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Find the *Bel / Stratos DVI-LBA-TX-SC* at our website: *Click HERE*

Stratos
DVI Fiber Optic Extenders

Connectivity for Business Critical Continuity™

DVI-LBA Series

Key Features & Benefits

- DViLiteBlok extends digital video signals up to 100m (3280ft) over a single 50µm multimode fiber
- Supports resolutions up to 1920 x 1200 @ 60Hz
- Supports DVI-D single link
- Detachable modules for easy assembly – no need to string connectors through conduit, walls, or ceilings
- Easy-learn EDID programming feature detects information from the display and stores it in EEPROM in the transmitter module
- Small form factor
- Signal transmission via 50µm or 62.5µm multimode fiber cable
- Secure data without RFI/EMI emissions or loss of video quality
- Power supply options: USB mini-plug to Type-A cable, wall plug, or PC DVI connection
- SC fiber connector
- Complies with Class 1M Laser eye safety in compliance with FDA/CDRH and IEC 60825-1



Product Overview

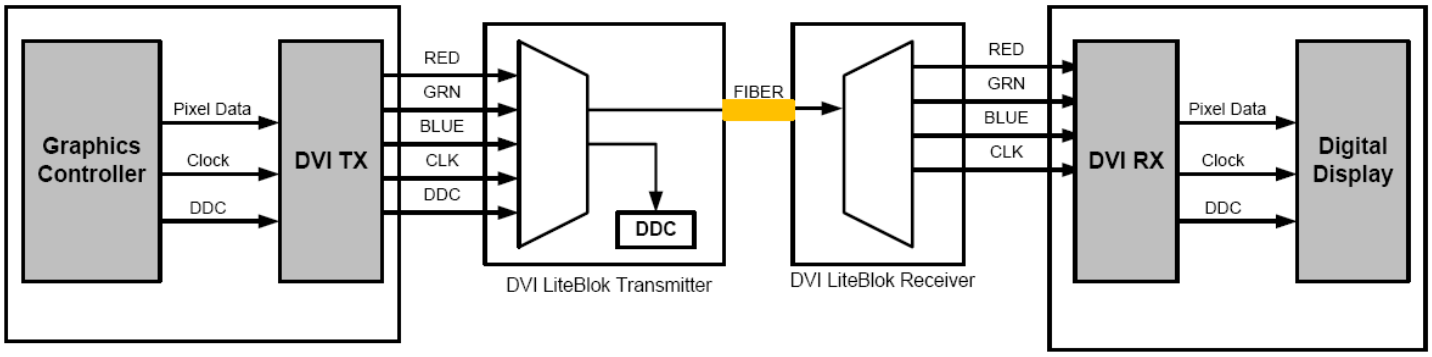
The **Emerson Network Power Connectivity Solutions** DVI fiber extension modules consist of a transmitter module and a receiver module, each with one SC type connector for the fiber input and a DVI-D single link plug for the video interface. Fiber extensions up to 100m (3280ft) are supported with 50µm multimode fiber which allows users the flexibility to custom fit the cable length to their specific application. The TDMS signals can be extended over 50/125 µm or 62.5/125 µm. The transmitter utilizes a four VCSEL array and the receiver utilizes four Pin-PD arrays to support transport capacity of up to WUXGA (1920 x 1200) at 60Hz. The EDID information is stored inside the transmitter and can be read and set by just plugging the TX module into the display device desired. The transmitter modules can be powered by either the +5 pin on the graphics card or by a USB interconnect. The receiver module is powered from a USB interconnect or with an optional 5VDC Power Pack.

Applications

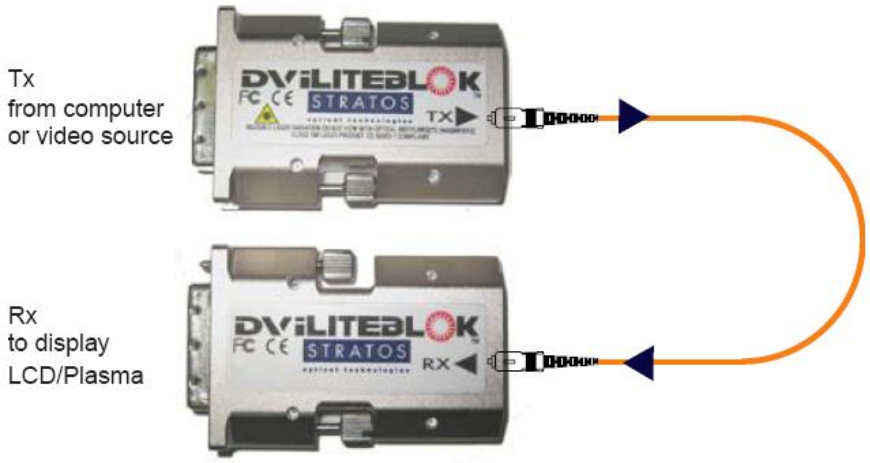
- Digital Signage Extenders for Projectors and Digital Displays
- Medical Room Displays for Operating Centers
- Traffic Control or Airport Display Stations
- Kiosk Stations or Point of Presence Graphic Displays
- Corporate Board Rooms
- Auditoriums and Media Centers
- Class Room Training Centers
- Signboards for Streets or Stadiums
- Elevator Message Centers
- Command and Control Displays
- Public Gathering Information Stations
- Data Acquisition Displays for the Oil and Petroleum Industry
- Gas Station Signage
- Financial Institutions Digital Tracking Displays
- Banking and Merchandising Stores
- Cruise Line and Hotel In-Room Entertainment Centers

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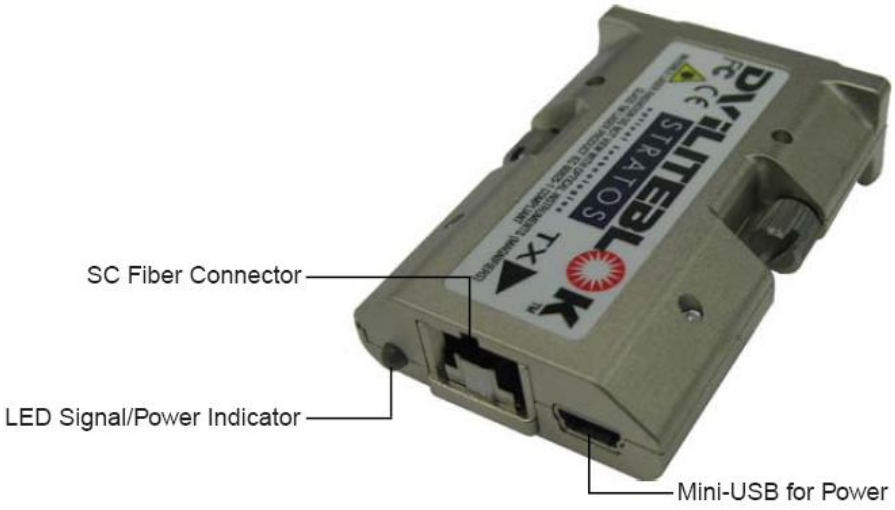
Signal Diagram Showing Typical Data Paths Between Source and Display



Extend DVI-D Video Up to 1000m (3280ft) Over a Single Fiber Cable



Rear View of TX or RX Module



Emerson Network Power
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www.stratosoptical.com
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Specifications

General Specification	
Input and Output Signals	TMDS Compliant with DDWG 1.0 standard
Data Transfer Rate	Max. of 1.65Gbps
Optical Link Power Budget	Min. 10.5dB
Mechanical Housing	2.25 in x 1.579 in x 0.590 in 57.15 mm x 40.11 mm x 14.99 mm
Connector Type – DVI	DVI-D Single Link Plug
Connector Type – Fiber	SC Type (both mating ends)
Fiber Cable Type	50/125µm Multi-Mode Glass Fiber 62.5/125µm Multi-Mode Glass Fiber
Laser Diode in TX Module	778-850nm Multi-Mode VCSEL
Photo Diode in RX Module	GaAs PIN-PD
Storage Temp.	-40 to +85°C
Voltage Supply Range	+3.45V to +5.5V
Operating Voltage	3.3V (regulated)
Supply Current	150mA Typical
Relative Humidity	8 to 80%
Electrostatic Discharge	2kV
Operating Ambient Temp. Range	0 to +70°C
Input Differential Impedance TX	100Ω
Data Rate Per Wavelength	1.65Gbps per DDWG 1.0 Specification
Differential Input Voltage TX	200 – 2000 m V p-p
Single-ended Input Voltage TX	100 – 1000 m V p-p
CM Input Voltage (AC Coupled)	2.6V
Electrical Output RX	650mV Typical
Low Frequency Cutoff RX	175kHz
Peak Optical Power Per Channel	-2.0dBm
Optical Modulation Amplitude Per Channel	300µW
Wavelength Range	812.5nm nominal (avg. 4 wavelengths)
Optical Rise/Fall Time	200ps
Resolution Supported	
VGA up to WUXGA (1920 x 1200)	
Up to 1920 x 1080I (HDTV)	

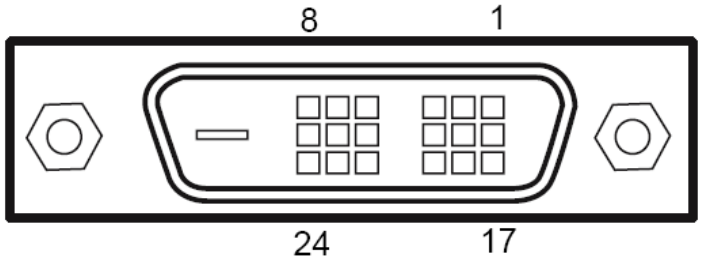
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DVI-D Connector Pin Locator and Pin Out

DVI-D Connector Pins	
1	TMDS Data 2 (-)
2	TMDS Data 2 (+)
3	TMDS Data 2 Shield
4	Not Used
5	Not Used
6	DDC Clock
7	DDC Data
8	N/C
9	TMDS Data 1 (-)
10	TMDS Data 1 (+)
11	TMDS Data 1 Shield
12	Not Used
13	Not Used
14	+5V Power (TX Only)
15	Ground (for 5V)
16	HPD (hot plug detect)
17	TMDS Data 0 (-)
18	TMDS Data 0 (+)
19	TMDS Data 0 Shield
20	Not Used
21	Not Used
22	TMDS Clock Shield
23	TMDS Clock (+)
24	TMDS Clock (-)



Note:
The USB connector provides a single +5V power signal to devices. The transmitter module can operate on the +5V from the DVI connector or from the +5V on the USB. The receiver module must operate from the +5V coming from the USB connector or from an optional AC power pack providing +5VDC.

USB Pin Out	
1	VCC, Red Wire, +5VDC
2	D (-), White Wire, Data (-)
3	D (+), Green Wire, Data (+)
4	GND, Black Wire, Ground

EDID Sniffer Function

The EDID information located in a display device can be retrieved and stored to the transmitter by just plugging it into the display device. As the transmitter is plugged into the display device, the unit initiates a call command looking for EDID information. The unit has an internal “sniffer” circuit that determines when the transmitter is ready to receive the input data and then by sending on/off command sequences to the LED notifies the user when the information has been successfully loaded. Once the transmitter is configured it can then be plugged into any graphics card.

Note:
The graphics card must support the resolutions for the display device to which the DVU extenders will be connected. Check your technical manual on the graphics card and display device to determine if resolution ranges are compatible.

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Installation Sequence

1. **Plug powered DViLiteBlok transmitter (TX) into the monitor DVI port to capture monitor data.**
   Power using USB cable or optional wall plug power supply.
   TX LED should now only flash green (indicates that monitor EDID, Extended Display Identification Data, has been captured and stored on the TX.)
   It is now ok to remove the TX from the monitor.

   Note: Although not necessary, the user may now unplug the USB power cord from the TX.

2. **Plug the DViLiteBlok TX into the graphics card DVI port on the personal computer.**
   TX LED should remain solid green (indicates successful connection to PC graphics card).
   Most PC DVI ports provide power through the connection.
   If needed, power using USB cable or optional wall plug power supply.

3. **Plug powered DViLiteBlok receiver (RX) into monitor DVI port.**
   Power using wall plug power supply or USB cable.
   RX LED should be solid red (indicates absence of optical signal).

4. **Connect the DViLiteBlok TX and RX using multimode fiber optic cable.**
   RX LED should be solid green (indicates valid optical signal received from the TX).

   Note: The TX has memory. Step 1 to capture monitor data should not need to be repeated for this PC Monitor link.

Transmitter LED Color	Reason
Alternating Red and Green	Ready to connect DViLiteBlok TX to the monitor to collect EDID monitor data.
Flashing Green	Ready to connect DViLiteBlok TX into graphics card on PC. (EDID data was correctly stored onto the TX. OK to disconnect from the USB power.)
Solid Green	Successful connection of DViLiteBlok TX with the graphics card. Everything will work correctly using only the monitor from which the EDID data was obtained.
Flashing Red for 10 seconds, then Solid Red	DViLiteBlok TX not yet connected to a monitor. Unplug the TX from the USB power cord. Reconnect the USB cord to the TX and connect the TX to the monitor.
Receiver LED Color	**Reason**
Solid Green	RX powered and optical signal present.
Solid Red	RX powered, but no optical signal is present.

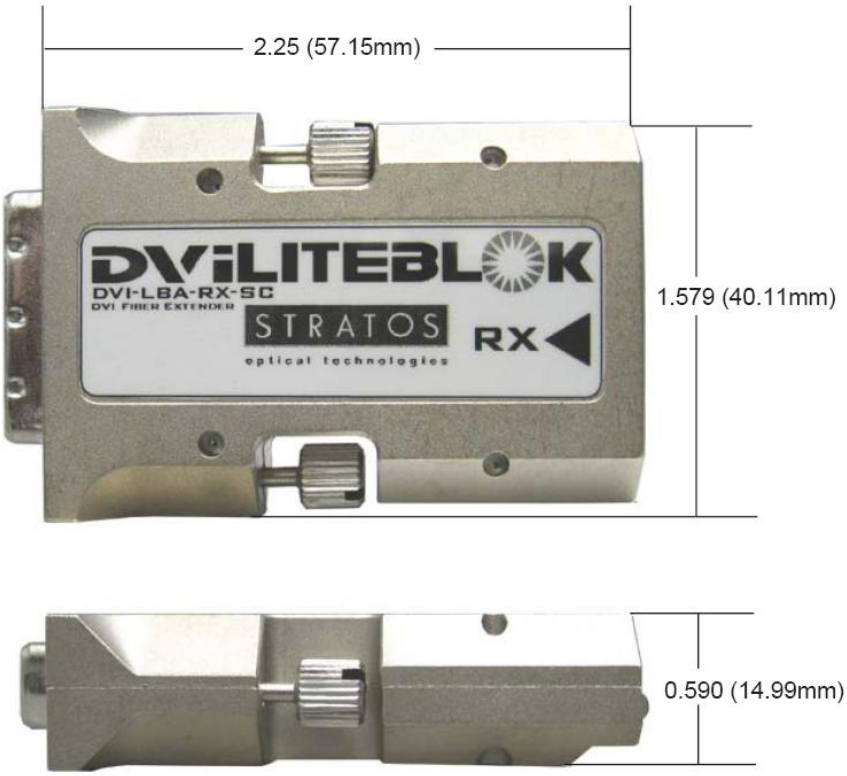
***The LiteBlok contains onboard non-volatile memory for storing the monitor's EDID information. Once the EDID information is obtained from the monitor, the LiteBlok may be completely disconnected and the information will be retained for a later time.**

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DViLiteBlok Mechanical Dimension Drawing



Regulatory Compliance

Standard	Description	Status
TUV	EN/IEC 60825 and EN/IEC 60950	Pending
CDRH	FDA, CFR 21 Subchapter J	Accession #: 0830097-000
UL/CSA	UL60950 – UL Listed	File Number: E218469
FCC	Subpart 15, Class A	Passed

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Shipping Information

	Part number	Description	Shipping Dimensions	Shipping Weight
	DVI-LBA-PKG-SC	DVI Fiber Extender Package includes: Transmitter, Receiver, SC-SC Multimode Jumper Cable, and a USB to Mini-B Cable.	12.25 x 12.25 x 6.0 in 31 x 31 x 16 cm	2.0 lb (885 gm)
	DVI-LBA-TX-SC	DViLiteBlok Transmitter, SC, Multimode		1.3 lb (590 gm)
	DVI-LBA-RX-SC	DViLiteBlok Receiver, SC, Multimode		
	PWR-US-USB	US Power Supply to Mini-B Plug, Input 110-254 VAC, Output 5VDC, 5ft, 1.5m		
	PWR-EU-USB	European Power Supply to Mini-B Plug, Input 110-254 VAC, Output 5VDC, 5ft, 1.5m		
	PWR-UK-USB	U.K. Power Supply to Mini-B Plug, Input 110-254 VAC, Output 5VDC, 5ft, 1.5m		
	PWR-USB-AMB	Cable USB Type A to Mini-B Plug, 3.3ft, 1m		1.2 lb (556 gm)
	710-00248-01	SC-SC Multimode Jumper Cable, 3.3ft, 1m		

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