

# PIONEER SA-5800

STEREO INTEGRATED AMPLIFIER WITH FLUROSCAN METER

STEREO AMPLIFIER SA-5800



 PIONEER

# PIONEER SA-5800

High Fidelity Performance  
is The Major Consideration  
in This Practically-Priced Pioneer Amplifier.

- Clean Power Output: Continuous 25 watts\* per channel, 20Hz-20,000Hz with 0.03% THD or Less.
- Electronic FLUROSCAN Power Meter (30mW to 65W).
- Two-Deck Stereo TAPE Monitor, 1 to 2 Duplicate.

\*Measured pursuant to the Federal Trade Commission's Trade Regulation Rule on Power Output Claims for Amplifiers.



\*Walnut grained vinyl top and side panels are used in the construction of this cabinet.

## A Dynamic Concept

PIONEER engineers kept in mind a dynamic concept when the SA-5800 was still in the drawing-board stage. The choices of circuitry and design at that stage were based on what has come to be known as our "Magni-Wide" policy in amplifiers. The policy does not dictate circuitry designs *per se*. Nor does it restrict us to using "tried and true" circuit parts when something newer (and possibly even less costly) can be substituted without harm to musicality.

The policy does set ever-higher parameters in three critical performance areas, however:

1. DYNAMIC RESPONSE
2. FREQUENCY RANGE
3. TRANSIENT RESPONSE

Techniques of reducing noise and distortion (of many kinds) are employed to achieve these parameters in the SA-5800. Some of those techniques are explained in detail below:

## THE POWER AMPLIFIER

### Simple, Smart & Sure Design

Audiophiles will recognize the circuit configuration in the power amp of the SA-5800 as one of the simplest, surest designs to appear in recent state-of-the-art components. In technical terms it is a team made up of a current-mirror-loaded differential input amplifier, a boot-strap loaded single stage pre-driver and a Darlington-connected, pure-complementary SEPP (Single-Ended Push-Pull) OCL (Output-Capacitorless) power output stage.

Stability and low-distortion characteristics are the highlights of this smart and dependable design. And the performance is impeccable: Output is a comfortable 25 watts per channel (more than enough to fill the average-sized listening room without strain) when both channels are driven into an 8-ohm load; the distortion at rated output, measured over the *entire* 20Hz to 20kHz range, averages out to only 0.03% THD or less.

### Tone Controls Are Power NFB Types

Rather than using a separate tone control amp stage, we've circuited the BASS and TREBLE controls in an NFB or Negative Feedback loop in the power amplifier itself. The NFB system is divided into AC and DC and the AC is used to control distortion without harming musical content.

## ELECTRONIC FLUROSCAN

### Twelve Separate Calibrations in Each Channel

The bright PIONEER-blue power output meter on the SA-5800 is the fluorescent type for easy reading and extra-quick response. The peak hold circuit—that which determines how long the peaks or highs in your music are retained in the display—has a relatively short time constant. This is to assure that the visually perceived peak bears a closer correlation with what your ears hear from the output.

A close look will show that there are twelve separate calibrations in each channel of the FLUROSCAN. Some other meters, even those of the fluorescent type like this one, have fewer calibrations, fooling the eye with dabs of color behind the panel plate to divide two or three separate flashers into smaller parts.



### Elaborate Electronic IC Back-Up Circuitry

We use three separate ICs in the meter alone, two to drive the display tube, the other for logarithmical compression and peak hold. Thanks to this, we have been able to permit the meter to display actual output in either channel from a tiny 30m watts to above the rated 45 watts as high as 65 watts *without* requiring a sensitivity switch. The ICs also ensure that the response of the meter is more in line with the actual ups and downs of the output, something conventional needle-type meters can't provide.

### Function Indicators in Meter Panel

As in some of our most expensive amplifiers and receivers, we've simplified the front-panel design of the SA-5800 by incorporating the FUNCTION indicators in the FLUROSCAN meter panel. Selection of TUNER, PHONO or AUX will be registered in the meter for quick reference.

## THE PHONO EQUALIZER

### Low-Noise Transistors

By direct-coupling the selected transistors in the phono equalizer amplifier in a PNP-NPN configuration we have permitted you to use practically any phono cartridge you wish: the phono overload is 140mV. And by choosing transistors of particularly good quality, we've kept the noise factor well under control: the signal-to-noise ratio is 76dB.

### Dynamic Range is Protected

Hearing records played with high quality results is one of the major satisfactions you'll enjoy in the SA-5800. This is because the phono equalizer is designed for wide dynamic range; it assures that the "soft" sounds are never buried under the "louds" yet retain their delicacy. The RIAA equalization achieved is flat over the 30Hz to 15kHz range,  $\pm 0.5$ dB because, like the tone controls, the phono equalizer makes use of NFB to control distortion.

## ADDITIONAL FEATURES

■ **TAPE SWITCHES**—Two separate switches are provided on the front panel to permit the monitoring (playback) of either of two connected stereo tape decks (cassette or open-reel). You may, of course, record any program source to either deck, and even make a copy (dub) of one tape (on deck #1) to the other deck.



■ **LOUDNESS**—Compensates low/high frequency at low volume.  
■ **SUBSONIC FILTER**—Use to cut "rumble" etc. (15Hz, -6dB/Oct.).  
■ **SPEAKERS**—Connect and drive two full stereo pairs of speaker systems (A, B, A+B, OFF).  
■ **ATTRACTIVE CABINET** is finished in walnut-grained vinyl.

# SA-5800 SPECIFICATIONS

## POWER AMPLIFIER SECTION

**Continuous Power Output is 25 watts\* per channel, min. at 8 ohms from 20 hertz to 20,000 hertz with no more than 0.03% total harmonic distortion, or 25 watts\* per channel at 4 ohms from 20 hertz to 20,000 hertz with no more than 0.05% total harmonic distortion.**

Total Harmonic Distortion: (20 to 20,000Hz, from AUX)	No more than 0.03% (continuous rated power output, 8 ohms)
	No more than 0.03% (12.5 watts per channel power output, 8 ohms)
	No more than 0.03% (1 watt per channel power output, 8 ohms)
Intermodulation Distortion: (50Hz: 7,000Hz=4:1, from AUX)	No more than 0.03% (continuous rated power output, 8 ohms)
	No more than 0.03% (12.5 watts per channel power output, 8 ohms)
	No more than 0.03% (1 watt per channel power output, 8 ohms)

Output	
Speaker:	A, B, A+B
Headphones:	Low impedance
Damping Factor:	30 (1kHz, 8 ohms)

## PREAMPLIFIER SECTION

Input Sensitivity/Impedance	
PHONO:	2.5mV/47k ohms
TUNER:	150mV/50k ohms
AUX:	150mV/50k ohms
TAPE PLAY 1:	150mV/50k ohms
TAPE PLAY 2:	150mV/50k ohms
PHONO Overload Level (T.H.D. 0.1%, 1kHz)	
PHONO:	140mV

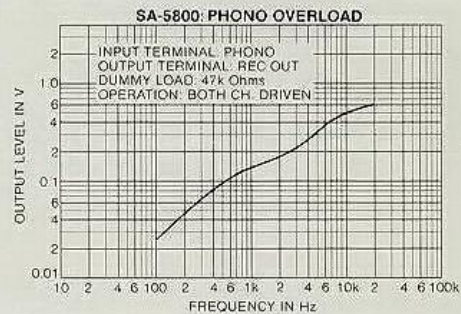
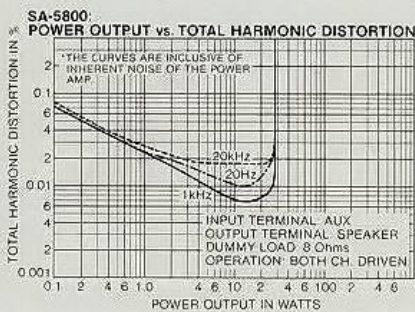
Output Level	
TAPE REC 1:	150mV
TAPE REC 2:	150mV
Frequency Response	
PHONO (RIAA Equalization):	30 to 15,000Hz $\pm$ 0.5dB
TUNER, AUX, TAPE PLAY:	20 to 40,000Hz $\pm$ 2dB
Tone Control	
BASS:	$\pm$ 7.5dB (100Hz)
TREBLE:	$\pm$ 8dB (10kHz)
Filter	
SUBSONIC:	15Hz (-6dB/oct.)
Loudness Contour:	+6dB (100Hz), +3dB (10kHz)
(Volume control set at -40dB position)	
Hum and Noise (short-circuited, A network)	
PHONO:	76dB
TUNER, AUX, TAPE PLAY:	98dB

## SEMICONDUCTORS

ICs:	3
Transistors:	21
Diodes:	18

## MISCELLANEOUS

Power Requirement:	120V 60Hz only
Power Consumption:	75W (JL), 180VA (CSA)
Dimensions:	Without package: 17-3/4(W) x 5-15/16(H) x 10-11/16(D) inches 451(W) x 151(H) x 271(D) mm
Weight:	Without package: 16 lb. 1 oz./7.3kg



\*Measured pursuant to the Federal Trade Commission's Trade Regulation Rule on Power Output Claims for Amplifiers.

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



**PIONEER ELECTRONIC CORPORATION** / 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153, Japan  
**U.S. PIONEER ELECTRONICS CORP.** / 85 Oxford Drive, Moonachie, New Jersey 07074, U.S.A.  
**PIONEER ELECTRONIC (EUROPE) N.V.** / Luithagen-Haven 8, 2030 Antwerp, Belgium  
**PIONEER MARKETING SERVICES PTY. LTD.** / P.O. Box 317, Mordialloc, Victoria 3195, Australia