

## Time Transfer System 3 TTS - 3

The Astrogeodynamical Observatory (AOS) of the Space Research Centre following a very successful TTS-2, has developed a new high-performance Time Transfer System – 3 (TTS-3). The TTS-3 is manufactured by PikTime Systems in cooperation with the AOS.

At present the TTS-3 receiver carries observations on L1 and L2 frequencies for both GPS and GLONASS, receiving GPS C/A and P1 and P-2 codes, GLONASS C/A and P1 and P2 codes, and EGNOS. For time transfer ionosphere-free linear combination of P1 and P2 called P3 is used. The TTS-3 consists of a PC industrial computer, a PC card time interval counter, a GNSS 40 channel, appropriate software, an antenna, and connecting cables. The TTS-3 precision in multi-channel P3 mode when using measurements precise ephemerides may reach 1 ns. Both carrier frequency and code measurements are available in RINEX format

There are several options available for TTS-3 depending on requested performance. The TTS-3 can be equipped with a temperature-stabilized antenna. The system allows an easy upgrade of presently available and future options.



### Performance

- 40 Channels Continuous/Simultaneous
- Data type: L1/L2 Code and Carrier, GPS, GLONASS, EGNOS, WAAS
- Data output format: CGGTTS and RINEX
- Time interval resolution of the internal counter 100 ps
- 0.5 V trigger level
- Time transfer precision about 1 ns;  
Time transfer accuracy about 2 ns

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### Interfaces

- 100BASE-T Ethernet port
- USB port
- 210GB free for data storage (standard version)
- The system is working under LINUX providing multitasking and better Integration with networks
- External reference frequency input: 10 MHz
- Local 1 PPS input connector: female BNC
- Antenna cable length: as ordered, up to 50 m; TNC connector
- Power requirements AC 220 V  $\pm$  10%, 45 to 60 Hz or AC110 V  $\pm$ 10%, 55 to 65 Hz.

### Remote control

Receiver can be configured using WEB interface.

### Data recording

Data can be:

- download from WEB interface (using WEB browser)
- download from integrated FTP server
- send to external FTP server (using WEB interface)
- write to pendrive (using console or WEB interface)

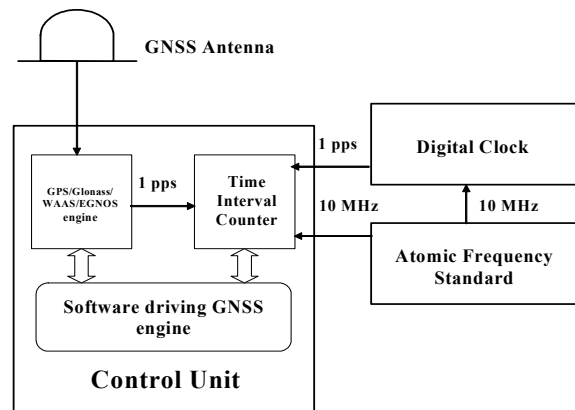
### Physical

Receiver: 482 x 480 x 173 mm, 18 kg  
Antenna: 142 x 142 x 53 mm, 5 kg

### Environmental

Receiver: Temp.: 15 °C to 40 °C  
Humidity: 0 - 95 %  
Non-condensing

Antenna: Temp.: - 40 °C to 55 °C  
Housing: Waterproof



TTS-3 Architecture

### Update

TTS-3 allows an easy update of software and hardware including temperature stabilization of the GNSS engine and antenna.

### Ordering information

Orders should be sent to PikTime Systems.

**A one-year guarantee is provided**

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