

5AA

USER'S MANUAL

- * Support Intel Pentium, MMX, Cyrix/IBM 6x86MX, MII, AMD K6, K6-2, K6-III, IDT Winchip 2, IDT Winchip 3 & RISE MP6 CPUs.
- * Support parity check or ECC function.
- * Support fully AGP 1.0 specification.
- * Support switching mode voltage regulator on board (1.3V~3.5V).
- * Support 66/75/83/95 MHz and 100MHz.
- * Support Modem Ring On (COMA; B) , Win 95/98 shutdown.
- * Support Wake on Lan (The ATX power supply supports larger than 720 mA 5V Stand-By current).
- * Support keyboard power ON/OFF function (The ATX power supply supports larger than 300mA 5V Stand-by current).
- * Support Ultra DMA/33 and ATA66.
- * Support AC Back power management.
- * Support IrDA function for Fast IrDA.

Pentium[®] Processor PCI - ISA BUS MAINBOARD
REV. 3.1 First Edition

R-31-01-091013

The author assumes no responsibility for any errors or omissions which may appear in this document nor does it make a commitment to update the information contained herein.

*THIRD-PARTY BRANDS AND NAMES ARE THE PROPERTY OF THEIR RESPECTIVE OWNERS.

Oct. 13, 1999 Taipei, Taiwan

I. CPU Jumper Setting Table:

O: ON
X: OFF

SW	4	5	6	7	8	SW	4	5	6	7	8
1.3V	X	X	X	X	O	2.5V	O	X	O	X	X
1.4V	X	O	X	X	O	2.6V	X	O	O	X	X
1.5V	X	X	O	X	O	2.7V	O	O	O	X	X
1.6V	X	O	O	X	O	2.8V	X	X	X	O	X
1.7V	X	X	X	O	O	2.9V	O	X	X	O	X
1.8V	X	O	X	O	O	3.0V	X	O	X	O	X
1.9V	X	X	O	O	O	3.1V	O	O	X	O	X
2.0V	X	O	O	O	O	3.2V	X	X	O	O	X
2.1V	O	X	X	X	X	3.3V	O	X	O	O	X
2.2V	X	O	X	X	X	3.4V	X	O	O	O	X
2.3V	O	O	X	X	X	3.5V	O	O	O	O	X
2.4V	X	X	O	X	X	---	---	---	---	---	---

SW	1	2	3
X1.5	X	X	X
X2	O	X	X
X2.5	O	O	X
X3	X	O	X
X3.5	X	X	X
X4	O	X	O
X4.5	O	O	O
X5	X	O	O
X5.5	X	X	O
X6	O	X	X

JP2	JP1	JP14	JP16	MHz
2-3	2-3	2-3	X	66M
1-2	2-3	2-3	O	75M
1-2	2-3	2-3	X	83M
1-2	1-2	2-3	O	95M
1-2	1-2	2-3	X	100M
1-2	1-2	1-2	X	105M
1-2	1-2	1-2	O	110M
1-2	2-3	1-2	X	115M
1-2	2-3	1-2	O	120M
2-3	1-2	1-2	X	125M
2-3	1-2	1-2	O	130M
2-3	2-3	1-2	X	135M
2-3	2-3	1-2	O	140M

◆Note: It's strongly recommended that set the system speed according to your hardware configuration: CPU, SDRAM, Cards, etc.

II. Quick Installation Guide:

O : ON X : OFF

CPU	S1	S2	S3	S4	S5	S6	S7	S8	JP2	JP1	JP14	JP16
1. Pentium [®] 133 MHz	O	X	X	O	O	O	O	X	2-3	2-3	2-3	X
2. Pentium [®] 166 MHz	O	O	X	O	O	O	O	X	2-3	2-3	2-3	X
3. Pentium [®] 200 MHz	X	O	X	O	O	O	O	X	2-3	2-3	2-3	X
4. Intel MMX-166MHz	O	O	X	X	X	X	O	X	2-3	2-3	2-3	X
5. Intel MMX-200MHz	X	O	X	X	X	X	O	X	2-3	2-3	2-3	X
6. Intel MMX-233MHz	X	X	X	X	X	X	O	X	2-3	2-3	2-3	X
7. AMD-K6/166 (2.9V)	O	O	X	O	X	X	O	X	2-3	2-3	2-3	X
8. AMD-K6/200 (2.9V)	X	O	X	O	X	X	O	X	2-3	2-3	2-3	X
9. AMD-K6/233 (3.2V)	X	X	X	X	X	O	O	X	2-3	2-3	2-3	X
10. AMD-K6/233 (66*3.5 2.2V)	X	X	X	X	O	X	X	X	2-3	2-3	2-3	X
11. AMD-K6/266 (66*4 2.2V) AMD-K6-2/266 (66*4 2.2V)	O	X	O	X	O	X	X	X	2-3	2-3	2-3	X
12. AMD-K6/300 (66*4.5 2.2V)	O	O	O	X	O	X	X	X	2-3	2-3	2-3	X
13. AMD-K6/300 (100*3 2.2V) AMD-K6-2/300 (100*3 2.2V)	X	O	X	X	O	X	X	X	1-2	1-2	2-3	X
14. AMD-K6-2/333 (66*5 2.2V)	X	O	O	X	O	X	X	X	2-3	2-3	2-3	X
15. AMD-K6-2/333 (95*3.5 2.2V)	X	X	X	X	O	X	X	X	1-2	1-2	2-3	O
16. AMD-K6-2/350 (100*3.5 2.2V)	X	X	X	X	O	X	X	X	1-2	1-2	2-3	X
17. AMD-K6-2/366 (66*5.5 2.2V) *	X	X	O	X	O	X	X	X	2-3	2-3	2-3	X
18. AMD-K6-2/380 (95*4 2.2V)	O	X	O	X	O	X	X	X	1-2	1-2	2-3	O
19. AMD-K6-2/400 (100*4 2.2V)	O	X	O	X	O	X	X	X	1-2	1-2	2-3	X
20. AMD-K6-2/450 (100*4.5 2.2V) *	O	O	O	X	O	X	X	X	1-2	1-2	2-3	X
21. AMD-K6-2/450 (100*4.5 2.4V)	O	O	O	X	X	O	X	X	1-2	1-2	2-3	X
22. AMD-K6-2/475 (95*5 2.2V) *	X	O	O	X	O	X	X	X	1-2	1-2	2-3	O
23. AMD-K6-2/475 (95*5 2.4V) *	X	O	O	X	X	O	X	X	1-2	1-2	2-3	O
24. AMD-K6-2/500 (100*5 2.2V) *	X	O	O	X	O	X	X	X	1-2	1-2	2-3	X
25. AMD-K6-2/500 (100*5 2.4V) *	X	O	O	X	X	O	X	X	1-2	1-2	2-3	X

26. AMD-K6-2/550 (100*5.5 2.2V) *	X	X	O	X	O	X	X	X	1-2	1-2	2-3	X
27. AMD-K6-III/400 (100*4 2.2V) *	O	X	O	X	O	X	X	X	1-2	1-2	2-3	X
CPU	S1	S2	S3	S4	S5	S6	S7	S8	JP2	JP1	JP14	JP16
28. AMD-K6-III/400 (100*4 2.4V)	O	X	O	X	X	O	X	X	1-2	1-2	2-3	X
29. AMD-K6-III/450 (100*4.5 2.2V) *	O	O	O	X	O	X	X	X	1-2	1-2	2-3	X
30. AMD-K6-III/450 (100*4.5 2.4V) *	O	O	O	X	X	O	X	X	1-2	1-2	2-3	X
31. AMD-K6-III/475 (95*5 2.2V) *	X	O	O	X	O	X	X	X	1-2	1-2	2-3	O
32. AMD-K6-III/475 (95*5 2.4V) *	X	O	O	X	X	O	X	X	1-2	1-2	2-3	O
33. AMD-K6-III/500 (100*5 2.2V) *	X	O	O	X	O	X	X	X	1-2	1-2	2-3	X
34. AMD-K6-III/500 (100*5 2.4V) *	X	O	O	X	X	O	X	X	1-2	1-2	2-3	X
35. AMD-K6-III/550 (100*5.5 2.2V) *	X	O	O	X	O	X	X	X	1-2	1-2	2-3	X
36. Cyrix/IBM 6x86MX-PR166 (66*2 2.9V)	O	X	X	O	X	X	O	X	2-3	2-3	2-3	X
37. Cyrix/IBM 6x86MX-PR200 (66*2.5 2.9V)	O	O	X	O	X	X	O	X	2-3	2-3	2-3	X
38. Cyrix/IBM 6x86MX-PR200 (75*2 2.9V)	O	X	X	O	X	X	O	X	1-2	2-3	2-3	O
39. Cyrix/IBM 6x86MX-PR233 (66*3 2.9V)	X	O	X	O	X	X	O	X	2-3	2-3	2-3	X
40. Cyrix/IBM 6x86MX-PR233 (75*2.5 2.9V)	O	O	X	O	X	X	O	X	1-2	2-3	2-3	O
41. Cyrix/IBM 6x86MX-PR233 (83*2 2.9V)	O	X	X	O	X	X	O	X	1-2	2-3	2-3	X
42. Cyrix/IBM 6x86MX-PR266 (66*3.5 2.9V)	X	X	X	O	X	X	O	X	2-3	2-3	2-3	X
43. Cyrix/IBM 6x86MX-PR266 (75*3 2.9V)	X	O	X	O	X	X	O	X	1-2	2-3	2-3	O
44. Cyrix/IBM 6x86MX-PR266 (83*2.5 2.9V)	O	O	X	O	X	X	O	X	1-2	2-3	2-3	X
45. Cyrix Mc ⁴ PR300 (66*3.5 2.9V)	X	X	X	O	X	X	O	X	2-3	2-3	2-3	X
46. Cyrix Mc ⁴ PR333 (66*4 2.9V)	O	X	O	O	X	X	O	X	2-3	2-3	2-3	X
47. Cyrix Mc ⁴ PR333 (83*3 2.9V)	X	O	X	O	X	X	O	X	1-2	2-3	2-3	X

48. Cyrix Mc Φ PR333 (75*3.5 2.9V)	X	X	X	O	X	X	O	X	1-2	2-3	2-3	O
49. Cyrix Mc Φ PR366 * (100*2.5 2.9V)	O	O	X	O	X	X	O	X	1-2	1-2	2-3	X
50. Cyrix Mc Φ PR366 * (75*4 2.9V)	O	X	O	O	X	X	O	X	1-2	2-3	2-3	O
CPU	S1	S2	S3	S4	S5	S6	S7	S8	JP2	JP1	JP14	JP16
51. Cyrix Mc Φ PR366 * (83*3.5 2.9V)	X	X	X	O	X	X	O	X	1-2	2-3	2-3	X
52. Cyrix Mc Φ PR400 * (100*3.5 2.9V)	X	X	X	O	X	X	O	X	1-2	1-2	2-3	X
53. IDT Winchip 2-200 (66*3 3.5V)	X	O	X	O	O	O	O	X	2-3	2-3	2-3	X
54. IDT Winchip 2-200 * (100*2 3.5V)	O	X	X	O	O	O	O	X	1-2	1-2	2-3	X
55. IDT Winchip 2-225 (75*3 3.5V)	X	O	X	O	O	O	O	X	1-2	2-3	2-3	O
56. IDT Winchip 2-233 * (66*3.5 3.5V)	X	X	X	O	O	O	O	X	2-3	2-3	2-3	X
57. IDT Winchip 2-233 * (100*2.33 3.5V)	X	O	O	O	O	O	O	X	1-2	1-2	2-3	X
58. IDT Winchip 2-266 * (66*4 3.5V)	O	X	O	O	O	O	O	X	2-3	2-3	2-3	X
59. IDT Winchip 2-266 * (100*2.66 3.5V)	X	X	O	O	O	O	O	X	1-2	1-2	2-3	X
60. IDT Winchip 2-300 * (100*2.5 3.5V)	O	O	X	O	O	O	O	X	1-2	1-2	2-3	X
61. IDT Winchip 3-266 * (100*2.33 2.8V)	X	O	O	X	X	X	O	X	1-2	1-2	2-3	X
62. RISE MP6-266 * (100*2 2.8V)	O	X	X	X	X	X	O	X	1-2	1-2	2-3	X

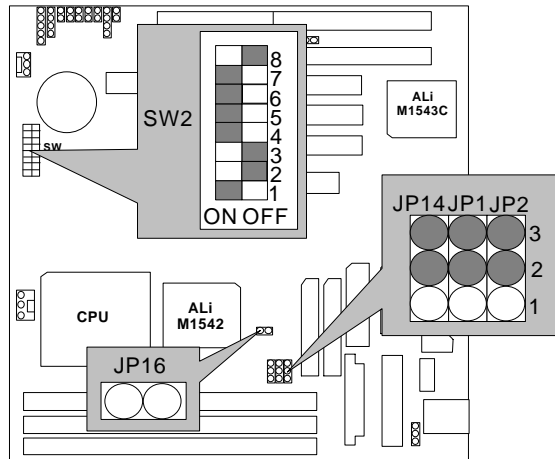
★ Note: If Cyrix 6x86 is being used, please check the CPU Date Code after 605.

⇒ The default setting is 100*3 at 2.2V for AMD K6/300 and AMD K6-2/300

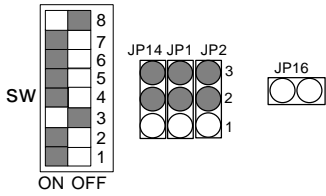
CPU	S1	S2	S3	S4	S5	S6	S7	S8	JP2	JP1	JP14	JP16
AMD-K6/300 (100*3 2.2V)	X	O	X	X	O	X	X	X	1-2	1-2	2-3	X
AMD-K6-2/300 (100*3 2.2V)												

☛ The settings of the processors marked with “*” above are just for your reference, these processors have not been tested yet !

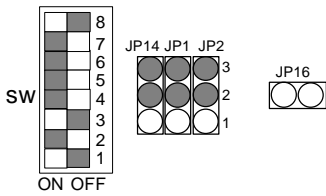
1. Pentium® Processor 133 MHz



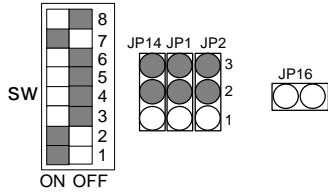
2. Pentium® Processor 166 MHz



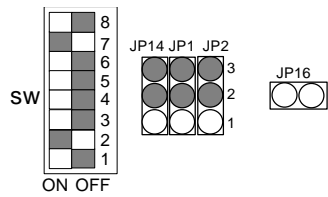
3. Pentium® Processor 200 MHz



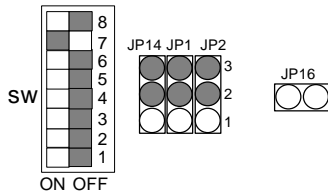
4. Intel MMX-166 MHz



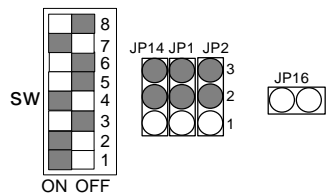
5. Intel MMX-200 MHz



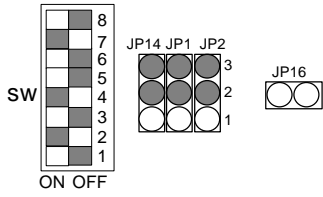
6. Intel MMX-233 MHz



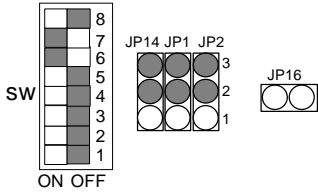
7. AMD-K6/166 (2.9V)



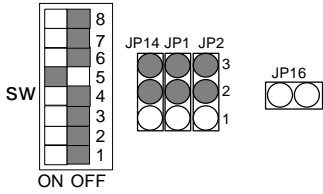
8. AMD-K6/200 (2.9V)



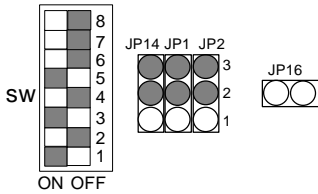
9. AMD-K6/233 (3.2V)



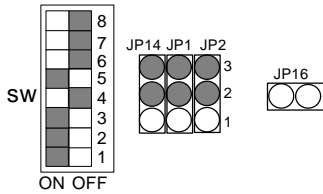
10. AMD-K6/233 (66*3.5 2.2V)



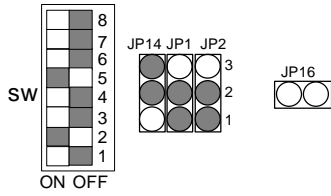
11. AMD-K6/266 (66*4 2.2V); AMD-K6-2/266 (66*4 2.2V)



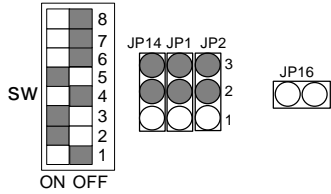
12. AMD-K6/300 (66*4.5 2.2V)



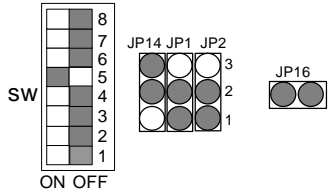
13. AMD-K6/300 (100*3 2.2V); AMD-K6-2/300 (100*3 2.2V)



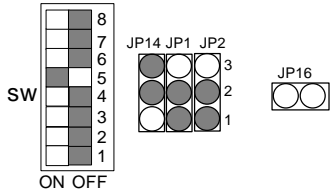
14. AMD-K6-2/333 (66*5 2.2V)



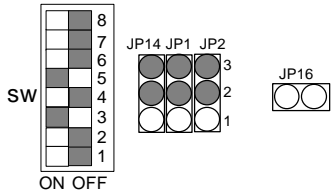
15. AMD-K6-2/333 (95*3.5 2.2V)



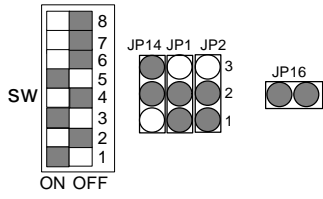
16. AMD-K6-2/350 (100*3.5 2.2V)



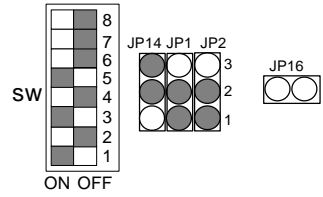
17. AMD-K6-2/366 (66*5.5 2.2V)



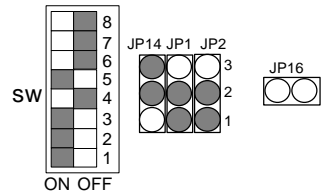
18. AMD-K6-2/380 (95*4 2.2V)



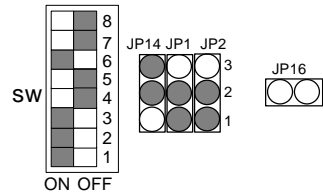
19. AMD-K6-2/400 (100*4 2.2V)



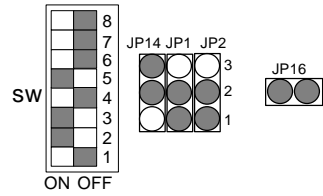
20. AMD-K6-2/450 (100*4.5 2.2V)



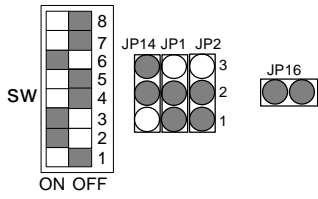
21. AMD-K6-2/450 (100*4.5 2.4V)



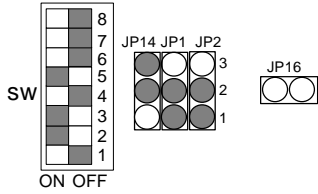
22. AMD-K6-2/475 (95*5 2.2V)



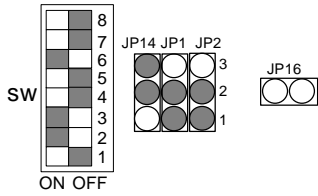
23. AMD-K6-2/475 (95*5 2.4V)



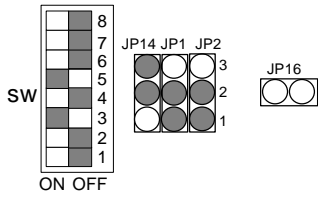
24. AMD-K6-2/500 (100*5 2.2V)



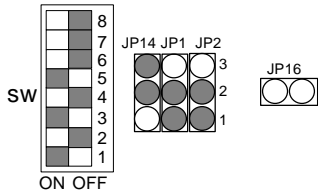
25. AMD-K6-2/500 (100*5 2.4V)



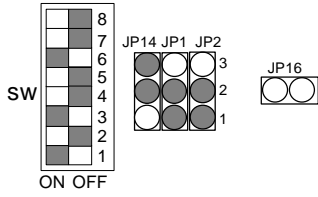
26. AMD-K6-2/550 (100*5.5 2.2V)



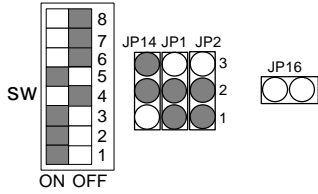
27. AMD-K6-III/400 (100*4 2.2V)



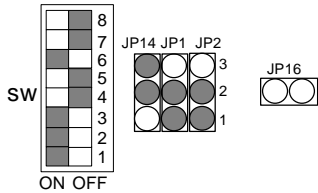
28. AMD-K6-III/400 (100*4 2.4V)



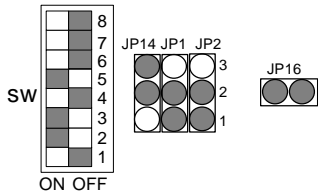
29. AMD-K6-III/450 (100*4.5 2.2V)



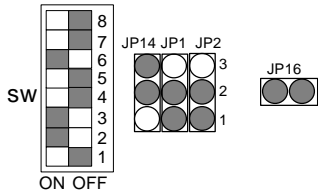
30. AMD-K6-III/450 (100*4.5 2.4V)



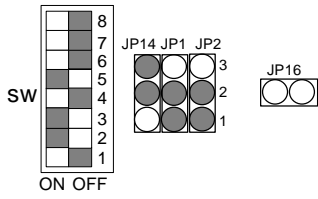
31. AMD-K6-III/475 (95*5 2.2V)



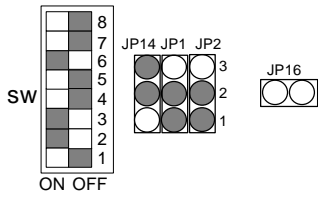
32. AMD-K6-III/475 (95*5 2.4V)



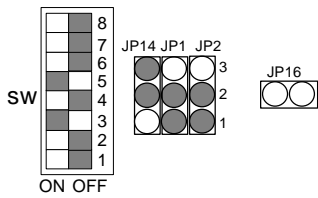
33. AMD-K6-III/500 (100*5 2.2V)



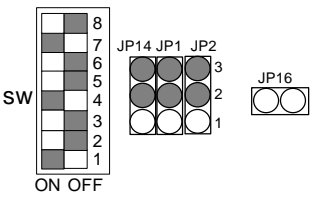
34. AMD-K6-III/500 (100*5 2.4V)



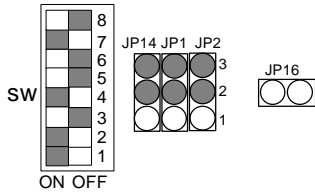
35. AMD-K6-III/550 (100*5.5 2.2V)



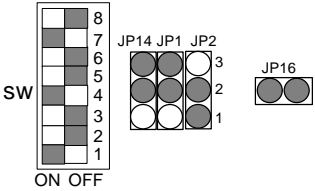
36. Cyrix /IBM 6x86MX-PR166 (66*2 2.9V)



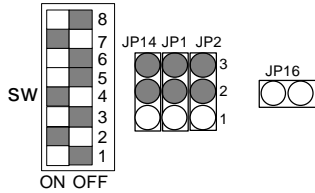
37. Cyrix /IBM 6x86MX-PR200 (66*2.5 2.9V)



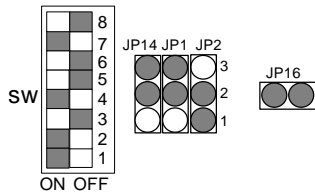
38. Cyrix /IBM 6x86MX-PR200 (75*2 2.9V)



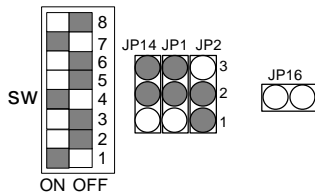
39. Cyrix /IBM 6x86MX-PR233 (66*3 2.9V)



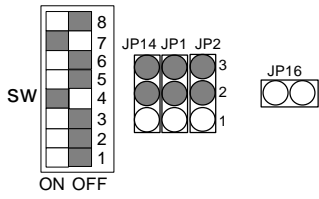
40. Cyrix /IBM 6x86MX-PR233 (75*2.5 2.9V)



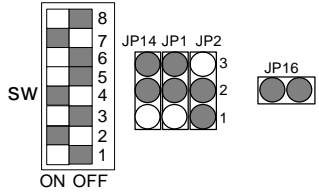
41. Cyrix /IBM 6x86MX-PR233 (83*2 2.9V)



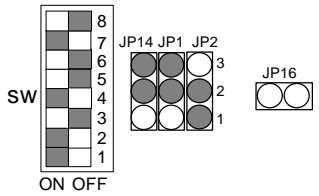
42. Cyrix /IBM 6x86MX-PR266 (66*3.5 2.9V)



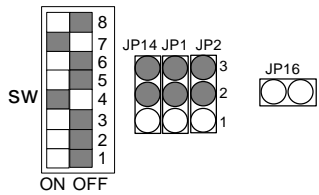
43. Cyrix / IBM 6x86MX-PR266 (75*3 2.9V)



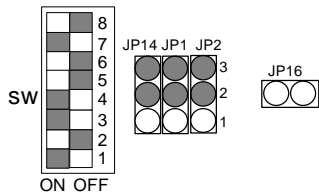
44. Cyrix / IBM 6x86MX-PR266 (83*2.5 2.9V)



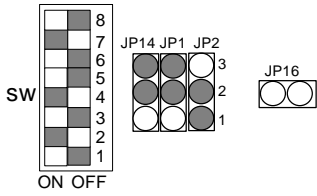
45. Cyrix MII-PR300 (66*3.5 2.9V)



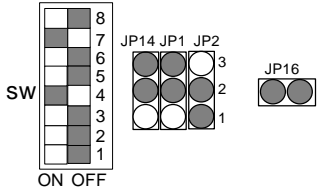
46. Cyrix MII-PR333 (66*4 2.9V)



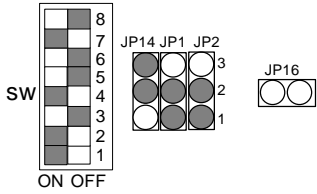
47. Cyrix MC PR333 (83*3 2.9V)



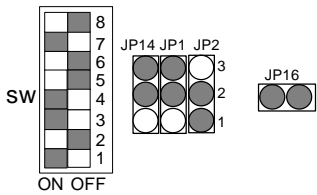
48. Cyrix MC PR333 (75*3.5 2.9V)



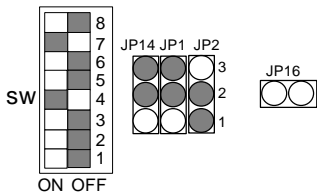
49. Cyrix MII-PR333 (100*2.5 2.9V)



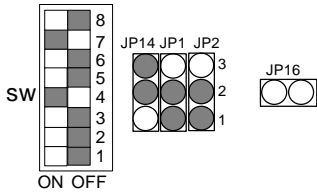
50. Cyrix MII-PR366 (75*4 2.9V)



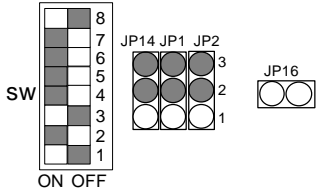
51. Cyrix MII-PR366 (83*3.5 2.9V)



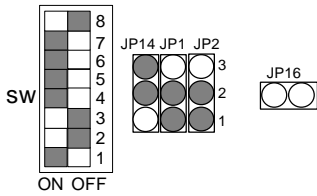
52. Cyrix MII-PR400 (100*3.5 2.9V)



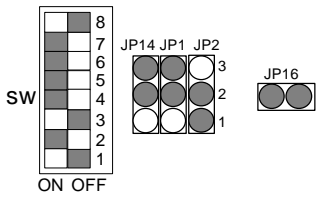
53. IDT Winchip 2-200 (66*3 3.5V)



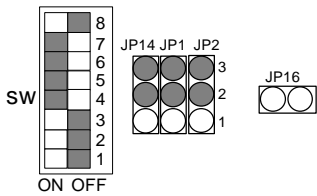
54. IDT Winchip 2-200 (100*2 3.5V)



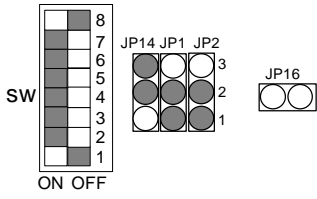
55. IDT Winchip 2-225 (75*3 3.5V)



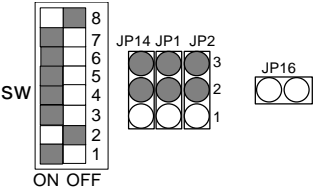
56. IDT Winchip 2-233 (66*3.5 3.5V)



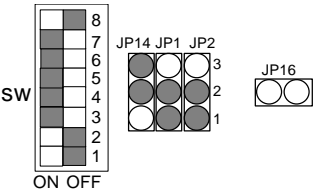
57. IDT Winchip 2-233 (100*2.33 3.5V)



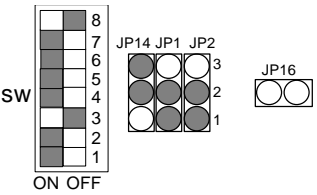
58. IDT Winchip 2-266 (66*4 3.5V)



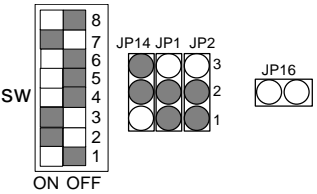
59. IDT Winchip 2-266 (100*2.66 3.5V)



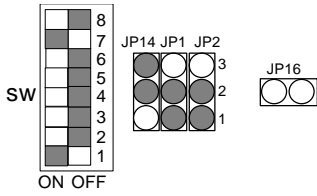
60. IDT Winchip 2-300 (100*2.5 3.5V)



61. IDT Winchip 3-266 (100*2.33 2.8V)

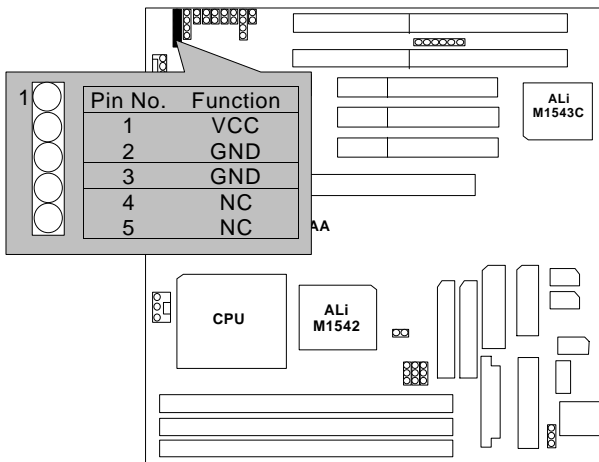


62. RISE MP6-266 (100*2 2.8V)

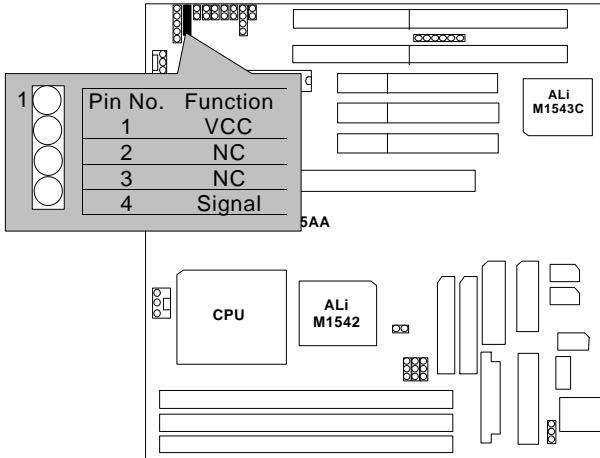


III. Quick Installation Guide of Jumper setting:

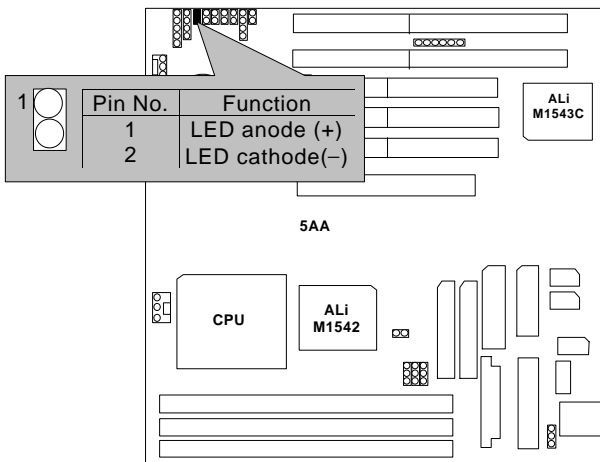
PWR : Power LED Connector



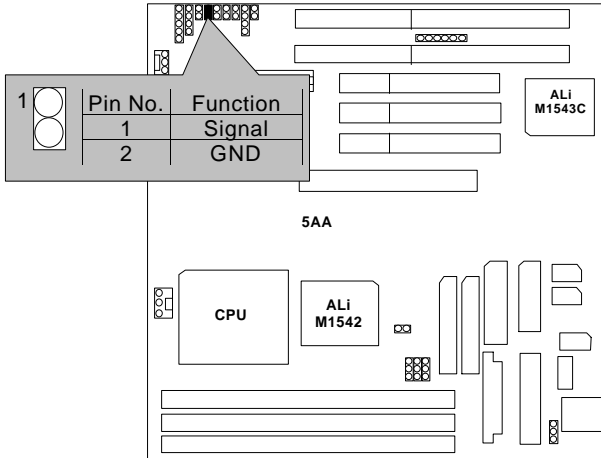
SPK : Speaker Connector



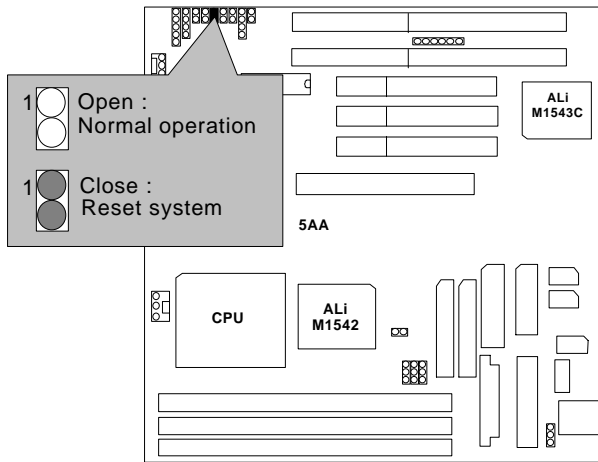
TD : Turbo LED Connector



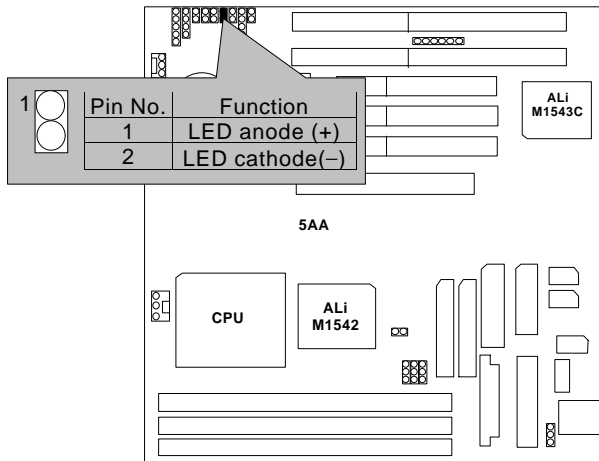
TB : Turbo Switch Connector



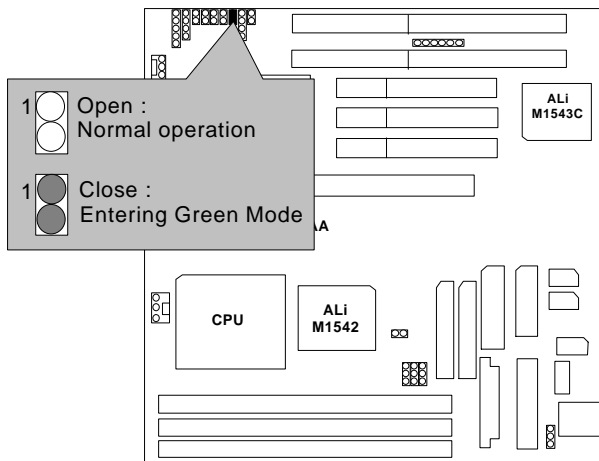
RST : Reset Switch



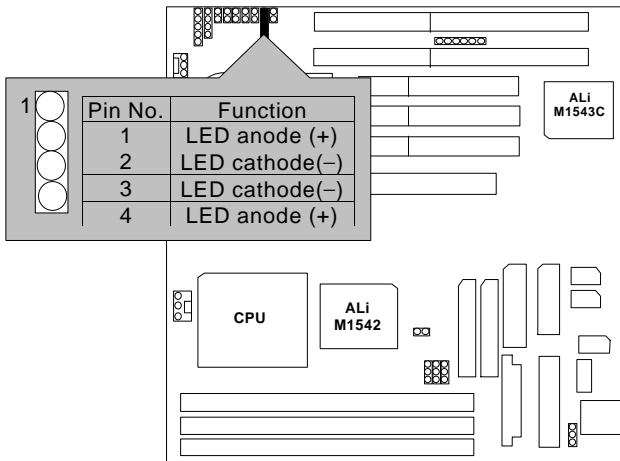
GD : Green LED



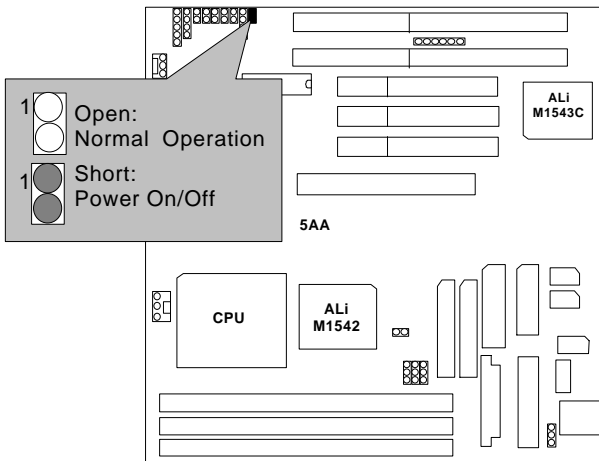
GN : Green Function Switch



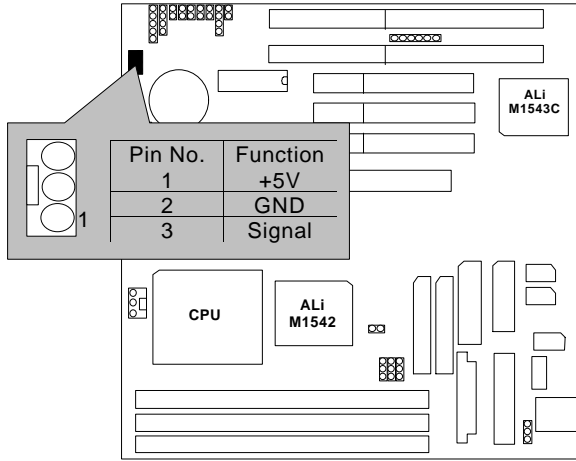
HD : IDE Hard Disk Active LED



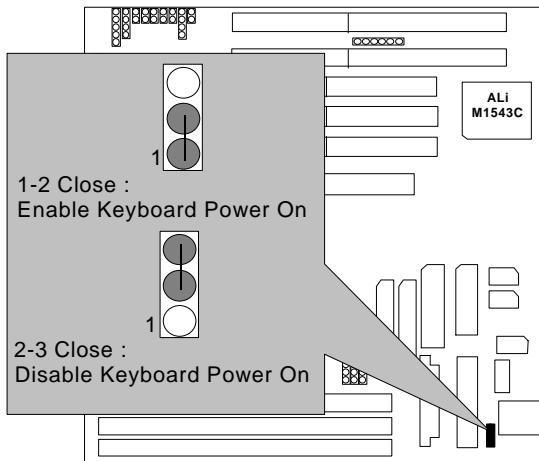
Soft PWR : Soft Power Connector



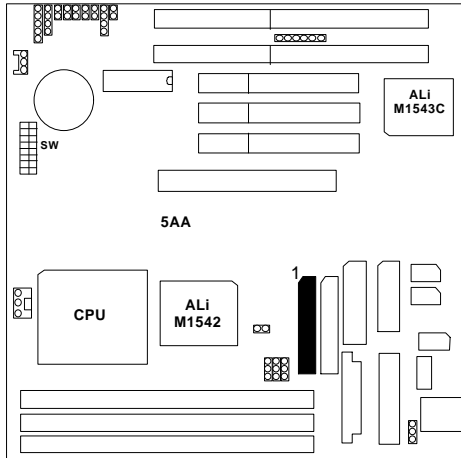
JP6: Wake On Lan



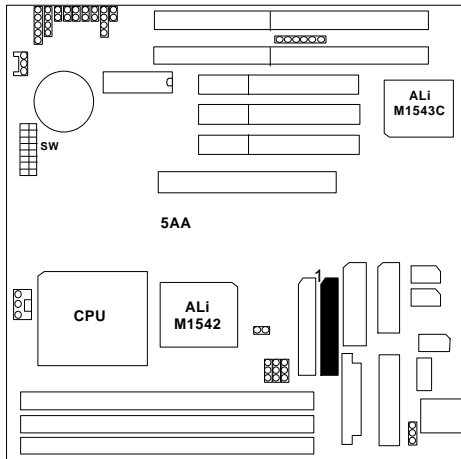
JP7: Keyboard Power On (for ATX Power Supply only)



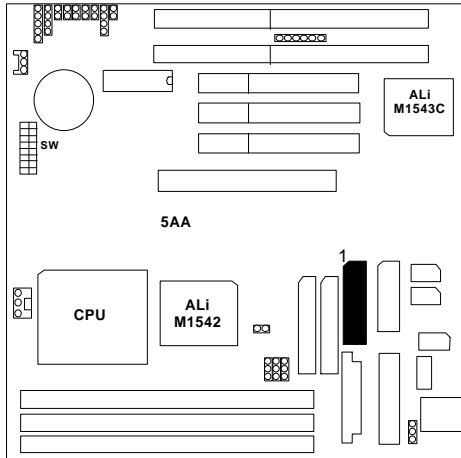
IDE1: Primary IDE Port



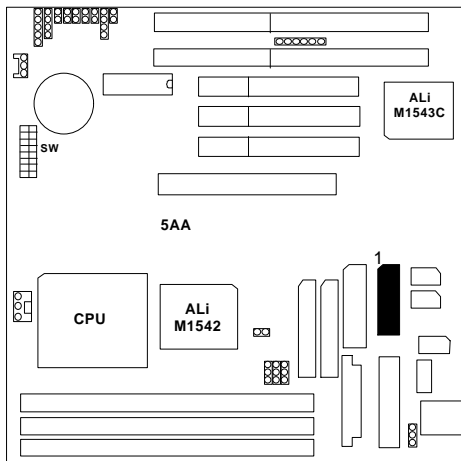
IDE2: Secondary IDE Port



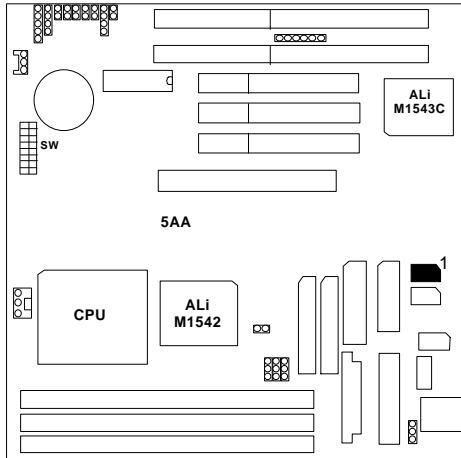
FLOPPY : Floppy Port



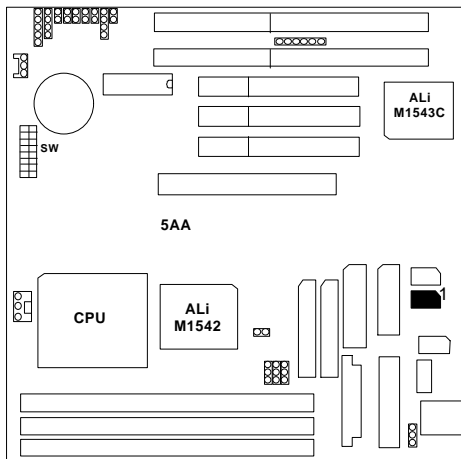
LPT : LPT Port



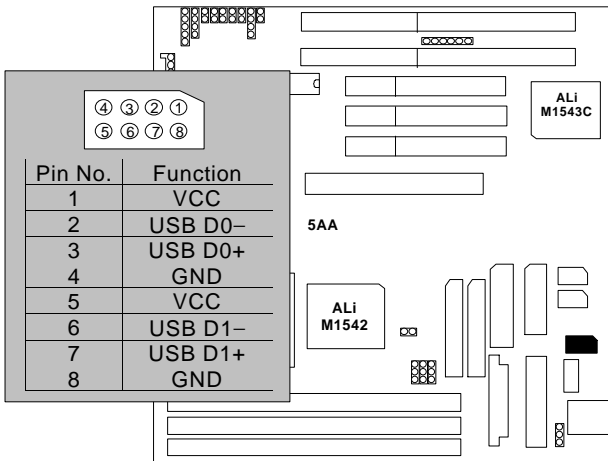
COM A : COM A Port



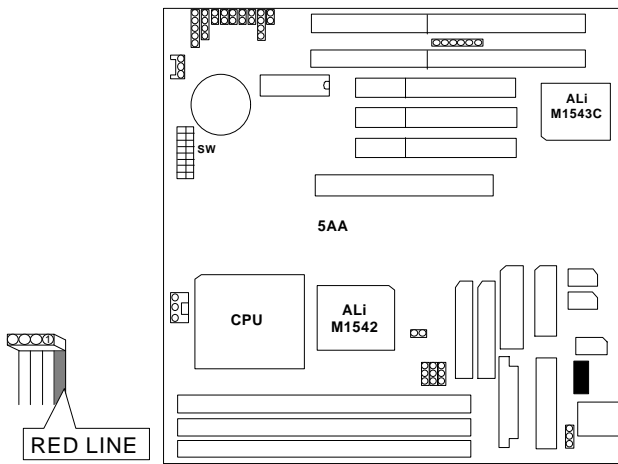
COM B: COM B Port



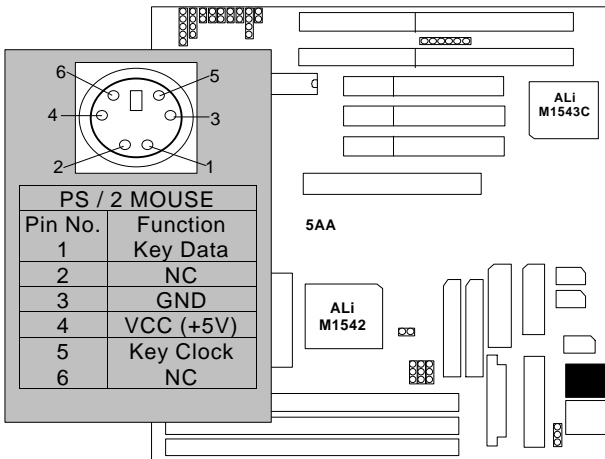
USB : USB Port



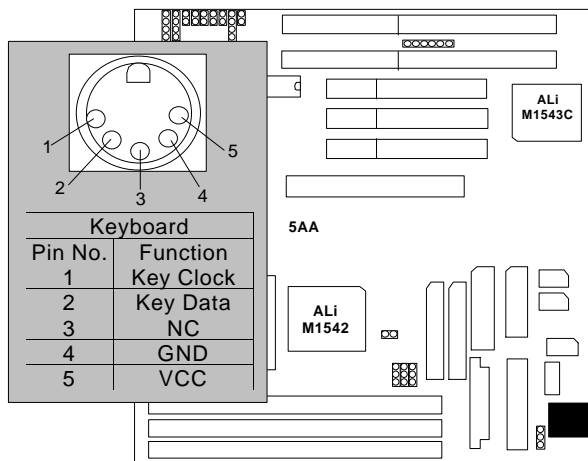
JP9 : PS/2 Mouse Connector



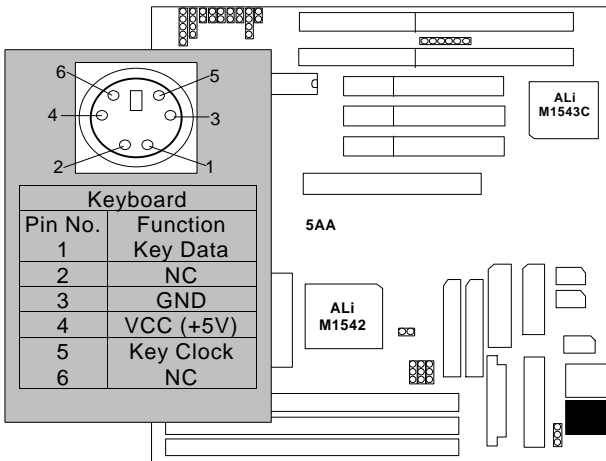
JP9-1 : PS / 2 Mouse Connector (Optional)



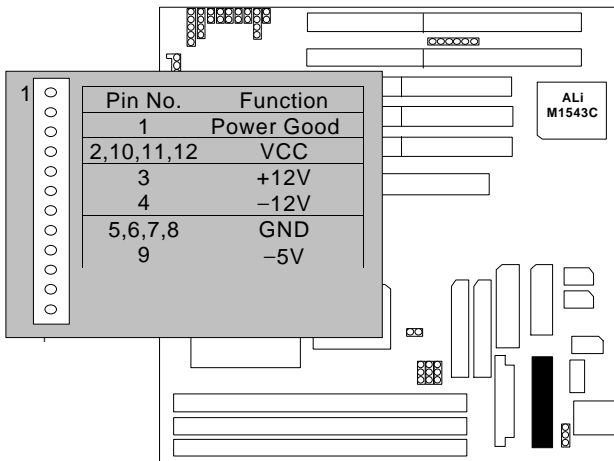
JP10 : AT Keyboard Connector



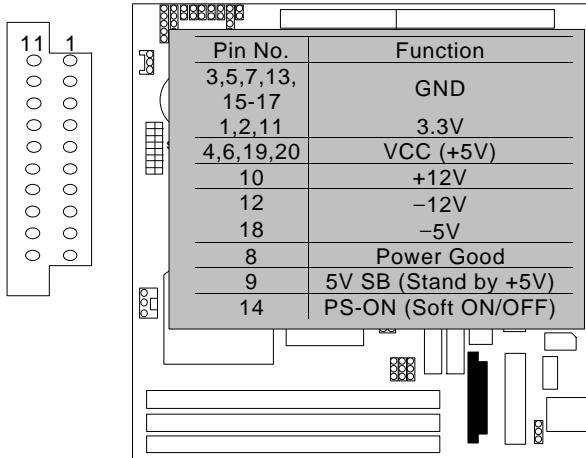
JP10-1 : PS/2 Keyboard Connector (Optional)



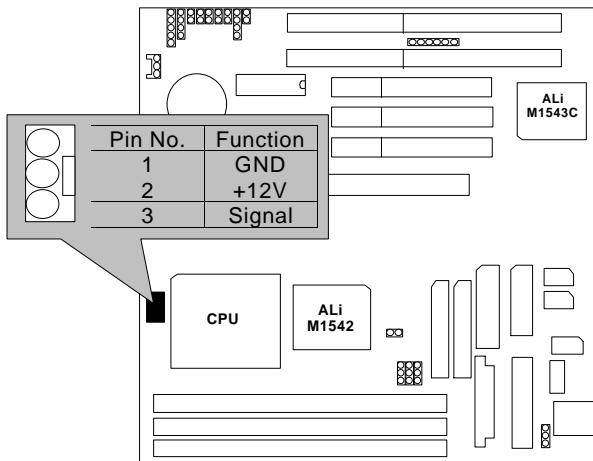
JP5 : AT Power Connector



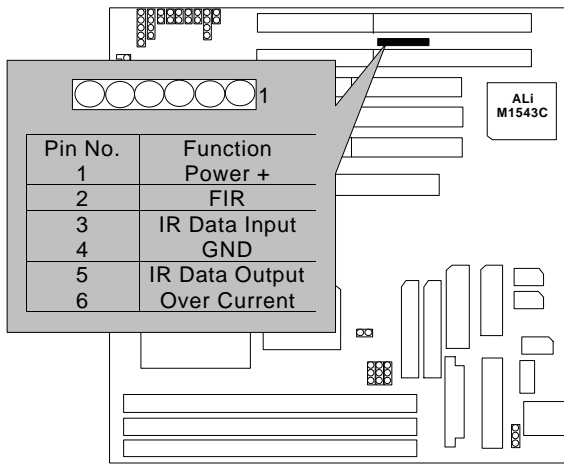
J1 : ATX Power Connector



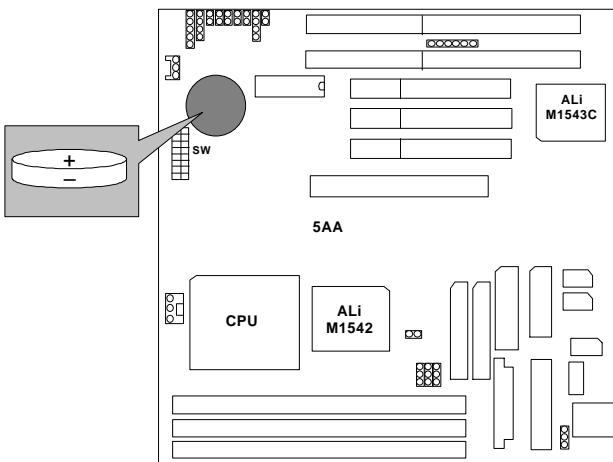
JP4:CPU Cooling Fan Power Connector



JP17 : Infrared Connector (Support FIR)



BAT1 : For Battery



⚠ Danger of explosion if battery is incorrectly replaced.

- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

III. Top Performance Test Setting:

Users have to modify the value for each item in chipset features as follow for top performance setting.

AMIBIOS SETUP - CHIPSET FEATURES SETUP (C)1998 American Megatrends, Inc. All Rights Reserved	
USB Function	: Enabled
USB Legacy Support	: Disabled
SDRAM CAS Latency	: Auto
DRAM Data Integrity Mode	: Parity
SDRAM Burst Mode	: Enabled
DRAM Timing	: Normal
Pipe Function	: Enabled
Gated Clock	: Disabled
Graphic Aperture Size	: 64MB
Primary Frame Buffer	: All
UGA Frame Buffer	: Enabled
Data Merge	: Disabled
Passive Release	: Enabled
ISA Line Buffer	: Enabled
Delay Transaction	: Disabled
AT Bus Clock	: Auto
AMD K6 Write Allocate	: Disabled
Spread Spectrum	: Disabled
ESC : Quit ↑↓↔ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift) F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults	

** Each value of items as above depends on your hardware configuration : CPU ,
SDRAM , Cards , etc.
Please modify each value of items If your system does not work properly.

PERFORMANCE LIST

The following list of performance data is the testing results of some popular benchmark testing programs.

These data are just referred by users, and there is no responsibility for different testing data values gotten by users. (The different Hardware & Software configuration will result in different benchmark testing results.)

- CPU AMD K6-2 500, AMD K6-III 450, AMD K6-2+/450
- DRAM (128x1) MB SDRAM (HYUNDAI HY57V658020A TC-10S)
- CACHE SIZE 512 KB
- DISPLAY GA-660 (32MB SDRAM)
- STORAGE Onboard IDE (Quantum KA13600AT)
- O.S. Windows® NT 4.0+ SPK5
- DRIVER Display Driver at 1024 x 768 x 256 colors x 75Hz.
ALi Bus Master IDE Driver

Processor	AMD K6-2/500 (100x5)	AMD K6-III/450 (100x4.5)	AMD K6-2+/450 (100x4.5)
Winbench98 CPU mark32	23.2	36.2	34.2
FPU Winmark	1610	1520	1520
Business Disk	4630	5060	4620
Hi-End Disk	11700	12300	12600
Business Graphics	134	206	190
Hi-End Graphics	249	346	335
Winstone98 Business	26.7	32	30.1
Hi-End	21.4	24	23.1