PCI-30G

3x 24bit Counter Timers

DESCRIPTION

The PCI-30G series is a family of 12-bit data acquisition boards for PCI-based systems. The PCI-30G comes in a variety of versions, with or without D/As. The 'A' versions include four 12bit DACs with current sensing outputs.

The PCI-30G has uniquely flexible digital I/O capabilities consisting of 24 lines in three ports. Each port can be configured as inputs or outputs. It also supports hardware handshaking, strobe I/O or bi-directional protocols.

The PCI-30G also includes six 16-bit user counter/timers. Two are used by the PCI-30G circuitry, four being uncommitted and available to the user to measure frequency and count events or speed. A/D and D/A signals are available on 50-way SCSI-Centronics connector. The DIO and counters come out on the IDC40 header.

FEATURES

- 8/16 Differential or 16/32 Single-Ended A/D inputs
- 100kHz Sampling rate
- Analog input gains software selectable from: 1, 10, 100, 1000
- Unipolar or bipolar in signals for PCI-30GA
- Channel list FIFO(256 bytes) onboard for auto A/D channel scanning
- 24 Digital I/O lines in 3 ports (8255PPI)
- 3 User Counter/Timers to measure frequency/speed (Max Input: 10Mhz)
- Optional simultaneous sample hold models available
- Windows98/ME/2000/XP OS Support (NT on request)
- Linux OS Support
- WaveView for Windows Data Acquisition & Logging Software
- Labview, Testpoint and VEE Pro Drivers
- PCI-bus revision 2.2 compliant

SCSI II 50F Cent

CHAN31	50	25	CHAN30
CHAN29	49	24	CHAN28
CHAN27	48	23	CHAN26
CHAN25	47	22	CHAN24
CHAN23	46	21	CHAN22
CHAN21	45	20	CHAN20
CHAN19	44	19	CHAN18
CHAN17	43	18	CHAN16
CHAN15	42	17	CHAN14
CHAN13	41	16	CHAN12
CHAN11	40	15	CHAN10
CHAN9	39	14	CHAN8
CHAN7	38	13	CHAN6
CHAN5	37	12	CHAN4
CHAN3	36	11	CHAN2
CHAN1	35	10	CHAN0
AGND	34	9	AGND
AGND	33	8	AGND
SENS0	32	7	DAC0
SENS1	31	6	DAC1
SENS2	30	5	DAC2
SENS3	29	4	DAC3
EXT CLK	28	3	DGND
-12V	27	2	EXT TRIG
+12V	26	1	+5V

IDC-40M

PA0	1	2	PA1
PA2	3	4	PA3
PA4	5	6	PA5
PA6	7	8	PA7
PB0	9	10	PB1
PB2	11	12	PB3
PB4	13	14	PB5
PB6	15	16	PB7
PC0	17	18	PC1
PC2	19	20	PC3
PC4	21	22	PC5
PC6	23	24	PC7
DGND	25	26	CLK2
CNT0	27	28	OUT2
COUT0	29	30	CGTE0
CGTE1	31	32	CNT1
CNT2	33	34	COUT1
COUT2	35	36	CGTE2
+5V	37	38	DGND
DGND	39	40	DGND

DB-37M (Internal Cable)

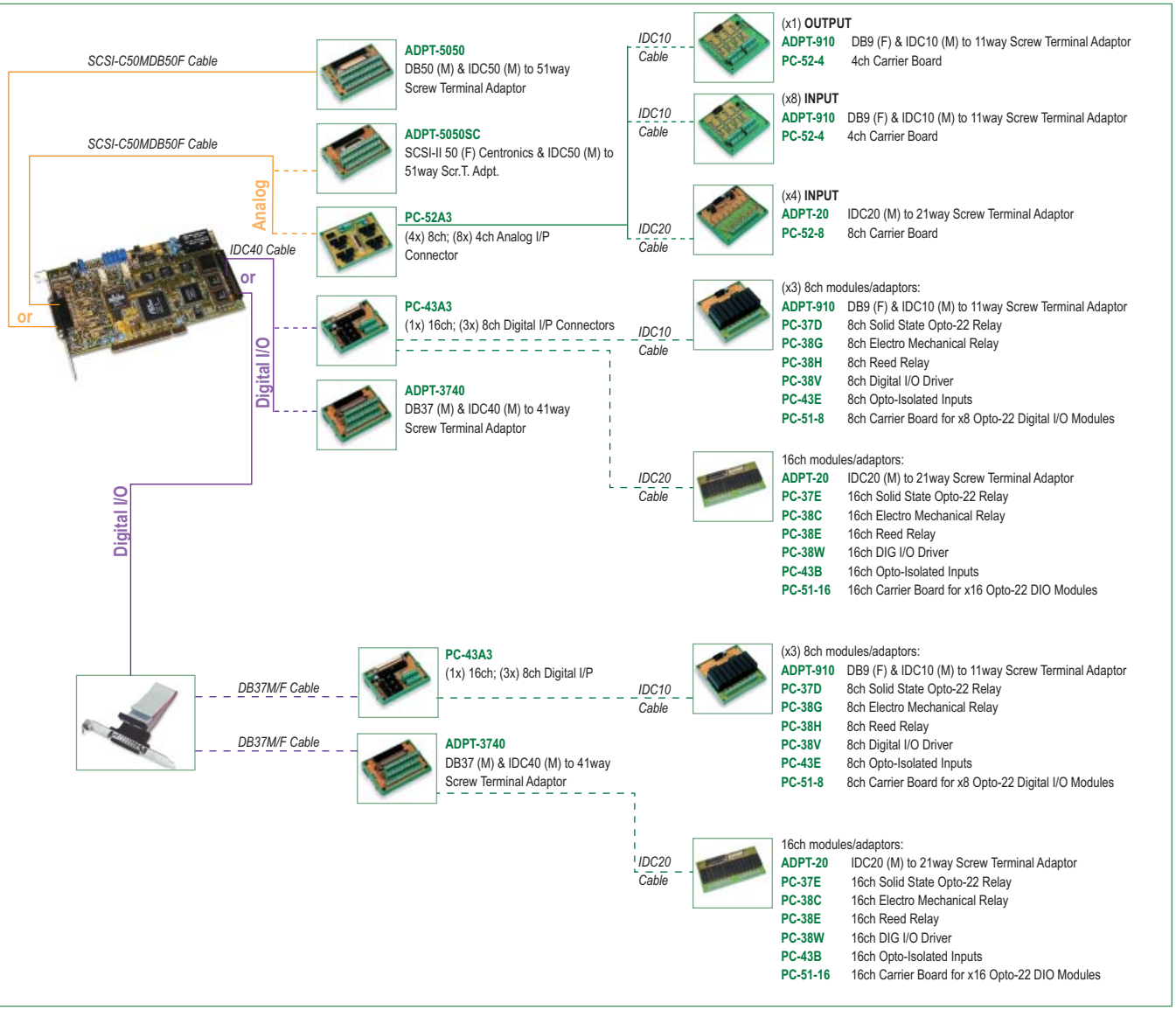
PA1	20	1	PAO
PA3	21	2	PA2
PA5	22	3	PA4
PA7	23	4	PA6
PB1	24	5	PB0
PB3	25	6	PB2
PB5	26	7	PB4
PB7	27	8	PB6
PC1	28	9	PC0
PC3	29	10	PC2
PC5	30	11	PC4
PC7	31	12	PC6
CLK2	32	13	DGND
OUT2	33	14	CNT0
CGTE0	34	15	COUT0
CNT1	35	16	CGTE1
COUT1	36	17	CNT2
CGTE2	37	18	COUT2
		19	+5V

Supplied with Internal Cable for Digital I/O (IDC40 to DB37)

Specifications

ANALOG INPUTS (A/D)	
Input Characteristics	
Input channels:	16 / 32 Single-Ended or 8 / 16 Differential
Overvoltage Protection:	± 20V(powered on); ± 35V(powered off)
Resolution:	12-bit (1 in 4096)
Input Ranges:	± 5V, ± 10V, 0 to 10V
Input Coupling:	DC
A/D Transfer Characteristics	
System Accuracy:	± 1 LSB depending on environment
A/D Linearity	
Differential:	± ¾ LSB max
Integral:	± 0.05%FS
SNR:	84dB typ
Full BW:	1MHz
Total Harmonic Distortion:	- 98dB
System Accuracy:	± 1 LSB depending on environment
Acquisition Rate:	100 kHz max
A/D FIFO buffer:	2 / 4 / 8 / 16 / 32K (optional)
Acquisition Modes:	Polled I/O, Interrupts, REP INSW
Amplifier Characteristics	
Input Impedance:	10G Ohm/20pF (On chan)
	10G Ohm/100pF (Off chan)
Offset voltage:	Adjustable to zero
Input Gains	
Ranges:	1, 10, 100, 1000
Error:	Adjustable to 0
Non-linearity:	0.002% (typ), 0.015% (max) [G<1000]
	0.02% (typ), 0.06% (max) [G=1000]
Gain Accuracy:	0.25% max, 0.05% typ
CMRR:	100dB typ, 80dB max for G=1
Monotonicity:	0 to 70°C
Temperature drift:	6 ppm/°C (Full Scale)
	1 ppm/°C (Bipolar zero)
	± 30ppm/°C (Gain typ)
Dynamic Characteristics	
Bandwidth(small signal):	1.0 MHz (G<1000)
	250 kHz (G=1000)
Full Power Bandwidth:	1 MHz for G<1000, 100kHz for G=1000
Crosstalk:	-85dB, DC to 100kHz
System Noise:	<0.5LSB (G=1)
	± 2LSB (G=10)
	± 4LSB (G=100)
ANALOG OUTPUTS (D/A)	
No of Channels:	4x 12-bit
Accuracy:	± 1 LSB
DNL:	½ LSB max
Output Ranges:	± 5V, ± 10V, 0 to 10V, 0 to 13V
Thruput Rate:	100kHz (depending on computer)
Offset Error:	Unipolar: ¼ LSB typ, 1 LSB (max)
	Bipolar: ½ LSB typ, 2 LSB (max)
DIGITAL I/O (DIO)	
No of TTL I/O lines:	24 in 3 ports (8255 PPI)
Digital Logic Levels:	High: 2.0V (min), 5.0V (max)
	Low: 0.0V (min), 0.8V (max)
Current Output:	± 3mA (source/sink)
Interrupt support:	Yes (Mode 0, Mode 1, Mode 2)
External Interface	
Connector Types:	SCSI 50-way Right Angle Female
	Centronics-Type Connector
	IDC40 Header (for Digital I/O)
Counter Timers	
Resolution:	16-bit
Clock Frequency:	2 or 8 Mhz (for A/D)
A/D Frequency:	DC to 330kHz
No of counters:	6 (3 used for A/D conversion)
User Pins:	4 Input CLKs, 3 Gates & 4 Outputs
Compatibility:	TTL
PCI Interface	
Base Address:	Auto selected
Number of registers:	64x 16-bit registers
Interrupts:	Auto selected
Environmental / Physical	
Relative Humidity:	0% to 90% (non-condensing)
Operating Temp:	0°C to 70°C
Board Dimensions:	193 mm x 111 mm
Power Requirements	
+5V	1.2A typ
+12V	150mA (S models only)
-12V	150mA (S models only)

Optional Accessories Diagram



Ordering Information

Supplied with EDR Enhanced Software and Internal Cable for Digital I/O (IDC40 to DB37)	
All boards have A/D Inputs, 24 Digital I/O lines + four 16-bit counters	
PCI-30G	100kHz 16 Channel A/D
PCI-30GA	100kHz 16 Channel A/D + four 12-bit DACs
PCI-30G-32	100kHz 32 Channel A/D
PCI-30GA-32	100kHz 32 Channel A/D + four 12-bit DACs

Optional Accessories

OPTION 1:	
ADPT-5050	DB50 (M) & IDC50 (M) to 51way Screw Terminal Adaptor
SCSI-C50MDB50F	50 SCSI-II Centronics (M) to DB50 (F) Screened Cable
OPTION 2:	
ADPT-5050SC	SCSI-II 50 (F) Cent & IDC50 (M) to 51way Screw Term. Adaptor
SCSI-C50M/M	50 SCSI-II Centronics (M) to (M) Screened Cable
OPTION 3:	
ADPT-3740	DB37 (M) & IDC40 (M) to 41way Screw Terminal Adaptor
DB37F/F	DB37 (F) to DB37 (F) Screened Cable

FREE WaveView for Windows Software

WaveView for Windows is a new Microsoft® Windows™ based data acquisition package supporting our PCI range of personal computer plug-in cards. The software is extensively configurable and easy to use.

The WaveView for Windows software package is used for collecting and analyzing data. Two modes of operation are supported, scope mode and chart recording. WaveView can also be used as a waveform generation tool, or a digital power supply controller. The software is extensively configurable, easy to use and quick to learn.