Digital Home Theater Receiver

RX-V1400

The RX-V1400 is a top-grade receiver that will provide all the power and control necessary for any high quality home theater system. It introduces the new Yamaha Parametric Room Acoustic Optimizer, which automatically adjusts the output from each speaker for the best possible sound at your listening position. Other major features include 7-channel discrete amplification (110W x 7), Yamaha's Digital ToP-ART design concept, Quad-Field CINEMA DSP, 27 surround programs, full movie sound format compatibility, SILENT CINEMA, Night Listening Mode, 9-step subwoofer crossover selection and component video up conversion for optimum video quality. Features for convenient operation include extensive menus, front panel video Aux optical input terminal and a direct access remote control. Custom installation facilities include Zone 2 and Zone 3 output, exclusive Zone 2 speaker terminal and Speaker A/B and A+B selection.

High Performance Home Theater Receiver that Satisfies All the Requirements for Power and Control of a Sophisticated Home Theater System.
Enjoy Movies and Music with Astonishing Realism and Clarity in Your Own Acoustically Customized Home Theater.

- High power 7-channel* discrete amplifier configuration (110W x 7 RMS/FTC)
- Digital ToP-ART and High Current Amplification
- Direct Stereo mode for high quality 2-channel sound reproduction
- Accurate touch digitally regulated volume control governs all channels
- Audio Delay for adjusting lip-sync
- Finest parts used throughout for high sound quality
- New 32-bit Yamaha LSI (YSS-930) for CINEMA DSP processing
- Compatibility with latest movie sound formats including Dolby Digital EX, Dolby Pro Logic II, DTS-ES Discrete 6.1, DTS Neo:6 and DTS 96/24
- THX Select processing
- 27 surround programs (47 variations) with SILENT CINEMA and Night Listening mode
- Component video up conversion: S-video/composite signal conversion to component video signal
- YPAO (Yamaha Parametric Room Acoustic Optimizer)
- Extensive inputs/outputs for custom installation (Zone 2, Zone 3 and speaker A/B selection)
- 9-channel speaker outputs: Automatic presence speaker or Zone 2 speaker selection

Digital ToP-ART

**Digital ToP-ART** (Total Purity Audio Reproduction Technology) is the name Yamaha has given to a design philosophy whose goal is to maximize digital quality while minimizing analog circuitry. The culmination of Yamaha’s long experience in digital engineering and design, it brings together several key elements to create the best-sounding, A/V components available on the market.

Advanced Decoding Circuitry

Including Yamaha’s Exclusive YSS-930 32-Bit Floating Point Quantization LSI


RX-V1400

Digital Home Theater Receiver
as well as all digital sound field processing. A THX Select mode is provided as an extra listening option.

**192kHz/24-Bit Digital-to-Analog Converters**
The RX-V1400 uses extremely high performance 192kHz/24-bit digital-to-analog converters for all 7 channels. They perform accurate sound field reproduction for high quality multi-channel sources, and for two-channel stereo, provide outstanding separation and precise musical delineation. They deliver superior low level linearity with excellent full-scale performance under varying operation conditions.

**Choice of Signal Paths for Higher Sound Quality**
Three special operation modes can be selected. Straight outputs the original analog or digital signal without any post-processing. Direct Stereo causes the input stereo signal to bypass the DSP and YPAO circuitry so the pure signal is output without any processing or data loss whatsoever. 2-Channel Stereo processes the multichannel signal and outputs it via 2-channels, for those with a two-speaker system.

**4-Layer DSP Processing Board**
All of the DSP IC chips and related circuitry are located together on a 4-layer board, which provides a number of advantages. The dimensions are smaller (2/3 previous types), so signal paths are shorter and there is more space for the large power supply components. Digital interference is reduced and impedance is lower as well.

**Accurate Touch Volume Control**
No one expects more from a volume control than up and down — except Yamaha. We decided that controlling the volume could be made both easier and more accurate, and the result is the Accurate Touch Volume Control. It lets you make delicate adjustments within a narrow range, yet enables you to move to very high or low levels more quickly. Its extreme accuracy is due to a high-signal-resolution analog design in conjunction with an ultra-precise digital control circuit (Yamaha original YAC-520 and YAC-523 LSIs) for all channels. The wide control range extends from –80dB to +16.5dB, with narrow 0.5dB steps throughout the entire range for delicate control, even at low volumes.

From digital input, through digital processing, to amplification, maximum signal quality is maintained every step of the way.
High Current Amplification Achieves Low Impedance/High Current Power from Input to Output.

The Importance of High Current
Although power rating is often the first thing customers look at in a receiver, high power output does not necessarily mean good sound. High current level is a much more important factor. Yamaha receivers have always had fairly high current levels, but with the RX-V1400, we have further improved this performance.

What It Does
In brief, Yamaha High Current Amplification achieves low impedance, high current power from input (power supply circuit) to output (speaker terminals). This drives the speakers much more smoothly and dynamically, for better sound from all sources, including 2-channel audio.

Specific Improvements
The first problem to be overcome was the difference in voltage that ordinary receivers suffer between the power supply and amplifier circuits, caused by current fluctuations. This was solved by using custom-made, high-grade block electrolytic capacitors and a copper grip for one-point grounding. Another current drop is generally seen between the amplifier circuit and the speaker terminals, caused by the cables, speaker output relays, copper circuit boards, and so on. To increase current here, we used an extra-large, low-impedance transformer and gold-plated speaker relay contacts.

7-Channel High Power, Discrete Amplifier Configuration
The RX-V1400 will deliver as much as 110W of power to each of seven channels (two front, one center, two surround and two surround back). This is more than enough to fill even the largest rooms with vibrant music and rich sound effects.

High Dynamic Power Capability
The RX-V1400 is capable of delivering large amounts of reserve power for accurate reproduction of the high energy peaks that are especially prevalent in digital audio sources. This emphasizes the music's dynamic qualities and provides a sharper sound image.

Linear Damping
Level variations due to high amp impedance tend to reduce an amplifier's damping factor, and frequency variations cause it to fluctuate. This circuit cancels the effect of these variations, maintaining a high, stable damping factor, for superior articulation of all sounds and better frequency response.

Anti-Resonance ToP-ART Base
Supporting the heavy heat sinks, transformer, and circuit board is Yamaha's ToP-ART base, which has exceptional anti-resonance and damping characteristics. Beneath this base is the bottom of power amplifier, part of the heavy chassis which is also designed for maximum vibration damping.

Anti-Resonance Heat Sinks for Effective Heat Dissipation
The large, anti-resonance, aluminum-extruded heat sinks are located on the base frame with the power amplifier circuit boards to prevent interference with the preamplifier and digital processing sections.

Wide-Range Frequency Response for DVD-Audio and SACD
With an extremely wide frequency range of 10 to 100,000Hz, this receiver is capable of delivering the full potential of the new digital audio sources DVD-Audio and SACD.

Output Power vs. Speaker Impedance

<table>
<thead>
<tr>
<th>Speaker Impedance (ohms)</th>
<th>Output Power (Watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50 100 150 200 250 300 350</td>
</tr>
<tr>
<td></td>
<td>Dynamic Power per Channel</td>
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<tr>
<td></td>
<td>Min. RMS Power per Channel</td>
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<tr>
<td>8</td>
<td>110W 145W 185W 240W 320W</td>
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<td>6</td>
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<td>4</td>
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<td>2</td>
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</tbody>
</table>

Damping Factor Characteristics

<table>
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<tr>
<th>Damping Factor</th>
<th>Frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>200</td>
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<tr>
<td>50</td>
<td>100</td>
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<tr>
<td>100</td>
<td>50</td>
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<tr>
<td>200</td>
<td>10</td>
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<tr>
<td>500</td>
<td>1</td>
</tr>
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<td>0.05</td>
</tr>
<tr>
<td>20k</td>
<td>0.025</td>
</tr>
</tbody>
</table>

Linear Damping
Yamaha's Linear Damping maintains a high, stable damping factor even at frequencies from 10 to 20 kHz, where it generally tends to fall off. The result is superior articulation of all sounds.
Finest Parts Used Throughout
In order to realize the goals of massive power and superlative sound quality, Yamaha technicians completely re-evaluated all the parts used in previous receivers. As a result, many were replaced with more expensive or custom-designed units.

- **Extra-Large Custom-Made Block Electrolytic Capacitors**
  Developed specifically for the RX-V1400, the 10,000µF block electrolytic capacitors use low-magnification foil and are exceptionally high quality.

- **Extra-Large Low-Impedance Transformer**
  The large 5.4 kg (11.9 lbs.) low-impedance transformer is an important factor in the RX-V1400's extremely stable power supply.

- **Twin Direct Signal Path Speaker Relays with Gold-Plated Crossover Connection and Shielding**
  Speaker switching is accomplished by relays right in front of the speaker terminals, rather than at the switch position. This results in a shorter signal path and minimum output impedance.

- **High Performance Myca Capacitors and Film Capacitors**
  At this level of sound quality, even these small parts make a difference. The high precision FE mica and metallic mylar film capacitors use polypropylene material and are the highest performance types on the market.

- **The Inlet-Type Power Cable**
  The Inlet-Type Power Cable is separate, rather than attached to the unit. It is a thicker type than usual, for higher power handling capacity (not available on Australian model).

- **Thick PC Board Wiring with 1.6mm (5/8”) φ Copper Jumper Cables**
  The audio signal is routed within the amplifier through exceptionally thick, top quality wire, ensuring that signal purity is maintained.

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**RX-V1400 Interior View**

**Optimum Space Utilization**

The use of highly integrated LSIs allows an interior design that maximizes power and sound quality by positioning all the digital processors and related circuitry in one small area. This leaves most of the space open for the power amplifier components: transformers, capacitors, heat sink and so on. This means that these parts can be much larger than usual for greater power, that they can be separated for minimum chance of interference, and that circuits can be arranged in straight lines for maximum signal purity.
Yamaha CINEMA DSP for Home Theater: Dramatically Different Than Other Systems.

Quad-Field and Tri-Field CINEMA DSP
Tri-Field CINEMA DSP projects three sound fields into the home theater: a Presence sound field in the front and two Surround sound fields in the left rear and right rear, resulting in a powerfully realistic three-dimensional soundscape. And now Yamaha also offers Quad-Field CINEMA DSP. It adds an additional rear center sound field to the Tri-Field system, in order to enjoy the new 6.1-channel formats, Dolby Digital EX and DTS-ES.

CINEMA DSP Programs
One of the main advantages of CINEMA DSP is the large choice of sound field programs available. The basic program for movies is Enhanced, which greatly improves the sound of the surround fields. The “largest” of these sound fields is Spectacle, which recreates the open feeling of large-scale, epic motion pictures. The Sci-Fi is designed to reproduce all the complex, dynamic sounds of space/science fiction movies. Adventure and General are also included.

Night Listening Mode for All Surround Programs
When you’re listening to movies late at night and turn down the volume during loud scenes, dynamic range suffers and you may miss some dialogue and other sounds. By engaging the Night Listening mode, you can reduce the volume and still enjoy proper tonal balance and dynamic range. You hear dialogue clearly and the music and action are just as exciting (without the screams and explosions disturbing others).

Program Name and Surround Sound Status Indications
The front panel display shows a

Quad-Field and Tri-Field CINEMA DSP

<table>
<thead>
<tr>
<th>CINEMA DSP Programs Variations</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRAIGHT</td>
</tr>
<tr>
<td>S-FLAT</td>
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<tr>
<td>STEREO</td>
</tr>
<tr>
<td>2-Channel Stereo</td>
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<tr>
<td>Direct Stereo</td>
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<tr>
<td>HALL</td>
</tr>
<tr>
<td>Concert Hall</td>
</tr>
<tr>
<td>JAZZ CLUB</td>
</tr>
<tr>
<td>Jazz Club</td>
</tr>
<tr>
<td>ROCK CONCERT</td>
</tr>
<tr>
<td>Rock Concert</td>
</tr>
<tr>
<td>ENTERTAINMENT</td>
</tr>
<tr>
<td>Disco</td>
</tr>
<tr>
<td>7-CH STEREO</td>
</tr>
<tr>
<td>7-Channel Stereo</td>
</tr>
</tbody>
</table>
| Program Subtotal              | 5
| Program Subtotal              | 5

THX Variations

<table>
<thead>
<tr>
<th>THX Variations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cinema</td>
</tr>
<tr>
<td>THX Surround EX</td>
</tr>
</tbody>
</table>

Program Subtotal | 2

Program Total | 27 | 47

Auto Priority Input Terminal Selection and Auto Decoder Selection
Digital input terminals are provided to handle any kind of digital input. Functions are programmed to select priority in order of coaxial digital, optical digital and analog when different digital formats are input from the same source. The sound decoder is also automatically selected and processed according to the combination of the format of input signals and the selected sound field programs, while DSP sound field processing is optimized at the same time.
variety of surround sound status indications, so you always know what modes you are in. The Program name is displayed, including the word “Night” if the Night Listening mode is selected. Six sound field modes including Quad-Field and Tri-Field are also indicated.

**SILENT CINEMA and Virtual CINEMA DSP**

The SILENT CINEMA mode gives you private listening enjoyment of multi-channel music or movie sound, including Dolby Digital and DTS surround, through ordinary headphones. It’s automatically selected when the headphones are plugged in. Virtual CINEMA DSP lets you enjoy the effects of CINEMA DSP surround sound without using rear speakers (handy for use in custom installations where some rooms don’t have rear speakers). It can be used with the main center/front effect speakers or even with just the two main left and right speakers.

**Conventional 6.1-Channel Systems**

Going Beyond Conventional Multi-Channel Systems

Conventional 5.1-channel/6.1-channel audio reproduction systems base their sound on Dolby Digital and DTS decoding, using matrix and steering technologies to create surround sound effects. Yamaha CINEMA DSP is much more advanced, actually creating richly realized independent sound fields that envelop you in an unmatched surround sound experience. With dialogue, music and effects from ideally located in these separate sound fields, you will hear sound with accurate placement, smooth movement, exceptional clarity and richness, and startlingly realistic presence. It will seem as if the walls of your room have disappeared and you are in the middle of your own immense theater!
Yamaha Parametric Room Acoustic Optimizer (YPAO) and Convenient Functions.

YPAO (Yamaha Parametric Room Acoustic Optimizer): The Best Sound for Your Room – Automatically!
This new capability is one of the RX-V1400’s most innovative and appealing features. The receiver comes supplied with a small microphone, which the user places in the listening position. Activating the functions causes a test tone to be emitted, which is analyzed, and based on the results, the audio output is automatically adjusted to provide the optimum sound for the room acoustics. The optimizer functions as a parametric, not merely a graphic, equalizer, providing a degree of precision calibration that users could not do by themselves. Among the factors considered are speaker position, speaker connection, speaker size, channel level balance, speaker distance and speaker frequency response. In short, the RX-V1400 not only delivers better sound, it delivers the BEST sound for each and every room.

Easy Setup and Operation
The RX-V1400 has an ergonomic design that ensures simple, convenient operation. Everything from the layout of the controls to the display menus has been planned to make using it easy and enjoyable. For even greater setup ease, a Basic Mode permits basic settings to be made without using the Setup menus and with a minimum of steps.

On-Screen Display and Convenient Controls
A handy On-Screen Display that includes extensive yet easily understandable setup menus makes it easy to select and adjust desired functions. Especially useful is a speaker display in the Speaker Test mode that makes it easy to balance the levels of all speakers. Up video conversion selection is also shown on the display. DSP programs can be selected with the remote control so their effects can be judged from the listening position. A rotary encoder Input Selector makes source selection quick and easy.

An Extensive Range of Useful Menus
The RX-V1400 gives you extensive control over audio and operational modes through a selection of parameters that can be adjusted from the on-screen menus. The Basic modes are Setup and Speaker Level, while the Sound modes feature a Center Graphic Equalizer, Speaker Set, Speaker Distance, LFE Level, Dynamic Range and Headphone Tone Control.

Easy Menu Setup
- Basic Modes: Setup and Speaker Level (Balance Adjustment)
- Sound Modes: Speaker Set, Speaker Distance, LFE Level, Dynamic Range, 7-Band Graphic Equalizer and Headphone Tone Control
- Input Modes: I/O Assignment, Input Mode and Input Rename
- Options: Display Set, Memory Guard, Audio Mute (3 steps: Mute, -20dB, -50dB) and Zone Set
- Analog Mixdown (Center, Surround L/R and LFE channels output mixed down to Main for music sources)

Subwoofer Crossover Selection
The RX-V1400 provides a choice of nine subwoofer crossover frequencies: 40, 60, 80, 90, 100, 110, 120, 160 and 200 Hz. In addition to providing a wider range than other receivers, the steps from 80 to 120 Hz are only 10 Hz apart for more precise selection. This choice of crossovers lets you “fine-tune” the audio system by selecting the optimum frequency to maximize receiver/speaker efficiency and also ensures best performance from a wider variety of speakers (small to large).

7-Band Graphic Equalizer
In addition to the many audio parameters that can be adjusted, the RX-V1400 provides an even greater degree of sound field control with the inclusion of a Graphic Equalizer. This lets you finely “tune” the overall balance of the sound field to achieve the optimal imaging for movie sound.
YPAO (Yamaha Parametric Room Acoustic Optimizer)

1) Speaker Connections
Checks for missing connections and subwoofer phase control (here the right surround speaker is not connected).

2) Speaker Distance
Measures speaker distances from the listening point and corrects for differences down to 5cm.

3) Speaker Size
Checks speaker sizes (large or small) and subwoofer crossover frequency.

4) Speaker Frequency Response
Measures and optimizes each speaker’s frequency response using the 10-band parametric equalizer.

5) Sound Pressure Level
Measures and aligns the sound pressure levels of all speakers.

Graphic Equalizer vs. Parametric Equalizer

Conventional Graphic Equalizer

Yamaha Parametric Equalizer

YPAO provides frequency response compensation of all channels via a 10-band parametric equalizer.

Graphic equalizers adjust only the level, while parametric equalizers adjust level, frequency and Q factor, thus providing more detailed and effective sound equalization.
All the A/V Connections Needed for the Present and Into the Future! Plus a Host of Convenient Features.

Component Video Up Conversion
Up video conversion (composite to S-Video and component, S-Video to component) as well as down video conversion (S-video to composite) is automatically applied to incoming signals. This means that you simply use the best possible cable between the receiver and the TV, and then whatever the source is, you are assured of getting the highest possible quality.

Custom Installation Compatibility
As befits a high performance home theater amplifier, the RX-V1400 is designed to be suitable for use in custom installations. It provides both Zone 2 and Zone 3 output with selector and volume control, so you can enjoy audio in two additional rooms. A 12V trigger output can be used to automatically power on Zone 2 or Zone 3 components. There is also an IR port, with extended IR code compatibility.

Speaker A/B and A+B Selection
Speaker A/B and A+B selection lets you listen to either or both of two sets of speakers in two locations, with Virtual CINEMA DSP capability in Zone B.

9-Channel Speaker Outputs
The surround back left and right channels can be assigned for use as Zone 2 output or used to output sound from the two presence speakers, resulting in 9-channel output.

HDTV Compatible Component Video Out
The frequency response of the Component Video Monitor Out signal is DC—60MHz, making it compatible with HDTV monitors.

Fixed and Assignable Terminals
Yamaha offers terminals that can be either independently assigned to sources or defaulted to fixed settings.

Accurate, Adjustable Lip-Sync
The YSS-930 LSI in the RX-V1400 provides accurate synchronization of images and sound, known as “lip-sync.” Most audio LSIs do not have the necessary speed and precision to handle this, but with the YSS-930, not only has accurate lip-sync been achieved, but it also boasts a range of other features that make it a versatile and powerful component of any home theater system.

RX-V1400 Extensive Connections

RX-V1400 Inputs and Outputs

* Video Aux terminals are on front panel.
** Comp. V Component Video
- Fixed Terminals
- Fixed and Assignable Terminals
- Assignable Terminals
- HDTV (720p/1080i) Compatible Component Video Out
- Video Conversion
Learning-Capable and Preset Remote Control Unit

The remote control can “learn” the functions of other components, so you can use it as a single remote for the entire system. It can be preset with control codes for TV, DVD, VCR, CDR, and other components. It also provides control of subwoofer level.

Other Features
- Rotary Encode Input Selector
- Sleep Timer

RX-V1400 Main Specifications

<table>
<thead>
<tr>
<th>AUDIO SECTION</th>
<th>VIDEO SECTION</th>
<th>TUNER SECTION</th>
<th>GENERAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum RMS Output Power (8 ohms, 20–20,000 Hz, 0.04% THD)</td>
<td>Video Signal Level</td>
<td>FM Selectivity</td>
<td>Standby Power Consumption</td>
</tr>
<tr>
<td>Front Channels</td>
<td>Y</td>
<td>500 kHz</td>
<td>Less than 0.5 W</td>
</tr>
<tr>
<td>Center Channels</td>
<td>1 Vp-p/75 ohms</td>
<td>70 dB</td>
<td></td>
</tr>
<tr>
<td>Surround Channels</td>
<td>1 Vp-p/75 ohms</td>
<td>Mono</td>
<td>2 µV (17.3 dBf)</td>
</tr>
<tr>
<td>Surround Back Channel</td>
<td>1 Vp-p/75 ohms</td>
<td>Stereo</td>
<td>25 µV (39.2 dBf)</td>
</tr>
<tr>
<td>Minimum RMS Output Power (8 ohms, 1 kHz, 0.07% THD)</td>
<td>S-Video Signal Level</td>
<td>Component Video Signal</td>
<td></td>
</tr>
<tr>
<td>Front Channels</td>
<td>C</td>
<td>5 Hz–10 MHz -3 dB</td>
<td>435 x 171 x 434 mm</td>
</tr>
<tr>
<td>Center Channel</td>
<td>0.286 Vp-p/75 ohms</td>
<td>Component video Signal</td>
<td>17-1/8” x 6-3/4” x 17-1/16”</td>
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<tr>
<td>Surround Channels</td>
<td>1 Vp-p/75 ohms</td>
<td>5 Hz–60 MHz -3 dB</td>
<td>Weight</td>
</tr>
<tr>
<td>Surround Back Channel</td>
<td>0.7 Vp-p/75 ohms</td>
<td></td>
<td>15.5 kg; 34.2 lbs.</td>
</tr>
<tr>
<td>High Dynamic Power, Low-Impedance Drive Capability</td>
<td>Signal-to-Noise Ratio</td>
<td>FM</td>
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<tr>
<td>Yes</td>
<td>50 dB</td>
<td>Selectivity</td>
<td>400 kHz</td>
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<td>Dynamic Power/Channel</td>
<td>Monitor Out Frequency Response</td>
<td>Mono/Stereo</td>
<td>70 dB</td>
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<td>8 ohms</td>
<td>Composite/S-Video Signal</td>
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<td>76 dB/70 dB</td>
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<td>145 W</td>
<td>Component video Signal</td>
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<td>20–15,000 Hz</td>
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<td>6 ohms</td>
<td>5 Hz–10 MHz -3 dB</td>
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<td>+0.5/-2 dB</td>
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<td>185 W</td>
<td>5 Hz–60 MHz -3 dB</td>
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<td>320 W</td>
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<td>Linear Damping</td>
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<td>Damping Factor (8 ohms, 20–20,000 Hz)</td>
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<tr>
<td>Phono (MM)</td>
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<tr>
<td>2.5 mV/47 k-ohms</td>
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<tr>
<td>Frequency Response</td>
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<tr>
<td>CD (Front Sp Out)</td>
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<td></td>
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<tr>
<td>10–100,000 Hz +0, -3 dB</td>
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<tr>
<td>CD (Front Sp Out)</td>
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<tr>
<td>0.04%</td>
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<tr>
<td>Total Harmonic Distortion (20–20,000 Hz)</td>
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<td></td>
</tr>
<tr>
<td>Signa-to-Noise Ratio (CD, 250 mV)</td>
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<td></td>
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<tr>
<td>100 dB</td>
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<td></td>
<td></td>
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<tr>
<td>Filter Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front, Center, Surround, Surround Back (Small, fc=+</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>[High Pass Filter, Variable Crossover]</td>
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<tr>
<td>40.60, 80, 90, 100, 110, 120</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Subwoofer (fc=+</td>
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<tr>
<td>40.60, 80, 90, 100, 110, 120</td>
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<tr>
<td>160 and 200 Hz (12 dB/oct.)</td>
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<tr>
<td>160 and 200 Hz (24 dB/oct.)</td>
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Digital Tone Controls

Digital tone controls are provided for left, right and center channels, allowing a much greater degree of control over the front sound field.

Tuner Section Features High Quality, Easy Operation

In addition to utilizing a Direct PLL IF

Count Synthesizer Tuning system, the RX-V1400 also makes station selection easy. Users can preset as many as 40 stations for instant one-touch tuning, and with each one the tuning mode (auto or mono) is also memorized. Auto FM Station Memory will automatically preset the 40 strongest stations on the dial. The Preset Editing function can then be used to rearrange them into groups.

Oil-Damped Hidden Control Panel

Front Panel Aux Input Terminals with Optical Digital and S-Video Terminals: Auxiliary terminals with optical digital input make it convenient to connect a digital game machine so you can enjoy DVD games and movies. And Composite terminals are gold-plated for high quality sound reproduction.

achieved, but its parameters can be adjusted by the user.

Digital Tone Controls

Digital tone controls are provided for left, right and center channels, allowing a much greater degree of control over the front sound field.

Tuner Section Features High Quality, Easy Operation

In addition to utilizing a Direct PLL IF

Count Synthesizer Tuning system, the RX-V1400 also makes station selection easy. Users can preset as many as 40 stations for instant one-touch tuning, and with each one the tuning mode (auto or mono) is also memorized. Auto FM Station Memory will automatically preset the 40 strongest stations on the dial. The Preset Editing function can then be used to rearrange them into groups.
RX-V1400 Features

**DIGITAL ToP-ART**

1. **High Performance Digital Circuity**
   - 192 kHz/24-Bit DACs for All Channels
   - Accurate Touch Digitally Regulated Volume Control Governs All Channels (Yamaha YAC-523 x 2)
   - Direct Stereo Mode for High Quality 2-Channel Sound Reproduction
   - 4-Layer DSP Processing Board, with Fully Shielded Cabinet for Reduced Digital Interference

2. **High Density CINEMA DSP Circuitry**
   - Powerful Original 32-Bit Floating-Point Quantization System LSIs (YSS-930 x 2) for CINEMA DSP Processing
   - Compatibility with latest movie sound formats including Dolby Digital EX, Dolby Pro Logic II, DTS-ES Discrete 6.1, DTS Neo:6 and DTS 96/24
   - THX Processing
   - 27 Surround Programs (47 Variations)
   - Quad-Field CINEMA DSP for 6.1-Channel Digital Surround
   - Night Listening Mode
   - SILENT CINEMA for Headphone Enjoyment
   - Virtual CINEMA DSP for Versatile Surround Enjoyment

3. **High Current Amplification**
   - 7-Channel High Power Discrete Amplifier Configuration (110W x 7, 20–20,000 Hz, RMS/FTC, Total 770W)
   - Total Low-Impedance Design
   - High Dynamic Power, Low Impedance Drive Capability
   - Linear Damping Prevents Unwanted Speaker Cone Movement
   - Wide-Range Frequency Response (10–100,000 Hz +0/-3 dB) for DVD-Audio/SACD Compatibility
   - Finest Parts Used Throughout
     - Twin Direct Signal Path Speaker Relays with Gold-Plated Crossover Connection and Shielding for Stable Signal Path and Speaker Protection
     - ToP-ART Base for reduced external resonance
     - High Performance Myca Capacitors and Film Capacitors
     - Thick PC Board Wiring with 1.6mm (5/8") Copper Jumper Cables
     - Extruded Aluminum Volume Knob
   - Inlet-Type Thick Power Cable for higher power handling capacity (not available on Australian model).

**Versatile, Extensive Connections**

- 5 Optical and 3 Coaxial Digital Input Terminals (fixed and assignable, Video Aux: fixed)
- 2 Optical Output Terminals (fixed and assignable)
- 7 A/V (with S-Video) and 4 Audio Input Terminals
- 2 A/V and 2 Audio Output Terminals
- Front Panel Video Aux Input Terminals with Optical Digital and S-Video Terminals
- Multi-Channel External Decoder Input Terminals for Future Sound Formats (8-Channel Compatible)
- Preout Terminals for Front, Center, Surround and Surround Back Channels
- Subwoofer Output Terminal
- 2-Way Binding-Post Speaker Terminals (banana-plug compatible, except presence speaker terminals)

For details please contact:

Yamaha’s unique technology for the creation of sound fields is capable of powerfully reproducing the three-dimensional environment that movie sound engineers aim to convey, in any audio format from monaural to the latest 6.1-channel digital surround. It is compatible with DVD and all other A/V sources.

Yamaha CINEMA DSP technology has received a patent in the U.S. (Patent No. 5,261,005).

Visit us at our website: [http://www.yamaha.co.jp/](http://www.yamaha.co.jp/)

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