

FOI-2981, FOI-4982, FOI-2983

FIBER OPTIC ISOLATOR



Description

The FOI-2981, FOI-4982, and FOI-2983 all provide complete electrical isolation for audio communications.

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. Multimode optics on the units can extend the distance to 2km. A typical link consists of either an FOI-2981 or an FOI-2983 at one end of the network transmitting optical signals to an FOI-4982 at the other end of the network with a single fiber optic cable between them as shown under "TYPICAL APPLICATION".



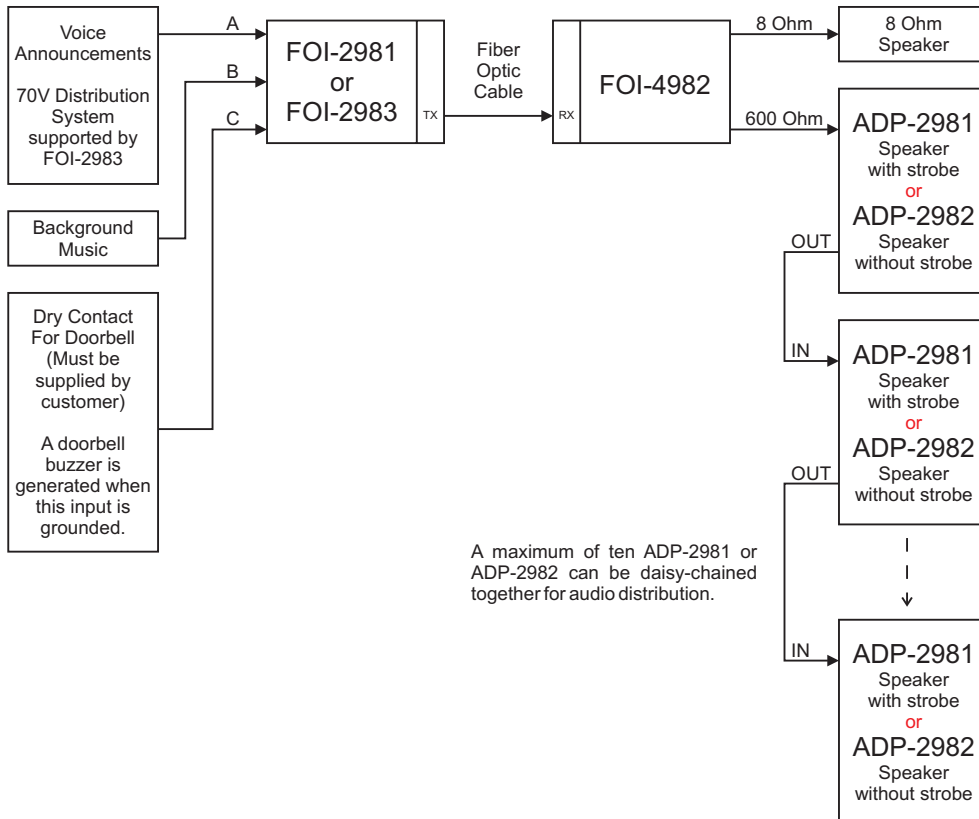
Audio

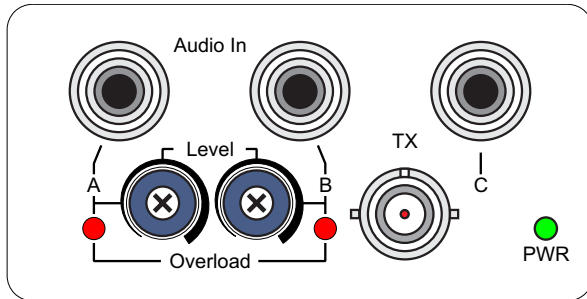
- FOI-2981:** Optical Transmitter
 - 2 Audio Inputs
 - 1 Doorbell Input
- FOI-4982:** Optical Receiver
 - 2 Audio Outputs (8 Ω & 600 Ω)
- FOI-2983:** Optical Transmitter
 - 2 Audio Inputs
 - 1 Doorbell Input
 - (1 Audio Input Used for 70V Distribution Systems)

Features:

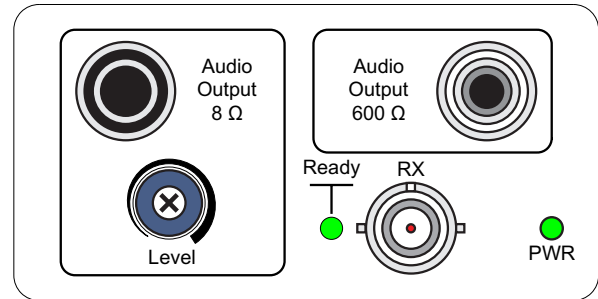
- Typical Application
 - Input A: voice announcements
 - Input B: background music
 - Input C: dry contact for doorbell (must be supplied by customer)
- A doorbell buzzer is generated when this input is grounded.
- Order of Precedence
 - A (highest - overrides B and C)
 - C (overrides B)
 - B (lowest)

Typical Application





FOI-2981-ST Front View



FOI-4982-ST Front View

Electrical Specifications FOI-2981-ST

Power Requirement	9 VDC @ 275 mA	
Frequency Response	100 Hz - 8 kHz ± 3 dB	
Input Level for A and B	Minimum	Maximum
	50 mV RMS	Audio inputs can be adjusted for high signal levels and clipping by turning the LEVEL adjustment counter-clockwise until the OVERLOAD LED turns off.
Doorbell Operation for C	A doorbell buzzer is generated when this input is grounded.	
Priority Scheme	A (highest - overrides B and C) C (overrides B) B (lowest)	
Interface Connector A, B, and C	RCA Type Phono Jack	

Optical Characteristics

Fiber	Size	Max Distance	Wavelength	Output Power
Multimode	62.5 / 125 μm	2 km	820 nm	-18 dBm

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.
A OVERLOAD	Red	AUDIO IN signal level is too high and clipping. Turn the LEVEL adjustment counter-clockwise until the OVERLOAD LED turns off.
	Off	AUDIO IN signal level is acceptable.
B OVERLOAD	Red	AUDIO IN signal level is too high and clipping. Turn the LEVEL adjustment counter-clockwise until the OVERLOAD LED turns off.
	Off	AUDIO IN signal level is acceptable.

Electrical Specifications FOI-4982-ST

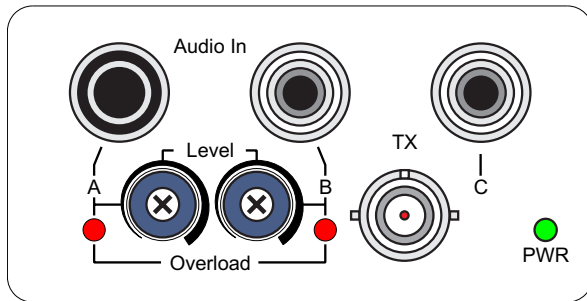
Power Requirement	9 VDC @ 275 mA
AUDIO OUTPUT 8 OHM Interface Connector	2-Conductor 1/4" Enclosed Telephone Jack (Balanced Output)
AUDIO OUTPUT 600 OHM Interface Connector	RCA Type Phono Jack

Optical Characteristics

Fiber	Size	Max Distance	Wavelength	Output Power
Multimode	62.5 / 125 μm	2 km	820 nm	-18 dBm

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.
READY	Green	Optical signal in detected.
	Off	No optical signal in or optical level too low. Check that the opposite unit has power.



FOI-2983-ST Front View

Electrical Specifications FOI-2983-ST

Power Requirement	9 VDC @ 275 mA	
Frequency Response	100 Hz - 8 kHz ± 3 dB	
Input Level for A	70 V line transformer, 50mW, 100 kΩ	
Input Level for B	Minimum	Maximum
	50 mV RMS Audio inputs can be adjusted for high signal levels and clipping by turning the LEVEL adjustment counter-clockwise until the OVERLOAD LED turns off.	
Doorbell Operation for C	A doorbell buzzer is generated when this input is grounded.	
Priority Scheme	A (highest - overrides B and C) C (overrides B) B (lowest)	
Interface Connector A	3-Conductor 1/4" Enclosed Telephone Jack	
Interface Connector B and C	RCA Type Phono Jack	

Optical Characteristics

Fiber	Size	Max Distance	Wavelength	Output Power
Multimode	62.5 / 125 μm	2 km	820 nm	-18 dBm

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.
A OVERLOAD	Red	AUDIO IN signal level is too high and clipping. Turn the LEVEL adjustment counter-clockwise until the OVERLOAD LED turns off.
	Off	AUDIO IN signal level is acceptable.
B OVERLOAD	Red	AUDIO IN signal level is too high and clipping. Turn the LEVEL adjustment counter-clockwise until the OVERLOAD LED turns off.
	Off	AUDIO IN signal level is acceptable.

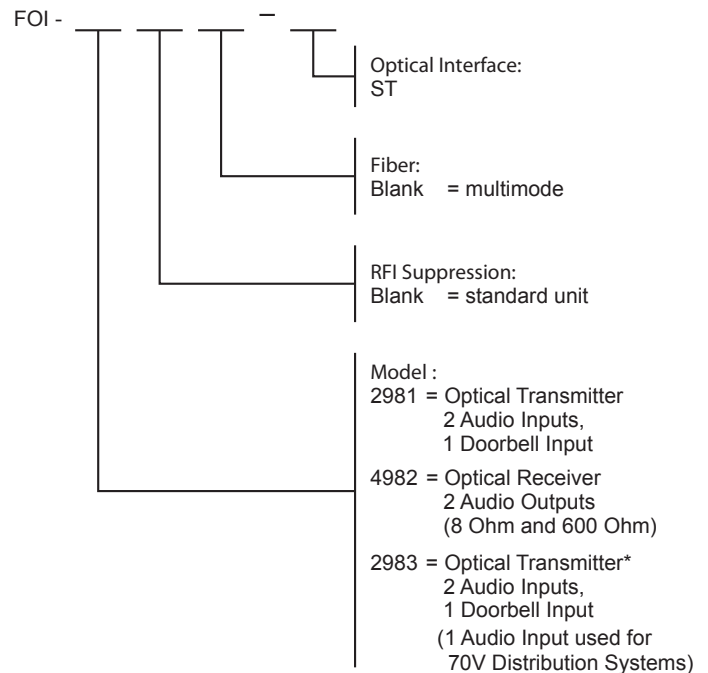
Physical Specifications All Units

Case Dimensions	Size2	length	width	height	weight
		4.5 in (114 mm)	1.312 in (33 mm)	2.562 in (65 mm)	2 lb (0.9 kg)

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-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
WMA-2001	Wall Mount Adapter with optical patch
WMA-3002	Wall Mount Adapter

Ordering Information



* Indicates Custom Catalog Item

Standard Options:

- FOI-2981-ST
- FOI-4982-ST
- FOI-2983-ST

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