SANSUI AU666

SANSUI TU666

SOLID STATE INTEGRATED AMPLIFIER Perhaps as complete and advanced a control amplifier as has ever been marketed in the medium-to-high power range. A product of Sansui's never-ending search for the ultimate in sound reproduction, the new 100 watt AU-666 incorporates an ideal design circuit rarely before found in any control amplifier, enabling the unit to deliver high fidelity sound with exceptional tone quality. Direct-coupled, fully complementary power amplifier section and the almost complete elimination of electrolytic capacitors as coupling capacitors explain the great success of this new unit. In addition, the AU-666 features triple tone control circuits for better bass, midrange and treble control. The power bandwidth is a wide 10 to 40,000Hz, and distortion never exceeds a low 0.5%. The ample 100 watts in power translates into continuous power of 45/45 watts at 4Ω. The preamplifier section's frequency response is 20 to 40,000Hz+0.5dB, −1.5dB, and distortion is less than 0.1%. Separately usable pre- and main amplifier sections, the ability to power two sets of speaker systems at once, and to fit into an electronic crossover stereo system are other big pluses. Housed in a rich walnut cabinet, the AU-666 has all that it takes in design, engineering and performance, to provide stereo enthusiasts with years of great stereo listening.

AM/FM SOLID STATE STEREO TUNER If you're now giving serious consideration to a separate stereo tuner, there are a few basic things to bear in mind. Things that are all-important in determining just how effective a tuner can be. Signal-to-noise ratios, for example, and low distortion factors. These overriding considerations formed the basis for the whole development program which led to the production of the new Sansui TU-666. This FET-equipped tuner meets all the rigid specifications, its designers had targeted. For instance, its selectivity figure is better than 45dB, the signal-to-noise ratio is better than 65dB, and Total Harmonic Distortion is reduced below 0.8%, factors which make it ideal for use in FM clogged large metropolitan areas. But Sansui engineers went a bit beyond that. They took those performance characteristics which cannot be really defined as specifications, but which do substantially affect the quality of reception, and sought to improve on them. The TU-666 is eloquent testimony to their success. Designed especially to bring out the best in the new AU-666 Control Amplifier, the TU-666 nonetheless can contribute significantly to any quality stereo system.

Sansui

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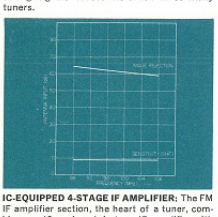
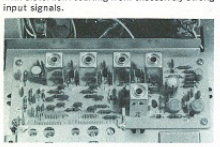
TU-666

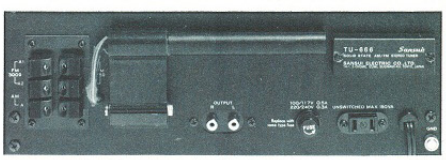
LATEST FET FM FRONTEND: Combining Field Effect Transistors and a frequency-linear type 3-gang tuning capacitor, the TU-666's FM frontend achieves greatly improved intermodulation, image and signal-to-noise ratios. With an excellent 2.5μV (IHF) sensitivity figure, it provides stable hi-fi reception of FM stereo broadcasts not only in fringe, weak-signal areas, but in large urban areas where a proliferation of excessively strong signals causes distortion in so many tuners.



IC-EQUIPPED 4-STAGE IF AMPLIFIER: The FM IF amplifier section, the heart of a tuner, combines an IC-equipped 4-stage IF amplifier with a 3-stage limiter to achieve ideal IF characteristics. These include a greatly improved selectivity figure of better than 45dB and a capture ratio of 3dB, as well as substantially better distortion, separation and phase characteristics in FM stereo reception. In addition, a built-in AGC (Automatic Gain Control) circuit, with the aid of the FM local distant antenna switch, does away with distortion resulting from excessively strong input signals.



PINPOINT TUNING CIRCUIT: An especially wide-band has been provided for the TU-666's IF amplifier to further reduce distortion. This in turn necessitated the adoption of an especially precise tuning circuit. In the TU-666 this pinpoint tuning device is equipped with a large easy-to-read signal strength meter, plus specialized amplifiers for the meter and FM muting circuit.



FM LINAER SCALE ON ROUND DIAL: Adoption of a frequency-linear type 3-gang tuning capacitor has permitted the utilization of a linear scale for the FM band, which is in the sophisticated round tuning dial of the TU-666. The illumination dial has a smoked acrylic panel.

AUTOMATIC FM STEREO/MONO SWITCHING: With the Selector switch set to FM AUTO, a built-in electronic switch is automatically activated to pick up stereo broadcasting as it is aired on the selected station. And of course, an indicator lamp lights up whenever a stereo broadcast is received.

IMPROVED LC LEAK FILTER: The TU-666 utilizes an LC leak filter with a far sharper cut-off characteristic than a conventional CR filter to combat the leakage of pilot and sub-carrier signals during FM stereo reception. The new filter has drastically reduced beat interference and intermodulation distortion and makes for much smoother hi-fi reception.

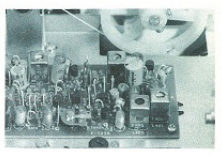
FM MPX NOISE CANCELER: The TU-666 incorporates a new noise canceler which effectively accomplishes its task without cutting important treble tone, something that conventional high cut filters are prone to do. So that now, sound over 10kHz is reproduced without noise, permitting undiminished enjoyment of the beautiful treble so unique to FM broadcasts.

300Ω AND 75Ω ANTENNA INPUTS: The TU-666 is not only equipped with the regular 300Ω balanced antenna input terminal, but also the 75Ω unbalanced terminal for connecting a coaxial cable, so effective for long-distance reception and in noise-filled areas.

FM MUTING SWITCH: A feature not found in many comparably priced this control eliminates the noise commonly heard between FM stations during the tuning process.

CERAMIC FILTER IN AM IF AMPLIFIER: For more pleasant AM reception is achieved by the TU-666 through the use of a highly selective ceramic filter in the AM IF amplifier. This filter permits zeroing in on desired signals with unexcelled precision and the effective rejection of interference and noise from adjacent stations.

STABLE RIPPLE FILTER POWER: Stabilized power supplies, each with a ripple filter, are employed in the FM frontend and IF amplifier, resulting in complete elimination of power supply voltage fluctuations. They help the built-in temperature compensating devices to stabilize the operation of the local oscillator, eliminating the need for an AFC (Automatic Frequency Control) circuit.



SPECIFICATIONS

FM SECTION

TUNING RANGE	88–108MHz
SENSITIVITY (20dB QUIETING)	
	2μV
(IHF)	2.5μV
TOTAL HARMONIC DISTORTION	
	less than 0.8%
SIGNAL TO NOISE RATIO	better than 65dB
SELECTIVITY	better than 45dB
CAPTURE RATIO (IHF)	3dB
IMAGE FREQUENCY REJECTION	
	better than 55dB
IF REJECTION	better than 60dB
SPURIOUS RESPONSE REJECTION	
	better than 60dB
STEREO SEPARATION	better than 35dB at 400Hz
SPURIOUS RADIATION	less than 34dB
ANTENNA INPUT IMPEDANCE	
	300Ω balanced/ 75Ω unbalanced

AM SECTION

TUNING RANGE	535–1,605kHz
SENSITIVITY	150μV at 1,000kHz (bar antenna)
IMAGE FREQUENCY REJECTION	
	better than 40dB at 1,000Hz
SELECTIVITY	better than 25dB

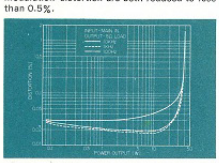
GENERAL

OUTPUT	0.7V
CONTROLS AND SWITCHES	
SELECTOR	AM/FM MONO/FM AUTO
FM MUTING	ON/OFF
MPX NOISE CANCELER	OFF/ON
FM ANT SWITCH	LOCAL/DISTANT
SEMICONDUCTORS	
TRANSISTORS: 23	FET: 1 DIODES: 19 IC: 1
POWER REQUIREMENTS	
POWER VOLTAGE	100/117/220/240V, 50/60Hz
POWER CONSUMPTION	
	15VA
DIMENSIONS:	135mm(5⅜")H×335mm(13⅛")W ×278mm(10⅝")D
WEIGHT:	5.1 kg (11.2 lbs.)

AU-666

DIRECT-COUPLED FULLY COMPLEMNTARY POWER AMPLIFIER: Distortion—even down through the deep lows—is done away with through this advanced circuit design. Coupling capacitors are a thing of the past. The new direct-coupling ensures uniform application of negative feedback through the entire audio frequency range, down to very low frequencies. Which in turn results in reducing intermodulation distortion to almost nil. The new design also makes for exceptionally smooth and flat frequency response, which is now extended to very low levels.

HIGH POWER OUTPUT, LOW DISTORTION: High power output—music power of 100 watts at 4Ω and continuous power of 45 watts per channel at 4Ω—characterize the new AU-666. With a power bandwidth that stretches from 10 to 40,000Hz, there is ample reserve power during sound reproduction from very low to very high frequencies. In addition, THD and intermodulation distortion are both reduced to less than 0.5%.



LOW-NOISE PREAMPLIFIER SECTION: The AU-666 utilizes carefully selected low-noise silicon transistors, both NPN and PNP types, in the preamplifier section, to reduce noise to an exceptionally low level. The result is a substantially expanded dynamic range and greater sound transparency for pianissimo notes.

ELECTROLYTIC CAPACITORS OUT: Electrolytic capacitors, with their poor phase characteristic at high frequencies, have been eliminated wherever possible in favor of direct coupling. But where they are absolutely necessary, either circuit impedance has been raised and mylar capacitors employed, or mylarcapacitors have been utilized in parallel for improved response at high frequencies.

TRIPLE TONE CONTROLS: Since variable equalizers are needed to obtain truly accurate reproduction, Sansui has endowed the AU-666 with a triple tone control system, adding a midrange circuit to those for bass and treble. Control of bass and treble in close steps and of midranges in even more limited steps4 thus provides for more accurate compensation for room acoustics or program source irregularities.

NEGATIVE FEEDBACK AMPLIFIERS: All amplifier stages, from the first to the final output stages, are regulated by negative feedback circuits to permit better frequency response, distortion and signal-to-noise characteristics.

SEPARABLE PRE- AND POWER AMPLIFIERS: The preamplifier and power amplifier sections can be used independently to achieve an electronic crossover stereo system when the Speaker Selector is set at the B or A+B position. Separate power amplifiers then drive the tweeter, midrange and woofer. The preamprifier section alone may also be used as an independent, high performance control amplifier for various purposes.

SPECIFICATIONS

POWER AMPLIFIER SECTION

POWER OUTPUT	
MUSIC POWER (IHF)	100W at 4Ω 80W at 8Ω
CONTINUOUS POWER	45/45W at 4Ω 35/35W at 8Ω
TOTAL HARMONIC DISTORTION	
	less than 0.5% at rated output
INTERMODULATION DISTORTION	
(60Hz : 7,000Hz=4:1 SMPTE method)	less than 0.5% at rated output
POWER BANDWIDTH (IHF)	10–40,000Hz at 8Ω
FREQUENCY RESPONSE	(at normal listening level) 10–40,000Hz ±1dB
CHANNEL SEPARATION	(at 1,000Hz rated output) better than 60dB
HUM AND NOISE (IHF)	better than 100dB
INPUT SENSITIVITY	1V for rated output
INPUT IMPEDANCE	50kΩ
LOAD IMPEDANCE	4–16Ω
DAMPING FACTOR	40 at 8Ω

PREAMPLIFIER SECTION

OUTPUT VOLTAGE	
MAXIMUM OUTPUT VOLTAGE	5V
RATED OUTPUT VOLTAGE	1V
TOTAL HARMONIC DISTORTION	
	less than 0.1% at rated output voltage
FREQUENCY RESPONSE	20–40,000Hz ±1dB
CHANNEL SEPARATION	(at 1,000Hz rated output voltage)
PHONO 1 AND 2	better than 50dB
TUNER AND AUX	better than 50dB
HUM AND NOISE (IHF)	
PHONO 1 AND 2	better than 70dB
TUNER AND AUX	better than 80dB
INPUT SENSITIVITY	(at 1,000Hz rated output voltge)
PHONO 1 AND 2	2mV (50kΩ)
MIC	3mV (50kΩ)
TUNER	180mV (100kΩ)
AUX	180mV (100kΩ)
TAPE MON (Pin)	180mV (100kΩ)
TAPE RECORDER (DIN)	180mV (100kΩ)
RECORDING OUTPUT	(at 1,000Hz rated input voltage)
TAPE REC (Pin)	180mV
TAPE RECORDER(DIN)	30mV
EQUALIZER	
PHONO	RIAA NF type
MIC	flat NF type
CONTROLS	
BASS	±16dB at 30Hz
MIDRANGE	±5dB at 1,500Hz
TREBLE	±15dB at 15,000Hz
LOUDNESS	+8dB at 50Hz, +3dB at 10,000Hz (volume control at −30dB)
SWITCHES	
LOW FILTER	−10dB at 20Hz
HIGH FILTER	−10dB at 20,000Hz
MUTING	OFF, −20dB
MODE	STEREO/MONO
TAPE MONITOR	SOURCE/PLAY BACK
SELECTOR	MIC/PHONO-2/PHONO-1 TUNER/ AUX
SPEAKER SELECTOR	SYSTEM-A/SYSTEM-B/ SYSTEM-A + B (Pre- and Power Amp. is separeted at SYSTEM-B and SYSTEM-A + B)
SEMICONDUCTORS	
TRANSISTORS: 31	DIODES: 5
POWER REQUIREMENTS	
POWER VOLTAGE	100/110/117/127/220/230/ 240/250V, 50/60Hz
POWER CONSUMPTION	
	240VA (max. signal)
DIMENSIONS:	135mm(5⅜")H×415mm(16⅜")W ×278mm(10⅝")D
WEIGHT:	9.9 kg (21.8 lbs.)

COMPLETE PROTECTION CIRCUIT: The AU-666 not only employs extra transistors expressly to protect the delicate direct-coupled amplifiers from temperature fluctuations, but incorporates a special "differential amplifier stabilizing circuit" (Japanese patent pending) to stabilize its two-stage differential amplifier. In addition, no less than six quick-acting fuses are included for further protection in the unlikely event of a current overload.

RIPPLE FILTER CIRCUIT POWER SUPPLIES: The plus and minus power supplies of the power amplifier as well as the power supply of the preamplifier are all equipped with a special ripple filter circuit, which completely shuts out detrimental hum.

COMPLETE SPEAKER PROTECTION: The AU-666 is a vigilant guardian of valuable speaker systems. Equipped with an all-electronic DC detecting speaker protection circuit, a special ripple filter, another special circuit to eliminate the pop noise when the power is turned on, and an automatic DC balance stabilizing circuit, it effectively bars damaging Direct Current access to speaker systems.

FULL SYSTEM OF ACCESSORY CIRCUITS: All those accessory circuits essential in a quality control amplifier are here in the AU-666, including, two phono input circuits with an input impedance of 50kΩ each; DIN connector for tape recorder or deck; high and low filter circuits; loudness control circuit; tape monitor circuit; headphone jack circuit; muting switch, microphone input jacks and foolproof, one-touch speaker output terminals.

SOPHISTICATED, PROFESSIONAL STYLING: Finished in sophisticated black, with an expensive extrusion front panel and rich walnut cabinetry, the AU-666 is functional, professional and distinguished looking.

Design and specifications subject to change without notice for improvements.

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