SQUARE ONE
INDUSTRIES INC.

SQ-10013
50W DC to DC PC/104 Power Module

Reference Manual

Revised October 2004

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Contents

Introduction 1

1.1 Specifications

- Meets FCC, CE, TUV standards
- Meets UL478 and CS standards
- Input Voltage 8~28V
- Output Voltage +5V @ 8A high current output
  +5V @ 2A standby
- Input Overload Protection via 7.5A fuse
- Bus Interface: PC/104 compliant
- Operating Temperature: 0 ~ 70°C
- Board Size: 96mm X 90mm

1.2 Safety Precautions

Follow the warnings below to protect your system from damage and yourself from injury:

1. Avoid exposing your system to static electricity at any time.

2. Protect yourself from electric shock. Do not touch any components of this card when the power is ON. Always disconnect power when the system is not in use.

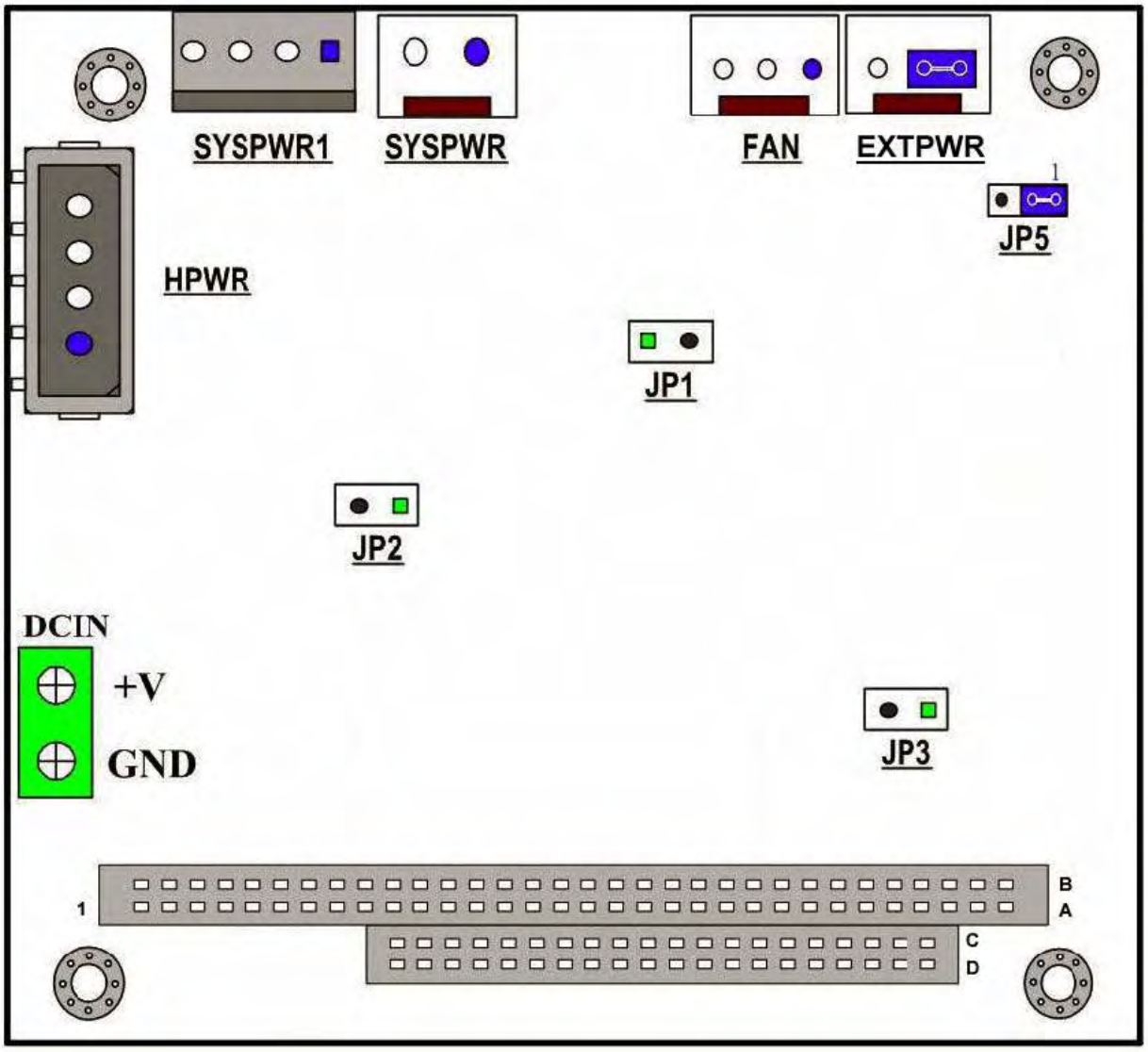
3. Disconnect power when you change any hardware devices.

Hardware Configuration 2

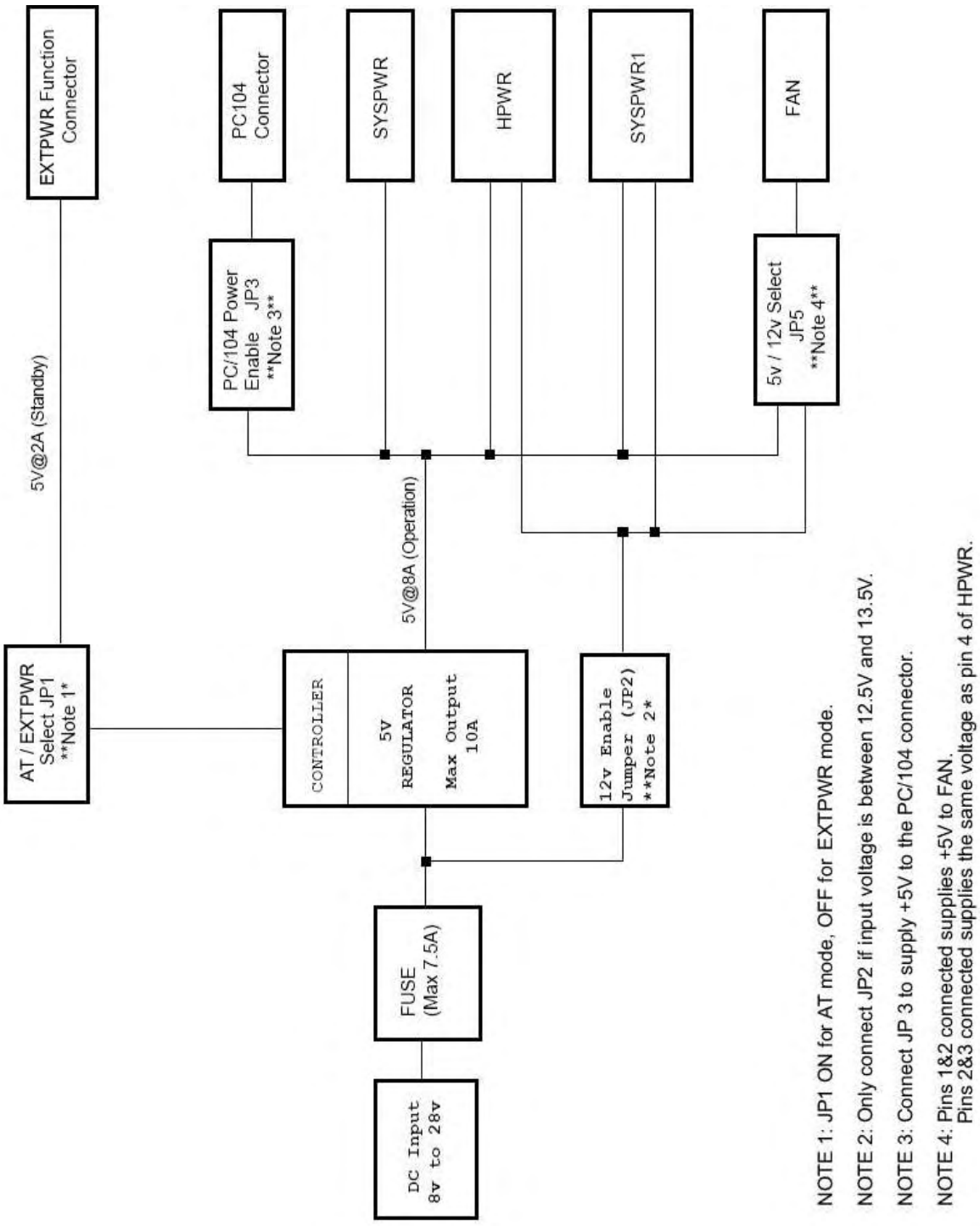
2.1 Jumpers/Connectors Quick Reference Table

8~28V DC INPUT	DCIN
4 PIN DC OUTPUT	HPWR
WAFER 2 PIN DC OUTPUT	SYSPWR
WAFER 4 PIN DC OUTPUT	SYSPWR1
FAN CONNECTOR	FAN
EXTERNAL POWER FUNCTION CONNECTOR	EXTPWR
AT/EXTPWR MODE SELECTOR	JP1
DC INPUT REGULATOR	JP2
PC/104 ONBOARD VOLTAGE SELECTOR	JP3
5V / 12V FAN VOLTAGE SELECTOR	JP5

2.2 Component Locations



2.3 Block Diagram



2.4 8~28V DC INPUT (DCIN)

Pin 1: +8V ~ +28V Pin 2: Ground

2.5 4 PIN DC OUTPUT (HPWR)

Pin 1: +5V Pins 2 & 3: Ground Pin 4: +12V

2.6 WAFER 2 PIN DC OUTPUT (SYSPWR)

Pin 1: +5V Pin 2: Ground

2.7 WAFER 4 PIN DC OUTPUT (SYSPWR1)

Pin 1: +5V Pins 2 & 3: Ground Pin 4: +12V

2.8 FAN CONNECTOR (FAN)

Pin 1: Ground Pin 2: Fan VCC Pin 3: Ground

2.9 EXTERNAL POWER CONNECTOR (EXTPWR)

Pin 1: Ground Pin 2: Control On Pin 3: Standby +5V / 2A

Note : Voltage is supplied to Pin 3 only when JP1 is OFF (in EXTPWR mode).

2.10 AT / EXTERNAL POWER MODE SELECTOR (JP1)

AT Function: Pins 1 & 2 ON
EXTPWR Function: Pins 1 & 2 OFF

2.11 DC INPUT REGULATOR (JP2)

Pins 1 & 2 ON: 12V output enabled
Pins 1 & 2 OFF: 12V output disabled

2.12 PC/104 ONBOARD VOLTAGE SELECTOR (JP3)

Pins 1 & 2 ON: Voltage to PC/104 (4A max. - 1A per pin max.)
Pins 1 & 2 OFF: No Voltage to PC/104

Note: Power supplied through the PC/104 bus is +5V only.

2.13 5V / 12V FAN VOLTAGE SELECTOR (JP5)

Pins 1 & 2 ON: Output voltage matches Pin 4 of HPWR
Pins 2 & 3 ON: +5V Output

2.14 PC/104 Connectors

Row D	Pin Name	Row C	Pin Name	Row A	Pin Name	Row B	Pin Name
				1	IOCHCHK	1	GND
				2	SD7	2	RESETDRV
				3	SD6	3	+5V
				4	SD5	4	IRQ9
				5	SD4	5	-5V
				6	SD3	6	DRQ2
				7	SD2	7	-12V
				8	SD0	8	ENDXFR
1	GND	1	GND	9	SD1	9	+12V
2	MEMCS16	2	SBHE	10	IOCHRDY	10	(KEY)
3	IOCS16	3	LA23	11	AEN	11	SMEMW
4	IRQ10	4	LA22	12	SA19	12	SMEMR
5	IRQ11	5	LA21	13	SA18	13	IOW
6	IRQ12	6	LA20	14	SA17	14	IOR
7	IRQ15	7	LA19	15	SA16	15	DACK3
8	IRQ14	8	LA18	16	SA15	16	DRQ3
9	DACK0	9	LA17	17	SA14	17	DACK1
10	DRQ0	10	MEMR	18	SA13	18	DRQ1
11	DACK5	11	MEMW	19	SA12	19	REFRESH
12	DRQ5	12	SD8	20	SA11	20	SYSCLK
13	DACK6	13	SD9	21	SA10	21	IRQ7
14	DRQ6	14	SD10	22	SA9	22	IRQ6
15	DACK7	15	SD11	23	SA8	23	IRQ5
16	DRQ7	16	SD12	24	SA7	24	IRQ4
17	+5V	17	SD13	25	SA6	25	IRQ3
18	MASTER	18	SD14	26	SA5	26	DACK2
19	GND	19	SD15	27	SA4	27	TC
20	GND	20	(KEY)	28	SA3	28	SALE
				29	SA2	29	+5V
				30	SA1	30	OSC
				31	SA0	31	GND
				32	GND	32	GND