



## LANTIME M100

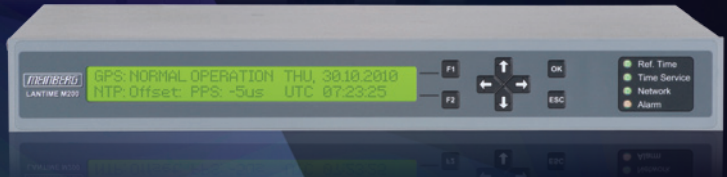
This economical, entry level Time Server is particularly well-suited for industrial applications such as utility substations, process control and automation systems. The M100 is equipped with a GPS or DCF77 reference clock and includes a highly stable TCXO internal oscillator to maintain timing accuracy during periods of interference or temporary loss of synchronization. It includes a wide-range power supply that can operate from 100-240 VAC or VDC and a 19-72 VDC supply is available as an option.



## LANTIME M400

The LANTIME M400 Time Server offers an unparalleled flexibility and versatility and provides accurate time to your network in a compact and full-featured DIN railmount package for industrial applications such as power generation, transmission and distribution (substation automation), process control and industrial automation systems. The M400 includes a backlight LC-Display and keypad and an extremely broad range of available input and output options.

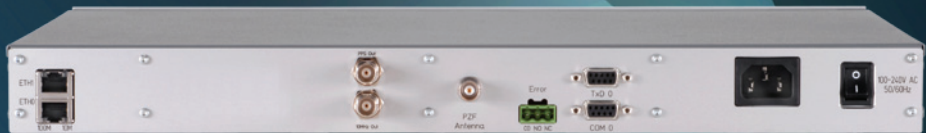




## LANTIME M200

The LANTIME M200 Time Server provides accurate time to small and medium sized computer networks in a compact desktop chassis. The front panel includes an LC-Display and keypad for easy configuration, time display and operational status.

The M200 comes equipped with a reference clock synchronized to either GPS, DCF77, MSF or WWVB. It is the perfect solution where full LANTIME functionality is required in a compact 1U chassis. An optional rackmount adapter is available to mount the M200 in a standard equipment rack.



## LANTIME M300

The M300 is an extremely flexible Network Time Server with a wide variety of options available to suit your specific needs. The front panel includes an LC-Display and keypad for easy configuration and indication of the time and operational status.

Two independent RJ45 10/100 MBit Ethernet interfaces are standard. Because of its modular system architecture it is possible to equip a LANTIME M300 Time Server with a number of different reference time sources including GPS, DCF77, MSF, WWVB, available IRIG/AFNOR Time Codes or an MRS version which can synchronize to a combination of different input signals with user-selectable priority and switchover time.



## LANTIME M600

The M600 is a high end NTP server with an impressive hardware configuration: 4 x Ethernet ports, an ultra-stable oscillator with fantastic holdover capabilities and a wealth of time and frequency outputs like IRIG B, 10MHz, 1PPS and frequency synthesizer. The brilliant front panel display (VFD) shows the status of the unit.

The M600 represents a time and frequency appliance with one of the best feature sets on the market. If the provided outputs and/or the holdover specifications match your requirements, the M600 can be a core element of your time and frequency synchronization infrastructure.



## LANTIME M900

The M900 can be configured with a wide variety of reference clock options, oscillator options (including Rubidium), output options and power supply options. Complex systems can easily be configured with redundant receivers, redundant power supplies and multiple output signals.

Due to the modular nature of the M900 series, virtually every Meinberg LANTIME feature can be accommodated in this time server platform, with controls and display easily accessible from the front panel and a far greater number of outputs mounted either on the front or rear panel to suit your specific needs.

Model	M100	M200	M300	M400	M600	M900
<b>Form Factor</b>						
DIN Railmount	✓			✓		
Desktop		✓	✓		✓	
1U Rackmount		✗	✓		✓	
3U Rackmount						✓
<b>CPU Performance</b>						
(S)NTP Requests per second	5000 req/s		10000 req/s			
<b>Network Interfaces</b> (RJ45 10/100 MBit / Fiber Optic)						
Ethernet	1	1	2 (-4)	1 (-9)	4 (-6)	1 (-9)
PTPv2 - IEEE 1588				(1)	(1-2)	(1-9)
<b>Outputs</b>						
PPS			✓	✓	✓	✓
10MHz			✓	✓	✓	✓
PPM			✗	✗	✓	✗
Frequency Synthesizer			✗	✗	✓	✗
DCF77 Simulation			✗	✗		✗
IRIG-B (AM, DCLS)			✗	✗	✓	✗
Time Sync Error			✓	✓	✓	✓
Serial Time String			✓	✓	✓	✓

Model	M100	M200	M300	M400	M600	M900
<b>Configuration Interfaces</b>						
USB	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Serial Terminal Interface	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Reference Time</b>						
GPS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DCF77	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
MSF		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
WWVB		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
<b>External Reference Source</b>						
- NTP, serial PPS			<input checked="" type="checkbox"/>			
- IRIG-B (AM, DCLS)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<b>MRS (Multi Reference Source)</b>						
- IRIG-B			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- NTP			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- PTP				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- PPS			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- 10MHz			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Model	M100	M200	M300	M400	M600	M900
<b>Power Supply</b>						
AC (100 V - 240 V)		✓	✓		✓	✓
ACDC (100 V - 240 V)	✓	□	□	✓	□	□
DC (20 V - 72 V)	□			□		□
DC (12 V, 24 V, 48 V)		□	□		□	
<u>redundant Power Supply</u> (AC+AC, AC+DC, DC+DC)			□*		□*	□
<b>Oscillators</b>						
TCXO	✓	✓	✓	✓		✓
OCXO LQ			□	□	✓	□
OCXO MQ			□	□	□	□
OCXO HQ			□	□	□	□
OCXO DHQ			□	□	□	□
Rubidium						□
<b>Typical Environment</b>						
DIN Rail Installation	✓			✓		
Small Networks	✓	✓				
Medium/Large Networks			✓	✓	✓	✓
✓ = Standard Configuration    □ () = Option    * = XL Housing						

## OSCILLATOR OPTIONS

Type / Holdover	1 day	1 year
TCXO	$\pm 4.3$ msec	$\pm 16$ sec
OCXO LQ	$\pm 865$ $\mu$ sec	$\pm 6.3$ sec
OCXO MQ	$\pm 65$ $\mu$ sec	$\pm 1.6$ sec
OCXO HQ	$\pm 22$ $\mu$ sec	$\pm 788$ msec
OCXO DHQ	$\pm 4.5$ $\mu$ sec	$\pm 158$ msec
Rubidium (M900)	$\pm 1.1$ $\mu$ sec	$\pm 8$ msec

Detailed specifications at:

<http://www.meinberg.de/english/specs/gpsopt.htm>

## LANTIME Accessories

Large NTP Displays with LED numerals and PoE (IEEE 802.3af) support. Multiple housing variations with “HH:MM” or “HH:MM:SS” layout available.

### ANTENNAS

GPS and long wave antennas and antenna distributors with integrated amplifier for all MEINBERG receivers.

**GOAL/DOAL:** GPS/DCF77 Optical Antenna Link for connecting MEINBERG antennas and LANTIME systems. Distances up to 1,000 mtrs (~3,200 ft) are supported with a single multimode FO cable.

