

TA-300

Sansui Integrated Tuner Amplifier, *30W/ch RMS, 0.06% THD, Direct-to-Power-Amp Design for Pure Reproduction with Studio-Inspired Component Design

Sansui

Only hi-fi, everything hi-fi.



*© beim Hersteller
Archiv Michael-Otto*

New Look in Receivers? Look Again – It's Sansui's TA-300

What's in a name? If it's a name like Sansui, it's one backed by over thirty years of success in crafting high fidelity components and receivers that deliver pure musical reproduction. And pure hi-fi is all we make, since we are the "Only Hi-Fi, Everything Hi-Fi" company.

But if it's a name for a particular Sansui component, like our new TA-300 *Integrated Tuner Amplifier*, the term "receiver" doesn't quite fit. What you call it, though, is less important than how it actually performs as the heart of your high fidelity system.

In the TA-300, we've concentrated on *strictly* hi-fi performance from the stereo FM/AM tuner section. And we've used a new design to connect the phono equalizer directly to the power amp for still purer sound. Both sections are mounted on a common chassis, designed for free-standing or rack-mounted use, finished in Sansui matte-black to match our studio-inspired mixers, monitors, decks, etc. Both sections benefit from the distinguished Sansui technology developed for our audiophile-oriented AU/TU Series of integrated amps and tuners. From Sansui, where it's *all* hi-fi.

Equalizer-Out Direct to Power Amp-In: Sansui uses a straight signal path for purer musical tonality.

We've achieved pure musical reproduction. How? By routing the signal from the phono equalizer directly to the power amp, and incorporating the tone control circuit in a negative feedback loop within the power amp itself.

Signals from the built-in tuner, or from a connected tape deck or other AUX unit, also go directly to the power amp without the least obstruction.

The Power Supply: Simplicity ends signal-spoiling problems.

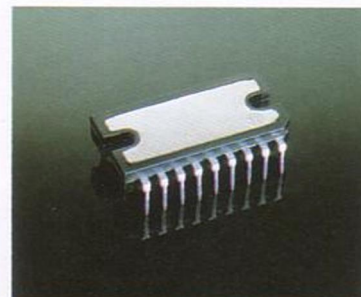
Separate constant-voltage circuits are provided for the phono equalizer (most susceptible of all circuits to external interference) and for the tuner section. The latter supply is in dependable IC form. Overall power supply design aims at shutting out all power-related interference between the power, driver, equalizer and tuner circuits. No circuit ever "starves."

The Power Amp: Low-noise IC and true complementary SEPP design.

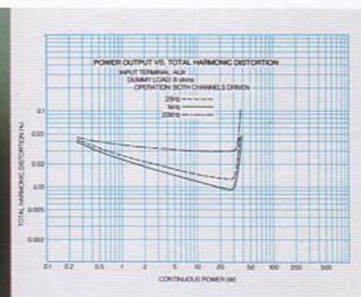
A newly-developed IC forms the power stage of the TA-300's power amplifier. This high-integration circuit is equivalent to a differential input with current mirror, a buffer amp, a SEPP (Single-Ended Push-Pull) amp and a two-stage Darlington-connected output in one.

Featured is a high signal-to-noise ratio in this high-temperature IC. It has immunity to power-line voltage

changes. And the differential input improves the CMRR (Common Mode Rejection Ratio) for better transient response and finer sound quality.



Low-noise IC

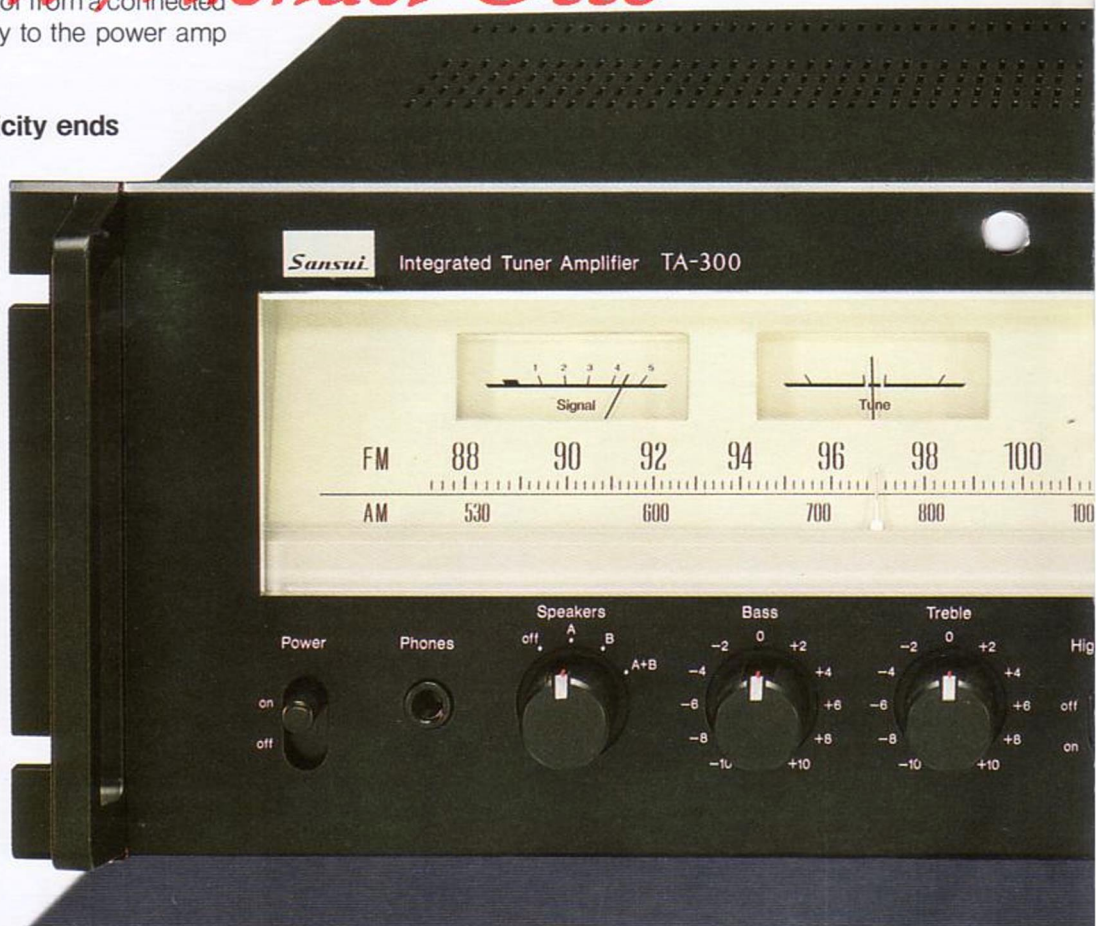


The Phono Equalizer: Discrete parts and anti-clipping design make disc play nearly perfect.

Low-noise NPN and PNP transistors are among the high-quality discrete parts used here. Wide dynamic range is ensured from the high dual-voltage supply. Clipping is avoided and noise lowered: the phono overload is 210mV and the S/N ratio a high 75dB. Precision discrete parts also yield accurate ± 0.5 dB RIAA equalization.

The Tape/AUX Input: Basic is best, but you can dub if you want to.

There's a set of input/output terminals for a stereo tape deck, with full monitoring and recording possible. But it's



also possible to connect a second deck's outputs to the Tape/AUX input terminals for playback. Naturally, you can dub from that deck into the one connected to the Tape In/Out terminals.

The Frills—Few but useful...

- MASTER VOLUME CONTROL(S)—Adjust left-to-right balance and/or overall master volume from this one double-clutched control.
- BASS/TREBLE TONE CONTROLS—Each permit tonal adjustments up to $\pm 10\text{dB}$ (50Hz and 10kHz respectively).
- PHONO SUBSONIC FILTER—Cuts off super-low frequency—below 16Hz with 6dB/oct. caused by record warp.
- LOUDNESS—For natural balance during low-level play.
- HIGH FILTER—Switch cuts hiss and other high-frequency noise.
- SPEAKERS (A, B, A+B, OFF)—Connect two pairs of stereo speaker systems and drive both together, separately or shut both off.
- STEREO HEADPHONES—Jack provided for private listening, always "live."

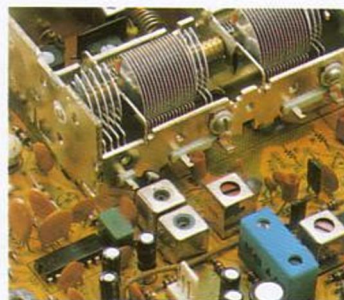
The FM Tuner: Strictly hi-fi from frontend to output.

Sansui TU hi-fi tuners are known for their pure musicality and their ability to get that musicality from the station of your choice under almost any reception conditions. You couldn't ask for more. And that TU tuner technology is shared in the TA-300's FM/AM section thanks to the use of three high-integration/high-performance ICs: one each in the PLL-MPX,

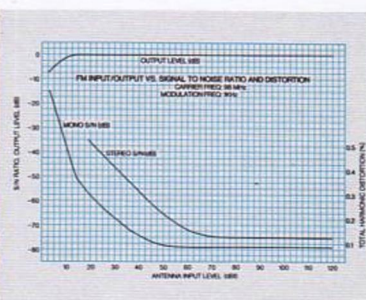
the quadrature detector/discriminator and the IF sections. Together they ensure high 75dB (mono) signal-to-noise ratio performance with low distortion.

A fourth IC, a new hybrid type, is found in the local oscillator to stabilize the oscillated frequency against changes in ambient temperature. Still more stability.

For the rest of the FM frontend, a frequency-linear 3-gang tuning capacitor, coupled with a new FET RF amp, offers dependable station reception, free of interference and never obscured by noise.



Frontend



More About IF: Faint and distant stations, or those too close for comfort, are made more listenable.

FM signals from the frontend go to the IF or intermediate-frequency section. If those signals are too weak, as from distant or low-powered transmitters, they require sufficient amplification (gain). Likewise, if they are too strong, as from very powerful or close-by transmitters, they must be stripped of distortion and noise.

In the IF of the TA-300, a transistor amp and the sophisticated 3-stage limiter/amp in IC form handle these tasks easily. A 4-element linear-phase ceramic filter with superb group-delay response lowers noise and distortion without harming musicality.

Better AM Sound: An exclusive high-integration IC improves AM listening.

We can do nothing to improve AM programming, but we can make AM sound quality more listenable. And we've done so in the TA-300 with a high-integration monolithic IC to handle amplification, limiting, detection, etc. of AM signals more responsibly. The AM IF has an array of selective ceramic filters and LC blocks to remove whine, whistle and boom.

FM Muting and Twin Tuning Meters: Easy, comfortable station selection.

FM Muting ends annoying inter-station noise heard when tuning; the twin tuning meters help you get the station you want with pinpoint accuracy.



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Specifications

AUDIO SECTION

POWER OUTPUT*

Min. RMS, both channels driven, from 20Hz to 20,000Hz, with no more than 0.06% total harmonic distortion

30 watts per channel into 8 ohms

Min. RMS, both channels driven, at 1,000Hz, with no more than 0.06% total harmonic distortion

33 watts per channel into 8 ohms

TOTAL HARMONIC DISTORTION*

OVERALL (from AUX) less than 0.06% at or below rated min.

RMS power output

OVERALL (from AUX) less than 0.01% at 1kHz, 30W power output

INTERMODULATION DISTORTION

(70Hz:7,000Hz=4:1 SMPTE method)

OVERALL (from AUX) less than 0.06% at or below rated min.

RMS power output

40 into 8 ohms

8 ohms

DAMPING FACTOR

LOAD IMPEDANCE*

FREQUENCY RESPONSE

OVERALL (from AUX) 10 to 50,000Hz +1dB, -3dB

RIAA CURVE DEVIATION

+0.5dB, -0.5dB

HUM AND NOISE (IHF)

PHONO 75dB

AUX 95dB

CHANNEL SEPARATION (at 1,000Hz)

PHONO 50dB

AUX 50dB

INPUT SENSITIVITY AND IMPEDANCE (at 1,000Hz)

PHONO 2.5mV, 47k ohms

AUX 150mV, 47k ohms

(PHONO: Max. input capability more than 210mV RMS at 0.5% distortion)

OUTPUT VOLTAGE AND IMPEDANCE (at 1,000Hz)

TAPE REC (PIN) 150mV, 47k ohms

CONTROLS

BASS +10dB, -10dB at 50Hz

TREBLE +10dB, -10dB at 10kHz

LOUDNESS +8dB at 50Hz, +6dB at 10kHz

FILTERS

PHONO SUBSONIC -3dB at 16Hz (6dB/oct.)

HIGH -10dB at 10kHz (6dB/oct.)

FM SECTION

TUNING RANGE

88 to 108MHz

50dB QUIETING SENSITIVITY

MONO 15dBf (3.1μV IHF T-100)

STEREO 38dBf (43.6μV IHF T-100)

SENSITIVITY

MONO (IHF) 10.8dBf (1.9μV IHF T-100)

(DIN) 1.2μV

STEREO 19dBf (4.8μV IHF T-100)

SIGNAL TO NOISE RATIO AT 65dBf

MONO 75dB

STEREO 70dB

FREQUENCY RESPONSE

MONO 30 to 15,000Hz +0.5dB, -1dB

STEREO 30 to 15,000Hz +0.5dB, -1dB

DISTORTION AT 65dBf

MONO

less than 0.18% at 100Hz
less than 0.1% at 1,000Hz
less than 0.25% at 6,000Hz
less than 0.3% at 100Hz
less than 0.15% at 1,000Hz
less than 0.3% at 6,000Hz

STEREO

CAPTURE RATIO

ALTERNATE CHANNEL SELECTIVITY

50dB at 400kHz

SPURIOUS RESPONSE RATIO

70dB at 98MHz

IMAGE RESPONSE RATIO

55dB at 98MHz

IF RESPONSE RATIO

Balanced

90dB at 98MHz

AM SUPPRESSION RATIO

55dB at 98MHz

STEREO SEPARATION

30dB at 100Hz

40dB at 1,000Hz

ANTENNA INPUT IMPEDANCE

300 ohms balanced

75 ohms unbalanced

AM SECTION

TUNING RANGE

530 to 1,600kHz

SENSITIVITY (Bar antenna)

50dB/m (300μV/m)

SELECTIVITY

33dB at 1,000kHz

SIGNAL TO NOISE RATIO

46dB

IMAGE RESPONSE RATIO

50dB at 1,000kHz

IF RESPONSE RATIO

38dB at 1,000kHz

GENERAL

AC OUTLETS

switched max. 100 watts

unswitched total 150 watts

19 Transistors; 7 Diodes; 1 FET; 7 ICs

SEMICONDUCTORS

POWER REQUIREMENTS

POWER VOLTAGE

100, 120, 220, 240V 50/60Hz

POWER CONSUMPTION

110 watts

DIMENSIONS

430mm (16¹/₈")W

160mm (6³/₈")H

399mm (15³/₄")D

(with Rack-mounting Adaptors)

482mm (19")W

160mm (6³/₈")H

410mm (16¹/₈")D

9.2kg (20.3lbs.) Net

WEIGHT

(with Rack-mounting Adaptors)

9.4kg (20.7lbs.) Net

11.2kg (24.7lbs.) Packed

*Power specifications measured pursuant to U.S. Federal Trade Commission trade regulation on power output claims for amplifiers.

The FM performance of this receiver is measured pursuant to the new Institute of High Fidelity standard, IHF-T-200, except specifications with the legend IHF-T-100.

For European models, some specifications might change to comply with local safety regulations and standards.

Design and specifications subject to change without notice for improvements.



A Final Word:

Studio-inspired styling makes your system neater, more accessible.

We've already mentioned the unique component-style design of the TA-300 and why we call it not a receiver but *Integrated Tuner Amplifier*. One of the benefits is its EIA-standard chassis design, permitting you to mount it in an audio rack for better accessibility with Sansui's distinctive matte-black components. Brackets are included—sized to fit the standard professional-type 19"-wide format.

- GX-5** Custom-Made Audio Rack
- FA-7** Compatible FM/AM Antenna System
- MS-1** Multi-Purpose Mic Boom Stand with Arm for Stereo Pairing
- SS-80** Stereo Headphones
- DM-11** Unidirectional Dynamic Microphone
- AX-7** "Audio Console" Home Disco Mixer/Control Amplifier
- SC-1110** Direct-O-Matic Stereo Cassette Deck
- SR-838** Quartz-Servo Direct-Drive Turntable
- RX-100** Audio Accessories Case



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