

DS-862 Series

Digital Signage Player Supporting
4 Independent Displays

ADVANTECH

Enabling an Intelligent Planet

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Product Warranty (24 months)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

- Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
- Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
- If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
- Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy of the proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
- Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Declaration of Conformity

– FCC Class B

Note: This equipment has been tested and found to comply with the limits for a Class B 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 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.

Technical Support and Assistance

1. Visit the Advantech website at www.advantech.com/support where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
 - ◆ Product name and serial number
 - ◆ Description of your peripheral attachments
 - ◆ Description of your software (operating system, version, application software, etc.)
 - ◆ A complete description of the problem
 - ◆ The exact wording of any error messages

Warnings, Cautions and Notes



Warning! Warnings indicate conditions, which if not observed, can cause personal injury!



Caution! Cautions are included to help you avoid damaging hardware or losing data. e.g. 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.



Note! Notes provide optional additional information.

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
 - The power cord or plug is damaged
 - Liquid has penetrated the equipment.
 - The equipment has been exposed to moisture.
 - The equipment does not work well, or you cannot get it to work according to the user's manual.
 - The equipment has been dropped and damaged.
 - The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW 0° C (32° F) OR ABOVE 40° C (104° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
16. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**
17. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more

than 70 dB (A).

18. RESTRICTED ACCESS AREA: The equipment should only be installed in a Restricted Access Area.
19. DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Packing List

Before installation, please ensure the following items have been shipped:

- 1 x DS-862 series
- 1 x 19V DC Adapter
- 1 x China RoHS Sheet
- 1 x Simplified Chinese user manual
- 1 x Power Cord bracket
- 1 set x mounting kit

Chapter 1

General Introduction

This chapter gives background information on DS-862 series.

1.1 Introduction

Advantech DS-862 Digital Signage Player, combines a 3rd generation Intel® Core™ i7 CPU with discrete AMD Radeon™ E6460 GPU graphics to drive 4 screens via 4 DisplayPort and the most intricate content up to 3840 x 2160 @ 30hz per screen. As small a footprint as a notebook, DS-862 can be easily integrated and hidden behind the screen. The signage player includes a pair of mounting brackets with a wide variety of screw holes as a standard accessory, and which can be easily installed and removed for maintenance without disturbing the screens. For better connectivity, it supports internal 1 x Mini PCIe interface for add-on functions such as wireless network, and also supports 4x USB 3.0, 1xCOM (RS- 232) ports for system integration and applications.

1.2 Product Features

1.2.1 General

- Supports Intel® Core™ i7-3555LE / i3-3217UE /Celeron® 1020E processors
- Discrete Radeon E6460 supports 4 x DisplayPort up to 3840 x 2160 @ 30hz
- Supports 2.5" SATA HDD drive bay (Height 7mm)
- Built-in MiniPCIe slot for easy expansion
- Slim and compact design for easy integration and maintenance

1.2.2 Display

- Support up to 3840 x 2160 @ 30hz (subject to the video media format and playback software)

1.2.3 Power Consumption

- **Idle:** 10 W (3rd Gen Intel® Core™ i7-3555LE 2.5 GHz)
- **Max:** 37 W (3rd Gen Intel® Core™ i7-3555LE 2.5 GHz)

1.3 Hardware Specifications

- **CPU:** 3rd Gen Intel Core i7-3555LE 2.5 GHz / Core i3-3217UE 1.6GHz / Celeron 1020E 2.2GHz
- **System Chipset:** Intel QM77 chipset
- **Graphic chipset:** AMD Radeon E6460
- **BIOS:** AMI uEFI 64Mbit
- **System Memory:** 2 x DDR3 SO-DIMM socket, up to 16 GB (8GB per SODIMM)
- **HDD:** Supports 1 x 2.5" SATA HDD (max 7mm height)
- **Watchdog Timer:** supported by Advantech SUSIAccess
- **IO Interfaces**
 - 1 x RS-232

1.4.2 Weight

2 kg (4.41 lbs)

1.5 Power Requirements

1.5.1 System Power

Minimum power input: DC19V, 3.42A

1.5.2 RTC Battery

3V/200mAH BR2032

1.6 Environmental Specifications

1.6.1 Operating Temperature

0° C - 40°C (32~104°F) with HDD

1.6.2 Relative Humidity

95% @ 40°C (Non Condensing)

1.6.3 Storage Temperature

-20 ~ 70°C (-4~158°F)

1.6.4 Vibration Loading During Operation

0.3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.

1.6.5 Shock During Vibration

20 G, IEC 60068-2-27, half sine, 11 ms duration

1.6.6 Safety

UL, BSMI, CCC

1.6.7 EMC

CE, FCC Class B, BSMI, CCC

Chapter 2

Hardware Installation

This chapter introduces external IO
and the installation of DS-862 Series
Hardware

2.1 DS-862 Series I/O Front/Rear View

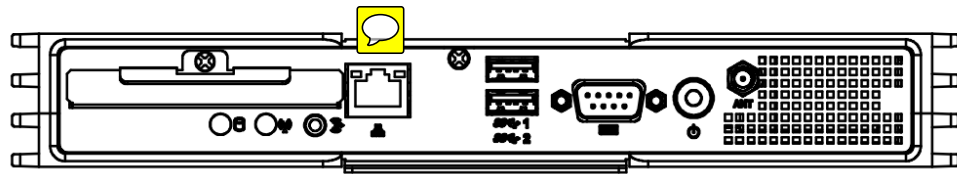


Figure 2.1: Front View



Figure 2.2: Rear View

2.2 DS-862 Series I/O Connectors

2.2.1 Power ON/OFF Button

DS-862 Series has a power ON/OFF button on the front side. Push this button to turn the system ON and OFF. It also supports a 4 second delay soft power off.



Figure 2.3: Power Button

2.2.2 COM Connector (RS-232)

DS-862 provides one D-sub 9-pin connectors serial communication interface port. The ports support RS-232 mode communications.

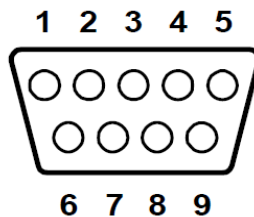


Figure 2.4: COM Connector

COM Port Pin Assignments	
Pin	Signal
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

2.2.3 USB Connectors

DS-862 Series provides four USB interface connectors, which gives complete Plug & Play and hot swapping capability for up to 127 external devices. The USB interface is compliant with USB UHCI, Rev. 3.0. The USB interface supports Plug and Play, which enables you to connect or disconnect a device without turning off the system.

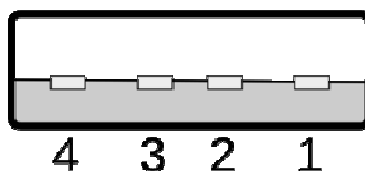


Figure 2.5: USB Connector

USB Port Pin Assignments	
Pin	Signal
1	VCC
2	USB Data-
3	USB Data+
4	GND

2.2.4 LAN Connector

DS-862 Series provides one RJ-45 LAN interface connector, fully compliant with IEEE802.3u 10/100/1000 Base-T CSMA/CD standards. The Ethernet port provides a standard RJ-45 jack connector with LED indicators to show its Active/Link status and speed status.

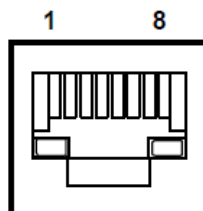


Figure 2.6: LAN Connector

LAN Port Pin Assignments	
Pin	Signal
1	MDI0+
2	MDI0-
3	MDI1+

4	MDI1-
5	GND
6	GND
7	MDI2+
8	MDI2-
9	MDI3+
10	MDI3-
11	VCC
12	ACT
13	+V3.3 & Link1000#
14	+V3.3 & Link100#

2.2.5 Audio Connectors

Line_out: Stereo speakers, earphone or front surround speakers can be connected to the audio jack.



Figure 2.7: Audio Connector

2.2.6 DC Input Connector

DS-862 supports 19VDC DC power in.



Figure 2.8: DC Input Connector

2.2.7 DisplayPort Connector

DS-862 Series not only uses DisplayPort to achieve higher resolutions by low pin but also allows data packets to be extensible, meaning additional features can be added over time without significant changes to the physical interface itself. DisplayPort can be used to transmit audio and video simultaneously, but each one is optional and can be transmitted without the other.

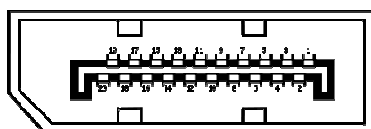


Figure 2.9: DisplayPort Connector

DisplayPort Pin Assignments	
Pin	Signal
1	ML_Lane 0 (p)

2	GND
3	ML_Lane 0 (n)
4	ML_Lane 1 (p)
5	GND
6	ML_Land 1 (n)
7	ML_Lane 2 (p)
8	GND
9	ML_Lane 2 (n)
10	ML_Lane 3 (p)
11	GND
12	ML_Lane 3 (n)
13	CONFIG1
14	CONFIG2
15	AUX CH (p)
16	GND
17	AUX CH (n)
18	Hot Plug
19	Return
20	DP_PWR

2.3 Hardware Installation

2.3.1 HDD Bracket Installation

- (1) Fix HDD with screws on the HDD bracket

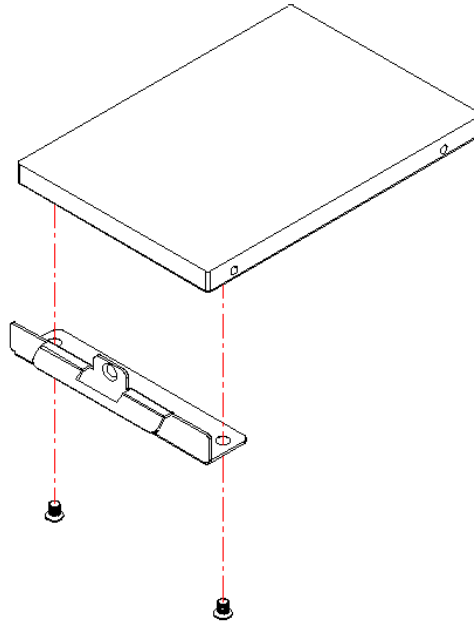


Figure 2.13: HDD Bracket Installation

2.3.2 HDD Installation

- (1) Insert HDD and fasten it with screw.

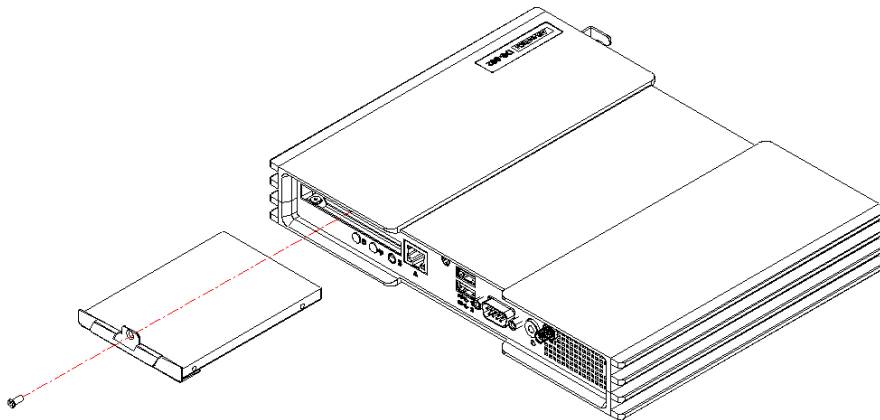


Figure 2.14: HDD Installation

2.3.3 Memory Module Installation - Top Side

- (1) Remove the top cover by loosening 6 screws and then insert Memory Module into SO-DIMM socket.

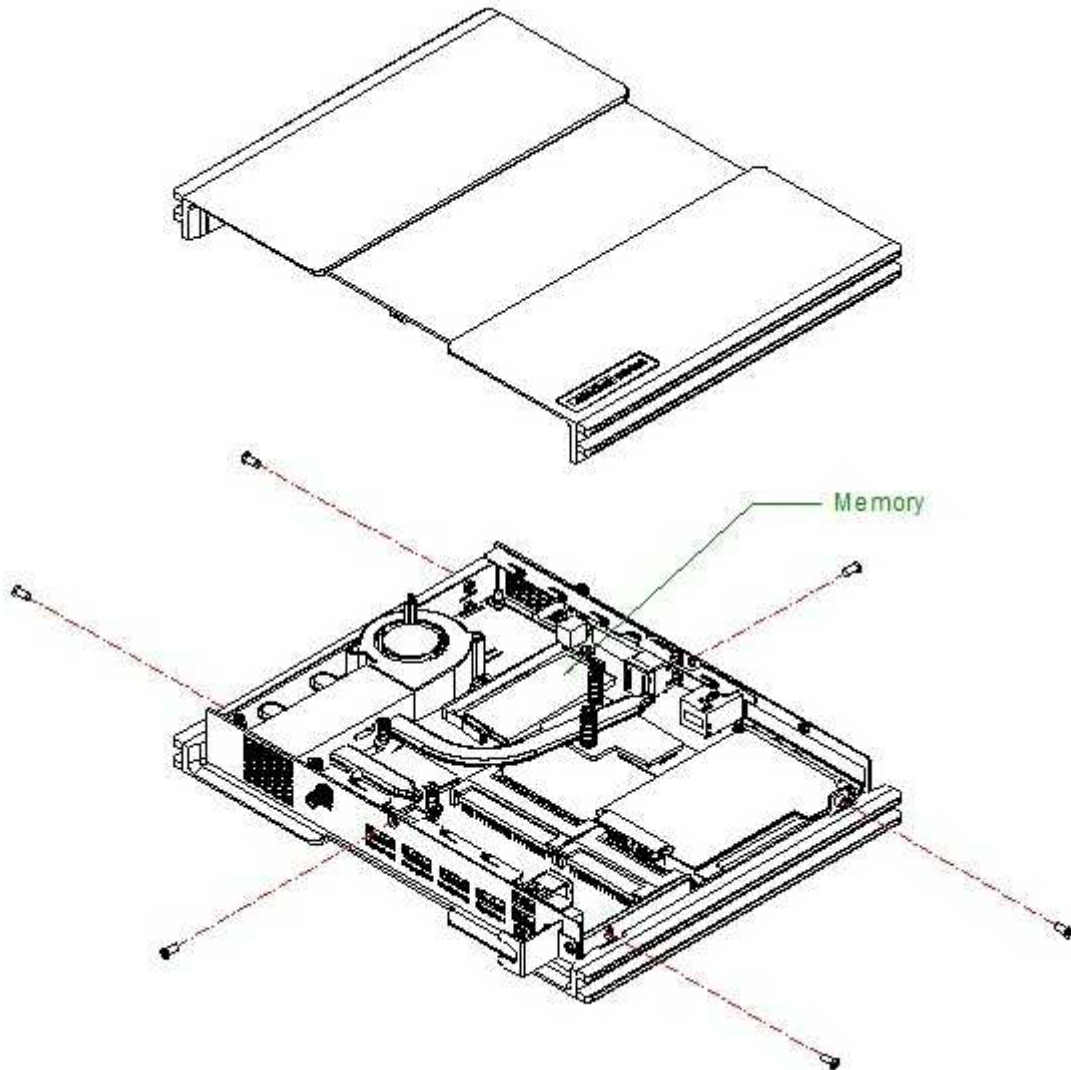


Figure 2.15: Memory Module Installation-Top Side

2.3.4 MiniPCle Card/Memory Module Installation - Bottom Side

- (1) Loosening 6 screws from the bottom cover.
- (2) Loosening 4 screws from right side and left side.
- (3) Lift the bottom cover and then insert MiniPCle and Memory Module into socket

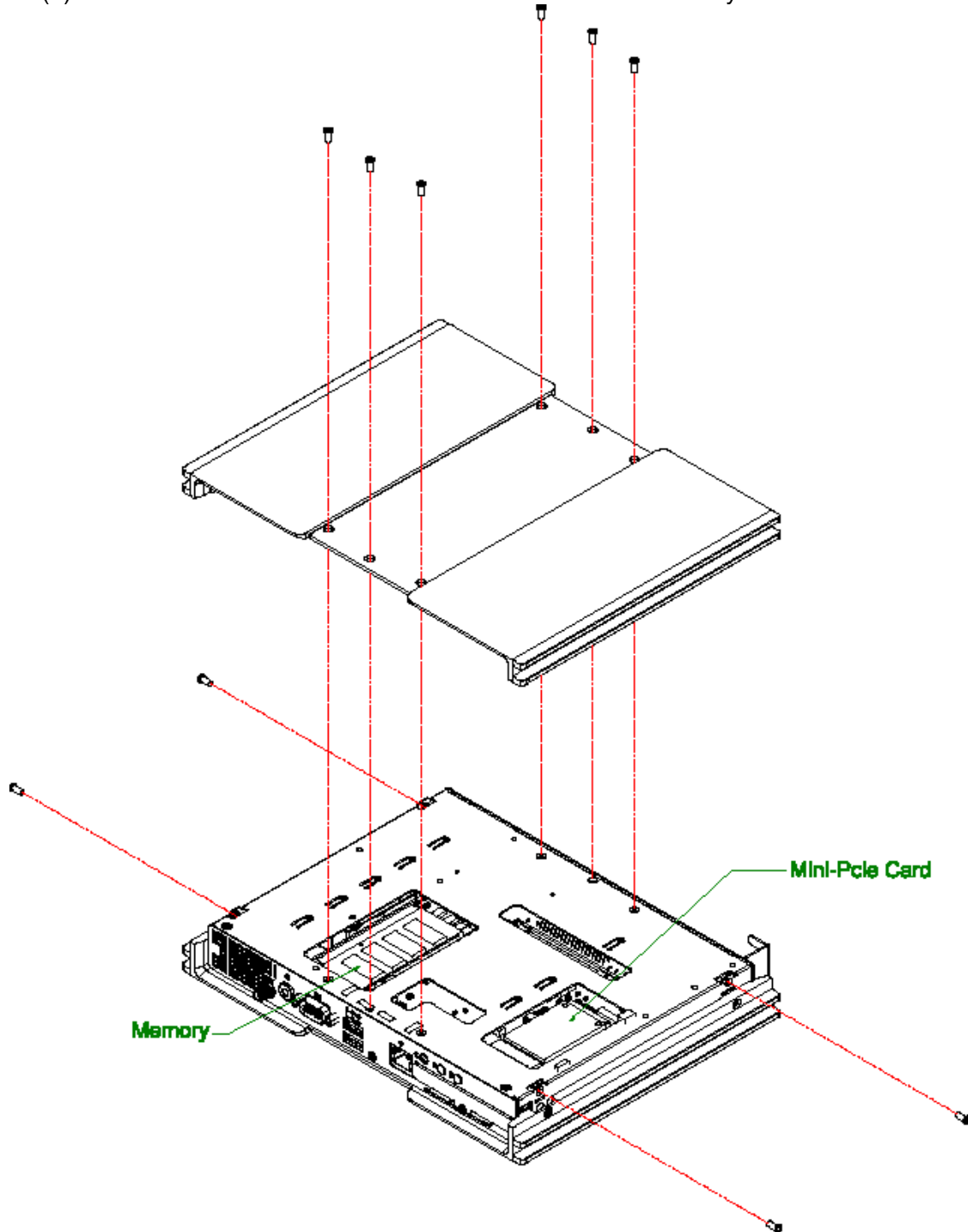


Figure 2.16: MiniPCle Module/Memory Module Installation-Bottom Side

2.3.5 Power Cord Bracket Installation

- (1) Connect a power cord to DS-862 along with the bracket, then fix the bracket with a screw to prevent power cord from falling off.

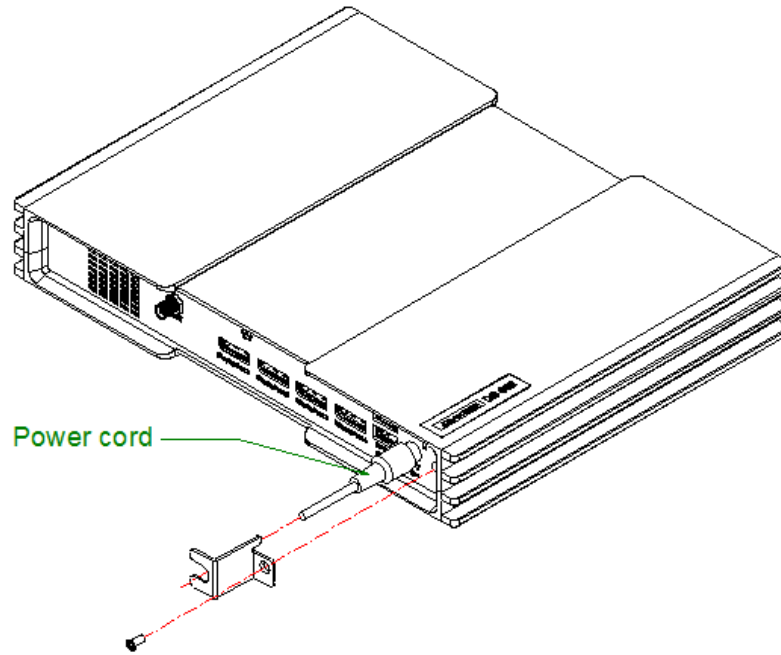


Figure 2.17: Power Cord Bracket Installation

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