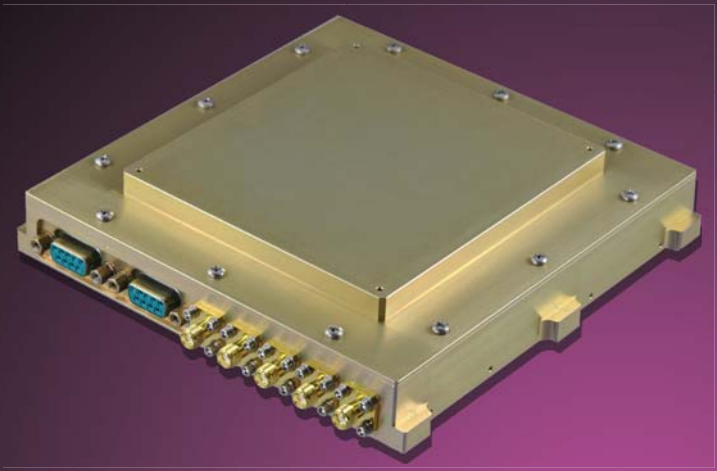
JACKSON LABS

The Next Generation of Timing & Frequency

DROR Disciplined Rubidium Oscillator Replacement



- **Ruggedized Frequency and Timing Reference**
- **Ultra Low Phase Noise under High Vibration**
- **Only 1.3 lbs. at 6”x5.8”x1.2”**
- **Low Power Consumption at < 5W**
- **28V with Over Voltage and Reverse Polarity Protection**
- **Internal 50-Channel WAAS GPS Receiver**

The DROR unit is optimized for operation in high-vibration and high-acceleration environments that require ultra-low phase noise performance and high stability under extreme conditions. The DROR may be used as a low phase-noise clean-up system when being supplied by an external 1PPS pulse, or it may be synchronized and calibrated by its own internal WAAS-enabled GPS receiver. DROR uses standard DB-9 and SMA connectors, can directly interface to vehicle 28V power busses, and is conformal-coated to withstand 100% humidity and condensation.

DROR includes special circuitry for tight synchronization between an external noisy 1PPS reference and the internal OCXO-generated 1PPS pulses to better than 3ns on average. DROR allows optional shifting of the internal 1PPS pulse via software command in 1ns steps. The 1-day holdover stability of DROR is similar to Rubidium references, without the high initial, and ownership cost, the limited lamp lifetime, high phase noise, and the high power consumption that Rubidium references suffer from.

DROR contains an SC-cut, Double Oven Crystal Oscillator. Under vibration DROR provides the best performance possible for the following parameters: thermal stability, Allan Deviation stability, Phase Noise, g-insensitivity, ultra-low-holdover drift, and crystal jump-free performance as well as Stratum-1 frequency accuracy over wide temperature ranges. Through innovative new circuitry DROR achieves ultra-low phase noise even under full vibration.

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