

# EBC-3100

## Mini-ITX Chassis for High Power Consumption Applications

### Version: 1.0

### Quick Installation Guide



#### ABOUT

The EBC-3100 is designed for Mini-ITX motherboards. The front panel includes spaces for a slim-type optical drive, I/O interface panel, and optional I/O ports. One HDD drive may be installed. The EBC-3100 also supports a PCI/PCIe card (depending on the motherboard) through an expansion card slot on the front panel.

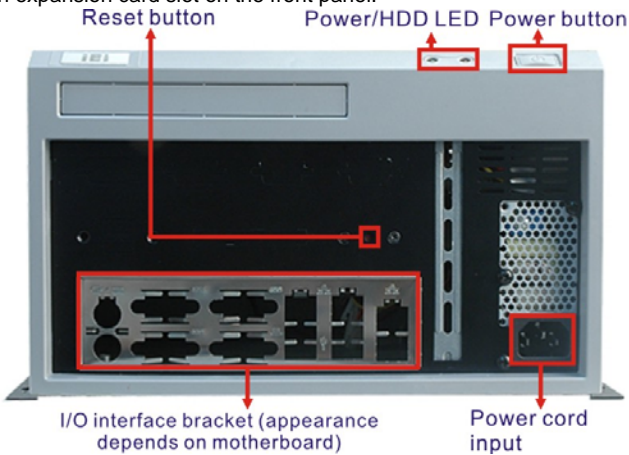


Figure 1: Chassis Front Panel

#### SPECIFICATIONS

Specifications	EBC-3100-R10
SBC Form Factor	Mini-ITX
Drive Bays	One 3.5" HDD One slim type ODD
System Cooling fan	One 6cm fan
I/O Ports	Depends on SBC
Indicators	Power, HDD LED
Buttons	Power, Reset

Chassis construction	Heavy duty metal with plastic front panel
Color	Black
Mounting	Desktop, wall mount
Operating temperature	0°C~40°C (*Operating temperature is determined by system thermal test running with KINO-9654G4, Pentium IV 3.4GHz processor 651 and 2GB DDR2 RAM.)
Operating humidity	10% ~90%
EMC/Safety	CE, FCC class A
Weight (Net/Gross)	2.5Kg / 3.9Kg
Dimensions (DxWxH)	230 mm x 280 mm x 88 mm

**Table 1: Specifications**

#### COMPATIBLE SBC/COOLING KIT

Compatible SBC	Recommended cooling kits
KINO-9654G4	CF-520-RS, CF-775B-RS
KINO-9454	CF-520-RS, CF-775B-RS
KINO-9652	CF-479B-RS
KINO-9453	CF-479B-RS
KINO-9452	CF-479B-RS
KINO-690AM2	CF-AM2-RS
KINO-761AM2	CF-AM2-RS

**Table 2: Compatible SBC and Cooling Kit**

#### POWER SUPPLY SPECIFICATIONS

The EBC-3100 embedded chassis is shipped with a power supply. The specifications for each option are listed below.


Specifications	ACE-A627A-RS					
Input Type	90~264 VAC Full Range					
	+3.3 V	+5 V	+12 V	+12 V 2	-12 V	+5 Vsb
Output Voltage	16 A (0.5 A min)	18 A (0.5 A min)	16 A (1 A min)	10 A (1 A min)	0.8 A (0 A min)	2.5 A (0 A min)
Efficiency	80%					
Temperature	Operating : 0°C ~ 50°C Storage : -20°C ~ 80°C					
MTBF(hrs)	100,000 hrs					
Output Connector	20-pin ATX, 4-pin 12 V, FDD and 3 x HDD					
Dimensions	150 x 81.5 x 40.5 (mm)					
<b>Table 3: ACE-A627A-RS Specifications</b>						

Specifications	ACE-A618A-RS				
Input Type	90~264 VAC Full Range				
	+3.3 V	+5 V	+12 V	-12 V	+5 Vsb
Output Voltage	14 A (0.3 A min)	16 A (0.3 A min)	14 A (1.5 A min)	0.5 A (0 A min)	2.0 A (0 A min)
Efficiency	68%				
Temperature	Operating : 0°C ~ 50°C Storage : -20°C ~ 80°C				
MTBF(hrs)	100,000 hrs				
Output Connector	20-pin ATX, 4-pin 12 V, FDD and 3 x HDD				
Dimensions	150 x 81.5 x 40.5 (mm)				
<b>Table 4: ACE-A618A-RS Specifications</b>					

## PACKING LIST

- EBC-3100-R10/ACE-A627A or EBC-3100-R10/ACE-A618A
- Quick Installation Guide
- Power cord
- SATA cable for slim type ODD
- Screw set
- Wall mount kit

## SCREW SET DETAILS

Part/Peripheral	Screw Type
? (4)	
HDD (6)	
ODD (4)	
SBC (4)	
HDD/ODD bracket (4)	
Wall mount bracket (6)	
<b>Table 5: Screw Set Details</b>	

# DIMENSION DRAWING

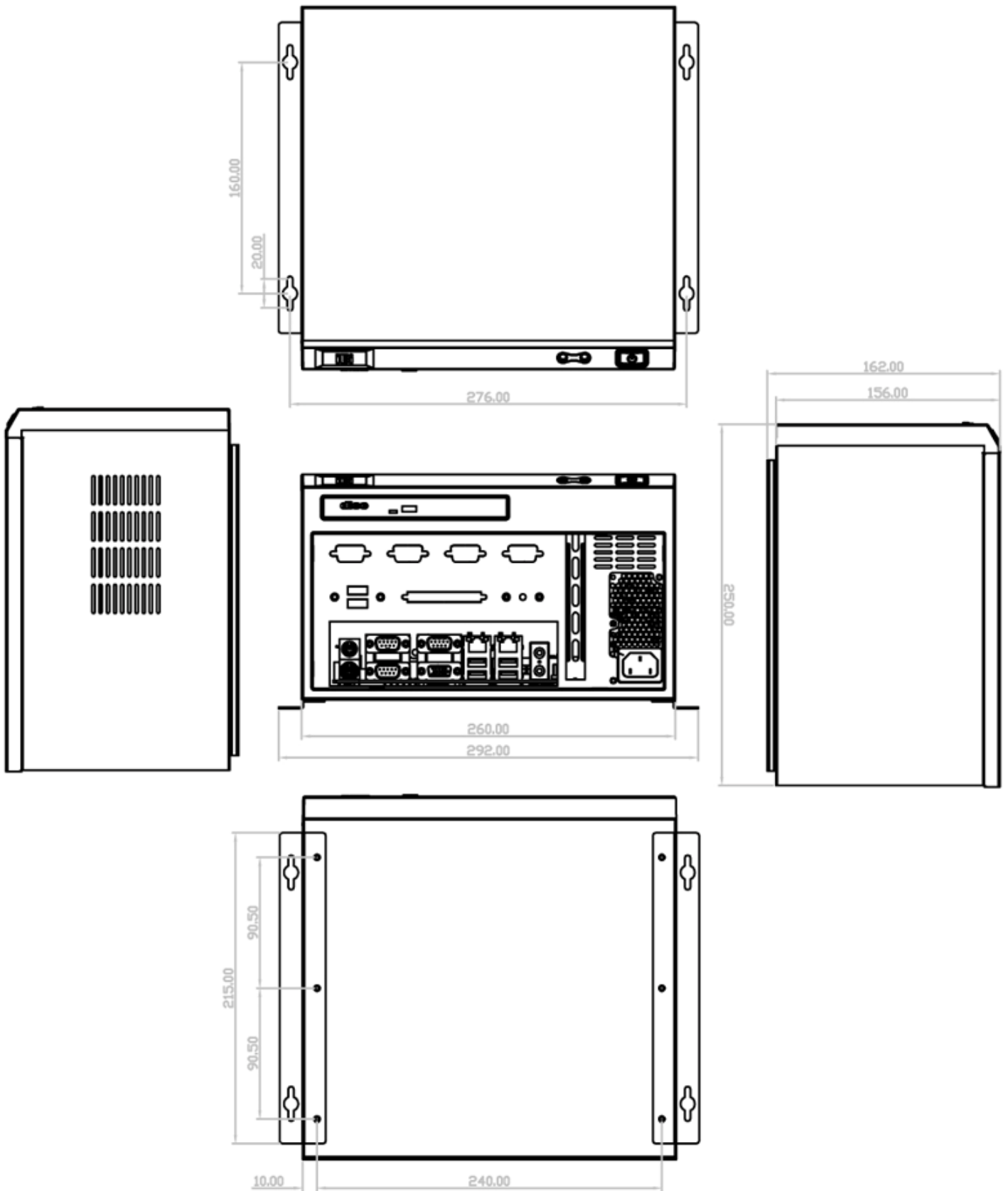


Figure 2: Dimension Drawing (measurement in millimeters)

## INSTALLATION STEPS

To install the EBC-3100 chassis, the following installation steps must be completed:

1. Remove Chassis Cover
2. Install I/O Bracket
3. Install SBC
4. Install HDD
5. Install ODD
6. Front Panel Connections
7. Reinstall Chassis Cover
8. Wall Mounting (optional)

The installation steps outlined above are described in detail below. Please refer to the relevant section.

## UNPACK

The RACK-4000B is shipped in a plastic bag that is placed inside a cardboard box. The accessories are also shipped with the chassis. When unpacking the chassis:

- Make sure all the accessories and components mentioned in the PACKING LIST section are present.
- Make sure the chassis has not been damaged in any way

## REMOVE CHASSIS COVER AND HDD BRACKET

- Step 1:** Remove the chassis cover retention screw on the rear panel (**Figure 3**).

Chassis cover retention screws



Figure 3: Chassis Cover Retention Screws

- Step 2:** Push the cover back to separate it from the chassis until the cover case can be lifted from the chassis
- Step 3:** Remove HDD bracket. The bracket is attached to the chassis by four retention screws (**Figure 4**). Remove the retention screws.

HDD/ODD bracket retention screws



Figure 4: HDD/ODD Bracket Retention Screws

## INSTALL I/O BRACKET

Note: I/O brackets differ in appearance depending on the SBC model to be installed in the EBC-3000.

- Step 1:** Snap the I/O bracket into place from the inside of the chassis.



Figure 5: I/O Bracket Installation

## INSTALL SINGLE BOARD COMPUTER (SBC)

To install a Single Board Computer (SBC) with cooling kit into the chassis, please follow these steps:

- Step 1:** Mount the SBC on the four metal posts on the bottom of the chassis. Make sure the SBC I/O interface panel is aligned with the I/O bracket.



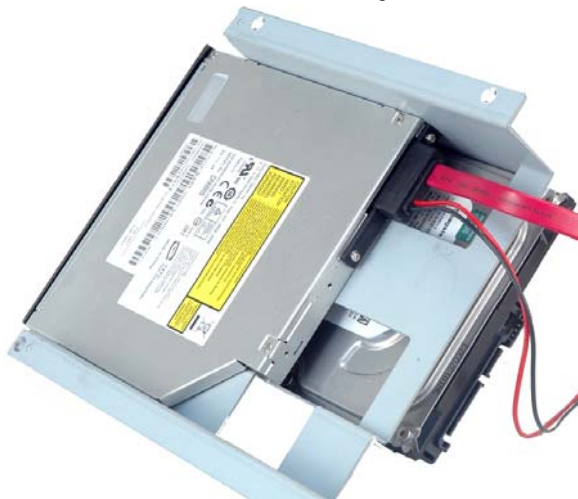
**Figure 6: SBC Retention Screws**

- Step 2:** Align the retention screw holes on the SBC with the metal post retention screw holes.
- Step 3:** Insert the four retention screws to secure the SBC to the chassis.
- Step 4:** Connect the power supply to the SBC according to the SBC user manual.

## INSTALL HDD

To install a 3.5" SATA HDD, please follow the steps below.

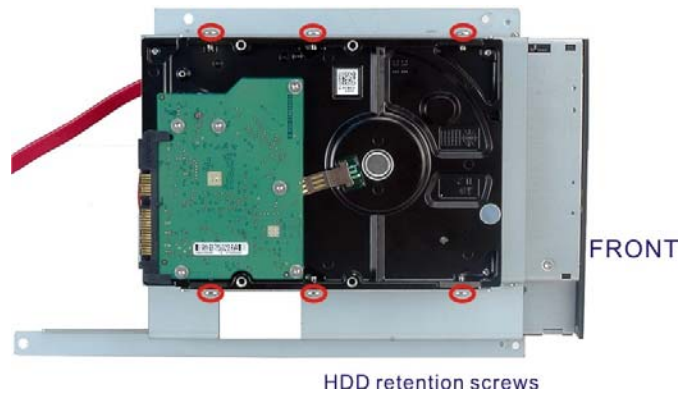
- Step 1:** Attach the HDD to the HDD bracket. To do this, slide the HDD into the HDD bracket with the SATA cable and power connects at the rear of the bracket as shown in the figure below.



**Figure 7: HDD Bracket (Top)**

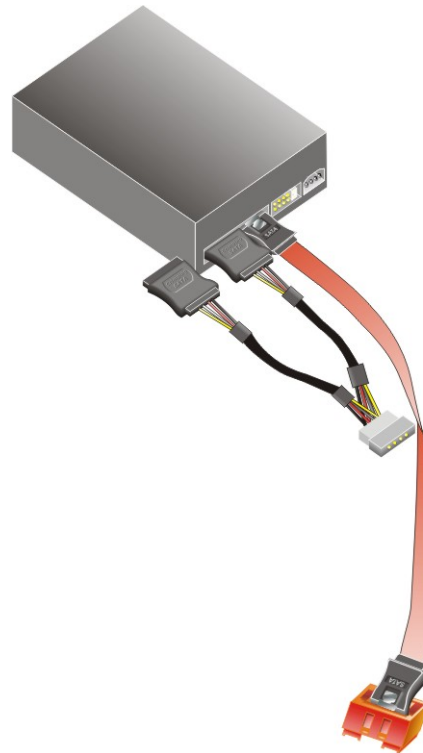
- Step 2:** Attach the HDD to the HDD bracket. Align the retention screw holes in the sides of the bracket with the retention screw holes on the HDD. Insert

the retention screws into the bracket to secure the HDD as seen below.



**Figure 8: HDD Retention Screws (Bottom)**

- Step 3:** Attach SATA and power cable to HDD and SBC as shown below.



**Figure 9: SATA Cables**

- Step 4:** Install the bracket with HDD into the chassis by aligning the bracket retention screw holes in the top of the HDD bracket with the retention screw holes on the chassis. Insert the four previously removed retention screws into the top of the HDD bracket as shown in the figure below.



Figure 10: HDD/ODD Bracket Retention Screws

## INSTALL ODD

To install an ODD, please follow the steps below.

- Step 1:** Attach the new ODD to the ODD bracket. Align the four retention screw holes in both sides of ODD with the retention screw holes on the side of the ODD bracket. Insert the four retention screws into the bracket on both sides of the ODD (Figure 11).

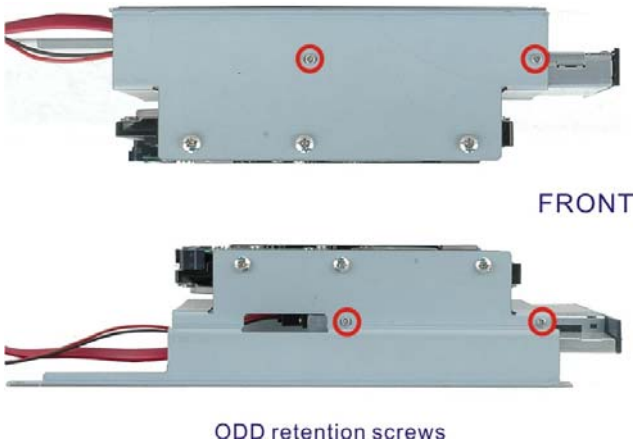


Figure 11: ODD Retention Screws

- Step 2:** Attach the SATA cable to the ODD by aligning the two retention screw holes in the SATA cable with the retention screw holes on the rear of the ODD. Insert two retention screws into the SATA cable (Figure 12).

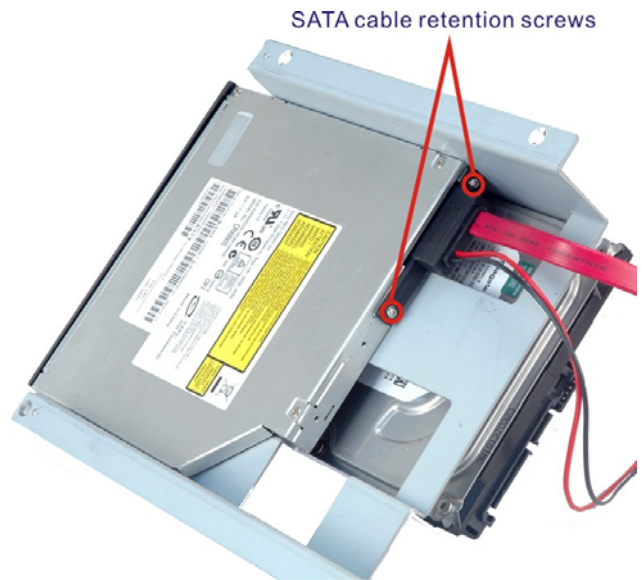


Figure 12: SATA Cable Retention Screws

- Step 3:** Reinstall the ODD bracket into the EBC-3100 by aligning the retention screw holes in the top of the ODD bracket with the retention screw holes on the chassis. Reinsert the four previously removed retention screws into the ODD bracket
- Step 4:** Reconnect the SATA and power cable connectors from the rear of ODD to the motherboard.

## FRONT PANEL CABLE CONNECTIONS

The following buttons and LEDs are on the front panel of the EBC-3000 chassis.

- 1 x Power LED
- 1 x HDD LED
- 1 x Power switch
- 1 x Reset button

These components are all connected to the SBC with cables. To correctly connect these cables, please refer to the technical documentation that came with your SBC. The connectors that are provided with the chassis are listed below.



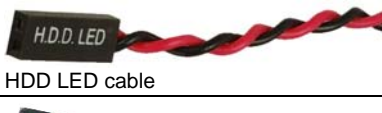

No.	Name
1	 Power LED cable
1	 Reset Switch cable
1	 HDD LED cable
1	 Power switch cable

Table 6: Chassis Connectors

## REINSTALL CHASSIS COVER

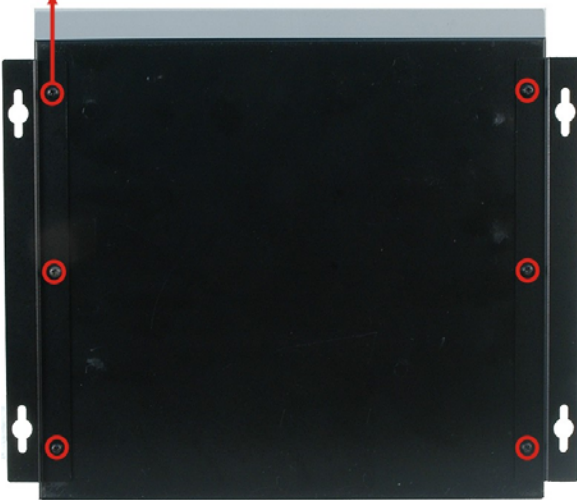
- Step 1:** Replace chassis cover.
- Step 2:** Reinsert the two retention screws.

## WALL MOUNTING (OPTIONAL)

To mount the embedded system onto a wall using the wall mount bracket kit, please follow the steps below.

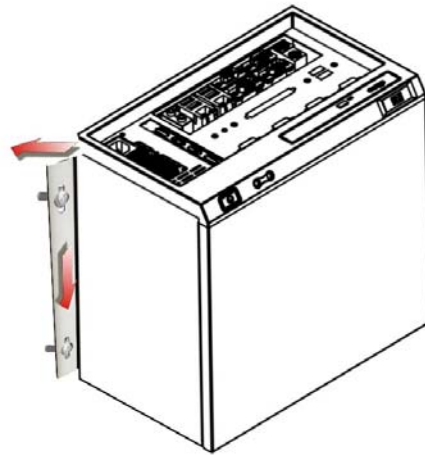
- Step 1:** Attach the wall mounting brackets to the chassis with the four bracket retention screws as shown in the figure below.

Mounting bracket retention screws



**Figure 13: Wall-mounting Bracket and Retention Screw Locations**

- Step 2:** Select the location on the wall for wall mounting screws.
- Step 3:** Carefully mark the locations of the four bracket screw holes on the wall.
- Step 4:** Drill four pilot holes at the marked locations on the wall for the wall mounting screws.
- Step 5:** Insert the four wall mounting screws into the pilot holes in the wall.
- Step 6:** Align the holes on the bracket with the wall mounting screws in the wall. See figure below.
- Step 7:** Insert the screws through the holes and gently pull the chassis downwards until it rests securely in the slotted holes. Ensure that all four of the mounting screws fit snugly into their respective slotted holes.
- Step 8:** Tighten the wall mounting screws to secure system to the wall.



**Figure 14: Wall-mounting the EBC-3000**

## EBC-3100 MAINTANENCE

The following EBC-3100 components may be replaced if they fail:

- Power Supply Replacement
- System Fan Replacement

## POWER SUPPLY REPLACEMENT

A power supply is installed in the chassis. To replace the power supply, please follow the instructions below.

- Step 1:** Disconnect the power supply connector cable from the SBC.
- Step 2:** Remove the three power supply retention screws on the front panel of the chassis as indicated below.



**Figure 15: Power Supply Retention Screws**

- Step 3:** Remove the power supply bracket retention screws that secure the power supply to the bottom of the chassis as shown below.
- Step 4:** Remove the power supply from the chassis and remove the screws securing the bracket to the power supply.

Power supply bracket retention screws

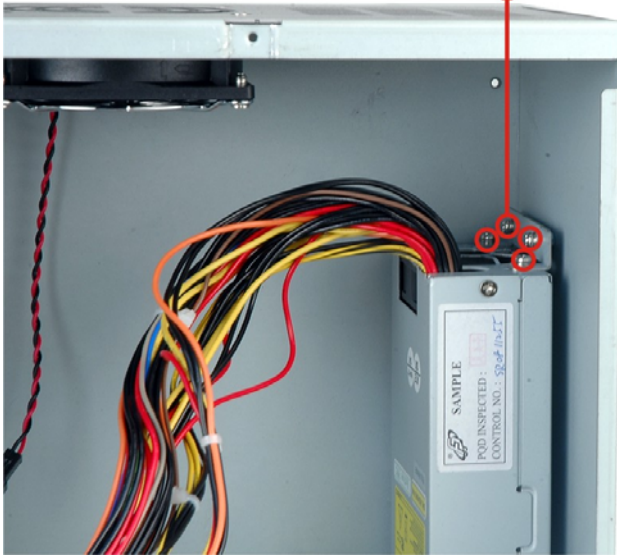


Figure 16: Power Supply Bracket Retention Screws

- Step 5:** Replace the power supply.
- Step 6:** Secure the power supply bracket to the power supply and then secure the power supply bracket to the chassis as shown in **Figure 16**.
- Step 7:** Secure the power supply to the front panel of the chassis with the three screws as indicated in **Figure 15**.
- Step 8:** Connect the power supply to the SBC according to the SBC user manual.

## SYSTEM FAN REPLACEMENT

To replace the system fan please follow the steps below.



**NOTE:**

Please ensure that the power of the computer is switched off before fan replacement procedure.

- Step 1:** Remove the chassis cover.
- Step 2:** Disconnect the system fan cable from the SBC.
- Step 3:** Remove the system fan from the chassis by removing the four retention screws on the back panel (**Figure 17**).



System fan retention screws

Figure 17: System Fan Retention Screws

**Step 4:** Install the new system fan with the four previously removed retention screws.

**Step 5:** Reconnect the system fan cable connector.