



uPatch 100

OEM GPS Receiver Module



- Compact design with integrated antenna
- High performance, Cost effective design
- Suitable for GPS Mouse type of applications

New family of receivers

The uPatch100 integrates a high performance passive patch antenna. It is a versatile OEM GPS receiver for applications that require only an “NMEA-machine”. It is suitable for instance for GPS mouse type of applications where high navigation performance in urban canyons and low cost are key issues.

High performance receiver architecture

uPatch100 utilizes Sony GPS IC with built in ROM based firmware. In addition a two stage LNA, TCXO and RTC are included. Necessary on board regulators are also included for ease of use. Typical Cold Start TTFF is 38s. State-of-the-art signal acquisition and tracking circuitry enables weak signal capability in difficult environments.

Versatile interfaces

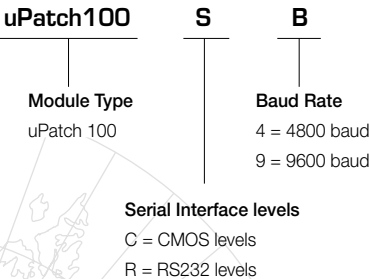
The uPatch100 is very easy to use. The 8-pin interface connector carries all necessary signals for making typical “NMEA machine” type of applications possible.

The user needs only to connect the power supplies (main supply and battery backup supply) to make it functional. Low power mode is simply achieved by removing the main power supply at any time. The receiver will resume normal operation once the main power supply is reconnected.

NMEA0183 output can be customized using SONY ASCII protocol. The uPatch100 can be factory configured for either RS232 level or CMOS level serial interface.

A highly accurate 1PPS timing pulse is also available. A valid fix output can be used for indicating the state of the receiver (acquisition, tracking and navigation modes).

uPatch is being superseded by uPatch 102 module.



Valid receiver configurations

- | | |
|--------------|---|
| uPatch100-R4 | RS232 levels @ 4800 baud (from warehouse) |
| uPatch100-R9 | RS232 levels @ 9600 baud |
| uPatch100-C4 | CMOS levels @ 4800 baud (from warehouse) |
| uPatch100-C9 | CMOS levels @ 9600 baud |
- Contact Fastrax about pricing and availability



Specifications

General: L1 frequency, C/A code (SPS)
 12 independent tracking channels
 Separate search & acquisition engine

Update rate: 1 fix/s

Accuracy: Position: 3 m (CEP50)
 7 m (CEP95)
 Velocity: 0.1 m/s
 Time: 40 ns RMS

TTFF: Cold Start: 38 s
 Warm Start: 32 s
 Hot Start: 8 s

Sensitivity: Acquisition (unaided): -139 dBm
 Tracking: -152 dBm
 Navigation: -150 dBm

Power Drain: Acquisition: 76 mA
 Navigation: 44 mA
 Battery backup: 150 μ A

I/O Ports: One asynchronous data port
 8-pin interface connector
 1PPS output
 Valid fix indicator output
 Main power supply
 Battery backup supply

Protocol: NMEA 0183
 SONY ASCII

Dimensions: 28 mm x 28 mm x 7 mm

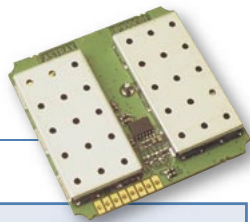
Weight: 10 g

Operating voltage: 3.3V..5.5V (main supply)
 3.3V..5.5V (battery backup supply)

Operating temperature: -30C..+85C

Antenna: Internal passive patch

uPatch100



uPatch100 Key Features:

- Small form factor – 28 x 28 x 7 mm
- Low power consumption:
 - 44mA @ 3.3V (normal mode)
 - 150uA @ 3.3V (battery backup)
- Very high sensitivity:
 - 139dBm (Unaided Acquisition)
 - 150dBm (Navigation)
 - 152dBm (Tracking)
- NMEA0183 and Sony ASCII protocols
- Integrated 25 x 25 x 4 mm patch antenna
- Accurate 1PPS timing output
- Cold Start TTFF: 38s
- Battery backup option
- Based on two chip receiver architecture
 - CXA3355 RF device and
 - CXD2956 Baseband device
- Factory options for either RS232 or CMOS levels for serial interface



uPatch100 Holder

