

ST-MGXm

MAINBOARD



ST-MGXm

User's Manual

Version 1.1

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Introduction

1.1. PERFACE

Welcome to use GCT-MGxm Cyrix MediaGX MMX All-In-One System Board. You can be very easy to enjoy the highest level of total integration solution through your Pentium-Class PC. Of course, you are more than to get an unachievable price of full feature system board without any compromise of the performance, now you just have a 6-in-1 (Games, MPEG, Graphics, Processor, Sound, and TV) system board with Cyrix MediaGXm integrated x86 solution plus MMX technology support.

The Cyrix MediaGX processor family's latest member-GXm is an advanced 64-bit x86 compatible processor that offering high performance, fully accelerated 2D graphics, a 64-bit Synchronous DRAM controller and PCI-bus controller, all on a single chip, plus it is compatible with MMX technology. In addition to the advanced CPU feature, a 16-Kbyte write-back L1 cache is accessed in a novel fashion that eliminates pipe-line stalls to fetch operands that hit in the cache, a separate on-chip video buffer enable >30FPS MPEG1 video playback, a tightly-coupled Synchronous DRAM controller support the Graphics and system memory accesses and eliminate the need for an external L2 cache.

Also, from this system board, you can have Cyrix's Virtual System Architecture (VSA) enabling XpressGraphic and XpressAudio as well as generic emulation capabilities. Software handler routines for XpressGraphics and XpressAudio are included in the BIOS and provide compatible VGA and 16-bit industry standard audio emulation. Please enjoy the fun of Multi-Media and start to set up your PC now following by this manual.

1.2. Key Features

- * Supports the MMX instruction set extension for the acceleration of multimedia applications.
- * 64-bit Cyrix MediaGXm Processors 180MHz up to 2XX MHz
- * Cyrix CX5520 chipset supports Integrated Graphics, Sound and Memory control.
- * An Internal 16-KByte Write-Back L1 cache
- * Enhanced System Management Mode (SMM)
- * Providing Power Management on only CPU suspend and 3V full suspend
- * Windows 95 Compliant
- * 2 x 168 pin Dimm sockets support 3.3V SDRAM only.
- * Expandable memory up to 128MB
- * 2 master PCI slots & 2 ISA slots
- * On board VGA supports 1280x1024 x 8 BPP and 1024 x 768 x 16 BPP
- * On board Audio controller compatible with Sound Blaster 16, MPU-401 Interface
- * On board super Multi-I/O chip supports 2 x 16550 compatible serial ports, 1 x standard SPP/EPP/ECP parallel port, 2 x 1.2MB/1.44MB/2.88MB floppy disk driver Interface.
- * 2 x PCI IDE ports (DMA mode 0/1/2, PIO mode 4)
- * Supports PS/2 Mouse Port
- * Supports Two kinds of display devices (CRT & TV)
- * 2 x USB ports: (cable option), 1 x IrDA connector (cable option), 1 x Game port
- * PnP Flash EEPROM, NCR SCSI, BIOS, supports 120MB Diskette Bootup
- * 4-Layer PCB, 22 cm x 20 cm, Baby AT Form Factor

Hardware Configuration

2.1. Unpacking the Mainboard

- ✓ The GCT-MGXm Cyrix MediaGX System Board
- ✓ The Quick Reference Sheet
- ✓ CD Disk
- ✓ MIDI Board
- ✓ Full Set Cables

2.2. Power Precautions

Before beginning configuration, make sure that you are working with an unplugged mainboard. Many components are powered by lower-voltage current, but there still may be a dangerous electric current coming from the leads and power supply. You should take the following precautions.

- * Turn off the power supply and unplug the power cord before you begin.
- * Unplug all cables that connect the mainboard to any external devices.

2.3. Mainboard Component Location

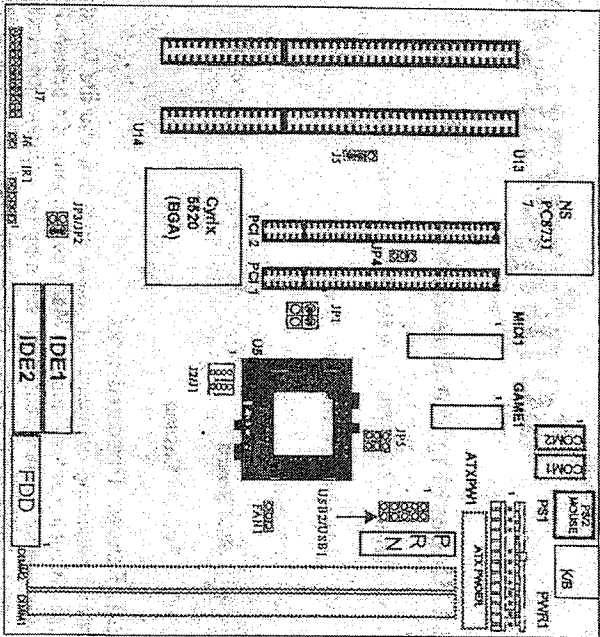
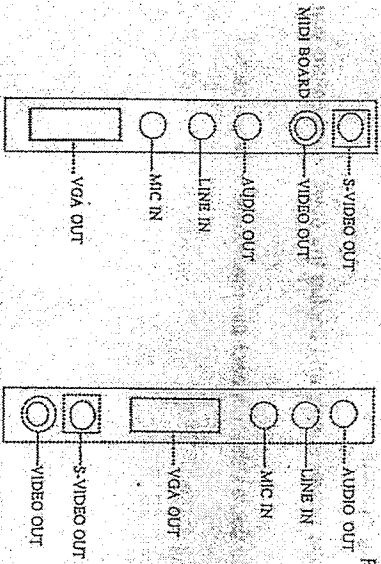


Figure: 2-A



4.

2.4. Jumper Settings

You can configure hardware options by setting a jumper on the mainboard. See Figure 2-A for jumper locations.

Set a jumper on **SHORT** and **OPEN** as follows:

- * **SHORT**-- By placing the plastic jumper cap over two pins of the jumper.
- * **OPEN**-- Remove the jumper cap from the jumper cap.

* **SYMBOLS:**

For setting 3-pin jumpers, the below symbols are used:



Pins 1 and 2 are Shorted with a jumper cap.



Pins 2 and 3 are Shorted with a jumper cap.

For setting 2-pin jumpers, the below symbols are used:



The jumper is Shorted when the jumper cap is placed over the two pins of the jumper.

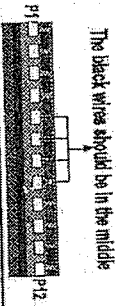


The jumper is Open when the jumper cap is removed from the jumper.

5

2.5. PW/R1 AT Power Supply Connectors

- * The power supply connectors are two six-pin male header connectors. Plug the dual connectors from the power directly into the board connectors.
- * Most of the power supplies have two leads and each lead has six wires. Two of which are black, orient the connectors, so the black wires are in the middle.
- * Detail pin description as below:



Pin	Description	Pin	Description
1	Power Good	7	Ground
2	+5V DC	8	Ground
3	+12V DC	9	-5V DC
4	-12V DC	10	+5V DC
5	Ground	11	+5V DC
6	Ground	12	+5V DC

2.6. KB1 Keyboard Connector

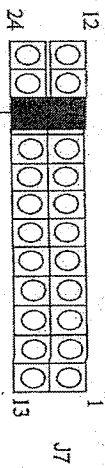
Connect your keyboard to this connector.

2.7. PS1 PS/2 Mouse Connector

Connect your PS/2 mouse to this connector.

2.8. HDD LED Connector

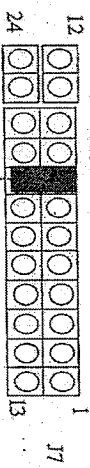
Attach the HDD LED Cable to this connector J7 (10,22)



Description	Pin
+5V	10
Active Low	22

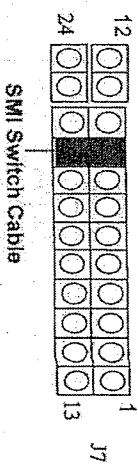
2.9. Reset / SMI Switch Connector

Attach the Reset Switch Cable to this connector J7 (8, 20).



Description	Pin
Normal Mode	Open
Reset System	Short

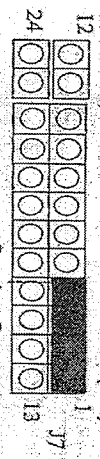
Attach SMI Switch Cable to this connector J7 (9, 21).



Description	Pin
Normal	Open
Suspend	Short

2.10. Speaker Output Connector

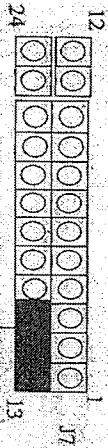
Attach the system speaker to the connector J7 (1-4).



Pin	Description
4	1. DATA Out
	2. NC
	3. +5V
	4. Ground

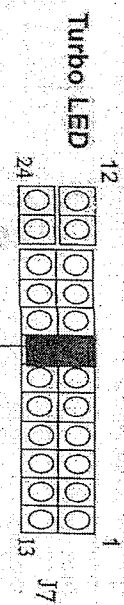
2.11. Power / Suspend LED Connector

Attach the system power LED to the connector J7 (13-15). (In the suspend mode, the Power LED will flash.)



Pin	Description
2	13. +5V
	14. NC
	15. LED (-)

2.12. Turbo LED Connector J7 (7,19)



Description	Pin
Ground LED (+)	

2.13. COM1 -- Serial Port COM1

2.14. COM2 -- Serial Port COM2

2.15. PRN1 -- Parallel Printer Connector

2.16. FDD1 -- Floppy Drive Connector

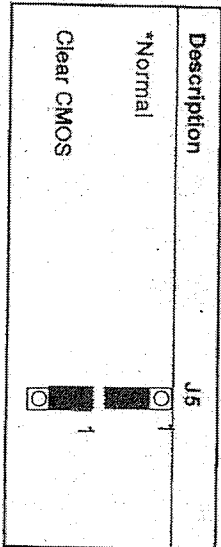
2.17. IDE1 & IDE2

* <IDE1> -- Primary IDE Connector

* <IDE2> -- Secondary IDE Connector

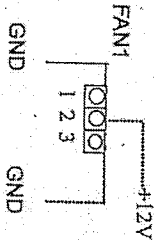
2.18. J5 CLEAR CMOS

Set the jumper J5 can clear the CMOS.



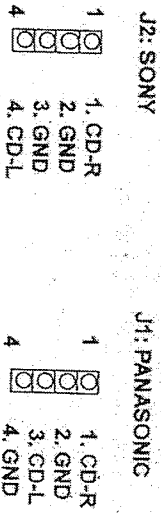
2.19. FAN1 CPU FAN Connector

Connecting your CPU fan cable to this connector. When in System Suspend Mode, the CPU fan is OFF.



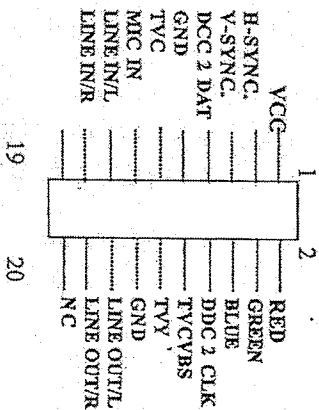
2.20. J2/J1 AUDIO CD-IN Connector

The 4-pin connector enables the system to receive the audio output from the CD-ROM.



2.21. MIDI1 MGX-MIDI Board Connector

This connector enables you to connect MIDI Board.

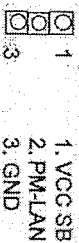


2.22. GAME1 Port Cable Connector

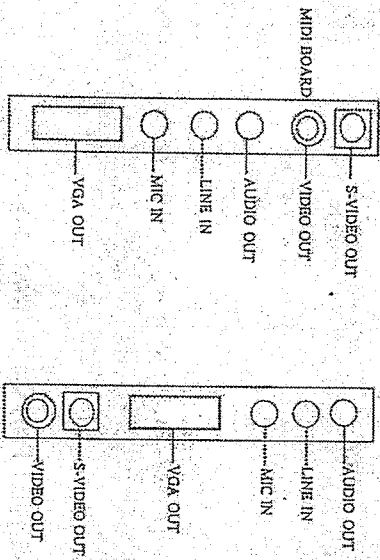
You may connect game joysticks or game pads to this connector.

2.23. JP4 LAN Wake Up Connector

Connecting your LAN Wake Up cable to this connector.



2.24. Extend MIDI Board.



1. S-Video Connector— connect your TV's S-video In.
2. Composite and S-Video— connect your Video In.
3. Line Out Jack— connect your audio devices, such as Speaker/TV Audio In to this jack.
4. Line IN Jack— connect your Audio source to this jack.
5. Microphone Jack— plug your Microphone to this jack.
6. VGA port— connect your Monitor to this port.

2.25. MEMORY INSTALLATION

This motherboard lets you add up to 128 MB of system memory by using 3.3V SDRAM only.

BANK	Memory Module
DIMM2 BANK 2 / BANK 3	4MB, 8MB, 16MB, 32MB, 64MB 168-pin DIMM (Single side, Double Side)
DIMM1 BANK 0 / BANK 1	4MB, 8MB, 16MB, 32MB, 64MB 168-pin DIMM (Single side, Double Side)

AWARD BIOS Setup

3.1. This chapter explains how to configure the BIOS setup program.

After you have configured the mainboard and have assembled the components, you can turn on the completed system. At this point, run the software setup to ensure that the system information is correct.

The software setup of the system board is achieved through Basic Input-Output System (BIOS) programming. You use the BIOS setup program to tell the operating system what type of devices are connected to your system boards. The system setup is also called CMOS setup, you need to run system setup if either the hardware is not identical with information contained in the CMOS RAM, or if the CMOS RAM has lost power.

3.1.1. Enter the Award Setup Program from Main Menu as follows:

1. Turn on or reboot the system. The following message appears at the bottom of the screen:
" Press to enter setup, ESC to skip memory test "
2. Press the key to enter the Award BIOS setup program and the following screen appears:

ROM POLI(SA)BIOS (2A33359) 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	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Exit : Quit F10 : Save & Exit Setup Time, Date, Hard Disk Type ...	

3. Choose an option and press <Enter>. Modify the system parameters to reflect the options installed in the system. (See the following sections for more information.)
4. Press <ESC> at anytime to return to the Main Menu.
5. In the Main Menu, choose "SAVE AND EXIT SETUP" or <F10> to save your changes and reboot the system.
Choosing "EXIT WITHOUT SAVING" or <ESC> ignores your changes and exits the program.

3.2. Main Menu Options

There are several options from Main Menu, in which you can find out what and how you should ensure your system information is correct. Go through the options as following sections and make your computer work perfectly.

3.3. STANDARD CMOS SETUP

Run the Standard CMOS Setup as follows.

1. Choose "STANDARD CMOS SETUP" from the Main Menu and a screen with a list of items appears.

```

Date (mm/dd/yy) : Thu Mar 3 1998
Time (hh:mm:ss) : 14:37: 7
ROM (PCH/ISA BIOS (2A43369))
Standard CMOS SETUP
AWARD SOFTWARE, INC.

HARD DISKS:  TT/FBI  SIZE CYLS HEAD PRECOMP LANDZ SECTOR  MODE
Master:      Auto  0    0    0    0    0    0    0    0    Auto
Primary Slave:  Auto  0    0    0    0    0    0    0    0    Auto
Secondary Master: Auto  0    0    0    0    0    0    0    0    Auto
Secondary Slave: Auto  0    0    0    0    0    0    0    0    Auto

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

Video : EGA/VGA
Halt On : All Errors

Base Memory : 640K
Extended Memory : 640K
On-Chip Memory : 640K
Total Memory : 1280K

ESC : Quit      F1-F2 : Selected Item, PUP/DN/+/- Modify
F1 : Help      (Shift)F2 : Change Color
    
```

2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUp/PgDn/+/- keys. Some fields let you enter numeric values directly.

Date (mm/dd/yy) Type the current date
 Time (hh:mm:ss) Type the current time

Primary master and slave
 Secondary master and slave

Choose from the standard hard disk types 1 to 45, or "User" defined. If you choose "User", run the IDE HDD Auto detection function from the Main Menu, or enter the HDD information directly from the keyboard and press <Enter>. If you use Auto mode, BIOS can Auto detect HDD type and do not enter any HDD information from the keyboard

Drive A & B

Choose 360KB 5 1/4"
 1.2MB 5 1/4"
 720KB 3 1/2"
 1.44MB 3 1/2"
 2.88MB 3 1/2"
 None

Video

Choose EGA/VGA
 CGA 40,
 CGA 80,
 Mono

Halt On

Choose All Errors (Default)
 No Errors
 All, But Keyboard
 All, But Diskette
 All, but Disk/Key

** After you have finished the Standard CMOS setup program, press the <ESC> key to return to the Main Menu.

3.4. BIOS FEATURES SETUP

Run the BIOS Features Setup as follows.

1. Choose "BIOS FEATURES SETUP" from the Main Menu and a screen with a list of items appears.

ROM PciVGA BIOS (2A43369)		BIOS FEATURES SETUP	
AWARD SOFTWARE, INC.			
Virus Warning	: Disabled	Video BIOS	: Shadow
CPU Internal Cache	: Enabled	C0000-C0FFF	: Shadow
Quick Power On Self Test	: Enabled	C0000-CFFFF	: Shadow
Boot Sequence	: A.C. SCSI	D0000-D3FFF	: Shadow
Swap Floppy Drive	: Disabled	D4000-D7FFF	: Shadow
Boot Up Floppy Seek	: Enabled	D8000-DBFFF	: Shadow
Boot Up NumLock Status	: On	DC000-DFFFF	: Shadow
Boot Up System Speed	: High		
Gate A20 Option	: Disabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
PciVGA Palette Group	: Disabled		
Assign IRQ For VGA	: Disabled		
OS Select for DRAM >64MB	: NON-OS2		

KEYBOARD	
F1 : Help	11 ← Select Item
F5 : Old Values	PU/PD/A/- Modify
F7 : Load Setup Defaults	(SHR)F2: Color

2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUp/PgDn/+/= keys. An explanation of <F> keys follows:

- <F1>: "Help" gives options available for each item.
- <F2>: Change color
- <F5>: Get the old values. The user started the current session with these values.
- <F6>: Load all options in the BIOS Features Setup with the BIOS Default values.
- <F7>: Load all options in the BIOS Features Setup with the Setup Default values.

A short description of the screen items follows:

- Virus Warning**
Choose Enabled or Disabled. Enable this option and a SYSTEM WARNING MESSAGE appears when the system detects a virus.
- CPU Internal Cache**
Choose Enabled or Disabled. This option lets you enable the CPU internal cache memory.
- Quick Power On Self Test**
Choose Enabled or Disabled. Enabled provides a fast POST and boot-up speed.
- Swap Floppy Driver**
Choose Enabled or Disabled. When Enabled Floppy drives A & B are swapped under DOS.
- Boot Up Floppy Seek**
Choose Enabled or Disabled. "Disabled" provides a fast boot and reduces the possibility of damage to the heads.
- Boot Up Num Lock Status**
Choose On or Off. On puts numeric keypad in Num Lock mode at boot-up. Off puts this keypad in arrow key mode at boot-up.
- Boot Up System Speed**
Choose High or Low. When select high, system boot up is high speed. When select low, system boot up is low speed.
- Gate A20 Option**
Choose Fast or Normal. The A20 pin will be fast or normal.
- Typematic Rate Setting**
Choose Enabled or Disabled. Enable this option to adjust the keystroke repeat rate.

Typematic Rate(Chars/Sec) Choose the rate a character keeps repeating.

Typematic Delay (Msec) Choose how long after you press a key that a character begins repeating.

Security Option Choose Setup, or System. Use this feature to prevent unauthorized system boot-up, or unauthorized use of BIOS Setup.

"System" Each time the system boots the password prompt appears.

"Setup" Password prompt only appears if you attempt to enter the Setup program.

Video BIOS Shadow VIDEO shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM.

OS/2 Select for DRAM>64MB When using OS/2 operating systems with installed DRAM of greater than 64MB, you need to Enable this option otherwise leave this on the Setup default of Disabled.

3. After you have finished with the BIOS Features Setup program, press the <ESC> key and then follow screen instructions to save or disregard your settings.

3.5. CHIPSET FEATURES SETUP
The "CHIPSET FEATURES SETUP" is used to control the values of the chipset registers. These registers control most of the system options in the computer.

Run the Chipset Features Setup as follows:

1. Choose "CHIPSET FEATURES SETUP" from the Main Menu and a screen with a list of items appears.

ROM Fc115A BIOS (2M43355)		
CHIPSET FEATURES SETUP		
AWARD SOFTWARE, INC.		
SDRAM CAS Latency Time	: 4 AUTO	
16-bit I/O Recovery (CLK)	: 5	
8-bit I/O Recovery (CLK)	: 5	
USB Keyboard Support	: Disabled	
ESC: Quit	F1----: Select Item	
F7 : Help	F2/P/D/V: Modify	
F6 : Load Bios Defaults	(Shift)/F2 : Color	
F7 : Load Setup Defaults		

2. SDRAM CAS latency timing will be showed as AUTO, 2T, or 3T. 2T is the slowest timing and 3T is the fastest timing.

3. 16-bit I/O Recovery (CLK): The I/O recovery mechanism adds bus clock cycles between PCI-originated I/O cycles to the ISA bus. This delay takes place because the PCI bus is so much faster than the ISA bus.
The choice: from 1 to 16 CPU clocks.

4. 8-bit I/O Recovery (CLK): The I/O recovery mechanism adds bus clock cycles between PCI-originated I/O cycles to the ISA bus. This delay takes place because the PCI bus is so much faster than the ISA bus. This item allows you to determine the recovery time allowed for 8 bit I/O.
The choice: from 1 to 16 CPU clocks

5. USB Keyboard Support: When using USB Keyboard, you need to Enabled this function.

3.6. POWER MANAGEMENT SETUP

The Power Management controls the motherboard's "green" features that for the power saving Mode, Display turn off and HDD power down that together from the hardware power conservation scheme.

Run the **Power Management Setup** as follows:

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of items appears.

Power Management		: Disabled	
ROM PCUI5A BIOS (2A433G9J) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.			
PM Timer	: Disabled	IRQ1 (Keyboard)	: ON
Stand by Mode	: Disabled	IRQ3 (COM2)	: ON
HDD power down	: Disabled	IRQ4 (COM1)	: OFF
MODEM Use IRQ	: NA	IRQ5 (LPT2)	: OFF
		IRQ6 (Floppy Disk)	: OFF
		IRQ7 (LPT1)	: OFF
Ring Power On Controller	: Disabled	IRQ8 (RTC Alarm)	: OFF
Ring Power On Controller	: Disabled	IRQ9 (IRQ2 Redir)	: OFF
RTC Alarm Function	: Enabled	IRQ10 (Reserve)	: OFF
RTCOn by time (hh:mm)	: 7:30	IRQ11 (Reserve)	: OFF
		IRQ12 (PS/2 Mouse)	: OFF
		IRQ13 (Coprocessor)	: OFF
		IRQ14 (Hard Disk)	: OFF
		IRQ15 (Reserved)	: OFF
		ESC: Quit	↑↓←→: Select Item
		F1: Help	PUP/DH/: Modify
		F6: Load BIOS Defaults (Ship)	F2: Color
		F7: Load Setup Defaults	

2. **Power Management:** This category allows you to select the type (or degree) of power saving and is directly to the Doze Mode, Standby Mode, Suspend Mode, and HDD Power Down.

3. PM Timers

* Standby Mode:

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.

* 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.

* **Modem Use IRQ:**
This determines the IRQ in which the MODEM can use. The choice: 3,4,5,7,9,10,11,NA

4. Ring Power On Controller:

When you use ATX power connector, you can Enabled the Ring Power On function. The choice: Disabled & Enabled.

5. Net Power On:

The computer can be set to turn on through LAN system. However, the LAN card needs to support LAN Wake Up function. The choice: Disabled & Enabled.

6. RTC Alarm Function:

The RTC Alarm can be chose by Disabled / Enabled.

7. RTCOn by time (hh:mm):

If you choose Enabled on RTC Alarm function, the RTCOn by time will show. You may set up the time you want to power on your computer.

3.8. INTEGRATED PERIPHERALS SETUP

The "INTEGRATED PERIPHERALS" is used to control the values of the I/O chipset registers. These registers control the mode of HDD type and I/O address port.

Run the Integrated Peripherals as follows:

3.8.1. Choose "INTEGRATED PERIPHERALS" from the Main Menu and a screen with a list of items appears.

ROM POLISA BIOS (2A43399B)	
STANDARD INTEGRATED PERIPHERALS	
AWARD SOFTWARE, INC.	
IDE HDD Block Mode	: Enabled
Primary IDE Channel	: Enabled
Read Prefetch	: Disabled
Write Buffering	: Disabled
Master Drive PIO Mode	: Auto
Slave Drive PIO Mode	: Auto
Secondary IDE Channel	: Enabled
Rear Prefetch	: Disabled
Write Buffering	: Disabled
Master Drive PIO Mode	: Auto
Slave Drive PIO Mode	: Auto
K80 Input Clock	: 8MHz
Onboard FDC Controller	: Enabled
Onboard Serial Port 1	: Auto
Onboard Serial Port 2	: Auto
Onboard UART2 Mode	: Standard
Onboard Parallel Port	: 378/IRQ7
Parallel Port Mode	: SPP
Build In CPU Audio	: SB16
Audio I/O Base Address	: 220H
MPU-401 I/O Base Address	: 320H
Audio IRQ Select	: IRQ5
Audio Low DMA Select	: DMA 1
Audio High DMA Select	: DMA 5
Video Memory Size	: 2.5M
TV Output Select	: Enabled
TV Output Mode	: NTSC
ESCP: Quit	F1: Select Item
F7: Help	PURP: Help: Modify
F8: Load BIOS Default (Shim) F2: Color	F7: Load Setup Defaults

IDE Hard Disk Drive Mode Setting

The BIOS supports two kind of methods to set up your IDE Hard Disk drive Mode. One is auto, another is manual mode.

In auto mode, BIOS can auto detect HDD's mode, but in some old type HDD that can't meet ATA specification, the BIOS will detect wrong Mode and cause system boot fail. You must change auto mode to manual mode and try a proper mode that can meet your HDD specification. There are five modes defined in manual mode. They are mode 0,1,2,3,4. The default setting for on board timing is auto mode that it will provide optimum performance for your HDD.

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 means IDE controller uses block mode and Disabled means IDE controller uses standard mode.

Primary/Secondary IDE Channel

Use the on-board IDE (default). You may separately disable the primary/second channel on an IDE interface installed in a PCI expansion slot.

Onboard FDD Controller

This should be enabled if your system has a floppy disk drive (FDD) installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature. The choice is Enabled or Disabled.

Onboard Serial Port

This item allows you to determine access onboard serial port 1/port 2 controller with which I/O address. The Choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto

Onboard Parallel Port

Select a logical LPT port name and matching address for the physical parallel (printer) port. The choice: 378H/IRQ7, 278H/IRQ5, 3BC8H/IRQ7, Disabled

Parallel Port Mode

Select an operating mode for the onboard parallel port. Select Compatible or Extended unless you are certain both your hardware and software support EPP or ECP mode. The choice: ECP+EPP1,7, EPP1,7+SPP, EPP1,9+SPP, ECP+EPP1,9, ECP, Normal, SPP

Build In CPU Audio

This item allows you to select the option of build in CPU Audio function. The choice: SB16, SB Pro, Disable

Audio I/O Base Address

This chipset traps I/O accesses for Sound Blaster compatibility at either 220H or 240H.
The choice: 220H, 240H, 260H, 280H

MPU-401 I/O Base Address

This chipset traps I/O accesses for ROLAND MPU 401 UART Interface at 330H, 300H, or Disable
The choice: 330H, 300H, Disable

Audio IRQ Select

Select an interrupt for the audio port.
The choice: IRQ2, IRQ5, IRQ7, IRQ10, Disable

Audio Low DMA Select

This chipset supports I/O trapping for low DMA accesses and allows you to select the Audio Low DMA type.
The choice: DMA0, DMA1, DMA3, Disable

Audio High DMA Select

This chipset supports I/O trapping for high DMA accesses and allows you to select the Audio High DMA type.
The choice: DMA5, DMA6, DMA7, Disable

Video Memory Size

Select the Video memory size.
The choice: 1.5M, 2.5M

TV Output Select

This chipset supports TV Out function.
The choice: Enable, Disable

TV Output Mode

This allows you to select TV output type.
The choice: NTSC, PAL

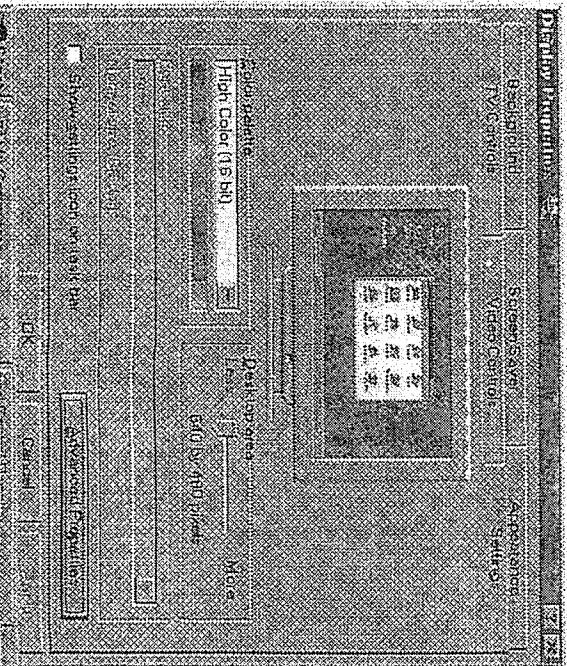
3.8.2. How to disable on board Sound function?
The GCT-MGXM M/B offers the on board sound function. This on board function can be disabled from BIOS Setup. If using additional Sound Card. Please kindly check the below process.

1. In "BIOS Setup", choose "Integrated Peripherals, then Enter.
 2. In "Build in CPU Audio", select Disable, then ESC.
 3. The on board Audio is disabled now.
- * Please see the table in Page 26.

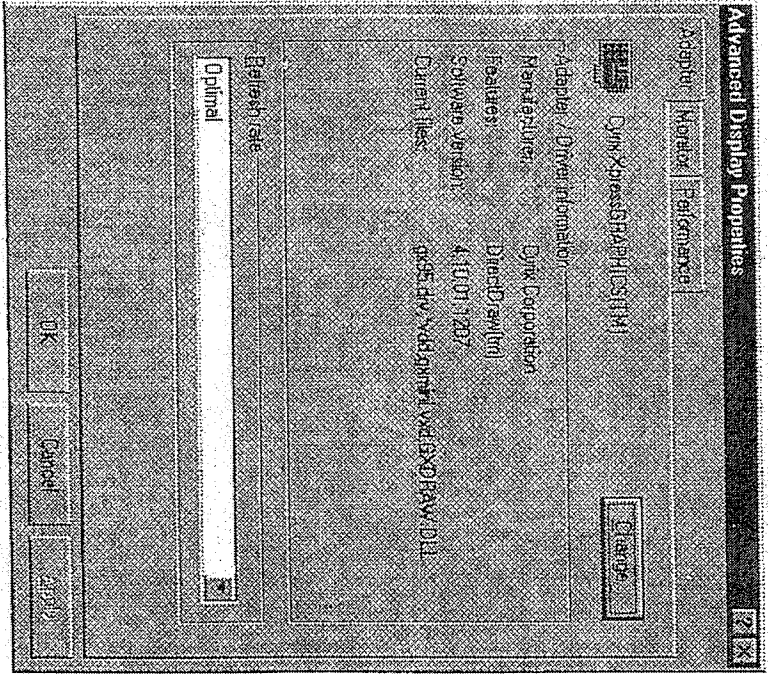
3.8.3. Virtual Screen Function

The GCT-MGXM M/B offers the Virtual Screen function when both Monitor and TV are used. (Please make sure that your MGXM M/B has TV OUT function.)

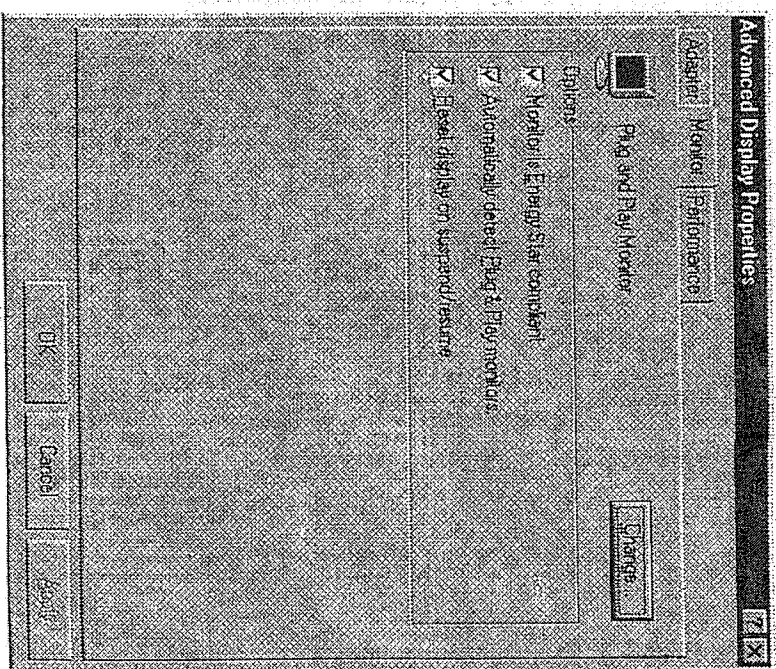
1. How to use Virtual Screen in both TV and Monitor?
 - a. Under "Display Properties", open "Settings". Then select "Advanced Properties".

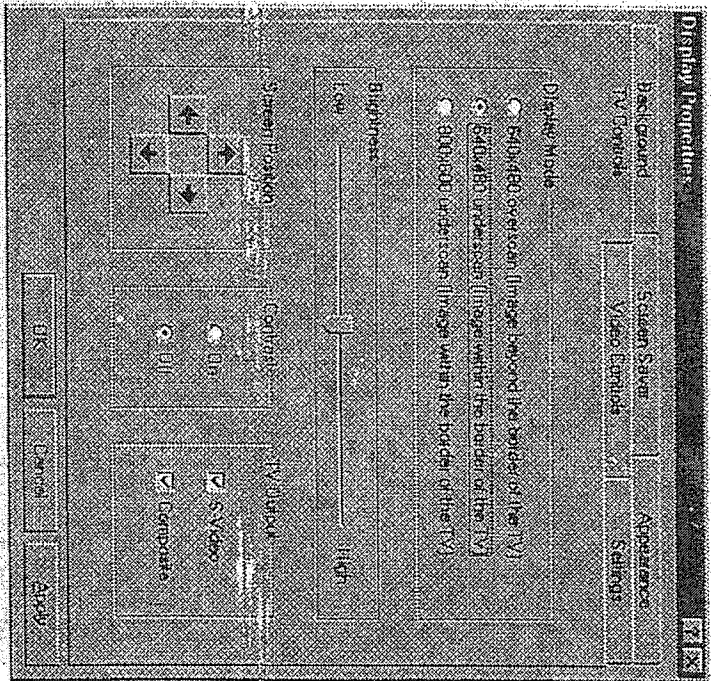


b. Under "Adapter", please make sure the driver of Cytrix XpressGRAPHICS (TM) has been installed well.



c. In "Monitor", you may set "Plug and Play Monitor" or "640 x 480 Monitor".





d. In "Display Properties", you will see "TV Controls". Under "TV Output", there are two selection--S-Video and Composite. Please select these two items.

e. In "TV Controls", you can select 640 x 480 overscan, 640 x 480 Underscan, and 800 x 600 Underscan. And you can adjust TV's Brightness, Screen Position, and Contrast.

- 2. The Operating Process:**
- a. In "TV Controls", if you select 640 x 480 Underscan (see chart 1) and in "Display Setting", the Desktop Area is set 800 x 600 (see chart 2). Then, the Virtual Screen function is enabled in which both the TV and CRT can be used together.

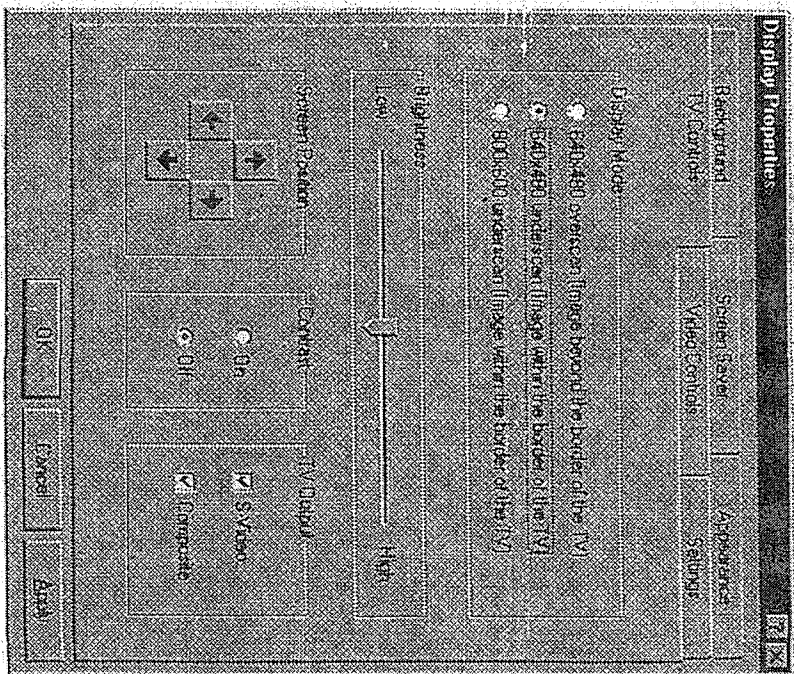


Chart 1

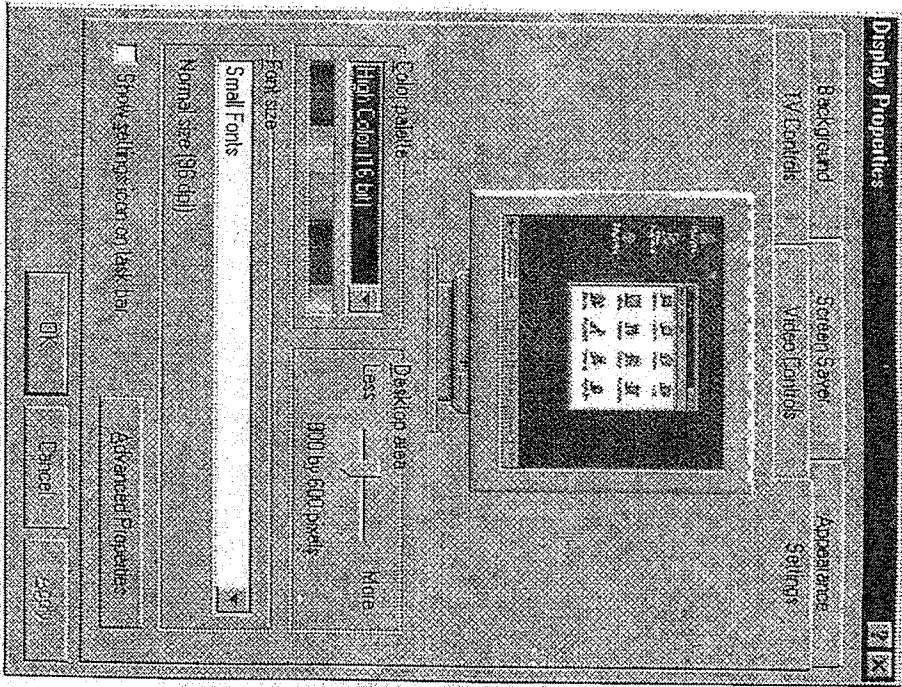
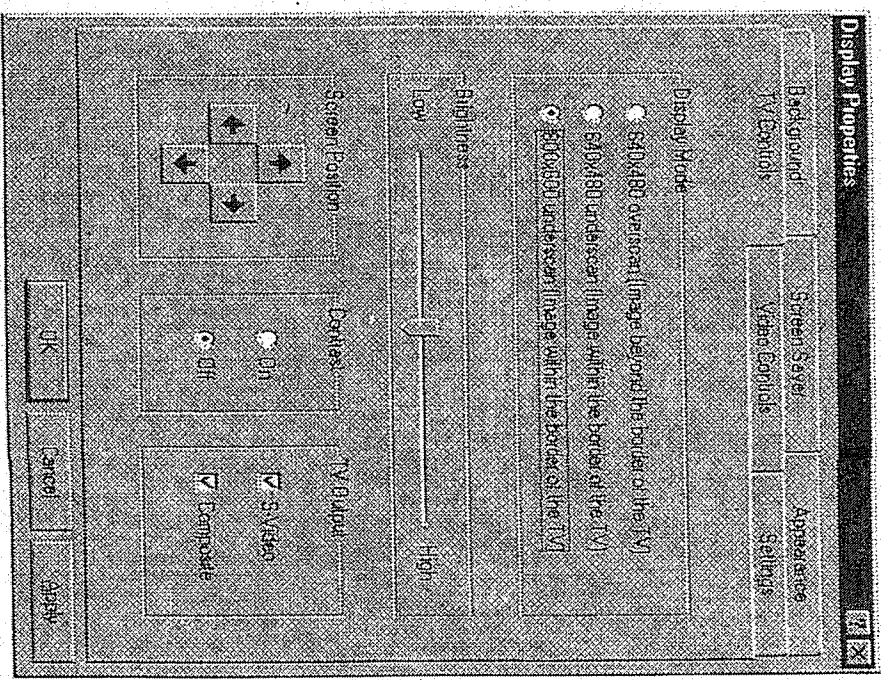
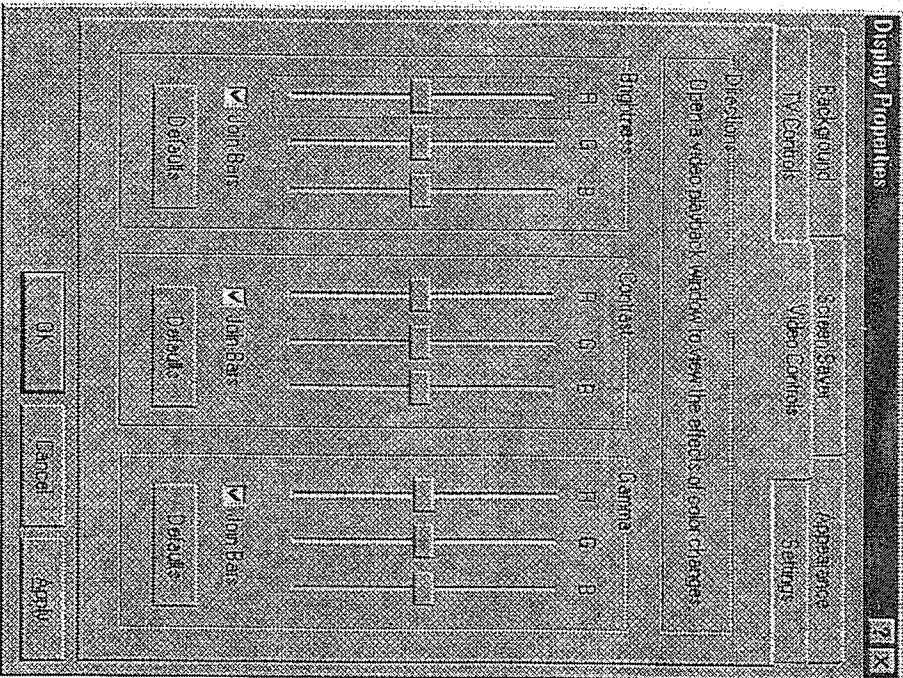


Chart 2

c. In "TV Controls", if select 800 x 600, then the setting value in Desktop Area should greater then 800 x 600 which is 1024 x 768.



3. When you use MPEG to play Movie, you may use "Video Control Item" to adjust proper Brightness, Contrast, and Gamma under "Display Properties." Please kindly note that this adjusting function only works for Video Picture or TV Picture, but is worthless to Monitor Screen.



3.9. LOAD SETUP DEFAULTS

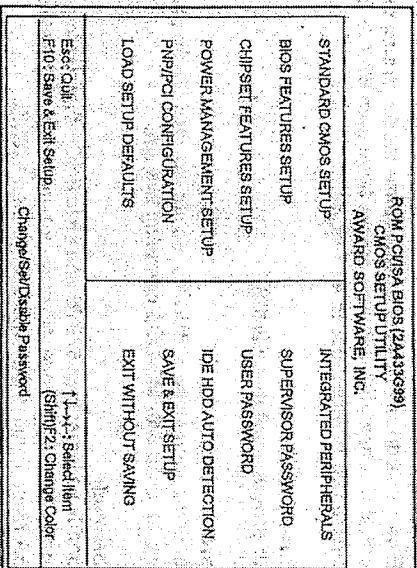
This Main Menu item loads the default system values. These settings are recommended for optimum performance. If the CMOS is corrupted when enter BIOS setup utility, you must load setup default again. Choose this item and the following message appears:

"Load SETUP Defaults (Y/N)? N"

To use the Setup defaults, change the prompt to "Y" and press <Enter>.

3.10. PASSWORD SETTING

This Main Menu item lets you configure the system so that a password is required every time the system boots or an attempt is made to enter the Setup program. The password cannot be longer than 8 characters.



Note: Keep a safe record of the new password. If you forget or lose the password, the only way to access the system is to discharge CMOS memory jumper.

3.11. IDE HDD AUTO DETECTION

1. If your system has an IDE hard drive, you can use this utility to detect its parameters and automatically enter them into the Standard CMOS Setup.

2.

```

ROM BIOS(A BIOS (2A133333))
IDE HDD AUTO DETECTION
AWARD SOFTWARE, INC.

Primary Master:

HARD DISKS      TYPE SIZE  CYLS  HEAD  PRECOMP  LANDING SECTOR  MODE
-----
Options:
2V)  824  1633  16  32  85532  1855  63  NORMAL
1  824  1633  16  32  85532  1855  63  NORMAL
3  824  1633  16  32  85532  1855  63  LARGE
  
```

Select Primary Master Option (N=Skip)/N

Note: Some Oses (like SCO-UNIX) must use "NORMAL" for installation.

ESC : Skip

For IDE hard disk driver, the BIOS provides three modes to support both normal IDE hard disk and also drivers large than 528MB, a short description of three modes as follows:

- a. **Normal mode:**
For drivers small than 528MB
 - b. **Large Mode:**
For drives larger than 528MB that do not use LBA. There can only be used with MS-DOS operating system.
 - c. **LBA mode:**
For drivers larger than 528MB and up to 8.4GB that use logic block addressing mode. Normally we recommend to select LBA Mode if your HDD drivers large than 528MB.
3. This utility will autodetect as many as four IDE drivers.

3.12. SAVE & EXIT SETUP

Select this item from the main menu and type "Y" to save the values entered during the current session and then exit the BIOS Setup program. Type "N" to return to the Setup program.

3.13. EXIT WITHOUT SAVING

Select this item from the main menu and type "Y" to exit the BIOS Setup program without saving the values entered during the current session. Type "N" to return to the Setup program.

3.14. UPDATING YOUR MAINBOARD'S BIOS

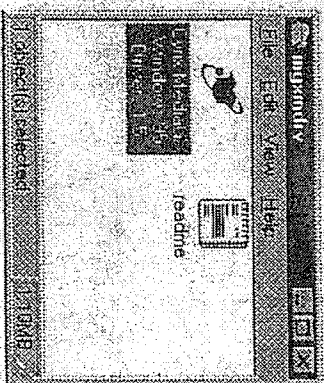
Updating BIOS procedures (only when necessary):

1. Create a bootable system floppy diskette by typing [FORMAT A:] from DOS Prompt without creating "AUTOEXEC.BAT" and "CONFIG.SYS" files.
2. Download an updated AWARD BIOS file from FTP, or Internet (WWW) and save to the Diskette you created above.
3. Boot from the floppy diskette you created above.
4. At the "A:\>" prompt, type:[AWDFLASH] and then the <Enter> key.
5. Enter 2 "Update BIOS Main Block From File" from the Main Menu or option 2 "Update BIOS Including Boot Block and ESCD" from the Advanced Features Menu if prompted by option 2 of the Main Menu.
6. The program displays a second screen prompting you for the name of the BIOS file. Type in the complete file name and extension of the new BIOS, and then press the <Enter> key. The utility then updates the BIOS file from disk.
7. After updating the new BIOS file, exit the Flash Memory Writer utility and then turn off your system.
8. Turn on your computer and hold down the <Delete> key to enter BIOS setup. You must select "Load Setup Default" to affect the new BIOS, then you may set other items from the Main Menu.

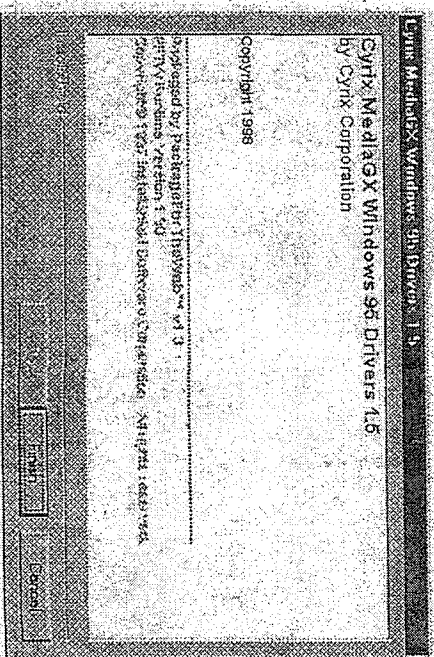
Appendix A: Driver Installation

VGA & Sound Driver Installation Under Microsoft Windows 95:

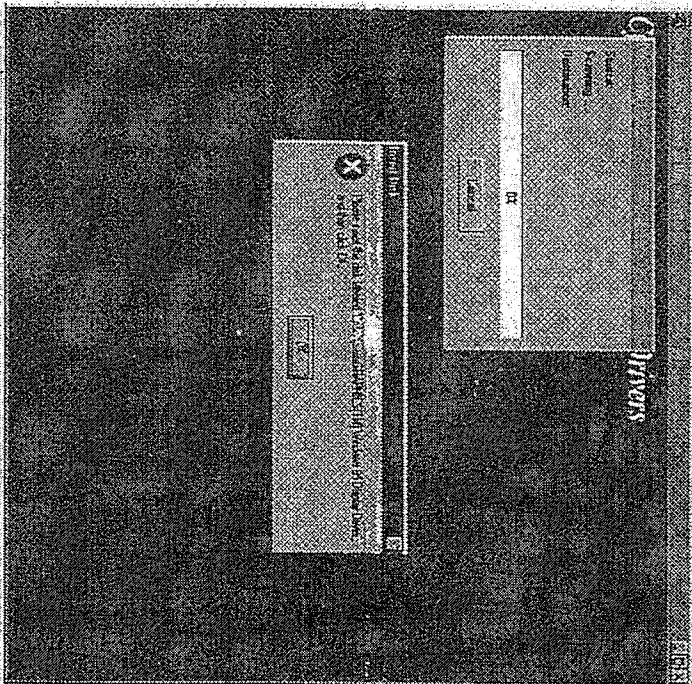
1. Double click the file of "Cyrix MediaGX Windows 95 Drivers.exe" from the driver disk.



2. Click the "Finish" button on the title screen that appears. This signals InstallShield to unpack the necessary files and to begin the installation process.

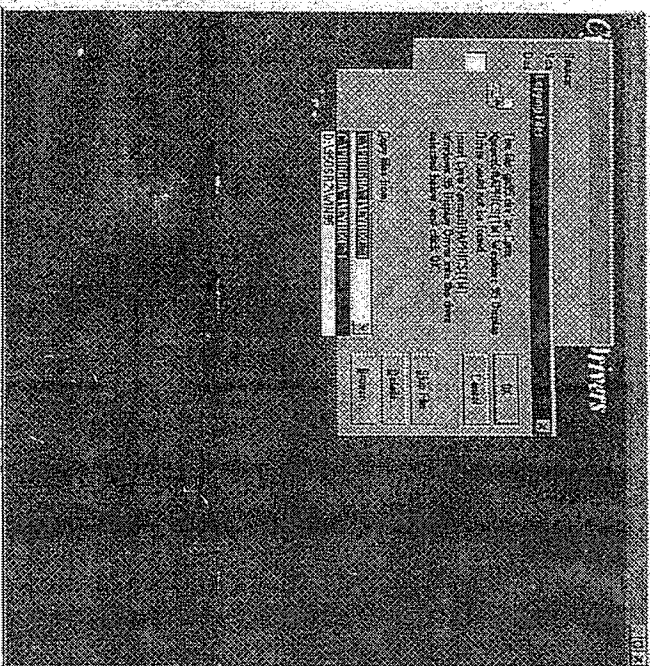


7. If you select "Typical" or "Compact", the installation process will begin now. If you select "Custom", you will be able to select which drivers you want to install (Audio, Video, and/or Joystick). Click on the drivers you want installed and click "Next" to proceed.



8. If you are installing the video drivers, a bug in Windows will cause a Windows requestor to come up asking for a disk labeled "Cyrix XpressGRAPHICS (TM) Windows 95 Display Driver". Simply click "OK" on this requestor.

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9. Another Windows requestor will now appear. Pull down the menu on the bottom of this requestor and select your install directory which will appear there, then click "OK". The installation will then complete.

<< NOTE >> If the install directory name is longer than 8 characters in procedure 5, it will be truncated to 8 characters in this procedure. For example, if the directory you selected in procedure 5 is:

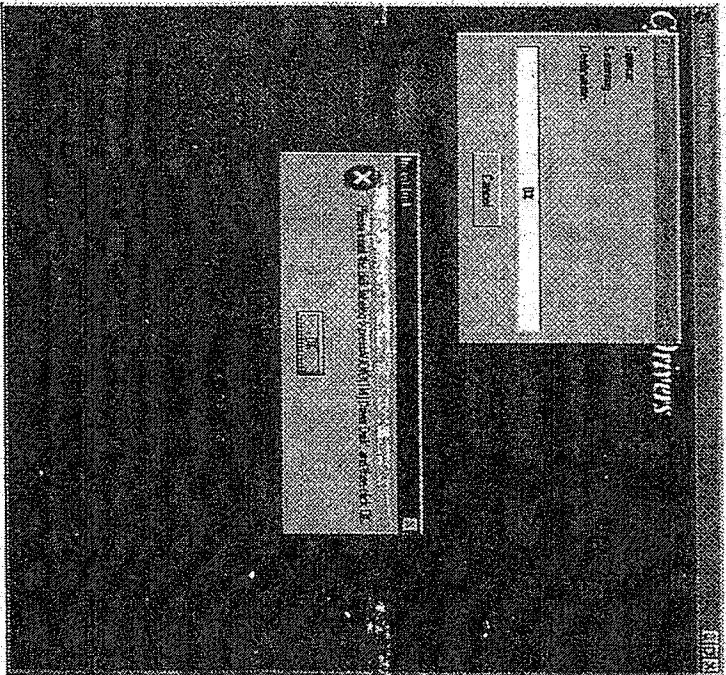
C:\Program Files\Cyrix Corporation

It will appear as:

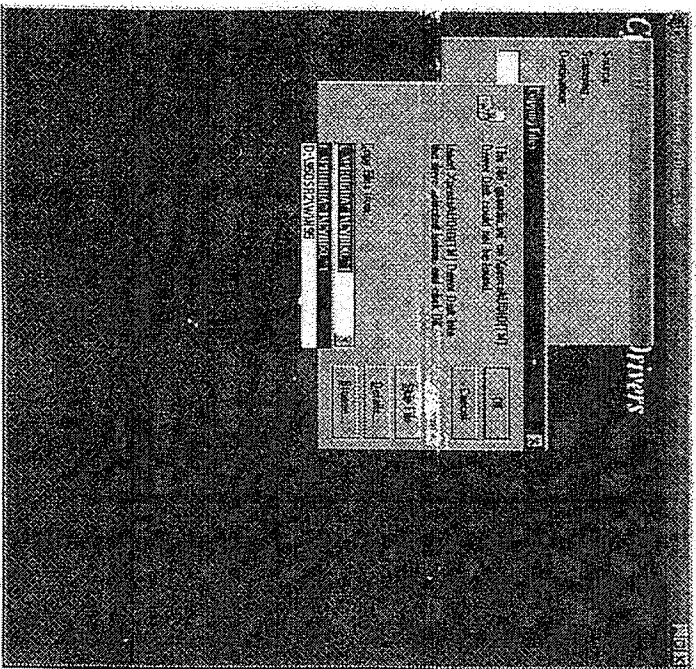
C:\PROGRA~1\CYRIXC-1

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10. If you are installing the audio drivers, you will have to repeat step 8 and 9. The only difference will be that the requester in step 8 will ask for a disk labeled "Cyrrix XpressAUD(TM) Driver Disk".



11. Windows will probably then ask for the "Windows 95 CD-ROM" and prompt you for specific files from the CD. Insert your Windows 95 CD and click "OK". The number and type of files requested at this point will vary from system to system-just continuous to point the requester to the Windows 95 CD for any files it is looking for.



CPU Type(PCB VER :02~05)

CPU TYPE	GXM-180	GXM-200	*GXM-233	GXM-266
JP1				

CPU Type(PCB VER :1.0)

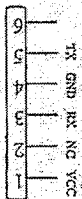
CPU TYPE	GXM-180	GXM-200	*GXM-233	GXM-266
JP1				

GXM Clock

CLOCK	GXM-180	GXM-200	GXM-233	GXM-266
JP3/JP2				

J6: ATX ON/OFF

IR1: IR CONNECTOR



USB2/USB1: USB CONNECTOR

