

**Tunable delay >200ps**

## Bit Rate Multiplier

Scientists and engineers working at the leading edge of communications research use Calmar Optcom's Bit Rate Multiplier to provide 20 GHz, 40 GHz, 80 GHz and 160 GHz pulse streams.

The Bit Rate Multiplier enhances the output of Calmar's picosecond fiber lasers by increasing pulse repetition rates by 2, 4, 8 and 16 times. This enables users to use 10 GHz electronics to achieve up to 160 GHz optical pulses.

An all polarization maintaining component construction ensures the output signal is linearly polarized, without the need for polarization control. The multiplier has >200ps tunable delay range, which is the largest in the market.

Calmar has developed a reputation for producing ultrafast fiber lasers that feature narrow pulse widths and low timing jitter. The Bit Rate Multiplier succeeds in multiplying the pulses produced by Calmar's picosecond



- Bit rate multiplication x2, x4, x8 and x16 input bit rate
- Wavelength range 1530 – 1560 nm
- Polarization extinction ratio > 20 dB
- Output format  $2^7-1$  PRBS
- Amplitude equalization
- Tunable delay > 200ps

### Optional Upgrades

- Enhanced delay stability
- Sequential polarization switching

### Distribution in the UK

**Lambda**  
photometrics

**Lambda Photometrics Ltd**, Lambda House, Batford Mill, Harpenden, Hertfordshire AL5 5BZ

**E:** [info@lambdaphoto.co.uk](mailto:info@lambdaphoto.co.uk) **W:** [www.lambdaphoto.co.uk](http://www.lambdaphoto.co.uk) **T:** +44 (0)1582 764334 **F:** +44 (0)1582 712084

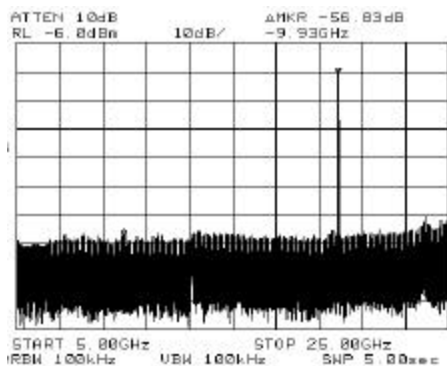
The leading supplier of scientific and industrial lasers, optical systems and associated accessories, fibre optic components and instrumentation, and machine vision products.

## Technical Specifications

Model Number	BRM-T-2	BRM-T-4	BRM-T-8	BRM-T-16
Multiplication Factor	2	4	8	16
Wavelength (nm)	1530 - 1565	1530 - 1565	1530 - 1565	1530 - 1565
Polarization Extinction Ratio (dB)	> 20	> 20	> 20	> 20
Input Data Format	$2^7-1$ to $2^{31}-1$ PRBS	$2^7-1$ to $2^{31}-1$ PRBS	$2^7-1$ to $2^{31}-1$ PRBS	$2^7-1$ to $2^{31}-1$ PRBS
Output Data Format	$2^7-1$ PRBS	$2^7-1$ PRBS	$2^7-1$ PRBS	$2^7-1$ PRBS
Tunable Delay (ps)	>200	>200	>200	>200
Temp Stability (ppm/°C)	10	10	10	10
Insertion Loss (dB)	5	10	15	20
Dimensions (cm)	48(w) x 42(d) x 9(h)	48(w) x 42(d) x 9(h)	48(w) x 42(d) x 9(h)	48(w) x 42(d) x 9(h)

Specifications are subject to change without notice - 5/1/2007

### 20 GHz Spectrum



Suppression of input frequency is > 35 dB

Input frequency is 10 GHz - suppression of input frequency is > 55 dB

### 40 GHz Spectrum

Input=10GHz, Output=40GHz

