



**TWIN  
PARADOX  
LABS**

**ROBUST, COMPACT,  
SOFTWARE-DEFINED  
LASERS**

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

🍁 A Proudly Canadian Company

### Control

Control loop: User configurable: lock-in, filters, PID, etc.  
 Mod. frequency: DC to 7 MHz  
 Lock bandwidth: up to 1.5 MHz

### Software

Control interfaces: - Linux/Mac GUI  
 - Python library for lab computer  
 - Headless Python scripting on the laser  
 Data capabilities: Output to .csv and real-time viewing

### Size, Weight, & Power

Size: 201 x 105 x 55 mm  
 Mass: 1170 g  
 Power: ~8.5 W  
 Voltage: 5 Vdc

### Interfaces

Power: USB-C or Gecko  
 Comms: Ethernet  
 Analog I/O: MCX / MMCX  
 Optical: FC/APC PM fibre

Precisely conditioned light:  
 whenever you need it,  
 wherever you need it,  
 consistently and reliably.



## ALKALI SERIES

For laser cooling and spectroscopy of alkali atoms

Stabilized to internal vapour cell via sub-Doppler FM spectroscopy

Wavelengths: 780, 852 nm  
 Linewidth: ~1 MHz  
 Accuracy: ~1 MHz  
 Power: up to ~40 mW

## X-SERIES

For use with external optics or atomic/quantum front-end

Multiple wavelength, power, and linewidth combinations

### Example: X-1555

Wavelength: 1555 nm  
 Linewidth: ~1 MHz  
 Power: 120 mW

## RF SERIES

For tasks with RF modulations, e.g. hyperfine repump

Integral RF source with the same optics as Alkali and X-Series lasers

### Example: Rb-780-RF

RF range: DC - GHz  
 Resolution: ~2 Hz  
 Power: +8 dBm  
 Output: SMA