

new equipment reports

THE CONSUMER'S GUIDE
TO HIGH FIDELITY EQUIPMENT

SANSUI RECEIVER DRIVES THREE SPEAKER SYSTEMS



THE EQUIPMENT: Sansui 4000, a stereo FM/AM receiver. Dimensions: 17 $\frac{3}{4}$ by 13 $\frac{1}{4}$ by 5 $\frac{1}{4}$ inches. Price: \$379.95. Manufacturer: Sansui Electric Co., Ltd., Tokyo; U.S. branch, Sansui Electronics Corp., 32-17 61st St., Woodside, N.Y. 11377.

COMMENT: High quality and high performance at a not-so-high price characterize the new Model 4000 receiver from Sansui. The set combines a very sensitive tuner with a husky and versatile amplifier in an attractively styled format. Its front panel features the blackout-type tuning dial that lights up only when FM or AM is chosen on the program selector knob. For other signal sources, the panel remains dark but the appropriate word (phono 1, phono 2, or auxiliary) lights up against the background. And lo! even the station-dial pointer changes color—red for FM, orange for AM. The generously proportioned station dial includes FM and AM channel markings plus a logging scale. FM tuning is aided by two meters—one for signal strength, the other for center-of-channel. The former meter also operates on AM. The legend "FM stereo" lights up whenever a stereo FM signal is tuned in. There's also a "protector" legend on the panel that lights up if a current-limiting circuit (in the power amp) has been activated to prevent the output transistors from becoming damaged. Just to the right of the tuning dial are two pushbuttons for interstation muting and for multiplex noise cancellation; to their right is the station tuning knob.

The lower portion of the panel contains controls common to both tuner and amplifier sections. At the lower left there's a power off/on pushbutton. Next to it is a stereo headphone jack, followed by an unusually versatile speaker selector control that lets you choose any of three stereo speaker systems, or a combination of system "A" simultaneously with system "B," or system "A" simultaneously with system "C." A final position mutes all the speakers. The headphone jack remains live at all times, by the way. Next in line are the high and low filter switches; bass and treble tone controls (dual concentric types that permit you to adjust bass and treble separately or

simultaneously on each channel, as you choose); a volume control; a channel balance knob; four more pushbuttons for loudness contour, channel reverse, mono/stereo mode, and tape monitor; and finally the input program selector with positions for phono 1, phono 2, AM, FM mono, FM automatic, and auxiliary.

The rear of the set contains the connectors for hooking up three pairs of stereo speaker systems, the inputs corresponding to the front-panel selector, plus tape-monitor inputs and tape-feed outputs. A European-type (DIN) connector enables hookup of foreign-made recorders, using the single 5-pin connector commonly found on such units. In addition to a built-in AM loopstick antenna, there are terminals for connecting a long-wire AM antenna. FM antenna terminals accommodate both 300-ohm and 75-ohm lead-in. A local/distant switch is provided. The speaker and the antenna connectors, by the way, are an unusual type: spring-loaded, press-to-connect holders that appear to be ruggedly made and easy to use. Two AC outlets, one switched, are provided. The left and right output channels are individually fused, and a third fuse protects the main power line. Yet another safety feature is the rear-panel output-level adjustment which you may use to limit the maximum signal fed to the speaker systems (the front-panel volume control then will regulate relative gain within that limited range). To determine the noise level at which the front-panel muting switch takes effect, there's a muting-threshold adjustment. Two grounding posts and the power cord complete the rear picture, but one additional control deserves mention: under the chassis cover-plate you'll find a voltage-selector plug that enables the set to be operated on eight different values of power-line voltage, from 100 VAC up to 250 VAC. This plug is preset to the value required for a given locale, but it assures that the equipment can be used anywhere in the world.

When you weigh all this versatility together with the Sansui's excellent performance as both tuner and amplifier, you must conclude that here is a really appealing set. FM sensitivity is among the very best yet measured, showing a rapidly descending, steep

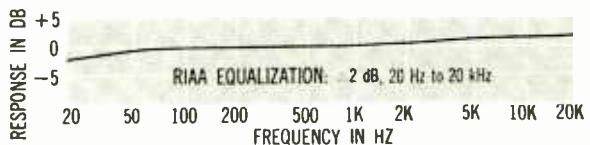
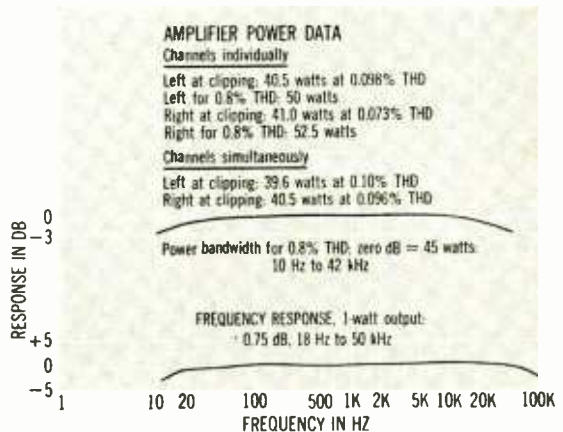
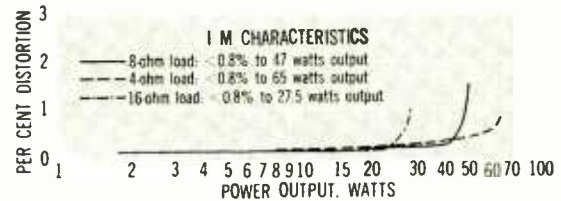
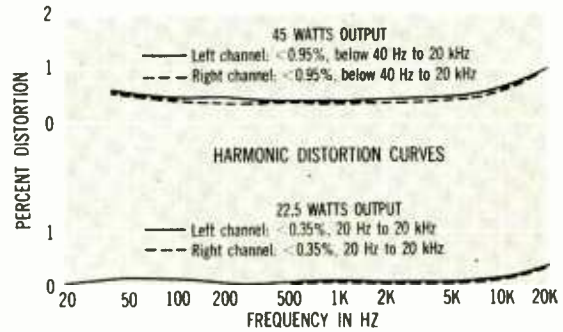
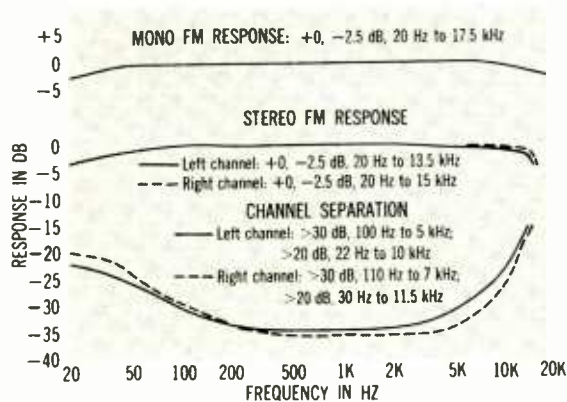
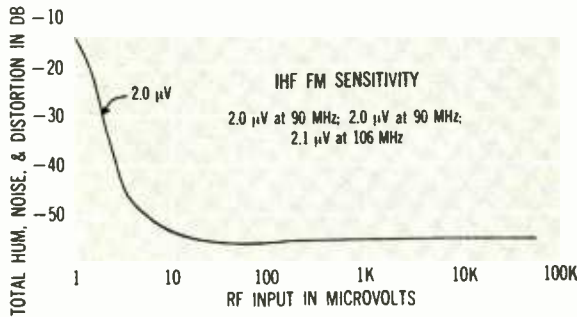
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limiting curve that crosses the -30 dB (IHF standard) quieting line for 2 microvolts of input RF signal, reaches an impressive -50 dB of quieting for only 5.6 microvolts, and attains full quieting of -55 dB (one of the best figures yet seen in any FM set) for 25 microvolts. No overloading of the front end is evident for inputs up to 50,000 microvolts, and sensitivity remains constant within 0.1 microvolt across the FM band. These excellent figures are borne out in use-tests: hooked to our cable-FM system, the Sansui 4000 proved to be in the champion class, logging no less than fifty-seven stations, of which

forty-four were judged to be satisfactory for long-term critical listening or off-the-air taping. The set's capture ratio, at 1 dB, is about as good as you can get. Low distortion (both harmonic and IM) and high signal-to-noise ratio further contribute to the Sansui's superior FM performance.

Complementing the tuner section is a high-powered, low-distortion amplifier that offers clean, wide-range response and excellent stability. Its 45-watt power bandwidth, for rated distortion of 0.8%, is better than average for a receiver in this price class; indeed, most other performance characteristics are too. Fre-



Sansui 4000		Additional Data	
Tuner Section			
Capture ratio	1 dB		
S/N ratio	68 dB		
IM distortion	0.20%		
THD	mono	l ch.	r ch
40 Hz	0.26%	0.35%	1.0%
400 Hz	0.18%	0.66%	0.85%
1 kHz	0.20%	0.60%	0.45%
19-kHz pilot	-42 dB		
38-kHz subcarrier	-55 dB		
Amplifier Section			
Damping factor	40		
Input characteristics (for 45 watts output)	Sensitivity	S/N	
phono 1	2.6 mV	60 dB	
phono 2	2.7 mV	61 dB	
tone monitor	175 mV	87 dB	
aux	158 mV	71 dB	



Square-wave response

quency response is virtually a ruler-flat line from below 20 Hz to 50,000 Hz. IM distortion remains extremely low and linear at all three output impedances; harmonic distortion runs below rated levels across most of the band up to high-power outputs, and is virtually nonexistent at normal power demands. Signal-to-noise figures for all inputs are excellent. Low-frequency square-wave response shows a 45-degree tilt which indicates the normal roll-off in the subsonic bass commonly found in receivers; high-frequency square-wave response—with its fast rise

time and freedom from ringing—indicates excellent transient response and clean, well-aired middles and highs. The audible effect of this kind of response, combined with the set's very quiet operation, is a joy to hear. Finally, the owner's instruction manual, and a supplementary "quick-use" card, are well written and amply illustrated. The 4000 comes in its own metal case with four small feet; it may be placed "as is" on a shelf, or fitted into a suitable cut-out for custom installation.

CIRCLE 143 ON READER-SERVICE CARD