



INDUSTRIAL COMPUTER SOURCE[®]

Model 586MBH Series Product Manual

MANUAL NUMBER : 41209-004-1A



INDUSTRIAL COMPUTER SOURCE[®]



9950 BARNES CANYON ROAD, SAN DIEGO, CA 92121-2720 (619) 677-0877 (FAX) 619-677-0895

INDUSTRIAL COMPUTER SOURCE EUROPE TEL 01.69.18.74.30 FAX 01.64.46.40.42 • INDUSTRIAL COMPUTER SOURCE (UK) LTD TEL 01243-523500 FAX 01243-532949

FOREWARD

This product manual provides information to install, operate and or program the referenced product(s) manufactured or distributed by Industrial Computer Source. The following pages contain information regarding the warranty and repair policies.

Technical assistance is available at: **1-800-480-0044**.

Manual Errors, Omissions and Bugs: A "Bug Sheet" is included as the last page of this manual. Please use the "Bug Sheet" if you experience any problems with the manual that requires correction.

The information in this document is provided for *reference* only. Industrial Computer Source does not assume any liability arising from the application or use of the information or products described herein. This document may contain or reference information and products protected by copyrights or patents and does not convey any license under the patent rights of Industrial Computer Source, nor the rights of others.

Copyright © 1997 by Industrial Computer Source, a California Corporation, 9950 Barnes Canyon Rd., San Diego, CA 92121. Industrial Computer Source is a Registered Trademark of Industrial Computer Source. All trademarks and registered trademarks are the property of their respective owners. All rights reserved. Printed in the United States of America. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording , or otherwise, without the prior written permission of the publisher.

Guarantee

A thirty day money-back guarantee is provided on all **standard** products sold. **Special order products** are covered by our Limited Warranty, *however they may not be returned for refund or credit. EPROMs, RAM, Flash EPROMs or other forms of solid electronic media are not returnable for credit - but for replacement only. Extended Warranty available. Consult factory.*

Refunds

In order to receive refund on a product purchase price, the product must not have been damaged by the customer or by the common carrier chosen by the customer to return the goods, and the product must be returned complete (meaning all manuals, software, cables, etc.) within 30 days of receipt and in as-new and resalable condition. The **Return Procedure** must be followed to assure prompt refund.

Restocking Charges

Product returned *after 30 days, and before 90 days*, of the purchase will be subject to a **minimum 20%** restocking charge and any charges for damaged or missing parts.

Products not returned within 90 days of purchase, or products which are not in as-new and resalable condition, are not eligible for credit return and will be returned to the customer.

Limited Warranty

One-year limited warranty on all products sold with the exception of the "Performance Series" I/O products, which are warranted to the original purchaser for as long as they own the product, subject to all other conditions below, including those regarding neglect, misuse and acts of God. Within one year of purchase, Industrial Computer Source will repair or replace, at our option, any defective product. At any time after one year, we will repair or replace, at our option, any defective "Performance Series" I/O product sold. This does not include products damaged in shipment, or damaged through customer neglect or misuse. Industrial Computer Source will service the warranty for all standard catalog products for the first year from the date of shipment. After the first year, for products not manufactured by Industrial Computer Source, the remainder of the manufacturer's warranty, if any, will be serviced by the manufacturer directly.

The **Return Procedure** must be followed to assure repair or replacement. Industrial Computer Source will normally return your replacement or repaired item via UPS Blue. *Overnight delivery or delivery via other carriers is available at additional charge.*

The limited warranty is void if the product has been subjected to alteration, neglect, misuse, or abuse; if any repairs have been attempted by anyone other than Industrial Computer Source or its authorized agent; or if the failure is caused by accident, acts of God, or other causes beyond the control of Industrial Computer Source or the manufacturer. Neglect, misuse, and abuse shall include any installation, operation, or maintenance of the product other than in accordance with the owners' manual.

No agent, dealer, distributor, service company, or other party is authorized to change, modify, or extend the terms of this Limited Warranty in any manner whatsoever. Industrial Computer Source reserves the right to make changes or improvements in any product without incurring any obligation to similarly alter products previously purchased.



Shipments not in compliance with this Guarantee and Limited Warranty Return Policy will not be accepted by Industrial Computer Source.

Return Procedure

For any Limited Warranty or Guarantee return, please contact Industrial Computer Source's Customer Service at **1-800-480-0044** and obtain a Return Material Authorization (RMA) Number. All product(s) returned to Industrial Computer Source for service or credit **must** be accompanied by a Return Material Authorization (RMA) Number. Freight on all returned items **must** be prepaid by the customer who is responsible for any loss or damage caused by common carrier in transit. Returns for Warranty **must** include a Failure Report for each unit, by serial number(s), as well as a copy of the original invoice showing date of purchase.

To reduce risk of damage, returns of product must be in an Industrial Computer Source shipping container. If the original container has been lost or damaged, new shipping containers may be obtained from Industrial Computer Source Customer Service at a nominal cost.

Limitation of Liability

In no event shall Industrial Computer Source be liable for any defect in hardware or software or loss or inadequacy of data of any kind, or for any direct, indirect, incidental, or consequential damages in connection with or arising out of the performance or use of any product furnished hereunder. Industrial Computer Source liability shall in no event exceed the purchase price of the product purchased hereunder. The foregoing limitation of liability shall be equally applicable to any service provided by Industrial Computer Source or its authorized agent.

Some *Sales Items* and *Customized Systems* are **not** subject to the guarantee and limited warranty. However, in these instances any deviations will be disclosed prior to sales and noted in the original invoice. ***Industrial Computer Source reserves the right to refuse returns or credits on software or special order items.***

Advisories

Three types of advisories are used throughout the manual to stress important points or warn of potential hazards to the user or the system. They are the Note, the Caution, and the Warning. Following is an example of each type of advisory:

Note: The note is used to present special instruction, or to provide extra information which may help to simplify the use of the product.



CAUTION!



A Caution is used to alert you to a situation which if ignored may cause injury or damage equipment.



WARNING!



A Warning is used to alert you of a situation which if ignored will cause serious injury.

Cautions and Warnings are accented with triangular symbols. The exclamation symbol is used in all cautions and warnings to help alert you to the important instructions. The lightning flash symbol is used on the left hand side of a caution or a warning if the advisory relates to the presence of voltage which may be of sufficient magnitude to cause electrical shock.

Use caution when servicing any electrical component. We have tried to identify the areas which may pose a Caution or Warning condition in this manual; however, Industrial Computer Source does not claim to have covered all situations which might require the use of a Caution or Warning.

You must refer to the documentation for any component you install into a computer system to insure proper precautions and procedures are followed.

Table of Contents

FOREWARD	iii
Guarantee	v
Limited Warranty	v
Return Procedure	vi
Limitation of Liability	vi
Chapter 1: Introduction	1-1
Configuration	1-2
Handling Precautions	1-2
Step 1 - Setting the Jumpers	1-4
Standard I/O Enable	1-5
CMOS Reset	1-5
I/O Port IRQ Selection	1-6
IDE Drives Selection	1-6
Display Selection	1-7
Step 2 - DRAM, CPU and Cables Installation	1-8
586MBH Industrial Memory Configuration	1-8
Installing Memory Modules	1-8
CPU Installation	1-9
Installing Cables	1-11
FCC Compliance Statement vfor FCC Class A Devices	1-13
How to remain CE Compliant	1-13
Chapter 2: WinBIOS Setup	2-1
Section 1: Setup	2-2
Advanced Setup	2-4
Chipset Setup	2-6
Power Management Setup	2-7
PCI/PnP Setup	2-9
Peripheral Setup	2-11
Section 2: Utility	2-12
Detect IDE	X-12
Language	2-12
Section 3: Security	2-12
AMIBIOS Password Support	2-12
Section 4: Default	2-14
Appendix A: Technical Specifications	A-1
Chip Sets	A-1
System Memory	A-1
Bios	A-1
Embedded I/O	A-1
Miscellaneous	A-2

Appendix B: Flash BIOS Programming	B-1
Appendix C: Troubleshooting	C-1
Power-On Self Test	C-1
Post Phases	C-1
BIOS Error Reporting	C-1

CE Declaration of Conformity

List of Figures

Figure 1-1: 586MBH Industrial System Board	1-3
Figure 1-2: Jumper Locations	1-4
Figure 1-3: SIMM Installation	1-9
Figure 1-4: Memory Modules Socket Locations	1-9
Figure 1-5: CPU Alignment	1-10
Figure 1-6 CPU Socket Alignment	1-10
Figure 1-7: Power and Control Panel Cables	1-11
Figure 1-8: Connector Locations	1-11

List of Tables

Table 1-1: Standard I/O Enable	1-5
Table 1-2: Mouse IRQ Enable	1-5
Table 1-3: CMOS Reset	1-5
Table 1-4: I/O Port IRQ Selection	1-6
Table 1-5: Clock Frequency	1-6
Table 1-6: Clock Speed Selection	1-7
Table 1-7: DMA Configuration for EPP Parallel Port	1-7
Table 1-8: Display Selection	1-7
Table 1-9: Cache Size Selection	1-7
Table 1-10: Control Panel Connectors	1-12
Table B-1: FLASH BIOS Beep ErrorsB-2	
Table C-1: Beep Errors	C-2

Current Revision 1A

July 1997

Chapter 1: Introduction

Thank you for your purchase of the 586MBH Series Industrial system board. The 586MBH Series system board design was based on the Intel Triton™ chipset providing the ideal platform for getting the most power of the Intel Pentium™ processor. With proper installation and maintenance, your 586MBH Industrial will provide years of high performance and trouble free operation.

This manual provides a detailed explanation into the installation and use of the 586MBH Series system board. This manual is written for the novice PC user/installer. However, as with any major computer component installation, previous experience is helpful and should you not have prior experience, it would be prudent to have someone assist you in the installation.

This manual is broken down into 2 chapters and 3 appendix.

Chapter 1 - Introduction, System Board Configuration, Connecting Cables

This chapter provides all the necessary information for installing the 586MBH. Topics discussed include: Installing the CPU (if necessary), DRAM installation, jumper settings for CPU, cache and standard I/O. Connecting all the cables from the system board to the chassis and peripherals.

Chapter 2 - BIOS Configuration

This chapter discusses the final step in getting your system up and running - running the BIOS SETUP program.

Appendix A - Technical Specifications

A complete listing of all the major technical specifications of the 586MBH is provided.

Appendix B - Flash BIOS Programming

Instructions on updating your BIOS without having to replace the EPROM if the optional Flash BIOS is installed.

Appendix C - Troubleshooting

Provides information on the different stages of the Power-On Self Test

Configuration

This chapter provides all the necessary information for installing the 586MBH Series into a standard PC chassis. Topics discussed include:

Handling Precautions

The 586MBH Series has been designed to be as rugged as possible but it can be damaged if dropped, jarred sharply or struck. Damage may also occur by using excessive force in performing certain installation procedures such as forcing the system board into the chassis or placing too much torque on a mounting screw.

Take special care when installing or removing the system memory SIMMs. Never force a SIMM into a socket. Screwdrivers slipping off a screw and scraping the board can break a trace or component leads, rendering the board unusable. Always handle the 586MBH with care.

Special Warranty Note:

Products returned for warranty repair will be inspected for damaged caused by improper installation and misuse as described in the previous section and the static warning below. Should the board show signs of abuse, the warranty will become void and the customer will be billed for all repairs and shipping and handling costs.

STATIC WARNING

The 586MBH contains delicate electronic semiconductors that are highly sensitive to static electricity. These components, if subjected to a static electricity discharge, can be weakened thereby reducing the serviceable life of the system board. **BEFORE THE BOARD IS REMOVED FROM ITS PROTECTIVE ANTISTATIC PACKAGING TAKE PROPER PRECAUTIONS!** Work on a conductive surface that is connected to ground. Before touching any electronic device, ground yourself by touching an unpainted metal object or, and highly recommended, use a grounding strap.

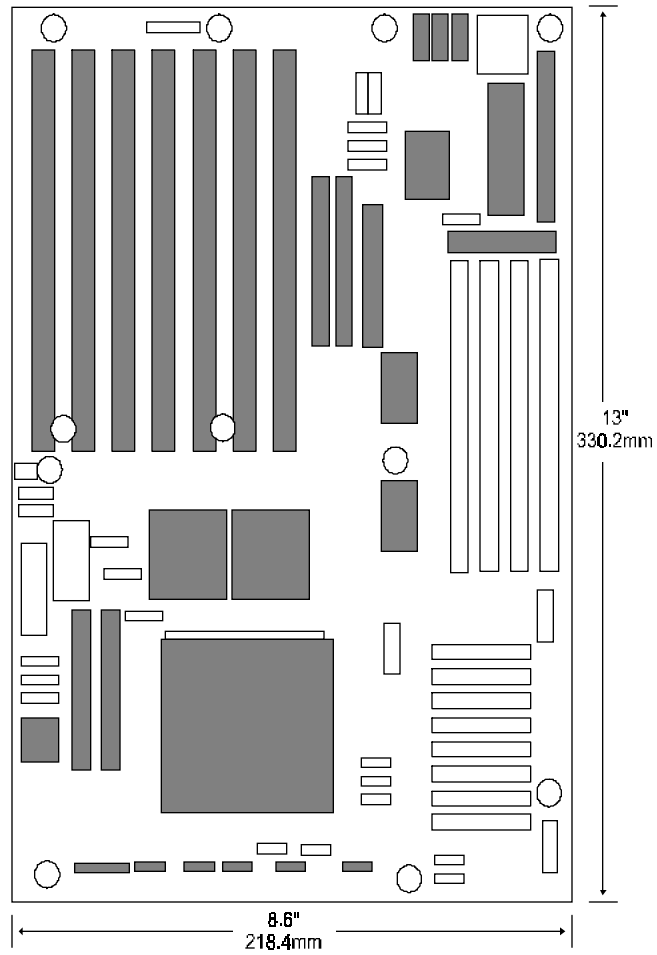


Figure 1-1: 586MBH Industrial System Board

Step 1 - Setting the Jumpers

Your 586MBH is equipped with a large number of peripherals and has the ability to run at a variety of speeds without the need to change any crystals or oscillators. As such, there is a large number of configuration jumpers on the board. Taken step by step, setting these jumpers is easy. We suggest you review each section and follow the instructions.

Jumper Types

Jumpers are small copper pins attached to the system board. Covering two pins with a shunt closes the connection between them. The 586MBH Industrial examines these jumpers to determine specific configuration information. There are three different categories of jumpers on the 586MBH Industrial.

- A. Two pin jumpers are used for binary selections such as enable, disable. Instructions for this type of jumper are open, for no shunt over the pins or closed, when the shunt covers the pins.
- B. Three or four pin jumpers are used for multiple selection. Instructions for these jumpers will indicate which two pins to cover. For example: for JPx 2-3 the shunt will be covering pins 2 and 3 leaving pins 1 and 4 exposed.
- C. Grouped Jumpers are used when a certain function has multiple selections. There are two grouped jumpers on the board and careful attention should be given when setting these jumpers. Instructions for grouped jumpers are similar to those above - Jumper Location and Pin Numbers.

Jumper Locations

Use the diagram below and the tables on the following pages to locate and set the on-board configuration jumpers.

Note: Jumpers JP3 and JP4 are factory set and should not be changed.

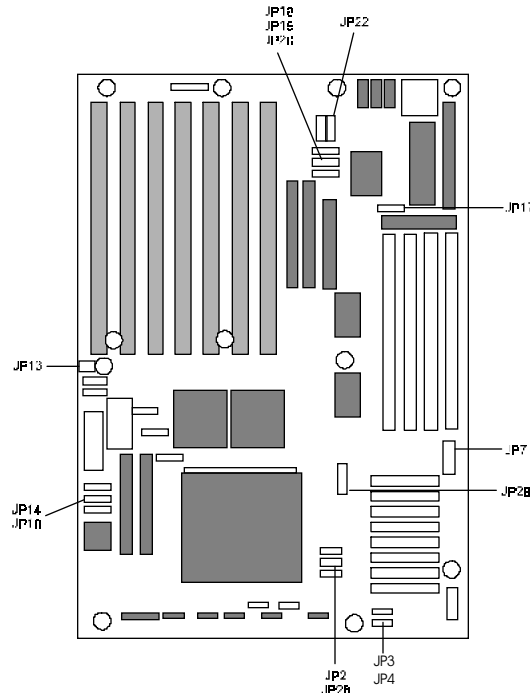


Figure 1-2: Jumper Locations

Standard I/O Enable

The 586MBH Industrial standard I/O consists of the two serial ports, the parallel port and floppy disk controller and ISA IDE. Jumper JP17 is used to enable or disable these ports.

I/O	Enable	Disable
JP17	1-2*	2-3

Table 1-1: Standard I/O Enable

The PS/2 type mouse port on your 586MBH Industrial uses IRQ 12 as its interrupt request line. To enable the interrupt (default) leave Jumper JP10 on pins 2-3. To disable the interrupt and subsequently the mouse controller, move the jumper to pins 1-2.

IRQ12	Disable	Enable
JP10	1-2*	2-3

Table 1-2: Mouse IRQ Enable

CMOS Reset

This option is provided as a convenience for those who need to reset the CMOS registers. It should always be set to “Normal” for standard operation. If the CMOS needs to be reset turn off the system, move JP9 to 2-3, turn the system on, move JP9 back to 1-2 and reset the motherboard.

RTC	Normal	Reset
JP9	1-2*	2-3

Table 1-3: CMOS Reset

I/O Port IRQ Selection

The parallel port and both serial ports must have their IRQs. Normally, these settings can be left in their default settings and only when conflicts arise should they be changed. Jumper JP20 is used to select the parallel port IRQ. Jumper JP19 is used to select the first serial port's IRQ. Jumper JP18 is used to select the second serial port's IRQ. Use Table 1-8 to select the IRQs for these options.

Port	Jumper	1-2	2-3	Open
Parallel Port	JP20	IRQ 7*	IRQ 5	Disable
First Serial Port	JP19	IRQ 4*	IRQ 5	Disable
Second Serial Port	JP18	IRQ 3*	IRQ 9	Disable

Table 1-4: I/O Port IRQ Selection

IDE Drives Selection

The 586MBH Industrial supports up to 4 IDE drives:

- 2 IDE drives on the primary PCI IDE controller
- 2 IDE drives on the secondary PCI IDE controller

The IDE interfaces can be configured in the BIOS.

The jumpers JP2, JP7 and JP 26 allow you to choose the appropriate CPU speed, without changing crystals and oscillators.

Clock Frequency	JP7
50MHz	1-2
60MHz	3-4
66MHz	5-6

Table 1-5: Clock Frequency

50 MHz	60MHz	66Mhz	JP2	JP26	Multiplier
75	90	100	1-2	1-2	1.5x
100	120	133	2-3	1-2	2.0x
150	180	200	1-2	2-3	3.0x
N/A	150	166	2-3	2-3	2.5x

Table 1-6: Clock Speed Selection

Port	Jumper	1-2*	3-4	5-6	7-8
EPP DMA	JP21	Disabled	DMA 3	DMA 5	DMA 6
	JP22	Disabled	DMA 3	DMA 5	DMA 6

Table 1-7: DMA Configuration for EPP Parallel Port

Display Selection

Select the type of display through JP14, 1-2 for color and 2-3 for monochrome.

Display	1-2	2-3
JP14	Mono	Color*

Table 1-8: Display Selection

The jumper JP28 allows you to choose the cache size desired.

Cache Size	256K	512K
JP28	1-2*	2-3

Table 1-9: Cache Size Selection

Step 2 - DRAM, CPU and Cables Installation

Depending upon how your 586MBH Industrial is configured you may need to install the following:

- DRAM (SIMMs)
- CPU

586MBH Industrial Memory Configuration

The 586MBH Industrial uses standard Fast Page Mode or EDO 60ns access speed SIMMs. It is very important that the quality of the SIMMs is good. Undesirable operation of the system may result if poor quality SIMMs are used. Always purchase your memory from a reliable source.

The 586MBH uses standard 32 or 36-Bit SIMMs. They are slight larger than other 9-Bit SIMMs that are also commonly used on systems boards. They are configured into four, 8-Bit (or 1 Byte) sections. Thus, a total of 32 Bits (no parity) or 36 Bits (with parity) are stored. This is often confusing because these SIMMs are commonly referred to as 256K by 32 or 36 or 1MB by 32 or 36. To determine the actual capacity of the SIMM, simply multiply the 256K, 512K or 1MB by 4. Thus the actual SIMMS capacity is 1MB, 2MB and 4MB respectively.

Installing Memory Modules

The 586MBH Industrial has 4 memory module sockets. The order in which they should be populated is from the inside of the board outward. Note that each socket is labeled: SM1, SM2, SM3, SM4. Refer to figure 1.3.

At least TWO memory modules MUST be installed at a time.

When inserting the memory modules, note the notch on the edge of each module. This notch is designed to permit insertion in only one way. this notch must be pointed towards the keyboard connector.

Start with the innermost socket (SM1). Gently place the module into the desired socket at a 30-45° angle. Then gently rotate or rock the module into an upright position. **Never force a memory module into its socket.** Rather, double check the notch and gently rock it into place. When the module has been properly installed, the metal latches on either side of the memory module will “click” into place. (See figure 1-2). Repeat the mentioned steps until all memory modules are installed. No jumpers are involved in DRAM configuration.

1. Gently place the SIMM into the desired socket at 30-45 angle.
2. Then gently rotate or rock the SIMM into an upright position. **Never force a SIMM into its socket.**
3. Double check the notch and gently rock it into place. If properly installed, the SIMM will "click"

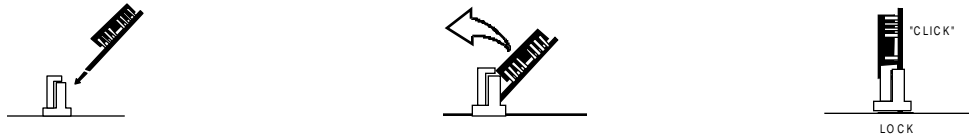


Figure 1-3: SIMM Installation

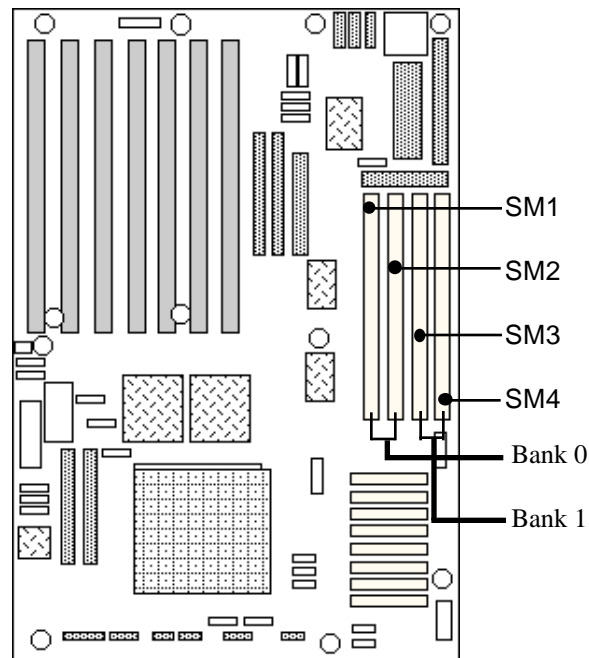


Figure 1-4: Memory Modules Socket Locations

CPU Installation

The 586MBH currently supports the following CPUs:

- Intel P54C Pentium 75, 90, 100, 120, 150, 166, or 200MHz.
- Cyrix 6x86 100,120MHz.

WARNING

Improper installation of the CPU may cause permanent damage to both the system board and the CPU -- Void of warranty. Always handle the CPU by the edges, never touch the pins. Always use a heatsink and CPU fan.

Using Figure 1-4, locate the diagonal notch on the CPU chip. This notch represents pin one. The Pentium processor also has small dot as well indicating pin 1. **DO NOT USE THE CHIP LOGO OR LETTERING TO LOCATE PIN ONE.**

Locate the CPU socket on your 586MBH system board. Pin 1 on the socket is located in the lower left hand corner of the socket.

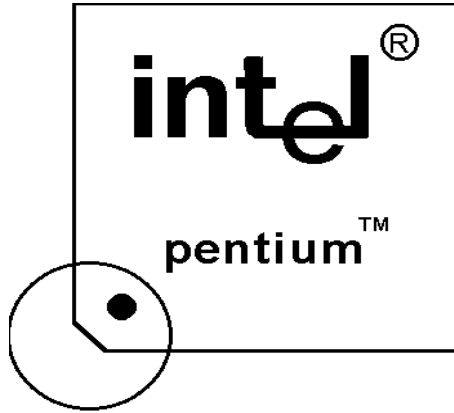


Figure 1-5: CPU Alignment

To install the Pentium processor lift the lever of the ZIF socket and gently insert the CPU. Make sure the CPU is inserted all the way. Lower the lever. See figure 1-5.

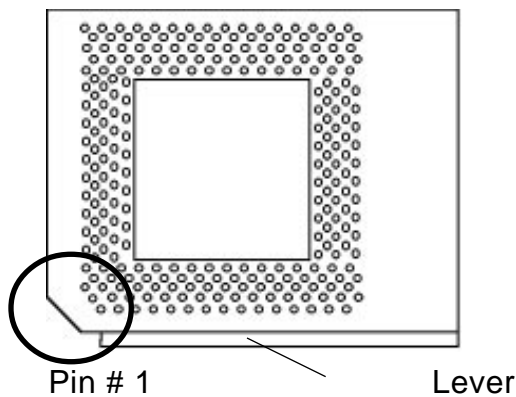


Figure 1-6 CPU Socket Alignment

This completes the installation of the CPU. Now is a good time to double check both the CPU and SIMM installation to make sure that these devices have been properly installed.

Installing Cables

Power and Control Panel Cables

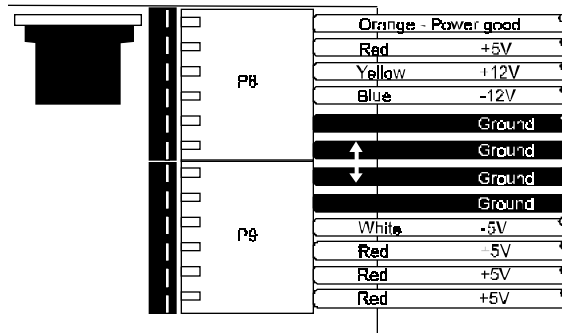


Figure 1-7: Power and Control Panel Cables

Connect the power supply cables to the system board. There is no formal convention for color coding the wires on power supplies except for ground wires which are black. Use figure above to determine the proper cable locations.

Next install the control panel cables for each of the control panel headers. These headers are located along the bottom of the board. Again, there is no standard convention for color coding these cables. However, the connectors for “Key lock/Power LED” and “Speaker” are keyed. While the actual connector on the cable harness may not be keyed, there will probably be a wire missing.

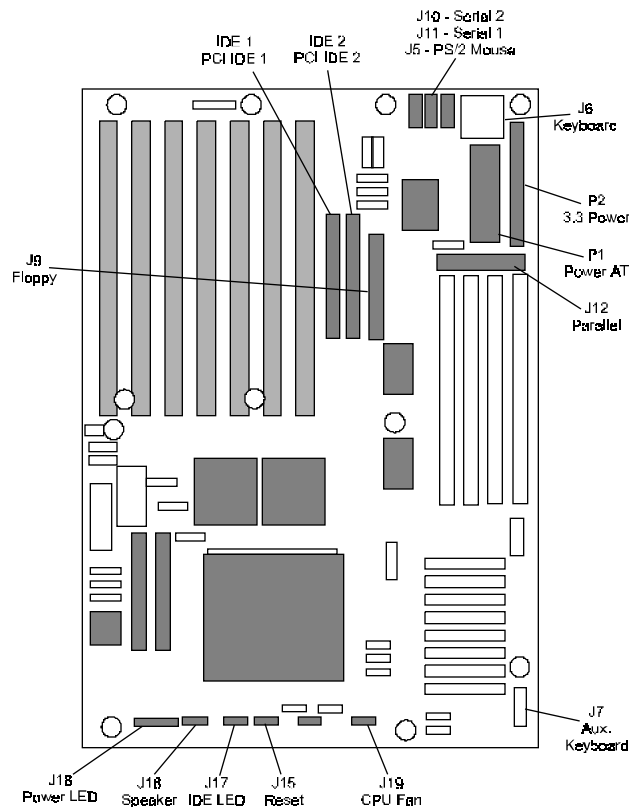


Figure 1-8: Connector Locations

Connector	Description
J5	PS/2 mouse
J6	Keyboard
J7	Aux. Keyboard
J9	Floppy
J10	Serial 2
J11	Serial 1
J12	Parallel
J15	Reset

Connector	Description
J16	Speaker 1-signal/2-key/3-ground
J17	IDE LED 1-positive/2-signal
J18	Power LED / KBD. Lock 1-LED/2-key/3-ground/4-5V
J19	CPU Fan 1&3-ground/2-12V
P1	AT Power
P2	Optional 3.3V Power Supply
IDE 1	PCI IDE
IDE 2	PCI IDE

Table 1-10: Control Panel Connectors

Installing Peripheral Cables

Begin with the top of the 586MBH system working left to right.

Now it is a good time to install the internal peripherals such as floppy and hard disk drives. Do not connect the power cable to these peripherals as it is easier to attach the bulky ribbon cables before the smaller power connectors. If you are installing more than one IDE drive double check your master/slave jumpers on the drives. Review the information supplied with your drive for more information on this subject.

Connect the floppy cable (not included) to the system board. Then connect remaining ends of the ribbon cable to the appropriate peripherals.

Finally, connect the IDE cable (not included) to the system. Then connect remaining ends of the ribbon cable to the appropriate peripherals. This concludes the hardware installation of your 586MBH Industrial system. Now it is a good time to re-check all of the cable connections to make sure they are correct. It is also a good idea to label each of the external peripheral connectors - COM1, COM2, Mouse and Parallel.

FCC Compliance Statement for FCC Class A Devices

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: The assembler of a personal computer system may be required to test the system and/or make necessary modifications if a system is found to cause harmful interference or to be non-compliant with the appropriate standards for its intended use.

How to remain CE Compliant

This device complies with CE Directives 72/23/EEC and EMC 89/336/EEC. CE compliance is based on the interaction of all the components of a system. Any modifications made to the equipment may affect the CE compliance and must be approved in writing by Industrial Computer Source. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to claim CE compliance.

The Models 586MBH are designed to be CE Compliant when used in an CE compliant chassis. Maintaining CE Compliance also requires proper cabling and termination techniques. The user is advised to follow proper cabling techniques from sensor to interface to ensure a complete CE Compliant system. Industrial Computer Source does not offer engineering services for designing cabling or termination systems. Although Industrial Computer Source offers accessory cables and termination panels, it is the user's responsibility to ensure they are installed with proper shielding to maintain CE Compliance.

This page intentionally left blank

Chapter 2: WinBIOS Setup

Your 586MBH Industrial features an AMI BIOS available with a new type of system BIOS Setup utility. WinBIOS Setup has a graphical user interface that permits mouse access, and is so compact that it can reside on the same ROM as the system BIOS. The system configuration parameters are set via WinBIOS Setup. Since WinBIOS Setup resides in the ROM BIOS, it is available each time the computer is turned on.

Starting WinBIOS Setup

As POST executes, the following appears:

Hit if you want to run SETUP

Using a Mouse with WinBIOS Setup

WinBIOS Setup has a built-in mouse driver and can be accessed by either a serial or PS/2-type mouse.

Using the Keyboard with WinBIOS Setup

WinBIOS Setup has a built-in keyboard driver that uses simple keystroke combinations:

Keystroke	Function
<Tab>	Move to the next window.
Arrow Keys	Move to the next field to the right, left, above, or below.
<Enter>	Select in the current field.
+	Increments a value.
-	Decrements a value.
<Esc>	Closes the current operation and return to previous level.
<PgUp>	Returns to the previous page.
<PgDn>	Advances to the next page.
<Home>	Returns to the beginning of the text.
<End>	Advances to the end of the text.
<Alt> <H>	Access a help window.
<Alt> <Spacebar>	Exit WINBIOS Setup.
Alphabetic keys	A to Z are used in the Virtual Keyboard, and are not case-sensitive.
Numeric keys	0 to 9 are used in the Virtual Keyboard and Numeric Keypad.

WinBIOS Setup Main Menu

The WinBIOS Setup main menu is organized into four windows. Each window corresponds to a section in this chapter.

Each section 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:

Setup:	Described in Section 1. This section has five icons that permit you to set system configurations: standard setup, advanced setup, chipset setup, power management setup and peripheral setup.
Utility:	Described in Section 2. This section has three icons that perform system functions.
Security:	Described in Section 3. This section has two icons that control WinBIOS security features.
Default:	Described in Section 4. This section has three icons that permit you to select a group of settings for all WinBIOS Setup options.

Section 1: Setup

WINBIOS Setup can have up to six separate screens. Different types of system configuration parameters are set on each screen.

Standard Setup

Standard Setup options are displayed by choosing the Standard icon from the WINBIOS Setup menu. All Standard Setup options are described below.

Date/Time

Select the Date/Time option to change the date or time. The current date and time are displayed. Enter new values through the displayed window.

Floppy Drive A, B

Choose the Floppy Drive A or B icon to specify the floppy drive type. The settings are *Not Installed*, *360 KB 5¼"*, *1.2 MB 5¼"*, *720 KB 3½"*, *1.44 MB 3½"*, or *2.88 MB 3½"*.

Pri Master **Pri Slave**

Sec Master **Sec Slave**

Choose these icons to configure the hard disk drive named in the option. When you click on an icon, the following parameters are listed: Type, LBA/Large Mode, Block Mode, 32Bit Mode, and PIO Mode. All parameters relate to IDE drives except **Type**.

Configuring an MFM Drive

If configuring an old MFM hard disk drive, you must know the drive parameters (number of heads, number of cylinders, number of sectors, the starting write precompensation cylinder, and drive capacity). Choose **Type** and choose the appropriate hard disk drive type (1 - 46). The old MFM hard drive types are listed on appendix A. If the drive parameters of your MFM drive do not match any drive type listed, select *User* in the **Type** field and enter the drive parameters on the screen that appears.

User-Defined Drive

If you are configuring a SCSI drive or an MFM, RLL, ARLL, or ESDI drive with drive parameters that do not match drive types 1-46, you can select the *User* in the **Type** field. You must then enter the drive parameters on the screen that appears. The drive parameters include:

Cylinder (number of cylinders),
 Hd (number of heads),
 WP (starting write precompensation cylinder),
 Sec (number of sectors),
 Size (drive capacity).

Configuring IDE Drives

If the hard disk drive to be configured is an IDE drive, select the appropriate drive icon (Pri Master, Pri Slave, Sec Master, or Sec Slave). Select the IDE Detect icon to automatically detect all drive parameters.

AMIBIOS automatically detects the IDE drive parameters (including ATAPI CD-ROM drives) and displays them. Click on the OK button to accept these parameters Or you can set the parameters manually if you are absolutely certain that you know the correct IDE drive parameters.

- Click on **LBA/Large Mode** and choose *On* to enable support for IDE drives with capacities greater than 528 MB.
- Click on **Block Mode** and choose *On* to support IDE drives that use Block Mode.
- Click on **32Bit Mode** and click on *On* to support IDE drives that permit 32-bit accesses.
- Click on **PIO Mode** to select the IDE Programmed I/O mode. PIO programming also works with ATAPI CD-ROM drives. The settings are *Auto*, *0*, *1*, *2*, *3*, *4*, or *5*. Click on *Auto* to allow AMIBIOS to automatically find the PIO mode that the IDE drive being configured uses. If you select *0-5* you must make absolutely certain that you are selecting the PIO mode supported by the IDE drive being configured.

Configuring a CD-ROM Drive

Select the appropriate drive icon (Pri Master, Pri Slave, Sec Master, or Sec Slave). Choose the **Type** parameter and select CDROM. You can boot the computer from a CD-ROM drive. You can also choose *Auto* and let AMIBIOS automatically set the correct drive parameters.

Advanced Setup

Advanced Setup options are displayed by choosing the Advanced icon from the WINBIOS Setup main menu. All Advanced Setup options are described in this section.

Quick Boot

Set this option to *Enabled* to instruct AMIBIOS to boot quickly when the computer is powered on. This option replaces the old **Above 1 MB Memory Test** Advanced Setup option. The settings are: *Enabled* and *Disabled*.

The Optimal and Fail-Safe default settings are *Enabled*.

BootUp Sequence

This option sets the sequence of boot drives (floppy drive A:, hard disk drive C:, or a CD-ROM drive) that the AMIBIOS attempts to boot from after AMIBIOS POST completes. The settings are *C:,A:,CDROM*, or *A:,C:, CDROM, CDROM,A:,C:*.

The default settings are *C:,A:,CDROM*.

BootUp Num-Lock

Set this option to *Off* to turn the Num Lock key off when the computer is booted so you can use the arrow keys on both the numeric keypad and the keyboard. The settings are *On* or *Off*. The default settings are *On*.

Floppy Drive Swap

Set this option to *Enabled* to permit drives A: and B: to be swapped. The settings are *Enabled* or *Disabled*. The default settings are *Disabled*.

Floppy Drive Seek

Set this option to *Enabled* to specify that floppy drive A: will perform a Seek operation at system boot. The settings are *Disabled* or *Enabled*. The optimal and fail-safe default settings are *Disabled*.

Mouse Support

When this option is set to *Enabled*, AMIBIOS supports a PS/2-type mouse. The settings are *Enabled* or *Disabled*. The default settings are *Enabled*.

System Keyboard

This option specifies that a keyboard is attached to the computer. The settings are *Present* or *Absent*. The Optimal and Fail-Safe default settings are *Present*.

Primary Display

This option specifies the type of display monitor and adapter in the computer. The settings are *Absent*, *JGA/EGA*, *CGA40x25*, *CGA80x25*, or *Mono*. The Optimal and Fail-Safe default settings are *VGA/EGA*.

Password Check

This option enables password checking every time the computer is powered on or every time WINBIOS Setup is executed. If *Always* is chosen, a user password prompt appears every time the computer is turned on. If *Setup* is chosen, the password prompt appears if WINBIOS is executed.

The Optimal and Power-On defaults are *Setup*.

OS/2 Compatible Mode

Set this option to *Enabled* to permit AMIBIOS to run with IBM OS/2. The settings are *Enabled* or *Disabled*. The default settings are *Disabled*.

Wait For "F1" if Error

AMIBIOS POST error messages are followed by:

```
Press <F1> to continue
```

If this option is set to *Disabled*, AMIBIOS does not wait for you to press the <F1> key after an error message. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe default settings are *Enabled*.

Hit "Del" Message Display

Set this option to *Disabled* to prevent

Internal Cache

This option specifies the caching algorithm used for L1 internal cache memory. The settings are: *Disabled* or *Write/Back* (default).

External Cache

This option specifies the caching algorithm used for L2 secondary (external) cache memory. The settings are: *Disabled*, *Write/Through*, *Write/Back* (default).

System BIOS Shadow Cacheable

When this option is set to *Enabled*, the contents of the F0000h system memory segment can be read from or written to L2 secondary cache memory. The contents of the F0000h memory segment are always copied from the BIOS ROM to system RAM for faster execution. The settings are *Enabled* or *Disabled*. The Optimal default setting is *Enabled*. The Fail-Safe default is *Disabled*.

C000, 16K Shadow

The settings are: *Disabled, Enabled or Cached*. The Default is *Cached*.

C400, 16K Shadow

The settings are: *Disabled, Enabled or Cached*. The Default is *Cached*.

C800, 16K Shadow

The settings are: *Disabled, Enabled or Cached*. The Default is *Disabled*.

CC00, 16K Shadow

The settings are: *Disabled, Enabled or Cached*. The Default is *Disabled*.

D000, 16K Shadow

The settings are: *Disabled, Enabled or Cached*. The Default is *Disabled*.

D400, 16K Shadow

The settings are: *Disabled, Enabled or Cached*. The Default is *Disabled*.

D800, 16K Shadow

The settings are: *Disabled, Enabled or Cached*. The Default is *Disabled*.

DC00, 16K Shadow

The settings are: *Disabled, Enabled or Cached*. The Default is *Disabled*.

Chipset Setup

Memory Hole

The settings are: *Disabled, 512K - 640K and 15M - 16M*. The Default setting is *Disabled*.

DRAM Speed

The settings are: *60ns and 70ns*. The Default setting is *70ns*.

IRQ12/M Mouse Function

Set this option to *Enabled* to specify that IRQ12 will be used for the mouse. The settings are *Disabled or Enabled*. The Optimal and Fail-Safe default settings are *Enabled*.

8-Bit I/O Recovery Time (SYSCLK)

This option specifies the length of the delay (in SYSCLKs) inserted between consecutive 8-bit I/O operations. The settings are 8, 1, 2, 3, 4, 5, 6, or 7. The Optimal and Fail-Safe default settings are 1.

16-Bit I/O Recovery Time (SYSCLK)

This option specifies the length of the delay (in SYSCLKs) inserted between consecutive 16-bit I/O operations. The settings are 4, 1, 2, or 3. The Optimal and Fail-Safe default settings are 1.

Power Management Setup

Power Management Setup options are displayed by choosing the Power Mgmt icon from the WINBIOS Setup main menu. All Power Management Setup options are described in this section.

Power Management/APM

Set this option to *Enabled* to enable the power management and APM (Advanced Power Management) features. *This option is only available if supported by the computer hardware.* AMIBIOS uses the RTC Alarm function to wake the computer at a pre-specified time. The settings are *Enabled, Disabled* or *Inst-On*. The default settings are *Disabled*.

Instant-On Timeout (Minute)

This option allow the stand by feature. Set the time from *Disabled* up to 15 minutes. The default setting is *Disabled*.

Green PC Monitor Power State

The settings are *Standby, Suspend, or Off* (default).

Video Power Down Mode

The settings are *Disabled, Standby, or Suspend*. The default setting is *Disabled*.

Hard Disk Power Down Mode

The settings are *Disabled, Standby, or Suspend*. The default setting is *Disabled*.

Hard Disk Time Out (Minute)

The settings are *Disabled* or 1-15. The default setting is *Disabled*.

Standby Time Out (Minute)

The settings are *Disabled* or 1-15. The default setting is *Disabled*.

Suspend Time Out (Minute)

This option specifies the length of the period of system inactivity when the computer is already in Standby mode before the computer is placed in Suspend mode. In Suspend mode, nearly all power use is curtailed. The settings are *Disabled*, *1 Min*, *2 Min*, and all one minute intervals up to and including *15 Min*. The default settings are *Disabled*.

Slow Clock Ratio

This option specifies the speed at which the system clock runs in power saving modes. The settings are expressed as a ratio between the normal clock speed and the power down clock speed. The settings are *1:1*, *1:2* (half as fast as normal), *1:4* ((the normal clock speed), *1:8*, *1:16*, *1:32*, *1:64*, or *1:128*. The default setting is *1:8*.

Display Activity

This option specifies if AMIBIOS is to monitor activity on the display monitor for power conservation purposes. When this option is set to *Monitor* and there is no display activity for the length of time specified in the value in **Standby Time-Out (Min)** option, the computer enters a power saving state. The settings are *Monitor* or *Ignore*. The default setting is *Ignore*.

IRQ 3 - Monitor

IRQ 4 - Monitor

IRQ 5 - Ignore

IRQ 7 - Monitor

IRQ 9 - Ignore

IRQ 10 - Ignore

IRQ 11 - Ignore

IRQ 12 - Monitor

IRQ 13 - Ignore

IRQ 14 - Monitor

IRQ 15 - Monitor

These options enable event monitoring. When the computer is in a power saving mode, activity on the named interrupt request line is monitored by AMIBIOS. When any activity occurs, the computer enters Full On mode.

Each of these options can be set to *Monitor* or *Ignore*. The default setting for all options are as indicated above .

PCI/PnP Setup

PCI/PnP Setup options are displayed by choosing the PCI/PnP Setup icon from the WINBIOS Setup main menu. All PCI/PnP Setup options are described in this section

Plug and Play Aware O/S

Set this option to *Yes* if the operating system installed in the computer is Plug and Play-aware. AMIBIOS only detects and enables PnP ISA adapter cards that are required for system boot. The Windows 95 operating system detects and enables all other PnP-aware adapter cards. Windows 95 is PnP-aware. Set this option to *No* if the operating system (such as DOS, OS/2, Windows 3.x) does not use PnP. *You must set this option correctly or PnP-aware adapter cards installed in your computer will not be configured properly.* The settings are *No* or *Yes*. The Optimal and Fail-Safe default settings are *No*.

PCI Burst Mode

Set this option to *Enabled* to enable PCI burst mode. The settings are *Disabled* or *Enabled*. The Optimal default setting is *Enabled*. The Fail-Safe default setting is *Disabled*.

PCI Concurrency

(Disabled, Enabled)

PCI Streaming

(Disabled, Enabled)

PCI Latency Timer (PCI Clocks)

This option sets latency of all PCI devices on the PCI bus. The settings are in units equal to PCI clocks. The settings are *32, 64, 96, 128, 160, 192, 224, or 248*. The Optimal and Fail-Safe default settings are *64*.

PCI VGA Palette Snoop

This option must be set to *Enabled* if any ISA adapter card installed in the computer requires VGA palette snooping. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe default settings are *Disabled*.

PCI IDE Bus Master

Set this option to *Enabled* to specify that the IDE controller on the PCI local bus has bus mastering capability. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe default settings are *Disabled*.

DMA Channel 0

DMA Channel 1

DMA Channel 3

DMA Channel 5

DMA Channel 6

DMA Channel 7

The settings are *PnP* or *ISA/EISA*. The default settings are *ISA/EISA*.

IRQ3

IRQ4

IRQ5

IRQ7

IRQ9

IRQ10

IRQ11

IRQ14

IRQ15

These options specify the bus that the named interrupt request lines (IRQs) are used on. These options allow you to specify IRQs for use by legacy ISA adapter cards.

These options determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to BIOS configurable devices. The available IRQ pool is determined by reading the ESCD NVRAM (Flash BIOS ROM only). If more IRQs must be removed from the pool, the end user can use these PCI/PnP Setup options to remove the IRQ by assigning the option to the *ISA/EISA* setting. Onboard I/O is configurable by AMIBIOS. The IRQs used by onboard I/O are configured as *PCI/PnP*.

The settings are *PCI/PnP* or *ISA/EISA*. The Optimal and Fail-Safe default settings are *ISA/EISA* and IRQ14 and IRQ 15 PCI/PNP.

Reserved Memory Size

This option specifies the size of the memory area reserved for legacy ISA adapter cards.

The settings are *Disabled*, *16K*, *32K*, or *64K*. The Optimal and Fail-Safe default settings are *Disabled*.

Reserved Memory Address

This option specifies the beginning address (in hex) of the reserved memory area. The specified ROM memory area is reserved for use by legacy ISA adapter cards.

The settings are *C0000*, *C4000*, *C8000*, *CC000*, *D0000*, *D4000*, *D8000*, or *DC000*. The Optimal and Fail-Safe default settings are *C8000*.

Peripheral Setup

Peripheral Setup options are displayed by choosing the Peripheral Setup icon from the WINBIOS Setup main menu. All Peripheral Setup options are described in this section.

Onboard FDC

This option enables the floppy drive controller on the motherboard. The settings are *Auto*, *Enabled*, or *Disabled*. The Optimal default setting is *Enabled*. The Fail-Safe default setting is *Auto*.

Onboard Serial Port1

This option enables serial port 1 on the motherboard and specifies the base I/O port address for serial port 1.

The settings are *Auto*, *Disabled*, *3F8h*, *2F8h*, *3E8h*, *2E8h*. The Optimal and Fail-Safe default settings are *Auto*.

Onboard Serial Port2

This option enables serial port 2 on the motherboard and specifies the base I/O port address for serial port 2.

The settings are *Auto*, *Disabled*, *3F8h*, *2F8h*, *3E8h*, or *2E8h*. The Optimal and Fail-Safe default setting are *Auto*.

Onboard Parallel Port

This option enables the parallel port on the motherboard and specifies the parallel port base I/O port address. The settings are *Auto*, *Disabled*, *378*, *278*, *3BC*.

The Optimal and Fail-Safe default setting are *Auto*.

Parallel Port Mode

This option specifies the parallel port mode. ECP and EPP are both bi-directional data transfer schemes that adhere to the IEEE P1284 specifications. The settings are: *Normal*, *Bi-Direct*, *EPP*, *ECP*. The default settings are *Normal*.

Parallel Port DMA

This option is only available if the setting for the **Parallel Port Mode** option is *ECP*.

The settings are *0, 1, or 3*. The default setting are *3*.

Refer to Hardware Jumper settings on Chapter one for JP 21 and JP22 when setting for these options.

Parallel Port IRQ

The settings are *5 and 7*. The Default setting are *7*.

Onboard PCI IDE

The settings are *Disabled, Primary, Secondary, Both*. The Default setting is *Primary*.

Section 2: Utility

The following icons appear in this section:

Detect IDE and Language

Detect IDE

This option allows the detection of an IDE hard drive automatically.

Language

Only English is supported

Section 3: Security

AMIBIOS Password Support

Three icons appear in this part of the WINBIOS Setup screen:

- Supervisor,
- User,
- Anti-Virus.

Two Levels of Passwords

Both the Supervisor and the User icons configure password support. If you use both, the Supervisor password must be set first. The system can be configured so that all users must enter a password every time the system boots or when WINBIOS Setup is executed, using either or both the Supervisor password or User password.

If You Do Not Want to Use a Password

Just press <Enter> when the password prompt appears.

Setting a Password

The password check option is enabled in Advanced Setup by choosing either *Always* (the password prompt appears every time the system is powered on) or *Setup* (the password prompt appears only when WINBIOS is run). The password is stored in CMOS RAM. The following screen appears when you select the password icon from the WINBIOS Setup main menu.

You can enter a password by:

Typing the password on the keyboard or Selecting each letter via the mouse.

When you select Supervisor or User, AMIBIOS prompts for a password. You must set the Supervisor password before you can set the User password. Enter a 1 – 6 character password. The password does not appear on the screen when typed. Make sure you write it down. If you forget it, you must drain CMOS RAM and reconfigure the system.

Changing a Password

Select the appropriate password icon (Supervisor or User) from the Security section of the WINBIOS Setup main menu. Enter the password and press <Enter>. The screen does not display the characters entered. After the new password is entered, retype the new password as prompted and press <Enter>.

If the password confirmation is incorrect, an error message appears. If the new password is entered without error, press <Esc> to return to the WINBIOS Main Menu. The password is stored in CMOS RAM after WINBIOS completes. The next time the system boots, you are prompted for the password if the password function is present and is enabled.

Remember the Password

Keep a record of the new password when the password is changed. If you forget the password, you need to reset the CMOS memory (refer to JP 9 on jumper settings - chapter 1)

Anti-Virus

When this icon is selected from the Security section of the WINBIOS Setup main menu, AMIBIOS issues a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive. The settings are *Enabled* or *Disabled*. If enabled, the following appears when a write is attempted to the boot sector. You may have to type *N* several times to prevent the boot sector write.

Boot Sector Write!!!

Possible VIRUS: Continue (Y/N)? _

The following appears after any attempt to format any cylinder, head, or sector of any hard disk drive via the BIOS INT 13 Hard Disk Drive Service:

Format!!!

Possible VIRUS: Continue (Y/N)? _

Section 4: Default

The icons in this section permit you to select a group of settings for all WINBIOS Setup options. Not only can you use these icons to quickly set system configuration parameters, you can choose a group of settings that have a better chance of working when the system is having configuration-related problems.

Original

Choose the Original icon to return to the system configuration values present in WINBIOS Setup when you first began this WINBIOS Setup session.

Optimal

You can load the optimal default settings for the WINBIOS by selecting the Optimal icon. The Optimal default settings are best-case values that should optimize system performance. If CMOS RAM is corrupted, the Optimal settings are loaded automatically.

Fail-Safe

You can load the Fail-Safe WINBIOS Setup option settings by selecting the Fail-Safe icon from the Default section of the WINBIOS Setup main menu. The Fail-Safe settings provide far from optimal system performance, but are the most stable settings. Use this option as a diagnostic aid if the system is behaving erratically.

Appendix A: Technical Specifications

Chip Sets

Core Logic

Intel Triton I Chip Set, 430FX

Peripheral I/O

Standard Microsystems FDC37C665 or Chips & Technologies 82C735

Micro Processor Support

Intel 3.3V Pentium processors 75, 90, 100, 120, 133, 150, 166 or 200MHz

System Memory

Memory Capacity

1 to 128MB of standard DRAM memory.

Memory Type

Four sockets for JEDEC compatible (72 pin) 32 bit SIMMs, EDO or 36 bit Fast Page Mode, 70ns access speed or faster. All memory configurations is automatic through BIOS.

Bios

System BIOS

AMI WinBIOS with standard CMOS Setup, Peripheral Setup, Automatic Hard Disk Detection and Advanced Chip-set Setup.

Flash BIOS

BIOS files are available via ICS BBS.

Embedded I/O

IDE

Two PCI EIDE controllers. Supports up to 4 devices.

Floppy

Up to two floppy disk drives. Sizes supported are: 5.25" 360K and 1.2MB; 3.5" 720K, 1.44MB and 2.88MB. Floppy Tape and CD ROM compatible. 34 pin header on-board.

Serial Ports

Two high speed 16550 compatible UARTS. BIOS configurable as COM1 - 4.

Parallel Port

One Centronics compatible, bi-directional. Microsoft/HP EPC/EPP high speed.

Mouse Port

One PS/2 compatible mouse controller with 6 pin mini-din connector.

Expansion Slots

Seven 16 bit ISA slots.

Miscellaneous

CMOS/Battery

RTC with lithium battery. No external battery is required.

Control Panel Connections

Reset, Keylock, Speaker, Front Panel Power (5V), CPU fan (12V). LEDs for power and IDE.

CPU Socket

Standard ZIF (Zero Insertion Force), socket 7.

Form Factor

Baby AT Size - 8.6" x 13"

PCB Construction

Four Layer, dry film mask.

Manufacturing Process

Automated surface mount.

Reliability

MTBF: 48,840 hours

Environmental

Operating

Temperature:	0 to +55
Humidity:	5 to 95% @ 40 C non-condensing
Shock:	2.5G @ 10ms
Vibration:	0.25 @ 5-100Hz

Non-Operating

Temperature:	-40 to +65 C
Humidity:	5 to 95% @ 40 C non-condensing
Shock:	10G @ 10ms
Vibration:	5G @ 5-100Hz

Agency Approvals

FCC Class A
UL Recognized Component
CE Compliance 73/23/EEC, EMC 89/336/EEC

This page intentionally left blank

Appendix B: Flash BIOS Programming

If your board has the optional FLASH BIOS installed, you will be able to update your BIOS without having to replace the EPROM. The WinBios will read the new BIOS file from a floppy disk, replace the old BIOS and reboot your computer.

When updating your BIOS, make sure you have a disk with the correct BIOS file (its size should be 128K).

Rename the file to "AMIBOOT". Turn your computer off. Insert the disk in Drive A:, turn the computer on while pressing <CTRL><HOME>. Your computer will show no screen, but will beep to indicate what is being done.

If the programming is successful, you should hear the 4 beeps and your computer will reboot with the new BIOS.

Please never turn the power off while reprogramming a FLASH BIOS. Refer to the table on the next page for beep errors.

Beeps	Description
1	Insert diskette in Floppy A:
2	The AMIBOOT.ROM file was not found in the root directory of Floppy drive A:
3	Base memory error
4	Flash program successful
5	Floppy read error
6	Keyboard controller BAT command failed
7	No FLASH EPROM detected
8	Floppy controller failure
9	Boot Block BIOS checksum error
10	Flash erase error
11	Flash program error
12	AMIBOOT.ROM file size error

Table B-1: FLASH BIOS Beep Errors

Appendix C: Troubleshooting

Power-On Self Test

The AMIBIOS featured in the 586MBH Series provides all IBM standard Power-on Self Test (POST) routines as well as enhanced AMIBIOS POST routines. AMIBIOS POST checkpoint codes are accessible via the manufacturing Test Port (I/O) port 80h).

Post Phases

Every time the system is powered on, AMIBIOS executes two types of POST routines:

- System Test and Initialization (test and initialize AMIBIOS for normal operations).
- System Configuration Verification (Compare defined configuration with hardware actually installed).

BIOS Error Reporting

If the error occurs before the display device is initialized a series of beeps sound. Beep codes indicate that a fatal error has occurred. AMIBIOS beep codes are described on the next page.

If the error occurs after the display device is initialized the error message is displayed. A prompt to press <F1> can also appear power is on.

Fatal errors, which halt the boot process, are communicated through a series of audible beeps.

Beeps	Error Message	Description
1	Refresh Failure	The Memory Refresh Circuitry is Faulty
2	Parity Error	Parity error in the base memory (the first 64KBblock) of memory
3	Base 64KB Memory Failure	Memory failure in the first 64KB
4	Timer Not Optional	A memory failure in the first 64KBof memory, or timer 1 is not functioning
5	Processor Error	The CPU generated an error
6	8042 - Gate A20 Failure	Cannot switch to protect mode
7	Processor Exception Interrupt Error	The CPU on the CPU card generated anexception interrupt
8	Display Memory Read/Write Error	The system video adapter is either missing or it's memory is faulty. This is not a fatal error
9	ROM Checksum Error	The ROM checksum value does not match the value enclosed in AMIBIOS
10	CMOS Shutdown Register Read/Write Error	The shutdown register for CMOS RAM has failed
11	Cache Memory Bad - Do Not Enable Cache	The cache memory test failed. Cache memory is disabled. Do not press <ctrl><alt><shift><+> to enable cache memory

Table C-1: Beep Errors

Declaration of Conformity

(according to ISO/IEC Guide 22 and EN 45014)



6260 Sequence Drive
San Diego, CA 92121-4371
(800) 523-2320

Industrial Computer Source declares under its own and full responsibility that the following products are compliant with the protection requirements of the 89/336/EEC and 73/23/EEC directives.

Only specific models listed on this declaration and labeled with the CE logo are CE compliant.

586MBH100 586MBH133 586MBH166 586MBH200

Conformity is accomplished by meeting the requirements of the following European harmonized standards:

EN 50081-1:1992 Emissions, Generic Requirements.

-EN 55022 Measurement of radio interference characteristics of information technology equipment.

EN 50082-2:1995 Immunity, Generic Requirements.

-EN 61000-4-2 Immunity to Electrostatic Discharge.

-ENV 50140 Immunity for radiated RF electromagnetic fields.

EN 50082-1:1992 Immunity, Generic Requirements.

-IEC 801-3:1984 Immunity for radiated electromagnetic fields.

-IEC 801-4:1988 Immunity for AC and I/O lines, fast transient common mode.

-IEC 65A/77B Immunity for AC lines, transients, common, and differential mode.

EN 60950:1992 Safety of Information Technology Equipment.

Mr. Jim Jameson
President & Chief Executive Officer

January 8, 1999
San Diego, CA

Information supporting this declaration is contained in the applicable Technical Construction file available from:



Ben Turner Industrial Estate
Oving Road
Chichester, West Sussex
PO19 4ET, UK

BUG REPORT

While we have tried to assure this manual is error free, it is a fact of life that works of man have errors. We request you to detail any errors you find on this BUG REPORT and return it to us. We will correct the errors/problems and send you a new manual as soon as available. Please return to:



INDUSTRIAL COMPUTER SOURCE®

Attn: Documentation Department
P. O. Box 910557
San Diego, CA 92121-0557

Your Name: _____

Company Name: _____

Address 1: _____

Address 2: _____

Mail Stop: _____

City: _____ State: _____ Zip: _____

Phone: (____) _____

Product: **586MBH Series**

Manual Revision: **41209-004-1A**

Please list the page numbers and errors found. Thank you!

