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## Bulletin 0308

### Design Overview

# Introducing the SHHA Generation 2 Analog Line Modules

In late 2000 Spectral introduced the new SHHA analog amplifier technology. The 'Spectral High-speed Hybrid Amplifier' module was a clean-sheet reappraisal of state-of-the art analog circuit fundamentals. This breakthrough signal technology debuted in the DMC-30SL "Anniversary" preamplifier, taking us a significant step closer to realizing our ideal of the ultimate preamplifier design.

Today the advanced SHHA technology is used in all Spectral preamplifiers and has arguably advanced the art of solid-state analog design. Line section performance of Spectral preamplifiers is unmatched among high-end audio components, with SHHA modules achieving the fastest signal response and the greatest voltage swing and current capability in the industry.

Spectral's constant research effort to create the finest possible preamplifiers has been an ongoing quest since 1975. Possibly no other engineering team has matched the depth of experience or developmental history in high-speed analog audio design achieved at Spectral.

Constant engineering review and design refinement have now made possible an improved second generation SHHA module for Spectral components.

### **The SHHA Generation 2 Analog Line Modules**

Just as the preamplifier is the essential heart of the finest music systems, the SHHA line module is the essential heart of our high resolution preamplifiers. For this reason, the modular architecture of Spectral preamps has been developed to accommodate design evolution of our SHHA technology with convenience and ease. Now the new SHHA G2 module takes our wideband, fast-settling discrete circuitry to a new level of performance and signal linearity. Spectral engineers have continued to optimize the dense surface-mount FET topology of the SHHA module with new components, materials and circuit refinements :

Newly optimized layout and dielectrics provide increased circuit speed and stability.

Hand-selected trim resistors replace trimmers in critical signal path locations.

Improved heat dissipation provides greater thermal stability and long product life.

These and other refinements in the SHHA G2 module assure improved sonics and extended reliability in all Spectral applications. Musical benefits include greater low level detail and dynamic range.

The SHHA Generation 2 modules will be available in DMC-15, DMC-30S and DMC-30SL preamplifiers beginning in Fall 2003. SHHA G2 module sets will also be available through our dealers for owners of Spectral preamplifiers who are interested in upgrade services beginning in early 2004.