

ONCORE TECHNICAL APPLICATION NOTE

UT Plus Production Firmware Version 3.0

The UT Plus Oncore 3.0 firmware has been released for production. Several changes to the firmware have been made since the released 2.2 version based on customer inputs. This note documents the changes between production firmware version 2.2 and production firmware version 3.0.

1. **Satellite Ignore** - The satellite ignore message (@@Am) from the VP Oncore has been added to the UT Plus. This function allows users to remove selected satellites from the tracking list.
2. **Leap Second Staus** – A new Leap Second Status message (@@Gj) has been added to the UT Plus. This new message reports current and future differences between UTC and GPS time as well as the date and time that the pending leap second is to be applied.
3. **Leap Second Pending Status** – The Leap Second Pending Status message (@@Bj) is now reported at midnight UTC time on the first day of the month in which the pending leap second is to be applied. In version 2.2 firmware, the leap second status message was reported immediately upon receipt of pending leap second notification from the GPS satellites.
4. **UTC Offset Status Message** – The UTC Offset Status Message (@@Bo) has been changed to update the current and future difference between UTC and GPS time immediately after the application of a leap second.
5. **The Date command (@@Ac)** can now be used to set the base year. The base year is used as a starting point for determining the correct date. In previous versions of firmware, the receiver would not be able to determine the correct date after 20 years. The base year should be set each time the receiver is powered on.
6. **The tracking and acquisition firmware limits for the UT Plus numerically controlled oscillator** have been extended. The new limits are 1 to 250kHz.
7. **One Pulse Per Second Offset Command** – The One Pulse Per Second Offset Command (@@Ay) has been fixed to function properly throughout the entire one second offset range. In version 2.2 firmware, the 1PPS signal became intermittent when the 1PPS offset was set to 2ms.

