PRODUCT LINE:
Fiber Optic Isolator

CATEGORY:
Firewire

IEEE 1394b-2002

Photo Not Yet Available

FOI-1394b-ST

FEATURES

- Supported Data Rates:
  - (S100) 98.304 Mbps
  - (S200) 196.608 Mbps
  - (S400) 393.216 Mbps
  - (S400B) 491.52 Mbps
  - (S800) 983.04 Mbps
- Compliant with:
  - IEEE 1394-1995
  - IEEE 1394a-2000

DESCRIPTION

The FOI-1394b provides complete electrical isolation for IEEE 1394b-2002, also trademarked by Apple as FireWire and Sony as i.Link. The bilingual connector on the unit offers backward compatibility with 1394a devices when used with a 9-pin to 6-pin or 9-pin to 4-pin bilingual cable. 1394b devices must use a 9-pin to 9-pin beta cable. Depending on the cable, the unit will automatically determine the correct interface and speed. 1394a devices operate at either S100, S200, or S400 rates, while 1394b devices operate at S400B or S800 rates. Unlike other FireWire devices, the FOI-1394b does not require a device driver to be installed on the operating system because it passes data transparently in the network.

The unit can be used in areas of high electrical noise or in and out of RF shielded enclosures. The fiber optic cable is not susceptible to interference caused by impulse noise, crosstalk, or EMI. Privacy of communications is also enhanced because the fiber optic cable does not radiate any emissions.

In addition, fiber optic cable offers much longer transmission distances than copper wiring. Traditional FireWire cabling is limited to a maximum distance of 4.5m between two nodes, but multimode or singlemode optics on the units can extend the distance to 100m. A typical link consists of two FOI-1394b, one at each end of the network, with a duplex fiber optic cable between them as shown under “TYPICAL APPLICATION”.

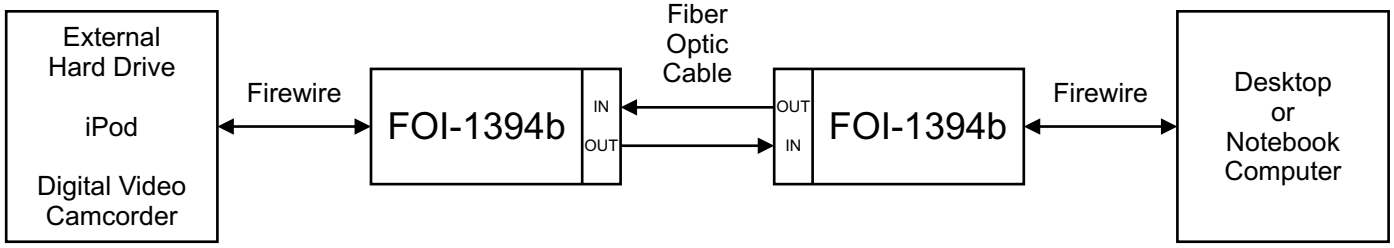
SPECIFICATIONS

		minimum	typical	maximum	unit
Power Requirement	Voltage Range	7	9	12	V
	Supply Current	-	300	-	mA
Environmental	Storage Temperature	-40	-	85	°C
	OperatingTemperature	0	-	50	°C
1394a-2000	Data Rate	S100	98.304 Mbps		
		S200	196.608 Mbps		
		S400	393.216 Mbps		
	Line Encoding	Data / Strobe Signaling			
	Required Cable	9-pin (bilingual) to 6-pin cable			
		9-pin (bilingual) to 4-pin cable			
1394b-2002	Data Rate	S400B	491.52 Mbps		
		S800	983.04 Mbps		
	Line Encoding	Beta-Mode Signaling			
	Required Cable	9-pin (beta) to 9-pin (beta) cable			
Interface Connector	Bilingual 1394b connector				
Case Dimensions	Size 4	**width**	**height**	**length**	**unit**
		1.453	2.562	4.5	inches

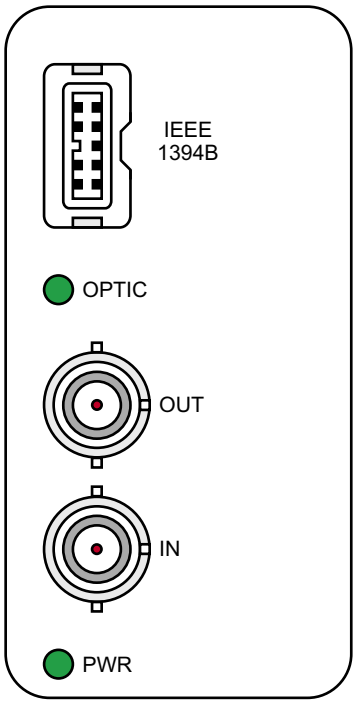
OPTICAL CHARACTERISTICS

Fiber	Size	Max Distance	Wavelength	Output Power	Receiver Sensitivity	Loss Budget
Multimode	50 / 125 µm	100 m	820 nm	-7 dBm	-17 dBm	10 dB
Singlemode	9 /125 µm	100 m	1300 nm	-7 dBm	-20 dBm	13 dB

TYPICAL APPLICATION

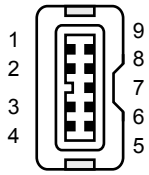


- Before using the FOI-1394b, make sure that the device drivers for the external hard drive, iPod, digital video camcorder, etc. are installed and working properly on your operating system. The FOI-1394b itself does not require any device drivers to be installed.



FOI-1394b-ST Front View

Bilingual pinout		
Pin	**Direction**	**Description**
1	In / Out	TPB-
2	In / Out	TPB+
3	In / Out	TPA-
4	In / Out	TPA+
5		Signal Ground
6		Signal Ground
7		
8		
9		Signal Ground



LED INDICATOR		
Label	**Color**	**Description**
PWR	Green	Power supply in FOI unit is operating properly.
	Off	No power from the PSQ power supply or open fuse inside the FOI unit. Check that the PSQ power supply is operating properly. If the PSQ power supply is good, separate the FOI unit from the PSQ power supply for 30 seconds and then reattach so that the fuse inside the FOI unit has time to reset. If the PWR led is still off or not constant, replace the FOI unit.
OPTIC	Green	Unit is in sync.
	Green Flash	Optical signal in detected, but not yet in sync.
	Off	No optical signal in or optical level too low. Check that the opposite unit has power and that the fiber optic cables are properly connected. The transmit OUT optic from one end of the network should go to the receive IN optic at the opposite end as shown under "TYPICAL APPLICATION".

ACCESSORIES	
Model	**Description**
CMA-2001	Chassis Mount Adapter for RMC-2101
CMA-3002	Chassis Mount Adapter for RMC-3101, RMC-3102, and RMC-3201
PSQ-4910	Power Supply for FOI-4xxx series
RMC-2101	Rack Mount Chassis, 3-1/2” H x 19” W, rear access
RMC-2201	Rack Mount Chassis, 3-1/2” H x 19” W, rear access with front exhaust fans
RMC-3101	Rack Mount Chassis, 5-1/4” H x 19” W, front access
RMC-3102	Rack Mount Chassis, 5-1/4” H x 19” W, front access with optical patch panel
RMC-3201	Rack Mount Chassis, 5-1/4” H x 19” W, rear access
RMC-4101	Rack Mount Chassis, 5-1/4” H x 19” W, front access with rear exhaust fans and perforated front panel
WMA-2001	Wall Mount Adapter with optical patch
WMA-3002	Wall Mount Adapter

ORDERING INFORMATION

FOI-1394B ___ – ___

Optical Interface:
ST, SC, FC

Fiber:
Blank = multimode
S = singlemode

Available Options:

FOI-1394b-ST	FOI-1394b-SC	FOI-1394b-FC
FOI-1394bS-ST	FOI-1394bS-SC	FOI-1394bS-FC

- **For special applications that require custom units, please call FiberPlex for more information.**