



## Meinberg Radio Clocks

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## microSyncHR: Powerful IEEE 1588 PTP Grandmaster and High-performance NTP Server

With unprecedented levels of efficiency and versatility, the microSyncHR sets new standards for compact yet powerful synchronization solutions.

### Key Features

- Selectable Reference Time 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 GNS-UC: GPS and Galileo Satellite Receiver with Up-Converter for Meinberg GPS Antenna/Converter
- High performance (S)NTP server
- Meinberg Device Manager for configuration and status monitoring
- Powerful IEEE 1588 PTP time server incl. IEC/IEEE 61850-9-3 & IEEE C.37.238
- Half rack solution for a space efficient design
- Different oscillator options for advanced holdover performance
- All microSync models offer a wide range of multiple output signals, allowing synchronization of both network devices such as NTP clients and PTP slaves as well as directly attached synchronization clients with other electrical and optical signals.

## Description

Meinberg's microSyncHR is a feature-rich synchronization device, offering a high level of efficiency and versatility and impresses with its compact design and high port density.

Providing two IEEE 1588 ports, the microSyncHR models are powerful GNSS synchronized PTP Grandmasters offering a high level of accuracy and supporting all major PTP profiles: Default, Power, Telecom (Frequency and Phase profiles), SMPTE, AES67/RAVENNA or IEEE 802.1AS profile.

All microSyncHR variants offer key features like multiple programmable output signals (two over fiber optical ST connectors), four Gigabit Ethernet interfaces and the ability to synchronize both NTP and PTP devices.

The sheer diversity of outputs and interfaces allows the microSyncHR to be deployed in a large range of industries and applications. Depending on industry requirements customers can choose from different variants to best suit their needs. The variants are defined via the BNC connectors which can provide several I/O options.

**The 100-series** offers pre-configured outputs like Programmable Pulses (TTL), Time Code AM (IRIG, AFNOR) and Frequency Synthesizer (0,1 Hz to 10 MHz).

[Datasheet microSyncHR 100-Series \(PDF\)](#)

**The 300-series** with pre-configured I/Os like PPS input (TTL), 10 MHz input (sine/TTL), 10 MHz output (TTL) and 10 MHz output (sine).

[Datasheet microSyncHR 300-Series \(PDF\)](#)

## Characteristics

<b>Supported PTP Profiles</b>	<p><b>Default:</b></p> <ul style="list-style-type: none"> <li>- IEEE 1588v2 (PTPv2)</li> </ul> <p><b>Power:</b></p> <ul style="list-style-type: none"> <li>- IEC/IEEE 61850-9-3</li> <li>- IEEE C37.238-2011</li> <li>- IEEE C37.238-2017</li> </ul> <p><b>Telecom:</b></p> <ul style="list-style-type: none"> <li>- ITU-T G.8265.1 Frequency</li> <li>- ITU-T G.8275.1 Phase/Time</li> <li>- ITU-T G.8275.2 Phase/Time</li> <li>- DOCSIS 3.1</li> </ul> <p><b>Broadcast:</b></p> <ul style="list-style-type: none"> <li>- SMPTE ST 2059-2</li> <li>- AES67 Media Profile</li> </ul> <p><b>AVB/TSN:</b></p> <ul style="list-style-type: none"> <li>- IEEE 802.1AS</li> </ul>
<b>Network Protocols</b>	<p>IPv4, IPv6  NTPv3, NTPv4  PTPv2  IEC 62439-3 (PRP)  DHCP, DHCPv6  DSCP  IEEE 802.1q VLAN filtering/tagging  IEEE 802.1p QOS  SNMPv1/v2/v3  Remote Syslog Support (UDP)</p>
<b>Optical Outputs</b>	<p>2 x Programmable pulse outputs, fiber optic - ST connectors</p>
<b>Interface</b>	<p>Single serial RS-232 interface</p>
<b>Network Interface</b>	<p><b>Combo Port:</b></p> <ul style="list-style-type: none"> <li>4 x GBIT SFP - Slot</li> <li>10/100/1000Mbit, RJ45 or 1000FX</li> </ul>
<b>Universal Serial Bus (USB) Ports</b>	<p><b>USB Terminal</b>  USB-to-serial console - Micro-USB Type B</p> <p><b>USB Host</b>  USB connector management CPU - USB Type A</p>
<b>BNC Connectors</b>	<p>4 x BNC female connectors for different output signals - e.g. programmable pulses, frequency synthesizer, timecode AM</p>

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<b>Terminal Connector</b>	<b>16pin DMC X1</b> DC power supply connector programmable pulses Error/Relay  <b>16pin DMC X2</b> programmable pulse (TTL, isolated) programmable pulse (RS-422) Time Code DCLS (TTL, isolated)
<b>Oscillator Options</b>	OCXO SQ Holdover performance 1 day: $\pm 220$
<b>Power supply</b>	DC: 20-60 V DC
<b>Power consumption</b>	Pmax = 30W
<b>Atmospheric Pressure</b>	615 to 1600 hPa
<b>Operating Altitude</b>	Up to 4000 m (13,123 ft) above sea level
<b>Form Factor</b>	Housing Type 9.5" (Half-Rack), 1U 223 mm x 251 mm x 43,7 mm / 8.78 inch x 9.88 inch x 1.72 inch (width x depth x height)  Housing Material: Steel
<b>Protection</b>	IP30
<b>Ambient temperature</b>	- 20 °C to + 55 °C (operation)
<b>Storage Temperature</b>	
<b>Humidity</b>	5 % to 95 %, 40 °C, non-condensing

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**Compliances**

- \* CB Scheme
  - \* CE
  - \* FCC
  - \* UL
  - \* CSA
  - \* WEEE, Waste of Electrical and Electronic Equipment
  - \* RoHS, Restriction of Hazardous Substances
  - \* REACH, Registration, Evaluation, Authorization and Restriction of Chemicals
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<b>Scope of supply</b>	Included in delivery is an outdoor antenna incl. mounting kit, pre-assembled antenna cable and product documentation on USB storage.
<b>Warranty</b>	Three-Year Warranty
<b>RoHS-Status of the product</b>	This product is fully RoHS compliant
<b>WEEE status of the product</b>	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.

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#### Manual

There is no online manual available for this product: [1][Contact us](#)

#### Links:

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