

EUT:2D+3D VGA Card

FCC ID:ILL165

BRITEK ELECTRONICS CO., LTD.

USER'S MANUAL

EXHIBIT D

FEDERAL COMMUNICATIONS COMMISSION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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Vulcan B Graphics Accelerator Card

Hardware Features of Vulcan B

■ **3Dfx 2D/3D Graphics & Video Accelerator**

1.1 Featuring:

General Features

- Fully integrated 128-bit VGA/2D/3D/Video Accelerator
- Ultimate 3D experience with *100 Mpixels/sec* and *4 Million triangles/sec* 3D performance
- No-compromise 3D image quality at frame rates
- Optimized for software DVD acceleration

- High-resolution 1600x1200 85Hz with a 230MHz RAMDAC

- Supports 16MB SGRAM frame buffer
- PC97 and PC98 rev 1.0 compliant
- VESA DDC2B support

2D Acceleration

- 100 MHz single-cycle 128-bit Windows GUI Acceleration
- Full featured 128-bit BitBlt Engine
- Hardware acceleration for Bresenham line draw, 2-edge polygon fill, Scissor/rectangle Clippers, and Full 256 ROPs
- Source and Destination Chroma-keying for DirectDraw
- SGRAM color expansion support
- 8, 16, 24, 32 bpp modes

3D Acceleration

- Full hardware setup of triangle parameters
- Support for multi-triangle strips and fans
- 16-bit integer and floating-point Z-buffering with biasing
- Transparency and chroma-key with dedicated color mask
- Alpha blending on source and destination pixels
- Sub-pixel and sub-texel correction to 0.4x0.4 resolution
- 24-bit color dithering to native 16-bit RGB
- Per-pixel atmospheric fog with programmable fog zones
- Polygon edge anti-aliasing
- Perspective correct (true divide-per-pixel) 3D texture mapping
- True per-pixel, LOD MIP mapping with biasing and clamping
- High performance bilinear and trilinear filtering
- RGB modulation/addition/blending combines textures and shaded pixels
- Texture compositing for multi-texture special effects
- Support for 14 texture map formats
- 8-bit paletted textures with full bilinear filtering
- Texture compression through narrow-channel YAB format

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Software Features of Vulcan B

OS Driver support

- Windows 95 VxD display driver
- Windows 98 / Windows NT 5.0 WDM (Win 32) display driver
- Windows NT 4.0 display driver
- Supporting Application APIs: Glide, Direct 3D, OpenGL ICD

2.1 Driver Installation

Before you start, please carefully read the following technical advice to avoid hardware and software compatibility problems.

1. General Notice :

- 1.1. Always keep updating the BIOS and drivers of both your mainboard and VGA card.
- 1.2. Most games require its own patch program to fix compatibility with some hardware and adding new game optional features (resolution upgrade etc.).
- 1.3. Regularly run Windows system utility to disk-optimize your system. This helps stability and also kick out possible file damage.

2. Windows NT4 users:

The installation of "Microsoft Win NT4 Service Pack 3 or newer" is a must.

Win NT4 only supports 2D and Direct X 2.x for 3D.

3. Windows 95/98/NT5 users:

To make the AGP/PCI card run properly and activate the full 2D/3D acceleration capability, complete and successful drivers installation of your system mainboard is required. The drivers of mainboard must be installed in serial order and after each driver installation step, Windows system need re-booting to make driver activated before go to next driver installation. Also

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- Triple 512x8 color lookup tables with separate gamma correction for video and graphics

Host Interface

- High performance AGP interface - including optimized support for sideband addressing and pipelining
- PCI v2.1 bus interface runs at 33 and 66MHz
- FIFO optimized for high speed bursting of geometry and texture data
- Optimized for Slot 1 CPU (Pentium II & Celeron A) I/O architecture
- Bi-endian byte-ordering support

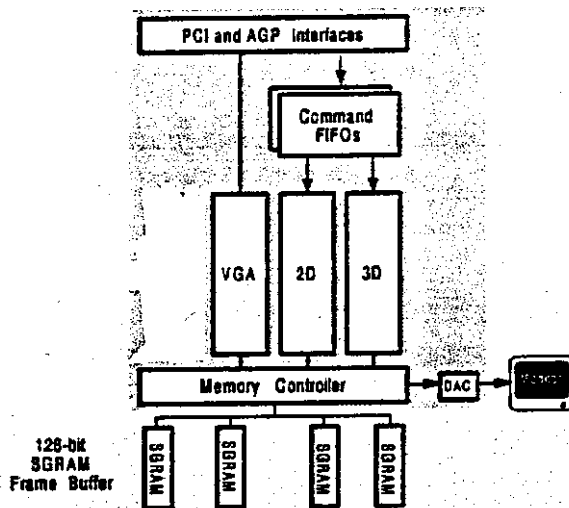
Memory System

- Advanced architecture with 1.6 GB/sec memory bandwidth
- 16 MB of 100MHz or higher SGRAM display memory

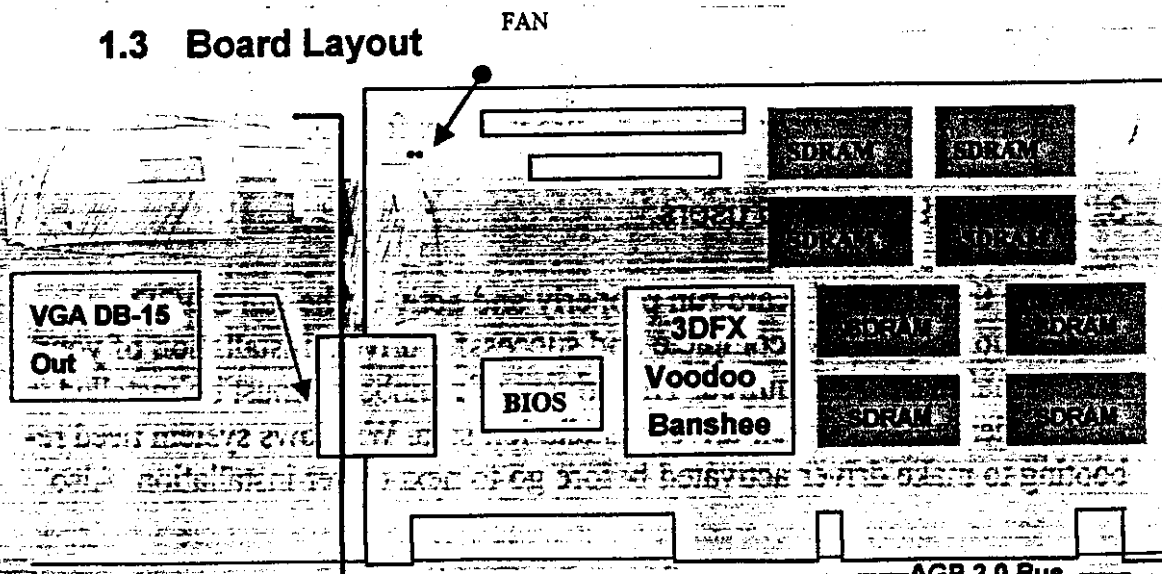
Technology

- Custom ICs fabricated in 0.35 micron, 4-layer metal CMOS
- 352 PBGA package
- 3.3V operating voltage with PCI and 5V tolerant I/O
- Built-in Iddq, CRC, and Parametric NAND tree for testability

1.2 Function Block Diagram



1.3 Board Layout



Vulcan B Graphics Accelerator Card

game should be configured properly per your VGA card.

For example, the VIA MVP3-based mainboard driver requires installation in below order:

1. Microsoft USB Supplement program
2. VIA IRQ Router program
3. VIA AGP (VxD) driver
4. VIA IDE bus-master (Ultra DMA-33) driver
This driver is installed twice. The first, copying driver into Windows system and the second, setting up driver mode for each IDE drives.
5. APMC driver (ACPI Power Management)
6. VGA card driver
7. Direct X 6 installation
8. Game software installation
Uncheck the Direct X installation option during game installation process.
9. Install the Game Patch program.
10. Configure the game per your VGA card,
Like in Quake II Ver. 3.17, Video/Driver, you can and have to choose per your VGA card among:
 - 3D Now ! Software
 - 3D Now ! OpenGL
 - 3D Now ! 3DfxGL Software
 - Default OpenGL
 - 3Dfx OpenGL
 - PowerVR OpenGL

Remember to re-boot your Windows system after each driver installation step to activate the previous driver.

2.2 Windows 95/98/NT5 Installation

1. Installation Requirements

- Windows 95/98/NT5
- PC with a Pentium, Pentium II, Pentium Pro or compatible Processor
- a free AGP or PCI slot
- Minimum 16MB of system memory

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2. Fresh Installation

NOTE: Complete Steps 1 before removing your existing 2D card.

- 1) Before removing your existing 2D card switch the video driver to Standard VGA. Click Start, Control Panel. Double-click on Display. Select 640X480 and 16 colors. Accept the changes.
- 2) Power off the system and remove your existing 2D card.
- 3) Install the Vulcan B Card in a free AGP or PCI Slot
- 4) Power on the system and verify that video appears during POST.
- 5) Start Windows in Normal mode
(Once Windows starts you may be notified that no video device exists, click Cancel if this message appears)
- 6) Windows will detect a new VGA Compatible Display. You need to:

Windows 95 Standard Release users:

Select "Use Driver from Mfr." and click OK. Point to the Win95 driver folder name in the CD drive location x:\Win95 then click OK again.

Windows 95 OSR2 users:

Click the Next Button on the Detection Dialog Box. When notified that the drivers are not found, click "Other Locations" then enter the driver path in the CD drive x:\Win95

- 7) You may then be prompted to insert the Windows 95 Vulcan B Driver Disk. Again, enter the path in step 6 and press OK.
- 8) Windows will copy the drivers. Reboot the system when prompted
- 9) Install DirectX 6.

3. Upgrade Existing Vulcan B Drivers

- 1) Start Windows 95
- 2) Click Start, Settings, **Control Panel**. Double-click on **Display**.
- 3) Click the Settings tab then click:
Windows 95 Standard Release users: Click "**Change Display Type**"
Windows 95 OSR2 users: Click "**Advanced Properties**"
- 4) Then under "**Change Display Type/Advanced Display**" click "**Change**"
- 5) Click "**Have Disk**" and enter the driver path in the CD drive x:\Win95

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- 6) When asked to choose a device, select "ViewTop Vulcan B"
- 7) You may then be prompted to insert the Vulcan B Driver Disk.
Enter the path you specified in Step 5 again.
- 9) Windows will copy the drivers. Reboot the system when prompted.
- 10) Install DirectX 6

2.3 Windows NT4 Installation

1. Installation Requirements

- Windows NT 4.0 or higher
- Microsoft Windows NT4 **Service Pack 3** or newer installed
- PC with a Pentium II, Pentium Pro, Pentium or compatible processor
- 16MB or more system memory

2. Fresh Installation / Upgrade Existing Drivers

NOTE: For Fresh Installations, complete Steps 1 - 7 before removing your existing 2D card. If existing Vulcan B drivers are being updated, installation is complete once step 7 is done.

- 1) Log-in to Windows NT Administrator privilege account.
- 2) Click "Start", "Control Panel". Double-click on "Display".
- 3) Click the "Settings" tab, "O.K.", click "Display Type", then click "Change".
- 4) Click "Have Disk" and enter the driver path in the CD drive x:\Winnt4.
- 5) When asked to choose a device, select "ViewTop 3D Vulcan B" in left and in right side "VIEWTOP 3D Vulcan B Voodoo Banshee for Windows NT 4.0".
- 6) You may then be prompted to insert the Vulcan B Windows NT4 Driver Disk. Enter the driver path again.
- 7) Windows NT will copy the drivers.

Steps 8-11 are only used during a fresh installation

- 8) Power off the system and remove your existing 2D card.
- 9) Install the Vulcan B card in a free PCI/AGP Slot
- 10) Power on the system and verify that video appears during post
- 11) Start Windows NT4. If problems occur, revert to "Last Known Good" from within the Windows NT startup options.

ViewTOP Vulcan B Graphics Accelerator Card

Information and Support

Internet Support

If you need more information about ViewTop series products, please visit our Internet website:

<http://www.viewtop.com>

The most update driver and BIOS of ViewTop product are also available from the Download page of our website at

<http://www.viewtop.com/html/faq.htm>

Complete hardware and software information about 3Dfx Voodoo series chipsets are available from the official 3Dfx website at

<http://www.3dfx.com>

Customer feedback

If you have any idea, suggestion about ViewTop products, or you need more information and help, please let us know. You can contact

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Thanks for supporting ViewTop products.

We wish you enjoy it and love it.
