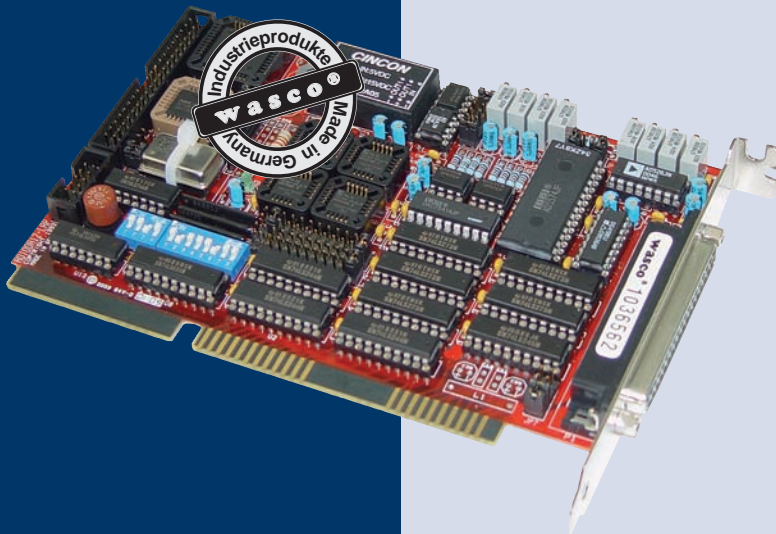


# ADIODA-12<sub>LAP</sub>

ISA Multifunctional Interface Card with eight Analog Inputs, 1 Analog Output, 24 Inputs/Outputs TTL and Timer



**8 A/D Inputs 12 Bit**

**1 D/A Outputs 12 Bit**

**24 TTL inputs/outputs**

**3 \* 16-bit timer/counter**

**quartz time based**

**interrupt capable**

The interface card **ADIODA-12<sub>LAP</sub>** provides eight multiplexed ground-referenced 12 bit A/D input channels with programmable amplifier and a maximum sampling rate of 25 kS/s. The input voltage range (unipolar: 0..10 V, bipolar: +/-5 V, +/-10 V) can be adjusted by setting jumpers. The analog output channel has a multiplexed 12 bit D/A converter and can be adjusted to unipolar or bipolar operation mode by jumpers as well. Triggering the interrupt is possible via timer or STS signal of the A/D converter. Furthermore, the interface card features a programmable I/O IC, timer, quartz oscillator and a DC/DC converter. The A/D inputs and the D/A output are led to a 37-pin D-Sub jack on the slot plate, the TTL inputs/outputs and timer signals are fed to a 40-pin onboard box header. A special available cable (set of female connector, ribbon cable and 37pin female sub-D-connector with slot bracket) can relocate the connection to a slot of your PC casing. The pin assignments of all connectors of the ADIODA-12<sub>LAP</sub> are identical to the PCI-Bus card ADIODA-PCI12<sub>LAP</sub>.

## SPECIFICATIONS

### A/D inputs

8 inputs single-ended (se)  
Resolution: 8 bit or 12 bit, selectable by software  
Input voltage range:  
bipolar: +/-5 Volt, +/-10 Volt  
unipolar: 0..10 Volt  
selectable by jumpers  
Input impedance: > 1 MΩ  
A/D converter: ADS574 with Sample & Hold  
converting time: max. 25 μs  
Accuracy +/- 1 LSB  
PGA: AD526  
amplifying factors: 1, 2, 4, 8, 16  
selectable by software  
Multiplexer: 1 \* DG458DJ  
Sampling Rate max. 25 kS/s  
Conversion trigger: by software, timer or external signal  
Data transfer: Polling operation, interrupt controlled

### D/A outputs

1 output  
Resolution: 12 bit  
D/A converter: 1 \* DAC7541  
Linearity: +/-1 LSB  
Output voltage range  
unipolar: 2.5 V, 5 V, 7.5 V, 10 V  
bipolar: +/-2.5 V, +/-5 V, +/-7.5 V, +/-10 V  
Output current: max +/-5 mA  
Settling time: max. 70 μs FSR

### Reference voltage:

Reference voltage source: AD584

### Digital Inputs/Outputs TTL

IC's: 8255 or 71055  
24 channels TTL compatible

Programming: port A and B in 8-bit groups, Port C in one 8-bit group or in two 4-bit groups to be input or output

### Timer

IC's: 8254 oder 71054  
3 \* 16-bit backward counters  
Counting frequency: max. 8 MHz  
Interrupt triggered time-dependently  
Cycles from quartz oscillator

### Quartz Oszillator

4 MHz

### Wait-state generator

Wait-state 4, 8, 16 adjustable via dip switch

### Connector Plug

1 \* 37-pin D-Sub jack  
2 \* 40-pin box header

### Power Consumption

+5 V typ. 700 mA

### Dimensions

162 mm x 100 mm (l x h)  
4layer multilayer board

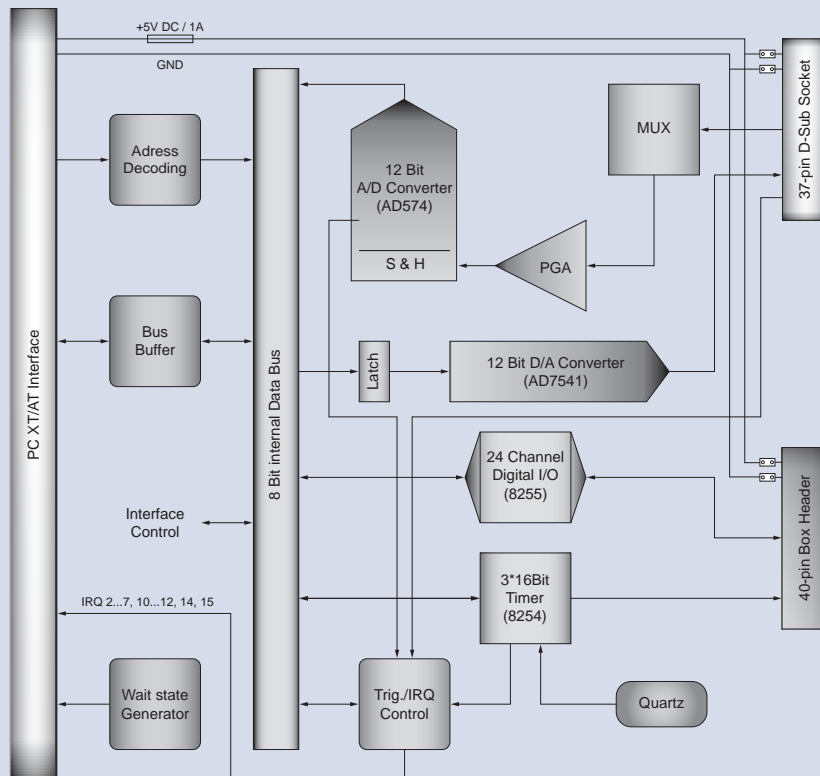
### Other

DC/DC converter  
Fuse for voltage supply  
LED for voltage control  
All IC sockets with gold plated contacts

### Address Allocation

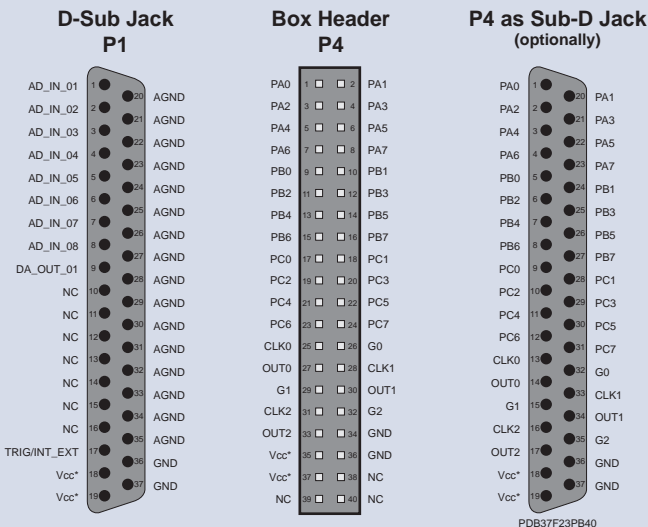
In the port area one block with 16 addresses is allocated. Any address ranges are adjustable via dip switches

## BLOCK DIAGRAM

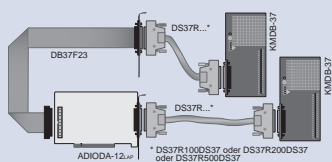


## PIN ASSIGNMENT

The A/D inputs and the D/A output are led to the 37-pin Sub-D female jack P1 (placed on the board's slot bracket), the digital inouts/outputs to the 40-pin box header P4. P4 is placed onboard and accessible inside the computer only. To obtain optimal connections to peripherals with strain relief optionally a flat ribbon cable (see „Suitable Accessories“) is available



## CONNECTION TECHNIQUE (APPLICATION EXAMPLES)



## PROGRAMMING

The accompanying CD provides drivers for Windows (please visit [www.wasco.de](http://www.wasco.de) to monitor available s/w versions) and sample programs for Turbo-C®, Delphi, Borland C++, C++ Builder, Microsoft Visual Basic, VB.NET, C++ and C#.NET

## SCOPE OF DELIVERY

Interface Card ADIODA-12<sub>LAP</sub>  
German manual (in English upon request)  
Driver and program examples on CD

## ORDER INFORMATION

ADIODA-12<sub>LAP</sub> EDP-No. A-1034  
Multifunctional Card

## SUITABLE ACCESSORIES

**DB37F23** EDP No A-1975  
Flat ribbon cable (approx. 23 cm) to relocate signals from P2 (40-pin box header) to a 37pin Sub-D jack with slot bracket

**DS37R500DS37** EDP No A-202800  
Shielded connection cable (approx. 5 m) to connect KMDB-37 to a 37pin Sub-D jack

**DS37R200DS37** EDP No A-202400  
Shielded connection cable (approx. 2 m) to connect KMDB-37 to a 37pin Sub-D jack

**DS37R100DS37** EDP No A-202200  
Shielded connection cable (approx. 1 m) to connect KMDB-37 to a 37pin Sub-D jack

**KMDB-37S** EDP No A-204910  
Terminal module with a 38-pin screw terminal block to connect to a 37pin Sub-D jack

**KMDB-37** EDV-Nr. A-2046  
Terminal module with a 37-pin screw terminal block and prototype area to connect to a 37pin Sub-D jack

For more detailed information about the here listed and other accessories we refer to the corresponding data sheets