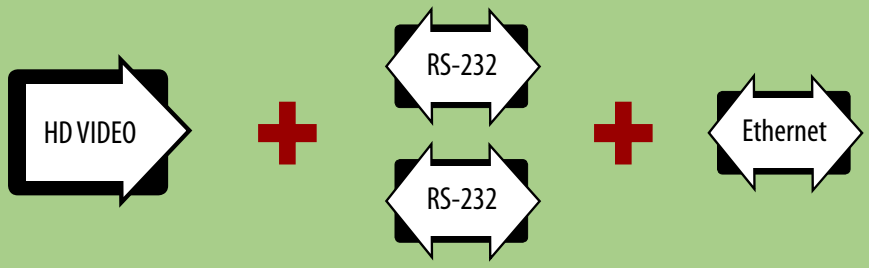
MERIDIAN TECHNOLOGIES

FT/FR-1HD2D1R/2D1R-x DigiCool™

Digitaly Encoded One SDI / HD-SDI Video,Two Bi-directional RS-232 Data and One Full Duplex Ethernet over One Fiber



FEATURES

- SDI / HD-SDI Video Transmission (19 Mbps to 1.5Gbps)
- Supports The Following Formats :
  - 19.4 Mbps (SMPTE 310M)
  - 143 To 540 Mbps SMPTE 259M/344M
  - 1.485 Gbps SMPTE 292M HDTV
  - DVB-ASI at 270 Mbps
  - SMPTE 305M SDTI Rates
- One Channel of Bi-Directional RS-232 Data
- Built in Re-clocker on TX/RX
- 10/100 Base-T IEEE 802.3 Compliant Ethernet
- Full Duplex or Half-duplex Ethernet is Supported
- Wide Optical Dynamic Range: Eliminates Need For Optical Attenuators
- SpectraSmartTM PC Based Network Management
- Local LED Status Indicators to Monitor Critical System Parameters
- ST, FC Optical Connector
- Hot Swappable Cards
- Laser Back - Biased Photo Detector Circuitry for Stable Optical Output Over Full Temperature Range
- 75 Ohm BNC Video Connector (Gold Center Pin)
- Screw Terminals Type Connector for Data

DESCRIPTION

The FT/FR-1HD2D1R/2D1R-x fiber optic transmission systems are taking advantage of Meridian's new digital encoding technology and will transmit following signals:

1. One real-time, SDI / HD-SDI Video (19 Mbps to 1.5 Gbps)
2. Two full duplex RS-232 Data
3. One Full Duplex Ethernet Channel

These units featuring built-in Re-clockers that support 3R (Retiming, Reshaping, Regenerate) functions and buffered output on SDI/HD-SDI Video channel.
The functionality of this system is enhanced by compatibility with Meridian's PC based SpectraSmart™, Network Management and Remote Diagnostic Software System. SpectraSmart™ supervises the operating parameters of the transmission system such as status on SDI signal presence, PLL lock, SDI data rates, voltage, temperature, optical levels. See the SpectraSmart brochure for more details.

CONFIGURATIONS

The DigiCool products are available as rack mount cards that can be installed in Meridian's card chassis, desk chassis and 19" racking frames. This system can be configured in either star (module to rack) or trunking (rack to rack) configurations. These systems can be made a standalone system by using the SR-500/s, 1 slot desk / wall mount chassis (87VAC-264VAC).

MARKETS

- √ Remote broadcast camera links
- √ Sporting events, concerts, etc.
- √ Media feeds
- √ Video production
- √ Studio to studio & head end feeds
- √ Military information displays

SPECIFICATIONS:

HD-SDI Video	
Formats	19.4 Mbps (SMPTE 310M) 143 To 540 Mbps SMPTE 259M/344M 1.485 Gbps SMPTE 292M HDTV DVB-ASI at 270 Mbps SMPTE 305M SDTI Rates
Nominal Level	0.8 Vp-p, 1.0 Vp-p max.
Data Rate	19Mb/s - 1.5Gb/s
Impedance	75 Ohm
Gain	Unity
Input Coupling	AC
Return Loss	>15 dB
Jitter (Pathological Data Pattern)	< 0.2 UI
Cable Equalisation	Automatic 0-70m @ 1.5 Gb/s
Bit-Error Rate (0 to -20dBm)	10^{-12}

Data	
Format	RS-232
Data Rate	DC to 125Kb/s
Bit Error Rate	10^{-9*}
10/100/1000 Base-T Ethernet	
Ethernet Standardsl	IEEE 802.3 CSMA/CD IEEE 802.3i 10Base-T IEEE 802.3u 100Base-T
Data Rate	10/100 Mb/s
Bit Error	10^{-9*}

Optical	
Fiber Data Rate	1.5 Gb/s
Wavelengts 1310 Band	1270nm - 1390nm
Wavelengts 1550 Band	1470nm - 1590nm
Output power	+1 dBm per channel

Connectors	
HD-SDI Video	75 Ohm BNC (Gold Center Pin)
Optical	FC, ST (Single-mode)
Data	Screw Terminals
Ethernet	Shielded RJ-45
Power	
Power Consumption	8 W
Physical	
Dimensions	160 (L) x 100 (H) x 44 (W) mm (6.3 x 4 x 1.7 inch)
Weight	540 gms (1.2 lb.)
Environmental	
Operating Temperature	-40ºC to +74ºC
Storage Temperature	-55ºC to +85ºC
Relative Humidity	0 to 95% Non-condensing
Quality	
MTBF	>170,000 hours @ Ground Fix 35ºC per MIL217F

Part Numbers:

Unit	Description
FT-1HD2D1R/2D1R-22	Video Transmitter, Data and Ethernet Transceiver, Single-mode, 1310nm Optical Band
FR-1HD2D1R/2D1R-22	Video Receiver, Data and Ethernet Transceiver, Single-mode, 1310nm Optical Band
FT-1HD2D1R/2D1R-23	Video Transmitter, Data and Ethernet Transceiver, Single-mode, 1550nm Optical Band
FR-1HD2D1R/2D1R-23	Video Receiver, Data and Ethernet Transceiver, Single-mode, 1550nm Optical Band

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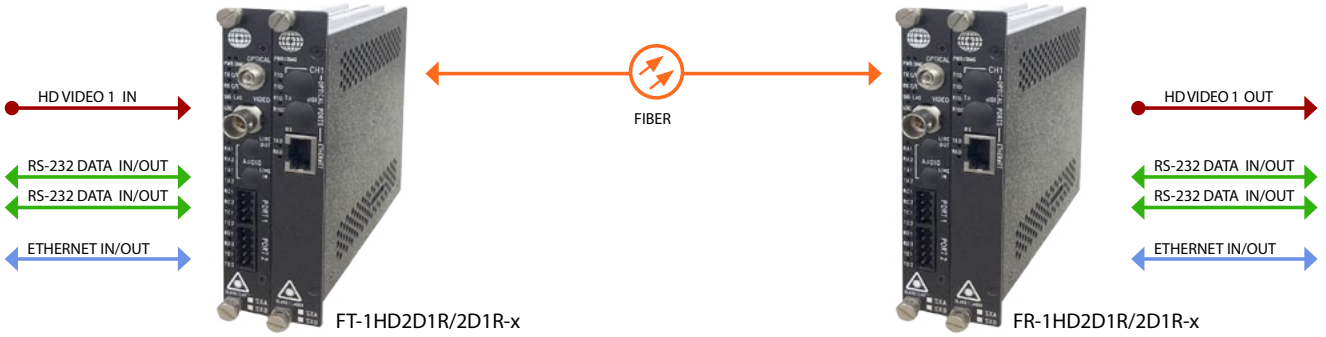
- F □ — 1HD2D1R/2D1R — □ □ — □
  - T RANSMITTER VIDEO
  - R ECEIVER VIDEO
  - □ (1310 nm OPTICAL BAND 22 / 1550 nm OPTICAL BAND 23)
  - □ CONFORMAL COATING - C
  - □ FC SINGLE-MODE OPTICAL CONNECTOR / ST SINGLE-MODE OPTICAL CONNECTOR



FT-1HD2D1R/2D1R-x
Transmitter

FR-1HD2D1R/2D1R-x
Receiver

OPTICAL:

Meridian Optical Code	Fiber Type/Size (um)	Optical Output (dBm)	Receiver Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)	Max Distance (Km)
22	Singlemode (DFB Laser) 9 / 125	+1 (per channel)	-20	21	1310 nm Band	FC, ST	21	50
23	Singlemode (DFB Laser) 9 / 125	+1 (per channel)	-20	21	1550 nm Band	FC, ST	21	80

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