



Darlington Labs

- 1 Modular Phono System** – We offer separate **Moving Magnet and MC Step-Up** stages – designed to match as a system, each unit having **optimized performance**. Buy only what you need. Spectacular sound for your existing MM and easily expandable if you “go Moving-Coil”.
- 2 100% Discrete Circuitry: High-Voltage, High-Linearity J-FET's** for all voltage gain.
- 3 Zero-Feedback, Single-Ended Class-A** topology in our Moving Magnet stages.
- 4 No Integrated Circuits (IC's)** either in the audio path or the power supply.
- 5 Creative, Intelligent Design Approach – ‘brains rather than brute force’** – provides bass dynamics, soundstaging and ‘natural openness” in a compact size.
- 6 Special High-Voltage High-Linearity J-FETs** in a “no compromise” circuit deliver **maximum inherent linearity**.
- 7 We individually hand-select** the J-FETs and **manually match** the surrounding components.
- 8 Our technology is the result of 3500 hours of Research and Development** by a small team with over 55 years combined experience.
- 9 The development cycle included critical auditioning by multiple professional listeners with different tastes and systems**, including high-resolution all-vacuum-tube amplification. Our products complement a wide range of ancillary gear.

WHY? The end result is spectacular performance in a compact and accessible form factor

Hand-soldered, assembled and calibrated by experienced US craftsmen using parts made by American, German and Japanese brands and

Built for the long term with conservative operating parameters and high quality parts (Only our not essential heavy aluminum chassis, bare PCBs, power supply cube and solid metal I/O jacks are sourced from China).

COMPETITION

- 10 to 30V DC internal power supply – audio signal is a larger percentage of the total supply. Off the shelf IC regulators – noisy, moderate output impedance, limited rejection of AC power disturbance.
- Bipolar (BJT) transistors exhibit a ‘exponential’ transfer function – producing upper order harmonics 6 to 12dB greater than High Voltage J-FET at typical MM gains
- Heavy negative feedback and differential operation is required to reduce distortion to acceptable levels. Abruptly transitions into overload, surface noise produces sharp ‘clicks’ as feedback loses control on peaks. The resulting residual distortion (relatively rich in upper harmonics) is strongly dissonant to the ear.
- Compressed dynamics, feeling of strain on peaks, sound doesn’t “open up”, details are indistinct. Surface noise is emphasized and disturbing to the listener’s musical enjoyment.

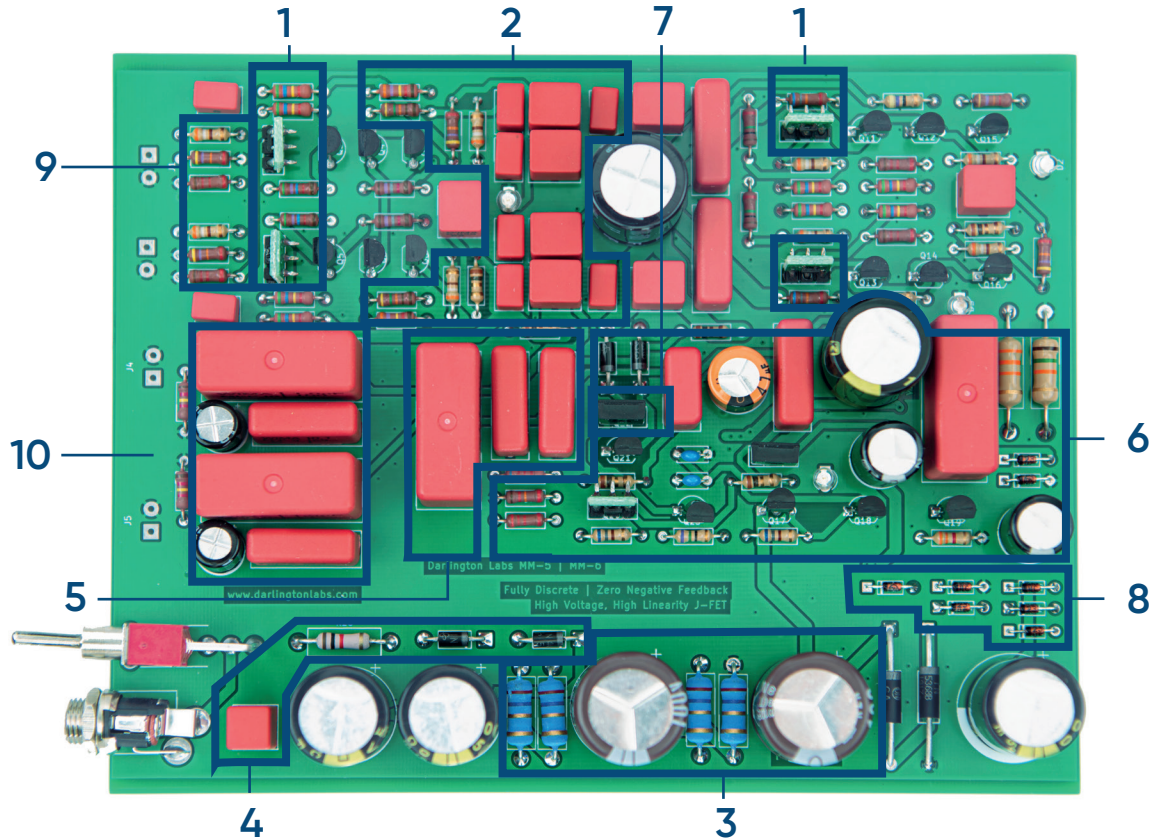
DARLINGTON LABS

- 56V DC internal power supply (on MM models) – audio signal is a smaller proportion of the supply voltage. High quality Discrete Power Regulation – low noise, low impedance, excellent rejection of AC power fluctuations
- High Voltage, High Linearity J-FET gain – provide appropriate clean gain with a relative lack of upper hypen order harmonics
- No feedback required due to our inherently low distortion topology and high voltage supply rails. Gradual overload and high usable headroom. Small monotonic distortion residual with extremely low 4th HD and higher distortion.
- Lack of strain on peaks allowing you to listen louder with greater ease; rich soundstaging. Surface noise is no longer distracting and tends to integrate with the music.

A new approach for the modern vinyl era.
www.DarlingtonLabs.com



Darlington Labs



1. Our High-Linearity High-Voltage J-FETs allow us to provide all voltage gain with a linear transfer function and operate open-loop with zero negative feedback.

2. High Headroom Passive RIAA Network – provides 6dB more headroom in critical upper midrange than traditional passive RIAA implementation without a noise penalty.

3. Passive Input Power Conditioning – reduces susceptibility to power line and radio-frequency interference.

4. Transformer Damping Network and Soft Recovery Rectifiers - lowers switching noise from rectification for greater inter-transient silence and improved soundstaging.

5. Local Power Supply Bypass Networks – Low impedance, yet critically damped, networks provide optimum power across audio frequencies and prevent transient instability in the audio stages or the regulator.

6. Sophisticated discrete power supply regulation incorporating high performance Line Rejection and Load Rejection networks which achieve >120dB rejection and low noise. Traditional IC voltage regulators only achieve 50 to 80dB rejection and produce substantial wideband noise on their power rolls.

Our bass is deep, tight and musical with “blacker silence”, lifelike dynamics and immersive soundstaging.

7. High Voltage J-FET Regulator control amplifier provides natural, relaxed yet dynamic sound compared to a BJT controlled regulator and incorporates overvoltage protection.

8. Hand-selected Low-Noise, Low-Impedance zener diodes make up our high performance Voltage Reference Network. This allows us to directly couple the regulation to our audio gain stages. Avoiding which decoupling networks, significantly reduce pace, rhythm, timing, and perceived dynamics.

9. Unique precision resistor technology. Our industrial resistor technology predates the modern vacuum sputtered metal-film resistors and was selected on the basis of sound quality. These contribute to our open, transparent sound with minimal listening fatigue.

10. Pure Polypropylene Film and Foil capacitors (non-metalized construction) in critical locations and a Distributed Output Network adding Double-Metalized Polypropylene for lowest Dissipation Factor and Dielectric Absorption. Low-distortion Bipolar Electrolytics reduce ultra low frequencies phase shift for tight bass even when feeding relatively low input impedance amplifiers.

A new approach for the modern vinyl era.

www.DarlingtonLabs.com