MEINBERG

LANTIME M300 / GPS
NTP Time Server with integrated Satellite Receiver / Radio Clock

The Meinberg LANTIME M300/GPS time server synchronizes all systems either NTP- or SNTP-compatible and uses a built-in Meinberg GPS radio clock as its reference time source. A highly stable and precise oscillator is capable of bridging interferences or a temporary loss of reception.

www.meinberg.de/english/products/lantime-m300-gps.htm

Key Features:

- Synchronization of NTP and SNTP compatible clients

- Web based status and configuration interface and console based graphical configuration utility

- Supported networking protocols: IPv4, IPv6, HTTPS, HTTP, SSH, TELNET, SCP, SFTP, FTP, SYSLOG, SNMP

- Alert-Notification system of status change by email, WinMail, SNMP or an external connected display

- Full SNMP v1,v2,v3 support with own SNMP-daemon for status and configuration and SNMP Trap messages

- USB port for performing updates, lock front panel, and backup/restore configuration and log files.

- Antenna can be positioned up to a distance of 300m to the receiver with standard coaxial cable RG58

- Two independant RJ-45 ethernet interfaces 10/100 MBit

Description:

The security-related features of LANTIME time servers satisfy highest demands. The time synchronization data can be reliably signed and secured by symmetric keys (MD5) and the NTP autokey procedures. This protects the clients against manipulated time and man-in-the-middle attacks and allows them to verify that the NTP packets they received were send by the LANTIME. Additionally the whole LANTIME configuration can be done by using encrypted channels (e.g. SSH, HTTPS or SNMPv3). Every unused/unneeded protocol can be disabled in order to reduce possible points of attack.

In order to support network management systems the LANTIME time servers offer an extensive SNMP interface, which can be accessed by SNMP V1, V2.c and V3. It allows the monitoring of all relevant system parameters (including operating system parameters, network interface statistics, detailed GPS and NTP status information as well

as the complete system configuration) and can be used to alter the LANTIME configuration via SNMP set commands, too.

LANTIME time servers are designed to be deployed in IPv6 networks, the NTP time synchronization as well as the configuration interfaces (Web-based, SSH and SNMP) comes with IPv6 support. You can assign several IPv6 addresses and the system supports automatic configuration by IPv6 autoconf.

The LANTIME M300/GPS is equipped with high precision oscillator „TCXO" as standard. The oscillator determines the holdover characteristics (e.g. when the GPS signal is disturbed or jammed). For applications with higher accuracy requirements there are several oscillator options available.

The configuration of the system can be done by using a standard web browser for accessing the extensive but straightforward html interface. Alternatively a text based and menu driven setup utility can be started from the shell prompt after logging into the unit via Telnet or SSH.

A large LC display shows the state of the internal GPS receiver and the NTP subsystem. Three LEDs (green/red) indicate the status of the three main components: Reference Time (GPS), Time Synchronization Service (NTP) and Network (Link status). A fourth red LED is labelled ALARM and can be configured to signal any event that is covered by the notification handling routines.

Because of its modular system architecture it is possible to equip a LANTIME M300/GPS time server with a number of different reference time sources. Optionally several additional frequency-, serial string- and pulse outputs are available and by combining two (even different) time sources and redundant power supplies, high-availability systems are no problem.

- Three-Year Warranty
- Lifetime technical support via telephone or E-Mail including Firmware Updates

LANTIME M300 / GPS Specifications

Front Panel:

1 x RS232 front panel interface , 9pin D-Sub male connector
   for initial setup and configuration

1 x USB (Rev. 1.1) front panel interface to:
   - install firmware upgrades
   - backup and restore configuration files
   - copy security keys
   - lock/unlock front panel keys

3 x Bicolor LEDs: Ref. time (e.g. GPS),
   Time Synchronization Service (NTP) and Network-Link status

1 x Red alarm LED (configurable)

1 x LC Display, 40 character x 2 rows

1 x Keypad with eight function keys

Network Interfaces:

2 x LAN interface, RJ45 connector, status LEDs for link, activity,
   speed (10/100 Mbit)

Synchronization Source Input:

1 x Meinberg GPS antenna input, BNC female connector, isolated

GPS Antenna/Converter Unit with mounting kit

Signal Outputs:

2 x RS232 interface, independent, 9pin D-Sub female connector,
   with following data formats:
   - Meinberg Standard-Telegram, SAT,
   - NMEA0183 (RMC),
   - Uni Erlangen (NTP), COMPUTIME,
   - SYSPLEX-1, SPA, RACAL

1 x Pulse Per Second (PPS), TTL into 50 ohm,
   pulse duration 200 msec, active high, female BNC connector

1 x Standard Frequency 10 MHz, TTL into 50 ohm,
   female BNC connector

1 x Alarm relay output, change-over contact, 3pin DFK connector

System Components:

- GPS C/A code receiver

- TCXO time base

- Single board computer with Linux operating system, supporting
  the following protocols:
  - NTP/SNTP v4, Time protocol (RFC 868),
  - Daytime protocol (RFC 867),
  - SNMP v1,2,3, SNMP Traps, SSH v2,
  - IP v4, IP v6, DHCP client, HTTP(S),
  - Email, FTP, Telnet, Syslog

- Power supply: 100-240 VAC
  (also available in different DC variants)

- Metal 19" modular chassis, 1U/84HP, slimline
  (483 mm wide x 43 mm high x 285 mm deep)

Scope of Supply:

Each LANTIME M300 GPS will be delivered with a MEINBERG GPS Antenna/Converter unit mounted in a waterproof plastic case, mounting kit and 20 m (65.6 feet) of RG58 coax cable, and mains connection cable with US-or Europeen power supply plug.
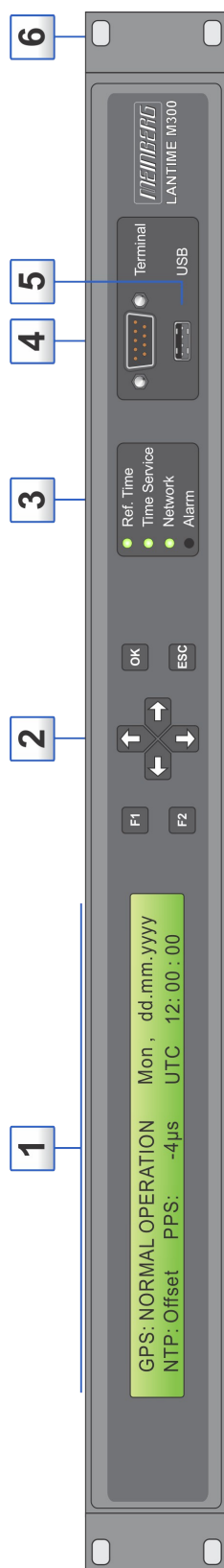
Package dimensions:
60 cm x 40,5 cm x 27 cm / approx. gross weight per box: 9 kg.

(23.6 inch x 15.9 inch x 10.6 inch / approx. gross weight
per box: 19.8 pound).

Front view

GPS: NORMAL OPERATION   Mon , dd.mm.yyyy
NTP: Offset   PPS: -4µs   UTC   12 : 00 : 00

LANTIME M300

Terminal
USB

Ref. Time
Time Service
Network
Alarm

OK   ESC

F1   F2

6

5
4

3

2

1

1. LC Display, 2 x 40 characters

2. Function buttons: 4-way navigation; F1, F2, OK, ESC

3. Status LEDs: Ref. Time, Time Service, Network, Alarm

4. Terminal / VT100, 38400 Baud, 8N1, 9pin. D-SUB male

5. USB connector

6. Mounting holes for 19" rack

OPTIONS

DC Power supply
100 - 240 VDC
20 - 72 VDC
12, 24, 48 VDC

Network interfaces
LNE / 2LNE
ETH2 - ETH3 / ETH2 - ETH5

LNE-FO
2 x 100BaseFX,
SC connectors

Standard Features

1. Power supply connector

2. Serial Ports COM 0, COM 1
   9pin. D-SUB, female

3. Error relay output, 3pin. DFK

4. GPS Antenna, BNC

5. Output signal options

6. PPS / 10MHz output, BNC

7. Network connectors
   ETH0 - ETH1, 10/100 Mbit RJ45