



## Meinberg Radio Clocks

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## LANTIME/NDT: NTP Time Server with integrated OCXO

Meinberg LANTIME time servers are used around the world to provide accurate time to networks of any size. They synchronize all systems which are either NTP- or SNTP-compatible. A highly stable and precise oscillator, carefully disciplined with the NTP time data, allows to provide frequency outputs and pulse signals to other systems.

### Important Note

This product is no longer available and may have been replaced by a newer product. We will, of course, continue to provide support for units that have already been purchased and are still in use. Please contact our [1][Sales Department](#) for further details.

This product has been discontinued and has been replaced with: [2]

### Key Features

- Synchronization of NTP and SNTP compatible clients
- Web-based status and configuration interface and console-based graphical configuration utility
- Supported net protocols: IPv4, IPv6, NTP, (S)NTP, DAYTIME, DHCP, HTTP, HTTPS, FTP, SFTP, SSH, SCP, SYSLOG, SNMP, TIME, TELNET
- Alert-Notification system of status change by Email, WinMail, SNMP or an external connected display
- Full support for SNMP v1, v2c und v3 with dedicated SNMP daemon for configuring/status monitoring of system using SNMP traps
- USB Port for installing firmware updates, locking frontpanel menu access and backup/restore of configuration and log files

## Description

The GNU/Linux operating system of the LANTIMEs SBC (Single Board Computer) has been optimized to ensure a high level of security and reliability.

A large display shows the state of the NTP subsystem.

The configuration of the system can be done by using a standard web browser to access 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.

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 sent 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 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.

Because of its modular system architecture it is possible to equip a LANTIME time server with up to three additional ethernet ports and 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.

## Characteristics

<b>Receiver Type</b>	Other NTP servers are used as reference time sources. In order to generate high-accuracy signals like PPS, 10Mhz, E1/T1 or IRIG, a hardware clock with a very stable oscillator is integrated.
<b>Display</b>	LC-Display, 2 x 40 Characters, with Backlight
<b>Control Elements</b>	Four front buttons (MENU, CLR/ACK, NEXT, INC) to set up basic network parameters and to change receiver settings
<b>Network Interface</b>	10/100 MBit with RJ-45 Optionally up to 3 independant ethernet ports
<b>Universal Serial Bus (USB) Ports</b>	1x USB port on front panel for: <ul style="list-style-type: none"> <li>- installing firmware upgrades</li> <li>- performing backups and restoration of configuration files</li> <li>- copying security keys</li> <li>- locking &amp; unlocking front buttons</li> </ul>
<b>Operating Voltage</b>	85-264VAC (50/60Hz)
<b>Supported Time String Formats</b>	Meinberg Standard Timestring, Uni Erlangen Timestring, SYSPLEX Timer, NMEA, Computime, ABB-SPA, SAT, Arbiter
<b>Form Factor</b>	19" aluminium case (1U) Schroff Multipac
<b>CPU</b>	i386 compatible 266Mhz CPU, 64 MB RAM, CF-Card drive
<b>Operating System of the SBC</b>	Linux with nano kernel (incl. PPSkit)
<b>Network Protocols OSI Layer 4 (Transport Layer)</b>	TCP, UDP
<b>Network Protocols OSI Layer 7 (Application Layer)</b>	Telnet, FTP, SSH (including SFTP, SCP), HTTP, HTTPS, syslog, SNMP
<b>Internet Protocol (IP)</b>	IPv4, IPv6
<b>Network Autoconfiguration Support</b>	IPv4: Dynamic Host Configuration Protocol - DHCP (RFC 2131) IPv6: Dynamic Host Configuration Protocol - DHCPv6 (RFC 3315) and Autoconfiguration Networking - AUTOCONF (RFC 2462)
<b>Network Time Protocol (NTP)</b>	NTP v2 (RFC 1119), NTP v3 (RFC 1305), NTP v4 (RFC 5905) SNTP v3 (RFC 1769), SNTP v4 (RFC 4330) MD5 Authentication and Autokey Key Management
<b>Time Protocol (TIME)</b>	Time Protocol (RFC 868)

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<b>IEC 61850</b>	Synchronization of IEC 61850-compliant devices using SNTP
<b>Hypertext Transfer Protocol (HTTP)</b>	HTTP/HTTPS (RC 2616)
<b>Secure Shell (SSH)</b>	SSH v1.3, SSH v1.5, SSH v2 (OpenSSH)
<b>Telnet</b>	Telnet (RFC 854-RFC 861)
<b>Simple Network Management Protocol (SNMP)</b>	SNMPv1 (RFC 1157), SNMPv2c (RFC 1901-1908), SNMP v3 (RFC 3411-3418)
<b>Supported Temperature</b>	Operational: 0 - 50 °C (32 - 122 °F) Storage: -20 - 70 °C (-4 - 158 °F)
<b>Supported Humidity</b>	Max. 85 % (non-condensing) at 40 °C
<b>Contents of Shipment</b>	Time Server, power cable and a USB storage device with Quick-Start Guide and a detailed reference manual as PDF file in the "Manual" folder.
<b>Technical Support</b>	Meinberg offers free lifetime technical support via telephone or e-mail.
<b>Warranty</b>	Three-year warranty
<b>Firmware Updates</b>	Firmware is field-upgradeable, updates can be installed directly from the unit or via a remote network connection. Software updates are provided free of charge for the lifetime of your Meinberg product.
<b>RoHS Status of Product</b>	This product is fully RoHS-compliant.
<b>WEEE Status of Product</b>	This product is handled as a B2B (Business to Business) category product. To ensure that the product is disposed of in a WEEE-compliant fashion, it can be returned to the manufacturer. Any transportation expenses for returning this product (at end-of-life) must be covered by the end user, while Meinberg will bear the costs for the waste disposal itself.
<b>Additional Information</b>	Additional information about the Meinberg LANTIME family of NTP time servers and other LANTIME models can be found on the [3] <a href="#">LANTIME overview page</a> .

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#### Manual

The English manual is available as a PDF file: [4][Download \(PDF\)](#)

#### Links:

[1] <mailto:sales@meinberg.de>

[2] <https://www.meinbergglobal.com/english/products/lantime-m320.htm>

[3] <https://www.meinbergglobal.com/english/products/ntp-time-server.htm>

[4] [https://www.meinbergglobal.com/download/docs/manuals/english/1he\\_lanndt\\_etx.pdf](https://www.meinbergglobal.com/download/docs/manuals/english/1he_lanndt_etx.pdf)