MERIDIAN TECHNOLOGIES

Digitaly Encoded Eight 10-Bit 7MHz Video Mux with One Full Duplex Multiprotocol Data

VIDEO 1

VIDEO 8

+

MULTI - PROTOCOL DATA

User Selectable, full duplex of:
RS 232
RS 422
RS-485 (2 OR 4 wire)
BI-PHASE
MANCHESTER

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

- Full Duplex Multiprotocol Data Channel Supports RS-232, RS-422 & RS-485 (2 & 4-wire)

- Wide Optical Dynamic Range: Eliminates Need For Optical Attenuators

- Data protocol conversion capable

- 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-8W1G/1G-x series fiber optic transmission system that utilizes Meridian's new digital encoding technology to transport following signals:

- **Eight real-time, high quality, 10-bit 7MHz video channels**
- **One channel of user selectable, full duplex RS-232, RS-485 (2 or 4 wire), RS-422, Manchester, Bi-Phase data**
- **End-to-End data protocol conversion capable**

Both, multimode and singlemode, one fiber versions are available. The versatility of the FT/FR-8W1G/1G-x system is enhanced by *SpectraView™,* an On-Screen Video Diagnostic / Setup firmware 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. This card is also capable of data protocol conversions within the link to provide additional data flexibility. If greater diagnostic capability is required, the functionality of FT/FR-8W1G/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-8W1G/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-1002, 2 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 .... <0.3º
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 .... 1800 Mb/s

Connectors

Video .... 75 Ohm BNC (Gold Center Pin)
Optical .... ST - MM(default), FC, ST - SM
Power (module) .... See SR-1002 specs. for details
Data .... RJ45 Connector

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
8 - Bi-color .... Video Present / Overload
8 - Bi-color .... Sync. Present / Load Absent
2 - Green .... Data Present
2 - Green .... Contact Closure Present

Physical

Dimensions (Card) .... 160 mm (6.3") L, 127 mm (5") W
44mm (1.7") H
Weight (Card) .... 450 gms (16 Oz)
No. of Slots 2
Module .... See SR-1002 specs.

Enviromental

Operating Temperature ... -34ºC 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:

F ☐ — 8W1G / 1G — ☐☐ / ☐

T - TRANSMITTER VIDEO
R - RECEIVER VIDEO

MULTIMODE - 2
SINGLEMODE - 5

CONFORMAL COATING - C
SpectraSmart ™ DIAGNOSTIC - D

FC - SINGLE-MODE OPTICAL CONNECTOR
ST - SINGLE-MODE OPTICAL CONNECTOR
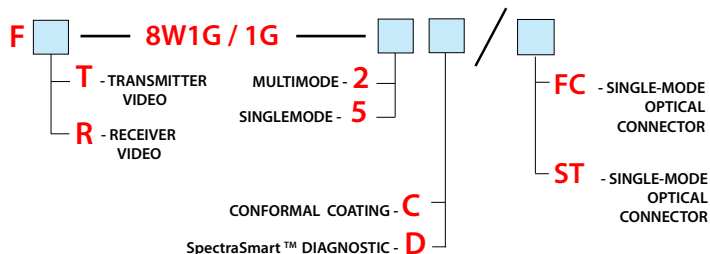
*   measured @ max. optical budget
** Due to variations of drivers and diagnostic options, power shown @ max value

CAMERA 1
CAMERA 8
FIBER
Video 1-8
MONITOR 1
MONITOR 8
Video 1-8

ONE USER SELECTABLE, FULL DUPLEX RS 232, RS 485, RS 422, BI-PHASE, MANCHESTER DATA CHANNEL IN/OUT

FT-8W1G/1G-x
Transmitter

FR-8W1G/1G-x
Reciever

ONE USER SELECTABLE, FULL DUPLEX RS 232, RS 485, RS 422, BI-PHASE, MANCHESTER DATA CHANNEL IN/OUT
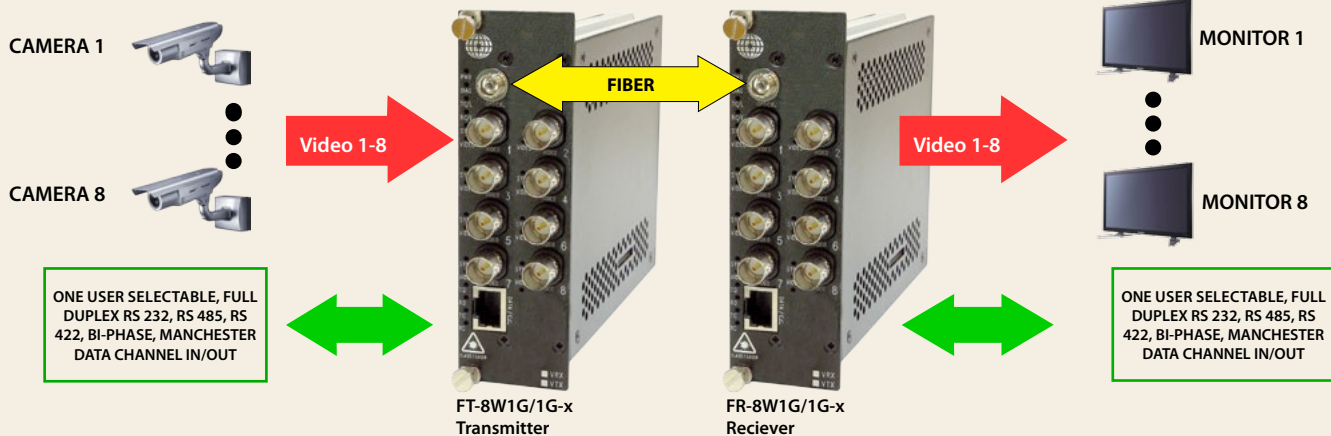
OPTICAL:

Optical Code	Fiber Type/Size (um)	Optical Output (dBm)	Receiver Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)	Estimated Maximum Transmission Distance (km)
2	Multimode (FP Laser) 62.5 / 125	-5	-22	17	1300 / 850	ST	25	1
5	Singlemode (FP Laser) 9 / 125	-5	-22	17	1310 / 1550	ST, FC	25	40