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Find the *Abaco Systems / SBS A429-PCI2-16* at our website: ***Click HERE***

A429-PCI2

ARINC Interface

I/O & Communications

Features

16 highly configurable channels with concurrent and independent operation. Each channel selectable for:

- Transmit or Receive
- High or Low Speed
- Receive and/or Bus Monitoring

Transmitter

- Advanced bus scheduling
- Transmission list synchronization
- Word level error injection

Receiver

- Label/SDI current value table
- 48-bit 1 µsec time stamp
- Error detection
- IRIG B option

Bus Monitor

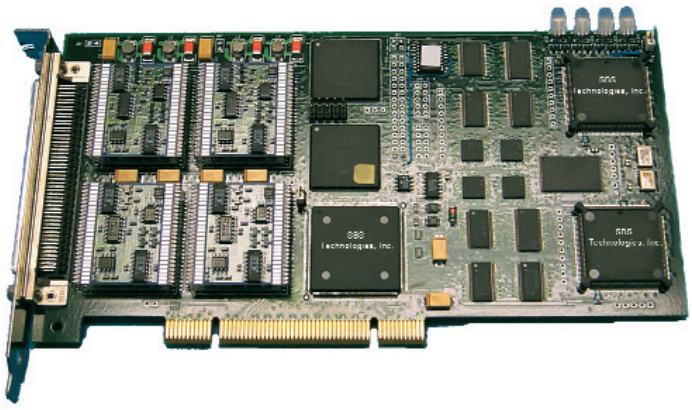
- Filterable sequential buffer
- Link-list buffer chains
- 48-bit 1 µsec time stamp
- Error detection
- External trigger initiation

Architecture

- Host off-loading dsp
- Large, flexible memory
- Label and SDI operations
- System event interrupts

Software Support

- Complimentary drivers for most operating systems
- Integrated Avionics Library, including source code



A429-PCI2 interface provides a 16 channel highly programmable ARINC interface over the PCI backplane. Each channel is software configurable for transmit or receive, high or low speed (100 k or 12.5 k bits per second) and ARINC 429 or 575 protocol requirements. Any channel may transmit source lists. The current value table, local monitor and/or global monitor buffers may filter and receive sink data. Either the Label or Label/SDI identify and sort the ARINC data. The on-board DSP controls the flexible data structures, triggers, interrupts, time stamping and data communications on the 429 bus. You can use external triggers for synchronization. The advanced interrupt technology allows real-time event handling by the host processor.

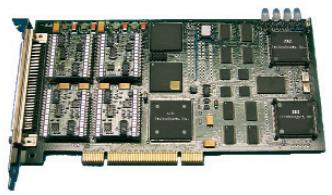
As it receives each 32-bit ARINC 429 data, a 48-bit, 1 µsec time tag time stamps the data word. When placing the receive channel in the monitor mode, a 16-bit status word accompanies the time stamped data. This provides error information regarding each received word.

When a channel is setup as a transmitter, you can send any number of label sequences on each channel. All transmit channels may also be synchronized for simultaneous transmission. Each transmitted ARINC word has an accompanying control word. The control word implements various error injection capabilities. You can transmit the words in scheduled and/or asynchronous priority methods.

Hardware Overview

SBS bases the A429 interfaces upon high-speed DSP, programmable logic and dual port RAM. This advanced design delivers a highly reliable hardware platform that is feature rich and user friendly. The 256 kB of dual port RAM allows the host system to access setup, receive, monitor, transmit and change data structures, at any time. Definable transmission and receive structures include link list and buffer length sizes. This allows the user to design the data structure optimal for the specific application while maintaining an easy to use environment.

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A429-PCI2

Configurations

Model Number	Configuration
A429-PCI2-16	Sixteen Channel ARINC to PCI interface
/I	IRIG B Time Receiver (add /I to product number)

Specifications

A429 Functionality:
Transmitter Function

- Independent channel operations
- Major/Minor frame scheduling
- Priority asynchronous message insertion
- Transmission link buffers
- Synchronous word transmission
- On-the-fly transmission list
- Error injection
- Programmable interword gap
- 100 kHz or 12.5 kHz transmission speed

Receiver Function

- Current buffer value
- Time stamped received labels
- SDI and Label differentiation
- Label filter functions
- Messages time stamped with 1 µsec 32-bit clock or optional 48-bit IRIG-B clock
- Multiple triggers and interrupts
- Error detection

Monitor

- Channel sequential monitor
- Global sequential monitor
- Buffer swap notification
- Variable length buffers
- Count detection triggers

Self Test

- Power-up test with status register report
- BIT-DSP and encoder/decoder test
- Run-time health status register
- Loop back Unit Test application

Inputs/Outputs

- External triggers
- External timer clock
- External timer enable
- IRIG clock input (optional)

PCI Functionality

- PCI bus is 2.1 compliant
- 50 MB per second maximum transfer rate
- 16-bit and 32-bit transfer modes
- Programmable DMA controller
- On-board firmware storage via Flash memory

Interface Connections

- AMP .050 Series 100-pin connector

Interface Card Specifications

- Maximum power consumption with 400 ohm transmit loads:
  5 V @ 800 mA, +12 V @ 520 mA, -12 V @ 470 mA
- Standard commercial temperature:
  0° C to +60° C
  ≤ 95% rH non-condensing
- Mechanical:
  Approximately 3/4 length PCI bus card
  7.9" x 3.9" (201 mm x 99 mm)

Software and Documentation Support

- Low-level drivers for most operating systems
- Integrated Avionics Library with source code
- Borland and Microsoft® C Compiler compatible
- Hardware and Integrated Avionics Library documentation included on CD. Hard copies of the documentation are available upon request.

Customer Support

- Two-year warranty
- Extended warranties available
- Driver and library upgrades

Corporate Headquarters
7401Snaprol NE
Albuquerque, NM 87109
Tel 505-875-0600 Fax 505-875-0400
Email info@sbs.com

European Headquarters
Memminger Str. 14
D-86159 Augsburg, Germany
Tel +49-821-5034-0 Fax +49-821-5034-119
Email sales@sbs-europe.com

For additional contact information, please visit our web site at ***www.sbs.com***

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