Introduction

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The GX mainboard offers a highest level of integration of any Pentium-Class mainboard in the marketplace, enabling the development of full-featured personal computers at previously unachievable price points.

Based on the Cyrix Media GX processor, the GX mainboard line offers P120-200MHz performance levels with integrated graphics (Xpress-GRAPHICS), sound and memory interface (XpressRAM)

KeyFeatures

✓ 64 bit P120-200MHz Cyrix MediaGX Processors

✓ Cyrix CX5510 chipset supports integrated Graphics, Sound and Memory control.

✓ A internal 16-K Byte Write-Back L1 cache

✓ Desktop System Management Interface (DMI)

✓ Enhanced System Management Mode (SMM).

✓ Provideing CPU Power Management status in suspend mode.

✓ Windows 95 Compliant.

✓ 4 x 72pin SIMM & 1 x 168pin DIMM socket (share) support FPM/ EDO DRAM.

✓ Expandable memory up to 128MB.

✓ DIMM module 3.3V/5V jumper selectable.

✓ 3 PCI slots (can use 2 master mode) and 2 ISA slots

✓ On board VGA supports 1024 x 768 with 65536 high color and 1280 x 1024 with 256 colors.

✓ On board Audio controller compatible with Sound Blaster 16/PRO MPU-401 interface.

✓ On board super Muti-I/O chip supports 2 x 16550 compatible serial ports, 1x standard SPP/EPP/ECP parallel port, 1 x 1.2MB/1.44MB/ 2.88MB floppy disk drive interface.

✓ 2 x PCI IDE port (PIO mode 4)

✓ Support PS/2™ mouse Connector.

✓ Support two kinds of display devices-CRT monitor and TV

✓ 2M Pnp Flash EEPROM

✓ 4 layer PCB, 22cm x 22cm Baby AT form factor.

Static Electricity Precautions

Static electricity can easily damage your mainboard.

Observing a few basic precautions can help you safeguard against damage that could result in expensive repairs. Follow the measures below to protect your equipment from static discharge:

✓ Keep the mainboard and other system components in their anti-static packaging until you are ready to install them.

✓ Touch a grounded surface before you remove any system component from its protective anti-static packaging. A grounded surface within easy reach is the expansion slot covers at the rear of the system case. or any other unpainted portion of the system chassis.

✓ During configuration and installation, touch a grounded surface frequently to discharge any static electric charge that may build up in your body. Another option is to wear a grounding wrist strap.

✓ When handling a mainboard or an adapter card, avoid touching its components. Handle the mainboard and adapter cards either by the edges or by the mounting bracket that attaches to the slot opening in the case.

Unpacking the Mainboard

The Mainboard comes packed in a sturdy cardboard shipping carton. The carton contains:

- ✓ The GX Mainboard

- ✓ This User's Guide

- ✓ MIDI Board

- ✓ 1 IDE Cable/ 1 FDD Cable/1 Game Port Cable

- ✓ RS232 Cable/Printer Port + PS/2 Mouse Cable

- ✓ 2 Diskette (1 VGA/ 1 Sound)

Note Do not remove the mainboard from its original packing until you are ready to install it.

The mainboard is easily damaged by static electricity.
Observe the following precautions while unpacking and installing the mainboard.

1. Touch an unpainted area of the system chassis before handling the mainboard or any component. Doing so discharge the static charge your body may have built.

2. Remove the mainboard for appearance checking. Shipping may have lossened integrated circuits from their sockets. If any integrated circuit appears loose, press carefully to seat it firmly in its socket.

Do not apply power if the mainboard appears damaged . If there is damage to the board, or items are missing, contact your dealer immediately.

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Hardware Configuration

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Before you install the mainboard into the system chassis, you may find it convenient to first configure the mainboard's hardware. This chapter describes how to set jumpers and install memory modules, and where to attach components.

Power Precautions

Before you begin configuration, make sure you are working with an unplugged mainboard. Many components are powered by low-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.
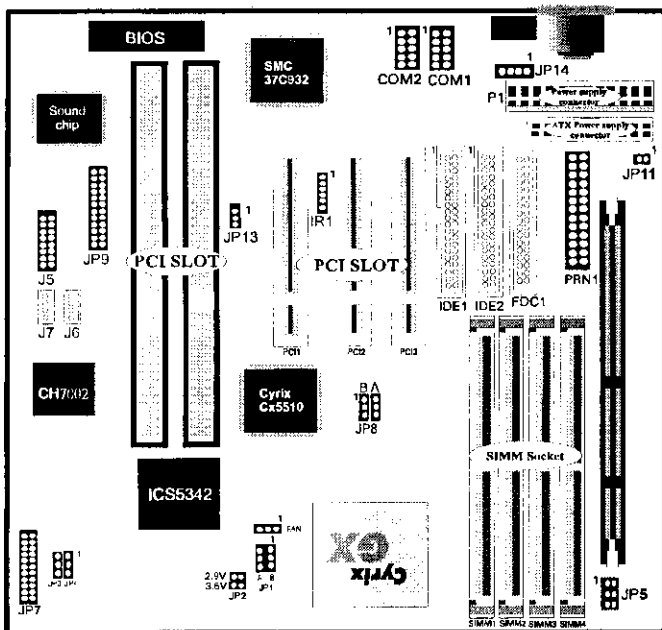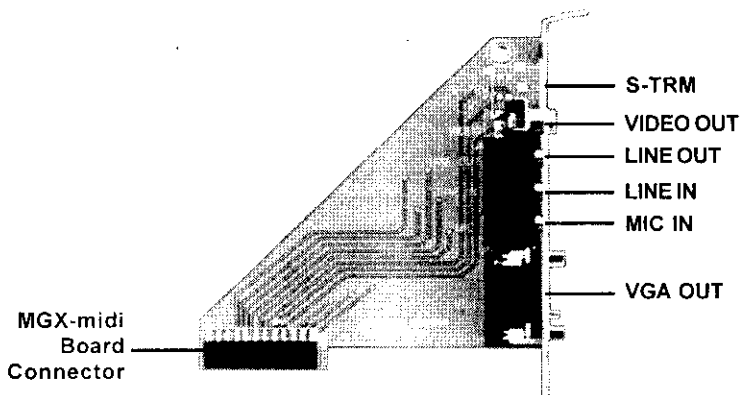
Mainboard component Locations

Figure 2-1 Mainboard Component Locations

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Connectors

P1	AT Power Supply Connctor
KB1	AT Keyboard Connector
JP14	PS/2 Mouse Connector
JP7- 15/16	HDD LED Connector
JP7- 13/14	Reset Switch Connector
JP7- 1/3/5/7	Speaker Output Connector
JP7- 2/4/6	Power LED Connector
JP7- 19/20	Suspend LED Connector
JP7- 7/8	Suspend Switch Connector
FAN	CPU FAN Connector
IR1	IR Connector
COM1	Serial Port COM1
COM2	Serial Port COM2
PRN1	Parallel Printer Connector
FDC1	Floppy Drive Connector
IDE1	Primary IDE Connector
IDE2	Secondary IDE Connector
J6, J7	Audio CD-in Connector
J2	ATX Power Supply Connectors
JP11	ATX Power Switch
JP9	MGX- Midi Board Connector
J5	Game Port Cable Connector

Jumpers

JP1	CPU Internal Clock Speed Selector
JP2	Voltage Selector
JP3/4	CPU Jumper
JP5	DIMM Voltage Selector
JP8	CPU Speed Selector
JP13	CMOS Clear

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Jumper Settings

You can configure hardware options by setting jumper on the mainboard. See Figure 2-1 for jumper locations.
Set a jumper as follows:

✓ Short a jumper by placing the plastic jumper cap over two pins of the jumper.

✓ Open the pins of a jumper by removing the jumper cap.

Note When you open the jumper, attach the plastic jumper cap to one of the pins so you won lose it.

Symbols:

For setting 3-pin jumpers, the symbols below 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 following 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.

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P1 Power Supply Connectors

The power supply connectors are two six-pin male header connectors. Plug the dual connectors from the power directly onto the board connectors. Most of power supply have two leads. Each lead has six wires. Two of which are black, orient the connectors, so the black wires are in the middle.

The black wires should be in the middle

P1 ... P12

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

KB1 Keyboard Connector

A standard five-pin female DIN keyboard connector is located at the rear of the board J1.

Pin	Description
1	Keyboard Clock
2	Keyboard Data
3	N.C.
4	Ground
5	+5VDC

JP14 PS/2 Mouse Connector

Connect your PS/2 mouse to this connector.

Pin	Description
1	VCC - Yellow
2	M.DATA - Red
3	M. CLK- Brown
4	Gnd- Green

JP7 Power LED, Reset Switch, Speaker, HDD LED, Susnpend

Power LED & Keyboard Lock

Reset Switch Connector

2 ⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜ 20
1 ⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜ 19

Suspend LED

Suspend Switch

Speaker

HDD LED
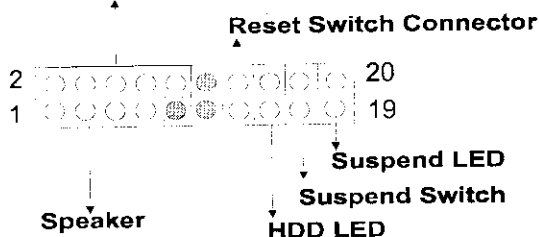
Hard Disk LED Connector

P16 ⬜
P15 ⬜

Pin	Description
15	5V
16	Active Low

Reset Switch Connector

Attach the Reset switch cable to this connector.

P14 ⬜
P13 ⬜

Setting	Description
Open	Normal Mode
Short	Reset System

Hardware Suspend Switch

P18 ⬜
P17 ⬜

Pin	Description
Open	Normal Mode
Short	Suspend System

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Speaker Output Connectors

Attach the system speaker to connector SPK.

Pin	Description
1	DATA Out
3	NC
5	Ground
7	+5V

P1 P3 P5 P7

Power LED Connector

Attrach the sleep power LED to the connector
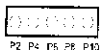
Pin	Description
2	LED (+)
4	N.C
6	Ground
8	Keyboard Lock
10	Ground

P2 P4 P6 P8 P10

Suspend LED

Pin	Description
19	VCC
20	LED (-)

P20
P19

FAN CPU FAN Connector

GND
+12V
GND

P3 P2 P1
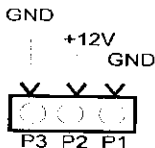
IR1   IR Connector

Pin	Description
1	VCC ·
2	N.C.
3	IRRX
4	Ground
5	IRTX
6	Fast IR

COM1 Onboard Serial Port Connector

COM2 Onboard Serial Port Connector

PRN1 Onboard Parallel Printer Connector

FDC1 Onboard Floppy Drive Connector

IDE1   Primary IDE Connector

IDE2   Secondary IDE Connector

J6/J7 Panasonic/Sony CD Audio Connector

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

J6	Description
1	GND
2	CD-R
3	GND
4	CD-L

|	J7	Description
P1	1	CD-L
P2	2	GND
P3	3	GND
P4	4	CD-R

J2 ATX Power Supply Connectors (20-pin black)

This connector connects to a ATX power supply. The plug from the power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.
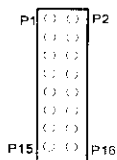
JP11 ATX Power Switch

JP11	Description
	Power ON
	Power OFF

JP9 MGX-MIDI Board Connector
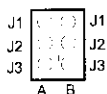
This connector enables you to connect MIDI Board.

J5 GAME Port CableConnector

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

P1 P2
P15 P16

JP1 CPU Internal Clock Speed Selectors

JP1A	JP1B	Rate
1-2	1-2	4 x
2-3	1-2	5 x
1-2	2-3	6 x

JP2 Voltage Selector

JP2	Description
	the CPU Voltage is 2.9V
	the CPU Voltage is 3.6V

JP3/JP4 CPU Jumper

JP3	JP4	voltage
1-2	1-2	3.3V for I/O 2.9/3.6V for Core
2-3	2-3	2.9/3.6V for I/O & Core

Note : Please setting the JP2 to determine the 2.9V or 3.6V

JP5 DIMM Socket Voltage Selectors

JP5	Voltage Selectors
3.3V	
5.0V	

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JP8 A/B CPU Speed Selectors

JP8A	JP8B	BCLK
2-3	1-2	30MHz
1-2	2-3	33MHz

JP13 CMOS RAM

JP13	Voltage Selectors
Normal	P1 P2 P3
Clear CMOS	P1 P2 P3

Extend MIDI Board

- S-TRM
- VIDEO OUT
- LINE OUT
- LINE IN
- MIC IN
- VGA OUT

MGX-midi
Board
Connector
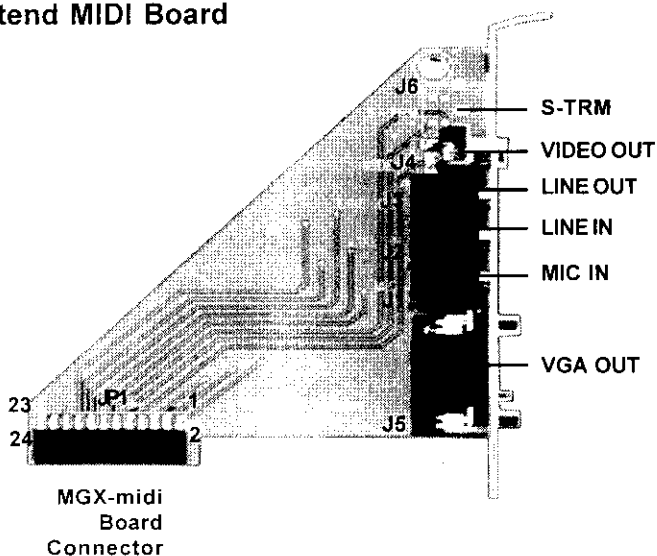
Memory Installation

The mainboard lets you add up to 128MB of system memory by using standard FPM (Fast Page Mode) and EDO (Extended Data Out) DRAM.

Four SIMM and one DIMM on the mainboard are divided into 2 banks : Bank 0, Bank 1.

BANK	MEMORY MODULE
SIMM 3 & SIMM 4/DIMM1	4MB, 8MB, 16MB, 32MB, 64MB, 128MB
BANK 0	72PIN SIMM/168PIN DIMM
	(Single Side, Double Side)
SIMM 1 & SIMM 2	4MB, 8MB, 16MB, 32MB, 64MB, 128MB
BANK 1	72PIN SIMM
	(Single Side, Double Side)

Note Because the DIMM or (SIMM3&4) occupies the same memory block(Bank 0). So they can not be installed at the same time.