GALLEON
SYSTEMS

TS-300 INSTALLATION
AND CONFIGURATION MANUAL

www.galsys.co.uk
galleonsupport.com

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TS-300-MSF

CONTENTS

INTRODUCTION

Supplying time to a network of PC's, the MSF clock is a stand-alone all-in-one antenna that receives a reliable signal. Providing accurate time behind a windows firewall, server or domain, the TS-300-MSF can be up and running in a few minutes. Supplied with a software driver for NTP TimeSync and additional technical support by phone and email, Galleon provides a comprehensive and easy solution for secure network time.

FEATURES

- Stand-alone unit with integrated MSF antenna

- Battery powered

- Accuracy ±20ms to UTC

- UK operation (DCF operates in Germany and WWVB operates in USA)

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WHAT SHOULD BE SHIPPED

STANDARD PARTS

- TS-300-MSF unit

- Instruction Manual

- NTP Software CD

- Batteries

OPTIONAL PARTS

- Gold and Premium Support Packages

- Digital Wall Clocks

- Additional Software Licenses (available from 5 to 300+ clients)

TS-300-MSF

TECHNICAL SPECIFICATION

Type of receiver	Ferrite Antenna for Radio Signals
Mounting	Indoor; Free-standing or bracket
Network Interface	Via a Windows server or workstation
Interface to Server	RS232 serial interface (USB optional)
Power supply	AA Batteries
Working Temperature	0 - 50°C / 32 - 122°F
Working Humidity	Max. 85%
Timing Accuracy	Network: +/- 20 milliseconds, typical MSF: <2 microseconds, relative to UTC

SYSTEM OVERVIEW

TS-300-MSF

Supplying time to a network of PC's, the MSF clock is a stand-alone all-in-one antenna that receives a reliable signal. Providing accurate time behind a windows firewall, server or domain, the TS-300-MSF can be up and running in a few minutes. Supplied with a software driver for NTP TimeSync and additional technical support by phone and email, Galleon provides a comprehensive and easy solution for secure network time.

MSF ANTENNA

The MSF signal is broadcast from Anthorn in Cumbria and is maintained at a reliable frequency of 60 kHz, delivering a steady signal undisrupted by changing weather conditions and operational 24 hours a day. The radio signal is designed to cover the whole of the United Kingdom.

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 the desired length. An extra power supply is recommended past the length of 550m to ensure the unit is running at optimum efficiency.

One thing to bear in mind with a radio-based antenna is that certain electrical equipment generates noise on the same frequency as the radio signal and can cause interference. Some things to avoid are older computer monitors, switch mode power supplies and air conditioning units.

Radio based antennas are also directional antennas. The front of the antenna (this is the opposite side to where the cable enters the weatherproof box) should be facing the transmitter for the best signal reception.

For more information on the MSF signal, including information on scheduled maintenance times please refer to the National Physics Laboratory's website at www.npl.co.uk

DCF ANTENNA

The DCF antenna receives a radio signal broadcast at 77.5 kHz from Frankfurt (Main). The signal covers the whole of Germany and impressively most of Europe too.

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 the desired length. An extra power supply is recommended past the length of 550m to ensure the unit is running at optimum efficiency.

One thing to bear in mind with a radio-based antenna is that certain electrical equipment generates noise on the same frequency as the radio signal and can cause interference. Some things to avoid are older computer monitors, switch mode power supplies and air conditioning units.

Radio based antennas are also directional antennas. The front of the antenna (this is the opposite side to where the cable enters the box) should be facing the transmitter for the best signal reception.

For more information on the DCF signal including information on scheduled maintenance times, please refer to the Physikalisch-Technische Bundesanstalt website at www.ptb.de English can be selected via the menu located at the top left side of the site.

There is an alternative website for information on the DCF signal, however, please note this website is provided only in German at www.dcf77.de

WWVB ANTENNA

The WWVB antenna receives a radio signal broadcast at 60 kHz from two transmitters near Fort Collins in Colorado. One benefit of using the WWVB signal is that as they have two transmitters that have different scheduled down times, the WWVB signal is not affected by maintenance.

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 the desired length. An extra power supply is recommended past the length of 550m to ensure the unit is running at optimum efficiency.

One thing to bear in mind with a radio-based antenna is that certain electrical equipment generates noise on the same frequency as the radio signal and can cause interference. Some things to avoid are older computer monitors, switch mode power supplies and air conditioning units.

Radio based antennas are also directional antennas. The front of the antenna (this is the opposite side to where the cable enters the box) should be facing the transmitter for the best signal reception.

For more information on the WWVB signal please refer to the National Institute of Standards and Technology (NIST) under the Time and Frequency Division at www.nist.gov/pml/div688/grp40/wwvb.cfm

SETTING UP THE UNIT

CONNECTING EVERYTHING UP

Unit Location

Choose a suitable location for the TS-300-MSF; 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-300-MSF 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-300-MSF can then be powered up. The unit will start up and begin running the necessary processes and will begin to search for the MSF Radio signal 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 TimeSync software is not updating the PC time?

A) Check the connections are correct on the COM port. Use Ctrl-Alt-Delete to obtain the Task Manager and if any other clock related programs are running then stop them because they will clash. You must also make sure you disable any TimeSync services if you are running NT. Note that certain machines do not support a full implementation of the COM port and will sometimes not communicate with the Workstation unit, to ensure this is not the problem run the clock and software on another make of machine.
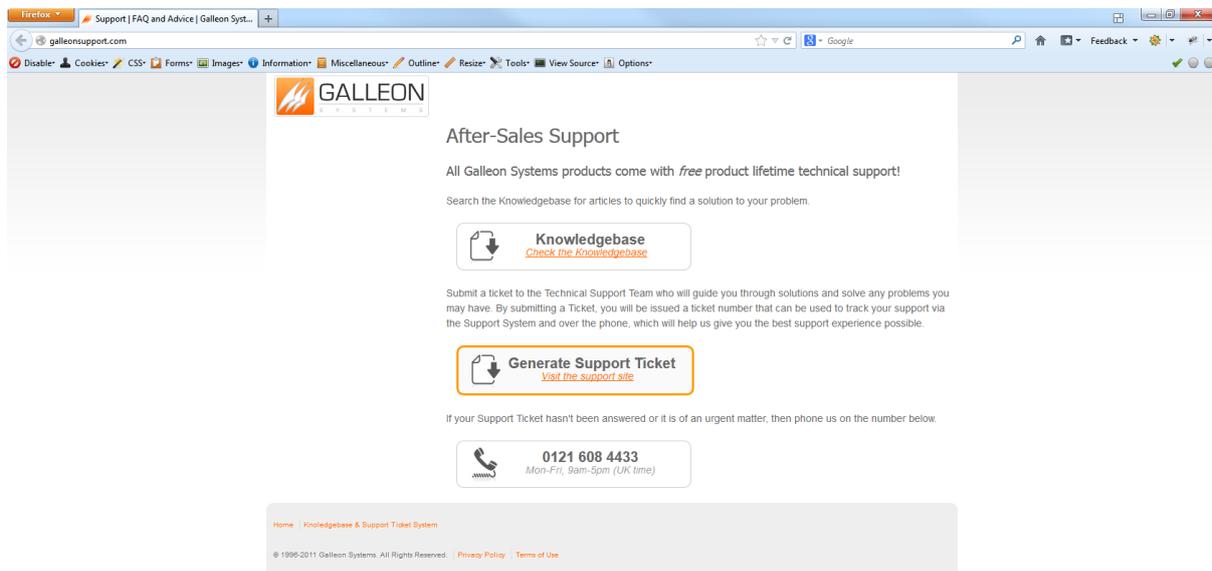
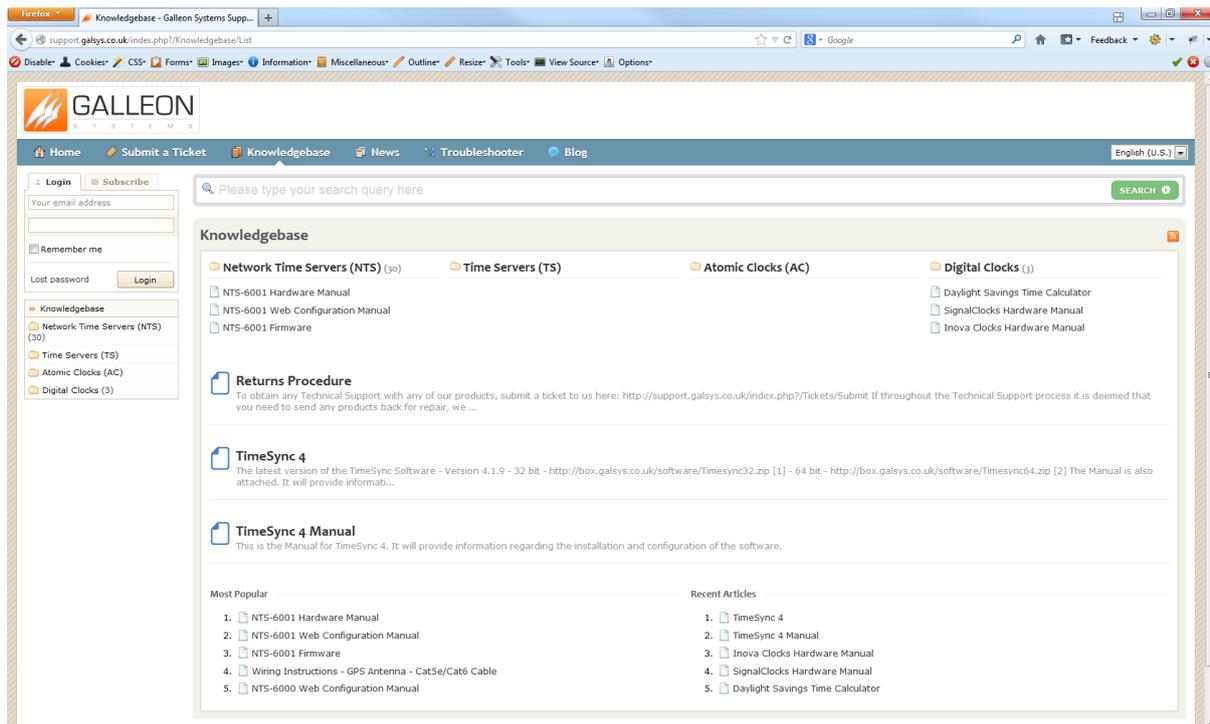## TECHNICAL SUPPORT

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.
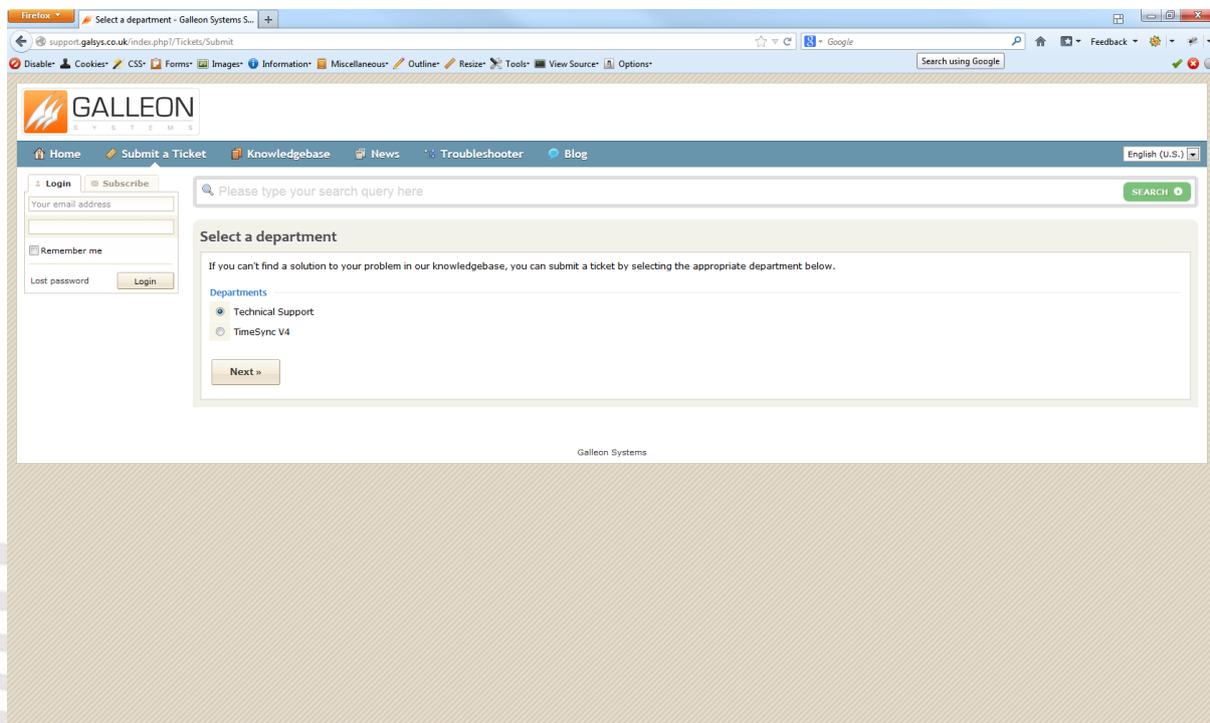

galleonsupport.com website with Knowledgebase and Support Ticket links.

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.