

TR100 Full-HD 3G-HD-SDI or Dual Link to 1.5G HD-SDI converter using DIRAC PRO by NuMedia

The TR100 is a unique product that allows the transport of Full-HD 3G-SDI images using the existing HD-SDI infrastructure. The TR100 substantially reduces the cost of migration to Full-HD 3G-SDI by allowing the reuse of existing HD-SDI plant and infrastructure. The encoded output is fully compliant with SMPTE 292M (the standard for HD-SDI contribution) and is viewable using a DAC or waveform monitor for confidence monitoring. As the encoded output runs at HD-SDI rates, the TR100 output will operate over much longer cable runs than 3G-SDI and is more tolerant of jitter build-up.

The TR100 is designed to offer a wide range of options including a single channel optical transmitter and receiver. The TR100 incorporates true multi-standard interfacing and the decoder will automatically bypass uncompressed HD-SDI (1.5 Gbps) and SDI (270Mbps).

DIRAC Pro modules in standard openGear rack frames can be mixed freely with other analogue, digital video or audio modules. This feature allows system designers to introduce 3G-SDI capability into existing HD-SDI equipment as demand develops and provides for fully integrated solutions for the transmission of video and audio signals over distances that cannot be accomplished using conventional copper co-axial cable. Up to 40 km of fibre can be driven when HD-SDI signals are applied. The module can be supplied in either 1310nm or 1550 nm versions. Other frequencies between 1470nm and 1610nm can be supplied for CWDM applications.

The TR100 comes in a non fibre version for use in copper only environments. There is the TR100EN which is the encoder and the TR100DE matching decoder. The fibre components can be retrofitted, if required at a later date.

Features

- 3G-SDI (Level A or Level B) or Dual-Link Inputs
- Multi-standard 1080P50 and 1080P59.94 processing
- Almost zero processing delay (6 HD lines)
- Visually Lossless Performance
- Full image raster 1920x1080 lines at 10-bit resolution
- Encoded bit-stream can be viewed as an HD-SDI image
- Fully compatible with existing HD-SDI test & measuring equipment
- Robust contribution – increased jitter tolerance over 3G-SDI
- Automatic uncompressed HD-SDI decoder bypass
- Embedded AES audio and data transparency
- Proposed SMPTE VC-2 compliant
- Open Technology supporting future-proof file interchange
- Single channel transmitter version (/T option)
- Single channel receiver version (/R option)
- 1310 or 1550nm versions (other wave lengths to order)
- Copper only versions (Fibre retro fittable)
- Two switchable inputs and two twin outputs switchable
- Reclocked pass through mode

Applications

- Improved resilience Full-HD 3G SDI routing

Specifications

TR100 SERIAL INPUTS

Format	Compatible with SMPTE 292M, 259M, (1080p/1080i/720P)
Connector	BNC
Impedance	75ohms
Data Rates	143 Mbps, 177Mbps, 270Mbps, 360Mbps, 540Mbps, 1.485Gbps, 2.98Gbps Also accepts AES/EBU digital audio streams

TR100 SERIAL OUTPUTS

Connector	BNC
Impedance	75ohms
Amplitude	800mV p-p (terminated)
D.C. Offset	0V +/-0.5V

Controls

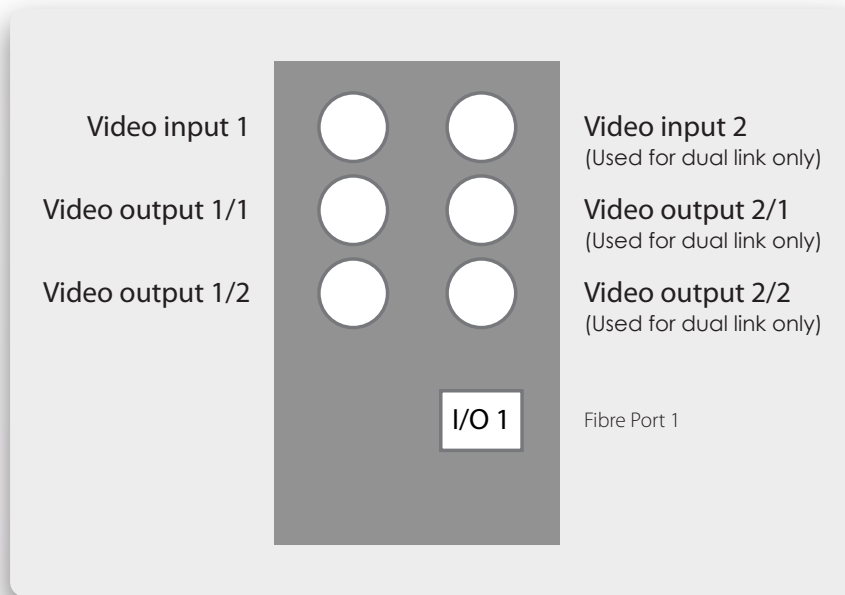
Status monitoring only

TR100 OPTICAL INPUTS

Connector	LC with shutter
Optical Wavelength range	1270nm to 1610nm
Optical Power input range	-23dBm to -1dBm (Typical)
Recommended Cable	Single-Mode

TR100 OPTICAL OUTPUTS

Connector	LC with shutter
Laser	FP or DFB
Optical Wavelength	1310nm or 1550nm
Optical Power Output	2 user selectable options: @ 1310nm -5/-2/+1dBm (Typical) @ 1610nm +1dBm (Typical)

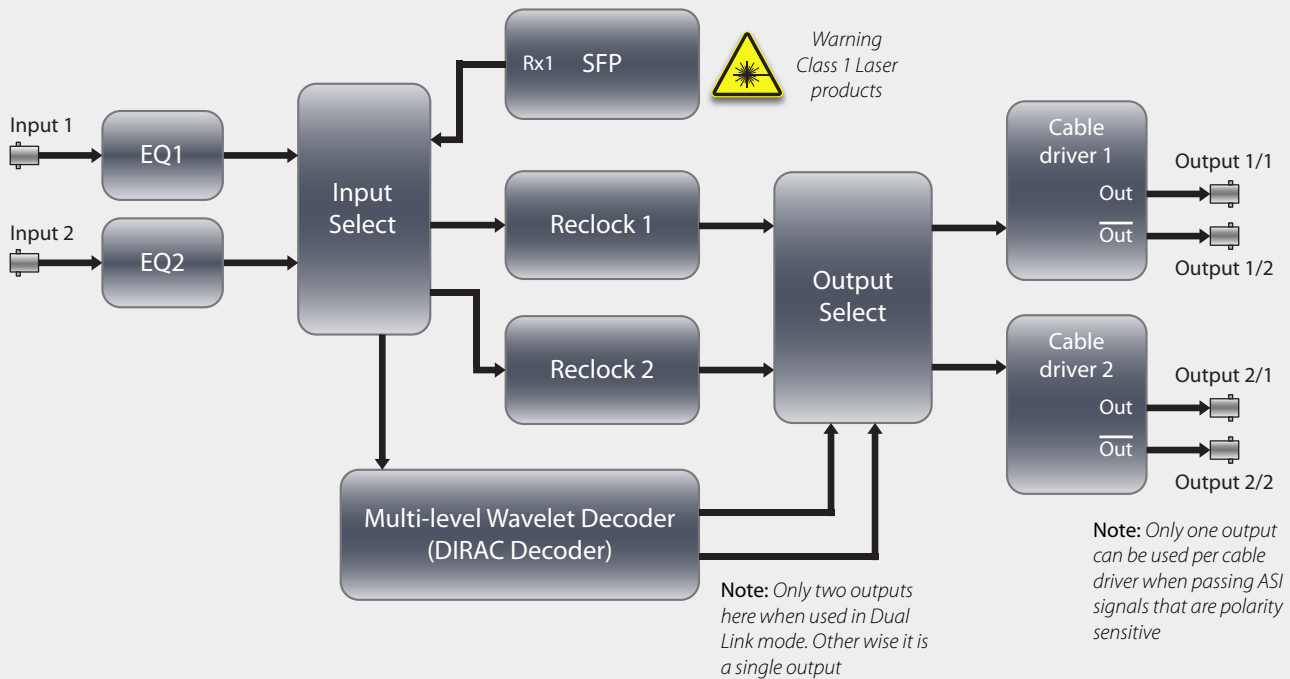


Ordering Information

- TR100/R Single Channel Receiver
- TR100/T/13 Single Channel Transmitter, @1310nm
- TR100/T/15 Single Channel Transmitter, @1550nm
- RM-Fibre-A Rear
- TR100/EN Dirac pro encoder (Without fiber transmitters)
- TR100/DE Dirac pro decoder (Without fibre receivers)

Transmitter	Receiver	Data Rate	Link Distance (Min)
1310nm	PIN	2.97Gbps	5km
		1485Mbps	10km
		270Mbps	15km
1550nm	PIN	2.97Gbps	33km
		1485Mbps	55km
		270Mbps	65km
	APD	2.97Gbps	33km
		1485Mbps	75km
		270Mbps	100km

Receive Mode



Transmit Mode

