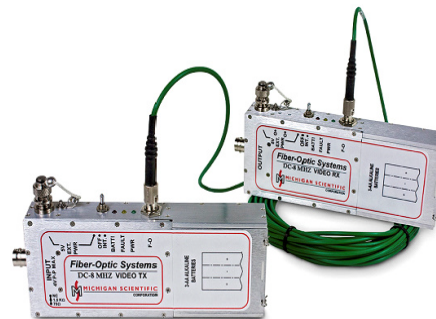


# Fiber-Optic Systems - 8MHz ANALOG/VIDEO LINK

## Model FO-HBAVT/HBAVR

- Monitor/Inject Analog or Video NTSC/PAL Signals with Bandwidths from DC to 8 MHz to/from equipment under test (EUT)
- RFI/EMI validated for EMC at 200V/m (46dBV/m) from 500 kHz to 18 GHz and 600V/m (pulsed 5% duty-cycle & 5 $\mu$ s rise-time) 1 GHz to 2.5 GHz
- Low-Power circuitry for operating >11 hours with 3 alkaline 'AA' batteries
- Full-scale input/output range of  $\pm 1$  VDC
- Input selectable for 75 $\Omega$ , 100 $\Omega$  & 2k $\Omega$  termination
- Output termination is 75 $\Omega$  - available balanced and unbalanced upon request



## Description

The *FO-HBAVT* and *FO-HBAVR* satellite modules form a low-level Analog or NTSC/PAL Video Signal TX/RX pair. Signal levels of  $\pm 1$  VDC full-scale (FS) at bandwidths from DC to 8 MHz may be transmitted fiber-optically in either direction by transposing the modules.

The transmitter and receiver modules have special input filtering that ensures signal integrity. The module shielding provides high immunity from electromagnetic interference (EMI), electromagnetic pulse (EMP) or high voltages associated with plasma research. This allows for uncompromising electromagnetic compatibility (EMC) testing/engineering. The satellite modules are validated for EMC up to 200 V/m (46 dB V/m) at 500 kHz to 18 GHz, and 600V/m (pulsed 5% duty-cycle & 5 $\mu$ s rise-time) 1GHz to 2.5 GHz.

Three integral 'AA' batteries provide power to the satellite module that is located in the hostile RF environment while the module located in the low-field area may use the supplied external power source.

Other full-scale (FS) voltage levels are available at special request.

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4/13/13

Rev. A

# Fiber-Optic Systems - 8MHz ANALOG/VIDEO LINK

## SPECIFICATIONS

PARAMETER	SPECIFICATION
<b>SYSTEM CHARACTERISTICS AND PERFORMANCE</b>	
<b>GENERAL</b>	
TX/RX Signal Type	differential input / single-ended output
TX Full-Scale Input	±1 VDC (75Ω doubly terminated)
RX Full-Scale Output	±1 VDC into 75Ω Load
Bandwidth <sup>1</sup>	>8 MHz (-3 dB) <i>typical</i>
Flatness <sup>1</sup>	±1 dB to 500 MHz <i>typical</i>
Rise/Fall Times (1 Vp-p Pulse Input)	40 ns (20-80%) <i>typical</i>
End to End Delay	750ns <i>typical</i>
Output Noise	<10 mV rms
Sampling Rate	25 MSPS
Resolution (Base Case)	4 mV (9 bit)
DC Gain Adjustment (Receiver)	> ±25% of scale
DC Offset Adjustment (Receiver)	> ±1 VDC
DC Offset Drift	<0.5% drift through temp. range
Over-Range Protection	±6 V continuous and ±TBD transient protection
Transmitter Input Impedance	75Ω, 100Ω, 2kΩ slide-switch selectable
Receiver Output Impedance	75Ω balanced and unbalanced available
Recommended External Load	75 Ω
Power Source	3-AA alkaline batteries or external adapter
Battery Life	
Transmitter	>14 hrs continuous <i>typical</i>
Receiver	>11 hrs continuous <i>typical</i>
<b>PHYSICAL</b>	
Dimensions (L x W x H)	6.8 x 3.0 x 1.0 in (172 x 76 x 25 mm)
Weight [w/o Batteries]	13 oz (368.5 g) [10 oz (283.5 g)]
Input / Output Connector	BNC
Optical Connectors	ST
Optical Cables	multimode graded-index 62.5/125 μm or 100/140 μm
Optical Cable Length	1640 ft (500 m) max.
<b>ENVIRONMENTAL</b>	
Operating Temperature	0° F to +185° F (-18° to +85° C)
Operating Humidity	95% R.H. max. non-condensing
EMC	300 V/m at 500 kHz to 1 GHz, 200 V/m at 1 GHz to 18 GHz and 600 V/m (pulsed 5% duty-cycle & 5μs rise-time) 1 GHz to 2.5GHz
<b>QUALITY AND SAFETY</b>	
CE Mark	Declaration of Conformity provided
RoHS & WEEE	Compliant

<sup>1</sup> Not fully inclusive of peak-error due to under-sampling. Could be further reduced @ expense of battery life.

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