

T-Series NTP Network Time Server

Firmware Version Control

Models Covered: T100, T300, T550
Document Number: T1320-09
Date: 14 October 2025

The latest version of this user guide can be obtained from TimeToolsLtd.com

TimeTools

To take advantage of new features, security updates and bug fixes, TimeTools recommends that customers regularly check that their T-Series network time servers firmware is up to date.

Firmware updates can be downloaded from TimeTools website at:

<https://timetoolsltd.com/support/download/t-series-firmware/>

Firmware release: 1.0.001

Release date: 27-JAN-17

Initial create.
GNSS receiver module firmware 1.03.0

Firmware release: 1.0.002

Release date: 03-DEC-18

GNSS receiver module firmware update to 1.05.0
Option to select GNSS constellation (T550 only).
Added option to allow mobile GNSS operation, in addition to standard static positioning mode.
New command line interface (CLI) available from SSH or serial console session – nts command.
Restrict NTP time adjustments to a maximum of 1000 seconds (approx. 16 minutes).
Allow HTTPS protocol to be disabled, if required.
Option to disable root and timetools user accounts.

Firmware release: 1.0.003

Release date: 03-JUN-19

Modification to periodically clear SSH log files. The SSH log files can become quite large over time, particularly if there has been a large number of invalid login attempts. These logs are now periodically cleared to prevent them from becoming too large.
GNSS reference clock service modified to further improve offset filtering.

Firmware release: 1.0.004

Release date: 05-MAR-20

Fix for [CVE-2020-8964] and [CVE-2020-8963]. Prevent unauthorized access by removing "hard-coded cookie".
Prevent OS command injection by employing strict validation of web page input fields.

Firmware release: 2.0.001

Release date: 13-OCT-20

Linux kernel 4.4 LTS, OpenSSH 8.3p1, OpenSSL 1.1.1g, NTP 4.2.8p15, nginx 1.18.0, fcgi 2.4.2, net-snmp 5.8.
Implement SNMP v3.
Updated T-Series MIB file.

Firmware release: 2.0.002**Release date: 27-JAN-21**

GNSS (Fix - Minor)	Ignore Almanac flag when Galileo or Beidou constellations selected.
GNSS (Fix - Minor)	Holdover may not be initiated during first month of year.

Firmware release: 2.0.003**Release date: 22-OCT-21**

System (New Feature)	Introduced 2.0.003A firmware for T-Series models with PCF8523 Real Time Clock.
System (New Feature)	2.0.003B firmware for T-Series models with new M41T00S Real Time Clock.
GNSS (New Feature)	OpenSSH 8.8p1, OpenSSL 1.1.1l, nginx 1.21.3, net-snmp 5.9.1, vsftpd 3.0.5.
GNSS (New Feature)	GNSS receiver firmware update 1.08.0.
GNSS (New Feature)	Allow for possible leap second deletion.
GNSS (New Feature)	Allow operation with ICM360 GNSS module.
GNSS (New Feature)	Do not allow Galileo or GLONASS only operation, GPS must always be enabled.
Networking (Fix - Minor)	Additional network configuration script runs too early in boot procedure.
	Run script after networking has started.
System (New Feature)	Allow shut down from command line – “nts system shutdown”.
System (New Feature)	Allow 10 minute time validity check at start up to be enabled or disabled - “nts ntp panic disable”.
System (New Feature)	Disable TLS 1.2 and older SSL protocols

Firmware release: 2.0.004**Release date: 21-JUN-23**

System (New Feature)	Provide an option to change GNSS receiver mode from default static operation to mobile operation. Allows GNSS synchronisation on moving platforms, such as ships and vehicles.
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Firmware release: 2.0.005 A/B**Release date: 21-FEB-24**

System (New Feature)	OpenSSH 9.6p1, OpenSSL 3.0.13 LTS, nginx 1.25.3, net-snmp 5.9.3, NTP 4.2.8p17, kernel 4.4 LTS
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Firmware release: 2.0.006 A/B**Release date: 08-MAY-24**

System (Fix - Minor)	SNMP service does not start correctly in last firmware release (2.0.005 A/B). The Systemd unit file and SNMP configuration file has been modified to correctly start the SNMP service when required.
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Firmware release: 2.0.007 A/B**Release date: 08-AUG-24**

System (New Feature)	OpenSSH 9.8p1, OpenSSL 3.0.14 LTS, nginx 1.26.1, Default SSL certificate update, T550 Default configuration changed from GPS-GLONASS to GPS-Galileo.
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Firmware release: 2.0.008 A/B**Release date: 14-OCT-25**

System (New Feature)	OpenSSH 10.0p2, OpenSSL 3.0.17 LTS, nginx 1.28.0, fcgi 2.4.6, spawn-fcgi 1.6.5.
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