

FOI-2172 and FOI-2173

FIBER OPTIC ISOLATOR



Description

The FOI-2172 and FOI-2173 both provide complete electrical isolation for composite video and audio communications. The units are compatible with NTSC, PAL, and SECAM video broadcast standards. The units are transparent to all monochrome RS-170, color RS170A, and closed circuit RS-330 video. The FOI-2173 has an AGC (automatic gain control) to stabilize the video output for different fiber optic cable lengths. Adjusting the AGC potentiometer will also increase or decrease the overall scene brightness. The FOI-2172 can accept any level of audio input because clipping can be adjusted by the LVL potentiometer, while the FOI-2173 LVL potentiometer controls the volume.



The units 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 traditional copper wiring of video and audio links. Multimode optics on the units can extend the distance to 2km. A typical link consists of an FOI-2172 at one end of the network transmitting optical signals to an FOI-2173 at the other end of the network with a single fiber optic cable between them as shown under "TYPICAL APPLICATION".

Video

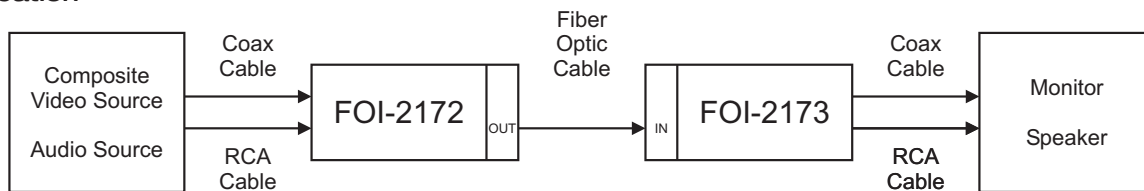
Uni-Directional (Simplex) Composite Video with Audio

FOI-2172: Optical Transmitter
FOI-2173: Optical Receiver

Features:

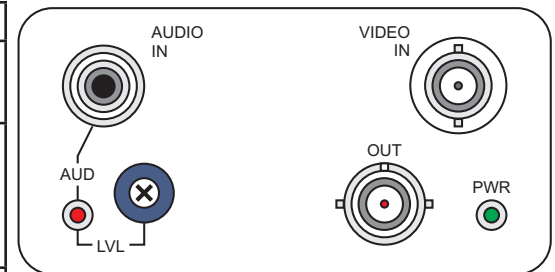
- Video Bandwidth: 4 Hz to 7 MHz
- Audio Bandwidth: 100 Hz to 10 kHz
- Compatible with:
 - NTSC
 - PAL
 - SECAM
- Compliant with:
 - EIA / RS-170
 - EIA / RS-170A
 - EIA / RS-330

Typical Application

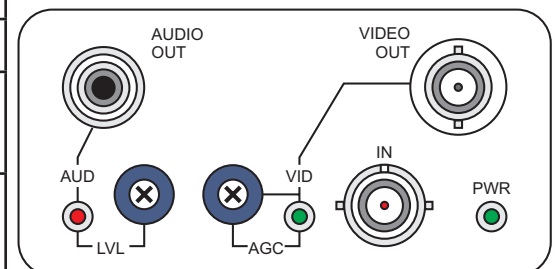


LED Indicators

Model	Label	Color	Description
FOI-2172 and FOI-2173	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.
	AUD	Red	AUDIO IN / OUT signal level is too high and clipping. Turn the LVL potentiometer counter-clockwise until the AUD LED turns off.
		Off	AUDIO IN signal level is acceptable.
FOI-2173	VID	Green	The AGC (automatic gain control) has stabilized the VIDEO OUT voltage to the reference voltage set by the AGC potentiometer. The overall scene brightness will also increase or decrease depending on the reference voltage.
		Off	The AGC (automatic gain control) is measuring the VIDEO OUT voltage and comparing it to the reference voltage set by the AGC potentiometer. Weak video signals will be amplified and strong video signals will be attenuated until the AGC loop stabilizes.



FOI-2172-ST Front View



FOI-2173-ST Front View

Specifications

		minimum	typical	maximum	unit
Power Requirement	Voltage Range	7	9	12	V
	Supply Current	-	200	-	mA
Environmental	Storage Temperature	-40	-	85	°C
	Operating Temperature	0	-	50	°C
Video	Bandwidth (-3 dB)	4 Hz to 7 MHz			
	Signal to Noise Ratio (SNR)	45 dB unrated, 56 dB rated			
	AGC Range	10:1			
	Interface Connector	BNC			
Audio	Bandwidth (-3 dB)	100 Hz to 10 kHz			
	Signal to Noise Ratio (SNR)	55 dB			
	Input Level (min)	50 mV RMS			
	Input Level (max)	Audio inputs can be adjusted for high signal levels and clipping by turning the LVL potentiometer counter-clockwise until the AUD LED turns off.			
	Interface Connector	RCA Type Phono Jack			
Case Dimensions	Size 2	length	width	height	weight
		4.5 in (114 mm)	1.312 in (33 mm)	2.562 in (65 mm)	2 lb (0.9 kg)

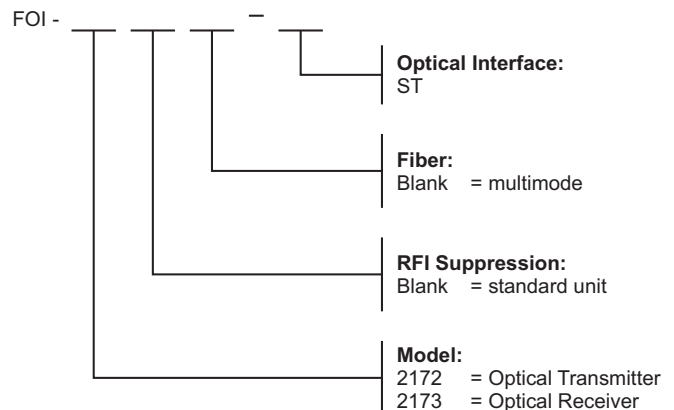
Optical Characteristics

Fiber	Size	Max Distance	Wavelength	FOI-2172 Output Power	FOI-2173 Receiver Sensitivity	Loss Budget
Multimode	62.5 / 125 µm	2 km	820 nm	-18 dBm	-30 dBm	12 dB

Accessories

Model	Description
CMA-2001	Chassis Mount Adapter for RMC-2101
CMA-3002	Chassis Mount Adapter for RMC-3101, RMC-3102
PSQ-2910	Power Supply for FOI-2xxx series
RMC-2101	Rack Mount Chassis, 3-1/2" H x 19"W, rear access
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
WMA-2001	Wall Mount Adapter with optical patch
WMA-3002	Wall Mount Adapter

Ordering Information



Standard Options:

- FOI-2172-ST
- FOI-2173-ST

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