TS-700 INSTALLATION AND CONFIGURATION MANUAL

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INTRODUCTION

A GPS clock supplies time to the computer via a Serial/USB interface and the TimeSync software. The TS-700-GPS will synchronise the time on Windows Server 2003, 2008, 2008 R2 and 2012 or on Windows XP, Vista, 7 and 8 desktop computers. The TimeSync software conforms to the Network Time Protocol, runs as an application and a service and configures as a Stratum 1 NTP Timeserver supplying NTP time to any other machine on the network.

A two line display on the TS-700-GPS unit shows run-time information for the GPS subsystem and UTC time.

The TS-700-GPS provides an elegant solution ensuring that a Windows Server or a Domain Controller has accurate secure time behind the company firewall.

FEATURES

- Easy to set up - Installs as a service on a Windows Server
- Converts existing Windows Server to a Stratum 1 NTP Time Server
- Provides accurate timing for computers and computer networks
- Accuracy ±20ms to UTC
- World-wide operation

WHAT SHOULD BE SHIPPED

STANDARD PARTS

- TS-700-GPS clock + power supply
- GPS Antenna (with a 10m/8 Core Cable - not shown) + power supply
- Instruction Manual
- NTP Software CD
- Junction Box (to extend antenna cable - if necessary)
- IDC Cable Tool (to insert extension cable into the junction box- if necessary)

OPTIONAL PARTS

- Gold and Premium Support Packages
- Digital Wall Clocks
- Antenna Cable (100 to 1,000 metre rolls available)
- Additional Power Supply (Recommended from 150 metres onwards)
- Additional Software Licenses (available from 5 to 300+ clients)

TS-700-GPS

TECHNICAL SPECIFICATION

Type of receiver	Active Antenna GPS 12 channel
Mounting (Unit)	Wall mountable or free standing
Mounting (Antenna)	Wall mounting bracket
Display	LCD, 2 x 20 characters, with backlight
Network Interface	Via a Windows server or workstation
Interface to Server	RS232 serial interface
Power supply	85 - 260V, 47 - 63Hz
Working Temperature	0 - 50°C / 32 - 122°F
Working Humidity	Max. 85%
Timing Accuracy	Network: +/- 20 milliseconds, typical GPS: 1 microseconds, relative to UTC
Signal (GPS) Accuracy	<1 µs, relative to GPS

SYSTEM OVERVIEW

TS-700-GPS

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TS-700-GPS

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.

Functional up to 1000m (3,000 ft.) away from the time server, additional cable length can be added to the supplied 10m to increase cable size to desired length. An extra power supply is recommended past the length of 550m to ensure the unit is running at optimum efficiency.

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 GPS antenna uses eight-core signal cable and will function on a cable run of up to 550 metres drawing power from the rack-mount unit, if you require the antenna to have an extended cable run of up to 1,000 metres then a power supply is required. This power supply feeds directly into the GPS antenna and as such, would need to be located on the roof too. In most cases however, 550 metres is more than adequate.

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

Server Location

Choose a suitable location for the TS-700-GPS; please bear in mind you will need to run a cable from this location preferably to the roof of the building or to a window.

Connect to Network

Connect the TS-700-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.

Install Antenna

Choose an area to mount the GPS Antenna; the ideal place would be the roof of the building with a clear view of the sky (GPS). You need to ensure that the antenna is installed close to a power supply that is sheltered from the elements. Things to avoid are air conditioning units and power distribution units, as these will cause electrical interference.

Connecting the Server to the Antenna

The cable should be run from the unit to the selected mounting position.

Please note that it is a good idea to leave some slack cable in case you need to move the unit later. Also the maximum cable length should not exceed 1000m.

CONFIGURATION

Once everything is connected up, the TS-700-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) What do the 3 LED's on the unit indicate?

A) On the front of the unit there are 3 lights, 2 red and 1 green. The top red 'Power' light indicates that there is power to the unit. The green 'GPS Antenna' light will be solid when the unit is searching for satellites and flash when the unit is picking up the signal from the antenna and is synchronised. The bottom red 'Serial Data' light will only flash once the GPS is synchronised and is also flashing. The green and bottom red lights will flash in rhythm when it is synchronised and send data down the serial cable.

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.

Q) Can the cabling for the antenna be taken across the existing CAT5 cabling structure in our building?

A) Yes, the GPS antenna can be taken across CAT5 / UTP cabling, however, the cabling must be 'point-to-point' and cannot pass through routers, hubs, or switches.

Q) What type of cable should I use for extending the GPS antenna to 1000m?

A) The GPS antenna uses standard unscreened eight-core cable. In most cases, this is adequate; however, in some cases screened cable may be required.

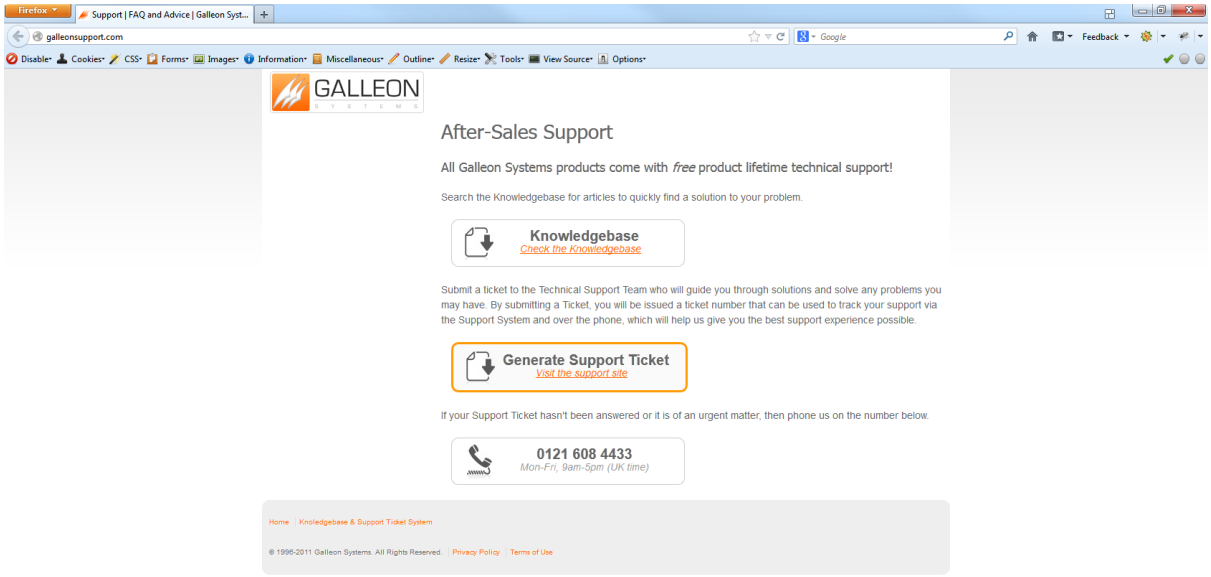
Note: The cabling is often referred to as 'eight-core alarm cable'.

TECHNICAL SUPPORT

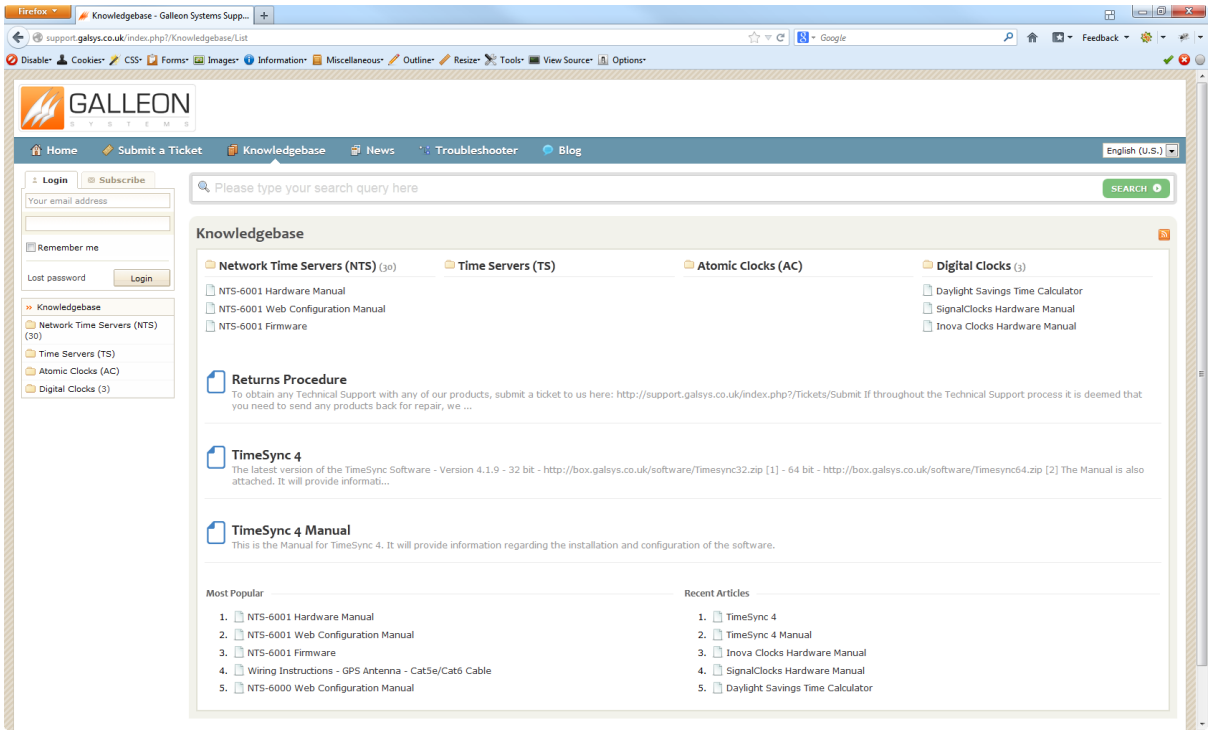
SUPPORT WEBSITE

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.

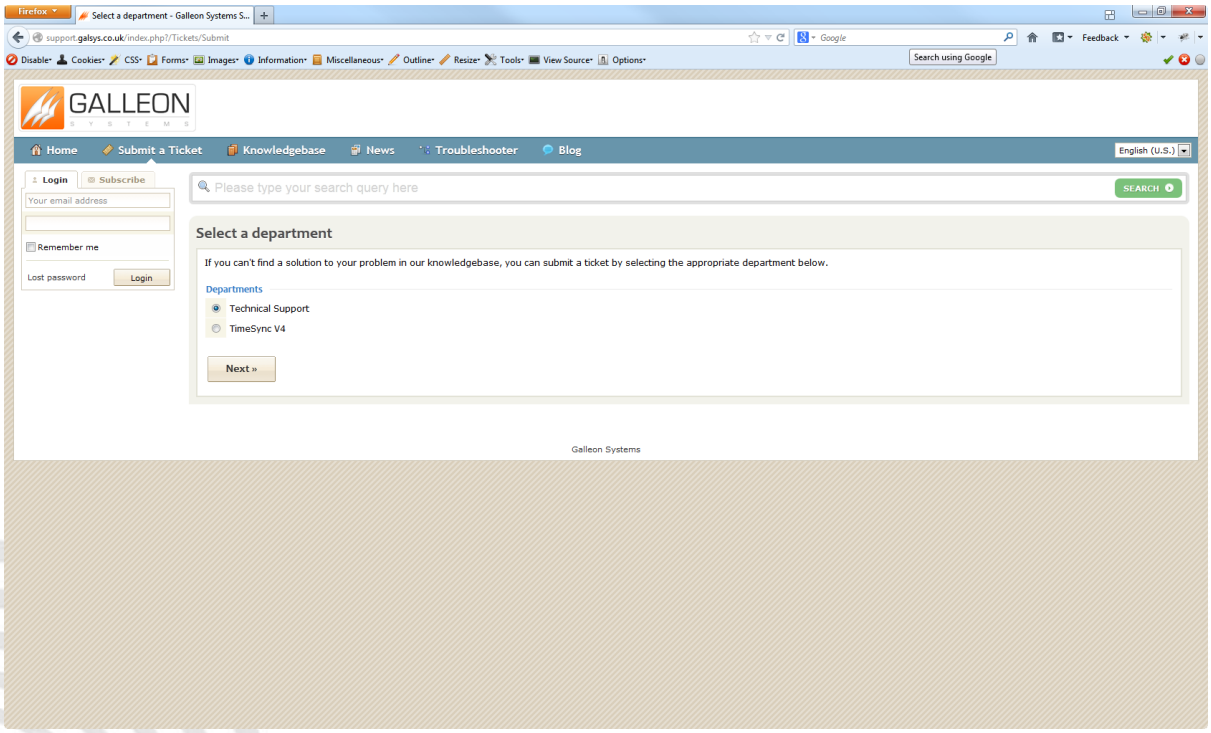
For any further questions please submit a ticket detailing the problems or technical issues you are having, and a member of the Technical Support Team will be available to support you. When submitting a ticket, please give as much information as possible.



galleonsupport.com website with Knowledgebase and Support Ticket links.



The Technical Support Knowledgebase.



The Technical Support Ticket System.

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.