The **MLD** system overcomes the distance restriction (officially 15 metres maximum) of the standard MIDI hardware. It converts the MIDI signal to a differential (balanced) format and back again. This allows the signal to traverse up to a kilometre with quality screened twisted pair (STP) cable. Unscreened cable can also be used.

The **MLD** system consists of a pair of units. **MLD/T** is a transmitter unit with a built-in mains power supply and integral mains lead fitted with a plug. A POWER lamp indicates that the **MLD/T** is powered-up. A DATA lamp flashes clearly to indicate that MIDI data is passing through.

The **MLD/R** receiver unit is phantom-powered over the line. The case of each unit are 109mm x 55mm x 40mm. The connection to the line cable is via 240 degree 5 pin DIN plugs, which are supplied.

**Technical refinements**

MIDI-thru chains can distort the MIDI waveforms. So that the line driver might receive a clean signal, the **MLD/T** unit includes our fast, high-precision “Cleanstream” waveform restitution. This processing is applied to the MIDI-thru output and the line output. Because this processing ensures that the duty cycle of the waveform is perfect, it also helps to make sure that the **MLD** system can convey a signal over the full specified distance. The “Cleanstream” has a 250ns sample period, so it is many times more discriminating than ordinary serial interfaces.

In the receiver unit, a low pass filter followed by hysteresis provide amazingly reliable performance, even in electrically noisy environments. Hysteresis is the method where the threshold level of a signal detector changes depending on the previous state of the signal; it is employed to enhance noise immunity.

**Many applications**

In live performance situations, the **MLD** can allow on-stage MIDI gear to be controlled from the desk. Alternatively, the **MLD** can transmit performance data back to modules located at the desk end. MIDI-based systems installed in theatres may require the ability to get MIDI data down long cable runs reliably. The **MLD** system can do this.

In recording studios, particularly with remote control rooms, an **MLD** system can be permanently installed. They can also be used on an ad hoc basis, with the **MLD/T** employed rather like a DI box.