Brimrose Corporation of America
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Fiber Pigtailed Acousto-Optic Modulators

The Brimrose all fiber optic electronically controllable optical modulator utilizes a unique proprietary technology. Our fiber optic modulators are rugged and compact. This product is electronically programmable using a mocroprocessor connected to our RF driver unit.

Also the Fiber Optic Modulators can be computer controlled via RS232 or TCP/IP ethernet controllable for inline field applications. The component is housed in a compact, environmentally stable package that offers superior resistance to humidity and temperature and is suitable for mounting within an amplifier module.

Application:

- Fast Attenuator
- EDFA power control
- Gain tilt control
- Loop-back switch

General Specifications

Switching time	< 100 nsec
on/off extinction	> 50dB
Back reflection	< -50dB
Insertion loss	< 2.5dB
Low electric power consumption	< 23dBm
Wavelengths	1300nm, 1550nm
Operating wavelength range	> 60nm

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Fiber Pigtailed Acousto-Optic Modulators (360-900 nm)

Model Number	Wavelength [nm]	Center Frequency [MHz]	Rise Time [ns]	Modulation Bandwidth [MHz]	Insertion Loss [dB]	Fiber Type
TEM-125-4.8-116-852-2FP	852	125	116	4.8	2.2-2.7	5.1µ core
TEM-1100-270-2-488-2FP	488	1100	2	270	8.7	3.1µ core

Fiber Pigtailed Acousto-Optic Modulators (980-1600 nm)

Model Number	Wavelength [nm]	Center Frequency [MHz]	Rise Time [ns]	Modulation Bandwidth [MHz]	Insertion Loss [dB]	Fiber Type
IPM-500-22-25-1300-3FP	1300	500	25	22	2.3-5.9	9µ core
IPM-500-22-25-1550-3FP	1550	500	25	22	2.3-7.0	9µ core

Fiber Pigtailed Acousto-Optic Modulators (980-2900 nm)

Model Number	Wavelength [nm]	Center Frequency [MHz]	Rise Time [ns]	Modulation Bandwidth [MHz]	Insertion Loss [dB]	Fiber Type
AMM-55-3-170-1300-2FP	1300	55	170	3	2.0-2.2	9µ core
AMM-55-3.2-170-1550-2FP	1550	55	170	3.2	2.0-2.2	9µ core
AMM-100-8-70-1300-3FP	1300	100	70	8	2.3-3.2	9µ core
AMM-100-8-70-1550-3FP	1550	100	70	8	2.3-3.6	9µ core

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Fixed Frequency Drivers

Driver Model Number	**FFF-500-A-F1**	**FFF-1000-A-F1**
AO Frequency Shifter	IPF-500-3FP	IPF-1000-3FP
Frequency	500 MHz	1000 MHz
Frequency Control	Quartz crystal referenced phase locked loop	
Frequency Accuracy	0.015%	0.015%
Harmonic Content	≤ -10dBc	≤ -10dBc
Stability	0.0015% minimum after 15 minute warm-up	
Modulation	None. (Digital [B2] and Analog Amplitude [B1] modulation optional, must be specified when placing order)	
Output Power	~1 Watt nominal. Power is optimized for peak efficiency with supplied A-O device.	
Output Protection	Power amplifiers used will tolerate an infinite V.S.W.R. without damage. Rated power is available only when a proper RF load is connected.	
Operating Power	90-240 VAC, 50-60 Hz, 55 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.	
Environmental	Nominal Laboratory Conditions: Maximum temperature +35° C; the unit is not sealed against moisture or condensing humidity.	

OEM packaging is also available

Driver Model Number	**FFA-125-B1-F1**	**FFA-1100-B1-F1**
AO Modulator	TEM-125-48-4.8-116-852-2FP	TEM-1100-270-2-488-2FP
Frequency	125 MHz	1100 MHz
Frequency Control	Quartz crystal referenced phase locked loop	
Frequency Accuracy	0.015%	0.015%
Harmonic Content	≤ -20dBc	≤ -20dBc
Stability	0.0015% minimum after 15 minute warm-up	
Output Power	1 Watt nominal. Power is optimized for peak efficiency with supplied A-O device.	
Output Protection	Power amplifiers used will tolerate an infinite V.S.W.R. without damage. Rated power is available only when a proper RF load is connected.	
Rise/Fall Time	100 nsec	2 nsec
Modulation Type	Analog amplitude modulation	
Modulation Rate	DC-5 MHz	DC-280 MHz
Modulation Input	50 Ω; 0-1 V	50 Ω; 0-1 V
Operating Power	90-240 VAC, 50-60 Hz, 55 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.	
Environmental	Nominal Laboratory Conditions: Maximum temperature +35° C; the unit is not sealed against moisture or condensing humidity.	

OEM packaging is also available

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Fixed Frequency Drivers

Driver Model Number	**FFA-55-B1-F1**	**FFA-100-B1-F1**
AO Modulator	AMM-55-3-170-2FP	AMM-100-8-70-3FP
Frequency	55 MHz	100 MHz
Frequency Control	Quartz crystal referenced phase locked loop	
Frequency Accuracy	0.015%	0.015%
Harmonic Content	≤ -20dBc	≤ -20dBc
Stability	0.0015% minimum after 15 minute warm-up	
Output Power	1 Watt nominal. Power is optimized for peak efficiency with supplied A-O device.	
Output Protection	Power amplifiers used will tolerate an infinite V.S.W.R. without damage. Rated power is available only when a proper RF load is connected.	
Rise/Fall Time	100 nsec	50 nsec
Modulation Type	Analog amplitude modulation	
Modulation Rate	DC-3 MHz	DC-8 MHz
Modulation Input	50 Ω; 0-1 V	50 Ω; 0-1 V
Operating Power	90-240 VAC, 50-60 Hz, 55 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.	
Environmental	Nominal Laboratory Conditions: Maximum temperature +35° C; the unit is not sealed against moisture or condensing humidity.	

OEM packaging is also available

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2 Channel Driver

Driver Model Number	**FFA-92/110-B1WB-F2-2CH**
AO Modulator	AMM-100-8-70-1300/1550-3FP
Carrier Frequencies	Channel 1 = 92 MHz, Channel 2 = 110 MHz
Frequency Control	Quartz crystal referenced phase locked loop
Frequency Accuracy	0.015%
Harmonic Content	≤ -20dBc
Stability	0.0015% minimum after 15 minute warm-up
Output Power	2 Watts nominal. Power is optimized for peak efficiency with supplied A-O device.
Output Protection	Power amplifiers used will tolerate an infinite V.S.W.R. without damage. Rated power is available only when a proper RF load is connected.
Rise Time	≤ 50 nsec
Modulation Type	Analog amplitude modulation
Modulation Rate	DC-8 MHz
Modulation Input	50 Ω; 0-1 V
Operating Power	90-240 VAC, 50-60 Hz, 55 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.
Environmental	Nominal Laboratory Conditions: Maximum temperature +35° C; the unit is not sealed against moisture or condensing humidity.

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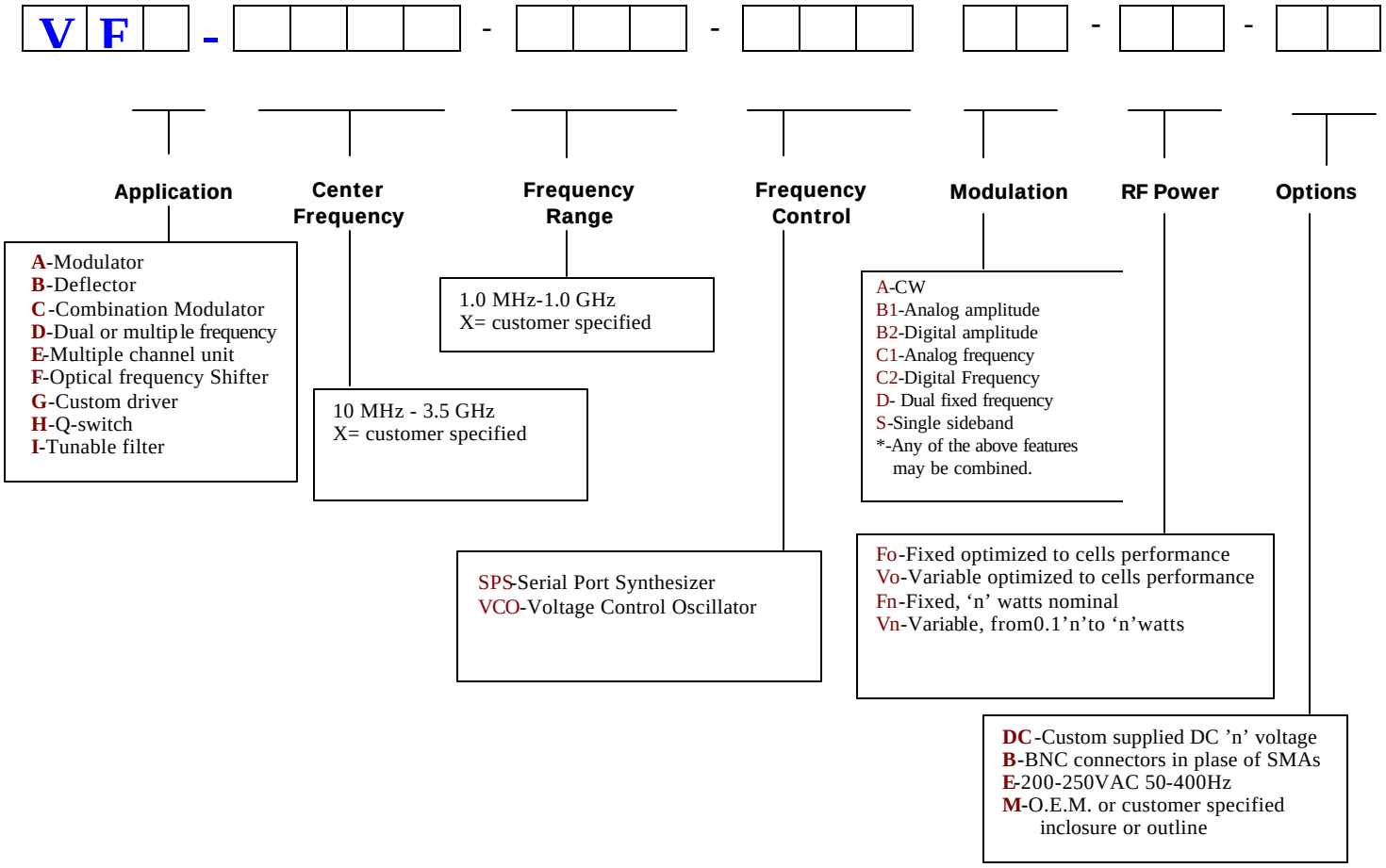
Instructions for Variable Frequency Drivers

Brimrose offers a large verity of RF Drivers compatible with our Acousto-Optic components. The following instructions will help you choose and pick the proper variable driver for your application. If there are any questions please contact Brimrose Corporation of America.

Variable Frequency Driver Guide



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Instructions for Fixed Frequency Drivers

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Fixed Frequency Driver Guide