

# Fiber-Optic Systems - Audio Monitor

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## Model FO-AM-02

- Wide-Bandwidth Audio Source Monitor
- EMI Hardened and validated for EMC up to 200 V/m (46 dBV/m) from 500 kHz to 2 GHz
- Selectable gain jumpers
- 2-Channel Transmitter and bench-top Receiver
- Transmitter uses 3 alkaline 'AA' batteries providing >120-hour battery-life
- Transmitter low-battery and Receiver channel status indicators



## Description

The MSC model FO-AM-02 is a versatile Audio Monitor that provides a means to monitor various audio sources in high electromagnetic fields or anechoic chambers and then listen remotely in a low field area. Signals sent over optical fiber are immune to interference or signal impairment that may be seen with wire cable. Major benefits provided are small size in a self-powered audio transmitter with electromagnetic immunity and extended battery life.

The audio transmitter is configured with two independent audio channels for selecting either unidirectional, omnidirectional or a low-noise microphone to suit a particular application. Standard microphone response is 20 Hz - 20 kHz with sensitivity to -35 dB. Four internally selectable gain jumpers provide amplification as needed.

The FO-AM-02 transmitter is EMI hardened and validated for EMC operation in harsh RF environments at power levels up to 200 V/m (46 dBV/m) from 500 kHz to 2 GHz. The FO-AM-02 system uses 820 nm wavelength multimode 62.5/125  $\mu\text{m}$ , 100/140  $\mu\text{m}$  or step-index 200  $\mu\text{m}$  HCS fiber cables. SMA type 905 connectors are standard.

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## SPECIFICATIONS

PARAMETER	SPECIFICATION
<b>SYSTEM CHARACTERISTICS AND PERFORMANCE</b>	
<b>GENERAL</b>	
Bandwidth (-3dB)	0.1 Hz - 20 kHz <i>(w/Panasonic omnidirectional electret microphone)</i>
Dynamic Range	>100 dB
Signal/Noise	>60 dB
Transmitter Power Source	3-AA Alkaline Batteries
Transmitter Battery Life	continuous > 4 days
Receiver Power Source	120 ±15 VAC, 47 to 420 Hz <i>(Other receiver power options are available)</i>
<b>PHYSICAL</b>	
Channels	2
Transmitter	
Dimensions (L x W x H)	6.31x3.0x1.0 in (160x76x25 mm)
Volume	<18.9 in <sup>3</sup> (<310 cm <sup>3</sup> )
Weight	14 oz. (404 g)
Receiver	
Dimensions (L x W x H)	9.0 x 7.25 x 3.25 in. (229x184x83 mm)
Weight	4 lb. (2 kg)
Output Connector	BNC
Optical Connectors	SMA type 905
Optical Cables	820 nm wavelength multimode graded-index 62.5/125 μm, 100/140 μm, or step-index 200 μm HCS <i>(Hard Clad Silica)</i>
Optical Cable Length	4921 ft. (1500 M) max
<b>ENVIRONMENTAL</b>	
Operating Temperature	-4° to+ 185°F (-20° to +85°C)
Operating Humidity	95% R.H. max. non-condensing
EMC	300V/m at 500kHz to 1GHz, 200 V/m at 1GHz to 11GHz, and 600V/m (pulsed 5% duty-cycle & 5μs rise-time) 1GHz to 2GHz
<b>CONFIGURATIONS</b>	
Receivers are available in 2, 4 or 12-channel bench-top and 12-channel 19" Euro-rack configurations. Custom Receiver output scaling available.	

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