

User's Manual

TRADEMARK

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HomeIT Platform Main Board with Socket 370 PIII®Coppermine™Celeron™, with Audio, Graphic, Alpha Blending, TV Encoder, Ethernet and SSD

Startup Manual

Packing List

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

- 1 all-in-one HomeIT Main Board
- 2 hard disk drive (IDE) interface cable (40-pin)
- 1 floppy disk drive interface cable (34-pin)
- 1 COM port cable (9-pin)
- 4 VIDEO port cable (4-pin optional)
- 1 USB two port cable (10-pin optional)
- 2 VIDEO card adaptor (optional)
- 1 user' s manual
- CD-ROM or disks for utility, drivers, and

manual (in DOC/PDF format)

- Warranty certificate

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Note 1: For detailed contents of the HomeIT, please refer to the enclosed CD-ROM or disk (in DOC/PDF format).

Note 2: Acrobat Reader is acquired to view any PDF file. Acrobat Reader can be downloaded at: www.adobe.com/Prodindex/acrobat/readstep.html

(Acrobat is a trademark of Adobe)

Specifications

HomeIT Platform Functions

- **CPU :**
PentiumIII®Coppermine™Celeron™ supported (With system bus frequencies of 66/100/133MHz).
- **CPU socket :**
Intel socket 370.
- **BIOS :**
Award Flash BIOS.
- **Chipset :**
VIA Apollo Pro133 (VT82C693A and VT82C686A/B).
- **I/O Chipset :**
VIAVT82C686A/B.
- **Memory :**
Onboard one 168-pin DIMM socket supports up to 512 Mbytes SDRAM.
- **Enhanced IDE :**
Support up to four IDE devices. Supports Ultra DMA 33/66/100 mode with data transfer rate.
(Ultra DMA-100 for VT82C686B only)
- **FDD interface :**
Supports up to two floppy disk drives, 5.25" (360KB and 1.2MB) and /or 3.5" (720KB, 1.44MB, and 2.88MB).
- **Parallel port :**
One parallel connector. Supports SPP, ECP and EPP modes.
- **Serial ports :**
Two RS-232 serial connector. Ports can be configured as COM1, COM2 or disabled individually.
- **IR interface :**
Supports one IrDA Tx/Rx header.
- **Keyboard/mouse connector :**
Supports PS2 keyboard and PS/2 mouse.

- **USB ports :**

Supports dual USB port connector.
5 x 2 header supports dual USB ports.

- **AUDIO Interface :**

Integrated high-fidelity AC' 97 CODEC.
Supports PC games and applications for SoundBlaster and SoundBlasterPro.
Supports Microsoft Windows SoundSystem
Internal MIC-in, Line-in and Speaker-out interface reserved.
Full-duplex Operation for simultaneous record and playback.

- **GAME/MIDI port :**

Support one game/midi connector.

- **PCI slot :**

Two 32-bit PCI slot onboard.

- **H/W status monitoring :**

VT82C686A/B H/W status monitoring IC,
supports power supply voltage and temperatures monitoring.

- **Battery :**

Lithium battery for data retention.

- **Power management :**

Supports ATX power supply.
Supports PC97, LAN wake up, and modem ring-in functions. I/O peripheral devices, support power saving and doze/standby/suspend modes. ACPI/APM 1.2compliant.

SSD Interface :

One 32-pin DIP socket supports M-systems DiskOnChip 2000 Series up to 288MB.

LAN Chipset :

RTL8139C
Supports one 100Base-T RJ-45 connector.

Graphics/Video Chipset :

TVia CyberPro 50xx
PCI v2.1-compliant.
High-throughput CPU bus interface.
Large write buffer allows sustained zero-wait-state bursts.
Support CRT connector.
Supports two ports for output TV.
Supports two ports for input video. (option)

- **Frame Buffer :**

Multi format Frame Buffer : YUV-16
True color video with 8/16/24/32-bit graphics.
100 MHz MCLK up to 320 Mbytes/sec . Peak bandwidth.

- **Graphics :**

Multi format Alpha blending.
64-bit GUI.
200 MHz RAMDAC.
Dual clock.
Supports SDRAM up to 4MB.
Large data buffers for fast screen-to-screen BitBLTs.
Accelerated 8/16/24/32 BPP Packed modes.
64-bit BitBLT engine.
Independent memory apertures for BitBLT and CPU /video.
Big Endian/Little Endian support.

- **TV Encoder :**

TVDirect output to TV without going through a frame buffer.
Programmable 21 tap filter in Y,U and V paths.
1K pixel line buffers for 16:9 TV.
One crystal for NTSC, PAL and VGA outputs.

NTSC(640x480/720x480/800x600(option) @60Hz), PAL(800x600/720x540/640x480 @50Hz).

VGA and TV outputs (S-video and composite or RGB/SCART).

Fully programmable field, line, and subcarrier frequencies to meet worldwide TV standards.

DuoVision™ Display graphics on monitor while displaying graphics or video on a TV.

Proprietary 3 line flicker filter.

10 bit DAC' s on TV outputs.

Programmable flicker filter bypass on interlaced video.

11 bit high precision PLL for subcarrier and clock generation.

- **Video input :**

VBI data pass through for Interacts, Teletext, closed caption support.

2X ITU-BT656, ITU-BT601-8-bit video input interface or 1x16 bit video input interface.

High quality horizontal and vertical interpolation with jagged edge smoothing.

High quality multi-tap filtering.

6 on-chip DACS provide simultaneous S-video, composite (CVBS) and RGB/SCART outputs or simultaneous X and/or Y mirror support for video conferencing.

Double buffering.

YUV 4:2:2, YUV 4:2:0 or RGB16.

- **Video Windows and Video Display :**
3 video windows plus PIP.

Color key.

Chroma key.

DirectDraw™ MPEG-1 playback.

X and Y linear interpolated scaling and zooming.

Mechanical and environmental

- **Power supply voltage :**

+5V (4.75V to 5.25V).

+3.3v (3.2V to 3.45V).

+12V (11.4V to 12.6V).

- **Typical power requirement :**

80-150 watt.

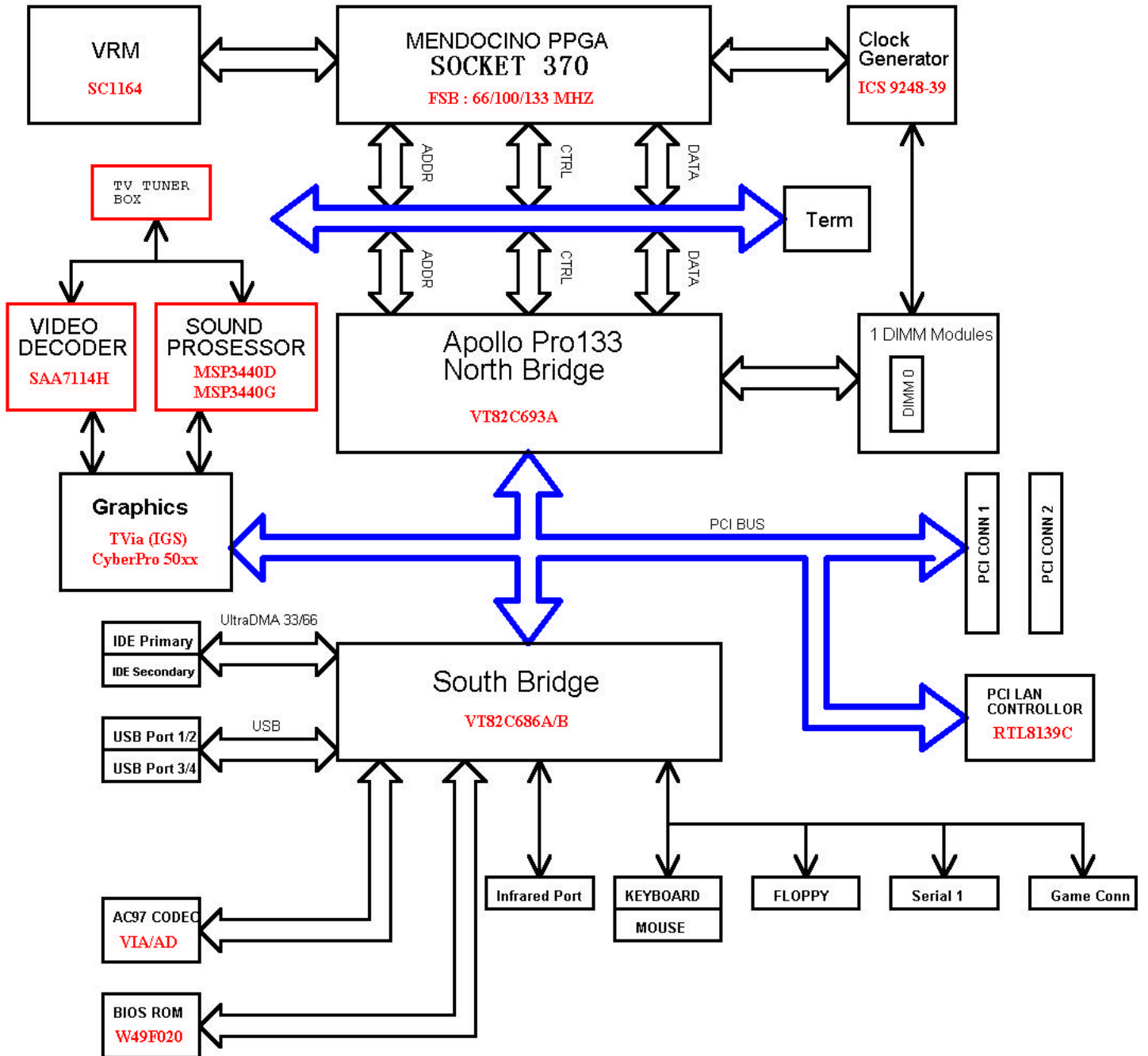
- **Operating temperature :**

32 to 140 o F (0 to 60 o C).

- **Board size :**

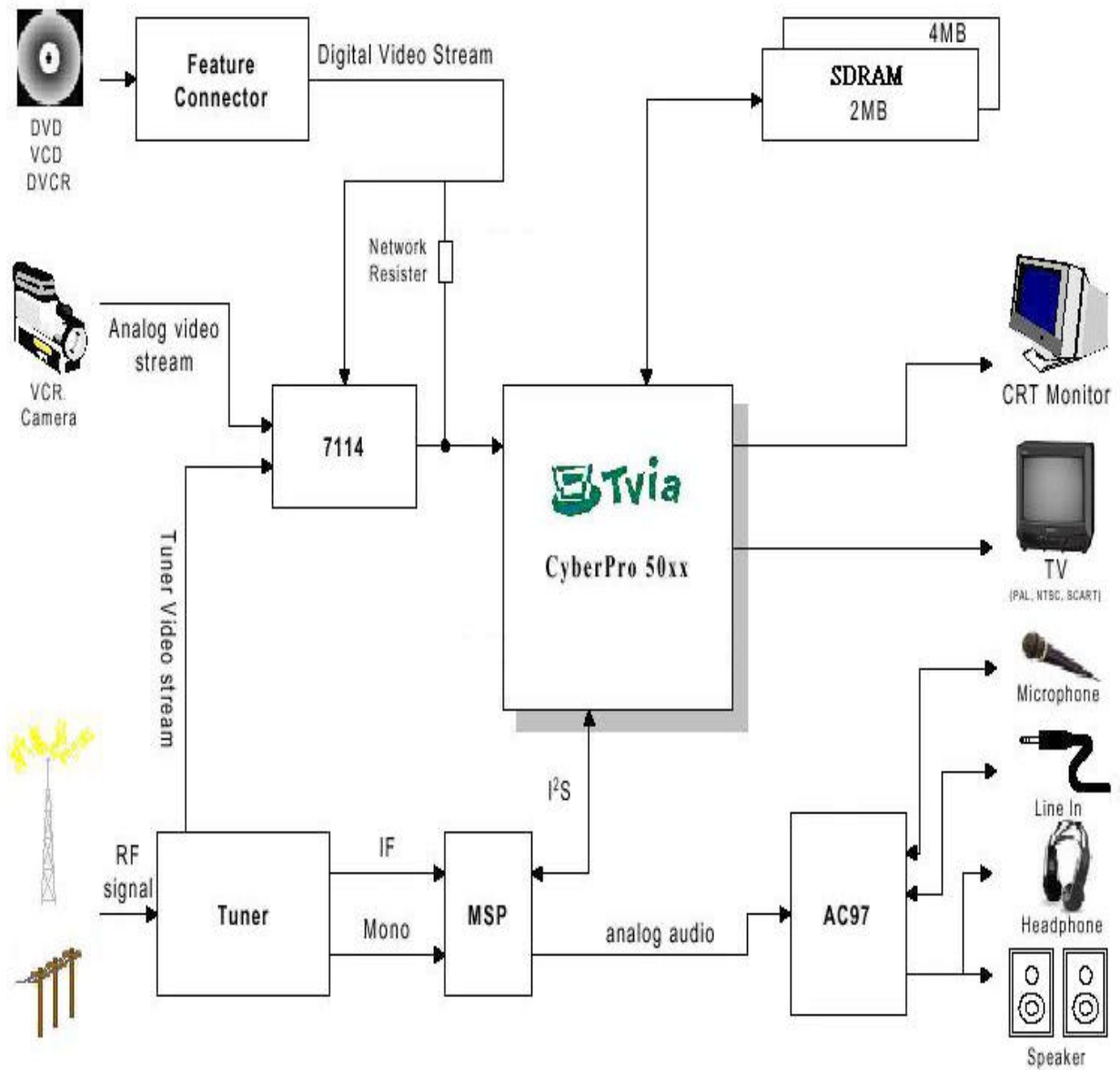
9"(L) x 8.25"(W) (225mm x 210mm).

HomeIT Platform SYSTEM BLOCK DIAGRAM



GRAPHICS BLOCK DIAGRAM

HomeIT Platform



HomeIT Platform SYSTEM and GRAPHICS BLOCK DIAGRAM NOTES

The HomeIT Platform Main Board supports a single processor including 64-bit Socket-370 of Intel Medocion[®]Celeron[™]PPGA/FC-PGA and PentiumIII[®]Coppermine[™]FC_PGA CPUs at the maximum 133MHz system bus frequency. The system chip set consists of the VT82C693A System controller, the VT82C686A/B PCI to ISA bridge, the RTL8139C LAN controller and the TVIA CyberPro 50xx's graphics on both the TV and the monitor.

The Apollo Pro-133 chip set consists of the VT82C693A/B North Bridge with the Addition of 133MHz DRAM controller, 64-bit system memory, 32-bit PCI interface and VT82C686A/B South Bridge controller with UltraDMA-33/66/100 EIDE (VTVT82C686B for UltraDMA-100), USB, hardware monitoring subsystem for managing system/motherboard voltage levels, temperatures, and fan speeds, and keyboard/PS2-mouse interface plus RTC/CMOS on chip.

The system controller provides superior performance between the CPU, DRAM, and PCI bus with pipelined, burst, and concurrent operation.

The VT82C686A/B also enhances the functionality of the standard ISA peripherals. The integrated Interrupt controller supports both edge and level triggered interrupts channel by channel. The DMA Controller supports type F DMA in addition to standard ISA DMA modes. Compliant with the PCI-2.2 specification, the VT82C686A/B supports delayed transactions and remote power management so that slower ISA peripherals do not block the traffic of the PCI bus.

The CyberPro 50xx merges the functions of a digital NTSC/PAL TV Direct[™]encoder, high-resolution graphics accelerator and a flexible CPU bus interface into a single IC. The CyberPro 50xx also features two ITU-BT 656/601 digital video input ports, multi format Alpha Blending and Macrovision[™]. The CyberPro 50xx has a on-chip TV encoder which has fully programmable field, line and sub-carrier frequencies to meet worldwide TV standard. It uses 6 on-chip 10-bit DACs to provide simultaneous S-video, composite (CVBS) and RGB outputs or simultaneous VGA and TV outputs (S-video and composite or RGB). It also has a programmable 21 tap filter in Y, U and V paths and a 1k pixel line buffers for 16 : 9 TV. 3-line flicker filter is also utilized by the CyberPro 50xx for better TV quality. These two video inputs can be processed simultaneous displayed as PIP and Alpha Blended with high-performance 64-bit hardware accelerated graphics data.

The HomeIT Platform board supports both standard NTSC(640X480/720X480/800X600(option)@ 60Hz), and PAL (800X600/720X540/640X480@ 50Hz) TV signals that is designed to display on a TV and/or VGA monitor combinations of video on video, video on graphics or graphics on video. The video and graphics can be overlaid and /or alpha blended. The HomeIT Platform board supports multi format frame buffer for video inputs such as YUV-16 true color video with 8/16/24/32-bit graphics. The frame buffer utilize 64-bit DRAM interface optimized the use of the 4MB on board SDRAM.

The CyberPro 50xx allows two simultaneous TV outputs from one Composite and one S-video channels, and two video input sources, each can be a composite signal or a S-video signal.

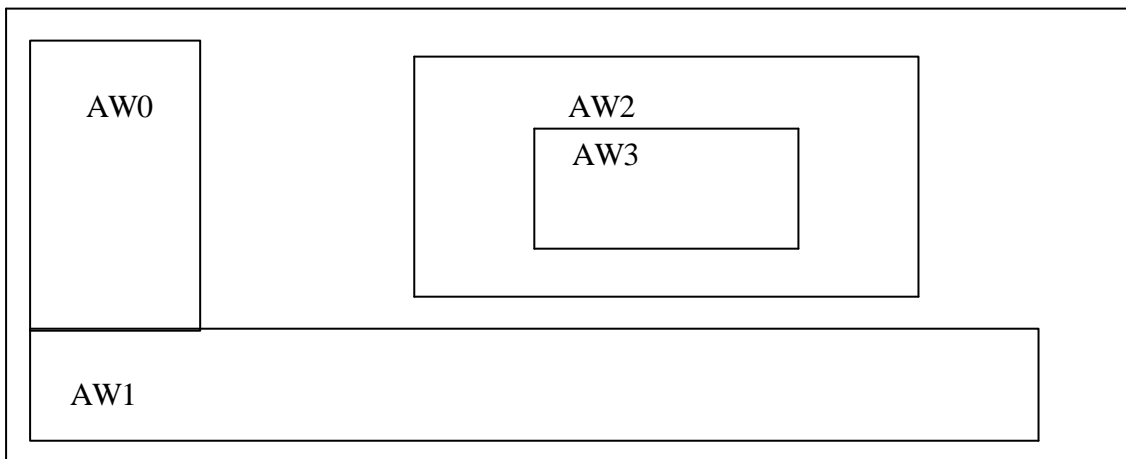
In the freeze mode the video stream from the video source is displayed on both the TV and the monitor. The video displayed is the captured frame, from the original source, at the time of freeze mode invocation.

In the DuoVision mode, the video stream captured from the source is displayed directly on the TV as the original, leaving the monitor free to do other task, such as word processing and etc. (option)

The video stream captured can be display on the monitor as the original, demonstrating the capability of CyberPro 50xx' s scaling function in full screen. The chip allows you to defined the parameter in which you can scale the video source. The video source can be programmed to stretch longer or wider and vice versa.

The CyberPro 50xx offers strong alpha blending capabilities. Three demos are here to show different aspect of the alpha bending abilities offered by the chip. Further more, the invert function is demonstrated allowing you to invert different keys of the alpha blending function – Alpha, Magic Number, and

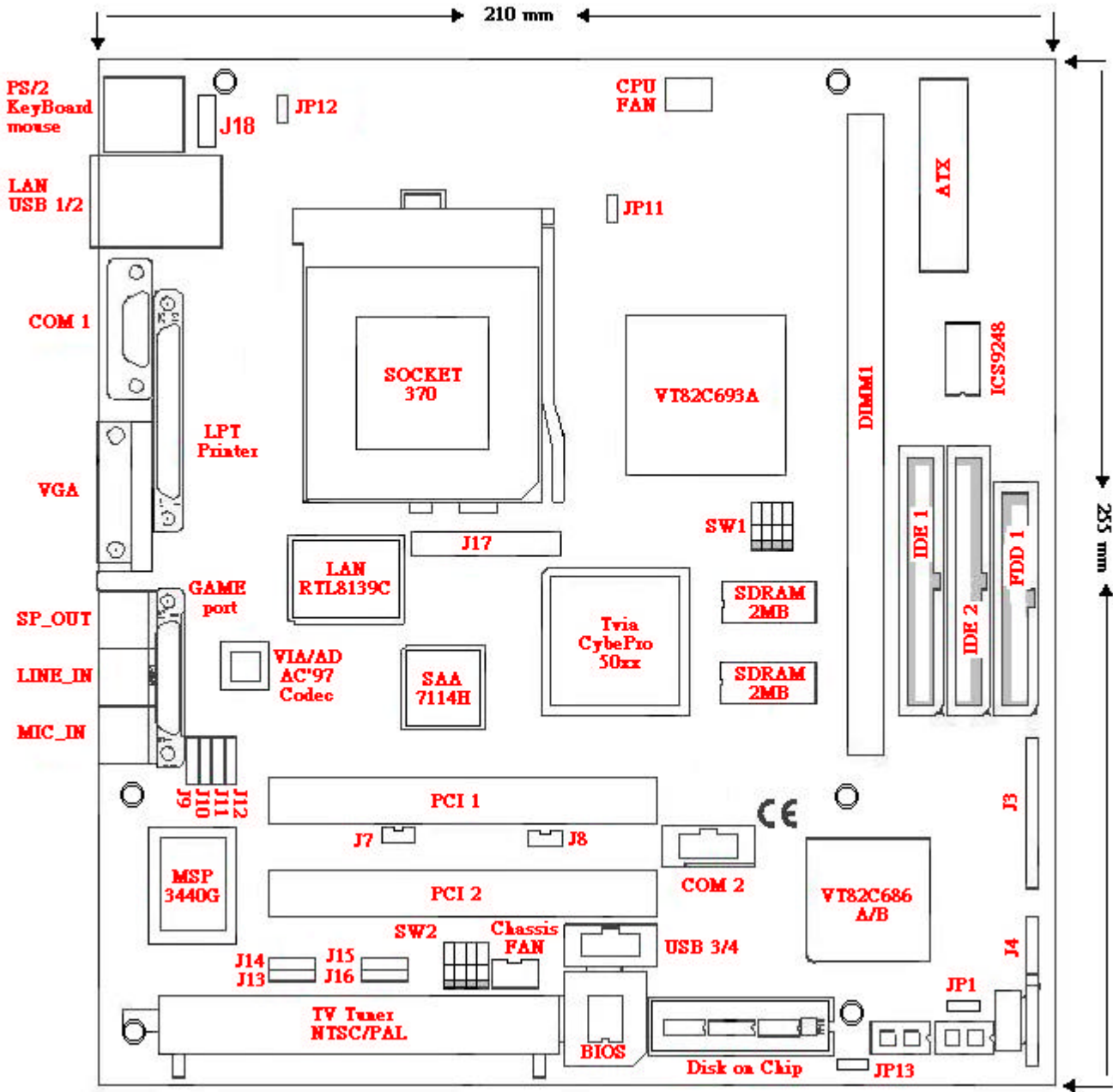
Fig 1 ALPHA Windows Position



- 1 :** This demo demonstrates the functionalities of the CyberPro 50xx Alpha Blending , which controls the level of transparency or opacity of two sources, A and B. It' s used to simulate effects such as placing a piece of glass in front of an object so that the object is completely visible behind the glass, unviewable, or something in between .In this demo , up to four alpha windows , AW0 , AW1 , AW2 and AW3 , will be drawn (as shown in Fig 1) , with six different ways of alpha blending to choose from. The demo runs best in 16-bit color or higher...
- 2 :** This demo demonstrates the overlying of a alpha map. You can draw an alpha map and display them on top of the video source.
- 3 :** This demo demonstrates the ability of alpha blending a DirectX graphics object , the Mosquito, with the video source.
- Invert :** This demo program function allows you to invert the color of Alpha , Source A , Source B, and output.----- (Demo program on the CD Disk Win_demo file)

The Realtek RTL8139C is a highly integrated and cost-effective single-chip Fast Ethernet controller that provides 32-bit performance, PCI bus master capability, and full compliance with IEEE 802.3u 100Base-t specifications and IEEE 802.3x Full Duplex Flow Control. It also supports Advanced Configuration Power Management Interface (ACPI), PCI power management for modern operating system that is capable of Operating System Directed Power Management (OSPM) to achieve the most efficient power management. The RTL8139C keeps network maintenance cost low and eliminates usage barriers. It is the easiest way to upgrade a network from 10 to 100 Mbps. It also supports full-duplex operation, making possible 200 Mbps of bandwidth at no additional cost.

HomeIT Platform BOARD PLACEMENT and DIMENSIONS



HomeIT Platform Jumpers Setting and Connector Function

Connectors on the board link it to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application. The following tables list the function of each of the board's jumpers and connectors

JP1 : Clear CMOS

JP1	Config	Figure :	1	2	3
1 – 2	Normal		●	●	○
2 – 3	Clear CMOS		○	●	●

JP11 : CPU Type Select

JP11	Config	Figure :	1	2	3
1 – 2	Intel CPU		●	●	○
2 – 3	Other CPU		○	●	●

JP12 : Keyboard Voltage Select

JP12	Config	Figure :	1	2	3
1 – 2	VCC5V		●	●	○
2 – 3	5VSBY		○	●	●

JP13 : Disk On Chip Voltage Select

JP13	Config	Figure :	1	2	3
1 – 2	VCC5V		●	●	○
2 – 3	VCC3.3V		○	●	●

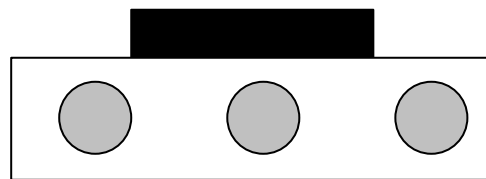
SW1 : TV Type Select

TV System Type	Sw1-1	Sw1-2	Sw1-3	Sw1-4
NTSC	off	off	off	off
PAL (B/G)	off	off	off	on
PAL (M)	on	off	off	off
PAL (H)	on	off	off	on
PAL (I)	off	on	off	on
PAL (D/K/K1)	on	on	off	on
PAL (L)	off	off	on	on
PAL (N)	on	off	on	on
PAL (Comb.N)	off	on	on	on

SW2 : Disk On Chip Address Select

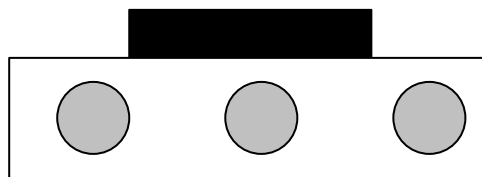
Disk On Chip Address	Sw2-1	Sw2-2	Sw2-3	Sw2-4
CC – CD	on	off	off	off
D0 – D1	off	on	off	off
D4 – D8	off	off	on	off
D8 – D9	off	off	off	on

J1 : CPU Fan Connector



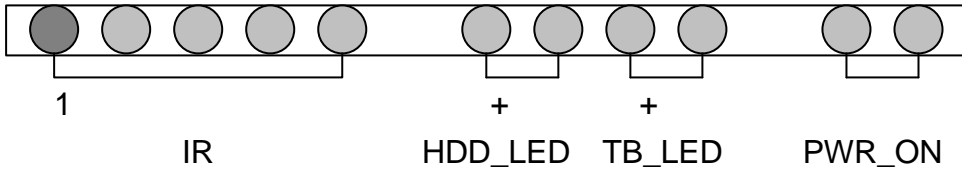
Fan Control +12V GND

J2 : Chassis Fan Connector

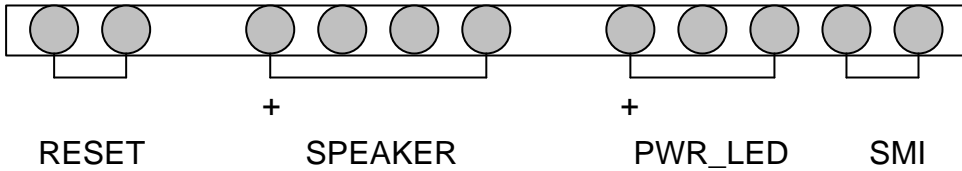


Fan Control +12V GND

J3 : Front Panel Connector

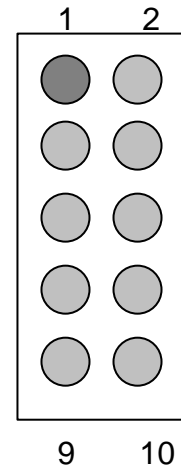


J4 : Front Panel Connector



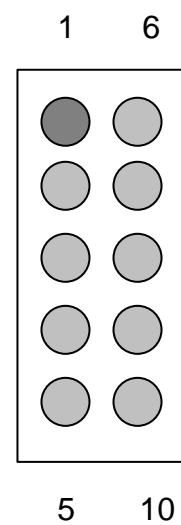
J5 : Front USB Connector

Pin Number	Single	Pin Number	Single
1	USB_VCC	2	USB_GND
3	USB_D1N	4	USB_GND
5	USB_D1P	6	USN_D0P
7	USB_GND	8	USB_D0N
9	USB_GND	10	USB_VCC

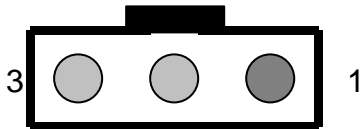


J6 : COM2 Connector

Pin Number	Single	Pin Number	Single
1	DCD	6	DSR
2	SIN	7	RTS
3	SOUT	8	CTS
4	DTR	9	RI
5	GND	10	NC

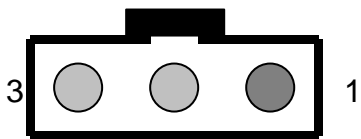


J7 : Wake On LAN Connector



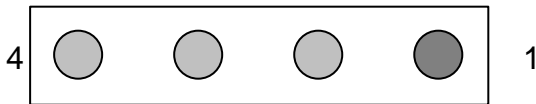
Pin Number	1	2	3
Single	5VSBY	GND	WAKE_UP

J8 : Wake On Modem Connector



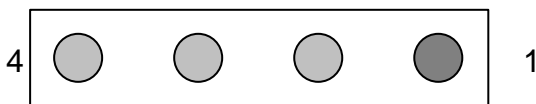
Pin Number	1	2	3
Single	5VSBY	GND	WAKE_UP

J9 : Front Audio Connector



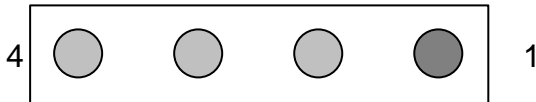
Pin Number	1	2	3	4
Single	LINE_R	LINE_L	MIC_IN	GND

J10 : CD_IN Connector



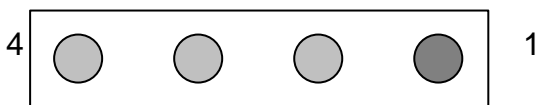
Pin Number	1	2	3	4
Single	CD_L	CD_REF	CD_REF	CD_R

J11 : AUX_IN Connector



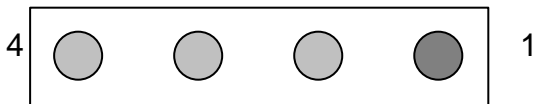
Pin Number	1	2	3	4
Single	AUX_L	GND	GND	AUX_R

J12 : Modem_IN Connector



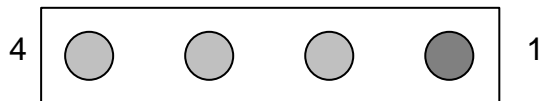
Pin Number	1	2	3	4
Single	MONOPH	GND	GND	MONOOUT

J13 : RCA VIDEO_IN Connector



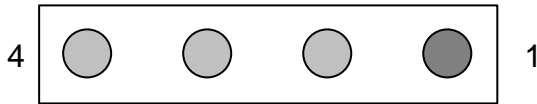
Pin Number	1	2	3	4
Single	CVBS_IN	GND	GND	NC

J14 : S-VIDEO_IN Connector



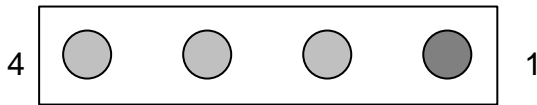
Pin Number	1	2	3	4
Single	LUMA_IN	GND	GND	CHROMA_IN

J15 : RCA VIDEO_OUT Connector



Pin Number	1	2	3	4
Single	CVBS_OUT	GND	GND	NC

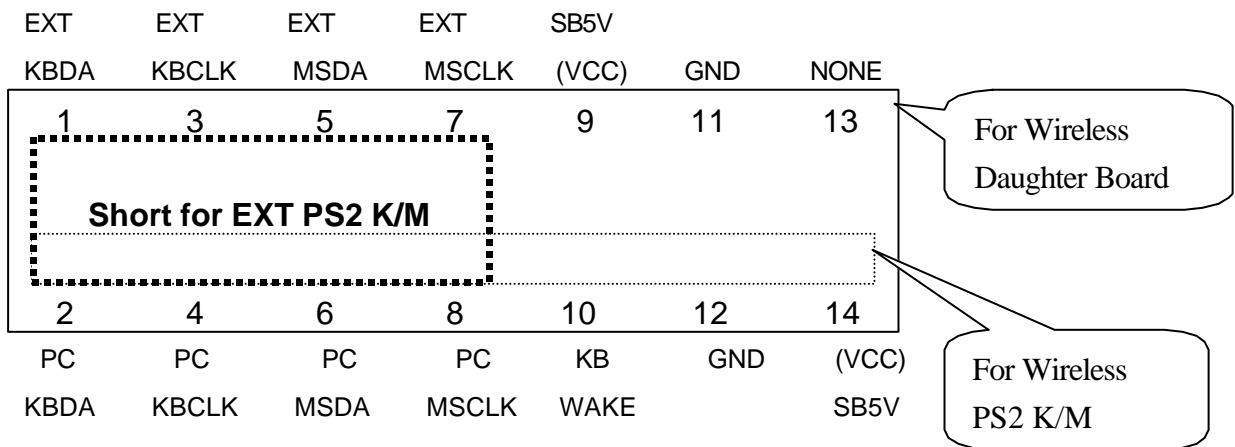
J16 : S-VIDEO_OUT Connector



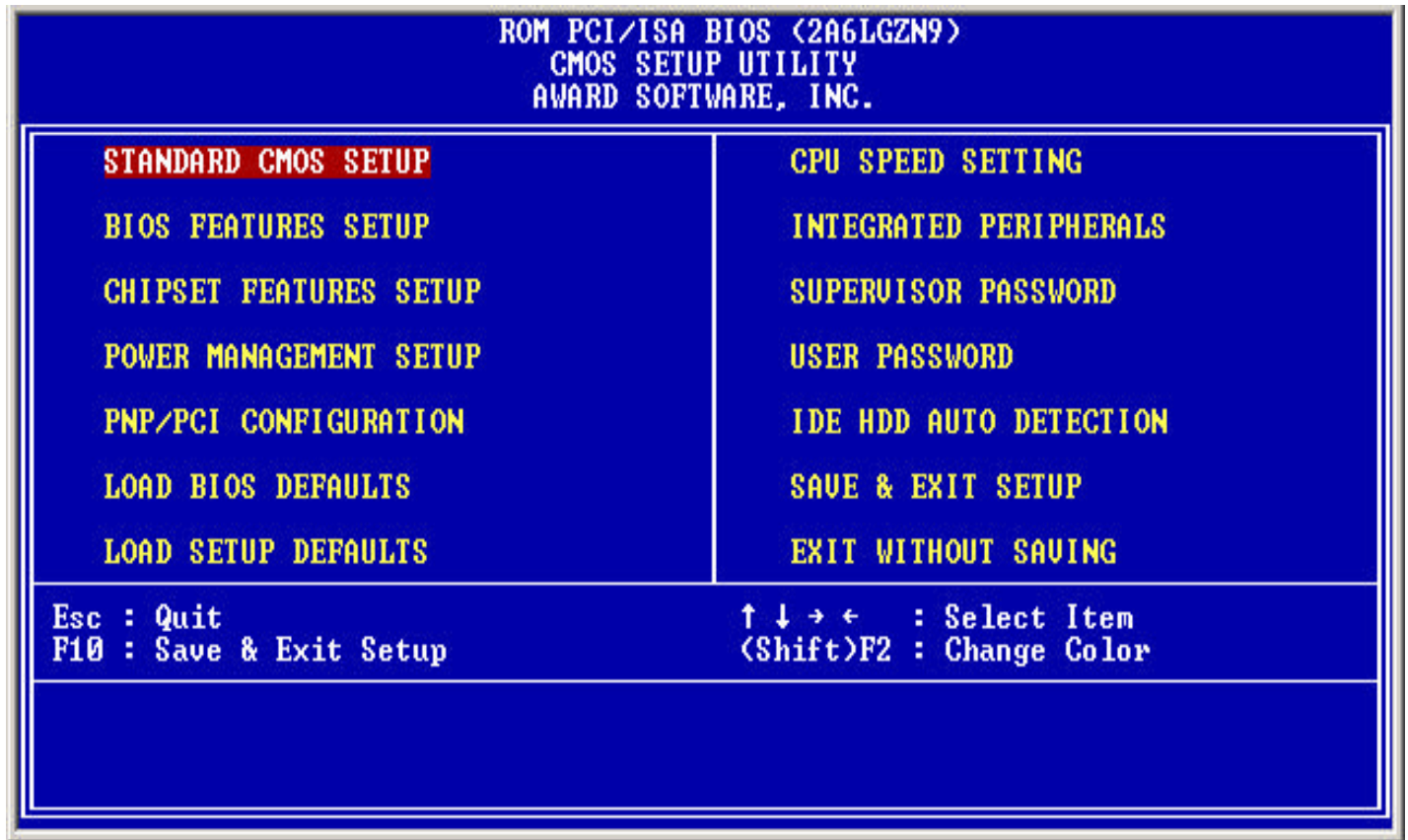
Pin Number	1	2	3	4
Single	LUMA_OUT	GND	GND	CHROMA_OUT

J17 : Future Connector

J18 : EXT_PS2 KB/MOUSE and Wireless PS2 KB/MOUSE PIN header



AWARD BIOS



BIOS Main Setup Menu

Standard CMOS :

Options in the original PC AT-compatible BIOS.

BIOS Features :

Award Software enhanced BIOS options.

Chipset Features :

Options specific to your system chipset.

Power Management :

Advanced Power Management (ACPI/APM) options.

PnP/PCI Configuration :

Plug and Play standard and PCI Local Bus configuration options.

Integrated Peripherals :

I/O subsystems depend on the integrated peripherals controller in your system.

Supervisor/User Password Setting :

Change, set, or disable a password. In BIOS versions that allow separate user and

supervisor passwords, only the supervisor password permits access to Setup. The user password generally allows only power-on access.

IDE HDD Auto Detection :

Automatically detect and configure IDE hard disk parameters.

Load BIOS Defaults :

BIOS defaults are factory settings for the most stable, minimal-performance system operations.

Load Setup Defaults :

Setup defaults are factory settings for optimal-performance system operations.

Save & Exit Save :

Save settings in nonvolatile CMOS Setup RAM and exit Setup.

Exit Without Save :

Abandon all changes and exit Setup.

Notice

Dear Customer,

Thank you for purchasing the **HomeIT Platform (STB-6610S)** board. Please read user's manual thoroughly before you install and use the board. The product that you have purchased comes with two-year warranty, but we will not be responsible for any misusing of the product. Therefore, we strongly urge you to read the manual first before using the product.