



PRESS RELEASE

Achieve Nanosecond-Level Synchronization with the X-ES XPort3200 Grandmaster Clock Module

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Extreme Engineering Solutions, Inc. (X-ES) announces the [XPort3200](#), an IEEE 1588v2/Precision Time Protocol (PTP) Grandmaster designed to provide clocking and time synchronization to multiple slaves via Ethernet.

Introduction to XPort3200

The XPort3200's clocking and synchronization is useful in many different applications that range from industrial applications such as assembly lines and printing presses to military applications such as multi-sensor data time-stamping, control system synchronization, and telemetry. IEEE 1588 uses a standard Ethernet network to transfer clock and time information, providing accurate nanosecond-level synchronization with minimal software overhead and without introducing a secondary method of communication to slaves.

Precision-Based Performance

The XPort3200 leverages Freescale's QorIQ P1020 processor to perform the IEEE 1588 time-stamping. The P1020 processor incorporates hardware time stamping providing an accurate egress and ingress timestamp with a resolution of 8 ns.

The P1020 processor includes external GPIO time stamp pins. These pins can be used to synchronize the XPort3200 to a Pulse Per Second (PPS) input, if available, to provide accurate clock synchronization.

If an application requires an absolute time reference, the XPort3200 can source a time reference from a serial port or a GPS receiver. In cases where no external time reference is available, the XPort3200 features a Stratum 3-compliant, oven-controlled oscillator to provide IEEE 1588 slaves an accurate time reference.

Options and Supported Modules

The XPort3200 is designed with other X-ES products in mind. The [XChange3013](#), [XChange3018](#), and [XChange3100](#) VPX Ethernet switches can host the XPort3200, and all three switch products feature transparent IEEE 1588 clocking that ensures accurate synchronization to all devices connected to the switch. This allows very accurate distribution of the XPort3200 IEEE 1588 time to many different slaves. The XPort3200 can be supplied as an XMC or PMC with P14 or P16 I/O connectors, allowing for installation in nearly any mezzanine site.

[Contact X-ES](#) today for more information on the XPort3200 Grandmaster Clock module.

About X-ES — Extreme Engineering Solutions, Inc. (X-ES), a 100% U.S.A.-based company, designs and builds single board computers, I/O boards, power supplies, backplanes, chassis, and system-level solutions for embedded computing customers. X-ES offers cutting-edge performance and flexibility in design, plus an unparalleled level of customer support and service. For further information on X-ES products or services, please visit our website: www.xes-inc.com or call (608) 833-1155.

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