

# MBD-200

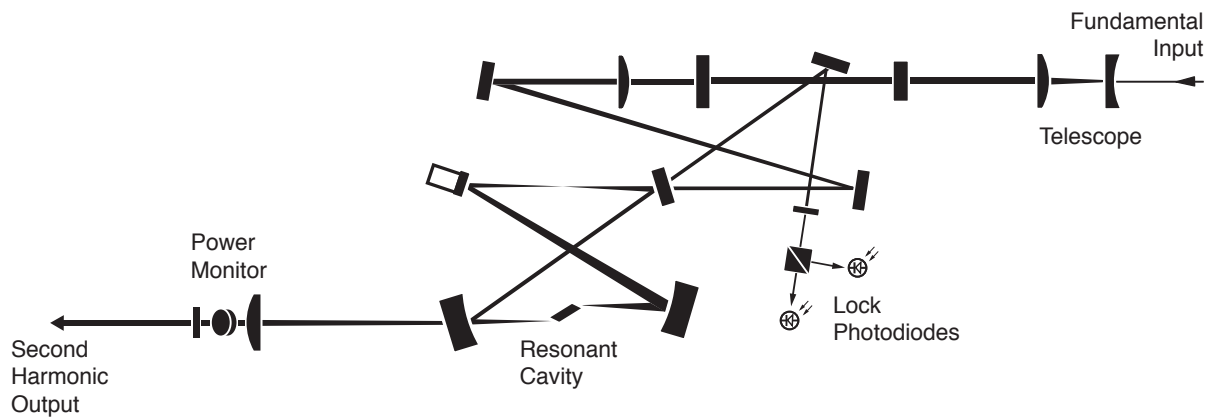
## Resonant Frequency Doubler

### Features

- Unique mechanical resonator
- Enhanced output power
- Wide range of mirrors
- Precision crystal adjustment
- Automatic tracking of fundamental frequency scans
- Wide and easy mode-matching
- High-efficiency frequency doubling
- MBD E-200 servo-control unit
- Efficient doubling of single-frequency Ti:S and dye lasers



Optical Schematic of the MBD-200 Resonant Frequency Doubler



**Superior Reliability & Performance**

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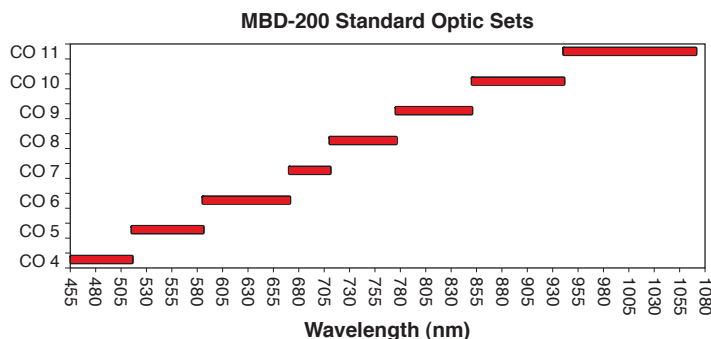
## Resonant Frequency Doubler

<b>System Specifications<sup>1</sup></b>	455 to 1070 nm Fundamental Wavelength	16% @ 1W input					
	Continuous Scan Range (GHz)	>20 fundamental					
<b>Crystal Options/Tuning Range</b>	Fundamental Wavelength (nm)	900	800	700	600	500	440
	Typical Tuning Range (nm)	70	50	25	30	25	10
	Recommended Crystal Type	LBO	LBO	LBO	BBO	BBO	BBO
<b>Features</b>	Mechanical Resonator	The highly compact enhancement cavity achieves extremely high passive stability through our unique monolithic block design.					
	Enhancement	Intracavity enhancement of the fundamental radiation has been optimized through the use of carefully designed custom optics and low-insertion-loss nonlinear crystals.					
	Mirrors	A wide range of mirrors are available for frequency-doubling many common wavelengths. All mirrors use a threaded-insert system, ensuring ease and reproducibility of mirror replacement.					
	Precision Crystal Adjustment	Accurate alignment of the nonlinear crystal is easy, using a precision mount to achieve the necessary crystallographic orientation.					
	Scanning	A long extension, piezo-mounted mirror, combined with a compact resonant cavity, enables the MBD-200 to follow long frequency scans of the fundamental laser source.					
	Mode-matching	A telescopic arrangement allows a wide range of fundamental laser sources to be mode-matched into the enhancement cavity.					
	High Efficiency	The high level of enhancement achieved allows very efficient frequency-doubling with the MBD-200.					
	MBD E-200 Servo-control Unit	Dedicated electronics designed to maintain high enhancement levels and allow the fundamental laser source to be tracked during frequency scanning.					
	Other Nonlinear Processes	Your local Coherent representative will be able to discuss custom applications, such as tripling, quadrupling, and frequency mixing.					

<sup>1</sup> At center of specified doubling crystal wavelength.

### MBD-200 Standard Optic Sets

The MBD-200 is configured to match the desired fundamental wavelength. The non-linear crystal can be configured to the specific wavelength required. The chart shows the optics sets available to support various wavelength regions. Note that more than one crystal may be required to cover each region.



Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all MBD systems. For full details of this warranty coverage, please refer to the Service section at [www.Coherent.com](http://www.Coherent.com) or contact your local Sales or Service Representative.



[www.Coherent.com](http://www.Coherent.com)

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