

Ecomb 200R_LN: Erbium Fiber Comb

Rack-mounted, lowest phase noise for ultimate stability

IMRA America offers an ultra-high performance frequency comb for frontier metrology applications, such as the highest precision optical clocks and quantum computing.

The rack-mounted comb integrates easily, especially where a portable system is premium.

An all-erbium platform, the frequency comb comes with fiber-coupled outputs and provides ultra-low phase noise, timing jitter, and superior frequency stability.



Features

- 200 MHz repetition rate
- 1 MHz repetition rate tuning range
- High coherence 1050 - 2200 nm continuum
- PM fiber-coupled output
- Vibration and temperature insensitive
- Integrated f_{ceo} detection
- Compatible with IMRA ULC locking electronics

Available Extensions

- 2 W Er comb
- 5 W Tm comb
- High coherence visible continuum
- Clock wavelength outputs selectable from 450 - 1200 nm
- > 50 mW mid-IR comb
- Radiation-hardened design
- OEM versions

Ecomb 200R_LN Specifications	
Rep. rate	200 ± 0.5 MHz
Tuning range	> 1 MHz
f_{rep} control bandwidth	> 500 kHz
Free running f_{ceo} SN	> 40 dB at 100 kHz resolution
f_{ceo} tuning range	> 200 MHz
IR supercontinuum output	1050 – 2200 nm
f_{ceo} phase noise*	< 100 mrad integrated from 1 Hz to 1 MHz
f_{beat} phase noise**	< 50 mrad integrated from 1 Hz to 1 MHz
Outputs via PM FC/APC-coupled Fiber	2.0 meter
Power per port	> 1 mW
high power option 1	> 450 mW (with separate table unit)
high power option 2	> 2.0 W (with separate table unit)
Center Wavelength per Port	1560 ± 20 nm
Spectral Width per Port	> 25 nm at -3 dB point
Monitor Port Power	> 0.1 mW
System Size	19", 3U rack-mountable, 22" long
Storage Temperature	-20 °C to +50 °C
Operational temperature	20 ± 2.5 °C
Power Consumption	< 150 W
Interlock	via Limo connector
Laser On/Off	via PC

* With IMRA lock box ULC

** with IMRA lock box ULC and Hz-level reference

Product Features

- Up to 10 PM fiber-coupled outputs
- Tunable repetition rate via PC
- 50 - 200 MHz rep. rate available



Front and back view of Ecomb 200R_LN standard comb



* Ecomb-system is currently not certified to the Laser Product Performance Standard from the U.S. FDA/Center for Devices and Radiological Health (CDRH). U.S. federal regulations require that lasers that are not certified to the CDRH standard be sold only to manufacturers of electronic products for use as components in such products.

1044 Woodridge Ave. Ann Arbor, MI 48105 Phone: 734.930.2560 Fax: 734.930.9957 combs@imra.com www.imra.com