

ACL-8316/8312

16-bit High Resolution DAS Card with FIFO

Features

- 16-bit high analog input resolution with 1k word on-board FIFO
- Auto-scanning channel selection
- 100 kHz sampling rates
- 16 SE or 8 DI analog input channels
- Bipolar input signals and programmable gain
- Optional two 12 bit unipolar or bipolar
- 16 digital input / output channels
- 3 independent 16-bit down counters
- Programmable 3 A/D trigger modes and 4 interrupt sources
- 16-bit AT Bus supports 9 interrupt levels and 16 bit DMA data transferring
- Compact size and rugged 37-pin D-type connector



Specifications

Analog Input (A/D)

- ADC and resolution
 - ADS7804 or equivalent (12 bits for ACL-8312)
 - ADS7805 or equivalent (16 bits for ACL-8316)
- Number of channels: 16 single-ended or 8 differential input
- Conversion time: 8 μ sec
- Sampling rate: 100K Hz max. multiplexing
- Input signal range: Bipolar: $\pm 10V$, $\pm 5V$, $\pm 2.5V$, $\pm 1.25V$
- On board memory: 1k word FIFO
- Data format: Two's complement
- A/D trigger sources: 3 trigger sources: Includes software trigger, pacer trigger and external trigger
- Data transfer mode: Software polling, EOC Interrupt transfer, FIFO polling, FIFO Half-full interrupt, and DMA transfer

Analog Output (D/A)

- DAC: DAC2813 or equivalent
- DA resolution: 12 bits
- Number of channels: 2 channels
- Voltage output range: (jumper selectable) Bipolar: $\pm 10V$ or Unipolar: 0~10V
- Settling time: 4.5 μ sec typical
- Output driving capacity: ± 5 mA
- Data format: Two's complement or binary code

Digital Input & Output (DIO)

- Number of channels: 16 DI channels and 16 DO channels
- I/O characteristics: TTL compatible

Programmable Counter

- Device: 82C54
- A/D pacer timer: 32-bit with 2MHz time base
- Counter: One 16-bit down counter

Interrupt Sources

- 4 interrupt sources including timer pacer, EOC, external source, and FIFO half-full interrupt

General Specifications

- IRQ levels: 3,5,6,7,9,10,11,12,15
- DMA level: 5,6,7 (16 bit DMA)
- Operation temperature: 0°~55°C
- Storage temperature: -20°~80°C
- Humidity: 5~95%, non-condensing
- Power requirement
 - +5V @ 400 mA typical
 - +12V@ 260 mA typical
- Dimension: 163 mm x 123 mm

Termination Boards

- ACLD-8125 • ACLD-9138
- ACLD-9137 • DIN-37D
- ACLD-9182A • ACLD-9185
- ACLD-9188 • ACLD-9178
- DIN-20P

Ordering Information

ACL-8316

16 bit DAS Card with FIFO

ACL-8312

12 bit DAS Card with FIFO

Pin Assignments for the DB-37 Connector of ACL-8112PG

AI0(H0)	(1)	○	(20)	AI8(L0)
AI1(H1)	(2)	○	(21)	AI9(L1)
AI2(H2)	(3)	○	(22)	AI10(L2)
AI3(H3)	(4)	○	(23)	AI11(L3)
AI4(H4)	(5)	○	(24)	AI12(L4)
AI5(H5)	(6)	○	(25)	AI13(L5)
AI6(H6)	(7)	○	(26)	AI14(L6)
AI7(H7)	(8)	○	(27)	AI15(L7)
A.GND	(9)	○	(28)	A.GND
A.GND	(10)	○	(29)	A.GND
V.ref	(11)	○	(30)	DA1
N/C	(12)	○	(31)	N/C
+12V out	(13)	○	(32)	DA2
A.GND	(14)	○	(33)	GATE0
D.GND	(15)	○	(34)	GATE
COU0	(16)	○	(35)	N/C
ExtADTrg	(17)	○	(36)	N/C
N/C	(18)	○	(37)	ExtCLK0
+5V out	(19)	○		