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Jackson Labs Technologies, Inc. delivers the M12M Concurrent GNSS PNT Replacement Receiver Module

The "M12M Replacement Receiver" is a 72 channel multi-GNSS receiver, form-fit-function compatible to the Motorola M12M and M12+ legacy GPS receivers, while offering vastly improved performance and features.



Las Vegas, NV, November 16th, 2015 – Jackson Labs Technologies, Inc, a designer and manufacturer of cutting-edge GNSS, timing and frequency equipment, today announced the availability of the M12M Replacement Receiver GNSS module. The module uses an 8th generation GNSS timing-enabled receiver allowing 72 GNSS channel reception with any two GNSS systems being received simultaneously, is form-fit-function compatible to the very popular legacy Motorola M12M and M12+ Timing and Navigation receivers, and adds easy configurability via USB ports as well as DIP switches and various status displays. GPS, GLONASS, BeiDou, QZSS, and SBAS (WAAS/EGNOS/MSAS/GAGAN etc) signals can be received.

The M12M Replacement Receiver supports NMEA, Motorola Binary, u-blox Binary, as well as SCPI (GPIB) communication protocols for easy configuration and monitoring, and is designed to allow plug-and-play retrofit of equipment designed for the legacy Motorola receivers, as well as provide an easy design-in for new customer applications. The M12M Replacement Receiver is certified to operate as a plug-and-play upgrade to popular legacy equipment such as the Symmetricom/Microsemi XLI server, as well as the Jackson Labs Technologies, Inc. Fury GPSDO, requiring no setup or configuration to operate in those products, and can thus be used to retrofit products for GLONASS/BeiDou compatibility. In the process the module enhances all performance parameters such as time to first fix, position-, velocity-, and timing-accuracy, tracking sensitivity, adding SBAS (differential compensation) capability, and adding various external interfaces such as USB and a synthesized frequency output.



The module supports a world-class satellite tracking sensitivity of down to -167dBm allowing indoor-reception in typical environments, a 1PPS output with better than 5ns rms stability (quantization corrected), and a positioning accuracy of typically better than 0.3 meters rms (survey-in), or better than 0.7m rms horizontal even in high-dynamic environments such as aircraft missions. Dynamic auto Kalman filter configuration software allows using changing Kalman filter parameters in real time for improved accuracy, with filter parameters being automatically set dependent on actual mission dynamics. The GNSS timing receiver also supports Auto Survey (Survey-in) operation with Position Hold mode and TRAIM, allowing single-satellite timing reception in challenged or denied stationary environments.

The module integrates a UTC(GNSS)-synchronized NCO synthesizer with buffered output that can generate a user-adjustable frequency from 0.25Hz to over 10MHz with extreme frequency accuracy when locked to the satellites. Additional features include operation from various power sources such as USB, or 3V via the M12M compatible connector, as well as a 7-segment LED status display, and numerous DIP switches for easy software-less configuration of the operating modes and desired GNSS systems to be enabled. The module displays Satellite Status information including signal strengths and systems received, and can thus be used as a hand-held antenna- and satellite signal distribution-system monitor.

Various optional programs can be used to configure, control, and monitor the unit such as GPSD/NTP, GPSCon, Z38xx, u-blox u-center, TimeKeeper, TeraTerm Pro, WinOncore-12, and others. The industry-standard SCPI software interface supports easy to use English-language commands such as GPS?, HELP?, and others to monitor and configure the unit, while all advanced GNSS receiver functions such as capturing carrier phase data, assisted start, satellite setup and gating, and health monitoring features are also supported.

M12M Replacement Receiver module samples ship from stock, and are priced at \$220 each.

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About Jackson Labs Technologies, Inc.:

Located in Las Vegas, NV, Jackson Labs Technologies, Inc. is a privately held company that is setting new standards in timing and frequency generation for the telecom, defense, engineering, test & measurement, broadcast, and research markets. Jackson Labs Technologies, Inc.: The Next Generation of Timing & Frequency. To learn more, visit www.jackson-labs.com.