# PTF
**Precise Time and Frequency, LLC**

# 3207A  GlobalTyme$^{TM}$ 2 advanced GPS/GNSS Receiver



Dual Module Version

- **GNS Tracking: 34 parallel channels**
- **GPS, Glonass, QZSS, SBAS, Beidou (Galileo Ready)**
- **Optional 2$^{nd}$ Receiver (GNS/Galileo)**
- **Accuracy (1PPS): <20ns**
- **100/10 Base T Ethernet**
- **NTP v4 (optional )**

- **Monitor/Control i/f**
  - **Web Browser**
  - **Telnet**
  - **Serial**
- **Alarm indicator and output**
- **GNS antenna and cable included**
- **Available in 1U and 2U**

The *ptf* 3207A GlobalTyme$^{TM}$2 GNS Receiver introduces a new level of advanced capability from a second generation, based on the highly successful ptf 3203A and ptf 3204A GlobalTyme$^{TM}$ receivers.

With its extraordinary stability and highly flexible approach, this unit provides numerous input source options, the latest updates in industry standard protocols, and comes ready to accept a Galileo receiver engine. Available in both 1U and 2U versions, the GlobalTyme 2$^{TM}$ unit can be configured as a high performance frequency standard, comprehensive time standard, or both.

Frequency standard performance is application tailored with a range of local oscillator options including TCXO(standard), OCXO, Ultra Low noise oscillator, rubidium, and high performance rubidium. In standard configuration the GlobalTyme 2$^{TM}$ is equipped  with 10MHz (options to add

100kHz, 1MHz, and 5MHz), 1PPS and IRIG B(am) outputs. Additional options for selectable output clock frequencies are also available.

For timing, synchronization and time keeping, the unit provides optional NTP(v4), in addition to the standard 1PPS and IRIG B outputs. The 1PPS output is accurate within <20ns (1 sigma) of UTC(USNO).

The optional 1PPS, IRIG, and 10MHz inputs offer system redundancy or simply alternative master reference inputs to gps or Galileo if desired.

For monitoring and control the unit houses both RS232 serial and 100/10 BaseT Ethernet (RJ 45) with various protocols suited to different user needs including Telnet, SNMP(optional) and a browser driven web interface.

# Specifications

**GPS Rx** — **34** parallel channel (plus optional 2nd receiver)

**Front Panel Display** — Vacuum Fluorescent 1"Ht. DDD:HH:MM:SS

**RF Outputs**

| | |
|---|---|
| 10MHz sine wave | 1V rms into 50 ohms |
| 5MHz (opt) | 1V rms into 50 ohms |
| 1MHz (opt) | 1V rms into 50 ohms |
| 100kHz(opt) | 1V rms into 50 ohms |

**Digital Outputs**

| | |
|---|---|
| 1PPS | 5V CMOS into 50 ohms |
| Prog | 5V CMOS into 50 ohms |

Pulse Rates(opt)
(1PPS to 10MPPS)

**Timing Outputs**

IRIG B(am)  3v p-p into 600 ohm
IRIG B(DCLS)opt.  5V into 50 ohm
IEEE 1344 compliant

**Standard configuration offers 10MHz sine wave, IRIG B(am) and 1PPS outputs**

**100/10 Ethernet i/f** RJ-45 Connector
Telnet monitoring/configuration/control
HTTP configuration control
DHCP TCP/IP auto configuration
NTPv4, TP(TCP/UDP, RFC 868)(optional)
SNMPv1/2/3(optional)

**Serial Interface**

| | |
|---|---|
| RS232 | Control/Monitor(DB9) |
| RS232(opt) | Time Output(DB9) |

**Accuracy(24 hr)**

| | |
|---|---|
| 10MHz | <2E-12 (Locked to GPS) |
| 1PPS | <20ns wrt UTC (1 sigma) |
| | <100ns (3 sigma) |
| NTP | <10ms (typical) |

**CE**   **ISO 9001-2015**

## Stability (Allan Deviation)

| | TCXO | OCXO | ULN | RUB |
|---|---|---|---|---|
| 1s | 2E-10 | <2E-11 | 3E-11 | 2E-11 |
| 10s | 2E-10 | <2E-11 | 2E-11 | 9E-12 |
| 100s | 1E-9 | <2E-11 | 3E-12 | 1E-12 |
| 1 Day | 3E-12 | <2E-12 | 1E-12 | 1E-12 |

## Phase Noise(ssb)

| | TCXO | OCXO | ULN | RUB |
|---|---|---|---|---|
| 1Hz | -72dBc | -102dBc | -108dBc | -90dBc |
| 10Hz | -93dBc | -130dBc | -125dBc | -130dBc |
| 100Hz | -115dBc | -155dBc | -150dBc | -145dBc |
| 1000Hz | -126dBc | -162dBc | -160dBc | -150dBc |
| 10kHz | | -162dBc | -165dBc | -150dBc |

**Harmonics** — < -40dBc

**Spurious (OCXO option)** — <-80dBc

**Front Panel Indicators**

| | |
|---|---|
| Fault | Amber LED |
| Lock | Green LED |
| Power | Green LED |

## Environmental/Physical

**Color** — Grey

**Temperature**

| | | |
|---|---|---|
| Operating | Unit | -25 to +55 deg C |
| | Ant | -40 to +85 deg C |
| Storage | Unit | -25 to +70 deg C |
| | Ant | -40 to 100 deg C |
| Humidity | unit | 0-95% RH (non-condensing) |
| | Ant | Mil-STD-810E |

**Power Requirements**

| | |
|---|---|
| AC input (+/-15%) | 90-264 VAC |
| DC input(opt) | 18V to 72V DC |

Dimensions

| | |
|---|---|
| 3207A | 1Ux19"x16" |
| Relative Humidity | 0-95%(non-cond.) |

Specifications subject to change without notice