

Interfacing Analog Audio and IRIG Systems With High Voltage Input Signals

The transmission voltage level of analog audio and IRIG signals in standard **LuxLink®** and **LiteLink®** fiber optic transmission systems is 1 volt rms (3 volts pp) maximum. Applying higher level signals can result in compressed or clipped wave shapes which can then result in distortion or inaccurate decoded data. As a result it is necessary to reduce the amplitude of these signals so that they are within the linear range of the systems. The diagram below shows a simple way to accomplish this with standard readily available components.

If the input signal is riding on a DC offset level present a capacitor should be added in series with the signal input point. The polarity of this capacitor should be such that the capacitor is biased in the correct direction and the value such that the signal is not distorted. Usually electrolytic capacitors in the range of 10 to 100 uF are fine. If there is no DC offset then the capacitor can be eliminated.

