

## Recirculating Loop System ( No Frequency Shift )

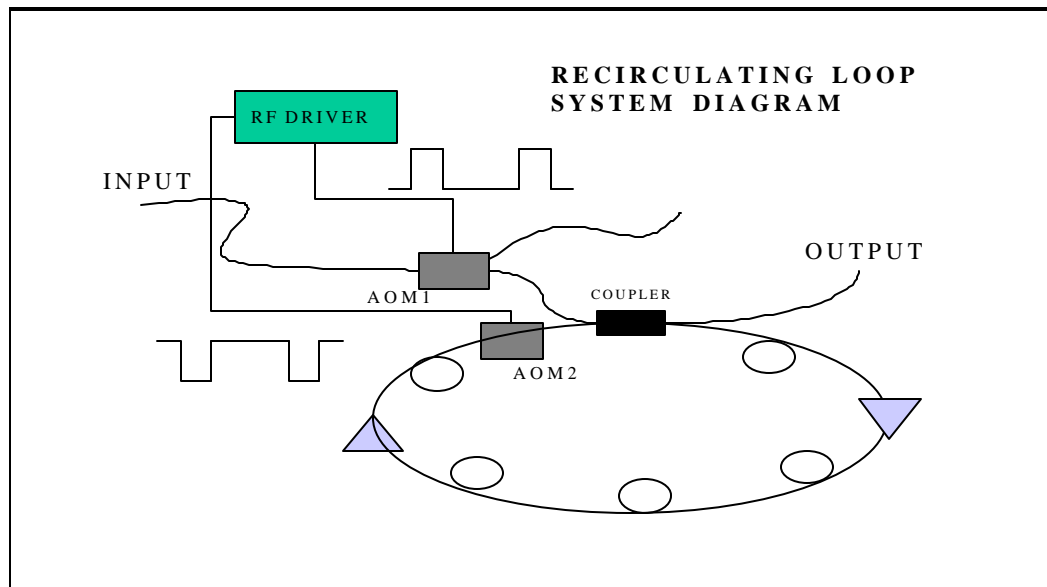


For application of simulating and testing of long distance fiber-optic communication lines Brimrose has developed a fiber-pigtailed AO modulator system.

The recirculating loop system consists of 2 fiber-pigtailed AO modulators and a corresponding RF driver. One of the modulators is

placed outside the loop to define the transmitted pulse width and a second device is placed inside the loop to define the distance of the pulse transmission which corresponds directly to the length of the long distance fiber-optic line.

Since conventional AO device will frequency shift the transmitted light by the acoustic carrier frequency, the Brimrose approach utilizes a no-shift AO device inside the loop which does not complicate testing nor degrade system performance.



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**Specifications**

Model No.:

- 1. **AMM-100-8-70-1550-2FP/mfs**
- 2. **AMM-100-8-70-1550-3FP**

- 3. **Model #: FFD-100-B3-F1-X-Y/3ch**

ITEM	1	2
Wavelength of Operation	C or L Band	C or L
Carrier Frequencies	100 MHz	100 MHz
Rise Time	70 ns	70 ns
Digital Modulation Bandwidth	8 MHz	8 MHz
Maximum RF Power (Watt)	~1.0 W	~1.0 W
Optical Transmission	95%	95%
Diffraction Efficiency	65%	65%
Fiber Type	9 $\mu$ m core, 125 $\mu$ m	9 $\mu$ m core, 125 $\mu$ m
Connectors type	FC/PC (apc)	FC/PC (apc)
Back Reflection**	40 dB	40 dB
Insertion Loss	5.6 dB	3.6 dB

ITEM	3
Frequency	100 MHz
Frequency Control	Quartz crystal referenced phase locked loop.
Frequency Accuracy	0.015%
Stability	0.0015% minimum after 15 minute warm-up.
Output Power	1 Watt in each channel. Power is optimized for A-O device performance
Operating Power	117 VAC +/-10% 50-60Hz, 55W max.
Modulation	Internal pulse generator with adjustable pulse repetition rate and adjustable pulse width. Pulse rep rate 70-150 ms. Pulse width 300-500 us. Stability of pulse pattern is ~5% (0.5% short term). External Modulation input: TTL compatible. Front panel switch to select external or internal modulation input.

**BRIMROSE**

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