

Luxman M-4000 and C-1000

Howland West Ltd., 3/5 Eden Grove, London N7. 01-609 0293



This combination of power and pre-amplifiers comprises the C-1000 pre-amplifier and the M-4000 stereo power amplifier which has the minimum of controls and connections. In general, the standard of finish and construction of both units was very good both internally and externally.

Turning to the power amplifier, the inputs are via two phono sockets with a sensitivity of 1V for the rated output of 180W per channel into 8 ohms. A single pair of loudspeaker outputs is provided, with the intention that these are fed via the pre-amplifier which has inbuilt loudspeaker switching for two pairs of loudspeakers together with a headphone jack socket.

The power amplifier controls consist of two 20dB step attenuators at the input, both of which have an 'off' position, and two pushbutton switches for the power level monitoring which is by meters and a light emitting diode display, both of which can have their sensitivities increased by 10dB by one of the switches, the other one of which switches the meters and display off. The LED display was fast and very good, but as usual the meters were far too slow to be of practical use.

Turning to the pre-amplifier, the basic inputs are two auxiliaries, a tuner and two magnetic pick-up cartridge inputs. Rear panel level controls are provided for the tuner and one auxiliary, whilst front panel screwdriver operated controls allow the phono sensitivities to be varied ± 5 dB and the phono input impedance to vary over the range 29k/103k ohms with a click stop at 50k ohms — a

sensible and versatile arrangement.

Provision is made for two tape units with both phono and DIN compatible connections, plus tape monitoring and dubbing in either direction and it was found the crosstalk associated with the tape monitor switch or the input selector switch was minimal.

Further toggle switches allow the insertion of excellent high and low pass filters with a choice of two frequencies for both filters, and it was pleasing to note that the filters had 12dB per octave attenuation. An additional toggle switch is used to insert the loudness filter with or without the tone controls in circuit, the loudness or 'low boost' as it is called giving a 2dB boost at 100Hz.

The treble and bass tone controls themselves are 21 position switches associated with further switches which give three separate turnover frequencies for the treble and bass controls. This was found to be an excellent and most versatile arrangement, with the control steps being well appointed.

The pre-amplifier output is controlled by a separate output attenuator and volume control, the latter being associated with a 'touch mute' function which is really just a gimmick. The performance of the switched attenuator type volume control and also the balance control was very good, with good laws and small steps.

Last to be mentioned of the pre-amplifier controls is the 'linear equaliser' associated with the phono inputs alone. This is a frequency compensator which effectively tilted the RIAA curve by ± 2 dB providing a

useful pick-up compensation.

Subjectively the operation of these amplifiers gave a good impression, but there is concern about the high frequency IM distortion which would be indicative of transient intermodulation problems in the absence of a low pass filter in the system. In addition, the overall dynamic range was disappointing in spite of good but not outstanding input noise performance.

General Data

Hum modulation at rated output into 8Ω
50/100/150Hz 0dB
Damping factor ref 8Ω at 1 kHz 84
D C offset at loudspeaker and headphones L/R ... 7.5/1mV
Crosstalk at 1W output 100Hz/1kHz/
10kHz >80/-72/-53dB
Loudness control effect ref 1kHz 100Hz/10kHz ... +2/+0dB
Frequency response deviation from 20Hz to
20kHz aux/tape/tuner <0.5dB

Power performance

Power output into 8Ω both L/R 197/198W
Power output into 8Ω single L/R 198/201W
Power output into 4Ω both L/R —W
Power output into 4Ω single L/R —W
Burst output into 8Ω single L/R 218/210W
Burst output into 4Ω single L/R —W
Power output into half rated load L/R 4Ω 143W
Power bandwidth 8Ω 90W L/R 10Hz to 50/51kHz
Power bandwidth 4Ω —W L/R —kHz

Distortion

Total harmonic distortion at 1W into 8Ω
1kHz/10kHz 0.05%
Total harmonic distortion at 1W into 4Ω
1kHz/10kHz —%
IM distortion at half rated power into 8Ω
DF2 1/10/100kHz >80/>80/30dB
IM distortion at half rated power into 8Ω
DF3 1/10/100kHz >80/>80/30dB
IM distortion at 1W from auxiliary input DF3
1/10/100kHz >80/>80/75dB
IM distortion at 1W from phono input DF3
1/10/100kHz >80/>80/75dB

Noise performance

Noise ref to input — average L/R CCIR/22kHz
aux/tuner/tape 105/107dBV
Noise ref to input — average L/R CCIR/22kHz
Phono 113.5/119dBV
Noise ref to input — average L/R CCIR/22kHz
Mic —dBV
Output noise power at zero volume (8Ω)
CCIR/22kHz 0.20μW
Worst case volume setting auxiliary input (8Ω)
CCIR/22kHz 0.5/0.25μW
Burst dynamic range aux input ref 8Ω worst
channel CCIR 88.5dB

Inputs and outputs

Input impedance on aux/tuner/tape
..... 76; 71; 102k 30; 30; 35pF*
Input impedance on phono 29/50/103k 220pF
Input impedance on mic at min/max volume —pF

Input sensitivity and clipping point at 1kHz

aux/tuner/tape 150mV >20V

Input sensitivity and clipping point at 1kHz

phono 2.8mV 400mV*

Input sensitivity and clipping point at 1kHz mic —mV

Output voltage and impedance for rated output —

headphone 31V 780Ω

Output voltage and impedance for rated output —

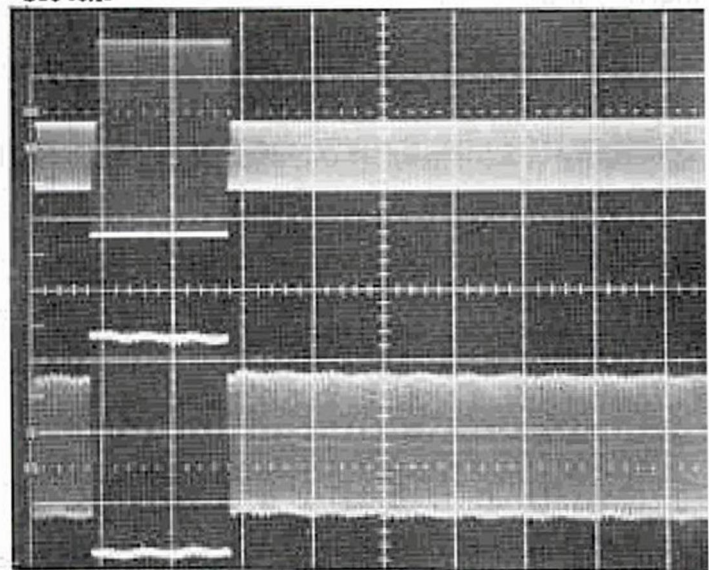
tape 150mV VARIΩ

Output voltage and impedance for rated output —

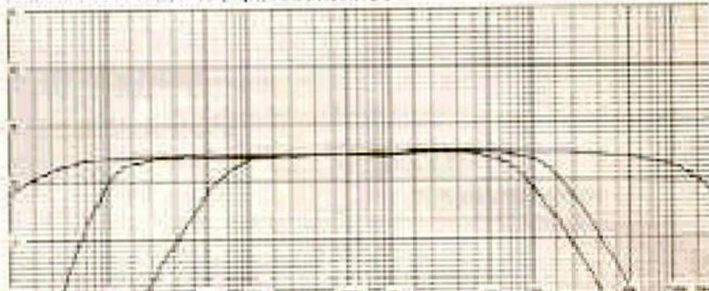
DIN 70mV 74kΩ

Typical selling price including VAT £1,710.00

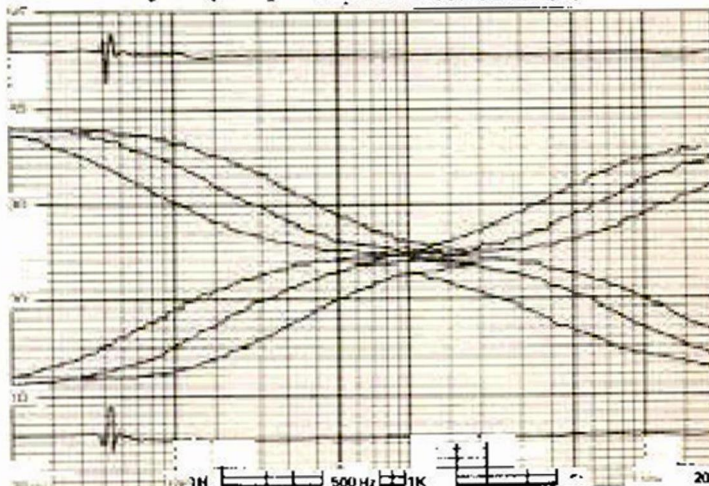
*See text



Overload recovery performance



Overall frequency response and effect of filters



Effect of tone controls and accuracy of RIAA equalisation