

CHAPTER 1

INTRODUCTION

1.1 Overview

The OPTI-596/597 is a new single-chip solution that offers the cost-effective system integration for PENTIUM systems. Besides the standard features, the OPTI-82C596/597 also supports VESA standards and PCI features for most of advanced I/O BUS on the market.

1.2 System Features

- Supports INTEL PENTIUM
- Supports 3 MASTER 32-bit PCI Bus
- Supports L1/L2 write back/write through cache feature
- Supports 2 MASTER VESA Bus
- Supports 64KB/ 128KB/ 256KB/ 512KB /1M cache size
- Supports 72pin SIM MODULES

1.3 System Specifications

Processor : INTEL PENTIUM
CPU Clock : 60/66 MHz CPU
Memory : 2MB to 128MB
SRAM Configuration : 64K/128K/256K/512K/1M
BIOS Subsystem : PHOENIX BIOS
Additional BIOS feature : Set program resides in ROM
I/O Subsystem NO. slot : Five 16-bit ISA Bus & Two 32-bit Local Bus &
Three PCI 32-bit bus
I/O Interface : Supports two serial port, one parallel port, floppy,
one ISA IDE (option) & one PCI IDE (option)
Dimension : Baby AT size

Additional features

Miscellaneous connectors : Reset Button, Internal Battery
Board design : 4-layer implementation for low noise operation

1.4 System Performance

CPU TYPE \ SOFTWARE	LANDMARK V2.0	POWER METER V1.7 MIPS	NORTON V7.0 CPU SPEED
60MHz	346.46MHz	41.0MIPS	190.3
66MHz	384.84MHz	45.9MIPS	211.3

CHAPTER 2

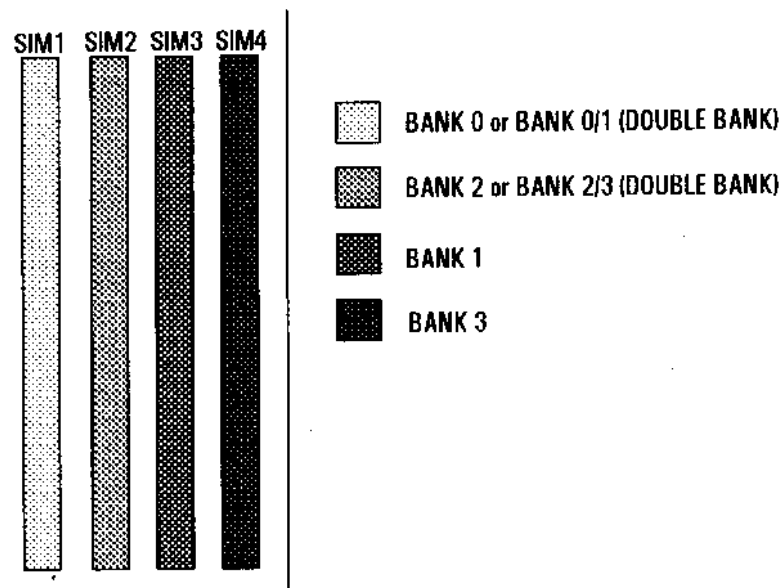
INSTALLATION

Before the system is ready to operate, the hardware must be set up for various functions of the system. To set up the EXP8054 main board is a simple task. The user only has to set a few jumpers, connectors and sockets.

2.1 DRAM INSTALLATION

The EXP8054 main board can support expanded memory from 2MB to 128MB. Either 2MB, 4MB, 6MB, 8MB, 10MB, 12MB, 16MB, 18MB, 20MB, 24MB, 32MB, 34MB, 36MB, 40MB, 48MB, 64MB, 66MB, 68MB, 72MB, 80MB, 96MB, 128MB SIM DRAM can be used on the EXP8054 motherboard.

■ The board layout below shows the locations of the DRAM memory banks :

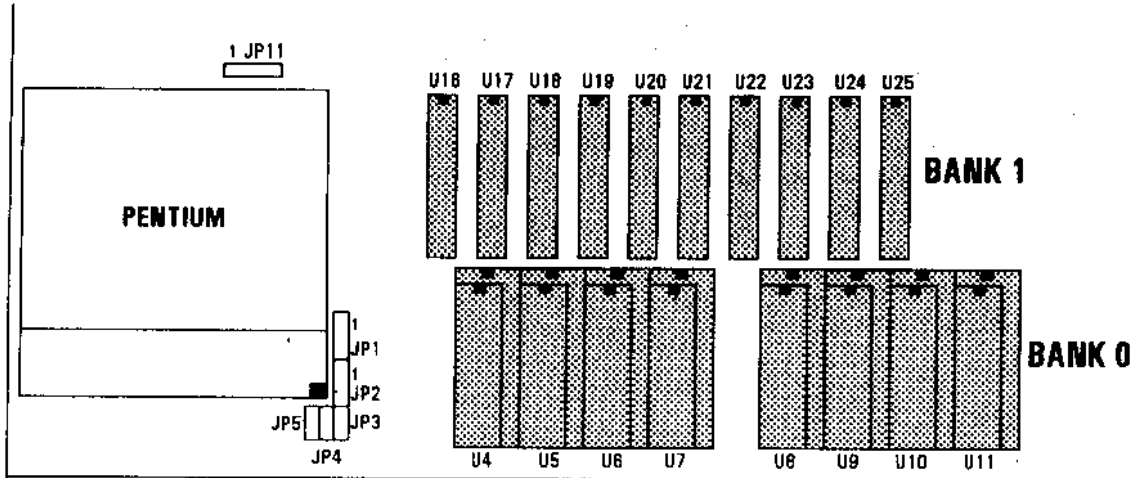


☞ The motherboard consists of four memory banks, BANK 0, BANK 1, BANK 2 or BANK 3.

■ DRAM Configuration

BANK 0 SIM1	BANK 1 SIM3	BANK 2 SIM2	BANK 3 SIM4	TOTAL
1M	1M			2M
2M	2M	—	—	4M
4M	4M	—	—	8M
8M	8M		—	16M
16M	16M		—	32M
32M	16M			48M
1M	1M	1M	1M	4M
1M	1M	2M	2M	6M
2M	2M	2M	2M	8M
1M	1M	4M	4M	10M
2M	2M	4M	4M	12M
4M	4M	4M	4M	16M
1M	1M	8M	8M	18M
2M	2M	8M	8M	20M
4M	4M	8M	8M	24M
8M	8M	8M	8M	32M
1M	1M	16M	16M	34M
2M	2M	16M	16M	36M
4M	4M	16M	16M	40M
8M	8M	16M	16M	48M
16M	16M	16M	16M	64M
1M	1M	32M	32M	66M
2M	2M	32M	32M	68M
4M	4M	32M	32M	72M
8M	8M	32M	32M	80M
16M	16M	32M	32M	96M
32M	32M	32M	32M	128M

2.2 SRAM INSTALLATION

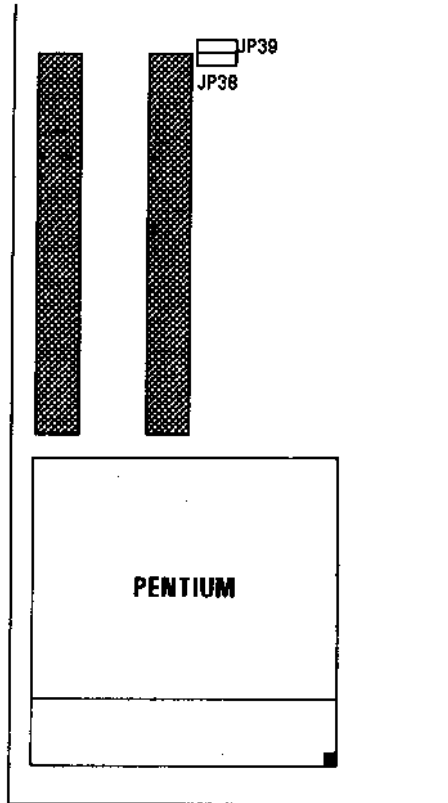


CACHE CONFIGURATION SIZE

04K		128K		256K *		512K		1M	
TAG RAM	DATA RAM	TAG RAM	DATA RAM	TAG RAM	DATA RAM	TAG RAM	DATA RAM	TAG RAM	DATA RAM
U17 8K×8	U4 - U11 8K×8	U17 8K×8	U4 - U11 U18 - U25 8K×8	U17 8K×8	U4 - U11 32K×8	U16, U17 8K×8	U4 - U11 U18 - U25 32K×8	U17 32K×8	U4 - U11 128K×8
JP11 <input type="checkbox"/>	JP11 <input type="checkbox"/>	JP11 <input type="checkbox"/>	JP11 <input type="checkbox"/>	JP11 <input type="checkbox"/>	JP11 <input type="checkbox"/>	JP11 <input type="checkbox"/>	JP11 <input type="checkbox"/>	JP11 <input type="checkbox"/>	JP11 <input type="checkbox"/>
JP1 <input type="checkbox"/>	JP1 <input type="checkbox"/>	JP1 <input type="checkbox"/>	JP1 <input type="checkbox"/>	JP1 <input type="checkbox"/>	JP1 <input type="checkbox"/>	JP1 <input type="checkbox"/>	JP1 <input type="checkbox"/>	JP1 <input type="checkbox"/>	JP1 <input type="checkbox"/>
JP2 <input type="checkbox"/>	JP2 <input type="checkbox"/>	JP2 <input type="checkbox"/>	JP2 <input type="checkbox"/>	JP2 <input type="checkbox"/>	JP2 <input type="checkbox"/>	JP2 <input type="checkbox"/>	JP2 <input type="checkbox"/>	JP2 <input type="checkbox"/>	JP2 <input type="checkbox"/>
JP3 <input type="checkbox"/>	JP3 <input type="checkbox"/>	JP3 <input type="checkbox"/>	JP3 <input type="checkbox"/>	JP3 <input type="checkbox"/>	JP3 <input type="checkbox"/>	JP3 <input type="checkbox"/>	JP3 <input type="checkbox"/>	JP3 <input type="checkbox"/>	JP3 <input type="checkbox"/>
JP4 <input type="checkbox"/>	JP4 <input type="checkbox"/>	JP4 <input type="checkbox"/>	JP4 <input type="checkbox"/>	JP4 <input type="checkbox"/>	JP4 <input type="checkbox"/>	JP4 <input type="checkbox"/>	JP4 <input type="checkbox"/>	JP4 <input type="checkbox"/>	JP4 <input type="checkbox"/>
JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>

* : Default Setting

2.2 CPU INSTALLATION

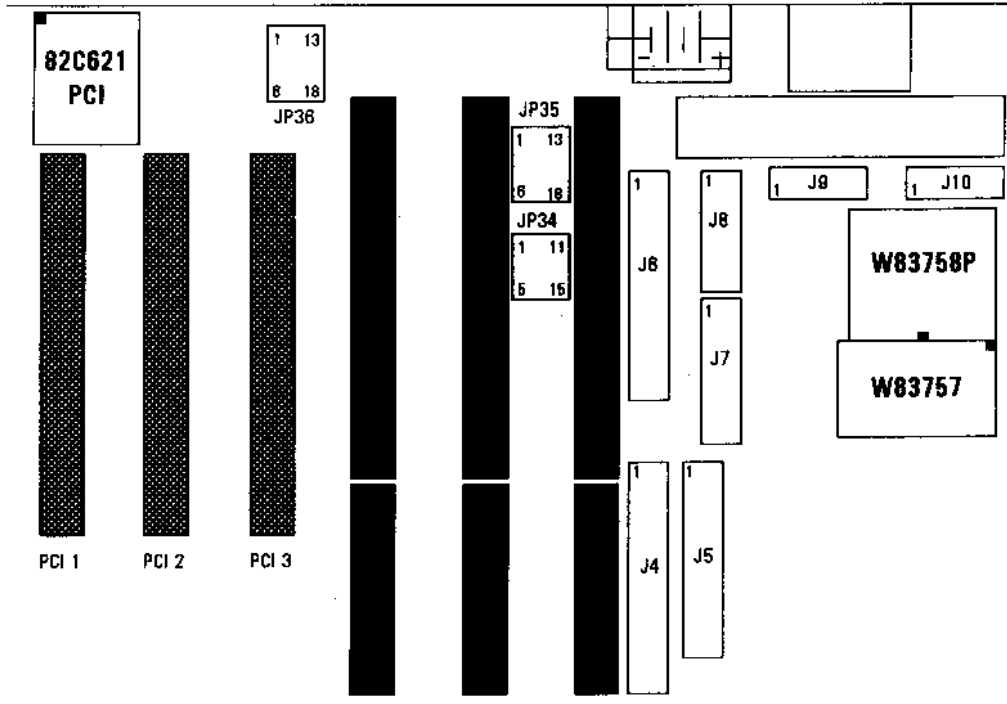


CPU FREQUENCY SETTING

PENTIUM 66.6 MHz		PENTIUM 50MHz *	
JP39	<input type="checkbox"/>	JP39	<input type="checkbox"/>
JP38	<input checked="" type="checkbox"/>	JP38	<input type="checkbox"/>

* : Default Setting

2.4 IDE INSTALLATION

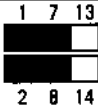


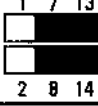
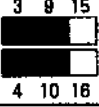
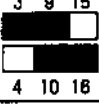

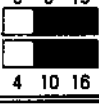
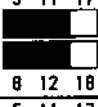
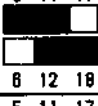
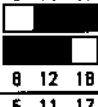
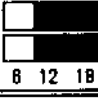


JP34 : ISA BUS HDD, FDC FUNCTION SELECT

DESCRIPTION			
1	6	11	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A, B NORMAL MODE *
1	6	11	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A, B CHANGE MODE
2	7	12	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FDC ADDRESS : 3F0h-3F7h *
2	7	12	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FDC ADDRESS : 370h-377h
3	8	13	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IDE ENABLED *
3	8	13	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IDE DISABLED
4	9	14	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HDD ADDRESS : 3F6h, 3F7h, 1F0h-1F7h *
4	9	14	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HDD ADDRESS : 376h, 377h, 170h-177h
5	10	15	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FDC ENABLED *
5	10	15	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FDC DISABLED

* : Default Setting

JP35 : SERIAL PORT & PARALLEL PORT FUNCTION SELECT

	RS232-1 (J10)	RS232-2 (J9)	PRINTER (J7)
COM4 (2E8H)	1 7 13  2 8 14		
COM1 (3F8H) *	1 7 13  2 8 14		
COM3 (3E8H)	1 7 13  2 8 14		
DISABLE	1 7 13  2 8 14		
COM3 (3E8H)		3 9 15  4 10 16	
COM2 (2F8H) *		3 9 15  4 10 16	
COM4 (2F8H)		3 9 15  4 10 16	
DISABLE		3 9 15  4 10 16	
LPT3 (3BCH)			5 11 17  6 12 18
LPT2 (278H)			5 11 17  6 12 18
LPT1 (378H) *			5 11 17  6 12 18
DISABLE			5 11 17  6 12 18

* : Default Setting

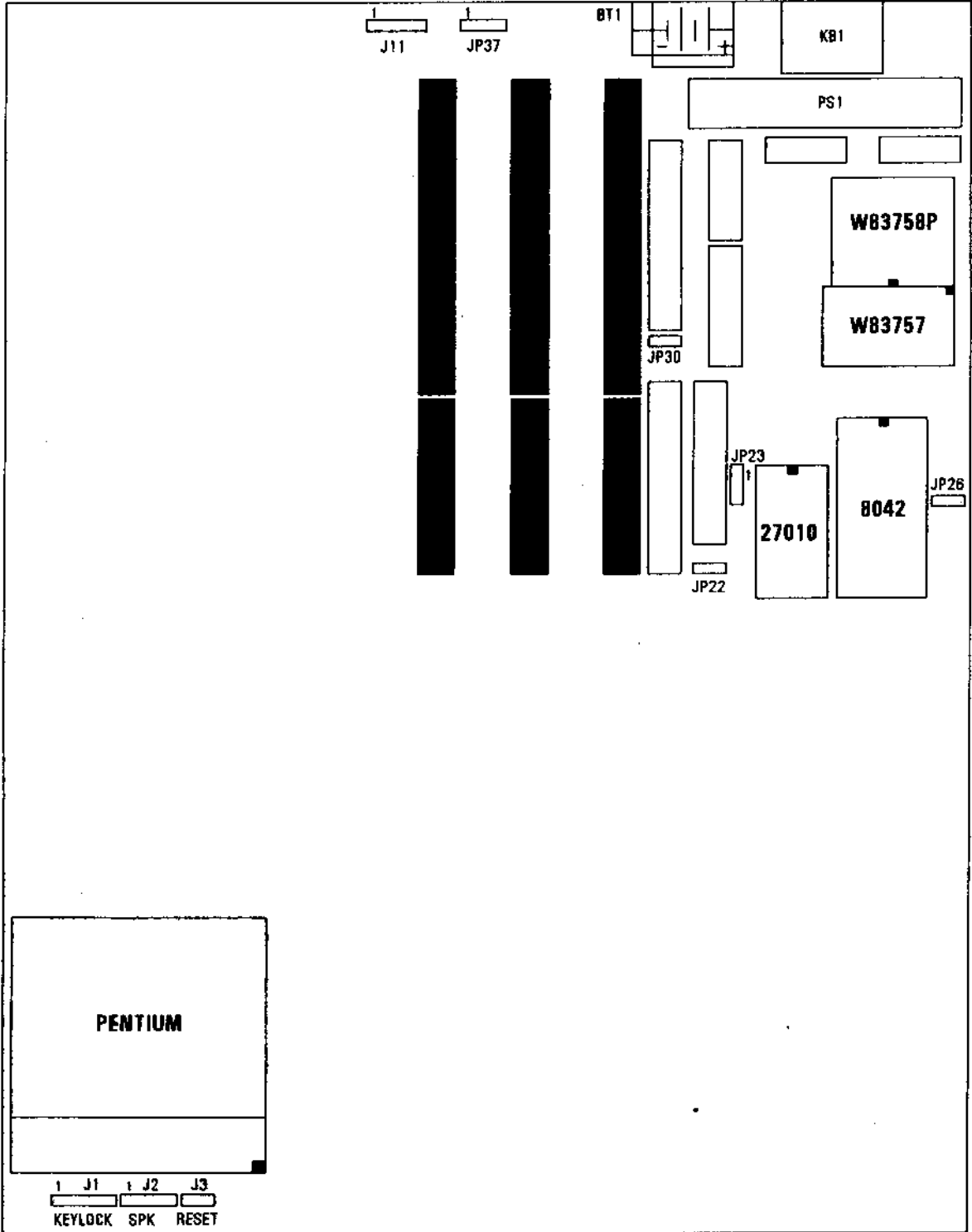
JP36 : PCI IDE FUNCTION SELECT (OPTION)

DESCRIPTION	
1 7 13 <input checked="" type="checkbox"/> <input type="checkbox"/>	1 7 13 <input type="checkbox"/> <input checked="" type="checkbox"/>
2 8 14 <input type="checkbox"/> <input checked="" type="checkbox"/>	2 8 14 <input checked="" type="checkbox"/> <input type="checkbox"/>
3 9 15 <input checked="" type="checkbox"/> <input type="checkbox"/>	3 9 15 <input type="checkbox"/> <input checked="" type="checkbox"/>
6 12 18 <input type="checkbox"/> <input checked="" type="checkbox"/>	6 12 18 <input checked="" type="checkbox"/> <input type="checkbox"/>

MODE 0 *	MODE 1	MODE 2	MODE 3
4 10 16 <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 11 17	4 10 16 <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 11 17	4 10 16 <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 11 17	4 10 16 <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 11 17

* : Default Setting

2.5 OTHER JUMPER & CONNECTOR INSTALLATION



OTHER JUMPER DESCRIPTION

JUMPER	DESCRIPTION	
JP23	<input checked="" type="checkbox"/> 1	NORMAL ROM *
	<input type="checkbox"/> 1	FRUSH ROM
JP26	<input checked="" type="checkbox"/>	COLOR *
	<input type="checkbox"/>	MONO
JP37	<input checked="" type="checkbox"/> 1	NORMAL *
	<input type="checkbox"/> 1	CLEAR CMOS

* : Default Setting

CONNECTOR DESCRIPTION

CONNECTOR	PIN OUT	SIGNAL NAME
J1 : KEY LOCK	1	LED POWER
	2	NOT USED
	3	GROUND
	4	KEYBOARD INHIBITOR
	5	GROUND
J2 : SPK	1	DATA OUT
	2	NOT USED
	3	GROUND
	4	+5V DC
J3 : RESET	1	GROUND
	2	RESET IN
KB1: KEYBOARD CONNECTOR	1	KEYBOARD CLOCK
	2	KEYBOARD DATA
	3	SPACE
	4	GROUND
	5	+5V
PS 1 : POWER CONNECTOR	1	POWER GOOD
	2	+5V DC
	3	+12V DC
	4	-12V DC
	5,6,7,8	GROUND
	9	-5V DC
	10,11,12	+5V DC
J11	<input type="checkbox"/> 1 2 3 4	2-3 : N.C. , 1-4 : EXT. BATTERY
JP22	ISA IDE LED CONNECTOR (option)	
JP30	PCI IDE LED CONNECTOR (option)	