



## Description

Model VF7-FM-HR3 ( Fo ) is highly selective FM Narrow band pass filter. It is frequency tunable, designed to pass a specific FM signal (Fo) and reject signals  $\pm 1$  MHz away from Fo (see graph below). Band pass frequency is factory preset at 99 MHz, or, User specified (Fo). VF7-FM-HR3 frequency is tunable via three High-Q trimmers (T1,T2, and, T3), with tuning range from 88-108 MHz.

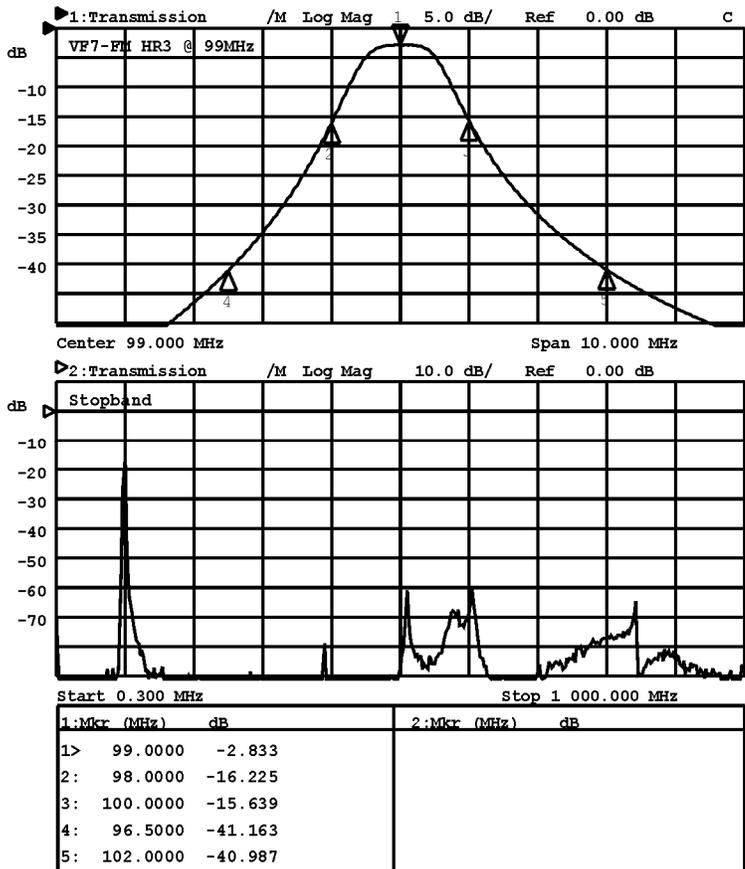
- Narrow Pass band: 0.5 MHz
- Selectivity: >20dB rejection  $\pm 1$  to 1.25 MHz from Fo
- Pass band insertion loss 2.75 to 3.25 dB at Fo
- Stop band >60 dB: 5-80 MHz, 118-1000 MHz (see graph)
- Connectors: F type, 75 ohms (BNC 75 option)
- Connector 50 ohms options: BNC, N, SMA, TNC
- RF power handling: 2 Watts (up to 10 Watts inquire)



## RF Characteristics

Bandpass Frequency	Insertion Loss (dB)	VSWR	Return Loss (dB)	Attenuation (20dB)	Attenuation (40dB)	-3dB BW (MHz)
88	<3.5	1.38:1	16	$\pm 1.0$ MHz	$\pm 2.5$ MHz	0.5
99	<3.0	1.28:1	18	$\pm 1.25$ MHz	$\pm 3.5$ MHz	0.4
108	<3.0	1.38:1	16	$\pm 1.25$ MHz	$\pm 4.0$ MHz	0.4

## VF7-FM HR3 Frequency Response @ 99 MHz



## Bandpass Adjustments

To adjust frequency of band pass, use small flat head screwdriver to turn T1, T2, and, T3 screws . Use RF Network Analyzer or a spectrum analyzer with tracking generator to view frequency response of the filter. VF7 passband can be tuned to a higher frequency (turn to left) or lower frequency (turn to right).

Turn Screw T1, T2, T3 clockwise (left) for lower Fo

Turn Screw T1,T2, T3 counter-clockwise (right) for higher Fo

## Screw Adjustments:

- Remove plugs covering screw access holes
- Use small flat head screw driver
- Turn Screw approx. 1/2 for course adjustment
- Turn Screw approx. 1/8 for fine adjustment
- Turn each screw one at a time to change the frequency of the resonator to desired Fo
- Alternately fine tune each screw for optimized response