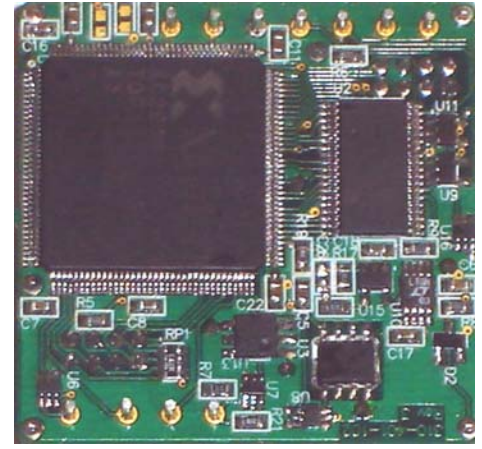
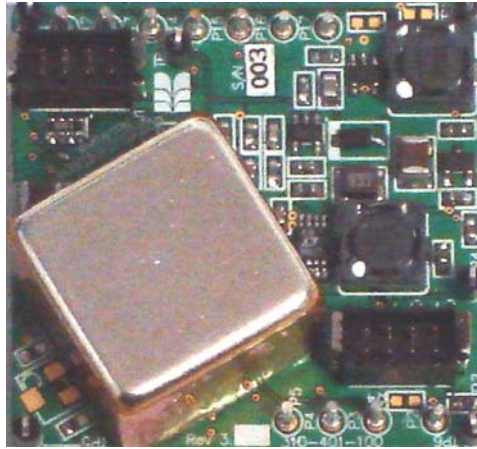


HPTR

High Precision Timing Reference



FEATURES

- High precision
- Ultra low power consumption
- GPS 1Hz self calibration
- Compact size
- Competitively priced.

Ideal for:

- Battery powered devices
- Ocean deployment
- Navigation timing
- UTC event time stamping
- Frequency standard
- Real time event logging

HPTR is a low power high precision timing reference used in battery powered equipment.

The HPTR has been primarily designed as a high precision timing reference for long base-line hydro-acoustic tracking beacons.

The beacons can be acoustically or electrically synchronized to UTC time.

A high timing precision minimizes the boat time required to manage the beacons, resulting in a significant cost saving.

Synchronizing multiple HPTR's to UTC time allows for absolute time stamping of real time events, such as the recording of seismic activity.

Key Benefits

- Ultra low power consumption.
- Approaches the accuracy of a double oven compensated quartz oscillator or nanotechnology based cesium beam clock when correctly calibrated.
- Self calibrating. Accuracy improves with time.
- Wide power supply voltage range.



PERFORMANCE CHARACTERISTICS

Dimensions

- Weight 14 g.
- Length 41 mm.
- Width 41 mm.
- Height 14 mm.

Features

- Self calibration via external GPS 1PPS.
- Accuracy improves with time during self calibration.
- GPS 1 Hz UTC time phase lock within 16 seconds.
- GPS 1 Hz frequency offset calibration within 1 hour 8 minutes.
- GPS 1 Hz age offset calibration within 12 days.

Inputs

- GPS 1PPS 3.3 V to 5 V TTL logic level.
- +/-12 V RS232 Diagnostics.

Outputs

- 1 Hz (frequency compensated 5e-11/1e-9).
- 32.768 kHz phase locked to 1 Hz (uncompensated 1e-5).
- 10 MHz (uncompensated 1e-5).
- 3.3 V TTL logic level.
- 6 V RS232 Diagnostics.
- Calibration lock LED driver (3.3 V 20 mA).
- Two custom 3.3 V TTL logic level I/O pins.

Accuracy

- Defence version with an accuracy 5e-11.
- Commercial version with an accuracy 1e-9.

Power Consumption

- < 40 mW (room temperature).
- < 80 mW (11° Ocean temperature).
- Supply 1.5 V to 5.5 Vdc.

Environmental Limits

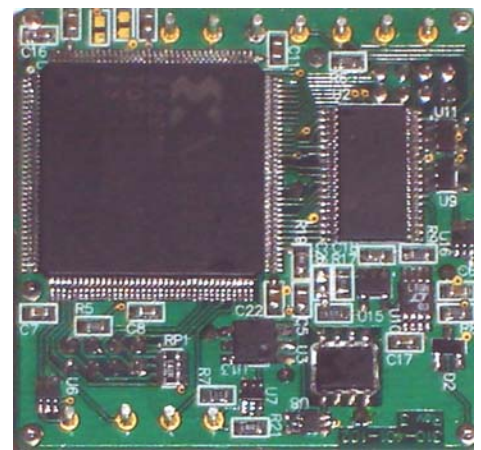
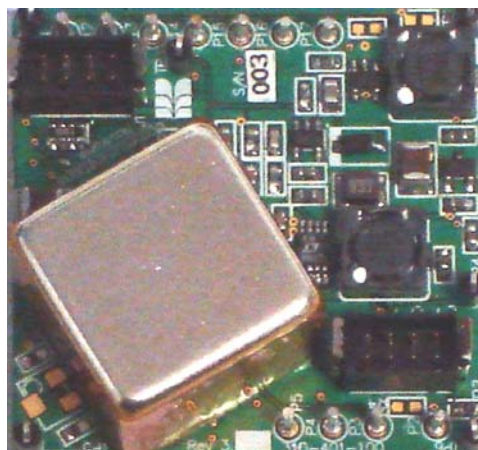
- Calibrated temperature range -10° to 35° C (Accuracy 5e-11/1e-9).
- Un calibrated temperature range 35° to 55° C (Accuracy 1e-7).
- Maximum operating temperature 55° C.
- Minimum operating temperature -10° C.

OPTIONS

- 10MHz compensated version with an accuracy of 1e-9. *+
- Higher ambient temperature (increased power consumption). *
- Lower ambient temperature (decrease in power consumption). *
- Customized firmware. +

+ NRE applies.

* Minimum order quantity.



Defence and Commercial versions of the HPTR are available



communications

Nautronix

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Revision 1.0 January 2008
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