



A Versatile Receiver from Pioneer

The Equipment: Pioneer SX-2500, a stereo FM/AM receiver. Dimensions: 19¼ by 6 by 14¼ inches. Price: \$549.95 including wood case and remote tuning/volume-control unit. Manufacturer: Pioneer Electronics Corp., Japan; U.S. distributor: U.S. Pioneer Electronics Corp., 178 Commerce Rd., Carlstadt, N.J. 07072.

Comment: The SX-2500 receiver is typical of the products on which Pioneer has built its reputation in this country: handsomely styled, beautifully finished, and graced with a certain adventurousness of spirit. That is, through its quality and extra features it teases one into byways that might not be emphasized in the typical receiver.

The departures embodied in the SX-2500 make it a relatively complex piece of equipment. Let's take the tuner section first. To the left of the dial are center-of-channel and signal-strength meters, which can be used in tuning both FM and AM stations. (The usual—indeed almost universal—practice is to provide signal-strength metering only for the AM band.) The pointer lights up orange whenever a fairly strong carrier is encountered on either band, and verbal readouts light up below the dial for FM, stereo FM, AM, phono, and aux. To the right of the tuning knob is an automatic scanning control that will hunt out stations on either band and can be sent off on its station-hunt in either direction depending on which side of the control you press. (Some auto-seek circuits scan only up or only down the dial.) Below it are two buttons that control where the automatic search will stop: One selects stereo broadcasts only; the other picks only local (strong) signals. A "muting" knob to its right determines how strong a strong signal must be for this purpose. Band and mode are chosen on the main selector switch, which has positions for mono FM, automatically switched mono/stereo FM, and AM.

To use the remote tuning/volume unit you must first plug a cadmium-sulfide photoresistor element into a socket accessible through an opening at the right side of the receiver's case. Then you plug the remote-control unit into a special socket at the left of the front panel. The volume knob on the remote unit controls current to a bulb within the CdS unit, and therefore the flow of signal through its resistive element. This resistive element is in series with the main volume control; the remote volume must be at maximum if you want full control range on the main volume knob. The automatic tuning control on the remote unit duplicates the appearance and function of the bidirectional scanning control on the front panel.

The SX-2500 offers several phono options. There is a single phono position on the selector switch, but the button to its left selects either phono 1 or phono 2. The back panel has two sets of inputs for phono 2: one for a standard moving-magnet cartridge and one for a ceramic cartridge. Phono 1 has a single set of inputs, normally intended for a moving-magnet cartridge. An accessory matching transformer (Pioneer Model PP-402 MC), plugged into a socket next to that for the CdS photoresistor unit converts the phono 1 input for use with a moving-coil cartridge.

Complete back-panel tape inputs and outputs and front-panel monitor switching are provided for two tape decks. The tape 2 connections are of the standard phono type; tape 1 may be connected either through similar jacks or through a DIN-style input/output jack. Other back-panel input jacks handle leads for the two aux positions on the selector switch. Other features of the front-panel controls are a loudness/volume switch, mode switch (stereo, reverse stereo, left, right, and left-plus-right), high and low filter switches, stepped bass and treble controls, and a headphone jack.

This rundown covers the basics of all sections up to and including the control section. At this point in the circuitry there are three back-panel outputs: left, right, and center. The center output is intended for center-fill or common-bass amplifier connection (using a mono amplifier, of course, feeding its own speaker). The left and right output connections plus a similar pair for input to the power amps can be used for room equalizers, biampification crossover units, quadraphonic decoders, and similar outboard equipment. A back-panel switch allows direct feed from the control stage to the power amplifiers. If you use jumpers between the output pair and the input pair, however, you will notice a major difference in level. This is because Pioneer has built more amplification than is needed into the preamplifier/control section to compensate for losses, should there be any, in the equipment connected between it and the power amplifiers. The direct-feed switch routes the signals through a pad circuit to return them to normal levels—a nicety we have not found in any equipment we have reviewed previously.

Power output is provided for two stereo sets of speakers via a front-panel switch that selects AC power off, main speakers, no speakers, remote speakers, and both speaker pairs. The headphone jack is live in all these positions (except power off, of course).

The SX-2500 will provide more than enough power to drive two pairs of speakers at low distortion levels over most of the operating range at normal volume



Front-panel automatic tuning controls.



Speaker plugs (top), CdS unit (left), remote unit

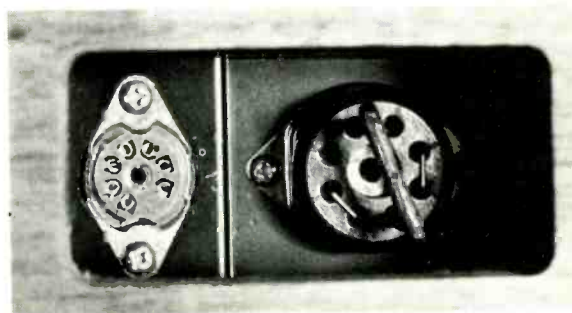
Scanning control on the remote unit (upper right) is basically the same as that on the front panel (above). Remote unit also has master volume control. To use it, the remote unit must be plugged into a jack on the front panel (below), and CdS photoresistor unit in photo at upper right plugged into the left socket on the side accessory panel (lower right). The other socket on this panel accepts the matching transformer needed to convert moving-coil for moving-magnet pickup. Speaker plugs in upper right photo have screw terminals for leads and insulating covers. Prongs are coded so that correct polarity will be maintained if plugs are moved to different speaker outlets on back panel. Note intercoupling switch to the left of "pre out" and "main in" jacks on back panel.



Back panel (portion)



Front-panel detail showing jack for remote unit



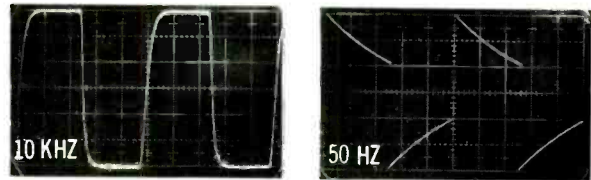
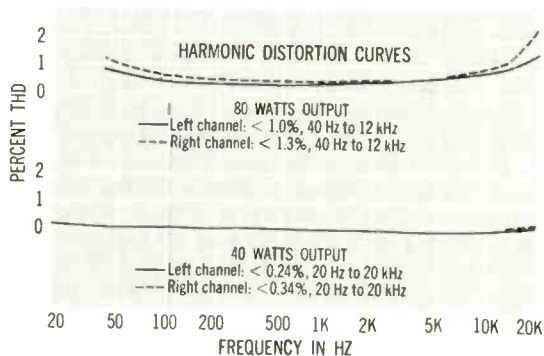
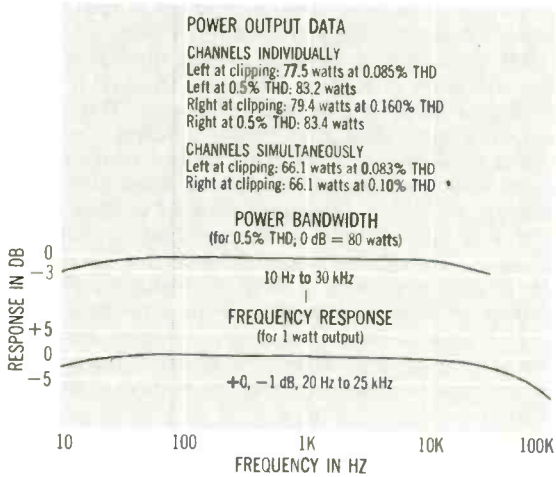
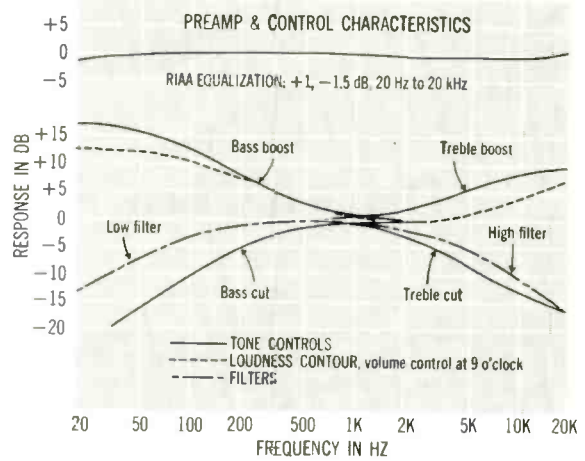
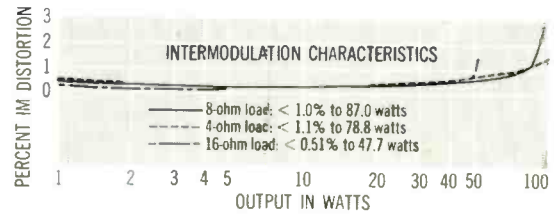
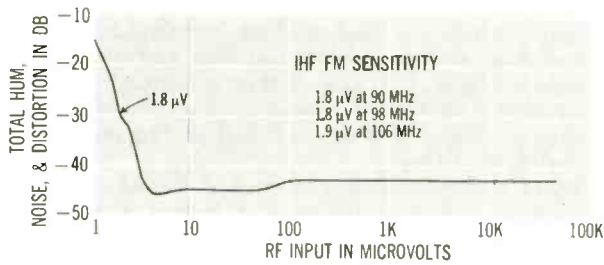
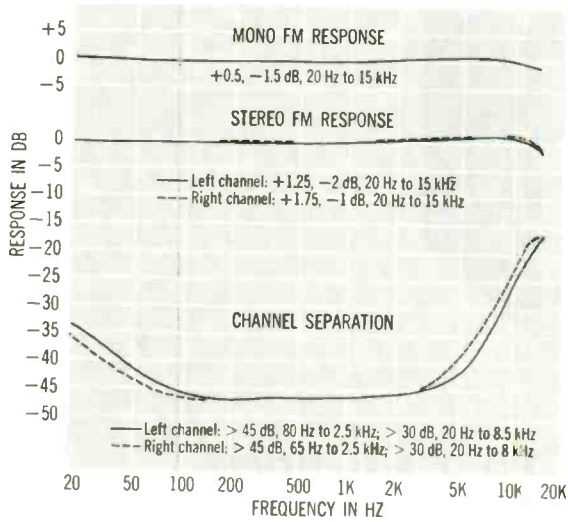
Side accessory panel

levels in typical installations. And note that, as explained earlier, systems incorporating a room equalizer can benefit from the SX-2500's extra gain beyond that measured through the direct-feed loss-pad circuit, which would be bypassed by the equalizer unit. Not that the power available at the speaker terminals will be any greater with the loss-pad bypassed (clipping will take place at the same levels in either case), but the signal gain available on the way to the power amplifier stage will be greater, making up for a good deal of loss in the outboard system.

Response and power bandwidth measurements show that the SX-2500's performance holds up at the extreme frequencies. FM response readings also were

good, with little droop toward the 15-kHz cutoff point and excellent midrange separation. At 1.8 microvolts the IHF FM sensitivity is within the 2.0 mark that separates the men from the boys, so to speak, and the 72.0-dB S/N ratio for the FM section is, like that for other inputs, excellent. In our cable test, the tuner pulled in forty-five stations, of which thirty-four were judged adequate for long-term listening or recording.

The spectacular qualities of the SX-2500 that relate to its price lie in the extra controls, options, and "personality" of the unit, rather than in perfectionist performance. The receiver, with its many "extras," is truly fun to use. These special features are not mere window dressing; they enhance an already very good unit.



Square-wave response

Pioneer SX-2500 Receiver Additional Data

Tuner Section			
Capture ratio	2.0 dB		
S/N ratio	72.0 dB		
IM distortion	0.2%		
THD	Mono	L ch	R ch
80 Hz	0.35%	0.66%	0.70%
1 kHz	0.53%	0.55%	0.62%
10 kHz	0.70%	7.4%	7.8%
19-kHz pilot	-43.0 dB		
38-kHz subcarrier	-57.5 dB		
Amplifier Section			
Damping factor	57		
Input characteristics (for 80 watts output)			
mag. phono 1, 2	Sensitivity	3.2 mV	
ceramic phono		70 mV	
aux 1, 2		230 mV	
tape monitor 1, 2		230 mV	
power amp		590 mV	
	S/N ratio	64.5 dB	
		64.5 dB	
		89 dB	
		89 dB	
		98 dB	