



Personal System/2[™]
Model 50 and 60
Technical Reference

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First Edition (April 1987)

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Preface

This technical reference provides system-specific hardware and software interface information for the IBM Personal System/2™ Model 50 and Model 60. It is intended for developers who provide hardware and software products to operate with these IBM systems.

You should understand the concepts of computer architecture and programming before using this publication.

This manual is divided into the following sections.

Section 1, "System Description" provides an overview of the Model 50 and Model 60. System board features, an I/O address map, and system unit specifications are provided.

Section 2, "Micro Channel™ Architecture" describes the system bus used in the Model 50 and Model 60. This section provides detailed descriptions of the Micro Channel signals, timing, and electrical characteristics. Other aspects of the Micro Channel architecture, such as Programmable Option Select, level-sensitive interrupts, and multidevice arbitration are discussed.

Adapter design information for the Model 50 and Model 60 is also in this section. Adapter dimensions, power requirements and design guidelines are provided.

Section 3, "System Board" discusses the operation of components on the Micro Channel. The system microprocessor, math coprocessor, interrupts, system timers, password, and the audio subsystem are discussed.

Section 4, "System Board I/O Controllers" describes the input and output interfaces of the system board. This includes the operation of the keyboard/auxiliary device controller, video subsystem, diskette drive controller, serial port controller, and

parallel port controller. The different types of memory used by the systems are also discussed.

Section 5, "Power Supply" provides electrical input/output specifications as well as theory of operation for the power supply.

Section 6, "Keyboard" contains layouts of the 101- and 102-key keyboards, as well as layouts of all of the keyboards that are used to support different languages. Keyboard scan code sets and keyboard specifications are provided.

Section 7, "80286 and 80287 Instruction Sets" provides a quick reference for the 80286 and 80287 assembly instruction sets.

Section 8, "Characters and Keystrokes" supplies the decimal and hexadecimal values for ASCII characters. All of the character codes are repeated in a set of two figures for quick reference.

Section 9, "Compatibility" discusses guidelines to help developers design programs, adapters, and attachments that are compatible with other IBM Personal System/2 products and IBM Personal Computer products.

A Glossary, Bibliography and Index are also provided.

Suggested Reading:

- *IBM Personal System/2 Model 50 Quick Reference*
- *IBM Personal System/2 Model 60 Quick Reference*
- *BASIC for the IBM Personal Computer*
- *IBM Disk Operating System (DOS)*
- *IBM Personal System/2 Hardware Maintenance Service*
- *IBM Personal System/2 Hardware Maintenance Reference*
- *Macro Assembler for the IBM Personal Computer*
- *IBM Personal System/2 and Personal Computer BIOS Interface Technical Reference.*

Related publications are listed in the Bibliography.

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