

EVOLUTION

PHONO PREAMPLIFIER  
OPERATING INSTRUCTIONS



Beautiful As Music

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## PHONO PREAMPLIFIER OPERATING INSTRUCTIONS



### IMPORTANT

The umbilical cables carry high voltages. Care must be taken to make sure they are properly inserted. The Chassis earth wire must always be installed for safety.

The umbilical cables are polarized such that they will fit only in one direction. The end of the cable with the female sockets will fit into the PSU and the end with the male pins will fit into the audio amplifier unit.

**Allow at least 30 minutes after turn off before removing the umbilical cable to allow the high voltage to drain.**

### UNPACKING

The Doshi Audio Phone preamplifier is made up of an audio unit, power supply and umbilical cords. Please unpack these from the carton and inspect to make sure that there is no damage from shipping

### INSTALLATION

Install the supplied tubes into the audio unit. Please be extremely careful so the tube pins or sockets are not damaged (see tube section in this manual for installation instructions)

Connect the umbilical cords to from the Power supply to the Audio preamplifier



Rear of Power Supply



Rear of Audio unit showing output and



Umbilical Cables



Front of PSU

## DESIGN PHILOSOPHY

The phono preamplifier has the job of amplifying and equalizing the signal that comes from a phono cartridge. This signal can have a magnitude measured in microvolts (in the case of a moving coil cartridge) or millivolts as in the case of a Moving Magnet cartridge. In either case, the amplification of these signals require a low noise preamplifier with enough gain to support the low output moving coils as well as high output moving magnet models.

The phono preamplifier is comprised of 2 amplification blocks. The first provides 24 db of gain and has a differential amplifier topology. This MC section has its own power supply and umbilical cord. The use of an entirely separate supply was implemented to ensure that there is complete isolation of the MC section from the MM section. Additionally, The MC section feeds the subsequent MM section via an output transformer that steps the voltage down by 6 db, provides conversion from differential to single ended, and isolation between the two stages. The additional benefit of a step down transformer is a reduction in output impedance by a factor of 4. This is a critical feature in the ability to drive the grids of the triode vacuum tube that make up the first amplification section of the MM section.

The MM section of the Phono stage provides 50db of gain and the de-emphasized equalization according to the RIAA curve. This is a passive equalization driven by a ultra low output impedance follower to provide unfettered dynamics and accurate de-emphasis. The final section of the Preamplifier features a hybrid triode that can drive the outputs and associated equipment without compromise. Mechanical isolation of the chassis is a core component of all Doshi Audio designs and features a combination of vibration isolation in the form of isolation grommets for the audio circuit board and mass damping of the chassis in the form of the top plate which forms a constrained layer. Main and Power supply chassis are stainless steel for strength and non-magnetic properties. The Doshi Audio phono preamplifier is supplied as stock with 1 MC input and 2 MM inputs (10k /47K). MC input can be specified with RCA or XLR connectors.



This preamplifier is designed to provide amplification and equalization for Phono playback with Moving Coil and Moving Magnet cartridges with a total gain of 72 db.

The front panel of the unit features a multifunction display and selection buttons for various functions such as input select, phase and MC input loading. The front panel does not have a power switch. The unit can only be turned on/off from the power supply.

On turn on – the display will come on for 30 seconds and then turn dark. This is done so that the LED's do not cause visual disturbance for listening. The unit is muted on turn on and can be un-muted on the front panel or via the remote.

The rear panel provides 3 inputs and 2 outputs. The 3 inputs are for MC cartridges (input 1) , MM cartridges or MC stepup transformer and a standard 47K ohm input for MM cartridges

This unit has one output with 2 types of connectors. This allows the user to connect both types of audio connectors. XLR and RCA. There is also a grounding post for use with separate ground wires from a turntable.

**IMPORTANT :** The 2 outputs are paralleled together and the total load on the outputs should not be lower than 5K ohms.



Front Panel



Rear panel showing inputs, outputs and PSU connections

## MC LOADING

The preamplifier has 512 settings for cartridge loading. The load on the MC cartridge can be adjusted from 10 ohms to 10K ohms. The separate remote control unit also allows switching between 2 loading positions for use in setting up the optimum load.

We have found that settings from 90 ohms to 4K ohms are usually the best to interface MC cartridges.

Phase Invert: The Phase invert button on the front panel or the remote control is used to invert absolute phase of the MC input.

Use and Location – The unit can only be turned on and off from the power supply. It is important to note that the display will turn itself off after 30 seconds without command. This turns off the microprocessor in the controller as well and ensures an absence of digital noise in the unit.

## REMOTE CONTROL:

The phono stage is provided with a 5 button remote control for use with setup. On the top left is the button for mute/operate. Top right is the button for phase reversal (input 1/MC input only). The three buttons in the column in the center adjust the loading up/down and toggle the memory function so 2 MC loading settings can be compared. The setting which illuminates the led at the top right of the display is the setting that is retained in memory when the unit is turned off

## CLEANING OF THE UNIT

Please do not use solvents of any kind. The current tops are anodized aluminum and only need a damp cloth to clean. If scratches develop over time, simply use steel wool or 600 grit wet sandpaper to smooth it out again.

## TUBES:

The signal from the remote start jack on the PSU is a 12vdc trigger output to enable remote start to amplifiers. 12vdc is present on the jack as follows :

PSU OFF / NO HT BYPASS Trigger:	Remote OFF
PSU OFF / HT BYPASS Trigger ON:	Remote ON
PSU ON : Remote	ON

## TUBE:

The Unit uses a total of 2 tubes (1 Per channel)

All tubes are of the ECC99 type.

Tube Substitute: 12BH7A, 13D6

The Unit uses a total of 6 tubes (3 Per channel)

V1/V2 : 12DW7 Final stage amplifier /Line driver output , one per channel

V3/V4 : ECC81/12AT7 EQ driver ,one per channel

V5/V6 : ECC83/12AX7 First Stage MM amplifier

The tubes provided are of good quality OS or NOS. The User may prefer to substitute other tubes of the same type to tailor the sound characteristics to their taste.



IMPORTANT: BE VERY CAREFUL when inserting and removing tubes. Avoid touching the glass with bare hands and do not force the tube into the socket. Gently seat the tube into the socket and a firm push will seat it in.

## SPECIFICATIONS

Weight – total weight 38lbs

Power Consumption – 32W

Gain – Max 72 db (MC)

50db MM inputs

Hum and Noise – At least 80db below 0dbv

Output Impedance – 200 ohms, min loading 5K ohms

Doshi Audio LLC , 2021

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Serial # E2049 Manual Addendum

This unit is a custom build with a Sowter 8055 Moving Coil Transformer input in the 2nd input position.

Input 3 is designated as the 47K input.

# EVOLUTION SERIES

The V3 series was extremely well received by the press, dealers and customers. It has proven itself to be reliable, great sounding and distinctive in its "form follows function" looks. It was hard to improve upon in significant ways but we have achieved this goal in every area of performance and reliability.



LINE PREAMPLIFIER



TAPE PREAMPLIFIER



MONOBLOCK AMPLIFIER



STEREO AMPLIFIER

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