# Optical Video Transceiver
# TYPE: S-4V1bD1A1PE-T/R
# Four Channel Video Series

## Product Introduction

The Four Channel Analog Video, One channel reverse bidirectional Data, One channel reverse Audio, One channel Telephone, and a port 10/100Mbps Ethernet of our products, use advanced analog and digital technologies for pursuing high performance bidirectional data transmission over fiber optic. The transceiver can send signals more than 100 kilometers on fiber.

This link works properly in critical (very high and too low) temperature environments and work for years *without any degradation in* expected *quality*.

This good is fully transparent from front-end video device perspective. Just one fiber core is used to transmit all mentioned signals which can be any kind of fiber cables. The equipment also adopt non-compressed analog (video composite) signal in PAL or NTSC mode.

This Optical Transceiver is easily monitored by virtue of LED indication of working status and without any electrical or optical regulation on site.

This product is released in standalone and rack-mount (2U/4U) packages.

## Fundamental Features：

♦ FC and SC interface as fiber optic connector for your choice
♦ Stand-alone and Rack-mount (2U/4U Card-type) for your choice
♦ Sampling rate up to 20MSPS and uncompressed video transmission (NRZ method)
♦ supporting any kind of analog video signal
♦ Compatible with NTSC,PAL, and SECAM video signals
♦ LED indication of working status for monitoring real-time operation
♦ Modular industrial design ensuring reliability and flexibility

www.sepitam.com

## Environmental Aspects:

- Working Temperature: -20 ˚C～+70 ˚C

- Storage Temperature: -30 ˚C～+75 ˚C

- Relative humidity: 0～95% (Non-condensing)

- Input Voltage: AC85-260v/50Hz

- MTBF: More than 100000 hours

- Internal power consumption: Less than 2A on +5 vole

## Link Budget

### 1- Multi mode transmitters:

| Fiber Type | Lose | Maximum Transmission Distance | Link power | Wavelength |
|---|---|---|---|---|
| 62.5 um | 1 (dBm/Km) | 500(meter) | 19.5~-16(dBm) | 850、1310(nm) |

### 2- Single mode transmitters:

| Fiber Type | Lose | Maximum Transmission Distance | Link power | Wavelength |
|---|---|---|---|---|
| 9/125um | 0.5 (dBm/Km) | 20(Kilo meter) | -8~-5(dBm) | 1310,1550(nm) |
| 9/125um | 0.5 (dBm/Km) | 40(Kilo meter) | -5~-3(dBm) | 1310、1550(nm) |
| 9/125um | 0.25(dBm/Km) | 60(Kilo meter) | -3~-1(dBm) | 1310、1550(nm) |
| 9/125um | 0.25(dBm/Km) | 100(Kilo meter) | 0~+3(dBm) | 1310、1550(nm) |

## Video Characteristics：

| Inter-face | Input/ Output Impedance | Input/ Output Voltage | Band-width | Sampling | Differential gain | Differential phase | SNR |
|---|---|---|---|---|---|---|---|
| BNC | 75Ω (unbalanced) | Peak value = 1 V Max value = 1.2 V | 10MHz | Up to 20MHz high speed sampling | (10%-90% APL) DG < 1% (Typical value) | (10%-90%APL） DP <0.8° (Typical value) | S/N ≥ 70 dB |

## Audio Characteristics：

| Direc-tion | Interface terminal | Input/ Output Impedance | Input/ Output Voltage | Bandwidth | Sampling rate | Input/ Output electric power | Nonlinear distor-tion coefficient | SNR |
|---|---|---|---|---|---|---|---|---|
| Re-verse | Standard industrial connector | 600Ω (balanced/ unbalanced) | Peak value = 2 V | 20Hz～ 20kHz | 58.6 KHz | 0(dBm) | ≤ 1% | S/N ≥ 85 dB |

## Data Characteristics：

| Direction | Interface terminal | Controlling Equipment | Type of data |
|---|---|---|---|
| Transmitter / Re-verse | Standard industrial connector | PTZ decoder, Keyboard, data interface of Matrix, High speed dome camera, industrial equipment | RS-485 (2 lines), RS232,RS422 and so on |

## 1- RS232Aspects:

| Rate of RS-232 | Bit rate error | Data Agreement | Type of data |
|---|---|---|---|
| 0 -118 Kbps | Less than 10E-12 | data agreement fully supporting all kinds of RS-232 agreement | point to point |

## 2- RS485/RS422 Aspects:

| Rate of RS-485/422 | Bit rate error | Maximum number of nodes | Maximum trans-mission distance | Data Agreement | Direction | Type of data |
|---|---|---|---|---|---|---|
| 0 -255 Kbps | Less than 10E-12 | 128 | 1200 meter | Fully supporting all kinds of RS-485/RS-422 agreement, including the Modbus agreements | Transmitter / Reverse | Support point to point, support point to more points |

www.sepitam.com

## Telephone/Switch Characteristics：

| Direction | Bandwidth | Modulation | Data Agreement | Interface supporting terminal | Connecting material |
|-----------|-----------|------------|----------------|-------------------------------|---------------------|
| Bi-directional | 8Khz | PCM | Fully supporting all kinds of Telephone signal | General telephone PBX and PSTN | point to point (telephone to telephone or telephone to switch) |

## Ethernet Characteristics：

| Rate of data | Supporting agreement | Modula-tion | Data type | Interface connector | Working format |
|--------------|---------------------|-------------|-----------|---------------------|----------------|
| 100 Mbps | IEEE802.3U 100Base-TX, 10/100M | PCM | Auto-adaptation, the default is 100Mbps working condition | RJ-45 | Full-duplex or half-duplex |

## Applications:

♦ CCTV and Security protection system

♦ Tele-Communication System

♦ Intelligent transportation supervisory system （ITS）

♦ Telemedicine

♦ E-learning& Campus monitoring

♦ Skyscraper Security Protection system

♦ Military Tele-Com projects

♦ Paging systems in big arena and stadium

www.sepitam.com

# Technical Specification of

# Sepitam-4V1bD1A1PE-T/R

شرکت سپیتام

www.Sepitam.com