Pisa, May 25th, 2018

M2TECH INTRODUCES THE NASH MC/MM PHONO PREAMPLIFIER

We're almost ready! With a slight (!) delay over plans, M2Tech is proud to introduce the Nash MC/MM Phono Preamplifier. Pictures and specs can be seen on M2Tech website (https://lnx.m2tech.biz/products/rockstars/nash/), below please find more details and design insights.

Inputs

The Nash sports 4 inputs: phono MC, phono MM, line1 and line2. Each phono input is dedicated to a different kind of pickup. Phono MC input allows for setting MC step-up gain (3dB to 30dB) and input impedance (10 Ohms to 1 kOhms, continuously). Phono MM input allows for choosing input resistance (15 kOhms or 47 kOhms) and capacitance (0pF, 100pF, 220pF and 470pF, plus any combination of the basic values).
Line inputs act as "bypass" to allow two line level sources (a CD player, a tuner, a reel tape recorder or whatever) to take advantage of the same amplifier's input the Nash is hooked to. This is basically conceived for the Young MkIII, which only has one analog input, but it may be useful with every amplifier, especially when the Nash is hooked to a power amplifier with input level control.
Why having two different inputs for MC and MM? Because this way the first switch on the signal path (indeed a rele) is after the MC step-up, therefore on a higher level than the tiny microVolts delivered by an MC pickup. Moreover, the user can connect two cartridges to the Nash at the same time: one MC and one MM or high output MC, or two MC, one of which through an external step-up.

Gain

When it comes to phono, the gain is like good food: never enough. Almost all phono stages deliver output voltages between 500mV and 1V, that is the voltage obtained applying the standards 40-46dB gain to an MM signal. As generally more gain means more noise, designers choose a trade-off between noise and output voltage. This means that in a system in which a turntable and a CD player, a DAC or a streamer are the main sources, the user needs to adjust volume every time he switches from the turntable to the DAC and vice versa.
The Nash is designed to deliver 2.5V when driven by a standard 5mV outputs MM pickup with great noise performance. The MM gain can be set to 55dB, 60dB or 65dB, to accommodate pickups with output voltages 1mV to 5mV or more. This wide range or values relates to MM pickups, moving iron and moving flux pickups and medium/high output MC pickups. The MC gain can be set 3dB to 30dB, leading to a total MC gain of 58dB to 95dB! That’s enough for every cartridge around.

Noise

Is it noisy? Not at all! With every pickup used to test it, the Nash noise was generally well beyond the record surface noise and the turntable rumble. This incredibly low noise allows details to come out very naturally. M2Tech’s beta-testers panel used various turntable/pickup setups and the unanimous comment was about a great silence. The Nash is also perfectly immune to hum, most testers tried it with the earth wire connected and not connected, with little or no difference regarding hum.
The Nash's noise performance, anyway, can be further improved by using the Van Der Graaf MkII to power it, via its 4-pin XLR power input.

Control

The Nash is a 21th century product, therefore it includes certain features that make using it easier. It has a display showing all current settings, plus an IR remote control, quite unusual for a phono preamp, not so when the phono has 4 inputs to be selected...
Moreover, the Nash includes a Bluetooth BLE module that allows the user to control it thanks to the app we provide for free, for both Android and iPhone/iPad. The app, not only allows for selecting the source, accessing the configuration menu or toggling standby, it also has a complete pickups database with automatic setting for each one. Even if the Nash settings are partly manual, the app shows how to set switches and knobs for the selected pickup, at the same time automatically setting the parameters in the menu. Of course, the app also allows for manual settings.

Internals

The Nash is based on a discrete components opamp design in which the open loop gain/phase and the noise performance were optimized for best sound. Six such circuits are used, with slight differences between MC step-up, MM first stage and MM second stage. Multiple paralleled low-noise FET's were used to keep noise at a minimum.
The RIAA equalizer is passive: this choice was dictated by the desire to have a consistent performance on transients and a good distortion figure all the way from 20Hz to 20kHz and beyond.
Of course, no low-noise circuit delivers what it promises when the supply is noisy. For this reason, M2Tech engineers designed a very low noise power supply, using premium low-noise integrated regulators for the MM stages and a specially designed ultra-low-noise discrete components dual regulator for the MC step-up. To keep noise low, the OLED display was modified, disabling its on-board boost converter for display polarization and driving it with the input 15V.

Sound

OK, but... How does it sound? Well, all the people that listened to it (testers, friends...) were enthusiast about the dynamic of the sound, the incredibly deep, fast and uncluttered low frequencies (many phono preamp have a muddy low frequency rendition which people generally relate to a les-than-optimal turntable setting or poor cartridge performance) and the great amount of detail delivered without any strain on high frequencies.

Availability

Delivering early June.