

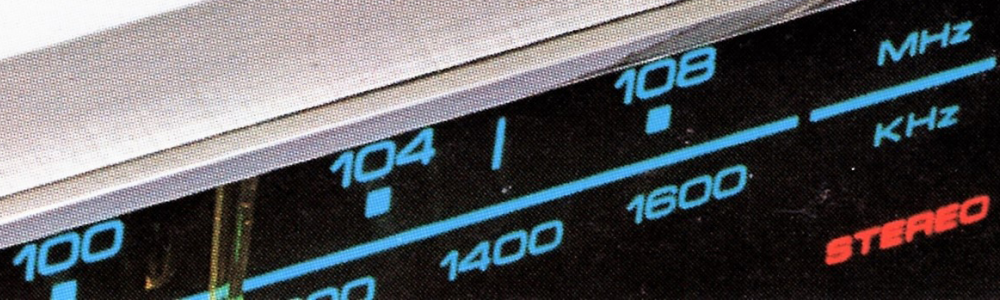


STA 9090

NIKKO AM/FM STEREO RECEIVER--TOTAL 130 WATT RMS USABLE



- Usable 65W+65W RMS STEREO Amplification
- Phase Lock Loop FM STEREO Demodulator
- Hi Blend FM Switching / FET-Equipped AM
- THREE Click-Stop TONE CONTROLS
- SEPP Phono EQ Amplifier / 2 PHONO SELECTION
- THREE Stereo-Pair SPKR Selection
- TWO Deck Tape DUBBING with Indicator
- FM 4-Channel COMP OUT Jack
- Mic Mixing
- Complete Power Protection





ABSOLUTE CLARITY FROM ADVANCED FM TUNER

The STA-9090 is the successful result of meeting a concept which both challenged and fascinated NIKKO engineers, the concept of developing a competitively-priced high-fidelity instrument combining an advanced AM/FM stereo tuner with a high-performance stereo amplifier without compromising quality. In the FM tuner section, NIKKO engineers insisted on using a pair of FETs and an elaborate 4-gang tuning capacitor to assure outstanding FM sensitivity. The IF amplifier for the FM section is intricately constructed of two high-integration ICs and no less than four ceramic filters, each having two resonators. This reduces phase distortion and provides unparalleled FM selectivity. These are just some of the reasons you hear no fuzz, no station pile-up and no annoying FM blurring from the STA-9090.

PHASE LOCK LOOP FM MPX DEMODULATOR

NIKKO introduces its Phase Lock Loop (PLL) circuit design for the first time in a stereo receiver. This electronic servomechanism functions to lock the phase of the FM sub-carrier to that of

the FM pilot signal, allowing the stereo multiplex (FM MPX) demodulator to provide optimum stereo separation at all times and over a wider frequency band. Also included in the FM MPX is a special block filter to prevent leakage of the FM sub-carrier — a feature which allows you to record FM stereo signals directly into your tape deck without beat interference between the sub-carrier and the deck's bias frequency.

FET-EQUIPPED AM TUNER

Very few receivers offer FETs in their AM tuner sections. The STA-9090 does, however, and the use of such a Field Effect Transistor in the AM RF stage combines with the large 3-gang tuning capacitor to noticeably increase AM sensitivity. And the AM IF stage employs equally advanced ceramic filters for best performance.

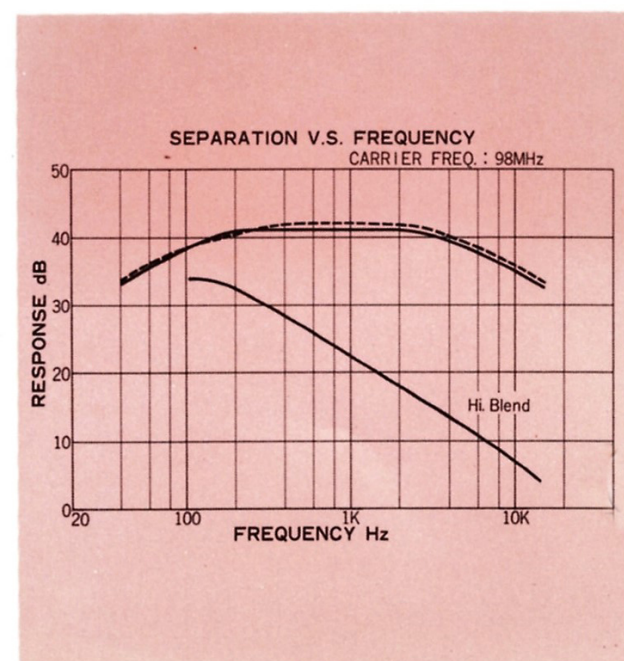
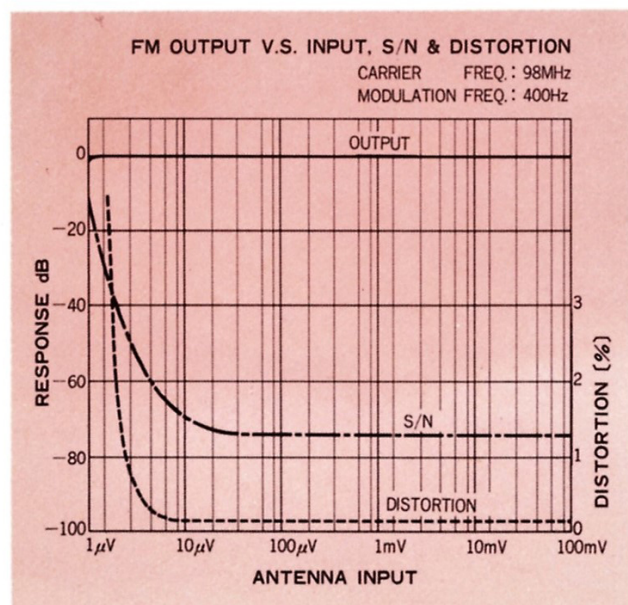
FM HI BLEND SWITCHING AND OTHER ADVANCES

The FM Hi Blend switch on the STA-9090 is a feature found only on some separate tuner components, and rarely on receivers. Its use is infrequently required, but if you are located in a fringe signal area and experience FM reception which you feel lacks color, push the Hi Blend control on the front panel. This provides a better signal-to-noise ratio and clarifies and extends the high frequency end of the audio spectrum, both without sacrificing the overall frequency characteristics of the program source. The STA-9090 also features twin tuning meters. Only the signal-strength meter is illuminated during AM reception; both the signal-strength and FM center tuning meter are illuminated during FM reception. The self-lighting dial pointer, unusually legible dial scale (linear for FM), heavy-duty, flywheel-damped tuning mechanism and other features make pinpoint tuning easy. The STA-9090

accepts the usual 300Ω FM antenna and provides extra taps for a 75Ω FM antenna as well. AM ferrite bar antenna is built in for convenience.

SEPP EQUALIZER PHONO AMPLIFIER

Dynamic range — that factor which measures the ability of an amplifier to reproduce all sounds, from faint to loud, at their natural amplitudes without distortion — is extremely vital to high fidelity quality. A wide dynamic range (namely, high phono overload capacity) means true high fidelity record reproduction. NIKKO engineers served that better signal-to-noise, lower distortion and, above all, a very high phono overload capacity (500mV p-p) could be obtained by adopting an elaborate direct-coupled single-ended push-pull phono equalizer amplifier. This type of equalizer, rarely used in receivers, delivers to your speakers exactly what the record producer wanted you to hear, from the subtle nuances of strings and voices to the resonating warmth of the bass-register instruments. The phono input section of the STA-9090 accepts two stereo turntables for convenience and extra versatility.



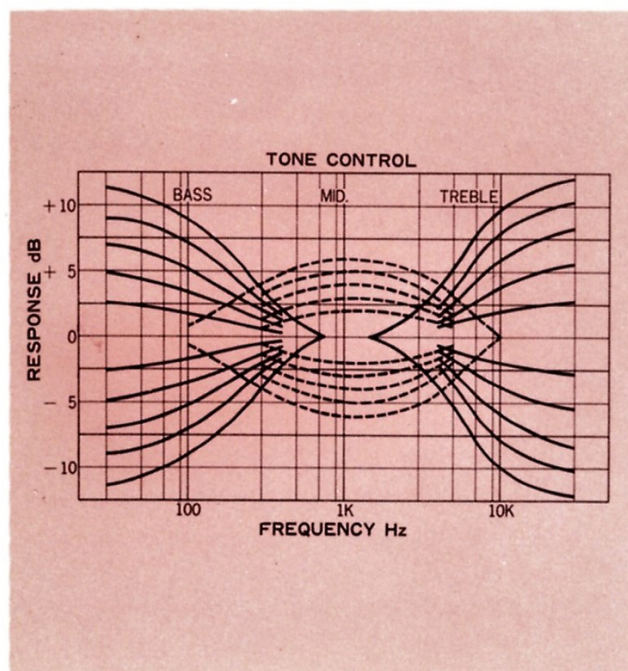


STA9090

NIKKO'S FINEST RECEIVER FOR HIGH FIDELITY STEREO SOUND REPRODUCTION

NEGATIVE FEEDBACK TONE CONTROL AMPLIFIER

Midrange tone controls are not often provided on stereo receivers for the simple reason that they cost too much. NIKKO feels, however, that a receiver of the quality of the STA-9090 deserves to be given every opportunity to show off what its wide-range stereo amplifier can do, and thus provides a midrange in addition to the usual bass and treble tone controls. All three operate on the negative feedback principle for greater stability and reduced noise and distortion. With all three controls at center, the frequency response of the output is "flat" (uncolored). Most high-fidelity fans like to start from this point and add to (or reduce) the output in each of the three frequency ranges a little at a time until the sound suits their taste. Each of the three tone controls on the STA-9090 has click stops for convenient and accurate adjustment. (The stereo balance control is also given a center click stop for convenience.)



TWO-DECK TAPE DUBBING

The STA-9090 offers two tape record/monitor circuits (TAPE-1 and TAPE-2). This means you can record any source (FM, AM, Phono or AUX) into either

deck (or both simultaneously) at any time, listen to (monitor) either individually, or dub (copy) a recorded tape from one deck to the other. The TAPE MONITOR buttons on the front panel, combined with the DUBBING position on the SELECTOR, make these functions quite easy to perform. For added convenience, the STA-9090 offers regular RCA-type pin jacks on the rear panel for both tape decks and the larger, communications-type jacks on the front panel for the TAPE-2 circuit. You can override the pin-jack connections on the rear panel for TAPE-2 to connect a cassette or cartridge tape unit into the front-panel jacks for recording, playback or dubbing.

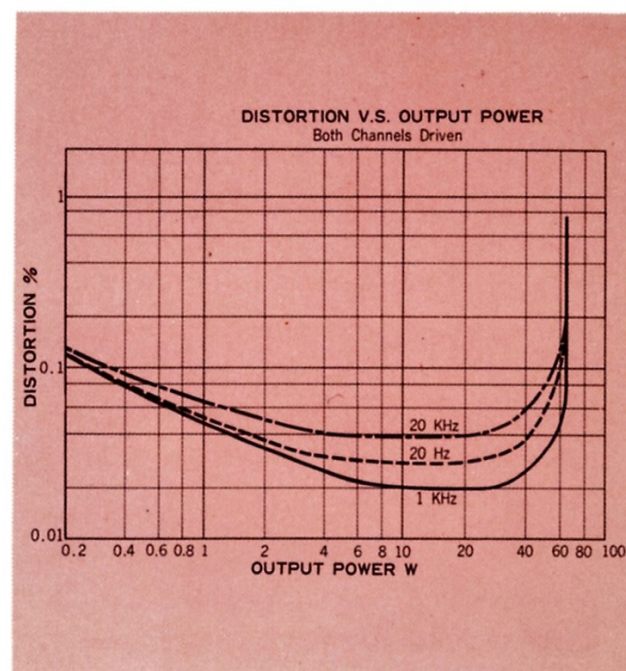
MIC MIXING

A microphone jack and a convenient MIC LEVEL control are provided on the front panel. A separate microphone circuit allows you to use these facilities to add (mix) mic sounds to any program source.

DIRECT-COUPLED OCL POWER AMPLIFIER

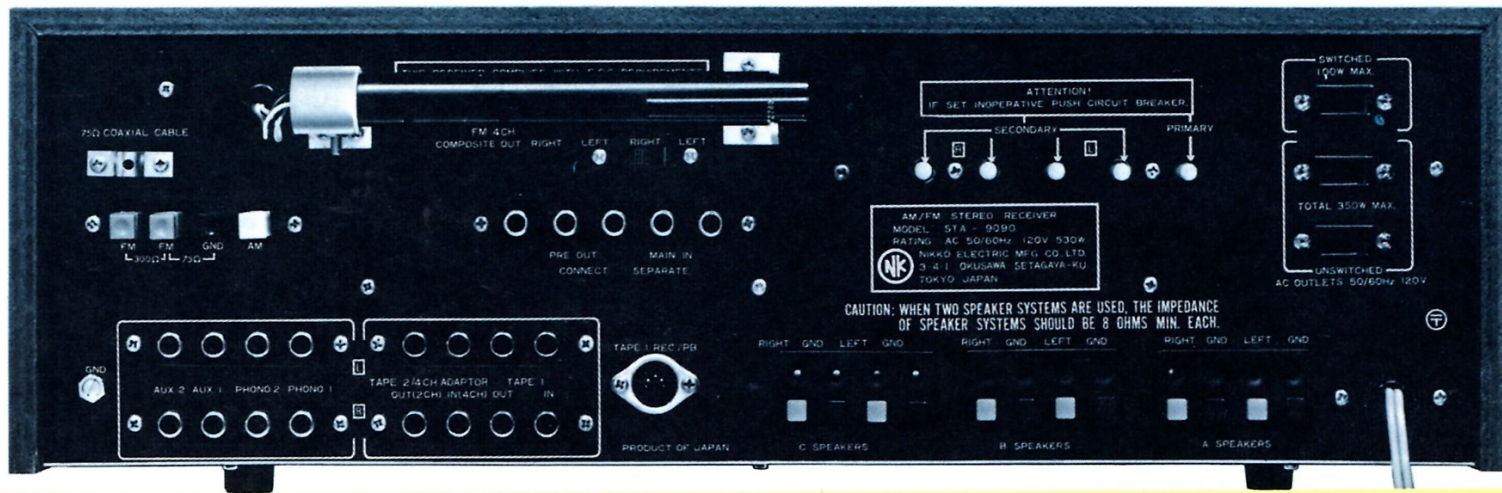
The heart of the STA-9090 is an advanced direct-coupled OCL semi-complementary power amplifier operating on the push-pull principle. It is driven by a gigantic power supply consisting of an oversized power transformer and a pair of unusually large 10,000 μ F capacitors. The usable power output of the STA-9090 is a big 65 watts RMS per channel. NIKKO stresses this fact strongly, for only by measuring the power of a stereo amplifier in RMS continuous terms, both channels driven into 8 ohms (1kHz), can you determine its true rating. At this output, STA-9090 provides an extended power response of from 10 to 40,000Hz with very low Total Harmonic Distortion. Special care has been taken to position

the left/right power transistors apart so that they are less affected by heat dissipation and thus can be operated at high output for longer periods of time with greater stability.



COMPLETE POWER PROTECTION

Five circuit breakers (two each on the "push" and the "pull" sides of the amplifier, and another one on the primary of the power transformer) are designed to operate instantly should any overload or other abnormal condition appear. It has been proven that these NIKKO-developed circuit breakers (UL and CSA-approved) are highly efficient in the protection of your speakers and the power transistors in the amplifier itself. If called upon, they can be re-set by simple push-button switches on the rear panel. Still further protection is provided by a relay-equipped circuit, actually a type of gate amplifier, which amplifies any abnormal current the instant it is detected and thus increases the efficiency of the circuit breakers. It also functions as a muting circuit to eliminate unpleasant noise from your speakers when you switch on or turn off the receiver.



OTHER FEATURES

- ★ 5-position Mode Switch (LEFT, RIGHT, STEREO, REVERSE, L+R)
- ★ Bright Function Indicators (AM, FM, PHONO-1, PHONO-2, AUX, DUBBING, MONITOR)
- ★ FM STEREO Indicator
- ★ Three Stereo-Pair SPKR selection
- ★ FM Muting Switch to cancel inter-station tuning noise.
- ★ High and Low Filters, Loudness, Stereo Headphone Jack
- ★ Three AC Outlets (one "switched")
- ★ Distinctive and functional "Three Line" control panel
- ★ 4-channel FM composite signal output
- ★ Pre/power amplifier separable for 4-channel and other uses.

SPECIFICATIONS

TUNER SECTION:

FM Tuner

Sensitivity	IHF	1.8 μ V
Muting Sensitivity		20 μ V
Selectivity	\pm 400kHz	70dB
Image Rejection	98MHz	80dB
IF Rejection	98MHz	90dB
Signal-to-Noise Ratio		70dB
Capture Ratio		1.8dB
Distortion	Stereo, 1,000Hz	0.5%
	Mono, 1,000Hz	0.2%
Stereo Separation	1,000Hz	40dB
	100Hz - 10kHz	35dB
Subcarrier Suppression		60dB
Spurious Rejection		100dB
4 CH Composite Output		130mV
FM antenna impedance		300 ohms balanced 75 ohms unbalanced

AM Tuner

Sensitivity	S/N=20dB	150 μ V/m
Selectivity	\pm 10kHz	30dB
Image Rejection	1,000kHz	50dB
IF Rejection	1,000kHz	50dB
Signal-to-Noise Ratio		55dB

AMPLIFIER SECTION:

Music Power	IHF	180W into 8 ohms 190W into 4 ohms
RMS Power Rating		
Single channel driven	1,000Hz	75/75W into 8 ohms 80/80W into 4 ohms
Both channels driven	1,000Hz	65+65W into 8 ohms 70+70W into 4 ohms
Both channels driven	20Hz - 20kHz	60+60W into 8 ohms
Power Response	\pm 1dB, 0.5% T.H.D.	10Hz - 40kHz
Frequency Response	\pm 1dB Main Input	10Hz - 50kHz
	AUX. Input	20Hz - 50kHz
Total Harmonic Distortion	Rated Output	0.5%
	20W Output	0.05%

Intermodulation Distortion	Rated Output	0.5%
	20W Output	0.1%
Input Sensitivity/Impedance		
at rated output 1,000Hz	Phono 1 & 2	3mV/50k ohms
	AUX 1	200mV/100k ohms
	AUX 2	500mV/120k ohms
	Tape 1 & 2	200mV/100k ohms
	Main Input	130mV/100k ohms
Signal-to-Noise Ratio	Phono	65dB
	Others	80dB
Recording Output	Tape Out 1 & 2	200mV
	Din Rec Out	40mV
MIC (Mono)		
Input Sensitivity/Impedance		3.0mV/50k ohms
Signal-to-Noise		70dB
Tone Controls	Bass	\pm 10dB at 70Hz
	Midrange	\pm 6dB at 1kHz
	Treble	\pm 10dB at 10kHz
Filters	Low Filter	-3dB(-6dB/oct.) at 100Hz
	High Filter	-3dB(-6dB/oct.) at 5kHz
Loudness		-30dB
Damping Factor		
Speakers (A,B,C,)		4 to 16 ohms
Power Line Voltage/Frequency		AC 120 or 220/240V, 50/60Hz
Power Consumption		530W maximum
Semiconductors	FET's	3
	IC's	3
	Transistors	62
	Diodes	37
Dimensions (including feet and AM antenna)	Width	480mm (18-15/16")
	Depth	390mm (15-1/4")
	Height	165mm (6-1/2")
Weight (without package)		15 kg (33 lbs)



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