

3G SDI Galvanic Isolator

L3GGI04

Technical Data

The LEN L3GGI04 is a miniature in-line Isolator, providing full quality transmission of all the SDI digital video formats up to 3G whilst blocking DC, mains hum and other low frequency interference.

Our LEN L3GGI04 Isolator provides safeguarding both from signal distortion and against equipment damage by static and Earth Loop DC voltage build up. It is built in a tubular plastic enclosure, fitted with a BNC connector at each end and with an industry standard size mounting flange for panel mounting.

Transparent to the 3G, HD and SD SDI signal standards, the L3GGI04 Galvanic Isolator is useful in both permanent and temporary installations. It may be used freestanding or panel mounted, using the integrated flange for through panel mounting. An accessory rack panel is also available to mount 16 Isolators in 1U of rack space, part number LMPG01.

Key Features & Benefits

- Full DC and mains hum isolation between equipment
- Totally passive device, no power required
- Easy installation and maintenance free
- Small and lightweight
- Protects equipment from damage by DC static and earth loop voltage build up
- Prevents errors due to differences in earth potential at each end of the cable
- Prevents Electric Shock risk to Operators
- No distortion of the 3G, HD and SD-SDI signal
- Can be used with the ASI format
- Very low loss, minimal signal attenuation over transmission path length



Technical Data

Impedance: 75 Ohms

Signal Attenuation: < 0.1 dB at 0.5 MHz

Bandwidth: < 0.5 MHz to > 3.0 GHz

Amplitude roll-off: < 0.5 dB to 3.0 GHz

Return Loss: > 20 dB

DC Breakdown Voltage: > 500 volts

Dimensions: 62 x 20 (length x diameter) mm

Mounting Flange: 31 x 26 mm

Weight: 36g.

Connectors: BNC Female



Technical Overview LEN L3GGI04 and DSMB HVIT010R

Both the LEN L3GGI04 and the DSMB HVIT010R products are specified to provide Galvanic Isolation of the SDI digital video signal, as widely used in the Broadcast Television market.

Both are claimed to work with the 3G, HD and SD-SDI formats, also the ASI format.

The rights to both designs are owned by L E N Limited in Crewe, England. The L E N L3GGI04 is a proprietary design and the rights to the HVIT010R design were acquired when L E N purchased the assets of Claratech Limited when it closed down a little under ten years ago.

Tests have today been carried out on the two devices shown here:



This is an extract from the Production Manual for the HVIT010, showing the Test Specification:

QD

TITLE

HVIT010

PAGE

7.1

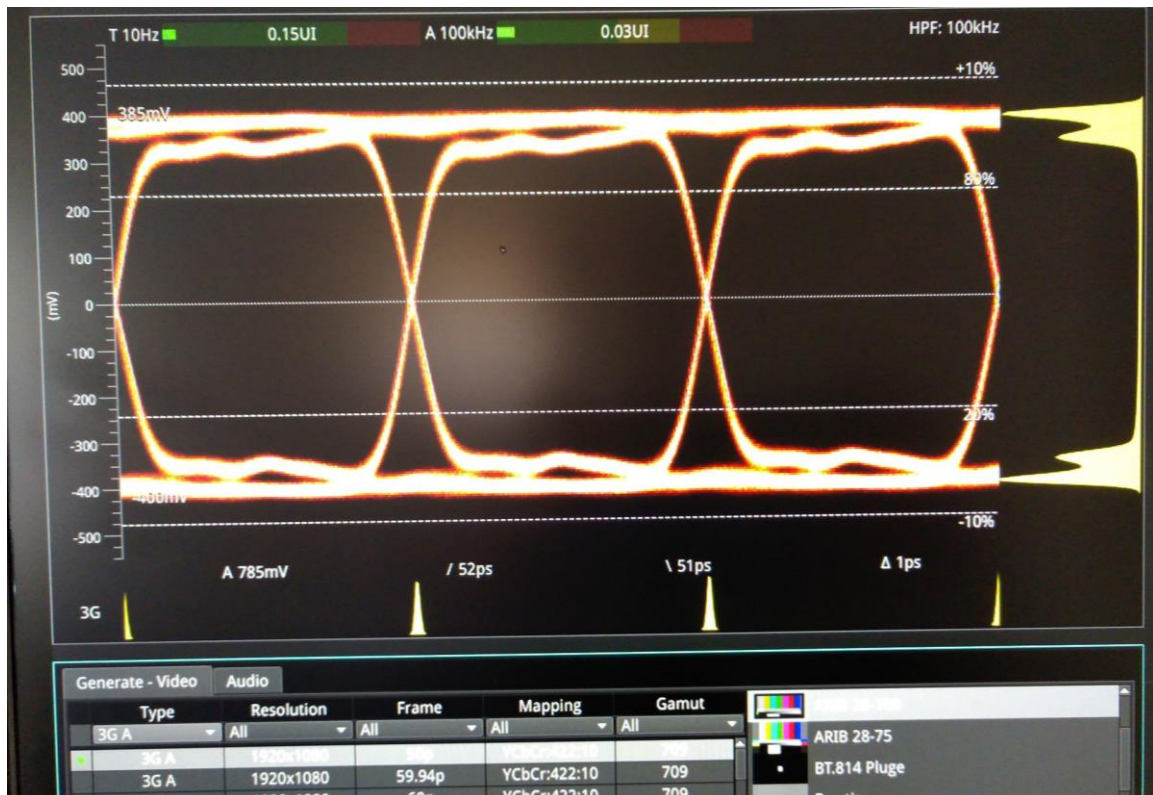
TEST & ALIGNMENT

Frequency Response	
Passband Shape	Bandpass
Insertion Loss at 10 MHz	~ 1dB
Passband <3 dB	10 - 1500MHz
Passband <1 dB	30 - 750 MHz
Return Loss - Input	>14 dB to 750 MHz
Return Loss - Output	> 14 dB to 750 MHz
Video Test	
100m 1694A cable + HVIT010	No Errors, HD SDI Matrix test signal
Flash Test	
1kV	For 5 secs - see pg 7b

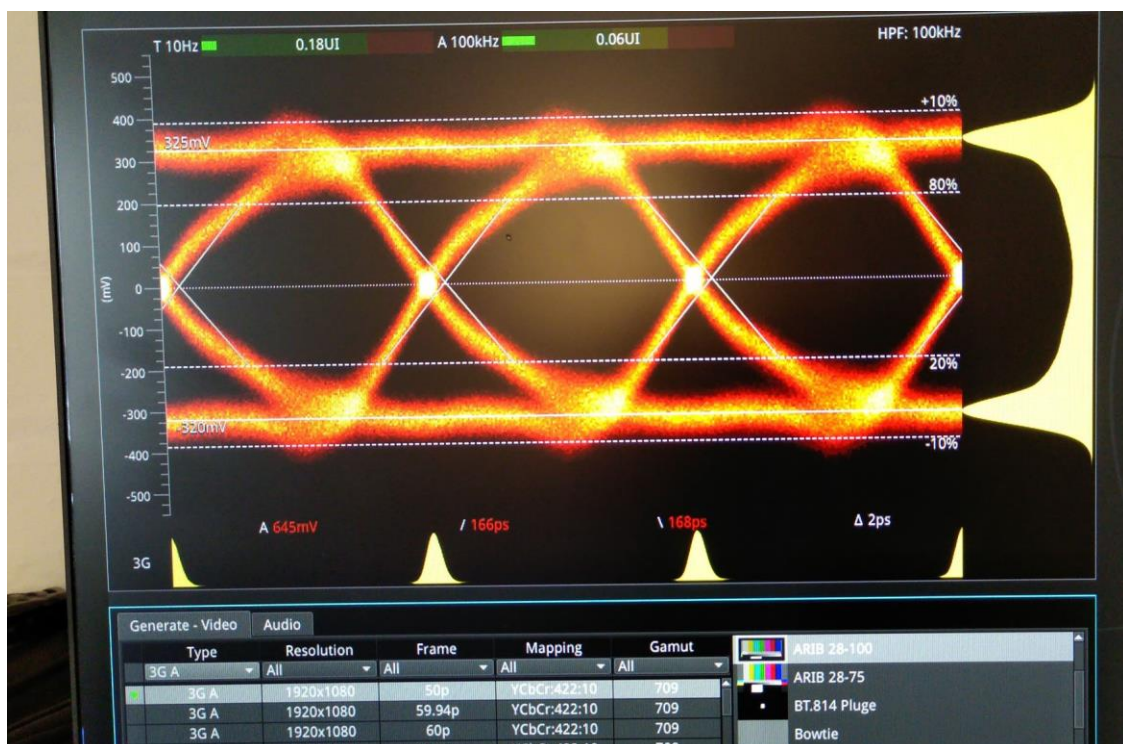
OTHER NOTES:

I carried out “real world” tests using a Phabrix Qx set to 3G-SDI Eye and Jitter, with the following results:

L E N L3GGI04:



DSMB HVIT010R:



As is clearly visible, the L E N L3GGI04 product is very transparent to the 3G SDI signal, causing minimal distortion and the signal is still within the guide parameters

The DSMB HVIT010R visibly causes much distortion to the 3G SDI signal, taking it outside the guide parameters.