

RACK-2300 CHASSIS USER'S MANUAL

Ver. 1.0

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Chapter 1 Product Information

1.1 General Information

RACK-2300 IPC chassis is a rugged PC/AT compatible computer designed for the factory floor and other Industrial harsh environment. RACK-2300 features 2 slots Passive Backplanes and high reliability ACE-1010A series power supply.

The chassis can easily be installed on 19" Rack or Desktop with the supplied brackets.

1.2 Product Specifications

General specification

- Construction : Heavy-duty steel
- Disk Driver : One 5.25" Removable Disk Drive, one FDD Disk Driver and one 3.5" HDD
- Cooling Fan : Dual Ball bearing fans
- Indicator : Two LEDs to monitor the status of HDD and Power Supply
- Dimension : 550x 440 x 44 (W x D x H)
- I/O Port : One USB Port (Type A)

Passive Backplanes (Optional)

PCI-2SD2 – 2 slot ISA/PCI bus Backplane (VER:1.3)

Power Supply

Standard equipped power supply for the RACK-2300 is : ACE-1010A.

Working Environment

- Operating Temperature : 0~40°C
- 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

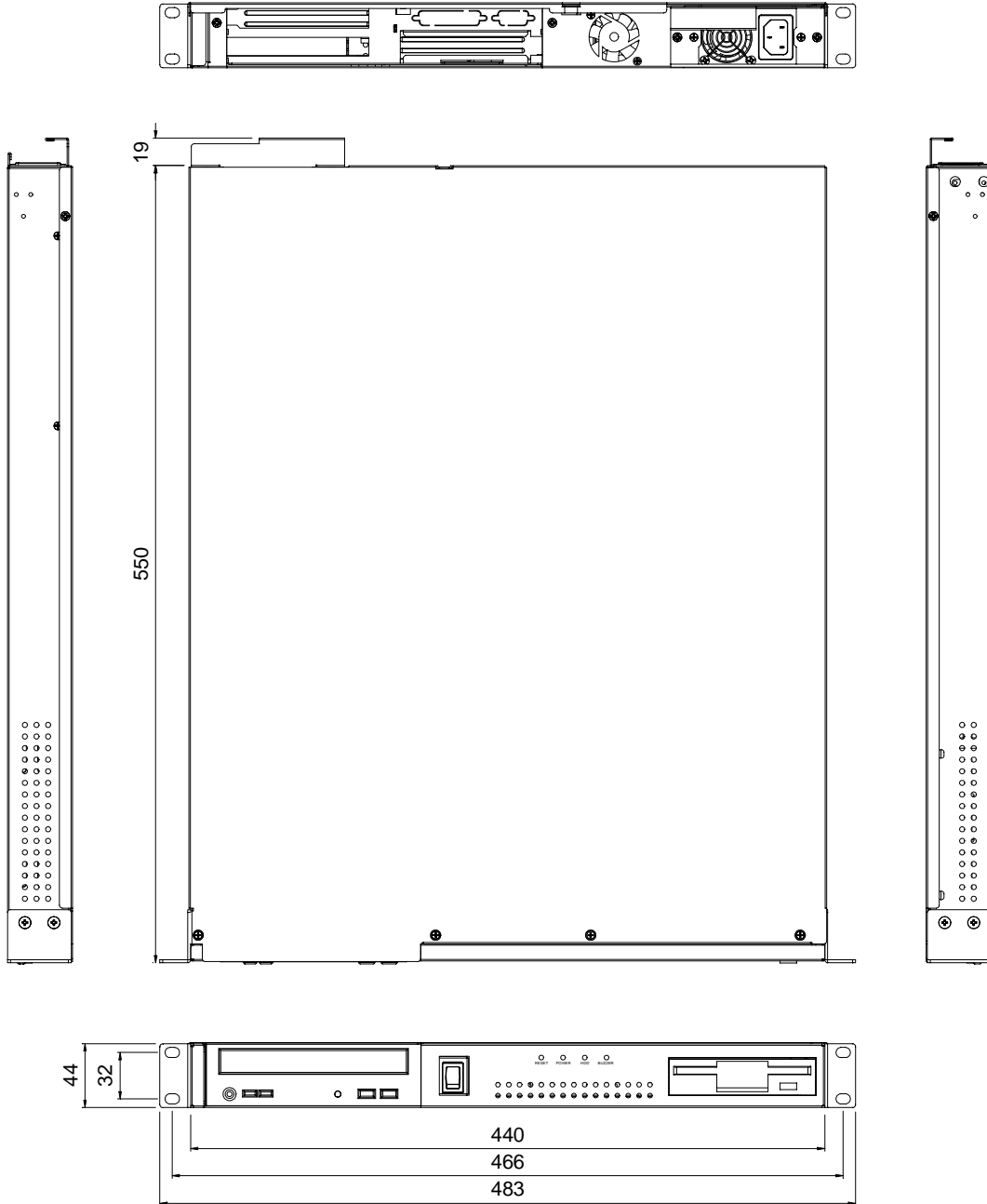
Cooling Fan

3 front ball bearing cooling fans.

Drive Capacity

One 5.25" removable disk driver, one 3.5" FDD and one 3.5" HDD

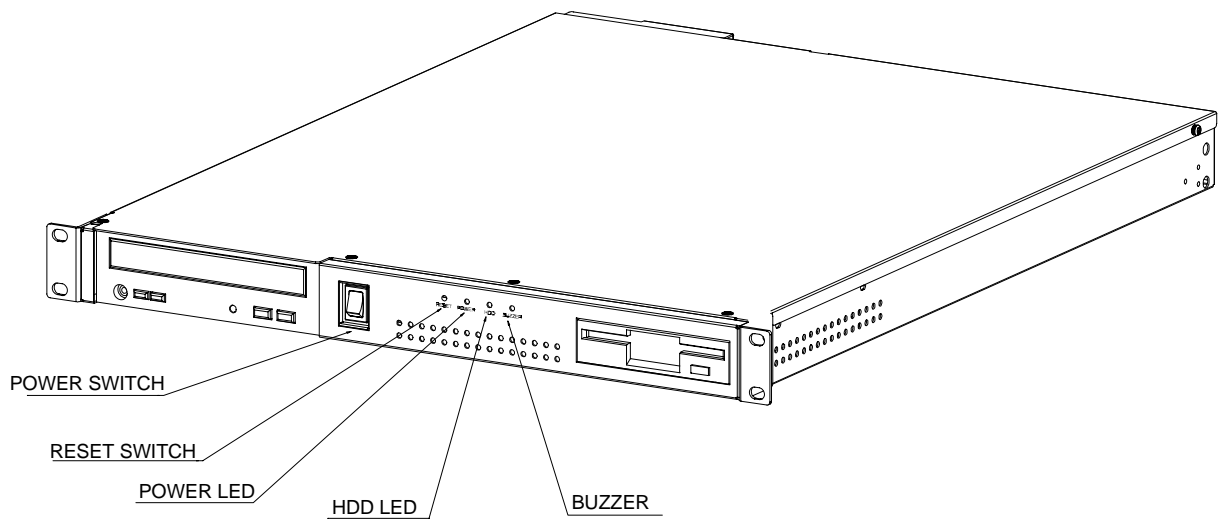
1.3 Dimensions



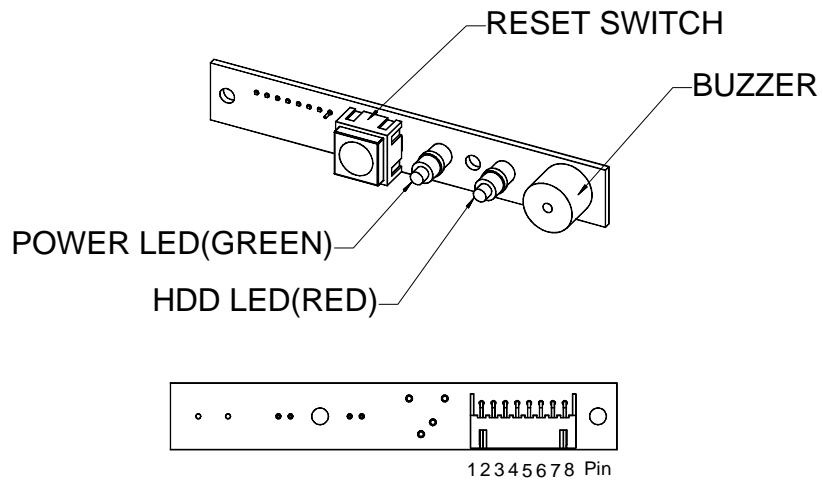
Chapter 2 Installation Procedure

The following set up procedures are provided to assist you in installing the system unit, please follow the steps below:

2.1 Front Panel of RACK-2300



2.2 LP-01 Control Panel of RACK-2300



LP-01 Panel

BZ1: BUZZER

D1: POWER LED

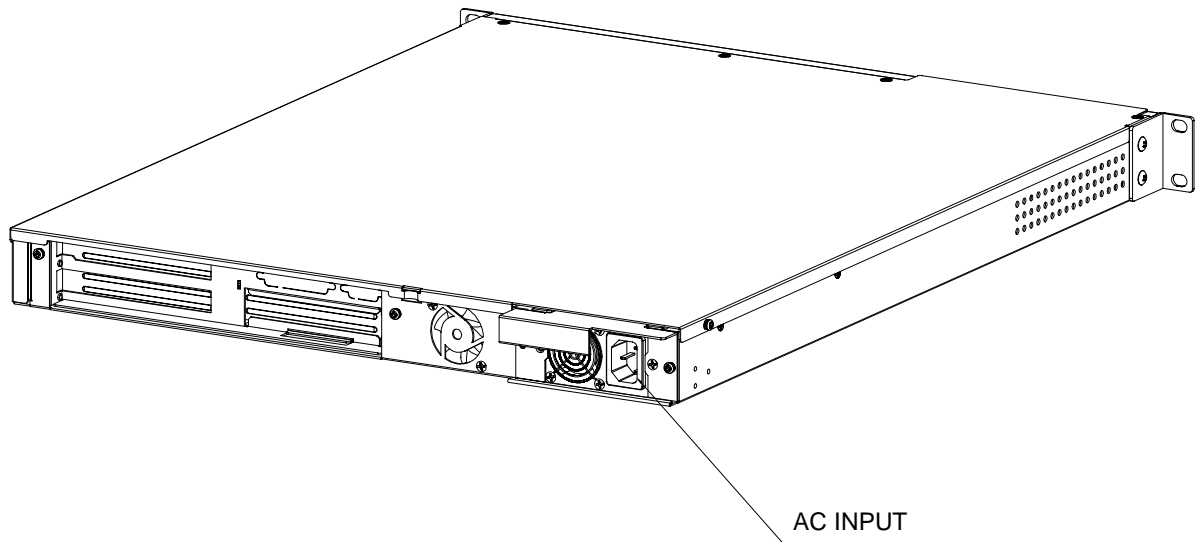
D2: System HDD LED

SW1: RST system reset button

CN1:

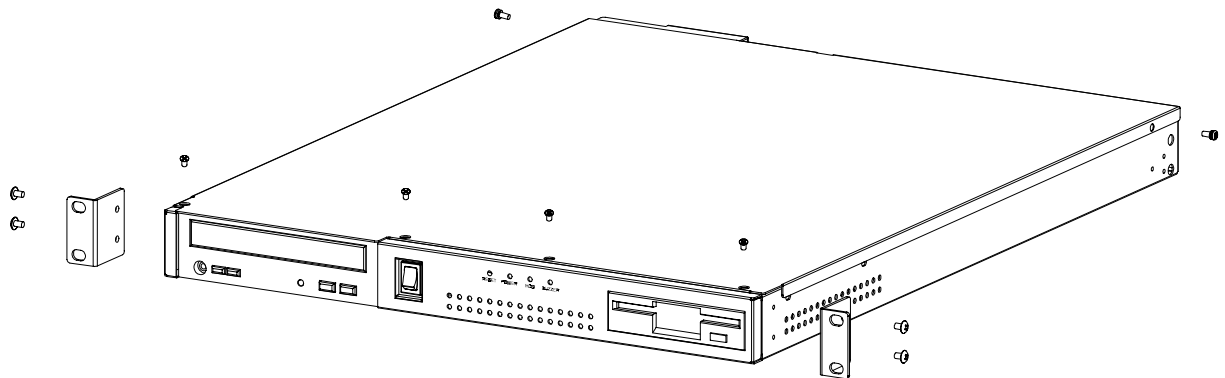
Pin #	FUNCTION
1	SPEAKER (+)
2	SPEAKER (-)
3	POWER LED (-)
4	POWER LED (+)
5	HDD LED(-)
6	HDD LED(-)
7	RESET (1)
8	RESET (2)

2.3 Rear Panel of RACK-2300



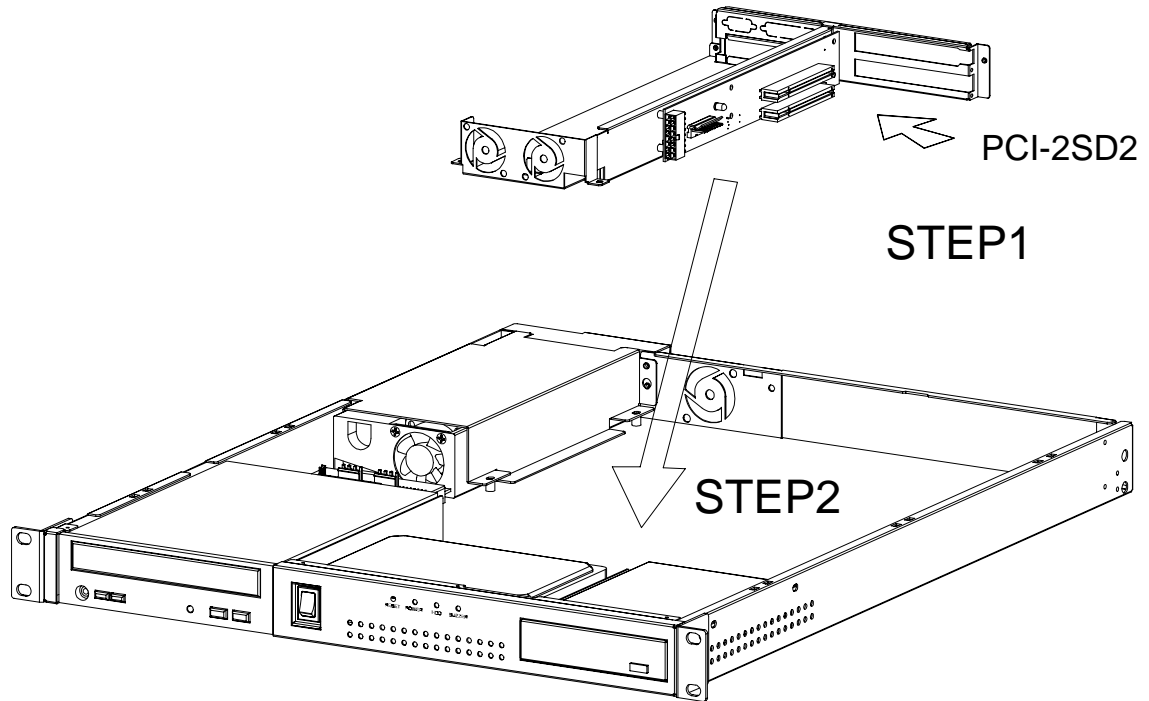
2.4 Removing the chassis cover

The cover is mounted by eight screws on 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.

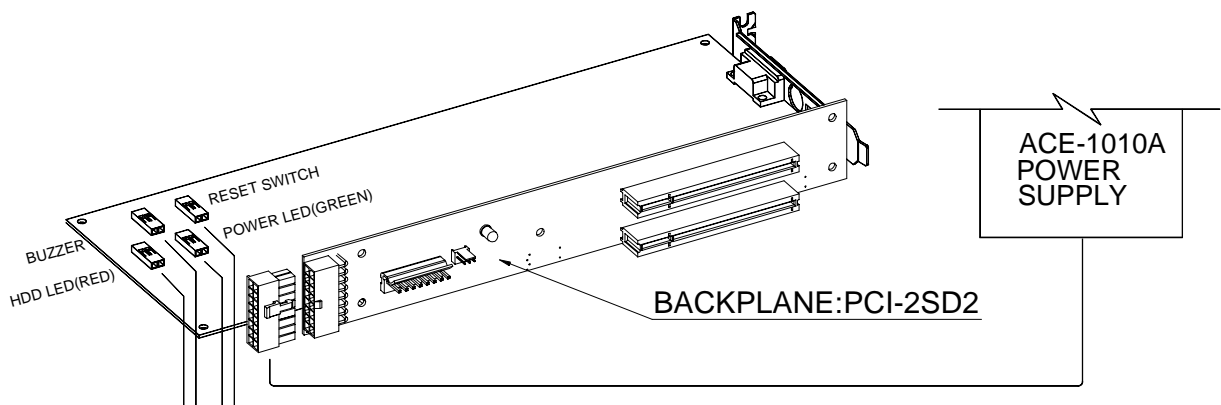


2.5 Backplane Installation

Figure below illustrates how to install the backplanes on the RACK-2300

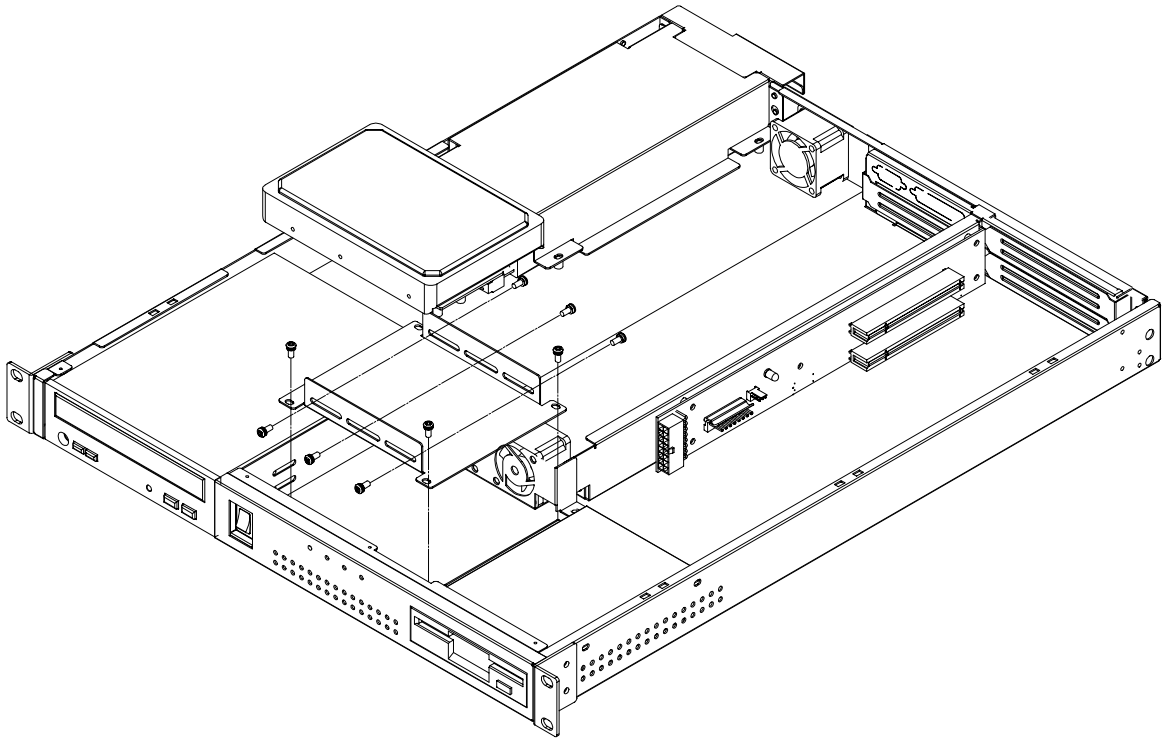


Please plug the connector of ACE-1010A to the Backplane IP-2SD2.

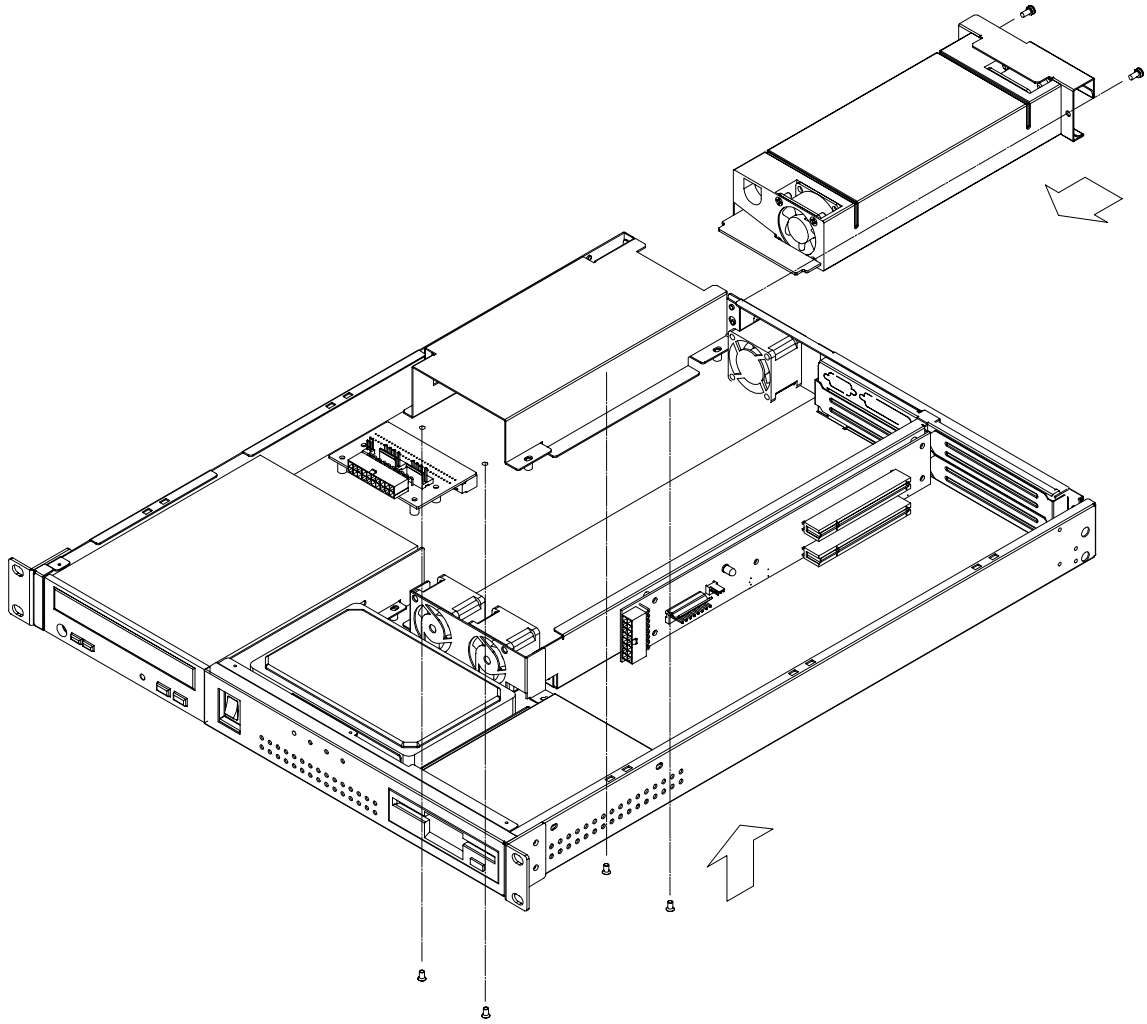


2.6 Disk Drives Installation

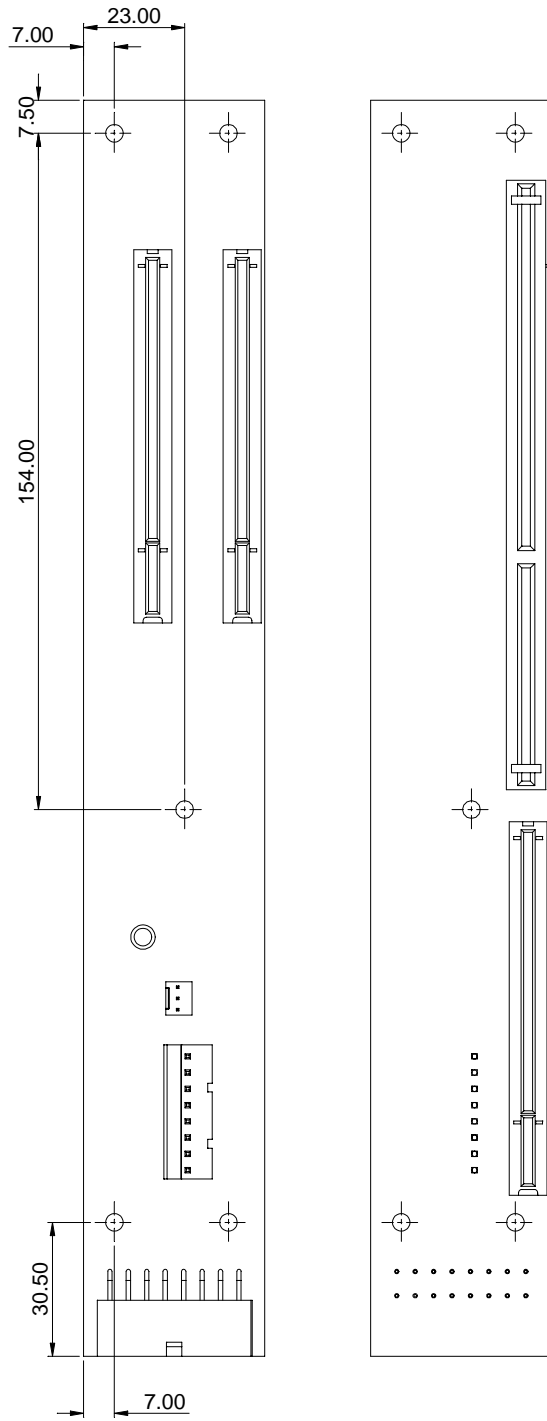
1. Open the upper disk drive cover.
2. Mount the drive rails on the side of FDD
3. Attach the FDD to the bracket with four screws and connect FDD cable & power cable to the FDD.
4. Directly fix the 3.5" HDD with four screws into chassis and connect a 40-pin flat cable & power cable to it.



2.7 Power Supply Installation

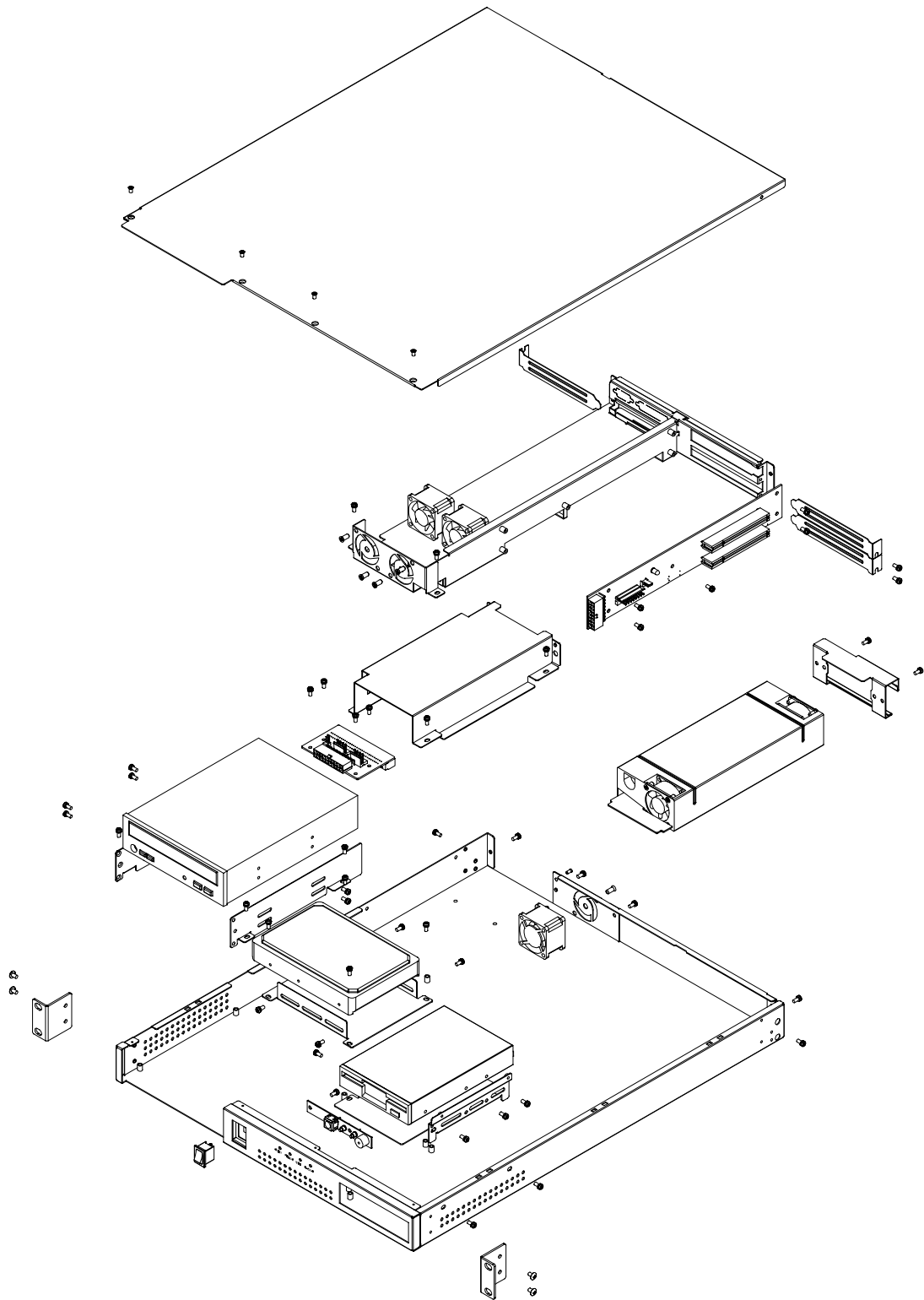


APPENDIX A PASSIVE BACKPLANES



APPENDIX B

EXPLODED DIAGRAM



APPENDIX C Power Supply

REFERENCE DOCUMENTS

The subject power supply will meet the EMI requirements and obtain main safety approvals

as following:

- FCC Part 15 Subpart J, Class 'B' 115 Vac operation.
- CISPR 22 Class 'B' 230 Vac operation.

SAFETY

- NEMKO EN 60950
- TUV EN60950 OR VDE EN60950
- CSA 22.2 NO. 234 LEVEL 3
- IEC 950
- UL 1950
- CE

PHYSICAL REQUIREMENTS

CONNECTOR SPECIFICATIONS

PIN1	NC	PIN16	+5V
PIN2	+5Vsb	PIN17	+3.3V
PIN3	+5Vsb	PIN18	+3.3V
PIN4	GND	PIN19	+3.3V
PIN5	GND	PIN20	+3.3V
PIN6	GND	PIN21	-5V
PIN7	GND	PIN22	-12V
PIN8	GND	PIN23	+3.3Vsb
PIN9	GND	PIN24	+12V
PIN10	GND	PIN25	+12V
PIN11	+5V	PIN26	+12V
PIN12	+5V	PIN27	+12V
PIN13	+5V	PIN28	P.G
PIN14	+5V	PIN29	PS-ON
PIN15	+5V	PIN30	NC

ELECTRICAL REQUIREMENTS

OUTPUT RATING

Output	Nominal	Regulation	Ripple/Noise	Min	Max
1	+3.3V	±5%	50mV	0.3A	12.0 A
2	+5V	±5%	50mV	1.5A	16.0 A
3	+12V	±5%	120mV	0.1A	5.0 A
4	-5V	±5%	100mV	0 A	0.3A
5	-12V	±10%	120mV	0 A	0.8 A
6	+5VSB	±5%	100mV	0 A	2.0A

※ +5V, +3.3V and +12V total output not exceed 148W.

The +3.3V and +5V total output shall not exceed 100watts, and the total output for this subject power supply is 170 watts. Ripple and noise measurements shall be made under all specified load conditions through a single pole low pass filter with 20MHz cutoff frequency. Outputs shall be bypassed at the connector with a 0.1uF ceramic disk capacitor and a 10uF electrolytic capacitor to simulate system loading.

LOAD CAPACITY SPECIFICATIONS

The cross regulation defined as follows, the voltage regulation limits DC include DC Output ripple & noise.

LOAD	STM.	+3.3V	+5V	+12V	-5V	-12V
ALL MAX	HHHHH	12.0A	14.0A	4.0A	0.3A	0.8A
+5V MAX other MIN	LHLLL	0.3A	16.0 A	0.1A	0A	0A
+3.3V MAX other MIN	HLLLL	12.0 A	1.5 A	0.1A	0A	0A
+12V MAX other MIN	LLHLL	0.3A	3.0 A	5.0A	0A	0A
ALL MIN	LLLLL	0.3 A	1.5 A	0.1A	0A	0A

HOLD-UP TIME (@FULL LOAD)

115V / 60Hz : 17 mSec. Minimum.

230V / 50Hz : 17 mSec. Minimum.

OUTPUT RISE TIME

(10% TO 90% OF FINAL OUTPUT VALUE, @FULL LOAD)

115V-rms or 230V-rms + 5Vdc : 20ms Maximum

OVER VOLTAGE PROTECTION

+5V_{dc} output: +5.58V_{dc} minimum, + 6.82V_{dc} maximum

+ 3.3V_{dc} output: +3.5V_{dc} minimum, + 4.5V_{dc} maximum

SHORT CIRCUIT PROTECTION

Output short circuit is defined to be a short circuit load of less than 0.1 ohm.

POWER GOOD SIGNAL

TTL signal asserted (low state) : less than 0.5V while sinking 10mA.

TTL signal asserted (high state): greater than 4.75V while sourcing 500uA.

High state output impedance: less or equal to 1Kohm from output to common.

POWER GOOD @ 115/230V,FULL LOAD	100 –500mSec.
POWER FAIL @115/230V, FULL LOAD	1 mSec. minimum

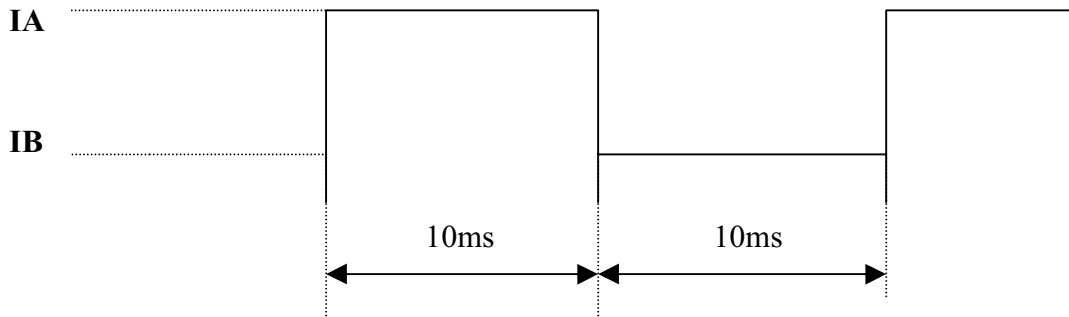
OUTPUT TRANSIENT LOAD RESPONSE

+5V vdc:

IA: 16.0 amps
 IB: 12.0 amps
 Volts variation: 400 mV max (p-p)
 Setting time: 10 ms max

+12V vdc:

IA: 5.0 amps
 IB: 3.75 amps
 Volts variation: 450 mV max (p-p)
 Setting time: 10 ms max



INPUT ELECTRICAL SPECIFICATIONS

VOLTAGE RANGE

PARAMETER	MIN.	NOM.	NAX.	UNITS
V-in Range	95	115/230	264	V-rms

INPUT FREQUENCY

NOMINAL FREQUENCY	
115V	60Hz
230V	50Hz

INRUSH CURRENT

(Cold start – 25 deg. C)

115V	60 Amps - peak
230V	90 Amps - peak

INPUT LINE CURRENT

115V	5.0 Amps – rms maximum
230V	3.0 Amps – rms maximum

EFFICIENCY

General

115 VAC @Full Load	68% minimum
230 VAC @Full Load	68% minimum

Energy Star

115VAC @min Load	56% minimum
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※ In the low-power Energy Star state, the AC input power is limited to 30W.

ENVIRONMENTAL REQUIREMENTS

The power supply will be compliant with each item in this specification for the following

Environmental conditions.

TEMPERATURE RANGE

Operating	0 to +40 deg. C
Storage	-20 to +80 deg. C

HUMIDITY

Operating	5 –95% RH, Non-condensing
Storage	5 –95% RH, Non-condensing

VIBRATION

Vibration Operating – Sine wave excited, 0.25 G maximum acceleration, 10-250 Hz swept at one octave / min.

SHOCK

Storage - 40G, 11 mSec. half-sine wave pulse in both directions on three mutually perpendicular axes.

Operating - 10G, 11mSec. half-sine wave pulse in both directions on three mutually perpendicular axes.