



SQ503X



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1. The Lux SQ 503X is introduced to the high quality audio market for the true music lover seeking a quality amplifier without the variable impedance switching, filters and 3 way tone control circuits of the SQ 505X. There is a provision for 6 inputs, 2 speaker systems, individual bass and treble controls for each channel with 2 way frequency selection tone control stages.

With the usual distinctive Lux finish and appearance and the latest circuitry, the power amplifier section is all stage direct coupled under the dual power supply system.

Some manufacturers achieve similar output power, but with much higher distortion and restricted power bandwidth. The SQ 503X achieves excellent performance by the use of a fully complementary output stage. This ensures extremely wide frequency and power response and high damping even at the ultra low frequency end and the elimination of crossover distortion.

The phono pre amplifier input can take many times the output of a magnetic cartridge (210 mV) which eliminates overload distortion from this stage. This ensures large scale dynamic range and faithful stereophonic reproduction together with negligible distortion and noise.

Lux amplifiers should only be used with quality auxiliary equipment so that their true worth can be realised.

2. Main amplifier - Direct Coupling Circuit.

The main amplifier uses full stage direct coupled circuitry to avoid the use of elec-

trolytic coupling capacitors which are normally used in conventional circuits. Electrolytic capacitors with time constants at high frequencies and reactance at low frequencies reduces the effect of overall negative feedback.

The Lux SQ 503X direct coupled circuit ensures uniform application of negative feedback over the entire audio frequency range and extended bass response with extremely high damping. Dual power supplies are used to avoid output condensers.

3. Fully complementary output stages using PNP and NPN silicon power transistors eliminates Class B switching and reduces crossover distortion to an insignificant level. Absolute stability is achieved by differential amplifiers.

4. The excellent signal to noise ratio is maintained by careful design and layout. The shock noises caused by the usual type of selector switch has been eliminated by positioning the switch at the output stage and not at the input to the pre-amplifier.

5. Pre Amplifier - 2 Stage Equalisation. The Lux SQ 503X uses a 2 stage direct coupled negative feedback circuit. This allows the phono stage to accept very high voltages (210 mV) without overload and with exceptionally wide dynamic range.

Other amplifiers with inferior overload margins run into high distortion when reproducing the signal from a record which is one of the reasons why Lux amplifiers are renowned for their superior musical sound.

Only strictly selected components are used in the precision construction of these direct

coupled amplifiers.

6. Low Noise Pre-Amplifier.

Maximum linearity is achieved by the efficient PNP-NPN silicon transistor circuit. Ultra low noise silicon transistors for the pre-amplifier to ensure noise free performance - strictly selected PNP type, 2SA 493 transistors are used.

Inter stage coupling condensers are of tantalum, mylar and solid aluminium to prevent current leakage. All control switches are suppressed against noise.

7. Lowest Distortion Level.

Due to the careful circuit design and construction the pre-amplifier distortion is down to the inherent level available in test equipment.

8. Tone Controls.

The negative feedback (NF) tone controls can be independently adjusted on each channel for bass and treble for exact tailoring of the speaker response to suit your listening room and to compensate for deficiencies in the program material.

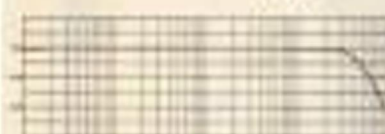
Selection of roll off or turnover frequencies is possible at 2K Hz, 4K Hz (treble) and 400 Hz, 200 Hz (bass).

The attenuator switch will reduce amplification by -9db. The AF amplifier is bypassed and the signal is fed direct to the power amplifier.

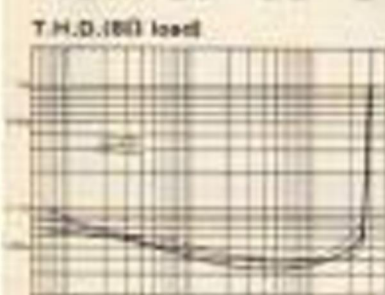
The tape monitor switch enables simultaneous tape playback and monitoring on a 3 head tape recorder. There are 2 sets of recording output connections. A telephone socket 18 ohm is fitted to the front panel.

• Pre Amplifier Section

Rated Output Voltage	430mv 100 ohms
Maximum Output Voltage	5 volts
Rec. out.	95mv 130 ohm (1K Hz)
Frequency Response	10 ~ 50K Hz - 10dB (Aux. 1)
Total Harmonic Distortion	Less than 0.04% (1K Hz, 1V)
Channel Separation	-60dB 1K Hz
Input Sensitivity (for rated output)	Phono 1 2mv Phono 2 2mv Aux 1 95mv Aux 2 95mv Aux 3 95mv
Tape Monitor (RCA)	50K ohm
Din playback	50K ohm
Maximum Input Voltage	50K ohm
Phono 1 & 2	50K ohm
Aux 1, 2 & 3	50K ohm
Signal to Noise Ratio	95mv 50K ohms
Phono 1 & 2	95mv 50K ohms
Aux 1, 2 & 3	95mv 50K ohms
Equalization	210mv
Phono 1 & 2	30 volts
Aux 1, 2 & 3	Better than 60dB
Tone Controls	Better than 70dB
Lux NF type	RIAA within 0.5dB
Turnover	Flat
Frequencies	200 Hz and 400 Hz 2.5K Hz and 5K Hz



Power Bandwidth
(85 ohm load, 0 dB 20W)



PHONO Input Voltage
(output REC. OUT Terminal)



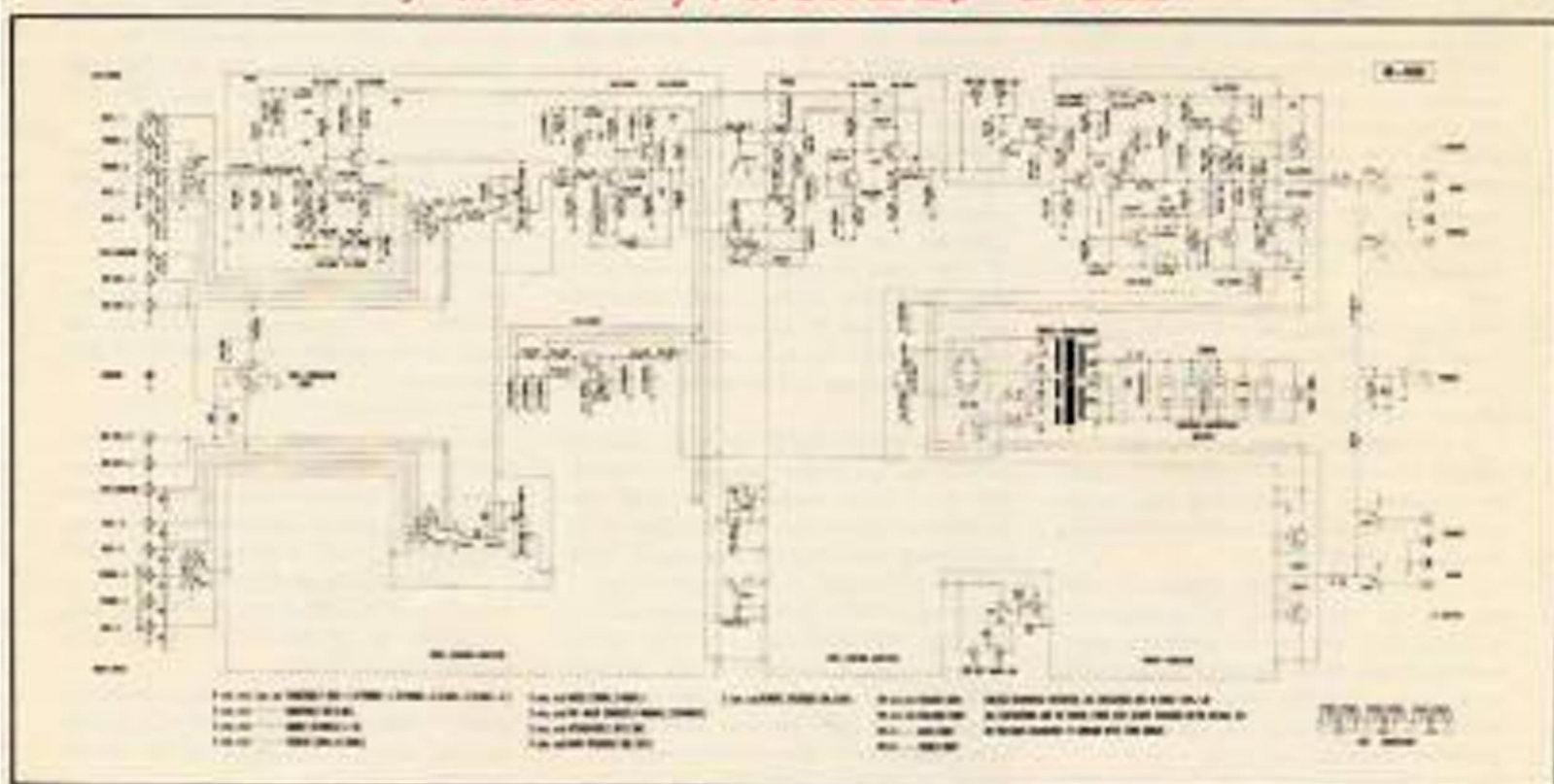
• Power Amplifier Section

Power Output	IHF IHF	140 watts, 4 ohms (70/70W) 80 watts, 8 ohms (40/40W) Less than 0.1% 8 ohms at 20 watts.
Total Harmonic Distortion		Less than 0.1% 8 ohms at 20 watts 70/70K Hz = 4:1 10 Hz ~ 50K Hz
Intermodulation Distortion		18 ohm - 3db at 0.1% THD 10 ~ 80K Hz Less than -1db -70db 1K Hz
Power Bandwidth		-20db at rated output
Frequency Response		430mv (80 ohm 20 watts) 45K ohms 4 ~ 16 ohms 38 (8 ohm) 76 (16 ohm)
Channel Separation		
Hum & Noise		
Input Sensitivity		
Input Impedance		
Load Impedance		
Damping Factor		

• General

Silicon Transistors	2SD 155 (2) 2SA 616 (2) 2SC 495 (4) 2SA 505 (2) XA 495C (5) 2SA 493 (8) 2SC 1000 (4)
Diodes	5B1 (1) 5R1K-4 (1)
Varistors	KS 255 (4)
Annexed Controls	Attenuator -18 db Headphone socket 8 ohm Speakers switch Main on/off Remote on/off Tape outlet 2 sets of sockets Din Socket Record and playback Pre amp/Main amp Link switch and sockets Tape Monitor Switch AC outlets 3 on rear panel 100 watts (maximum output) 8 ohm both channels driven 50/60 Hz 110, 117, 220 and 240V by selector link
Power Consumption	
Power Requirements	
Dimensions	160mm (6-5/16") H x 450mm (17-3/4") W x 268mm (10-5/16") D
Weight	10 kgs (20 lbs.)

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