

# MIO-6251 MIO/160 Module with 2-slot mini PCI, Audio

## Startup Manual



### Introduction

#### The most flexible interface for Embedded Applications

Today is an embedded world, but many standard embedded single board computers cannot 100% meet application specifications because they are not flexible enough to expand and develop the system.

#### A system design short cut

MIO/160 (Module I/O 160) is an open pin definition interface from Advantech. The MIO/160 interface integrates the most popular data buses into a high-density 160-pin connector, including, PCI, USB, DVO, SMBus, LPC, and AC97. With MIO/160, board engineers can speed up system project design and expand the system easily.

### Packing list

Before you begin installing your card, please make sure that the following materials have been shipped:

- 1 MIO-6251
- 1 Startup manual
- 1 CD ROM for MIO-6251 Driver/Utility
- 1 Screw kit

- copper stud x 6 pcs                      p/n: 9660250000

- screw                      x 6 pcs                      p/n: 1930000058

- screw                      x 6 pcs                      p/n: 1935030500
- 1 Mini Jumper kit (black)                      p/n: 9689000002

- mini jumper 2.0mm x 10 pcs
- 1 Audio cable                      p/n: 1700002102

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Note 1: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: [www.adobe.com/products/acrobat/readstep2.html](http://www.adobe.com/products/acrobat/readstep2.html) (Acrobat is a trademark of Adobe)

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>

<http://www.advantech.com/eplatform>

For technical support and service, please visit our support website at:

<http://www.advantech.com/support>

This manual is for the MIO-6251 series Rev. A1.

Part No.2006625100

1st Edition  
May. 2006

### Specifications

#### • 2-slot mini PCI:

Data bus      32-bit data bus (compliant with PCI Bus Specification 2.1)

PCI Interface      3.3V interface (5V tolerant)

mini PCI slot      2 mini PCI type III A slot

- **Audio:** One Audio connector supported by Audio cable from 3.5" Biscuit board
- **Audio Output:** Speaker-Out, Line-In, Mic-in
- MIO/160 Interface

#### Mechanical and Environmental

- **Dimensions (L x W):** 120mm x 85mm, 4.7" x 3.3"
- **Operating Temperature:** 0 ~ 60°C operation
- **Operating Humidity:** 10%~90% relative humidity, non-condensing

### Features

- 2-slot mini PCI device
- 1 Audio

## Connectors

Connectors on the board link it to external devices, such as hard disk drives, a keyboard or expansion bus connectors.

The table below lists the function of each of the connectors.

Connectors	
Label	Function
CN2	Mini PCI Connector 1
CN3	Mini PCI Connector 2
CN8	Audio Line-in
CN9	Audio Mic-in
CN10	Audio Speaker-out
CN11	MIO/160 Bus
CN12	Audio connector to system board

### CN2 MINI PCI Connector 1

Description	MINI PCI 124PIN SMD FOR TYPE3 180D(M) H=7.95
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### CN3 MINI PCI Connector 2

Description	MINI PCI 124PIN SMD FOR TYPE3 180D(M) H=5.6
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### CN8 Audio Line-In

Description	PHONE JACK 3.5cp5P 90D(F) BLUE W/ SHIELDED
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### CN9 Audio Mic-in

Description	PHONE JACK 3.5cp5P 90D(F) PINK W/ SHIELDED
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### CN10 Audio Speaker out

Description	PHONE JACK 3.5cp5P 90D(F) LIME W/ SHIELDED
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### CN11 MIO/160 Bus

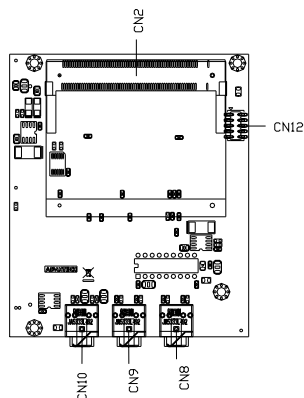
Description	B/B CONN. 80*2P 180D(M) SMD 0.8mm QTE-080-05-F-D-A
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### CN12 Audio connector to system board

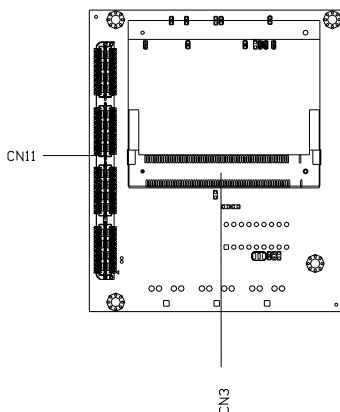
Description	PIN HEADER 5*2P 2.0mm
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Pin	Pin name	Pin	Pin name
1	LOUTR	2	LIN_R
3	AGND	4	AGND
5	LOUTL	6	LIN_L
7	AGND	8	AGND
9	MIC1	10	MIC2

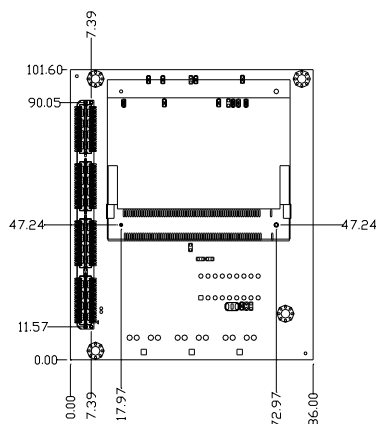
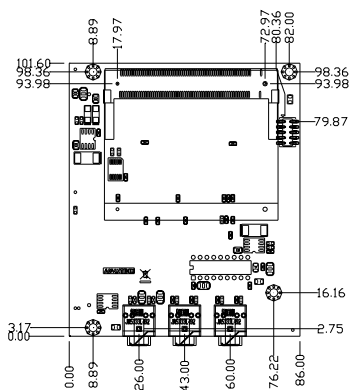
## Board Layout



### Locating connector (component side)



### Locating connector (solder side)



**Mechanical Drawing (component side)**

**Mechanical Drawing (solder side)**

## FCC

*This device complies with the requirements in part 15 of the FCC rules: Operation is subject to the following two conditions:*

- 1. This device may not cause harmful interference, and*
- 2. This device must accept any interference received, including interference that may cause undesired operation*

*This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this device in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense. The user is advised that any equipment changes or modifications not expressly approved by the party responsible for compliance would void the compliance to FCC regulations and therefore, the user's authority to operate the equipment.*

## Caution!

*There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.*



## Achtung!