



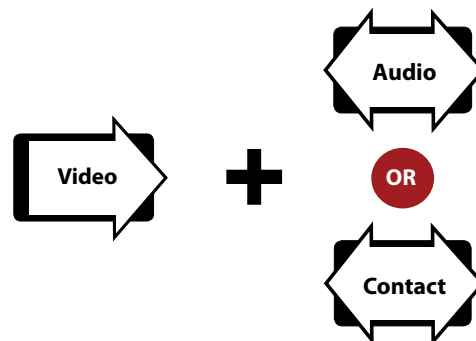
**MERIDIAN**  
TECHNOLOGIES

Series NT/NR-SFP

**DigiCool™**



**Digitally Encoded 10-Bit 10 MHz Video with  
Bi-directional 24-Bit Audio and  
Bi-directional Contact Closure (SFP)  
Optical Module**



#### FEATURES:

- 10 Bit 10MHz Video Digital Encoding
- Real Time Video, Audio and Data Transmission
- Low Power Consumption
- High Efficiency, Isolated Power Supply
- Meets RS-250C Short Haul Transmission Specifications
- NTSC, PAL, SECAM Compatible
- Simplex or Duplex 24-Bit Audio and Contacts
- Wide Optical Dynamic Range
- Multimode, Single-mode and CWDM fiber options via SFP modules
- Local LED Status Indicators to Monitor Critical System Parameters
- LC, SC Optical Connector (SFP dependent)
- 75 Ohm BNC Video Connector (Gold Center Pin)
- Meets EIA RS-170, RS-343A Formats
- Screw Terminal Connector for Audio and Contacts

#### DESCRIPTION:

Series NT/NR-SFP modules incorporate an all-digital encoding technology and can transmit the following signals:

1. Real-time, high quality, 10-bit 10 MHz video channel
2. Bi-directional 24 bit audio channel
3. Bi-directional contact closure channel

**Please refer to the Ordering Information Table below for all possible channel combinations.**

NTSC, PAL and SECAM video formats are all seamlessly supported.

The Contact Closure channel can be configured as either Normally Open (N.O.) or Normally Closed (N.C.).

This product incorporates 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.

This module belongs to new **DigiCool™** product family which features very Low Power Consumption an Isolated High Efficiency Power Supply.

Standard 5-pin terminal blocks are used for easy connection of the audio and contact channel interfaces.

Optional conformal coating is available for high humidity and corrosive environments.

#### CONFIGURATIONS:

Series NT/NR-SFP products are available in small stand-alone modules for easy mounting on walls, shelves and other flat surfaces.

See the FT/FR-1U1A1C1G/1P1A1C1G-SFP data sheet for the complementary rack mount card version of this module.

#### MARKETS:

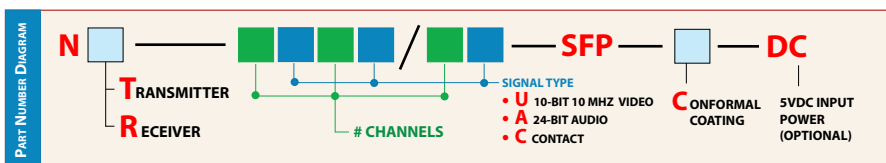
- ✓ Intelligent transportation systems (ITS)
- ✓ Security and surveillance
- ✓ Access Control

## SPECIFICATIONS:

Video	
Format	NTSC, PAL, SECAM
Voltage/Impedance	1 Vp-p, 75 Ohm, 1.5 Vp-p max.
Bandwidth	5 Hz to 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 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 (4Vp-p max.) (+ 18 dBm available on request)
Total Harmonic Distortion	<0.01% @ 1KHz
Resolution	24 Bit

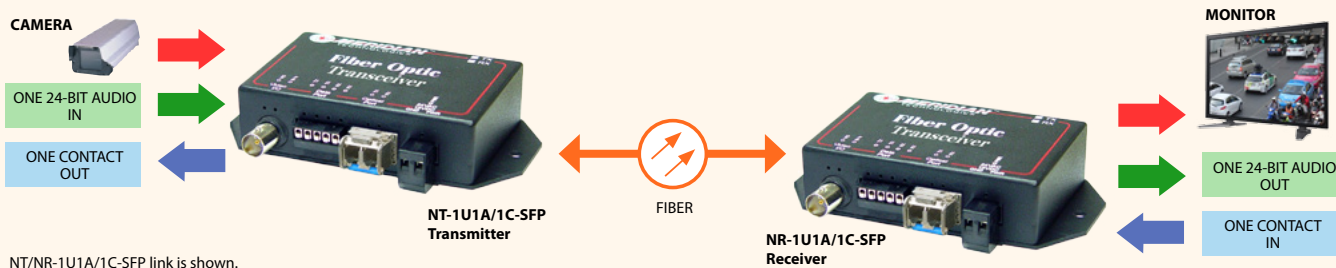
Contact		
Contact Type	Normally Open (N.O.) or Normally closed (N.C.) - jumper selectable	
Rate	10 Hz.(Per Channel)	
Contact Rating	0.3A, 30V AC / DC	
Contact Bounce Time	5 ms	
Optical		
Fiber Data Rate	350 Mb/s	
Connectors		
Video	75 Ohm BNC (Gold Center Pin)	
Optical	LC, SC - SFP dependent	
Power (module)	2-pin Screw Terminal	
Data	5-pin Screw Terminal	
Power	NTNR-SFP	NTNR-SFP-DC
Input Power	12-24VAC / VDC	5VDC
Power Consumption	2.8 W	2.5 W
Power Supply ordering info	WP-24 Wall adapter (not included)	WP-5 Wall adapter (not included)

Indicators		
1	Green	Power On
1	Bi-color	Tx Laser driver Normal / Error
1	Bi-color	Rx Optical signal Present / Error
1	Bi-color	Video Present / Overload
1	Green	Video Sync. Present
1	Green	Tx Audio Present
1	Green	Rx Data Present
Physical		
Dimensions	117(W) x 60 (D) x 25 (H) mm ( 3.5x 2.3 x1 inch)	
Weight	213 gms (0.5 lb)	
Environmental		
Operating Temperature	-40°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 MIL 217F	



## Ordering Information

Part Numbers	10-Bit 10MHz Video		24-Bit Audio		Contact	
	Forward	Return	Forward	Return	Forward	Return
NT/NR-1U1A/1A-SFP	1		1	1		
NT/NR-1U1C/1C-SFP	1				1	1
NT/NR-1U1A/1C-SFP	1		1			1
NT/NR-1U1C/1A-SFP	1			1	1	
NT/NR-1U1A-SFP	1		1			
NT/NR-1U1C-SFP	1				1	
NT/NR-1U/1A-SFP	1			1		
NT/NR-1U/1C-SFP	1					1
NT/NR-1A/1A-SFP			1	1		
NT/NR-1C/1C-SFP					1	1
NT/NR-1A/1C-SFP			1			1
NT/NR-1C/1A-SFP				1	1	
NT/NR-1A-SFP			1			
NT/NR-1C-SFP					1	



## SFP OPTIONS:

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

For more specifications on a SFP optical devices refer to SFP data sheet at:

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

## Common SFP modules

Part #	Fiber type	# of Fibers
MM1313F2	Multimode	2
MM1315F2 & MM1513F2	Multimode	1
SM1313F20	Single-mode	2
SM1315F20 & SM1513F20	Single-mode	1

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