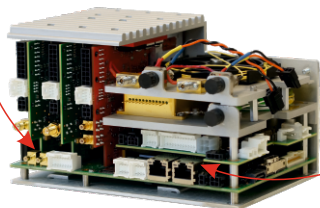


QUANTUM CONTROL & INTEGRATION PLATFORM

Atomic clocks. Position, Navigation and Time measurements. Laser frequency stabilization. Portable laser instruments.

Up to three **line lock** and **offset lock** modules can be combined



Full power management with integrated battery charger. **10-30 DC** input voltage.



LINE-LOCK C230

The Line Lock card integrates a laser driver, temperature controller, and a modulation-demodulation scheme to lock the laser current to a hyperfine atomic transition. The C230 operates in conjunction with the Universal Platform, utilizing the Lattice FPGA to manage the mixer and FIR filter. The generated error signal is directly applied to the laser current, ensuring stable laser frequency.



OFFSET-LOCK C240

The Offset Lock card is designed to stabilize the frequency difference between two lasers. It operates by detecting the beat note between the master and slave lasers and comparing it to a reference frequency.

RedWave WMLabs FOR QUANTUM

TIME TAGGERS



- Total tag rate: **500 M tag/s**
- Resolution: up to **31.25ps**
- Precision: **11.2ps** RMS single channel
- Does not require internal calibration
- **4 Continuous** timing inputs and **1 Synchronisation** or frame counter for extending long counts
- PCI continuous data rate of **8Gbytes/s**

SEQUENCER Q210



- FPGA **250MHz** state machine, 4ns resolution, **<1ns precision**.
- Onboard Zynq SoC (dual-core ARM + FPGA), for on-device complex algorithms
- **DRAM (8 Gbit)**
- USB-C and PCIe interfaces
- Standalone or in PXIe rack configuration

SINGLE PHOTON COUNTERS

Ad200 - SILICON

- **Quantum Efficiency:** 650 nm 70%
800 nm 55%
- **PDE:** 40-45% at 852nm
- **DCR:** 25 counts/s
- **Dead Time:** 65 ns
- **Timing jitter:** 160ps

AD300 - InGaAs

- **Quantum Efficiency:** 80% at 1550 nm
- **PDE:** 1-22% at 1550 nm, adjustable
- **DCR:** 675 cps@10%
1000 cps@15%,
1500 cps@20%
from 100cps with min PDE
- **Dead Time:** The detector's dead time is adjustable. Value is 1us - 1ms

