

The solitary goal of Dynamic Sounds Associates (DSA) is to provide electronic amplification products commensurate with the finest possible audio reproduction. To achieve this goal, we base our designs on specific approaches that we believe are critical to this goal, the use of best engineering principles, and the finest of components. Our design philosophy includes:

- Reduction, or total elimination, of coupling capacitors within the audio chain
- Only use passive frequency compensation networks
- Elimination of “global,” or “loop,” feedback except where absolutely required for stability
- Use of individual amplifier stages with internal feedback and -3dB bandwidths that exceed the full audio spectrum by many orders of magnitude
- Exclusive use of JFET or MOSFET devices in the audio chain
- Use of active regulated power supplies and high voltage rails followed by individual active voltage regulation for each individual amplifier stage to ensure exact operating conditions for that stage

Nor do we believe in “minimalist” design approaches. We design our amplifiers, and the individual stages within, to perform those specific functions required to achieve the ultimate in fidelity relative to the source material; and, we use only as many stages as required to achieve this end result. We use these elements of our design philosophy in all of our products and the end results are judged by the most discerning of audio critics, our customers.



The DSA Phono One provides a wide range of user selectable functions to enhance listening pleasure

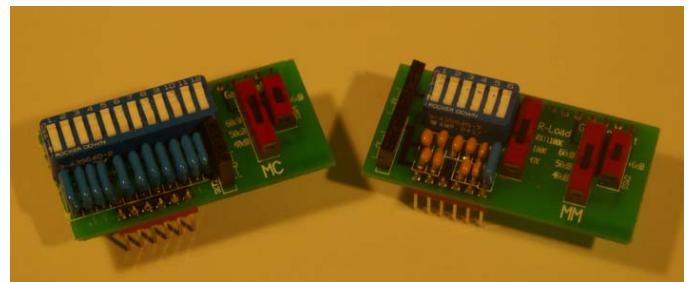
We have applied these design principles to the DSA **Phono One**; a “no-compromise” dual channel design intended to achieve the finest possible reproduction from LP recorded media. The **Phono One** does not employ any form of loop feedback to achieve the desired gain or the proper compensation. Instead, each gain stage of the **Phono One** has internal feedback to ensure that all forms of distortion are held to very low levels and to provide a



Only the best design principles and finest components are used in the Phono One

wide dynamic range. The RIAA compensation is achieved through the use of passive low pass filter networks located between the gain stages of the amplifier chain.

This global design approach provides very low distortion, a very high dynamic range, and totally eliminates transient intermodulation distortion (TIM), a common byproduct of configurations where the throughput gain and/or RIAA compensation are achieved through the use of loop feedback. We firmly believe that TIM is the cause of high frequency “glare,” often noted in other preamplifiers and amplifiers, regardless of application.



Individual plug-in modules are used to select overall gain and cartridge loading

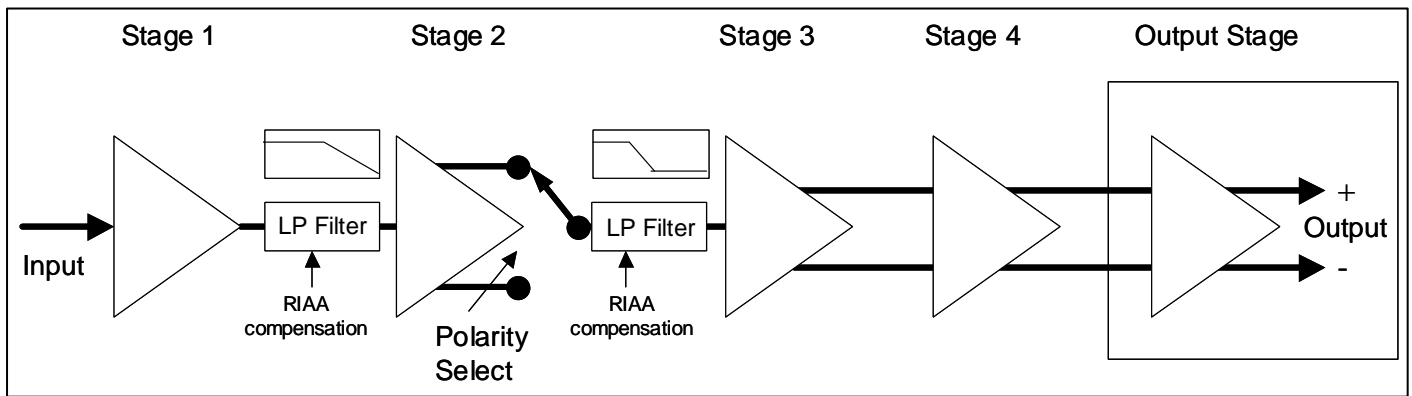
Because even the finest of coupling capacitors can cause minor, but perceptible, degradations in the audio signal, the **Phono One** has no coupling capacitors in the audio chain from input to output. Yet, through the use of an innovative design it remains very stable and resistant to DC drifts over years of operation. This unique design, results in a unit whose uncompensated -3dB bandwidth greatly exceeds that required for accurate reproduction of the audio spectrum with a -3dB low frequency point of 2Hz.

The block design of the **Phono One** consists of four all FET gain stages, two of which can be adjusted to provide the required gain to accommodate virtually all phono cartridges, either moving magnet (MM) or moving coil (MC). In addition, each stage employs its own precision constant current source and voltage regulator for the ultimate in stability and signal control.

All stages, except the input stage and the output stage are fully differential. Thus, the **Phono One** provides both a balanced output through a standard XLR connector or a single-ended (unbalanced) output via a standard RCA type phono connector. A switch that follows the 2nd gain stage permits the selection of normal or inverted polarity to match the cutter head polarity used on the LP being played.

permits the output stage to be turned on. This prevents operation of the output stage in the event of a failure within the power supply or amplifier board that could result in a large DC bias on the output connectors.

Plug-in modules provide user selection of amplifier gain and cartridge loading. Virtually any type of MM or MC cartridge can be accommodated using these cards. From input to the unbalanced output, the **Phono One** provides three basic gain settings, measured at 1kHz: 40dB, 50dB, and 60dB. Users can choose an additional + 6dB of gain that can be added to either basic gain value to accommodate phono cartridges having a lower than typical output. Thus, the total range of effective gain available from the **Phono One** is 40dB to 66dB at 1kHz, using the



Both channels use a separate high bias current Class A output stage for each polarity of the amplified audio signal. The output stage supply voltages are fully regulated and are separate from the voltage rails that power the amplifier chain. The output impedance for each polarity is 75 ohms and the **Phono One** is capable of delivering up to +/-20mA of AC current into any load without compromising the overall performance.

The **Phono One** employs dual, fully regulated, isolated, and short circuit protected, power supplies that provide +/- 60VDC rail voltages for the operation of each amplifier section as well as separate +/- 32VDC rail voltages for the output stage. In addition, these power supplies generate regulated +/-12 VDC for internal use, and +5VDC that is used to control the selectable functions for each channel. Two custom toroidal transformers, operated out of phase to cancel residual magnetic fields, provide the AC voltages.

To accommodate the fact that the **Phono One** contains no coupling capacitors within the audio path, the power supply is designed with an approximate 60 sec turn-on ramp to achieve the full +/-60VDC. As the voltage slowly increases, the value of both positive and negative rails is monitored by "check circuitry." Only when both rails have achieved the proper final values of +/-60VDC, and the regulator section has "clamped" indicating that it is in the fully regulated mode, is a turn-on signal generated that

single ended output. Due to the additive properties of the balanced output, the effective gain from input to balanced output is an additional 6dB.

The gain of the left channel of the **Phono One** is fixed to provide the gains discussed above. The right channel has a gain trim capability of +/- 2dB with respect to the gain of the left channel. This provides a means of balancing the left/right gain to compensate for any imbalance in the phono cartridge outputs for each channel. This balance adjustment is via a control on the back panel.

The **Phono One** has an RIAA compensation curve that is accurate to +/- 0.2 dB with each unit being individually trimmed to achieve this level of accuracy. In addition the **Phono One** has the provision for adding the 3.18 μ sec time constant to flatten the high frequency end of the RIAA curve. This 3.18 μ sec time constant can be selected from the front panel. Other functions that can be selected from the front panel are a high pass filter (-3dB at 18Hz) for playing warped records, polarity inversion, and a true mono mode for playing monophonic LPs. The user can also select a special mono mode that permits L-R, and R-L operation that can be used for cartridge azimuth adjustment. Lastly, the intensity of the front panel illumination, including the logo, will adjust automatically depending on ambient light, or manually if desired.