



The FRDA is a fiber optic receiver module integrated with a broadband distribution amplifier (BIDA). The FRDA is used as a launch amplifier in a coaxial distribution sub-system fed from a single mode broadband fiber network. The FRDA's optical receiver section provides exceptional CNR performance at low optical input levels. This feature is also a cost saving one, since it permits the use of lower optical power transmitters. The FRDA is available with 550 and 860 MHz RF bandwidths and power doubling hybrid amplifier technology to provide high RF output levels with low distortion. The FRDA operates with the FIBT Series of transmitters as well as those from other leading manufacturers

### ○ Features & Benefits

- LED For Optical Input Status
- Gain and Slope Controls
- Exceptional CNR Performance At Low Optical Input Levels
- 550 and 860 MHz Power Doubling Hybrid Models
- Optical Input Jack Scaled 1V/mW Provides Precise Measurement Capability Using DC Voltmeter

### ○ Specifications

#### Optical Receiver

- Bandwidth: 47 to 860 MHz
- Bandpass Flatness: 1.0 dB P/V
- Operating Wavelength: 1310/1550 nm
- Optical Input Range: -6.0 to +3.0 dBm
- Output Impedance: 75 Ω
- CNR -1 dBm Input, 40 Ch. Load: 56 dB <sup>(d)</sup>
- CNR -1 dBm Input, 79 Ch.+ Data: 55 dB <sup>(d)</sup>
- CNR -1 dBm Input, 110 Ch. Load: 54 dB <sup>(d)</sup>
- Input Connector: FC/APC

#### Distribution Amplifier

- Impedance - All Ports: 75 Ohm
- Return Loss Output: 16 dB
- RF Gain: 43 dB
- Test Port: -30, ±2 dB
- Gain Control Range: 10 dB
- Slope Control Range: 8 dB
- Operating Temperature: -20 to +45°C
- Power Supply Requirements:  
117 VAC, 60 Hz: 28 W
- Size (WxHxL):  
7.25 x 3.25 x 10.25 in.,  
18.42 x 8.26 x 26.04 cm
- Weight: 5.75 lbs., 2.61 kg
- Number Of Hybrids: 2
- Hybrid Technology: Power Doubling

#### Varying Specifications

- Channel Loading  
FRDA-550: 77  
FRDA-860: 110
- Flatness  
FRDA-550: ± 0.5 dB  
FRDA-860: ± 0.75 dB
- Output Level (Low/High)  
FRDA-550: 36/44 dBmV  
FRDA-860: 34/42 dBmV
- Composite Triple Beat (CTB)<sup>(a,b,c,d)</sup>  
FRDA-550: -63 dB  
FRDA-860: -60 dB
- Composite Second Order (CSO)<sup>(a,b,c,d)</sup>  
FRDA-550: -57 dB  
FRDA-860: -58 dB
- Hum Modulation: -70

Optical Input		Increase Optical Input Power Orange Optical LED Indication
dBm	mW	
-10	0.10	<b>GREEN LED</b> 0 dB 2 dB 4 dB 6 dB Recommended 8 dB Attenuator 10 dB Plug-in Value (9320-xx) 12 dB 14 dB 16 dB 18 dB
-9	0.13	
-8	0.16	
-7	0.20	
-6	0.25	
-5	0.32	
-4	0.40	
-3	0.50	
-2	0.63	
-1	0.79	
0	1.00	Decrease Optical Input Power Red Optical LED Indication
1	1.26	
2	1.58	
3	2.00	
4	2.51	
5	3.16	

#### NOTES:

- (a) At specified channel loading at rated output capability
- (b) Distortion levels improve as output level is reduced
- (c) Distortion specifications at 8 dB sloped output
- (d) Assumes FIBT transmitter link and -1 dBm optical input

### ○ Ordering Information

Model	Stock No.	Description
FRDA-S4A-550-43PA	7400P54A	Fiber Optic Receiver/RF Distribution Amplifier, Single-mode 47-550 MHz, 1310/1550 nm, FC/APC Conn., 43 dB Gain, Wall Mount
FRDA-S4A-860-43PA	7400P84A	Fiber Optic Receiver/RF Distribution Amplifier, Single-mode 47-860 MHz, 1310/1550 nm, FC/APC Conn., 43 dB Gain, Wall Mount
Accessories		
VMI-AT	9320	VMI Attenuator, Plug-In 1000 MHz