

## ONCORE TECHNICAL APPLICATION NOTE

### *GT Oncore Firmware Version History*

Version 1.3 Released 7/96 Models: R1xxxNxxx2

- Initial factory release

Version 1.6 Released 3/97 Models: R1xxxNxxx4

- Motorola binary DGPS support
- Addition of following commands and messages:
  - @@Eq ASCII Position Message
  - @@Bf Ephemeris Data Input
  - @@Ce Pseudorange Correction Input
  - @@Bb Visible Satellite Status Message
  - @@Ap Set User Datum
  - @@Ao Select Datum

Version 1.7 Released 8/97 Models: R1xxxNxxx5

- Internal code modifications

Version 2.01 Released 11/97 Models: R3xxxGxxx1 R4xxxGxxx1

- RTCM-SC104 Type 1 and 9 message DGPS support
- 1PPS timing accuracy improved to < 500 ns (one sigma)
- NMEA 0183 support (GGA, GLL, GSA, GSV, RMC, VTG, ZDA)
- Position integrity monitor implemented
- Addition of following commands and messages:
  - @@Aq Atmospheric Correction Mode
  - @@Au Altitude-Hold Height
  - @@Av Altitude-Hold Mode
  - @@AN Velocity Filter
  - @@AO RTCM Port Mode
  - @@Ag Set Mask Angle
  - @@Ci Switch to NMEA



Version 2.2    Released 8/98    Models: R3xxxGxxx2 R4xxxGxxx2  
R6xxxGxxx2

- Inverse DPGS support added with Inverse DGPS Output Message (@@Ep)
- Satellite selection list defect corrected
- Satellite sky search defect in 2.01 corrected
- Satellite reacquisition algorithm modified to allow more reliable reacquisition after long outages
- Initial 1PPS estimate improved before first fix
- HDOP output in GSA message when in 2D mode
- Channel information in @@Ea message set to zero when SVID is zero
- Date extension modification to allow use beyond 20 years (@@Ac)
- Default date changed to 1/1/98

Version 3.0    Released 5/00    Models: R3xxxGxxx3

- Addition of the following command:
  - @@Am        Satellete Ignore List
  - @@AM        Position Lock Parameters
  - @@AS        Position Lock Select
  - @@Er        Inverse Differential output with pseudo-range and pseudo-range rate corrections
- Leap Second Pending Status message (@@Bj) corrected
- Base Year calculation corrected
- NMEA ZDA message corrected to report only positive values for the local zone minutes
- NMEA ZDA message reports time according to user-selected UTC
- NMEA GSV message corrected to output all satellite IDs that are visible

