



WHITE RABBIT Z16

1GイーサネットベースのネットワークでのWhite_Rabbit分配の為の、高信頼で正確な時間のファンアウト。

WR-Z16は、プラグアンドプレイファイバーリンク上でサブナノ秒の精度の時間を提供する16個のSFPコネクタを備えたスタンドアロンデバイスです。

WR-Z16は、すべての光インターフェイスで非常に正確なIEEE 1588 (PTP) を提供し、NTPの相互運用性をサポートしています。ピコ秒レベルの周波数分布は、デジタル時計を通じて利用できます。

WR-Z16は、マルチソースの冗長性とホールドオーバー機能を組み合わせて継続的な運用を保証するフェイルオーバーメカニズムを組み込んでいます。



Technical Specifications / WR-Z16

System On-Chip

SoC	Xilinx Zynq 7000 series
CPU	Dual ARM® A9 MP@ 1 GHz
Memory	<ul style="list-style-type: none"> 512 MB DDR3 (32-bit bus) 16GB SD Card

Timing

Multi-sources	<p>Failover mechanism to ensure continuous operation by switching over several timing sources in case of failure:</p> <ul style="list-style-type: none"> White Rabbit (accuracy <1ns) External references (GNSS, AC)
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PTP IEEE 1588-2008	<p>Supported Profiles:</p> <ul style="list-style-type: none"> Default G.8265.1^[1] G.8275.1^[1] IEEE C37.238-2011^[1] <p>up to 16 clients</p>
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NTP	NTP v2, v3 & v4
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Holdover (optional)	<p>Accuracy (learning 3 days from GNSS)</p> <ul style="list-style-type: none"> < 100ns @ 4h < 500ns @ 8h < 1.5us @ 24h
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Management

OS	Linux (Kernel v4.9 & buildroot)
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Control	<ul style="list-style-type: none"> CLI & Web-GUI: HTTP(s)
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Authentication	<ul style="list-style-type: none"> RADIUS TACACS+
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Monitoring	<ul style="list-style-type: none"> SNMPv3 (SNMPv2) + Traps Smart-Alerts
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Network	<ul style="list-style-type: none"> SSHv2 (OpenSSH 7.8) + SFTP/SCP DHCP LLDP Rsyslog
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Physical Specification

Dimension	431 mm x 44 mm x 330 mm
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Color	White (Metallic)
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Certifications	ROHS, FCC, CE
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Environmental Conditions

Temperature	-10°C ~ +50°C
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Humidity	0% ~ 90% RH
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HIGHLIGHTS

- ✓ Sub-nanosecond time accuracy
- ✓ 16 optical timing ports for WR/PTPv2
- ✓ Multi-source time references
- ✓ Distance range over 80 km using fiber
- ✓ Linux OS
- ✓ Datacenter Optimized design
- ✓ Failover mechanisms
- ✓ Holdover capability
- ✓ Extended monitoring and management
- ✓ Redundant hot swappable power supply & fans
- ✓ Health monitoring

Front Panel



UART	RS232 Serial (RJ45 connector)
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Ethernet	2x 100/1000 Base-T RJ45
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SFP Ports	16x 1GbE for timing distribution (WR/PTPv2 selectable)
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Clocks I/O	<p>4x SMA connectors (3V @50Ω, TTL compatible):</p> <ul style="list-style-type: none"> 10MHz OUT (LVTTTL) PPS OUT (LVTTTL) PPS IN (LVTTTL) 10MHz IN (TTL/CMOS/ECL/clipped sine)
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Back Panel Modules



Power Supply	<p>2x Redundant & Hot-swappable</p> <ul style="list-style-type: none"> 100-240VAC, 50-60 Hz 50W (max. 80W)
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Fan	<p>2 x Swappable fan modules</p> <p>Airflow: blowing out</p>
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[1]: License not included in default package