ðĂâdñ÷ óµăħäµöĉ

ãùñ÷ïkãeò}åąøãô§èøâĦäßß^ùßçкä®äıäµöĉï¸èøæ²ðČß^ûĎûq÷ĬæĊõđñ-æąæ_Ągæđäµöĉß`

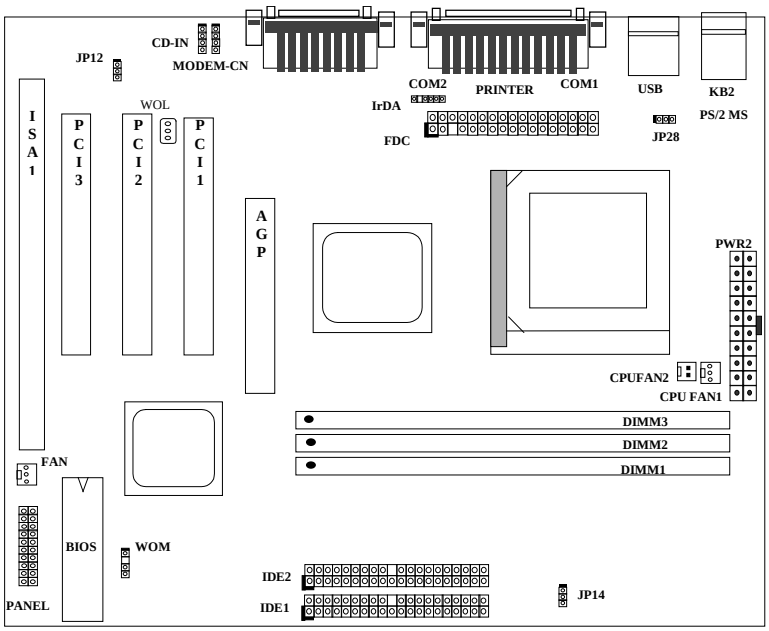
ûĎâ®âĝ: ESD (Electrostatic Discharge) êîþo÷¯çį÷¯ââõkß^ãďçıý¬ăħ÷¯öIJ (IC) éĚì£çĴæÍæĪþo÷¯õmþñèøú´ăqß^äzä÷õºæčõiñ_ð¸ü÷ß^øčøĎüĵß^Ãuãoã¢âČæÇãièø÷±ãıæÍæĪôĉì}ß`êîâc÷µæüþo÷¯çį÷¯äđõªã~ò÷âķß^ûĎýīäêârä`èø÷µæüï÷êfßd

1. îáéaï¸âµõąñĄä¬ë¬ô»çªäµöĉ÷±ãıß^å|é¦â¢ôrâáë¬ïk÷±ãıäęæüþo÷¯ãzöĉââæкãuß`

2. ä ï¸äµöĉ÷±ãı ìćß^ñĊä¬ï~âtäñïóä~û³èøâĠþIJß^â¨ñßãĵèø÷¯âª÷±ãıäĤñáäñä ûĤß`ä®èdæpäñâĠþIJß^ûĎæčãČãIJäıã§ãeæüâĬþo÷¯èøòþãké¼ß^æđùmæ²ðČ÷±ãıâČãaüĵèlïóÅðß`

2.1 Jumper ùmïóþvèøäĪö«

ãe âr êî ãa üĵ è l â ð Jumper ç j ïóþv(connector) èø î²ö« ÷čßd



Jumpers:

JP12:	ïÐãČ/ãĴñêâøéĖëóìĂò÷âķ
JP14:	ð j îáCMOS
JP28:	ÿÇûi/õĄ÷éô»üĵ

ïóþv:

PS2:	PS/2 õĄ÷éïóþv
KB:	PS/2 ÿÇûi ïóþv
COM1:	COM1 ïóþv
COM2:	COM2 ïóþv
PRINTER:	äièīüĵïóþv
PWR2:	ATX ÷¯õûïóþv
USB:	USB ïóþv
FDC:	Floppy drive ïóþv
IDE1:	ðĂâ] ðēIDE ñ±ïóþv
IDE2:	ðĂâdðēIDE ñ±ïóþv
CPUFAN1:	CPU ëõìîïóþv
CDUFAN2:	CPU ëõìîïóþv
FAN:	üĵòĝëõìîïóþv
IrDA:	IrDA (êijã¼û³) ïóþv
PANEL:	é£âĦëïè l éĴÿÇùmý l ö÷ñ±ïóþv
CD-IN:	CDROM ëóõûû³ïóþv
MODEM-CN:	Mono in (Pin 1-2) ùm Mic out (Pin 3-4)
WOM:	0V Wake On Modemïóþv
WOL:	Wake On LAN ïóþv

2.2 Jumpers

ñ-ôIJãaüĵèlêlïĂãČóijumper ñzë®ß^îĝâ]èøjumper êlðjîáCMOSß^æÇãaë¬êlãČçıåďîlïhûuèøìćëĒß`

2.2.1 ýĭæĸ CPU þtð´

ñ-ôIJãaüĵèlã§ãeäęîĈîùòĸ CPU ÷¯þáß^ æāã_ã§ãeăĻïˬä CMOS setup ââñzçµ CPU þtð´ß^ăđóiôõæčãČæĴjumperß`ã²ã¼ß^âzã§ãeñ¸÷iâ³æġó¹äßß^ïkãýûqèø CPU öĨîqîlýĻæĨ EEPROM ãâß`ä®ä÷â]æđß^örâ₵MOS ýİãàâcß^ïˬòkâáãČüğâĝéénz CPU ÷¯þáìćãuâcì²ýķß^âzâáãðæíëtèøãòô»÷¯öáüĵòĝþĉóĶCPU øĖāļâcß`ăđñ-âzêlâ]íïïĂãČóijumper ñzë®èø Pentium ãaüĵèlãaë¬èøîĕāaß`

ñzçµ CPU þtð´èøâĦè©êlßd

BOIS Setup à **Chipset Features Setup** à **CPU Clock Frequency**
(ã§íĞèøñzçµëĆäñ 66.8, 68.5, 75, 83.3 MHz)

BOIS Setup à **Chipset Features Setup** à **CPU Clock Ratio**
(ã§íĞèøñzçµëĆäñ 1.5x, 2x, 2.5x, 3x, 3.5x, 4x, 4.5x, 5x, 5.5x, 6x, 6.5x, 7x, 7.5x, 8x)

CPU âøñßþtð´ = ëýþtâĵ **x** ã¼þt

INTEL Celeron PPGA	**CPU** âøñßþtð´	ëýþtâĵ	ã¼þt
Celeron PPGA 300	300MHz=	4.5x	66MHz
Celeron PPGA 333	333MHz=	5x	66MHz
Celeron PPGA 366	366MHz=	5.5x	66MHz
Celeron PPGA 400	400MHz=	6x	66MHz
Celeron PPGA 433	433MHz=	6.5x	66MHz

Ăóå§: INTEL 440LX ò÷âķðēñĊîèã§âĢòç 66MHz CPU ã¼þtß^æĢüªôĆæďâøñßòĸöēãČß`ñ-æąñzçµëĆâµôtãuò÷âķðēèøñtìĤß^ã§íĞõº÷ïæ²ðČñ·äæðªì}ß`

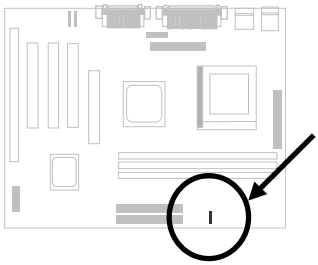
2.2.2 CPU ÷¯þá

ãùãaüĵèlâĢòçCeleron PPGA VID ãÿíĞß^ã§äęîĈîùòк CPU ìĚâĝ÷¯þáß^æĢû¢ñİä 1.3V æĪ 2.05V ââôßß`

2.2.3 ðjîá CMOS

JP14	ðjîáCMOS
1-2	ãýï}ïßè® (÷µñz)
2-3	ðjîáCMOS

ä®èdï¸åďîlçÐñzçµèøæ²ðČïhûuìćß^ãðôõãĻïk gmNQ=ñzêî=0JPß^ðjîáæāëéñz=`jlp=èøñzçµëĆ éğß^â¼íĞëéõ±ô»üĵß`



ãýï}ïßè® (÷µñz) ðjîáCMOS

ðjîá **CMOS** èøó¹åą:

1. āĴñêæ²ðČ÷¯õûß`
2. çĜïú PWR2 ât èøATX ÷¯õûû³ß`
3. åĢãu **JP14** çÐä èøäĪö«ß^ïkôĪûäòrùÿækârædß^åĭìjæĪ3 ö»äĪât ß`
4. â]õºæĞìćôßéğß^æкârôĪûäòrùÿééõ±ìjä{æĪ1-2 ö»äĪât ß^éĪò|äæëĪæđèøèêø^ß`
5. ïkATX ÷¯õûû³ïóä{ PWR2ß`
6. ééõ±ãòô»÷¯öá÷¯õûß`
7. ä®èdõnë¬ñzçµõ±èøæ²ðČïhûuß^ã§ä æ²ðČïÐîĈìćß^éĴâr DEL ÿĢô§âg BIOS Setup ó£ëïââß^ä^éÍçµõ±èøïhûuß`

òáãĚ: ä®èdï¸èøæ²ðČäzêîôtþtäđõīïúçČóiè©ô»üĵß^ã§ãeðjîá CMOSß^ãĻæ²ðČä{æĪ÷µñzèøèêø^ß`

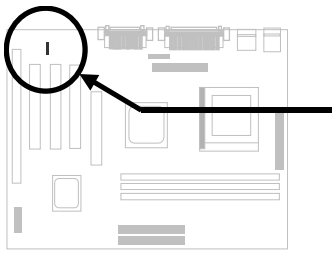
òáãĚ: îáâcæčãČ JP14 ãåã¼ß^ï¸âzã§ãeãČ <Home> ÿĢæđðjîá

CMOSß`âĦè©êléĴäī <Home> ÿĢójégô»ïÐ÷¯õûô»ãĴß^ñ-úĉæ²ðČòkõºäę îĈïk CPU ñzêî 300MHzß`ïóârædß^ï¸ã§ä^æĊ÷ĬùĘèêè®ß^ô§âg BIOS Setup ñzçµ CPU þtð´ß`

2.2.4 ëóìĂò÷âķô»ãĴ

JP12	ëóìĂò÷âķô»ãĴ
1-2	Enabled (÷µñz)
2-3	Disabled

ëvï¸ãáõnæčãČâøéĖèøëóìĂò÷âķß^ã§ãeïkä÷ jumper ñzêî Disabledß`



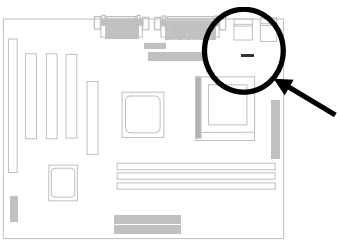
Enabled (default) Disabled

2.2.5 KB/MS Wakeup

JP28	KB/MS Wakeup
1-2	Disabled
2-3	Enabled

ãČæđïÐãČÿĢûi/õĄ÷éô»üĵãýíĞß`ëvñzêî Enabledß^ï¸ÿėôõï¯ BIOS Setup ãâñzçµô»üĵúÐäßß`ë¬æčãČä÷ãýíĞß^5V Stand By ÷¯ê·ãðôõâ¨çı 800mAß^çÐãeêvæą÷¯õûü÷ã§íĞõºóiè©æčãČß`

ûĎè}õkß^ã³äñPS/2 õĄ÷éâĢòçõĄ÷éô»üĵß`



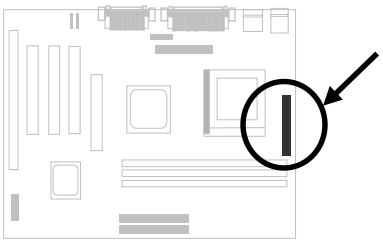
Disabled Enabled

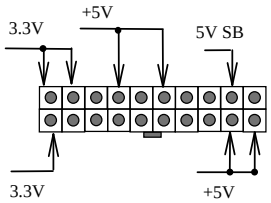
2.3 ñ±ïóþv

2.3.1 ÷¯õûñ±ïóû³

ATX ÷¯õûæďþñü÷êlæčãČä®ârèø20-pin ñ±ïóþvß^ûĎûqçµï¸òßâgèøâĦäsêlãýûqèøß`

ûĎâ®âĝ: ä ñ±ïóçČçĜîá÷¯õûñ±ïóû³ââé£ß^ûĎãĮāĴñêæ²ðČ÷¯õûß`

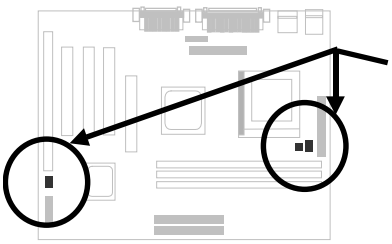


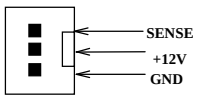


PWR2

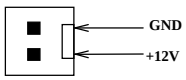
2.3.3 ëõìî

ä ãaüĵèlâtß^äñâ]ëđúĎãĚêî **CPUFAN1** ùm **CPUFAN2** èø CPU ëõìîïóþvß^ùmâ]ëđúĎãĚêî **FAN** èøüĵòĝëõìîïóþvß`





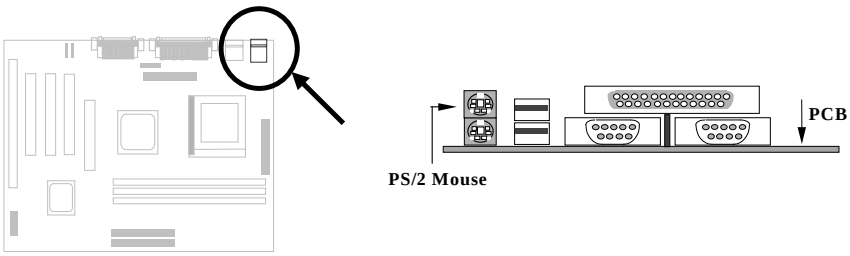
CPUFAN1 & FAN



CPUFAN2

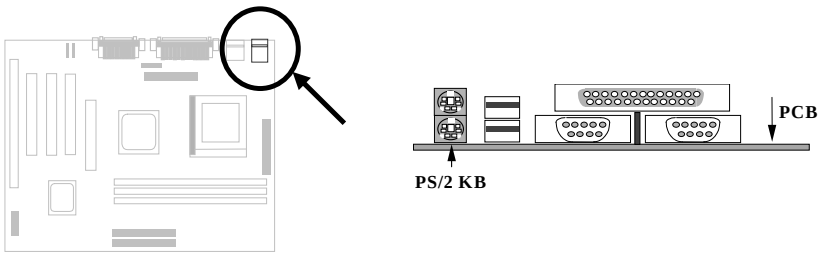
2.3.4 PS/2 õĄ÷é

ûĎñ±ïó PS/2÷õĄ÷éçıúĎãĚêî÷**PS2**÷èøïóþvâ t ß`



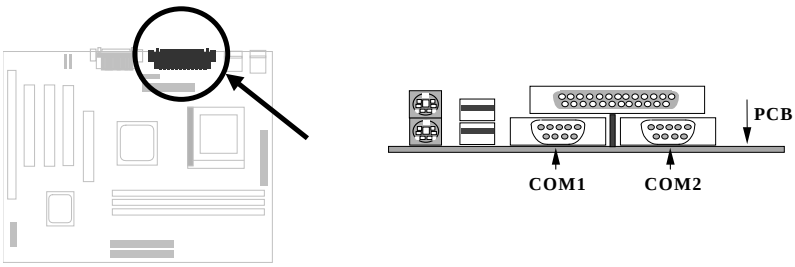
2.3.5 ÿĢûi

ûĎï k PS/2 ÿĢûi ïóæĪúĎãĚêî **KB** èøñ±ïóþvâ t ß`



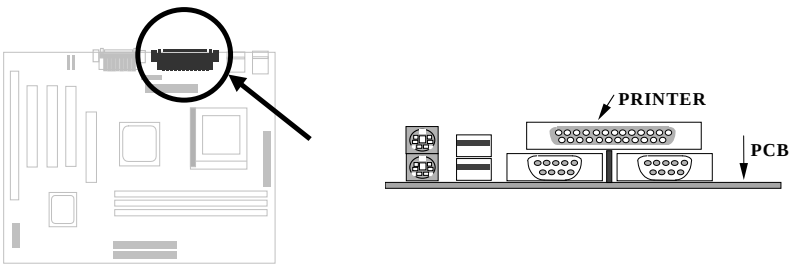
2.3.6 äÎä`îĮ (COM1/COM2)

éğâĦëïèlâ t äñæĠëđúĎãĚêî**COM1** ùm **COM2** èø 9-pin D-éê ïóþvß^ã§ãČæđñ±ïóäÎ ä`îĮõĄ÷é(serial mouse) çČêlúĄüĘüĵß`æĢââðĂâ] ëđäÎä`îĮïóþvúĎãĚêî**COM1**ßcðĂ âdëđé¦úĎãĚêî **COM2**ß`



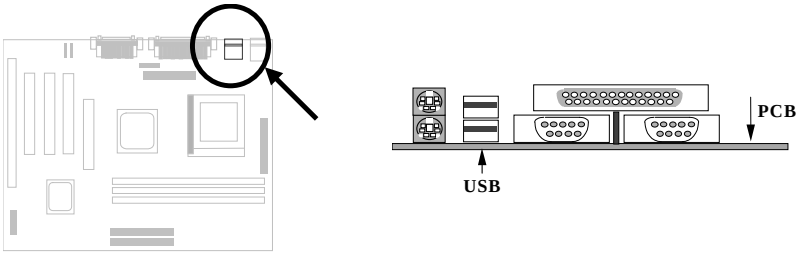
2.3.7 äièīüĵ

ãaüĵèléğâĦëïèlâ t äñâ] ëđúĎãĚêî**PRINTER** èø 25-pin D-éêïóþvß^ãČæđäµòßæää` äßäièīüĵß`



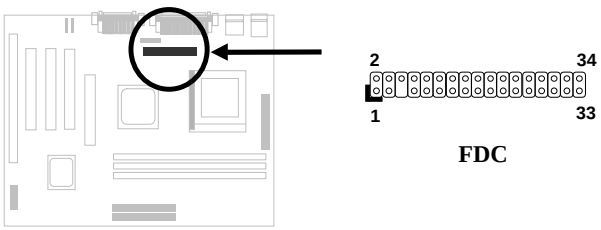
2.3.8 USB öĉö«

ï¸ã§ïk USB öĉö«ñ±ïóæĪ USB ïóþvß^ñ-ôłJãaüĵèlâ t äñæĠëłUSB ïóþvß^úĎãĚêî **USB**ß`



2.3.9 ñ¬øĎüĵ

ä ãaüĵèlâ t äñâ] ëđúĎãĚêî**FDC** èø 34-pin ïóþvß^ã§ãČæđñ±ïóæĠã¶ñ¬øĎüĵß`

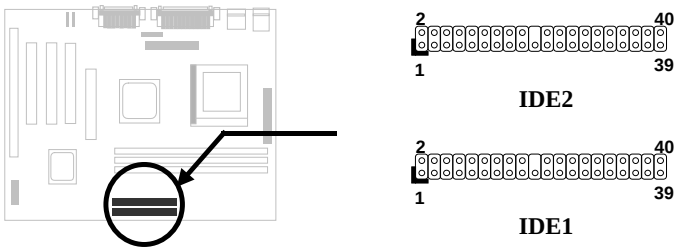


2.3.10 IDE óµøĎüĵùm CDROM

ä ãaüĵèlât ß^î²äñæĠëđúĎãĚêî**IDE1** çj **IDE2** èø 40-pin ïĄîµß^ã§âþâlñ±ïóæĠëđ IDE öĉö«ß^ñĊä¦ã§ñ±ïóãºëđ IDE öĉö«ß^â]íîIDE1 âpøėêîãañ¯÷a (primary channel)ß^IDE2 âpøėêîäöñ¯÷a (secondary channel)ß`

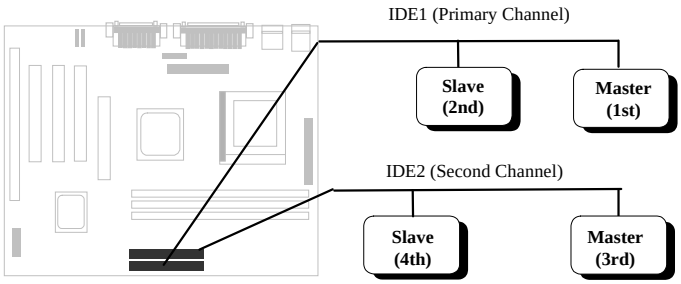
ñ±ïóçıãIJâ]ñ¯÷aèøðĂâ]ã¶öĉö«ãðôõñzêîmaster modeßcðĂâdã¶öĉö«ãðôõñzêî slave modeß`ãIJâ]ëđöĉö«åßã§êîóµøĎüĵçČãkøĎüĵß`

ûĎïkï¸ðĂâ]ã¶öĉö«ñzêîmaster mode æãïóçı IDE1ß^ðĂâdã¶öĉö«ñzêî slave mode ämúĉïóçı IDE1ß`ä®èdï¸äñðĂâqã¶âČðĂãºã¶ß^ûĎæĊåąïóäæ IDE2 èø master âČ slave modeß`



ûĎâ®âĝ: IDE ñtìĤéĖĂñïĄû³ñĊèĶâáã§ôt÷i 46 âû âþ (18ë{äq)ß^ãeåhöĨìĄôąýħâáæ»ß`

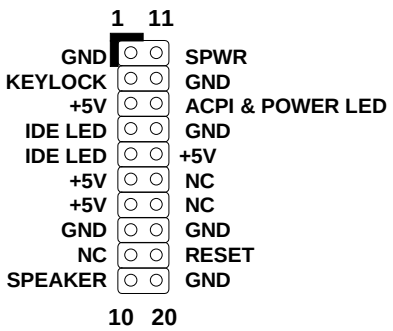
ûĎâ®âĝ: êî÷cæĨñĊæČèøéeö÷é¼ûĦß^ïĄû³ñĊùõøěèø öĉö«ñĊä¬ñzäæ master modeß^æāæĊõđâr÷čéĖĂñèø ôôåąäµöĉõ±öĉö«ß`



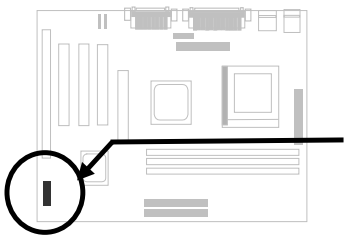
2.3.11 é£âĦëïèlïóþv

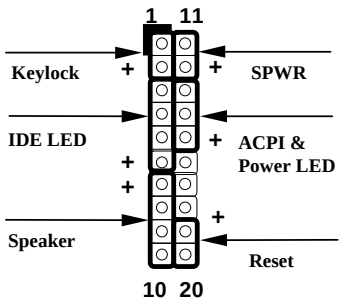
é£âĦëïèl ïóþvêî20-pin ïĄîµß^úĎãĚäæ **PANEL**ß`ä÷ïĄû³ïóþvã§ACPI & Power LED éÍãĚýlß^ÿÇûiĀĨ(keylock)ß^ëéõ± ô»üĵ (reset) éĴô±ß^ñĠã¸ (speaker) óãß`ï¸ã§ãeæĈã©÷čæđäµöĉß`

ëv ï¸äñä BIOS ââñzçµ "suspend mode"ß^é¦õīô§âg suspend úĐäßìćß^ ACPI & Power LED éÍãĚýléhõºô»çª î¹ā¹ß`



PANEL





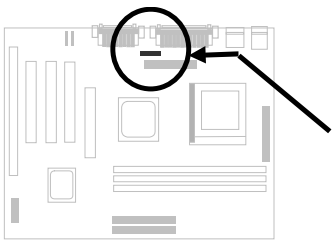
PANEL

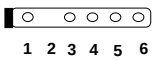
2.3.12 êijã¼û³ôąýħîĮ (IrDA)

ãùãaüĵèlèøðÅâdäĪä`îĮ(serial port 2) ã§âÇòç IrDA êijã¼û³úÐðēß`çÐýë IrDA (Infrared Data Association) ëĪãùêlãď HPß_Compaqß_IBM óãÿ®äuäæãĝèøâ] ëđðēÅòß^ãČæđïþú±÷_ãČêijã¼û³ôąû³öĪìĄèøåĜñkùmþñãČß`ége̋đñîĂİäñú²îđãx âgß^ IrDA éhñ´æ_åČäæêijã¼û³ôąýħèøúĎõąß`ã³ë¬ï¸èø÷¯öáæġñĄêijã¼û³ôąýħãy íĜß^ã_ðääuIrDA ñzçµß^òkíĞîĵä â] çµôwĂĵâøß^âáùĕë¬ñ±ïóû³âêêęñ±ïóß^åv ã§äęîĈùmóåîléê÷¯öáçČëđâeúĄäĪårð¸ (PDA) êęâêñ±û³ß_ôąùúþćìĕöĪìĄçČïk âǵãıî£æĪâÇòç IrDA èøäièīüĵä`äiß`ãùãaüĵèlã§âÇòçHPSIR (115Kbps, 1 meter) ùm ASK-IR (56Kbps) óãñ t ìĤß`

äµöĉìćß^ûĎïkIrDA êijã¼û³úÐðēäµòßæĪãa üĵèlâ t úĎäñ**IrDA** èøïĄîµß`äµöĉâåéğß^ï¸ ÿėãðùĕô»ïÐ=_flp=p£²³®=âøèøêijã¼û³ãýíĜß^ âĦã§ãýï}â³å ] ß`

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



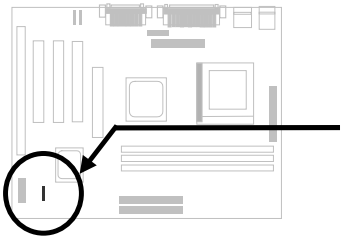


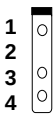
IrDA

2.3.13 Wake On Modem ïóþv

ãùãaüĵèlât æġäñípìīû³öłĴñzë®ß^ã§âĢòçúĄüĘüĵùùïïô»üĵ (0V Wake On Modem) ãýíĞß^âøïóäß (AOpen MP56) çČ ã¼ïóäßúĄüĘüĵåßã§ü^ãČß`ãďçıæčãČâøïóäßúĄüĘã¢èøöĚß^ãë ìćâáùěíđôl÷¯õûß^çÐãeåĘëĊâ¡öĹéĚĂñï¸æčãČß`ëvï¸ïĂãČèø êl AOpen MP56ß^é¦ûĎæčãČ 4-pin ñ±ïóû³ß^ñ±ïó MP56 èø **RING** ïóþvùmãaüĵèlât è**WOM** ïóþvß`

Pin	Description
1	+5V SB
2	NC
3	RING
4	GND



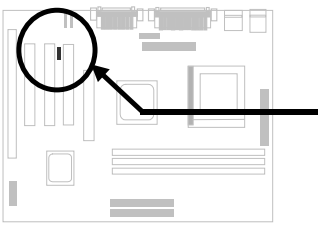


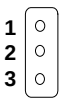
WOM

2.3.14 Wake On LAN ïóþv

ãùãaüĵèlæġäñ**WOL** ïóþvß^ ë¬æčãČWake On LAN ãý íĞß^ãðôõõ¤î²âĢòçä÷ãýíĞèøøłJöłJã¢ùmøłJøĜñ¬ăħß`

Pin	Description
1	+5V SB
2	GND
3	LID



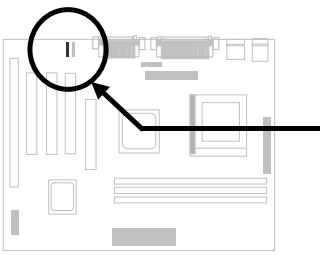


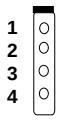
WOL

2.3.15 CD ëóõûû³ïóþv

ñ-ëđïóþvêlãČæđñ±ïóCDROM èøëóõûû³ß`

Pin	Description
1	L
2	GND
3	GND
4	R





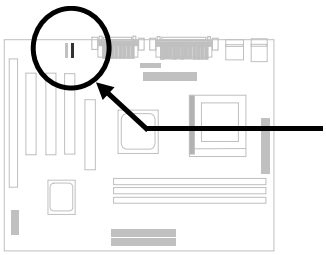
CD-IN

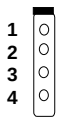
2.3.16 Mono In/Mic Out ïóþv

ñ-ëđïóþvã§ãČæđñ±ïóâøïóäßúĄüĘã¢èø Mono In/Mic Out ïóþvß`æÇââßpin 1-2 êl **Mono In**ß^pin 3-4 êl **Mic Out**ß`ë¬è}õkèøêlß^ãĖé£ñ-â]ãĮèøïóþvæāæpäñçq çµèøúĎõąß^ã³äñâĚúĄèøúĄüĘã¢äñòáæďñ-ëđïóþvß`

ýĭÿĈé£ûĎãĮîďüÿã©âĦèøïóö»çµö¯ß^æāäsúĄüĘã¢èøú²îđ öĝîĕð j õßß`

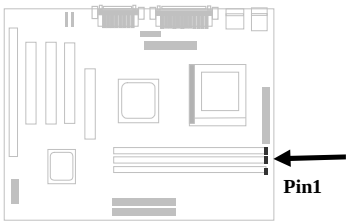
Pin	Description
1	Mono In
2	GND
3	GND
4	Mic Out





MODEM-CN

2.4 äµöĉãaîlüĎăĥ

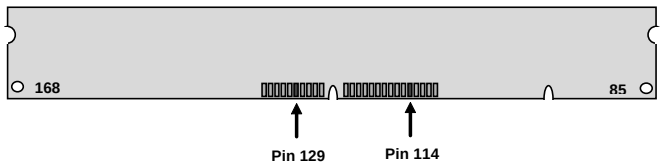


ä÷ãa üĵ è l äñ 3 ïĶ DIMM (Dual-in-line Memory Module) òßúďß^ ã§ãe âĢòç EDO (Extended Data Out) ç j SDRAM (Synchronous DRAM) ß^ ñĊ îè ì£ô¯ã§÷c æĪ 768MB EDO DRAM çČ 384MB SDRAMß`

ãùãaüĵè l ã§ãeâĢòçúĎõą64bit èø DIMM úÐðēß`

I. â¨â®: ñĤëï êî 1Mx64 (8MB)ß_2Mx64 (16MB)ß_4Mx64 (32MB)ß_8Mx64 (64MB) ß_ 16Mx64 (128MB) ßc äđ Ăķ ëï êî 1Mx64x2 (16MB) ß_ 2Mx64x2 (32MB)ß_4Mx64x2 (64MB)ß_8Mx64x2 (128MB)ß`

òáãĚ: äñëđâĦè©ã§ãeþĉê¢ï¸èø DIMM êlñĤëïÿėêlĂķ ëï -- êĕêĕDIMM âtëïèø pin 114 ùm pin 129ß^ä®èd äñî²ö«÷¯öIJß^ñ-ïĶ DIMM ã§íĞòkêlĂķëïèøßcå|é¦ òkêlñĤëïèøß`ûĎîďõđârëïèø÷čöďß`

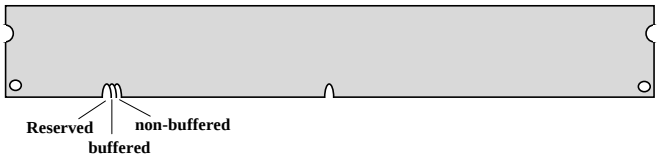


II. Speed:

SDRAM: â] íĩêlúĎãĚä®-12 ñ-øĖéêäßß^ñ-èīãĚä±æкñ²éě (clock cycle time) êl 12nsß^çÐãeä÷SDRAM ñĊâ¨èø clock êî 83MHzß`ÿėäñã²â ] øĖúĎãĚêlä®äm-67 ñ-øĖéêäßß^èīãĚämæ_öĪìĄôąýħñĊåĚã§æĪ 67MHzß`

EDO: EDO RAM èøä±æкñ²éě (access time) êî 50ns çČ 60nsß`

III. Buffered ùm **non-buffered:** ãùãaüĵèlâÇòçnon-buffered DIMMß`ï¸ã§ãeæĊüĘ DIMM â t ëïíĈâ¤èøäĪö«ß^æđåmå hon-buffered DIMM ùm buffered DIMMß`ûĎ îďõđâr÷čçÐãĚßd



ãďçıíĈâ¤èøäĪö«ááämß^ã³äñ non-buffered DIMM ã§ãeòßâgãaüĵèlâ t èøDIMM òßúďß`ÿĴój ãĖé£ãéëïâ t êĕæĪèøDIMM ñáâµö¥êl non-buffered èøâcß^åĘëĊâòéĖ Ăñï¸ä ýĭÿĈìćñĊä¬ÿèêlöĬçïì~öĝîĕðj õßß`

IV. 2-clock ùm **4-clock signals:** ÿĴój 2-clock ùm 4-clock èø DIMM ñáã§ãeãČä ñ-ôIJãaüĵèlâ t ß^äĻêîâcæ²ðČāëçµçĈóęõnß^åĘëĊâòéĖĂñï¸ñĊä¬æčãĆ4-clock èø SDRAMß`

òáãĚ: ë¬þĉê¢ï¸èø SDRAM êl 2-clock ÿèêl 4-clock èøß^ã§ãeêĕêĕ pin 79 ùm pin 163ß^ä®èdäñî²ö«÷¯öIJ òkþñödêl 4-clockßcå|é¦éhêl 2-clock èøß`

V. ämäĪâö**:** âÇòçúĎõąèø 64 bit wide (ói parity) SDRAMß`

BIOS ã§äęîĈîùòκîlüĎähèøì£ô¯âČéêäßß^ááùĕæčãČ Jumper ñzçµß`ñĊâ¨èøîlüĎäh ì£ô¯êl **768MB**ß`

LX ò÷âķðēã³íĞæčãČ 3V EDO çČ SDRAMß`

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

ãeârä`ãéĖĂñæčãČèø DRAM ðēäußd

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

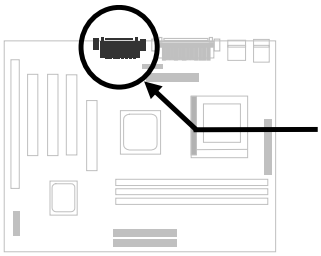
DIMM Data chip	Bit size per side	Single/ Double side	Chip count	DIMM size	Recommended
2M by 32	2Mx64	x1	2	16MB	Yes, but not tested.
2M by 32	2Mx64	x2	4	32MB	Yes, but not tested.

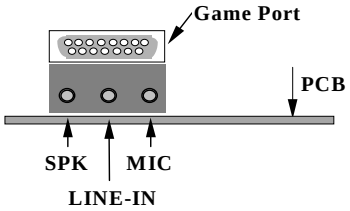
ãeârä`ãâáéĖĂñæčãČèø DRAM ðēäußd

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
16M by 4	16Mx64	x2	32	256MB	No

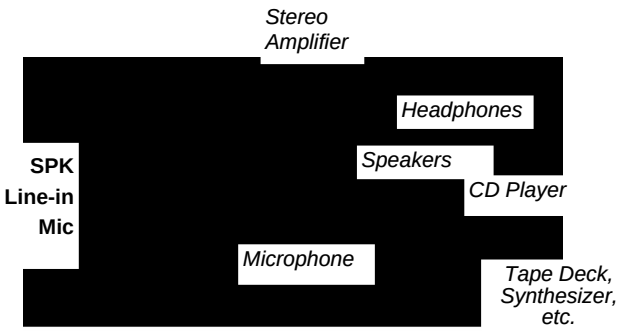
2.5 âøéĖëóìĂã¢

ñ-âķãaüĵè l âøéĖâc16-bit èøESS Solo-1 ëóìĂñ_ð¸ò÷âķß`





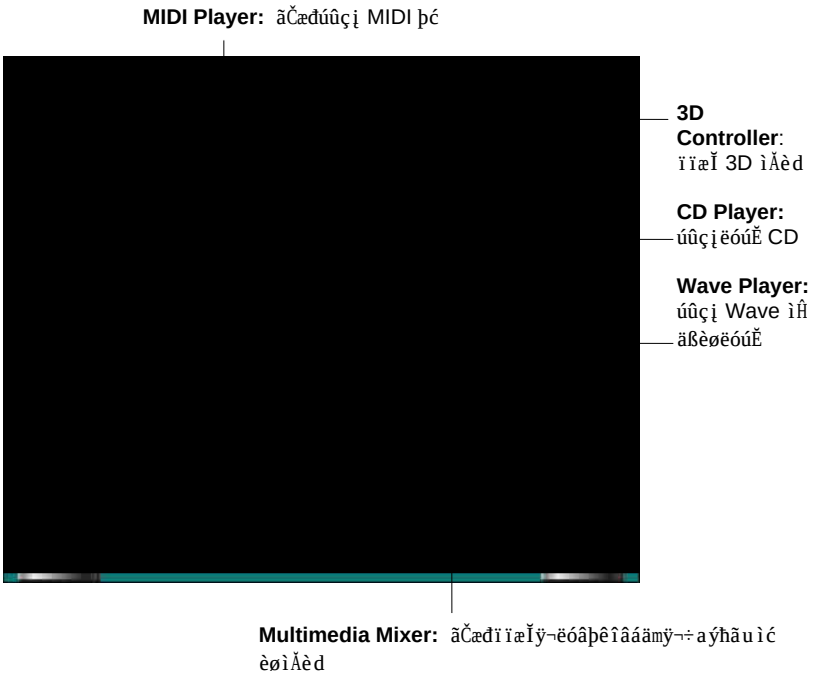
ï¸ã§îďüÿâ r ÷čæđñ±ïóêęāĴô¥āĢñzñĄß`



óµăĥäµöĉ

ä÷ëóìÅò÷âķèøăuîĈó¹äßùmþñãČó¹äßñáâøå²ä ãaüĵèlþeèļèøAOpen Bonus Pack CD-ROM ââß^æÇöIJì°ä®âr çÐãĚßd

ăuîĈó¹äß	X:\Mx3l\Sound\Driver
þñãČó¹äß	X:\Mx3l\Sound\App

X: èīãĚï¸èøãкøĎüĵãkö÷ß`ä ăuîĈó¹äßâĦëïß^îáâcWindows 95/98 ââã¼ß^åĘëĊâz òáæďâc Windows 3.1ß_Windows NT 3.51 ùm Windows NT 4.0 èøăuîĈó¹äßß^âĦéh ï¸æčãČâáämèøå ]õ¼æ²ðČß`

äđä þñãČó¹äßâĦëïß^é¦äñ Music Center (ä®âr÷čçÐãĚ)ß_MIDI Board ùm MIDI Playerß`öĒðđæčãČâĦäßß^ûĎÎďüÿöđñ¬ăħèøû³â t ùßçкß`