



Quick Installation Guide

3301080

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Warning

Single Board Computers and their components contain very delicate Integrated Circuits (IC). To protect the Single Board Computer and its components against damage from static electricity, you should always follow the following precautions when handling it :

1. Disconnect your Single Board Computer from the power source when you want to work on the inside
2. Hold the board by the edges and try not to touch the IC chips, leads or circuitry
3. Use a grounded wrist strap when handling computer components.
4. Place components on a grounded antistatic pad or on the bag that came with the Single Board Computer, whenever components are separated from the system

Replacing the lithium battery

Incorrect replacement of the lithium battery may lead to a risk of explosion.

The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer (BR2335).

Do not throw lithium batteries into the trashcan. It must be disposed of in accordance with local regulations concerning special waste.

Technical Support

If you have any technical difficulties, please consult the user's manual

Specifications

System

- CPU: Socket 370 Pentium® III (Tualatin), up to 1.4 GHz, Intel Celeron™, VIA Cyrix® III FSB 133/100 MHz
- System Memory: SDRAM up to 512MB on DIMM
- L2 Cache: CPU integrated
- Chipset: VIA VT8601T with integrated Trident AGP Graphics core & VT82C686B Super Southbridge
- BIOS: Award 2 MB Flash BIOS
- Enhanced IDE: 2 ports and up to 4 ATAPI devices, Ultra DMA transfer rates 33/66/100MB/sec (IDE1: 40 Pin DMA 100; IDE2: 44 Pin DMA 33)
- Watchdog Timer: 256-level timer generates system RESET or NMI
- Expansion Interface: 16-bit ISA (passive backplane)

Multiple I/O

- Serial: 1 x RS-232C port (COM1), 1 x RS-232C/422/485 port (COM2)
- Parallel: SPP, EPP and ECP mode
- Floppy: 2 x floppy disk drives
- IrDA: Onboard IrDA TX/RX port
- USB: 4 x USB v1.1 ports
- K/B & Mouse: Onboard PS/2 KB/Mouse port & external AT KB port
- Digital I/O: 16-bit, 8 x Digital Input and 8 x Digital Output

LAN

- Chipset: Realtek RTL8100BL, 10/100Mbps, autoswitching
- Connector: RJ-45 with LEDs on bracket

Audio

- Chipset: AC'97 2.0 compliant integrated in VIA VT82C686B
- Interface: Line-in, Mic in, Speaker out

Display

CRT only (3301080A)

- Chipset: Trident Blade3D AGP2X Graphics Engine integrated in VT8601T
- Display Memory: Share memory max 8MB Video RAM
- Display Type: CRT
- Resolution: 1024 x 768 @ 32bpp, 1280 x 1024 @ 16bpp

Flat SMI 722 (8M) (3301080B)

- Chipset: SMI Lynx3DM8 + SMI 722, 128-bit GUI 3D Engine
- Display Memory: 8MB on-die
- Display Type: CRT/ LVDS/ TTL
- CRT: 1280 x 1024 @ 24-bit
- LCD Interface: TTL/LVDS 1024 x 768 @ 24-bit, TTL/LVDS 1280 x 1024 @ 16 bit
- TV-out: NTSC, PAL, provides CVBS, S-Video and SCART (RGB) TV out resolutions up to 640 x 480

Mechanical and Environment

- Power Requirement: +5 V @ 5A, +12V @ 0.13 A (typical); (Pentium III 1 GHz + 512 MB SDRAM)
- Operating Temperature: 0 ~ 60°C (32 ~ 140°F)
- Relative Humidity: Up ~ 90% @ 55°C
- Dimension (L x W): 185 x 122 mm (7.3" x 4.8")
- Weight: 0.26 Kg (0.57 lb)

Packing list

Before you begin installing your single board computer, please make sure that the following materials have been shipped:

- > 1 x 3301080
- > 1 x Quick Installation Guide
- > 1 x CD-ROM (for driver used)
- > 1 x Print Cable
- > 2 x COM Flat Cable
- > 1 x FDD Cable
- > 1 x USB Cable
- > 1 x TV-out Cable (3301080B Only)
- > 1 x Audio Cable
- > 1 x IDE Cable
- > 1 x UltraDMA 100 IDE Flat Cable
- > 1 x Y Cable (w/EMI)

Before up and running, please make sure the package contains all of above accessories.

If any of the above items is damaged or missing, contact your vendor immediately.

Note: For fully utilize the versatile expanding abilities of 3301080, you need additional one USB and one COM port cables. Please contact your vendor for purchasing information.

Ordering Codes

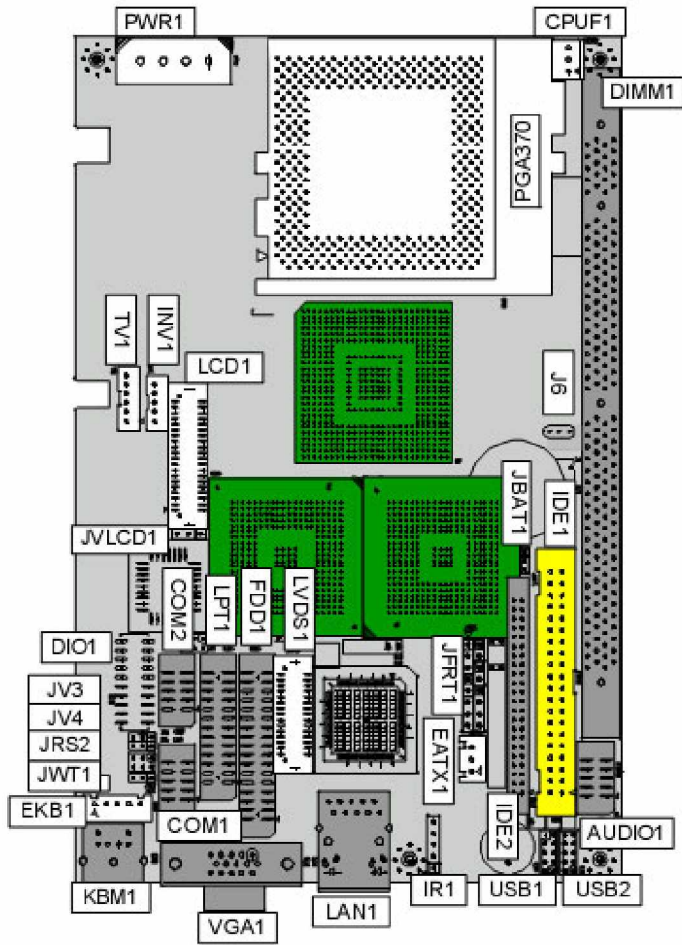
3301080A

Half-size ISA Bus Pentium III Tualatin SBC with CRT/TTL LCD, Audio and LAN

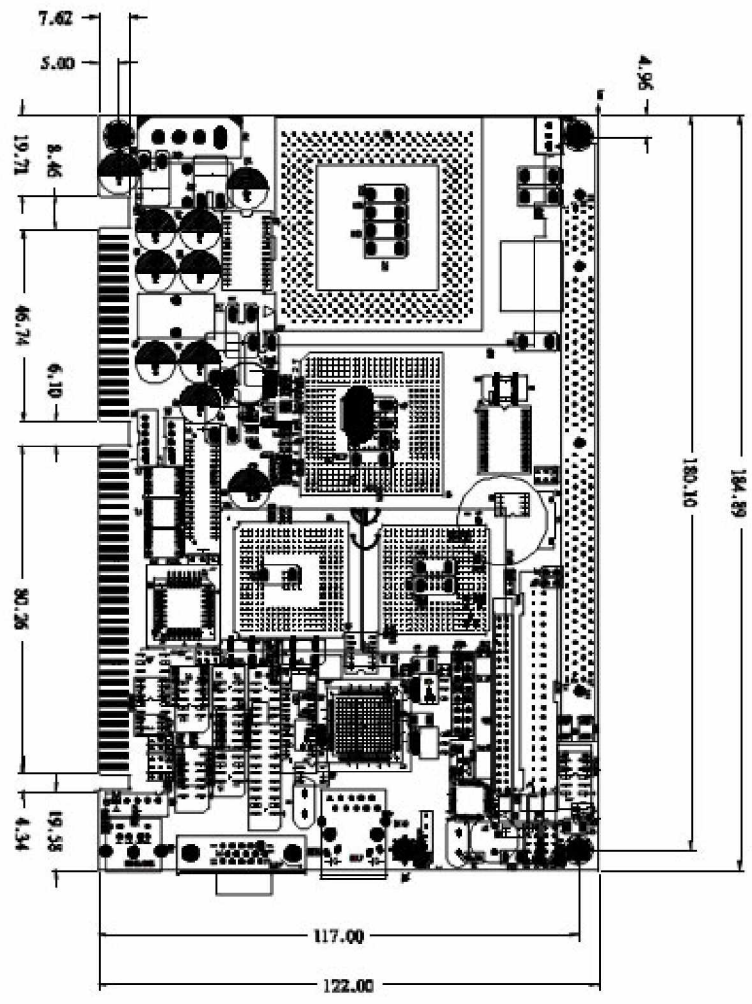
3301080B

Half-size ISA Bus Pentium III Tualatin SBC with SMI 722 for Flat Panel/CRT/LVDS/TTL, TV-out, Audio and LAN

Board Layout



Board Dimension



Unit: mm

Jumper/Connector Quick Reference

Jumpers	
Label	Function
JBAT1	Clear CMOS
JRS2	COM2 RS-232C / 422 / 485 Selection
JVLCD1	LVDS voltage selection
JTLCD1	Panel Type Selection (3301080B Only)
J6	CPU Frequency Selection

Jumper/Connector Quick Reference

Connectors	
Label	Function
AUDIO1	Audio Interface Port
COM1	RS-232C Serial Port
COM2	Serial Port (RS-232C/422/485)
CPUF1	CPU Fan connector
DIO1	Digital I/O Connector
EATX1	ATX feature connector
EKB1	External Keyboard Connector
FDD1	Floppy Disk Drive Connector
IDE1	Primary IDE Connector
IDE2	Secondary IDE Connector
INV1	LCD Inverter Connector
KBM1	Keyboard and PS/2 Mouse
LAN1	10/100 LAN1 Connector
LCD1	18bit/24bit TTL Flat Panel Connector (DF13 40 pin)
LVDS1	24bit LVDS Panel Connector (DF13 30 pin)
LPT1	Parallel Port
PWR1	4P Power Connector
IR1	Infrared (IR) Connector
DIMM1	SDRAM bank 1/2 168 pin DIMM Socket
TV1	TV-out connector (3301080B only)
USB1	USB Port 0,1
USB2	USB Port 2,3
VGA1	VGA Display Connector
JFRT1 (2-4)	Front Panel (Power On)
JFRT1 (6-8)	Front Panel (Reset)
JFRT1 (10,12,14,16)	Front Panel (External Speaker)
JFRT1 (1,3,5)	Front Panel (Power LED)
JFRT1 (7,9)	Front Panel (Hard Disk LED)
JFRT1 (11,13,15)	Front Panel (External SMI)
JTLCD1	LCD Type Selection (3301080B only)

CMOS Jumper Settings

CMOS Operation (JBAT1)

Type : JBAT1: onboard 3-pin header



If the 3301080 refuses to boot due to inappropriate CMOS settings, here is how to proceed to clear (reset) the CMOS to its default values.

CMOS Setup (JBAT1)	JBAT1	Status
Normal Operation	1-2	ON
Clear CMOS	2-3	ON
default setting	1-2 ON	

LCD Type Selection

Switch : JTLCD1 (3301080B only)

Type : onboard 4-pin DIP Switch (SMT Type)



Pin1-4	Description
1111	640*480 TFT
0111	640*480 DSTN
1011	800*600 TFT (Default)
0011	800*600 DSTN
1101	1024*768 TFT
0101	1024*768 DSTN

1 = ON, 0 = OFF

CPU Frequency Selection

Switch : J6

Type : onboard 1 x 3 pin header

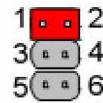


Pin	Description
2-3 CLOSE	100MHz
1-2 CLOSE	133MHz (Default)

Serial Port Selection (RS232C/422/485)

RS-232C/422/485 Mode select (JRS2)

Type : JRS2: onboard 6-pin(2*3) header



JRS2 Selection	1-2	3-4	5-6
RS-232C	ON	OFF	OFF
RS-422	OFF	ON	OFF
RS-485	OFF	OFF	ON

default setting RS-232C

COM2 RS-232 Mode	JV3	JV4
Standard	1-2	1-2
POS : 12 V on pin 9	2-3	1-2
POS : 5 V on pin 1	1-2	2-3
POS : 5 V on pin 1 and 12 V on pin 9	2-3	2-3

RS-422/485 Mode on COM2

The onboard COM2 port can be configured to operate in RS-422 or RS-485 modes. RS-422 modes differ in the way RX/TX is being handled. Jumper JRS2 switches between RS-232C or RS-422/485 mode. All of the RS-232C/422/485 modes are available on COM2.

COM2 Pin Defined:	RS-232C	RS-422	RS-485
Pin1 :	DCD	Tx+	DATA+
Pin2 :	RXD	Tx-	DATA-
Pin8 :	CTS	Rx+	x
Pin9 :	RI	Rx-	x

LVDS LCD Power Selection

Type : JVLCD1: onboard 3-pin header

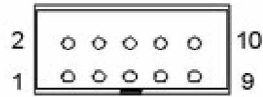


The voltage of LCD panel could be selected by JV9 in 5V or 3.3V .

Mode	JVLCD1
3.3V	1-2
5V	2-3
default setting	3.3V

Audio Interface

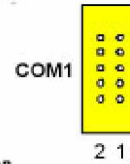
Connector : Audio1
Type : Onboard 10-pin box header



Pin	Description	Pin	Description	Audio1
1	LINE IN LEFT	2	LINE IN RIGHT	
3	GND	4	GND	
5	MIC	6	NC	
7	GND	8	GND	
9	SPEAKER LEFT	10	SPEAKER RIGHT	

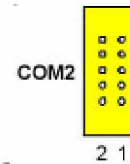
COM Port Connector

Connector : COM1
Type : onboard 10-pin box header



Pin	Description	Pin	Description
1	DCD (or 5V)	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI (or +12V)		

Connector : COM2
Type : onboard 10-pin box header



Pin	Description	Pin	Description
1	DCD2(422TXD+/485DATA+)	2	RXD2(422TXD-/485DATA-)
3	TXD2	4	DTR2
5	GND	6	DSR2
7	RTS2	8	CTS2(422RXD+)
9	RI(422RXD-)	10	NC

CPU Fan Connector

Connector : CPUF1
 Type : onboard 3-pin wafer connector

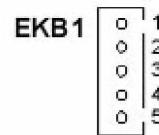


Pin	Description
1	GND
2	+12V
3	FAN Detect

Keyboard & Mouse Connector

AT Keyboard

Connector : EKB1
 Type : Onboard 5-pin header



Pin	Description	Pin	Description
1	CLK	2	DATA
3	NC	4	GND
5	Vcc		

PS/2 Keyboard & Mouse

Connector: KBM1
 Type: external 6-pin Mini DIN connector on bracket

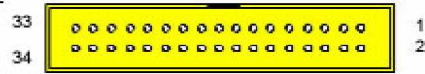


Pin	Description	Pin	Description
1	KB-DATA	2	MS-DATA
3	GND	4	VCC
5	KB-CLK	6	MS-CLK

Note: KBM1 supports PS/2 keyboard directly, and PS/2 mouse supported with the additional PS2 1-to-2 cable in the standard packing.

Interface Connectors HDD, FDD

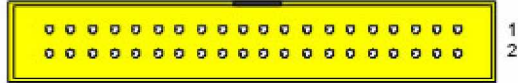
Floppy Disk Drive Connector



Connector : FDD1
Type : onboard 34-pin box header

Pin	Description	Pin	Description
1	GND	2	DRIVE DENSITY SELECT 0
3	GND	4	NC
5	GND	6	DRIVE DENSITY SELECT 1
7	GND	8	#INDEX
9	GND	10	#MOTOR ENABLE A
11	GND	12	#DRIVER SELECT B
13	GND	14	#DRIVER SELECT A
15	GND	16	#MOTOR ENABLE B
17	GND	18	#DIRECTION
19	GND	20	#STEP
21	GND	22	#WRITE DATA
23	GND	24	#WRITE GATE
25	GND	26	#TRACK 0
27	GND	28	#WRITE PROTECT
29	GND	30	#READ DATA
31	GND	32	#HEAD SELECT
33	GND	34	#DISK CHANGE

**Enhanced IDE
Connector**

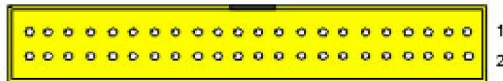


Connector : IDE1

Type : Two onboard 40-pin box headers

Pin	Description	Pin	Description
1	#RESET	2	GND
3	D7	4	D8
5	D6	6	D9
7	D5	8	D10
9	D4	10	D11
11	D3	12	D12
13	D2	14	D13
15	D1	16	D14
17	D0	18	D15
19	GND	20	NC/(Vcc)
21	REQ	22	GND
23	#IOW	24	GND
25	#IOR	26	GND
27	#IRDY	28	IDESEL
29	#DACK	30	GND
31	IRQ	32	NC (-IOCS16)
33	ADDR1	34	CBLID
35	ADDR0	36	ADDR2
37	#CS1	38	#CS3(#HD SELECT1)
39	#ACT	40	GND

Enhanced IDE
Connector



Connector : IDE2

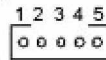
Type : One onboard 44-pin box headers

Pin	Description	Pin	Description
1	#RESET	2	GND
3	D7	4	D8
5	D6	6	D9
7	D5	8	D10
9	D4	10	D11
11	D3	12	D12
13	D2	14	D13
15	D1	16	D14
17	D0	18	D15
19	GND	20	NC
21	REQ	22	GND
23	#IOW	24	GND
25	#IOR	26	GND
27	#IORDY	28	IDESEL
29	#DACK	30	GND
31	IRQ	32	NC (-IACS16)
33	ADDR1	34	CBLID
35	ADDR0	36	ADDR2
37	#CS1	38	#CS3(#HD SELECT1)
39	#ACT	40	GND
41	Vcc	42	Vcc
43	GND	44	NC

LCD Inverter Connector

Connector : INV1

Type : Onboard 5-pin mini boxheader



Pin	Description	Pin	Description
1	+12 V	2	GND
3	on/off	4	brightness control
5	GND		

LAN Connector

LAN Port (10/100Mbps)

Connector : LAN1

Type : external RJ-45 on bracket

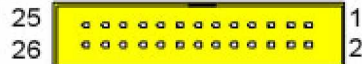


Pin	1	2	3	4	5	6	7	8
Description	TX+	TX-	RX+	NC	NC	RX-	NC	NC

Peripheral Port

Connector : LPT1

Type : onboard 26-pin box header

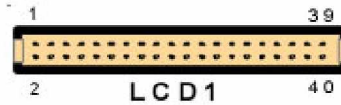


LPT1

Pin	Description	Pin	Description
1	#STROBE	2	#AUTO FEED
3	DATA0	4	#ERROR
5	DATA1	6	#INITIALIZE
7	DATA2	8	#SELECT INPUT
9	DATA3	10	GND
11	DATA4	12	GND
13	DATA5	14	GND
15	DATA6	16	GND
17	DATA7	18	GND
19	#ACKNOWLEDGE	20	GND
21	BUSY	22	GND
22	PAPER EMPTY	24	GND
25	SELECT	26	GND

18/24bit TTL Flat Panel Connector

Connector : LCD1 (3301080B only)
 Type : Onboard DF13 40-pin



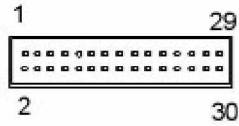
LCD1 pin Assignment

Pin	Description	Pin	Description
1	5V	2	5V
3	Ground	4	Ground
5	3.3V	6	3.3V
7	VEEP	8	Ground
9	FP0	10	FP1
11	FP2	12	FP3
13	FP4	14	FP5
15	FP6	16	FP7
17	FP8	18	FP9
19	FP10	20	FP11
21	FP12	22	FP13
23	FP14	24	FP15
25	FP16	26	FP17
27	FP18	28	FP19
29	FP20	30	FP21
31	FP22	32	FP23
33	Ground	34	Ground
35	FPCLK	36	FP
37	M	38	LP
39	FPVDDEN	40	VBIASEN

LVDS LCD Connector

Connector: LVDS1 (3301080B only)

Type : onboard 30-pin DF-13 Connector

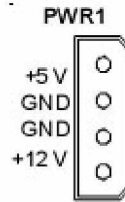


Pin	Signal	Pin	Signal
1	VDD	2	VDD
3	TX1CLK+	4	TX2CLK+
5	TX1CLK-	6	TX2CLK-
7	GND	8	GND
9	TX1D0+	10	TX2D0+
11	TX1D0-	12	TX2D0-
13	GND	14	GND
15	TX1D1+	16	TX2D1+
17	TX1D1-	18	TX2D1-
19	GND	20	GND
21	TX1D2+	22	TX2D2+
23	TX1D2-	24	TX2D2-
25	GND	26	GND
27	TX1D3+	28	TX2D3+
29	TX1D3-	30	TX2D3-

Power Connector

Connector : PWR1
 Type : onboard 4-pin Wafer connector

Pin	Description
1	+5V
2	GND
3	GND
4	+12V



Infrared (IR) Connector

Connector : IR1
 Type : onboard 5-pin header



Pin	Description	Pin	Description
1	Vcc	2	NC
3	IRRX	4	GND
5	IRTX		

16 Bit General purpose I/O

Connector : DIO1
 Type : Onboard 20-pin header



IOR=200H (Input)
 IOW=208H (Output)

Pin	Description	Pin	Description
1	DO0	2	DO1
3	DO2	4	DO3
5	DO4	6	DO5
7	DO6	8	DO7
9	GND	10	GND
11	DI0	12	DI1
13	DI2	14	DI3
15	DI4	16	DI5
17	DI6	18	DI7
19	+5V	20	+12V

USB Connector

USB Ports

Connector: USB1, USB2
 Type: onboard 2*5pin 2.0mm pitch header

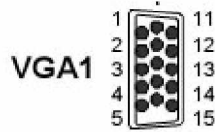


USB1 & USB2

Pin	Description	Pin	Description
1	VCC	2	VCC
3	DATA-	4	DATA-
5	DATA+	6	DATA+
7	GND	8	GND
9	GND	10	Key

VGA Connector

Connector: VGA1
 Type: external 15-pin D-sub female connector

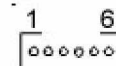


Pin	Description	Pin	Description	Pin	Description
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	VDDAT
3	BLUE	8	GND	13	HSYNC
4	NC	9	Vcc	14	VSYNC
5	GND	10	GND	15	VDCLK

TV-out Connector (EmCORE-i6327VL/S only)

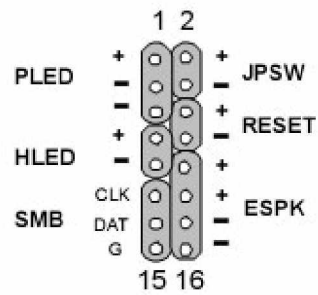
Connector: TV1

Type: Onboard 6-pin wafer



Pin	Description
1	Composite Video
2	GND
3	S-Video Y
4	GND
5	S-Video C
6	GND

Switches and Indicators



Power LED

Connector : PLED

Power LED can be indicated when the CPU card is on or off. And keyboard lock can be used to disable the keyboard function so the PC will not respond by any input.

Pin	Description
1	Power LED+
3	Power LED-
5	Power LED-

Power button

Connector : JPSW

Pin	Description
2	PWR_BTN
4	5VSB

Reset Button

Connector : RESET

Pin	Description
6	RESET
8	GND

Hard Disk LED Connector

Connector : HLED

Pin	Description
7	Hard Disk LED+
9	Hard Disk LED-

External Speaker Connector

Connector : ESPK1

Pin	Description
10	+5V
12	+5v
14	Speak out
16	Speak out

External SMI Connector

Connector : SMB

Pin	Description
11	SMBUS Clock
13	SMBUS DATA
15	GND

Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support you for your products, projects and business

Global American Inc.

Address: 17 Hampshire Drive
Hudson, NH 03051

TEL: Toll Free (U.S. Only) 800-833-8999
(603)886-3900

FAX: (603)886-4545

Website: <http://www.globalamericaninc.com>

E-Mail: salesinfo@globalamericaninc.com

