

EtherSpaceLink

ESL-RG401/8-LS



Overview

The ESL is a high-performance Ethernet-to-SpaceWire Bridge that can bidirectionally relay traffic from a TCP/IP Ethernet connection to one SpaceWire port. The ESL is connected to an Ethernet network and passively waits for a connection from a host computer. It is identified by an IP address that is used by the host computer to make this connection. The connection is made using a TCP socket, which is flow-controlled and is capable of recovering from errors that might occur on the Ethernet network between the user and the EtherSpaceLink unit. There is no limitation on the size of packet transfers in each direction - not even as a result of finite buffer sizes. The user has complete control over the SpaceWire packet content and structure.

Features

Ethernet and TCP/IP provide a standard interface mechanism that is supported by all major operating systems, so no additional software drivers are required

Traffic on the SpaceWire link, speeds up to 400 Mb/s

Each Packet received may be time-tagged to a resolution better than 2 ns. There is no limit to the length of the SpaceWire packets that can be captured and transferred

Use it with devices, instruments, boards, subsystems or complete systems

Use it from almost any computer, any operating system, anywhere, via the Internet and Ethernet

Full software is provided including an API and examples (all with source code), and user interfaces with comprehensive scripting capability

Product Facts

Products conform to ECSS-E-ST-50_12C (31st July 2008)

Receive speeds in the range from 1.2Mb/s to more than 400Mb/s

User selected transmit speeds, available from 1Mb/s up to more than 400Mb/s

The ability to support one active SpaceWire port at any time, selected from the eight ports on the RG408 platform.

External Synchronization with eight SMA connectors on the back of each unit

Options

ER: Error Reporting—tokens defined as errors can be made visible for recording purposes

EW: Event Waveforms – Waveform capture available from a wide range of trigger sources including errors

TT: Time Tags – to a resolution of less than 1.5ns and synchronization between units of plus/minus 3ns

TC: Time Codes - may be automatically generated using this option at intervals between 10 μ s and 999 s, or individually upon user request.

Ordering information

One Active Port

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ESL-RG401/8-MS

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