

# Liteway, Inc.

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## **The Use of Terminating Resistors with Liteway, Inc. Analog and Digital Fiber Optic Transmission Systems**

In order to achieve maximum performance with various analog and digital fiber optic transmission systems manufactured by Liteway Inc., the electrical input and output ports should be terminated properly to prevent reflections and/or possible distortion of the analog or digital signals. According to conventional practices these terminating resistors should be installed at the end of a transmission line, as far away from the source as possible. Specific details per model are as follows:

### **DX-7001 Universal Data Transmission System**

In the RS-422 or RS-485 modes, the DX-7001 contains integral 120 ohm termination resistors. The input to the DX-7001 is on Signal terminal block pins 4 and 5 and DIP switch 9 can be used to connect a 120 ohm resistor directly across these pins when turned ON. The output of the DX-7001 is on Signal terminal block pins 1 and 2. Normally the equipment being driven by the DX-7001 will have its own terminating resistors but in the event that it does not, DIP switch 10 can be used to connect a 120 ohm resistor across these pins when desired.

### **DT-7201, DR-7201 and DX-7201 DC to 50 Mb/s Transmission Systems**

In the RS-422 mode, the DT-7201, DR-7201 and DX-7201 do not contain any integral terminating resistors. As a result these must be provided externally by the user. The RS-422 input to the DT-7201 and DX-7201 is on Signal terminal block pins 4 and 5. A 120 ohm terminating resistor should be connected directly across these pins when desired. The output of the DR-7201 and DX-7201 is on Signal terminal block pins 1 and 2. Normally the equipment being driven by the output will have its own terminating resistors but in the event that it does not, these should be added externally at the input port of the driven equipment when desired.

In the TTL mode the DT-7201 and DX-7201 contain a user selectable 50 ohm termination. DIP Switch 9 controls this termination. When in the OFF position the TTL input is the conventional high impedance (3Kohms). When in the ON

position the input impedance drops to 50 ohms. The TTL output of the DR-7201 and DX-7201 is from a low impedance high current driver. This driver can drive conventional high impedance TTL loads or a 50 ohm load if desired.

### **INST-1001, INSR-1001 Analog Transmission System**

The INST-1001 Transmitter has an internal 50 ohm termination and does not require any additional terminating resistor. The INSR-1001 is designed to drive a 50 ohm load directly.

### **INST-1301, INSR-1301 Analog Transmission System**

The INST-1301 Transmitter has an internal 50 ohm termination and does not require any additional terminating resistor. The INSR-1301 is designed to drive a 50 ohm load directly.

### **INST-1701, INSR-1701 1.5GHz Transmission system**

The INST-1701 Transmitter has an internal 50 ohm termination and does not require any additional terminating resistor. The INSR-1701 is designed to drive a 50 ohm load directly.