
ONCORE TECHNICAL APPLICATION NOTE

M12 Oncore Firmware Version History

Version 1.9 Released 5/04 Models: P2xxxTxxx6

- Stored value for RF IC temperature slope mV/oC has been updated to allow the use of certain specific production lots of RFIC's. The new Vtemp value maintains Time to First Fix (TTFF) speeds over temperature. This temporary step allows continued M12 production until the newer Freescale RFIC's are qualified for production.
 - It is likely a new release of firmware, version 2.0, will be required to support the future Freescale production RFIC Vtemp slope.
- Automatic site survey mode has been removed from the M12 and will only be supported in the M12 Timing Oncore
- D-GPS operation has been improved to maintain D-GPS operation when 3 satellite corrections are received

Version 1.8 Released 5/02 Models: P2xxxTxxx5

- Velocity is now output in the first position fix from power-on
- DGPS position accuracy performance improved
- Correction to the Leap Second insertion process which reported the incorrect day for one second
- Reliability improvement: - Ha message infrequent latch up during warm or cold starts has been corrected. This occurred when an unhealthy satellite was tracked for first time on a channel that had not previously tracked a healthy satellite and decoded valid Ephemeris data.

Version 1.7 Released 4/02 Models: P2xxxTxxx4

- Removed unused variable
- RTCM message occasional message rejection corrected.
- NMEA ZDA message now outputs time and date continuously
- 12 Channel Inverse DGPS Message (@@Hr) was added as a new feature.
- The receiver now limits the number of NMEA bytes output each second, but whole messages will always be sent.
- The median cold start TTFF has been improved
- The default year was updated to 2001.
- NMEA RMC and VTG messages now output propagated speed and heading. This new feature was added to be consistent with the output of propagated position in the RMC, VTG and GLL messages.
- RAM test watchdog function added.

Version 1.3 Released 3/99 Models: P1xxxTxxx2

- NMEA GGA: MSL height field filled with GPS height
- Ability to clear only ephemeris data added
- Cold start time to first fix reduced to 60s
- Differential Master Site capability added (@@Bh)
- Oscillator learning table changed to update as often as possible

Version 1.2 Released 12/99 Models: P1xxxTxxx1

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- NMEA GSA: satellite report with mask angle corrected
- NMEA GGA, GLL, GSA and RMC: invalid data flags corrected
- NMEA ZDA: minutes field corrected
- NMEA GGA: MSL height field nulled to meet NMEA specifications
- Differential fix held through ephemeris rollover
- Output rate of UTC/ionospheric data messages corrected

Version 1.0 Released 10/99 Models: P1xxxTxxx1

- Initial factory release