LUMISTAR

LS-71-P 16 or 32 Channel PCI DAC With Multiple Data Stream Option Data Sheet

Description:

The LS-71P PCI D/A Converter (DAC) board provides high speed analog outputs of PCM decommutated data allowing real time data displays using strip chart recorders or similar devices. The LS-71-P board is designed to be used in conjunction with the Lumistar LS-50-P Multifunction PCM Decommutator boards and uses an over-the-top communication bus

directly from the decom to the DAC to avoid any glitches in the analog outputs due to PCI bus activity. Direct "mailbox" type access is also provided to allow the user to send information through the PCI bus to the DACs. The DAC board design allows 2 LS-50-D Multifunction decom boards to be used with a



single DAC board allowing tagged data from either data stream to be directed to any DAC channel. An optional LS-71-DB Word Selector Daughterboard allows two additional data streams to be monitored with the ability to select channels from 4 data streams to be displayed on any DAC channel. The design incorporates an extremely large memory (more than 200,000 16-bit words) used as a lookup table allowing linear or non-linear EU conversions with constant delay regardless of the number of polynomial coefficients required. Standard product supports a single decom, however, dual decom support is available as an option.

Key Features:

- PCI Bus Compatible D/A Converter board
- Use with Lumistar LS-50/55 Multifunction Decoms
- LS-71-P16 (16 Channel) and LS-71-P32 (32 Channel) versions available
- Accepts one or two input data streams (four streams with daughterboard option)
- Allows any DAC channel to be selected from any Decom
- Global software control of channel gain and offset
- Look-up tables provide for individual gain/offset, and polynomial conversions
- Software includes powerful math engine
- Software controlled calibration
- Dedicated High Speed Data Bus (over-the-top) from Decom boards or Direct Processor Write through PCI Bus
- 2 M word/sec for EU converted data selector throughput

Lumistar, Inc. 2270 Camino Vida Roble Suite L

Carlsbad, CA 92011

PHONE: 760-431-2181

FAX: 760-431-2665

EMAIL: sales@lumistar.net

http://www.lumi-star.com

Parallel Inputs:

Parallel Data Dedicated high speed parallel bus

from an LS-50 Decom to each

DAC word selector

Word Selectors 1 or 2 on the main DAC board; 2

> optional on daughterboard allowing up to 4 independent

input data streams

64 K words max per stream Major Frame **DMA** Transfers Has PCI DMA capability for

table transfers

Analog Outputs:

Number of Channels 16 channels on LS-71-P16

32 channels on LS-71-P32

Output Range Control of gain and offset with

ranges of ± 10 , ± 5 , ± 2.5 , 0-10, 0-

5, or 0-2.5 VDC

DAC Output 14 bit resolution

Resolution 0.122 mV/bit (all ranges)

DAC 3dB BW 1.3 MHz

DAC Slew Rate 25V/microsecond Linearity ±1 LSB

Word Selector Throughput Rates:

Per board 10 MW per second 5 MW per second Per channel (raw) 2 MW per second Per channel (processed)

Processing:

Lookup Table **EU Conversion** EU Type Unlimited

Lookup Table Size 2 to 64K entries each Lookup Entries Shared or Dedicated Concatenation Can be programmed to

concatenate segmented data parameters

Calibration Programmable through

System Software provided at no

additional charge

Environmental:

 0° to $+50^{\circ}$ C Operating Temp -25° to +70° C Non-Op Temp

Operating Humidity Non-Op Humidity

contamination

Input Connections Parallel interface from LS-50P board

for each word selector using 40 pin 0.1" pitch dual inline header

Output Connector Mating Connectors

68 contact SCSI-2 style connector Lumistar will provide a mating connector with the hardware which accepts IDC ribbon cable allowing the user to create custom cables to the strip chart recorder. Optional rack mount panel with BNC terminations is available for

additional cost.

Power Requirements:

+5 V; 500 mA (typ)

+12V; 85 mA (typ) with no load on outputs -12V; 65 mA (typ) with no load on outputs

NOTE: +/- 12V current drain is a function of output load and voltage range. With 1K Ohm loads for +/-10V range add

320ma to both + and - 12V.

Available Versions:

LS-71-P16 16-Channel PCI DAC LS-71-P32 32-Channel PCI DAC

Single word selector version (standard) add D suffix for dual

Compatible Lumistar Decoms:

LS-50-P PCI Multifunction Decom Board

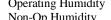
LS-50-D Short PCI Multi-Function Decom Board

LS-55-DD Short PCI Dual Multi-Function Decom Board

LS-50-V VME Multifunction Decom Board

BNC Breakout Panels (Optional):

LS-71-PA16 Rack Mount BNC Panel - 16 Ch LS-71-PA32 Rack Mount BNC Panel - 32 Ch



0 to 90% (Non-condensing) Protect from moisture and



Physical:

Form Factor Full Size PCI Board