

M12M Replacement Receiver with 72 Channels GNSS support



- Upgrade for Motorola/iLotus M12+ and M12M receivers
- Uses 72 Channel GNSS Receiver
- <5ns rms stab. (quant. corrected)
- GPS, Glonass, BeiDou, QZSS, SBAS
- PRELIMINARY SPECIFICATION

TYPICAL ELECTRICAL SPECIFICATIONS:

Module Specification:	
Form, Fit, Function compatibility	Motorola/iLotus M12+, M12M Timing and Navigation receivers
Additional Features over M12M legacy product	• Can operate as a replacement for M12+ or M12M receivers, or in standalone mode with USB power • High timing and position/velocity accuracy in 3D mobile applications • Dual GNSS (GPS + Glonass, etc) concurrent capability • LED 7-segment status indicator, 5 status LED's, DIP –switch • Automatic internal 3V Antenna Power Supply • Two USB interfaces for configuration, control, and status • Generic buffered NCO synthesizer output (0.25Hz to 10MHz+, 14MHz typical) synchronized to GNSS, U.FI coax connector
Dimensions, Weight	40mm x 60mm x 9mm (1.575 x 2.362 x 0.35 inch), 15 grams
Data/Power Header	10 pins, 5 x 2 rows, 1.27mm spacing (M12M compatible)
1 PPS Stability	<5ns rms stability, GPS Locked, and using quantization correction message
1 PPS Outputs	One 3V CMOS outputs, one DCD# on USB port for NTP, one NCO buffered output
Position Accuracy	Better than 0.7m rms horizontal with GPS and SBAS (WAAS). Better than 0.5m with Auto Survey mode and Position hold position
USB Control	SCPI-99 Control at 9.6K, 19.2K, 38.4K, 57.6K, 115.2K
NMEA Output Sentences	NMEA 0183 rev. 2.3, Sentences: GGA, RMC, ZDA, GSV, PASHR, and others
Motorola Binary Protocol	TTL level serial interface on 10 pin connector, compatible to most Motorola M12M Binary sentences, 9600 baud, guaranteed to operate with Fury GPSDO
GNSS Frequency, Antenna	L1 GPS and/or Glonass, Active Antenna 3V to 5V, +5dB to +35dB
GNSS Receiver	72 Channels, GPS, Glonass, BeiDou, QZSS, SBAS: WAAS/EGNOS/MSAS/GAGAN
GNSS Sensitivity	Acquisition -148 dBm, Tracking -167 dBm (GPS and Glonass)
GPS Receiver Motion Adaptive Filter Settings	Optimized depending on vehicle velocity (Auto-sensing, Auto-switching option)
Supply Voltage (Vdd)	+2.9V to +3.45V max, or 5V USB power option
Power Consumption	0.185W (display off), 0.31W (display on)
Battery Backup	Optional. Stores Almanac, Ephemeris, Time, and Date for faster cold-start. 1.4V to 3.6V max (3V nominal), 15uA
Operating, Storage Temperature	-40°C to +85°C, -55°C to +90°C
MTBF	> 600,000 Hours at +40°C
Ordering Options	Part Number: tbd

M12M Replacement Receiver:

MADE IN USA



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