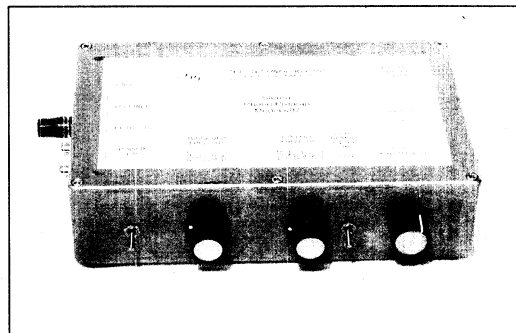


BATTERY OPERATED STEREO PHONO PREAMP

Model 407

Revised August 2005

This preamplifier was especially designed to drive a computer sound card's line-input for restoring 33-1/3, 45 and 78 RPM records which were recorded using various equalizations. This preamp has very low output noise and very low power line hum pickup, two features essential to creating a CD-quality wave file. The internal rechargeable batteries provide complete isolation from the power mains during operation. The cast aluminum enclosure minimizes the pickup of unwanted signals.



INPUT: Matches all common magnetic pickup cartridges. (The input resistance is 47K.)

GAIN: Zero to 52, 56 or 60 dB using the single-turn audio taper gain control. (Specify max gain when ordering.)

RESPONSE: Switch selectable turnover frequencies of 150, 200, 400, 500 Hz and flat as well as switch selectable rolloff frequencies of 1600, 2122, 2700, 5500, 6360 Hz and flat permit all of the 78 RPM equalization curves to be closely approximated. RIAA and FFRR equalizations can also be set for 33-1/3 and 45 RPM records. A typical 78 RPM curve (used by Decca) is shown in Figure 1. (A comprehensive table of response settings for different record labels is included in the User Guide along with links to reference web sites.) The rumble filters, which may be switched in and out, have corner frequencies of 20 Hz. Because this preamp was designed to drive a sound card, it includes output lowpass filters with corner frequencies of 25 kHz. This causes no loss of quality because the CD sampling rate of 44.1 kHz limits the unaliased frequency response to 22 kHz.

DYNAMIC RANGE: Refer to Figure 2. This is a spectrogram of a typical channel with the turnover and rolloff frequencies set to "flat", the gain set to 54 dB and the turntable motor running. The noise level is 95 dB below the sound card max input and the 60 and 180 Hz hum is down over 85 dB -- it is not audible in the recorded wave file. Depending on manufacturer, age and condition, 78 RPM records have a dynamic range of 30 to 50 dB so with this preamp you can "capture" everything that's on the record. (The noise and hum levels may vary with the turntable being used.)

CONNECTORS: Two female, panel mount RCA input connectors. Two female, panel mount RCA connectors plus a 1/4 inch stereo phone jack for output. There is a 5-way binding post near the input connectors for connecting the preamp enclosure to the turntable frame as this may help reduce hum pickup (see the Operation section in the User Guide for more information on hum reduction). 2.5 mm male input power connector for the internal battery charger. A red LED lights when the charging voltage is on.

POWER: Two internal 9 volt rechargeable NiCd batteries provide 5 hours of operation from a full charge. The 24 VDC charger plugs into any (US) standard 115 VAC, 60 Hz outlet. (Power supplies for other mains voltages and outlets available on special order.) The charger is a constant current supply and can be left on to trickle charge the batteries all the time the preamp is not in use.



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FURNISHED ACCESSORIES: 24 VDC wall power supply and Printed User Guide. The User Guide in .pdf format may also be downloaded from our web site.

PHYSICAL: Cast aluminum enclosure measuring 248 x 158 x 63 mm (9.9 x 6.3 x 2.5 inches) overall including connectors and knobs. Weight is 920 gm (33 ounces) with batteries installed. There are rubber bumpers on the four corners of the enclosure bottom.

PRICE: See price list.

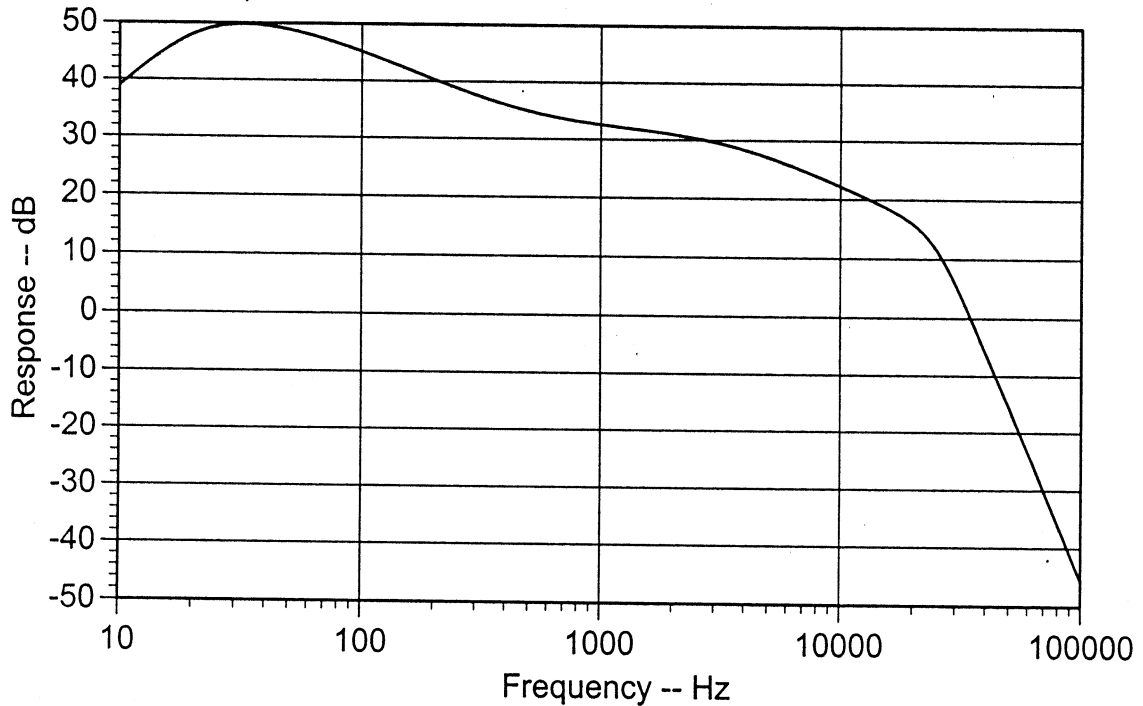


Figure 1 -- Typical frequency response at maximum gain for Decca 78. Turnover frequency is 150 Hz and rolloff is 2700 Hz..

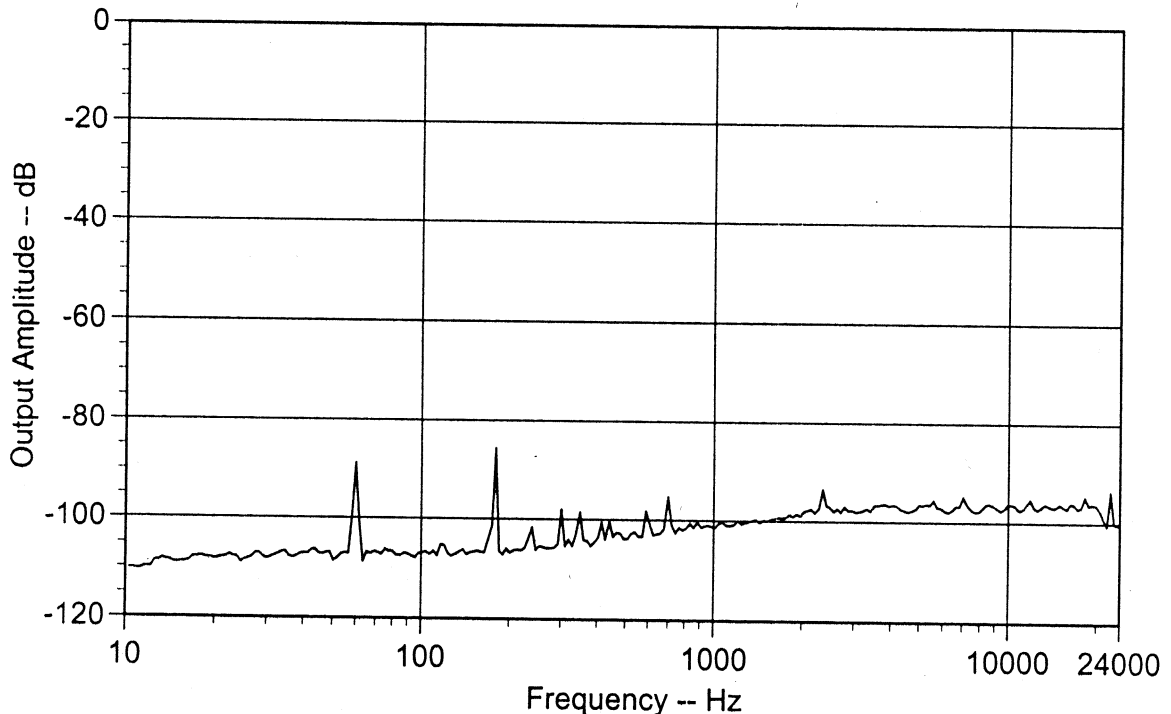


Figure 2 -- Typical output spectrum at 54 dB gain with turntable motor running.