Advanced/ZE Switches, Jumpers & Connectors

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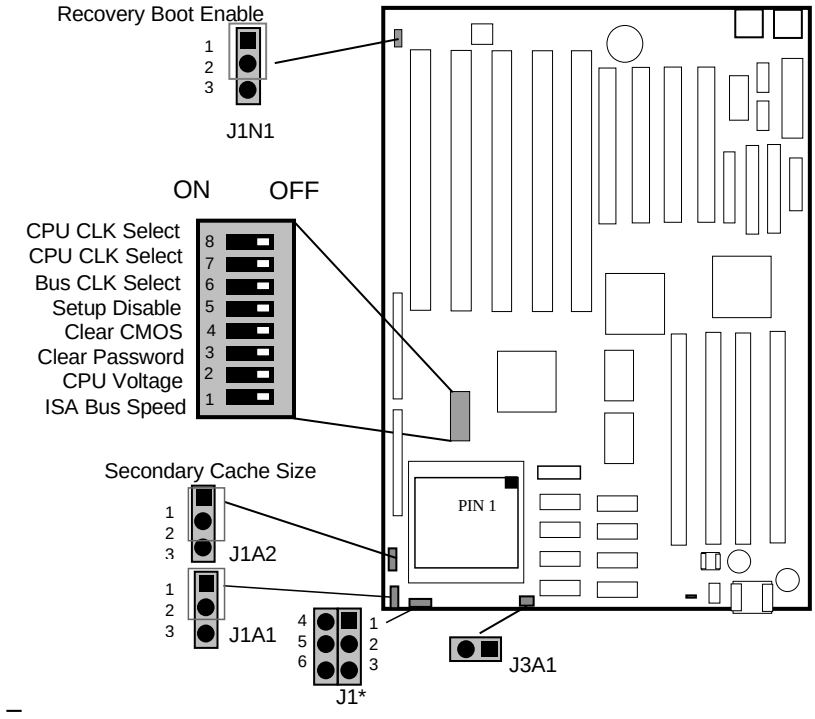

Figure B-1. Switch and Jumper locations (default settings shown) - *Denotes jumper block found only on PBA 647633

EXTERNAL CPU CLOCK SPEED (50/60/66 MHZ) - SWITCHES 7 & 8

This jumper sets the CPU's external operating frequency at 50, 60, 66 MHz. Default setting is 60 MHz.

Frequency	*Switch 7*	*Switch 8*
50 MHz	ON	OFF
60 MHz	OFF	OFF
66 MHz	ON	ON

Table B-2. Switch Settings For External CPU Speed

INTERNAL CPU BUS CLOCK SPEED - SWITCH 6

Sets the internal processor speed to either 3/2 or 2 times the external CPU clock speed. Switch 6=OFF for 3/2, Switch 6=ON for 2 times. The 3/2 setting is used for 75 MHz, 90 MHz, and 100 MHz processors. The 2 times setting is used for 120 MHz processors. The default setting is 3/2, (Switch 6 = OFF). Please note: switch 6 is not used on PBA 647633 product. The Default Switch 6 setting for PBA 647633 is in the OFF position and should always be in the OFF position.

CPU	*6*	*7*	*8*
75 MHz	off	on	Off
90 MHz	off	off	Off
100 MHz	off	on	On
120 MHz	on	off	Off
133 MHz	on	on	On

Table B-3. Jumper Configuration for Socket 5 boards only

SETUP DISABLE - SWITCH 5

Allows access to CMOS Setup Utility to be disabled by setting switch 5 to the ON position. Default is for access to setup to be enabled (switch 5 = OFF).

CLEAR CMOS - SWITCH 4

Allows CMOS settings to be reset to default values by moving switch 4 to the ON position and turning the system on. The system should then be turned off and switch 4 should be returned to the OFF position to restore normal operation. This procedure should be done whenever the system BIOS is updated. Default setting is SW4=OFF.

PASSWORD CLEAR - SWITCH 3

Allows system password to be cleared by moving switch 3 to the ON position and turning the system on. The system should then be turned off and switch 3 should be returned to the OFF position to restore normal operation. This procedure should only be done if the user password has been forgotten. Default setting is SW3=OFF.

PROCESSOR VOLTAGE REGULATION - SWITCH 2

Sets the output of the on-board voltage regulator. The switch settings are OFF = VR, and ON = VRE. The VR voltage specification requires a voltage range of 3.3-3.465 Volts DC, while the VRE specification requires a voltage range of 3.45-3.6V. Pentium processors currently available that do not require the VRE voltage specification should use the VR setting. When upgrading your CPU be sure to consult the documentation for the processor voltage requirements before setting this switch, as an incorrect setting may damage the processor. The default position is with the switch set for VR (off).

ISA BUS SPEED - SWITCH 1

Sets the ISA bus speed to either 1/4 or 1/3 of the PCI bus speed to best maximize system performance for 75, 90, 100 or 120, 133, 150, 166, 200 MHz processor speeds. When SW1=ON the ISA bus speed will be 1/4 of the PCI bus speed and when SW1=OFF the ISA bus speed will be 1/3 the PCI bus speed. The ISA bus speed is derived from the PCI bus speed which is derived from the external processor clock frequency. The position of SW1 will set the ISA bus speed to either Compatible or Enhanced for 90 MHz, 100 MHz, 120 MHz, 133 MHz, 150 MHz, 166 MHz, and 200 MHz processors and will leave the ISA bus speed Compatible for 75 MHz processor speed. For 90 MHz, 100 MHz, and 120 MHz, 133 MHz, 150 MHz, 166 MHz, and 200 MHz processor speeds, if SW1 is set to Compatible (SW1=ON), the speed will fall within the limits defined by the IBM AT Technical Reference (6-8.33 MHz). If set to Enhanced (SW1=OFF), the speed will be greater than the maximum defined by the IBM AT Technical Reference manual. SW1 can be set to either position when a 75 MHz processor speed is used for maximum ISA bus performance. Modern ISA cards can operate with the enhanced speeds, however some older cards can experience difficulties. The actual value of the Bus Clock when set to Compatible or Enhanced is dependent upon the setting of the external processor frequency. The following table describes the ISA bus speeds for the 75 MHz, 90 MHz, 100 MHz, 120 MHz, 133 MHz, 150 MHz, 166 MHz, and 166 MHz processor speeds.

Internal Processor Frequency	*PCI bus Frequency*	*SW1=OFF (1/3)*	*SW1=ON (1/4)*
75 MHz	25 MHz	8.33 MHz	8.33 MHz
90 MHz	30 MHz	10.0 MHz	7.50 MHz
100 MHz	33 MHz	11.0 MHz	8.33 MHz
120 MHz	30 MHz	10.0 MHz	7.50 MHz
133 MHz	33 MHz	11.0 MHz	8.33 MHz
150 MHz	30 MHz	10.0 MHz	7.50 MHz
166 MHz	33 MHz	11.0 MHz	8.33 MHz
200 MHz	33 MHz	11.0 MHz	8.33 MHz

Table B-4. ISA Bus Speed Settings

INTERNAL CPU BUS CLOCK SPEED - J1

The internal CPU speed is controlled by changing J1 pin selection. The jumper selection is used in conjunction with switch 7 and switch 8 for speed options. The J1 jumper is only found on PBA 647633 product.

CPU	*J1*	*Switch 7*	*Switch 8*
75 MHz	2-3, 4-5	on	off
90 MHz	2-3, 4-5	off	off
100 MHz	2-3, 4-5	on	on
120 MHz	1-2, 4-5	off	off
133 MHz	1-2, 4-5	on	on
150 MHz	1-2, 5-6	off	off
166 MHz	1-2, 5-6	on	on
200MHz	2-3, 5-6	on	on

Table B-5. CPU speed settings

RECOVERY BOOT ENABLE - J1N1

This switch allows the system to boot in the event the system BIOS has been corrupted by moving the jumper from the default position of 1-2 to the 2-3 position. A recovery disk must be in drive A while booting up with this jumper set to 2-3. Once the recovery is complete the jumper should be move back to pins 1-2, and the system rebooted.

SECOND LEVEL CACHE SIZE SELECTION - J1A1, J1A2, J3A1

System second level cache size selection jumpers are used in conjunction with memory installed in the second level cache sockets to configure the size of the system second level cache. The following table describes the jumper settings for the second level cache size options.

Second Level Cache Size	*J1A1*	*J1A2*	*J3A1*
0 Kbytes	1 - 2	1 - 2	No Jumper Installed
256 Kbytes	1 - 2	2 - 3	No Jumper Installed
512 Kbytes	2 - 3	1 - 2	1 - 2
Reserved	2 - 3	2 - 3	Don’t Care

Figure B-6. CACHE configuration switch settings

Connectors

POWER SUPPLY CONNECTORS

PRIMARY POWER (J9J1)

Pin	*Name*	*Function*
1	PWRGD	Power Good
2	+5 V	+ 5 volts Vcc
3	+12 V	+ 12 volts
4	-12 V	- 12 volts
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	GND	Ground
9	-5 V	-5 volts
10	+5 V	+ 5 volts Vcc
11	+5 V	+ 5 volts Vcc
12	+5 V	+ 5 volts Vcc

AUXILIARY (3.3V) PCI POWER (J6G1)

Pin	*Name*	*Function*
1	GND	Ground
2	GND	Ground
3	GND	Ground
4	+3.3 V	+ 3.3 volts
5	+3.3V	+ 3.3 volts
6	+3.3 V	+ 3.3 volts

Tables F-1. and F-2. Power connectors

FRONT PANEL CONNECTORS –(J2A1, J1B1)

SLEEP/RESUME

Pin	*Signal Name*
1	+5 V
2	Sleep

Table F-3. Sleep Connector

INFRARED

Pin	*Signal Name*
1	+5 V
2	Key
3	IR_RX
4	Ground
5	IR_TX

Table F-5. IRDA Connector

CPU 12V FAN POWER

Pin	*Signal Name*
1	Ground
2	+12 V (fused)
3	Ground

Table F-7. CPU Fan Connector

SPEAKER CONNECTOR

Pin	*Signal Name*
1	SPKR_DAT
2	Key
3	SPKR_DAT connect
4	Ground

Table F-9. Speaker Connector

Turbo LED

Pin	*Signal Name*
1	PULL_UP_330
2	LED_TURBO-

Table F-4. Turbo LED Connector

HARD DRIVE LED (DISK)

Pin	*Signal Name*
1	PULL_UP_330
2	Key
3	HD ACTIVE
4	PULL_UP_330

Table F-6. HDD LED Connector

KEYLOCK/POWER LED

Pin	*Signal Name*
1	LED_PWR
2	Key
3	Ground
4	KEY LOCK
5	Ground

Table F-8. Key lock & Power LED Connector

RESET CONNECTOR

Pin	*Signal Name*
1	Ground
2	RESET

Table F-10. Reset Connector

I/O CONNECTORS

PS/2 KEYBOARD & MOUSE PORTS

Pin	*Signal Name*
1	Clock
2	Data
3	No Connect
4	Ground
5	Vcc (fused)

Table F-11. Keyboard/Mouse Connectors

SERIAL PORTS

Pin	*Signal Name*
1	DCD
2	DSR
3	Serial In - (SIN)
4	RTS
5	Serial Out - (SOUT)
6	CTS
7	DTR
8	RI
9	GND
10	N.C.

Table F-12. Serial Port Connectors

PARALLEL PORT CONNECTOR

Signal Name	*Pin*	*Pin*	*Signal Name*
STROBE-	1	2	AUTO
Data Bit 0	3	4	ERROR-
Data Bit 1	5	6	INIT-
Data Bit 2	7	8	SLCT IN-
Data Bit 3	9	10	Ground
Data Bit 4	11	12	Ground
Data Bit 5	13	14	Ground
Data Bit 6	15	16	Ground
Data Bit 7	17	18	Ground
ACJ-	19	20	Ground
BUSY	21	22	Ground
PE (Paper	23	24	Ground
SLCT	25	26	N.C.

Table F-14. Parallel Port Connector

IDE CONNECTORS

Signal Name	*Pin*	*Pin*	*Signal Name*
Reset IDE	1	2	Ground
Host Data 7	3	4	Host Data 8
Host Data 6	5	6	Host Data 9
Host Data 5	7	8	Host Data 10
Host Data 4	9	10	Host Data 11
Host Data 3	11	12	Host Data 12
Host Data 2	13	14	Host Data 13
Host Data 1	15	16	Host Data 14
Host Data 0	17	18	Host Data 15
Ground	19	20	Key
DRQ3	21	22	Ground
I/O Write-	23	24	Ground
I/O Read-	25	26	Ground
IOCHRDY	27	28	BALE
DACK3-	29	30	Ground
IRQ14	31	32	IOCS16-
Addr 1	33	34	Ground
Addr 0	35	32	Addr 2
Chip Select 0-	37	38	Chip Select 1-
Activity	39	40	Ground

Table F-13. IDE Connectors

FLOPPY CONNECTOR

Signal Name	*Pin*	*Pin*	*Signal Name*
Ground	1	2	FDHDIN
Ground	3	4	Reserved
Key	5	6	FDEDIN
Ground	7	8	Index-
Ground	9	10	Motor Enable A-
Ground	11	12	Drive Select B-
Ground	13	14	Drive Select A-
Ground	15	16	Motor Enable B-
Ground	17	18	DIR-
Ground	19	20	STEP-
Ground	21	22	Write Data-
Ground	23	24	Write Gate-
Ground	25	26	Track 00-
Ground	27	28	Write Protect-
Ground	29	30	Read Data-
Ground	31	32	Side 1 Select-
Ground	33	34	Diskette

Table F-15. Floppy Connector

ISA CONNECTORS

Signal Name	*Pin*	*Pin*	*Signal Name*
GND	B1	A1	IOCHK-
RSTDRV	B2	A2	SD7
Vcc	B3	A3	SD6
IRQ9	B4	A4	SD5
-5V	B5	A5	SD4
DRQ2	B6	A6	SD3
-12V	B7	A7	SD2
0WS-	B8	A8	SD1
+12V	B9	A9	SD0
GND	B10	A10	IOCHRDY
SMEMW-	B11	A11	AEN
SMEMR-	B12	A12	SA19
IOW-	B13	A13	SA18
IOR-	B14	A14	SA17
DACK3-	B15	A15	SA16
DRQ3	B16	A16	SA15
DACK1-	B17	A17	SA14
DRQ1	B18	A18	SA13
REFRESH-	B19	A19	SA12
SYSCLK	B20	A20	SA11
IRQ7	B21	A21	SA10
IRQ6	B22	A22	SA9
IRQ5	B23	A23	SA8
IRQ4	B24	A24	SA7
IRQ3	B25	A25	SA6
DACK2-	B26	A26	SA5
TC	B27	A27	SA4
BALE	B28	A28	SA3
Vcc	B29	A29	SA2
OSC	B30	A30	SA1
GND	B31	A31	SA0
	KEY	KEY	
MEMCS16-	D1	C1	SBHE-
IOCS16-	D2	C2	LA23
IRQ10	D3	C3	LA22
IRQ11	D4	C4	LA21
IRQ12	D5	C5	LA20
IRQ15	D6	C6	LA19
IRQ14	D7	C7	LA18
DACK0-	D8	C8	LA17
DRQ0	D9	C9	MEMR-
DACK5-	D10	C10	MEMW-
DRQ5	D11	C11	SD8
DACK6-	D12	C12	SD9
DRQ6	D13	C13	SD10
DACK7-	D14	C14	SD11
DRQ7	D15	C15	SD12
Vcc	D16	C16	SD13
Master-	D17	C17	SD14
GND	D18	C18	SD15

Table F-16. ISA Connector

PCI CONNECTORS

Signal Name	*Pin*	*Pin*	*Signal Name*		*Signal Name*	*Pin*	*Pin*	*Signal Name*
GND	A1	B1	-12V		AD16	A32	B32	AD17
+12V	A2	B2	No Connect		3.3V	A33	B33	CBE2-
No Connect	A3	B3	GND		FRAME-	A34	B34	GND
No Connect	A4	B4	No Connect		GND	A35	B35	IRDY-
Vcc	A5	B5	Vcc		TRDY-	A32	B32	3.3V
PCIINT3-	A6	B6	Vcc		GND	A37	B37	DEVSEL-
PCIINT1-	A7	B7	PCIINT2-		STOP-	A38	B38	GND
Vcc	A8	B8	PCIINT4-		3.3V	A39	B39	PLOCK-
Reserved	A9	B9	No Connect		SDONE	A40	B40	PERR-
Vcc	A10	B10	Reserved		SBO-	A41	B41	3.3V
Reserved	A11	B11	No Connect		GND	A42	B42	SERR-
GND	A12	B12	GND		PAR	A43	B43	3.3V
GND	A13	B13	GND		AD15	A44	B44	CBE1-
Reserved	A14	B14	Reserved		3.3V	A45	B45	AD14
SPCIRST-	A15	B15	GND		AD13	A46	B46	GND
Vcc	A16	B16	PCLKE		AD11	A47	B47	AD12
AGNT-	A17	B17	GND		GND	A48	B48	AD10
GND	A18	B18	REQA-		AD9	A49	B49	GND
Reserved	A19	B19	Vcc		KEY	A50	B50	KEY
AD30	A20	B20	AD31		KEY	A51	B51	KEY
3.3V	A21	B21	AD29		CBEO-	A52	B52	AD8
AD28	A22	B22	GND		3.3V	A53	B53	AD7
AD26	A23	B23	AD27		AD6	A54	B54	3.3V
GND	A24	B24	AD25		AD4	A55	B55	AD5
AD24	A25	B25	3.3V		GND	A56	B56	AD3
AD22 (IDSEL)	A26	B26	CBE3-		AD2	A57	B57	GND
3.3V	A27	B27	AD23		AD0	A58	B58	AD1
AD22	A28	B28	GND		Vcc	A59	B59	Vcc
AD20	A29	B29	AD21		SREQ64-	A60	B60	SACK64-
GND	A30	B30	AD19		Vcc	A61	B61	Vcc
AD18	A31	B31	3.3V		Vcc	A62	B62	Vcc

Table F-17. PCI Connector