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LANTIME M600: High End NTP Time Server

[1] The Meinberg LANTIME time server is used around the world to provide accurate time to networks of any size. It synchronizes all systems either NTP- or SNTP-compatible and uses an integral Meinberg reference clock as its time source to synchronize all timing outputs with the utmost accuracy. The front panel includes a VF Display and keypad for easy configuration, and indication of the receiver and NTP subsystem status. A high quality precision OCXO is standard in the M600, to allow this time server to meet the stringent holdover requirements.

Key Features

- Selectable Reference Sources: GPS: Satellite receiver for the Global Positioning System GNS: Combined GPS/GLONASS/Galileo/BeiDou satellite receiver (L1 frequency band), can also be used for mobile applications MRS: (GPS, PPS, 10MHz, NTP): Multi Reference Source - several reference sources, adjustable following priority of signal
- Synchronization of NTP and SNTP compatible clients
- Web-based status and configuration interface (Demo) 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 installing firmware updates, locking frontpanel menu access and backup/restore of configuration and log files
- Meinberg GPS Antenna/Converter Unit connected with up to 300m of standard coaxial cable RG58
- Meinberg's LANTIME time server is available with a variety of additional output options: IRIG Time Code, frequency synthesizer and programmable pulse outputs illustrate some of the many expansion options for your NTP server
- Four independent network interfaces (standard configuration) Option: 5 network ports and one IEEE 1588 interface (also see PTPv2 Grandmaster) One 10/100 MBit interface for LANTIME management and three network ports withGigabit Support (3GE)

Description

Brilliant VF-Display
A large VF 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.

High precise Oscillator

The LANTIME M600 GPS is equipped with high precision oscillator "OCXO LQ" (look at oscillator options for details) as standard. The oscillator determines the holdover characteristics (e.g. when the GPS signal is disturbed or jammed). Oscillator options like "OCXO MQ", "OCXO HQ", "OCXO DHQ". A Rubidium oscillator is available for our 3U modular systems (LANTIME M900) to fulfill higher requirements.

Characteristics

Display	Vacuum fluorescent graphic display (VFD), 256 x 64 dots
Control elements	Eight push buttons to set up basic network parameters and to change receiver settings
Status info	Four bicolor LEDs showing status of: - reference time - time service - network - alarm
Frequency outputs	10 MHz via female BNC connector, TTL into 50 Ohm Synthesizer 1/8 Hz up to 10 MHz via female BNC connector, TTL into 50 Ohm Accuracy depends on oscillator (standard: OCXO LQ), look at [2]oscillator options
Pulse outputs	Pulse per second (PPS) and pulse per minute (PPM) via female BNC connectors, TTL into 50 Ohm, pulse width: 200msec, active high
Accuracy of pulse outputs	Depends on oscillator option: Note: TCXO IS NOT available with M600
Interface	Two independent serial RS232-interfaces, menu configurable
Optional Output Signals	**Additional Output Options::** This LANTIME can be configured with many additional output options: PPS, 10MHz, programmable pulse outputs (PPS, PPM, PPH, DCF_MARK ...), IRIG modulated and unmodulated time code, T1 / E1 telecom signals, Frequency Synthesizer - to name just a few. Contact us for your specific device configuration.
Data format of interfaces	Baud rates: 300, 600, 1200, 2400, 4800, 9600, 19200 Baud Data formats: 7N2, 7E1, 7E2, 7O1, 8E1, 8N1, 8O1 Time strings: [3]Meinberg Standard-Telegram , SAT, Uni Erlangen (NTP), SPA, RACAL, Sysplex, NMEA0183 (RMC, GGA, ZDA), Meinberg GPS, COMPUTIME, ION oder [4] Capture-Telegramm

Unmodulated time code output	DCLS, TTL into 50 Ohm via female BNC connector, active high
Modulated time code output	IRIG AM sine wave signal via female BNC connector: 3Vpp (MARK), 1Vpp (SPACE) into 50 Ohm
Generated time codes	**IRIG B002:** 100pps, DCLS signal, no carrier, BCD time of year **IRIG B122:** 100pps, AM sine wave signal, 1 kHz carrier, BCD time of year **IRIG B003:** 100pps, DCLS signal, no carrier, BCD time of year, SBS time of day **IRIG B123:** 100pps, AM sine wave signal, 1kHz carrier, BCD time of year, SBS time of day **IRIG B006:** 100 pps, DCLS Signal, no carrier, BCD time-of-year, Year **IRIG B126:** 100 pps, AM sine wave signal, 1 kHz carrier frequency, BCD time-of-year, Year **IRIG B007:** 100 pps, DCLS Signal, no carrier, BCD time-of-year, Year, SBS time-of-day **IRIG B127:** 100 pps, AM sine wave signal, 1 kHz carrier frequency, BCD time-of-year, Year, SBS time-of-day **IEEE1344:** Code according to IEEE1344-1995, 100pps, AM sine wave signal, 1kHz carrier, BCD time of year, SBS time of day, IEEE1344 expansion for date, time zone, daylight saving and leap second in Control Funktions Segment **C37.118:** Like IEEE1344 - with turned sign bit for UTC-Offset **AFNOR:** Code according to NFS-87500, 100pps, AM sine wave signal, 1kHz carrier, BCD time of year, complete date, SBS time of day
Alarm output	Synchronous state of the module, relay output (changeover contact)
Network Interface	**Standard:** 4 x 10/100 MBit with RJ45 connector **Available Options:** * 1 x 10/100 MBit and 3 x 10/100/1000 MBit (3GE) with RJ45 jack
Power supply	Standard: 100-240 V AC (50/60 Hz) available DC variants: 100-240 V DC, 12 V DC and 19 - 72 V DC
Power consumption	30W
Universal Serial Bus (USB) Ports	1x USB Port in front panel: - install firmware upgrades - backup and restore configuration files - copy security keys - lock/unlock front keys
Supported Time String Formats	Meinberg Standard Timestring, Uni Erlangen Timestring, SYSPLEX Timer, NMEA, Computime, ABB-SPA, SAT, Arbiter

CPU	
	* AMD Geode
Operating System of the SBC	Linux with nano kernel (incl. PPSkit)
Network protocols OSI Layer 4 (transport layer)	TCP, UDP
Network protocols OSI Layer 7 (application layer)	TELNET, FTP, SSH (incl. SFTP, SCP), HTTP, HTTPS, SYSLOG, SNMP
Internet Protocol (IP)	IP v4, IP v6
Network Autoconfiguration Support	IPv4: Dynamic Host Configuration Protocol - DHCP (RFC 2131) IPv6: Dynamic Host Configuration Protocol - DHCPv6 (RFC 3315) and Autoconfiguration Networking - AUTOCONF (RFC 2462)
Network Time Protocol (NTP)	NTP v2 (RFC 1119), NTP v3 (RFC 1305), NTP v4 (RFC 5905) SNTP v3 (RFC 1769), SNTP v4 (RFC 2030) MD5 Authentication and Autokey Key Management
Time Protocol (TIME)	Time Protocol (RFC 868)
Daytime Protocol (DAYTIME)	Daytime Protocol (RFC 867)
IEC 61850	Synchronization of IEC 61850 compliant devices by using SNTP
Hypertext Transfer Protocol (HTTP)	HTTP/HTTPS (RC 2616)
Secure Shell (SSH)	SSH v1.3, SSH v1.5, SSH v2 (OpenSSH)
Telnet	Telnet (RFC 854-RFC 861)
Simple Network Management Protocol (SNMP)	SNMPv1 (RFC 1157), SNMPv2c (RFC 1901-1908), SNMP v3 (RFC 3411-3418)
Form Factor	19 inch multipac metal case 1U/84HE
Ambient temperature	0 ... 50°C / 32 ... 122°F
Humidity	Max. 85%
Scope of supply	Included in delivery is a MEINBERG outdoor antenna incl. mounting kit, pre-assembled antenna cable (except MRS, TCR and RDT models) and product documentation on USB storage.

Technical Support	Meinberg offers free lifetime technical support via telephone or e-mail.
Warranty	Three-Year Warranty
Firmware Updates	Firmware is field-upgradeable, updates can be installed directly at the unit or via a remote network connection. Software updates are provided free of charge, for the lifetime of your Meinberg product.
RoHS-Status of the product	This product is fully RoHS compliant
WEEE status of the product	This product is handled as a B2B category product. In order to secure a WEEE compliant waste disposal it has to be returned to the manufacturer. Any transportation expenses for returning this product (at its end of life) have to be incurred by the end user, whereas Meinberg will bear the costs for the waste disposal itself.
Additional Information	Additional information about the Meinberg LANTIME family of NTP time servers and other LANTIME models can be found on the [5]LANTIME NTP Time Server Family Page .

Manual

There is no online manual available for this product: [6]Contact us

Links:

[1] https://www.meinbergglobal.com/english/products/
[2] https://www.meinbergglobal.com/english/products/specs/gpsopt.htm
[3] https://www.meinbergglobal.com/english/specs/timestr.htm
[4] https://www.meinbergglobal.com/english/specs/capstr.htm
[5] https://www.meinbergglobal.com/english/products/ntp-time-server.htm
[6] mailto:info@meinberg.de