

PIONEER

QX-949A

The ultimate four-channel stereo receiver with built-in CD-4, SQ full-logic and regular matrix, four-channel display and excellent FM/AM.



It's fully four-channel in four different ways. The improved Pioneer QX-949A has (1) an elaborate and high-quality CD-4 demodulator section to play the discs labeled CD-4 or "Quadradisc", (2) a new, fully-perfected SQ full-logic matrix decoder for real four-channel sound from SQ discs, (3) a very effective Regular Matrix decoder to play all other matrix formats, and (4) separate 4-channel inputs to receive signals from a four-channel tape or cartridge player for truly discrete quadraphonic sound. What's more, it has the solid, high-powered circuitry to deliver massive power output with very low distortion to your four speaker systems for high fidelity reproduction of four-channel and two-channel sources. Power is a vast continuous power output of 40 watts* per channel, min. RMS, with four channels driven at 8 ohms, from 20 Hertz to 20,000 Hertz with no more than 0.3% total harmonic distortion. Better yet, when you choose to use the QX-949A for conventional two-channel sound, it will give you continuous power output of 60 watts* per channel, min. RMS at 8 ohms, from 20 Hertz to 20,000 Hertz with no more than 0.3% total harmonic distortion,

thanks to its new Pioneer "Power Boosting Circuit". With the increasing importance of FM broadcasting in two-channel and four-channel, we haven't overlooked your needs for a tuner section that can pull in even the most distant stations and reproduce them with the highest clarity, fidelity and the least amount of noise. We've also made sure FM stereo separation stays wide and clear over the entire frequency spectrum. With its high sensitivity and selectivity, the FM/AM section is a classic of quality, featuring a four-gang variable capacitor and phase-linear ceramic filters. Other features include a big four-channel level indicator that illuminates any adjustments you make when listening to four-channel sound, a large tuning meter for signal strength and a center-of-channel meter, MPX noise filter, FM muting and more. The QX-949A handles four pairs of speaker systems (two stereo pairs in front, two stereo pairs in back) which you can operate independently or simultaneously. Facilities are provided for the connection of three stereo tape decks and deck-to-deck dubbing among them, and for the use of two turntables plus an AUX unit. It's fully four-channel and it's the best of its breed. Check out the details of this superb four-channel music center today.

*Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers. (Applicable to the U.S.A. only)
*Walnut veneered top and side panels are used in the construction of this cabinet.

QX-949A



FULLY FOUR-CHANNEL IN FOUR DIFFERENT WAYS THE LATEST CD-4 DEMODULATOR

Playing CD-4 records with full fidelity and space-expanding four-channel realism is easy with the Pioneer QX-949A. It has a built-in CD-4 demodulator of the latest design — a compact marvel of solid-state circuitry which delivers the best discrete disc sound possible. CD-4 records contain specially-modulated signals (similar to the multiplexed signals used in FM stereo). The CD-4 demodulator in the QX-949A separates these signals into four discrete signals, and passes them on to the preamplifier and power amplifier sections of the receiver for ultimate playback through your speakers. Clear sound localization in the four channels, one of the major virtues of CD-4, is achieved by simple manipulation of the CD-4 separation controls on the QX-949A, using the CD-4 test record supplied free of charge; once set, you needn't make further adjustments. Furthermore, the CD-4 demodulator is composed of an equalizer section, demodulator section including a P.L.L. (Phase Lock Loop) and A.G.C. (Automatic Gain Control) and a matrix section including an A.N.R.S. (Automatic Noise Reduction System), in which an IC is employed for stability and reliability.

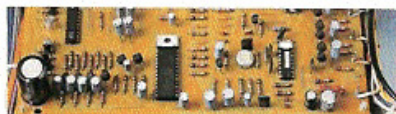


SQ FULL-LOGIC MATRIX DECODER

Newly developed ICs for the matrix, logic and gain control sections of this advanced full-logic SQ decoder section mean the very best separation between the front and rear as well as the left and right channels when you play an SQ-encoded four-channel record through the Pioneer QX-949A. Many of your favorite recording artists are available in SQ four-channel and now you may enjoy them in fully High



Fidelity realism owing to this improved and highly effective decoder.



REGULAR MATRIX (RM) DECODER

The regular matrix position can be used to reproduce the majority of four-channel discs now available, and is equally effective in achieving excellent four-channel sound effects from your conventional two-channel discs or tapes.

OTHER 4-CHANNEL DISTINCTIVE FEATURES

(1) FOUR-CHANNEL LEVEL INDICATOR

A unique four-channel level indicator is employed on the front panel of the QX-949A to permit you to observe the output level of each of the four channels appearing on the viewing screen. The level of each channel may be adjusted by using the level controls provided near the indicator. You will find the indicator to be valuable for all channel level adjustments. CD-4 separation adjustment, for example, is easily achieved by viewing the screen, which is also a beautiful display device. Indication level (sensitivity) of the indicator can be set to 0dB (normal), -10dB, -20dB, -30dB, according to the volume level and the balance of each of the four channels.

(2) 4-CH. MPX OUT TERMINAL

A 4-CH MPX OUT terminal is situated on the back panel enabling you to hook up to a four-channel discrete device and listen to four-channel stereo broadcasts when they are available in the future.



(3) 4-CH. TONE ADJUSTMENT

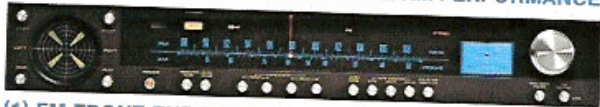
Four-channel tone control is easy and accurate, thanks to the individual BASS and TREBLE controls provided for the FRONT and the REAR channels.

(4) 4-PAIRS OF SPEAKER CONNECTION

Four pairs of speaker systems can be connected to the QX-949A. Two pairs are for the front channels, driven independently or simultaneously, and two pairs are for the rear channels, again driven independently or simultaneously. This speaker selection versatility means that you can practically

tailor the sound of four-channel to your own taste. It is possible because of the QX-949A's high power output. Furthermore, the speaker connecting terminals are the "one-touch" type for installation convenience.

SUPERSENSITIVE AND SELECTIVE FM/AM PERFORMANCE



(1) FM FRONT END WITH MOS TYPE FETS

Dual-gate MOS type FETs, distinguished by their low-noise characteristics, are used by Pioneer in the FM front end of the QX-949A. They are applied to each RF and mixing stage. Coupled with the 4-gang variable capacitor used in this receiver, these expensive and long-life solid state devices help contribute to an exceptionally high-sensitivity ratio of $1.8\mu\text{V}$ (IHF), as well as image rejection of more than 85dB and spurious rejection of more than 100dB. They ensure that you will receive all broadcast programs with great clarity, without jamming or irritating cross-modulation.

(2) LOCAL OSCILLATOR WITH BUFFER CIRCUIT

Pioneer uses a buffer circuit in the local oscillator section of the FM tuner in the QX-949A to guarantee stable reception of weak broadcast signals when powerful stations are situated near the weaker ones. This important circuit suppresses both annoying cross-modulation and signal interruptions.

(3) HIGH-PERFORMANCE LSI IN FM IF SECTION

An exclusive LSI (Large-Scale Integrated Circuit) is used in the IF section for superb performance at all times. This new element is the performance equivalent of 203 more conventional semi-conductors. Additionally, the QX-949A features a quadrature detector in the IF's detector circuit distinguished by its excellent linearity and low-distortion characteristics over a wide frequency range.

(4) HIGH SELECTIVITY AND EXCELLENT PHASE LINEARITY

Phase-linear ceramic filters in the FM IF section mean that excellent phase linearity is assured over a wide signal bandwidth. These filters are also directly responsible for obtaining the high selectivity (more than 80dB IHF) that is the minimum standard assured by this receiver. Even more than high sensitivity, the selectivity figure gives evidence of the QX-949A FM tuning superiority even in FM-crowded urban areas.

(5) PLL MPX IC FOR BEST SEPARATION AND SCA BEAT REJECTION

Since the QX-949A employs a double-differential demodulation circuit, its stereo FM separation is very wide over the entire sound range—more than 40dB at 1KHz and more than 30dB over the 50-10KHz range. The multiplex (MPX) section uses a P.L.L.(PhaseLock Loop)IC for excellent stability against temperature and humidity fluctuations and to suppress SCA beat noise without sacrificing frequency response. The low-pass filter utilized in this section possesses ultra-sharp characteristics to avoid carrier leakage problems.

(6) LINEAR FM DIAL SCALE AND TWIN METER TUNING SYSTEM

The FM dial scale of the QX-949A is the extra-wide linear type that facilitates easy and precise tuning of your favorite FM station. A frequency linear tuning capacitor employed in the FM front end of this receiver helps accomplish this task. In addition, the QX-949A features the two-meter tuning system, one, a signal strength meter, the other, a center tuning type, which contributes immensely to precise tuning at all times.

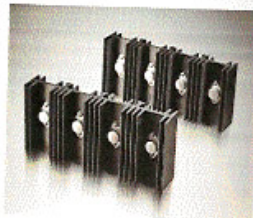
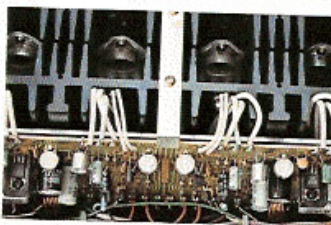
OTHER QX-949A TUNER ADVANTAGES

- (1) An FM muting switch effectively cancels inter-station noise while tuning.
- (2) The MPX NOISE filter switch can be used to eliminate FM stereo noise.
- (3) The excellent AM tuner section employs a 3-gang variable capacitor in the front end along with high-performance IC with excellent A.G.C. (Automatic Gain Control) characteristics and ceramic filters in the IF section. This ensures exceptional AM sound quality.

ALL THE POWER YOU NEED FOR A BIG FOUR-CHANNEL SOUND

(1) DIRECT-COUPLED OCL POWER AMPLIFIER SECTION

Two separate DC power supplies are used to stabilize the QX-949A's all-stage direct-coupled OCL power output circuit. The use of direct-coupling design means that the coupling capacitors are totally eliminated between individual stages; it also results in a super wide frequency response curve ranging from near DC to well beyond the audible sound range. And in terms of real power, the QX-949A is among the biggest four-channel receivers on the market since it offers **continuous power output of 40 watts* per channel, min. RMS at 8 ohms with four channels driven, from 20 Hertz to 20,000 Hertz with no more than 0.3% total harmonic distortion.**



(2) UNIQUE POWER BOOSTING CIRCUIT FOR STEREO

When used in the four-channel mode, the QX-949A delivers **40 watts* per channel, min. RMS at 8 ohms (20-20,000 Hertz, total harmonic distortion of**



0.3%). But when you choose to use it to play conventional two-channel sources, the unit's special "Power Boosting Circuit" converts this large four channel power output to even

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greater two-channel power — up to **60 watts* per channel, min. RMS at 8 ohms (20-20,000 Hertz, total harmonic distortion of 0.3%)** by changing the 2-CH/4-CH selector plug on the rear panel. This circuit device employs a micro power switch so that the conversion can be accomplished even when the amplifier's power is turned on. Additionally, this "Power Boosting Circuit" is free from the BTL circuit's drawbacks since the circuitry in the PBC is much less complicated than the typical BTL circuitry. The result is an extremely stable performance in either the two-channel or four-channel mode.

(3) ADVANCED PROTECTION CIRCUIT

The power amplifier section of the QX-949A includes an automatic protection circuit to protect your speakers and valuable power transistors from potential DC shock. This protection circuit also acts as a muting circuit to eliminate the irritating pop-noise that often occurs when you turn the power switch on.



(4) TOTAL 40,000µF ELECTROLYTIC CAPACITORS

The power supply section of the QX-949A employs large electrolytic capacitors to reproduce the extremely low-sound range with stability at high output power levels. These capacitors are the 10,000µF type (for a total of 40,000µF) selected for their extra power margin and for dynamic sound reproduction over the entire sound range.



(5) THREE-STAGE DIRECT-COUPLED EQUALIZER

3-stage direct-coupled equalizer with first stage differential amplifier in the equalizer amplifier, a high performance IC is employed along with plus-minus split power supply. The integrated circuit is 3-stage direct-coupled OCL with first stage differential amplifier to obtain high gain amplification. This enables ample NFB to be applied to the equalizer amplifier so that better S/N ratio with minimum distortion may be achieved.

OTHER IMPORTANT FEATURES OF THE QX-949A

(1) THE LOUDNESS CONTOUR switch on the front panel provides natural sound contour when you are listening to music at low volume levels, thus enhancing the overall tonal quality.

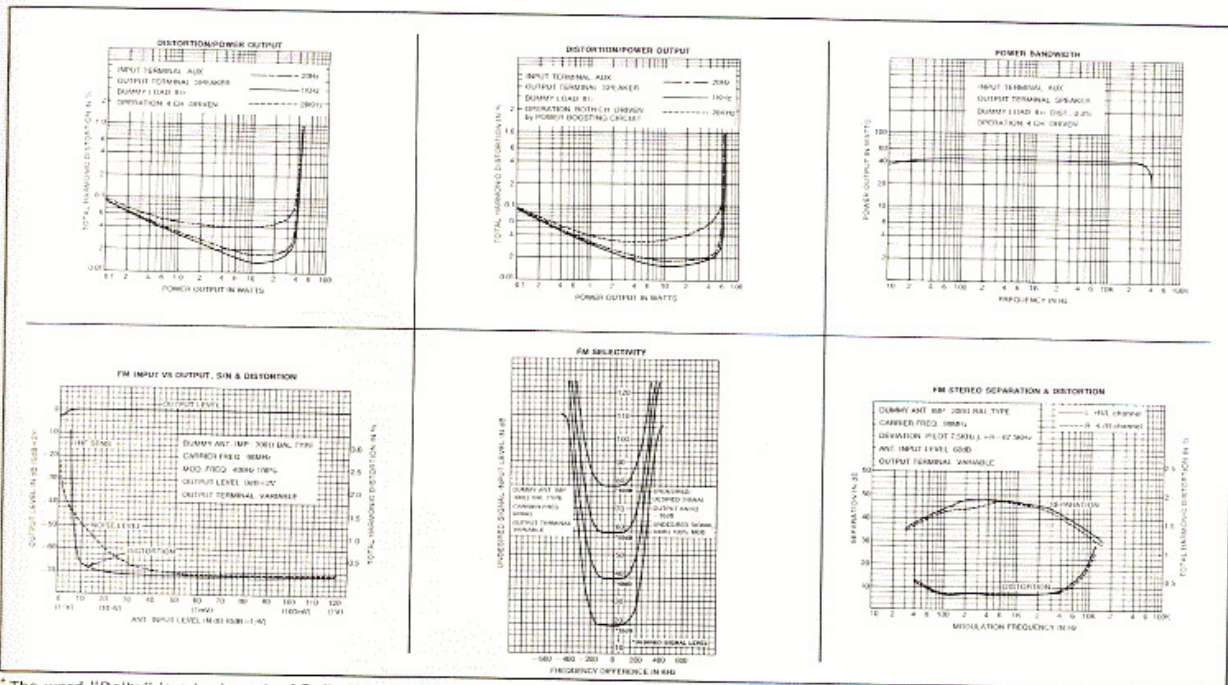
(2) The QX-949A is equipped with high/low filters that are effective for eliminating undesirable tape hiss or noise originating from the warp of discs, etc..

(3) Two PHONO INPUTS are provided so that you may connect two turntables.

(4) A stereo (two-channel) AUX input circuit is provided to accept any auxiliary component such as a cartridge tape player, etc..

(5) You can connect a noise reduction system (such as the latest Dolby[®]) to the QX-949A. For this function, a NR (Noise Reduction) Adaptor switch is provided on the front panel. If a noise reduction unit is not used, the switch may be utilized to hook up an additional tape deck.

(6) FM/AM ANTENNA TERMINALS (300-ohms/75-ohms), a built-in FERRITE BAR ANTENNA and brightly illuminated POWER, MODE, FUNCTION and FM STEREO indicator lights are among the many other conveniences of the all-source four-channel QX-949A receiver from Pioneer.



*The word "Dolby" is a trademark of Dolby Laboratories, Inc.

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PIONEER

QX-949A SPECIFICATIONS

AMPLIFIER SECTION

Continuous power output is 40 watts* (4 channel), 60 watts* (2 channel) per channel, min. RMS at 8 ohms and 50 watts* (4 channel), 75 watts* (2 channel) per channel, at 4 ohms from 20 Hertz to 20,000 Hertz with no more than 0.3% total harmonic distortion.

Continuous Power Output	
1,000Hertz:	44 watts per channel (8 ohms)
(4-channels driven)	58 watts per channel (4 ohms)
Continuous Power Output (by 2-ch. power boosting circuit)	
1,000 Hertz:	65 watts per channel (8 ohms)
(2-channels driven)	85 watts per channel (4 ohms)
Total Harmonic Distortion:	No more than 0.3%
(20 Hertz to 20,000 Hertz)	(continuous rated power output)
	No more than 0.05%
	(1 watt per channel power output, 8 ohms)
Intermodulation Distortion:	No more than 0.3%
	(continuous rated power output)
	No more than 0.05%
	(1 watt per channel power output, 8 ohms)
Output	Speaker:
	Front: A, B, A+B
	Rear: A, B, A+B
	Headphone:
	Front & Rear; Low impedance
	35 (1,000 Hertz, 8 ohms)
Damping Factor:	
Input Sensitivity/Impedance	
PHONO 1:	2.5mV/50 Kohms
PHONO 2:	2.5mV/50 Kohms
PHONO Overload Level (rms):	100mV
AUX:	150mV/100 Kohms
TAPE MONITOR (2-ch., 4-ch.):	150mV/100 Kohms
Output Level/Impedance	
TAPE REC (2-ch., 4-ch.):	150mV
Frequency Response	
PHONO (RIAA equalization):	30Hz to 15KHz ± 1 dB
AUX, TAPE MON:	7Hz to 25KHz $+0.5$ dB, -1 dB
Tone Control	
BASS:	± 10 dB (100Hz)
TREBLE:	± 10 dB (10KHz)
Low Filter:	50Hz (6dB/oct.)
High Filter:	10KHz (6dB/oct.)
Loudness Contour (volume control set at -40 dB position):	$+6$ dB (100Hz)
	$+3$ dB (10KHz)
Hum & Noise (IHF, short-circuited A network)	
PHONO:	70dB
AUX, TAPE MON:	90dB

CD-4 DEMODULATOR SECTION

Input Sensitivity:	2.5mV (1 to 5mV adjustable)
Input Impedance:	100 Kohms
Distortion:	0.15%
Signal-to-Noise Ratio:	70dB (IHF, A network)

Separation
(STD test signal at 1KHz):

FM TUNER SECTION

Circuitry:	2 MOS FETs, 1-stage RF amplifier, 4-gang variable capacitor, 6-stage limiter
Usable Sensitivity:	1.8 μ V
Capture Ratio (IHF):	1.0dB
Selectivity (IHF):	80dB
Signal-to-Noise Ratio:	70dB
Image Rejection:	85dB
IF Rejection:	100dB
Spurious Rejection:	100dB
AM Suppression:	55dB
Total Harmonic Distortion:	Mono: 0.2%
	Stereo: 0.4%
Frequency Response:	20Hz to 15KHz $+0.2$ dB, -2.0 dB
	50Hz to 10KHz $+0.2$ dB, -0.5 dB
Stereo Separation:	40dB (1KHz)
	30dB (50Hz to 10KHz)
Sub Carrier Suppression:	65dB
Antenna Input:	300 ohms balanced and 75 ohms unbalanced
Muting:	ON-OFF
MPX Noise Filter:	ON-OFF

AM TUNER SECTION

Circuitry:	1-stage RF amplifier, 3-gang variable capacitor, 300 μ V/m (IHF, ferrite antenna) 15 μ V (IHF, ext. antenna)
Sensitivity:	40dB
Selectivity:	50dB
Signal-to-Noise Ratio:	65dB
Image Rejection:	85dB
IF Rejection:	Built-in ferrite loopstick antenna
Antenna:	
SEMICONDUCTORS	
FETs:	12
ICs:	11
Transistors:	85
Diodes:	63

MISCELLANEOUS
Built-in CD-4 Demodulator,
Regular Matrix Decoder,
SQ Full Logic Decoder

Power Requirements:	For U.S.A. and Canada: 120V 60Hz only, For other countries: 110/120/130/220/240V (switchable) 50 - 60Hz
Power Consumption:	KCU model: 400 watts other model: 530 watts
Dimensions:	Without package: 21-21/32(W) x 6-5/16(H) x 17-5/16(D) inches 550(W) x 160(H) x 440(D) mm
Weight:	Without package: 49 lb. 6 oz./22.4kg

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

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