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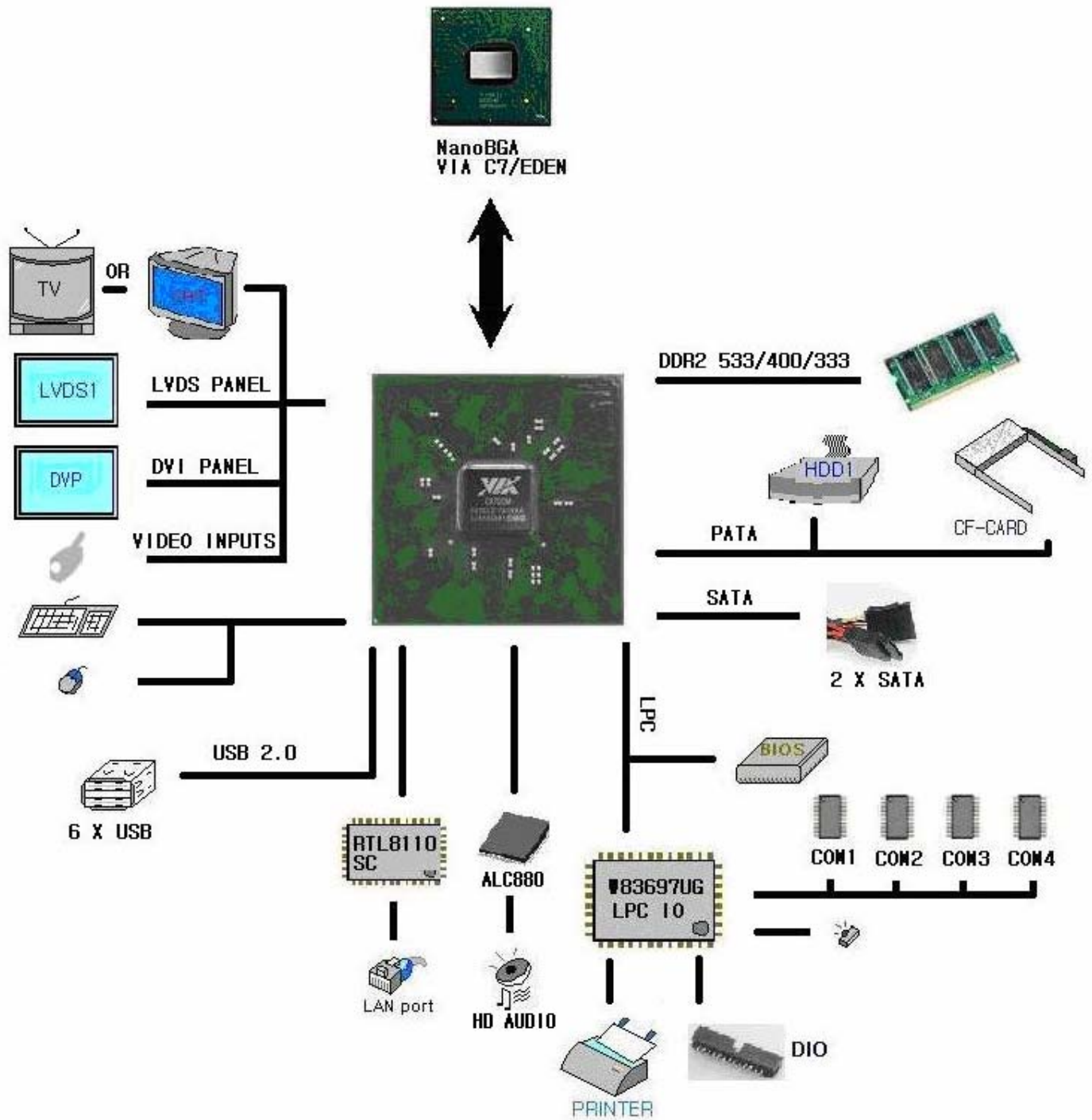


1. SPECIFICATIONS

Processor	<ul style="list-style-type: none"> - . Via V4 Eden, C7 Processor - . L1 cache 128KB, L2 cache 128KB, Support FSB 400/533Mhz, nanoBGA2 type
Chipset	Via CX700/700M, FCBGA 958, 37.5 x 37.5mm
Memory	One 200 Pin DDR2 SO-DIMM DIMM Socket [Support upto DDR2 533, Max. 2GB]
Graphics	<ul style="list-style-type: none"> - . Integrated UniChrome Pro II 2D/3D Graphics Controller in CX700/700M - . Selectable 32/64/128MB Frame Buffer size(CRT 2048 X1536) - . 1 single channel DVI Transmitter or 2 single ch/1 dual ch LVDS transmitter - . 1 DVP Port for TV out / DVI / LVDS interface(TV 1920 X 1080, LVDS 1600X1200) - . integrated in HDTV Encoder[CX700M] - . 1 Video Capture port, two 8-bit CCIR-656/601 input - . MPEG2 decoding mode - . Unified Video decoding Accelerator for MPEG4, WMV9 decoding mode[CX700M] - . Macrovision copy protection [CX700M]
Ethernet	<ul style="list-style-type: none"> - . 10/100/1000 Base-T Ethernet - . Realtek RTL8110SC for 1G BASE-T
Super I/O	- . W83697, LPC interface, 4 serial, 1 LPT, GPIO, IR
SATA	- . 2 x Serial ATA
Audio	- . HD Audio
IDE	<ul style="list-style-type: none"> - . Support 1 Ch Ultra DMA 66,100,133 - . Pin header SMD type 44 pin IDE interface, Compact Flash Card type I/II
Back Panel I/O Ports	<ul style="list-style-type: none"> - . 1 x PS2 Key Board Mouse Port - . 1 x CRT Port, 15 pin D-sub - . 1 x Serial Port 9pin D-sub - . 1 x RJ-45 LAN port - . 1 x USB 2.0/1.1 ports
On Board I/O Connectors	<ul style="list-style-type: none"> - . 2 x USB 2.0 4 port, 10P pin header SMD type - . 1 x Audio, 10P pin header SMD type - . 1 x Parallel Port, 20P pin header SMD type - . 1 x SIR, 2P pin header SMD type[JP2] - . 1 x Fan connector - . 1 x 16bit DIO, 20P pin header SMD type - . 1 x LVDS, 40P connector SMD type - . 1 x DVO, 34P pin header SMD type - . 1 x Video Capture port, 34P pin header SMD type - . 1 x HDTV out, 10P pin header SMD type [CX700M, CRT port와 택일, 동시 지원 안됨] - . 3 x Serial port, 10P pin header SMD type COM2,3,4
BIOS	Phoenix Award
Power	Support ATX [5V, 12V], 12 pin Power Connector
Form Factor	3.5" SBC, size 146mm x 105mm, PCB 10 Layers.
Operating Temp	0 to 60°C

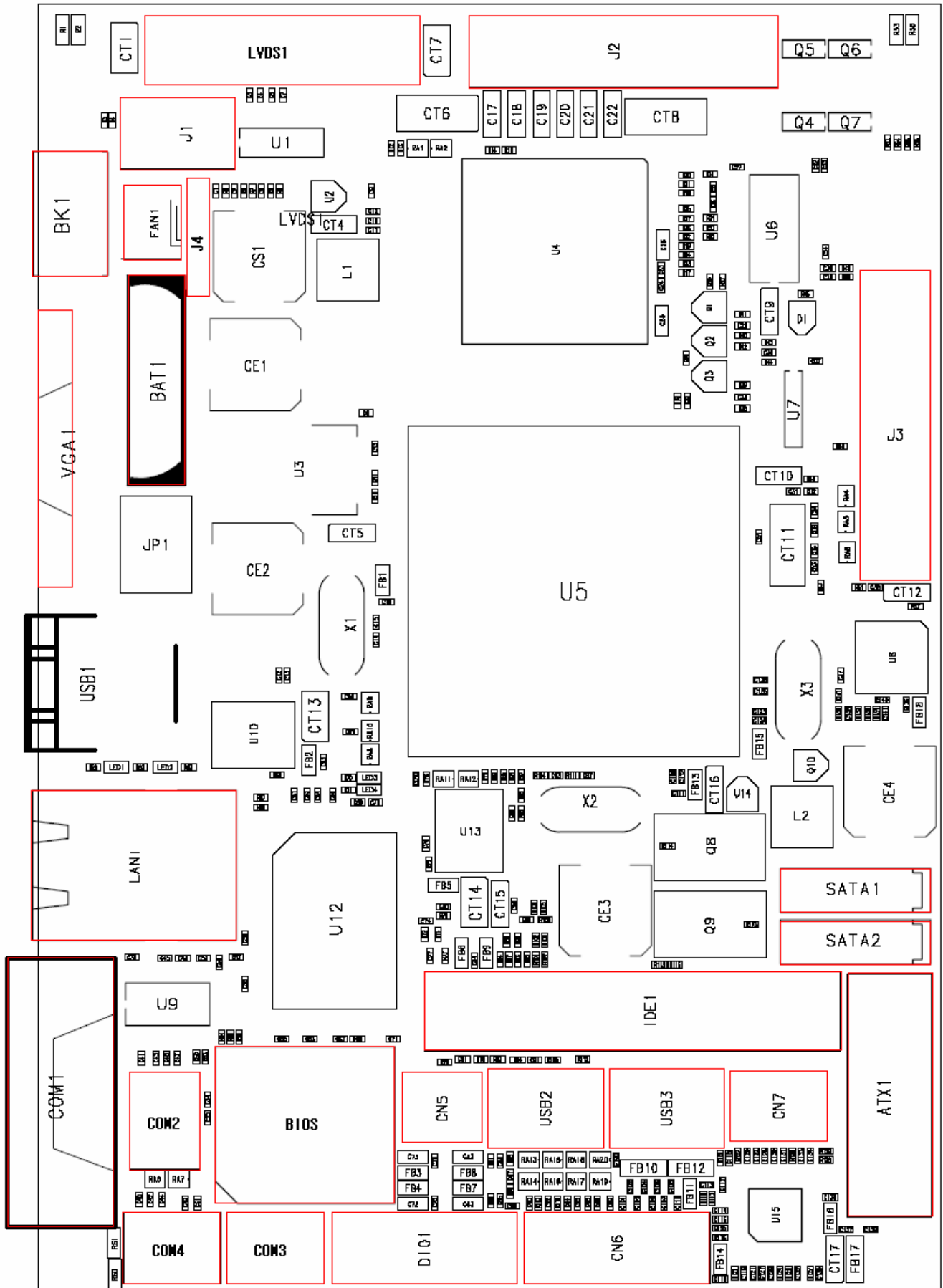


2. BLOCK DIAGRAM





3. EMB-3200 LayOut





4. LISTING OF JUMPERS, CONNECTORS

4.1 Quick Listing of Jumpers

CN1 -- CMOS CLEAR

4.2 Quick Listing of Connector

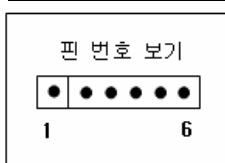
ATX1	--	ATX POWER Connector
CN5	--	LED, SWITCH
FAN1	--	CPU FAN I/F CONNECTOR
VGA1	--	VGA CRT I/F CONNECTOR
CN7	--	HD AUDIO I/F CONNECTOR
USB1	--	UNIVERSAL SERIAL I/F CONNECTOR
USB2,USB3	--	UNIVERSAL SERIAL I/F CONNECTOR
LAN1	--	ETHERNET CONNECTOR
COM1	--	SERIAL 1 I/F CONNECTOR
COM2-4	--	SERIAL 1~4 I/F CONNECTOR
BK1	--	KEY BOARD/MOUSE CONNECTOR
J1	--	LVDS BACKLIGHT VOLTAGE SELECT
JP1	--	TV OUTPUTS, IR I/F CONNECTOR
SATA1, STAT2	--	Serial ATA I/F CONNECTOR
LVDS1	--	LVDS I/F CONNECTOR
J3	--	VCP(VIDEO CAPTURE PORT) I/F CONNECTOR
DVP1	--	DVP(DIGITAL VIDEO PORT)I/F CONNECTOR
DI01	--	GENERAL PURPOSE I/O, DIGITAL I/O I/F CONNECTOR
CN1	--	PARALLEL PORT I/F CONNECTOR
CF1	--	CF-CARD I/F CONNECTOR
IDE1	--	IDE HARD DISK I/F CONNECTOR

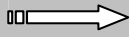
5. INSTALLATION & DESCRIPTION

5.1 JUMPER INSTALLATION

5.1.1 BATTERY SELECTABLE Connector [J1]

PIN	SIGNAL	DESCRIPTION
4	IBAT	ON-BOARD Battery used (4-5)
5	VBATT	External or Internal Battery Common pin
6	GND	CMOS Clear (5-6)





5.2 CONNECTOR DESCRIPTION

5.2.1 ATX POWER Connection (ATX1)

ATX Connector (CN1)		Power
	3 5 9 11	+5V
	12	+12V
	6	+5VSB
	8	PWR_ON
	1 2 4 7 10	GND

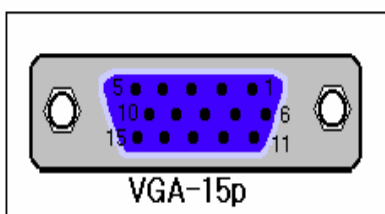
5.2.2 HARD DISK LED/ POWER, RESET SWITCH Interface Connector [CN5]

SIGNAL	PIN	PIN	SIGNAL
+5V	1	2	+5V
GND	3	4	HARD DISK LED
GND	5	6	POWER SWITCH
GND	7	8	RESET SWITCH

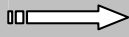
5.2.3 FAN Connection (FAN1)

PIN	SIGNAL
1	Ground
2	+12V
3	FAN Control

5.2.4 VGA CRT Interface Connector [VGA1]



PIN	SIGNAL	PIN	SIGNAL
1	Red	9	+5V
2	Green	10	GND
3	Blue	11	NC
4	NC	12	I2C Clk
5	GND	13	H-sync
6	Frame GND	14	V-Sync
7	Frame GND	15	I2C Data
8	Frame GND		

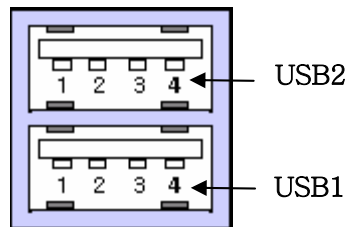


5.2.5 AUDIO Interface Connector [CN7]

DESCRIPTION	SIGNAL	PIN	PIN	SIGNAL	DESCRIPTION
Right Line Input	LINE-INR	1	2	LINE-INL	Left Line Input
Microphone Input	MIC-INPUT	3	4	GNDAUD	Audio Ground
Right Line Output	LINE-OUTR	5	6	LINE-OUTL	Left Line Output
Woofers Output	LFEOUT	7	8	GNDAUD	Audio Ground
Digital Interface Output	SPDIF-OUT	9	10	CENTOUT	Center Output

5.2.6 Universal Serial BUS Connector [USB1]

PIN	Signal
1	USB VCC
2	DATA-
3	DATA+
4	GND

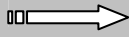


5.2.7 Universal Serial BUS Connector [USB2,USB3]

	PIN	SIGNAL	PIN	SIGNAL
	1	USB PORT VCC	2	USB PORT VCC
3	USB0 D-	4	USB1 D-	
5	USB0 D+	6	USB1 D+	
7	GND	8	GND	
9	GND	10	GND	

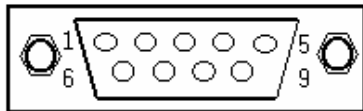
5.2.8 Ethernet Interface [LAN1]

	PIN	Signal
	1	TX+
2	TX-	
3	RX+	
4	NC	
5	NC	
6	RX-	
7	NC	
8	NC	



5.2.9 RS-232 COM Interface Connector [COM1]

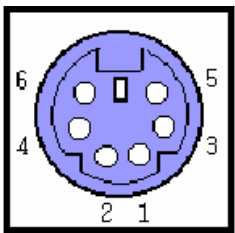
DESCRIPTION	SIGNAL	PIN	PIN	SIGNAL	DESCRIPTION
Data Carrier Detect	DCD1	1	2	RXD1	Serial Input
Serial Output	TXD1	3	4	DTR1	Data Terminal Ready
Ground	GND	5	6	DSR1	Data Set Ready
Request To Send	RTS1	7	8	CTS1	Clear To Send
Ring Indicator	RI1	9	10	NC	Not Connected



5.2.10 RS-232 COM Interface Connector [COM2,COM3,COM4]

DESCRIPTION	SIGNAL	PIN	PIN	SIGNAL	DESCRIPTION
Data Carrier Detect	DCD	1	2	DSR	Data Set Ready
Serial Input	RXD	3	4	RTS	Request To Send
Serial Output	TXD	5	6	CTS	Clear To Send
Data Terminal Ready	DTR	7	8	RI	Ring Indicator
Ground	GND	9	10	NC	Not Connected

5.2.11 KEY BOARD/ MOUSE Connector [BK1]

	PIN	Signal
	1	KB/DATA
2	MS/DATA	
3	GND	
4	VCC+	
5	KB/CLK	
6	MS/CLK	

5.2.12 LCD/LVDS BACKLIGHT [J1]

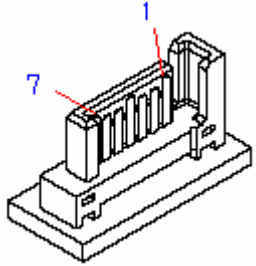
SIGNAL	PIN	PIN	SIGNAL
BACKLIGHT VOLTAGE 1	1	2	BACKLIGHT VOLTAGE 1
ENABLE BACKLIGHT 1	3	4	ENABLE BACKLIGHT 1
GND	5	6	GND
BACKLIGHT VOLTAGE 2	7	8	BACKLIGHT VOLTAGE 2
ENABLE BACKLIGHT 2	9	10	ENABLE BACKLIGHT 2
GND	11	12	GND



5.2.13 TV OUTPUTS, IR Interface Connector [JP1]

DESCRIPTION	SIGNAL	PIN	PIN	SIGNAL	DESCRIPTION
Chrominance SVHS	C_SVHS	1	2	+5V	VCC5V
Luminance SVHS	Y_SVHS	3	4	IRRX	Infrared Ray RX
TV_ Composite	TV_COMP	5	6	IRTX	Infrared Ray TX
Ground	GND	7	8	GND	Ground
Ground	GND	9	10	GND	Ground

5.2.14 SATA Interface Connector [SATA1, SATA2] (67491-0010)

	PIN	SATA1	SATA2
	1	GND1	GND1
2	ICH_STAT_TXP0	ICH_SATA_TXP1	
3	ICH_SATA_TXN0	ICH_SATA_TXN1	
4	GND2	GND2	
5	ICH_SATA_RXN0	ICH_SATA_RXN1	
6	ICH_STAT_RXP0	ICH_SATA_RXP1	
7	GND3	GND3	

5.2.15 LVDS Interface Connector [LVDS1]

DESCRIPTION	SIGNAL	PIN	PIN	SIGNAL	DESCRIPTION
VCC LCD1	VCCLCD1	2	1	-LCD2D00	Negative data0 Output
VCC LCD1	VCCLCD1	4	3	LCD2D00	Positive data0 Output
Ground	GND	6	5	GND	Ground
Ground	GND	8	7	-LCD2D01	Negative data1 Output
Positive data3 Output	LCD1D03	10	9	LCD2D01	Positive data1 Output
Negative data3 Output	-LCD1D03	12	11	GND	Ground
Ground	GND	14	13	-LCD2D02	Negative data2 Output
Positive Clock1 Output	LCD1CLK	16	15	LCD2D02	Positive data2 Output
Negative Clock1 Output	-LCD1CLK	18	17	GND	GND
Ground	GND	20	19	-LCD2CLK	Negative Clock2 Output
Positive data2 Output	LCD1D02	22	21	LCD2CLK	Positive Clock2 Output
Negative data2 Output	-LCD1D02	24	23	GND	GND
Ground	GND	26	25	-LCD2D03	Negative data3 Output
Positive data1 Output	LCD1D01	28	27	LCD2D03	Positive data3 Output
Negative data1 Output	-LCD1D01	30	29	+5V	VCC5V
Ground	GND	32	31	SPCLK1	Serial Port Clock
Positive data0 Output	LCD1D00	34	33	+3.3V	VCC3.3V
Negative data0 Output	-LCD1D00	36	35	DVP1DET	
NC	NC	38	37	VCC_LCD2	VCC LCD2
Serial Port Data	SPD1	40	39	VCC_LCD2	VCC LCD2



5.2.16 VCP(Video Capture Port) Interface Connector [J3]

DESCRIPTION	SIGNAL	PIN	PIN	SIGNAL	DESCRIPTION
VCC5V	+5V	1	2	+3.3V	VCC3.3V
VCP 0 DATA0	VCPOD0	3	4	VCP1D0	VCP 1 DATA0
VCP 0 DATA1	VCPOD1	5	6	VCP1D1	VCP 1 DATA0
VCP 0 DATA2	VCPOD2	7	8	VCP1D2	VCP 1 DATA0
VCP 0 DATA3	VCPOD3	9	10	VCP1D3	VCP 1 DATA0
VCP 0 DATA4	VCPOD4	11	12	VCP1D4	VCP 1 DATA0
VCP 0 DATA5	VCPOD5	13	14	VCP1D5	VCP 1 DATA0
VCP 0 DATA6	VCPOD06	15	16	VCP1D6	VCP 1 DATA0
VCP 0 DATA7	VCPOD07	17	18	VCP1D7	VCP 1 DATA0
Ground	GND	19	20	GND	Ground
VCP 0 Horizontal Sync	VCPOHS	21	22	VCP1CLK	VCP 1 Clock
VCP 0 Vertical Sync	VCPOVS	23	24	VCP1HS	VCP 1 Horizontal Sync
VCP 0 Clock	VCPOCLK	25	26	VCP1VS	VCP 1 Vertical Sync
DVP 1 Data Enable	DVP1DE	27	28	TS1ERR	Transport Stream Port1Error
Serial Port Data	SPD1	29	30	SPCLK1	Serial Port Clock
PCIRST	-PCIRSTX	31	32	-PCIRSTX	PCIRST
Ground	GND	33	34	GND	Ground

5.2.17 DVP(Digital Video Port) Interface Connector [DVP1]

DESCRIPTION	SIGNAL	PIN	PIN	SIGNAL	DESCRIPTION
VCC5V	+5V	1	2	+3.3V	VCC3.3V
DVP 1 DATA0	DVP1D0	3	4	DVP1D8	DVP 1 DATA8
DVP 1 DATA1	DVP1D1	5	6	DVP1D9	DVP 1 DATA9
DVP 1 DATA2	DVP1D2	7	8	DVP1D10	DVP 1 DATA10
DVP 1 DATA3	DVP1D3	9	10	DVP1D11	DVP 1 DATA11
DVP 1 DATA4	DVP1D4	11	12	DVP1D12	DVP 1 DATA12
DVP 1 DATA5	DVP1D5	13	14	DVP1D13	DVP 1 DATA13
DVP 1 DATA6	DVP1D06	15	16	DVP1D14	DVP 1 DATA14
DVP 1 DATA7	DVP1D07	17	18	DVP1D15	DVP 1 DATA15
Ground	GND	19	20	GND	Ground
DVP 0 Horizontal Sync	DVP1HS	21	22	DVP1TVCLKR	DVP 1 TV Return Clock
DVP 0 Vertical Sync	DVP1VS	23	24	DVP1TVFLD	DVP 1 Field Out
DVP 0 Clock	DVPOCLK	25	26	DVP1DET	DVP 1 Display Detect
DVP 1 Data Enable	DVP1DE	27	28	SPDIF_OUT	Digital Interface Output
Serial Port Data	SPD1	29	30	SPCLK1	Serial Port Clock
PCIRST	-PCIRSTX	31	32	-PCIRSTX	PCIRST
Ground	GND	33	34	GND	Ground

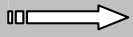


5.2.18 DIGITAL I/O Interface Connector [DI01]

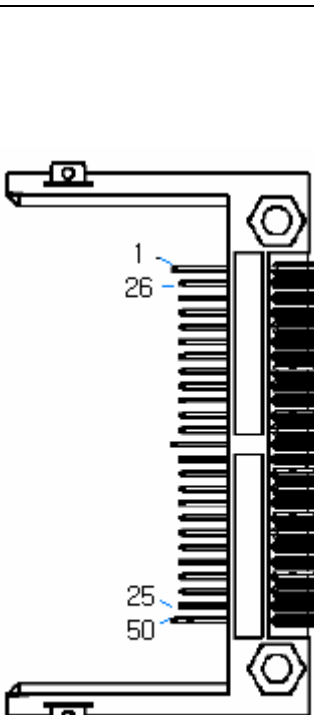
DESCRIPTION	SIGNAL	PIN	PIN	SIGNAL	DESCRIPTION
+5V POWER	VCC5V	1	2	GND	Ground
General purpose I/O	GPI010	3	4	GPI020	General purpose I/O
General purpose I/O	GPI011	5	6	GPI021	General purpose I/O
General purpose I/O	GPI012	7	8	GPI022	General purpose I/O
General purpose I/O	GPI013	9	10	GPI023	General purpose I/O
+5V POWER	VCC5V	11	12	GND	Ground
General purpose I/O	GPI014	13	14	GPI030	General purpose I/O
General purpose I/O	GPI015	15	16	GPI031	General purpose I/O
General purpose I/O	GPI016	17	18	GPI032	General purpose I/O
General purpose I/O	GPI017	19	20	GPI033	General purpose I/O

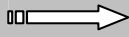
5.2.19 PARALLEL PORT Interface Connector [CN6]

PIN	SIGNAL	Description
18, 19, 20	GND	Printer GND
1	PSTBX	This signal indicates to the printer that data at PD7..0 are valid
2	PAFDX	This active low output causes the printer to add a line feed after each line printed
3	PD0	Parallel data bus from PC board to printer
4	PERRX	Signal from printer indicating that an error has been detected
5	PD1	Parallel data bus from PC board to printer
6	PINITX	This active low output initializes (resets) the printer
7	PD2	Parallel data bus from PC board to printer
8	PSLINX	Signal to select the printer sent from CPU board to printer
9	PD3	Parallel data bus from PC board to printer
11	PD4	
13	PD5	
15	PD6	
17	PD7	
10	PACKX	Signal from printer indicating that the printer has received the data and is ready to accept further data
12	PBUSY	Signal From printer indicating that the printer cannot accept further data
14	PPE	Signal from printer indicating that the printer is out of paper
16	PSLCT	Signal from printer to indicate that the printer is selected



5.2.20 CF-Card Connector (50pin Connector) [CF600]

PIN	SIGNAL		
		PIN	SIGNAL
1	GND	26	GND
2	IDEDA3	27	IDEDA11
3	IDEDA4	28	IDEDA12
4	IDEDA5	29	IDEDA13
5	IDEDA6	30	IDEDA14
6	IDEDA7	31	IDEDA15
7	IDECS_A0	32	IDECS_A1
8	GND	33	GND
9	GND	34	IDEIOR_A
10	GND	35	IDELow_A
11	GND	36	+3.3V
12	GND	37	IDEIRQA
13	+3.3V	38	+3.3V
14	GND	39	GND
15	GND	40	NC
16	GND	41	IDERST_
17	GND	42	ICHRDYA
18	IDESAA2	43	IDEREQA
19	IDESAA1	44	IDACK_A
20	IDESAA0	45	HDDLED_0
21	IDEDA0	46	CBLIDA
22	IDEDA1	47	IDEDA8
23	IDEDA2	48	IDEDA9
24	+3.3V	49	IDEDA10
25	GND	50	GND



5.2.21 IDE Interface Connector [IDE1]

PIN	SIGNAL	Description
1	IDEPRSTX	Reset signal to the hard disk
2,22,24,26,28,30,32,40,43	GND	Hard Disk GND
3	IDEPDR7	Low part of data bus
4	IDEPDR8	High part of data bus
5	IDEPDR6	Low part of data bus
6	IDEPDR9	High part of data bus
7	IDEPDR5	Low part of data bus
8	IDEPDR10	High part of data bus
9	IDEPDR4	Low part of data bus
10	IDEPDR11	High part of data bus
11	IDEPDR3	Low part of data bus
12	IDEPDR12	High part of data bus
13	IDEPDR2	Low part of data bus
14	IDEPDR13	High part of data bus
15	IDEPDR1	Low part of data bus
16	IDEPDR14	High part of data bus
17	IDEPDR0	Low part of data bus
18	IDEPDR15	High part of data bus
19	GND	Hard Disk GND
20	NC	Not Connected
21	IDEPDREQR	Disk DMA Request might be driven by the IDE hard disk to request bus master access to the PCI bus
23	IDEPIOWX	I/O Write
25	IDEPIORX	I/O Read
27	IDEPIORDYR	This signal may be driven by the hard disk to extend the current I/O cycle
29	IDEPDACKX	Disk DMA Acknowledge
31	IDEPINTR	Interrupt line from hard disk
33	IDEPA1	Address line, used to address i/o registers in the IDE hard disk
34	NC	Not Connected
35	IDEPA0	Address line, used to address i/o registers in the IDE
36	IDEPA2	hard disk
37	IDEPCS0X	Hard Disk Chip-Select
38	IDEPCS1X	Hard Disk Chip-Select
39	HDDLED	Signal from hard disk indicating hard disk activity
41,42	+5 V	+5V POWER
44	NC	Not Connected

