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M O T H E R B O A R D

MB600N
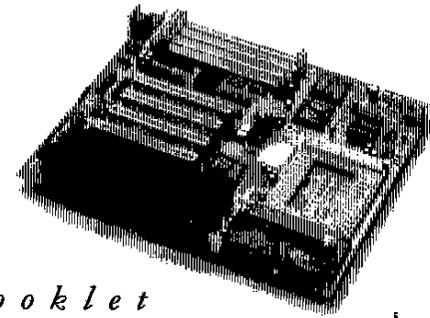
Technical
Reference Booklet

Designed for
Microsoft®
Windows 95

yes
NetWare
Tested and
Approved

energy

CE

TÜV
GEPT

Table of Contents

Chapter 1
Overview

The Pentium Pro PCI motherboard is based on the Intel 82440FX Chipset. The chipset is a highly integrated solution enabling a cost effective motherboard and home desktop design for the Pentium Pro processor. The features on board include Super-I/O, PCI bus master IDE, PCI ver2.1 compliant, USB, On board 3.3V power supply, VRM on board or Header 8, ECC.

Key Features:-

Processor
- ZIF Socket 8.
- Full support for the P6, P6S and P6T processors using socket 8.
- Intel™ Pentium Pro 150/166/180/200MHz.
- Support bus speed of 60, 66 Mhz.

VRM (Voltage Regulator Modules) On board or header 8
- Flexible motherboard design, easy to upgrade with future Intel's overdrive Processor.

Cache
- CPU built-in L2 cache.

Core Frequency	L1 Cache size Instruction /Data	L2 Cache Size	Dynamic Execution
150MHz	8K bytes 8K bytes	256K bytes	Yes
166MHz	8K bytes 8K bytes	512K bytes	Yes
180MHz	8K bytes 8K bytes	256K bytes	Yes
200MHz	8K bytes 8K bytes	256K bytes	Yes
200MHz	8K bytes 8K bytes	512K bytes	Yes

System memory
- System memory is divided into two banks, Each bank has two 72 pin SIMM slots.
- Supports Fast Page Mode(FPM), Extended Data Out (EDO) and Burst Extended Data Out(BEDO) DRAM at 50, 60 and 70ns Speeds.
- Support Symmetrical and Asymmetrical DRAM addressing.
- Memory size from 8M Byte up to 512M Byte.

- Support single density SIMMs of 1M, 2M, 4M and 16M depth (x32 or x36).
- Support double density SIMMs of 2M, 4M, 8M and 32M depth (x32 or 36).
- Support DRAM parity or Error checking and correction (ECC)
- Banks of different DRAM types and depths can be mixed.

On Board I/O
- On board two PCI fast IDE ports supporting up to 4 ATA or ATA2 IDE devices
- Support Bus Master IDE and PIO mode 4 (up to 22M bytes/sec) transfer.
- One ECP/EPP parallel port.
- Two 16550 Compatible UART serial ports.
- One floppy port, Supports two FDD of 360KB, 720KB, 1.2MB, 1.44MB and 2.88MB capacity.
- Two USB ports are connected to motherboard via cables.
- Standard AT keyboard (factory option for PS/2 keyboard)
- PS/2 mouse is supported via a header.
- Infrared (IrDA) is supported via a header.

System BIOS
- AMI BIOS in 1M or 2M bit Flash BIOS supporting PnP, APM, ATAPI and Windows 95
- Jumper selection for 5V or 12V Flash memory voltage.
- Auto detects and supports LBA harddisks with capacities up to 8.4GB.
- Update Utility is supported by BIOS.

Plug and Play
- Supports plug and play specification 1.1
- Plug and play for DOS, Windows 3.X as well as Windows 95.
- Fully steerable PCI interrupts.

Power management
- Support SMM, APM
- Break switch for instant suspend/resume on system operations.
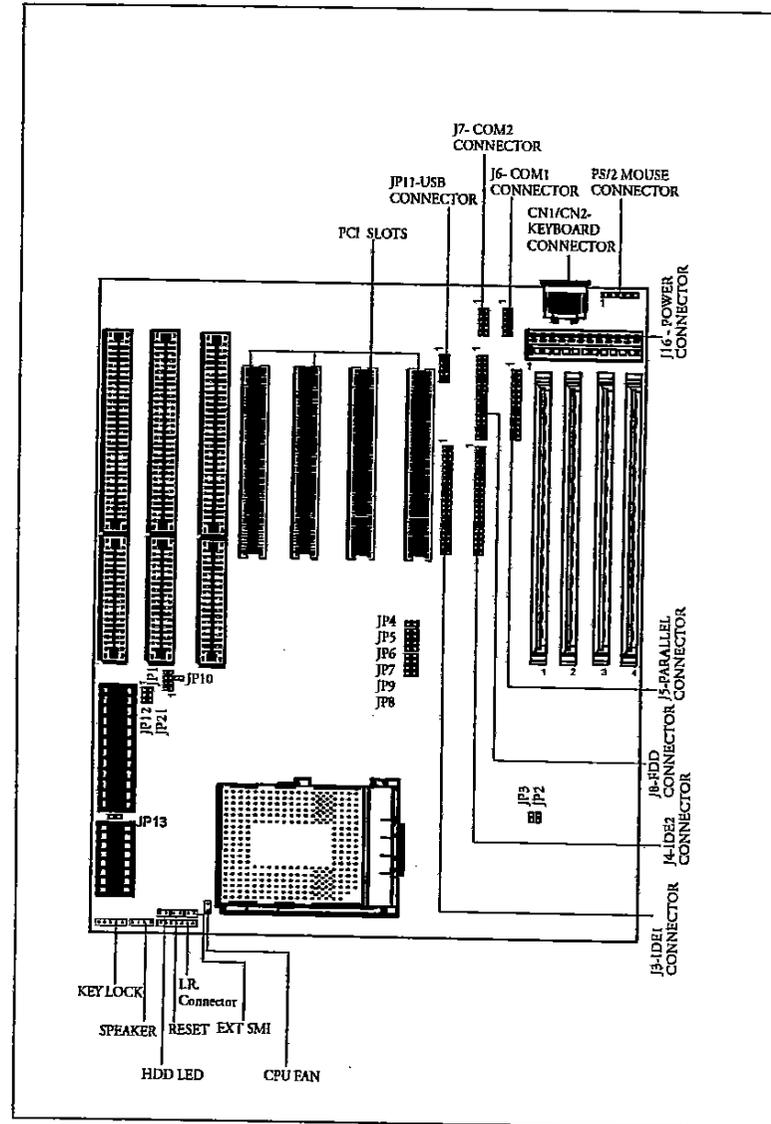- Energy star " Green PC " complaint.

Expansion slots
- 4 PCI bus master slots are Rev 2.1 compliant (1 PCI slot shares with 1 ISA slot)
- 3 ISA slots (1 ISA slot shares with 1 PCI slot).

Motherboard Layout
The following diagrams show the relative positions of the jumpers, connectors, major components and banks on the Motherboard

Major Components and Connectors

Chapter 2
Hardware Setup

This chapter explains how to configure the motherboard's hardware. After you install the motherboard, you can set jumpers, install memory on the motherboard, and make case connections. Refer to this chapter whenever you upgrade or reconfigure your system.

Jumper Settings

CPU Type Selection

CPU Type	Operating Voltage	PCI Clock	Host Clock
150MHz	3.1V	30MHz	60MHz
166MHz	Auto mode	33MHz	66MHz
180MHz	Auto mode	30MHz	60MHz
200MHz	Auto mode	33MHz	66MHz

CPU Type	Host Clock				Multiplier				
	JP2	JP3	JP8	JP9		JP4	JP5	JP6	JP7
150MHz	CL	OP	CL	OP	2.5x	OP	CL	CL	CL
166MHz	OP	CL	OP	CL	2.5x	OP	CL	CL	CL
180MHz	CL	OP	CL	OP	3x	CL	OP	CL	CL
200MHz	OP	CL	OP	OP	3x	CL	OP	CL	CL

CPU Voltage

CPU Voltage	2.1V	2.2V	2.3V	2.4V	2.5V	2.6V	2.7V	2.8V
JP1								

	2.9V	3.0V	3.1V	3.2V	3.3V	3.4V	3.5V	* Automode

Note: If you use 150MHz CPU, you must set Jumpers to 3.1V

CMOS Clear & ISA Clock divide

CMOS Clear		ISA Clock divide	
Option	JP13	Clock PCI/ISA	JP10
*Normal	Open	*4	Closed
CMOS Clear	Closed	3	Open

PnP BIOS Voltage

PnP BIOS Voltage		
Voltage	JP12	JP21
12V	1–2	1–2
*+5V	2–3	2–3

Note: " * " means " Default ", "CL" means "Close", and "OP" means "Open".

When Using the Manual, please notice:
1. **On the motherboard layout,please exchange the location of RESET and EXT SMI.**
2. **If your CPU type is 200 MHz,please see the following note:**
   JP2,JP8,JP5, is open.
   JP3,JP9,JP4,JP6,JP7, is close.

Memory Configuration

There are 4 SIMM sockets on the motherboard. The first two sockets form BANK0, and the last two form BANK1. The motherboard will support 4/8/16/32/64/128MB 72-pin SIMMs. The table below offers an example of some of the possible DRAM configurations.

BANK 0 (SIMM 1,2)	BANK 1 (SIMM 3,4)	TOTAL
4MB x2	Empty	8MB
Empty	4MB x2	8MB
4MB x2	4MB x2	16MB
8MB x2	Empty	16MB
16MB x2	Empty	32MB
8MB x2	8MB x2	32MB
32MB x2	Empty	64MB
16MB x2	16MB x2	64MB
8MB x2	32MB x2	80MB
32MB x2	16MB x2	96MB
64MB x2	Empty	128MB
32MB x2	32MB x2	128MB
64MB x2	64MB x2	256MB
128MB x2	128MB x2	512MB

Chapter 2
AMI WINBIOS Setup

WINBIOS Setup configures system information that is stored in CMOS RAM. WINBIOS Setup has an easy-to-use graphical user interface that will be immediately recognizable to anyone who has ever used Microsoft Windows. WINBIOS Setup sets a new standard in BIOS user interfaces.

Starting WINBIOS Setup
As POST executes, the following appears:

```
Hit <DEL> if you want to run SETUP
```

Press <Del> to run WINBIOS Setup.

WINBIOS Setup Main Menu
The WINBIOS Setup main menu is organized into four windows. Each window contains several icons. Clicking on each icon activates a specific function. The WINBIOS Setup icons and functions are described in this chapter. The sections are:

Windows	Function
Setup	This section has six icons that permit you to set system configuration options such as date, time, hard disk type, floppy type, and many others.
Utilities	This section has two icons that perform system functions.
Security	This section has three icons that control AMIBIOS security features.
Default	This section has two icons that permit you to select a group of settings for all WINBIOS Setup options.

Default Settings
Each WINBIOS Setup option has two default settings. These settings can be applied to all WINBIOS Setup options when you select the Default section on the WINBIOS Setup main menu. The types of defaults are:

Defaults	Description
Optimal	These settings provide the best performance characteristics.
Original	Ignore the previous CMOS settings and restore the original settings.