ONCORE TECHNICAL APPLICATION NOTE

UT Oncore Firmware Version History

Version 1.3   Released 7/96   Models: R1xxxAxxx1

- Initial factory release

Version 2.0   Released 11/97   Models: R5xxxUxxx1

- Automatic Site Survey mode implemented
- Adaptive tracking loops implemented in position-hold mode for added jamming immunity
- Position integrity monitor implemented
- 1PPS bias corrected to improve jitter
- Addition of the following commands and messages:

@@Ay	1PPS Offset
@@AP	100PPS Select
@@Bo	UTC Offset Status Message
@@Ag	Set Mask Angle
@@Bb	Satellite Visibility Message
@@Aq	Atmospheric Correction Mode
@@Ap	Set User Datum
@@Ao	Select Datum

Version 2.2   Released 5/98   Models: R5xxxUxxx2

- Wideband acquisition algorithm improved for better jamming immunity, also resulting in slower TTFFs
- Code phase and bit synch defects corrected
- Satellite time residuals defect corrected
- Satellite selection list defect corrected
- Satellite sky search defect in 2.0 corrected
- Initial 1PPS estimate improved before first fix
- Channels reset when position-hold disabled
- Channel information in @@Ea message set to zero when SVID is zero
- Default date changed to 1/1/98
- Satellite reacquisition algorithm modified to allow more reliable reacquisition after long outages

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Version 3.0   Released 1/99   Models: R5xxxUxxx3

- Addition of the following commands and messages:
  - @@Am   Satellite Ignore
  - @@Gj   Leap Second Status
- Leap Second Pending message (@@Bj) changed to flag pending leap second corrections to UTC at the beginning of the month where correction is to be applied
- UTC Offset Status (@@Bo) changed to report difference between GPS time and UTC immediately following leap second corrections
- Date extension modification to allow use beyond 20 years (@@Ac)
- Oscillator tracking and acquisition limits extended
- 1 PPS Offset command (@@Ay) defect corrected

Version 3.1   Released 4/99   Models: R5xxxUxxx4

- First position fix on power-up is now forced to 3D only. Subsequent fixes may be 2D or 3D. Resulting new times to first fix are:
  - Hot Start (position, date, time, almanac and ephemeris):   20 s
  - Warm Start (position, date, time, olt and almanac):   50 s
  - Cold Start (no stored information):   450 s
- Date command (@@Ac) defect corrected when setting the base year
- Infrequent UTC navigation data decoding error corrected
- Message synchronization improvements to reject unhealthy satellite data

Version 3.2   Released 8/00   Models: R5xxxUxxx5

- Filtered and Unfiltered positions are now initialized to the same location (0,0,0)
- Default date changed to 1/1/2000
- The 100PPS output has been corrected to prevent occasional pulse misplacement

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