

Counter Timer Board With 48 Channels DIO PCI Bus

PCI215

Registered
ISO 9001
Company

- Six 16-bit, 10MHz counter/timers with on board 10MHz crystal
- Crystal clock/divider with 5 rates, independently software selectable
- 48 bit flexible software, programmable digital I/O
- Interrupt controlled operations, with the facility for interrupts to be generated from one of six external signals
- PCI Bus version 2.1 Plug 'n' Play
- Device driver software compatible with Windows 95, 98 & NT/2000
- Agilent VEE and Visual Basic example software
- Backwards compatible with PC215E and PC214E



DESCRIPTION	PRODUCT CODE
PCI215 48 line PCI digital I/O board, 6 counter/timers, software and manual	960 035 13
78 pin connector kit	919 459 53
78 way screened cable	909 663 49
Software and manuals on CD-ROM	

See page 158/9 for expansion panels

SPECIFICATION

Counter timer	Two 82C54 or equivalent counter/timers, three independent 16 bit counters, six programmable counter modes, binary or BCD
Ext. clock/gate input	Input voltage '0' or Low -0.3 to +0.8 volts '1' or High +2.2 to +5.3 volts
Counter outputs	Output voltage 'Low' output voltage, +0.4V max at +2.5 mA 'High' output voltage, +3.7V min at -2.5mA.
Digital inputs	TTL compatible 'Low' input voltage -0.3V to +0.8V. 'High' input voltage +2.2V to +5.3V.
Digital outputs	'Low' output voltage, +0.4V max at 2.5mA 'High' output voltage, +3.7V min at -2.5mA.
I/O connector	78 way male D type. 72 digital I/O lines, power and ground.
Address range	Assigned by plug & play
IRQ range	Port C0 and Port C3 Interrupts are assigned an IRQ by the Plug 'n' Play mechanism.
Power	+5 Volts from the host PC bus. 220mA or up to 300mA when all 48 DIO channels loaded +5 VDC at 1A from PC bus available at I/O connector:
Dimensions	Length 144 mm Height 108 mm
Temp Range	Operating 0° C to +60° C Storage -20 to +70° C
Humidity Range	20% to 80% non condensing @ 40° C
Dissipation	Typically 1.0 Watts of heat
Compliance	CE EMC

The PCI215 is a plug-in, digital I/O board which provides 48 bits of parallel digital input/output and six 16 bit counter/timers. The board can be used on any PC that supports the PCI bus version 2.1.

The board is supplied Windows, 95, 98 & NT/2000 compatible device driver plus VB and Delphi examples..

The AMPDIO32 library increases the flexibility and control over the 82c55 and 82c54 chips with 8 DIO specific functions and 44 counter/timer specific functions. The library also contains 29 generic functions for setting up the board and collecting information about the PC.

Digital I/O

The PCI215 has two 82C55 Programmable Peripheral Interface (PPI) chips with all functions of ports A and B, and optionally port C, available to the user. The operational mode for each port is established by writing to the control register of the 82C55. The 24 I/O pins of each user PPI are brought out to the D-type connector, and can be used to control other external devices, or to accept control inputs from an external device. Some port C lines can be shared with other functions.

Each cluster is also programmable as two groups of 12 bits (group A, group B) and used in three modes of operation. Each control block (group A and group B) accepts 'commands' from the read/write

Control logic, receives 'control words' from the internal data bus and issues proper commands to its associated ports.

Control group A - port A and port C upper (C7 - C4)

Control group B - port B and port C lower (C3 - C0)

Mode 0: Basic I/O (group A, group B)

Mode 1: Strobed I/O (group A, group B)

Mode 2: Bidirectional bus (group A only)

Counter Timers

The PCI215 has two 82C54 counter timers. These occupy clusters Z1 & Z2. All timing operations are under the control of a 10 MHz crystal clock source. This source is used internally and divided down for input to the 82C54 triple 16 bit programmable counter/timers.

The clock input to the counter/timer can also be selected as an external clock source. The counter/timer output, or by alternative selection, external triggers, provide the trigger pulses used in the three modes as described above. The various interconnections are set up by the 'Counter Connections Register' under initial program control.