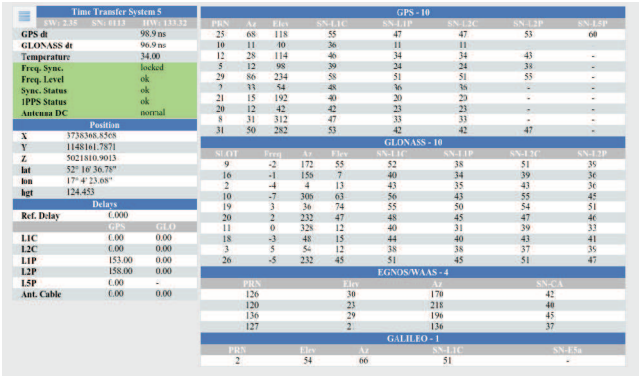
Time Transfer System TTS-5 - confidence through experience

It has been over 23 years since first “TTS” was introduced. Single frequency TTS-1 as first in the family, a very successful TTS-2, then TTS-3 with GLONASS, now TTS-5 - developed from scratch, released in 2015 after 2 years of R&D work. Till the date more than 150 units have been delivered to over 30 countries. As our core product, TTS is being continuously improved towards better observation results and deployment of the recent time & frequency knowledge. Software upgrades are provided free of charge every 3 months on average. **Excellent observation results, long and stable operation, wide configuration possibilities, as well as user friendly solutions are main advantages of the system.** TTS-5 generates data on its own and requires no daily assistance. The system is working under LINUX providing multitasking and integration with networks.

Time Transfer System TTS-5



Main screen of TTS-5

Access, Operation & Configuration

- **built-in touch** screen offers immediate access to observations, configuration and main parameters: delays, antenna position, key system status indicators.
- via WEB interface
- via USB keyboard

Data recording & storage

Date can be:

- downloaded from WEB interface (using WEB browser)
- downloaded from integrated FTP server
- sent to external FTP server (using WEB browser)
- saved on USB memory (using console or WEB interface)
- 1TB redundant data storage (RAID1 2*1TB)

Tracking features

Supported navigation systems:
GPS, GLONASS, Galileo, WAAS/Egnos
Number of channels: 216
Number of satellites: all-in-view
Supported frequencies:
GPS: L1, L2, L5
GLONASS: L1,L2 option: L3
GALILEO: E1, E5A , option: E5B, altBoc, E6
Supported codes:
GPS: L1C, L2C, L1P, L2P, L5P
GLONASS: L1C, L2C, L1P, L2P option: L3
GALILEO: E1, E5A , option: E5B, altBoc, E6

Input/Output

3-20 MHz frequency input (adjustable)
Local 1 PPS input
1PPS output
Antenna TNC connector
1000BASE-T Ethernet port
2 USB connectors on the front panel
2 USB connectors on the rear panel

Data characteristics & availability

Data type: Code and Carrier
Data output format: CGGTTS, RINEX. **The only CGGTTS Glonass/Galileo receiver on the market.**
Data formats meet all formal requirements.
Data availability:
CGGTTS: 30 sec after each 13-min. observation session is finished
RINEX: real time

Physical & Enviromental

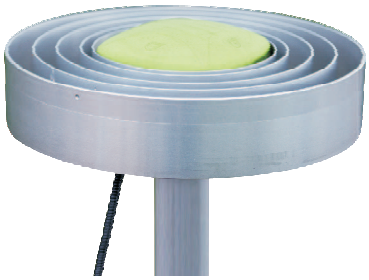
Main unit dimensions:
(410mm x 298mm x 133mm)
Rack ready, chassis made of heavy duty metal
Screen - 7” TFT LCD
Resolution 1024 x 600
Operating voltage: AC 230V +/-10%, 45 to 60 Hz
or AC 110V +/-10%, 55 to 65 Hz
Redundant power supply support
Operating temperature: 0ºC to +50 ºC

Time stability

Precision for phase observation for a short term, short baseline precision <12ps rms
Precision for code observation <0.4ns rms
(receivers connected to the same reference standard)

Antennas

Standard antenna



Choke ring antenna

Temperature stabilized choke ring antenna

Our main concern is improvement of TTS-5 performance. In result, every several months software upgrade is released and all TTS-5 users are notified. Software upgrades are free of charge.
We offer free of charge permanent customer assistance.

Time Transfer System TTS-5 is in compliance with requirements of European Union laws. CE