

SANSUI QRX6001

ALL-SOURCE FM/AM 4-CHANNEL RECEIVER



QS
4 CHANNEL STEREO

Sansui's QRX-6001 fills a real need in today's 4-channel world. It plays every 4-channel source with superior separation, top convenience, extremely low distortion and enough power to drive even the most sluggish stereo or 4-channel speaker systems brilliantly. What more could you want? A lower price tag? The QRX-6001 proves that all is possible in

4-channel without going to extremes in the cost department. For a modest investment you can play all QS* and SQ** sources, thanks to our ingenious Type-A QS vario-matrix decoder. Newly-developed Type-A QS vario-matrix makes a big difference, boosting inter-channel separation to a par with 4-channel master tapes. It also has our built-in CD-4† Super

demodulator, and converts 2-channel into 4-channel with the QS Synthesizer. You enjoy minimum RMS output of 25 watts per channel into 8 ohms, all channels driven. And more. Not surprisingly, Sansui has filled a major gap with the fair and practically-priced QRX-6001. And it's 4-channel all the way.

*QS TM Sansui **SQ TM CBS Inc. †CD-4 TM JVC Inc.

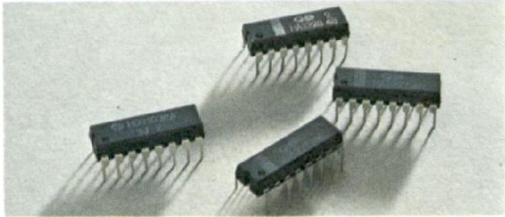
Sansui

Sansui's all-source 4-channel receiver— IC-equipped Type-A QS vario-matrix decoder boost 4-channel performance.

TYPE-A QS VARIO-MATRIX, DECODER

The QRX-6001 is offered at a fair and practical price to play all 4-channel sources with very high fidelity and maximum inter-channel separation—a unique achievement for any receiver.

Its QS vario-matrix 4-channel decoder, invented and patented by Sansui, has undergone significant development: integrated circuit technology has made it possible to include the very best decoder circuitry in a total of four QS IC "Chips" which form the Type-A QS vario-matrix decoder. Sansui now offers QS 4-channel decoding, QS 2-channel-to-4-channel synthesizing and SQ 4-channel decoding with greater inter-channel separation characteristics than ever.



More specifically, two phase discriminator ICs detect whether the primary sound source(s) is in the front or back of the original sound field, or to the right or left or center. And they achieve this at each and every measurable moment during musical reproduction.

The resulting signals are fed to a control IC (FET array) and a matrix IC, controlling or varying the decoding matrix (so we get the name "vario-matrix"). They do this in such a way that the directionality of the predominant sound source(s) is most sharply defined. Thus you have, practically, 20dB between adjacent channels or 30dB between diagonal channels of pure separation at all times and at any instant.

The Type-A QS vario-matrix effect is on the same order as that of discrete 4-channel recorded tapes. This technique creates a totally natural 4-channel sound field.

One-Touch Mode Selection

Selection of the 4-channel or 2-channel mode you want is easy with the seven push-buttons beneath the dialpanel of the QRX-6001:

QS is for decoding and reproducing QS-encoded 4-channel records, tapes and FM 4-channel broadcasts.

QS SYNTHESIZER-SURROUND is for creating an all-around 4-channel sound field from conventional 2-channel sources. All the different musical instruments and voices are spread in a full 360-degree circle around you. QS Synthesizer effectiveness is higher than any other 2-to-4-channel synthesizer on the market, a fact that you can easily verify when you play your present 2-channel records, tapes or hear 2-channel FM through it. Such sources are converted to 4-channel sound by the Sansui-exclusive "2-4 Synthesizer Encoder" that pre-adjusts incoming 2-channel signals so that they are passed on to the QS vario-matrix itself for 4-channel processing.

QS SYNTHESIZER-HALL is another way to use the QS Synthesizer; original 2-channel signals are produced from the front channels, with ambience added to the back channels to create concert-hall ambience.

SQ is the position you want to decode SQ 4-channel sources. It does away with the gain riding logic (and its disadvantages) used in many SQ decoders, yet actually decodes SQ music with equal or even better front/back separation than an SQ decoder with front/back logic.

CD-4/4-CH DIRECT is used for playing CD-4 (and Quadradisc) records in 4-channel. Use it also when listening to any discrete 4-channel TAPE or AUX source.

2-CH DIRECT channels regular stereo signals to the front two speaker systems.

PLUS BACK additionally feed regular stereo signals to the back two speaker systems.

4-Channel Control Convenience

There are individual treble and bass tone controls (4 in all) for the front and back channels. These operate from a 2-stage direct-coupled negative feedback amplifier for minimum distortion and a maximum signal-to-noise ratio. Each of the four tone controls has click stops for easy and correct calibration.

Then, for accurate channel-to-channel balancing, three separate controls are available—one for the relative left/right balance of the front channels, another for the back channels, and a third for balancing the front against the back channel output level.

There is a mode indicator with large, illuminated "4" and "2" symbols to show at a glance your playback mode.

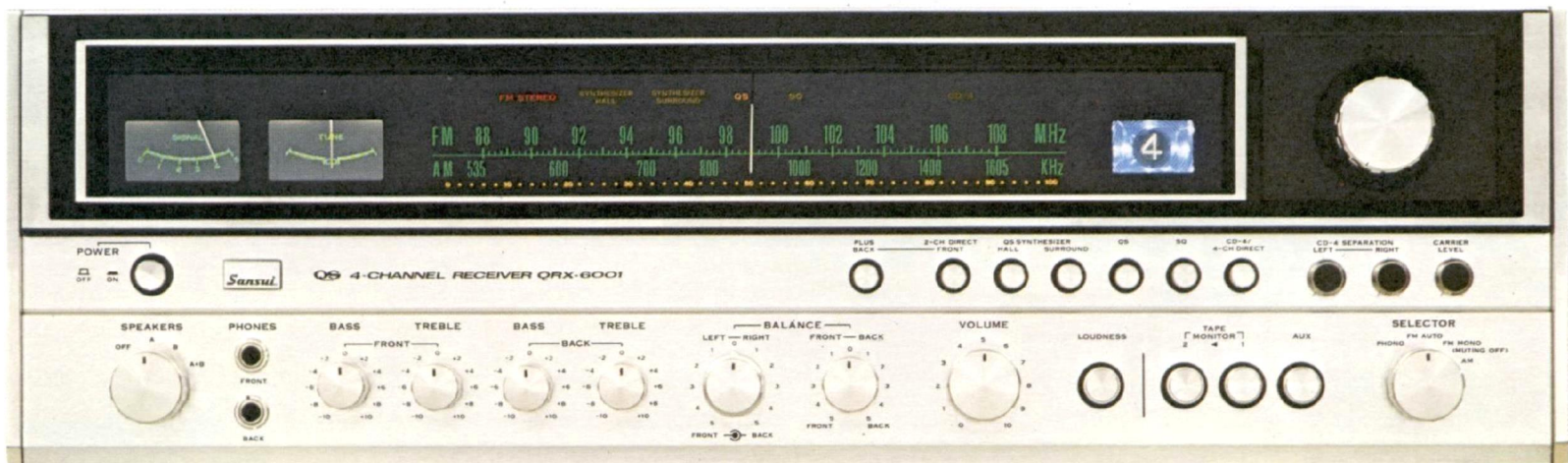
Built-in CD-4 Demodulator

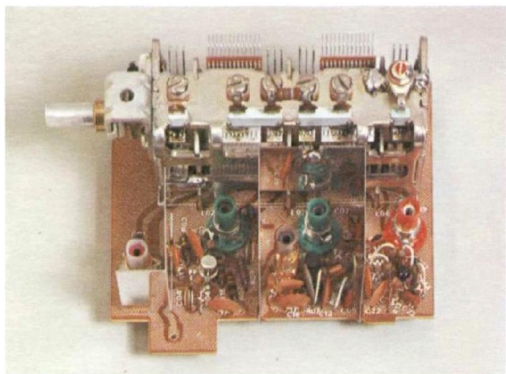
Sansui engineers designed their own demodulator from scratch. This has allowed a number of significant improvements as PLL, ICs, FETs and ANRS circuits. Some of such improvements are completely "beat-free" reproduction of 4-channel sound by the use of sharp cut-off (by more than 50dB at 13kHz) 2-stage LC high-pass filter in the difference signal channels. In 4-channel sound, this makes a great difference since clean and transparent sound is assured. The Sansui CD-4 demodulator is *bypassed entirely* when not in use. Another important convenience is the location of the CD-4 carrier level control and separation controls on the front panel of the QRX-6001. This placement saves you the trouble of moving the receiver to reach the rear panel whenever you adjust these controls. By the way, a free CD-4 Adjustment Record comes with the QRX-6001 as standard equipment.

FM/AM TUNER SECTIONS

Highly Sensitive FM Tuner

The FM frontend combines an elaborate 4-gang tuning capacitor and a dual-gated MOS FET (hand selected and tested for lowest noise). The frontend thus is able to pull weak as well as strong FM signals with outstanding sensitivity and high signal-to-noise ratio. The FM IF amplifier, too, is all new. It combines three newly-developed bi-resonator ceramic filters with a matching 2-stage differential amplifier and three limiter ICs for higher selectivity, improved capture ratio and better IF performance.





DDC FM Multiplex Demodulator

A special DDC (Differential Demodulator Circuit, Sansui patent pending) FM multiplex demodulator is used to maintain superior FM stereo separation well into the high frequencies.

Other FM Features

Responsive signal strength meter that is able to respond in precise proportion to the strength of incoming FM signals up to around a high 60dB, accurate center tune meter, FM muting circuit, 50 μ S/75 μ S FM de-emphasis switch, discriminator output terminals for FM 4-channel.

AM Tuner Has Special IC

An IC of the high-integration type (containing the equivalent of 22 transistors and 11 diodes), along with a bi-resonator Jaumann ceramic filter, improves AM reception, sharpens selectivity and eliminates AM whine. The tuner features increased stability and reliability, and includes a space-wound, extra-length ferrite bar antenna for ideal input.

4-CHANNEL PRE AND POWER AMPS

Advanced Phono Equalizers

The QRX-6001 features a phono equalizer amp of an NPN-NPN 2-stage direct-coupled type with extremely low-noise transistors.

Driven by an exclusive stabilized power supply, it provides RIAA equalization of extremely close tolerance to incoming phono signals. Overload capacity is 150mV RMS with total harmonic distortion of 0.5%, meaning that the sound of your 2-channel and 4-channel records will be clean and undistorted at all times.

Other Pre-Amp Features

Two 4-channel tape record/playback circuits, one 4-channel AUX circuit, one 2-channel DIN record/playback socket, a loudness contour circuit with pushbutton, two headphone jacks for 2- or 4-channel listening, and a speaker selector with a choice of A (four speakers), B (four speakers) or A+B (eight speakers) are provided.

High-Power Direct-Coupled Power Amplifier

An advanced all-stage direct-coupled semi-complementary OCL amplifier is included in an in-line connection after a constant-current differential amplifier. Driving your speakers with outstanding results, it delivers 25 watts per channel in continuous minimum RMS power over the receiver's entire 20-20,000Hz power bandwidth, with all channels driven simultaneously into an 8-ohm load at the rated total harmonic distortion figure of 0.5% or less.

To make sure that this enormous OCL amplifier does not damage your speakers, Sansui has included quadruple protection: (1) a relay-equipped electronic protector circuit detects any possible DC current content in output signals and cuts off the speaker terminals. (This also works to provide a slight lag between power-on and signal-delivery time to your speakers to avoid "popping" and possible damage.); (2) a thermal sensor circuit to detect overages in heat sink temperature and



cut off the input stage in case of danger; (3) four quick-acting fuses to protect speakers the moment any short circuits appear at terminals, and (4) a temperature compensator circuit for power transistors to keep them under tolerable temperature ranges and protect them from possible overloads or damage.

Giant Power Supply

One of the keys to Sansui's extremely stable and low-distortion high fidelity performance is the use of large power supplies wherever possible. The QRX-6001 has a central power supply circuit using an oversized transformer and a pair of 10,000 μ F capacitors. It is of a dual-supply system, with two separate positive-negative power supply circuits to provide a high power to all four channels over an extended operational period. It never gets "tired" and you never notice power irregularities.

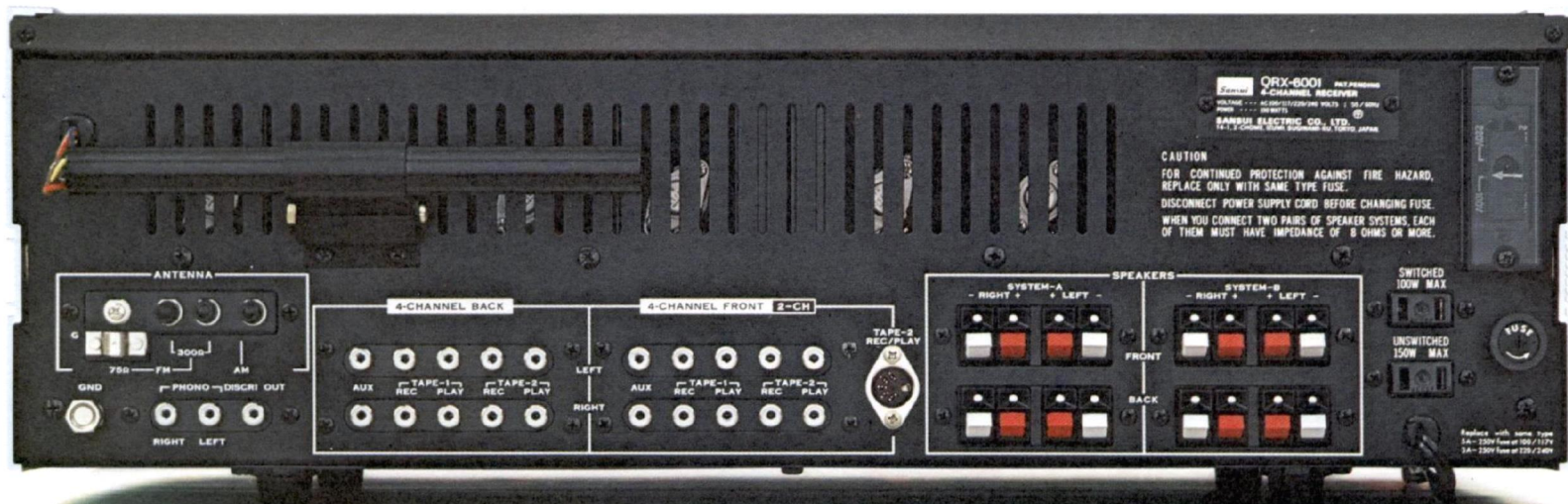


DESIGN CONCEPT

Handsome and Functional

The QRX-6001 features a handsome walnut top board, elegant blackout dialpanel and a sturdy, die-cast aluminum dial frame and front panel. Thick extruded aluminum side panels and double-strength interior bracing add durability.

The functional front and rear panel layouts, as well as interior circuit layouts, are designed for maximum convenience.



SPECIFICATIONS

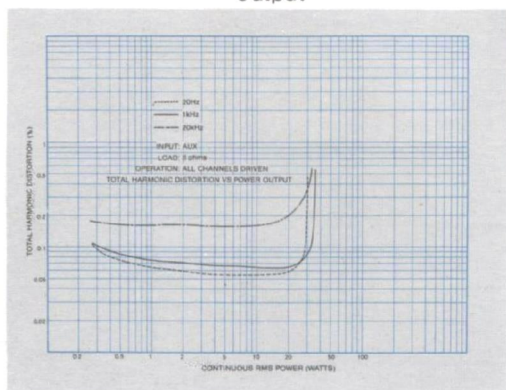
AUDIO SECTION

POWER OUTPUT*

25 watts per channel, min. RMS, all channels driven into 8 ohms from 20Hz to 20kHz, with no more than 0.5% total harmonic distortion
30 watts per channel min. RMS, all channels driven into 8 ohms at 1kHz, at rated total harmonic distortion

TOTAL HARMONIC DISTORTION*

OVERALL (AUX to speaker terminals)
less than 0.5% at or below rated min. RMS power output

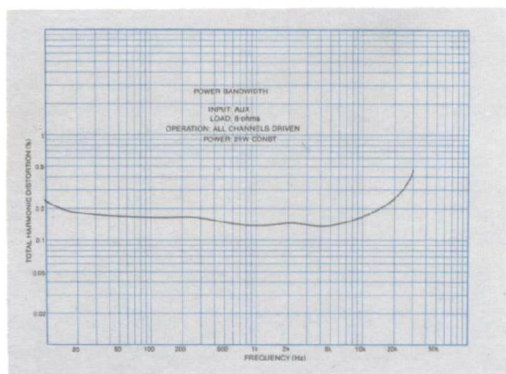


INTERMODULATION DISTORTION

(70Hz:7,000Hz=4:1 SMPTE method)
OVERALL (AUX to speaker terminals)
less than 0.5% at rated min. RMS power output

POWER BANDWIDTH*

20 to 20,000Hz at or below rated min. RMS power output and total harmonic distortion



LOAD IMPEDANCE*

FREQUENCY RESPONSE

OVERALL (AUX to power output)
15 to 30,000Hz ± 1.0 dB

EQUALIZATION (at REC OUT)

RIAA Curve
30 to 15,000Hz ± 1.0 dB

DAMPING FACTOR approximately 10
at 8 ohm load

CHANNEL SEPARATION

(at rated output 1,000Hz)

PHONO better than 50dB

AUX better than 50dB

HUM and NOISE (IHF)

PHONO better than 70dB

AUX better than 80dB

INPUT SENSITIVITY (at rated output 1,000Hz)

PHONO 2.5mV 50k ohms

max. input capability
more than 150mV RMS
at 0.5% distortion

AUX (2-ch, 4-ch) 100mV 50k ohms

TAPE-1

PLAY Pin (2-ch, 4-ch)

REC/PLAY DIN (2-ch) 100mV 50k ohms

TAPE-2

PLAY Pin (2-ch, 4-ch) 100mV 50k ohms

RECORDING OUTPUT

TAPE-1

REC Pin (2-ch, 4-ch) 100mV

REC/PLAY DIN (2-ch) 30mV

TAPE-2

REC Pin (2-ch, 4-ch) 100mV

TONE CONTROLS

BASS ± 10 dB at 50Hz

TREBLE ± 10 dB at 10,000Hz

LOUDNESS

+8dB at 50Hz

+3dB at 10,000Hz

4-CHANNEL DECODER SECTION

(TYPE-A QS VARIO-MATRIX)

FREQUENCY RESPONSE

20-30,000Hz

less than 0.1% (at 1,000Hz)

DISTORTION

SEPARATION

QS Decoder 20dB (adjacent channels)

30dB (diagonal channels)

QS Synthesizer equivalent to QS Decoder

SQ Function (Phase Matrix)

20dB (front left/right channels)

12dB (center front/back channels)

CD-4 DEMODULATOR

FREQUENCY RESPONSE

(STD Test Signal at REC OUT)

30-15,000Hz Main-ch.

Test Signal)

SEPARATION (STD Test Signal)

40dB (left/right channels)

25dB (front/back channels)

TUNER SECTION

FM:

TUNING RANGE 88 to 108MHz

SENSITIVITY (IHF) 2.0 μ V

max. input capability
more than 120dB

TOTAL HARMONIC DISTORTION

MONO less than 0.3%

STEREO less than 0.5%

SELECTIVITY better than 70dB

CAPTURE RATIO (IHF)

less than 1.5dB

IMAGE REJECTION better than 75dB at 98MHz

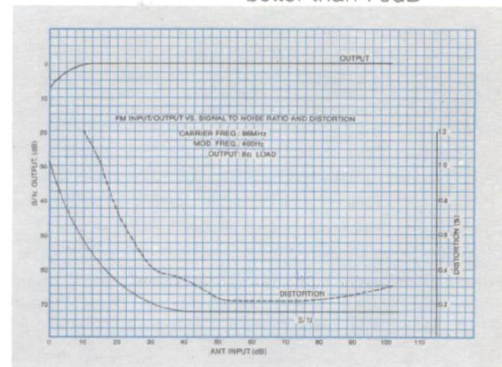
IF REJECTION better than 90dB at 98MHz

SPURIOUS RESPONSE REJECTION

better than 80dB at 98MHz

SIGNAL TO NOISE RATIO (MONO)

better than 70dB



STEREO SEPARATION

better than 40dB

at 1,000Hz

FREQUENCY RESPONSE

30 to 15,000Hz

+0.5dB, -3.0dB

ANTENNA IMPEDANCE

300 ohms balanced,

75 ohms unbalanced

AM:

TUNING RANGE 535 to 1605kHz

SENSITIVITY (Bar Antenna)

53dB/m at 1,000kHz

SELECTIVITY

better than 30dB

at 1,000kHz ± 10 kHz

IMAGE REJECTION

better than 80dB/m

at 1,000kHz

IF REJECTION

better than 80dB/m

at 1,000kHz

GENERAL

SEMICONDUCTORS

101 Transistors, 9 FETs,

54 Diodes,

8 Zener Diodes, 9 ICs

POWER REQUIREMENTS

VOLTAGE 100, 117, 220, 240V, 50/60Hz

CONSUMPTION 190 watts (rated)

400 watts (max.)

460 VA (max.)

DIMENSIONS

540mm (21 $\frac{1}{8}$ ") W

161mm (6 $\frac{3}{8}$ ") H

403mm (15 $\frac{7}{8}$ ") D

WEIGHT

20.4kg (45.0lbs) net

23.1kg (50.9lbs) packed

*Specifications related to power output rated in compliance with FTC ruling.

Design and specifications subject to change without notice for improvements.