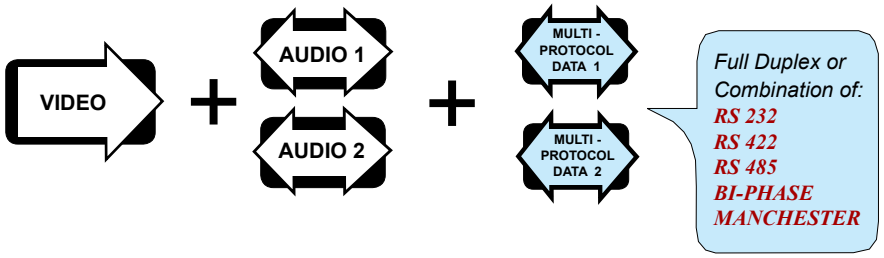
MERIDIAN TECHNOLOGIES

DT-1W2A2G/2A2G-51/53
DR-1W2A2G/2A2G-53/51

# DigiFlex™

Digitally-Encoded One Bi-directional 10-Bit Video with Two Bi-directional 24-Bit Audio and Two Bi-directional Multi-Protocol Data




## FEATURES:

- 10-Bit Video Digital Encoding
- Real Time Video / Audio / Multi-Protocol Data
- 7 MHz Video Bandwidth
- Meets RS-250C Short Haul Transmission Specifications
- NTSC, PAL, SECAM Compatible
- 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
- SpectraSmart™ 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 Audio and Data
- RS-232 - DC to 125 Kb/s (Per Channel)* Data Rate
  RS-422/485 - DC to 1Mb/s (Per Channel)* Data Rate

## DESCRIPTION:

The DTDR-1W2A2G/2A2G-x products incorporate digital encoding technology. This fiber optic module transmits the following bi-directional (full duplex) signals: one real-time high performance 10-bit digitally encoded Video channel with two 24-Bit Audio channels and two Multi-Protocol Data channels (RS-232, RS-422 and RS-485 (2 or 4-wire)) over one singlemode optical fiber. These data formats are also compatible with bi-phase & Manchester encoding schemes. Meridian's digital product line incorporates plug-in personality signal cards to easily configure a wide variety of module types. The functionality of the DTDR-1W2A2G/2A2G-x products are 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.

**Tx side:**
**DT-1W2A2G/2A2G-51/53**
a. 1-ch 10-Bit 7 MHz Video = Tx @ 1510nm
b. 2-ch 24-Bit Audio = Tx @ 1510nm & Rx @ 1530nm
c. 2-ch Multiprotocol Data = Tx @ 1510nm & Rx @ 1530nm

**Rx side:**
**DR-1W2A2G/2A2G-53/51**
a. 1-ch 10-Bit 7 MHz Video = Rx @ 1510nm
b. 2-ch 24-Bit Audio = Rx @ 1510nm & Tx @ 1530nm
c. 2-ch Multiprotocol Data = Rx @ 1510nm & Tx @ 1530nm

## CONFIGURATIONS:

The DTDR-1W2A2G/2A2G-x products is available as rack mount cards and modules that can be installed in Meridian's card chassis, desk chaises 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/s, 2 slot desk / wall mount chassis (87VAC-264VAC)

## MARKETS:

√ Video conferencing
√ 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 10 MHz @ -3 dB |
| Differential Gain | <0.6% |
| Differential Phase | <0.3° |
| SNR | >67 dB (weighted)* |
| Return Loss | >30 dB |
| Field Tilt | < 0.5% |

## Audio

| | |
|---|---|
| I/O Impedance | 600 Ohms (Bal. / Un Bal.) |
| Frequency Responce | 10 Hz to 20 KHz |
| SNR | >90dB (Weighted)@ 1 KHz |
| In/Out Level | -8 to +8 dBm (4Vp-p max.) |
| | (+18 dBm available on request) |
| Total Harmonic Distort | <0.01% @ 1KHz |
| Resolution | 24 Bit |

## Data

| | |
|---|---|
| Formats | RS-485, RS-422, RS-232 |
| | Bi-Phase, Manchester |
| Data Rate RS-422 / 485 | DC to 1Mb/s (Per Channel)* |
| Data Rate RS-232 | DC to 125 Kb/s (Per Channel)* |
| Bit Error Rate | 10-9* |

## Connectors

| | |
|---|---|
| Video | 75 Ohm BNC (Gold Center Pin) |
| Optical | FC- SM (default), ST - SM(optional) |
| Power | See SR-1000 Brochure for details |
| Audio / Data | DB9 Female |

## Optical

| | |
|---|---|
| Fiber Data Rate | 250 Mb/s |

## Power **

| | |
|---|---|
| Card | 8 Watts |

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

## Indicators (LEDs)

| | |
|---|---|
| 1 - Green | Power On |
| 1 - Bi-color | TX Carrier/ Laser Over Current |
| 1 - Bi-color | RX Carrier - Present / Error |
| 1 - Bi-color | RX optical signal - Present / Absent |
| 1 - Bi-color | Video Present / Overload |
| 1 - Green | Sync. Present |
| 4 - Green | Audio Present |
| 4 - Red | Audio Overload |
| 4 - Green | Data Present |

## Physical

| | |
|---|---|
| Dimensions: | |
| Card | 160 mm (6.3") L, 100 mm (4") W |
| | 44 mm (1.7") H |
| Weight: | |
| Card | 450 gms (16 Oz) |
| No. of Slots | 2 |

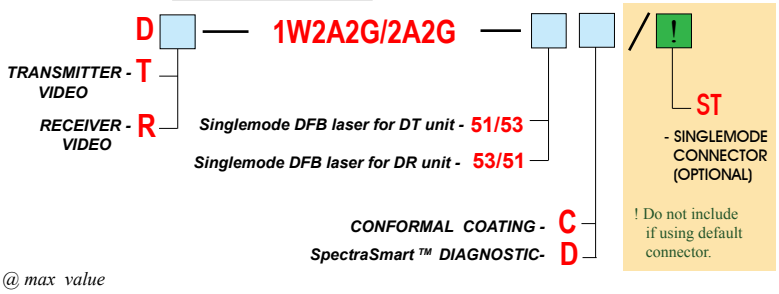
## Environmental

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

## Quality

| | |
|---|---|
| MTBF | >240,000 hours @ Ground Fix |
| | 35°C per MIL217F |

## Part Numbers:



# 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) |
|---|---|---|---|---|---|---|---|---|
| 51/53 | Singlemode (DFB Laser) 9 / 125 | 0 | -27 | 27 | 1510 / 1530 | ST, FC | 24 | 90 |
| 53/51 | Singlemode (DFB Laser) 9 / 125 | 0 | -27 | 27 | 1530 / 1510 | ST, FC | 24 | 90 |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