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SyncBox/PTPv2: PTP/IEEE 1588 Slave Clock

The Meinberg SyncBox/PTPv2 simplifies a migration towards PTP/IEEE 1588-2008 by providing a wide range of legacy time synchronization outputs. It is synchronized by a PTP Grandmaster and can be used as a time source for equipment that requires IRIG, PPS, 10MHz or E1 telecom carrier signals.

Important Note

This product is no longer available and may have been replaced by a newer product. We will, of course, continue to provide support for units that have already been purchased and are still in use. Please contact our [1]Sales Department for further details.

Key Features

- IEEE 1588-2008 (PTP V2) compatible ordinary clock
- Supported Protocols: IPv4, PTP/IEEE 1588-2008, DHCP, HTTP, HTTPS, FTP, SFTP, SSH, SCP, TELNET
- PPS and 10MHz Outputs
- Generates a variety of amplitude-modulated (AM) and pulse-width modulated (DCLS) IRIG time code signal formats

Description

The GNU/Linux operating system of the SyncBox/PTPv2 SBC (Single Board Computer) has been optimized to ensure a high level of security and reliability.

The configuration of the system can be done by using a standard web browser to access the straightforward html interface. Alternatively a text based and menu driven setup utility can be started from the shell prompt after logging into the unit via Telnet or SSH. The security-related features of the SyncBox satisfy highest demands.

Additionally the whole Syncbox configuration can be done by using encrypted channels (e.g. SSH, HTTPS). Every unused/unneeded protocol can be disabled in order to reduce possible points of attack.

The PTP/IEEE 1588-2008 implementation of the SyncBox is fully compliant to the IEEE 1588 V2 standard and therefore provides PTP management messages as well.

The SyncBox/PTP is equipped with a high precision oscillator "OCXO HQ" (look at oscillator options for details).

Characteristics

Status Indicators	6 Status LEDs: * System State (Ready) * Outputs enabled * PTP packet sent * PTP packet received * Link 100Mbit/s * Link 10MBit/s
Control Elements	Serial Terminal Interface (RS232) for initial configuration, Status LEDs
Frequency Outputs	10 MHz via BNC-Connector TTL 50 Ohm Accuracy is depending on oscillator (standard: OCXO HQ), see [2]oscillator list
Pulse Outputs	Pulse Per Second (PPS) via BNC connector (TTL level), pulse width 200 ms
Accuracy of Pulse Outputs	+/- 100 ns (relative to the used IEEE 1588 Grandmaster Clock, after initial synchronization phase)

Interface	Single serial RS-232 interface
Optional Output Signals	Additional Telecom Signals [3](LIU): * 2,048 kHz (E1-mode) G.703, 75 ohm, unbalanced, G.703, 120 ohm, balanced * 2.048 Mbps (E1-mode) 75 ohm , unbalanced 120 ohm , balanced
PWM Time Code Output	DCLS, TTL into 50 Ohm via female BNC connector, active high
AM Time Code Output	IRIG AM sine wave signal via female BNC connector: 3Vpp (MARK), 1Vpp (SPACE) into 50 Ohm
Supported Timecode Formats	**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 **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 **AFNOR:** Code according to NFS-87500, 100pps, AM sine wave signal, 1kHz carrier, BCD time of year, complete date, SBS time of day
Network Interface	1 x 10/100 MBit with RJ45, IEEE 1588 (PTPv2)
Power Consumption	15W
Operating Voltage	Standard: 100-240 VDC / 100-240 VAC (also available in different DC variants)
Form Factor	Compact slimline chassis, 1U/63HP (335mm wide x 43mm high x 250mm deep)
CPU	ARM compatible 500Mhz CPU, 256 MB RAM
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, SSH, HTTP, HTTPS

Internet Protocol (IP)	IPv4
Network Autoconfiguration Support	Dynamic Host Configuration Protocol - DHCP (RFC 2131)
Precision Time Protocol (IEEE 1588)	PTP/ IEEE 1588-2008 including * Network Protocols: - UDP/IPv4 (Layer 3) (Multicast/Unicast) - IEEE 802.3 (Layer 2) (Multicast) * Delay Mechanisms: - End-to-End (Multicast/Unicast) - Peer-to-Peer (Multicast) * PTP Management Messages for monitoring and configuration
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)
Supported Temperature	Operational: 0 - 50 °C (32 - 122 °F) Storage: -20 - 70 °C (-4 - 158 °F)
Supported Humidity	Max. 85 % (non-condensing) at 40 °C
Contents of Shipment	SyncBox and power cable.
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 from 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 Product	This product is fully RoHS-compliant.
WEEE Status of Product	This product is handled as a B2B (Business to Business) category product. To ensure that the product is disposed of in a WEEE-compliant fashion, it can be returned to the manufacturer. Any transportation expenses for returning this product (at end-of-life) must be covered by the end user, while Meinberg will bear the costs for the waste disposal itself.

Manual

There is no online manual available for this product.: [4]Contact us

Links:

[1] mailto:sales@meinberg.de
[2] https://www.meinbergglobal.com/english/specs/gpsopt.htm
[3] https://www.meinbergglobal.com/english/products/
[4] mailto:info@meinberg.de