

FOI-2971 and FOI-4972

FIBER OPTIC ISOLATOR



Description

The FOI-2971 and FOI-4972 all provide complete electrical isolation for 2-wire telephone communications. The FOI-2971 is used with standard POTS lines. The FOI-4972 is the low cost solution for customers using standard analog phones, STU-III (secure telephone unit) phones, fax machines, and modems. It can pass caller ID and operate with STE (secure telephone equipment) phones.

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. FiberPlex recommends "R" units for high security applications because the units have added filtering and shielding for RFI suppression.

In addition, fiber optic cable offers much longer transmission distances than traditional telephone line cord wiring. Multimode optics on the units can extend the distance to 2km, while singlemode optics can further extend the distance to 20km. A typical link consists of an FOI-2971 connected to the POTS line and a FOI-4972 at the subscriber's phone with a duplex fiber optic cable between them as shown under "TYPICAL APPLICATIONS".



Telephone

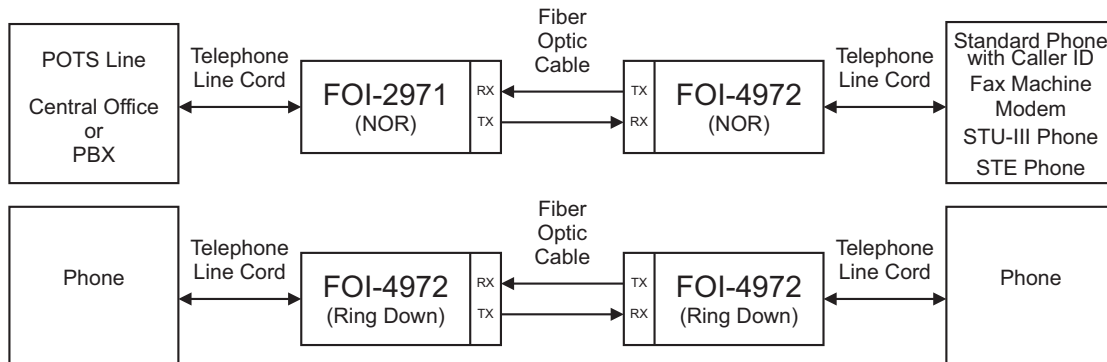
FOI-2971: To POTS Line

FOI-4972: To Phone (Caller ID and STE compatibility)

Features:

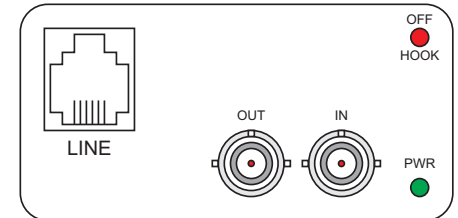
- The FOI-4972 has a solid state relay on the outer black and yellow pair which can be used to activate external signaling devices when ringing is detected.
- Two FOI-4972 can be connected back-to-back to create a private line automatic ringdown circuit.
- Typical applications include:
 - standard phones
 - STU-III and STE phones
 - fax machines
 - modems

Typical Application

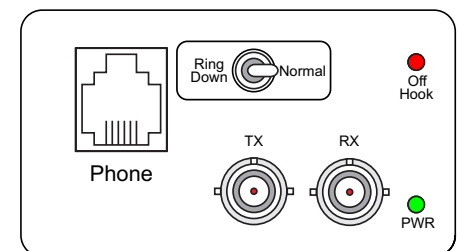


LED Indicators

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.
OFF HOOK	Red	Phone is off hook (in use).
	Off	Phone is on hook (idle).



FOI-2971-ST Front View



FOI-4972 Front View

FOI-4972 SWITCH

Label	Position	Description
RING DOWN	Left	Private line automatic ringdown enables two phones to ring one another and communicate. The circuit is activated when the telephone handset is removed from the cradle causing a ringing signal to be sent to the remote unit. Requires two FOI-4972 back-to-back.
NOR	Right	Normal Subscriber to Exchange link.

Specifications

		minimum	typical	maximum	unit	
Power Requirement	Voltage Range	7	9	12	V	
	Supply Current	-	525	-	mA	
Audio	Input Level	-	-	5	dBm	
	Load Impedance	-	600	-	Ω	
	Frequency Response (±3 dB)	200	-	8k	Hz	
Solid state relay	Load Voltage	-	-	350	V	
	Load Current AC/DC	-	-	120	mA	
	Load Current DC	-	-	200	mA	
	On Resistance AC/DC	-	23	35	Ω	
	On Resistance DC	-	7	10	Ω	
Environmental	Storage Temperature	-40	-	85	°C	
	Operating Temperature	0	-	50	°C	
Interface Connector	RJ-11					
Case Dimensions	model	can size	length	width	height	weight
	FOI-2971	Size 2	4.5 in (114 mm)	1.312 in (33 mm)	2.562 in (65 mm)	2 lb (0.9 kg)
	FOI-4972	Size 4	4.5 in (114 mm)	1.453 in (37 mm)	2.562 in (65 mm)	2 lb (0.9 kg)

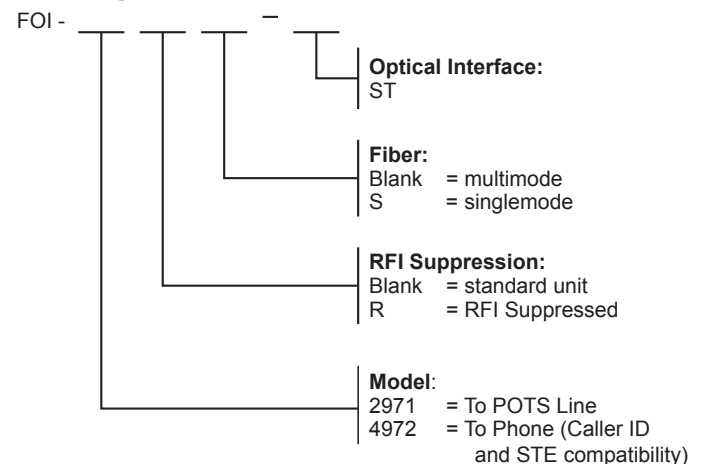
Optical Characteristics

Fiber	Size	Max Distance	Wavelength	Output Power	Receiver Sensitivity	Loss Budget
Multimode	62.5 / 125 μm	2 km	820 nm	-18 dBm	-30 dBm	12 dB
Singlemode	9 / 125 μm	20 km	1300 nm	-15 dBm	-32 dBm	17 dB

Accessories

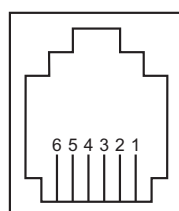
Model	Description
CMA-2001	Chassis Mount Adapter for RMC-2101
CMA-3002	Chassis Mount Adapter for RMC-3101, RMC-3102
PSQ-2910	Power Supply for FOI-2xxx series
RMC-2101	Rack Mount Chassis, 3-1/2" H x 19"W, rear access
RMC-3101	Rack Mount Chassis, 5-1/4" H x 19"W, front access
RMC-3102	Rack Mount Chassis, 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



RJ-11 pinout

Pin	Wire Color	Description
1	White	
2	Black	Solid state relay
3	Red	Ring
4	Green	Tip
5	Yellow	Solid state relay
6	Blue	



Standard Options:

- | | |
|--------------|---------------|
| FOI-2971-ST | FOI-2971R-ST |
| FOI-4972-ST | FOI-4972R-ST |
| FOI-2971S-ST | FOI-2971RS-ST |
| FOI-4972S-ST | FOI-4972RS-ST |

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