

İP³XÍÓ İŞB ÀŠÒà

ç0ÍÓË_çYİqÁaÔçDzÃÔ% À»»RÔ»Ã ÀfÀ ÀŠÒaË'ÃÔÂİè»R×è×eÓ ÀæÑíÍ, ÂáÂSa[ÂíÂŠ
Òà»T



×è%f%â: ESD (Electrostatic Discharge) ÆËÚcÓ,,Ã
Ó,,%ÃÑ_»RçèÃ Û€B Ó,,Ò (IC) ÅöÈvÃ Â Â ÚcÓ,,Ña
ÚÍÃÔÔ%Be»RÃnÃÓÑ"ÂéÑ]ÍSÌ' ØÓ»RÔèÔèØ »RÜi çc
çu%æÂpç]ÃÔÔ†ç Â Â ÐaÈq»TÆË%WÓŠÃØÚcÓ,,Ã Ó,,
ÂíÑ}ÝrİÓ% »R×èÛ ÀÆ%fÃTÃÔÔŠÃØËÓÆZ»X

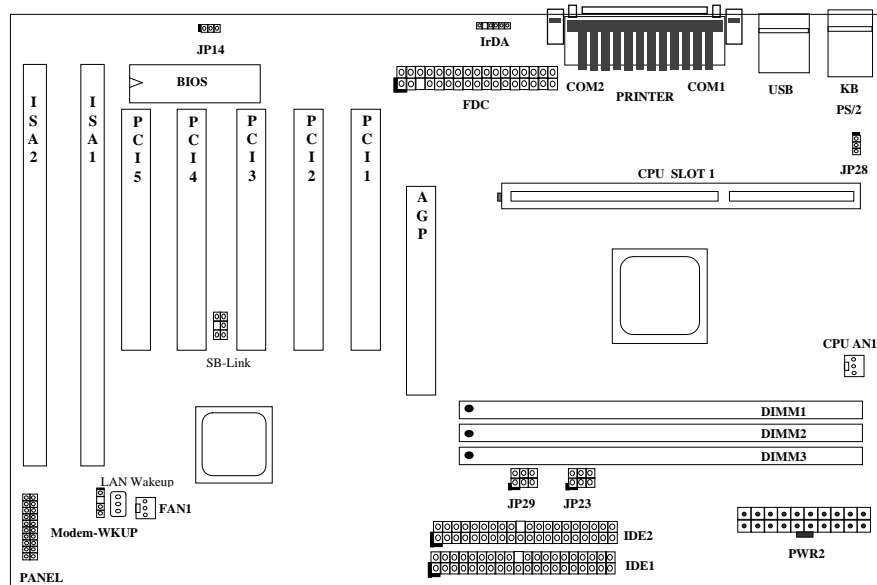
1. Ê%ÅUË' %ŠÑaÍaÀ€Ç€Ð"Ã}ÀŠÒaÓ†ç »RÁpÂy%uðf
%4Ç€Ë_Ó†ç ÀõÃØÚcÓ,,çnÒa%ØÂ çi»T

2. ÀsË' ÀŠÒaÓ†ç Èä»RÍæÀ€Ër%hÃÍËİÃr×^ÃÔ%âi
Ú »R%4Í»ç ÃÔÔ,,%4Ó†ç À Í%ÃÍÀs× »TÀfÃXÃdÃÍ
%âiÚ »R×èÂéçèç À çzçYÃØ% ÚcÓ,,ÃÔİÚç_Ã•»RÃí
ÔaÂİèÔ†ç %æçUØ Â`ËİPİ»T

İŞB ÅŠòà

2.1 Jumper ÕaËÏÚj ÄÔÀ Ò~

¿Y¼f Æ¿U0 Ä`¼Jumper Ä^ËÏÚj (connector) ÄÔË¿Ò~Ôé»X



Jumpers:

JP14: İ ^ Ê¼CMOS
 JP23, JP29: Host Clock
 JP28: Üþ×|/ÑàÓÁÐ"Ø

ËÏÚj:

PS2: PS/2 ÑàÓÁËÏÚj
 KB: PS/2 Üþ×|ËÏÚj
 COM1: COM1 ËÏÚj
 COM2: COM2 ËÏÚj
 PRINTER: À|Ä Ø ËÏÚj
 PWR2: ATX Ó,Ñ×ËÏÚj
 USB: USB ËÏÚj
 FDC: Floppy ËÏÚj
 IDE1: ÌÐ¾QÌiIDE Í†ËÏÚj
 IDE2: ÌÐ¾XÌiIDE Í†ËÏÚj
 CPUFAN1: CPU ÇÑÈÈËÏÚj
 FAN1: Ø ÎàÇÑÈÈËÏÚj
 IrDA: IrDA (Æ ¿•×^) ËÏÚj
 PANEL: Åv¼ ÇÈÄ` Å ÜþØaÜ` ØÓÍ†ËÏÚj
 MODEM-WKUP: 0V Wake On Modem ËÏÚj
 LAN-WKUP: Wake On LAN ËÏÚj

İŞB AŞÖa

2.2 Jumpers

İ, Đ ÇUØ Ä`Æ ÊPçèİ jumper İncf»RÊu»QÄÖ jumper Æ İ`Ê CMOS»RÄpçUÇÊÆ Çè Ä ÄeÊ`Ê`xi ÄÖÊaÇi»T

2.2.1 Ü Â CPU Úhİ%

İ, Đ ÇUØ Ä`ÇZ`YÄöÊäÊÖİ CPU Ö,Ü»R ÄYÇSZZYB Ê`Äs CMOS setup ÇÄİnÄŞ CPU Úhİ%»RÄİİ]DNÄéçèÄ jumper»Tçç•»R»vçYÍ`Ö] ÇÄYİ`Ä»RÊ_çÜxèÄÖ CPU ò ÊeÊ`Ü Â EEPROM ÇÇ»TÄfÄÖ»QÄİ»RÖf»Q MOS Ü ÇÇ»RÊ`İ_ÇÇèÖüÇÄİn CPU Ö,Ü»Êäçi ÇÄÊÜ »RÇÇÇÇİÄÊÇhÄÖçİD`Ö,Ö»İüÜaİ CPU ÖöY ÇÄ»TÄİİ, ÇÄÊ ÇQÊ ÊPçèİ jumper İncfÄÖ Pentium ÇUØ Ä`ÇUÇÊÄÖÊ÷YU»T

İnÄŞ CPU Úhİ%ÄÖ% Ä|Æ »X

BOIS Setup à Chipset Features Setup à CPU Clock Frequency

(ÇZÊüÄÖİnÄŞÇäÄİ 66.8, 75, 78, 81, 83.3, 90, 95, 100, 105, 110, 112, 113.5, 115, 117, 118.5, 120, 124, 126, 133, 135, 137, 138.5, 140, 142, 144, 150, 155 MHz)

BOIS Setup à Chipset Features Setup à CPU Clock Ratio

(ÇZÊüÄÖİnÄŞÇäÄİ 1.5x, 2x, 2.5x, 3x, 3.5x, 4x, 4.5x, 5x, 5.5x, 6x, 6.5x, 7x, 7.5x, Öa 8x)

CPU ÇÖİ»Úhİ% ÇÜÜh% x Ç•Úh

| CPU | CPU ÇÖİ»Úhİ% | ÇÜÜh% | Ç•Úh |
|-----------------|--------------|-------|--------|
| Pentium II 233 | 233MHz = | 3.5x | 66MHz |
| Pentium II 266 | 266MHz = | 4x | 66MHz |
| Pentium II 300 | 300MHz = | 4.5x | 66MHz |
| Pentium II 333 | 333MHz = | 5x | 66MHz |
| Pentium II 350 | 350MHz= | 3.5x | 100MHz |
| Pentium II 400 | 400MHz= | 4x | 100MHz |
| Pentium II 450 | 450MHz= | 4.5x | 100MHz |
| Pentium III 450 | 450MHz= | 4.5x | 100MHz |
| Pentium III 450 | 500MHz= | 5x | 100MHz |
| Pentium III 450 | 550MHz= | 5.5x | 100MHz |
| Celeron 266 | 266MHz= | 4x | 66MHz |
| Celeron 300 | 300MHz= | 4.5x | 66MHz |
| Celeron 300A | 300MHz= | 4.5x | 66MHz |
| Celeron 333 | 333MHz= | 5x | 66MHz |

İŞB ÅŠÒà

| CPU | CPU %Öİ»Ühİ% | ÇÜÜh% | ç•Üh |
|-------------|--------------|-------|-------|
| Celeron 366 | 366MHz= | 5.5x | 66MHz |
| Celeron 400 | 400MHz= | 6x | 66MHz |
| Celeron 433 | 433MHz= | 6.5x | 66MHz |
| Celeron 466 | 466MHz= | 7x | 66MHz |
| Celeron 500 | 500MHz= | 7.5x | 66MHz |



ÞİÁz: VIA Apollo Pro133 İÖ% İİİæÄçz%İÄ 133MHz CPU ç•Üh»RÄp
 Ø}ÐaÄe%Öİ»İ Òiçè»Tİ, ÄáİnÄŞÇa%ŞDhçİİÖ% İİÄÖİhÈ »RçzÉúŃ"Ó Ä†
 İeİÖÄŃ}Èq»T

2.2.2 CPU Ó„Ü½

çÖçUØ Ä`%İİPentium II / Pentium III / Celeron VID çİú»RçzÄöÈaÈÖİ CPU Èö
 %üÖ„Ü½»RÄp×uİ Às 1.3V Ä 3.5V %ÄD»»T

Æ%ÄeDhÜhÄ çI¼ Ä`»Rİ,Ð çUØ Ä`ÜöçzBIOS Setup %¼«iØy CPU Ó„Ü½»T

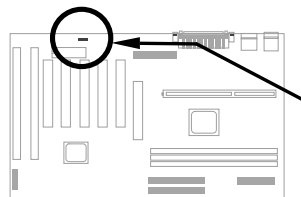
Chipset Features à CPU Voltage Set to


%ÄÖ]×eÄqŃ_»RçI¼Ö„Ü½çÉúŃÓ È'ÄÖ CPU İÖÄŃ}Èq»T


2.2.3 İ^Ê½CMOS

| JP14 | İ^Ê½CMOS |
|------|----------------|
| 1-2 | çÜÈç»Äf (ÖŠİn) |
| 2-3 | Clear CMOS |

ÀfÄXÈ'ÄeÈ`ÄiİnÄŞÄÖÄİeÈ\×i Èa»RçİDŃç ÈİaBE
 İnÈİC>D»Rİ^È'ÄYÇÄİnT^`dİÄÖİnÄŞÇaÄu»R%Éú
 ÇÄŃ†D"Ø »T



JP14
 1 2 3

 Normal Operation
 (default)

JP14
 1 2 3

 Clear CMOS

İŞB AŞÖa

İ^Ê½CMOS ÄÖİ' Áá:

1. Ý ÍÄÄİëÖ,,Ñ»T
2. ÄöËÖ PWR2 %ÄÄÖATX Ö,,Ñ»^»T
3. Äpçİ JP14 ÄİÄSÄÖÄ Ö~»RË_D ×ÄİfÖmÄ %ÄÄİ»RÄ È^Ä-3 Ö"Ä %Ä»T
4. %QÑÄüËäD»Äü»RÄ %ÄD ×ÄİfÖmÄÄÑİÈ^ÄoÄ 1-2 Ö"Ä %Ä»RÄ İpÄÄÇ ÄİÄÖÄÄÖR»T
5. È_ATX Ö,,Ñ»×^ËİÄo PWR2»T
6. ÇÄÑİçİD"Ö,,Ö!Ö,,Ñ»T
7. ÄfÄXÑbÇİÄÄSÑİÄÖÄİëÈ\×i »RçZÄSÄİëÈÈÈäÈä»RÄ %Ä ÜpDz%Ä BIOS Setup İvÇÈ%Ä»RÄÄ ÄSÑİÄÖÈ\×i »T



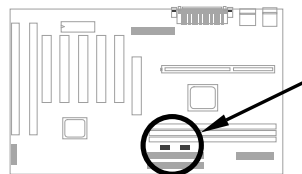
İ½ö: ÄfÄXË' ÄÖÄİëÄÄnÄËDhÜhÄİÑ ÈÖÄÈİJÄ|D"Ø »RçZçYİ^È½ CMOS»RB ÄİëÄoÄ ÖSİÄÖÄÄÖR»T

İ½ö: È½ÄÄÉçè JP14 %Äç»RË' %ÄçZçYçè <Home> ÜpÄİİ^È½ CMOS»T%Ä Ä|ÄÄ Ä <Home> Üpİ^ÄüD"ÈİÖ,,Ñ»D"Y »Rİ, ÖaÄİëÈÑ"Äö ÈäÈ_CPU İÄÄ Pentium II 233MHz»TËİ%Äİ»RË' çZÄRÄäÖ ÖöÄÄf»RDz %Ä BIOS Setup İÄÄS CPU Ühİ%»T

2.2.4 Host Clock

| JP23 | JP29 | Host Clock |
|------|------|----------------|
| 1-2 | 1-2 | Auto (default) |
| 3-4 | 3-4 | 124 ~ 155MHz |
| 3-4 | 5-6 | 90 ~ 124MHz |
| 5-6 | 5-6 | 66 ~ 83MHz |

İ, Çİ jumper çèÄİÄ ÄS PCI Öa host clock ÄÖY Äj »T
 %QÉ ÄİÖ»»RÄöÇäÄöDİ%ÄÇÄ BööSİÄÇaAuto»T
 Ä ÄSDhÜh%ÄÄ»RË'İ_çİDÑÄ BÖİ, Çjumper İÄÄS%ÄTÄİÄf»RÇÄÄü66MHz FSB ÄÖ CPU DhÜh Äö 100MHz»Rİ_çİDÑİÄS JP23 ÄË "3-4" %Ä JP29 Äö "5-6"»T



JP29 JP23
 2 4 6 2 4 6

 1 3 5 1 3 5
 Auto (Default)

JP29 JP23
 2 4 6 2 4 6

 1 3 5 1 3 5
 124-155 MHz

İŞB ÅŠ0à

JP29 JP23

2 4 6

1 3 5

90-124 MHz

2 4 6

1 3 5

JP29 JP23

2 4 6

1 3 5

66-83 MHz

2 4 6

1 3 5

| Mode | CPU (Host) | AGP | Memory | PCI |
|------------------|------------|------|------------|-------|
| 2X | 66 | 66 | 66 | 33 |
| 3X | 100 | 66 | 133/100/66 | 33 |
| 3X, overclocking | 133 | 66 | 112/100 | 33 |
| 4x, overclocking | 155 | 77.5 | 155/116.3 | 38.75 |

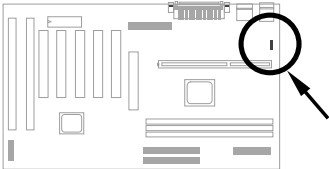
2.2.5 KB/MS WKUP

JP28 KB/MS WKUP

1-2 Disabled

2-3 Enabled

çèÁí Èì çèÛp×]/ÑàÓÁÐ"Ø çñú»TÇj ÍmÊ Enabled»R
Ë' ÛóÐÑË,, BIOS Setup ¾¼ÍñÁŠÐ"Ø ÕìÀ»»TÇ€Áéçè
ÀÓçñú»R5V Stand By Ó,,ÆË ÌÐÑ¾Á 800mA»RÃì
çYÆj ÁáÓ,,Ñ×ØÓçÆúÑÏ]Ä|Áéçè»T
×èÄqÑ_»Rç^Áí PS/2 ÑàÓÁ¾pÎÁÑàÓÁÐ"Ø »T



JP28

1 2 3

Disabled

JP28

1 2 3

Enabled

İŞB AŞÖa

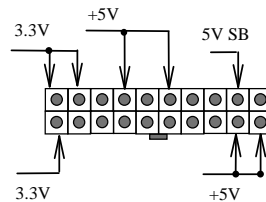
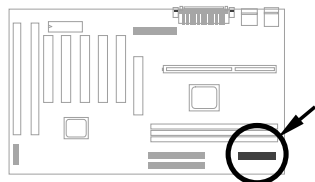
2.3 İ†ËİÚj

2.3.1 Ó„Ñ×Í†Ëİ×^

ATX Ó„Ñ×Í†ËİÚj 20-pin İ†ËİÚj »R×e×eÄŞË'İ»%4Ä0% ÄgÆ çÜ×eÄ0»T



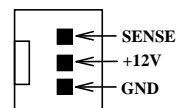
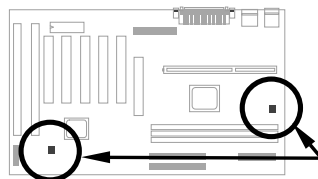
×e%4%Ä: ÄsÍ†ËİÄeÄ0E%4Ó„Ñ×Í†Ëİ×^%ÄÄv»R×eç Ý
ÍÄ†İeÓ„Ñ×»T



PWR2

2.3.2 ÇÑËË

ÄsçU0 Ä`%4»RAÍ%ççİöeçCPU FAN öa%ççİöeçöaFAN ÄöÇÑËËİÚj »T



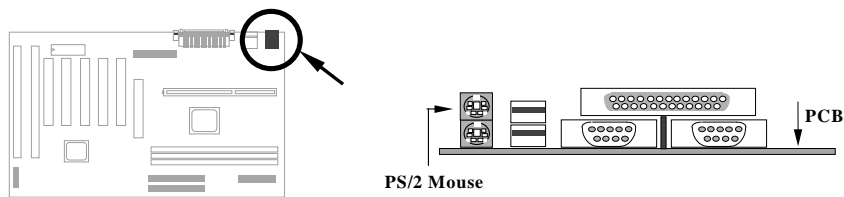
CPU FAN
FAN



Ä İ : Í, ÄüçİÇÑËËİÚj Í½ççY%pİÄİŞB öaËËçmÉú (hardware monitor)»T

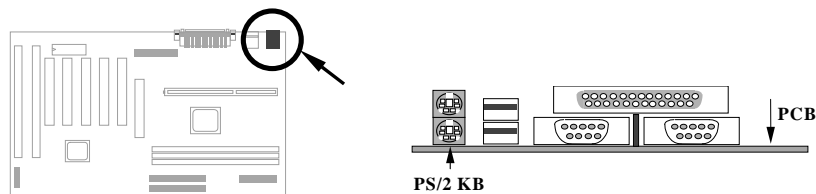
2.3.3 PS/2 Āà0Ā

×ēĪġĒ PS/2Īā0ĀĀ ōēçöĒPS2 MSĪĀ0ĒĪŲĵ ¼ĥ»T



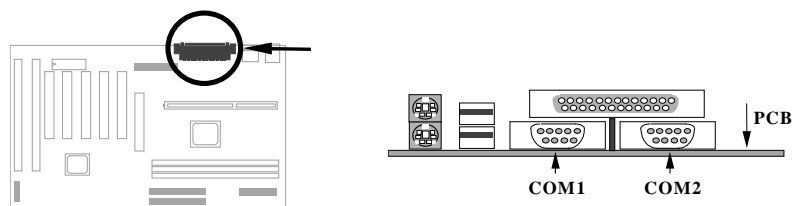
2.3.4 Ūp×]

×ēĒ_PS/2 Ūp×]ĒĪĀ ōēçöĒKB Ā0ĪġĒĪŲĵ ¼ĥ»T



2.3.5 Ā ĀĒĒ (COM1/COM2)

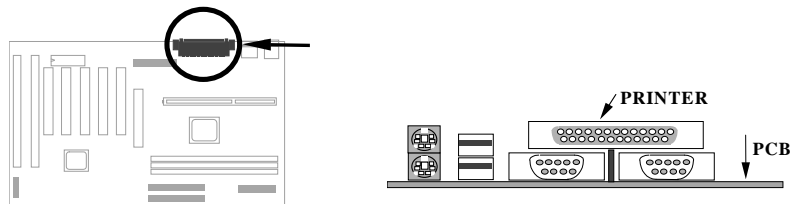
Āū¼ ÇĒĀ` ¼ĥĪĪūçĭŲōēçöĒCOM1 ōa COM2 Ā0 9-pin D-ĀĒĒĪŲĵ »RççēĀĪġĒĪĀ ĀĒĒ Ā0Ā(serial mouse) ĀēĒ Ūā000 »TĀp¼Īp¼QÇĭĀ ĀĒĒ ĒĪŲĵ ōēçöĒCOM1»ŪĪp ¼XÇĭĀyŲōēçöĒCOM2»T



İŞB ÅŠðà

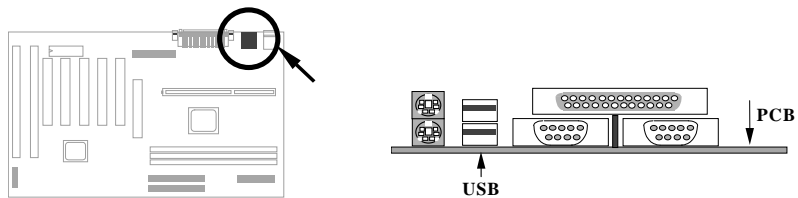
2.3.6 À]Ä Ø

çUØ Ä` Äü% ÇÄÄ` %hÄÍ%QÇiÖêöM~~PRINTER~~ ÄÖ 25-pin D-Ä~~Ä~~Üj »RçèÄíÄŠİ»ÄÝÄT
Ä»Ä]Ä Ø »T



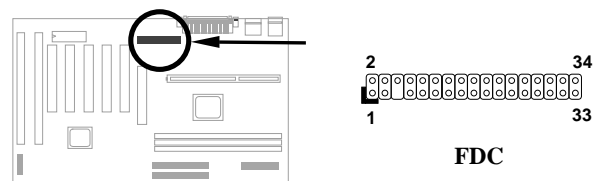
2.3.7 USB ÖàÖ~

Ë`ç~~Ä~~ USB ÖàÖ~İ†ËİÄ USB ËÜj »RÍ, Ð çUØ Ä` %hÄÍÄüQ1USB ËÜj »RÖêöÄ~~Ä~~
USB»T



2.3.8 Í€ÖêØ

ÄsçUØ Ä` %hÄÍ%QÇiÖêöM~~FDC~~ ÄÖ 34-pin ËÜj »RççèÄíİ†ËİÄüç<Í€ÖêØ »T

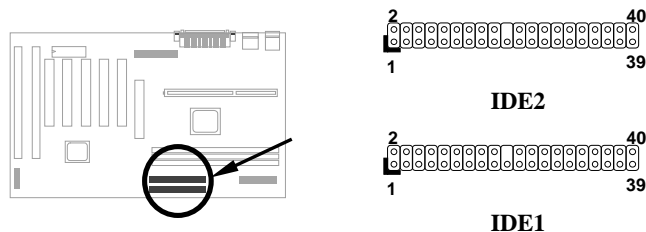


2.3.9 IDE İŞÖêØ Õa CDROM

ÅsçUØ Ä`%41»RÊİAİAuÇiÖêçöMIDE1 Ä^ IDE2 ÄØ 40-pin ÈaÈS»Rçz40Ä`İ†ÈİÄüÇi
IDE òàò~»RİæAyçİ†Èİç“Çi IDE òàò~»R%QÉ IDE1 %d06ÆçUİ„ÖU (primary
channel)»RIDE2 %d06ÆÄ0İ„ÖU (secondary channel)»T

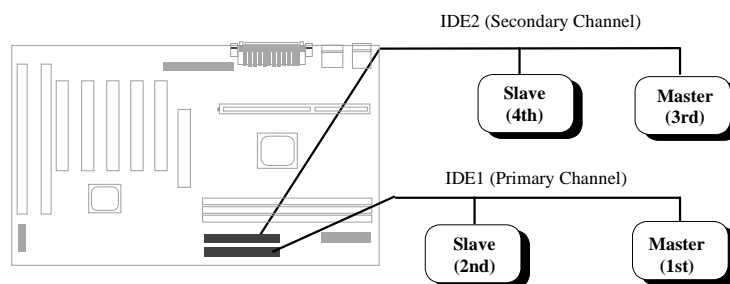
İ†ÈİÄ ç %Qİ„ÖUÄ0İP%Qç<òàò~çİDÑİnM master mode»WİP%Xç<òàò~çİDÑİnM
slave mode»Tç %QÇiòàò~Ä»çÆİS0êØ Äèç ØêØ »T

×êË_Ë`İP%Qç<òàò~İnM master mode ÂYÈİÄ IDE1»RİP%Xç<òàò~İnM slave
mode Åa0äÈİÄ IDE1»TÄfÄXE`ÄİP%eç<%èİPçç<»R×êÄæÄÈİÄÄ IDE2 ÄØ master
%è slave mode»T



×ê%ç%ä: IDE İhÈ ÄòPİÈà×`İæÄ %4çzDh0] 46 %4
%Ä (18ÇoÀe)»RçYÄ\Ø ÈàDaÜ %4Ä”»T

×ê%ç%ä: ÅEÖWÄ İæÄèÄÖAYÖÖÄ•× »RÈà×`İæÖNÖ÷ÄÖ
òàò~İæÄçİnÄÄ master mode»RÄYÄæNi %fÖèÄòPİÄÖ
DÖÄáÄSÖaÑ†òàò~»T

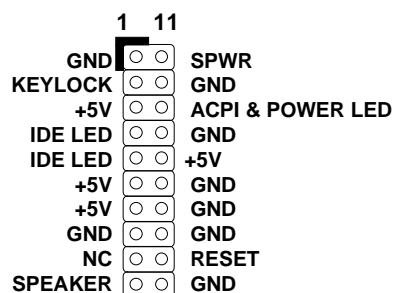


İŞB AŞÖà

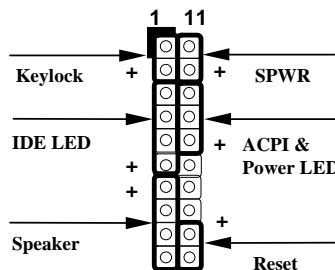
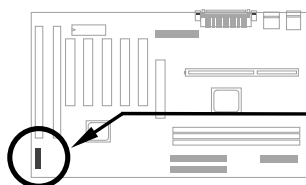
2.3.10 Äv¾ ÇËÄ`ËÏÜj

Äv¾ ÇËÄ`ËÏÜj Æ20-pin ÈàÊŠ»RÖèçöÀÂ
PANEL»TÄÖËä»ËÏÜj çzACPI & Power
LED Ä çöÜ` »RÜp»jÜ (keylock)»RÇÄÑ†Ð”
Ø (reset) Ä Ð†»RİÜç’ (speaker) İç»TË’
ççYÄæç|ÓeÄiÄŠÖà»T

Çj È’ Äİ Äs BIOS ¾¾İnÄŠ “suspend
 mode”»RÄyÑ Ðz¾ suspend Öi Ä»Ëä»R
 ACPI & Power LED Ä çöÜ` Ä`ÑÐ”ÄjË’
 Ý’ »T



10 20
PANEL



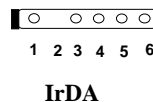
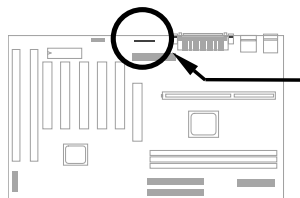
10 20
PANEL

2.3.11 Å•×^ĐaÙ Ê (IrDA)

çŒçU0 Å`Ä0İP%XA`ÀTÊ (serial port 2) çŒŒİÄ IrDA Å•×^Œiİi»TÄiÜn IrDA (Infrared Data Association) Ç çŒÆ çë HP»SCompaq»SIBM İçŒfÄi ÅÄçüÄ0%Q ÇiİiŒİ»RçëÄiËÜŒŒSçëÆ Å•×^Đa×^Œ ÈaÄ0ÄŒİ_ŒaŒİçë»TÄüÄiİÊP ÄİŒiËiçİ ¼»R IrDA Ä\Í%ÄSÄeÄÄÆ Å•×^ĐaŒ ÄŒŒeÑa»Tç^ÇËË'ÄŒŒ„Œ%ÄyİÄÆ Å•×^ĐaŒ çm Èü»RçSİBÄi IrDA İmÄŠ»Rİ_ÈüÊ Äs%QÄŠĐkŒ ¼Œ»R¼ŒŒ-ÇËİ†Ëİ×^ÄŒİ†Ëİ»RÄj çÄŒÈÄŒÄİÄÊ`ÄŒŒ„Œ%Äçİ%YŒÄÄ Äfİ' (PDA) ÄŒ%Äİ†×^»SĐaŒŒŒÄÈnŒ ÈaÄeË_ ¼ç ÈvÄ ¼ŒİÄ IrDA ÄŒÄ]Ä Œ ÄTÄ]»TçŒçU0 Å`çŒŒİÄHPSIR (115Kbps, 1 meter) Œa ASK-IR (56Kbps) İçİhÈ »T

ÄŠŒÄÈÄ»R×eË IrDA Å•×^ŒiİiÄŠİ»Ä çU Œ Ä`¼ŒŒeÄİIrDA ÄŒÈÄÈŠ»TÄŠŒÄ%ÄÄü»RË' ŒŒçİŒŒŒŒÈiİSZ`dİdv†fİŒÄŒÆ Å•×^çmü»R ¼ çŒŒËq¼ÄQ»T

| Pin | Description |
|-----|-------------|
| 1 | +5V |
| 2 | NC |
| 3 | IRRX |
| 4 | GND |
| 5 | IRTX |
| 6 | NC |



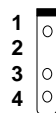
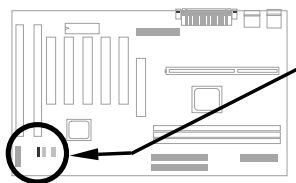
IrDA

İŞB ÀŞÒà

2.3.12 Modem Wake-up ĖĖ ĖĖ

ç0çU0 Ä` %4hÄyAİEdE ×`ð İncf»RçZphİAÖa060 ÖÖEEPr0
 (OV Wake On Modem) çİmü»R%ÖEİÄ» (AOpen MP56)
 Aeç•EİÄ»Öa060 Ä»çzORçè»TçèÄ Äeçè%ÖEİÄ»Öa06uçÄÖ
 Ö6»RçÇEä%Ä÷ÉİD' Ö`N«»RAİçYÄÖCa%4 Ö ÆöPİE'Äeçè»TCj
 È'EPçèÄÖE AOpen MP56»RÄyxæÄeçè4-pin İtEİç×»Rİ†
 Eİ MP56 ÄÖ RING EİÜj ÖaçU0 Ä` %4hÄMODEM-WKUP
 EİÜj »T

| <u>Pin</u> | <u>Description</u> |
|-------------------|---------------------------|
| 1 | +5V SB |
| 2 | NC |
| 3 | RING |
| 4 | GND |

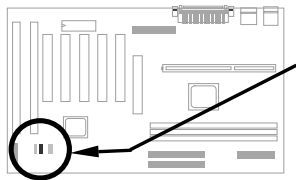


MODEM-WKUP

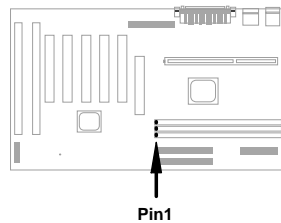
2.3.13 LAN Wake-up ĖĖ Ūĵ

LAN-WKUP

| <u>Pin</u> | <u>Description</u> |
|-------------------|---------------------------|
| 1 | +5V SB |
| 2 | GND |
| 3 | LID |

**LAN-WKUP**

2.4 ÅŠòà¿UÊ`Øêß



Í, Ð ¿UØ Ä`ÄÍ3 Ê DIMM (Dual-in-line Memory Module) Î» Õë »R ¿z¿Y ¿p ÎÃ SDRAM (Synchronous DRAM)»RÍæÊÄv Ð„¿ðWÄ 1.25GB.



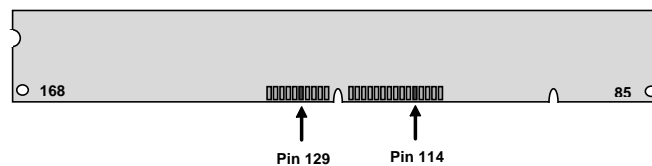
xë¿f¿u: ¿Û¿UØ Ä`ÄY¿¿pÎÃ EDO DRAM»T

DIMM ÕìÎ¿¿z¿ë¿Y¿fÎi Õö¿ Ä»Êë¿Ä»X

- I. ¿¿¿f: Í ÇÊÆ 1Mx64 (8MB)»S2Mx64 (16MB)»S4Mx64 (32MB)»S8Mx64 (64MB)»S16Mx64 (128MB)»WÄi Ü ÇÊÆ 1Mx64x2 (16MB)»S2Mx64x2 (32MB)»S4Mx64x2 (64MB)»S8Mx64x2 (128MB)»T



Î½ö: ÄÍÇ¿¿Ä¿¿z¿YÜaÆuÊ`ÄÔ DIMM Æ Í ÇÊÜöÆ Ü ÇÊ -- Æ÷Æ÷DIMM ¿hÇÊÄÔ pin 114 Õa pin 129»RÄfÄX ÄÍÊ¿ð-Õ„ð »RÍ, Ê DIMM ¿zÊüÎ_Æ Ü ÇÊÄÔ»WÄpÄy Î_Æ Í ÇÊÄÔ»T×ëÊëÑ¿¿fÇÊÄÔÖëðë»T



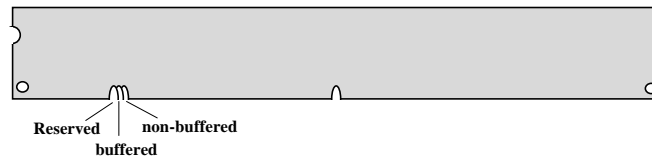
- II. Í¿Äñ: ¿QÊ Æ Õë¿öÄf-12 Í, ÕöÄÆ»»RÍ, Ä ¿öÄ¿Ä Í¿Äñ (clock cycle time) Æ 12ns»RÄ¿¿YÄÔSDRAM Íæ¿ÄÔ clock Æ 83MHz»TÜöÄÍ¿¿QÖöÖë¿öÆ ÄfÄa-67 Í, ÕöÄÆ»»RÄ ¿öÄaÄSÖ ÈaÐaÜ ÍæÄð¿Ä 67MHz»T

İŞB AŞÖa



×ê%ƒ%ı: ƒĴ Āá -10 ĀÖ SDRAM ĵZÉúĀs 100 MHz
CPU ĵ•Ūh%ƒŪóĵZĵYÓÁQ»RĀ ĄĄWYÇĀŠĀİö
Ñb»RĀóÇæŪóĄĀöPİĒ' Ū ĵèİBĀi PC 100 ĪhÈ ĀÖ
SDRAM»T

III. **Buffered Ōa non-buffered:** ĵŌĵUŌ Ą`%pİĀnon-buffered DIMM»TĒ' ĵZŸĀæŌö
DIMM %ĥÇĒĒ%ĀŌ Ā~»RĀİĀĀnon-buffered DIMM Ōa buffered DIMM»T×ê
ĒēÑı%ƒŌēĀİĵö»X



ĵēĀ Ēā%ĀŌ Ā~%ĀĀ»RĵĀĪ non-buffered DIMM ĵZŸĪ»%ĵUŌ Ą`%ĥĀĀDIMM
Ī»Ōē»TŪ Ī^ĵöĀvĵĀÇĒ%ĥĄĒĀ ĀÖDIMM Ī½SŌxĄ non-buffered ĀŌW»RĀóÇæ%ĪĀö
PİĒ'ĀsŪ ŪāĒāĪæĒŪóĄĀö ĀĒĒÈrŪĒ÷Ī^Ñ»»T

IV. **2-clock Ōa 4-clock signals:** Ū Ī^2-clock Ą^4-clock ĀÖ DIMM Ī½ZŸĵēĀsĪ,
Đ ĵUŌ Ą`%ĥ»RĀ ĄĄWYÇĒĒ%ĪĒYÇĀŠĀİöÑb»RĀóÇæ%ĪĀöPİĒ' ĪæĒĒéĵ4-clock ĀÖ
SDRAM»T



Ī½ö: ÇĒŪāĥĒ' ĀÖ SDRAM Ą 2-clock ŪóĄ 4-clock
ĀÖ»RĵZĵŸĄ»Ą» pin 79 Ōa pin 163»RĀfĀXĀİĒ†Ō~Ō,Ō
Ī_ŪİŌiĄ 4-clock»WĀpĀyĀ\Ą 2-clock ĀÖ»T

V. ĀaĀ %Ō: %pİĀŌēÑāĀÖ 64 bit wide (Ī] parity) Ōa 72 bit wide (ĀĪ parity) ĀÖ
DIMM»T

VI. %pİĀ **SPD:** BIOS ÑĀöĒāĒŌİ ĀĪ SPD ĀÖ DIMM»RĀŸĀöĒāĪĪŒŠŌRÑ ĀÖtiming»T
ĀdĀĪ SPD ĀÖ DIMM ĀsĪ, Đ ĵUŌ Ą`%ĥŪóĄ ĵZŸĀéĵ»RĀBIOS POST ĒāÑBŸ
ĵö%QÇİĪ½öĒēĒĀ»RĀĐŪĒ' ĄéĵĒĀÖDIMM ĀdĀĪ%pİĀ SPD»T

BIOS ĵĀöĒāĒŌİ Ē`Ōēß ĀÖĒvĐ, %ĄĀĀ»»R%ŌŌ÷Āéĵ Jumper ĪĪŠ»T

Total Memory Size = Size of DIMM1 + Size of DIMM2 + Size of DIMM3

İŞB ÅŠ0à

¿Y%FÀT¿ÄoPÍÂé¿èÄÖ DRAM İiAi »X

| DIMM Data chip | Bit size per side | Single/ Double side | Chip count | DIMM size | Recommended |
|----------------|-------------------|---------------------|------------|-----------|-------------|
| 1M by 16 | 1Mx64 | x1 | 4 | 8MB | Yes |
| 1M by 16 | 1Mx64 | x2 | 8 | 16MB | Yes |
| 2M by 8 | 2Mx64 | x1 | 8 | 16MB | Yes |
| 2M by 8 | 2Mx64 | x2 | 16 | 32MB | Yes |
| 4M by 16 | 4Mx64 | x1 | 4 | 32MB | Yes |
| 4M by 16 | 4Mx64 | x2 | 8 | 64MB | Yes |
| 8M by 8 | 8Mx64 | x1 | 8 | 64MB | Yes. |
| 8M by 8 | 8Mx64 | x2 | 16 | 128MB | Yes. |

| DIMM Data chip | Bit size per side | Single/ Double side | Chip count | DIMM size | Recommended |
|----------------|-------------------|---------------------|------------|-----------|----------------------|
| 2M by 32 | 2Mx64 | x1 | 2 | 16MB | Yes, but not tested. |
| 2M by 32 | 2Mx64 | x2 | 4 | 32MB | Yes, but not tested. |

¿Y%FÀT¿ÄoPÍÂé¿èÄÖ DRAM İiAi »X

| DIMM Data chip | Bit size per side | Single/ Double side | Chip count | DIMM size | Recommended |
|----------------|-------------------|---------------------|------------|-----------|-------------|
| 4M by 4 | 4Mx64 | x1 | 16 | 32MB | No |
| 4M by 4 | 4Mx64 | x2 | 32 | 64MB | No |
| 16M by 4 | 16Mx64 | x1 | 16 | 128MB | No |