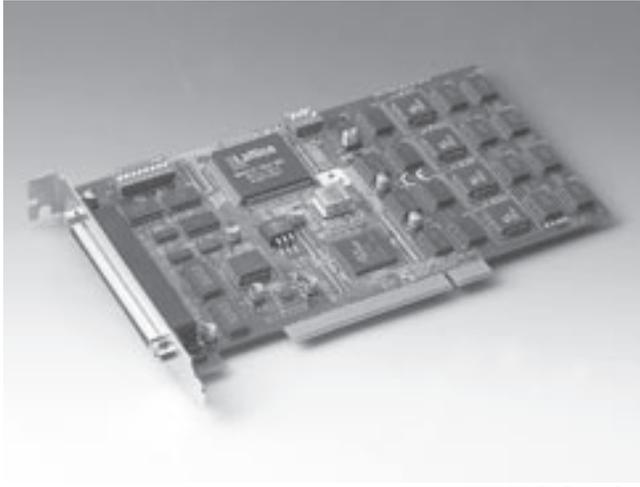


PCI-1755

Ultra-Speed 32-ch Digital I/O Card



FCC CE

Features

- Bus-mastering DMA data transfer with scatter gather technology
- 32/16/8-bit Pattern I/O with start and stop trigger function, 2 modes Handshaking I/O Interrupt handling capability
- Onboard active terminators for high speed and long distance transfer
- Pattern match and Change state detection interrupt function
- General-purpose 8-ch DI/O

Introduction

The PCI-1755 supports PCI-bus mastering DMA for high-speed data transfer. By setting aside a block of memory in the PC, the PCI-1755 performs bus-mastering data transfers without CPU intervention, setting the CPU free to perform other more urgent tasks such as data analysis and graphic manipulation. The function allows users to run all I/O unctons simultaneously at full speed without losing data.

Specifications

Channels	32 TTL compatible		
Number of Ports	Port A, Port B, Port C and Port D (8 bits/port)		
I/O Configuration	32DI (PA-PD) (default); 32DO (PA-PD); 16DI (PA-PB) & 16DO (PC-PD); 8DI (PA) & 8DO (PC) (Programmable)		
Onboard FIFO	16 KB for DI & 16 KB DO channels		
Transfer Characteristics	Data Transfer Mode	Bus Mastering DMA with Scatter-Gather	
	Data Transfer Bus Width	8/16/32 bits (programmable)	
	Max. Transfer Rate	DI: 80 M bytes/sec, 32-bit @ 20 MHz 120 M bytes/sec, 32-bit @ 40 MHz external pacer when data length is less than FIFO size DO: 80 MBytes/sec, 32-bit @ 20 MHz	
Handshaking Mode	Operation Mode	Handshaking	
	Direction	I/O	Samples No. Finite transfer, Continuous I/O
	Asynchronous	8255 Emulation	Synchronous Burst Handshaking
Normal Mode	Clock source for Burst Handshaking	Internal: 30 MHz, 20 MHz, 15 MHz, 12 MHz, 10 MHz, Timer#0 for DI & Timer#1 for DO External: EXT_CLKIN for DI & EXT_CLKOUT for DO	
	Input	Data Acquisition at a predetermined rate by internal/external clock	
	Output	Waveform Generation at a predetermined rate by internal/external clock	
	Clock Source for DI	Internal: 30 MHz, 20 MHz, 15 MHz, 12 MHz, 10 MHz, Timer#0 External: EXT_CLKIN	
	Clock Source for DO	Internal: 30 MHz, 20 MHz, 15 MHz, 12 MHz, 10 MHz, Timer#1 External: EXT_CLKOUT	
	Start Mode	Software command/Trigger signal occurred from DI_STR or DO_STR/Pattern DI	
	Stop Mode	Software command/Trigger signal occurred from DI_STP (for DI) or DO_STP (for DO)/Pattern DI/Finite transfers	
Chang Detection (DI only)	Monitor the selected input channel and capture data whenever there is a transition on one of the channels, and then issue a IRQ		
	Clock Source for DI	Internal: 30 MHz, 20 MHz, 15 MHz, 12 MHz, 10 MHz, Timer#0 External: EXT_CLKIN	
	Start Mode	Software comimand/Trigger signal occurred from DI_STP/Pattern DI	
	Stop Mode	Software command/Trigger signal occurred from DI_STP/Pattern DI/Finite transfers	
Trigger Capability	DI trigger signal	DI_STR, DI_STP	DO trigger signal DO_STR, DO_STP
	Low	0.8 V max.	High 2.0 V min.
	Trigger Type	Rising or falling edge, or digital pattern (for DI only)	
	Pulse width for edge triggers	10 ns min.	
	Pattern trigger detection capabilities	Detect pattern match or mismatch on user-selected data lines	
Terminator	Onboard Schottky diode termination		
Messaging	The messages can be generated when 1. A specified number of bytes have been transferred, 2. When a specified input pattern is matched, 3. When a measurement operation completes.		
Input Voltage	Low	0 V min., 0.8 V max.	High 2.0 V min., 5 V max.

Input Load	Terminator OFF: TTL compatible		
	Low	+0.5 V @ ±20 mA	High +2.7 V @ ±1 mA max.
	Terminator ON		
	Terminator Resistor	110 Ω	Termination Voltage 2.9 V
Output Voltage	Low	+0.5 V @ ±22.4 mA	High +2.7 V @ ±1 mA max.
	Driving Capacity	Low 0.5 V max @ +48	High mA (sink) High 2.4 V min. @ -15 mA (source)
Hysteresis	500 mV	Power Available at I/O connector	+4.65 ~ +5.25 V _{cc} @ 1A
General-purpose DI/O	DI Channels	DIO - DI7 (TTL compatible)	
	DO Channels	DO0 - DO7 (TTL compatible)	
Interrupt Source	DIO-7 and Timer#2, Pattern match and Change detection, DI FIFO overflow and DO FIFO underflow, DI_STP and DO_STP		

Pacer

- **Channels** Timer#0, Timer#1 and Timer#2
- **Timer#0** Timer pacer for digital input
- **Timer#1** Timer pacer for digital output
- **Timer#2** Interrupt source
- **Resolution** 16-bit
- **Base Clock** 10 MHz

General

I/O Connector Type	100-pin SCSI-II female		
Dimensions (L x H)	175 x 100 mm (6.9" x 3.9")		
Power Consumption	Typical	Terminator OFF: +5 V @ 1 A Terminator ON: +5 V @ 1 A	Max. Terminator OFF: +5 V @ 1 A Terminator ON: +5 V @ 1 A
	Temperature	Operating 0 ~ 60° C (32 ~ 140° F) (refer to IEC 68-2-1,2)	Storage -20 ~ 85° C (-4 ~ 185° F)
Relative Humidity	5 ~ 95% RH non-condensing (refer to IEC 68-2-3)		Cert. FCC, CE certified

Ordering Information

- **PCI-1755** Ultra-speed 32-ch Digital I/O Card
- **ADAM-39100** PCI-1755 Wiring Terminal for DIN-rail Mounting
- **PCL-101100-1** 100-pin SCSI-II cable with male connectors on both ends and special shielding for noise reduction, 1 m