

Opti-Q™ and Space Efficient Cavity Filter Products



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ANTENNAS
FILTERS
DUPLEXERS
MULTICOUPLERS
COMBINERS
SYSTEMS

Sinclair Opti-Q™ Cavity Filter Products Deliver Space-Efficiency

Sinclair's new line of Opti-Q™ filter products can significantly reduce the equipment room space required by cavity-based VHF and UHF antenna combining systems. Cavity filters are used extensively to combine transmitter signals onto one or more antennas and as preselectors for multicoupling to RF receiver amplifiers. Cavity filters require a significant amount of radio room space. Escalating costs for this space and increasing congestion in radio rooms are driving demand for space efficient lower profile products which do not compromise performance.

Opti-Q™ Cavity Filter Products

Sinclair's Opti-Q™ line of filter products and related racking equipment options were designed to satisfy the demand for more space efficient solutions.

Customer benefits:

- Higher electrical performance to mechanical space ratio
- Lower radio room costs per voice channel
- Easier access to equipment for maintenance
- Greater space efficiency

Meet the Opti-Q™ Family of Filter Products

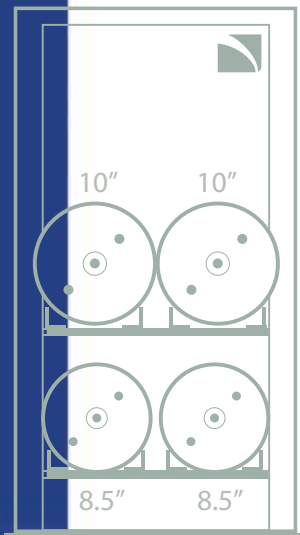
8.5" Optimized Q Cavity Filters

Sinclair's unique 8.5" Opti-Q™ cavity design provides similar Q performance as current 10" cavities with 26% less volume. A conventional 3 channel VHF system using three 10" cavities (one per channel), will require 21"W x 26"H x 22"D of rack space, while the comparable Sinclair OPTI-Q™ cavity filters will fit into a footprint of 19"W x 26"H x 18"D.

Sinclair's 8.5" Opti-Q™ cavity filters can be mounted side by side in a 19" rack, providing much higher packing density than other mounting methods.

Sinclair's Pass-Thru series of Opti-Q™ cavity filters support frequency separations down to 75 KHz in UHF and 50 KHz in VHF applications and fit optimally side by side in a 19" rack. An 8.5" cavity design maximizes the use of shelf space and offers exceptional volumetric efficiency. In addition, Sinclair's front-of-rack isolator mounting and cabling scheme increases ease of access for retunes, upgrades and general maintenance.

Sinclair offers a complete range of Opti-Q™ cavity filters meeting all your VHF and UHF system design requirements.



Front View

Mounting two 10" cavities side by side will not fit into a standard 19" rack and requires expensive customized racking.

FILTER TYPE	MODEL	BAND (MHz)
Band Pass	FP20109	132 - 174
	FP33109	406 - 512
Pass - Thru	FS20109	132 - 174
	FS33109	406 - 512
Q Circuit	FQ20109	132 - 174
	FQ33109	406 - 512
Reject	FR20109	132 - 174
	FR33109	406 - 512

Note: all cavities are 8.5" diameter and 26" long - UHF cavities are 3/4 wave

7" and 8.5" Shortened VHF Cavity Filters



Sinclair's 7" and 8.5" shortened VHF cavities provide a major space saving solution compared to conventional full-length VHF cavities which are normally mounted vertically. Sinclair's helically shortened cavity design can be mounted horizontally side by side in a 19" rack, taking only 5U of vertical rack space and offering maximum volumetric efficiency. Available in the frequency band 118-137 MHz for Civil Aviation this provides an economical, yet high performance solution to meet today's needs for space efficient antenna combining and filtering systems.

Compact High Performance Preselectors

Sinclair's new Opti-Q™ family of preselectors – the FP20402N (VHF), FP30602N (UHF) and FP30802N (UHF) – offer extremely high selectivity and performance using industry-leading low profile package designs.

The FP20402N preselectors cover the 130-150 MHz band and 150-170 MHz band. Each preselector is offered with one of three band widths - 0.5 MHz, 1.0 MHz and 2 MHz. It weighs 9 pounds / 4.1 Kg with height of 3.5 in / 89 mm, width of 19 in / 483 mm (19" rack mountable) and depth of 17 in / 432 mm. The FP20402N is easy to tune, offers excellent temperature stability, provides extremely high selectivity and low insertion loss, typically less than 1.6 dB operating at Fo.



FP20402N

The FP30602N preselectors cover the 450-470 MHz band and 470-512 MHz band. Each preselector is offered with a 2 MHz band width. It weighs 4.5 pounds / 2 Kg with height of 5.3 in / 133 mm, width of 19 in / 483 mm (19" rack mountable) and depth of 9 in / 229 mm. These preselectors use advanced cross-coupled filter technology to deliver, in an extremely low profile design, excellent temperature stability and low insertion loss, typically less than 3 dB operating at Fo.



FP30602N

The FP30802N preselector covers the 450-470 MHz band and is offered with a 4 MHz band width. It weighs 6 pounds / 2.7 Kg with height of 5.3 in / 133 mm, width of 19 in / 483 mm (19" rack mountable) and depth of 11 in / 279 mm. It also uses cross-coupled filter technology to deliver, in an extremely low profile design, excellent temperature stability and low insertion loss, typically less than 3 dB operating at Fo.



FP30802N

Rising costs for radio room space, including the increasing congestion due to growth and expansion, are driving demand for more space efficient solutions. Space efficient antenna combining and multicoupling system designs require building blocks that provide an optimal balance between cost, performance and size. Sinclair's Opti-Q™ line of filter products provide one of the highest packing density-to-performance ratios available in the market today.

SINCLAIR[®]
Superior then, Superior now.



RELIABILITY
SECURITY
CUSTOMIZATION
COVERAGE

Sinclair provides antennas, filters, combining systems, and radio coverage solutions for RF telecommunications networks. Designed to function in extreme weather conditions, Sinclair's products enjoy a reputation for high performance, reliability, durability and value. We have been serving our markets with new innovative products for over 57 years.

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Tel: 1(800) 263-3275
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