# MERIDIAN
T E C H N O L O G I E S

Digitaly Encoded One 10-Bit 10MHz Video Mux with Two Full Duplex 24-Bit Audio, Two Bi-directional Contact Closure, Two Full Duplex Multiprotocol Data using the Industry Standard Small Form Pluggable (SFP) Optical Device

VIDEO + Audio 1 / Audio 2 + Contact 1 / Contact 2 + MULTI-PROTOCOL DATA 1 / MULTI-PROTOCOL DATA 2
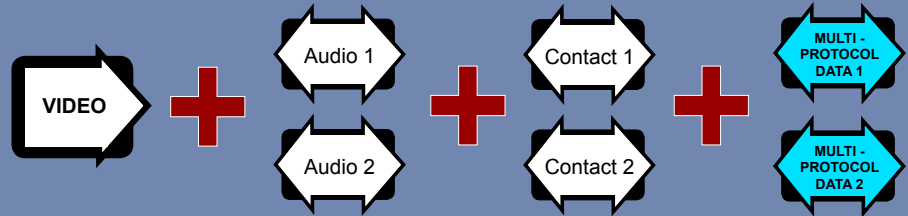
FEATURES

- One Digitally Encoded 10-bit Video Signal
- 10 MHz Video Bandwidth
- Meets RS-250C Short Haul Transmission Specifications
- NTSC, PAL, SECAM Compatible
- Two Channels of Bi-Directional Audio, Multi-protocol Data and Contact Closure
- Multimode, Singlemode and CWDM fiber options via SFP modules
- Wide Optical Dynamic Range: Eliminates Need For Optical Attenuators
- 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 Diagnostics for Performance Parameters
- LC, SC Optical Connector (SFP dependent)
- 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 25 Type Connectors for Audio, Data and Contact Closure

DESCRIPTION

The FT/FR-1U2A2C2G/2A2C2G-SFP fiber optic transmission system takes advantage of Meridian's new digital encoding technology and transmits following signals on permanent bases:

1. One real-time, high quality, 10-bit 10 MHz video
2. Two full duplex 24 bit audio
3. Two user selectable, full duplex RS-232, RS-485 (2 or 4 wire), RS-422, Manchester, Bi-Phase or in combination
4. Two full duplex contact closure channels

Product is employing the industry standard Small Form Pluggable (SFP) optical device. This SFP gives you the option for either singlemode, multimode or CWDM wavelength selections by simply plugging in the appropriate SFP module. The functionality of this system 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 DigiCool™ family 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:

Video

Format	NTSC, PAL, SECAM
Voltage/Impedance	1 Vp-p, 75 Ohm, 1.5 Vp-p max.
Bandwidth	5 Hz to 10 MHz @ -3 dB
Differential Gain	<0.6%
Differential Phase	<0.3^o
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}*

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	350 Mb/s

Connectors

Video	75 Ohm BNC (Gold Center Pin)
Optical	LC, SC - SFP dependent
Power (module)	See SR-500 Brochure for details
Data/Audio/Contact closure ...	DB-25 Female

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	Video Present / Overload
1 - Bi-color	Sync. Present / Load Absent
4 - Green	Data Present
4 - Bi-Color	Audio Present / Overload
4 - 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:

F ☐ — 1U2A2C2G / 2A2C2G-SFP — ☐

- T - TRANSMITTER VIDEO
- R - RECEIVER VIDEO
- C - CONFORMAL COATING
- D - SpectraSmart ™ DIAGNOSTIC

CAMERA → FIBER → MONITOR

TWO AUDIO IN/OUT ⇄ ⇄ TWO AUDIO IN/OUT

TWO MULTI-PROTOCOL DATA IN/OUT ⇄ ⇄ TWO MULTI-PROTOCOL DATA IN/OUT

TWO CONTACTS IN/OUT ⇄ ⇄ TWO CONTACTS IN/OUT

FT-1U2A2C2G/2A2C2G-SFP
Transmitter

FR-1U2A2C2G/2A2C2G-SFP
Reciever
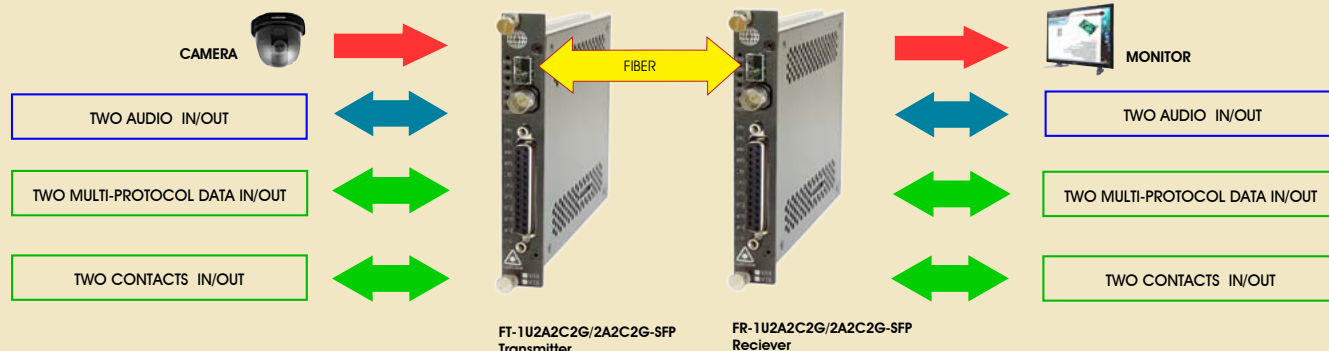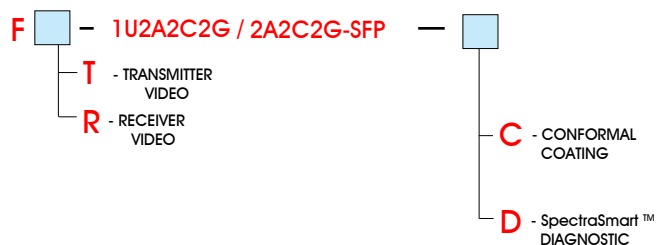
SFP OPTIONS:

The SFP series products are available for both singlemode and multimode fiber applications and ether one or two fiber versions.
Recommended optical speed for this product is 155 Mb/s.

For more specifications on a SFP optical devices go to SFP data sheet clicking   or

go to: **WWW.MERIDIAN-TECH.COM -> PRODUCTS -> ACCESSORIES -> SFP OPTICAL DEVICES**