

SIERRA VIDEO SYSTEMS, INC.

Digilinx 1.485Gbps Equalizing Digital Video Distribution Amplifier User's Guide

Introduction

This product equalizes a customer provided serial digital video signal, producing 4 copies of the equalized input signal; depending on the version purchased.

The equalizer accepts data rates ranging from 144Mbps to 1.485Gbps serial digital video. The four output product consumes one Digilinx frame 'slot'.

These products do not provides Smartlinx monitoring of the signal status. For Smartlinx versions of this family, refer to the 507116-xx product family, which allows Smartlinx hosts to monitor signal presence and strength.

Peripheral Connections

507113-00:



The rear panel provides the following signal connections to the user:

INPUT - This is a 75 Ohm BNC connector to which the incoming video signal is applied. For 1.5Gbps signals, this should be less than 20 meters from the source of the signal.

OUTPUTS - These are 75 Ohm BNC connectors which provide equalized, amplitude controlled copies of the INPUT signal.

Application Notes

Equalizing DA's boost the high frequency content of incoming digital pulse streams until flat topped pulses result. This compensates for the frequency dependent dispersion of signals along coaxial cable. While significantly less expensive than reclocking DA's, equalizing DA's do not reduce jitter over long source to DA cable runs as well as reclocking DA's.

The maximum distance from a source to the input of a reclocking DA depends on many things. The jitter intrinsic in the source, the type of cable used, the proximity of the input cable to other 'noisy' cables, the length and type of output cables used, and the jitter tolerance of the destination devices all help define maximum cable length. If quality cables are used, input sources provide <50psec jitter, and the load tolerates 170psec. jitter(at 1.5Gbps), 20 meters of cable can be placed between the video source and the input of the equalizing DA.

Specifications

Data Rate Range-	144-1485Mbps(NRZI)
Return Loss(in & out)-	>15db from 500KHz to 1.5GHz
Jitter-	<150p seconds with input driven through < 20M of Belden 8281
Operating Temperature-	0 to 70C(non condensing)
Guaranteed Calibrated Temperature-	20 to 40C(non condensing)
Operating Humidity-	5-95% RH(non-condensing)