



PIONEER

1975/76

Hi-Fi Stereo
Components



Pioneer in Profile

The invention of the Gramophone in 1877 signalled the birth of a new science and art, Audio. Pioneer is a true practitioner of this science and art. The company's involvement with audio began appropriately enough with loudspeakers in 1938 when Nozomu Matsumoto founded Fukuin Electric Works, a family concern and Pioneer's predecessor. In 1950, Fukuin developed Japan's first Hi-Fi speaker featuring a permanent magnet. Prior to this time, all speakers made in Japan contained electromagnets. Fukuin Electric started with the mass production of High Fidelity receivers in 1958; in this same year the company participated in the Brussels World Exhibition. With the completion of a new loudspeaker plant in Tokorozawa in 1960, Fukuin became the world's largest manufacturer of speaker units with a production facility of 3,000,000 units a month. In 1961, the company was renamed "Pioneer Electronic Corporation" and during the following years pioneered in many fields. The company introduced its first transistorised amplifier and the first Pioneer car stereo which introduced the sound of four-track cartridges into the Japanese market. The ultra-compact Pioneer speakers dominated the speaker market and the company's first tape deck, featuring automatic reverse recording and playback, appeared.

In 1966, Pioneer set up sales subsidiaries in the United States and Europe and in 1968 the Shizuoka Plant for the production of turntables and console-type stereo systems was established. One year later the Kawagoe Plant began manufacturing car stereo, other cartridge systems and equipment. Somewhat later, in 1971, Pioneer produced its first stereo cassette tape deck; that year also marked the advent of Pioneer quadrophonic equipment. The company continued to diversify on an international scale in 1972 and 1973. Internationalism became the name of the game. Wholly owned overseas subsidiaries currently include U.S. Pioneer Electronic Corporation, Pioneer Electronics of America, Pioneer Electronic (Europe) N.V., Pioneer Do Brasil Industria E Comercio Ltda., and Pioneer Electronics Australia Pty., Ltd.

Joint manufacturing ventures, at present are, Pioneer Electronic (Taiwan) Corporation and Pioneer Electronics (Korea) Corporation. The company also maintains a branch office in Hong Kong. This is not the end of the line, Pioneer has decided to establish a new production plant in Belgium and the corporation, named Pioneer Electronics Manufacturing N.V., will start operating in 1976.

Head Office, factories, all branch offices and subsidiaries are geared towards the realisation of Pioneer's goal: to get better audio equipment to more people around the world.

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MEGURO HEAD OFFICE



OHMORI FACTORY



KAWAGOE FACTORY



TOKOROZAWA FACTORY



SHIZUOKA FACTORY



SX-1010: FM/MW stereo receiver. Masters up to 100 watts \times 2 RMS with less than 0.1% total harmonic distortion. FM front end with dual-gate MOS FET & 5 gang variable capacitor. Parallel push-pull OCL power amp. Dimensional PLL (Phase-Lock-Loop) MPX circuit. Twin tone control system. Automatic protection circuit. Also featuring Dolby and 4-channel adaptor in/out terminals. Facilities for connection of 2 turntables, 3 pairs of speakers, 2 microphones and 2 headphones. Has 2 pairs of tape REC/MON terminals with duplication switch (Deck 1—Deck 2).

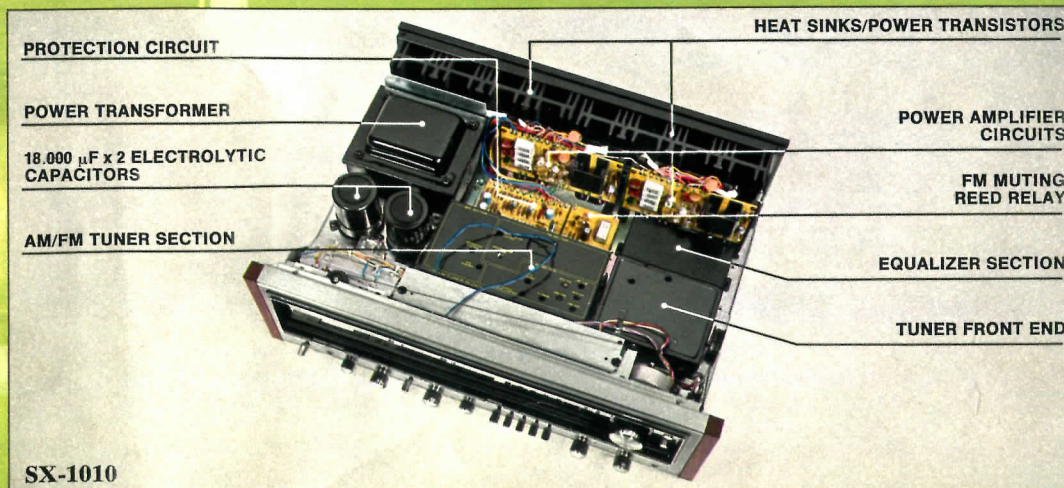


SX-939: FM/MW stereo receiver. 70 watts \times 2 RMS parallel push-pull OCL power amp with less than 0.3% total harmonic distortion. PLL MPX circuit. Frequency linear 4-gang variable capacitor. Newly developed AM IC also has a twin tone control system and tape duplication switch. Dolby adaptor in/out terminals with switch. Handling up to 3 pairs of speakers.

Stereo Receivers



SX-838: FM/MW stereo receiver. 50 watts \times 2 RMS with total harmonic distortion less than 0.3 %. Front end with 4-gang variable capacitor and dual-gate MOS FETs, FM MPX with PLL. Turnover frequency selector for each of the tone controls. Reliable protection circuit. Unique recording selector enables you to record FM broadcasts while listening to the disc reproduction and vice-versa. Switch for Dolby or other type of noise reduction system or 3rd tape deck for recording/playback. Handling up to 3 pairs of speakers.



SX-737: FM/MW stereo receiver. 35 watts \times 2 RMS with total harmonic distortion less than 0.5 %. Dual meter tuning system with FM linear tuning scale. Stable PLL MPX section. IF circuit with 5-stage limiter and high performance IC. 4 element phase-linear ceramic filters provide very high selectivity. Automatic protection circuit. Unique recording selector permits you to listen to one programme source while recording another.

Stereo Receivers



SX-636: FM/MW stereo receiver. 25 watts \times 2 RMS with less than 0.5 % total harmonic distortion. FM front end with low noise FET. Perfect FM reception with dual meter tuning system and FM linear dial scale. Stable PLL MPX circuit. Precise RIAA Equalization. Will operate up to 2 pairs of speakers.



SX-535: FM/MW stereo receiver. 20 watts \times 2 RMS with less than 0.5 % total harmonic distortion. FM IF section with an exclusive LSI (Large-Scale-Integration) circuit for extremely stable limiter characteristics. MPX section uses new PLL circuit that gives very wide separation with low distortion, 2-stage direct coupled Phono equalizer circuit. Facilities for connection of 2 pairs of speaker systems, 2 tape decks.



SX-434: FM/MW receiver. 15 watts \times 2 RMS with less than 0.5 % total harmonic distortion. High performance FM front end with low noise FET and 3-gang linear frequency variable capacitor. Phase linear ceramic filters and an IC in the FM IF section provides high selectivity of 60 dB. Click-stop tone controls. 2 pairs stereo speaker facilities, stereo headphones, microphone, tape decks and turntable.



SX-300: FM/MW stereo receiver. For introduction to the world of stereo listening pleasure. 6 watts \times 2 (40 Hz—20 kHz) RMS. FM linear for tuning scale and large tuning meter. FET-equipped FM front end and 3-gang variable capacitor provide better FM reception under all conditions. Precise RIAA equalization within 1 dB, it can handle all your stereo needs: stereo turntable, tape deck, auxiliary unit such as a cartridge player etc.

LX-626: LW/MW/FM stereo receiver. 20 watts \times 2 RMS. Low-noise dual-gate MOS FETs in the FM front end. FM IF section with phase linear ceramic filters. Special muting circuit for cancellation of the irritating click noise. Antenna mode selector for different signal conditions in the receiving area. Separately usable pre and power-amplifier. Other features: 3 pairs of speakers, 2 turntables, tape-to-tape duplication, loudness contour switch.



LX-626



LX 434

LX 434: LW/MW/FM stereo receiver. Carefully tuned circuitry is employed in the FET high frequency amplifier and between mixer circuits. A noteworthy development is the PLL circuit which is utilised in the stereo demodulator IC. Rotary AM ferrite antenna. Ample power is available for rich stereophonic reproduction even with two sets of speakers connected.

STEREO RECEIVERS	SX-1010	SX-939	SX-838	SX-737	SX-636	SX-535	SX-434	SX-300	LX-434	LX-626
AUDIO SECTION										
Continuous power										
Both channels driven at 1 kHz, 4 Ω	2 \times 110 W	2 \times 100 W	2 \times 70 W	2 \times 50 W	2 \times 30 W	2 \times 25 W	2 \times 18 W	2 \times 7 W	2 \times 18 W	2 \times 30 W
1 kHz, 8 Ω	2 \times 110 W	2 \times 75 W	2 \times 55 W	2 \times 40 W	2 \times 27 W	2 \times 22 W	2 \times 16 W	2 \times 7 W	2 \times 16 W	2 \times 27 W
Both channels driven at 20 Hz to 20 kHz, 8 Ω	2 \times 100 W	2 \times 70 W	2 \times 50 W	2 \times 35 W	2 \times 25 W	2 \times 20 W	2 \times 15 W (40 Hz—20 kHz)	2 \times 6 W (40 Hz—20 kHz)	2 \times 15 W (40 Hz—20 kHz)	2 \times 20 W
Total Harmonic Distortion at rated output power, 1 kHz (DIN)	< 0.1%	< 0.3%	< 0.3%	< 0.5%	< 0.5%	< 0.8%	< 0.8%	< 1%	< 0.8%	< 0.9%
Power bandwidth (DIN) both channels driven 8 Ω	10 Hz—40 kHz THD 0.1%	10 Hz—40 kHz THD 0.3%	10 Hz—40 kHz THD 0.3%	10 Hz—40 kHz THD 0.5%	10 Hz—60 kHz THD 0.5%	10 Hz—50 kHz THD 0.8%	10 Hz—40 kHz THD 0.8%	40 Hz—30 kHz THD 1%	10 Hz—40 kHz THD 0.8%	10 Hz—70 kHz THD < 1%
Frequency response at AUX input (DIN)	10 Hz—40 kHz +0 dB, -1 dB	10 Hz—40 kHz +0 dB, -1 dB	15 Hz—40 kHz +0.5 dB, -1 dB	15 Hz—40 kHz +0.5 dB, -1 dB	20 Hz—30 kHz +0.5 dB, -1 dB	20 Hz—30 kHz \pm 1 dB	30 Hz—25 kHz \pm 1 dB	30 Hz—20 kHz \pm 1 dB	30 Hz—25 kHz \pm 1 dB	15 Hz—20 kHz \pm 1 dB
Input sensitivity/impedance										
Phono	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/45 k Ω
Microphone	2.0 mV/50 k Ω	2.0 mV/50 k Ω	2.0 mV/50 k Ω	2.5 mV/50 k Ω	7 mV/85 k Ω	7 mV/85 k Ω	10 mV/90 k Ω	—	10 mV/90 k Ω	2.2 mV/22 k Ω
Tape monitor, AUX, Tuner	150 mV/70 k Ω	150 mV/70 k Ω	150 mV/80 k Ω	150 mV/50 k Ω	150 mV/60 k Ω	150 mV/75 k Ω	150 mV/80 k Ω	150 mV/100 k Ω	150 mV/80 k Ω	200 mV/100 k Ω
FM SECTION (87.5—108 MHz)										
Sensitivity (DIN) 26 dB, s/n, 40 kHz dev. (mono)	1.1 μ V	1.2 μ V	1.2 μ V	1.3 μ V	1.3 μ V	1.3 μ V	1.3 μ V	1.8 μ V	1.3 μ V	1.3 μ V
Sensitivity (IHF) (mono)	1.7 μ V	1.8 μ V	1.8 μ V	1.9 μ V	1.9 μ V	1.9 μ V	1.9 μ V	2.3 μ V	1.9 μ V	1.9 μ V
Capture ratio	1 dB	1 dB	1 dB	1 dB	1 dB	1 dB	1 dB	3.5 dB	1.0 dB	1.5 dB
Selectivity	90 dB	80 dB	80 dB	60 dB	60 dB	60 dB	60 dB	55 dB	60 dB	80 dB
Signal-to-noise ratio (IHF)	72 dB	70 dB	70 dB	70 dB	70 dB	70 dB	70 dB	65 dB	70 dB	70 dB
Total Harmonic Distortion (stereo) 1 kHz (DIN)	< 0.3%	< 0.4%	< 0.4%	< 0.4%	< 0.4%	< 0.4%	< 0.4%	< 0.8%	< 0.4%	< 0.4%
Frequency response (DIN) (+0.2 dB, -2 dB)	20 Hz—15 kHz	20 Hz—15 kHz	20 Hz—15 kHz	20 Hz—15 kHz	20 Hz—15 kHz	20 Hz—15 kHz	20 Hz—15 kHz	25 Hz—13.5 kHz	20 Hz—15 kHz	20 Hz—15 kHz
Stereo separation (1 kHz)	> 40 dB	> 40 dB	> 40 dB	> 40 dB	> 40 dB	> 40 dB	> 40 dB	> 30 dB	> 40 dB	> 40 dB
Subcarrier suppression	65 dB	65 dB	65 dB	40 dB	40 dB	40 dB	40 dB	35 dB	60 dB	65 dB
AM SECTION (525—1605 kHz)										
Sensitivity (IHF)	15 μ V	15 μ V	15 μ V	15 μ V	15 μ V	15 μ V	15 μ V	15 μ V	10 μ V	10 μ V
Selectivity	40 dB	40 dB	40 dB	35 dB	35 dB	35 dB	35 dB	30 dB	40 dB	40 dB
LW SECTION (150—350 kHz)										
Sensitivity	—	—	—	—	—	—	—	—	40 μ V	25 μ V
Selectivity	—	—	—	—	—	—	—	—	45 dB	50 dB
Dimensions (W \times H \times D) mm	520 \times 175 \times 440	520 \times 175 \times 420	520 \times 175 \times 420	500 \times 158 \times 410	480 \times 147 \times 405	480 \times 147 \times 405	430 \times 140 \times 347	441 \times 132 \times 324	430 \times 140 \times 347	450 \times 144 \times 365
Weight (kg)	22.2	18.5	16.2	13.2	11.2	10.3	8.1	6	8.1	11.6



QX-949: Four-channel FM/MW stereo receiver.

40 watts \times 4 or 60 watts \times 2. All present Quadrophonic Systems built in CD-4, SQ and regular matrix. Linear FM dial scale and 2 meter tuning system. Unique power boosting circuit converts the large 4-channel power output to even greater 2-channel power. Automatic protection circuit. Unique 4-channel level indicator permits observation of the output level of each of the four channels, appearing on the viewing screen. Other features: 3 pairs of tape terminals, 4 pairs of speaker systems, 4-channel MPX-out terminal, 2 pairs of phono terminals, 2 headphone terminals, high and low filters, Dolby NR adapter switch.

QX-747: Four-channel FM/MW stereo receiver. 20 watts \times 4 or 40 watts \times 2. Equipped with CD-4, SQ and Regular Matrix systems. Sophisticated FM front end with a dual-gate MOS FET and linear 4-gang variable capacitor. High-performance MPX IC. Linear FM dial scale and tuning meter. Direct-coupled OCL power amplifier with unique power boosting circuit for converting the 4-channel power to even greater 2-channel power for normal stereo usage. Automatic protection circuit for speakers and power transistors. Unique 4-channel level indicator to permit you to observe the output level of each of the 4-channels appearing on the viewing screen. Other features: 3 pairs of speaker systems can be connected, Dolby NR adaptor switch, 2 pairs of tape terminals, 4-channel MPX-out terminal, 2 headphones terminals.



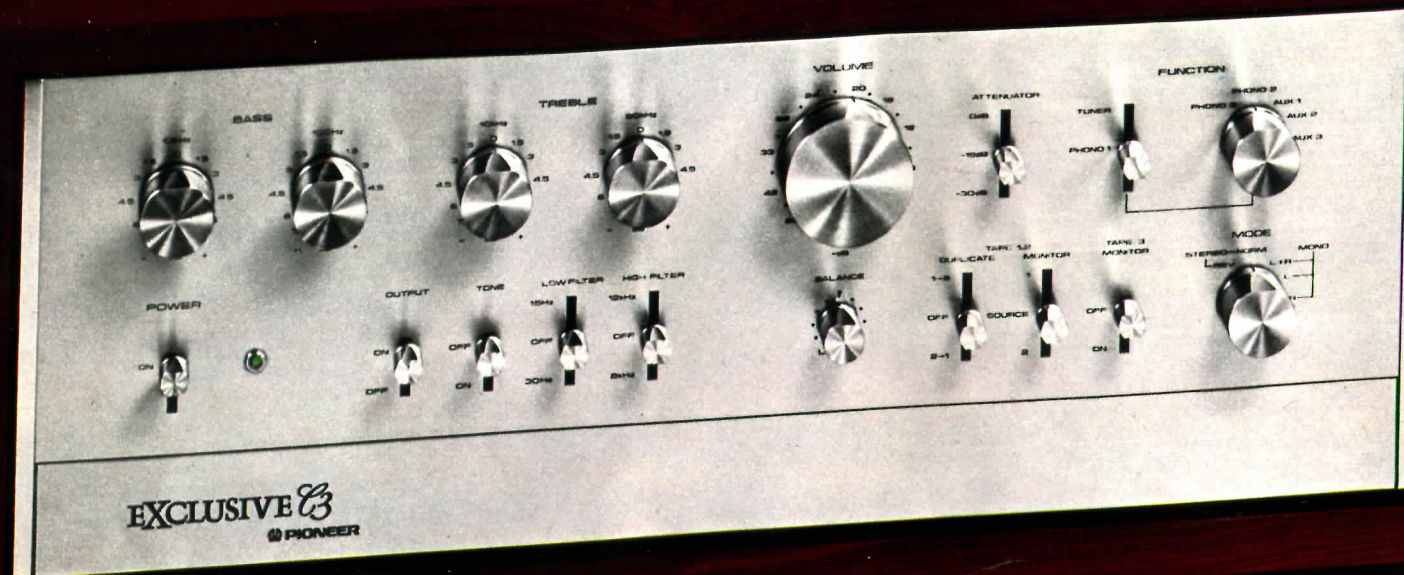
4-Channel Stereo Receivers



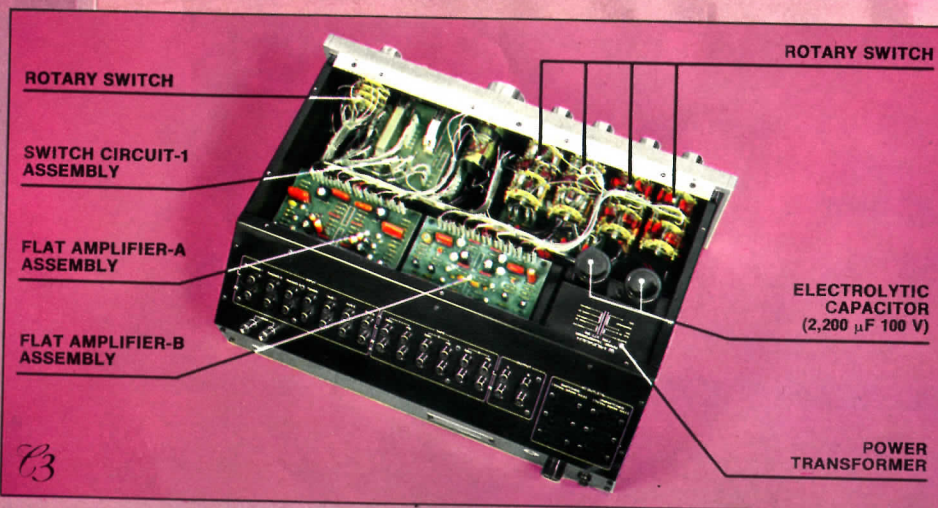
QX-646: FM/MW four-channel receiver. 10 watts \times 4. Equipped with CD-4, SQ and Regular Matrix systems. Extra-wide linear FM tuning scale and an extra-large signal strength meter for easy, precise tuning. FM front end with FET and IF section with ceramic filters. High selectivity and excellent phase linearity. Other features: programme source illumination, headphone terminal, 3 pairs of speaker terminals.

4-CHANNEL STEREO RECEIVERS	QX-949 4-channel 2-channel (power boosting)	QX-747 4-channel 2-channel (power boosting)	QX-646 4-channel 2-channel
AUDIO SECTION			
Continuous power			
1 kHz, 4 Ω	4 \times 58 W	2 \times 85 W	4 \times 30 W
1 kHz, 8 Ω	4 \times 44 W	2 \times 65 W	2 \times 55 W
20 Hz—20 kHz, 8 Ω	4 \times 40 W	4 \times 20 W	4 \times 11 W
Each channel driven (DIN) 1 kHz, 4 Ω	75 W/ch.	100 W/ch.	2 \times 15 W/2 \times 15 W
Total Harmonic Distortion at rated output power, 1 kHz, 8 Ω (IHF)	< 0.3 %	< 0.5 %	4 \times 10 W
Total Harmonic Distortion at 4 \times 50 mW, 8 Ω , 1 kHz (DIN)	< 0.2 %	< 0.2 %	2 \times 13 W/2 \times 13 W
Power bandwidth, 4 channels driven	7 Hz—40 kHz	7 Hz—40 kHz	2 \times 10 W/2 \times 10 W
Frequency response at AUX input (DIN)	7 Hz—25 kHz +0.5 dB, -1 dB	10 Hz—25 kHz +0.5 dB, -1 dB	—
Input sensitivity/impedance Phono	2.5 mV/50 k Ω	2.2 mV/50 k Ω	2.5 mV/100 k Ω
Tape monitor, Tuner, AUX	150 mV/100 k Ω	140 mV/100 k Ω	180 mV/90 k Ω
Bass control (100 Hz)	\pm 10 dB	\pm 10 dB	+13, -12.5 dB
Treble control (10 kHz)	\pm 10 dB	\pm 10 dB	+11.5, -8.5 dB
CD-4 DEMODULATOR SECTION			
Input sensitivity	2.5 mV	2.5 mV	2.5 mV
Input impedance	100 k Ω	100 k Ω	100 k Ω
Distortion	0.07 %	0.07 %	0.07 %
Signal-to-noise ratio	> 70 dB	> 70 dB	> 70 dB
Separation 1 kHz, left to right	50 dB	50 dB	50 dB
front to rear	30 dB	30 dB	30 dB
Frequency response	20 Hz—15 kHz	20 Hz—15 kHz	20 Hz—15 kHz

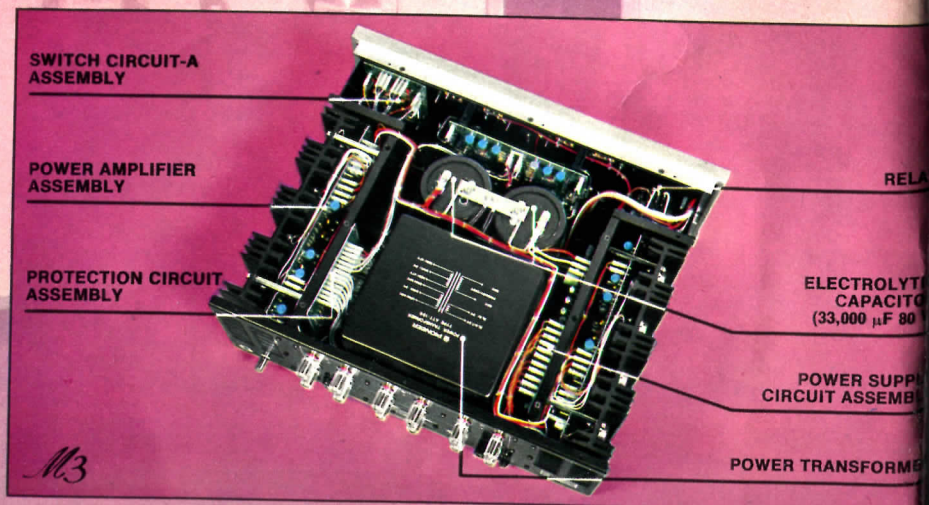
4-CHANNEL STEREO RECEIVERS	QX-949	QX-747	QX-646
Power consumption	530 W	340 W	160 W
FM SECTION (87.5—108 MHz)			
Sensitivity (IHF)	1.8 μ V	1.9 μ V	2.2 μ V
(DIN) 26 dB signal-to-noise ratio, 40 kHz dev.	1.2 μ V	1.3 μ V	1.7 μ V
Capture ratio	1 dB	1 dB	3 dB
Selectivity (\pm 400 kHz)	80 dB	60 dB	40 dB
Signal-to-noise ratio (mono)	70 dB	70 dB	65 dB
Image rejection	> 85 dB	> 80 dB	> 50 dB
Total Harmonic Distortion (stereo) 1 kHz	< 0.4 %	< 0.4 %	< 0.8 %
Stereo separation (1 kHz)	> 40 dB	> 40 dB	> 40 dB
Subcarrier suppression	65 dB	65 dB	35 dB
MW SECTION (525—1605 kHz)			
Sensitivity (IHF)	15 μ V	15 μ V	15 μ V
Image rejection	> 65 dB	> 45 dB	> 45 dB
IF rejection	> 85 dB	> 55 dB	> 30 dB
Signal-to-noise ratio	50 dB	50 dB	50 dB
Dimensions (W \times H \times D) mm	550 \times 160 \times 440	550 \times 160 \times 420	525 \times 149 \times 360
Weight (kg)	22.4	19.1	12.3



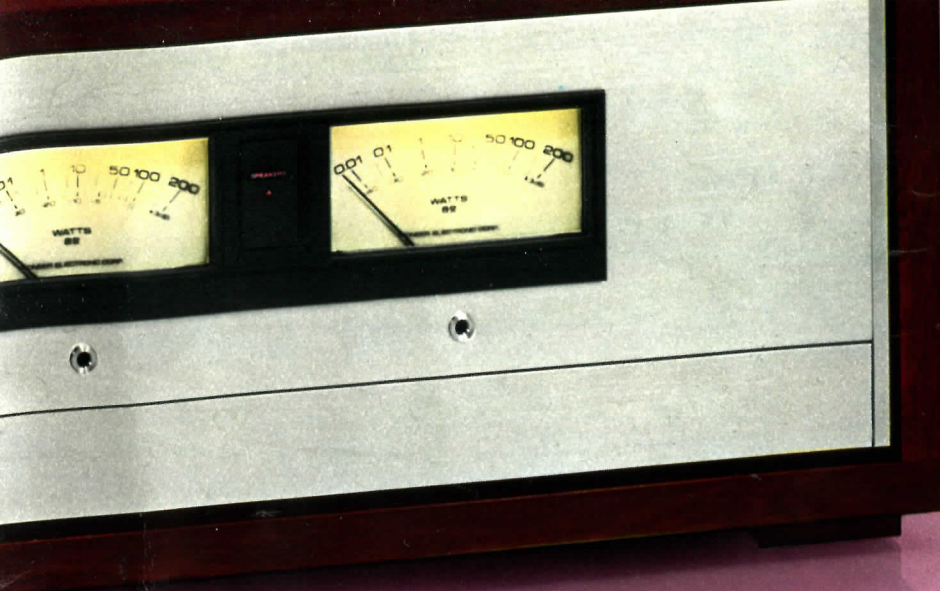
Exclusive C 3: In terms of electronic design, the unique stereo pre-amplifier C 3 not only performs flawlessly in the area of low noise and low distortion but it also assures excellent transient response and other important characteristics of both a dynamic and a pulsive nature. In terms of versatility, the C 3 presents a selection of ten stereo sources, twin tone controls, low and high filters with dual-combination passive/active circuits, and much more.



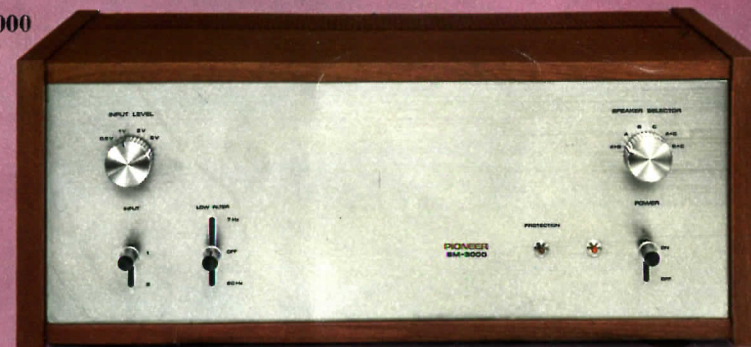
Exclusive M 3: 150 watts \times 2 RMS. The "Soul of Audio" combined with the advanced art of high fidelity electronics is behind the unique concept of the Exclusive M 3 stereo power amplifier. It features reliable circuit design and high quality parts for stability, yet allows a small amount of negative feedback to be applied to improve frequency response and assured low-distorting performance. Sophisticated features like peak-power level meters, a front sub-panel providing access to speaker selectors and individual level controls, an automatic power protection circuit, and more, complement the performance and function of the M 3.



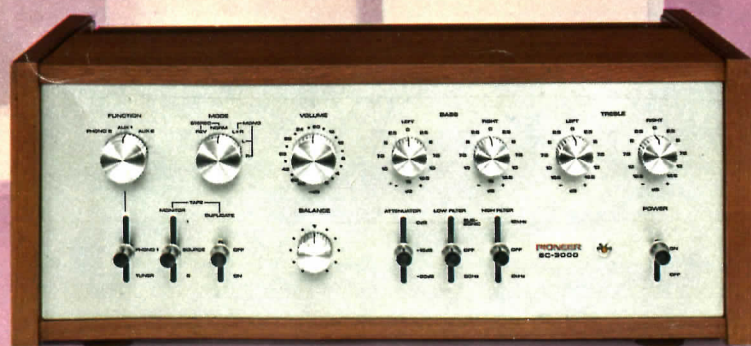
Stereo Amplifiers



SM-3000



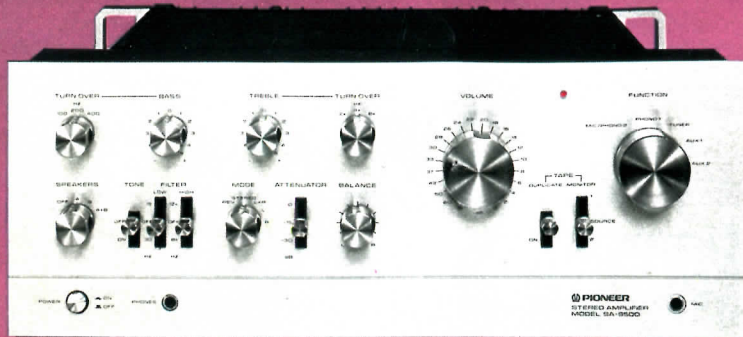
SM-3000: Stereo power amplifier. Produces a dashing continuous power output of 2×85 watts with both channels driven (at 8 ohms) under remarkably low distortion. The SM-3000 is one of the finest circuitry designs ever assembled, it allows the connection of 2 different pre-amplifiers. The unit is equipped with an input/sensitivity selector and creates an impressive acoustical presence.



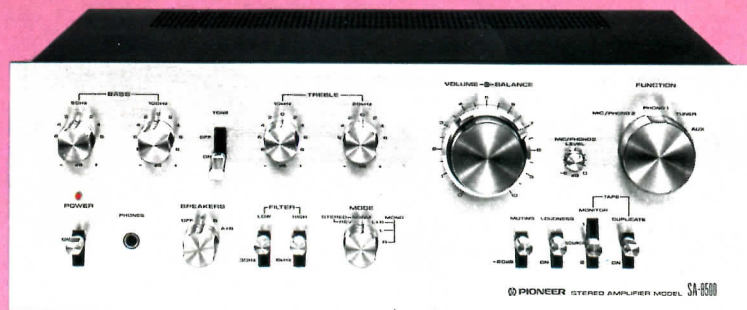
SC-3000: Stereo pre-amplifier. This pre-amplifier unit matches the Pioneer SM-3000 power amplifier. It is one of the highest quality pre-amplifiers available, featuring 2-tape monitors with free duplication switch enabling tape 1-2 and 2-1 duplication. The unit has a 3-stage direct-coupling NF circuit in the equalization amplifier.

AMPLIFIERS	C 3	M 3	SC-3000	SM-3000
Continuous power each channel driven 4 Ω (DIN)	—	—	—	150 W/150 W
both channels driven at 1 kHz, 4 Ω	—	2×198 W	—	2×130 W
both channels driven at 1 kHz, 8 Ω	—	2×168 W	—	2×90 W
20 Hz—20 kHz, 8 Ω	—	2×150 W	—	2×85 W
Total Harmonic Distortion at rated output power 8 Ω , 1 kHz (DIN)	—	< 0.1 %	—	< 0.1 %
Total intermodulation distortion at rated output power 8 Ω (DIN)	—	< 0.1 %	—	< 0.1 %
Power bandwidth, both channels driven 8 Ω (DIN)	—	5 Hz—35 kHz (0.1 % HD)	—	5 Hz—50 kHz (0.1 % HD)
Frequency response at AUX input (DIN)	—	10 Hz—80 kHz (+0, -1 dB)	—	10 Hz—70 kHz (+0, -1 dB)
Signal-to-noise ratio for Phono	> 70 dB	> 100 dB	> 70 dB	> 95 dB
for Tuner, Tape PB, AUX	> 90 dB	—	> 90 dB	—
Input sensitivity/impedance Phono 1	2.5 mV/50 k Ω	—	2.5 mV/50 k Ω	—
Phono 2	2.5 mV—10 mV/25 k Ω	—	2.5 mV/20 k Ω	—
Tuner, AUX 1, 2, Tape	50 k Ω , 100 k Ω	—	50 k Ω , 100 k Ω	—
AUX 3	150 mV/100 k Ω	—	100 mV/100 k Ω	—
	150 mV— ∞ /100 k Ω	—	—	—
Input 1, 2	—	1 V, 2 V/50 k Ω	—	0.5 V/50 k Ω
Bass control Sub (50 Hz)	± 6 dB	—	—	—
Main (100 Hz)	± 7.5 dB	—	-10, +15 dB	—
Treble control Sub (20 kHz)	± 6 dB	—	± 12.5 dB	—
Main (10 kHz)	± 7.5 dB	—	—	—
Low filter	15 Hz (12 dB/oct) 30 Hz (18 dB/oct)	8 Hz (6 dB/oct)	13 Hz (12 dB/oct) 30 Hz (12 dB/oct)	7 Hz (12 dB/oct) 20 Hz (12 dB/oct)
High filter	12 kHz (12 dB/oct) 8 kHz (18 dB/oct)	—	12 kHz (12 dB/oct) 8 kHz (12 dB/oct)	—
Phono overload level Phono 1	700 mV	—	300 mV	—
Phono 2	700 mV—1.4 V	—	300 mV	—
Power consumption rated maximum	28 W	350 W 870 W	9 W	165 W 500 W
Dimensions (W \times H \times D) mm	468 \times 206 \times 342	468 \times 206 \times 370	422 \times 172 \times 295	422 \times 172 \times 295
Weight (kg)	12.5	27	7	15.1

Stereo Amplifiers



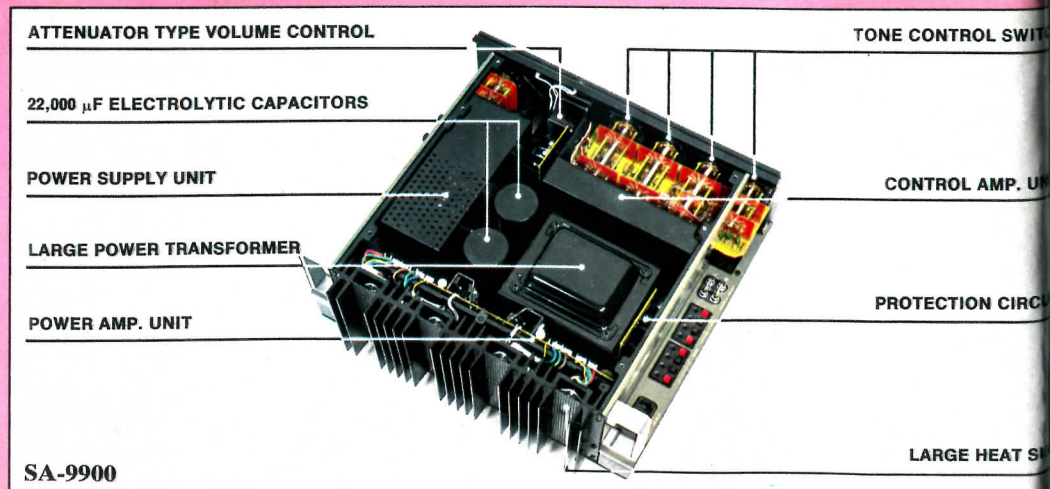
SA-9500: Stereo amplifier of 80 watts \times 2 RMS with unique chassis construction with input/output terminals on the side panels to make the cable connections easier. The high performance power amplifier is a combination of superior components and advanced circuit design. A twin control system is provided for precise bass and treble control; the accurately calibrated volume control facilitates adjustment and the RIAA equalisation is near perfect.

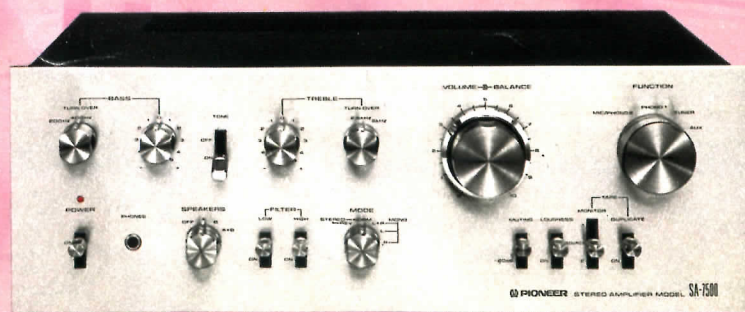
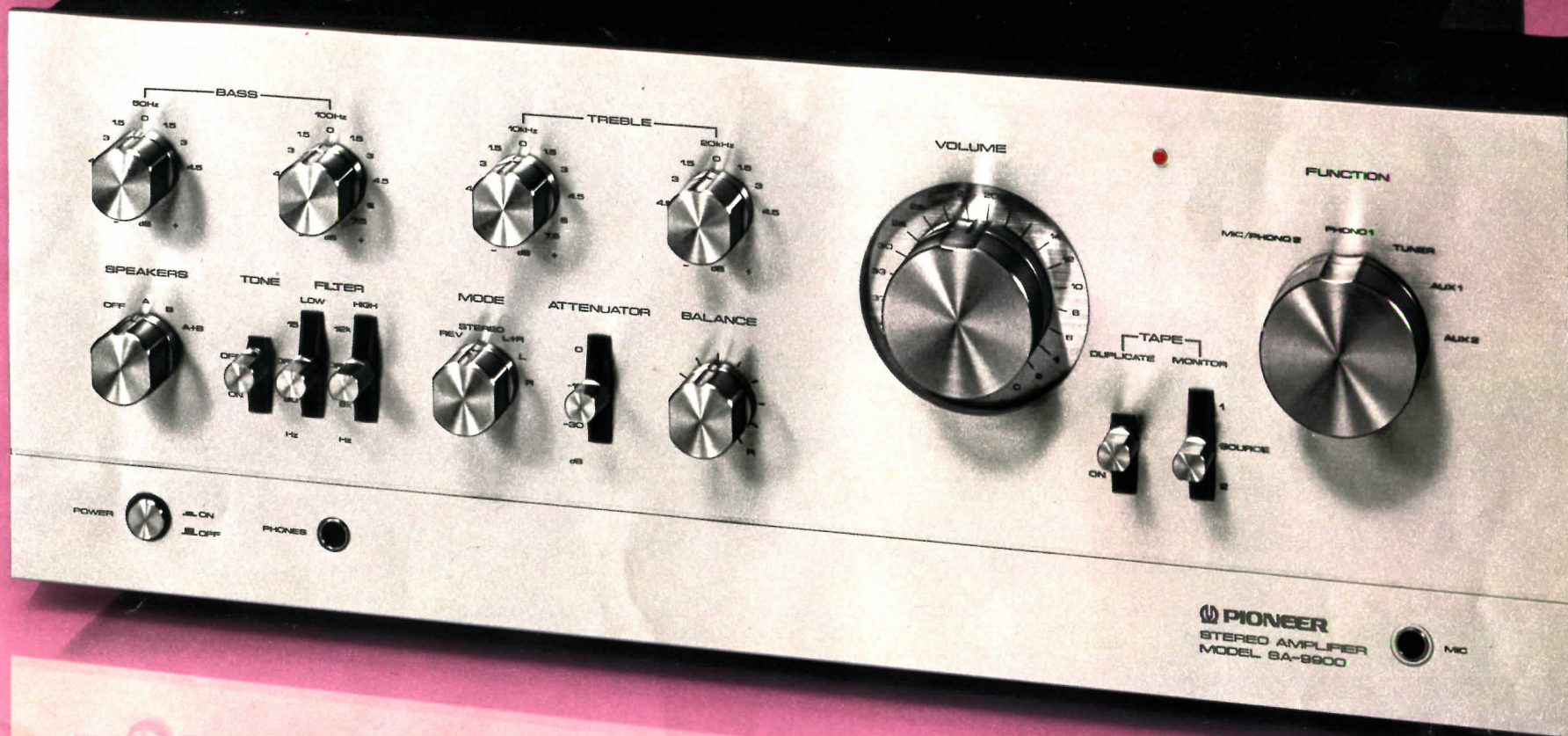


SA-8500: Stereo amplifier 60 watts \times 2 RMS. A dual DC power supply system is employed to provide increased acceptable input values. Careful circuit design and selection of components result in a wide output bandwidth. Twin tone control circuits are applied to conventional bass and treble controls. Electronic circuitry and a relay are combined in a fast protection circuit. Easy tape duplication and elegant styling complements performance.

SA-9900: Top-of-the-line stereo integrated amplifier.

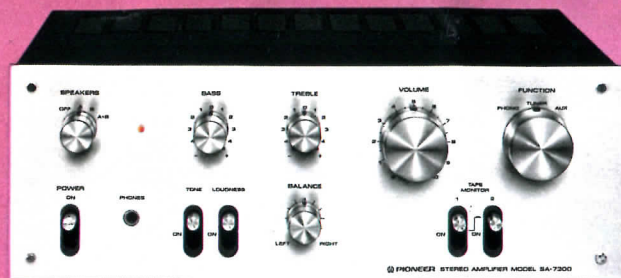
110 watts \times 2 RMS. Class A operation equalizer with 3-stage direct coupled SEPP design using dual power supply and first-stage FET equipped differential amplifier. Precise RIAA equalization within ± 0.2 dB. Phono 2 inputs feature level adjustment and input impedance selector. Pioneer's unique twin tone control system enables accurate matching of tone characteristics to room acoustics. Crossover distortion eliminated by new circuitry in power amplifier and second differential amplifier section.



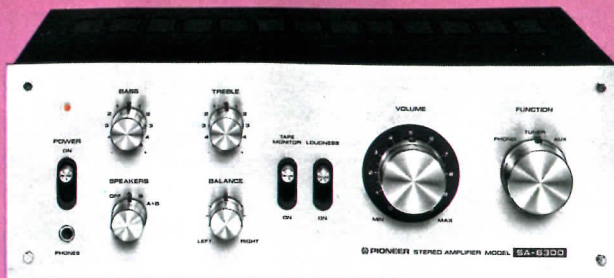


SA-7500: Stereo amplifier 40 watts $\times 2$ RMS. This unit employs high reliability NPN and PNP silicon power transistors. All stages are direct coupled in a pure complementary OCL circuit configuration. RIAA deviation, which governs record playback fidelity, is reduced to very close tolerance by stringently selected equalizer components. Electronic circuitry and a relay are combined in a fast action protection circuit. The duplicate switch also allows duplication from open reel to cassette tape.

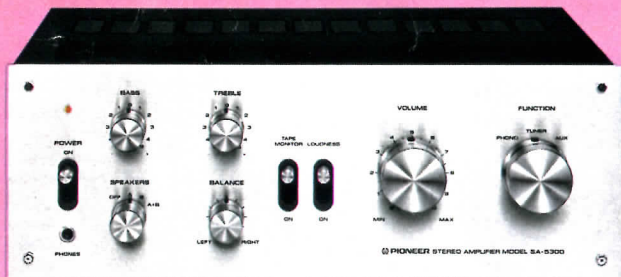
Stereo Amplifiers



SA-7300: Stereo amplifier with an output of 35 watts \times 2 RMS. In the range of 20 Hz—20 kHz at 8 ohms. All stages are directly coupled in the OCL circuit design to provide ample power with minimal distortion. RIAA deviation is assured within ± 0.3 dB while a maximum input of up to 200 mV can easily be handled. Features include a reliable protection circuit, specially engineered tone controls, recording and playback jacks for 2 tape decks.



SA-6300: A "new-concept" stereo integrated amplifier. 20 watts \times 2 RMS (Total harmonic distortion $< 0.8\%$). Equalizer amplifier section adopts high-performance IC. The power amplifier section features direct coupled pure complementary OCL circuitry. Loudness contour circuit for low-volume clarity. Both bass and treble tone controls have two click stop contact points for versatile tonal adjustment. This model is a combination of versatility and practicality.



SA-5300: Stereo amplifier. High-performance equalizer amplifier with ICs. The power amplifier produces 10 watts per channel min. RMS at 8 ohms from 40 Hz to 20 kHz with 0.8% total harmonic distortion. Versatile input/output selection. Loudness contour circuit.



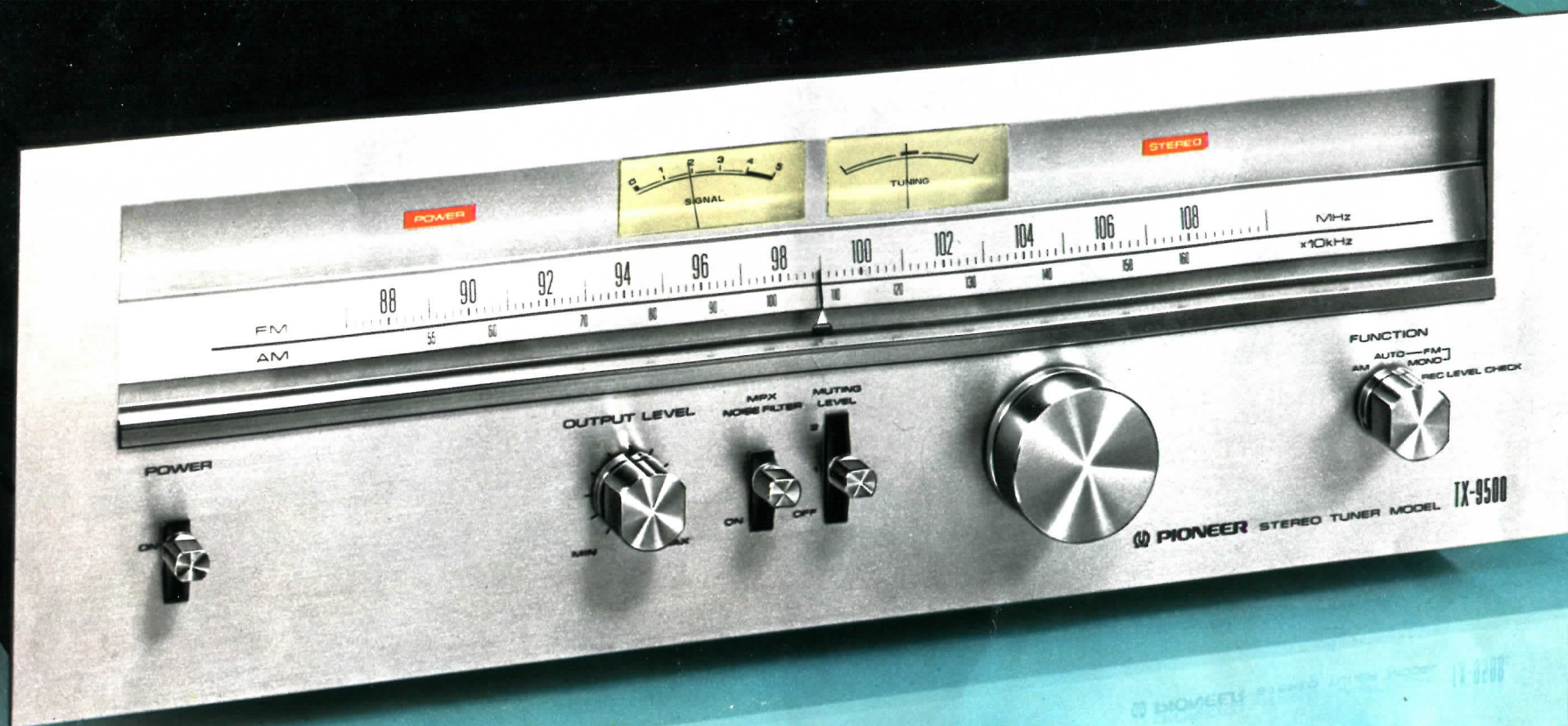
SR-202 W: Natural stereo sound, with a depth that is rarely achieved by home stereo components, is now possible with this unusual reverberation amplifier, made to supplement your existing stereo unit. Easily installed, easy to operate, model SR-202 W blends the direct electrical signals from tape or records, then adds a reverberation effect for acoustical realism all through your music room.

MA-62: High-performance six-channel mixing amplifier. The MA-62 is a 6-channel-input mic/line/phono stereo mixing amplifier for use when professional-quality multi-channel mixing is required. It accepts up to six low-impedance, high-quality microphones and features two pairs of stereo outputs. Special PAN-POT (Panoramic-Potentiometer) controls are provided on Channel 3 and Channel 4 to permit cross-channel panning. Position selectors are provided on Channel 1, 2, 5 and 6 so that any or all can be switched to Left, Right, Left/Right (Centre) output.



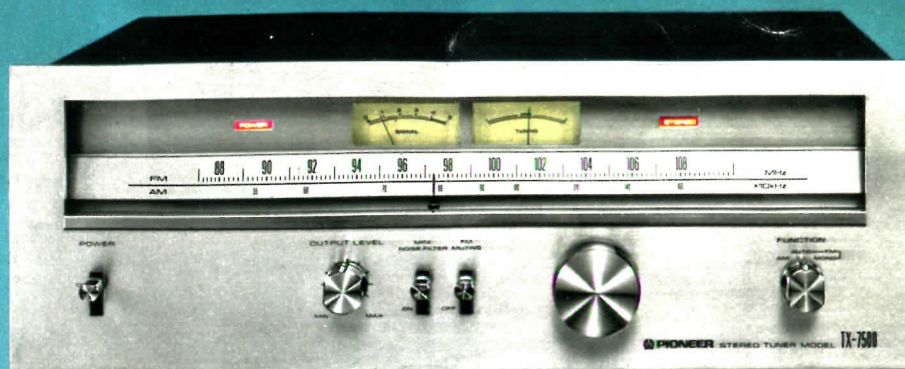
Stereo Amplifier

AMPLIFIERS	SA-9900	SA-9500	SA-8500	SA-7500	SA-7300	SA-6300	SA-5300	SR-202 W	MA
Continuous power each channel driven 4 Ω (DIN)	—	—	—	—	—	31 W/31 W	18 W/18 W	—	—
both channels driven at 1 kHz, 4 Ω	2×120 W	2×110 W	2×85 W	2×50 W	2×45 W	2×24 W	2×14 W	—	—
1 kHz, 8 Ω	2×120 W	2×85 W	2×65 W	2×45 W	2×40 W	2×22 W	2×12 W	—	—
20 Hz—20 kHz, 8 Ω	2×110 W	2×80 W	2×60 W	2×40 W	2×35 W	2×20 W (40 Hz—20 kHz)	2×10 W (40 Hz—20 kHz)	—	—
Total Harmonic Distortion at rated output power 8 Ω , 1 kHz (DIN)	< 0.1 %	< 0.1 %	< 0.1 %	< 0.3 %	< 0.3 %	< 0.8 %	< 0.8 %	< 0.2 %	< 0.1 %
Total intermodulation distortion at rated output power 8 Ω (DIN)	< 0.1 %	< 0.1 %	< 0.1 %	< 0.3 %	< 0.3 %	< 0.8 %	< 0.8 %	—	—
Power bandwidth, both channels driven 8 Ω (DIN)	5 Hz—40 kHz (0.1 % HD)	5 Hz—40 kHz (0.1 % HD)	5 Hz—40 kHz (0.1 % HD)	5 Hz—40 kHz (0.3 % HD)	5 Hz—60 kHz (0.3 % HD)	5 Hz—70 kHz (0.8 % HD)	15 Hz—100 kHz (0.8 % HD)	—	—
Frequency response at AUX input (DIN)	7 Hz—40 kHz (+0 dB, -1 dB)	7 Hz—40 kHz (+0 dB, -1 dB)	7 Hz—40 kHz (+0 dB, -1 dB)	10 Hz—50 kHz (+0 dB, -1 dB)	10 Hz—50 kHz (+0 dB, -1 dB)	20 Hz—30 kHz (+0.5, -1 dB)	20 Hz—30 kHz (+0.5, -1 dB)	—	—
Signal-to-noise ratio for Phono	—	—	—	—	—	—	—	—	—
for Tuner, Tape PB, AUX	> 70 dB	> 70 dB	> 70 dB	> 70 dB	> 70 dB	> 70 dB	> 70 dB	> 65 dB	> 70 dB
Input sensitivity/impedance Phono 1	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	2.5 mV/50 k Ω	—	2.5 mV/50 k Ω
Phono 2	2.5—10 mV/35 k Ω	2.5—10 mV/35 k Ω	2.5—5 mV/50 k Ω	2.5 mV/50 k Ω	—	—	—	—	—
Tuner, AUX 1, 2, Tape	150 mV/50 k Ω	150 mV/50 k Ω	150 mV/50 k Ω	150 mV/50 k Ω	150 mV/50 k Ω	150 mV/50 k Ω	150 mV/50 k Ω	—	—
MIC	6—24 mV/85 k Ω	6—24 mV/85 k Ω	7.5—15 mV/85 k Ω	7.5 mV/85 k Ω	—	—	—	—	—
Line	—	—	—	—	—	—	—	—	—
Input 1, 2	1 V/50 k Ω	1 V/50 k Ω	1 V/50 k Ω	1 V/50 k Ω	—	—	—	3 V (1 kHz) minimum reverberation/300 k Ω	—
Reverberation time (1 kHz) channel interference	—	—	—	—	—	—	—	0—2.5 sec.	—
Bass control Sub (50 Hz)	±4.5 dB	±10 dB (25, 50, 100 Hz)	±6 dB	±7 dB (100 Hz)	—	—	—	—	—
Main (100 Hz)	±7.5 dB	turnover (100, 200, 400 Hz)	±8 dB	±11 dB (100 Hz) turnover (200 Hz/400 Hz)	±9 dB	+9, -8 dB	+9, -8 dB	—	—
Treble control Sub (20 kHz)	±4.5 dB	±10 dB (8, 16, 32 kHz)	±6 dB	±7 dB (10 kHz)	—	—	—	—	—
Main (10 kHz)	±7.5 dB	turnover (2, 4, 8 kHz)	±8 dB	±11 dB (10 kHz) turnover (5 kHz/2.5 kHz)	+8, -6 dB	+6, -6 dB	+6, -6 dB	—	—
Low filter	15 Hz, 30 Hz (12 dB/oct)	15, 30 Hz (12 dB/oct)	30 Hz (12 dB/oct)	30 Hz (6 dB/oct)	15 Hz (6 dB/oct)	—	—	—	—
High filter	8 kHz, 12 kHz (12 dB/oct)	8, 12 kHz (12 dB/oct)	8 kHz (12 dB/oct)	8 kHz (6 dB/oct)	—	—	—	—	—
Loudness contour (-40 dB position)	—	—	+8.5 dB (100 Hz)	+8.5 dB (100 Hz)	+8 dB (100 Hz)	+8 dB (100 Hz)	+8 dB (100 Hz)	—	—
	—	—	+4 dB (10 kHz)	+4 dB (10 kHz)	+5.5 dB (10 kHz)	+5 dB (100 Hz)	+5 dB (100 Hz)	—	—
Phono overload level Phono 1	500 mV	250 mV	200 mV	200 mV	200 mV	150 mV	150 mV	—	250 mV
Phono 2	500 mV—1 V	250 mV—500 mV	200 mV—400 mV	200 mV	—	—	—	—	250 mV
Maximum power consumption	890 W	665 W	485 W	375 W	310 W	170 W	120 W	8 W	11 W
Dimensions (W×H×D) mm	420×165×403	420×165×403	420×150×345	420×150×345	350×125×282	350×125×282	350×125×282	322×140×263	400×165×282
Weight (kg)	20	17.2	11.5	10.9	7.6	6.9	6.4	4.6	5.8



TX-9500: High grade AM/FM stereo tuner. Dual-gate MOS FET's and a 5-gang variable capacitor boost FM front end sensitivity to a superb 1.5 μ V (IHF). Built-in recording signal level check, 2-step FM muting and accurate meters, AM section features an IC and ceramic filters. Precision and superb styling is stressed in the total design.

TX-7500: Smartly-styled AM/FM stereo tuner. New, functional front panel design and glare-free dial illumination. FM front end with frequency-linear 4-gang variable capacitor and FET IF with three double-tuned, phase-linear ceramic filters and monolithic IC. High-inertia tuning flywheel, PLL for stable FM stereo.



TUNERS	TX-9500	TX-7500	TX-5300
■ AUDIO SECTION			
Output level/impedance			
Fixed	650 mV/5 k Ω	650 mV/5 k Ω	750 mV/5 k Ω
Variable	70 mV—2 V/ 3.5 k Ω	50 mV—1.5 V/ 2.5 k Ω	—
■ FM SECTION (87.5—108 MHz)			
Sensitivity (DIN) mono at 26 dB signal-to-noise ratio, 40 kHz, dev.	1.2 μ V	1.4 μ V	1.6 μ V
(IHF) mono	1.5 μ V	1.9 μ V	1.9 μ V
Signal-to-noise ratio stereo (IHF)	75 dB	68 dB	68 dB
(DIN) signal-to-noise ratio unweighted, 40 kHz, 3.3 nW	75 dB	67 dB	65 dB
Total Harmonic Distortion (DIN) stereo	0.2%	0.3%	0.4%
Capture ratio	1.0 dB	1.0 dB	1.0 dB
Selectivity	85 dB	80 dB	60 dB
Frequency response (DIN) (+0.2 dB, -2 dB)	20 Hz—15 kHz	20 Hz—15 kHz	20 Hz—15 kHz
Stereo separation (1 kHz)	40 dB	40 dB	35 dB
Image rejection	110 dB	85 dB	60 dB
Subcarrier suppression	65 dB	65 dB	40 dB
■ AM SECTION (525—1605 kHz)			
Sensitivity (IHF)	15 μ V	15 μ V	15 μ V
Signal-to-noise ratio	50 dB	50 dB	50 dB
Image rejection	> 65 dB	> 40 dB	> 40 dB
Selectivity	40 dB	35 dB	35 dB
Dimensions (W×H×D) mm	420×150×365	420×150×365	350×125×303
Weight (kg)	9.1	8.0	4.8



TX-5300: AM/FM stereo tuner. This new tuner features a PLL (Phase-Lock-Loop) circuit in its FM MPX section. The FM front end employs a low-noise FET, a 3-gang variable capacitor and a high stability RF amplifier for top sensitivity. The high performance IC and phase-linear ceramic filters in the FM IF section increase selectivity and capture ratio without sacrificing linearity.



PL-51 A

PL-71: DC servo direct drive stereo turntable. Unique brushless DC servo direct drive-motor provides high signal-to-noise ratio of more than 60 dB with less than 0.05 % wow and flutter. New S-shaped static balanced tone arm (224 mm) features a lateral balancer with variable centre of gravity to enhance tracking capability and a continuously variable antiskating device. Usable cartridge weight: 4—32 grs. Tracking force down to 0.5 gr. ideal for CD-4 cartridges. Other features: arm height adjustable, cueing control, illuminated strobo, natural walnut wooden base.

PL-51 A: DC servo direct drive stereo turntable. Brushless DC servo motor provides stable performance without any electrical or mechanical noise. Precise servo controlled turntable rotation, independent of mains voltage fluctuations. Electronic speed change with 2 % speed adjustment for both 33 $\frac{1}{3}$ and 45 rpm. Illuminated strobo.



PL-A 45 D



PL-15 R: Manual belt-drive turntable featuring. Automatic return, automatic shut-off. Belt-drive system using a polyurethane loop belt and precisely balanced pulley. Rumble free 4-pole synchronous motor. Spring-activated bias compensation. The time-tested S-shaped tonearm is lightweight and specially designed to resist resonance.

PL-12 S: Manual electronic auto-stop belt-drive stereo turntable. Among its key features are an electronic auto-stop mechanism with space-age semiconductor Hall element, excellent specifications including wow and flutter of less than 0.08% (WRMS), a high sensitivity low-mass S-shaped tonearm, bias compensation.

PL-12 D-II: Manual belt-drive stereo turntable. Four pole synchronous motor and a belt-drive system to ensure stable rotation of the turntable platter that is free from line voltage fluctuation. Extremely high signal-to-noise ratio of more than 48 dB. The counterweight of the tonearm is the stylus pressure direct-reading type that gives easy weight adjustment when cartridge changing is necessary. Static-balanced S-shaped tonearm that used a super hard alloy material at the pivot points, assuring sensitive, stable tracing at all times.

PL-10: Manual belt-drive stereo turntable. The perfect turntable for you if you're just now moving into the wonderful world of stereo. The 4-pole synchronous motor with reliable belt-drive mechanism is free from mains supply voltage fluctuations. Static-balanced S-shaped tonearm assures stable tracking. Continuously adjustable bias compensation to prevent distortion caused by uneven inward force. Elegantly designed cabinet with spring-suppression eliminates external vibrating such as howling.

PL-A 45 D: Full automatic belt-drive stereo turntable. Fully automatic from the playing of the record to its auto-repeat and tonearm return functions at the end of the record. Two precision motors: 4-pole synchronous motor for rotating the turntable platter and a gear motor exclusively used for tonearm movement and other automatic functions. Stable, highly sensitive S-shaped static-balanced pipe tonearm. Bias compensation for minimizing distortion, can be adjusted while playing records.

TURNTABLES	PL-71	PL-51 A	PL-A 45 D	PL-15 R	PL-12 D-II	PL-12 S	PL-10
Motor	brushless DC servo	brushless DC servo	4 pole synchronous	4 pole synchronous	4 pole synchronous	4 pole synchronous	4 pole synchronous
Drive system	direct drive	direct drive	belt drive	belt drive	belt drive	belt drive	belt drive
Speeds	33 $\frac{1}{3}$ and 45 rpm fine adjustment of speed ($\pm 2\%$)	33 $\frac{1}{3}$ and 45 rpm fine adjustment of speed ($\pm 2\%$)	33 $\frac{1}{3}$ and 45 rpm	33 $\frac{1}{3}$ and 45 rpm	33 $\frac{1}{3}$ and 45 rpm	33 $\frac{1}{3}$ and 45 rpm	33 $\frac{1}{3}$ and 45 rpm
Turntable platter	All turntables have an aluminium alloy die-cast turntable platter of 31 cm diameter						
Rumble DIN B. weighted	61 dB	61 dB	61 dB	61 dB	61 dB	61 dB	61 dB
Wow and flutter (WRMS)	< 0.05 %	< 0.05 %	< 0.1 %	< 0.08 %	< 0.08 %	< 0.08 %	< 0.1 %
Usable cartridge weight (gr.)	4—32	4—14	4—10	4—10	4—12	4—10	4—10
Effective arm length (mm)	224	221	221	221	221	221	221
Cueing control	independent up-down	off-on-down	independent up-down, autom. + manual	up-down	off-on-down	off-on-down	up-down
Dimensions (W×H×D) mm	480×185×415	480×185×415	480×172×415	430×166×355	430×167×349	430×160×349	430×166×339
Weight (kg)	11	10.5	11.5	7.5	7.5	8.2	7.5

Speaker Systems



CS-T 8: 3-way, 3-speaker system. The 30 cm woofer cone employs a carbon fibre blended material, whereas the midrange is made of duralmin for wide acoustic energy radiation and the dome tweeter uses titanium for accurate reproduction of high frequencies. Input power: 80 watts.

CS-T 61: 3-way, 3-speaker system. Each of its three speaker units—the 25 cm carbon fibre blended cone woofer, the 10 cm cone midrange and 6.6 cm soft cone tweeter—is carefully selected to widen the usable frequency range so that smooth crossover can be obtained. Input power: 60 watts.



CS-T 61



CS-F 51

CS-F 51: 2-way, 2-speaker system. A power-handling capacity of 50 watts and its 2-way design makes this speaker system ideal for medium to large sound systems. The unique 25 cm carbon fibre blended cone woofer and 7.7 cm cone tweeter are carefully balanced for smooth response.

SPEAKER SYSTEM	CS-T 8	CS-T 61	CS-F 51
Enclosure type	infinite baffle	infinite baffle	bass reflex
Speakers woofer midrange tweeter	30 cm cone 4.8 cm dome 2.5 cm dome	25 cm cone 10 cm cone 6.6 cm cone	25 cm cone — 7.7 cm cone
Crossover frequency	700/4000 Hz	950/4700 Hz	2200 Hz
Frequency range	30 Hz—20 kHz	35 Hz—20 kHz	35 Hz—20 kHz
Sensitivity (at 1 m)	90.5 dB/W	89 dB/W	90 dB/W
Operating power to get 96 dB SPL at 1 m distance (DIN)	3.5 W	5 W	4 W
Nominal power (DIN)	40 W	30 W	30 W
Music power (DIN)	80 W	60 W	50 W
Nominal impedance	8 Ω	8 Ω	8 Ω
Dimensions (W×H×D) mm	360×630×330	350×610×297	335×560×264
Weight (kg)	27	17.5	11.5

Speaker Systems



CS-E 830: 3-way, 3-speaker system. A completely new speaker unit, incorporating the latest acoustical innovations. The 30 cm woofer has a very low resonance frequency, the midrange 4.8 cm dome speaker and the 2.5 cm cone tweeter are distortion free. Input power: 90 watts.

CS-E 730: 3-way, 3-speaker system. Handles up to 75 watts of input power. Equipped with a 30 cm woofer, a 4.8 dome midrange speaker and a 2.5 cm dome tweeter.

SPEAKER SYSTEM	CS-E 830	CS-E 730	CS-E 530	CS-E 420	CS-E 320	CS-E 220
Enclosure type	infinite baffle	infinite baffle	infinite baffle	infinite baffle	infinite baffle	infinite baffle
Speakers woofer midrange tweeter	30 cm cone 4.8 cm dome 2.5 cm dome	30 cm cone 4.8 cm dome 2.5 cm dome	25 cm cone 12 cm cone 2.5 cm dome	20 cm cone — 2.5 cm dome	20 cm cone — 2.5 cm dome	16 cm cone — 2.5 cm dome
Crossover frequency	760/5600 Hz	650/5000 Hz	800/4000 Hz	1600 Hz	3300 Hz	4000 Hz
Frequency range	35 Hz—20 kHz	35 Hz—20 kHz	35 Hz—20 kHz	35 Hz—20 kHz	45 Hz—20 kHz	50 Hz—20 kHz
Sensitivity (at 1 m)	90.5 dB/W	91 dB/W	89 dB/W	87 dB/W	86 dB/W	86 dB/W
Operating power to get 96 dB SPL at 1 m distance (DIN)	3.5 W	3.2 W	5 W	7.9 W	10 W	10 W
Nominal power (DIN)	75 W	60 W	50 W	40 W	30 W	20 W
Music power (DIN)	90 W	75 W	60 W	50 W	40 W	30 W
Nominal impedance	8 Ω	8 Ω	8 Ω	8 Ω	4 Ω	4 Ω
Dimensions (W×H×D) mm	380×660×317	380×660×307	330×570×304	260×500×245	240×450×220	200×300×170
Weight (kg)	22	21.5	16.5	12	9	6



CS-E 730



CS-E 530: 3-way, 3-speaker system. Two of the 3 loudspeakers feature Pioneer's exclusive cone paper. This speaker unit is equipped with a 25 cm woofer, a 12 cm cone midrange speaker and a 2.5 cm dome tweeter. Input power: 60 watts.

CS-E 220: 2-way, 2-speaker system. Despite its small (but very practical) dimensions, these speakers fill your room with quality stereo sound. Incorporates a 16 cm woofer and a dome type tweeter. Up to 30 watts of power input.



CS-E 220



CS-E 320: 2-way, 2-speaker system. Rich, powerful bass and clear high tones are reproduced by a 20 cm woofer and a dome tweeter. Exceptionally low harmonic distortion. Accepts up to 40 watts of power input.



CS-E 420: 2-way, 2-speaker system. Pioneer's sound capability is reflected in this medium-powered (up to 50 watts) speaker unit. With a 20 cm woofer speaker combined with a highly efficient dome type tweeter. Beautiful wooden cabinet.

Speaker Systems



CS-53

CS-53: 2-way, 2-speaker system. For use in most rooms and powerful enough to provide full, rich sound. Features a 30 cm woofer and 9 cm tweeter. Outstanding performance in the important midrange and bass range. Finish is subdued oiled walnut. Power input: 40 watts.



CS-515

CS-515: Economical 3-way, 3-speaker system. This bookshelf type speaker system has a maximum input power of 50 watts, producing a rich and powerful sound. The 25 cm woofer is equipped with a large ferrite magnet, the 12 cm cone mid-range is also furnished with a roll edge to minimize harmonic distortion and the 2.5 cm dome tweeter is equipped with a titanium diaphragm to improve the transient characteristics at high frequencies.

CS-313: 2-way, 2-speaker system. Pioneer's bass reflex type budget priced speaker system. Woofer: 20 cm, tweeter: 7.7 cm. Highest sensitivity in this class offering 93 dB/W at 1 m distance. Power input of 20 watts.

SPEAKER SYSTEM	CS-53	CS-313	CS-515
Enclosure type	bass reflex	bass reflex	bass reflex
Speakers woofer midrange tweeter	30.5 cm cone — 8.8 cm cone	20 cm cone — 7.7 cm cone	25 cm cone 12 cm cone 2.5 cm dome
Crossover frequency	3000 Hz	5000 Hz	700/5000 Hz
Frequency range	45 Hz—20 kHz	50 Hz—20 kHz	35 Hz—20 kHz
Sensitivity (at 1 m)	100 dB/W	93 dB/W	90 dB/W
Operating power to get 96 dB SPL at 1 m distance (DIN)	0.4 W	2 W	4 W
Nominal power (DIN)	25 W	10 W	30 W
Music power (DIN)	40 W	20 W	50 W
Nominal impedance	8 Ω	8 Ω	8 Ω
Dimensions (W×H×D) mm	420×568×285	270×500×230	345×585×303
Weight (kg)	13	6.4	16



CS-313

RT-1011 L: The stereo tape deck featuring dependable construction, high-precision 3-motor tape transport and versatile tape selector. The hyperbolic permalloy heads are compactly arranged to form a short tape path. Easily operated controls as well as easy-to-read highly reliable level



meters. Wide dynamic range amplifiers. The use of a 10¹/₂ inch reel means up to two times longer recording and playback time.

REEL-TO-REEL TAPE DECKS	RT-1050	RT-1011 L
Drive system	3 motor	3 motor
Tape Heads	3	3
Tape speed	38 cm/sec. 19 cm/sec. 9.5 cm/sec.	19 cm/sec. 9.5 cm/sec.
Wow and flutter	38 cm/sec. (< 0.04 % WRMS) 19 cm/sec. (< 0.08 % WRMS) 9.5 cm/sec. —	— < 0.08 % WRMS < 0.1 % WRMS
Frequency response	38 cm/sec. (± 3 dB) 30 Hz—22 kHz 19 cm/sec. (± 3 dB) 40 Hz—20 kHz 9.5 cm/sec. (± 3 dB) —	— 40 Hz—20 kHz 40 Hz—12 kHz
Signal-to-noise ratio	> 57 dB	> 55 dB
Total Harmonic Distortion	< 1 %	< 1 %
Input sensitivity/impedance	0.25 mV—80 mV/20 kΩ MIC 50 mV—25 V/100 kΩ Line 50 mV—25 V/100 kΩ DIN 15 mV—1.5 V/1.5 kΩ	0.25 mV—80 mV/20 kΩ 50 mV—25 V/100 kΩ 15 mV—1.5 V/1.5 kΩ
Output load impedance		
Line	316 mV (—10 dBV)/ 50 kΩ	316 mV (—10 dBV)/ 50 kΩ
DIN connector	316 mV/50 kΩ	—
Headphones	40 mV/8 Ω	40 mV/8 Ω
Dimensions (W×H×D) mm	460×453×244	428×431×227
Weight (kg)	23.8	18.6

Reel-To-Reel Tape Decks



RT-1050: Professional 2-track, 2-speed (15/7¹/₂ ips.), 3-motor stereo tape deck. Half track, high speed, professional recording quality featuring wide dynamic range, extended high frequency response and reduced wow and flutter. Optional plug-in quarter track head assembly also available. Bias switching for standard and LH tapes. Four position equalisation switched for NAB STD & LH plus IEC STD & LH. 10¹/₂ inch reels. Features also include LED Peak Indicators; dual scale level meters (for STD & LH tapes); electronic switching; MIC/line mixing; 2 stage MIC amplifier; independent right-left recording and monitor mode selectors.



CT-F 9191: The crowning achievement of Pioneer's cassette deck technology. The CT-F 9191 features two motors, a Dolby B type noise reduction system, a direct coupled 3-stage head amplifier, automatic CrO₂ tape bias/equalizer selector. Widerange VU meters (—40 to +3 db) multiplex filter, mic and line mixing.

CT-5151: Dolby cassette tape deck. Built-in Dolby noise reduction system with Dolby indicator pilot lamp. Separate bias and equalizer tape selection permits the use of any cassette tape, standard, low-noise/high output or chromium dioxide, with perfect results. Unique recording peak level indicator employs a LED which measures the exact level of transient peak signals. Level Limiter prevents distortion caused by excessive input signal levels. Other features: tape running pilot lamp, tape counter, skip button, memory rewind button, full auto-stop mechanism, electronically controlled DC motor, independent REC/PLAY level controls.

CT-4141 A: Dolby cassette tape deck. Built-in Dolby noise reduction system with Dolby indicator pilot lamp. Independent Bias/equalizer tape selection permits the use of any cassette tape, standard, low-noise/high output or chromium dioxide. Unique skip button allows quick transport of the tape while monitoring the playback sound. Other features: full auto-stop mechanism, tape running pilot indicator, independent REC/PLAY level controls, electronically controlled DC motor, stereo/mono mode switch.

DOLBY is a trademark of Dolby Laboratories Inc.



CT-5151



CT-4141 A



CT-3131 A

Cassette Tape Decks



CT-F 7171: Stereo front access Dolby cassette deck. Built-in Dolby noise reduction system with BIAS/EQ switches for normal or special types of tape. Switched Recording Limiter. Light emitting Diode. Peak Level indicator. Memory Rewind and Skip button for high-speed tape search. Less than 0.1 % WRMS wow/flutter thanks to electronically controlled DC motor. Ingenious jam-proof tape compartment slanted at 30° angle.



CT-F 6161: Front access stereo cassette deck with Dolby. Built-in Dolby noise reduction system and indicator. Long-life, high performance permalloy solid head. Full versatility tape selector with independent bias and equalizer switch. Playback output level control; direct change operation permits instant change from FF or REW to play without engaging stop mechanism.



CT-F 2121: Front-access stereo cassette deck. Independent bias and equalization switching. Built-in Dolby B noise reduction system. Long-life permalloy-solid rec/playback head for high performance. Fully automatic stop mechanism for all modes. Direct mode change operation.

CT-3131 A: Stereo cassette tape deck. Tape selector switch for normal and chromium dioxide tapes. Electronically-controlled DC motor. Full auto-stop safety. Unique tape running pilot indicator. Switchable playback noise filter.

CASSETTE TAPE DECKS	CT-F 9191	CT-F 7171	CT-F 6161	CT-F 2121	CT-5151	CT-4141 A	CT-3131 A
REC/PB Head	1× Ferrite Solid	1× Ferrite Solid	1× Perm. Solid	1× Perm. Solid	1× Ferrite Solid	1× Perm. Solid	1× Perm. Solid
Erasing Head	1× Ferrite	1× Ferrite	1× Ferrite	1× Ferrite	1× Ferrite	1× Ferrite	1× Ferrite
Recording system	All tape decks have AC BIAS 85 kHz						
Frequency response (REC/playback) Standard tape/LH tape	25 Hz—16 kHz (35 Hz—13 kHz, ±3 dB)	30 Hz—13 kHz (40 Hz—12 kHz, ±3 dB)	30 Hz—13 kHz (40 Hz—11 kHz, ±3 dB)	30 Hz—13 kHz (40 Hz—11 kHz, ±3 dB)	30 Hz—13 kHz (63 Hz—12 kHz, ±3 dB)	30 Hz—12.5 kHz (63 Hz—10 kHz, ±3 dB)	30 Hz—12.5 kHz (63 Hz—10 kHz, ±3 dB)
Chromium Dioxide tape	20 Hz—17 kHz (30 Hz—14 kHz, ±3 dB)	30 Hz—16 kHz (40 Hz—13 kHz, ±3 dB)	30 Hz—16 kHz (40 Hz—12 kHz, ±3 dB)	30 Hz—16 kHz (40 Hz—12 kHz, ±3 dB)	30 Hz—16 kHz (63 Hz—13 kHz, ±3 dB)	30 Hz—15 kHz (63 Hz—12 kHz, ±3 dB)	30 Hz—15 kHz (63 Hz—12 kHz, ±3 dB)
Signal-to-noise ratio, weighted at max. recording level	52 dB (Dolby off) 62 dB (Dolby on)	48 dB (Dolby off) 58 dB (Dolby on)	48 dB (Dolby off) 58 dB (Dolby on)	48 dB (Dolby off) 58 dB (Dolby on)	48 dB (Dolby off) 58 dB (Dolby on)	48 dB (Dolby off) 58 dB (Dolby on)	47 dB —
Wow and flutter (DIN)	0.12 %	0.19 %	0.19 %	0.19 %	0.19 %	0.19 %	0.19 %
INPUTS MIC Line REC/PB (DIN jack)	0.22—100 mV/30 kΩ 65 mV—∞/100 kΩ 10 mV/10 kΩ	0.2—90 mV/20 kΩ 60 mV—9 V/470 kΩ 6 mV—2.7 V/10 kΩ	0.2—90 mV/20 kΩ 60 mV—9 V/470 kΩ 6 mV—2.7 V/10 kΩ	0.3—60 mV/20 kΩ 63 mV—12 V/50 kΩ 10 mV—2 V/10 kΩ	0.5—90 mV/20 kΩ 50 mV—7 V/300 kΩ 15 mV—2.2 V/10 kΩ	0.5—90 mV/20 kΩ 50 mV—7 V/300 kΩ 15 mV—2.2 V/10 kΩ	0.5—90 mV/20 kΩ 50 mV—7 V/300 kΩ 15 mV—2.2 V/10 kΩ
OUTPUTS (Load impedance) Line (max.) REC/PB (DIN jack) (max.) Headphone	530 mV/50 kΩ 530 mV/50 kΩ 65 mV/8 Ω	450 mV/50 kΩ 450 mV/50 kΩ 56 mV/8 Ω	450 mV/50 kΩ 450 mV/50 kΩ 56 mV/8 Ω	450 mV/50 kΩ 450 mV/50 kΩ 80 mV/8 Ω	450 mV/50 kΩ 450 mV/50 kΩ 50 mV/8 Ω	450 mV/50 kΩ 450 mV/50 kΩ 56 mV/8 Ω	450 mV/50 kΩ 450 mV/50 kΩ 56 mV/8 Ω
Dimensions (W×H×D) mm	420×197×310	430×138×310	442×138×330	350×142×282	396×96×242	396×96×242	396×96×242
Weight (kg)	12	8.5	8.7	6.6	4.8	4.7	4.4

8-Track Cartridge Tape Decks



H-R 99: 8-track record/playback deck. Records and plays back any 8-track, 2-channel tape cartridge. Automatic or manual track change. Electronically controlled motor that lasts longer because it generates less heat. Shielded capstan for trouble-free tape feed. Vertical head-shift mechanism to assure proper tape-head contact. Other features: automatic recording level control, end of track signal indicator, illuminated track indicator, function switch for endless playing or auto-stop after 1 track or 4 tracks. Twin VU meters.



H-22: 8-track stereo playback deck. Solid state, all transistor circuitry for complete dependability and top performance. Automatic or manual programme selection. Wide response range from 40 to 12 000 Hz for excellent orchestral reproduction. Vertical head shift mechanism assures positive tape head contact.

8-TRACK HOME UNITS	H-R 99	H-22	H-2000
AUDIO SECTION			
Max. output power	—	—	7.5 W+7.5 W
Frequency response	30 Hz—12 kHz	30 Hz—12 kHz	30 Hz—12 kHz
Stereo separation	> 40 dB	> 40 dB	> 40 dB
Total Harmonic Distortion	< 2 %	< 3 %	< 3 %
Crosstalk	> 45 dB	> 40 dB	> 40 dB
Signal-to-noise ratio	> 45 dB	> 40 dB	> 40 dB
Wow and flutter (WRMS)	< 0.15 %	< 0.25 %	< 0.25 %
FM SECTION (87.5—108 MHz)			
Sensitivity (IHF)	—	—	10 μ V
AM SECTION (525—1605 kHz)			
Sensitivity	—	—	500 μ V/m
Dimensions (W×H×D) mm	295×116×275	199×120×297	476×120×297
Weight (kg)	5.5	3.1	6.3



H-2000: 8-track stereo tape deck with AM/FM-stereo tuner. Programmes run through automatically or can be selected by push button. An illuminating stereo signal indicator tells when the multiplex tuner receives an FM stereo programme. Bass and treble controls are separate for fine tone balancing. Vertical head shift for positive tape contact.

Compact Stereo Systems



C-4600



C-4500 A

Available with tuner.

COMPACT STEREO SYSTEMS	C-4600	C-4500 A
AUDIO SECTION		
Continuous power each channel driven 4 Ω (DIN) both channels driven at 1 kHz, 8 Ω	16 W/16 W 2 \times 10 W 4 Ω 2 \times 12 W	16 W/16 W 2 \times 10 W 2 \times 12 W
Total intermod. distortion at rated output power, 8 Ω	< 0.7 %	< 0.7 %
Power bandwidth, both channels driven 8 Ω	20 Hz—40 kHz (0.5% HD)	20 Hz—40 kHz (0.5% HD)
Frequency response at "AUX" input	20 Hz—50 kHz (\pm 3 dB)	20 Hz—50 kHz (\pm 3 dB)
Channel separation at 1 kHz Phono AUX, tuner	> 50 dB > 55 dB	> 50 dB > 55 dB
Signal-to-noise ratio Phono AUX, tuner	> 70 dB > 90 dB	> 70 dB > 90 dB
Input sensitivity/impedance Phono AUX, tuner	2.5 mV/50 k Ω 200 mV/100 k Ω	2.5 mV/50 k Ω 200 mV/100 k Ω
Bass control (100 Hz) Treble control (10 kHz)	-11, +12 dB -10, +9.5 dB	-11, +12 dB -10, +9.5 dB
TURNTABLE MOTOR + TURNTABLE PLATTER		
Motor	4 pole synchronous type, belt driven	4 pole synchronous type, belt driven
Speed	33 $\frac{1}{3}$ and 45 rpm	33 $\frac{1}{3}$ and 45 rpm
Wow and flutter at 33 $\frac{1}{3}$ WRMS	< 0.08 %	< 0.08 %
Signal-to-noise ratio	> 47 dB	> 47 dB
TONE-ARM		
Type	static balance S-shaped arm	static balance S-shaped arm
Effective length	221 mm	221 mm
Usable cartridge weight (gr.)	4—10	4—8.5
Cueing device	off—on—down	up—down
Dimensions (W \times H \times D) mm	517 \times 172 \times 398	517 \times 172 \times 398
Weight (kg)	12.9	12.9

C-4600: Compact stereo system with integrated auto-return turntable. Belt-drive turntable coupled with a quiet 4-pole synchronous motor. High-sensitivity, S-shaped tonearm. The amplifier section produces 2 \times 10 watts of continuous RMS power. This unit provides bass and treble controls with click-stops to permit easy tonal settings.

C-4500 A: High-performance compact stereo. Reliable belt-drive turntable which is driven by Pioneer's test-proven belt-drive system. High sensitivity S-shaped tonearm is equipped with an anti-skating control and oil-damped cueing device. The high-performance, low-distortion amplifier produces 2 \times 10 watts and has a total harmonic distortion of less than 0.5%.



SE-300, SE-500: High-polymer stereo headphones. Both headphones are based on the electrophysical effect called piezo-electrics. They can be plugged directly into the headphone jack of the amplifier or receiver. Their lightweight open type design and durable materials contribute significantly to their appeal.



SE-300



SE-500



SE-700

Stereo Headphones

SE-700: Stereo headphones. Superb tonal quality from unique high-polymer driver elements. Tonal characteristics are comparable to those of the electro-static type headphones but without the necessity of a matching transformer. You can plug in directly to the headphone jack of your amplifier or receiver. Improved sensitivity and power handling: they will not clip nor produce distortion even if fed excessively strong signals. Linear response over the entire audio spectrum without excessive strain.



SE-505

SE-505: 2-way stereo headphones. A quality set for rich, dynamic sound and solid comfort. Features 4.5 cm and 3.2 cm mylar speakers with aluminium voice coils. Volume and tone control enable you to obtain ideal sound reproduction. The luxurious soft black finish gives a visually attractive appearance. Compatible with any stereo system with an output impedance range of 4—16 ohms.



SE-305

SE-305: Stereo headphones, covering a wide frequency range from 20 to 20 000 Hz through a small but excellent mylar speaker. The soft black finish invites hours of stable and fatigue-free music pleasure. Compatible with any stereo system with an output impedance range of 4—16 ohms.



SE-205

SE-205: Stereo headphones, produce a rich bass response. The fidelity in reproduction compares with a high performance speaker. The functional construction as well as the attractive black tone design make these headphones a real value-packed purchase.



SE-Q 404

SE-Q 404: 4-channel headphones. Four driver elements deliver a high degree of separation of left/right and front/back channels. 2-ch/4-ch selector switch for more convincing realism from all 2-channel sources. Each earcup has its own independent volume control for use in creating ideal balance of 4-channel or 2-channel sound. Polyester driver elements assure crisp, clear and dynamic sound. They have excellent transient characteristics and undistorted sound reproduction over a broad audio spectrum.

HEADPHONES	SE-700	SE-500	SE-300	SE-Q 404	SE-505	SE-305	SE-205
Matching impedance	4—16 Ω	4—16 Ω	4—16 Ω	4—16 Ω	4—16 Ω	4—16 Ω	4—16 Ω
Frequency response (DIN)	20 Hz—20 kHz	20 Hz—20 kHz	20 Hz—20 kHz	20 Hz—20 kHz	20 Hz—20 kHz	20 Hz—20 kHz	20 Hz—20 kHz
Maximum input per channel	30 V	30 V	30 V	500 mW	500 mW	500 mW	500 mW
Characteristic sound pressure level (DIN)	101.5 dB/3 V	103.5 dB/3 V	103.5 dB/3 V	90.4 dB/mW	99.4 dB/mW	99.1 dB/mW	97.4 dB/mW
Speaker	7 μ piezo-electric high polymer film	6.5 μ high polymer element	6.5 μ high polymer element	4 \times 4.5 cm polyester film cone	2-way dynamic 4.5 cm + 3.2 cm	4.5 cm dynamic	7 cm dynamic
Net weight (gr.)	375	315	280	550	690	435	450
Connecting cable	meshwork cable 3 m with ϕ 6.5 mm 3-P plug	meshwork cable 3 m with ϕ 6.5 mm 3-P plug	meshwork cable 3 m with ϕ 6.5 mm 3-P plug	3 m cable with 2 \times 3-P plug	5 m curled type with 3-P plug	5 m curled type with 3-P plug	2.5 m cable with 3-P plug

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