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Receivers

RE-1
RE-2
RE-3



Harmonic Time Alignment™ Amplifier

Meticulously engineered to deliver unparalleled musicality, enhanced convenience, and intelligent versatility, Nakamichi receivers are the choice of the discerning.

Powerful and versatile, featuring Nakamichi's exclusive Harmonic Time Alignment™ amplifier circuitry

Although the RE-1 offers a wealth of convenient audio/video features, it was designed first and foremost to deliver impeccable audio performance. Nakamichi Harmonic Time Alignment™ amplifier sections combined with a high-current, low-impedance power output stage yield superbly musical high-definition reproduction that rivals the finest separate components. The RE-1 also incorporates Nakamichi System Remote and multi-room remote control capabilities, a high-performance AM/FM tuner, and high-quality A/V signal switching circuits.

RE-1 AM/FM Stereo Receiver (80W+80W)

Harmonic Time Alignment™ Amplifier



Full-featured, affordable performance with the sonic advantages of Harmonic Time Alignment™ technology

The RE-2 incorporates Harmonic Time Alignment amplifier circuitry, which includes an advanced wideband low open-loop gain topology. It thus attains an extremely high level of musical accuracy. Sophisticated engineering can be found throughout all sections of this receiver, putting its performance in the caliber of expensive separate components. As a system control center, it offers superb operability with a variety of useful convenience features, including multi-room remote control capability.

RE-2 AM/FM Stereo Receiver (55W+55W)

Harmonic Time Alignment™ Amplifier



Superb sound quality, advanced functionality, and exceptional ease-of-use in a highly affordable receiver

With ample power output, an outstanding high-current power amplifier section, an excellent quartz-PLL frequency synthesis tuner, and thoughtful convenience features, the RE-3 has no equal in its class. The supplied System Remote control unit lets you also operate other Nakamichi components you may add to your system. The sophisticated design and performance of the RE-3 make it ideal for the enthusiast with modest system requirements but, nonetheless, a critical ear.

RE-3 AM/FM Stereo Receiver (37W+37W)



It Takes More Than An Abundance Of Features To Make A Better Receiver.

In this multimedia age, a receiver is increasingly regarded as a system control center that must be capable of handling a wide variety of signals from video as well as audio components. Incorporating a large number of auxiliary functions, however, involves the danger of sound quality deterioration. Human engineering factors must be considered as well, for there is nothing more intimidating than a massive array of buttons and knobs. Nakamichi receivers have always been designed with the belief that, above all, musical accuracy must not be compromised. Exceptional audio performance is complemented by a sensible selection of control features that enhance system versatility without sacrificing ease of operation.

Nakamichi receivers deliver the versatility integrated home entertainment centers require. They provide extraordinary features, such as System Remote and Multi-Room Remote Control capabilities. And to remain true to Nakamichi's high sonic standard, they incorporate amplifier circuitry that reflects Nakamichi's engineering expertise gained through the design of high-end separate components. All power output stages, for example, are high-current, low-impedance designs capable of handling difficult speaker loads. The RE-1 and RE-2, furthermore, feature Harmonic Time Alignment™ amplifier technology, a Nakamichi innovation that assures the most natural music reproduction.

Nakamichi receivers also benefit from a unique product design philosophy that extends research beyond the boundaries of the laboratory. Part of every product development cycle are extensive "live vs. reproduced" tests, made possible by a specially designed concert hall and listening room at Nakamichi's headquarters R&D facility.

What may be an extravagance for others is a basic necessity for Nakamichi. But that's what it takes to make a better receiver.

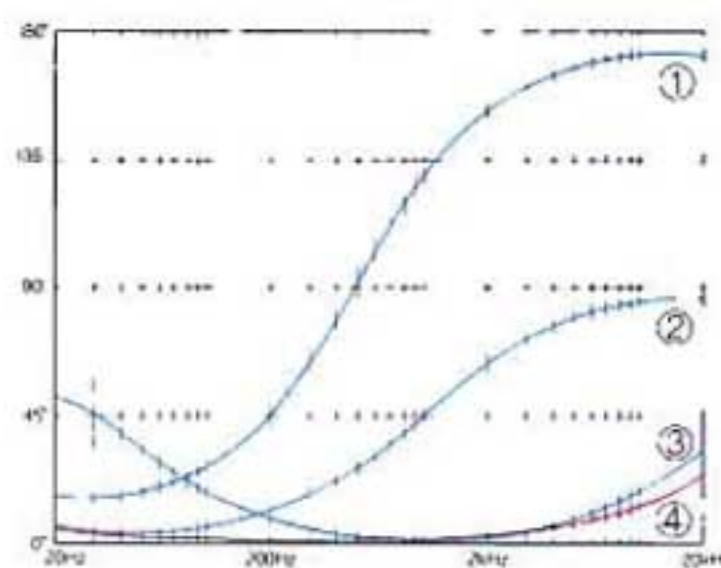
Harmonic Time Alignment™ Amplifier Technology

Since the early days of audio, much discussion has centered on the effect of feedback on the harmonic distortion of amplifiers. The effects of feedback on the timing of an amplifier's distortion components, however, has been largely ignored.

When the amplified signal and its harmonic distortion components are correctly time-aligned, the former serves to mask the latter. When the distortion components are shifted in phase with respect to the original signal, even minute amounts of THD can become audible. This is why some amplifiers with unimpressive THD performance are often sonically superior to others with much lower THD figures. This is also why tube amplifiers have the reputation for excellent mid-to-high-frequency and mediocre bass-frequency performance. An examination of the phase shift of distortion components in tube amplifiers reveals that they are typically well aligned in the middle to high frequencies but poorly aligned at low frequencies. Conversely, most solid-state designs are better aligned at the lowest frequencies, which coincides with their reputation for superior "bottom-end" performance.

The Harmonic Time Alignment™ amplifier circuitry employed in the RE-1 and RE-2 receivers achieves a high degree of alignment throughout the audio spectrum through the use of wideband, low open-loop gain design.

Such designs inherently require far less negative feedback and, more important, a constant amount of negative feedback within the audio passband. Time alignment is thus better preserved. And the end-result is exceptionally musical reproduction — a quality that cannot be fully expressed by conventional specifications, such as output rating or distortion.

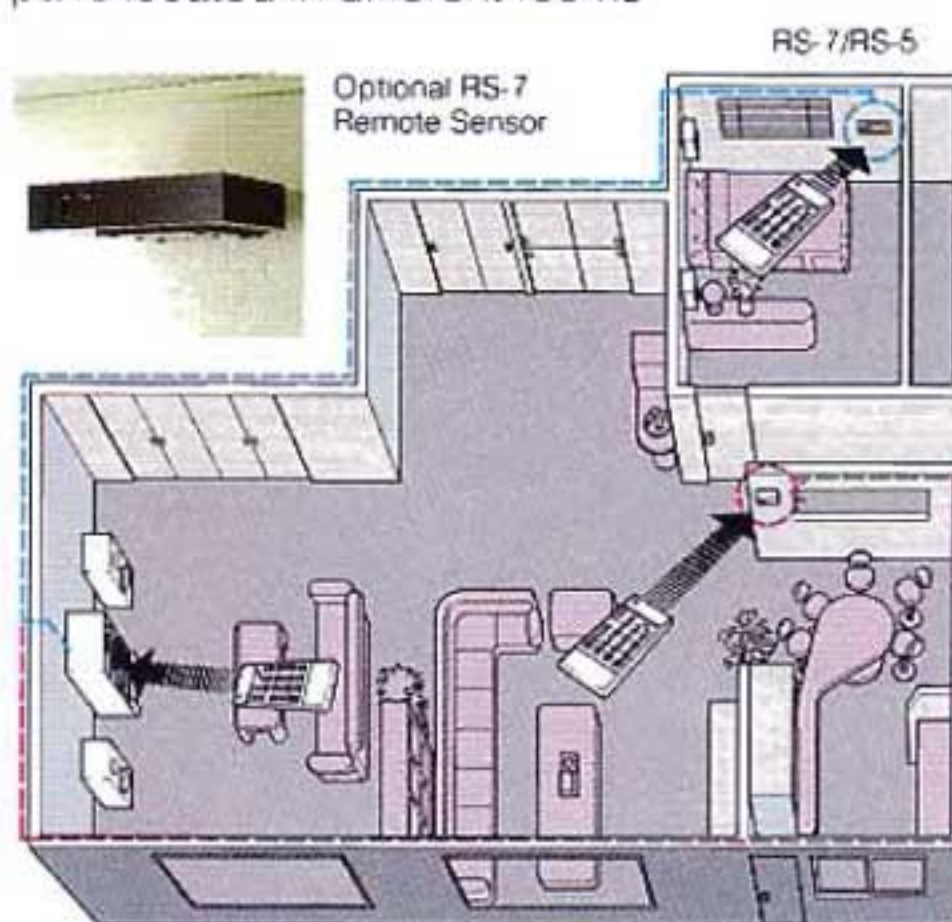


Computer analysis showing the relative time alignment of distortion components to primary signal for four amplifier designs: ① typical early solid-state, ② typical recent solid-state, ③ typical tube, and ④ Nakamichi Harmonic Time Alignment™ amplifier.

System Remote and Multi-Room Remote Control

All three receivers are supplied with Nakamichi's convenient wireless System Remote control units. A single handheld unit enables operation of every major amplifier and tuner function on the receiver, plus the major functions of a compatible Nakamichi cassette deck and CD player. (The RE-1 System Remote control accommodates two cassette decks and a CD player.) To prevent loss of sound quality, remote control of volume is accomplished with a motor-driven high-grade potentiometer rather than an electronic attenuator.

With the RE-1 and RE-2, the use of optional RS-7 or RS-5 remote sensors permits system control from other rooms in the home. Up to three RS-7/RS-5 sensors can be used to provide true multi-room control capability. These receivers also feature remote A/B speaker selection, which can be used for the independent on/off control of two speaker pairs located in different rooms.



RE-1 and RE-2 open a new world of multi-room remote control possibilities.

Additional Advanced Features

- **High-current, low-impedance output stage** assures unrestricted, transparent music reproduction even when driving difficult "real world" speaker loads.
- **Video input/output terminals** with wideband video buffer circuitry enables routing and switching of video signals without degradation of picture quality (RE-1 only).



RE-1 is a true multimedia control center, accommodating a multitude of audio and video system components.

- **Multi-regulated power supply** — with separate power transformer windings for each amplifier stage, tuner section, and display/logic circuitry — eliminates interstage interference.
- **Nakamichi Isolated Ground** topology in the critical low-level stages provides a noise-free grounding reference for each circuit, resulting in superior musical definition and stable stereo imaging.
- **"Nakamichi-Concept" tone controls** let you make subtle corrections at frequency extremes without altering the midrange.
- **Quartz-locked PLL frequency-synthesis** FM front end, **low-noise dual-gate MOSFET RF amplifier**, and a precision **ceramic resonator** multiplex section assure clear, drift- and interference-free FM reception with both high sensitivity and exceptional overload capacity.
- **Tuner output stage isolation buffer** with a floating ground effectively prevents RF noise from contaminating the audio signal (RE-1 and RE-2).
- Full-function wireless Nakamichi **System Remote** control unit supplied.



Accessories

RS-7 Remote Sensor

Table- or shelf-top external remote sensor for use with the RE-1 or RE-2. Permits use of receiver System Remote control unit in other rooms. 10-meter cable supplied.

RS-5 Remote Sensor

Wall-mount remote sensor for use with the RE-1 or RE-2. Permits use of receiver System Remote Control in other rooms. Flush mounts in standard electrical box. (Available in USA and Canada only.)

RSA-1 Remote Sensor Flush Mount Kit

Permits flush-mounting of RS-7 remote sensor in walls or other surfaces.

RSA-2 Remote Sensor Cable

10 meter replacement cable for RS-7 remote sensor. Cream-colored to match decor. (Can also be used with RS-5.)

RSA-3 Remote Sensor Y-Connector

Permits connection of two RS-7/RS-5 remote sensors for multi-room System Remote capability.

RE-1RC Remote Control Unit

Identical to System Remote Control supplied with the RE-1. Allows separate remote control units to be kept in rooms with remote sensors.

RE-2RC Remote Control Unit

Identical to System Remote Control supplied with the RE-2. Allows separate remote control units to be kept in rooms with remote sensors.

RC-4 Remote Signal Converter

Serial-to-parallel converter permits System Remote operation of models DRAGON, CR-7, RX-505, RX-202, and most other vintage Nakamichi cassette decks.

SRC-2 System Remote Connecting Cable

Permits System Remote connection of a second compatible Nakamichi cassette deck to the RE-1.

SRC-3 System Remote Connecting Cable

Permits System Remote connection of Nakamichi 1000, 1000II, 700, and 700II cassette decks. (RC-4 Signal converter also required.)

Feature Comparison

	RE-1	RE-2	RE-3		RE-1	RE-2	RE-3
Harmonic Time Alignment™ amplifier	•	•	•	Pre-out/main-in terminals	•	•	Pre-out only
Output power (at 8 ohms)	80 W+80 W	55 W+55 W	37 W+37 W	Variable loudness control	•	•	
Peak Output Current	18 A	14 A	10 A	"Nakamichi Concept" tone controls	Defeatable	Defeatable	•
Multi-regulated power supply	•	•	•	Large F.L. display	•	•	•
Isolated Ground topology	•	•	•	Audio muting	•	•	
Wideband video buffer amp	•			Remote control speaker A/B selection	•	•	
Quartz locked PLL tuner with 10 presets	•	•	•	Video inputs/outputs	•	•	•
Tuner output stage isolation buffer	•	•	•	Motor-driven volume control	•	•	•
Auto seek/manual tuning	•	•	•	High speed protection circuitry	•	•	•
System Remote control CD player	1	1	1	Large speaker terminals	•	•	
System Remote control Compatible cassette deck	2	1	1	AC outlets	2	2	2
Multi-room control capability	3	3		Tuner signal meter	•	•	
Independent monitor/rec-out selectors	•	•		Wireless System Remote control unit	•	•	•

* The input jacks labeled "VIDEO" on the RE-2 and RE-3 are provided only for the audio signal of A/V components

Specifications

	RE-1	RE-2	RE-3
Power Amplifier Section			
Continuous Sine Wave Power Output	80 watts per channel into 8 ohms, both channels driven, 20-20,000 Hz, with no more than 0.1% THD	55 watts per channel into 8 ohms, both channels driven, 20-20,000 Hz, with no more than 0.1% THD	37 watts per channel into 8 ohms, both channels driven, 20-20,000 Hz, with no more than 0.1% THD
Dynamic Power Output			
into 8 ohms	110 watts per channel	75 watts per channel	55 watts per channel
into 4 ohms	140 watts per channel	95 watts per channel	70 watts per channel
Power Bandwidth	5-40,000 Hz	5-40,000 Hz	10-40,000 Hz
Signal-to-Noise Ratio (A-weight input shorted)			
re rated power	Better than 100 dB	Better than 100 dB	Better than 98 dB
IHF-A-202	Better than 83 dB	Better than 83 dB	Better than 83 dB
Headphone Output (40 ohms)	187 mW	129 mW	86 mW
Peak Current Capability	18 A per channel	14 A per channel	10 A per channel
Preamplifier Section			
Input Sensitivity/Impedance (*for 1 watt output IHF-A-202)			
Phono	0.28 mV/47 k ohms	0.34 mV/47 k ohms	0.41 mV/47 k ohms
CD/Tape/Video	17 mV/20 k ohms	20 mV/20 k ohms	25 mV/20 k ohms
Phono Maximum Input Level (1 kHz)	180 mV	180 mV	150 mV
Total Harmonic Distortion (1 kHz, Phono In to Rec Out at 1 V)	Less than 0.008%	Less than 0.008%	Less than 0.01%
Signal-to-Noise Ratio (Phono In to Spkr Out IHF-A-202)	Better than 78 dB	Better than 78 dB	Better than 78 dB
Subsonic Filter (Phono only)	6 dB/octave below 20 Hz	6 dB/octave below 20 Hz	6 dB/octave below 20 Hz
Tuner Section			
FM			
IHF Usable Sensitivity	11 dBf/1.9 μV	12 dBf/2.2 μV	12 dBf/2.2 μV
50 dB Quietng Sensitivity			
Mono	14.7 dBf/3.0 μV	15.7 dBf/3.3 μV	15.7 dBf/3.3 μV
Stereo	37.5 dBf/4.1 μV	38.5 dBf/4.6 μV	38.5 dBf/4.6 μV
Total Harmonic Distortion (1 kHz)			
Mono	Less than 0.07%	Less than 0.10%	Less than 0.15%
Stereo	Less than 0.07%	Less than 0.10%	Less than 0.20%
Capture Ratio	20 dB	20 dB	20 dB
Alternate Channel Selectivity (±400 kHz)	55 dB	55 dB	55 dB
AM			
Sensitivity	53 dBμm	53 dBμm	53 dBμm
Signal-to-Noise Ratio at 90 dBμm	Better than 52 dB	Better than 52 dB	Better than 52 dB
Total Harmonic Distortion at 90 dBμm	Less than 0.5%	Less than 0.5%	Less than 0.5%
General			
Power Requirement	120-230 or 240 V AC 50/60 Hz (according to country of sale)	120-230 or 240 V AC 50/60 Hz (according to country of sale)	120-230 or 240 V AC 50/60 Hz (according to country of sale)
Power Consumption	390 W max	295 W max	220 W max
Dimensions (WxHxD)	430 x 100 x 370 mm 16-1/5/16 x 3-15/16 x 14 9/16 inches	430 x 100 x 370 mm 16-15/16 x 3-5/16 x 14 9/16 inches	430 x 100 x 275 mm 16-15/16 x 3-15/16 x 10-13/16 inches
Approximate Weight	11.5 kg 25 lb 6 oz	9.0 kg 19 lb 13 oz	6.0 kg 13 lb 4 oz

Specifications are in accordance with IHF-A-202, measured from any high-level input (CD/Tape/Video) to the speaker output, unless otherwise noted.

All RF levels expressed in microvolts (μV) are referenced to a 300-ohm antenna input.

Dimensions do not include protruding parts. Height is the panel height without feet.

Specifications and features are subject to change without notice.

All non-metric weights and measures are approximate.

Harmonic Time Alignment is a trademark of Nakamichi Corporation.

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