



## Q/A: THE SPECTRAL ULTRALINEAR 2C3D CABLES

### **1) What are Ultralinear 2C3D Cables?**

These are the specialized interface cables designed by MIT for the unique requirements of the high-speed Spectral component system. Terminated MIT network cables are required for the correct performance and reliable operation of Spectral components.

### **2) Are these a new generation of cables?**

Yes, the Ultralinear 2C3D cable line is the fourth generation of Spectral Ultralinear cables and supersedes most of our previous Ultralinear III cables. Since 1985 MIT has been building specialized cables for the Spectral component system. Our new generation Ultralinear 2C3D cables have been in development for several years and offer exceptional performance in all domains combined with great value.

### **3) Why can't conventional cables be used with Spectral components?**

Spectral audio components are unique in the audio industry today and represent a fundamentally different approach to audio system engineering. We prove that superior performance in audio components can be achieved when active components and signal interface cables are designed as an integrated and optimized system. This approach is widely accepted in the high tech instrumentation industry. Spectral's introduction of the first very high-speed audio amplifiers for music reproduction were only made possible by the use of special cable designs with precision termination to stabilize high-speed amplifiers and insure reliable operation.

### **4) Why was this new generation of cables developed?**

It has been several years since the Ultralinear III was developed for Spectral by MIT. During that time, Spectral and MIT have continued to share engineering work and develop advanced cable prototypes. During this same period Spectral engineers have developed a new level of signal accuracy in our Reference Standard components. In light of our dealers increased requirements, MIT was asked to create three cable interface sets to complement our three component programs. Spectral Foundation, Spectral Reference and Spectral Reference Standard.

### **5) Why the 2C3D Ultralinear name?**

Spectral created the 2C3D concept in the 1980's to describe the unique sonic qualities of the original Spectral component system interfaced with the first MIT/Spectral cables. The superior time alignment and transient response of the optimized system was a breakthrough, resulting in sonic transparency and three-dimensional soundstage and focus which had not been possible before. The Ultralinear concept refers to these cables as ideal, transient perfect low-pass networks, providing perfect terminations for our high-speed amplifying circuits. Thirty years later, Spectral's 2C3D Ultralinear system concept continues to define the most accurate and realistic reproduction of fine recordings which can be attained.

**6) What is the engineering basis for the 2C3D Ultralinear cables?**

MIT Oracle reference series cable interfaces have been widely used in top Spectral component systems for twenty years. We challenged MIT engineering to build a more cost-effective version of specific MIT Oracle reference cables as a basis for new generation Spectral Ultralinear cables.

**7) How was this done?**

For our Level One cables, we chose the highly regarded MIT Oracle SHD 120 speaker cable and the Oracle MA interconnect as our basis. The Spectral Ultralinear versions of these cables eliminate the machined aluminum housings, impedance and filter switching options and reduce some component package sizes. The basic performance envelope and poles of articulation are unchanged. MIT estimates that these changes allow the Spectral 2C3D versions to retail for approximately half the price of the Oracle originals.

**8) Why have three levels of Ultralinear 2C3D cables?**

Spectral has traditionally had two groups of Spectral/MIT cables; one set for our reference components and a second set for our more cost-effective foundation components. Today, many Spectral dealers require a third set with performance appropriate for use with the new RS level components. The Level One cables were developed for this new application.

**9) What is the basis for the Ultralinear 2C3D Level Two and Level Three?**

The Ultralinear 2C3D Level Two and Level Three cables are simplified versions of the Level One cables. The termination topology uses fewer poles but is basically the same circuit. As a result, all three 2C3D cable sets have a common sonic 'voice' and share a sophisticated ability to present the accurate tonal envelope of instruments and the time structure of fine acoustic recordings.

**10) Don't these changes of packaging degrade performance?**

We hear relatively little loss in the repackaging of Oracle models in plastic boxes and the removal of switching options. The significant reduction in price strikes us as a worthwhile trade-off. For those who have the budget for the original MIT Oracle Reference speaker cable and interconnect, we can recommend them for the advanced Spectral component systems without reservations. In the meantime, we believe the three Ultralinear 2C3D cable sets offer unmatched sonic sophistication for the price and high value in the Spectral tradition.

**11) What about availability of long interconnects?**

The Ultralinear 2C3D interconnects perform exceptional well terminated in length from one to three meters. For long lengths needed for remote placement of Spectral amplifiers, the 2C3D technology is not compatible. To meet our requirement, MIT will continue to build Ultralinear III interconnects, low capacitance UL-350 and UL-230 cables as they have in the past. These existing models will be built in lengths starting at 15FT as previously offered. The performance of these low capacitance Ultralinear interconnects continues to have our strong recommendation in the Spectral system.