MERIDIAN TECHNOLOGIES

# SERIES 1500 / 1500i

Fiber Optic Telephone (POTS) System
On One or Two Fibers
Telephone System Electrical Add-on



## FEATURES

- True 90V RMS AC Ring Voltage
- Compatible w/Rotary & Touch-tone Service
- Phone Monitor Port on Line Side
- Automatic Ring Down (ARD)
- Surface Mount Technology (SMT) for High Reliability and Repeatability
- Hot Swappable Cards
- Laser Based Back-biased Photo Detection Circuitry for Stable Optical Output Over Full Temperature Range (Singlemode)
- RJ11C I/O Connector
- ST™, FC Optical Connectors
- SpectraSmart ™ Compatible
- Meets NEMA TS1/TS2 and Caltrans Specifications
- Utilizes Internal Switching Power Supplies
- LED Status Indicators Provide Rapid Indication of Critical Operating Parameters
- Automatically Resettable Solid-State Current Limiters on All Power Lines: Provides Equipment Protection
- Wide Optical Dynamic Range: Optical Attenuators are Never Required

## DESCRIPTION

The Series 1500/1500i and 1500e are Frequency Modulated (FM) fiber optic telephone transmission systems that operate over one (1500i) or two fibers (1500); or as electrical add-on (1500e) to any Meridian FM fiber optic audio units. This system can transmit telephone signals up to 6Km on multimode fiber and up to 80Km on singlemode fiber. This telephone system is fully compatible with standard telephone protocols and supports duplex voice, dialtone, ringing, touch tone and pulse dialing. The 1500e is a Meridian's Audio Converter. This card can be plugged in to any standard Meridian's Audio Channel to convert standard Audio in to a POTS channel.

The System can also be utilized as a stand alone, point to point, dedicated Intercom system by connecting phone ends together. When one phone is off-hook, the other phone rings, without the need to dial.

The Series 1500's capabilities are enhanced by its compatibility with Meridian's PC based SpectraSmart™ Network Management. and Diagnostic software system. SpectraSmart™ supervises the operating parameters of the transmission system such as status on FM carrier detect, voltage, temperature, optical levels, etc. and external equipment which are attached to the Meridian equipment. See the SpectraSmart™ brochure for more details.

## CONFIGURATIONS

The 1500 product family is available as rack mount cards that can be installed in all of 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. This product requires no user adjustments & features superior quality and performance.

## MARKETS

√ Designed to transmit phone signals (POTS)
√ Telephone / Intercom Communications

# SPECIFICATIONS:

## Audio

| | |
|---|---|
| Electrical Interface | Plain Old Telephone System (POTS) |
| Ring | 90 VRMS, 20 Hz |
| Line | 48 VDC, 20 mA |
| Audio I/O Impedance | 10 kOhm (Unbalanced) |
| | Meridian Audio Pins |
| I/O Level | -6 to +6 dBm |
| Frequency Responce | 50 Hz to 10 KHz |
| THD | <1%, 1KHz @ max modulation |
| SNR | >60 dB (weighted)* |

## Connectors

| | |
|---|---|
| Audio | RJ-11C |
| Optical | ST - MM(default), FC - SM(default) |
| Power | 2 Pin Terminal Block |

## Power **

| | |
|---|---|
| Card | 3.5 W |
| Module | 146 mA @ 24 VAC |
| Adapter for SR-1000 | Model PS-100 |

## Indicators (LEDs)

| | |
|---|---|
| Red | Power On |
| Green | Far Side Audio Receive |
| Green | Near Side Audio Send |
| Green | Near Side Off Hook |
| Green | Far Side Off Hook |

## Physical

Dimensions:

| | |
|---|---|
| Module (w/SR-1000) | 182 mm (7.16") L, 165 mm (6.5") W |
| | 44 mm (1.75") H |
| Card | 160 mm (6.3") L, 40 mm (1.7") W |
| | 100 mm (4") H |

Weight:

| | |
|---|---|
| Module (w/SR-1000) | 1350 g (48 oz.) |
| Card | 675 g (24 oz.) |
| Number of Rack Slots | Two |

## Enviromental

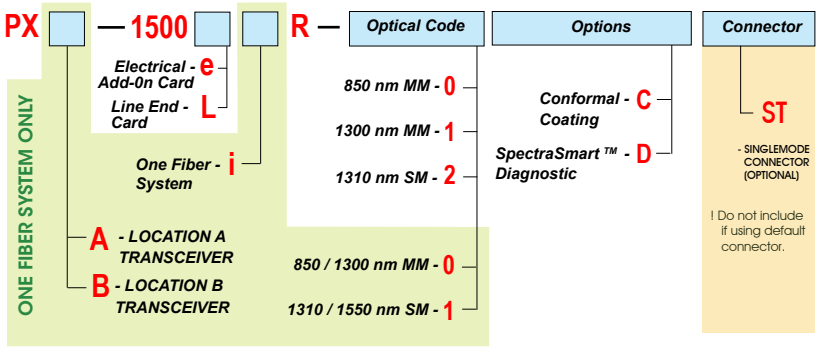
| | |
|---|---|
| Operating Temperature | -40°C to +74°C |
| Storage Temperature | -55°C to +85°C |
| Relative Humidity | 0 to 95% Non-condensing |

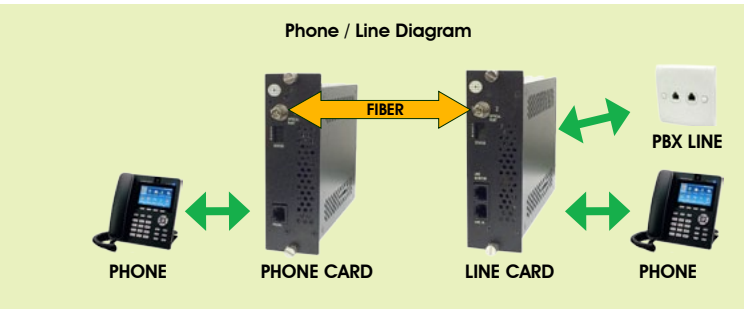
## Quality

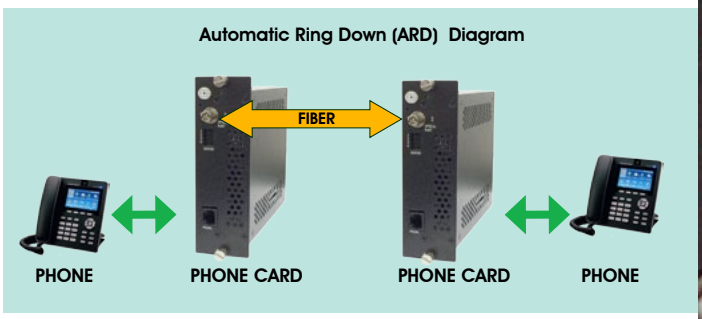
| | |
|---|---|
| MTBF | >100,000 hours @ Ground Fix 35°C per MIL217F |

* *Measured @ 1Km (multimode), @ 10Km (singlemode)*
** *Due to variations of drivers and diagnostic options power shown at maximum measurements*

## Part Numbers:




# OPTICAL:

| Number of Fibers | 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) |
|---|---|---|---|---|---|---|---|---|---|
| Two | 0 | Multimode (SLED) 62.5 / 125 | -13 | -34 | 21** | 850 | ST | 39 | 5 |
| Two | 1 | Multimode (SLED) 62.5 / 125 | -16 | -34 | 18** | 1300 | ST | 39 | 6 |
| Two | 2 | Singlemode (FP Laser) 9 / 125 | -7*** | -36 | 29 | 1310 | ST, FC | 41 | 80 |
| One | 0 | Multimode (SLED) 62.5 / 125 | -15/-18 | -33/-33 | 15** | 850/1300 | ST | 39 | 5 |
| One | 1 | Singlemode (FP Laser) 9 / 125 | -10/-10 | -34 | 24 | 1310/1550 | ST, FC | 41 | 68 |

* Distance is limited to fiber loss, splices and fiber bandwidth
** For 50/125mm fiber, subtract 3dB
*** Higher output lasers available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