



## Dynamic Tunable Filter

### Product Overview

The Brimrose Dynamic Tunable Bandpass Filter adjusts the center wavelength of a narrow passband over a 200nm range within either the 1310-nm or 1550-nm window as control amplitude. The Brimrose Tunable Bandpass Filter uses a proprietary very high resolution, < 1nm, acousto optic tunable filter. Both single and simultaneous multiple wavelength selection as well as amplitude control is made a by microprocessor controller. Also for field applications the Tunable Bandpass Filter can be either computer controlled via RS 232 or TCP/IP ethernet controllable for both wavelength selection as well as amplitude control.

### Application

The Brimrose dynamic tunable bandpass filters are commonly used to dynamically select among different wavelength channels at the receiver end of dense WDM transmission system. Other application include tuning the center wavelength of broadband sources (such as white light sources or LEDs) in laboratory test and measurement systems.



### Specifications

Dynamic Tunable Filters				
Model Number	Wavelength Range [nm]	Spectral Resolution [nm]	Insertion Loss [dB]	Fiber Type
<b>TEAF3-1.2-1.7-S-2FP</b>	1200-1700	3-6	5	9μ core
<b>TEAF3-1.2-1.7-UH-2FP</b>	1200-1700	1-2	4	9μ core
<b>TEAF3-1.2-1.7-RM-2FP</b>	1200-1700	0.75-1.5	4-5	9μ core

Brimrose Corporation of America  
 19 Loveton Circle,  
 Sparks, MD 21152, USA  
 Phone: +1 410 472-7070  
 Fax: +1 410 472-7960  
 E-Mail: [offices@brimrose.com](mailto:offices@brimrose.com)  
 Web: <http://www.brimrose.com>

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## Driving Electronics For Model Numbers TEAF3-1.2-1.7-S-2FP & TEAF3-1.2-1.7-PM-2FP

	RS-232 Port Computer Controlled PLL Frequency Synthesizer <b>SPS Driver</b>
Driver Model Number	VFI-101.5-37-SPS-A-F2
Frequency Range	83 - 120 MHz
Minimum Frequency Step Size	15.625 Hz
Frequency Control	Microcontroller based PLL which accepts ASCII frequency commands via RS-232, 9600 baud 8 data bits, 1 stop bit, no parity, software included.
Frequency Accuracy	+/- .01%
Frequency Stability	0.0015% minimum after 15-minute warm-up, constant ambient temperature.
Harmonic Distortion	-20 dBc
Frequency Switching Speed	15 mS typical (from $f_{min}$ to $f_{max}$ )
Phase Noise	-45 dBc/Hz @ 1kHz from carrier in a 100 Hz bandwidth
R.F. Output Power	2 Watts (+33 dBm)
Output Protection	Power amplifiers used will tolerate an infinite V.S.W.R. without damage. Rated power is available only when a proper 50 ohm RF load is connected.
Operating Power	90-240 VAC, 35 Watts max.
Enclosure	The unit will be packaged in a 6.75 inch wide by 2.6 inch high by 8.3 inch deep instrument case. The rear panel heatsink increases depth to 10.5 inch max. Size is exclusive of connectors. A detachable AC line cord is provided.
Operating Environment	Nominal Laboratory Conditions: Maximum operating temperature +35°C; the unit is not sealed against moisture or condensing humidity.

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## Driving Electronics For Model Numbers TEAF3-1.2-1.7-UH-2FP

	RS-232 Port Computer Controlled PLL Frequency Synthesizer <b>SPS Driver</b>
Driver Model Number	VFI-52-18-SPS-A-F.25
Frequency Range	43 - 61 MHz
Minimum Frequency Step Size	15.625 Hz
Frequency Control	Microcontroller based PLL which accepts ASCII frequency commands via RS-232, 9600 baud 8 data bits, 1 stop bit, no parity, software included.
Frequency Accuracy	+/- .01%
Frequency Stability	0.0015% minimum after 15-minute warm-up, constant ambient temperature.
Harmonic Distortion	-20 dBc
Frequency Switching Speed	15 mS typical (from $f_{min}$ to $f_{max}$ )
Phase Noise	-45 dBc/Hz @ 1kHz from carrier in a 100 Hz bandwidth
R.F. Output Power	150 mWatts - 250 mWatts (+21.8 dBm)
Output Protection	Power amplifiers used will tolerate an infinite V.S.W.R. without damage. Rated power is available only when a proper 50 ohm RF load is connected.
Operating Power	90-240 VAC, 35 Watts max.
Enclosure	The unit will be packaged in a 6.75 inch wide by 2.6 inch high by 8.3 inch deep instrument case. The rear panel heatsink increases depth to 10.5 inch max. Size is exclusive of connectors. A detachable AC line cord is provided.
Operating Environment	Nominal Laboratory Conditions: Maximum operating temperature +35°C; the unit is not sealed against moisture or condensing humidity.