

# STAR-Dundee

## Supporting SpaceWire Applications

### STAR-Dundee Product Overview

STAR-Dundee's innovative range of SpaceWire test and development equipment is invaluable when working with SpaceWire technologies. Our equipment includes comprehensive supporting software, APIs and example software with source code, for both Windows and Linux platforms. A VxWorks version of the SpaceWire PCI Driver is available separately.

#### SpaceWire-USB Brick

The SpaceWire-USB Brick is a small USB 2.0 box which provides an interface between a host PC and SpaceWire. It is powered from the PC via the USB cable and provides two SpaceWire interfaces each operating at up to 200 Mbits/s.



Software supplied: VAL, CUBA, USB, JAVA, RL, RMAP

#### SpaceWire Router-USB

The SpaceWire Router-USB is an eight-port SpaceWire router which has a ninth port connected to a USB 2.0 interface. The USB interface can be used to connect a host PC to the router and hence into the SpaceWire network. The router inside this unit is compatible with the SpW-10X radiation tolerant router developed for ESA and manufactured by Atmel as the AT7910E. The SpaceWire interfaces operate at up to 200 Mbits/s.



Software supplied: VAL, CUBA, USB, JAVA, RL, RMAP

#### SpaceWire PCI-2

The SpaceWire PCI-2 board provides three SpaceWire interfaces, and uses the SMCS-SpW-FPGA device from Astrium. This FPGA is functionally representative of a new SMCS device currently being developed by Astrium/Atmel which will be fully SpaceWire compliant. A version with the radiation tolerant updated SMCS chip will be available as soon as that chip is available.



Software supplied: VAL, PCI, JAVA, RL, RMAP

#### SpaceWire cPCI

The SpaceWire cPCI board is a cPCI board providing three SpaceWire interfaces. It is functionally the same as the SpaceWire PCI-2 board and can be provided with a 3U or 6U front panel.



Software supplied: VAL, PCI, JAVA, RL, RMAP

### Contact Details

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#### SpaceWire Link Analyser

The SpaceWire Link Analyser monitors, records and analyses traffic flowing along a SpaceWire link. Results are displayed on a host PC connected via the USB interface. The Link Analyser is ideal for SpaceWire traffic analysis and debugging.



Software supplied: SpaceWire Link Analyser Software

#### SpaceWire Conformance Tester

The SpaceWire Conformance Tester provides a wide range of tests to probe the compliance of SpaceWire devices against the SpaceWire ECSS standard. The Conformance Tester comprises a SpaceWire interface pod and software running on a host PC. The interface pod is connected to the host PC using a USB 2.0 cable providing communications and power.



Software supplied: SpaceWire Conformance Tester Software

#### SpaceWire IP-Tunnel

The SpaceWire IP-Tunnel provides a means by which "Virtual Satellite Integration" can be performed: the ability to test components of a satellite together, despite those components potentially being a great distance apart. The SpaceWire IP-Tunnel software can achieve this through use of the Internet (or some other network). Traffic which would normally be exchanged between components over a SpaceWire link is instead tunnelled through the Internet.



Software supplied: SpaceWire Internet Tunnel and Protocol Analyser Software

#### SpaceWire Cables

SpaceWire lab cable assemblies are available in lengths of 0.5, 1, 2, 3, 5 and 10 metres. These are for lab use only and although they do not provide the full shielding of flight-ready SpaceWire cables, they do benefit from much greater flexibility.

#### Software key:

VAL	SpaceWire Validation Software
CUBA	SpaceWire CUBA Software
USB	SpaceWire USB Driver and API
PCI	SpaceWire PCI Driver and API
JAVA	SpaceWire Java Driver and API
RL	SpaceWire Router Configuration Library and API
RMAP	RMAP Packet Library API