressed. As Onkyo's new flagship model for the high-definition era, the TX-NR5007 forges further ahead with gold-plated A/V inputs and outputs, a brass bus plate for perfect grounding, and customized, gold-plated speaker posts.



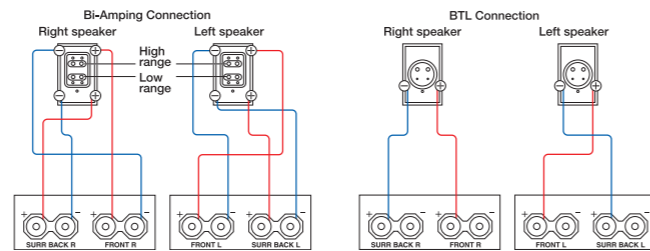
**Push-Pull Amplification with Three-Stage Inverted Darlington Circuitry**

Push-pull amplification uses different transistors to separately amplify the positive and negative halves of the waveform. This brings greater efficiency to the TX-NR5007, which also use three-stage inverted Darlington circuitry to remove distortion.



**Bi-Amping and BTL (Bridged Transless) Capability**

Taking a cue from the world of high-end audio, the TX-NR5007 incorporates bi-amping and BTL capabilities. This allows for a number of different home theater set-ups beyond the standard surround-sound configurations. Compatible front speakers can be bi-amped for separate tweeter and woofer inputs. Meanwhile, BTL enables you to double the power output to compatible front speakers.



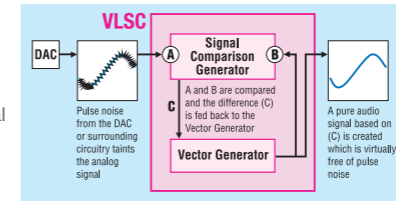
**Harnessing Power for Audio Performance**

Onkyo's H.C.P.S. (High Current Power Supply) concept is based around power transformers with the capability to respond to the wide dynamics of home theater. In the case of the TX-NR5007, a massive toroidal transformer improves power efficiency and radiates very little noise into the surrounding circuitry, while two separate transformers cater specifically to audio and video processing. You'll also find capacitors (operating at up to 22,000 microfarads) that store the charge necessary to support an effective power supply, along with large new custom-designed transistors to drive high currents.



**VLSC™ (Vector Linear Shaping Circuitry)**

Onkyo's VLSC employs a unique digital-to-analog conversion circuit to mitigate the effects of signal noise. Data is converted between discrete sampling points, which are then joined with analog vectors in real-time to produce a smooth output wave form. The result—a noiseless, smooth analog signal based on the digital source.



**WRAT (Wide Range Amplifier Technology) Providing Amplification Backbone**

The cornerstone of any Onkyo A/V receiver, WRAT supports high-quality audio reproduction of the latest high-definition A/V formats. It comprises three key elements: (1) A low negative-feedback design for cleaner audio across the frequency range; (2) Closed ground-loop circuits to cancel individual circuit noise and keep the ground potential free of distortion; and (3) A high instantaneous-current capability to handle speaker reflex energy and impedance fluctuations.

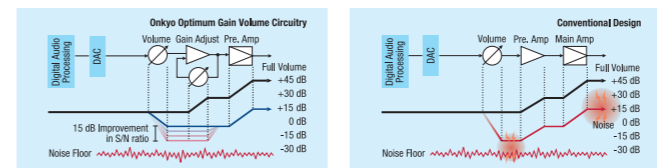


**Jitter Control Technology for Cleaner Digital Signals**

To counteract the impact of jitter on clock timing, the TX-NR5007 employs Phase Locked Loop (PLL) circuitry, jitter-resistant DACs, and a board design with signal pathways of uniform length. PLL circuitry works by automatically raising or lowering the oscillator frequency to match the frequency and phase of the input signal. By preventing disruption of the digital waveform, PLL helps ensure an accurate and well-focused analog sound wave.

**Linear Optimum Gain Volume Circuitry**

In conventional volume-attenuation methods, the signal comes close to the noise floor at low volumes and is therefore susceptible to interference. Even if the amount of noise is minimal, it taints the signal as it is amplified. Onkyo's Optimum Gain Volume Circuitry adjusts the gain so that less than half the typical amount of attenuation is necessary. The signal never comes close to the noise floor, thereby eliminating the possibility of the noise contamination that plagues conventional volume-attenuation designs.



**Burr-Brown 192 kHz/32-Bit DACs for All Channels**

The TX-NR5007 uses Burr-Brown 192 kHz/32-bit DACs which employ an advanced Texas Instruments DAC architecture (PCM1795) to achieve excellent dynamic performance and improved tolerance to clock jitter.



**Texas Instruments DSP (Digital Signal Processing) Chips**

The TX-NR5007 employs three Texas Instruments DSP chips (one DA830 and two DA788s) to handle the advanced processing needs of Dolby® TrueHD, DTS-HD Master Audio™, Audyssey MultEQ™ XT, and post-processing. The DA830 is also specially designed to cope with the heavy demands of processing a network connection.

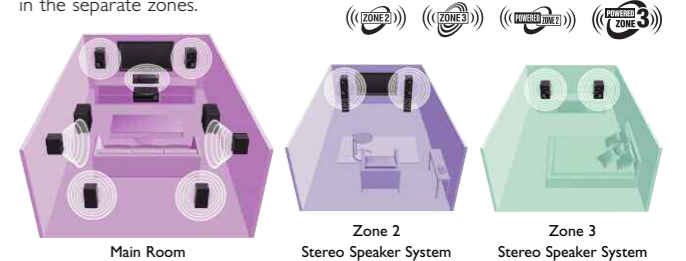
**Neural-THX® Surround Decoding Technology**

Neural-THX Surround enables content to be encoded into 5.1 or 7.1 channels and transmitted to the TX-NR5007, where it is decoded onboard. This technology reduces the bandwidth needed by broadcasters to deliver sound content and enables 7.1-channel support for gaming and movies.



**Playback of Different A/V Sources Throughout the Home**

Zone 2/3 and Powered Zone 2/3 bring multi-zone audio entertainment to your home through dedicated line outs, pre outs, and speaker connections. With the TX-NR5007, you can also enjoy video in a second room, as well as independent control of volume levels, speaker balance, and bass/treble levels in the separate zones.



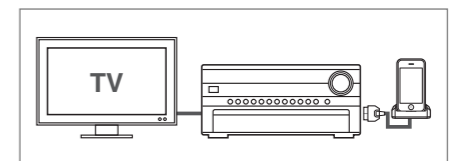
**Four Game Modes for More Thrilling Action**

A recent addition to Onkyo home theater, these four gaming modes create an audio experience with more realism and impact. You can select from Rock, Sports, Action, or RPG (Role Playing Game) modes to match your gaming content.



**Universal Port for Single-Cable Connection of Onkyo Peripheral Devices**

A proprietary Universal Port located on the rear side of the TX-NR5007 lets you connect an UP-A1 Dock for the iPod. A key advantage of the Universal Port is that it accepts video and audio signals through the same cable that sends a power supply from the receiver to the devices. Earlier versions of Onkyo's Dock for the iPod can be connected via our RI (Remote Interactive) system.



Daisy-Chain Connection via Universal Ports

