Appendix

B

Pin Assignments

B.1 CRT (VGA) Connector

The pin assignment of the VGA connector is as follows:

No	PIN ASSIGEMENT(by: sort)	DESCRIPTION
1	RED Video_5 :O (analog)	Red this DAC analog output drives the CRT interface.
2	GREEN Video_5 :O (analog)	Green this DAC analog output drives the CRT interface.
3	BLUE Video_5 :O (analog)	Blue this DAC analog output drives the CRT interface.
4	Monitor ID Bit 2	Option
5	GROUND	Ground
6	RED Return (ground)	Ground
7	GREEN Return (ground)	Ground
8	BLUE Return (ground)	Ground
9	KEY (no connector)	VCC
10	SYNC Return (ground)	Ground
11	MONITOR ID Bit 0_5	Monitor Sense Indicator
12	MONITOR ID Bit 1_5 :I	DDC monitor data
13	HORIZONTAL SYNC_5 :O (t/s)	CRT Horizontal Sync this output is The Horizontal sync pulse for the CRT Monitor.
14	VERTICAL SYNC_5 :O (t/s)	CRT Vertical Sync this output is the Vertical sync pulse for the CRT Monitor.
15	MONITOR ID Bit 3_5 :I/O	DDC monitor clock

Absolute Maximum Conditions

The following parameters are maximum ratings for VGA. Permanent device damage may occur if these rating are exceeded. Extended exposure to these ratings may also cause device failure.

PARAMETER	MIN	MAX	UNIT
I/O VOLTAGE	-0.5	6.25V	V
OUTPUT CURRENT		50	m A

B.2 Serial Port Connector

The pin assignment of the serial (COM1) port connector is as follows:

No	PIN ASSIGMENT (by: sort)	DESCRIPTION
1	DCDA#_T:I	Active low Data Carrier Detect inputs For the serial port.
2	SINA_T:I	Receiver serial data input for port 1.
3	SOUTA_12:O	Transmit serial data output for port 1.
4	DTRA#_6:O	Active low Data Terminal Ready Outputs for the serial port.
5	GND	Ground
6	DSRA#_T:I	Active low Data Set Ready inputs For the serial port.
7	RTSA#_6:O	Active low Request to Send Outputs For the serial port.
8	CTSA#_T:I	Active low Clear to Send inputs For the serial port.
9	RI#_T:I	Active low Ring Indicator inputs For the serial port.

B.3 Parallel Port Connector

The pin assignment of the parallel/printer (LPT1) port connector is as follows:

No	PIN ASSIGMENT(by: sort)	DESCRIPTION
1	STB#/DS0#_D14/_P14/_D12:O	An active low pulse on this output is used to strobe the printer data into the printer. The STROBE output is the complement of bit 0 of the printer control register. Refer to parallel port description for use of this pin in ECP and EPP mode. Active low outputs select driver 0.
2	PD0/INDEX3#_P14/_S:IO/I	Port data 0. This active low Schmidt trigger input senses from the disk drive that the head is positioned over the beginning of a track as marked by an index hole.
3	PD1/TRK0#_P14/_S:IO/I	Port data 1 This active low Schmidt trigger input senses from the disk drive that the head is positioned over the outermost track.
4	PD2/WRTPRT#_P14/_S:IO/I	Port data 2 This active low Schmidt trigger input senses from the disk drive that a disk is write protected. Any write command is ignored.
5	PD3/RDATA#_P14/_S:IO/I	Port data 3 Raw serial bit stream from the disk drive, low active. Each falling edge represents a flux transition of the encoded data.
6	PD4/DSKCHG_P14/_S:IO/I	Port data 4 This input senses that the driver door is open or that the diskette has possibly been changed since the last drive selection.
7	PD5_P14:IO	Port data 5

No	PIN ASSIGMENT(by: sort)	DESCRIPTION
8	PD6/MTR0#_P14/_D12:IO/O	Port data 6 This active low outputs select motor Drives 0.
9	PD7_P14:IO	Port data 7
10	ACK#/DS1#_T_D12:I/O	A low active output from the printer indicating that it has received the data and is ready to accept new data. Bit 6 of the printer status register reads the ACK# input. Refer to parallel port description for use of this pin in ECP and EPP mode.
11	BUSY/MRT1#_T/_D12:_I/O	This is a status output from the printer, a high indicating that the printer is not ready to receive new data. Bit 7 of the printer status register is the complement of the BUSY input. Refer to parallel port Description for use of this pin in ECP and EPP mode. This active low outputs select motor Drives 1.
12	PE/WDATA#_T/_D12:I/O	Another status output from the printer, a high indicating that printer is out of paper. Bit 5 of the printer status register reads the PE input. Refer to parallel port description for use of this pin in ECP and EPP mode. This active low high current driver Provide the encoded data to the disk drive. Each falling edge cause a flux transfer on the media.
13	SLCT/WGATE#_T/_D12:I/O	This high active output from the printer indicates that it has power on. Bit 4 of the printer status register read the SLCT input. Refer to parallel port description For use of this pin in ECP and EPP mode. This active low high current driver allows current to flow through the write head. It becomes active just prior to writing to the diskette.
14	AFD#/DSB#_D14,_P14/_D12:O,O/O	This output goes low to cause the printer to automatically feed one line after each line is printed. The AFD# output is the complement of bit 1 of the printer control register. Refer to parallel pot description for use of this pin in ECP and EPP mode.
15	ERR#/HDSEL_T/D12:I/O	A low on this input from the printer indicates that there is a error condition at the printer. Bit 3 of the printer status register reads the ERR# input. Refer to Parallel port description for use of this pin in ECP and EPP mode. This high current output selects the floppy Disk side for reading or writing. A logic “1” on this pin means side 0 will be accessed while a logic “0” means side 1 will be accessed.
16	INIT#/DIR#_D14,_P14/D12:O,O/O	This output is bit 2 of the printer control register. This is used to initiate the printer when low. Refer to parallel port description for use of this pin in ECP and EPP mode. This high current low active output determines the direction of the head movement. A logic “1” on this pin means outward motion, while a logic “0” means inward motion.
17	SLIN#/STEP#_D14,_P14/_D12:O,O/O	This active low output selects the printer. This is the complement of bit 3 of the printer control register. Refer to parallel port description for use of this pin in ECP and EPP mode. This active low high current driver issues a low pulse for each track to track movement of the head.

No	PIN ASSIGMENT(by: sort)	DESCRIPTION
18	GND:	Ground
19	GND:	Ground
20	GND:	Ground
21	GND:	Ground
22	GND:	Ground
23	GND:	Ground
24	GND:	Ground
25	GND:	Ground

B.4 Docking Port Replicator

The pin assignment of the port replicator connector is as follows:

Number	Function	Pin name
51	**Printer Port**	LPT_PD0
49		LPT_PD1
47		LPT_PD2
45		LPT_PD3
43		LPT_PD4
41		LPT_PD5
39		LPT_PD6
37		LPT_PD7
30		LPT_SLIN#
32		LPT_INIT#
34		LPT_ERR#
36		LPT_AFD#
40		LPT_PE
42		LPT_SLCT
44		LPT_ACK#
46		LPT_BUSY#
48		LPT_STB#
17	**COM Port**	COM_PSOUTA
16		COM_PSINA
15		COM_PDTRA#
18		COM_PDSRA#
21		COM_PRTSA#
23		COM_PCTSA#
19		COM_PRIS/D#
20		COM_PDCDA#
57	**Ext K/B & PS2 Mouse**	EKB_DATA
59		EKB_CLK
58		MOUSE_DATA
60		MOUSE_CLK
3	**CRT**	CRT_RED
7		CRT_GREEN
5		CRT_BULE
4		CRT_HSYNC
8		CRT_VSYNC

Number	Function	Pin name
9	**CRT**	CRT_SENSE
6		DDDA
10		DDCK
29	**USB Port**	D-USBP0+
33		D-USBP0-
31		OC0#
71,73,75,77,79	**POWER**	+5VS
68,70,72,74,76,78, 80		+ADAPV
13,14,26,27,35,38, 52,55,63,64,		GND
61	**CONTROL**	ON MOSFET
67	**POWER**	+12VS
1,2	**PLUG IN Identified**	DOCKING POWER ENABLE

B.5 PS/2 Mouse / Ext. Keyboard Mini-DIN Connector

Following is the pin assignment of the PS/2 connector:

No	Signal	Description	Type
1	EKB_DATA	External data for mouse or keyboard	I/O
2	MOUSE_DATA	External data for mouse or keyboard	I/O
3	Gnd	Ground	I
4	+5vs	5v power supply	O
5	EKB_CLK	External clock for mouse or keyboard	I/O
6	MOUSE_CLK	External clock for mouse or keyboard	I/O

B.6 USB Connector

The pin assignment of the USB port connector is as follows:

No	Signal	Description	Type
1, 5, 9, 10, 11, 12	GND	Ground	O
2	USBP0+	USB port0 bus signal	O
3	USBP0-	USB port0 bus signal	O
4	+5VS	USB port0 power	
6	USBP1+	USB port1 bus signal	
7	USBP1-	USB port1 bus signal	
8	+5VS	USB port1 power	

B.7 CD-ROM IDE Connector

The following is the pin assignment for the CD-ROM IDE connector:

NO.	Signal	Description	Type
5	CDROMRESET#	Reset secondary disk	O
33	RSDA0	Secondary disk address 0	O
31	RSDA1	Secondary disk address 1	O
34	RSDA2	Secondary disk address 2	O
21	RSDD0	Secondary disk data 0	I/O
19	RSDD1	Secondary disk data 1	I/O
17	RSDD2	Secondary disk data 2	I/O
15	RSDD3	Secondary disk data 3	I/O
13	RSDD4	Secondary disk data 4	I/O
11	RSDD5	Secondary disk data 5	I/O
9	RSDD6	Secondary disk data 6	I/O
7	RSDD7	Secondary disk data 7	I/O
6	RSDD8	Secondary disk data 8	I/O
8	RSDD9	Secondary disk data 9	I/O
10	RSDD10	Secondary disk data 10	I/O
12	RSDD11	Secondary disk data 11	I/O
14	RSDD12	Secondary disk data 12	I/O
16	RSDD13	Secondary disk data 13	I/O
18	RSDD14	Secondary disk data 14	I/O
20	RSDD15	Secondary disk data 15	I/O
35	RSDCS1#	Secondary disk chip select for 100 range	O
36	RSDCS3#	Secondary disk chip select for 300 range	O
28	RSDDACK#	Secondary DMA acknowledge	O
22	RSDDREQ	Secondary DMA request	I
24	RSDIOR#	Secondary disk IO read	O
25	RSDIOW#	Secondary disk IO write	O
27	RSIORDY	Secondary disk IO channel ready	I
29	IRQ15	Secondary disk interrupt	I
50	DVDIN#	DVD Insert	I
49	CDIN#	CDROM insert	I
37	CDROMLED#	CDROM access indicator	O
2	CD_R	CDROM sound right signal	O
4	CD_LGND	Right Ground	I
1	CD_L	CDROM sound left signal	O
3	CD_RGND	Left Ground	I
39,41,38,40, 42	+5Vs	+5V power supply	I
23,43,44,45, 46,48	Gnd	Ground	O

B.8 DC-IN Jack Pin Assignment

The pin assignment of the DC-IN connector is as follows:

No	Signal	Description	Type
1	ADAPV+	Adapter input voltage	I
2	Gnd	Ground	O

B.9 LCD Connector Pin Assignment

The pin assignment of the LCD connector is as follows:

Pin	Name	Remark	Pin	Name	Remark
1	GND		2	GND	
3	LCD_P7D	For DSTN LCD	4	GND	
5	LCD_P7	For LVDS panel	6	LCD_L_P8	
7	LCD_P6	For LVDS panel	8	LCD_L_P9	
9	LCD_P6D	For DSTN LCD	10	LCD_L_P10	
11	GND		12	LCD_L_P11	
13	LCD_P5D	For DSTN LCD	14	GND	
15	LCD_P5	For LVDS panel	16	LCD_L_P12	
17	LCD_P4	For LVDS panel	18	LCD_L_P13	
19	LCD_P4D	For DSTN LCD	20	LCD_L_P14	
21	GND		22	LCD_L_P15	
23	LCD_P3D	For DSTN LCD	24	GND	
25	LCD_P3	For LVDS panel	26	LCD_L_P16	
27	LCD_P2	For LVDS panel	28	LCD_L_P17	
29	LCD_P2D	For DSTN LCD	30	LCD_L_P18	
31	GND		32	LCD_L_P19	
33	LCD_P1D	For DSTN LCD	34	GND	
35	LCD_P1	For LVDS panel	36	LCD_L_P20	
37	LCD_P0	For LVDS panel	38	LCD_L_P21	
39	LCD_P0D	For DSTN LCD	40	LCD_L_P22	
41	GND		42	LCD_L_P23	
43	GND		44	GND	
45	+VLCD		46	+VLCD	
47	+VLCD		48	+VLCD	
49	GND		50	GPI5_PIIX4_LCDID0#	
51	LCD_LCDSCLK		52	GPI19_PIIX4_LCDID1#	
53	LCD_SFLM		54	GPI21_PIIX4_LCDID2#	
55	GND		56	DIGON	
57	LCD_SLP		58	LCD_BIASON	
59	LCD_SDE		60	LCD_CONTRAST	
61	GND		62	GND	
63	LCD_INTVNA		64	GND	
65	LCD_BRIGHTNESS		66	GND	
67	+5VS_INVERT		68	+5VS_INVERT	
69	+5VS_INVERT		70	+5VS_INVERT	

B.10 Fan Pin Assignment

The pin assignment of the internal fan is as follows:

No	Signal	No	Signal
1	+5VS	2	GND

B.11 AIO Board Pin Assignment

The pin assignment of the AIO board is as follows:

No	Signal		No	Signal
1, 2, 23, 24, 33, 36, 49, 50, 55, 60, 86, 87	GND		100, 99, 98, 97, 92, 94, 96, 95, 93	+5VS
3	PIDE_RPDCS3#		46	FDD_WP#
4	HDDLED#		47	FDD_RDATA#
5	PIDE_RPDA2		48	FDD_HDSEL#
6	PIDE_RPDCS1#		51	IR_TXD
7	PIDE_RPDD15		52	IR_RX1
8	PIDE_RPDA0		53	IR_RX2
9	PIDE_RPDD14		54	GPI13_PIIX4_FDDIN#
10	PIDE_RPDA1		56	SMDATA_KB
11	PIDE_RPDD13		57	PWRON
12	IRQ14		58	SMCLK_KB
13	PIDE_RPDD12		59	LED_CHARGE
14	PIDE_RPDDACK#		61	LS120IN#
15	PIDE_RPDD11		62	KB_X15
16	PIDE_RPIORDY		63	KB_X14
17	PIDE_RPDD10		64	KB_X13
18	PIDE_RPDIOR#		65	KB_X12
19	PIDE_RPDD9		66	KB_X11
20	PIDE_RPDIOW#		67	KB_X10
21	PIDE_RPDD8		68	KB_X9
22	PIDE_RPDDRQ		69	KB_X8
25	PIDE_RPDD0		70	KB_X7
26	PIDE_RPDD4		71	KB_X6
27	PIDE_RPDD1		72	KB_X5
28	PIDE_RPDD5		73	KB_X4
29	PIDE_RPDD2		74	KB_X3
30	PIDE_RPDD6		75	KB_X2
31	PIDE_RPDD3		76	KB_X1
32	PIDE_RPDD7		77	KB_X0
34	GPO6_PIIX4_HDDRESET#		78	KB_XY7
35	FDD_INDEX#		79	KB_XY6
37	FDD_DSKCHG#		80	KB_XY5
38	FDD_DR0#		81	KB_XY4
39	FDD_MTR0#		82	KB_XY3
40	FDD_DIR#		83	KB_XY2
41	FDD_3MODE		84	KB_XY1
42	FDD_STEP#		85	KB_XY0

43	FDD_WDATA#		88	ACIN
44	FDD_WGATE#		89	IDA#
45	FDD_TRK0#		90	TERR
92,94	+3VS		91	LID_SW#

B.12 Internal FDD Connector

The pin assignment for the FDD connector is as follows:

NO.	Signal	Description	Type
3	RDATA#	Read disk data. Raw serial bit stream form the disk drive, low active. Each falling edge represents a flux transition of the encoded data.	I
9	WGATE#	Write gate. This active low high current driver allows current to flow through the write head. It becomes active just prior to writing to the diskette.	O
11	WDATA#	Write data. This active low high current driver provides the encoded data to the disk drive. Each falling edge causes a flux transition on the media.	O
1	HDSEL#	Head select. The high current select the floppy disk side for reading or writing. A logic “1” on the pin means side 0 will be accessed, while a logic “0” means side 1 will be accessed.	O
15	DIR#	Direction control. This high current low active output determines the direction of the head movement. A logic “1” on this pin means outward motion, while a logic “0” means inward motion.	O
13	STEP#	Step pulse. The active low high current driver issues a low pulse for each track-to-track movement of the head.	O
21	DSKCHG#	Disk change. This input senses that the drive door is open or that the diskette has possibly been changed since the last drive selection. This input is inverted and read via bit 7 of I/O address 3F7H. The DSKCHG# bit also depends upon the state of the Force Disk Change bits in the Force FDD Status Change configuration register.	I
23	DS0#	Drive select 0. Active low outputs select drives 0.	O
17	MOTR0	Motor on. These active low output motor on.	O
14	3MODE	3 Mode FDD select.	O
5	WRTPRT#	Write protected. This active low Schmitt trigger input senses from the disk drive that a disk is write protected.	I
7	TRK0#	Track 00. This active low Schmitt trigger input senses from the disk drive that the head is positioned over the outermost track.	I
25	INDEX#	This active low Schmitt Trigger input senses from the disk drive that head is positioned over the beginning of a track , as marked by an index hole.	I
16	READY	FDD ready	I
20	FDDIN#	FDD insert	I
2,4,6,8,10,12	Gnd	Ground	I
22,24,26	+5Vs	+5V power supply	O
18,19	NC	No connection	

B.13 HDD Pin Assignment

The pin assignment of the internal HDD is as follows:

PIN NUMBER	PIN NAME	PIN NUMBER	PIN NAME
1	HD1RST#	2	GND
3	PDD7	4	PDD8
5	PDD6	6	PDD9
7	PDD5	8	PDD10
9	PDD4	10	PDD11
11	PDD3	12	PDD12
13	PDD2	14	PDD13
15	PDD1	16	PDD14
17	PDD0	18	PDD15
19	GND	20	NC
21	PDDREQ	22	GND
23	PDIOW#	24	GND
25	PDIOR#	26	GND
27	PIORDY	28	CSEL
29	PDDACK#	30	GND
31	IRQ14	32	NC
33	PDA1	34	PDIAG#
35	PDA0	36	PDA2
37	PDCS1#	38	PDCS3#
39	HDDLED#	40	GND
41	+5VHDS1	42	+5VHDS1
43	GND	44	NC

B.14 B+ of 12 Pin Assignment

The pin assignment of the B+ 12V is as follows:

No	Signal	Description	Type
1,2,3,4,5,6	B+	Power	O
8	NU	Key	NC
7,9,10, 11,12	GND	Ground	O

B.15 Internal Keyboard FPC Connector

The pin assignment of the internal keyboard connector is as follows:

No	Signal	Description	Type
1	X15	Keyboard matrix column 15	I
2	X14	Keyboard matrix column 14	I
3	X13	Keyboard matrix column 13	I
4	X12	Keyboard matrix column 12	I
5	X11	Keyboard matrix column 11	I
6	X10	Keyboard matrix column 10	I
7	X9	Keyboard matrix column 9	I
8	X8	Keyboard matrix column 8	I
9	X7	Keyboard matrix column 7	I

10	X6	Keyboard matrix column 6	I
11	X5	Keyboard matrix column 5	I
12	XY7	Keyboard matrix row 7	O
13	XY6	Keyboard matrix row 6	O
14	XY5	Keyboard matrix row 5	O
15	XY4	Keyboard matrix row 4	O
16	X4	Keyboard matrix column 4	I
17	X3	Keyboard matrix column 3	I
18	XY3	Keyboard matrix row 3	O
19	XY2	Keyboard matrix row 2	O
20	XY1	Keyboard matrix row 1	O
21	XY0	Keyboard matrix row 0	O
22	X2	Keyboard matrix column 2	I
23	X1	Keyboard matrix column 1	I
24	X0	Keyboard matrix column 0	I

B.16 Battery Connector

The pin assignment for the battery connector is as follows:

No	Signal	Description	Type
8	Gnd	Ground	I
7	TH	Thermal sensor	I
6	DTA	SMBus data signal	I/O
5	CLK	SMBus clock signal	I/O
4	SEL	Not used	-
3	ID2	Battery insert detection	O
2	ID1	Not Used	-
1	BAT+	Battery output/input voltage	I/O

B.17 Audio Board Pin Assignment

No	Signal	No	Signal
1	GND	2	+5VS
3	+3VS	4	+5VS
5	PDAMP#	6	CD_GND
7	SUSLED#	8,	CD_L
9	CHGLED	10	CD_R
11	MBATW#	12	CD_GND
13	BATL#	14	ZV_SDATA
15	GND	16	ZV_SCLK
17	NC	18	ZV_RCLK
19	NC	20	ZV_MCLK
21	+5V	22	+5VS
23	GLIDPAD_CLK	24	NC
25	GLIDPAD_DATA	26	C24
27	GND	28	GND
29	INTAC97RST#	30	SDFSO
31	AUDSCLK	32	PCIRST#
33	NC	34	SDATA_IN

35	BEEP	36	SDATA_OUT
37	GND	38	GND
39	+RTCBAT	40	+12VS

B.18 Audio Jack

The audio jack comprises of the headphone jack, line-out jack, and microphone jack:

Headphone Jack

The pin assignment of the headphone jack is as follows:

No	Signal	Description	Type
1	GND	Ground	I
2	HP_L	Headphone left sound	O
3	HP_R	Headphone right sound	O
4	AMPCTRL	Amplifier control signal	I
5	GNDP	Pull-down signal	O
6	NC	Not used	-

Line-In Jack

The pin assignment of the line-in jack is as follows:

No	Signal	Description	Type
1	GND	Ground	I
2	LINEINL	Line in left sound	O
3	GND	Ground	I
4	GND	Ground	I
5	LINEINR	Line in right sound	O

Microphone Jack

The pin assignment of the microphone jack is as follows:

No	Signal	Description	Type
1	GND	Ground	I
2	MICIN	External Microphone input signal	I
3	INTMIC	Internal microphone signal	O
4	NC	Not used	-
5	NC	Not used	-

B.19 Internal Microphone Connector

The pin assignment of the internal microphone is as follows:

No	Signal	Description	Type
1	MICIN	External Microphone input signal	
2	GND	Ground	

B.20 Internal Left Speaker Connector

The pin assignment of the internal left speaker is as follows:

No	Signal	Description	Type
1	L_OUT+	Speaker signal	
2	L_OUT-	Speaker signal	
3	R_OUT+	Speaker signal	
4	R_OUT-	Speaker signal	

B.21 RTC Battery

The pin assignment of the RTC battery is as follows:

No	Signal	Description	Type
1	+RTCBAT	RTC Battery Power	
2	GND	Ground	

B.22 Glidepad Connector

The pin assignment of the glidepad is as follows:

No	Signal	Description	Type
1	+5VS	+5V POWER	
2	DATA	Data Signal	
3	CLK	Clock Signal	
4	SW-R	Switch Right	
5	SW-L	Switch Left	
6	GND	Gound	

B.23 S-Video Connector

The pin assignment of the S-Video connector is as follows:

No	Signal	Description	Type
1	GND	Ground	
2	GND	Ground	
3	Y	Luminance O/P	
4	C	Chrominance O/P	