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Find the *Abaco Systems / SBS A429-V2* at our website: ***Click HERE***

A429 - V2
ARINC Interface

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
- **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 & SDI Operations
  - System Event Interrupts
- **Software Support**
  - No Cost Drivers & Libraries
  - Including Source Code



The A429-V2 interface provides the user with 16 highly programmable ARINC channels over the VMEbus backplane. Each channel is software configurable for transmit or receive, high or low speed (12.5k or 100k bits per second) and ARINC 429 or 575 protocol requirements. Source lists may be transmitted by any channel. Sink data may be filtered and received in a current value table, local monitor and/or global monitor buffers. The ARINC data word may be identified and sorted by either Label or Label/SDI. The onboard DSP controls the flexible data structures, triggers, interrupts, time stamping and data communications on the 429 bus. External triggers may be used for synchronization while the advanced interrupt technology allows realtime event handling by the host processor.

As each 32 bit ARINC 429 data word is received, it is time stamped with a 48 bit, 1-µsec time tag. When the receive channel is placed in the monitor mode, the time stamped data is accompanied with a 16 bit status word which provides error information regarding each received word. When a channel setup as a transmitter, any number of label sequences may be sent on each channel and all transmit channels may be synchronized for simultaneous transmission. Each ARINC word to be transmitted has an accompanying control word used to implement various error injection capability. Words may be transmitted in scheduled and/or asynchronous priority methods.

Hardware Overview

SBS A429 interfaces are based 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 256k 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, including link list and buffer length sizes, 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 - V2
Interface 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
- 100k or 12.5k Transmission Speed

Receiver Function

- Current Buffer Value
- Time Stamped Received Labels
- SDI & Label Differentiation
- Label Filter Functions
- 48 bit, 1 µsec Time Stamp
- Multiple Triggers & Interrupts

Monitor

- Channel Sequential Monitor
- Global Sequential Monitor
- Buffer Swap Notification
- Variable Length Buffers
- Count Detection Triggers
- Individual Activity LED per channel

Self Test:

- Power-up Test with Status Register Report
- BIT - DSP and Encoder/Decoder Test
- Run-time Health Status Register
- Loop Back ìUnit Testî

Inputs/Outputs:

- External Triggers
- IRIG Clock Input (available on request)

VME Functionality:

- VMEbus System
- D16/D32 Single Cycle Transfers
- D32/D64 BLT
- A24/A32 Addressing
- D08 Interrupts
- Memory Mapped
- Selectable Interrupt Requests
- Onboard Firmware Storage via Flash Memory

Interface Connections:

- $DB44_F$ Front Connector
- VME P2 Routing of Channels (optional)
- $DB44_M$ Loop Back Connector

Interface Card Specifications:

- Maximum Power Consumption with 400 ohm transmit loads:
  - 5V @ 1.5 Amps
  - +12V @ .66 Amps
  - -12V @ .56 Amps
- Standard Commercial Operating Temperature:
  - 0∞C to +60∞C
  - ≤ 95% rH non-condensing

Software & Documentation Support:

- Low Level Drivers & C Library Sets with Source Code
- Borland and Microsoft C Compiler Compatible
- Hardware and Library Manual Set

Customer Support:

- Full One Year Warranty
- Extended Warranties Available
- Driver and Library Upgrades
- Over 18 Operating Systems Supported on Various Platforms

Interface Model Numbers:

A429-V2-16	16 Channel ARINC 429 to VME Interface

SBS guarantees a successful integration which includes no-cost phone, e-mail and ftp support, with on-site customer visits as necessary.

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