The Synchronization Experts.

LANTIME M320

High-Performance and Customizable Time Server for Time & Frequency Synchronization

The LANTIME M320 is designed by Meinberg to offer superior NTP server performance and high-accuracy synchronization signal output. Constructed to order with a selection of signal receivers to enable you to synchronize your server to the remote timing signal that you trust most, the LANTIME M320 can support timing signals from any of the main satellite navigation systems in operation (GPS, Galileo, BeiDou, GLONASS), from a long-wave timing signal radio service (DCF77, MSF), or from an external time code generator.

Meinberg's custom Linux-based LANTIME OS, a slim & secure operating system developed specially for the needs of a time server, powers the LANTIME M320 under the hood, providing access to all the security, network, and monitoring features that you could ever need from an enterprise-grade synchronization appliance.

The powerful Web UI enables you to quickly and easily configure and monitor your LANTIME device, while the CLI provides power users with unparalleled flexibility and efficiency. The comprehensive LANTIME OS REST API provides a complete toolset for your network orchestration and automation needs, and SNMP support allows you to integrate your Meinberg systems into your existing network management system.

Key Features

- A powerful Stratum 1 NTP server capable of processing up to 15,000 requests per second
- Compact 1U chassis, specially constructed for installation in a 19” rack
- Engineered to order with a selection of reference receiver module options (GNSS, DCF77, ...) and specified signal outputs for your application needs
- Frequency reference outputs and industry-specific sync signals via a broad range of additional output options
- Support for power supply redundancy—available with an AC/DC or a “low DC” (20–60 V) power supply unit to meet your specific needs

NTP and Management Module

System CPU	Intel® Atom™ Processor E Series (2 Cores, 1.33 GHz, TDP 3W)
Memory	Main Memory: onboard 2 GB Cache Memory: 1 MB 2nd Level Cache
Operating System	Custom LANTIME OS based on Linux 4.x LTS Kernel
NTP	NTP v2 (RFC 1119), NTP v3 (RFC 1305), NTP v4 (RFC 5905) SNTP v3 (RFC 1769), SNTP v4 (RFC 4330) MD5 / SHA-1 Authentication and Autokey Key Management
NTP Req/Sec	Up to 15,000 NTP requests/second
SNMP	SNMPv1 (RFC 1157), SNMPv2c (RFC 1901-1908), SNMP v3 (RFC 3411-3418)
Internet Protocols	IPv4, IPv6
Auto-Configuration	IPv4: Dynamic Host Configuration Protocol - DHCP (RFC 2131) IPv6: Dynamic Host Configuration Protocol - DHCPv6 (RFC 3315) and Autoconfiguration Networking - AUTOCONF (RFC 2462)
Layer 4 Protocols	TCP, UDP
Layer 7 Protocols	Telnet, FTP, SSH (including SFTP, SCP), HTTP, HTTPS, syslog, SNMP

Receiver Types

GPS Receiver	12-channel L1 C/A code receiver for reception of signals from the GPS satellite constellation
GNS Receiver	72-channel receiver for reception of signals from the GPS (L1), Galileo (E1 B/C), BeiDou (B1I), and GLONASS (L1OF) satellite constellations
GNS-UC Receiver	72-channel receiver for reception of signals from the GPS (L1 C/A code) and Galileo (E1 B/C) satellite constellations
PZF Receiver	Receiver with quadrature demodulator for reception of signals from the DCF77 long-wave transmitter in Mainflingen, Germany
MSF Receiver	Long-wave receiver for reception of signals from the MSF long-wave-transmitter in Anthorn, UK
TCR Receiver	Time Code Reader for reception of DC level shift (pulse-width modulated) or AM (amplitude-modulated) time code signals in a wide variety of standardized formats
RDT	The LANTIME M320 is also available as a receiverless “RDT” configuration (Remotely Disciplined Timeserver), which is synchronized by an remote NTP Server or via an external 1PPS and time string signal.

Our comparison table provides more information on available options.

Oscillator Options

All LANTIME M320 time servers are equipped with a standard “TCXO” (temperature-controlled crystal oscillator) that provides reliable holdover performance in the event that the server loses synchronization with its upstream reference.

Upon request, the device can also be shipped with a more advanced holdover solution. The available options and their performance metrics are listed below.

Type	Holdover Performance (1 Day)	Holdover Performance (1 Year)
TCXO	±4.3 msec	±16 sec
OCXO SQ	±65 µsec	±4.7 sec
OCXO HQ	±10 µsec	±788 msec
OCXO DHQ	±4,5 µsec	±158 msec

Our comparison table provides more information on available options.

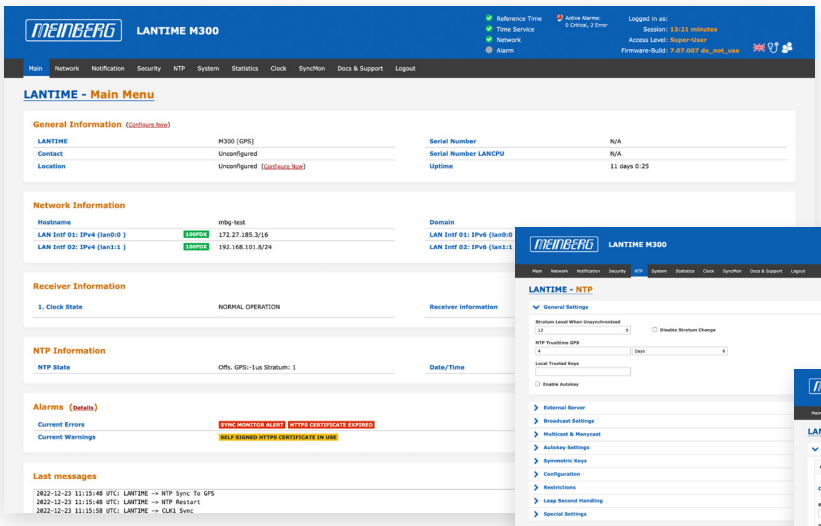
To achieve full holdover performance, the system must have been synchronized for 24 hours prior.

For detailed specifications, please visit: www.mbg.link/osc

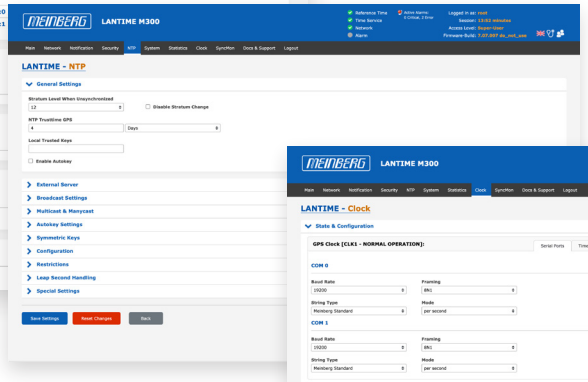
LANTIME OS

All LANTIME devices are equipped with Meinberg’s custom Linux-based LANTIME OS, which is a slim and secure operating system designed specifically for time servers. It provides access to a wide range of security, network, and monitoring features, making it an ideal enterprise-grade synchronization appliance.

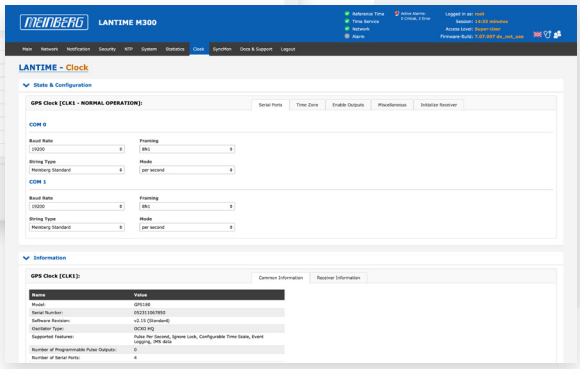
LANTIME OS also offers a user-friendly Web UI for configuration and monitoring, as well as a command line interface for advanced users. The device’s REST API and SNMP support enable integration with existing network management systems.



Main Menu



NTP Settings



Clock Settings

Comparison Table

	LANTIME M150	LANTIME M250	LANTIME M320	LANTIME M450
Form Factor	DIN/TS35 Rail-Mount	Desktop/Rack-Mount (1U)	Rack-Mount (1U)	DIN/TS35 Rail-Mount
CPU Performance				
NTP Request per Second	up to 25,000	up to 25,000	up to 15,000	up to 25,000
Network Interfaces				
Ethernet 10/100 Mbit			2 *(… 6)*	
Ethernet 10/100/1000 Mbit	1	1	*(1 … 3)*	2 *(… 5)*
Configuration Interfaces				
Serial Terminal Interface (USB)	■	■	■	■
Front Panel Display		■	■	■
Receiver Types				
GPS	■	■	■	■
GNS	□	□	□	□
GNS-UC	□	□	□	□
PZF	□	□	□	□
MSF			□	
TCR			□	□
External Reference Source				
NTP, Serial Time String, 1PPS – RDT			□	
IRIG-B (AM, DCLS) – TCR			□	□
Multi-Reference Source (MRS)				
IRIG-B (AM, DCLS)			□	□
NTP			□	□
1PPS			□	□
10 MHz			□	□
2.048 MHz			□	
Outputs				
Serial Time String			■	■
Time Sync Error			■	■
1PPS			■	■
10 MHz			■	■
PPM, PPH			□	□
Frequency Synthesizer			□	□
IRIG-B (modulated, DCLS)			□	□
DCF77 Simulation			□	□
Power Supplies				
AC/DC: 100–240 V AC (50–60 Hz), 100–200 V DC	■	■	■	■
Low DC: 20–60 V DC (rated), 48 V (nominal)	□	□	□	□
Redundant Power Supplies		□	□	
Oscillators				
TCXO	■	■	■	■
OCXO SQ	□	□	□	□
OCXO HQ	□	□	□	□
OCXO DHQ		□	□	□

Standard Configuration: ■
Selectable Option: □, *(...)*

Get in Touch

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The Synchronization Experts.

A foremost innovator of the synchronization industry with longstanding roots in Bad Pyrmont, Germany, Meinberg is a family-owned company with over four decades of world-leading expertise in developing and manufacturing a range of high-end synchronization technology, including high-end PTP & NTP servers, receiver technology for satellite & radio synchronization signals, time code generators & readers, and an array of related accessories such as antennas, converters, and signal distribution systems.

With the Meinberg family of companies also encompassing our subsidiary Meinberg USA Inc. in Santa Rosa, California and embedded systems specialist Oregano Systems in Vienna, Austria, as well as a robust network of distribution & service partners in over 40 countries around the world, Meinberg's quality and expertise is never far away.

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