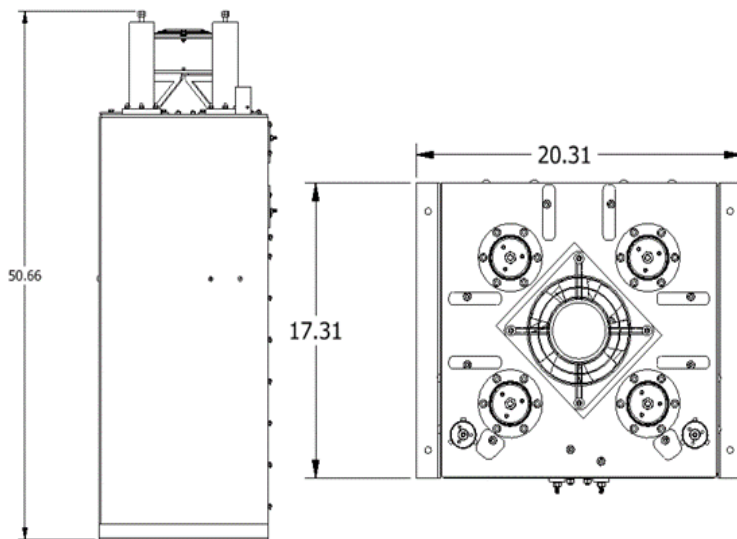


# FI940 Series FM Bandpass Filters

## Features

- Includes cross-coupling for higher rejection for use in applications with closely spaced frequencies
- Folded design for minimum footprint
- ERI's Bellows Temperature-Compensation Technology, temperature stable using Invar
- Rugged 3/16-inch-thick aluminum construction eliminates the oil-can effect from heating
- 1-5/8-inch EIA Flanged or Unflanged Input and Output connections
- The filter can be tuned to different bandwidths based on the need
- Factory tuned to customer's specified channel yet can be easily field converted to any FM channel
- Minor adjustments of cavity resonant frequency can be made during the full-power operation of filters
- No Teflon or other insulating material is used in coupling cavities, eliminating a primary point of failure in competitors' designs.
- Ability to change frequency quickly and with a minimum of disassembly
- Easily assembled floor-standing unit (hardware for ceiling suspension available on request)



**FI940A Four Section FM Bandpass Filter, forced air-cooled, with 1-5/8-inch Unflanged input and output. The dimensions shown are inches**

A new compact FM bandpass filter from ERI with an innovative form factor and construction to provide the smallest footprint FM bandpass filter available capable of handling 5 kW average power. The filter is a four-section single cabinet design with a footprint less than 18 by 21 inches (497 by 523 millimeters). The filter includes the same field-proven Invar and bellows temperature compensation used in all models of ERI's medium and high-power FM filter products. The filter contains a cross-coupling standard for additional isolation in combiner systems with closely spaced frequencies. The filter is rated to handle up to 3 kW at the output after insertion losses, convection cooled, and the rating is increased to 5 kW with a forced air-cooling fan.

The filter includes 1-5/8-inch unflanged input and output connections, and the EIA flanged version is optionally available. The filter can be used for intermodulation product suppression or configured as an FM channel combiner. A constant impedance configuration, which is also very compact, is also available.

NOTE: Bandpass Filters include a single-port fixed directional coupler at the filter input and a dual-port directional coupler at the output.

## F1940 Series FM Bandpass Filter Specifications

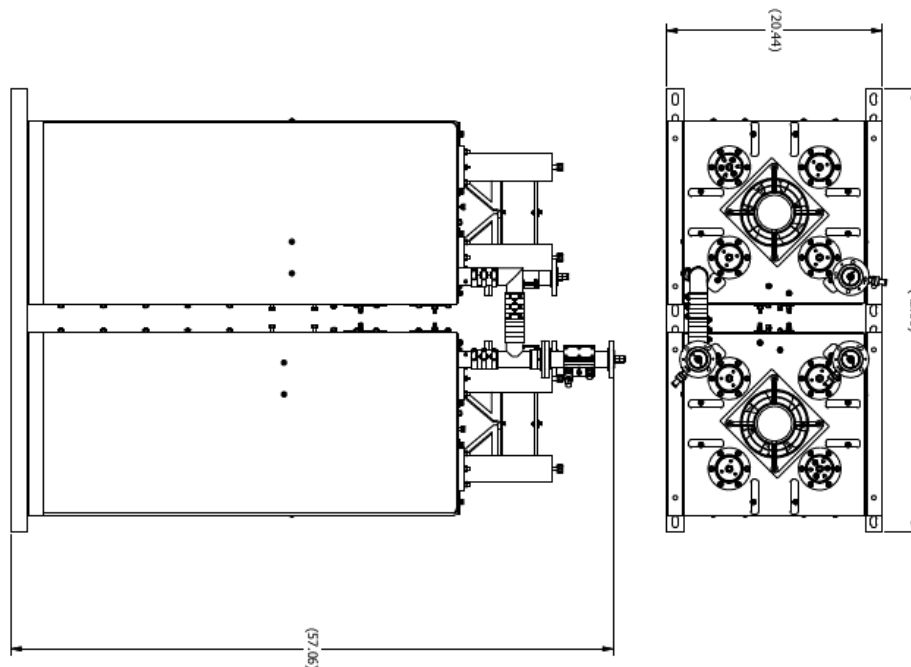
Model:	F1940A	Forced Air Cooling
	F1940C	Convection Cooled
Filter Type:	FM Bandpass	
Frequency:	All FM Broadcast Channels (88 to 108 MHz)	
Poles:	Four (4) section	
	Standard Tune <sup>1</sup>	Wide Tune <sup>2</sup>
Minimum Channel Spacing:	0.8 MHz	1.2 MHz
Insertion Loss:	<0.60 dB	<0.45 dB
Group Delay Variation ±200 kHz:	<250 ns	<75 ns
Rejection:	-40 dB ± 0.8 MHz	-40 dB ± 1.0 MHz
VSWR <sup>4</sup> :	1.1:1 ±200 kHz, maximum	
Input and Output Connector:	1-5/8-inch Unflanged or EIA Flanged	
Power Handling Capability:	Convection Cooled <sup>3</sup>	Forced Air Cooling
	3 kW	5 kW

### Bandpass Filter Size and Weight:

Height (tuned to 107.9 MHz):	50.66 in	1287 mm
Width:	20.31 in	516 mm
Length:	17.31 in	440 mm
Weight:		
F1940C Convection Cooled:	115 lbm	52 kg
F1940A Forced Air Cooling:	120 lbm	54 kg
Forced Air AC Power Required:	120 VAC	0.67 amp

- 1) Tuning for application with adjacent frequencies with a minimum spacing of 0.8 MHz.
- 2) Tuning for application with adjacent frequencies with a minimum spacing of 1.2 MHz.
- 3) Depending on tuning, may require forced air cooling for some applications.
- 4) When terminated in 50-Ohm resistive load.

Specifications presented are typical, total system performance may vary. ERI reserves the right to change specifications and features in a continuing effort to improve its products.



**A typical two-channel FM combiner system with F1940A FM bandpass filters is forced air-cooled, with 1-5/8-inch flanged inputs and output. The system includes a 1-5/8-inch single-port fixed directional coupler at each filter input and a 1-5/8-inch dual port at the system output. The dimensions shown are in inches.**

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