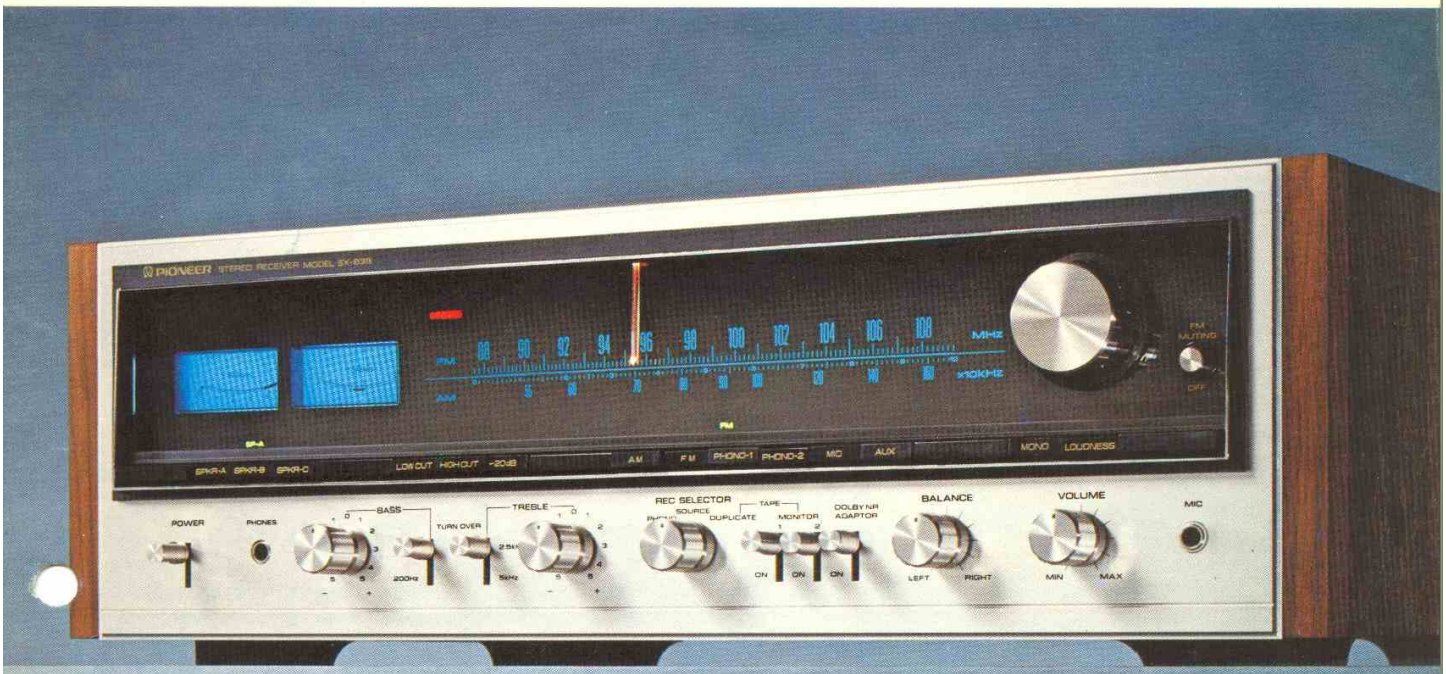
PIONEER®

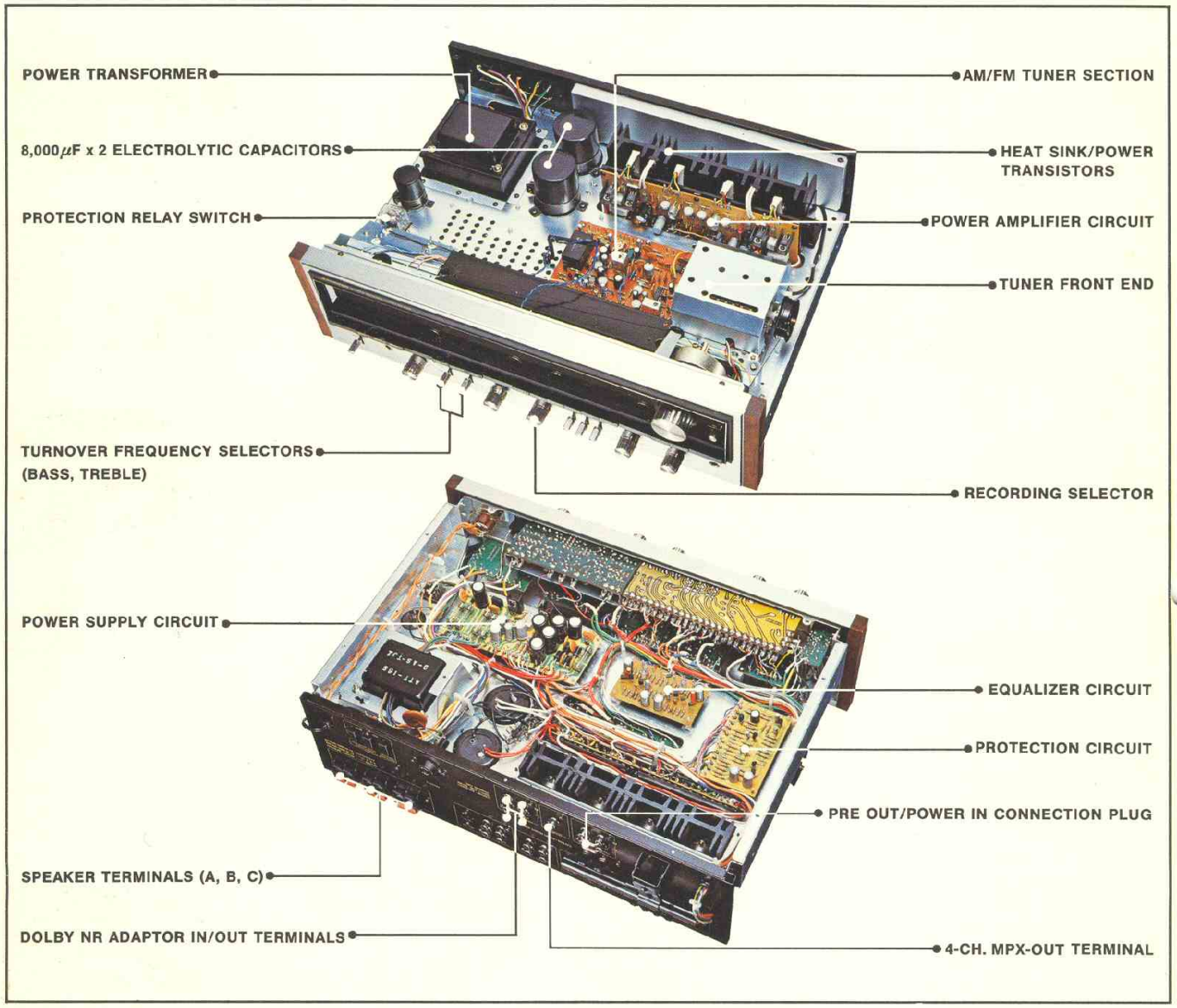
SX-838

50W x 2 RMS stereo receiver featuring PLL FM MPX, precision equalizer, switched-turnover tone control and direct-coupled OCL power amp.



Depend on Pioneer to provide the latest electronic advances. The SX-838 stereo receiver is a perfect example. Its FM tuner offers high sensitivity and excellent rejection characteristics, thanks to its front end equipped with a frequency-linear 4-gang variable capacitor and two MOS FETs. The FM IF section has a 6-stage limiter and phase-linear ceramic filters. For the FM MPX demodulator, Pioneer uses a new PLL (Phase Lock Loop) circuit with an IC. The results of these state-of-the-art touches are immediately apparent: FM sensitivity of 1.8μV, better than 80dB FM selectivity, capture ratio of 1.0dB (all IHF) and better than 30dB stereo separation (50 to 10,000Hz). The Phono equalizer in the SX-838 provides accurate reproduction of all the sounds in any record groove by assuring no more than $\pm$0.3dB deviation from the RIAA curve. In terms of power, the SX-838 produces 50W+50W of continuous RMS power (both channels driven at 8 ohms) with total harmonic distortion of less than 0.3%. Remember that this figure is measured and guaranteed over the entire spectrum of from 20 to 20,000Hz. The SX-838 is distinguished from all other receivers in its price range by offering switched-turnover flexibility in its tone control operation, permitting the creation of a variety of tonal characteristics to match your room's acoustics or your mood. And when it comes to versatility, the SX-838 reproduces no less than six program sources (AM, FM, PHONO-1, PHONO-2, MIC and AUX). It also has two stereo sets of tape deck connections with monitor switching (and deck-to-deck duplication). If you wish, use the noise-reduction adaptor terminals to connect a third tape deck. This unit is provided with special "Recording Selector", enabling you to record FM broadcasts while listening to the disc reproduction and vice versa. A unique time-saving device for your listening pleasure. A total of three pairs of stereo speaker systems can be connected to the SX-838 (with a front-panel switch to use any one or any two of them at once). Speaker selection and source indicators are provided on the attractive dial panel. It's a Pioneer value from top to bottom, and your best buy for stereo receiver economy.

SX-838



AM/FM STEREO TUNER SECTION:

(1) FM FRONT END WITH 4-GANG VARIABLE CAPACITOR AND DUAL-GATE MOS FETs

The important FM front end of the Pioneer SX-838 features the most advanced circuitry available today. Low-noise dual-gate MOS FETs are applied to each RF and mixing stage. Coupled with a 4-gang variable capacitor, they offer a sensitivity ratio or 1.8μV (IHF), image rejection of more than 85dB and spurious rejection of better than 100dB. Figures like these are more than just numbers, of course. They ensure you clear FM reception, free of jamming and irritating cross-modulation.

(2) LOCAL OSCILLATOR WITH BUFFER CIRCUIT

The local oscillator section employs a buffer circuit to ensure stable reception of even the weakest FM signals, even when more powerful stations are broadcasting in adjacent bandwidth positions. This circuit effectively suppresses cross-modulation and signal interruption.

(3) FM IF SECTION WITH 6-STAGE LIMITER AND HIGH-PERFORMANCE ICs

Two high-performance ICs are used in the FM IF section. One is an advanced LSI (Large Scale Integrated-circuit) which is the equivalent of 203 conventional solid-state devices (88 transistors, 18 diodes, 83 resistors and 14 capacitors). These ICs form a 6-stage limiter circuit to contribute significantly to the stable performance of the IF section. Equally significant, a "quadrature detector" is used as the unit's detector circuit, distinguished by excellent linearity and low distortion over a wide frequency range.

(4) PHASE-LINEAR CERAMIC FILTERS FOR EXCELLENT SELECTIVITY

The use of new, 6-element phase-linear ceramic filters in the FM IF section assures excellent phase linearity over the entire signal bandwidth. These filters are also responsible for suppressing distortion caused by inferior phase characteristics in conventional tuners. Because its IHF selectivity is rated at more than 80dB, the SX-838 is at its best in station-crowded FM reception areas.

(5) FM MPX WITH PLL (PHASE-LOCK-LOOP) CIRCUIT

Stereo FM reception is ideal, thanks to the entirely new design of the PLL (Phase-Lock-Loop) circuit in the multiplex demodulator. This advanced circuit automatically locks the phase of the 19KHz FM pilot signal to the 38KHz FM switching signal to assure extraordinary stability under all operating conditions. Other merits of this design are excellent low-distortion and widely-separated stereo performance (more than 40dB at 1KHz and better than 30dB over the 50 to 10KHz range).

(6) AM TUNER WITH EXCLUSIVE IC AND CERAMIC FILTERS

AM reception is substantially improved. A 3-gang variable capacitor and one-stage RF amplifier achieve remarkably better image rejection, IF rejection and tonal quality. Additionally, an exclusive IC with excellent AGC characteristics is used to ensure stability against excessively strong AM signal input, while suppressing distortion at all times. Ceramic filters in the IF section contribute significantly to the quality of AM performance and station selectivity.

EQUALIZER AMPLIFIER SECTION:

(1) 3-STAGE DIRECT-COUPLED EQUALIZER

The 3-stage direct-coupled NF (Negative Feedback) design of the phono equalizer uses low-noise transistor in first-stage and second-stage emitter-follower connection. It thus achieves a large open-loop gain and low distortion. Additionally, the high voltage (provided by the plus-minus split power supply system) applied to the equalizer allows it to achieve a wide dynamic range. The phono overload level (maximum input allowance) is 170mV (rms) at 1KHz, while the rated input is 2.5mV. This adds up to a distinct advantage: the SX-838 will reproduce all musical information contained in a record groove without clipping.

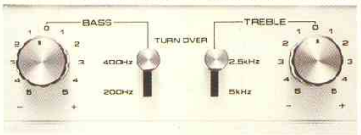
(2) PRECISE RIAA EQUALIZATION

In order to hold deviation from the RIAA record equalization curve to within an extremely small ratio, Pioneer has selected only the best precision elements (resistors and capacitors) as the basic ingredients of this all-important circuit. The SX-838 is thus able to reproduce the entire 30 to 15,000Hz frequency range with less than ±0.3dB RIAA deviation.

TONE CONTROL AMPLIFIER SECTION:

(1) TURNOVER FREQUENCY SELECTORS

An independent turnover frequency selector is provided for each of the tone controls (BASS and TREBLE). You may select a turnover frequency of 200Hz or 400Hz in the bass range and one of 2.5KHz or 5KHz in the treble range. These controls add versatility to the SX-838 and allow you to "tune" your listening room to your tastes.



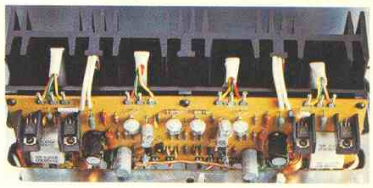
(2) FET-EQUIPPED TONE CONTROL AMPLIFIER

The Pioneer SX-838 employs a two-stage direct-coupled circuit in its tone control section. The NF (Negative Feedback) design, coupled with unique turnover frequency selectors, provide versatile tonal adjustment capabilities. Additionally, a Field Effect Transistor (FET) is employed in the first stage to obtain high input impedance and linearity. This further enhances the stable, low-noise characteristics of the tone controls.

POWER AMPLIFIER SECTION:

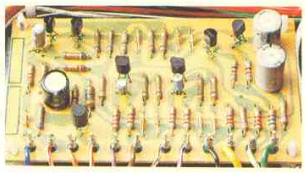
(1) DIRECT-COUPLED OCL POWER AMPLIFIER

The power amplifier features a first-stage differential amplifier designed to obtain high DC stability. This advanced, state-of-the-art design employs a bias compensation circuit so that the "zero potential" does not fluctuate (±0.01V) under even the most extreme temperature conditions (within −15°C to +55°C). Since the power transistors are coupled with large heat sink, the durability of the unit is further protected against possible damage due to excessively large power conditions. The SX-838 produces 50W+50W of continuous RMS power (both channels driven at 8 ohms) with harmonic distortion of less than 0.3% over the 20 to 20,000Hz audio range.



(2) RELIABLE PROTECTION CIRCUIT

To protect your speaker systems and the vital power transistors, Pioneer has included an automatic protection circuit consisting of a power relay and special electronics. This arrangement also functions as a muting circuit to eliminate speaker noises when the power switch is turned on.

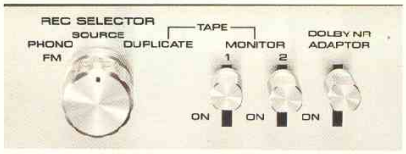


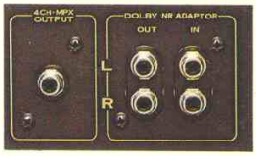
(3) DUAL, OVERSIZED 8,000μF ELECTROLYTIC CAPACITORS

Pioneer rounds out the perfect performance of the power amplifier section by using two extra-large (8,000μF) capacitors in the power supply. The results include excellent regulation characteristics contributing to very low distortion in the extremely low frequency ranges at any power output level.

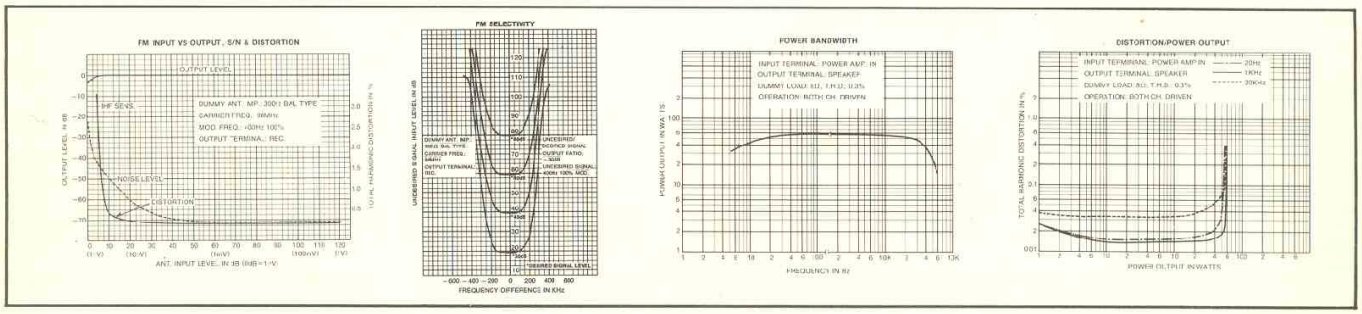
OTHER FEATURES:

On the front panel of the SX-838 you will find a "Recording Selector" switch. This handy device enables you to record FM broadcasts while listening to the disc reproduction and vice versa. Also on the front panel are controls for handling the two tape decks you can connect to this versatile receiver; they allow monitoring of either deck at any time, recording of any program source into either or both decks, and tape-to-tape duplication from one deck to the other. There is also a switch (and rear-panel connections) for a Dolby* or other type of noise reduction system. (If you wish, you may connect a third tape deck to these terminals for recording/playback). A 4-CH. MPX OUT terminal on the back panel enables you to hook up an FM four-channel adaptor in future. The SX-838 handles up to three pairs of speaker systems with facilities for playing any one or any two of them simultaneously. Each program source (AM, FM, PHONO-1, PHONO-2, MIC and AUX) has its own brightly illuminated dial indicator. Other dial indicators are provided to indicate which speaker system(s) is in use (SP-A, SP-B, SP-C).





*Dolby is a trade mark of Dolby Laboratories, Inc.



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SX-838 SPECIFICATIONS

POWER AMPLIFIER SECTION

Continuous Power Output	
20Hz to 20KHz	50 watts+50 watts (8 ohms)
(Both channels driven):	60 watts+60 watts (4 ohms)
1KHz (Both channels driven):	55 watts+55 watts (8 ohms)
	70 watts+70 watts (4 ohms)
Harmonic Distortion	Less than 0.3%
(20Hz to 20KHz):	(continuous power output),
	Less than 0.05%
	(1 watt+1 watt, power output)
Intermodulation Distortion:	Less than 0.3%
	(continuous power output)
	Less than 0.05%
	(1 watt+1 watt, power output)
Power Bandwidth:	5Hz to 40KHz (H.D. 0.3%)
	(IHF, both channels driven)
Frequency Response:	10Hz to 70KHz
Input Sensitivity/Impedance:	1V/50 Kohms (POWER AMP. IN)
Output Speaker:	A, B, C, A+B, A+C, B+C
	(4 to 16 ohms)
Headphone:	4 to 16 ohms
Damping Factor:	More than 45 (1KHz, 8 ohms)
Hum and Noise:	More than 110dB
	(IHF, short-circuited A network)
Residual Hum & Noise:	Less than 1mV
	(8 ohms, pre & power amplifier)

PREAMPLIFIER SECTION

Input Sensitivity/Impedance	
PHONO 1:	2.5mV/50 Kohms
PHONO 2:	2.5mV/50 Kohms
PHONO Overload Level (rms/P-P):	170mV/480mV
MIC:	2.0mV/50 Kohms
AUX:	150mV/80 Kohms
TAPE PB 1,2:	150mV/80 Kohms
TAPE PB 2 (DIN connector):	150mV/80 Kohms
NR Adaptor In:	150mV/80 Kohms
Output Level/Impedance	
TAPE REC 1, 2:	150mV
TAPE REC 2 (DIN connector):	30mV/80 Kohms
NR Adaptor Out:	150mV
PRE OUT:	1V/2 Kohms
Harmonic Distortion:	Less than 0.1% (20Hz to 20KHz)
Frequency Response	
PHONO (RIAA equalization):	30Hz to 15KHz ±0.3dB
TUNER, AUX, TAPE PB:	15Hz to 40KHz +0.5dB, −1dB
Tone Control	
BASS:	±6dB(100Hz), ±10dB(100Hz)
	Turnover frequency; 200Hz, 400Hz
TREBLE:	±7dB(10KHz), ±11dB(10KHz)
	Turnover frequency;5KHz, 2.5KHz
Filter	
LOW:	−8dB (50Hz) 6dB/oct.
HIGH:	−9dB (10KHz) 6dB/oct.
Loudness Contour:	+8dB (100Hz), +4dB (10KHz)
(volume control set at −40dB position)	
Hum & Noise (IHF, short-circuited A network):	
PHONO:	More than 70dB
MIC:	More than 65dB
AUX, TAPE PB:	More than 95dB
Muting:	−20dB

FM TUNER SECTION

Usable Sensitivity (IHF):	1.8μV
Capture Ratio (IHF):	1.0dB
Selectivity (IHF):	80dB
Signal-to-Noise Ratio:	70dB
Image Rejection:	85dB (98MHz)
IF Rejection:	100dB (98MHz)
Spurious Rejection:	100dB
AM Suppression:	55dB
Harmonic Distortion:	Mono; less than 0.2%
	Stereo; less than 0.4%
Frequency Response:	20Hz to 15KHz +0.2dB, −2.0dB
	50Hz to 10KHz +0.2dB, −0.5dB
Stereo Separation:	More than 40dB (1KHz)
	More than 30dB (50Hz to 10KHz)
Sub Carrier Suppression:	65dB
Antenna Input:	300 ohms balanced and
	75 ohms unbalanced
Muting:	ON-OFF

AM TUNER SECTION

Sensitivity:	300μV/m (IHF, ferrite antenna)
	15μV (IHF, ext. antenna)
Selectivity:	40dB
Signal-to-Noise Ratio:	50dB
Image Rejection:	65dB
IF Rejection:	85dB

SEMICONDUCTORS

FETs:	4
ICs:	4
Transistors:	43
Diodes:	24

MISCELLANEOUS

Power Requirements:	U.S.A. and Canada model; 120V 60Hz only or 220V 50Hz only or 110, 120, 130, 220, 240V (switchable FM de-emphasis) 50-60Hz
Power Consumption:	250 watts (UL), 350 watts
Dimensions:	Without package:
	520(W) x 175(H) x 420(D) mm
	20-15/32(W) x 6-7/8(H) x 16-17/32(D) inches
	With package:
	622(W) x 289(H) x 522(D) mm
	24-1/2(W) x 11-3/8(H) x 20-9/16(D) inches
Weight:	Without package: 16.2kg/35 lb. 11 oz.
	With package: 20.3kg/44 lb. 12 oz.

NOTE: Specifications and design subject to possible modification without notice.

PIONEER®

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