EC-1040 CHASSIS
USER'S MANUAL

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Chapter 1 Product Information

1.1 General Information

EC-1040 is a PC/AT compatible computer designed for industrial applications. It is a steel rugged chassis specially designed to work under harsh environment for high reliability application. The EC-1040 features 14-slots passive backplanes and high reliability AC/DC input power supply (options available are: ACE-920A, ACE-932A, ACE932T, ACE925T, ACE925C, ACE-916V, ACE-935A, ACE-832A, ACE-R30A…

EC-1040 will withstand shock, vibration, dust and wide range of temperature in industrial environments. A lockable door protects drives and switches from unauthorized misuse and particle. Two removable cooling-fans installed in the front panel for optimum cooling system.

1.2 Product Specifications

General specification

- Construction : Heavy-duty steel
- Disk Driver : Three 5.25" drive and one 3.5" drive open space.
- Cooling Fan : Two ball bearing fans (8cm)
- Indicators : Three LEDs display for temp, LAN and fan alarm activities.
- Dimension : 19" rackmount, 4U height, 431(W) X 177(H) X 480(D) mm

Passive Backplanes (Optional)

Features 14 slots full-length backplanes with the options: PCI-14S, PCI-14S2, PCI-14S3, BP-14S, PX-14S, PX-14S2, PX-14S3, PX-14S5IP-14S and IP-14S3…

Power Supply

PS/2 type of AT/ATX power supply for EC-1040 are ACE-920A/ 932T/ 935A/ 925C/

916V/ 832A. For DC input power supply, you may choose: ACE-932T, ACE-925T, ACE-925C or ACE-916V. ACE-R30A redundant power supply is optional.

Working Environment

- Operating Temperature	:	0~50° C environment
- Relative Humidity	:	5~95% Relative
- Vibration	:	5-17Hz, 0.1" double amplitude displacement
		17-640Hz, 1.5G acceleration peak to peak
- Shock	:	10G-acceleration peak to peak
- Safety approval	:	meet CE, FCC

Cooling Fan

Two removable ball bearing cooling fan (8cmX8cm)

Drive Capacity

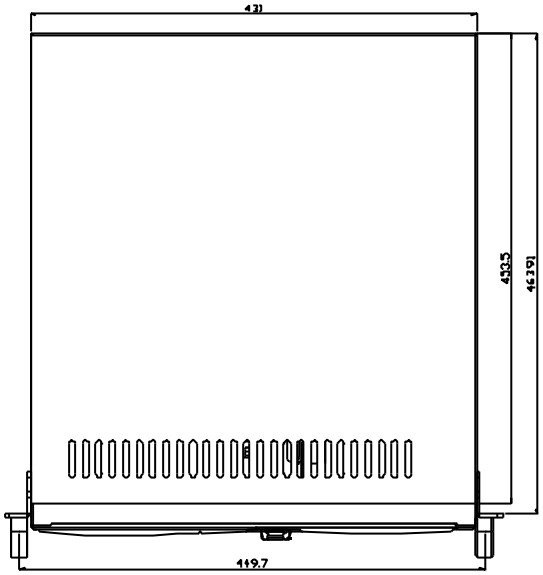
Three 5.25" drive and one 3.5" open FDD or HDD space.

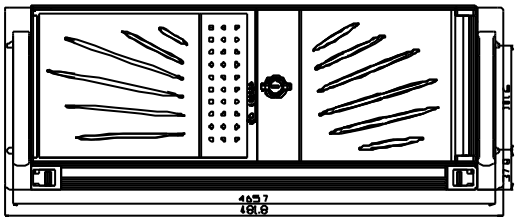
Programmable Message and Alarm Function

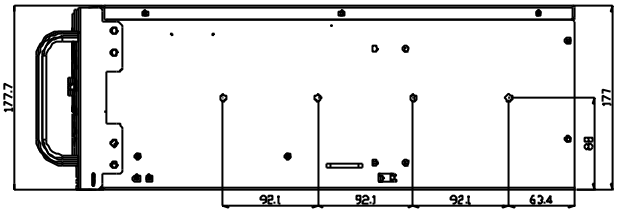
EC-1040 provides customer a programmable display for server name, IP address, system time, alarm message,…etc. We can use the utility tool to program message by RS-232 port. The detail please references the section 2-7 cable management for system internal connection. The floppy disk (A106 Utility) provides the setting programming information.

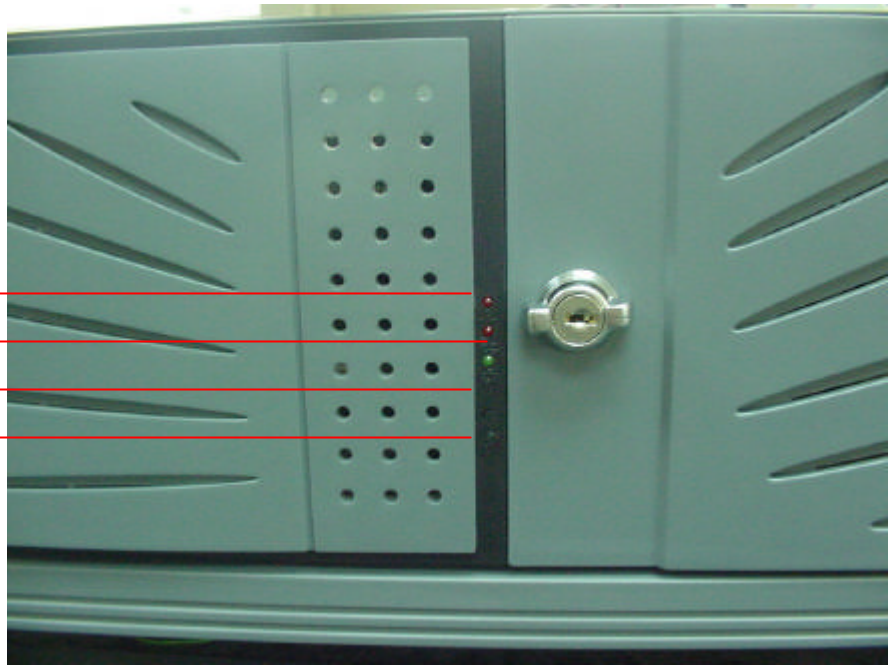
The alarm function support system monitoring that four fan speed monitoring, two Temp. monitoring, alarm buzzer, alarm message and customer message transfer to LCD module.

1.3 Dimensions







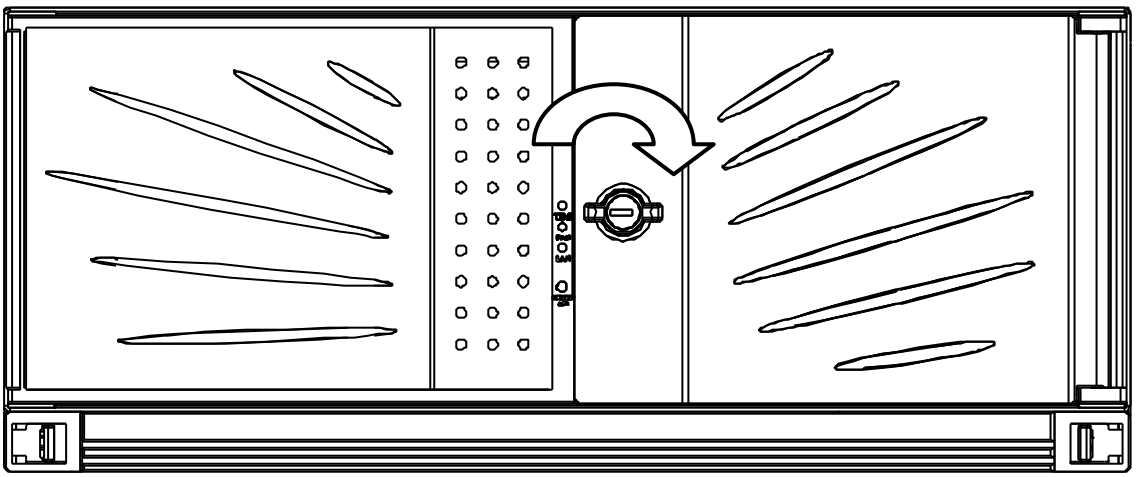


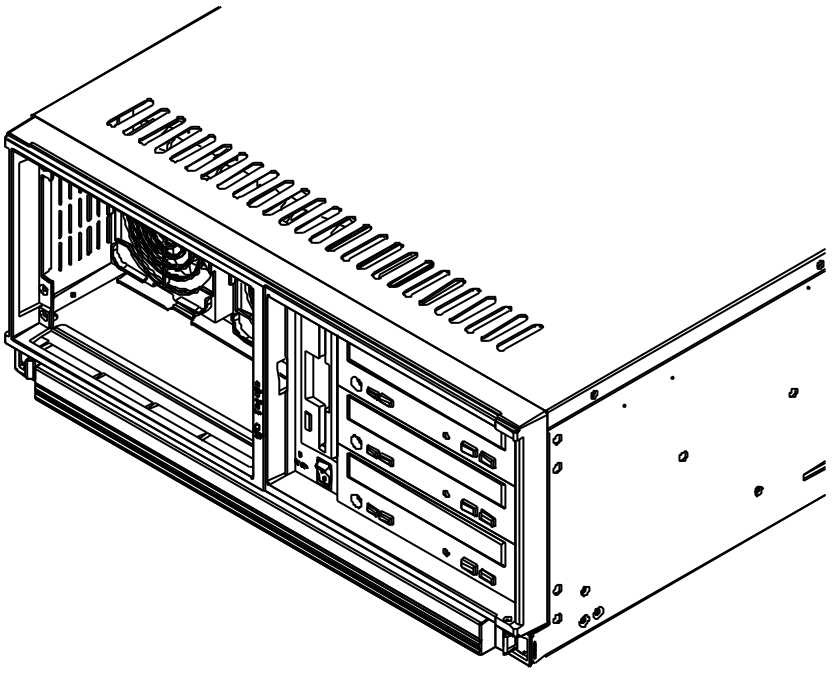
Chapter 2 Installation Procedure

The following procedures are provided to assist you in installing the EC-1040, please follow the steps below:

2.1 Drive of the Lockable Door

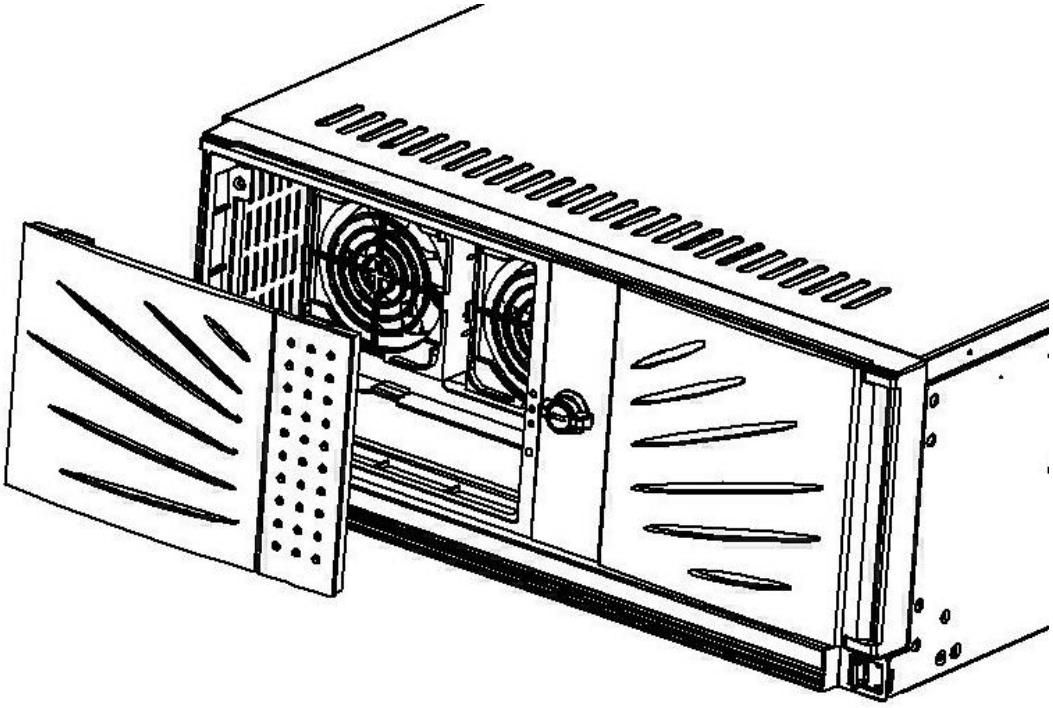
A lockable door installed in the front panel .The Drive is located at the inner of the door. It should be check at least once a month to achieve optimum performance.

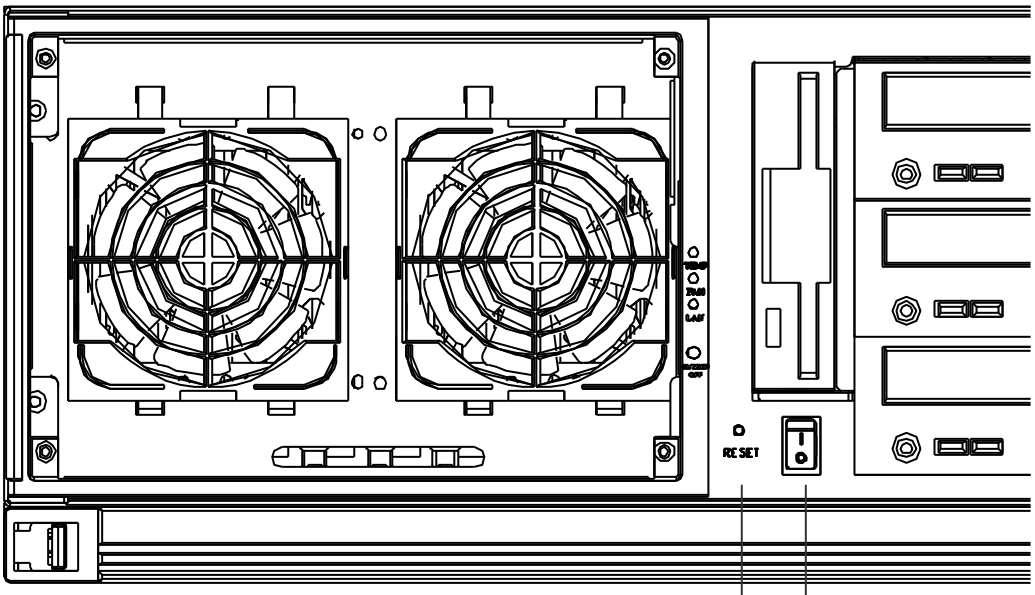




2.2 The Front Panel of EC-1040

The drive bays, fans and power switch are in the front panel. Drive bays and power switch are protected by lockable door for unauthorized misuse and particle environment.

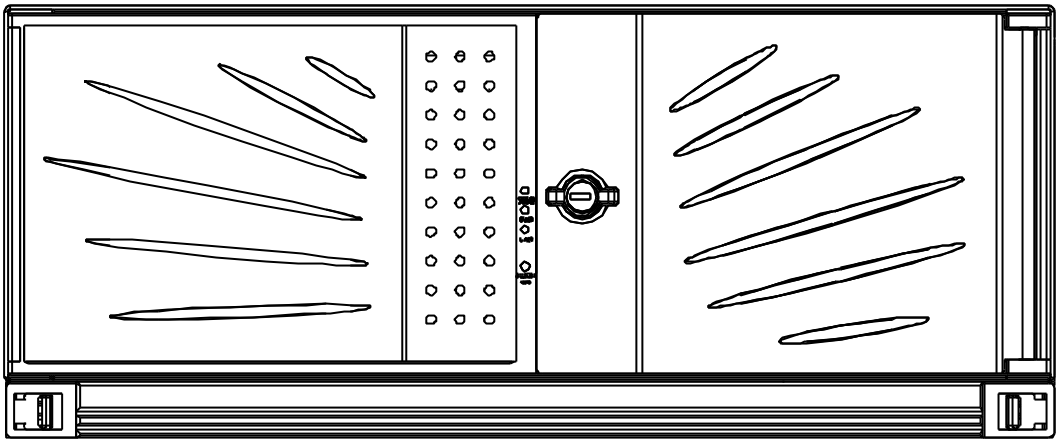




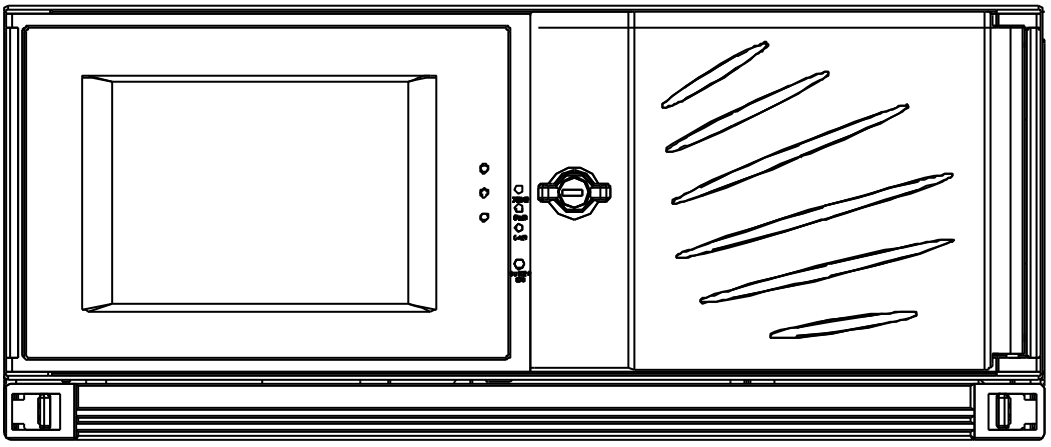
SYSTEM RESET

POWER ON/OFF SWITCH

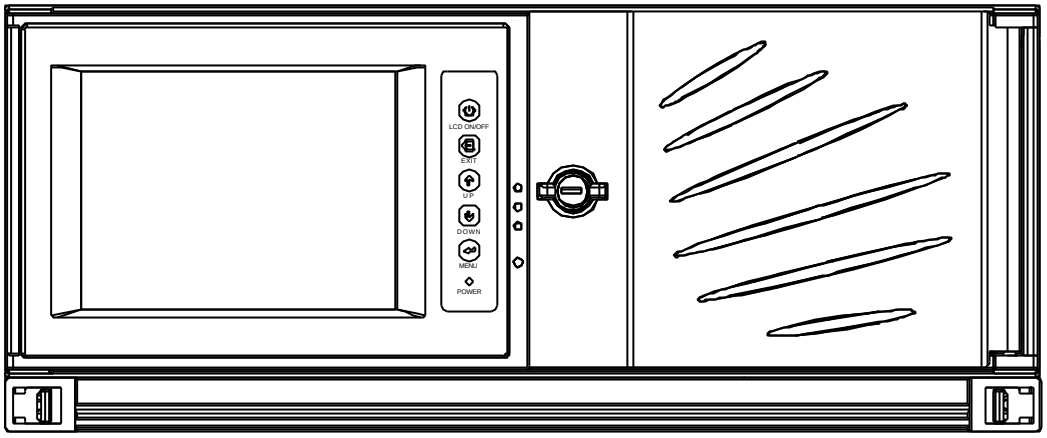
EC-1040

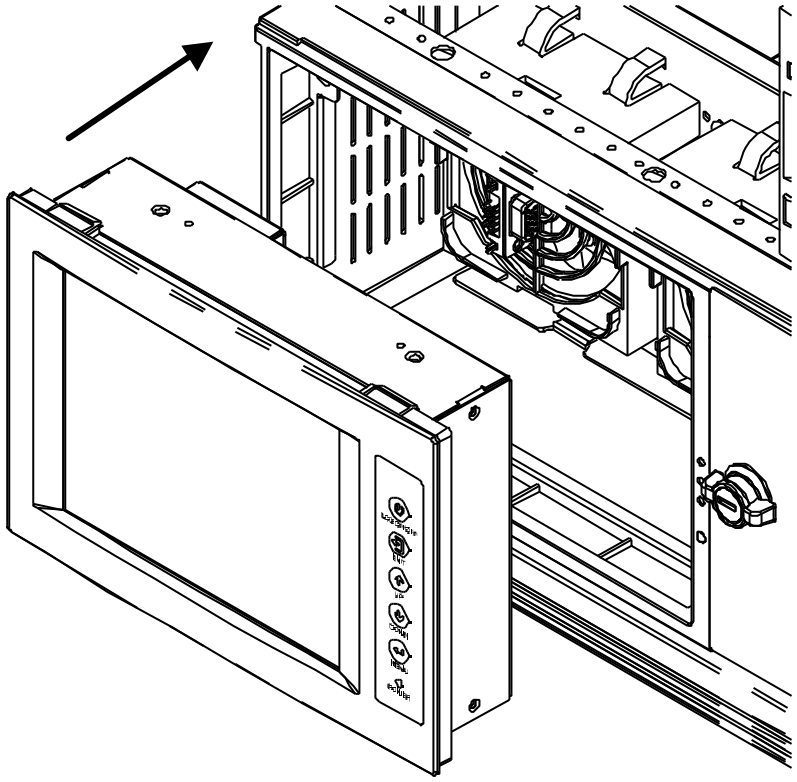


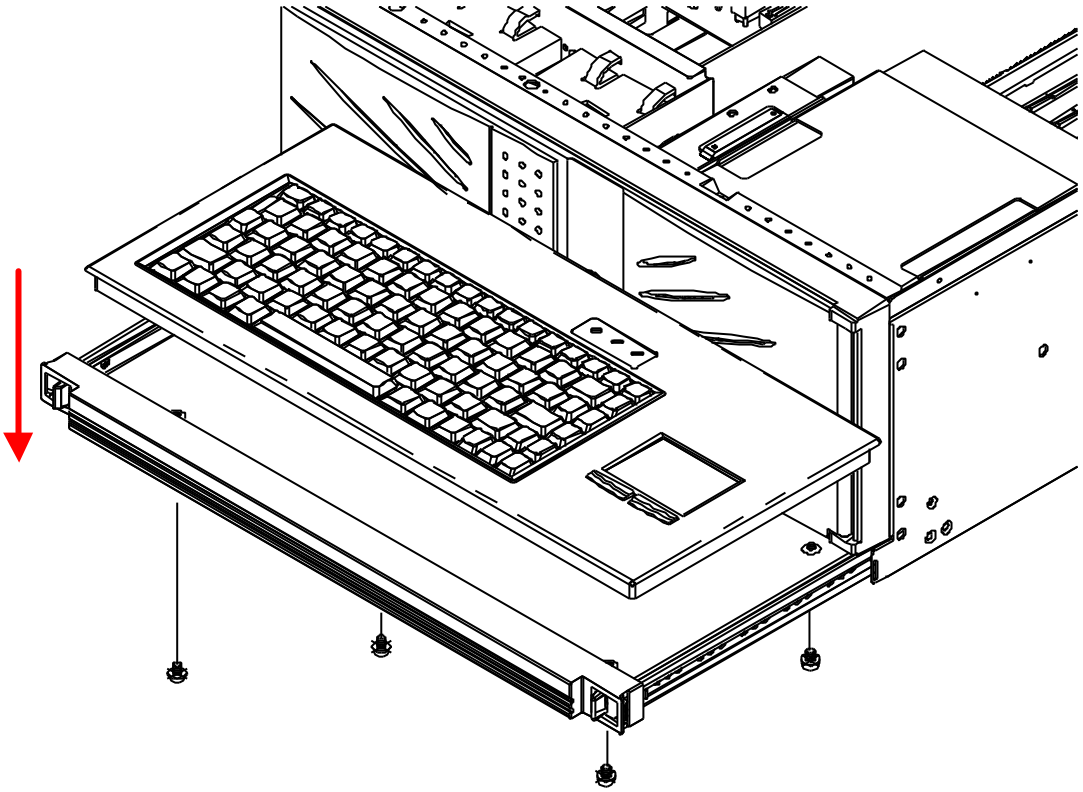
EC-1040&DM-62M

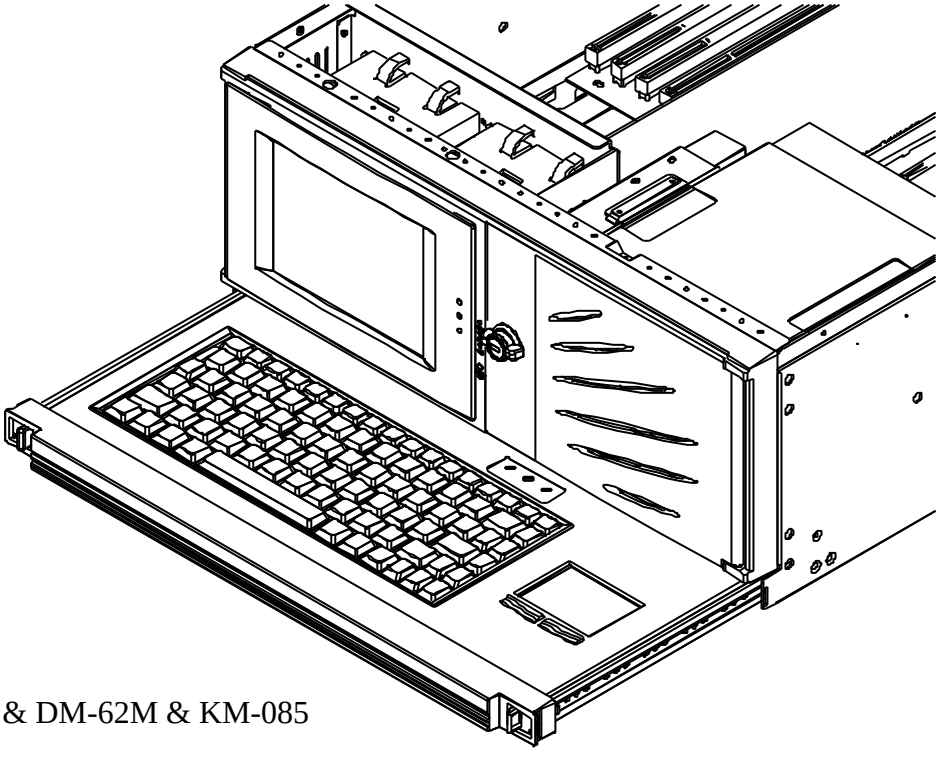


EC-1040&DM-64T





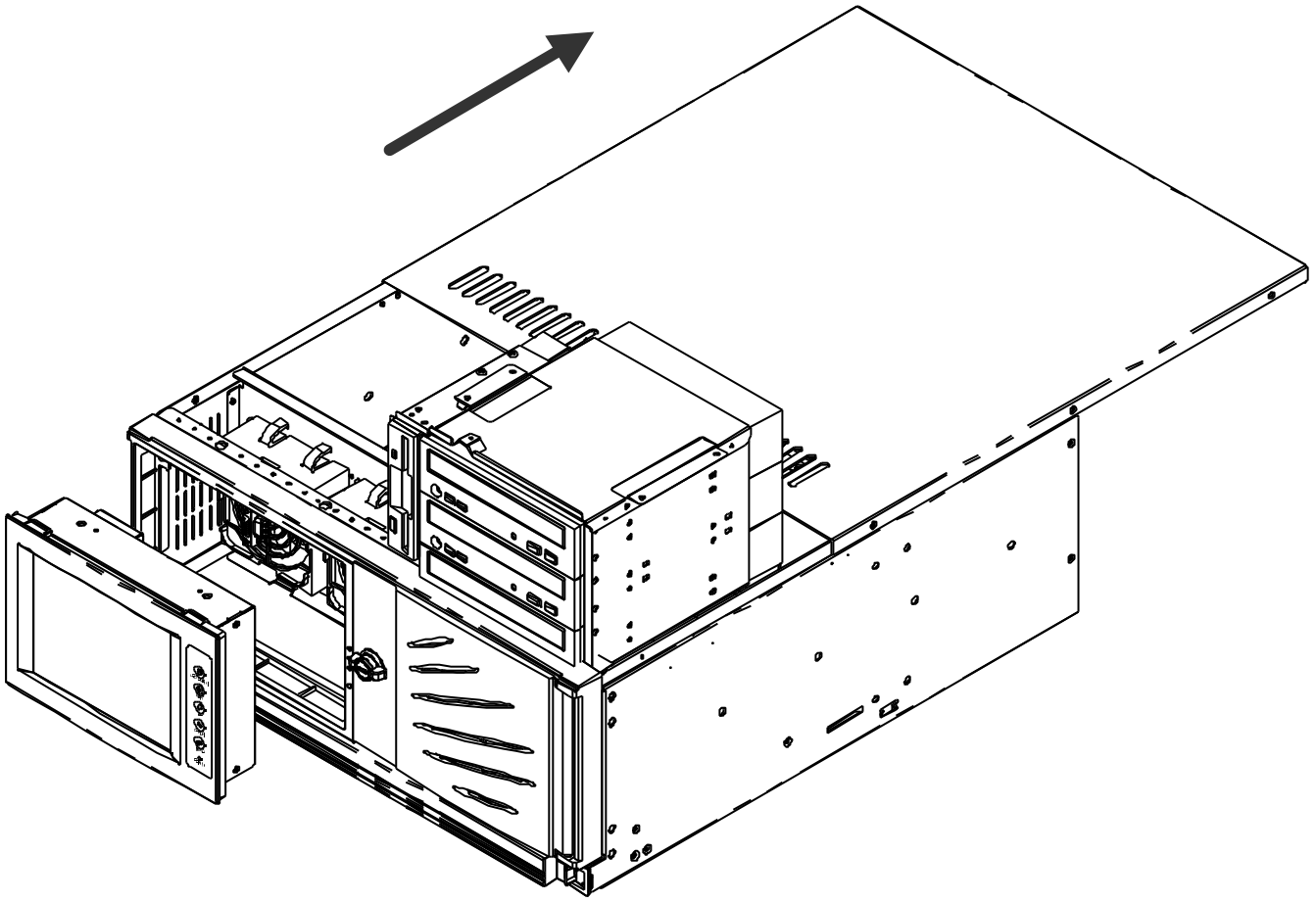




EC-1040 & KM-085

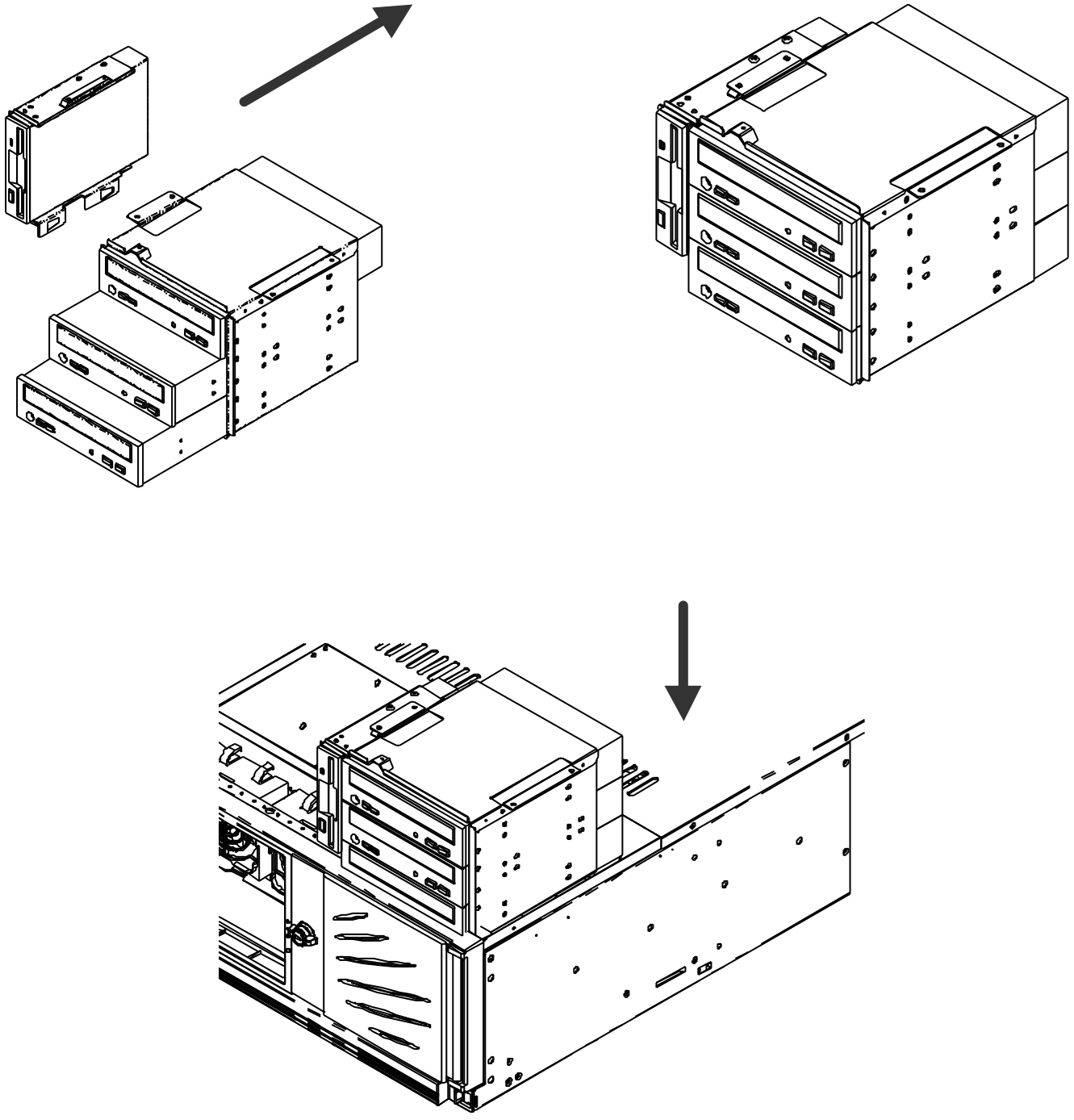
2.3 Removing the chassis cover

The top cover is fixed by 6 screws at each side and the top of the chassis, remove them and slide the cover to the rear of the chassis. Figure below shows how to remove the chassis cover.



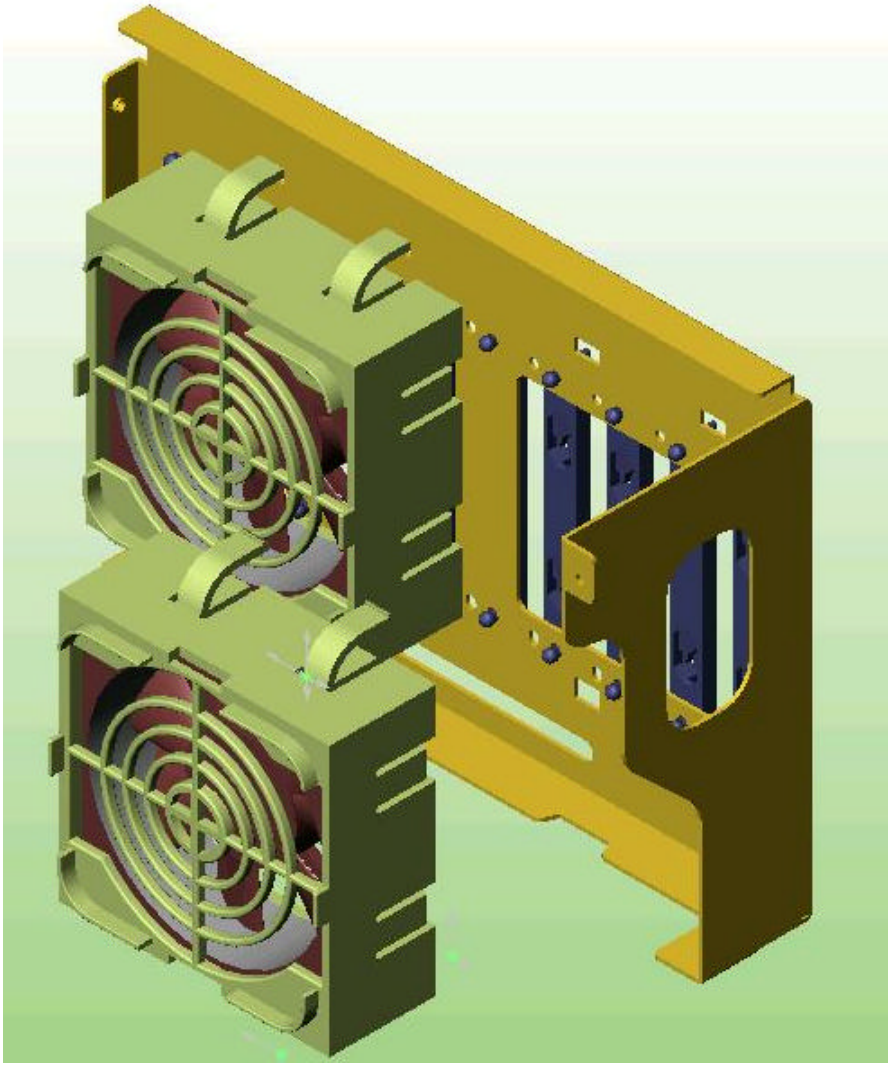
2.4 Disk Drives installation

1. Open the lockable door in the front panel
2. Remove 2 screws that lock the disk drive bay
3. Pull out the disk drive bay
4. Attach the drivers to the bracket with screws and connect flat cable & power cable to the driver
5. Plug in the drive bay and lock it by screws.



2.5 Fan Installation

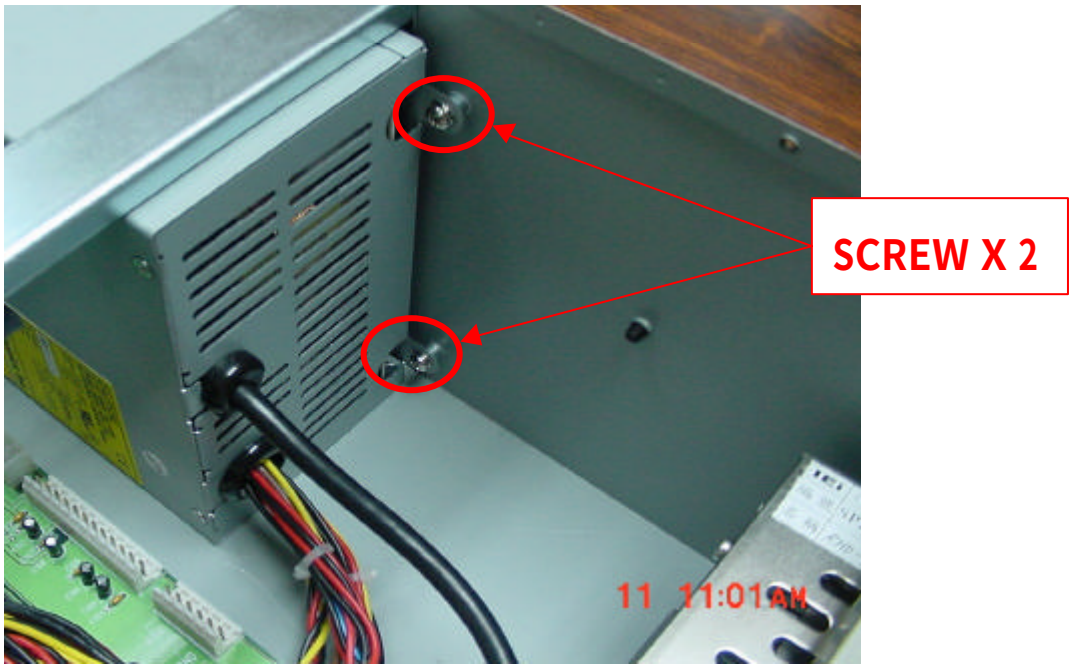
The EC-1040 is easy to install the fan module in the chassis. It's not need any screw. Plug in the plastic locker; connect the fan cable with the A106 controller board.

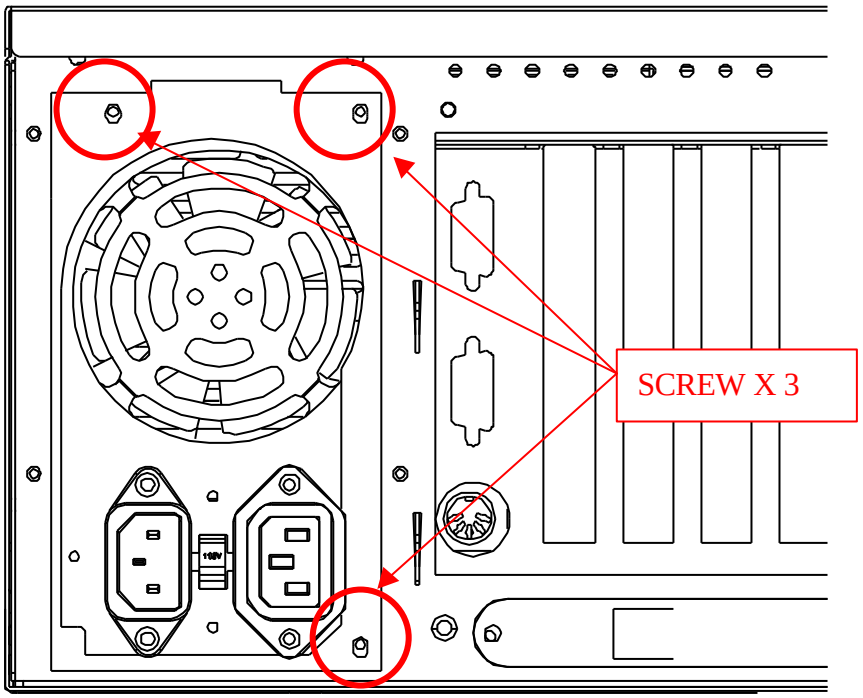


2.6 Power Supply Installation

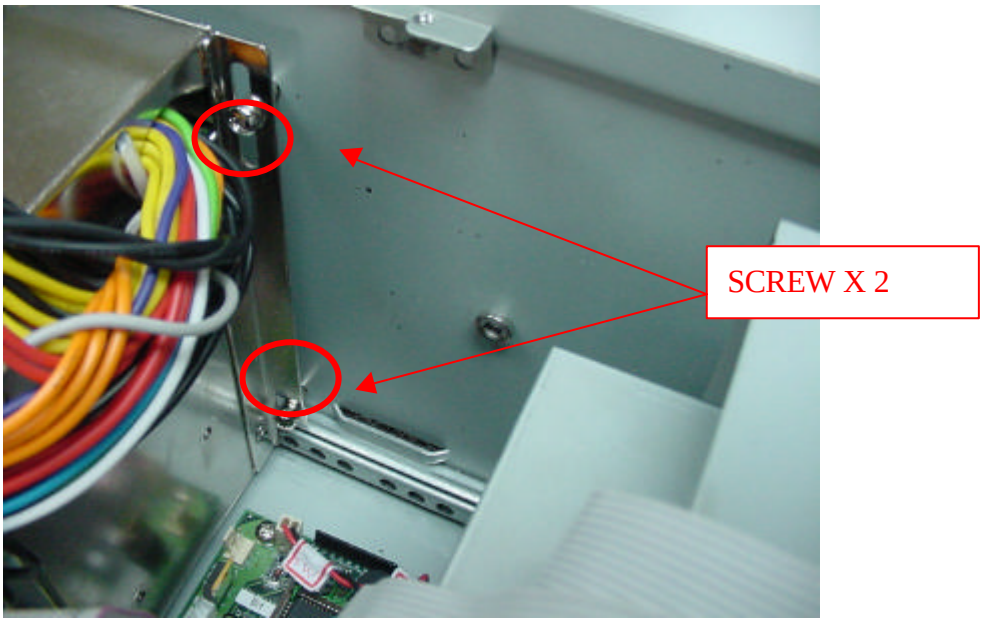
2.6.1 General Power Supply

For the EC-1040 installation: ACE-920A/ 932A/ 932T/ 935A /925T/ 925C/ 916V/ 32A…





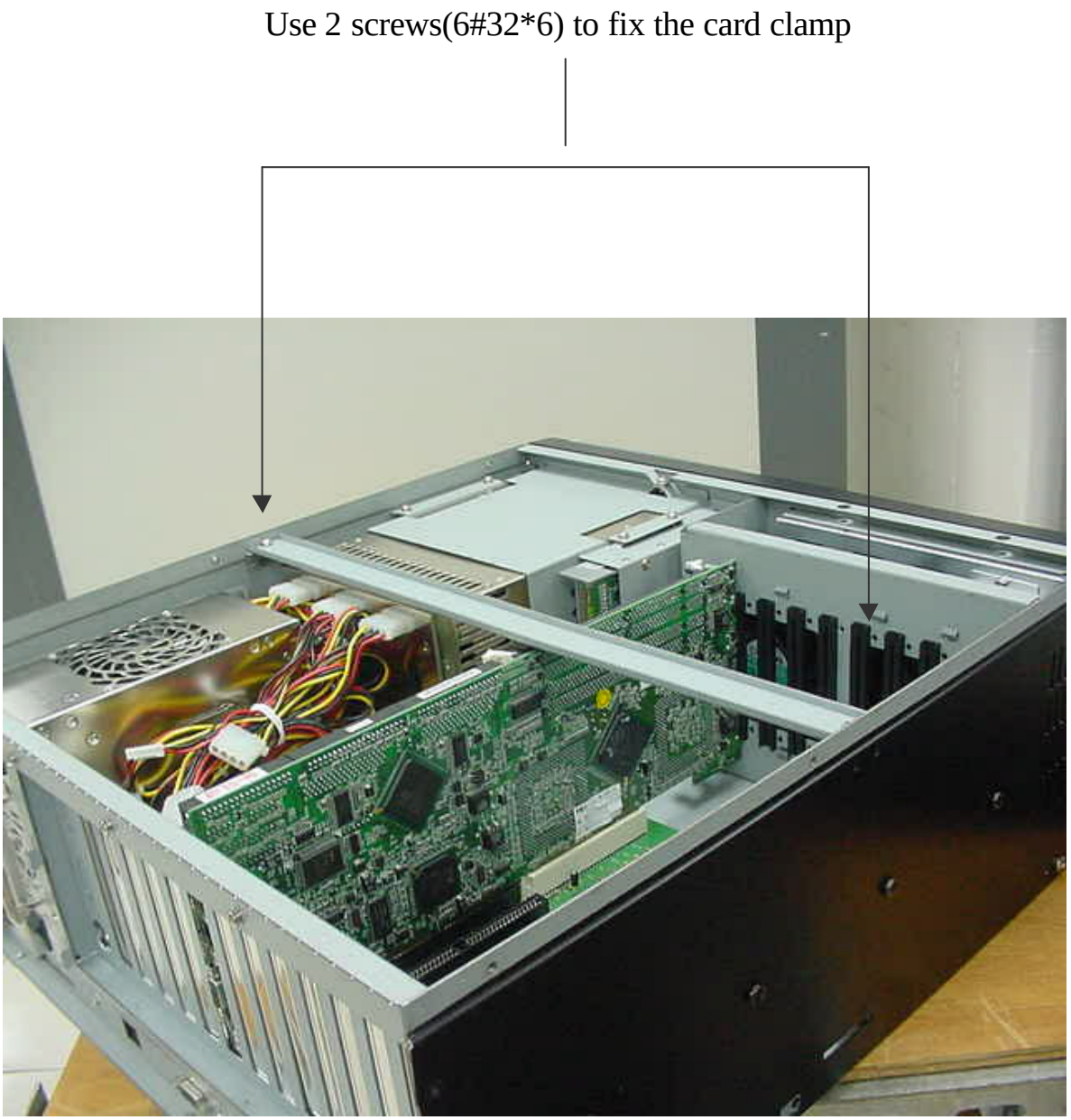
2.6.2 **Redundant Power Supply** for the EC-1040 installation: ACE-R30A



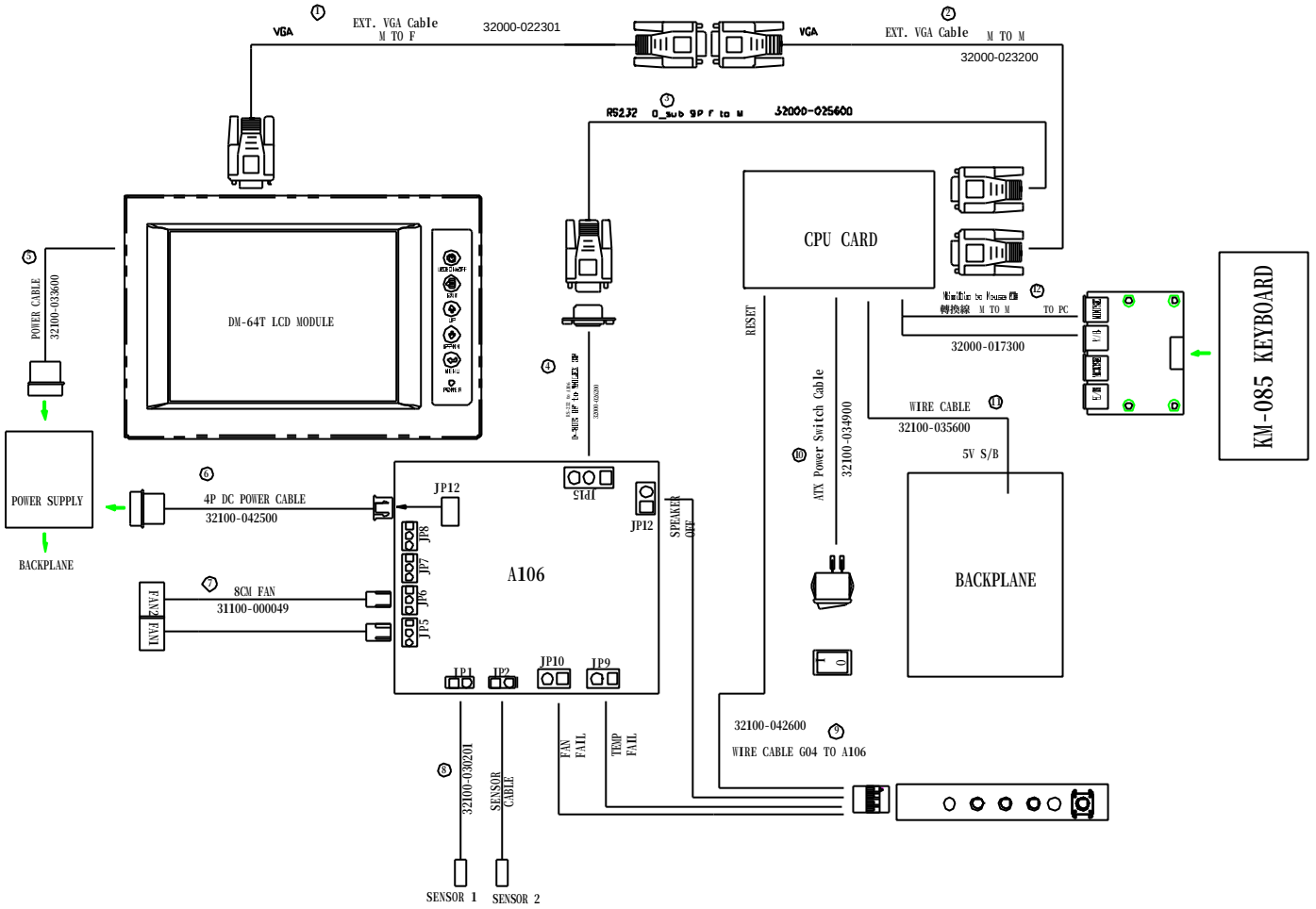
2.7 The Card Clamp & Backplane Installation

Figure below illustrates how to install the backplanes on the Rack-3000.

To install the backplanes in the chassis, remove the clamp panel first, then put the backplanes inside the chassis and screw it.

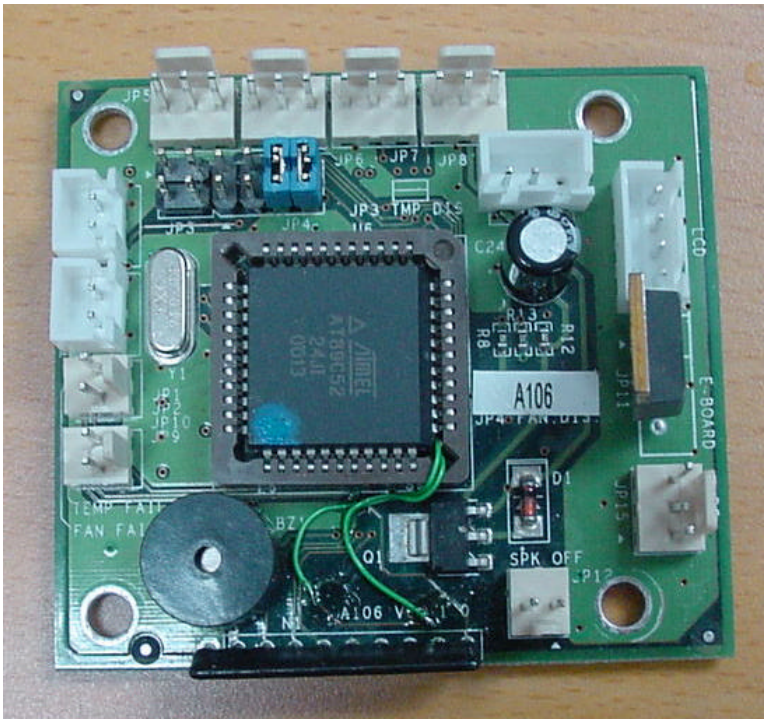


Cable Management

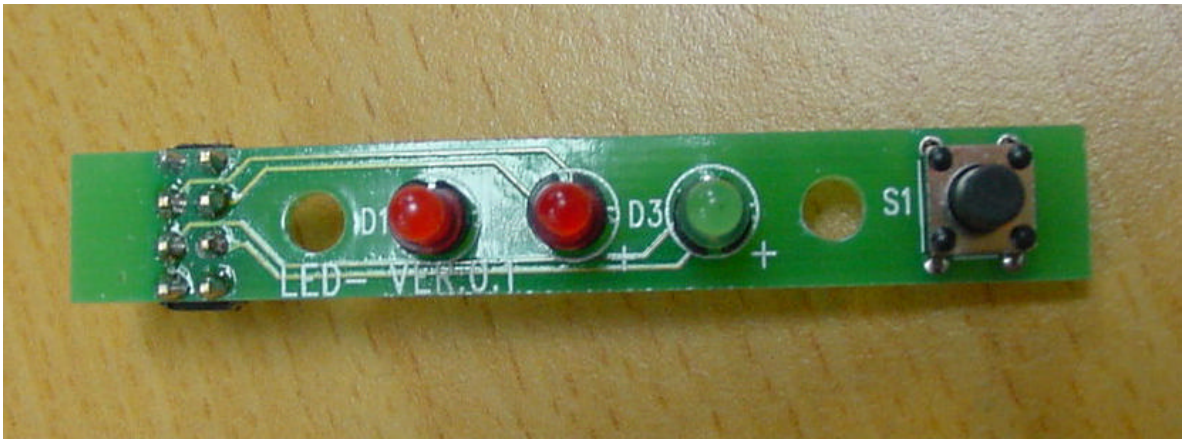


ITEM	PART NO	SPECIFICATTION	Q'TY
1	32000-022301	EXT VGA CABLE M TO F	1
2	32000-023200	EXT VGA CABLE M TO M	1
3	32000-025600	RS232 D_SUB 9P F TO M	1
4	32000-026200	RS232 D_SUB 9P	1
5	32100-033600	POWER CABLE	1
6	32100-042500	4P DC POWER CABLE	1
7	31100-000049	8CM FAN	2
8	32100-030201	SENSOR CABLE	2
9	32100-042600	WIRE CABLE	1
10	32100-034900	ATX POWER SWITCH	1
11	32100-035600	WTRE CABLE	1
12	32000-017300	MINDIN TO MOUSE K/B	1

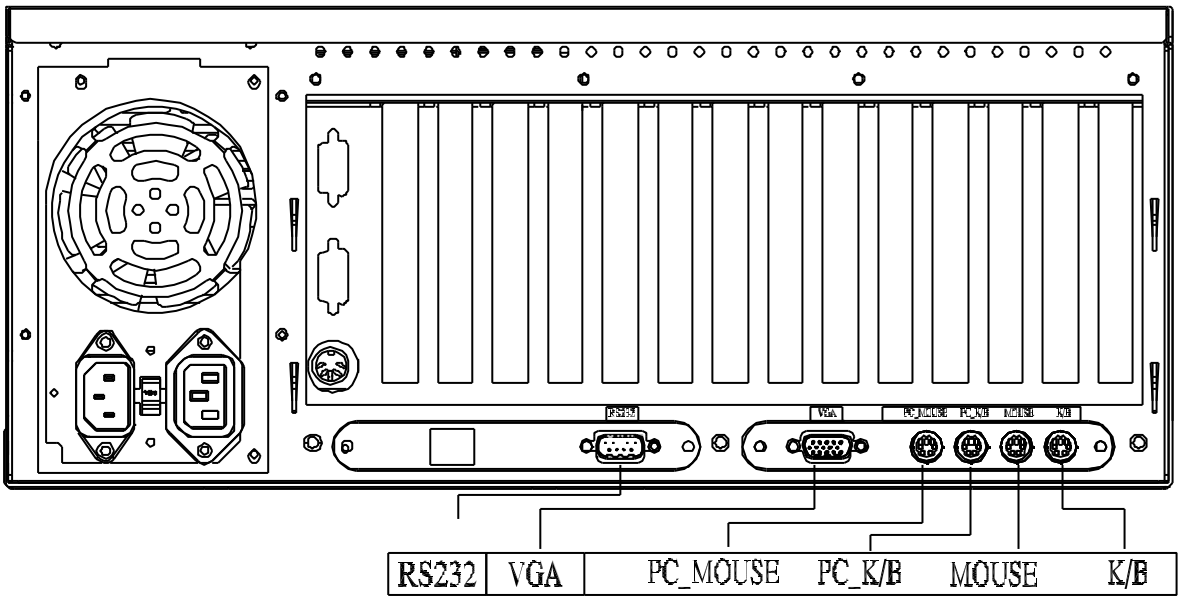
A106 & G04 Controller



A106 Alarm board

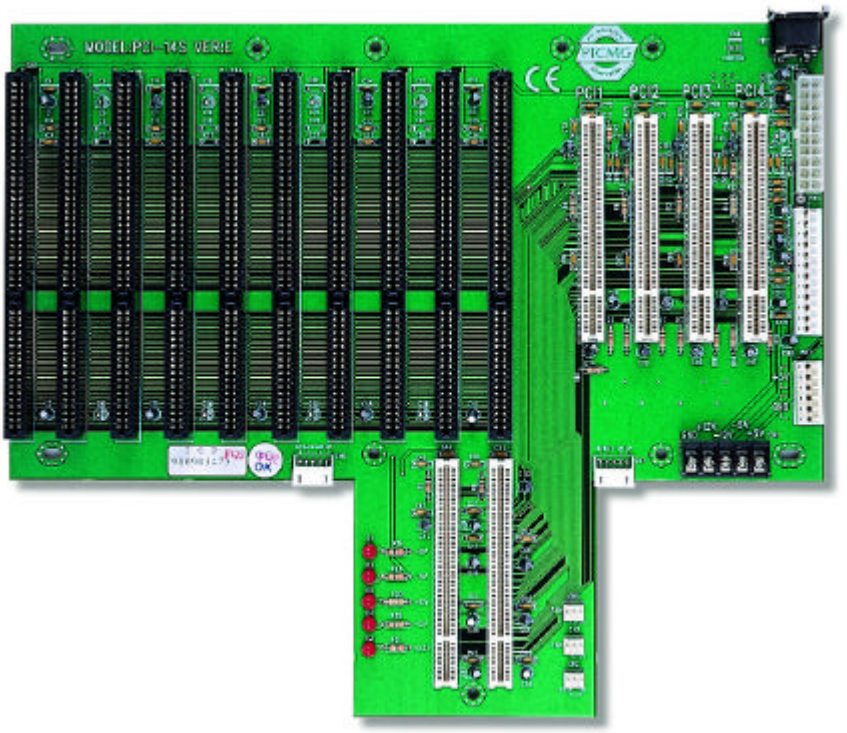


G04 LED board

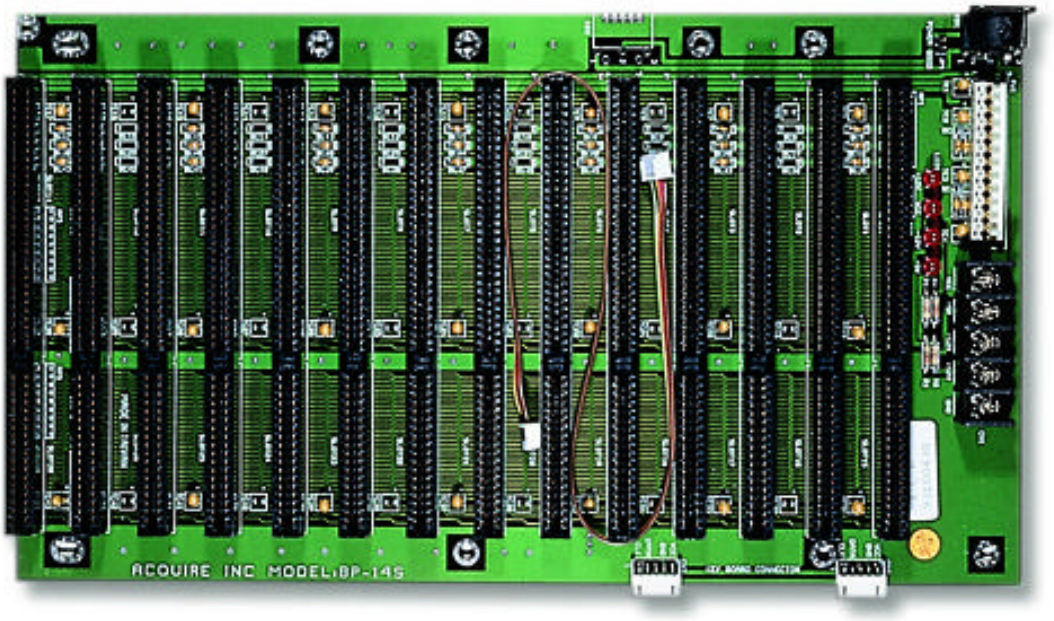

RS232
VGA
PC_MOUSE
PC_K/B
MOUSE
K/B

APPENDIX A PASSIVE BACKPLANES

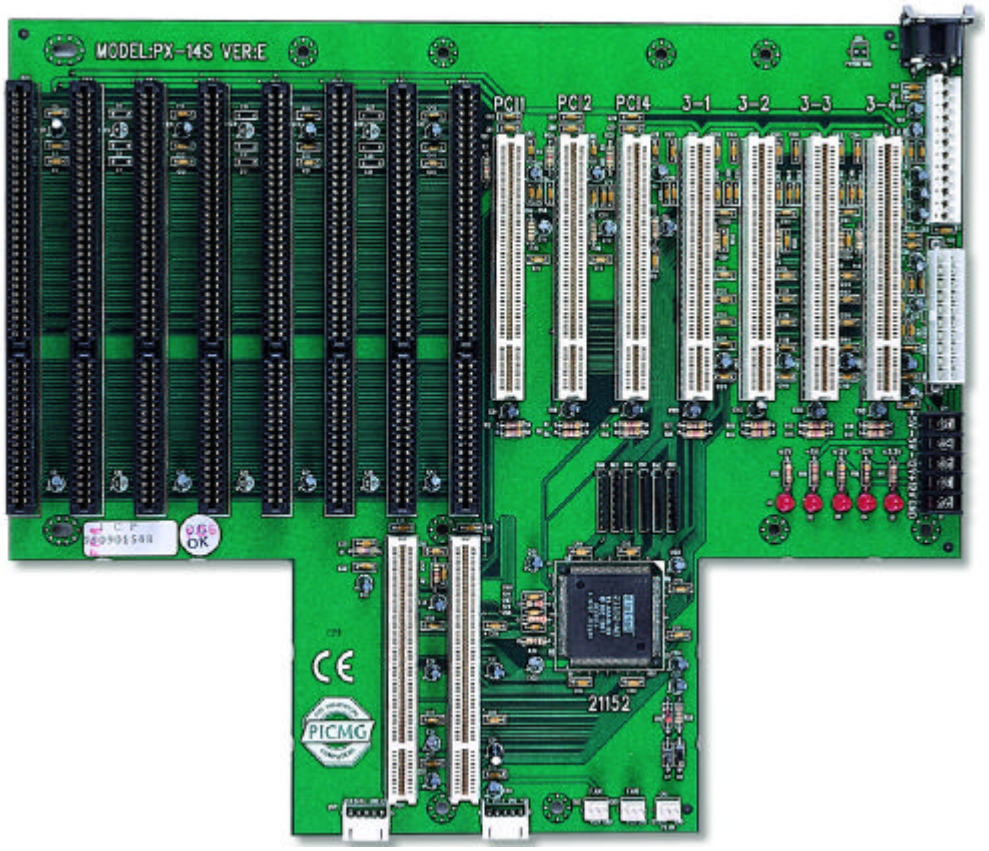
Model	ISA	PCI	PICMG	PCISA	Remark
PCI-14S	8	4	2	0	
PCI-14S2	7	4	2	0	
PCI-14S3	8	4	2	0	
BP-14S	14	0	0	0	
PX-14S	6	7	2	0	ISA/PICMG option
PX-14S1	5	7	2	0	
PX-14S2	5	7	2	0	
PX-14S3	1	12	2	0	PCI/PICMG option
PX-14S5	5	7	2	0	
IP-14S	8	4	0	2	
IP-14S3	9	2	0	3	



PCI-14S Serial



BP-14S Serial



PX-14S Serial

APPENDIX B POWER SUPPLY

RACK-3000 was designed for PS/2 size power supply.

ACE-R30A

PS/2 POWER SUPPLY SERIAL

Model Name		ACE-920A	ACE-932T	ACE-932A	ACE-935A	ACE-832A
Description		250W PS/2 size AC input power supply (PFC)	300W -48V PS/2 size DC input power supply	300W PS/2 size AC input power supply	350W PS/2 size AC input power supply	300W PS/2 size ATX power supply
Input Range	**AC**	85~265VAC @47~63Hz	-	85~130VAC or 180~265VAC @47~63Hz Auto-switch	85~140VAC or 180~270VAC @47~63Hz	95~132VAC, 180~264VAC @47~63Hz Auto-range
	DC	-	-40~-70VDC	-	-	-
Output Voltages	**Rating (max.)**	200W	300W	300W	350W	300W
	+5V	20A	40A	33A	40A	30A
	+3.3V	-	-	-	-	28A
	+12V	4A	12A	8A	8A	15A
	-5V	0.5A	**0.5**	0.5A	0.3A	0.3A
	-12V	0.5A	3A	3A	0.7A	0.8A
	+5VSB	**-**	**-**	**-**	**-**	**2A**
MTBF (hours)		**216700**	**141000**	**124100**	**200050**	**100000**
Safety		UL/CSA/TUV	UL/CSA/TUV/CE	UL/CSA/TUV	UL/CSA/TUV	UL/CSA/TUV

Model Name		ACE-916V	ACE-925T	ACE-925C	ACE-R30A
Description		160W PS/2 size 12V DC input power supply	250W PS/2 size - 48V DC input power supply	250W PS/2 size 24V DC input power supply	300W PS/2 size ATX redundant power supply (include two ACE-R30A power module)
Input Range	**AC**	-	-	-	90~132V or 180~264VAC @47~63Hz Switch select
	DC	8.5~16VDC	-40~-65VDC	19~30VDC	-
Output Voltages	**Rating (max.)**	160W	250W	250W	300W
	+5V	25A	30A	30A	35A (2.5A min.)
	+3.3V	-	-	-	15A (0.5A min.)
	+12V	7A	12A	12A	15A (0.5A min.)
	-5V	0.5A	1A	1A	0.5A
	-12V	0.5A	2A	2A	0.8A
	+5VSB	**-**	**-**	**-**	**1.5A**
MTBF (hours)		**202500**	**198500**	**206000**	**50000**
Safety		UL/CSA/TUV/CE	UL/CSA/TUV/CE	UL/CSA/TUV/CE	UL/CSA/TUV

APPENDIX C Drive Bay

5.25" Drive Bay	3 open space
3.5" Drive Bay	2 open 1 Internal space