Digitaly Encoded Two 10-Bit 7MHz Video Mux with One Bi-directional Multi-protocol Data

MERIDIAN TECHNOLOGIES

VIDEO 1

VIDEO 2

+
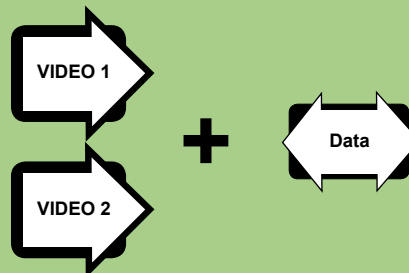
Data

FEATURES

- 10 Bit 7 MHz Video Digital Encoding

- Real Time Video and Data Transmission

- Low Power Consumption

- High Efficiency, Isolated Power Supply

- Meets RS-250C Short Haul Transmission Specifications

- NTSC, PAL, SECAM Compatible

- Bi-directional Multiprotocol Data Channel Supports RS-232, RS-422 & RS-485 (2 & 4-wire) and

- Wide Optical Dynamic Range: Eliminates Need For Optical Attenuators

- Laser Based Systems for both Multimode and Singlemode modules

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

- SpectraSmart™ PC Based Network Management

- SpectraView™ Fault / Setup Firmware

- 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)

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

- RJ45 Connector for Data

DESCRIPTION

The FT/FR-2W1G/1G-x series fiber optic transmission system that takes advantage of Meridian's new digital encoding technology transmits following signals:

1. Two real-time, high quality, Simplex 10-bit 7MHz Video
2. One channel of user selectable, full duplex RS-232, RS-485 (2 or 4 wire), RS-422, Manchester, Bi-Phase or in combination

Both, multimode and singlemode, one fiber versions are available. The versatility of the FT/FR-2W1G/1G-x system is enhanced by *SpectraView,* an On-Screen Video Diagnostic / Setup firmware system and *SpectraSmart,* an optional PC Based Network Diagnostic System. *SpectraView* monitors the integrity of the video signal and the fiber link. A break in the fiber path will cause a loss of fiber alarm to be displayed on an associated monitor. *SpectraView* is easy to use, always active and eliminates the need for additional test equipment. *SpectraView* also includes a selectable on-board audio & data test signal generator with built-in local and remote loop-back functions.

If greater diagnostic capability is required, the functionality of FT/FR-2W1G/1G-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 FT/FR-2W1G/1G-x product 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:

Video
Format .... NTSC, PAL, SECAM
Voltage/Impedance .... 1 Vp-p, 75 Ohm, 1.5 Vp-p max.
Bandwidth .... 5 Hz to 7 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-232 w/ full speed handshake, RS-485, RS-422, Manchester or Bi-Phase
Data Rate (RS-232)............... DC to 125 Kb/s
Data Rate (RS-422, RS-485).. DC to 250 Kb/s
Bit Error Rate .... 10^{-9}*

Optical
Fiber Data Rate .... 900 Mb/s

Connectors
Video .... 75 Ohm BNC (Gold Center Pin)
Optical .... ST - MM(default), FC - SM(default)
Power (module) .... See SR-500 Brochure for details
Data .... RJ45 Connector

Power **
Card .... 4 Watts

Indicators (LEDs)
1 - Green .... Power On
1 - Bi-color .... TX Carrier/ Laser Over Current
1 - Bi-color .... RX Carrier - Present / Error
2 - Bi-color .... Video Present / Overload
2 - Bi-color .... Sync. Present / Load Absent
4 - Green .... Data Present

Physical
Dimensions (Card) .... 20 (W) x 127 (H) x 160 (D) mm (0.8 x 5.0 x 6.3 inch)
Weight (Card) .... 450 gms (16 Oz)
No. of Slots 1
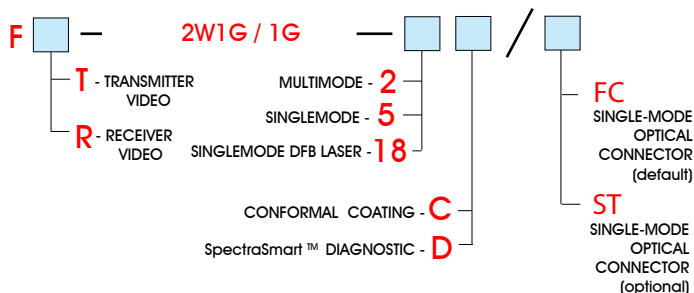Module .... See SR-500 Brochure

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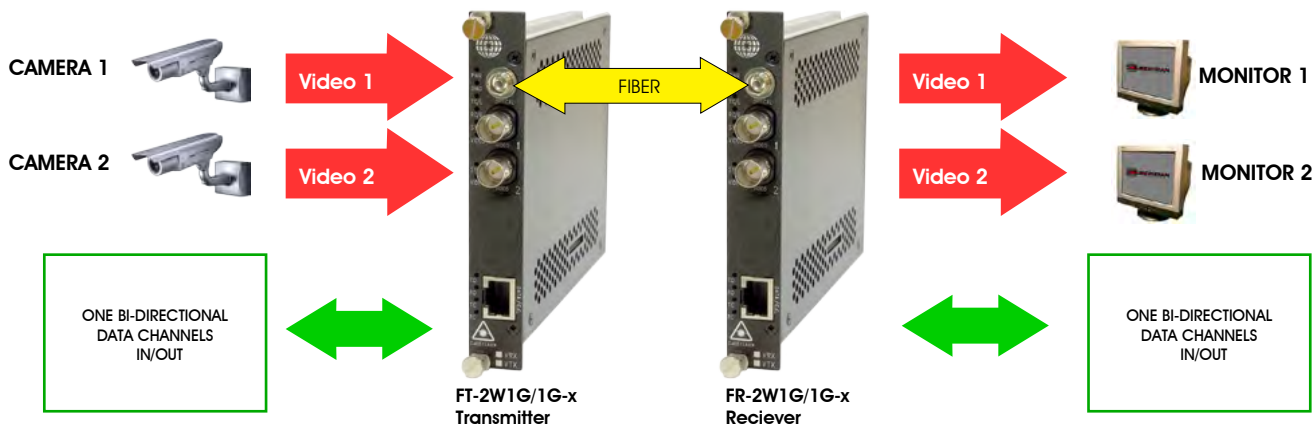Relative Humidity .... 0 to 95% Non-condensing

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

Part Numbers:

F □ — 2W1G / 1G — □ □ / □

T - TRANSMITTER VIDEO
R - RECEIVER VIDEO

MULTIMODE - 2
SINGLEMODE - 5
SINGLEMODE DFB LASER - 18

CONFORMAL COATING - C
SpectraSmart ™ DIAGNOSTIC - D

FC SINGLE-MODE OPTICAL CONNECTOR (default)
ST SINGLE-MODE OPTICAL CONNECTOR (optional)

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

CAMERA 1 → Video 1 → FIBER → Video 1 → MONITOR 1
CAMERA 2 → Video 2 → Video 2 → MONITOR 2

ONE BI-DIRECTIONAL DATA CHANNELS IN/OUT
FT-2W1G/1G-x Transmitter
FR-2W1G/1G-x Reciever
ONE BI-DIRECTIONAL DATA CHANNELS 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	-5	-25	20	1300 / 850	ST	23
Singlemode (FP Laser) 9 / 125	-5	-25	20	1310 / 1550	ST, FC	23
Singlemode (DFB Laser) 9 / 125	+1	-25	26	1310/1550	ST, FC	23