Digital Two Channel 10-Bit Video Multiplexer with Full Duplex Multi-Protocol Data Channel

VIDEO 1

VIDEO 2

+

MULTI - PROTOCOL DATA

Full Duplex or Combination of:
RS 232
RS 422
RS 485
BI-PHASE
MANCHESTER
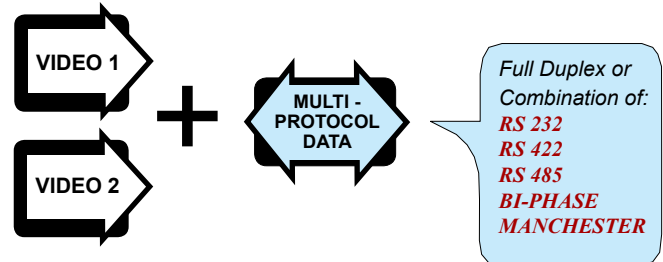
FEATURES:

- 10 Bit Video Digital Encoding

- Real Time Video & DataTransmission

- 7 MHz Video Bandwidth

- Meets RS-250C Short Haul Transmission Specifications

- NTSC, PAL, SECAM Compatible

- Multi-protocol data channel. Compatible with RS-232, RS-422, RS-485, Manchester, Bi-phase

- Wide Optical Dynamic Range: Eliminates Need For Optical Attenuators

- Laser Based Systems for Multimode and Singlemode

- Surface Mount Technology (SMT) for High Reliability and Repeatability

- SpectraSmartTM Network Management Compatible

- 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)

- Meets EIA RS-170, RS-343A Formats

- DB 9 Type Connectors for Data

DESCRIPTION:

The DT/DR-2W1G/1G series products incorporate digital encoding technology. This fiber optic module transmits two real-time, simplex 10-bit video & full-duplex channel of multi-protocol data (RS-232, RS-422 and RS-485 (2 or 4-wire)) over one optical fiber. These data formats are also compatible with bi-phase & Manchester encoding schemes. Both Multimode and Singlemode fiber versions are available. Meridian's digital product line incorporates plug-in personality signal cards to easily configure a wide variety of module types. The functionality of the DT/DR-2W1G/1G series products is enhanced by their compatibility with Meridian's PC based SpectraSmart Network Management & Diagnostic Software system. SpectraSmart supervises the operating parameters of the transmission system such as the status on video levels, sync, digital carrier detect, voltages, temperatures, optical levels etc. See SpectraSmart brochure for further details.

CONFIGURATIONS:

The DT/DR - 2W1G/1G product family is available as rack mount cards and modules that can be installed in either Meridian's desk chaises or in 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-1000/s, 2 slot desk / wall mount chassis (87 VAC- 264VAC)

MARKETS:

√ Intelligent Transportation Systems (ITS)
√ Security and Surveillance
√ Access Control

SPECIFICATIONS:

Video

Format	NTSC, PAL, SECAM
Voltage/Impedance	1 Vp-p, 75 Ohm, 1.5 Vp-p max.
Bandwidth	5 Hz to 6.8 MHz @ -3 dB
Differential Gain	<0.6%
Differential Phase	<0.3)
SNR	>67 dB (weighted)*
Return Loss	>30 dB
Field Tilt	< 0.5%

Data

Formats	RS-485, RS-422, RS-232
Data Rate RS-422 / 485	DC to 1Mb/s
Data Rate RS-232	DC to 125 Kb/s
Bit Error Rate	10^{-9}*

Optical

Fiber Data Rate	500 Mb/s

Connectors

Video	75 Ohm BNC (Gold Center Pin)
Optical	ST, FC
Power (module)	See SR-1000 Brochure for details
Data	DB9 Female

Power **

Card	8 Watts

Indicators (LEDs)

1 - Green	Power On
1 - Bi-color	TX Carrier/ Laser Over Current
1 - Bi-color	RX Carrier - Present / Error
1 - Green	RX Optical Signal -Present/Absent
2 - Bi-color	Video Present / Overload
2 - Green	Video Sync. Present
2 - Green	Data Present

Physical

Dimensions (Card)	160 mm (6.3”) L, 127 mm (5”) H 44mm (0.80”)W
Weight (Card)	450 gms (16 Oz)
No. of Slots	2

Enviromental

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:

D [ ] — 2W1G/1G — [ ][ ][ ] — [ ]

- **T** - TRANSMITTER VIDEO
- **R** - RECEIVER VIDEO
- MULTIMODE - **2**
- SINGLEMODE - **5**
- DFB LASER - **8**
- MODULE - **M**
- RACK CARD - **R**
- CONFORMAL COATING - **C**
- SpectraSmart ™ DIAGNOSTIC- **D**
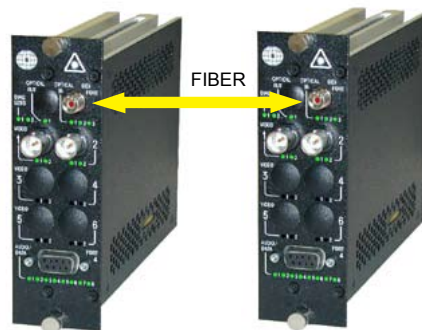- **ST** - MULTIMODE CONNECTOR
- **FC or ST** - SINGLEMODE CONNECTOR
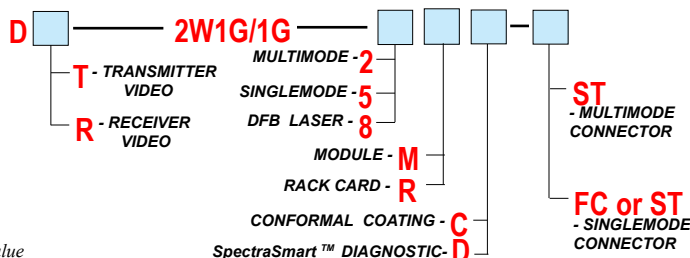
* measured @ max. optical budget
** Due to variations of drivers and diagnostic options, power shown @ max value

FIBER

CAM 1 CAM 2

MON 1 MON 2

DT-2W 1G/1G Transmitter

DR-2W 1G/1G Receiver

FULL DUPLEX CHANNEL OR COMBINATION OF RS-232, RS-422,RS-485, BI-PHASE OR MANCHESTER IN/OUT

FULL DUPLEX CHANNEL OR COMBINATION OF RS-232, RS-422,RS-485, BI-PHASE OR MANCHESTER IN/OUT

OPTICAL:

Fiber Type/Size (um)	Optical Output (dBm)	Receiver Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)
Multimode (FP Laser) 62.5 / 125	-3	-24	21	1300 / 850	ST	24
Singlemode (FP Laser) 9 / 125	-3	-24	21	1310 / 1550	ST, FC	24
Singlemode (DFB Laser) 9 / 125	+3	-24	27	1310 / 1550	ST , FC	24