



SyncFire 1500

High-Performance Time Server Appliance

The Meinberg SyncFire 1500 NTP Time Server appliance offers the flexibility and reliability of the Meinberg LANTIME M-Series Product Family in a new package that is optimized for Data Center deployments and can synchronize up to 825,000 NTP and SNTP clients.

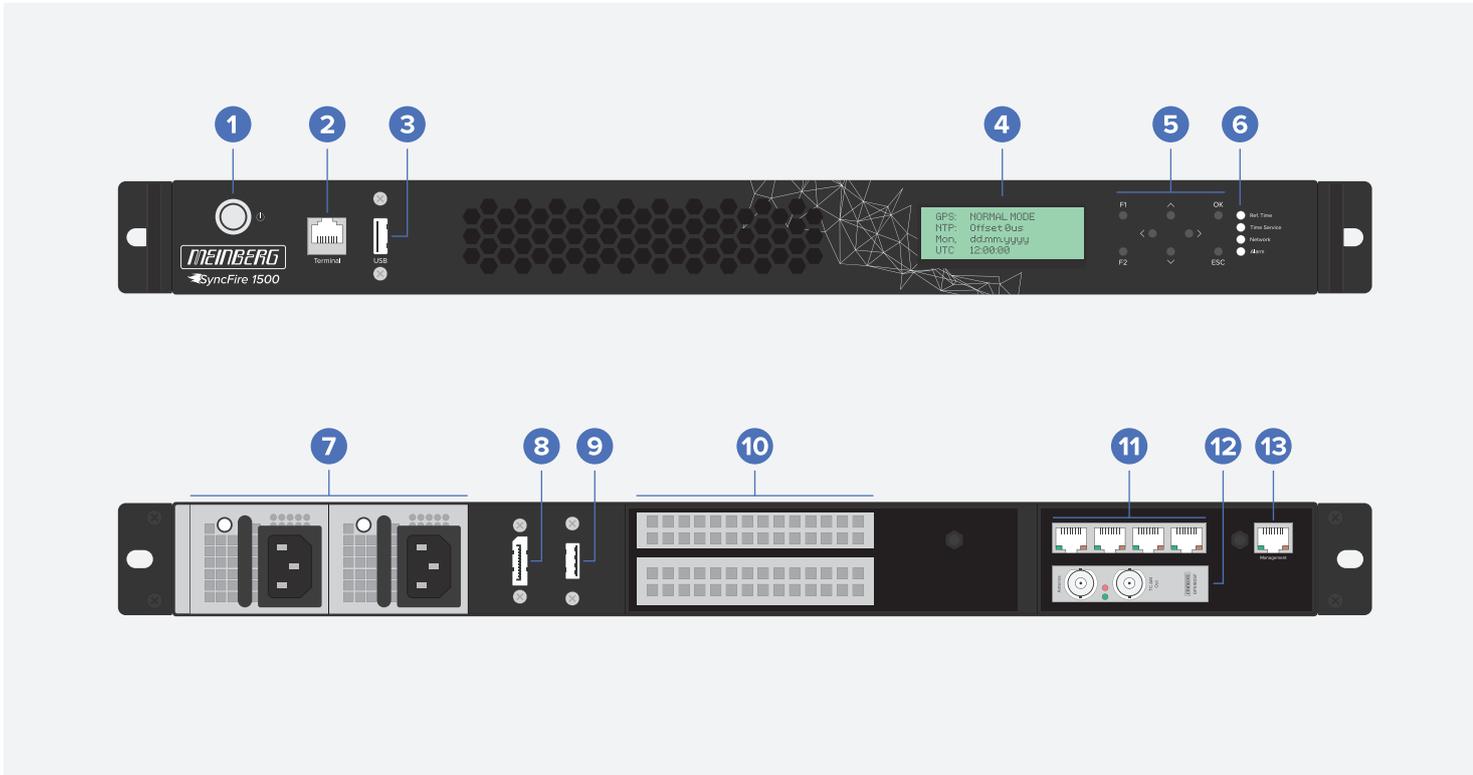
Depending on the number of physical network interfaces, a SyncFire 1500 can handle hundreds of thousands of NTP requests per second. This makes the Meinberg SyncFire 1500 one of the world's most powerful and reliable NTP appliances on the market, and the perfect fit for hyperscale NTP applications, including the synchronization of CPEs such as femtocell access points or VOD set-top boxes, or public NTP servers for a large number of SNTP or NTP-capable end devices.



Key Features

- Synchronization of NTP and SNTP compatible clients
- Supports up to 825,000 NTP requests per Second
- Multi-Threading Support developed by Meinberg
- Intel® XEON® E2276G CPU (4.90 GHz, 6 Cores, 12 Threads)
- 3x PCIe Slots for up to two Reference Clocks and/or additional Network Interfaces
- Optional Network Interface Modules:
 - 4x 1 Gbit/s RJ45 Ports or
 - 2x 10/25/40 Gbit/s QSFP+ Slots or
 - 2x 10/25 Gbit/s SFP28 Slots or
 - 2x 10 Gbit/s SFP Slots

Display & Connector View



- 1 Power On/Off Button**
- 2 Serial Console Port (Terminal Access)**
- 3 USB 3.0 Interface**
- 4 LCD Panel:** 4 x 20 character backlit display
- 5 Function Keys:** F1, F2, OK, ESC, and arrow keys
- 6 CPU Status LEDs**
- 7 Redundant Power Supplies:**
100–240 V AC (50–60 Hz), 145–350 V DC
- 8 Video Output:** Display Port 1.2;
1920 x 1080 px Output
- 9 USB 3.0 Interface**
- 10 Space for two PCIe Network Extension Modules**
- 11 Network Interfaces:** 4x 1000BASE-T (Gigabit Ethernet)
- 12 Space for PCIe Sync Input Card / syn1588® PCIe NIC**
- 13 Baseboard Management Controller**
(not intended for end-user access)

Characteristics

Server Platform	Intel® Server-Mainboard M10JNP
System CPU	Intel® XEON® E2276G Hexa-Core CPU (4.90 GHz, 6 cores, 12 threads, 12 MB cache, 80 W TDP)
Main Memory	16 GB DDR4 3200 MT/s ECC
Internal Storage	SSD hard disk, 120 GB
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	Multi-Core NTP: up to 825,000 req/sec Multi-Threading Support developed by Meinberg
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 (incl. SFTP, SCP), HTTP, HTTPS, SYSLOG, SNMP

Configuration Options

PCIe Network Extension Modules

Type	Connection Type
4-port 1 Gbit/s Ethernet	RJ45
2-port 10 Gbit/s Ethernet	SFP+
2-port 10/25 Gbit/s Ethernet	SFP28
2x 10/25/40 Gbit/s Ethernet	QSFP+

PCIe Sync Input Cards

	Meinberg GPS180PEX	Meinberg GNS181PEX
Receiver Type	12-channel Meinberg GPS	72-channel L1 Multi-GNSS (combined GPS / GLONASS / Galileo / BeiDou)
Signal Type	L1 Band, Meinberg IF from GPSANTv2 Antenna	L1/E1/B1 band
Connectors	BNC (for Antenna Input) BNC (for AM Timecode Output)	SMA (for Antenna Input) BNC (for AM Timecode Output)
Antenna Type	Meinberg GPSANTv2 Antenna	40 dB L1 Multi-GNSS Antenna
Accuracy of Pulse Outputs		Depending on Oscillator Option: < ±100 ns (TCXO) < ±50 ns (OCXO SQ, OCXO HQ) Standard: OCXO SQ
Modulated Timecode Output		IRIG AM sine wave signal: 3V _{pp} (MARK), 1V _{pp} (SPACE) into 50 Ω

Oregano Systems syn1588® PCIe NIC

- 100/1000 Mbit Ethernet network interface card (PCI Express card, half height)
- IEEE1588-2002, IEEE1588-2008 and IEEE1588-2019 compliant
- Slave-capable PTP node (with syn1588® PTP Stack)
- IEEE1588 hardware timestamping
- Innovative & patented technology for on-the-fly timestamping in PTP one-step mode
- Clock accuracy up to ±4 ns
- syn1588® PTP Stack binary run-time license included
- Up to 4 programmable I/O signals available on SMA jacks

The syn1588® PCIe NIC is a standard 100/1000 Mbit PCI Express Ethernet network interface card with enhancements to provide highly accurate clock synchronization via the IEEE1588 standard.

The syn1588® PCIe NIC provides all real-time functions required for an IEEE1588 node to operate in slave mode.

 **Oregano Systems**
A Meinberg Company

Chassis Specifications

Form Factor	1U, 19" rack-mounted
Dimensions (W x H x D)	439 mm x 42 mm x 602 mm (17.28 in x 1.54 in x 23.7 in)
Weight	12.3 kg (27.1 lb) [as rack-mounted; including receiver, additional network card, and rack mounting kit]

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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