

MIO-5270 MI/O Extension SBC, AMD® G-Series, DDR3, HDMI, 48-bit LVDS, VGA, 2 GbE, CFast, iManager, MIOe Startup Manual

Packing List

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

- 1 x MIO-5270 SBC
- 1 x SATA Cable 30cm (P/N 1700006291)
- 1 x SATA Power Cable 35cm (P/N 1700018785)
- 1 x Audio Cable 20cm (P/N 1700019584)
- 2 x COM Cable 22cm (P/N 1701200220)
- 1 x COM RS-422/485 Cable 25cm (P/N 1700019435)
- 1 x Heatsink (25mm) for T40E/T40R (P/N: 1960053507N001)
- 1 x Cooler (25mm) for T56N (P/N 1960053508N001)
- Startup Manual
- CD-ROM (Manual, Driver, Utility)
- 1 x Mini Jumper(10pcs package) (P/N 9689000002)

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

Note1: For detailed contents of MIO-5270, please refer to information on the enclosed CD-ROM (in PDF format).

Note1: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: 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://service.advantech.com.tw/support/>

This manual is for the MIO-5270.

Part No. 2006527000
Printed in China

1st Edition
September 2011

Specifications

General

- **CPU:** AMD G-Series
T56N (Dual Core 1.65GHz): MIO-5270D-S6A1E
T40E (Dual Core 1.0GHz): MIO-5270D-S0A1E
T40R (Single Core 1.0GHz): MIO-5270S-S0A1E
- **System Memory:** 1 x 204-pin SODIMM socket DDR3 up to 4GB
T56N: DDR3 1333 MHz
T40E/T40R: DDR3 1066 MHz
- **2nd Cache Memory:**
T56N: 1MB
T40E/T40R: 512KB
- **System Chipsets:** AMD G-series + A50M FCH
- **BIOS:** AMI EFI 32-Mbit
- **Watchdog Timer:** 255 levels timer interval, programmable by software. Multi level WDT (set by iManager)
- **Expansion Interface:** PCIe Mini Card, CFast, MIOe
- **Battery:** Lithium 3 V / 210 mA/H
- **Audio:** Support High Definition Audio (HD), line-in, line-out, Mic-in

Display

- **Controller:** AMD G-series T56N/T40E/T40R
- **Resolution:**
-- VGA:
T56N: 2560 x 1600
T40E/T40R: 1920 x 1200
-- LVDS:
LVDS supports single channel 24-bit/dual channels 48-bit
T56N: 2560 x 1600 @60Hz
T40E/T40R: 1920 x 1200 @60Hz
(Pixel clock rate 80MHz)
-- HDMI:
Supports 1920 x 1080p @60Hz, 36bpp
Supports HDMI 1.3, using TMDS data encoding
- **Dual Independent Display:**
VGA+LVDS, VGA+HDMI, HDMI+LVDS

Ethernet Interface

- **Speed:** GbE 10/100/1000 Mbps
- **Chipset:** Realtek RTL8111E-VB-GR (GbE1, GbE2)
- **Ethernet Interface:** Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- **Connector:** RJ45 x2

I/O

- **Internal I/O Interface:** 2 x SATAII, 3 x RS-232, 1 x RS232/422/485, 2 x USB 2.0, GPIO, SMBus
- **Rear I/O:** 4 x USB 2.0, HDMI, VGA, 2 x RJ45 Ethernet, DC Power in connector
- **DC Power in connector:**
T56N: 2 x 2 pin power connector
T40E/T40R: DC Jack
- **GPIO:** 8-bit general purpose input/output

Specifications

Mechanical and Environmental

- **Dimensions (L x W):** 146 x 102 mm (5.7 x 4 inches)
- **Power Supply Type:** APM 1.2, ACPI support
- **Power Requirement:** +12 V \pm 10%
- **Power Consumption:** with 4GB DDR3 1066 SO-DIMM Max in HCT12:
 - T56N: +12V @ 1.35A
 - T40E: +12V @ 0.82A
 - T40R: +12V @ 0.8A
 Typical: Idle mode in WindowsXP
 - T56N: +12V @ 0.65A
 - T40E: +12V @ 0.53A
 - T40R: +12V @ 0.59A
- **Operating Temperature:** 0–60°C (32–140°F)
- **Weight:** 0.85 kg (reference weight of total package)

Jumpers and Connectors

The board has a number of connectors and jumpers that allow you to configure your system to suit your application.

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

Jumpers

Label	Function
J1	Clear CMOS
J2	Auto Power on setting
J3	LCD power
J5	COM2 setting

Connector

Label	Function
CN1	Power Switch
CN2	Inverter Power Output
CN3	Reset
CN4	SATA Power
CN5	SATA 1
CN6	SATA 2
CN7	RS422/485
CN8	GPIO
CN10	DDR3 SODIMM Socket
CN12	Internal USB
CN13	SMBus
CN14	RJ-45 Ethernet x 2
CN17	48 bits LVDS Panel
CN18	External USB (1/2)
CN19	External USB (3/4)
CN20	HDMI

Jumpers and Connectors

CN22	12V Power Input
CN23	VGA
CN24	Audio
CN25	COM1/COM2
CN26	COM3/COM4
CN28	MIOe
CN29	PCIe Mini Card Holder
CN30	PCIe Mini Card
CN31	CFast
FAN1	CPU FAN



J1: Clear CMOS

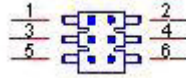
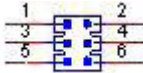
Part Number	1653003101
Description	PIN HEADER 3x1P 2.0mm 180D(M) DIP 2000-13 WS
Setting	Function
(1-2)*	Normal
(2-3)	Clear CMOS



J2: Auto Power On Setting

Part Number	1653002101
Description	PIN HEADER 2*1P 180D(M) SQUARE 2.0mm DIP W/O Pb
Setting	Function
NC	Power Button for Power On
(1-2)*	Auto Power On

Jumpers and Connectors



J3: LCD Power	
Part Number	1653003201
Description	PIN HEADER 3*2P 180D(M) 2.0mm DIP SQUARE WO/Pb
Setting	Function
(1-3)*	+3.3 V
(3-5)	+5 V
(3-4)	+12 V

J5: COM2 Setting	
Part Number	1653003260
Description	PIN HEADER 3x2P 2.0mm 180D(M) SMD 21N22050
Setting	Function
(1-2)*	RS232
(3-4)	RS485
(5-6)	RS422

Connector Location

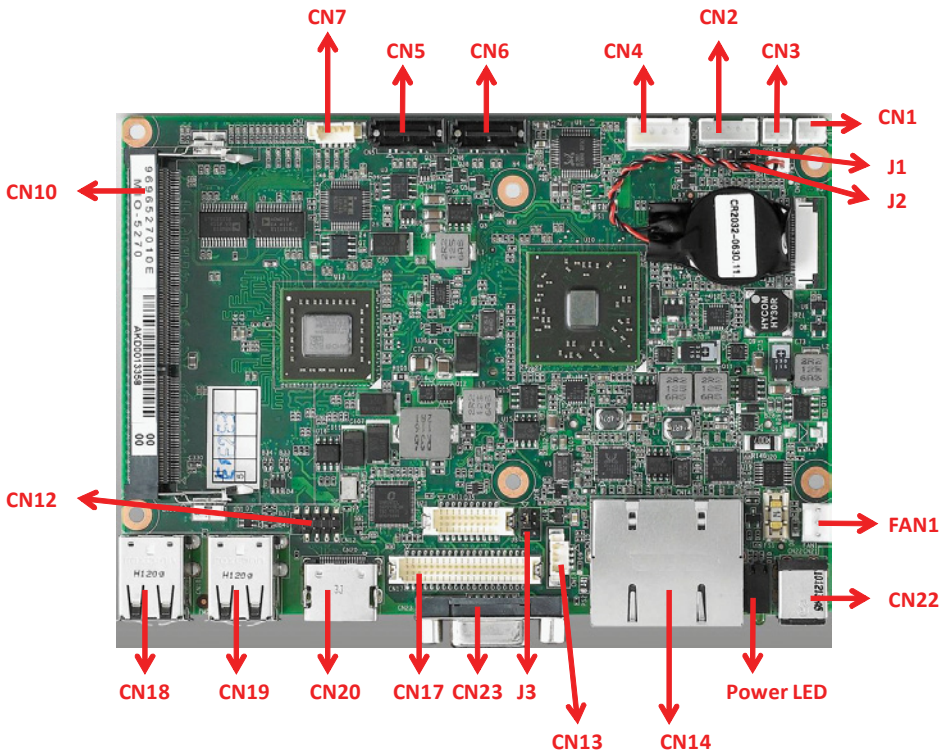


Figure 1: MIO-5270 Jumpers and Connectors (Top side)

Connector Location

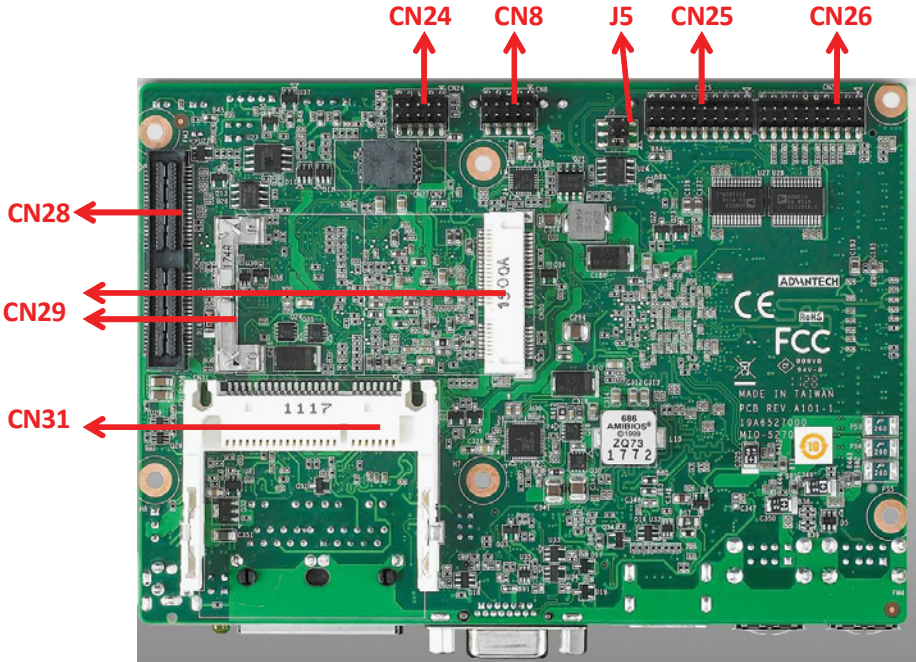


Figure 2: MIO-5270 Location Connectors (Bottom Side)

I/O Connectors

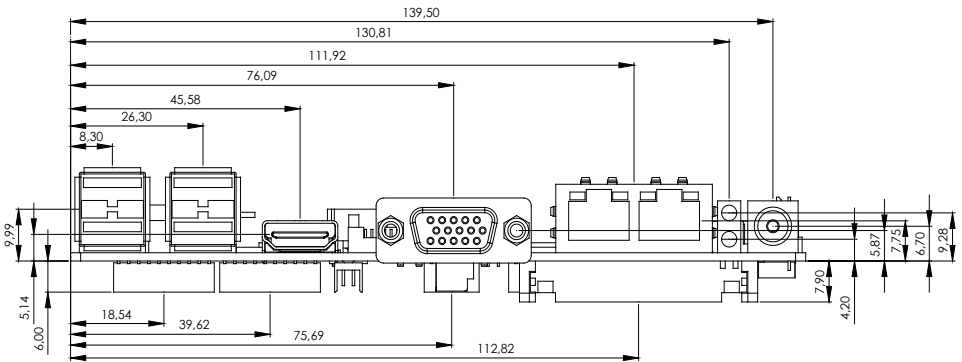


Figure 3: MIO-5270 Mechanical Drawing (Side View)

Board Diagram

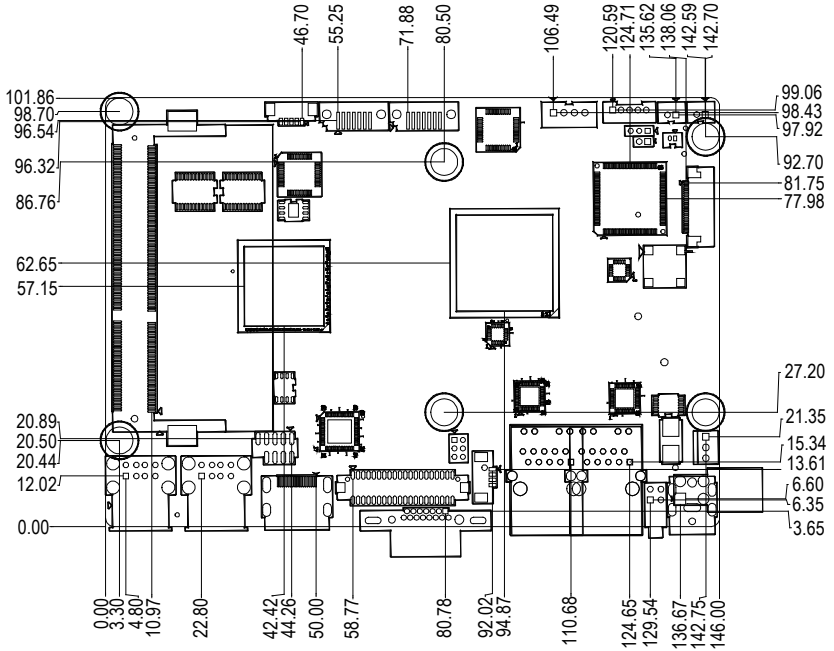


Figure 4: MIO-5270 Mechanical Drawing (Top Side)

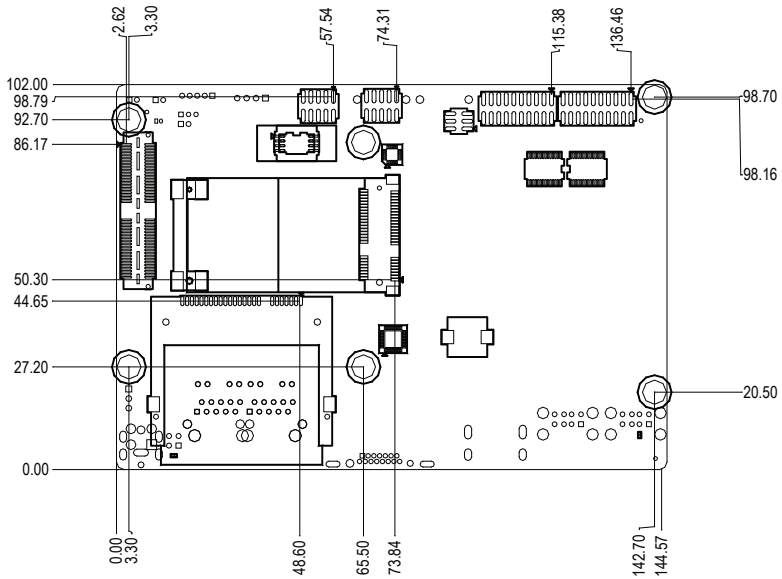
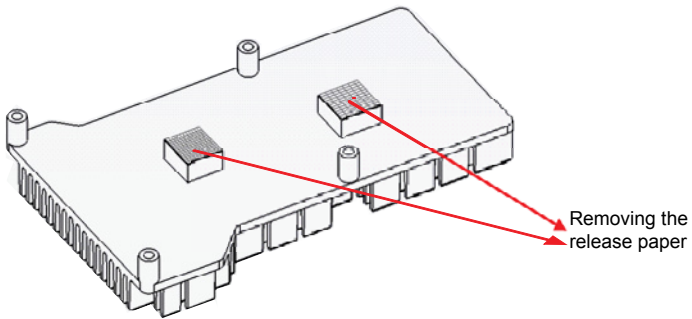


Figure 5: MIO-5270 Location Connectors (Bottom Side)

Quick Installation Guide

1. There is a Heatsink / Cooler in the white box, please take it and remove the release paper from the thermal pad.



2. There are four screws inside the white box, please install DRAM in the SO-DIMM socket, then screw the heatsink as below chart.

