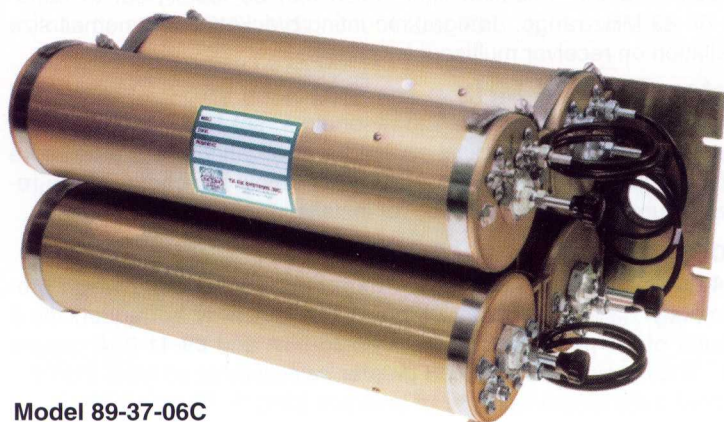


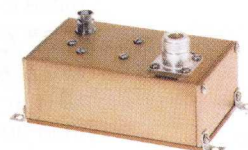


Lumped-Constant and Cavity PRESELECTORS

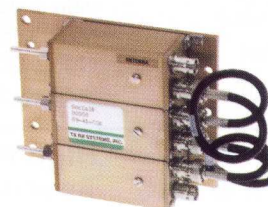
In ranges of:
66-88 MHz
132-150 MHz
144-174 MHz
148-174 MHz
168-250 MHz



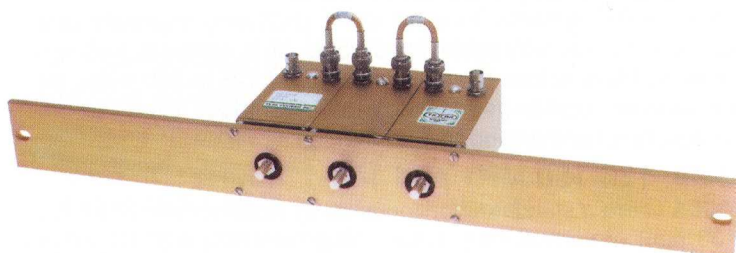
Model 89-37-06C



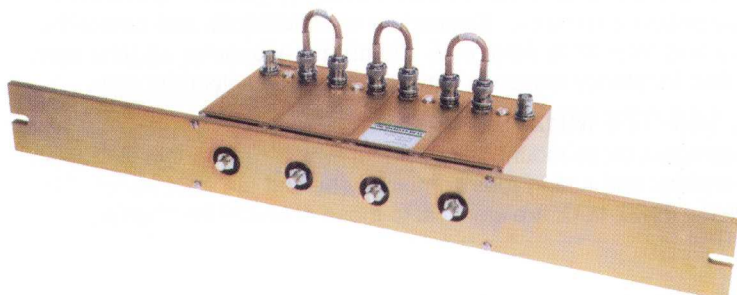
Model 89-28-01K



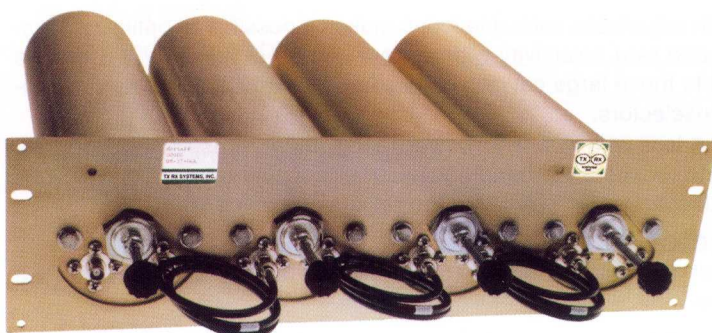
Model 89-41-01K



Models 89-36-04A, 89-41-04A



Models 89-36-05A, 89-41-05A



Models 89-36-03A, 89-37-06A



Models 89-37-13A, 89-42-01A

RF SYSTEM PRODUCTS: PRESELECTORS, 66-250 MHz



DUPLEXERS • CAVITY FILTERS • MULTICOUPLER SYSTEMS • SIGNAL BOOSTER SYSTEMS • RF SYSTEM PRODUCTS

TX RX SYSTEMS INC. 8625 INDUSTRIAL PARKWAY, ANGOLA, NY 14006-9696
TELEPHONE 716-549-4700 FAX 716-549-4772 (24 HRS.)

A MEMBER OF BIRD TECHNOLOGIES GROUP

C1013L91

LC and Small-Cavity Preselectors

Small Size, Low Cost

These compact preselectors are recommended for applications in which sufficient T-R antenna isolation exists to satisfy carrier suppression requirements with a moderate amount of preselector selectivity.

Lumped-Constant Preselector, 66-88 MHz

Model **89-28-01K** is a lumped-constant, 4-section filter which can be factory-set to bandwidths of 1 to 3 MHz in the 66-88 MHz range. Integral mounting brackets and its small size make it ideal for direct installation on receiver multicoupler panels.

1.3" Cavity Preselector, 148-174 MHz

Model **89-41-01K** consists of three 1.3" (33 mm) helical resonators, set to a bandwidth of 2 MHz in the 148-174 MHz range. It is an economical choice for applications where no more than 30 dB selectivity is required at frequencies 5 MHz above or below the center of the receiver passband. An integral mounting plate is provided for installation on any flat surface.

2" Cavity Preselectors, 136-150 and 144-174 MHz

Models **89-36-04A** and **89-41-04A** consist of three 2" (51 mm) helical resonators which provide a passband of approximately 1.2 MHz and more than 44 dB selectivity at frequencies 5 MHz above or below the center of the passband. Models **89-36-05A** and **89-41-05A** consist of four 2" helical resonators. They provide 13 to 15 dB greater selectivity at ± 5 MHz than the 3-cavity 2" preselectors, without a significant increase of insertion loss.

4" Cavity Preselectors

High Performance, Moderate Size, Medium Power

These preselector models utilize TX RX Systems' time-proven 4" (102 mm) re-entrant cavities to provide high selectivity and factory-adjustable bandwidths in a compact package. They can be used as post-combiner filters at total input power levels of 125 to 250 watts, depending on bandwidth. Their excellent cost-to-performance ratio has made them the preferred choice of OEM's and designers for demanding VHF system applications.

Standard-Mount Models, 136-150 MHz and 144-174 MHz

Models **89-36-03A** and **89-37-06A** utilize a standard, horizontal cavity arrangement which can be mounted in only 5.25" (133 mm) of vertical rack space. Approximately 4.5" (114 mm) front clearance is required for cavity tuning rods.

Customer-specified bandwidths of 0.5 to 2 MHz can be installed at the factory. Skirt selectivity decreases as installed bandwidth increases. Depending on bandwidth and center frequency, selectivity varies from less than 45 to more than 100 dB at frequencies ± 5 MHz from the center of the passband. See frequency response curves for detailed selectivity data.

Cross-Mount Model, 144-174 MHz

Model **89-37-06C** utilizes a compact cross-mount arrangement which can be installed flush on 19" cabinet rails, with all cavities and tuning rods completely behind the front panel. The electrical characteristics of Model **89-37-06C** are identical to those of Model **89-37-06A**.

6.625" Cavity Preselectors

Highest Performance, High Power

These preselectors utilize 6.625"-diameter (168 mm) cavities to provide the highest selectivity in receiving applications where low insertion loss and large out-of-band interference or carrier attenuation are required.

The use of 6.625" cavities with adjustable, rotatable loops makes it possible to optimize passband flatness, insertion loss and skirt selectivity with a great degree of flexibility. The large loaded quality factor inherent to these large cavities results in high skirt selectivity which cannot be matched by smaller preselectors.

Because of their low insertion loss and 400-watt power rating, these preselectors are also ideal as post-combiner filters to reduce broadband noise in multicoupled transmitter systems. Operation with sixteen 25-watt channels is well within the ratings of these preselectors.

144-174 MHz Preselector

Model **89-37-13A** can be set to customer-specified bandwidths of 0.5 to 2 MHz in the 144-174 MHz frequency range.

168-250 MHz Preselector

Model **89-42-01A** operates in the 168-250 MHz frequency range. It can also be set to customer-specified bandwidths of 0.5 to 2 MHz.

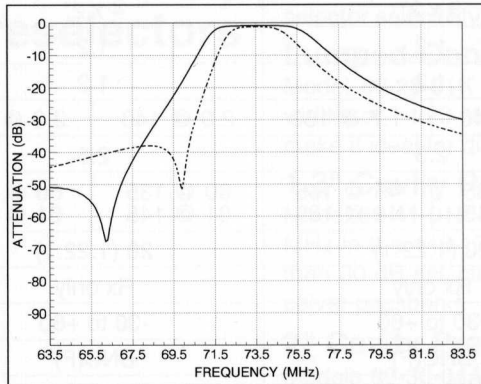
LC and Small Cavity	89-28-01K	89-41-01K	89-36-04A	89-41-04A	89-36-05A	89-41-05A
Frequency Range, MHz	66-88	148-174	132-150	148-174	132-150	148-174
No. of Cavities/Resonators	4 x LC	3 x 1.3"	3 x 2"		4 x 2"	
Pass Bandwidth, MHz	1 to 3	2.0	1.2		1.2	
Specification Bandwidth, MHz	1.0	2.0	1.2		1.2	
Insertion Loss @ Fo MHz	1.2 @ 73.5	1.6 @ 160	1.7 @ 140	1.7 @ 160	2.0 @ 140	2.0 @ 160
Passband Insertion Loss, dB	1.9	2.1	2.3		2.5	
Typical Selectivity, dB @ MHz	38 @ 68.5 23 @ 78.5	31 @ 155 45 @ 165	45 @ 135 48 @ 145	45 @ 155 48 @ 165	60 @ 135 61 @ 145	60 @ 155 61 @ 165
Return Loss, dB (VSWR)	17 (1.3:1)	14 (1.5:1)	20 (1.22:1)		20 (1.22:1)	
RF Power, W	Rx only	Rx only	Rx only		Rx only	
Temperature Range, ° C	-30 to +60	-30 to +60	-30 to +60		-30 to +60	
Connectors, Antenna/Output	N(F)/BNC(F)	BNC(F)	BNC(F)		BNC(F)	
Dimensions, HxWxD inches mm	2.5x5x3 64x127x76	1.5x4x5.5 38x102x140	4.25x19x5 108x483x127		4.25x19x5 108x483x127	
Mounting	Brackets	Base Plate	19" Rack		19" Rack	
Shipping Weight, lb (Kg)	3 (1.4)	3 (1.4)	5.9 (2.7)		6.6 (3.0)	

4" Cavity	89-36-03A	89-37-06A	89-37-06C
Frequency Range, MHz	132-150	144-174	
Number of Cavities	4 x 4"	4 x 4"	
Pass Bandwidth, MHz	0.5 to 2.0	0.5 to 2.0	
Specification Bandwidth, MHz	1.0	1.0	
Insertion Loss, dB @ Fo MHz	1.2 @ 140	1.4 @ 160	
Passband Insertion Loss, dB	1.6	1.8	
Typical Selectivity, dB @ MHz	58 @ 135 78 @ 145	65 @ 155 78 @ 165	
Return Loss, dB (VSWR)	20 (1.22:1)	20 (1.22:1)	
RF Power, W	125	125	
Temperature Range, °C	-30 to +60	-30 to +60	
Connectors, Antenna/Output	BNC(F)	BNC(F)	
Dimensions, HxWxD inches mm	5.25x19x22 133x483x559	5.25x19x20 133x483x508	9.5x19x10.5 241x483x267
Mounting	19" rack	19" rack	19" Cross Mnt
Shipping Weight, lb (Kg)	21 (9.5)	19 (8.6)	23 (10.4)

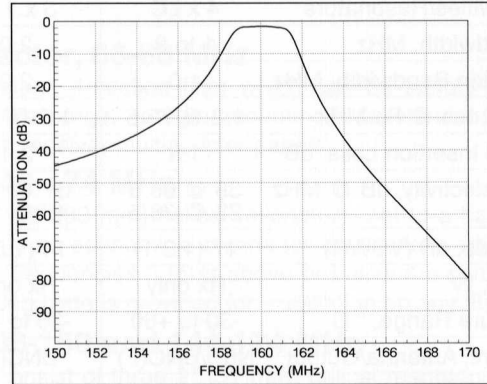
6.625" Cavity	89-37-13A	89-42-01A
Frequency Range, MHz	144-174	168-250
Number of Cavities	4	
Pass Bandwidth, MHz	0.5 to 2.0	
Specification Bandwidth, MHz	1.0	
Insertion Loss, dB @ Fo MHz	0.7 @ 160	1.0 @ 240
Passband Insertion Loss, dB	1.0	1.3
Typical Selectivity, dB @ MHz	73 @ 155 76 @ 165	71 @ 235 71 @ 245
Return Loss, dB (VSWR)	20 (1.22:1)	
Temperature Range, °C	-30 to +60	
RF Power, W	400	
Connectors, Antenna/Output	N(F)/N(F)	
Dimensions, HxWxD inches mm	33x19x15 838x483x381	30x19x15 762x483x381
Mounting	19" rack	
Shipping Weight, lb (Kg)	50 (22.6)	49 (22.2)

Typical Frequency Response Curves

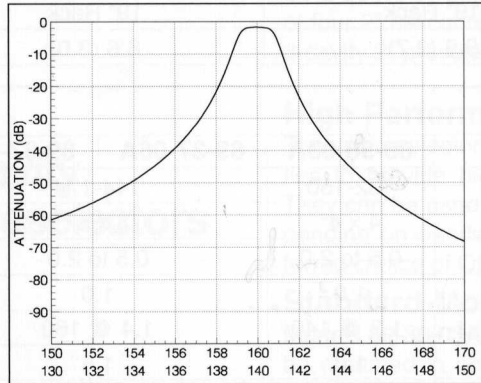
Model 89-28-01K (1.0, 3.0 MHz BW)



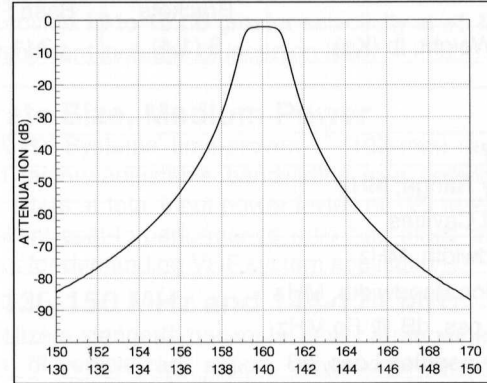
Model 89-41-01K (2.0 MHz BW)



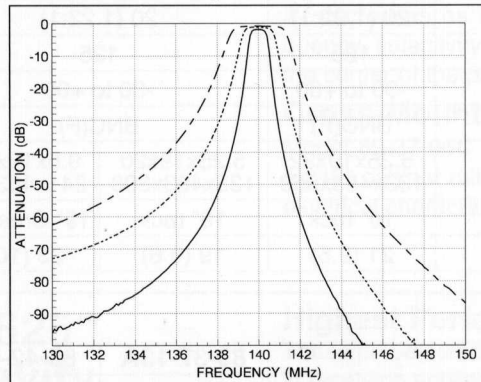
Models 89-36-04A, 89-41-04A (1.2 MHz BW)



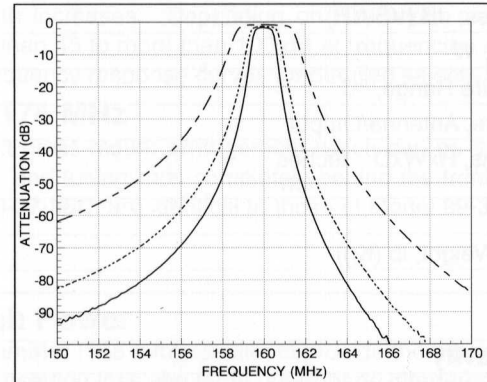
Models 89-36-05A, 89-41-05A (1.2 MHz BW)



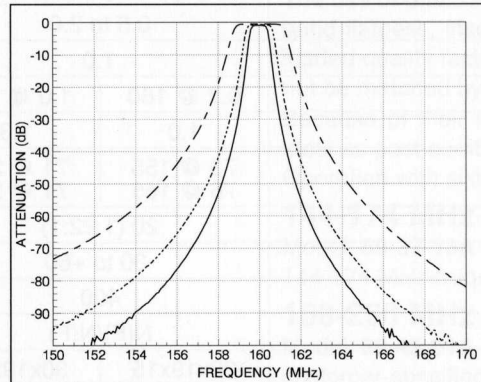
Model 89-36-03A (0.5, 1.0, 2.0 MHz BW)



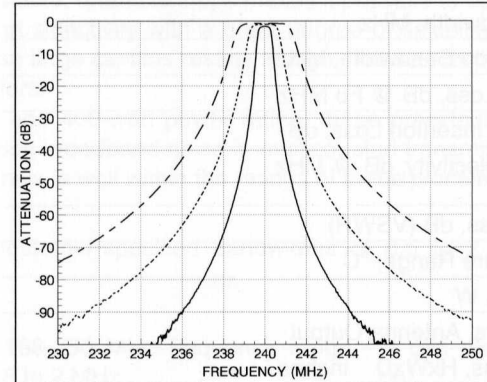
Models 89-37-06A, -06C (0.5, 1.0, 2.0 MHz BW)



Model 89-37-13A (0.5, 1.0, 2.0 MHz BW)



Model 89-42-01A (0.5, 1.0, 2.0 MHz BW)



The above frequency response curves are direct plots of data obtained with a Hewlett Packard Model 8752B network analyzer. They represent the typical performance of randomly-selected production models.