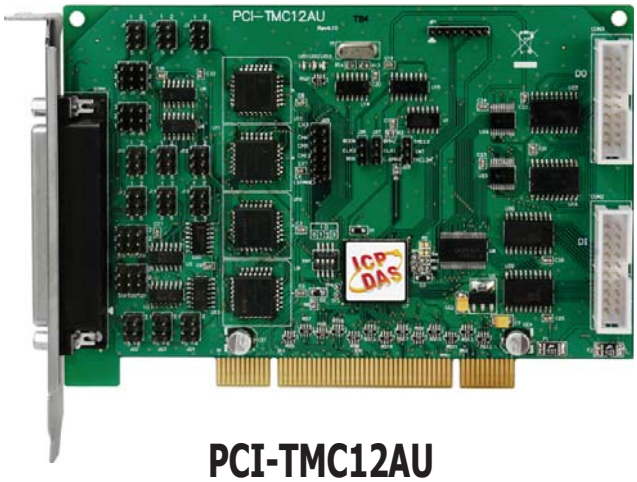

PCI-TMC12AU

Universal PCI, 12-ch Timer/Counter Board

Features

- Universal PCI (3.3 V/5 V) Interface
- 4 Onboard 8254 Timer/Counter Chips
- 12 Independent 16-bit Timers/Counters
- 12 External Clock Input Channels
- 12 Timer/Counter Output Channels
- 4 Interrupt Sources and More Flexible Interrupt Mechanism
- 2 Internal Clock Sources
- 16-bit Timer/Counter can be cascaded to create a 32/48-bit Timer/Counter
- 16-channel, 5 V/TTL Digital Input
- 16-channel, 5 V/TTL Digital Output
- Gate Input can be sourced from External or Previous Timer/Counter Output
- Supports Card ID (SMD Switch)
- Supports DO Status Readback
- Hardware Mechanism to generate two Starting Clocks

Introduction

The PCI-TMC12AU card is designed as a direct replacement for the PCI-TMC12A without requiring any modification to the software or the driver.

The PCI-TMC12AU Universal PCI cards support the 3.3 V/5 V PCI bus, and provide twelve 16-bit timers/counters (four 82C54 chips x 3 timers/counters), 16 TTL Digital Input channels and 16 TTL Digital Output channels. The two onboard clocks (8 M/1.6 M and 0.8 M/80 K) are jumper selectable and provide a high-resolution clock source for timers/counters. Counters/timers can be used for industrial and laboratory applications such as pulse/event/switch-toggle counting, frequency readings, elapsed time measurement, pulse-width measurement, PWM (pulse-width-modulated) output, and pulse (square wave) and rate generation, etc.

Pin Assignments

Pin Assignment	Terminal No.		Pin Assignment
ECLK1	01	20	EXTG1
COUT1	02	21	ECLK2
EXTG2	03	22	COUT2
ECLK3	04	23	EXTG3
COUT3	05	24	ECLK4
EXTG4	06	25	COUT4
ECLK5	07	26	EXTG5
COUT5	08	27	ECLK6
EXTG6	09	28	COUT6
ECLK7	10	29	EXTG7
COUT7	11	30	ECLK8
EXTG8	12	31	COUT8
ECLK9	13	32	EXTG9
COUT9	14	33	ECLK10
EXTG10	15	34	COUT10
ECLK11	16	35	EXTG11
COUT11	17	36	ECLK12
EXTG12	18	37	COUT12
GND	19		

CON1

Pin Assignment	Terminal No.		Pin Assignment
DI 0	01	02	DI 1
DI 2	03	04	DI 3
DI 4	05	06	DI 5
DI 6	07	08	DI 7
DI 8	09	10	DI 9
DI 10	11	12	DI 11
DI 12	13	14	DI 13
DI 14	15	16	DI 15
GND	17	18	GND
+5 V	19	20	+12 V

CON2

Pin Assignment	Terminal No.		Pin Assignment
DO 0	01	02	DO 1
DO 2	03	04	DO 3
DO 4	05	06	DO 5
DO 6	07	08	DO 7
DO 8	09	10	DO 9
DO 10	10	12	DO 11
DO 12	12	14	DO 13
DO 14	14	16	DO 15
GND	16	18	GND
+5 V	18	20	+12 V

CON3

Software

Drivers

- [x] 32/64-bit Windows XP/2003/2008/7/8/10
- [x] Linux

Sample Programs

- [x] DOS Lib and TC Demo
- [x] LabVIEW Toolkit
- [x] VB/VC/Delphi/BCB/MATLAB Demo
- [x] VB.NET/C#.NET/VC.NET Demo

Hardware Specifications

Digital Input	
Channels	16
Compatibility	5 V/TTL
Input Voltage	Logic 0: 0.8 V Max. Logic 1: 2.0 V Min.
Response Speed	1.0 MHz (Typical)
Digital Output	
Channels	16
Compatibility	5 V/TTL
Output Voltage	Logic 0: 0.4 V Max. Logic 1: 2.4 V Min.
Output Capability	Sink: 24 mA @ 0.8 V Source: 15 mA @ 2.0 V
Response Speed	1.0 MHz (Typical)
Timer/Counter	
Channels	12 (Independent x 12)
Resolution	16-bit
Input Frequency	10 MHz Max.
Reference Clock	Internal: 8 MHz
General	
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz
Card ID	Yes (4-bit)
Connectors	Female DB37 x 1 20-pin Box Header x 2
Power Consumption	500 mA @ +5 V
Operating Temperature	0°C to +60°C
Humidity	5 to 85% RH, Non-condensing

Ordering Information

PCI-TMC12AU CR	Universal PCI, 12-ch Timer/Counter Board (RoHS) Includes one CA-4002 D-Sub connector

Accessories

CA-2002	20-pin flat cable, 20 cm x 2
CA-2010	20-pin flat cable, 1 M
CA-2020	20-pin flat cable, 2 M.
CA-3710	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°))
CA-3710D	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°))
CA-3715DM-H	DB-37 Male-Male Cable, 1.5 M, 180°. (RoHS)
CA-3730DM-H	DB-37 Male-Male Cable, 3.0 M, 180°. (RoHS)
CA-3750DM	DB-37 Male-Male Cable, 5.0 M, 180°. (RoHS)
CA-3750DM-H	DB-37 Male-Male Cable, 5.0 M, 180°. (RoHS)
CA-4002	37-pin Male D-sub connector with plastic cover.
DB-37	Directly connect signal to D-sub 37-pin connector
DN-37	DIN Rail Mounting 37-pin Connector
DN-20	Two 20-pin header DIN-rail terminal board
DN-20/N	DN-20 without DIN-Rail mount.
DB-16P	Isolated Digital Input Daughter Board
DB-16R	Relay Output Daughter Board
ADP-20/PCI	20-pin extender