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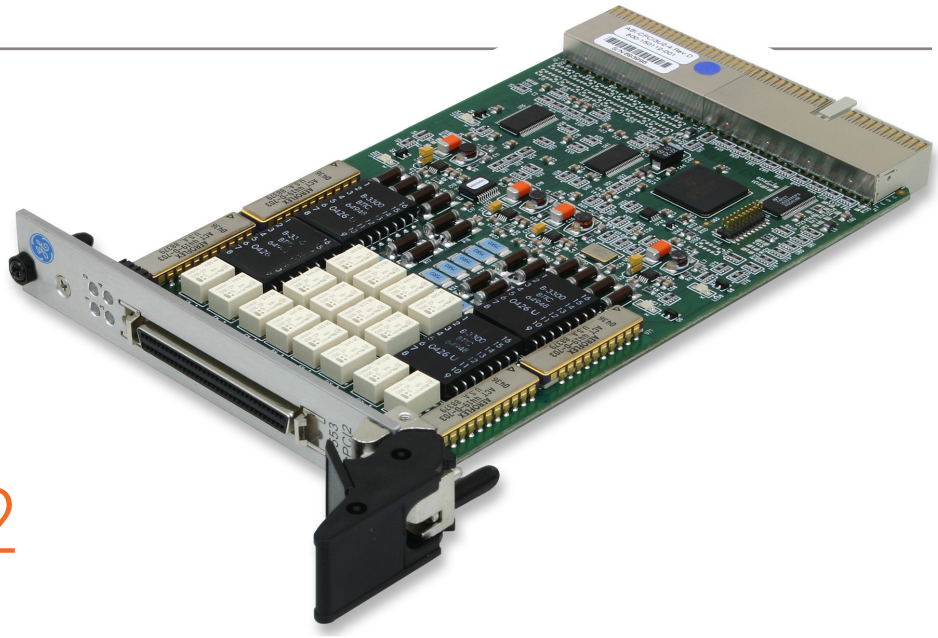
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Find the *Abaco Systems / SBS ASF-CPCI3U2-4/I* at our website: ***Click HERE***



ASF-cPCI3U2

MIL-STD-1553 Interface

ASF-cPCI3U2 is a flexible interface providing up to four single function, dual redundant MIL-STD-1553 interfaces to the front panel or cPCI backplane. This Advanced Single Function (ASF) architecture provides independent operation as a Bus Controller (BC), Remote Terminal (RT), or dual function Bus Monitoring (BM). The MRT option allows multiple RT capability. The architecture is compatible for use in applications implementing the 16PP194, 16PP362 or 16PP967 specifications. The ASF-cPCI interface equips the cPCI bus system with up to 4 complete 1553 interfaces. This includes 1553A/1553B selections, pointer-driven transmit and receive buffers and extensive programmable event interrupts.

BC simulation structures consist of linked lists of 1553 command messages: BC-to-RT, RT-to-BC, RT-to-RT, mode code, broadcast and time delay block transmissions. We define RT simulation as a simple series of pointers to RT definition tables. The RT definition tables in turn point to control data buffers. We define the bus activity we want to monitor in both the Map and Sequential monitoring modes. This provides user defined linked lists of data buffers and sequential 1553 activity.

The user can time stamp and/or double buffer the 1553 activity. Both monitoring modes perform broad error monitoring. They also provide a comprehensive error table that the host processor can read at any time.

Hardware Overview

Abaco bases the ASF interface upon an advanced high-speed DSP, programmable logic and dual port RAM. It delivers a highly reliable hardware platform that is feature rich and user friendly. Through the 256 kB of dual port RAM per channel, the host processor has access to set up, monitor, and change the 1553 interface data structures at any time. Link-list memory architecture allows the user to structure interface memory usage for the maximum in flexibility and usefulness.

Software Support Overview

Abaco distributed software includes host processor device drivers to the dual port control and data structures as well as an application layer to these structures. Abaco also provides low-level drivers for most operating systems, and the Integrated Avionics Library with source code, with the interface at no additional cost.

FEATURES:

- Up to 4 dual redundant 1553 channels featuring 100% independent operation as one of the following:
  - Bus Controller
  - Remote Terminal
  - Dual Function Bus Monitor
- Bus Controller
  - Programmable frame lists
  - BC-RT, RT-BC, RT-RT
  - Mode codes, broadcasts, and time delays
- RT Functionality
  - RT level protocol selection
  - RT definition tables
  - Programmable response time
  - Optional multiple RT support
- Bus Monitor
  - Map monitoring
  - Sequential monitoring
  - Time stamped
  - Double buffered
  - Error tables
  - Definable monitoring
- Architecture
  - On-the-fly data structures
  - BC and RT linked lists
  - High-speed DSP
  - Flexible memory structure
  - Flash memory
- Software Support
  - Complimentary drivers for most operating systems
  - Integrated Avionics Library, including source code

abaco SYSTEMS

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ASF-cPCI3U2 *MIL-STD-1553 Interface*

Specifications

ASF Functionality: Bus Controller (BC)
- BC retry
- Minor frame timing and message scheduling
- Intermessage gap selectable
- Programmable delay gaps and null BC blocks
- Multiple BC data buffers in a linked list structure
- Programmable RT no-response time-out

Remote Terminals (RTs)
- RT and all subaddresses supported
- Transmit/Receive buffers for each subaddress
- Multiple RT data buffers in a linked list structure
- Programmable RT response time and no response selection

Map Monitoring
- Multiple linked buffers for each transmit/receive subaddress
- Mapped buffers read by host processor as time permits
- Number of buffers per transmit/receive subaddress is programmable or user definable to account for various host speeds

Sequential Monitoring
- Host driver selected messages are double buffered
- Messages time stamped with a 1 µs 32-bit clock or optional 48-bit IRIG-B clock
- Standard firmware performs broad error monitoring
- Comprehensive error table readable at any time by host processor

Self Test
- Power-up test with status register report
- BIT-RAM and encoder/decoder test
- Run-time health status register
- Unit Test application for 1553 bus functionality

Inputs/Outputs
- 16 shared bi-directional external triggers on J2, 10 shared bi-directional triggers on front panel connector
- IRIG clock input (optional)
- External RT address on J2 for each 1553 redundant interface

cPCI Functionality
- cPCI bus is PICMG 2.0-D2.13 compliant
- 132 MB per second maximum transfer rate
- 16-bit and 32-bit transfer modes
- Memory mapped
- Programmable DMA controller
- I/O mapped to cPCI J2
- On-board firmware storage via Flash memory

Interface Connections
- Multiple I/O harnesses available
- Amp 0.050 series 68 pin
- J2 rear panel I/O

Interface Card Specifications
- Power Consumption:
  - Two Channel 5 V @ 750 mA or 3.3 V @ 450 mA
  - Four Channel 5 V @ 2.1 A maximum
- Commercial operating temperature: 0°C to +70°C
- Mechanical: Eurocard 3U Length 6.3”, Height 3.9”

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
- Over 18 operating systems supported on various platforms

Configurations

Model Number	Configuration
ASF-cPCI3U2-(1-4)	1 to 4 Channel 1553 to cPCI interface
ASF-cPCI3U2-XT-(1-4)	1 to 4 Channel 1553 to cPCI interface, extended temp
IRIG	IRIG B Time Receiver (add /I to product number)
MRT	Multiple RT capability (add /MRT to product number)

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