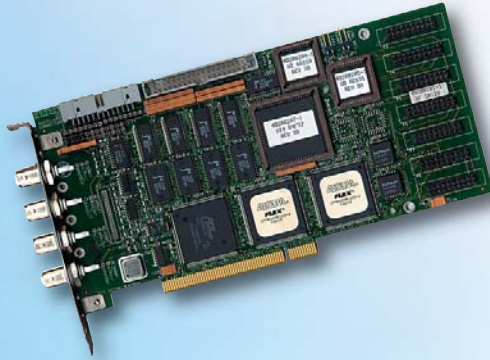


PCI DECOM/SIMULATOR

DSM720-PCI



KEY FEATURES

- Supports NRZ-L PCM inputs to 20 Mbps
- On-board decommutation of individual parameters saves CPU time
- PCI bus master DMA takes no CPU time to transfer data
- Reconfigurable to 32 or 64 kwords per frame
- Supports primary frame and subframe synchronization and one or two asynchronous embedded serial stream outputs
- Contains two 64-bit correlators for frame and subframe synchronization
- Parallel port for the ADP716-PC Analog & Digital Ports board interface provides real-time analog output

L-3's high-performance PCI Decom/Simulator (32K words per frame) and large frame Decom (64K words per frame) process incoming PCM telemetry streams at rates up to 20 Mbps. For maximum flexibility, the DSM720-PCI can support either 32K 16-bit parameters and a simulator, or if larger telemetry frames are required, it can be configured without the simulator function to support 64K 16-bit parameters. Reconfiguration is accomplished by downloading a configuration file supplied with each board. Only L-3's PCI Decom/Simulator provides this level of configurability.

The PCI Decom/Simulator accommodates frame and subframe synchronization patterns as long as 64 bits and supports SFID, URC, FCC, and Unique Subframe synchronization strategies. Search-to-lock and lock-to-search strategies are programmable, and automatic polarity detection is provided as a standard feature.

Once synchronized, the PCI Decom/Simulator writes user-selected data from incoming streams into one of two ping-pong buffers in its on-board RAM. Each time a buffer is filled, the board interrupts the host and switches storage to the other buffer. The host can then initiate a DMA transfer of the full buffer without interfering with input stream synchronization during data acquisition.

The PCI Decom/Simulator comes with two asynchronous outputs, which can be used to pipe embedded serial streams to other modules for synchronization and decommutation.



Excellence You Can Measure

DSM720-PCI SPECIFICATIONS

Decommutator:

Inputs

InternalNRZ-L data and clock
External (rear panel)2 BNC connectors (TTL levels) or
2 triax (RS-422 levels), and 26-pin
header
External clockTTL or optional RS-422
External dataNRZ-L PCM serial
Bit rate maximum20 Mbps

Outputs

Connector40-pin header (compatible with
ADP716-PC)
Status outputSearch, verify, lock, check
Data16-bit parallel
Address16-bit parallel

Frame Characteristics

Data alignmentMSB or LSB
PolarityNormal, inverted, automatic
Minor Frame:
Words per minor frame32,768 max. or 65,535 max.
Word length8 to 16 or 32 bits variable, word by
word
Sync pattern8 to 64 bits with any combination of
1, 0, or X
Max. bit errors in sync pattern ..Programmable 0 to 7 bits
Search-to-lock strategyProgrammable 0 to 3 consecutive
frames
Lock-to-search strategyProgrammable 0 to 3 consecutive
frames
Sync apertureProgrammable window ± 0 or ± 1 bit
Major Frame:
Words per major frame32,768 max. or 65,535 max.
Minor frames per major frame ..1 to 3,200 max.
Synchronization methodsSubframe ID; Sync Code; Unique
Recycling Code (URC); Frame Code
Complement (via URC)
Max. bit errors in sync pattern ..Programmable 0 to 7 bits
Search-to-lock strategyProgrammable 0 to 3 consecutive
frames
Lock-to-search strategyProgrammable 0 to 3 consecutive
frames
Embedded Asynchronous Frame Extraction:
Embedded frame locationAny primary frame words
OutputSerial data and clock

Simulator:

(not available if configured to 64K parameters)

Functions

CapabilityExercise all primary frame/subframe
modes of operation
Simulated functionsSine, triangle, ramp, square, pulse,
random, constant
Simulation memory128K x 16
Internal clock60 MHz divided by any whole number
less than 65,535 and 4 or more
OutputNRZ-L data and clock
External (rear panel)2 BNC connectors (TTL levels) or
2 triax (RS-422 levels)
External clock input20 MHz max.

Power

+5V supply1.2 A max.
Power dissipation4.0 W typical (16 BTU/hr.)

Physical Characteristics

MechanicalPCI-compatible, requires one slot
Size3/4-length PCI slot
Operating temperature0 to 50°C
Relative humidity< 90% (non-condensing)

Compatibility

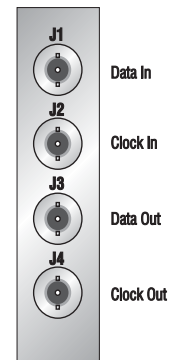
VTS Software
Windows 2000, XP

Ordering Information

DSM720-PCIPCI Decommutator/Simulator
(20Mbps)
DSM720-PCI-TPCI Decommutator/Simulator
(20Mbps), Triax/Differential

Connector Pin Assignments

Input and output is through your choice of four BNC or triax connectors at the computer's rear panel.



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