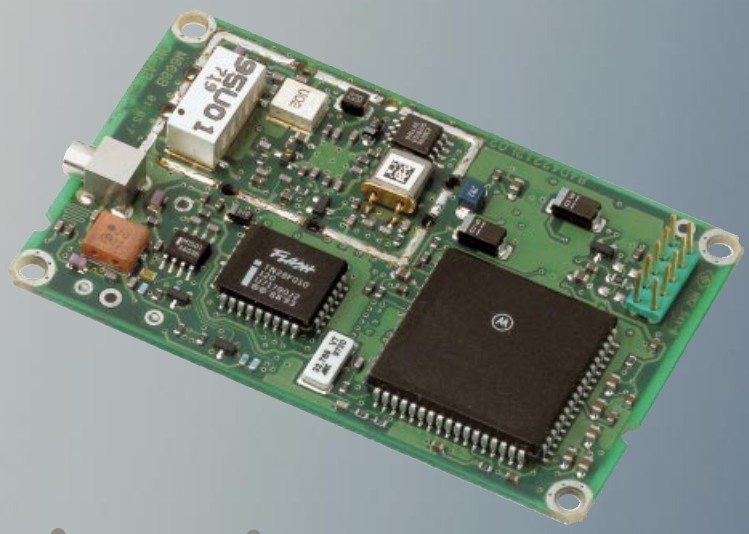
UT Plus Oncore™ GPS Receiver



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There's only one name for quality and performance in GPS technology: Oncore. The Oncore family is a full line of GPS receivers developed and built by Motorola for the OEM and Systems Integrator marketplace.

The UT Plus Oncore is one of the newest members of the successful Oncore family, developed specifically for timing applications. The UT Plus Oncore adds more features at a lower cost, and is available in unlimited quantities. Continuing with the 8-channel design of the Oncore family, the UT Plus Oncore reflects Motorola's high standard for performance in timing and frequency stabilization. The UT Plus Oncore makes use of Motorola's Time RAIM (time receiver autonomous integrity monitoring) algorithm to ensure the validity and reliability of the GPS measurements. In addition, the UT Plus Oncore has industry leading immunity to unintentional jamming signals, an automatic site survey feature for greater convenience, and 100PPS output capability for rapid disciplining.

Measuring 2" x 3 1/4" x 1/2", the UT Plus Oncore is mechanically and electrically backwards compatible with the VP Oncore. To minimize software changes the I/O is a subset of the existing Oncore messages. The UT Plus Oncore also has very low power requirements and is well suited for embedding applications.

The Oncore family of GPS receivers incorporate Motorola GPS custom ICs (integrated circuits), Motorola MPUs (microprocessor units), and Motorola GPS receiver software. Add QS-9000 certification, reliability, responsive support and the long-term commitment you've come to expect from Motorola, and you understand why Oncore is the quality choice.

MOTOROLA

UT Plus Oncore™ GPS Receiver

General Characteristics	Receiver Architecture	• 8 parallel channel • L1 1575.42 MHz • C/A code (1.023 MHz chip rate) • Code plus carrier tracking (carrier aided tracking)
	Tracking Capability	• 8 simultaneous satellite vehicles
Performance Characteristics	Dynamics	• Velocity: 1000 knots (515 m/s); > 1000 knots at altitudes < 60,000 ft. • Acceleration: 4 g • Jerk: 5 m/s^3 • Vibration: 7.7G per Military Standard 810E
	Acquisition Time (Time To First Fix, TTFF) (Tested at -30 to +85°C)	• < 20 s typical TTFF-hot (with current almanac, position, time and ephemeris) • < 50 s typical TTFF-warm (with current almanac, position and time) • < 300 s typical TTFF-cold • < 1.0 s internal reacquisition (typical)
	Positioning Accuracy	• 100 m 2dRMS with SA as per DoD specification • Less than 25 m SEP without SA
	Timing Accuracy (1 Pulse Per Second, 1 PPS)	• Time RAIM algorithm • < 130 ns (1 sigma) with SA on • In position hold mode, < 50 ns (1 sigma) with SA on
	Jamming Immunity	• Immune to the following CW jamming signal levels measured at the input to the Oncore Active Antenna when the receiver is in position-hold mode. Values are typical. -50 dBm @ 1570 MHz -79 dBm @ 1575.42 MHz -56 dBm @ 1580 MHz
	Antenna	• Active micro strip patch antenna module • Powered by receiver module (5-80 mA @ 5 Vdc)
	Datum	• WGS-84
Serial Communication	Output Messages	• Latitude, longitude, height, velocity, heading, time (Motorola binary protocol) • Software selectable output rate (continuous or poll) • TTL interface (0 to 5 V)
Electrical Characteristics	Power Requirements	• 5 ± 0.25 Vdc; 50 mVp-p ripple (max.)
	"Keep-Alive" BATT Power	• External 2.5 Vdc to 5.25 Vdc; 5 μA (typ.) @ 2.5 Vdc
	Power Consumption	• < 0.9 W @ 5 Vdc with active antenna drawing 20 mA
Physical Characteristics	Dimensions	• 2.00 x 3.25 x 0.64 in. [50.8 x 82.6 x 16.3 mm]
	Weight	• 1.8 oz. (51 g)
	Connectors	• Data/power: 10 pin (2x5) unshrouded header on 0.100 in. centers • RF: right angle OSX (subminiature snap-on)
	Antenna to Receiver Interconnection	• Single coaxial cable • Antenna sense circuit
Environmental Characteristics	Operating Temperature	• -40ºC to +85ºC
	Humidity	• 95% noncondensing +30ºC to +60ºC
	Altitude	• 60,000 ft. (18 km) (max.) • > 60,000 ft. (18 km) for velocities < 1000 knots
Miscellaneous	Standard Features	• Time RAIM • 100PPS output • Automatic site survey • Jamming protection
	Optional Features	• Lithium battery • Straight OSX RF connector

For more information contact your local distributor:

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