ERS-A50M

Fanless AMD® eOntario T56N Rugged Embedded System with AMD A50M Chipset

Quick Reference Guide

2nd Ed – 9 August 2013

FCC Statement

THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(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 INSTATLLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

A Message to the Customer

Avalue Customer Services

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

http://www.avalue.com.tw/

Contents

1. Getting Started

1.1 Safety Precautions

Warning!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

1.2 Packing List

- 1 x ERS-A50M Fanless AMD® eOntario T56N Rugged Embedded System with AMD A50M Chipset
- 1 x Quick Reference Guide
- 1 x DVD-ROM contains the followings:
  — User's Manual (this manual in PDF file)
  — Ethernet driver and utilities
  — VGA drivers and utilities
  — Audio drivers and utilities

- Other major components include the followings:
  — AC/DC adapter
  — 4 screws for 2.5" HDD/SSD fixing

If any of the above items is damaged or missing, contact your retailer.

1.3 System Specifications

| Specifications	
System	
CPU	AMD® eOntario T56N 1.6GHz CPU
BIOS	AMI 32 Mbit SPI BIOS
System Chipset	AMD A50M Chipset
I/O Chip	Winbond W83627DHG-P
System Memory	One 204-pin DDR3 SODIMM up to 4GB DDR3-1066 SDRAM
SSD	1 x CompactFlash Type I/II Socket
Hard Disk	1 x 2.5" SATA HDD
Watchdog Timer	Reset: 1 sec.~255 min. and 1 sec. or 1 min./step
H/W Status Monitor	Monitoring System Temperature, Voltage. Auto Trotting Control When CPU Overheats
External I/O	
COM Port	2 x RS232 (COM2 can be set as RS-422/485 by BIOS and conformable cable)
LAN Port	2 x RJ45
Antenna	2 Knockouts for Antenna Mounting (Options to Add WiFi & 3G)
VGA	1 x VGA
HDMI	1 x HDMI
Audio Port	Mic in, Line-in and Line out
USB Port	6 x USB 2.0 (Rear 5; Front 1)
Expansions	1 Mini-PCIe Socket (mSATA supported)
Display	
Chipset	AMD Radeon 6320
Resolution	VGA: 2560 x 1600 @ 75 Hz , HDMI: 1920x1200 @75Hz
Audio	
Audio Chipset	Realtek ALC892 supports 7.1-CH Audio
Audio Interface	Mic in, Line-in and Line-out
Ethernet	
LAN Chip	2x Realtek 8111E GigaLAN, supports Wake on LAN
Ethernet Interface	10/100/1000Base-Tx Fast Ethernet compatible
Mechanical & Environmental	
Power Requirement	+12 ~ +26Vdc (Lockable DC Jack)
ACPI	Single Power ATX Support S0, S1, S3, S4, S5 and ACPI 3.0 Compliant
Power Type	AT/ ATX

ERS A50M

Operating Temp.	-10 ~ 50°C (w/CF),ambient w/ air flow
Storage Temp.	-40 ~ 75°C (-4~167°F)
Operating Humidity	0%~90% relative humidity, non-condensing
Vibration Protection	With CF/SSD: 5Grms, IEC 60068-2-64, Random, 10 ~ 500Hz, 1hr/axis
Shock Protection	With CF/SSD: 50G, IEC 60068-2-27, Half Sine,11ms
Size (L x W)	271 * 150 * 55 mm
Weight	5.5lbs (2.5 Kgs)

1.4 System Overview

1.4.1   Front & Top View
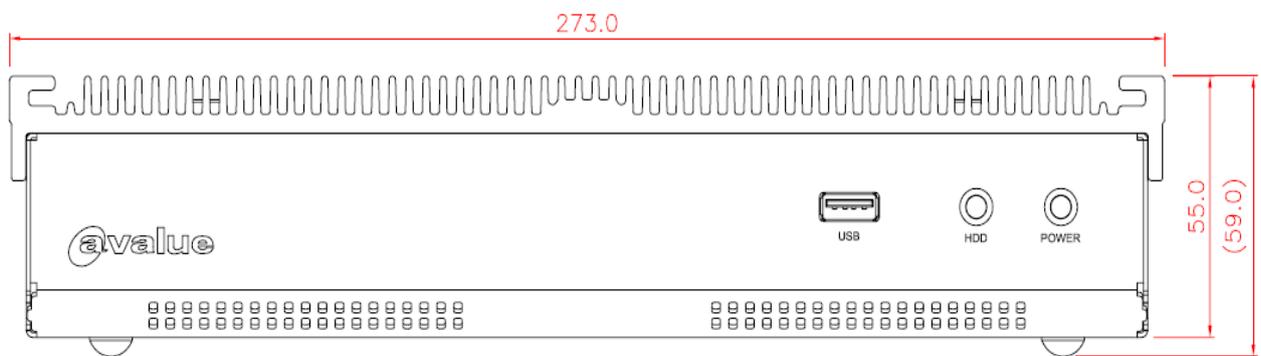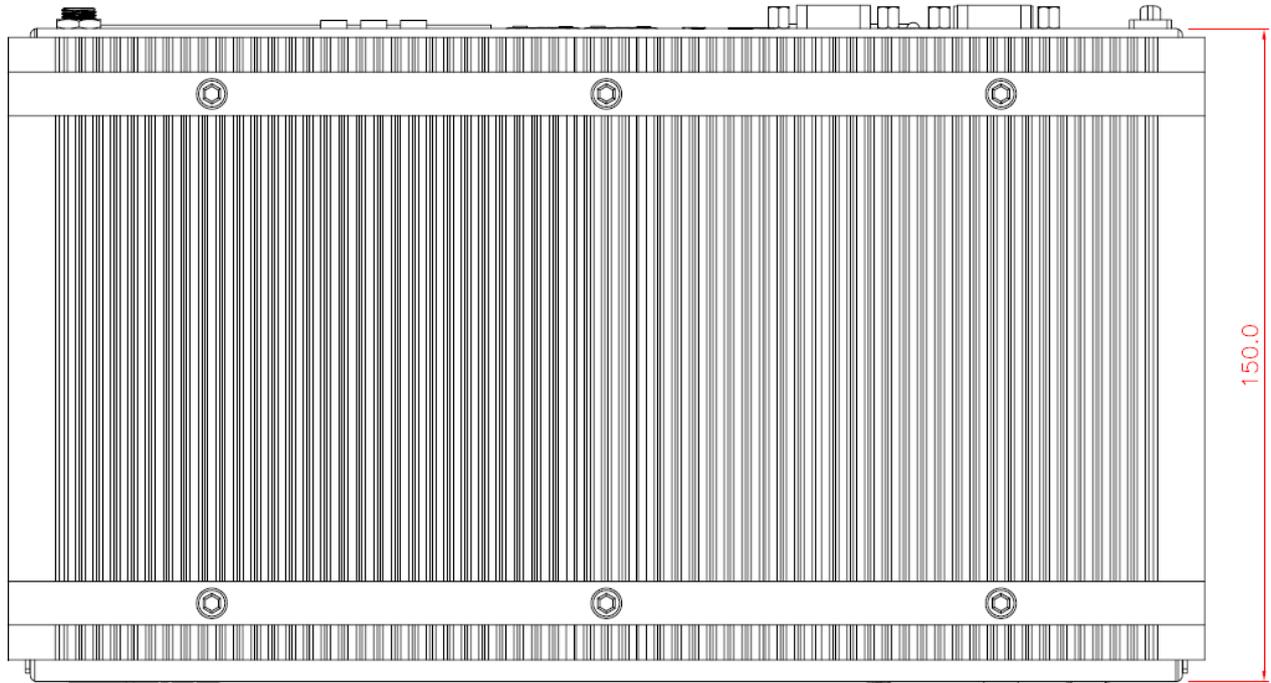
1.4.2   Rear View
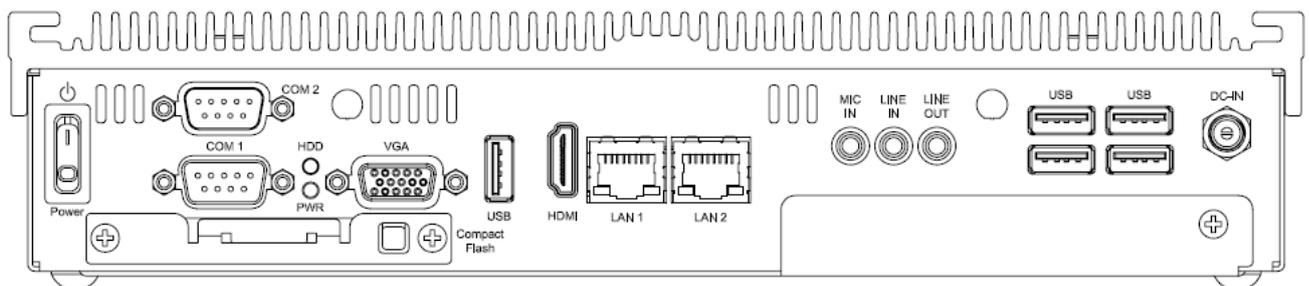
2. Hardware Configuration

Jumper and Connector Setting, Driver and BIOS Installing

For advanced information, please refer to:

1- ECM-A50M Quick Installation Guide or User's Manual

**Note:** If you need more information, please visit our website:

http://www.avalue.com.tw

2.1 ERS-A50M connector list

Connectors

Label	Function	Note
COM1~2	Serial port connector1~2	
DC-IN	Lockable DC Jack	
HDD	HDD Indicator	
PWR	Power Indicator	
LAN1	RJ-45 Ethernet 1	
LAN2	RJ-45 Ethernet 2	
LINE IN	Line-in audio jack	
LINE OUT	Line-out audio jack	
MIC IN	Microphone-in audio jack	
Power	System power switch	
HDMI	HDMI connector	
COMPACT FLASH	CF card connector	
USB1~6	USB connector 1~6	

2.2 ERS-A50M connector mapping

2.2.1   External Serial Port 1 connector (COM1)
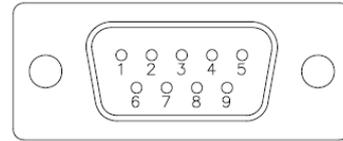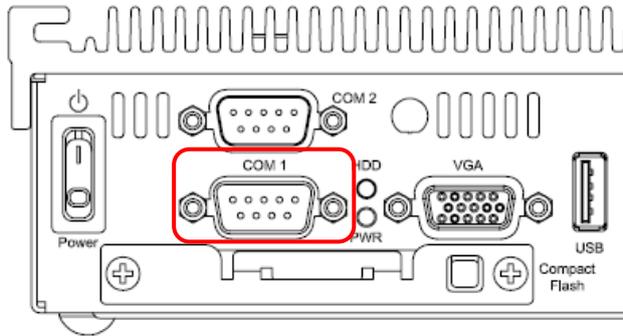
Signal	PIN	PIN	Signal
DCD#0	1	6	DSR#0
RXD0	2	7	RST#0
TXD0	3	8	CTS#0
DTR#0	4	9	RI#0
GND	5		

2.2.2   External Serial Port 2 connector (COM2)
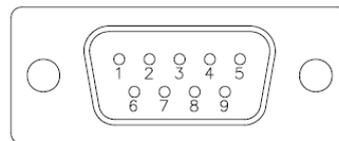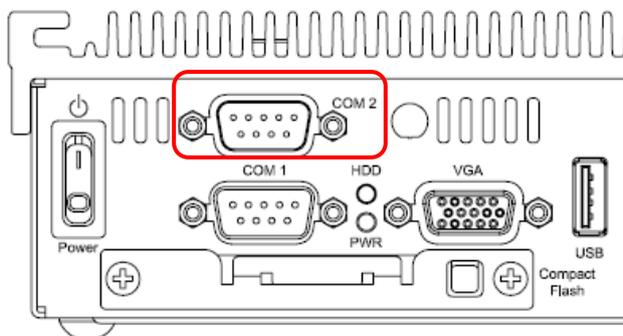
Signal	PIN	PIN	Signal
DCD#1	1	6	DSR#1
RXD1	2	7	RST#1
TXD1	3	8	CTS#1
DTR#1	4	9	RI#1
GND	5		

2.3 Installing Hard Disk & Memory
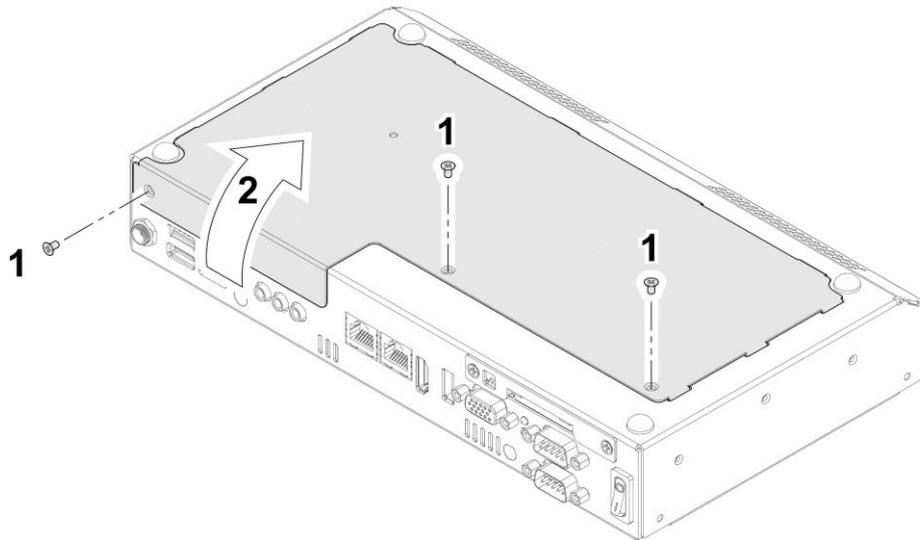
Step 1. Unfasten 3 screws from bottom and rear side.

Step 2. Remove the chassis cover.
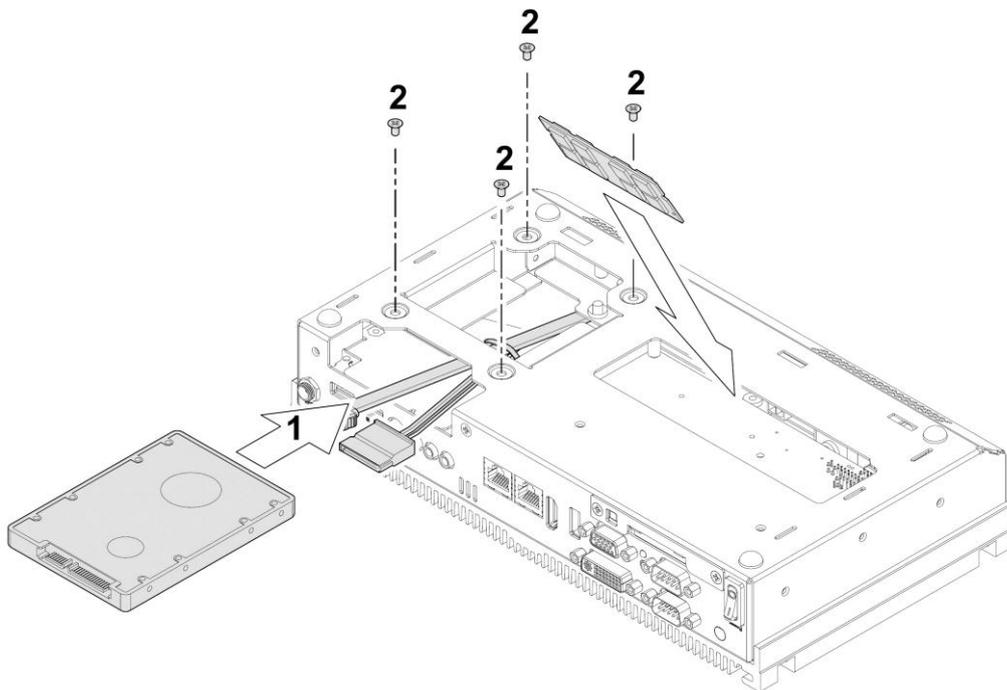
Step 3. Insert the drive into position, and secure with 4 screws.

Step 4. Insert DDR3 SODIMM into memory socket.

Step 5. Place back the cover and fasten 3 screws back to complete

2.4 Installing Mounting Bracket (Optional)
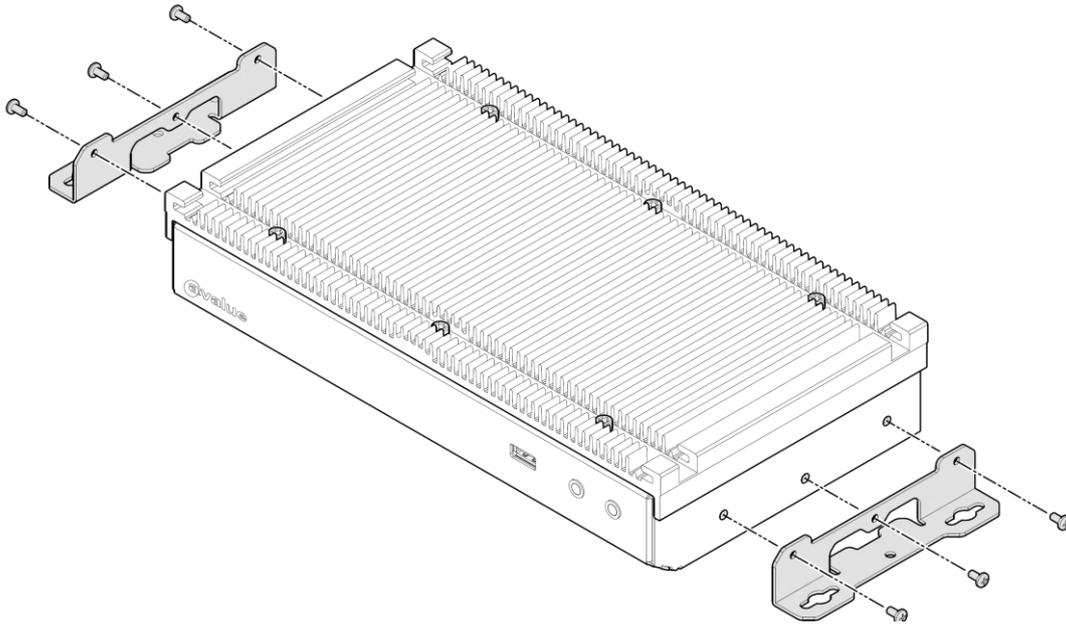
Step 1. Fasten 6 screws on both sides of ERS Rugged Embedded System.

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