

# GTR55

## Time and Frequency Transfer GNSS Receiver

The GTR55 is a multisystem/multifrequency GNSS (Global Navigation Satellite System) receiver intended for time & frequency transfer. The receiver supports both code and carrier phase measurements. Thanks to large receiver bandwidth and advanced signal processing, even the code measurements provide subnanosecond accuracy. The built-in calibrator measures continuously the internal delays of all supported signals ensuring high long-term stability. The receiver can be directly connected to a local net or internet which allows remote control and output data download and upload.



### Operation

The operation is fully automatic. After the very first configuration, the receiver continuously collects the measurement data. Output files in several standard/proprietary formats can be generated from the collected data. The data processing can be started manually or by a scheduler which enables routine processing at given times (daily,

weekly, ...). The resulting data files can be downloaded from the receiver, automatically uploaded to a server or automatically saved to an external disk. A brief message is sent to an e-mail address after the processing is finished.

The output measurement data can be referenced to the input 1PPS and/or to the output 1PPS time mark.

### Remote control

The receiver can be controlled from any computer on the net. The User Interface has the form of a web page which can be accessed using a web browser. It enables control of the receiver, monitoring of the receiver operation, and download of the measurement data. Authorization is required to access the receiver.

### Diagnostic system

The diagnostic system indicates several dozens of operational events and states. The diagnostic messages can be recorded in the log, displayed in the User Interface, and sent to an e-mail address.

### Monitoring with graphical representation

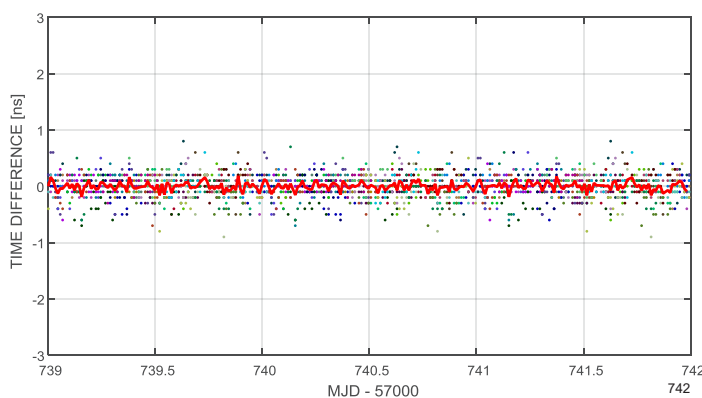
History of operational parameters (time difference, temperature, satellite elevation/azimuth, ...) is displayed in graphs in the User Interface.



## Technical parameters:

Time Reference Input:	
Input signal	1PPS (leading edge)
Connector type	BNC-f
Input impedance	50 Ω
Trigger level	0 – 2.5 V adjustable
Max level	5.5 V / 50 Ω
Min level	-0.1 V / 50 Ω
The 1PPS time mark must be coherent with the frequency reference at the 10 MHz input and it must be in the range UTC ± 2 ms.	
Time Reference Output:	
Output signal	1PPS (leading edge)
Connector type	BNC-f
Low level	0 – 0.05 V / 50 Ω
High level	1.8 – 2.5 V / 50 Ω
Frequency Reference Input:	
Input signal	10 MHz
Connector type	TNC-f
Input impedance	50 Ω
Max level	3 Vpp / 50 Ω
Min level	0.5 Vpp / 50 Ω
Precision:	
Code measurement	< 0.3 ns RMS (CGGTTS data, short-baseline common view)
Carrier phase measurement:	< 15 ps RMS (short-baseline common view)
Ionospheric delay	< 2 ns RMS (CGGTTS data)
Output Data Formats:	
CGGTTS	(all tracks / all satellites in view), version 2E, L3P data and MSIO iono-delay included
RINEX	(observation / navigation files), versions 2.11, 3.01, 3.05 and 4.00
ESA	proprietary format similar to CGGTTS / L3P with 5-minute tracks
BETA	proprietary format similar to CGGTTS with 5-minute tracks
RAW	proprietary format, all signals, both code and carrier phase data

1PPS_DIF	proprietary format, REF_IN - REF_OUT time difference
EL_MASK	CNR analysis and search for obstacles
STAT	statistics of collected measurement data
The output measurement data can be referenced to the input 1PPS and/or to the output 1PPS time reference.	
GNSS Receiver:	
Supported signals:	
GPS	L1 C/A, L1P, L2C, L2P, L5, L1C
GLONASS	L10F, L1SF, L20F, L2SF, L30C
Galileo	E1, E5a, E5b, E5 AltBOC, E6
BeiDou	B1i, B2i, B3i, B1C, B2a, B2b, B2 ABOC
IRNSS	L5
SBAS	L1, L5
NAVIC	L5, S (optional feature)
QZSS	L1 C/A, L1S, L1C, L2C, L5, L6
Type of measurement	code / carrier phase, referenced to input / output time reference
Connector type	TNC-f
Number of satellites	all in view
Number of HW channels	874
Built-in calibrator measures continuously the internal delays of all supported signals including GLONASS inter-channel biases ensuring low temperature dependence and high long-term stability.	
<b>Dimensions:</b>	19"/2U standard chassis
<b>Power Supply:</b>	100 - 240 V AC / 50 - 60 Hz
<b>Operating Temperature:</b>	0 to 50°C
Antenna:	
Antenna supply	5 V / up to 120 mA (plus on inner contact)
Recommended antenna	Novatel GNSS-850 (all signals except NAVIC-S supported) Javad GrAnt-G5T-Lb-i (all signals including NAVIC-S supported)
Optional amplifier supply	12 V / up to 90 mA



Example of a short baseline comparison error, CGGTTS V2E data, GPS L1 C/A signal, 31 satellites.



MESIT asd, s.r.o.  
Sokolovská 573, Mařatice  
686 01 Uherské Hradiště  
Czech Republic  
asd@mesit.cz  
T +420 572 522 200

Sales Department  
defence@mesit.cz  
T +420 572 522 603  
F +420 572 522 806  
www.mesit.cz

ID: 60709235  
VAT No: CZ60709235  
Brno Commercial register - C 15427  
All data are subject to change.  
This is not an offer for a contract.

