

EUT:VGA CARD

FCC ID:ILL145

BRITEK ELECTRONICS CO., LTD.

USER'S MANUAL

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 (except S-Video data, V-Video data) 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.

SOFTWARE LICENSE STATEMENT

International copyright laws protect the software described in this manual. You must not copy the software for any purpose other than making archival copies for the sole purpose of backing-up our software for protection against loss. The software must not be used on two or more machines at the same time.

LIMITED WARRANTY

SOFTWARE

We warrants the physical diskettes and documentation enclosed in this package to be free of any defects in material and workmanship for period of 60 days from the date of purchase. This warranty is limited to the original purchaser of the product and is not transferable. We will replace the defective products only when the original purchaser returns it to us. The remedy for this breach of warranty is limited to replacement only and shall not cover any damages, including but not limited to the loss of profit, special, incidental, consequential and other similar claims.

HARDWARE

We warrant to you that the hardware will be free from significant defects in materials and workmanship for a period of one year from the date of purchase. We sole and exclusive remedy with respect to defective hardware will be, at our option, to repair or replace such hardware.

DISCLAIMER

We can not warrant the performance or results you may obtain by using the software, hardware or documentation. With respect to the use of this product, in no event shall we be liable for any loss of profit or any other commercial damage, including but not limited to special, incidental, consequential or other damages.

TRADEMARKS

Other trade names or trademarks belong to their respective owners.

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Titan 5000 Graphics Accelerator Card

Hardware Features of Titan 5000

■ S3 2D/3D Graphics & Video Accelerator

1.1 Featuring:

General Features

- 250MHz RAMDAC with Gamma Correction
- I²C serial communications bus and flash ROM support
- PCI power management registers
- Hardware and BIOS support for VESA timings and DDC monitor communications
- AGP 2.0 and PCI 2.1 support with full bus mastering

2D Acceleration

- Highly Optimized 128-bit graphics engine
- Full featured 2D rasterizer for acceleration of bitblt, line draw, rectangle fill, panning and hardware cursor
- 8, 16, and 32-bpp mode acceleration
- Multi-monitor support

3D Acceleration

- Floating point triangle setup engine
- Single-cycle 3D architecture
- 128-bit with dual rendering pipelines
- 5M triangles/second peak
- 125M pixels/sec trilinear fill rate
- Full AGP-2X implementation

3D Rendering Features

- S3 Texture Compression, now called Microsoft Texture Compression in Direct X 6
- Single-cycle trilinear filtering
- True color rendering
- Void and cluster dithering for 16-bit modes
- Specular lighting and diffuse shading
- Alpha blending modes
- Multiple textures
- Edge anti-aliasing
- Vertex and table fog
- 16 or 24-bit Z-buffering
- MPEG-2 video textures
- Hardware-assisted bump mapping and anisotropic filtering
- Special effects such as Sprite Anti-Aliasing, reflection and environment mapping, texture morphing, shadows, procedural textures and atmospheric effects
- Performance:
 - 125MB pixels/sec trilinear fill rate
 - 5M triangles/second peak
 - S3 Texture Compression delivers 6X the amount of textures

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High Definition Video Acceleration

- High quality front end up/down scalar
- Planar to packed format conversion
- Hardware subpicture blending and highlights
- Motion compensation for full speed DVD video playback (Optional)
- Supports multiple video windows for video conferencing
- Brightness, hue, and saturation controls
- 60MHz VIP video port supports HDO input resolutions

High Quality TV Out

- Integrated NTSC/PAL encoder
- Macrovision 7.1 support (Optional)
- Programmable flicker filter and vertical overscan compensation
- Simultaneous CRT and TV display

Host Interface

- High performance AGP 2X 133MHz interface
- Optimized AGP support for execute mode, 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

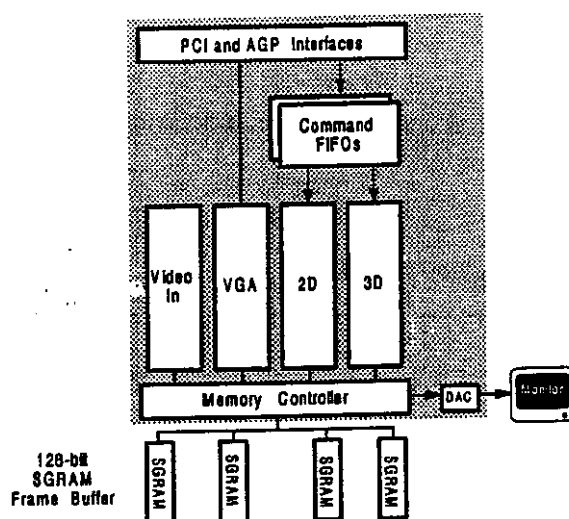
High Speed Memory Interface

- 125MHz SDR SGRAM or SDRAM
- 64-bit synchronous memory bus
- 2, 4, or 8MB frame buffer
- 512Kx32K or 256Kx32K parts
- Block Write support

Technology

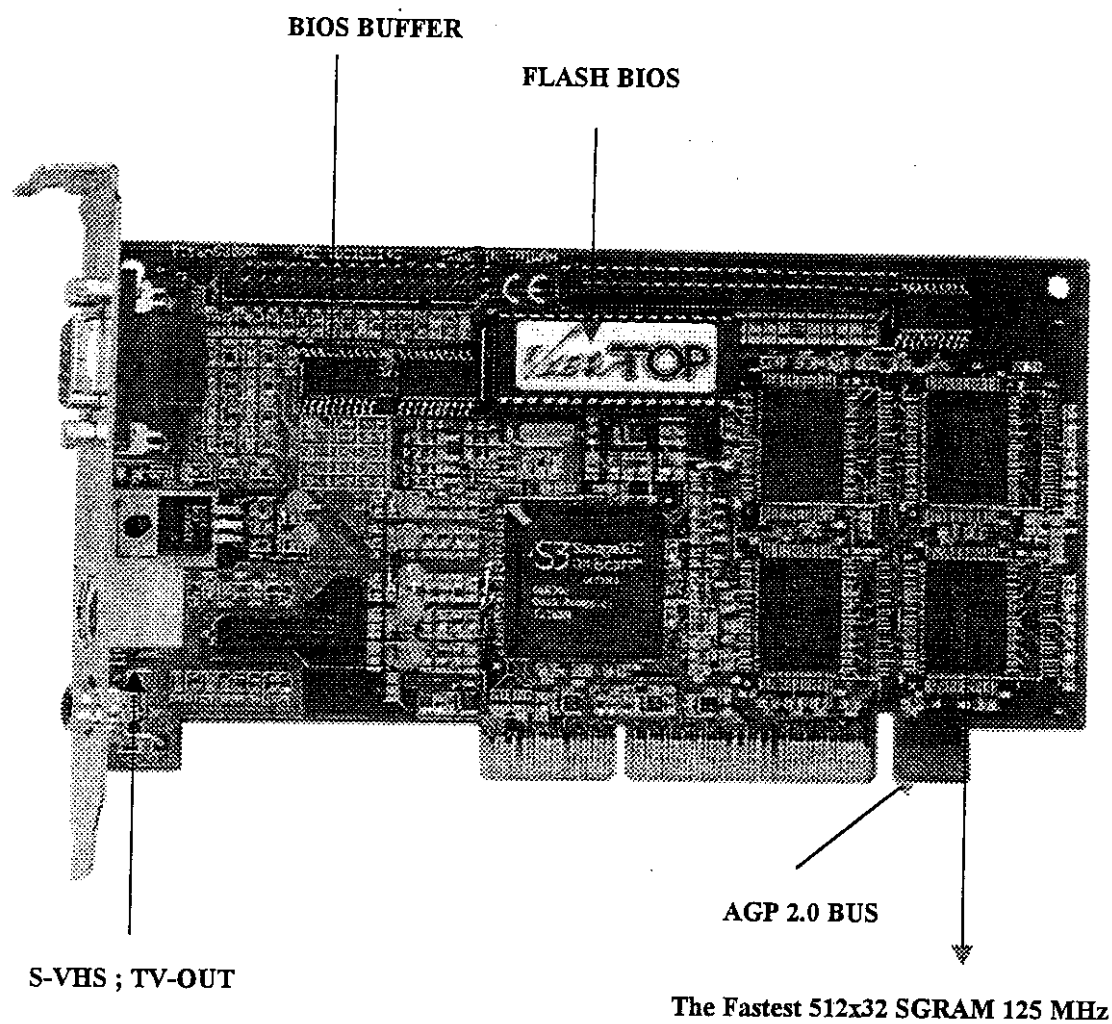
- Custom ICs fabricated in 0.25 micron, 4-layer metal CMOS
- 27x27mm PBGA with 336 balls
- 2.5V Core with 3.3V/5V tolerant I/O

1.2 Function Block Diagram



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1.3 Board Layout & Picture



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Software Features of Titan 5000

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: Direct 3D, OpenGL ICD, Active X

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 game should be configured properly per your VGA card.

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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

2. Fresh Installation

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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 Titan 5000 Card in a free AGP or PCI Slot
- 4) Power on the system and verify that video appears during POST (Power On Self Test).
- 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 Titan 5000 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 Titan 5000 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
- 6) When asked to choose a device, select "ViewTop Titan 5000"
- 7) You may then be prompted to insert the Titan 5000 Driver Disk.

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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 Titan 5000 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 Titan 5000" in left and in right side "VIEWTOP 3D Titan 5000 for Windows NT 4.0".
- 6) You may then be prompted to insert the Titan 5000 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 Titan 5000 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.

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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 S3 chipsets are available from the S3 website at

<http://www.s3.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.