

## Overview

The IFS AT/AR1000 series audio transmitter and receiver provide one-way transmission of an audio signal on one optical fiber. The IFS AR2000 series audio transceiver provides bi-directional transmission of one audio signals on one or two optical fibers. The modules use frequency modulation (FM) for superior transmission of balanced or unbalanced line-level audio (2.2 V peak-to-peak). Models within this series are available for use with multimode or single mode optical fiber. Plug-and-play design ensures ease of installation requiring no electrical or optical adjustments. The modules incorporate power and carrier detect status indicating LED's for monitoring proper system operation. The modules are available in either stand-alone or rack mount versions.

## Application Examples

- Transmission of Stage Mics from Pre-amp to Amplifier
- Recording Studios and Post-Production Facilities
- Transmission of Broadcast Audio Feeds
- Elimination of EMI/RFI Interference in Audio Cables
- Optical Isolation for Elimination of Ground Loop Noise

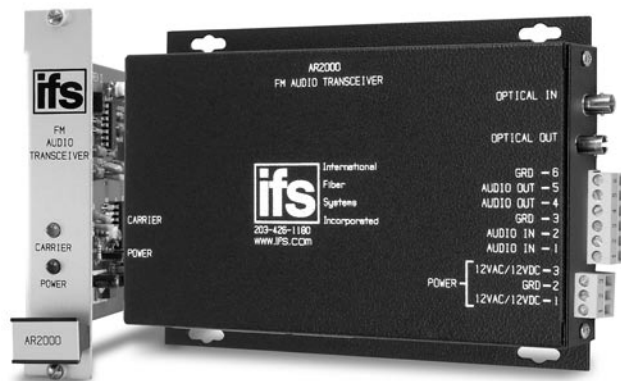
# Audio Transmitter/ Receiver and Transceiver

The AT/AR1000 provides one-way transmission of an audio signal on one optical fiber, while the AR2000 provides bi-directional audio transmission signals on one or two optical fibers.



## Standard Features

- FM Audio Transmission
- 20 Hz – 20kHz Bandwidth
- 600 Ohms Audio Input Impedance
- Transmits Balanced or Unbalanced Line-Level Audio (2.2 Volts Peak-to-Peak)
- No In-field Electrical or Optical Adjustments Required
- Power and Carrier Detect Status Indicating LEDs to Monitor System Performance
- Hot-Swappable Rack Modules
- Automatic Resettable Fuses on all Power Lines
- Meets NEMA TS-1/TS-2 & Caltrans Specifications (Temperature/Humidity, Shock/Vibration, and Voltage Transient Protection)
- Distances up to 30 miles (49 km) without Repeaters
- Comprehensive Lifetime Warranty



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Specifications subject to  
 change without notice

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## Specifications

<b>Audio</b>	
Input/Output Signal:	2.2 volts pk-pk
Input/Output Impedance:	600 ohms (Single ended or differential)
Bandwidth:	20 Hz - 20 KHz
Total Harmonic Distortion:	<1.0%
Signal-to-Noise Ratio (SNR):	60 dB min.
<b>Wavelength</b>	
ATAR1000,2000:	850 nm, MM
AR2010WDMA:	850/1310, MM
All Others Models:	1310 nm
<b>Number of fibers</b>	
	1 or 2
<b>Connectors</b>	
Optical:	ST
Power and Audio:	Terminal Block with Screw Clamps
<b>Electrical &amp; Mechanical</b>	
Power:	
Surface Mount:	12 VDC @ 200 mA
Rack:	From Rack
Number of Rack Slots:	1
Current Protection:	Automatic Resettable Solid-State Current Limiters
Circuit Board:	Meets IPC Standard
Size (in./cm.) (LxWxH)	
Surface Mount:	7.0 x 4.9 x 1.0 in., 17.8 x 12.5 x 2.5 cm
Rack Mount:	7.7 x 5.0 x 1.0 in., 19.6 x 12.7 x 2.5 cm
Shipping Weight:	< 2 lbs./0.9 kg
<b>Environmental</b>	
MTBF:	> 100,000 hours
Operating Temp:	-40° C to +74° C
Storage Temp:	-40° C to +85° C
Relative Humidity:	0% to 95% (non-condensing)†

†May be extended to condensation conditions by adding suffix '-C' to model number for conformal coating.

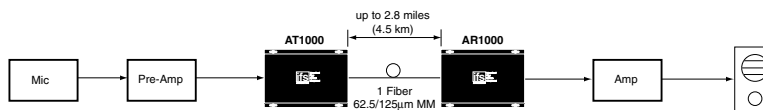
### Agency compliance



### Made in the USA

Complies with FDA Performance  
 Standard for Laser Products, Title 21,  
 Code of Federal Regulations, Subchapter J

## System Design



## Ordering Information

	Part Number	Description	Fibers Required	Optical Pwr. Budget	Max. Distance*
Multimode 62.5/125µm**	AT1000	Audio Transmitter (850 nm)	1		2.8 miles (4.5 km)
	AR1000	Audio Receiver (850 nm)	1		2.8 miles (4.5 km)
	AR2000	Audio Transceiver (850 nm)	2		2.8 miles (4.5 km)
	AR2010WDMA	Audio Transceiver (850/1310 nm)	1	16 dB	2.8 miles (4.5 km)
	AR2010WDMB	Audio Transceiver (1310/850 nm)	1		2.8 miles (4.5 km)
	AT1020	Audio Transmitter (1310 nm)	1		10 miles (16 km)
	AR1030	Audio Receiver (1310 nm)	1		10 miles (16 km)
Single Mode 9/125µm	AT1025	Audio Transmitter (1310 nm)			
	AR1030	Audio Receiver (1310 nm)		17 dB	30 miles (49 km)
	AR2025	Audio Transceiver (1310 nm)			
Accessories <sup>o</sup>	PS-24VACCT 24 Volt AC Center Tap Power Supply PS-24VACCT-230 24 AC Center Tap Power Supply 230 VAC Input (Included if specified at time of order)				
Options	Add '-R3' to Model Number for R3 Rack Mount - No Charge (Requires R3 Rack purchased separately) Add '-C' for Conformally Coated Printed Circuit Boards (Extra charge, consult factory)				

\* Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels.  
 Distance can also be limited by fiber bandwidth.\*\* For 50/125 Fiber, subtract 4 dB from Optical Power Budget. <sup>o</sup>All accessories are third party manufactured.



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