

TS-500 INSTALLATION AND CONFIGURATION MANUAL



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INTRODUCTION

Similar to the TS-400-GPS unit, the TS-500-GPS time server is supplied as an active GPS antenna and software to convert a Windows workstation or server into a stratum 1 NTP time server. However in contrast to the TS-400-GPS, the TS-500-GPS can track up to a maximum of 12 satellites and utilises a pulse per second (PPS) output for added accuracy.

FEATURES

- External GPS antenna
- Tracks up to 12 satellites
- PPS line for increased accuracy
- Accuracy $\pm 20\text{ms}$ to UTC
- Mains powered





TS-500-GPS

WHAT SHOULD BE SHIPPED

STANDARD PARTS

- TS-500-GPS Antenna with 10m (15m max.) of cable
- Instruction Manual
- Power Lead
- NTP Software CD

OPTIONAL PARTS

- Gold and Premium Support Packages
- Digital Wall Clocks
- Additional Software Licenses (available from 5 to 300+ clients)





TS-500-GPS

TECHNICAL SPECIFICATION

Type of receiver	Active Antenna GPS 12 channel
Power Supply	85-260V, 47-63Hz
Protocols	SNTP via TimeSync Software
Connections	RS232 Serial Interface
Mounting	Must be mounted externally (preferably with 360° view of the sky)
Operating System	Requires Microsoft Windows XP or later or Microsoft Windows Server 2003 or later
Working Temperature	0 - 50°C / 32 - 122°F
Working Humidity	Max. 85%
Timing Accuracy	Network: +/- 20 milliseconds, typical
Signal (GPS) Accuracy	<1 μ s, relative to GPS



SYSTEM OVERVIEW

TS-500-GPS

Similar to the TS-400-GPS unit, the TS-500-GPS time server is supplied as an active GPS antenna and software to convert a Windows workstation or server into a stratum 1 NTP time server. However in contrast to the TS-400-GPS, the TS-500-GPS can track up to a maximum of 12 satellites and utilises a pulse per second (PPS) output for added accuracy.



GPS ANTENNA

Tracking up to 12 satellites at the same time, GPS offers an accurate signal capable of a reliable and consistent reading anywhere in the world. Used extensively for synchronising time from one location to another, GPS signals are received globally and maintain a high level of accuracy.

The GPS antenna is encased in a weatherproof IP65 enclosure and should be mounted on the roof of a building with a 180-degree view of the sky.

The antenna can be mounted to the side of the building; however, limiting the view of the sky will have an effect on the units' ability to synchronise. Units mounted to the side of the building will experience short periods of time where the antenna is unable to see the three satellites required to achieve synchronisation.

Some things to avoid are older computer monitors, switch mode power supplies and air conditioning units.

The Operating temperature for the antenna is -40 Celsius to +85 Celsius so it may be worth noting that the temperature inside the enclosure can be considerably different from the external temperature, especially when the antenna is located in a position where it is in direct sunlight.

When mounting a GPS antenna it may be worth noting that satellites dishes can have a negative effect on the unit, it's best to keep the GPS antenna at least ten metres from them.



SETTING UP THE UNIT

CONNECTING EVERYTHING UP

Unit Location

Choose a suitable location for the TS-500-GPS; please bear in mind that the cable is limited to 10/15m and will need to be close to the computer you wish to synchronise it with.

Connect to Network

Connect the TS-500-GPS to a Computer via the Serial RS232 cable or the USB adapter cable. Connect the computer to the network using a standard RJ-45 cable.

CONFIGURATION

Once everything is connected up, the TS-500-GPS can then be powered up. The unit will start up and begin running the necessary processes and will begin to search for GPS satellites to synchronise with.

You will also need to set up the TimeSync software. To do this, please refer to the TimeSync Manual.



TROUBLESHOOTING

Use this section to quickly troubleshoot minor issues or common problems.

For any further support, please contact us using our Support Website, which can be found at:

galleonsupport.com

Q) The GPS Unit cannot see enough satellites. What can be done to improve this?

A) The ideal location for the GPS Antenna is the on the roof of the building with a 180° view of the sky. Although it may work on a window ledge, the view of the sky will be significantly smaller which could result in the loss of communication with the satellites.





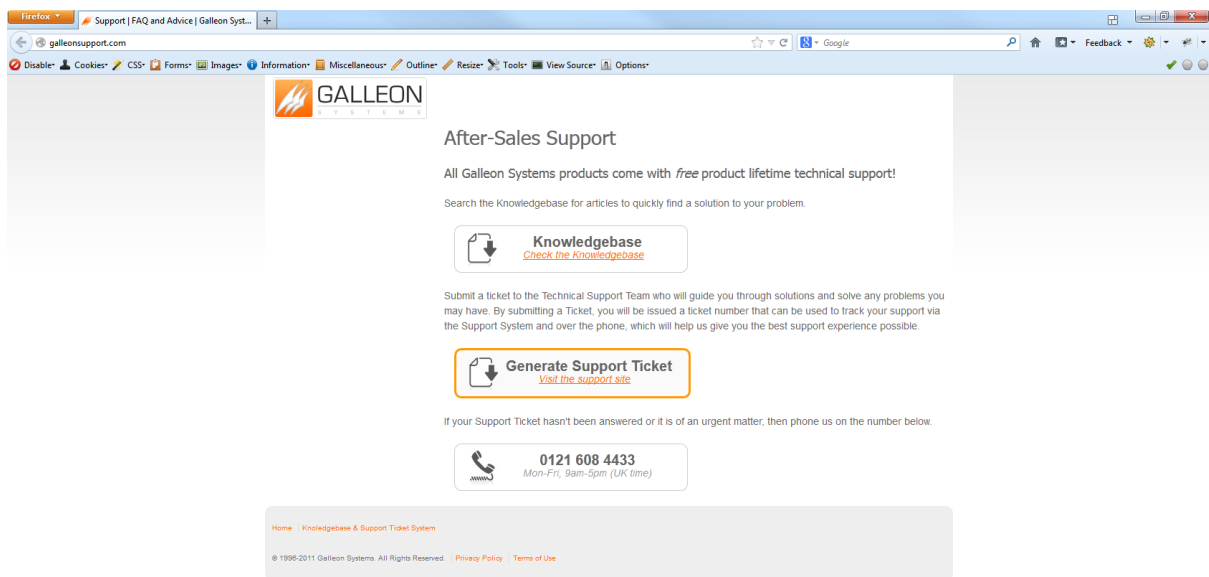
TS-500-GPS

TECHNICAL SUPPORT

SUPPORT WEBSITE

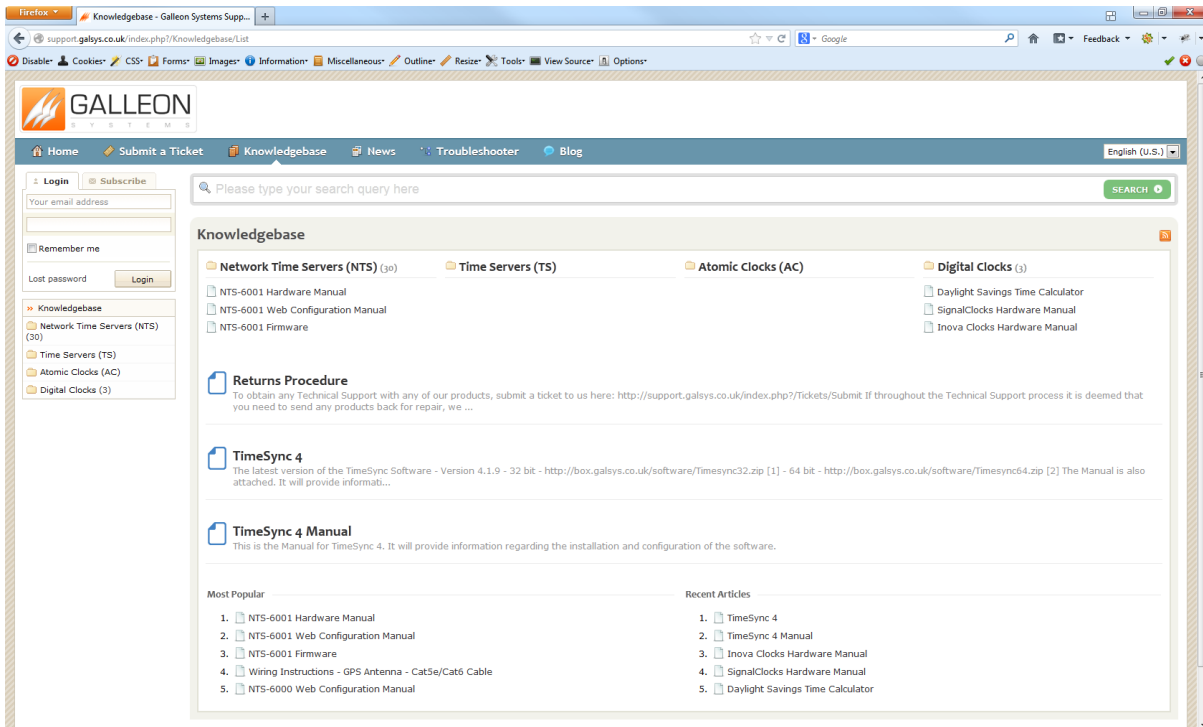
Should you require any Technical Support on this product, please go to galleonsupport.com where you can find access to the Knowledgebase, for general information.

For any further questions please submit a ticket detailing the problems or technical issues you are having, and a member of the Technical Support Team will be available to support you. When submitting a ticket, please give as much information as possible.

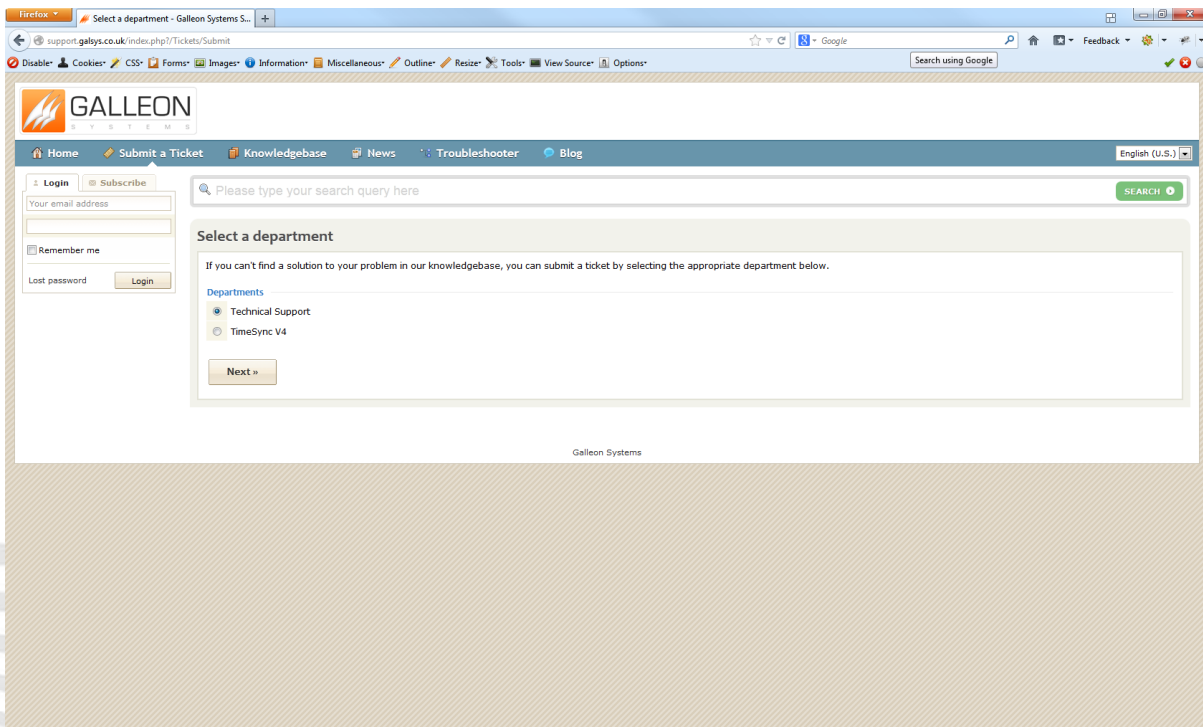


galleonsupport.com website with Knowledgebase and Support Ticket links.





The Technical Support Knowledgebase.



The Technical Support Ticket System.



TS-500-GPS

WARRANTY AND MAINTENANCE

WARRANTY

Galleon Systems warrants the time server to be free from defects in material and workmanship during a three-year period. The Warranty begins on the date the unit is shipped from Galleon Systems. Extended warranties are available by speaking to the Galleon Systems Sales Team.

Galleon Systems' liability under this Warranty is limited to repairing or replacing, at Galleon systems' option, the defective equipment and providing upgrade version changes for firmware. In case of repair, the product must be returned to Galleon systems.

This Warranty does not apply if repairs are required due to acts of nature beyond Galleon systems' control such as, but not limited to, lightning strikes, power surges, misuse, damage, neglect, or if repairs/modifications have been made or attempted by anyone other than personnel authorised by Galleon Systems.

In no event will Galleon Systems be liable for any indirect, special, incidental or consequential damages from the sale or use of this product.

This disclaimer applies both during and after the term of the warranty. Galleon Systems disclaims liability for any implied warranties, including implied warranties of merchantability and fitness for a specific purpose.

TECHNICAL SUPPORT, REPAIR AND RETURNS

To obtain any Technical Support with this product, contact Galleon Systems via the Support Website – galleonsupport.com

If throughout the Technical Support process it is deemed that you need to send any products back for repair, we will issue a Return Material Authorisation (RMA) Number and shipping instructions. Then ship the product, transportation prepaid, for inspection.

Typical Equipment repair or replacement time is five (5) business days, plus shipping times. One-way shipping is the customer's responsibility. Galleon Systems will return ship the equipment by the same means it was received.

Galleon Systems will not be responsible for unauthorised returns or for returns that do not list the RMA Number on a packing list attached in plain view on the outside of the shipping container.