

# **VE883T**

4K HDMI Optical Transmitter (4K@980 ft (K1, MM) / 6.2 miles (K2, SM))



The VE883T is a fiber-based transmitter designed to extend uncompressed 4K signal up to 980 feet (using VE883TK1) or 6.2 miles (using VE883TK2) over duplex fiber optic cables. The VE883T meets HDMI Specifications, including 3D, Deep Color (up to 12 bit), and signaling rates (up to 10.2 Gb) to ensure superior video quality. With ATEN's exclusive FarSmooth technology, the VE883T prevents lagging and freezing by matching the output rates to the input rates and ensures the video display is stable, smooth and identical to the source, particularly in long-distance extension applications where uninterrupted video streams are required. The VE883T features an HDMI input, analog audio input, USB2.0, IR, RS-232 control port, and a Gigabit Ethernet port. For point-to-point extension, the VE883T can receive fiber optic cables by inserting SFP+ modules to its optic port.

To avoid bulky cable setup, the VE883T guarantees a simple and fast solution for optimum transmission of Ethernet, IR, HDMI, RS-232, and USB signals up to 16.2 miles simply via a set of duplex optic fiber. The VE883T is also USB transparent, making it compatible with a wide range of USB peripherals.

Engineered to meet the latest trend of lossless 4K and long distance signal extension, VE883T is suitable for where long distance transmission is a must and little interference is allowed, such as in traffic station and modern office buildings.





#### Features

- Extends HDMI video, stereo audio, IR, RS-232 control, and Ethernet signals over duplex fiber optic cabling
- · Applies duplex fiber optic cables to connect the transmitter and the receiver
- Supports ultra long distance transmission up to 6.2 miles\*
- HDMI (3D, Deep Color, 4K); HDCP 2.2 compliant
- Supports lossless 4K video up to 4096 x 2160 / 3840 x 2160 @ 60Hz (4:2:0)
- FarSmooth ATEN's exclusive FarSmooth technology prevents lagging and freezing by matching the output rates to the input rates and ensures the video display is stable, smooth and identical to the source, particularly in long-distance extension applications where uninterrupted video streams are required.
- Supports Gigabit Ethernet Channel
- · Supports USB 2.0, with a maximal transfer rate of 25MByte/s
- Bi-directional IR signal transmission IR transmission is processed one direction at a time, ranged from 30 kHz to 56 kHz
- · Features RS-232 serial port for connecting peripherals such as touch screens, and barcode scanners
- · Supports batch upgrades using Firmware Upgrade Utility
- Built-in 8 kV / 15 kV ESD protection
- Plug-and-play
- Hot-pluggable
- · Rack-mountable
  - Note:

• The maximum transmission distance may vary depending on the fiber type, bandwidth, connector splicing, losses, model, chromatic dispersion, environmental factor, and kinks.

• For long distance transmissions, ATEN recommends using SFP+ modules to allow compatibility with single or multi mode fibers. Depending on the chosen package (VE883TK1 or VE883TK2), different SFP+ modules are supplied:

- VE883TK1: 10 Gbps/980ft SFP+ Duplex Multi Mode Transceiver
- VE883TK2: 10 Gbps/6.2 miles SFP+ Duplex Single Mode Transceiver

• ATEN recommends using Single Mode fibers that conform to IEC 11801 (OS1, OS1a, OS2), and Multi Mode fibers that conform to IEC 11801 (OM3, OM4) specifications.

• The Device is class 1 laser product. It meets the safety regulations of IEC/EN 60825-1, 21 CFR 1040.10, and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

#### Specification

Video Input	
Interfaces	1 x HDMI Type A Female (Black)
Impedance	100 Ω
Max. Distance	Up to 5 m
Video	
Max. Data Rate	10.2 Gbps (3.4 Gbps Per Lane)
Max. Pixel Clock	340 MHz
Compliance	HDMI (3D, Deep Color, 4K) HDCP 2.2 Compatible
Max. Resolution	4096x2160/3840x2160@60Hz (4:2:0); 4096x2160/3840x2160@30Hz (4:4:4)
Max. Distance	1 x SFP Module (*Note) VE883TK1: up to 300m (MM, OM3, Black) VE883TK2: up to 10km (SM, Blue)
Audio	
Input	1 x Terminal Block, 5 pole (Green)
Output	N/A
Connectors	
Unit To Unit	1 x bi-directional SFP (LC)

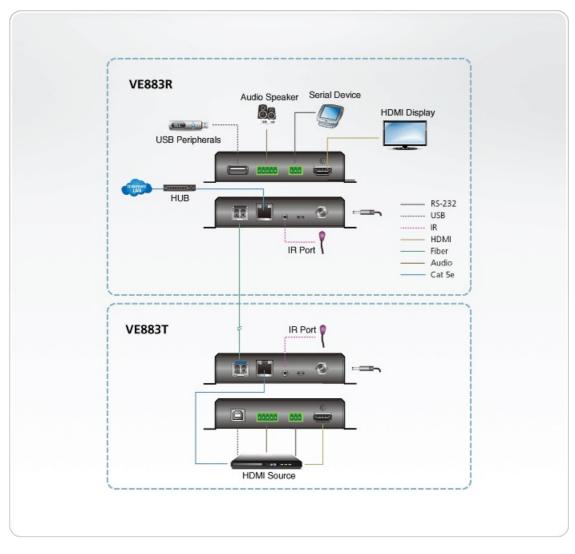


Firmware Upgrade         1 x. Micro USB (Type B) Female (Black)           Pewer         1 x. DC Jack with locking           Fiber Optios		
Fiber Optics         Image: Control           Data Rato         10.3 Gaps           Wavelength         VEB83TK1: 850 nm VEB83TK2: 1310 nm           Fiber Type         VEB83TK1: Singlemodel(MM, OM3, LC Duplex Type VEB83TK2: Singlemodel(MM, CM3, LC Duplex Type           Control         VEB83TK2: Singlemodel(MM, OM3, LC Duplex Type           Control         VEB83TK2: Singlemodel(MM, CM3, LC Duplex Type           Control         1 x USB Type B Female (White)           R5-232 Channel         1 x Terminal Block, 3 pole (Green)           R Channel         1 x Min Stereo Jack Female (Black); 39-56 KHz full range transmission           Ethernet Channel         1 x Min Stereo Jack Female (Black); 39-56 KHz full range transmission           LEDs         1 (Green)           Link         0 CoSV7.05W/338TUh	Firmware Upgrade	1 x Micro USB (Type B) Female (Black)
Data Rate         10.3 Gkps           Wavelength         VEB83TK1: 860 nm VEB83TK2: 1310 nm           Fiber Type         VEB83TK2: 1310 nm           Fiber Type         VEB83TK2: Singlemode(SM), CD Luplex Type VEB83TK2: Singlemode(SM), CD Luplex Type           Control         Ix           USB Channel         1 x USB Type B Female (White)           R5 232 Channel         1 x Terminal Block, 3 pole (Green)           IR Channel         1 x FLM5 Female (Black); 30°-56 KH2 full range transmission           Ethernet Channel         1 x FLM5 Female (Black); 30°-56 KH2 full range transmission           Ethernet Channel         1 x FLM5 Female (Black); 30°-56 KH2 full range transmission           Power         1 (Green)           Link         1 (Orange)           Video Output         N/A           Power         DCSV-7.05W/33BTUh           Nate: • The measurement in Watts indicates the typical power consumption of the dovice with ne external loading, • The measurement in BTUM indicates the power consumption of the dovice with ne external loading, • The measurement in BTUM indicates the power consumption of the dovice with ne external loading, • The measurement in BTUM indicates the power consumption of the dovice with ne external loading, • The measurement in BTUM indicates the power consumption of the dovice with ne external loading, • The measurement in BTUM indicates the power consumption of the dovice with ne external loading, • The measurement in BTUM indicates the power consumption of the dovice with ne external	Power	1 x DC Jack with locking
Wavelength         VEB83TK1: 850 nm VEB83TK2: 1310 nm           Fiber Type         VEB83TK2: Signende(SM), LD Duplex Type VEB83TK2: Signende(SM), LD Duplex Type           Control         I           USB Channel         1 x USB Type B Female (While)           PS:232 Channel         1 x Terminal Block, 3 pole (Green)           IR Channel         1 x Terminal Block, 3 pole (Green)           IR Channel         1 x R45 Female (Black): 30°-56 KH2 full range transmission           Ethernet Channel         1 x R45 Female           LEDs         I           Power         1 (Green)           Link         1 (Orange)           Video Output         NA           Power forn         DCSV7.05W/33BTUh Note: • The measurement in Watts indicates the bypical power consumption of the device with no external loading. • The measurement in Watts indicates the power consumption of the device with no external loading. • The measurement in Watts indicates the power consumption of the device with no external loading. • The measurement in Watts indicates the power consumption of the device with no external loading. • The measurement in Watts indicates the power consumption of the device with no external loading. • The measurement in Watts indicates the power consumption of the device with no external loading. • The measurement in Watts indicates the power consumption of the device with no external loading. • The measurement in Watts indicates the power consumption of the device with no external loading. • The measurement in Watts indicates the power consumption of the device with no external loadin	Fiber Optics	
Level         VEB83TK2: 1310 nm           Fiber Type         VEB83TK1: Multimode(MM), OM3, LC Duplex Type           Control         VEB83TK2: Singlemode(SM), LC Duplex Type           Control         I x USB Type B Female (While)           RS-232 Channel         1 x USB Type B Female (While)           RS-232 Channel         1 x Torminal Block, 3 pole (Green)           IR Channel         1 x Torminal Block, 5 apole (Green)           IR Channel         1 x RJ45 Female (Black); 30-56 KHz tuli range transmission           Ethernet Channel         1 x RJ45 Female           LEDs         1 (Green)           Link         1 (Orange)           Video Output         N/A           Power         1 (Green)           Link         1 (Orange)           Video Output         N/A           Power         DCSV7.0SW33BTU/h Note: <ul> <li>The measurement in Watts indicates the bytical power consumption of the device with no external loading. <ul> <li>The measurement in BTU/h indicates the bytical power consumption of the device with no external loading.</li> <li>The measurement in BTU/h indicates the bytical power consumption of the device with no external loading.</li> <li>The measurement in BTU/h indicates the bytical power consumption of the device with no external loading.</li> <li>The measurement in BTU/h indicates the bytical power consumption of the device with no external loading.</li> <li>The meas</li></ul></li></ul>	Data Rate	10.3 Gbps
Control           USB Channel         1 x USB Type B Female (While)           RS-232 Channel         1 x Terminal Block, 3 pole (Green)           IR Channel         1 x Terminal Block, 3 pole (Green)           IR Channel         1 x Ruhi Stereo Jack Female (Black); 30-66 KHz full range transmission           Ethernet Channel         1 x RJ45 Female           LEDs	Wavelength	
USB Channel     1 x USB Type B Female (White)       RS-232 Channel     1 x Terminal Block, 3 pole (Green)       IR Channel     1 x Mini Stereo Jack Female (Black): 30-56 KHz tull range transmission       Ethernet Channel     1 x RJ45 Female       LEDs     Image transmission       Power     1 (Green)       Link     1 (Orange)       Video Output     NA       Power     0 (Green)       Link     1 (Orange)       Video Output     NA       Power     DS5V:7.05W:33BTU/h Note: • The measurement in Watts indicates the typical power consumption of the device with no external loading. • The measurement in BTU-h indicates the typical power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. • The measurement in BTU-h indicates the power consumption of the device with no external loading. <td>Fiber Type</td> <td>VE883TK1: Multimode(MM), OM3, LC Duplex Type VE883TK2: Singlemode(SM), LC Duplex Type</td>	Fiber Type	VE883TK1: Multimode(MM), OM3, LC Duplex Type VE883TK2: Singlemode(SM), LC Duplex Type
RS-232 Channel       1 x Terminal Block, 3 pole (Green)         IR Channel       1 x Mini Stereo Jack Female (Black);         20-56 KHz Lul range transmission         Ethernet Channel       1 x RJ45 Female         LEDs       -         Power       1 (Green)         Link       1 (Orange)         Video Output       N/A         Power       DCSV7.05W-33BTU/h Note: • The measurement in Watts indicates the typical power consumption of the device with no external loading. • The measurement in BTU/h indicates the power consumption of the device with no external loading.         Operating Temperature       0-40°C         Storage Temperature       -20 - 60°C         Humidity       0 - 80% RH, Non-Condensing         Physical Properties       -20 - 60°C         Humidity       0.46 kg (1.41 lb)         Dimensions (L x W x H) with bracket       19.44 x H 69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)         Dimensions (L x W x H) with bracket       16.60 x 12.49 x 2.90 cm (7.85 x 5.78 1.18 in.)	Control	
IR Channel       1 x Mini Stereo Jack Female (Black); 30-56 KHz full range transmission         Ethernet Channel       1 x RJ45 Female         LEDs       I         Power       1 (Green)         Link       1 (Orange)         Video Output       N/A         Power       OC5V:7.05W:33BTU/h Note: • The measurement in Watts indicates the typical power consumption of the device with no external loading. • The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.         Environmental       0-40°C         Storage Temperature       -20 - 60°C         Humidity       0 - 80% RH, Non-Condensing         Physical Properties       Metal         Weight       0.64 kg (1.41 lb )         Dimensions (L, x W x H) with bracket       19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)         Dimensions (L, x W x H) with bracket       16.60 x 12.49 x 2.90 cm (7.85 x 5.78 x 1.18 in.)	USB Channel	1 x USB Type B Female (White)
30-56 KHz full range transmission       Ethernet Channel     1 x RJ45 Female       LEDs       Power     1 (Green)       Link     1 (Orange)       Video Output     N/A       Power for on sumption     DCSV:7.05W:33BTU/h Note: • The measurement in Watts indicates the typical power consumption of the device with no external loading. • The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.       Environmental     0.40°C       Storage Temperature     -20 - 60°C       Humidity     0 - 80% RH, Non-Condensing       Physical Properties     120 - 60°C       Humidity     0.64 kg (1.41 lb)       Dimensions (L x W the Star 1.18 in.)       Dimensions (L x W the Star 1.18 in.)       Dimensions (L x W the Star 1.14 in.)       Dimensions (L x W the Star 1.14 in.)	RS-232 Channel	1 x Terminal Block, 3 pole (Green)
LEDs         Power       1 (Green)         Link       1 (Orange)         Video Output       N/A         Power       DC5V:7.05W:33BTU/h         Consumption       DC5V:7.05W:33BTU/h         Note:       • The measurement in Watts indicates the typical power consumption of the device with no external loading.         Environmental       • The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.         Environmental       • 20 - 60°C         Storage Temperature       -20 - 60°C         Humidity       0 - 80% RH, Non-Condensing         Physical Properties       -         Housing       Metal         Weight       0.64 kg (1.41 lb)         Dimensions (L x W x H) without racket       19.69 x 12.49 x 2.90 cm (.54 x 4.92 x 1.14 in.)	IR Channel	
Power     1 (Green)       Link     1 (Orange)       Video Output     N/A       Power Consumption     DC5V:7.05W:33BTU/h Note: • The measurement in Watts indicates the typical power consumption of the device with no external loading. • The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.       Environmental     0-40°C       Operating Temperature     0-40°C       Storage Temperature     -20 - 60°C       Humidity     0 - 80% RH, Non-Condensing       Physical Properties       Housing     Metal       Dimensions (L x W x H) with bracket     19.94 x 14.69 x 3.00 cm (.54 x 4.92 x 1.14 in.)       Dimensions (L x W x H) with bracket     16.60 x 12.49 x 2.90 cm (.54 x 4.92 x 1.14 in.)	Ethernet Channel	1 x RJ45 Female
Link       1 (Orange)         Video Output       N/A         Power Consumption       DCSV:7.05W:33BTU/h Note: • The measurement in Watts indicates the typical power consumption of the device with no external loading. • The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.         Environmental       0-40°C         Operating Temperature       0-40°C         Storage Temperature       -20 - 60°C         Humidity       0 - 80% RH, Non-Condensing         Physical Properties       Metal         Weight       0.64 kg (1.41 lb )         Dimensions (L x W x H) with bracket       19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)         Dimensions (L x W x H) without bracket       16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	LEDs	
Video Output     N/A       Power Consumption     DC5V:7.05W:33BTU/h Note: • The measurement in Watts indicates the typical power consumption of the device with no external loading. • The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.       Environmental     Operating Temperature       Operating Temperature     0-40°C       Storage Temperature     -20 - 60°C       Humidity     0 - 80% RH, Non-Condensing       Physical Properties     -       Housing     Metal       Weight     0.64 kg (1.41 lb )       Dimensions (L x W x H) with bracket     19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)       Dimensions (L x W x H) without bracket     16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	Power	1 (Green)
Power Consumption       DC5V:7.05W:33BTU/h Note: • The measurement in Watts indicates the typical power consumption of the device with no external loading. • The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.         Environmental       0-40°C         Operating Temperature       0-40°C         Storage Temperature       -20 - 60°C         Humidity       0 - 80% RH, Non-Condensing         Physical Properties         Housing       Metal         Weight       0.64 kg (1.41 lb)         Dimensions (L x W x H) with bracket       19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)         Dimensions (L x W x H) without bracket       16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	Link	1 (Orange)
Consumption       Note: • The measurement in Watts indicates the typical power consumption of the device when it is fully loaded.         Environmental           Operating Temperature          0-40°C          Storage Temperature          -20 - 60°C          Humidity          0 - 80% RH, Non-Condensing          Physical Properties           Housing       Metal         Weight          0.64 kg (1.41 lb )          Dimensions (L x W x H) with bracket          19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)          Dimensions (L x W x H) without bracket          16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	Video Output	N/A
• The measurement in Watts indicates the typical power consumption of the device with no external loading.         • The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.         Environmental         Operating Temperature       0-40°C         Storage Temperature       -20 - 60°C         Humidity       0 - 80% RH, Non-Condensing         Physical Properties       -         Housing       Metal         Weight       0.64 kg (1.41 lb )         Dimensions (L x W x H) with bracket       19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)         Dimensions (L x W x H) without bracket       16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)		
Operating Temperature       0-40°C         Storage Temperature       -20 - 60°C         Humidity       0 - 80% RH, Non-Condensing         Physical Properties         Housing       Metal         Weight       0.64 kg (1.41 lb )         Dimensions (L x W x H) with bracket       19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)         Dimensions (L x W x H) without bracket       16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)		• The measurement in Watts indicates the typical power consumption of the device with no external loading.
TemperatureStorage Temperature-20 - 60°CHumidity0 - 80% RH, Non-CondensingPhysical PropertiesHousingMetalWeight0.64 kg (1.41 lb )Dimensions (L x W x H) with bracket19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)Dimensions (L x W x H) without16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	Environmental	·
Temperature       Image: Constraint of the second sec		0-40°C
Physical Properties       Housing     Metal       Weight     0.64 kg (1.41 lb )       Dimensions (L x W x H) with bracket     19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)       Dimensions (L x W x H) without bracket     16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)		-20 - 60°C
Housing         Metal           Weight         0.64 kg (1.41 lb )           Dimensions (L x W x H) with bracket         19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)           Dimensions (L x W x H) without bracket         16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	Humidity	0 - 80% RH, Non-Condensing
Weight         0.64 kg (1.41 lb )           Dimensions (L x W x H) with bracket         19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)           Dimensions (L x W x H) without bracket         16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	Physical Properties	1
Dimensions (L x W x H) with bracket         19.94 x 14.69 x 3.00 cm (7.85 x 5.78 x 1.18 in.)           Dimensions (L x W x H) without bracket         16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	Housing	Metal
x H) with bracket     (7.85 x 5.78 x 1.18 in.)       Dimensions (L x W x H) without bracket     16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	Weight	0.64 kg ( 1.41 lb )
x H) without (6.54 x 4.92 x 1.14 in.) bracket		
Carton Lot 5 pcs	x H) without	
	Carton Lot	5 pcs



Note	<ol> <li>Operating distance is approximate. A typical maximum distance may vary depending on factors such as fiber type, bandwidth, connector splicing, losses, modal or chromatic dispersion, environmental factors, and kinks.</li> <li>It is recommended that you use Single Mode fibers that conforms to IEC 60793- 2-50 B1.1 or ITU-T G.652.B specifications; Use Multi Mode fibers that conform to IEC 11801 (OM3) specifications.</li> <li>The Device is class 1 laser product. It meet the safety regulations of IEC-60825, FDA 21 CFR 1040.10, and FDA 21</li> </ol>
	CFR 1040.11.

### Diagram



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