The 3G HD-SDI 101 is a cable equalizer for multi-rate SDI signals, which enables SDI, HD-SDI, or 3G-SDI digital video to be sent long distances on coaxial cable. This broadcast quality equalizer accepts all common serial digital video data rates including SMPTE 259M, SMPTE 292M, and SMPTE 424M, as well as embedded audio, ancillary ID, and metadata information. The 3G HD-SDI 101 is ideal for applications that require high resolution signal equalization due to long cable runs in a variety of applications.
**DESCRIPTION**

The 3G HD-SDI 101 is a one-input, one-output cable equalizer for multi-rate SDI digital video signals. It offers a convenient, economical solution for sending multi-rate SDI digital video signals over long coaxial cable runs. The 3G HD-SDI 101 supports all common serial digital video data rates up to 2.97 Gbps, and also passes embedded audio and other ancillary data allowed by the SMPTE and ITU specifications. It is housed in a one-eighth rack width, metal enclosure, providing integration-friendly mounting options into both new and existing A/V systems, including broadcast and production facilities, command and control centers, and medical imaging facilities.

The 3G HD-SDI 101 features automatic input equalization, which compensates for attenuation and distortion on the incoming signal. Cables can vary in length up to the maximum of 500 feet (150 m) without requiring a change to the equalizer.

The 3G HD-SDI 101 also features output reclocking, which reshapes and restores timing of digital video signals at the output, eliminating high frequency jitter and providing A/V system designers with additional headroom when connecting multiple devices.

**FEATURES**

- Automatically adapts to SMPTE and ITU digital video standards
- Supports data rates up to 3G-SDI video
- Automatic Input equalization
- Automatic output reclocking
- Passes embedded audio, ancillary ID, and metadata information
- LED power indicator
- One-eighth rack width metal enclosure is compact enough to be placed behind a display
- External universal power supply included

**APPLICATION DIAGRAM**

Extron
3G HD-SDI 101
Cable Equalizer

HD-SDI Camera

400' RG6 Cable

HD-SDI Display

**SPECIFICATIONS**

**VIDEO**

Gain ........................................ Unity
Resolution ..................................... 8 or 10 bits, automatic
Operation standards ...................... SMPTE 259M, SMPTE 292M, SMPTE 424M,
ITU-R BT.601, ITU-R BT.1120
Auto data rate lock ......................... Yes

**VIDEO INPUT**

Number/signal type ......................... 1 single link SDI, HD-SDI, or 3G-SDI digital component video
Connectors ..................................... 1 BNC female
Data rates .................................... 19 Mbps to 2.97 Gbps
Input cable equalization ................. Automatic for up to ~30 dB of cable loss
HD-SDI, 3G-SDI .............................. 120 m (400') using Extron RG6 cable
60 m (200') using Extron RG59 cable
SDI ............................................ 150 m (300') using Extron RG6 cable
120 m (400') using Extron RG59 cable

NOTE: Transmission distance varies depending on the signal resolution and on the type of cable, source, and display used in the system.

- Nominal level ......................... 0.8 Vp-p
- Minimum/maximum levels .......... 0.5 V to 1 Vp-p with no offset
- Impedance ................................... 75 ohms
- Return loss .............................. <~25 dB @ 5 MHz to 2.97 GHz
- DC offset (max. allowable) ....... 5 V
- Input coupling ............................ AC

**VIDEO OUTPUT**

Number/signal type ......................... 1 single link SDI, HD-SDI, or 3G-SDI digital component video
Connectors ..................................... 1 BNC female
Re-clocking ........................................ Automatic for 270 Mbps, 1.485 Gbps, 2.97 Gbps, or bypassed for other rates
Nominal level .................................. 0.8 Vp-p
Minimum/maximum levels .......... 0.5 V to 1.0 Vp-p
Impedance ....................................... 75 ohms
Return loss ................................... <~25 dB @ 100 MHz
DC offset (max. allowable) ....... ±5 mV with input at 0 offset

**GENERAL**

External power supply .................. 100 VAC to 240 VAC, 50/60 Hz, external; to
12 VDC, 2 A, regulated
Power input requirements ............... 12 VDC, 0.2 A
Cooling ......................................... Convection, no vents
Mounting ........................................
Rack mount ................................
Yes, with optional 1U, 9.5” deep rack shelf,
part #60-190-01 (RBU 129) or 60-604-01
(RSB 129); or with VersaTools® 1U, 3.5” deep
rack shelf, part #60-190-20 (RBS 123) or
60-604-20 (RBU 123); or with Back of the Rack
mounting kit, part #70-367-01 (MBU 100)
Furniture mount ............................ Yes, with optional VersaTools Under Desk
Mounting Kit, part #70-212-01 (MBU 123)
Enclosure type ............................... Metal
Enclosure dimensions ................. 1.0” H x 2.2” W x 3.0” D (~1U high, one
eightth rack wide) (2.5 cm H x 5.6 cm W x
7.6 cm D) (Depth excludes connectors.)
Product weight ............................. 0.4 lbs (0.2 kg)
Shipping weight ............................ 2 lbs (1 kg)
Vibration ...................................... ISTA 1A in carton (International Safe
Transit Association)
Listings ....................................... UL, CUL
Compliances ................................. CE, FCC Class A, VCCI, AS/NZS, ICES
NOTE: All nominal levels are at ±10%.

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<thead>
<tr>
<th>Model</th>
<th>Version Description</th>
<th>Part Number</th>
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<tr>
<td>3G HD-SDI 101</td>
<td>Multi-rate Cable Equalizer</td>
<td>60-963-01</td>
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Specifications are subject to change without notice.