

OTP-1DVI2A1UKM (up to 3840x2160)

DVI / VGA / RGB / RGBHV / YPbPr, Analog Audio, USB KVM



DATASHEET

FIBER OPTICS



Features

- DVI-I Supports DVI, VGA or Component Video with Format Conversion
- Stereo Analog Audio
- USB Keyboard/Mouse Extension
- Supports 2K4K/UHD Resolutions, using Dual-Link DVI-D and 10 Gbps Optics, up to 3840x2160/30Hz and 2560x1600/60Hz
- Automatic Scaling for Single-Link DVI
- HID Emulation
- Full EDID over Duplex Data Stream
- Instant Video Scaling to Display's Native Resolution up to 3840x2160/30Hz and 2560x1600/60Hz
- 10.3 Gbps Optics: Multimode Fiber up to 0.3 km or Singlemode Fiber up to 10 km
- 3-Year Warranty

Applications

- Digital Signage / Remote Kiosks
- Command & Control Room
- Live Events
- Video Conferencing

DVI with Audio & USB KVM Transmission over Fiber

The Optiva OTP-1DVI2A1UKM provides for the transmission of uncompressed DVI, VGA or Component (RGB / RGBHV / YPbPr) video, stereo analog audio, with USB KVM over long or short distances, using Dual-Link DVI-D and 10 Gbps Optics, up to 3840x2160 @ 30 Hz and 2560x1600 @ 60 Hz.

Our innovative Optiva video, audio and data media transport system is designed to maintain lossless fiber extension between input and output signals. The OTP-1DVI2A1UKM includes two methods for EDID and HID management: The first is real DDC over fiber where the source and display communicate in real time. The other method is emulated EDID and HID where all standard VESA resolutions are stored in the transmitter from the factory and HID is emulated for uninterrupted communications even when devices are plugged and unplugged continually.

The Optiva line of products also includes insert cards for up to 16 channels of multiplexing/demultiplexing, 16x16 matrix switching, optical add/drop, as well as remote system monitoring.

System Design

Optiva insert cards support both 19" rackmount and compact tabletop or wall-mountable enclosures. The 3 RU 19" rackmount enclosures (Models: OT-CC-16 & OT-CC-16F) can support up to 16 insert cards as well as dual-redundant, hot-swappable power supplies utilizing two 100 watt or two 200 watt power supplies. Also available in the rackmount form factor is our 1 RU enclosure (Model: OT-CC-6-1U) which can accommodate six insert cards and utilizes two 60 watt power supplies. For desktop or wall mounting applications there are one-slot (Model: OT-DTCR-1) and two-slot (Model: OT-DTCR-2) enclosures. Both use an external wall mount power supply.

Resolutions Supported

Resolution	Code	DVI	HDMI	RGB/HV	Refresh Rate (Hz)	Resolution	Code	DVI	HDMI	RGB/HV	YPbPr	Refresh Rate (Hz)
640 x 480	VGA	✓	✓	✓	60, 72, 75, 85	1440 x 960	WXGA+	✓	✓	✓		60, 75, 85
800 x 600	SVGA	✓	✓	✓	56, 60, 72, 75, 85	1600 x 900	WSXGA	✓	✓	✓		60, 75, 85
854 x 480	FWVGA	✓	✓	✓	60, 70, 75, 85	1600 x 1024	WSXGA	✓	✓	✓		60, 75, 85
1024 x 768	XGA	✓	✓	✓	60, 70, 75, 85	1680 x 1050	WSXGA+	✓	✓	✓		60, 75, 85
1024 x 852		✓	✓	✓	60, 70, 75, 85	1600 x 1200	UXGA	✓	✓	✓		50, 60
1152 x 768	XGA+	✓	✓	✓	75	480i (720 x 483)	SD Video	✓	✓	✓	✓	50, 60
1152 x 864	XGA+	✓	✓	✓	75	480p (720 x 483)	SD Video	✓	✓	✓	✓	50, 60
1280 x 768	WXGA	✓	✓	✓	60, 75, 85	576p (720 x 576)	SD Video	✓	✓	✓	✓	50
1280 x 854	WXGA+	✓	✓	✓	60, 75, 85	720p (1280 x 720)	HD Video	✓	✓	✓	✓	60
1280 x 800	WXGA	✓	✓	✓	60, 75, 85	1080i (1920 x 1080)	HD Video	✓	✓	✓	✓	60
1280 x 1024	SXGA	✓	✓	✓	60, 75, 85	1080p (1920 x 1080)	HD Video	✓	✓	✓	✓	60
1360 x 765		✓	✓	✓	50, 60, 72	1864 x 1050		✓	✓	✓		50, 60
1366 x 768	WXGA	✓	✓	✓	60	1920 x 1200 (CVT)	WUXGA	✓	✓	✓		60, 75, 85
1365 x 1024		✓	✓	✓	50, 60	2048 x 1536	QXGA	✓				50, 60
1400 x 1050	SXGA+	✓	✓	✓	60, 75, 85	2560 x 1600 (CVR2560D)	WQXGA	✓				60
1440 x 900	WXGA+	✓	✓	✓	60, 75, 85	3840 x 2160	4K/UHD	✓				30

- All VESA resolutions supported, plus any other resolution up to dual-link for DVI-D 2K4K/UHD and single-link for Component video. Some resolutions utilize Reduced Blanking Technology.
- 10 Gbps "F" optics supports 2K4K/UHD up to 2560x1600/60 Hz and 3840x2160/30 Hz

U.S. Patent #'s 7720385 & 8064773

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DATASHEET

FIBER OPTICS

Models

Transmitter	Receiver
OTP-1DVIT2AT1UKMTR-XX/XX-LC	OTP-1DVIR2AR1UKMRT-XX/XX-LC

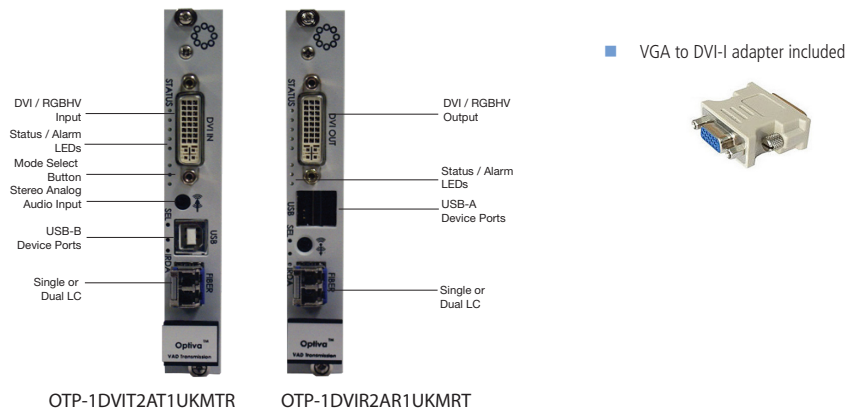
- When ordering replace "XX/XX" with one of the Optical Codes
- Chromatic dispersion as well as other losses should also be taken into account
- Stated distances are the maximum range, shorter distance may require attenuation
- Standard connection type is UPC

Duplex Optical Specifications: 10.3 Gbps / 2K4K / UHD

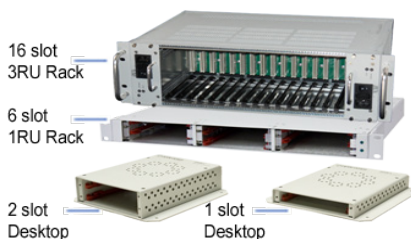
Optical Code "XX/XX"	Fiber Type / Number	Wavelength (nm)	Min. Output Power (dBm)	Rx Sensitivity (dBm)	Optical Budget (db)	Distance (km)	Connector
F0/F0	MM/2	850	-7.3	-11.1	4	0.3	LC (Dual)
F2/F2	SM/2	1310	-8.2	-12.5	4	10	LC (Dual)
L4x6/L4x6*	SM/1	1270 & 1330 (CWDM)	-7.2	-13.6	6.4	10	LC (Dual)

- 10.3 Gbps "F" optics supports 2K4K/UHD up to 2560x1600/60 Hz and 3840x2160/30 Hz
- *Use "XX/XX" as is for ordering transmitter models but reverse for ordering receiver model
- When ordering CWDM, replace "x" in the Optical Code L4x6 with A (1270 nm) or D (1330 nm)

Connection Diagram



Enclosure Options



General

Specifications	Values
Dimensions (Insert Card)	6.3"D x 0.8"W x 4.0"H
Weight	11 oz.
Operating Temperature	0° to +50°C
Storage Temperature	-30°C to +85°C
Humidity	0 to 95% (non-condensing)
Power Consumption	<6 Watts
Warranty	3 Years

Video

Specifications	Values
Digital Signals	DVI 1.0 / VESA
Resolutions	(see chart on front side)
Connector	DVI-I
Color Depth	24-Bit
Analog Signal Types	RBGHV / VGA / RGB / YpPr (with VGA to DVI-I adapter)
VGA Video Bandwidth	450 MHz
Analog Video Output Level	1V p-p
Video Signal-to-Noise Ratio	> 55 dB

Analog Audio

Specifications	Values
Inputs/Outputs	Unbalanced audio 2 channels (1L/1R)
Channels	24-Bit Dual Channel
Impedance	47 K Ohm Unbalanced
Audio Levels	700 mVrms (maximum)
Gain	~ 0 dB (unity gain)
Frequency Response	20 Hz to 20 KHz (±0.1 dB)
Signal-to-Noise Ratio	> 80 dB @ 1 KHz
Total Harmonic Distortion	< 0.1% @ 1 KHz
Crosstalk	>70 dB @ 10 KHz
Input Connector	>10 K ohm (unbalanced, AC coupled)
Connector Type	3.5 mm Stereo Headphone Jack

USB

Specifications	Values
Connector	Transmit: USB Type B, Receive: Dual USB Type A
Data	USB 2.0 HID and Programming

Monitoring & Control

Specifications	Values
Local	Front panel LED status and alert indicators
Remote	OptivaView SNMP Management Suite*
Push Button	Selecting product mode

* Requires OptivaView SNMP Controller Card (Model: OPV-CTLR)

