

SANSUI 9090DB

STEREO FM/AM RECEIVER WITH BUILT-IN DOLBY PROCESSOR



Sansui keeps pace with the times—and that's always our promise. The 9090DB is our top-of-the-line receiver, powerful, clean, versatile. It's also one of the most technologically advanced on the market. That's because it has a built-in Dolby* full processor.

Now, without an adaptor, you can (1) decode "Dolbyized" FM broadcasts for less noise and less high-frequency

compression, and (2) encode (and decode) your own tapes (including open-reel) to reduce tape hiss.

There's nothing stingy about the 9090DB's power output. The true complementary OCL parallel-pushpull power amplifier is rated at 125 watts per channel, min. RMS, both channels driven into 8 ohms, over the 20 to 20,000Hz range with no more than 0.1% total harmonic

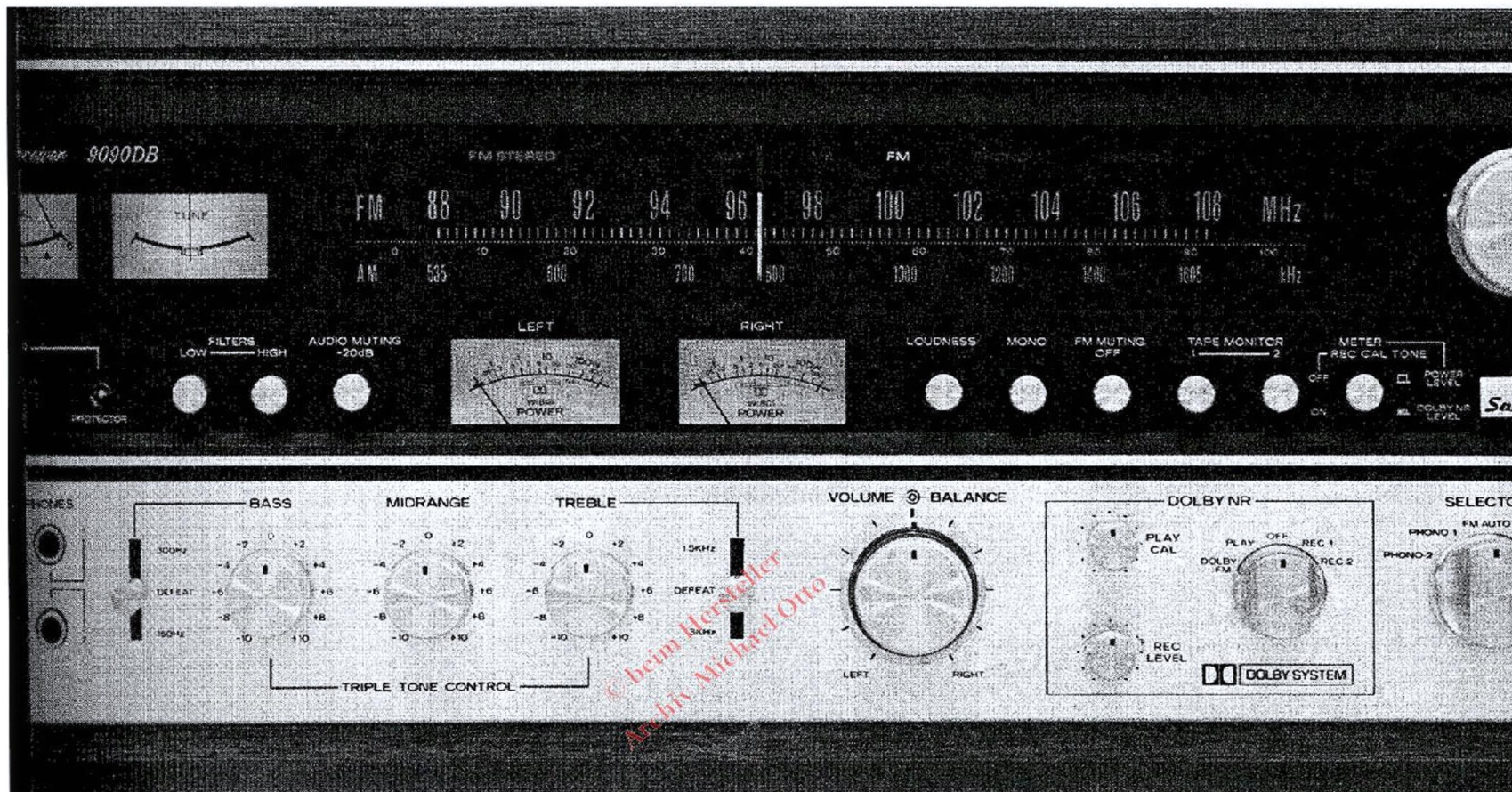
distortion. That's a lot of power.

An advanced tuner section, phono equalizer, Triple Tone Control, mic mixing—the advanced electronics reflect our finest engineering care. That's why the 9090DB is our top-of-the-line receiver. From Sansui, where it's all hi-fi.

*Dolby is a trademark of Dolby Laboratories, Inc.

Sansui

BUILT-IN DOLBY PROCESSOR, A BIG RMS 125 WATTS PER CHANNEL, AND 0.1% TOTAL HARMONIC DISTORTION.



Power Protection

The independent power supply section has two oversized capacitors (12,000 μ F X2) and a huge and closely-regulated power supply transformer. To protect the vital power transistors from unexpected

surges or shorts, four protection devices are incorporated: four quick-acting fuses, two relay-operated protectors (thermal switch and DC detection circuit), and a current limiter. The relay also prevents speaker damage and power on/off crackling noise.

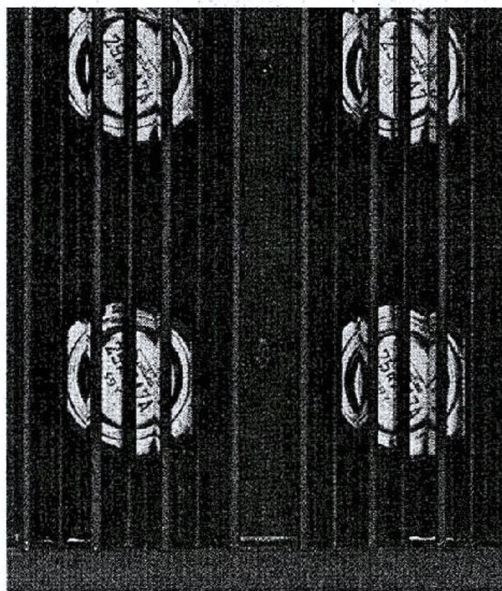


Twin Power Meters

The two meters indicate your exact, instant-by-instant power output over the wide range of 0.05 to 200 watts (8 ohms). They can be switched to act as Dolby calibration level meters.

Power/Protector Indicator

An LED (Light-Emitting Diode) lets you know instantly if danger to the power circuit threatens. If and when the automatic power protection circuit operates, the red light will continue to flicker until the relay is automatically restored.



CONTROL/PREAMP SECTION

Wide Dynamic Range

The advanced phono equalizer has a high 40V DC voltage supply for a very wide phono overload of 180mV RMS (510mV p-p). This means that all of the information on the records you play is



reproduced exactly as intended by the recording engineers. Precision equalization of phono signals is within a $\pm 0.3\text{dB}$ deviation of the standard RIAA curve between the frequencies of 30 to 15,000Hz.

IC Construction

Phono equalizer construction centers on an IC in a three-stage direct-coupled SEPP configuration. Since it has a reduced time constant, phase margin is more than enough for ever stable performance. The reduced input capacitance of the circuit means better high frequency response from any cartridge.

Triple Tone Controls

This exclusive Sansui system offers a midrange in addition to bass and treble controls. In the 9090DB the bass and treble have turnover selectors: bass 150Hz or 300Hz; treble 1.5kHz or 3kHz. Thus you have a choice of as many as 4,851 tonal variations. A tone defeat switch is provided for instant flat comparisons without resetting the tone controls themselves.

Baxandall NF Tone Control Amp

High signal-to-noise performance and smooth tonal characteristics are assured with the Baxandall circuit in the tone control amplifier using the NF (negative feedback) format. Each tone control has 11 click stops, each representing a fixed resistor, for precise acoustic tailoring.

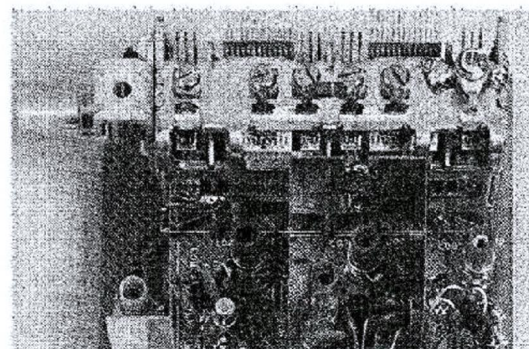
Other Convenient Controls

Controls also include a mono switch, loudness, high/low filters, source selector (PHONO - 1, - 2, FM AUTO, AM and AUX), two tape monitor switches, an audio muting (-20dB) switch and more. The 9090DB also features a professional-quality mic-mixing circuit with level control so that you may blend any microphone signal with any source for PA amplification or recording.



The Finest FM Sound Around

A frequency-linear variable 4-gang capacitor in the FM frontend increases sensitivity to faint broadcasts and suppresses interference. The dual-gated, low-noise MOS FET, selected and installed by hand, accepts very strong inputs without overload and is free from temperature drift.



Hear the Station You Want

Improved FM selectivity in the 9090DB accurately pulls in only the station you wish to hear, rejecting others. Try it.

The three-stage IF amplifier built around an array of ceramic filters (ten elements total) lets you select stations as close as 200kHz to 300kHz apart with ease while improving phase response and group-delay characteristics. The three differential amplifier IC limiters completely suppress AM amplitude for very high sensitivity and signal-to-noise ratio. Extraneous noise is eliminated by a

newly-developed adjacent station interference filter.

PLL for FM Stereo

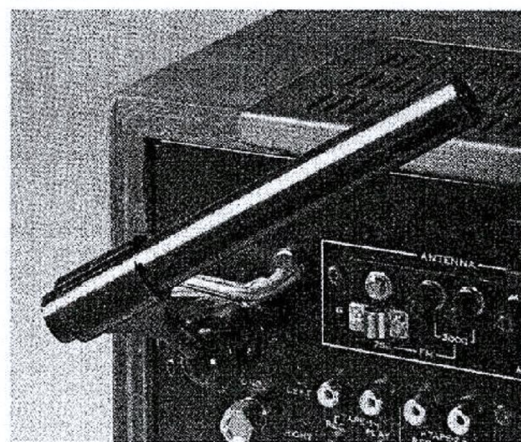
An advanced PLL circuit, one specially developed by Sansui, improves channel separation in stereo FM. This Phase-Locked Loop circuit also eliminates phase deviation by automatically locking the 19kHz pilot and 38kHz switching signals. Since it has no coils nor capacitors it suffers no deterioration by time. High-gain amplification and improved signal-to-noise are assured with the negative feedback differential amplifier, while a 2-stage LC carrier leak filter cuts extraneous signals sharply and eliminates the beat sound otherwise heard when recording FM stereo to tape.

Accurate Meters for Tuning

All inputs are met with linear response in the new signal-strength meter in the 9090DB. It is never saturated ("fooled") by a weak signal, and aids FM and AM tuning. The meter can be switched to help you align your antenna to eliminate multipath "ghosts." The second meter, a center-tune indicator, shows you when your FM station is tuned properly.

AM for People Who Hate AM

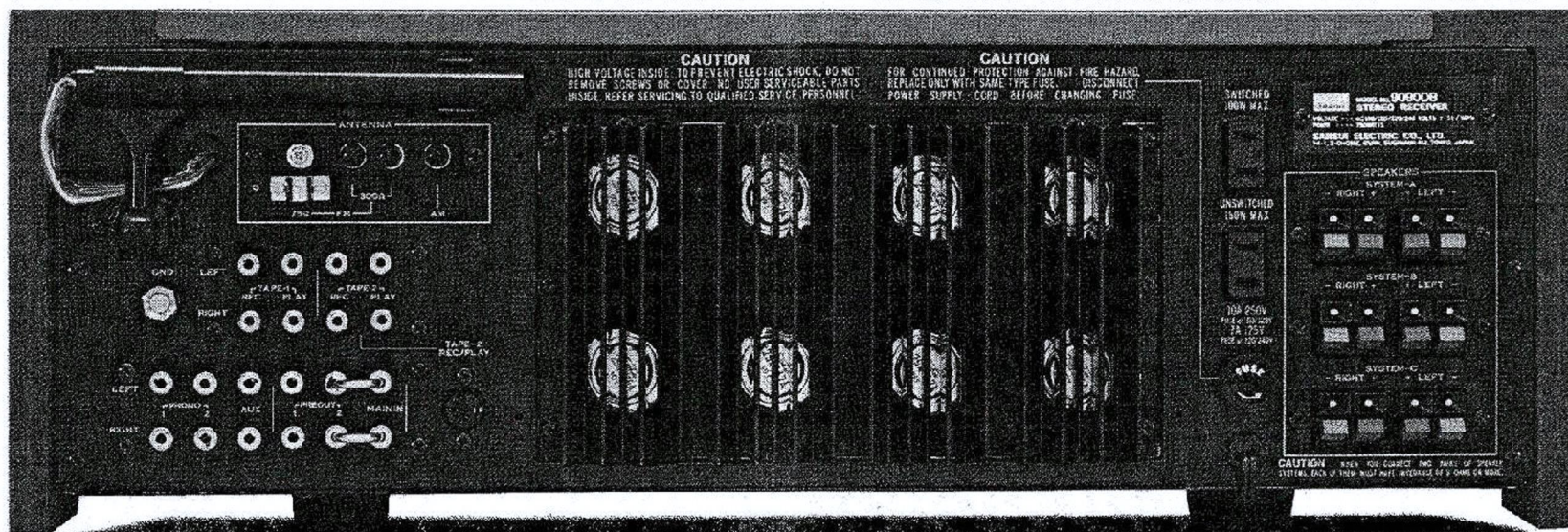
Booms, whines and whistles in AM reception are gone forever. A high-integrated IC (equivalent to 22 transistors and 11 diodes) increases AM stability and reliability. The addition of an AM RF stage of high-gain amplification improves sensitivity. A bi-resonator Jaumann ceramic filter, and a jointed, adjustable AM ferrite space-wound bar antenna, also improve AM sound.



And That's Not All

- FM Muting
- Separable Pre and Power Amplifiers
- Two Sets of Pre-Out Terminals
- Two Stereo Headphone Jacks

SPECIFICATIONS



AUDIO SECTION POWER OUTPUT*

Min. RMS, both channels driven, from 20Hz to 20,000Hz with no more than 0.1% total harmonic distortion.

125 watts per channel into 8 ohms

TOTAL HARMONIC DISTORTION*

OVERALL (AUX to speaker terminals) less than 0.1% at or below rated min. RMS power output

INTERMODULATION DISTORTION

(70Hz:7,000Hz=4:1 SMPTE method)

OVERALL (AUX to speaker terminals) less than 0.1% at or below rated min. RMS power output

LOAD IMPEDANCE*

FREQUENCY RESPONSE (at 1 watt) OVERALL (from AUX)

10Hz to 30kHz +1dB, -1dB

RIAA CURVE DEVIATION (PHONO) 30Hz to 15kHz

+0.3dB, -0.3dB

DAMPING FACTOR

approximately 30 at 8 ohm load

CHANNEL SEPARATION (at rated output 1,000Hz)

PHONO 1, 2 better than 50dB

AUX better than 50dB

TAPE MONITOR 1, 2 better than 50dB

HUM AND NOISE (IHF)

PHONO 1, 2 better than 70dB

AUX better than 80dB

TAPE MONITOR 1, 2 better than 80dB

INPUT SENSITIVITY AND IMPEDANCE

(1,000Hz for rated output)

PHONO 1, 2 2.5mV, 50k ohms

AUX 150mV, 50k ohms

TAPE PLAYBACK 1, 2 150mV, 50k ohms

MAIN IN 775mV, 100k ohms

MIC 4.0mV, 10k ohms

(PHONO: Max. input capability more than 180mV

RMS at 0.2% distortion)

OUTPUT LEVEL

PRE OUT 1, 2 775mV

TAPE REC 1, 2 150mV

(Pin) 30mV

(DIN)

CONTROLS

BASS +10dB, -10dB at 50Hz

MIDRANGE +5dB, -5dB at 1.5kHz

TREBLE +10dB, -10dB at 10kHz

TOE SELECTORS BASS 300Hz, 150Hz

TREBLE 1.5kHz, 3kHz

LOUDNESS Volume at -30dB

+8dB at 50Hz

+6dB at 10kHz

FILTERS LOW -10dB at 50Hz

HIGH -10dB at 10kHz

MUTING (Audio) -20dB

NOISE REDUCTION EFFECT

10dB (at tape and Dolby FM)

FM SECTION

TUNING RANGE 88 to 108MHz

SENSITIVITY (IHF) 9.8dB (1.7µV IHF T-100)

(DIN) 0.9µV

50dB QUIETING SENSITIVITY

MONO 14.7dB (3µV IHF T-100)

STEREO 36.3dB (36µV IHF T-100)

TOTAL HARMONIC DISTORTION

MONO less than 0.2%

STEREO less than 0.3%

SIGNAL TO NOISE RATIO

MONO better than 70dB

STEREO better than 65dB

ALTERNATE CHANNEL SELECTIVITY (IHF)

better than 85dB

CAPTURE RATIO (IHF)

less than 1.5dB

AM SUPPRESSION RATIO (IHF)

better than 55dB

IMAGE RESPONSE RATIO (IHF)

better than 70dB at 98MHz

IF RESPONSE RATIO (IHF)

better than 95dB at 98MHz

SPURIOUS RESPONSE RATIO (IHF)

better than 85dB at 98MHz

SPURIOUS RADIATION

less than 34dB

STEREO SEPARATION (IHF)

better than 35dB at 100Hz

better than 40dB at 1,000Hz

better than 28dB at 10kHz

FREQUENCY RESPONSE (IHF)

30Hz to 15kHz +0.5dB,

-2.0dB

ANTENNA IMPEDANCE

300 ohms balanced

75 ohms unbalanced

AM SECTION

TUNING RANGE 535Hz to 1,605kHz

SENSITIVITY (Bar antenna)

50dB/m at 1,000kHz

SELECTIVITY (±10kHz)

better than 50dB at 1,000kHz

IMAGE RESPONSE RATIO

better than 30dB at 1,000kHz

IF RESPONSE RATIO

better than 30dB at 1,000kHz

GENERAL

AC OUTLETS

switched max. 100 watts

unswitched total 150 watts

SEMICONDUCTORS

59 Transistors, 56 Diodes,

1 FET, 12 ICs, 1 LED

POWER REQUIREMENTS

POWER VOLTAGE 100, 120, 220, 240V,

50/60Hz

POWER CONSUMPTION

MAXIMUM 650 watts

RATED 435 watts

DIMENSIONS

540mm (21 1/8") W

182mm (7 1/8") H

397mm (15 1/8") D

WEIGHT

23.6kg (52.0 lbs) NET

26.0kg (57.3 lbs) PACKED

FINISH

Walnut veneer

*Power specifications measured pursuant to U.S. Federal Trade Commission trade regulation on power output claims for amplifiers.

•The legend "IHF" applying to the FM section indicates the new Institute of High Fidelity standard, IHF-T-200, established on June 13, 1975, unless otherwise specified.

•Design and specifications subject to change without notice for improvements.