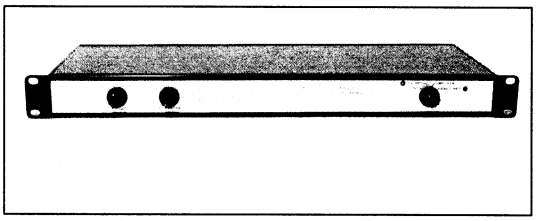
STEREO RIAA PHONO PREAMP

(for moving coil and moving magnet cartridges)

Model 4041

Revised August 2009

This preamplifier was especially designed to drive a computer sound card's line-input for restoring vinyl LP records which were recorded using RIAA equalization. However, it is also excellent for just listening to the music! The 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, however operation from the power mains is also switch selectable. We have developed a very low-noise power supply which is as quiet as battery operation.



INPUT: Matches all known magnetic pickup cartridges, both moving coil and moving magnet. (The cartridge load resistance can be set for each channel to 47 kohms, 470, 200, 100 or 20 ohms with two internal switches.)

GAIN: Zero to 52, 60, 70 or 80 dB at 30 to 35 Hz using the single-turn audio taper gain control. (The maximum gain for each channel is set with two internal switches.)

RESPONSE: Playback RIAA as shown in Figure 1. (Max gain can be set to 52, 60, 70 or 80 dB.) The rumble filters, which may be switched in and out, have corner frequencies of 20 Hz and change the response as shown. 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:. Figure 2 is a spectrogram of a typical channel with the gain set to 52 dB and gain control at max. (47 K load resistance). Dynamic range is over 90 dB. Figure 3 is a spectrogram of a typical channel set to 80 dB and gain control at max. (200 ohm load resistance). Dynamic range is nearly 80 dB. Actual dynamic range will depend on the output noise and hum of your turntable.

CONNECTORS: Two female, panel mount RCA input connectors. Two female, panel mount RCA connectors plus a ¼ 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 24 VDC power supply. A green LED lights when the charging voltage is on and a red LED lights when the preamp is operated from the power mains.

POWER: Two internal 9 volt rechargeable NiCd or NiMH batteries provide about 3 hours of operation from a full charge. The 24 VDC power supply plugs into any (US) standard 115 VAC, 60 Hz outlet. (Power supplies for other mains voltages and outlets available on special order.) The charger can be left on to trickle change the batteries all the time the preamp is not in use. Also, the batteries are on charge during power mains operation (both the greeen and red LEDs are lighted).

FURNISHED ACCESSORIES: 24 VDC wall power supply for 115 VAC, 60 Hz and Printed User Guide. The User Guide in .pdf format may also be downloaded from our web site.

PHYSICAL: Rack mount enclosure (1RU7) measuring 19 x 9 x 1-7/8 inches overall including connectors and knobs. Weight is 2 kgm (about 4.4 pounds) with batteries installed. Stick-on rubber bumpers for the four corners of the enclosure bottom are supplied for non-rack mount installation.

PRICE: See price list.

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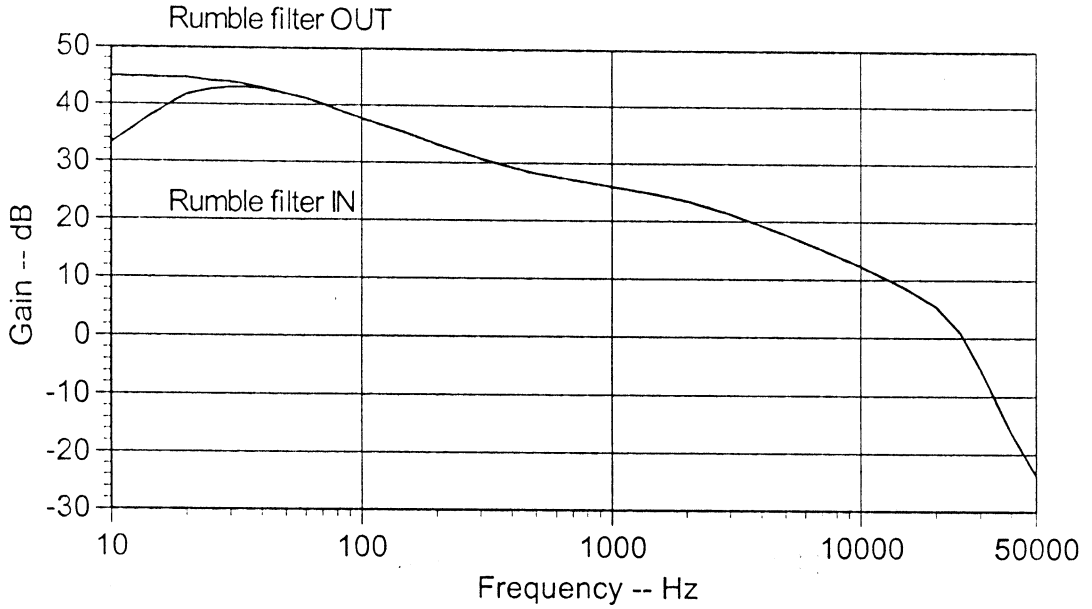

Figure 1 -- Playback RIAA response. Max gain can be set to 52, 60, 70 or 80 dB.

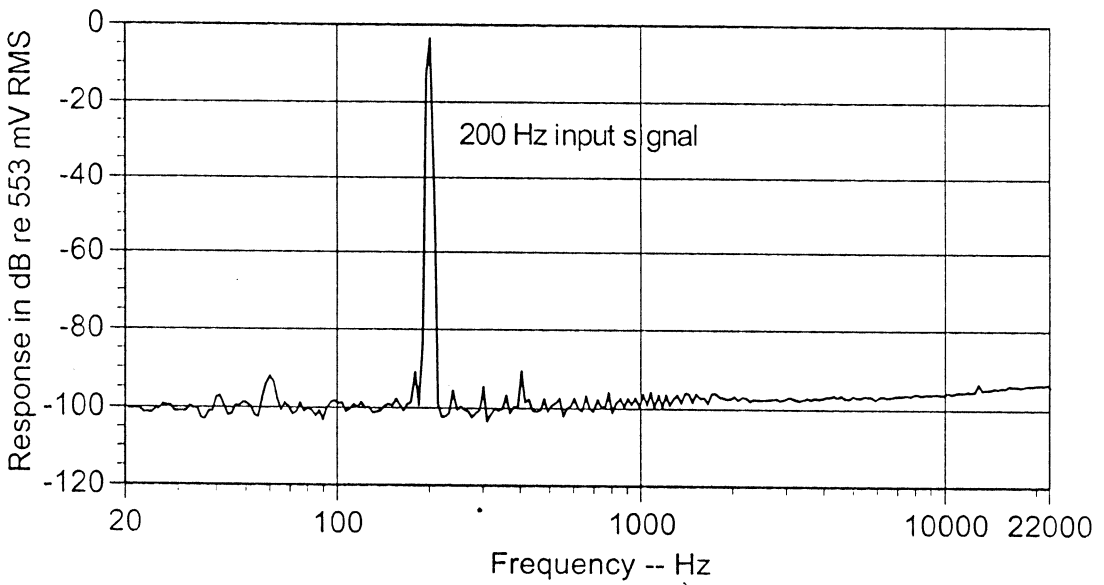

Figure 2 -- Typical output spectrum at 52 dB max gain with volume control set to max.

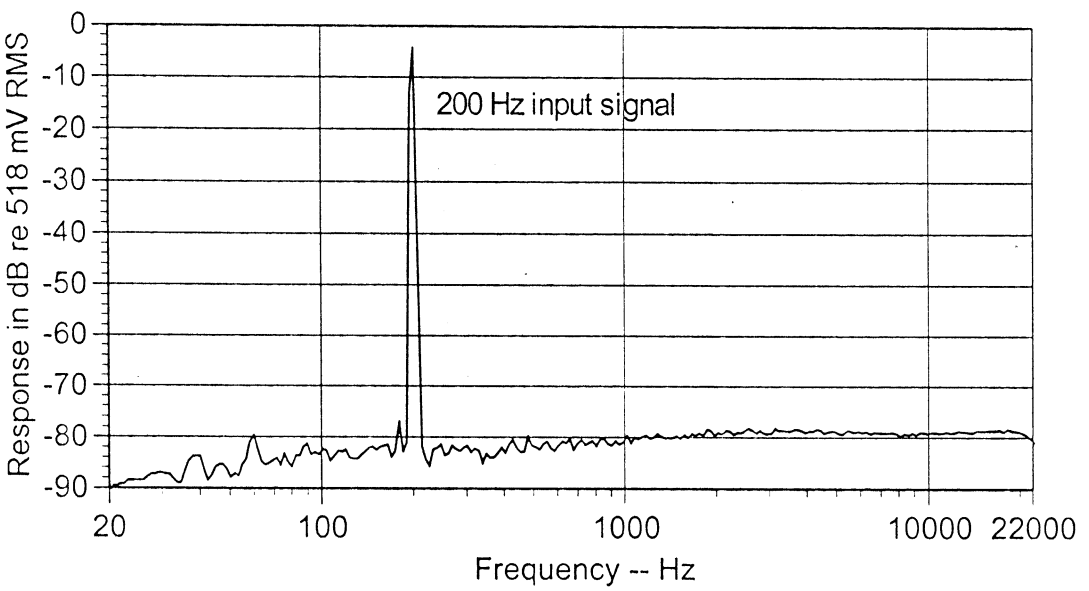

Figure 3 -- Typical output spectrum at 80 dB max gain with volume control set to max.