

Absolute Time Interface

Synchronizing any number of 4Links SpaceWire test units to IRIG time



Product outline

The 4Links Absolute Time Interface (ATI) enables all the 4Links test units in a test system to be synchronized to an accurate “Time of Year”, so that timing measurements can be made with any number of units, all sharing a common time reference. The ATI also has a single SpaceWire port which, on the basic unit, outputs a 1 pulse per second SpaceWire Time Code. The Time-code Generator option (TG) enables the ATI to output up to four independent and configurable Time Codes, all synchronized to Time of Year.

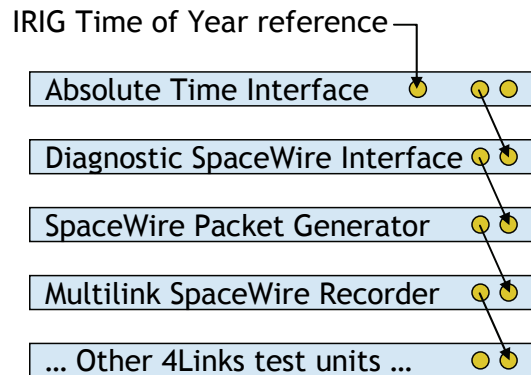
Use of the Absolute Time Interface

The ATI is connected to an IRIG Time of Year reference.

All the 4Links SpaceWire test units that need to be synchronized are connected to the ATI;

A stack of 4Links SpaceWire test units is shown in the photo at right, with the coax cables connected between the SMA connectors to make a daisy-chain between them. Termination resistors are on the right-most connector of the top unit and on the next to right-most connector of the bottom unit.

IRIG time references are readily available commercially as standalone boxes or as PCI, VME or other form-factors.



Example applications

- Dated Time Tags of tests stimulated by active SpaceWire interfaces such as the Diagnostic SpaceWire Interface;
- Recordings by one or more passive Multi-link SpaceWire Recorders, with data recorded by different computers on different discs, all time tagged to the same time reference;
- Remote testing and ‘Virtual Satellite Integration’ between remote sites, with coordinated measurements of time.

Specification

- Physical: 1U rack mount enclosure, 20 to 72V power input
- IRIG: IRIG B002 (100pps, pulse-width code, no carrier, BCD Time of Year)
- Number of units in synchronization chain: Any, within max total length of cables
- Maximum total length of cables in synchronization chain: 50 metres
- Synchronization to IRIG: $\pm 500\text{ns}$ (or better)

Product code and Option

The Absolute Time Interface may be ordered as product code ATI-RG201-s.

The TG option provides up to four independent and configurable SpaceWire Time Codes

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