

# SANSUI'S PROFESSIONAL AU/TU SERIES

Our Finest AU/TU Stereo  
Integrated Amplifiers and FM/AM Tuner  
AU-20000/AU-11000/AU-9900  
TU-9900



*Sansui*



# AU20000



Sansui's AU/TU Series of stereo integrated amplifiers and stereo FM/AM tuners has received the highest praise, and has gathered the most devoted following of audiophiles, of any series of high fidelity components we have ever manufactured. Since its introduction more than a decade ago, the series has always represented not only the latest and most advanced technical developments and applications in the industry but also the finest in user-oriented conveniences and design innovations.

In this brochure we are proud to introduce the latest in the Sansui AU/TU Series. They are the most powerful, most accurate, most dependable stereo components yet to join the series, and they represent at the very highest professional level the famed Sansui tonal quality standards in every respect.

## INTEGRATED STEREO AMPLIFIER

### HIGH-OUTPUT, LOW-DISTORTION CIRCUITRY

The AU-20000 is the most powerful integrated amplifier in Sansui's distinguished AU Series. Its constant and reliable power output is a continuous 170 watts, min. RMS, per channel, both channels driven into 8 ohms, over a 20 Hz to 20kHz bandwidth with no more than 0.05% total harmonic distortion.

### POWERFUL TRIPLE PUSH-PULL OUTPUT CIRCUIT DESIGN

No less than six hand-selected power transistors are used in each output channel. The triple push-pull circuitry here is guaranteed to deliver its rated output at the lowest possible distortion—power to spare, always.

### DEPENDABLE POWER SUPPLY

Particularly close attention is paid to the power supply design to ensure dependability and stability. The circuit is the plus-minus symmetrical voltage type, coupling a low-magnetic-leakage toroidal transformer with extra large capacitors.

### DUAL-AMPLIFIER PHONO EQUALIZER WITH LOW-NOISE TRANSISTORS

Dynamic response is improved by the 8-transistor equalizer with differential amplifiers at its initial stages. Distortion is totally minimized, and the dual amplifier design—a CR type for highs and a NF type for lows—achieves very accurate RIAA equalization.

### TRIPLE TONE CONTROLS

The AU-20000 features Sansui's exclusive Triple Tone Control design, controlled by a CR type circuit. A wide dynamic range and excellent transient response are assured by the use of a plus-

minus voltage supply.

### COMPLETE TRIPLE PROTECTION CIRCUITS

Damage and breakdowns are avoided entirely with the use of a temperature sensing circuit, a DC voltage detection circuit and an ASO (Area of Safety Operation) detection circuit. Shorts in speaker terminals or leads, or power/temperature emergencies instantly activate these circuits for complete protection.

### SELECTABLE PHONO SENSITIVITY/IMPEDANCE

The phono input circuitry in the AU-20000 incorporates two special selectors, each with three positions, to allow the selection of the correct sensitivity and impedance to obtain optimum results with any cartridge in use.

### VERSATILE TAPE MONITOR CIRCUIT

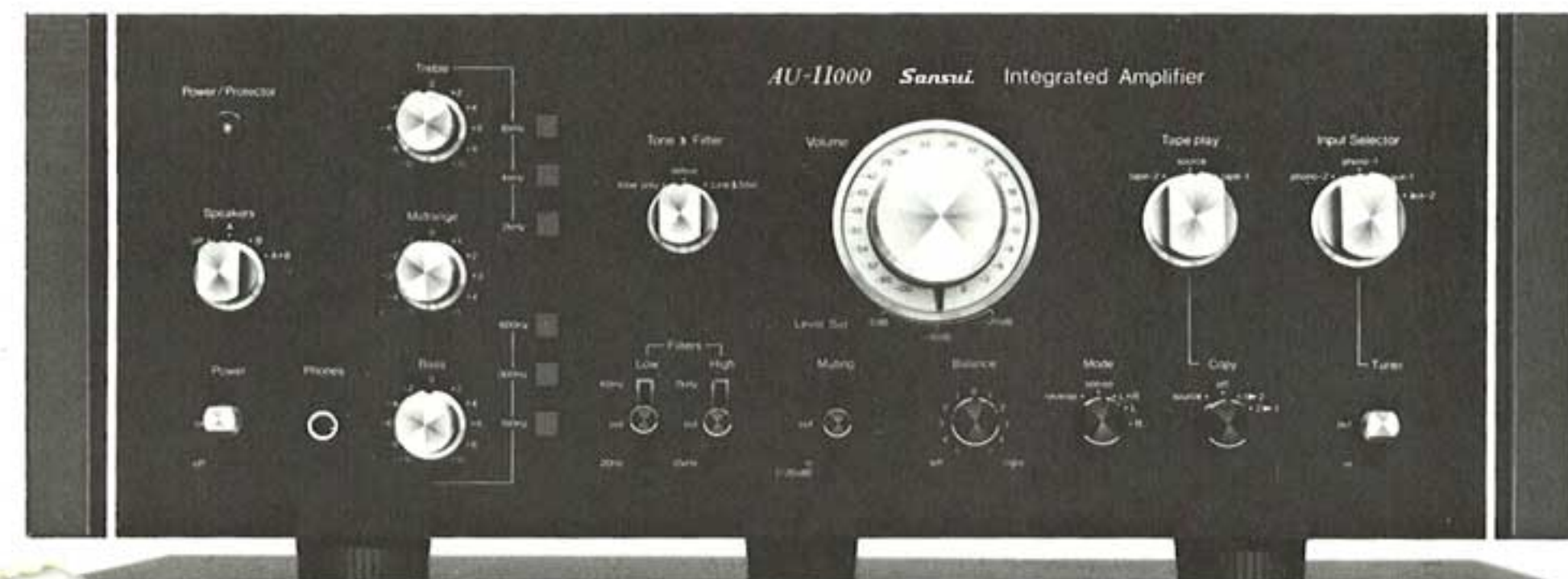
The AU-20000 accepts up to three stereo tape decks and provides individual monitoring and deck-to-deck dubbing for each. It also permits source monitoring during the dubbing process.

### OTHER USER-ORIENTED FEATURES

Provided are: Tone Defeat Switch; 3-Step Audio Muting Switch; 2-Step Low/High Filters; Mode Switch; Meter Sensitivity Switch, and Large, Self-Illuminated Level Meters.



# AU11000



## INTEGRATED STEREO AMPLIFIER

### DEPENDABLE HIGH-POWER OUTPUT

The output stage of the AU-11000 features a parallel push-pull circuit design to ensure reliable high-power performance with very low distortion. The output is a continuous 110 watts, min. RMS, per channel, both channels driven into 8 ohms, over a 20Hz to 20kHz bandwidth with no more than 0.08% total harmonic distortion. This means you enjoy the fullest dynamic range possible for accurate and faithful reproduction of all sound sources.

### POWER SOURCE STABILIZATION

The plus-minus voltage power supply in the AU-11000 provides constant stabilization. The circuit combines a toroidal transformer having very low magnetic flux leakage and a high efficiency with extra large capacitors.

### IMPROVED PHASE CHARACTERISTICS IN PHONO EQUALIZER

A differential amplifier is used in the first stage of the dual-amplifier phono equalizer. The equalizer amplifier for the highs is of the CR type and the other for the lows is the NF type to obtain very accurate equalization with low distortion.

### SANSUI-EXCLUSIVE TRIPLE TONE CONTROL

An NF type circuit with 12 transistors is found in the control section of this sensitive and accurate tone control stage. Its initial stage uses a differential amplifier. The popular Sansui-exclusive Triple Tone Control offers precise tonal adjustment in three ranges, BASS, MID-RANGE and TREBLE, and separately adjustable switches are provided to se-

lect the turnover frequency for BASS (600Hz, 300Hz or 150Hz) and TREBLE (8kHz, 4kHz or 2kHz). A Tone Defeat Switch is also provided.

### QUADRUPLE PROTECTION CIRCUITS

Shorts in speaker leads, temperature changes or fluctuations in AC line supply pose no danger to the AU-11000 or connected speakers, thanks to the use of a four-part protection circuit. This includes (1) a temperature sensing circuit, (2) a DC voltage detection circuit, (3) an ASO (Area of Safety Operation) detection circuit, and (4) an overload detection circuit.

### SELECTABLE PHONO SENSITIVITY/IMPEDANCE

Phono input circuits can be adjusted to accept and provide optimum performance results from virtually any phono cartridge you choose. The phono circuit has two 3-position selector switches, one for impedance and the other for sensitivity.

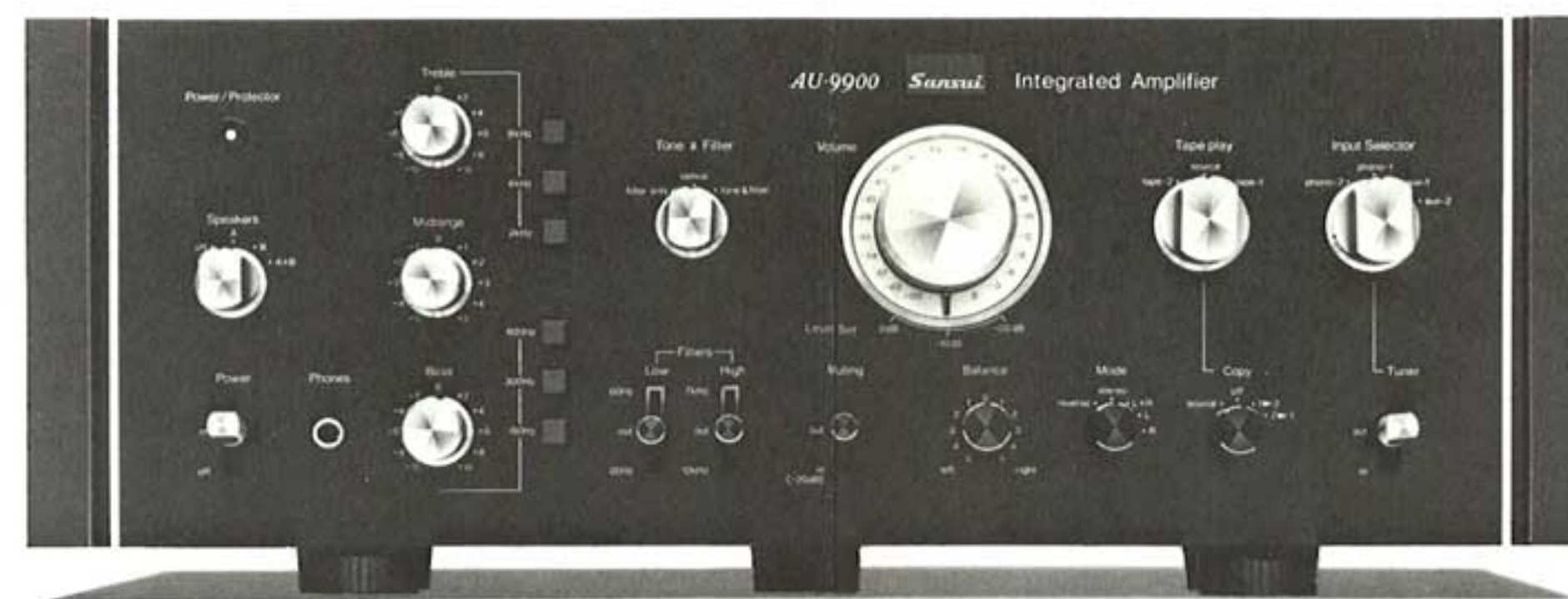
### TWO-STEPPED LOW/HIGH FILTERS

The Low Filter has selectable positions for 12dB/oct at 20Hz or 60Hz; the High Filter has selectable positions for 6dB/oct. at 7kHz and 12dB/oct. at 12kHz.

### OTHER CONVENIENT FEATURES

The AU-11000 provides input/output facilities for up to two stereo tape decks, with full monitoring and deck-to-deck dubbing. Also featured is a quick-access Tuner Selector, a Mode Switch, a Level Selector (with positions 0dB/-10dB/-20dB) and an Audio Muting Switch.

# AU9900



## INTEGRATED STEREO AMPLIFIER

### PARALLEL PUSH-PULL POWER OUTPUT SECTION

The power amplifier section of this robust stereo component features a differential amplifier and a 3-stage Darlington system designed in the parallel push-pull format. The results include a continuous power output of 80 watts, min. RMS, per channel, both channels driven into 8 ohms, over a 20Hz to 20kHz bandwidth with no more than 0.08% total harmonic distortion.

### STABILIZED, WELL-REGULATED POWER SOURCE

The power supply section is one of the most stable and dependable ever developed, providing plus-minus symmetrical voltages to all circuits as needed. Oversized power capacitors help provide extra stability, while the use of an advanced toroidal transformer further assures better power regulation and exceptionally low induced hum.

### EXCELLENT RIAA EQUALIZATION

The phono equalizer consists of two amplifying sections each with a differential amplifier. High frequency roll-off is made by the CR type circuit and low frequency turn-over is made by the NF type circuit, most accurately and with very low distortion.

### EFFECTIVE TRIPLE TONE CONTROL

Sansui's popular Triple Tone Control circuit is featured in the AU-9900 to provide the best, most flexible tonal adjustment control yet developed. Twelve transistors are used in the circuit, itself built around an initial stage using a differential amplifier. The individual controls for BASS, MIDRANGE and TREBLE

are made still more convenient by the selectable turnover switches for BASS (600Hz, 300Hz or 150Hz) and TREBLE (8kHz, 4kHz or 2kHz).

### QUADRUPLE PROTECTION CIRCUITS

Changes in temperature, line voltage supply or shorts in speaker leads or terminals are instantly detected and can cause no damage to the power transistors or connected speakers thanks to the use of four separate protection circuits. These are: (1) a temperature sensing circuit, (2) a DC voltage detection circuit, (3) an ASO (Area of Safety Operation) circuit, and (4) an overload detection circuit.

### TONE DEFEAT SWITCH

Like the AU-20000 and AU-11000, this integrated amplifier provides the convenience of being able to cancel all tone control adjustments instantly with a Tone Defeat Switch.

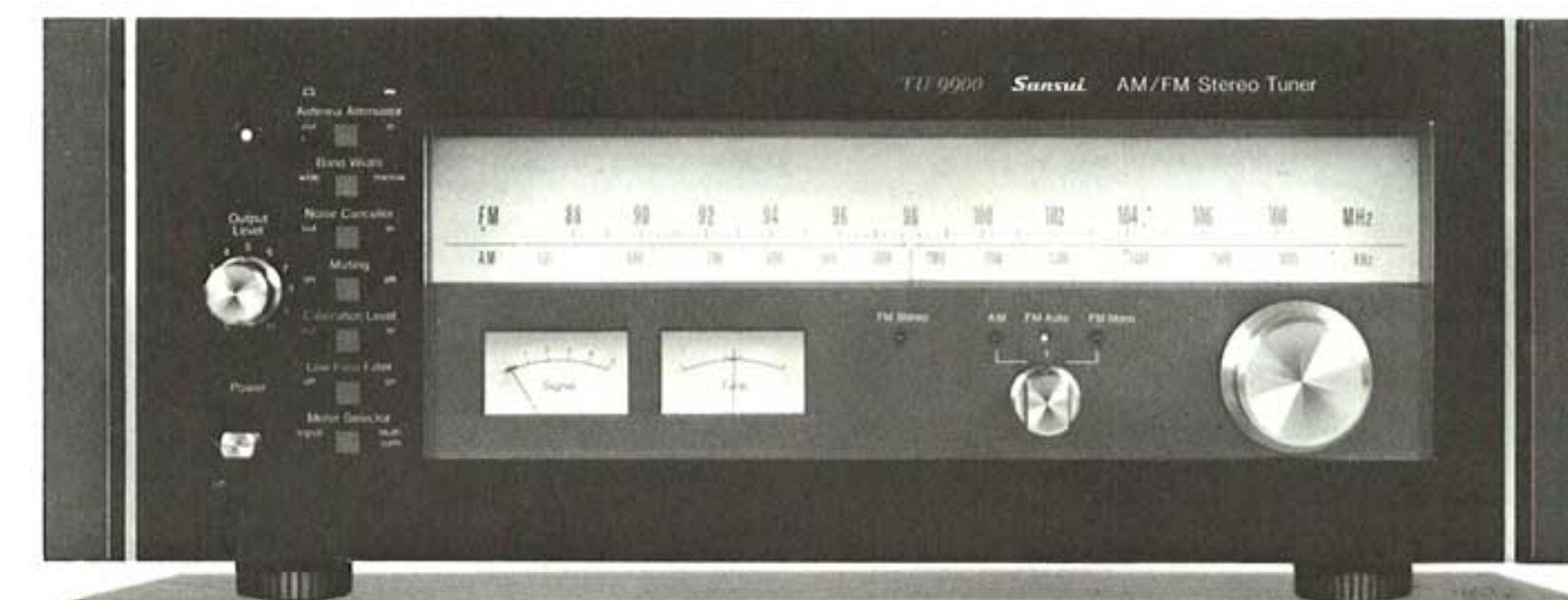
### TWO-STEPPED LOW/HIGH FILTERS

The Low Filter has positions for 12 dB/oct. attenuation at 20Hz or 60Hz; the High Filter is selectable for 6dB/oct cutoff at 7kHz or 12dB/oct. cutoff at 12 kHz.

### OTHER VALUABLE FEATURES

The AU-9900 provides every convenience needed for professional and semi-professional use. Included are a hand-trimmed precision volume control, input/output terminals for up to two stereo decks, with full monitoring and deck-to-deck dubbing, a quick-access Tuner Switch, Mode Switch, Level Selector (0dB/-10dB/-20dB) and an Audio Muting Switch.

# TU9900



## FM/AM STEREO TUNER

### DEPENDABLE PLUS-MINUS POWER SUPPLY

Musical reproduction from broadcast sources depends heavily on correct and accurate power supply circuitry. The TU-9900—finest of the Sansui TU Series—incorporates an elaborate feedback type stabilized power supply section for this very reason. It is of the plus-minus dual supply type to guarantee ideal circuit performance at all times.

### SUPERLOW DISTORTION, 0.06%

A wide-band ratio detector and a PLL (Phase-Locked Loop) circuit in the FM multiplex demodulator are employed for lower phase deviation. The TU-9900 thus boasts a very low distortion figure of 0.06% (mono) and 0.08% (stereo) in FM operation to bring its performance up to the quality required by the very best amplifier components.

### SELECTABLE FM IF BANDWIDTH

To enhance both the tonal quality and the reception ability of the TU-9900, Sansui has provided a switch to select either a WIDE or NARROW FM IF bandwidth. In the former, two 6-pole LC block filters are put on line to improve the sound quality; in the latter, a narrow-band ceramic filter is added for more effective rejection of adjacent signals.

### AUTOMATIC NOISE CANCELLER

When receiving weak (or remote) stations, this circuit automatically blends the left and right signals in optimum proportion to the strength of an incoming broadcast to deliver the same noise-free reception of any station regardless of its strength.

### HIGH-PERFORMANCE FM FRONTEND

The TU-9900 features a sensitivity

of 1.5 $\mu$ V (IHF) thanks to its linear-frequency 5-gang variable capacitor and the three dual-gated MOS FETs and a transistor employed in the high-performance FM frontend.

### QUALITY AM RECEPTION

AM broadcasts are received cleanly and quietly with the lowest noise or interference possible thanks to the use of a double-tuned circuit and a dual-element, dual-coil ceramic filter in the AM section.

### POSITIVE ACTION TUNING

The feel and accuracy of the special tuning mechanism in the TU-9900 will be appreciated for years of hard and frequent use. It features an oversized tuning knob a special tension mechanism, and a heavyweight, high-inertia sintered iron flywheel.

### SPECIAL FEATURES FOR TAPE RECORDING

Tape buffs will appreciate these three special features:

(1) A built-in recording test signal generator is provided to facilitate pre-recording calibration of optimum recording levels.

(2) A low-pass filter is included to prevent the carrier frequencies of FM broadcasts from interacting with the bias frequencies of decks in use, thus avoiding the annoying "beat" noise otherwise heard. The filter can be defeated by a front panel switch when not recording.

### OTHER IMPORTANT FEATURES

The TU-9900 has an FM Antenna Attenuator Switch to cut down the strength of excessive incoming signals, a Multi-Path Detection circuit to help align antennas, highly accurate Twin Tuning Meters, FM MUTING SWITCH, DOLBY FM output terminals, and an Output Level Control.



# SPECIFICATIONS

## AU-20000

### POWER OUTPUT\*

Min. RMS, both channels driven, from 20 to 20,000Hz, with no more than 0.05% total harmonic distortion

170 watts per channel into 4 and 8 ohms  
85 watts per channel into 16 ohms

### LOAD IMPEDANCE\* 4, 8 and 16 ohms

**POWER BANDWIDTH\*** 20 to 20,000Hz at or below rated min. RMS power output and total harmonic distortion

### TOTAL HARMONIC DISTORTION\*

less than 0.05% at or below rated min. RMS power output and total harmonic distortion

### INTERMODULATION DISTORTION

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

OVERALL (from AUX) less than 0.05% at rated RMS power output

### RIAA CURVE DEVIATION (PHONO)

+0.2dB, -0.2dB (30 to 15,000Hz)

### CHANNEL SEPARATION (at rated output 1,000Hz)

PHONO 1 better than 55dB

PHONO 2 better than 55dB

TUNER better than 60dB

AUX better than 60dB

POWER AMPLIFIER better than 100dB

TAPE MONITOR better than 60dB

### HUM AND NOISE (IHF)

PHONO 1 better than 70dB

PHONO 2 better than 70dB

TUNER better than 80dB

AUX better than 80dB

POWER AMPLIFIER better than 100dB

TAPE MONITOR better than 80dB

### INPUT SENSITIVITY AND IMPEDANCE

(1,000Hz, for rated output)

PHONO 1 1.5mV, 3mV, 6mV,

30k ohms, 50k ohms, 100k ohms

PHONO 2 1.5mV, 3mV, 6mV 50k ohms

MAX. INPUT CAPABILITY

more than 350mV RMS at 0.05% distortion

TUNER 130mV 50k ohms

AUX 130mV 50k ohms

TAPE PLAYBACK-1 130mV (PIN)

TAPE PLAYBACK-2 130mV (PIN), 130mV (DIN)

TAPE PLAYBACK-3 130mV (PIN)

### RECORDING OUTPUT

TAPE 1 130mV (PIN)

TAPE 2 130mV (PIN), 30mV (DIN)

TAPE 3 130mV (PIN)

### CONTROLS

BASS +10dB, -10dB at 30Hz

MIDRANGE +5dB, -5dB at 1,500Hz

TREBLE +10dB, -10dB at 20,000Hz

### FILTERS

LOW -3dB at 20Hz (12dB/oct)

-3dB at 40Hz (12dB/oct)

HIGH -3dB at 7kHz (6dB/oct)

-3dB at 12kHz (12dB/oct)

### MUTING

0dB, -10dB, -30dB

### POWER REQUIREMENTS

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

### DIMENSIONS

460mm (18 1/8") W

178mm (7") H

400mm (15 3/4") D

### WEIGHT

22.6 kg (49.8 lbs) Net

25.4 kg (56.0 lbs) Packed

## AU-11000

### POWER OUTPUT\*

Min. RMS, both channels driven, from 20 to 20,000Hz, with no more than 0.08% total harmonic distortion

110 watts per channel into 4 and 8 ohms

### LOAD IMPEDANCE\* 4 and 8 ohms

**POWER BANDWIDTH\*** 20 to 20,000Hz at or below rated min. RMS power output and total harmonic distortion

### TOTAL HARMONIC DISTORTION\*

OVERALL (from AUX) less than 0.08% at or below rated min. RMS power output and total harmonic distortion

### INTERMODULATION DISTORTION

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

OVERALL (from AUX) less than 0.08% at rated RMS power output

### FREQUENCY RESPONSE (at 1 watt)

OVERALL (AUX to power output)  
10 to 50,000Hz +0dB, -1dB

### RIAA CURVE DEVIATION (PHONO)

+0.3dB, -0.3dB (30 to 15,000Hz)

### CHANNEL SEPARATION (at rated output 1,000Hz)

PHONO 1 better than 55dB

PHONO 2 better than 55dB

TUNER better than 60dB

AUX 1, 2 better than 60dB

POWER AMPLIFIER better than 70dB

TAPE MONITOR better than 60dB

### HUM AND NOISE (IHF)

PHONO 1 better than 65dB

PHONO 2 better than 65dB

TUNER better than 80dB

AUX 1, 2 better than 80dB

POWER AMPLIFIER better than 100dB

TAPE MONITOR better than 80dB

### INPUT SENSITIVITY AND IMPEDANCE

(1,000Hz, for rated output)

PHONO 1 2mV, 4mV, 8mV

30k ohms, 50k ohms, 100k ohms

PHONO 2 2mV 50k ohms

MAX. INPUT CAPABILITY

more than 300mV RMS at 0.1% distortion

AUX 1, 2 130mV 50k ohms

TAPE PLAYBACK 1 130mV (PIN)

TAPE PLAYBACK 2 130mV (PIN), 130mV (DIN)

TUNER 130mV 50k ohms

### RECORDING OUTPUT

TAPE 1 130mV (PIN)

TAPE 2 130mV (PIN), 30mV (DIN)

### CONTROLS

BASS +10dB, -10dB at 30Hz

MIDRANGE +5dB, -5dB at 1,500Hz

TREBLE +10dB, -10dB at 20,000Hz

### TONE SELECTORS

BASS 150Hz, 300Hz, 600Hz

TREBLE 2kHz, 4kHz, 8kHz

### FILTERS

LOW -3dB at 20Hz (12dB/oct)

-3dB at 60Hz (12dB/oct)

HIGH -3dB at 7kHz (6dB/oct)

-3dB at 12kHz (12dB/oct)

### MUTING

0dB, -20dB

### LEVEL SET

0dB, +10dB, -20dB

### POWER REQUIREMENTS

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

POWER CONSUMPTION

RATED 240 watts

### DIMENSIONS

460 mm (18 1/8") W

160 mm (6 5/16") H

375mm (14 9/16") D

### WEIGHT

19.3 kg (42.5 lbs) Net

21.6 kg (47.6 lbs) Packed

## AU-9900

### POWER OUTPUT\*

Min. RMS, both channels driven, from 20 to 20,000Hz, with no more than 0.08% total harmonic distortion

80 watts per channel into 4 and 8 ohms

### LOAD IMPEDANCE\* 4 and 8 ohms

**POWER BANDWIDTH\*** 20 to 20,000Hz at or below rated min. RMS power output and total harmonic distortion

### TOTAL HARMONIC DISTORTION\*

OVERALL (from AUX) less than 0.08% at or below rated min. RMS power output and total harmonic distortion

### INTERMODULATION DISTORTION

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

OVERALL (from AUX) less than 0.08% at rated RMS power output

### FREQUENCY RESPONSE (at 1 watt)

OVERALL (AUX to power output)  
10 to 50,000Hz +0dB, -1dB

### RIAA CURVE DEVIATION (PHONO)

+0.3dB, -0.3dB (30 to 15,000Hz)

### CHANNEL SEPARATION (at rated output 1,000Hz)

PHONO 1 better than 55dB

PHONO 2 better than 55dB

TUNER better than 60dB

AUX 1, 2 better than 60dB

POWER AMPLIFIER better than 70dB

TAPE MONITOR better than 60dB

### HUM AND NOISE (IHF)

PHONO 1 better than 65dB

PHONO 2 better than 65dB

TUNER better than 80dB

AUX 1, 2 better than 80dB

POWER AMPLIFIER better than 100dB

TAPE MONITOR better than 80dB

### INPUT SENSITIVITY AND IMPEDANCE

(1,000Hz, for rated output)

PHONO 1 2mV, 4mV, 8mV

30k ohms, 50k ohms, 100k ohms

PHONO 2 2mV 50k ohms

MAX. INPUT CAPABILITY

more than 300mV RMS 0.1% distortion

TUNER 130mV 50k ohms

AUX 1, 2 130mV 50k ohms

TAPE PLAY BACK 1 130mV (PIN)

TAPE PLAY BACK 2 130mV (PIN), 130mV (DIN)

### RECORDING OUTPUT

TAPE 1 130mV (PIN)

TAPE 2 130mV (PIN), 30mV (DIN)

### CONTROLS

BASS +10dB, -10dB at 30dB

MIDRANGE +5dB, -5dB at 1,500Hz

TREBLE +10dB, -10dB at 20,000Hz

### TONE SELECTORS

BASS 150Hz, 300Hz, 600Hz

TREBLE 2kHz, 4kHz, 8kHz

### FILTERS

LOW -3dB at 20Hz (12dB/oct)

-3dB at 60Hz (12dB/oct)

HIGH -3dB at 7kHz (6dB/oct)

-3dB at 12kHz (12dB/oct)

### MUTING

0dB, -20dB

### LEVEL SET

0dB, -10dB, -20dB

### POWER REQUIREMENTS

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

POWER CONSUMPTION

RATED 180 watts

### DIMENSIONS

460 mm (18 1/8") W

160 mm (6 5/16") H

375 mm (14 9/16") D

### WEIGHT

18.0 kg (39.7 lbs) Net

20.3 kg (44.8 lbs) Packed

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



# SPECIFICATIONS

## TU-9900

### FM SECTION

**TUNING RANGE** 88 to 108MHz

**SENSITIVITY (IHF)** 1.5 $\mu$ V  
(DIN) 0.9 $\mu$ V (1kHz, Mod. 30%, S/N 26dB)

**MAX. INPUT CAPABILITY** more than 130dB

### QUIETING SLOPE

**MONO WIDE** 37dB 1.5 $\mu$ V, 51dB 3 $\mu$ V

**NARROW** 37dB 1.5 $\mu$ V, 51dB 3 $\mu$ V

**STEREO WIDE** 39dB 10 $\mu$ V, 53dB 50 $\mu$ V

**NARROW** 40dB 10 $\mu$ V, 54dB 50 $\mu$ V

### TOTAL HARMONIC DISTORTION

**MONO WIDE** less than 0.06% (at 1,000Hz)

less than 0.06% (at 50Hz)

less than 0.08% (at 10,000Hz)

**NARROW** less than 0.5% (at 1,000Hz)

less than 0.5% (at 50Hz)

less than 0.8% (at 10,000Hz)

**STEREO WIDE** less than 0.08% (at 1,000Hz)

less than 0.1% (at 50Hz)

less than 0.15% (at 10,000Hz)

**NARROW** less than 0.8% (at 1,000Hz)

less than 0.8% (at 50Hz)

less than 1.2% (at 10,000Hz)

### SIGNAL TO NOISE RATIO

**MONO** better than 80dB

**STEREO** better than 76dB

### SELECTIVITY

**WIDE** better than 55dB (at 400kHz)

better than 22dB (at 300kHz)

better than 5dB (at 200kHz)

**NARROW** better than 90dB (at 400kHz)

better than 60dB (at 300kHz)

better than 20dB (at 200kHz)

### CAPTURE RATIO

**WIDE** less than 1.0dB

**NARROW** less than 3.0dB

### AM SUPPRESSION

better than 58dB

### IMAGE FREQUENCY REJECTION

better than 100dB at 98MHz

### IF REJECTION

better than 110dB at 98MHz

### SPURIOUS RESPONSE REJECTION

better than 110dB at 98MHz

### SPURIOUS RADIATION

less than 34dB

### STEREO SEPARATION

better than 50dB at 1,000Hz

(30dB at narrow)

better than 40dB at 50Hz

(30dB at narrow)

better than 40dB at 10kHz

(30dB at narrow)

### FREQUENCY RESPONSE

30 to 15,000Hz +0.5dB, -0.8dB

### ANTENNA IMPEDANCE

300 ohms balanced

75 ohms unbalanced

### FM ANTENNA ATTENUATOR

-30dB

### AM SECTION

**TUNING RANGE** 535 to 1,605kHz

**SENSITIVITY (BAR ANTENNA)**

45dB/m at 1,000kHz

**SELECTIVITY ( $\pm$ 10kHz)**

better than 70dB at 1,000kHz

### IMAGE REJECTION

better than 100dB/m at 1,000kHz

**IF REJECTION** better than 100dB/m at 1,000kHz

### TOTAL HARMONIC DISTORTION

less than 1% at 80% Mod.

100dB/m

### SEMICONDUCTORS

39 Transistors, 3 FETs, 7 ICs

39 Diodes, 1 Zener Diode, 5 LEDs

### POWER REQUIREMENTS

**POWER VOLTAGE** 100, 120, 220, 240V 50/60Hz

**POWER CONSUMPTION**

**RATED** 20 watts

### DIMENSIONS

460mm (18 $\frac{1}{8}$ " W)

160mm (6 $\frac{3}{8}$ " H)

310mm (12 $\frac{1}{4}$ " D)

### WEIGHT

9.6kg (21.2 lbs) Net

11.3kg (24.9 lbs) Packed

Design and specifications subject to change without notice for improvements.