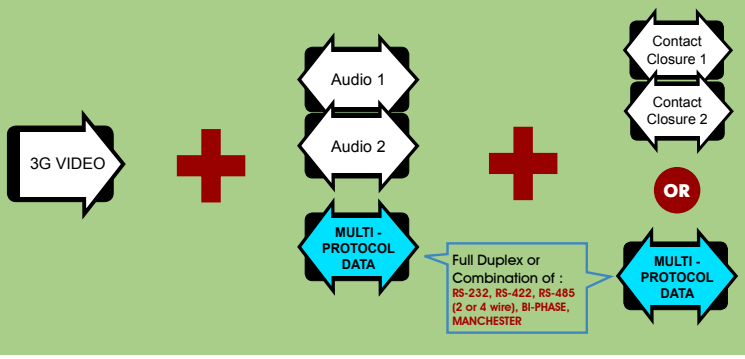
HT/HR-1HG2A2C2G/2A2C2G-x
HT/HR-1HD2A2C2G/2A2C2G-x

DigiCool™

MERIDIAN TECHNOLOGIES

Digitaly Encoded One SDI / HDSDI / 3G-SDI Video with Two Full Duplex 24-Bit Audio, One Bi-directional Contact Closure, One Full Duplex Multiprotocol Data



FEATURES

- Transmission of Multi-Rate SDI / HD-SDI / 3G-SDI
  - HD-SDI - 19 Mbps to 1.5Gbps (HD system)
  - 3G-SDI - 19 Mbps to 2.97Gbps (HG system)
- 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
  - 2.97Gbps (3G) SMPTE 424M
  - SMPTE 305M SDTI Rates
- Two Channels of Bi-Directional Audio, Multi-protocol Data or Contact Closure
- DC to 500 Kb/s Data Rate
- Wide Optical Dynamic Range: Eliminates Need For Optical Attenuators
- Surface Mount Technology (SMT) for High Reliability and Repeatability
- SpectraSmart™ PC Based Network Management
- Local LED Status Indicators to Monitor Critical System Diagnostics for Performance 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)
- DB 25 Type Connectors for Audio, Data and Contact Closure

DESCRIPTION

The HT/HR-1HG2A2C2G/2A2C2G-x series fiber optic transmission system that takes advantage of Meridian's new digital encoding technology transmits following signals over one singlemode fiber, on permanent bases:

1. One real-time, SDI / HD-SDI / 3G-SDI Video (19 Mbps to 2.97Gbps)
2. Two full duplex 24 bit audio
3. One user selectable, full duplex RS-232 w/ max. speed 250Kb/s, RS-485 (2 or 4 wire), RS-422, Manchester, Bi-Phase or in combination w/ max. speed 500Kb/s

In addition, following signals are optional and interchangeable:

4. One user selectable, full duplex RS-232 w/ max. speed 250Kb/s, RS-485 (2 or 4 wire), RS-422, Manchester, Bi-Phase or in combination w/ max. speed 500Kb/s
5. Two full duplex contact closure channels

The functionality of HT/HR-1HG2A2C2G/2A2C2G-x series is further enhanced by its 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 video levels, sync, carrier detect, voltage, temperature, optical levels, data present etc. See the SpectraSmart™ brochure for more details.

CONFIGURATIONS

The HT/HR-1HG2A2C2G/2A2C2G-x 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

√ Security and Surveillance
√ Intelligent Transportation System (ITS)
√ Access Control Systems
√ Campus Lecture Networks

SPECIFICATIONS:

SDI/HD-SDI/3G-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 2.97Gbps (3G) SMPTE 424M SMPTE 305M SDTI Rates
Nominal Level	0.8 Vp-p, 1.0 Vp-p max.
Data Rate (HD Video)	19 Mb/s - 1.5 Gb/s
Data Rate (3G Video)	19 Mb/s - 3 Gb/s
Impedance	75 Ohm
Gain	Unity
Input Coupling	AC
Return Loss	>15 dB
Jitter (Pattological Data Pattern)	< 0.2 UI
Cable Equailization	Automatic 0-70m @ max. Data Rate
Bit-Error Rate (0 to -20dBm)	10^{-12}

Data

Formats	RS-232 w/ full speed handshake, RS-485, RS-422, Manchester or Bi-Phase
Data Rate (RS-232)	DC to 250 Kb/s
Data Rate (RS-422, RS-485)	DC to 500 Kb/s
Bit Error Rate	10^{-9*}

Contact Closure

Rate	10 Hz.(Per Channel)
Contact Rating	0.3A, 30V AC / DC
Contact Bounce Time	5 ms

Audio

I/O Impedance	600 Ohm (Bal.), 47 KOhm (Un Bal.)
Frequency Response	10 Hz to 20 KHz
SNR	>90dB (Weighted)@ 1 KHz
In/Out Level	-8 to +8 dBm ($4V_{p-p}$ max.) (+18 dBm available on request)
Total Harmonic Distortion	<0.01% @ 1KHz
Resolution	24 Bit

Optical

Fiber Data Rate (HD Video)	1.5 Gb/s
Fiber Data Rate (3G Video)	3 Gb/s

Connectors

Video	75 Ohm BNC (Gold Center Pin)
Optical	ST for MM fiber (default) FC for SM fiber (default)
Power (module)	See SR-500 Brochure for details
Audio/Data/Contact Closure	DB-25 Connector

Power **

Card	5 Watts

Indicators (LEDs)

1 - Green	Power On
1 - Bi-color	TX Carrier/ Laser Over Current
1 - Bi-color	RX Carrier - Present / Error
1 - Bi-color	SDI/HD-SDI/3G-SDI Signal Present (TX)
1 - Bi-color	SDI/HD-SDI/3G-SDI Level 0/-20 dB (RX)
2 - Green	Data Present
4 - Bi-Color	Audio Present / Overload
2 - Green	Contact Closure Present

Physical

Dimensions (Card)	160 mm (6.3") L, 127 mm (5") W 20mm (0.80") W
Weight (Card)	450 gms (16 Oz)
No. of Slots	1
Module	See SR-500 Brochure

Enviromental

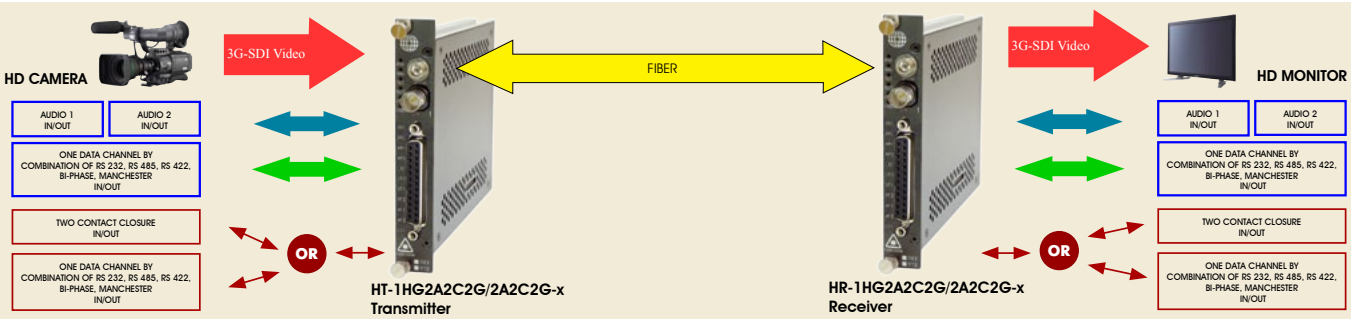
Operating Temperature	-34°C to +74°C
Storage Temperature	-55°C to +85°C
Relative Humidity	0 to 95% Non-condensing

Quality

MTBF	>170,000 hours @ Ground Fix 35°C per MIL217F

Part Numbers:

* *measured @ max. optical budget*
** *Due to variations of drivers and diagnostic options, power shown @ max value*



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)
12	Singlemode (FP Laser) 9 / 125	-5	-25	20	1310 / 1490 / 1550	FC, ST	25	55

Meridian Technologies Inc.
700 Elmont Road. •Elmont, NY 11003 • 516. 285. 1000 • FAX 516. 285. 6300 • E-mail sales@meridian-tech.com
www.meridian-tech.com