

Onkyo's First Stereo Receivers



The Equipment: Onkyo TX-666, a stereo FM/AM receiver in wood case. Dimensions: 18½ by 5½ by 13½ inches. Price: \$429.95. Manufacturer: Onkyo, Japan; U.S. distributor: Onkyo Sales Sect., Mitsubishi International Corp., 25-19 43rd Ave., Long Island City, N.Y. 11101.

Comment: The first Onkyo products to be offered in this country were loudspeakers (see test report on the Model 20, March 1973); now Onkyo offers electronics as well, with the TX-666 as the premier stereo receiver in the line. It turns out to be a solidly built and generally well-planned unit with two details that should be of particular interest to recordists: a second, special tape recording output and a mixing mike input.

On the upper section of the front panel the tuning dial (which is "linear"—that is, evenly spaced—in the FM band) is flanked by the center-tuning and signal-strength meters on the left and the tuning knob at the right. The remaining controls are across the bottom. While their shapes and placement are fairly well thought out, the painted labeling requires adequate lighting to be seen. Included are a stereo headphone jack (live at all times), a combined AC on/off and speaker selector switch for two stereo pairs (either, both, or neither), dual concentric bass and treble controls, concentric volume and balance control, low and high filters (on/off buttons), loudness on/off, a mono/stereo button, a tape/source monitor button, muting on/off, mike mixer (with an off position at its minimum rotation), a mono phone jack for the mike input (which feeds both channels), and the selector switch: AM, mono FM, automatic mono/stereo FM, phono, aux 1, and aux 2.

On the back panel are pairs of standard jacks for magnetic phono, aux 1, aux 2, and tape-play inputs, plus two pairs (of which, more in a moment) for the output to a tape recorder and a DIN input/output jack for European-style tape-recorder connections. The antenna connections (AM, local FM, 300-ohm FM, 75-ohm FM) are of a screw type best adapted for use with small spade lugs, though they can be used for bare-wire connections as well. The local terminal is for use when a strong station interferes with normal reception. The amply separated (to avoid shorts) and color-coded

speaker connections (for one or two stereo pairs) are a thumbscrew type that will accept large spade lugs or bare wires, which can be threaded through a hole in the shank. There also are two convenience AC outlets, one switched and one unswitched.

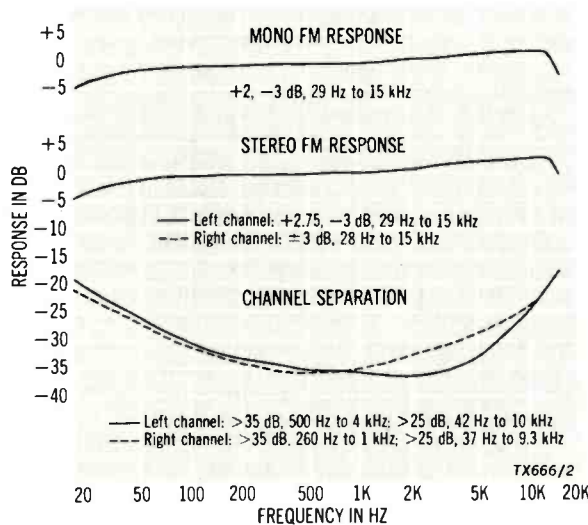
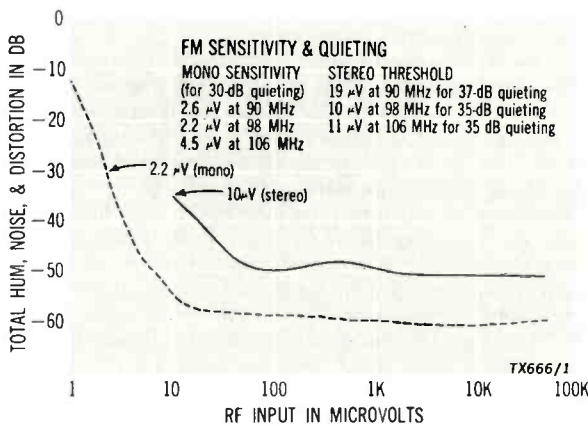
The first tape-recording output is wired normally: It takes the signal from the output of the preamp and selection section, ahead of the tape-monitor and filter switches and tone, volume, balance, and loudness controls. The other tape output takes the signal *after* these controls, just ahead of the power amplifier, so that any equalization applied by the tone controls or filters is included in the feed to the recorder. This makes it easy to equalize "problem" sources—early LPs or 78s, for example, which normally sound less than ideal through the RIAA compensation of the phono preamp.

This output also is used if you want to record from the front-panel mike input, which of course can be mixed with another source, including signals from a previously recorded tape, arriving via the aux or tape play jacks. The tone controls therefore can be used as a mike equalizer, but if you are mixing they affect the other source as well. All this works well—and the multiple possibilities that the second tape output offers will be immediately apparent to the recordist—except in terms of levels. With fairly efficient speakers or even with headphones of only moderate efficiency, the volume control will drive the monitor signal to fairly high loudnesses before the signal from the second tape output comes close to normal levels. For example with the Sony/Superscope TC-161SD reviewed in this issue, we had to turn the deck's recording gain to maximum to get a full-level recording without exceeding moderate levels in the monitor. Of course for critical monitoring or with relatively inefficient speakers you would run the receiver's volume control at higher settings than we used. But if this feature is important to you we'd suggest you check the match between the TX-666 and the tape equipment you plan to use before you buy. It should be adequate, but in some cases it may not be.

We were, of course, running the TX-666 at only a fraction of its rated 50 watts per channel. (Our speakers can get by with less than 10 watts.) In lab tests the unit met its power specs very well, though one measurement (50

watts at 20 Hz in the right channel) ran slightly above the 0.2% harmonic distortion claimed by Onkyo. This figure is, of course, below rated distortion of many competing units, and the above-spec measurement occurs below the frequency range of normal program material; furthermore the distortion readings at the frequency extremes are exceptionally good for a receiver. So despite this one slightly over-spec measurement we would rate the TX-666 as excellent in terms of harmonic distortion. And intermodulation is comparably low for rated power and 8 ohms, though the amplifier will not deliver as much power at the other two impedances before exceeding Onkyo's 0.2% rating. Again, the 0.2% mark represents an unusually high standard in a receiver, and the TX-666 stayed well under this figure right down to the limit of testing (0.125 watts at 8 ohms, for example).

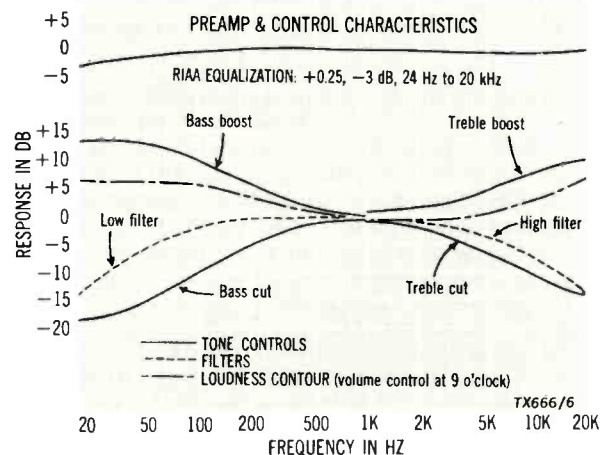
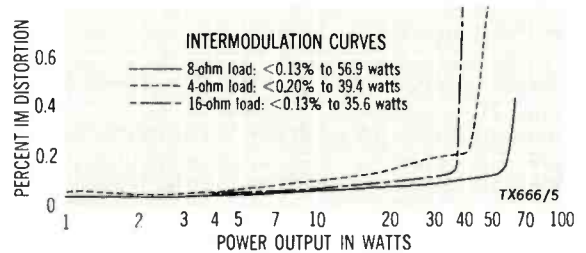
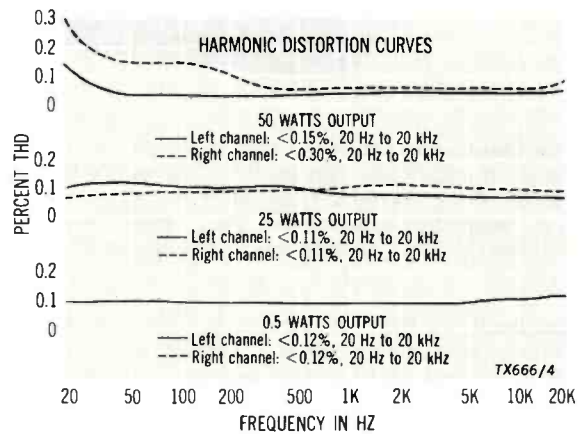
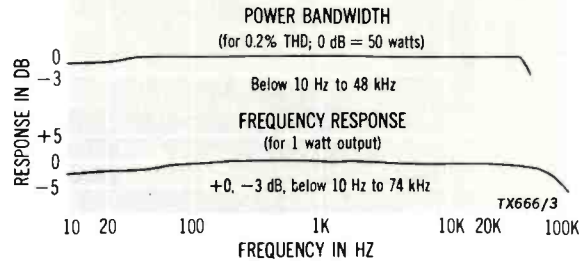
The amplifier section proved a hard act to follow; the FM section was notably less spectacular on the test bench, though in terms of stereo quieting—a parameter that some manufacturers seem to have been ignoring since there has been no standard test for this area of performance (stereo tests were begun with our January 1973 issue, q.v.)—its behavior was well above average among the units we have tested this way. Considering both mono and stereo curves, the TX-666 is exceeded in its quieting performance only by one receiver we

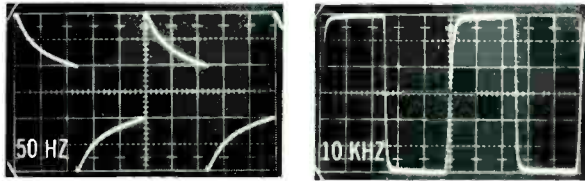


POWER OUTPUT DATA

CHANNELS INDIVIDUALLY
Left at clipping: 52.5 watts for 0.09% THD
Left at 0.2% THD: 54.6 watts
Right at clipping: 50.0 watts for 0.06% THD
Right at 0.2% THD: 52.5 watts

CHANNELS SIMULTANEOUSLY
Left at clipping: 45.1 watts for 0.17% THD
Right at clipping: 45.1 watts for 0.14% THD





Square-wave response

have tested (the quadraphonic Fisher 504, at \$100 more); many units outpace it on IHF sensitivity rating, but we would consider the Onkyo's relative freedom from noise and distortion for normal input signals to be far more important. Its thump-free behavior as you tune across the dial is an attractive plus.

All told this is an interesting and attractive receiver. There are some things we would like to see Onkyo change in future models. For example, the addition of a 20-dB attenuation switch between the second tape output and the power amplifier could double as both a "muting" control and a way of getting more signal to that tape output without excessive output to the speakers. But even in its present form the TX-666 is a worthy introduction and suggests that we have good things to expect from this company.

CIRCLE 145 ON READER-SERVICE CARD

Onkyo TX-666 Receiver Additional Data

Tuner Section			
Capture ratio	2.5 dB		
Alternate-channel selectivity	65 dB		
S/N ratio	70 dB		
THD	Mono	L ch	R ch
80 Hz	0.23%	0.53%	0.54%
1 kHz	0.19%	0.52%	0.50%
10 kHz	0.25%	3.5%	3.5%
IM distortion	0.42%		
19-kHz pilot	-54 dB		
38-kHz subcarrier	-67.5 dB		
Amplifier Section			
Damping factor	50		
Input characteristics (for 50 watts output)	Sensitivity	S/N ratio	
phono	3.3 mV	60 dB	
aux 1 & 2	149 mV	83 dB	
tape play	149 mV	83 dB	

Philips' Electronically Controlled Turntable

The Equipment: Philips GA-212, a two-speed single-play turntable/arm ensemble with integral base and hinged dust cover. Over-all dimensions: 15¼ inches wide; 13¼ inches deep; 6 inches high with cover down. With cover open and latched, 14 inches high; maximum height with cover fully up, 15½ inches. Price: \$149.50. Manufactured by Philips of Holland; U.S. branch, Norlco, 100 E. 42nd St., New York, N.Y. 10017.

Comment: The GA-212 employs an electronic speed-control system that makes for inherently accurate and constant operating speeds. Further assurance of speed accuracy is provided by the fine-speed adjustments (one for each of the unit's two speeds, 33 and 45 rpm). The 2 pound 9 ounce platter is driven by a belt from the motor shaft and shares a floating suspension with the tone arm. Operation, via a power off-on button and three feather-touch electronic buttons (one each for speed and one for stop), is smooth, positive, and silent. Indeed the GA-212 is one of the quietest turntables we've measured, with an ARLI rumble figure at -61 dB. Flutter was clocked at CBS Labs at 0.07 per cent (ANSI-weighted; 0.06 per cent unweighted). A single-play manual model, the GA-212 includes a photoelectric switch that stops turntable rotation at the end of a record but leaves the motor on and the pickup resting atop the record. You then may raise the arm manually or with the built-in cueing device, which of course you also may use initially to lower the pickup onto the record.



This cueing device works flawlessly, with no side drift. Ringing the outer edge of the platter are two sets of strobe markings, one for each speed. While useful, these markings must be illuminated by an external light (there is no built-in illumination), and it takes some squinting from the proper angle to see them clearly. When a 12-inch record is on the platter the strobe markings are completely covered, but this is hardly a problem in view of the unit's absolute speed accuracy regardless of changes in line voltage. The total range measured for the fine-speed adjustment was +4.8 to -3.6 per cent at 33 rpm, +4.5 to -3.6 per cent at 45 rpm.

The platter is covered with a mat, and you may slip a 45-rpm large-hole adapter (supplied) over the center spindle. The GA-212 sold in the U.S. and Canada comes preset for 117-volt AC operation; similar models sold abroad have a built-in voltage adapter that permits their use on other line voltages.

Complementing the smooth-running platter is the GA-212's tone arm, a low-mass metal tubular type with a rear counterweight for initial balance and a sliding weight for setting vertical tracking force. You adjust the latter according to a calibrated scale, engraved on the arm, which CBS Labs found to be thoroughly accurate. Similarly, the twin antiskating adjustments (one each for elliptical and spherical stylus tips) were found to provide close to theoretically ideal compensation with regard to

the VTF used. Installing a pickup in the arm shell is relatively easy thanks to a slide-out platform; a jig is supplied to adjust the pickup for correct stylus overhang and longitudinal alignment. Arm friction both laterally and vertically was found to be negligible; arm resonance was measured as a 7-dB rise at 9.5 Hz with a Shure V-15 Type II Improved cartridge.

The GA-212 ensemble, which comes with a wooden base and an excellent dust cover (it latches automatically into place as you raise it), is a handsome, modern-style unit whose appearance is as impressive as its performance is delightful. It is superbly crafted and soundly built. Anyone in the market for a high-quality manual player would do well to take a long look at the GA-212.

CIRCLE 141 ON READER-SERVICE CARD