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SuperTek

CHAPTER 1

INTRODUCTION

The mainboard is a high-performance personal computer mainboard based on the Pentium II processor. The mainboard uses the highly integrated VIA APOLLO PRO 133 (VT82C693A) AGPset which optimize the system bandwidth and concurrency with the implementation of Quad port Acceleration (QPA).QPA provides 4-port concurrent arbitration of the processor bus, graphics, PCI bus and SDRAM. The VT82C596B chipset integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). The ACPI provides more Energy Saving Features for the OSPM (OS Direct Power Management) function. The VT82C596B chipset also improves the IDE transfer rate by supporting Ultra DMA /66 IDE that transfers data at the rate of 66 MB/s.

1.1 Mainboard Features

2 _{CPU}

- = Slot 1 for Pentium II processor or Pentium III processor.
- _ Supports 233MHZ-550MHZ and higher.
- $_{\text{=}}$ Core/ Bus ratios are x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6 and higher.

² Clock Generator

- = 66MHZ, 100MHZ. 133 MHZ BUS.
- _ AUTO detect CPU BUS CLK frequency. For 66 OR 100MHZ

2 Switching Voltage Regulator

_ On-board switching mode DC-DC Step Down Regulator.

2 Chip Se

- = Mainboard : VIA APOLLO PRO Chipset.
- _ Enhanced I/O : Winbond 83977 EF Chipset.

2 System Memory, DIMM*4

- = Supports three 168-pin unbuffered DIMM Socket.
- Supports memory size up to 512 MB.
- = Supports 3.3v Extended Data Output (EDO) and SDRAM DIMM.

2 Expansion Slot, AGP1, PCI1-PCI5 , ISA1-ISA2

- = One AGP (Accelerated Graphics port) slot.-AGP specification
 compliant
- = For 32-bit Master PCI Bus slots and Two 16-bit ISA bus slots wherein one shared slot that can be used as ISA or PCI.



2 Enhance PCI IDE & I/O Interface

= Supports two PCI Bus, Master IDE ports (up to 4 IDE devices)

2

- _ Supports Ultra DMA/66 function.
- = Supports SCSI/CD-ROM function.

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floppy port supports 2FDD with 360k, 720k, 1.2M, 1.44M and 2.88M bytes.

1

- _ 2.serial ports (COM1+COM2 Two 16550 high speed UART ports).
- _ 1.paralle1 port supports SPP/EPP/ECP mode.
- _ 2.USB ports.
- 1.IrDA TX/RX Header.
- _ PS/2 Keyboard interface and PS/2 mouse interface.

2 System Green BIOS

Flash BIOS option on board, AWARD deep green BIOS, PLUG & PLAY, PnP function. C H A P T E R 2
Installation

Hardware

2.1 Mainboard Layout and Connectors Jumpers View

- = ABWostopfigorationaforeP6Icaddkomora688.
- = I/O Device's power saving, APM& SMI.
- Implements the EPA Energy Star PC specification with Deep Green system design.

F u l l -on : System runs in full speed CPU clock. # Sy®temzseales-down CPU clock.

- # Standby : System scales-down the CPU clock, and turns off video display and spin-off hard disk drives.
- # Suspend : With SMM CPU, stop CPU clock in suspend mode.
- Power Connect
 - _ ATX Power Supply.
- ² PCB Dimension
 - = ATX Form Factor : 30.3 cm (L) x 18cm (W) x 4 layers PCB.
- _ Double deck I/O connectors, compatible with Intel Venus Mainboard.

2. 2 Connectors and Jumper Setting

CN1 : PS/2 Mouse Connector & Keyboard Connector CN2 : USB(Universal Serial Bus) Connector

CN4.5 : Serial Port1 Connector, Serial Port2 Connector, Printer Port

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ATX POWER SUPPLY CONNECTOR

WOL: WAKE ON LAN CONNECT
For supporting this feature , the system must have a special sps
(switching power Supply) supported, that must provide at least 800mA
ability on the "5V standby" voltage.

IR : IR FIR/CIR Connect

FAN1 : CPU FAN CONNECT
FAN2 : SYSTEM FAN CONNECT

The M/B W83781D IC to AUTO-detect

Super Register Temperature 2.CPU & System Temperature 2.CPU & System Voltage With the System Voltage Register For the State of the System Voltage Register For the System Temperature 2.CPU & System Voltage Register For the System Voltage Register For the System Temperature 2.CPU & System Voltage Register For the System Voltage Register For the System Temperature 2.CPU & System Voltage Register For the System Temperature 2.CPU & System Voltage Register For the System Voltage Register For the System Temperature 2.CPU & System Voltage Register For the System Voltage Register For the System Voltage Register For the System Temperature 2.CPU & System Voltage Register For the System Voltage Register For the System Voltage Register For the System Temperature 2.CPU & System Voltage Register For the System Voltage Register For the System Voltage Register For the System Temperature 2.CPU & System Voltage Register For the System Temperature 2.CPU & S

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CMOS CLEAR SELECT

RATE	JP8-1	JP8-2	JP8-3	JP8-4		
3X	ON	OFF	ON	ON		
3.5X	OFF	OFF	ON	ON		
4X	ON	ON	OFF	ON		
4.5X	OFF	ON	OFF	ON		
5X	ON	OFF	OFF	ON		
5.5X	OFF	OFF	OFF	ON		
6X	ON	ON	ON	OFF		
6.5X	OFF	ON	ON	OFF		
7X	ON	OFF	ON	OFF		
Freq	JP8-5	JP8-6	JP8-7	JP8-8	JP10	JP11
66MHZ	OFF	OFF	ON	ON	2-3	2-3
75MHZ	OFF	ON	ON	ON	2-3	2-3
100MHZ	OFF	OFF	OFF	ON	2-3	1-2
112MHZ	OFF	ON	OFF	ON	2-3	1-2
133MHZ	OFF	OFF	OFF	OFF	1-2	1-2

JP8, JP10, JP11: Clock select

JP9:

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2.3 INSTALL CPU

2.3.1 For Celeron, Pentium II & III CPU

The motherboard provides a Single Edge Contact (SEC) slot for processor packaged in an SEC cartridge. Follow these steps to install CPU:

Mount the Universal Retention Mechanism (URM) & Insert the CPU : (The illustration is just for reference)

1: Retention Mechanism

2: Clip

3: Retainer Pin

4: Fastener

If there is a fan on the CPU, Please plug in the fan cable to the three pin fan connector on the motherboard (CPUFAN)

2.3.2 For Socket 370 CPU

Before installing CPU, make sure the power is ff. Locate the level bar on the PGA370ZIF socket. Push level bar away from the socket and pull upward 90 degrees. Insert the CPU into the socket. Make sure the notch of the CPU corresponds with the white dot on the ZIF socket (the corner without pin socket).Do not push in the CPU. Make sure all pins are aligned with the CPU socket. On the level bar.

This URM was designed to accommodate 3 types of CPU Form Factor. (SECC, SECCII&SEPP). For Example : Pentium II/III & Celeron family.

Note: Please put a soft pad under M/B before the installation of URM. Installation for SECC CPU :

- (1) Leave space below each mounting hole for the fastener to protrude through the hole.
- (2) Position URM on the M/B next to the slot1 connector.

Installation for SECC II or SEPP CPU :

- (1) Same as step (1) of SECC.
- (2) Same as step (2) of SECC.
- (3) Same as step (3) of SECC.
- (4) Same as step (4) of SECC.
- (5) Snap in 2 clips into side windows of URM to secure SEPP CPU.

2.4 INSTALL MEMORY

This motherboard has 4*168-pin 64-bit Dual Inline Memory Module(DIMM) sockets devided into 2 banks. You can install 3.3V unbuffered PC100-compliant Synchronous DRAM (SDRAM) memory.

Some DIMM memory have SPD (Serial Presence Detect) 8-pin IC on module. When 4 piece DIMM on motherboard, it is not recommended the SPD (Serial Presence Detect) DIMM blends and non-SPD DIMM.

(1) PCB LAYOUT AND RELEVANT POSITIONS FOR DIMM X4

The support different type of settings for the system memory . There
is no jumper nor connect needed for memory configuration.
Following figures provides all possible memory combinations.

	SDRAM8	EDO		STATUS
BANK0	BANK1	BANK2	BANK3	
DIMM1	DIMM2	DIMM3	DIMM4	
INSTALLED	NONE	NONE	NONE	OK
NONE	INSTALLED	NONE	NONE	OK
NONE	NONE	INSTALLED	NONE	OK
NONE	NONE	NONE	INSTALLED	OK
INSTALLED	INSTALLED	NONE	NONE	OK
INSTALLED	NONE	INSTALLED	NONE	OK
INSTALLED	NONE	NONE	INSTALLED	OK
NONE	INSTALLED	INSTALLED	NONE	OK
NONE	INSTALLED	NONE	INSTALLED	OK
NONE	NONE	INSTALLED	INSTALLED	OK
INSTALLED	INSTALLED	INSTALLED	NONE	OK
INSTALLED	INSTALLED	NONE	INSTALLED	OK
INSTALLED	NONE	INSTALLED	INSTALLED	OK
NONE	INSTALLED	INSTALLED	INSTALLED	OK
INSTALLED	INSTALLED	INSTALLED	INSTALLED	OK

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NOTE .

- 1.SDRAM Module Specification : 3.3 V Only.
- 2.For 100 MHZ BUS CLK . We Suggests Using " PC-100" SDRAM SPEC.
- 3.For Better Reliability . We Suggests Using SPD (Serial Port Data) SDRAM SPEC.

2.4.1 Installation of 168-pin DIMM (Dual Inline Memory Module)

1.Before inserting the DIMM, make sure the pin 1 of the DIMM matches with the pin 1 on the DIMM socket.

Chapter 3

SETUP

3.1 Main Menu

Once you enter the Award BIOS CMOS Setup Utility, the Main Mean will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the

BIOS

2.Insert DIMM into the DIMM sockets at a 90-degree angle and press down.

2.4.2 Removal of 168-pin DIMM

- 1.Press the holding clips on both sides of the socket outward to release the
- 2.Gently pull the DIMM out of the socket.

Install DIMM

and press <Enter> to accept and enter the sub-menu.

ROM PCI/ISA BIOS (2A6LGG99) CMOS SETUP UTILITY AWARD SOFTWARE, INC.

STANDARD CMOS SETUP INTEGRATED PERIPHERALS BIOS FEATURES SETUP SUPERVISOR PASSWORD CHIPSET FEATURES SETUP USER PASSWORD POWER MANAGEMENT SETUP IDE HDD AUTO DETECTION PNP/PCI CONFIGURATION SETUP SAVE & EXIT SETUP LOAD BIOS DEFAULTS EXIT WITHOUT SAVING LOAD SETUP DEFAULTS

Esc: Quit

ÈÍËÁ: Select Item

F10 : Save & Exit Setup

Time, Date, Hard Disk Type...

Note that a brief description of each highlighted selection appears at the bottom of the screen.

Super system of the system of

Me following main setup categories. Recall that

(Shift) F2 : Change Color

This setup page includes all the items in a standard, AT-compatible BIOS.

BIOS Features Setup

This setup page includes all the items of Award special enhanced features.

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Super/User Password Setting

Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

Chipset Features Setup

This setup page includes all the items of chipset special features.

Power Management Setup

This entry only appears if your system supports Power Management, "Green PC" standards.

PNP/PCI Configuration Setup

This entry appears if your system supports PNP/PCI.

Load BIOS Defaults

The BIOS defaults have been set by the manufacturer and represent settings which provide the minimum requirements for your system to operate.

Load Setup Defaults

The chipset defaults are setting which provide for maximum system performance. While Award has designed the custom BIOS to maximize performance, the manufacturer has the right to change these defaults to meet their needs.

3.2 Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

> ROM PCI/ISA BIOS (2A6LGG99) STANDARD CMOS SETUP

AWARD SOFTWARE.INC.

Date (mm:dd:yy) : Thu, Jun 4 1998 Time (hh:mm:ss) : 14:11: 1

HARD DISKS TYPE SIZE CYLS HEAD PRECOMP LANDE SECTOR MODE Primary Master :Auto 0 0 0 0 0 Auto Primary Slave :Auto 0 0 0 0 0 Auto 0 0 0 0 Secondary Master:Auto 0 Auto Secondary Slave :Auto 0 0 0 0 Auto

: 1.44, 3.5 in. Drive A Drive B : None

> Base Memory : 640K Extended Memory: 261120K

Video : EGA/VGA

Integrated Peripherals

This section page includes all the items of IDE hard drive and programmed Input/ Output features.

IDE HDD Auto Detection

Automatically detect and configure hard disk parameters. The Award BIOS includes this ability in the event you are uncertain of your hard parameters.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Save

Abandon all CMOS value changes and exit setup.

Primary Master/ Primary Slave/ Secondary Master/ Secondary Slave

The categories identify the types of 2 channels that have been installed in the computer. There are 45 predefined types and 4 user definable types are for Enhanced IDE BIOS. Type 1 to Type 45 are predefined. Type user is user-definable.

Press PgUp or PgDn to select a numbered hard disk type or type the number and press<Enter>. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Type "User" to define your own drive type manually.

If you select Type "User" , you will need to know the information listed below. Enter the information directly from the keyboard and press<Enter>. This information should be included in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is ESDI, the selection shall be "Type1". If the controller of HDD interface is SCSI, the selection shall be "None".

If you selection Type "Auto". BIOS will Auto-Detect the HDD & CD-ROM Drive at the POST stage and showing the IDE for HDD & CD-ROM Drive.

TYPE drive type

CYLS. number of cylinders HEADS number of heads PRECOMP write precom LANDZONE landing zone SECTORS number of sectors

MODE mode type

If a hard disk has not been installed select NONE and press<Enter>. Supe All, Bur

Drive A Type/ Drive B Type

The category identifies the types of floppy disk drive A or drive B that have been installed in the computer.

No floppy drive installed

360K, 5.25 in 5-1/4 inch PC-type standard drive; 360kilobyte capacity

1.2M, 5.25 in 5-1/4 inch AT-type high-density drive; 1.2megabyte capacity

720M, 3.5 in 3-1/2 inch double-sided drive; 720 kilobyte capacity

1.44M, 3.5 in 3-1/2 inch double-sided drive; 1.44 megabyte capacity

2.88M, 3.5 in 3-1/2 inch double-sided drive; 2.88 megabyte capacity

Video

The category selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type in Setup.

EGA / VGA Enhanced Graphics Adapter/ Video Graphics Array, For

EGA, VGA, SEGA, SVGA, or PGA monitor adapters.

CGA 40 Color Graphics Adapter, power up in 40 column mode CGA 80 Color Graphics Adapter, power up in 80 column mode MONO Monochrome adapter, includes high resolution monochrome

adapters.

Halt On

The category determines whether the computer will stop if an error is detected during power up.

No errors Whenever the BIOS detects a non-fatal error the system

will be stopped and you will be prompted.

All errors The system boot will not be stopped for any error that

may be detected.

system boot will not stop for a keyboard error, it will

All, But Disk/Key The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

Super

: Help

Date

:All, But Keyboard

ÈÍËÁ : Select Item

Other Memory: 26284KK

PU/PD/+/- : Modify

The date format is <day>, <date><month><year>. Press <F3> to show the

to Sat, determined by the BIOS and is

to 31 (or the maximum allowed in the month)

month The month, Jan through Dec.

The year, from 1900 through 2099 year

Halt On

The time format is <hour><minute><second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00

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The category is display-only which is determined by POST (Power on Self Test) of the BIOS.

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Base Memory

The POST will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for system with 640K r more memory installed on the motherboard.

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Extended Memory

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above IMB in the CPU's memory address map.

Other Memory

This refers to the memory located in the 640K to 1024K address space. This is memory that can be used for different applications. DOS uses this area to load device drivers in an effort to keep as much base memory free for application programs. The BIOS is the most frequent user of this RAM area since this is where it shadows RAM.

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3.3 BIOS Features Setup

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

ROM PCI / ISA BIOS (2A6LGG99) BIOS FEATURES SETUP AWARD SOFTWARE. INC.

Virus Warning : Disabled Video BIOS Shadow : Enabled CPU Internal Cache : Enabled C8000-CBFFF Shadow : Enabled CC000-CFFFF Shadow External Cache CPU L2 Cache ECC Checking: Enabled D0000-D3FFF Shadow : Disabled Quick Power On Self Test: Enabled D4000-D7FFF Shadow : A, C, SCSID8000-DBFFF Shadow Boot Sequence Swap Floppy Drive : Disabled DC000-DFFF Shadow : Disabled Boot Up Floppy Seek : Enabled Boot Up NumLock Status : On IDE HDD Block Mode : Enabled Gate A20 Option : Fast Memory Parity/ECC check : Disabled Typematic Rate Setting : Disabled Typematic Rate (Chars/Sec) 6 ESC : Quit ÈÍËÁ : Select Item Typematic Delay (Msec) : 250 F1 : Help PU/PD/+/- : Modify : Setup F5 : Old Values (Shift) F2 : Color Security Option : Disabled F6 : Load BIOS Defaults PCI/VGA Palett Snoop OS Select For DRAM> : Non-OS2 F7 : Load Setup Defaults

Virus Warning

When this item is enabled, the Award BIOS will monitor the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt in made, the FIOS will halt the system and the following error chage ill perc. If I reads, if necessary, you will be able to run an antiviru program to hate and remove the problem before any damage is done.

! WARNING !

Disk boot sector is to be modified

Type "Y" to accept write or "N" to abort write

Award Software, INC.

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Enabled Activates automatically when the system boots up causing a warning message to appear when anything attempts to access

the boot sector or hard disk partition table.

Disabled No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

NOTE:

Many disk diagnostic programs which attempt to access the boot sector table can cause the above warning message. If you will be running such a

we recommend that you first disable Virus Protection beforeband.

CPU Internal Cache/External Cache

These two categories speed up memory access. However, it depends on CPU/chipset design. The default value is enable.

Enabled Enabled cache Disabled Disabled cache

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power up the computer. If it is set to Enabled, BIOS will shorten or skip some check items during POST.

Enabled Enable quick POST Disabled Normal POST

Boot Sequence

The category determines which drive to search first for the disk operating system (i.e., DOS). Default value is A,C.

C.A System will first search for hard disk drive then floppy disk

A,C

CDROM,C,A System will first search for CDROM drive, then hard di drive and then floppy disk drive.

C,CDROM,A System will first search for hard disk drive, then CDROM drive, and then floppy disk drive.

Swap Floppy Drive

This item allows you to determine whether enable the swap floppy drive or not.

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The choice: Enabled / Disabled.

Boot Up Floppy Seek

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80tracks. 360K type is 40 tracks while 760K, 1.2M and 1.44M are all 80

BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks.

Disabled BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K.

Boot Up NumLock Status

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on.

Keypad is number keys Off Keypad is arrow keys

IDE HDD Block Mode

This allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive(HDD).

Enabled IDE controller uses block mode. Disabled IDE controller uses standard mode

Enabled is the default.

Gate A20 Option

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to add<u>re</u>ss memory above 1 Mbytes. Initially, the gate A20 was a pin on the keyboard. Today, while keyboards still provide this and much faster, for the system chipset to chipset

Typematic Rate setting

This determined if the typematic rate is to be used. When disabled, continually holding down a key on your keyboard will generate only one instance. In other words, the BIOS will only report that the key is down.

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When the typematic rate is enabled, the BIOS will report as before, but it will then wait a moment, and, if the key is still down, it will begin the report that

key has been depressed repeatedly. For example, you would use such a feature to accelerate cursor movements with the arrow keys.

Enabled Enabled typematic rate Disable typematic rate Disabled

< Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

OS Select for DRAM > 64

This item allows you to access the memory that over 64MB in OS/2. The choice: Non-OS2, OS2.

WypemahectRptma(Chara/Sec) enabled, this selection allows you select the rate

at which the keys are accelerated. 6 characters per second

8 8 characters per second

10

10 characters per second

12 12 characters per second

15 15 characters per second

20 20 characters per second

24 24 characters per second

30 30 characters per second

Typematic Delay (Msec)

When the typematic rate is enabled, this selection allows you to select the delay between when the key was first depressed and when the acceleration begins.

250

500

500 msec

750 750 msec 1000 1000 msec

Security Option
This category allows you to limit access to the system and Setup, of StuperTek
Setup.

The system will not boot and access to Setup will be denied if the System

correct password is not entered at the prompt.

Setup The system will boot, but access to Setup will be denied if the

correct password is not entered at the prompt

Note: To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press

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3.4 Supervisor/ User Password Setting

You can set either supervisor or user password, or both of then. The differences between are:

supervisor password : can enter and change the options of the setup menus. user password: just can enter but do not have the right to change the options of the setup menus.

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <ESC> to abort the selection and not enter a password.

To disabled a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM. However, it is

P€Id∀6Arminestwhether the MPEG ISA/VESA VGA Cards can work with

Disabled When PCI/VGA not working with MPEG ISA/VESA VGA Card.

Enabled When PCI/VGA working with MPEG ISA/VESA VGA Card.

depending on chipset design. Video Shadow will increase the video speed.

Enabled Video shadow is enabled Disabled Video shadow is disabled

C8000-CBFFF Shadow/DC000-DFFFF Shadow

These categories determine whether option ROMs will be copied to RAM. An example of such option ROM would be support of on-board SCSI.

Enabled Optional shadow is enabled Disabled Optional shadow is Disabled

3.5 Chipset Features Setup

ROM PCI/ISA BIOS (2A6LGG99) CHIPSET FEATURES SETUP AWARD SOFTWARE.INC.

Bank 0/1 DRAM Timing: SDRAM 10ns CPU Warning Temperature: Disabled Bank 2/3 DRAM Timing: SDRAM 10ns Current System Temperature 9°C /120°F Bank 4/5 DRAM Timing: SDRAM 10ns Current CPU1 Temperature 27°C/80°F Bank 6/7 DRAM Timing: SDRAM 10ns Current CPUFAN Speed Current SystemFAN Speed: 0 RPM SDRAM Cycle Length : 3 DRAM Clock : HCLK-33M CPU (V): 2.00V Memory Hole : Disabled DIM (V): 3.31V Read Around Write : Disabled +12V : 11.97V Concurrent PCI/HOST : Disabled -5V : -5.09V System BIOS Cachable: Enabled +5V : 4.97V Video RAM Cachable : Disabled -12V : -11.48V AGP Aperture Size : 64M ÈÍËÁ :Select Item : Enabled AGP-2X Mode F1 : Help PU/PD/+/- : Modify : Enabled Onchip USB USB Keyboard Support: Disabled F5: Old Value (Shift) F2 : Color F6 : Load BIOS Default F7 : Load Setup Defaults

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option (see Section 4) .If the Security set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

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This item allows you to setting SDRAM CAS Latency : 3T or 2T The Default is "3".(3T) $\,$

DRAM Clock : HCLK-33M

The item allows you to setting DRAM Clock Base on then the CPU

Clock(Host Clock)
The Default is HCLK-33M
Host CLK: CPU Clock
HCLK-33M: CPU Clock-33MHz

HCLK-33M : CPU Clock-33MHz HCLK+33M : CPU Clock +33MHz

System BIOS Cacheable

This item allows you to select Enabled, Disabled. The default is Disabled.

Video BIOS Cacheable

This item allows you to select Enabled, Disabled. The default is Disabled.

Video RAM Cacheable

This item allows you to select Enabled, Disabled. The default is Disabled.

Memory Hole At 15M-16M

Some special add-on cards require a 1MB address space between 15 and 16MB. The documentation for this type of card should prompt you if it need this. The default setting is Disabled.

AGP Aperture Size (MB)

This item sets the maximum amount of system memory that an AGP card will use to store 3D texture mapping data. The larger aperture makes the better performance of the 3D function. The settings range from 4MB to 256MB. The default setting is "4MB".

CPU Warning Temperature

You can set the temperature of CPU from 50°C to 70°C by yourself when the CPU running and its temperature become too hot then temperature sensor will be limited CPU speed with your default value and make the system stable.

Bank 0/1 DRAM Timing : SDRAM 10 ns

This item allows you to setting DIMM1 DRAM Timing. The default is SDRAM10ns.

Bank 2/3 DRAM Timing : SDRAM 10 ns

This item allows you to setting DIMM2 DRAM Timing. The default is ${\tt SDRAM10ns.}$

Bank 4/5 DPAM Timing ■ SDRAM 10 ns

ite allo you to setting DIMM3 DRAM Timing. The default is

Bank 6/7 DRAM Timing : SDRAM 10 ns

This item allows you to setting DIMM4 DRAM Timing. The default is ${\sf SDRAM10ns.}$

Other Choice: Normal/Medium/Fast/Turbo is for FPG/EDO Timing setting.

SDRAM Cycle Length: 3

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Current CPU FAN Speed

Display current CPU FAN Speed (FAN1 Connect)

Current System FAN Speed

Display current System FAN Speed (FAN2 Connect)

CPU(V)

Display Current CPU Vcore Voltage

DIM(V)

Display Current DIMM Vcore Voltage

+12V

Display +12V Vcore Voltage

-12V

Display -12V Vcore Voltage

+5V

Display +5V Vcore Voltage

-5V

Display -5V Vcore Voltage

Current System Temperature Display current System Temperature. SuperTek

Current CPU Temperature Display current CPU Temperature.

> 27 28

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Integrated Peripherals

ROM PCI/ISA BIOS (2A6LGG99) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.

OnChip IDE channel 0 : Enabled Uart Mode Select : Normal OnChip IDE channel 1 : Enabled IDE Prefetch Mode : Enabled : Auto Primary Master PIO Onboard Parallel Port2: 378/IRO7 Primary Slave PIO : Auto Parallel Port Mode : SPP Secondary Master PIO : Auto Secondary Slave PIO : Auto : Auto Primary Master UDMA Primary Slave UDMA : Auto Secondary Master UMDA : Auto Secondary Slave UMDA : Auto Init Display First : AGP POWER ON Function : Button only KBC input clock : 8MHz Onboard FDC Controller : Enabled Onboard Serial Port1 : Auto Onboard Serial Port 2 : Auto ESC : Quit ÈÍÁË : Select Item PU/PD/+/- : Modify F1 : Help F5 : Old Values (Shift)F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults

POWER OFF SYSTEM

There are two ways to power off the system. They are "Power Button" and SuperTek "OS". (such as windows® 95 and windows® 98, after you shut down the system will power off automatically).

This mainboard provides several ways to power on a system that includes "BUTTON ONLY", "Password", "Hot KEY", "Mouse Left" and "Mouse Right". After this mainboard has been assembled in a system, depend on the different system configuration there are several ways to power on the system. Every way has one or more condition(s) or restriction(s) to achieve its function. Please read the following description refer proceeding.

POWER BUTTON

This is an overrideable button. Please refer to page 3-6 for detailed function description. Note that, if the CMOS setup item "POWER ON Function" is set as "Password" (which located at "INTEGRATED PERIPHERALS", please refer to page 3-5) this button will lose power on function (the power off function is always valid).

KEYBOARD (PASSWORD OR HOT KEY)

Depend on the different CMOS setup, there are two ways to power on by keyboard they are "Password" and "Hot KEY". No matter the setup is "Password" and "Hot KEY", every time if you change this setup item, the functions will become effective after next time the keyboard has been initiated during POST (Power On Self Test).

Anytime if you forget the "Password", just disconnect the AC power abort 30-60 seconds then re-connect the AC power, the power button will restore its function and you have a chance to use the power button to turn on the

PS/2 (MOUSE LEFT OR MOUSE RIGHT)

Depend on the different CMOS setup, you could use the "Left Key" or "Right Key" PS/2 mouse to turn on the system.

When you use this function you must click the mouse key quickly and continually until the system power on, usually, that maybe need 2-5 times

No matter the setup is "Mouse Right" or "Mouse Left", every time if you change this setup item, the functions will become effective after next time the keyboard has been initiated during POST (Power On Self Test). This function is unavailable while using a COM (serial) port mouse.

PCI Slot IDE 2nd Channel

This item allows you designate an IDE controller board inserted into one of the physical PCI slots as your secondary IDE controller.

External IDE controller designated as the

secondary controller

Disabled No IDE controller occupying a PCI slot.

Enabled is the default

IDE PIO

IDE hard drive controller can support up to two separate hard drives. These drives have a master / slave relationship which are determined by the cabling configuration used to attach them to the controller. Your system supports two IDE controllers-a primary and a secondary-so you have to ability to install up to four separate hard disks.

PIO means Programmed Input / Output. Rather than have the BIOS issue a series of commands to effect a transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves. This simpler and more efficient (and faster).

Your system supports five modes, numbered from 0 (default) to 4, which primarily differ in timing. Whemo is selected, the BIOS will select the best available mode. This is true for the next four setup items.

- 1. IDE Primary Master PIO
- 2. IDE Primary Slave PIO
- 3. IDE Secondary Master PIO
- 4. IDE Secondary Slave PIO

Disabled

On-Chip IDE Channel 0
As stated above, your system includes two built-in IDE controllers, being perfect which operate on the PCI bus. This setup item allows you either to be the perfect bus. This setup item allows you either to be the perfect bus and the perfect bus are the perfect bus and the perfect bus are the perfect bus and the perfect bus are the perfect bus disable the primary controller. You might choose to disable the controller if you were to add a higher performance or specialized controller.

Enabled Primary HDD controller used-Default

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Primary HDD controller not used.

On-Chip IDE Channel 1

As above for the Primary controller, this setup item you either to enable or disable the secondary controller. You might choose to disable the controller if you were to add a higher performance or specialized controller.

Primary HDD controller used Enabled Disabled Primary HDD controller not used.

Enabled is the default.

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3.6 Setup Power Management

The Power Management Setup allows you to configure you system to most effectively save energy while operating in a manner consistent with your own style of computer use.

ROM PCI/ISA BIOS (2A6LGG99)

RTC ALARM

For this function you must set the CMOS setup item "Resume by Alarm" to "enabled" and set the accurate data and time in next two fields. When these date and time are equal to the RTC's data and time, the system will be power

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Every time if you change these setup items, the functions will become effective after next time the keyboard has been initiated during POST (Power

POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.

Power Management PM Control by APM Video Off After Video Off Method MODEN Use IRQ Soft-off By PWR- BTTN Doze Mode Suspend Mode HDD Power Down VGA Active Monitor ** PM Events**	: User Define : Yes : Standby : V/H SYNC+Bland : 3 : Instant-OFF : Disabled : Disabled : Disabled : Disabled		Primary Primary Primary Secondary	
Modem Ring Resume	: Disabled			
RTC Alarm Resume VGA LPT & COM HDD & FDD DMA / Master	:OFF		PU/PD/+/- : Modify	
Wake on Lan	: Disabled	F6 : Load BIOS Def F7 : Load Setup De	aults (Shift)F2 : Color faults	

H Soft-off By PWR-BTTN

If the CMOS setup is "Delay 4 Sec". Selected, this switch's function HPWSW (JP9): ATX power Switch Connect within 1 seconds, the system will get into Suspend mode. (get into a GREEN mode) HPWSW (JP9): ATX power Switch Connect beyond 4 seconds, the system will power off.

If the CMOS setup is "Install-off" selected, this switch's function is: HPWSW (JP9) : ATX power Switch Connect, the system will power off instantly.

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There are four selections for Power Management, three of which have fixed mode settings $% \left(1\right) =\left\{ 1\right\} =\left\{$

Disable (default) No power management. Disables all four modes

Min. Power Saving Minimum power management. Doze Mode=1hr.

Standby Mode = 1hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min.

Max. Power Saving Maximum power management -ONLY

AVAILABLE FOR SL CPU'S. Doze Mode =1 min., Standby Mode =1 min., Suspend Mode =1

min., and HDD Power Down =1 min.

User Defined

Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 from 1 min. to 15 min. and disable.

PM Control APM

When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock.

On Self Test)

MODEN RING-IN

If you have an external MODEN connected to COM A or COM B port, you could power on the system by MODEM via a phone called.

For this function you must set the COMS setup item "Resume buy Ring or LAN" to "enabled".

Every time if you change this setup item, the function will become effective after next time the "DMI pool data" has been verified. The system will verify the DMI pool data just before loading the OS (operating system).

This function will be malfunction if any time the system has been power on but the DMI pool data has not been verified.

This function is unavailable while using an internal MODEM card.

WAKE ON LAN

There is a WOL connector (WOL) on mainboard is for connecting a signal cable from a LAN card that supports a Wake On LAN feature. When a LAN card that supports this is installed and connected to the mainboard via this connector, the system will power on when the remote system is access via the LAN.

For this function you must set the CMOS setup item "Resume buy Ring or LAN" to "enabled". Every time if you change this setup item, the function will become effective after next time the "DMI pool data" has been verified. The system will verify the DMI pool data just before loading the OS (operating system).

This faction will be malfunction if any time the system has been power on the MI property at the not been verified.

This category allows you select the type (or degree) of power saving and is directly related to the following modes:

- 1. Doze Mode
- 2. Standby Mode
- Suspend ModeHDD Power Down

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Standhy Mod

When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed.

Suspend Mode

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

HDD Power Down

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

Power Down & Resume Events

Power Down and Resume events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a device which is configured a, even when the system is in a power down mode.

On and Off. Off

If the Max. Power Saving is not enabled, this will be preset to

Video Off Method

This determines the manner in which the monitor is blanked.

V /H SYNC+Blank This selection will cause the system to turn off the

vertical and horizontal synchronization ports and write

blanks to the video buffer.

Blank Screen This option only writes blanks to the video buffer.

DMPS Initial display power management signaling.

PM Timers
The following four modes are Green PC power saving functions which are Uper Positional Power Management has been PC power selected. See above for available selections.

Doze Mode

When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.

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Soft-off By PWR-BTTN (For ATX POWER ONLY)

This item allows you to select Delay 4 sec or Instant-off.

Resume By Ring (For ATX POWER ONLY)

This item allows you to select Disabled, Enabled. If a Fax Modem was connected with serial ports, the computer will be awoken when it received a signal from outside.

Resume By Ring, Setup for MS-DOS mode

- 1. Select Resume By Ring : Enabled
- 2. Save the Value and Exit. This system will Reboot.
- 3. Power off your system by pressing the power button on the panel.

Resume By Ring, Setup for WIN95 mode

- 1. Select Resume By Ring : Enabled
- 2. Save the Value and Exit. This system will Reboot.
- 3. When you want leave WIN95, select Shut down. The power off by software

Resume By Alarm (For ATX POWER ONLY)

This item allows you to select Disabled, Enabled. Which allows the user setting date (Day / Hour/Minute) in advance for turning on the system with a range in 30 days. The system will be awoken on the date according to the user'setup.

Resume By Alarm Setup for MS-DOS mode

- 1. Select Resume By Alarm : Enabled
- 2. Set the (Day/Hour/Minute) you desire to wake up your system
- 3. Save the Value and Exit. This system will Reboot.
- 4. Power off your system by pressing the power button on the panel.

Resume By Alarm Setup for win95 mode

As above, the choices are

IRQ3 (COM2)

is the default.

When set On , activity will neither prevent the system from going into a power management mode nor awaken it.

```
IRQ4 (COM1)
IRQ5 (LPT2)
IRQ6 (Floppy Disk)
IRO7 (LPT1)
IRQ8 (RTC Alarm)
IRQ14 (Hard Disk)
IRQ15 (Reserved)
```

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3.7 Setup PnP/PCI Configuration

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

ROM PCI/ISA BIOS (2A6LGG99) PNP/PCI CONFIUGURATION AWARD SOFTWARE. INC.

```
PNP OS Installed
                      : No CPU to PCI Write Buffer Enabled
Resources Controlled BY : Manual PCI Dynamic Bursting : Enabled
Resources Configuration DatDaisablePCI Master 0 WS Write: Enabled
                               PCI Delay Transaction: Enabled
IRQ-3 assigned to : PCI/ISA PnP PCI #2 Access #1 Retry: Disabled
IRQ-4 assigned to : PCI/ISA PnP AGP Master 1 WS Write : Enabled
RQ-5 assigned to : PCI/ISA Pnp AGP Master 1 WS Read : Disabled
IRQ-7 assigned to : PCI/ISA Pnp Assign IRQ For USB : Enabled
IRQ-9 assigned to : PCI/ISA PnP Assign IRQ For VGA : Enabled
IRQ-10 assigned to : PCI/ISA PnP
IRQ-11 assigned to : PCI/ISA PnP
IRQ-12 assigned to : PCI/ISA PnP
IRO-14 assigned to : PCI/ISA PnP
IRQ-15 assigned to : PCI/ISA PnP ESC : Quit
                                                    ÈÍËÁ: Select Item
DMA-0 assigned to : PCI/ISA PnP F1 : Help
                                                    PU/PD/+/- : Modify
DMA-1 assigned to : PCI/ISA PnP F5 : Old Values
DMA-3 assigned to : PCI/ISA PnP F 6 : Load BIOS
DMA-5 assigned to : PCI/ISA PnP D e f a u l t s
DMA-6 assigned to : PCI/ISA PnP F 7 : Load Setup
DMA-7 assigned to : PCI/ISA PnP D e f a u l t s
```

- 1. Select Resume By Alarm : Enabled
- 2. Set the (Day/Hour/Minute) you desire to wake up your system



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RbsoawsedCDhtgoahddPbyy BIOS has the capacity to automatically configure

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Reset Configuration Data

This item allows you to determine reset the configuration data or not.

Choices are Enabled and Disabled (default).

IRQ3/4/5/7/9/10/11/12/14/15, DMA0/1/3/5/6/7 assigned to

This item allows you to determine the IRQ / DMA assigned to the ISA bus and is not available to any PCI slot.

Choices are Legacy ISA and PCI/ISA PnP.

PCI IRQ Activated by

This sets the method by which the PCI bus recognizes that an IRQ service is being requested by a device. Under all circumstances, you should retain the default configuration unless advised otherwise by your system's. manufacturer.

Choices are Level (default) and dge.

PCI IDE IRQ MAP to

This allows you to configure your system to the type of IDE disk controller in use. By default, Setup assumes that your controller is an ISA (Industry Standard Architecture) device rather than a PCI controller. The more apparent difference is the type of slot being used.

If you have equipped your system with a PCI controller, changing this allows you to specify which slot has the controller and which PCI interrupt (A,B,C or D) is associated with the connected hard drives.

Remember that this setting refers to the hard disk itself, rather than individual partitions. Since each IDE controller supports two separate man select the INT# for each. Again, you will note that the primary has a lower interrupt than the secondary as described in "Slot x Using I #" above. Def Tek Selecting "PCI Auto" allows the system to automatically determine how out De Tek disk system is configured. partitions. Since each IDE controller supports two separate hard disk drivers,

3.8 Update BIOS Procedure

- 1.Find out what the exact model name and PCB version of your motherboard is. You can see these words on the top left of the screen when you boot up your computer.
- 2.Create an empty bootable disk by typing the following command: format a:/s (The reason for doing this is that the Award flash utility can only work well when there are no memory drivers installed or any other program to be running in the background).
- 3.In order to update your BIOS, you will need two files:
- a. The BIOS binary file (***.bin)
- b. The Award Flash BIOS Utility file (awdflash.exe)
- 4.Download the correct BIOS file (***.exe) you need from our web site.
- 5.Execute the BIOS file, then it will automatically self-decompress into a binary file and an Award flash BIOS utility file.
- 6. Now copy both of the files onto the bootable disk that was created by previous step.
- 7. Next, shut down your computer properly, then restart your computer using this disk and run AWDFLASH.EXE
- 8.Now you will see the Flash Memory Writer menu on your screen. The program will ask for the File Name to Program. Type in the exact name of the BIOS update binary file (***.bin), and press ENTER. (P-1)

FLASH MEMORY WRITER V7.07 (C) Award Software 1999 All Rights Reserved

For 693-596-E977-2A6LGG99C- 00 DATE: 09/16/1999 Flash Type

File Name to Program: P3VF0930 . bin

p-1

9. The program will now ask you that Do You Want To Save Bios. Type <y> FLASH MEMORY WRITER V7.07 (P-2) and then type the name of your current BIOS including its (C) Award Software 1999 All Rights Reserved extension .bin after File Name to Save (P-3). Press <ENTER> and the program will save the current BIOS data to your current path. For 693-596-E977-2A6LGG99C- 00 DATE: 09/16/1999 Flash Type FLASH MEMORY WRITER V7.07 File Name to Program : P3VF0930 . bin (C) Award Software 1999 All Rights Reserved Checksum : 36E8H File Name To Save : P3VF0930. bin For 693-596-E977-2A6LGG99C- 00 DATE: 09/16/1999 Flash Type File Name to Program : P3VF0930 . bin Checksum : 36E8H Error Message: Are you sure to program (Y/N) p-4 FLASH MEMORY WRITER V7.07 Error Message: Do you Want to Save BIOS (Y/N) (C) Award Software 1999 All Rights Reserved p-2 For 693-596-E977-2A6LGG99C- 00 DATE: 09/16/1999 FLASH MEMORY WRITER V7.07 Flash Type (C) Award Software 1999 All Rights Reserved File Name to Program : P3VF0930 . bin Checksum : 36E8H For 693-596-E977-2A6LGG99C- 00 DATE: 09/16/1999 Flash Type Programming Flash Memory-3FFFF OK File Name to Program : P3VF0930 . bin Checksum : 36E8H File Name To Save : P3VF0930. bin F1 Reset F10 Exit p-5 p-3 UDE Amemow the flo by the and restart the system. Once the BIOS has be a successful a goaded, you should restart the system in order to the new BIOS revision to take effect. After restarting the system you have to Error Message:

10.Now the program will ask you whether or not to start program, type $\langle y \rangle$, the updating process will now start (P-4). Do not turn the system off, wait until the system finishes the updating process and it displays message: Reset or Power Off the system (P-5).

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BIOS procedure.

load the BIOS defaults. To do this, press <Delete> immediately after switching the system on to enter BIOS setup. Choose "LOAD SETUP

DEFAULTS", type <y> and press <Enter>(P-6). Finally, choose "SAVE &

EXIT SETUP" to leave BIOS setup, and now you will complete the update

Notes:

- If you try to flash a version of BIOS that is for the incorrect motherboard model the following message will appear: "Program files or part number does not match with your system"
- If you are running Award flash utility in a impure DOS, Windows 9x or Windows NT environment, you will get the following error message: "Insufficient memory"
- If your system does not startup anymore, please ask your supplier or us for help.

SuperTek