PCM-9112+
PC/104-Plus 16-CH 12-Bit 110 kS/s Multi-function DAQ Module

Features
- PC/104-Plus specifications Rev. 1.2 compliant
- 12-bit A/D resolution
- Up to 110 kS/s sampling rate
- 16-CH single-ended or 8-CH differential inputs
- On-board A/D FIFO
- Bipolar or unipolar analog input ranges
- Programmable gains of x0.5, x1, x2, x4, x8
- Automatic analog inputs scanning
- Bus-mastering DMA for analog inputs
- 2-CH 12-bit multiplying analog outputs
- 1-CH 16-bit general purpose timer/counter

Operating Systems
- Windows 2000/NT/XP/9x
- DOS
- Red Hat Linux
- Windows CE (call for availability)

Recommended Software
- VB/VC++/BCB/Delphi
- DAQBench

Driver Support
- PCIS-DASK for Windows 2000/NT/XP/9x
- PCIS-DASK/X for Red Hat Linux
- PCIS-OCX ActiveX controls
- PCIS-LVIEW/PnP for LabVIEW *NEW!*

Introduction
ADLINK PCM-9112+ is a 16-CH, 12-bit, 110 kS/s multi-function DAQ module for PC/104-Plus form factor. The PCM-9112+ module features flexible configurations on analog inputs. It provides analog inputs with 4 programmable input ranges for both bipolar and unipolar inputs. The A/D on the PCM-9112+ module features a sampling rate of up to 110kS/s with resolution at 12 bits. The module supports automatic analog input scanning, and offers a differential mode for 8-CH analog inputs and maximum noise elimination, as well as single-ended modes for 16-CH analog inputs.

PCM-9112+ also features 2-CH 12-bit analog outputs and 1-CH 16-bit general purpose timer/counter. Incorporating the PCI bus within the industry proven PC/104 form-factor brings many advantages including fast data transfer over a PCI bus and high reliability due to PC/104's inherent ruggedness. ADLINK PCM-9112+ delivers cost-effective and reliable data acquisition capabilities and the module is ideal for a broad variety of applications.

Specifications

Analog Input
- Number of channels: 16 single-ended or 8 differential
- Resolution: 12 bits
- Conversion time: 8 µs
- Maximum sampling rate: 110 kS/s
- Input signal ranges: (software programmable)

Gain	Input Range	
	Bipolar	Unipolar
0.5	±10 V	-
1	±5 V	0 to 10 V
2	±2.5 V	0 to 5 V
4	±1.25 V	0 to 2.5 V
8	±0.625 V	0 to 1.25 V

- Accuracy

Gain	Accuracy
0.5, 1	0.01%of FSR ±1 LSB
2, 4	0.02%of FSR ±1 LSB
8	0.04%of FSR ±1 LSB

- Input coupling: DC
- Overvoltage protection: Continuous ±35 V
- Input impedance: 1 GΩ
- Trigger modes: software, pacer, and external trigger (5 V/TTL compatible)
- Data transfers: programmed I/O, interrupt, bus mastering DMA

Analog Output
- Number of channels: 2 voltage outputs
- Resolution: 12 bits

- Output ranges (software programmable)

Output ranges	
Bipolar	±10 V, ±5 V, ±EXTREF
Unipolar	0 to 10 V, 0 to 5 V, 0 to EXTREF

- Output driving capacity: ± 5 mA max
- Settling time: 30µs to 0.5 LSB
- Data transfers: programmed I/O

General-Purpose Timer/Counter
- Number of channels: 1
- Resolution: 16 bits
- Compatibility: 5 V/TTL
- Base clock available: 2 MHz, external clock to 10MHz

General Specifications
- I/O Connector: Two 20-pin ribbon male
- Operating temperature: 0 to 60 ˚C
- Storage temperature: -20 to 80 ˚C
- Relative humidity: 5 to 95%, noncondensing
- Power requirements

+5V	+12V
460 mA typical	110 mA typical

- Dimensions (not including connectors) 95.9 mm x 90.2 mm

Termination Boards
- **DIN-20P**
  Termination Board with a 20-pin Ribbon Connector and DIN-Rail Mounting (Including One 1-meter ACL-10120 Cable)

Pin Assignment

CN1: Analog Input

AI0 (AIH0)	1	2	(AIL0) AI8
AI1 (AIH1)	3	4	(AIL1) AI9
AI2 (AIH2)	5	6	(AIL2) AI10
AI3 (AIH3)	7	8	(AIL3) AI11
AI4 (AIH4)	9	10	(AIL4) AI12
AI5 (AIH5)	11	12	(AIL5) AI13
AI6 (AIH6)	13	14	(AIL6) AI14
AI7 (AIH7)	15	16	(AIL7) AI15
AGND	17	18	AGND
AGND	19	20	AGND

CN2: Analog Output and Timer/Counter

V.REF	1	2	AO1
ExtRef2	3	4	ExtRef1
+12Vout	5	6	AO2
AGND	7	8	GATE0
DGND	9	10	GATE
Cout0	11	12	Cout1
ExtTrg	13	14	N/C
N/C	15	16	ExtCLK
+5Vout	17	18	N/C
N/C	19	20	N/C

Ordering Information
- **PCM-9112+**
  PC/104-*Plus* 16-CH 12-Bit 110 kS/s Multi-function DAQ Module

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