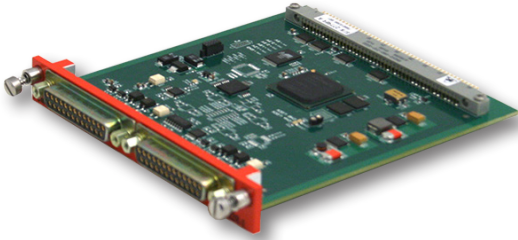


PCM-102R

PC/104 Based CAIS Controller with PCI Interface

**CURTISS-
WRIGHT**

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Key Features

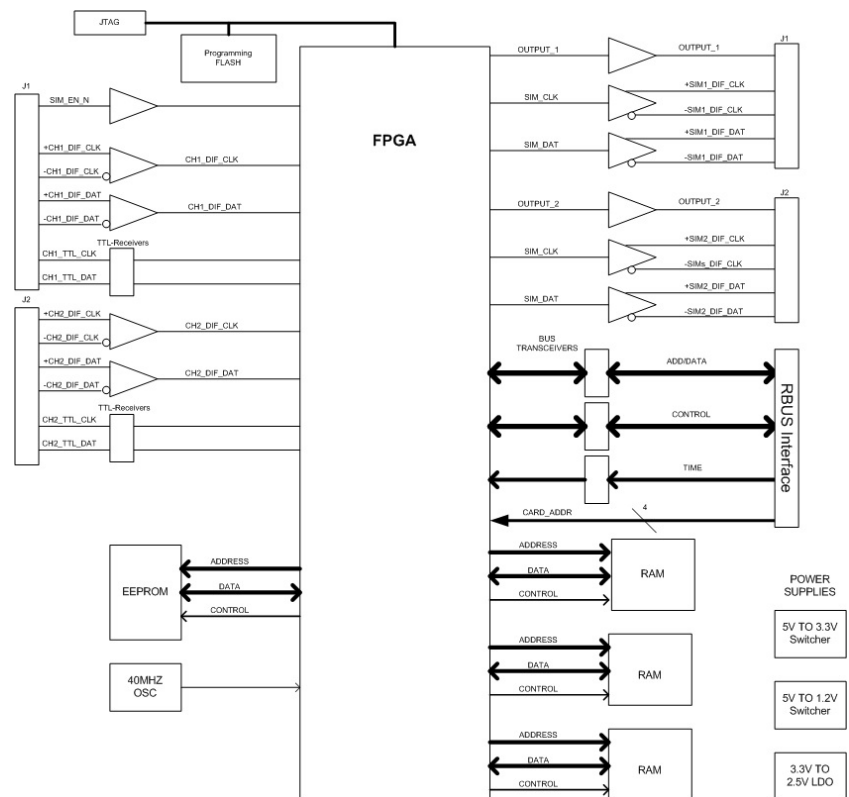
- For use in Curtiss-Wright's EDAU/ CDAU/WDAU/nDAU systems
- Two independent PCM input channels
- Channels supports RS-422 differential or single-ended TTL inputs
- Built-in programmable frame correlator for each input channel
- Operates up to 20Mbps per channel (RS-422 Differential inputs)
- Frame lock output signals per channel
- Multiple PCM-102R cards can be placed in a single chassis
- Configurable using Curtiss-Wright's programmable software application
- Five modes of operation
 - + FIFO Throughput mode
 - + FIFO Buffered mode
 - + Current Value Table (CVT) mode
 - + Coherent Asynchronous mode
 - + Coherent Synchronous mode

Applications

- Data acquisition systems
- Flight test data recording
- Flight test instrumentation
- Lab test

Overview

The PCM-102R is a 2-channel, PCM card for use in Curtiss-Wright's EDAU/CDAU/WDAU/nDAU systems. The card has two independent PCM channel inputs. Each channel accepts RS-422 differential inputs at rates up to 20Mbps on a per-channel basis. Both channels are also selectable to allow input on separate single-ended TTL input pins (5 Mbps maximum). The two PCM data/clock interfaces are accessible at the PCM-102R faceplate via two 25-Pin DSUB connectors. The total system bandwidth of all the input modules in a system should not exceed the maximum EDAU/CDAU/WDAU/nDAU systems bandwidth. The PCM-102R can be configured in FIFO Throughput mode, FIFO Buffered Mode, CVT mode, Coherent Synchronous Mode, or Coherent Asynchronous Mode.



PCM-102R block diagram

Specifications

General

- Supply current: +5V @ 300mA
- Power consumption: 1.5W maximum
- Operating temperature: -40 to 85°C (box ambient temp)
- Storage temperature: -55 to 100°C

Mechanical

- Compatibility: Multiple PCM-102R cards can be used in the same EDAU/CDAU/WDAU/nDAU-20XX chassis
- Weight: 5.5 ounces not including mating connectors
- Unit connectors: Cannon™ DSUB-25S
- Mating connectors: Cannon™ DSUB-25P

Functionality

- Input channels: Two independent PCM input channels
- Input types: RS-422 differential or TTL single-ended
- Differential impedance: Programmable 120 Ohm terminator on each differential input
- Single-ended impedance: Fixed 10K Ohm pull-up on each single-ended input
- Max input data rate: 20 Mbps differential or 5 Mbps single-ended
- Bits per word: Programmable from 8 to 16 (fixed word size)
- Bite per minor frame: Programmable up to 8K bits/minor frame
- Minor/major frames: 1 to 256
- Frame lock status: Opto-isolated locked indicator output for each channel
- Frame sync bits: Programmable up to 32-bits
- Frame sync mask: Programmable up to 32-bits
- Bit errors before lock drop: Programmable 0 to 15
- Bit slip window: Programmable 0, ±1, ±2, ±3
- Good frames before lock: Programmable 1 to 16
- Bad frames to drop lock: Programmable 1 to 16
- SFID word position: Any location within minor frame
- Bit clock: Programmable 0° or 180° phase selectable
- PCM data packing: Packed, unpacked or throughput
- Time tagging: Optional in selected modes

Modes of Operation

- FIFO Throughput mode: The Data is output in the same sequence as it was acquired. If the FIFO becomes empty the card outputs a filler word and a flag.
- FIFO Buffered mode: The entire PCM minor frame is stored in an auxiliary buffer before the data is output from the FIFO to the overhead in the same sequence as it was acquired.
- Constant Value Table (CVT) mode (Selected data): The data is stored and read from a CVT. Stale and Overflow flags are provided for data validity.
- Coherent Asynchronous mode (Selected data): Each Major Frame is triple buffered. On each “swap buffer” instruction, data will be transferred from the next sequential buffer.
- Coherent Synchronous mode (Selected data): Used when the input PCM’s minor frame is synchronized to the overhead’s output minor frame. Each input PCM minor frame is triple buffered.

Ordering Information

Contact [Curtiss-Wright](#) for ordering information