

intel

September/October 1984

# LITERATURE GUIDE

Order No. 210620-004



## INTRODUCTION

Welcome to the Intel Literature Guide — a full-fledged library of technical support documentation for today's leading memory and microprocessor component and system products.

This comprehensive literature selection guide is a tool to help you, the Intel customer, during product selection, design and operation. It is for this reason that we keep its contents up to date.

## THE NEED FOR SUPPORT DOCUMENTATION

As systems design becomes increasingly software-dependent, development time and costs will continue to rise. To help reduce both systems and engineering costs, Intel will be designing and manufacturing products which will integrate more and more software functions into the system hardware. This type of complex, highly integrated product will require substantial support documentation, which will be incorporated into the Intel Literature Guide as these products emerge.

## HOW TO ORDER

When ordering from this Literature Guide, please use the order form located at the front of this booklet. To facilitate your order, please be sure to enclose the appropriate payment. You will always receive the latest edition of any publication you order. (Prices are subject to change.)

Please write Intel's Literature Department, 3065 Bowers Avenue, Santa Clara, CA 95051, for additional information.

Please note the following code:

† = New item since last Literature Guide.

**Bold type indicates data sheets.**

Intel Corporation makes no warranty for the use of its products and assumes no responsibility for any errors which may appear in this document nor does it make a commitment to update the information contained herein.

Intel retains the right to make changes to these specifications at any time, without notice.

Contact your local sales office to obtain the latest specifications before placing your order.

The following are trademarks of Intel Corporation and may only be used to identify Intel Products:

BITBUS, COMMPuter, CREDIT, Data Pipeline, GENIUS, i, i, ICE, iCS, iDBP, iDIS, iFICE, iLBX, i<sub>m</sub>, iMMX, i<sub>n</sub>site, Intel, i<sub>n</sub>tel, i<sub>n</sub>telBOS, i<sub>n</sub>television, i<sub>n</sub>teligent Identifier, i<sub>n</sub>teligent Programming, i<sub>n</sub>tellec, i<sub>n</sub>telink, iOSP, iPDS, iSBC, iSBX, iSDM, iSXM, Library Manager, MCS, Megachassis, MICROMAINFRAME, MULTIBUS, MULTICHANNEL, MULTIMODULE, Plug-A-Bubble, PROMPT, Promware, QUEST, QUEX, Ripplemode, RMX-80, RUPI, Seamless, SOLO, SYSTEM 2000, and UPI, and the combination of ICE, iCS, iRMX, iSBC, MCS, or UPI and a numerical suffix

MDS is an ordering code only and is not used as a product name or trademark. MDS\* is a registered trademark of Mohawk Data Sciences Corporation.

\* MULTIBUS is a patented Intel bus.

Additional copies of this manual or other Intel literature may be obtained from:

Intel Corporation  
Literature Department  
3065 Bowers Avenue  
Santa Clara, CA 95051

# LITERATURE

In addition to the product line Handbooks listed below, the INTEL PRODUCT GUIDE (no charge, Order No. 210846) provides an overview of Intel's complete product line and customer services.

Consult the INTEL LITERATURE GUIDE for a complete listing of Intel literature. TO ORDER literature in the United States, write or call the Intel Literature Department, 3065 Bowers Avenue, Santa Clara, CA 95051, (800) 538-1876, or (800) 672-1833 (California only). TO ORDER literature from international locations, contact the nearest Intel sales office or distributor (see listings in the back of most any Intel literature).

## 1984 HANDBOOKS

### **Memory Components Handbook (Order No. 210830)**

Contains all application notes, article reprints, data sheets, and other design information on RAMs, DRAMs, EPROMs, E<sup>2</sup>PROMs, Bubble Memories.

**U.S. PRICE\***  
**\$15.00**

### **Telecommunication Products Handbook (Order No. 230730)**

Contains all application notes, article reprints, and data sheets for telecommunication products.

**7.50**

### **Microcontroller Handbook (Order No. 210918)**

Contains all application notes, article reprints, data sheets, and design information for the MCS-48, MCS-51 and MCS-96 families.

**15.00**

### **Microsystem Components Handbook (Order No. 230843)**

Contains application notes, article reprints, data sheets, technical papers for microprocessors and peripherals. (2 Volumes) (Individual User Manuals are also available on the 8085, 8086, 8088, 186, 286, etc. Consult the Literature Guide for prices and order numbers.)

**20.00**

### **Military Handbook (Order No. 210461)**

Contains complete data sheets for all military products. Information on Leadless Chip Carriers and on Quality Assurance is also included.

**10.00**

### **Development Systems Handbook (Order No. 210940)**

Contains data sheets on development systems and software, support options, and design kits.

**10.00**

### **OEM Systems Handbook (Order No. 210941)**

Contains all data sheets, application notes, and article reprints for OEM boards and systems.

**15.00**

### **Software Handbook (Order No. 230786)**

Contains all data sheets, applications notes, and article reprints available directly from Intel, as well as 3rd Party software.

**10.00**

\* Prices are for the U.S. only.

TYPE	CONTENT	PURPOSE
Brochure	General description of specific products or product families, their characteristics and applications.	Product introduction
AP— Application Note	Detailed design example(s) for certain product or related products.	Design aid
AR—Article Reprint	Copy of Intel product design, application or related article originally published by a source other than Intel.	Product introduction, design aid
RR — Reliability Report	Documentation supporting the reliability of a specific product.	Product information
Product Description	Data sheet materials for specific product and supporting products.	Product reference
Data Catalog/Data Book	Collection of data sheets for products of a certain category (components, systems) or a specific type of application (industrial, military).	Product introduction, reference, design aid
Design Handbook	Article reprints, application notes, data sheets and specific product design/operating information (see User's Manual).	Design aid
Applications Handbook	Collection of application notes and article reprints common to a specific product or product family.	Design aid
Overview	Any combination of introductory information, instruction, procedural information, and technical details.	Provides the "big picture" for a product or family of products
Introduction	Definitions of technical terminology relating to the product. Possibly some examples of how to use the product.	Provides an introduction to the technical aspects of the product.

TYPE	CONTENT	PURPOSE
Getting Started With . . .	Procedures telling how to start using the equipment almost immediately. Examples are likely to be of smaller scale than user's application.	Helps readers get started quickly.
Reference	Technical detail about the product. Might also contain some introductory or instructional information.	Allows readers to find information quickly
Guide or Instructions	Procedure for accomplishing a specific task.	Tells reader how to do something
Card or Pocket	Pocket-sized procedural or reference information.	Allows reader to carry information in pocket
Command Dictionary	Command syntax and examples in alphabetical order. Used with a specific product or product family.	Operation

**Literature Order Form**

September/October Issue 1984

*Mail* Intel Corporation, Literature Dept.  
*to:* 3065 Bowers Ave., Santa Clara, CA 95051

Order Number	Publication Title	Quantity	Unit Price	Total
			x _____	= _____
			x _____	= _____
			x _____	= _____
			x _____	= _____
			x _____	= _____
				Sub Total _____
				Add Applicable Sales Tax _____
				<b>Total \$</b> _____
<p><b>To order literature, send check, money order, or use your VISA or MasterCard. If paying by check or money order, make payable to Intel Corporation.</b></p> <p>Account No. _____  <input type="checkbox"/> VISA <input type="checkbox"/> MasterCard Expiration Date _____</p> <p>Customers outside the U.S. and Canada should contact the local Intel Sales Office or Distributor listed in the back of this guide.</p>				
Company _____		ORDER DATE:		
Name _____		CMC NO:		
Address _____		REQ NO:		
_____		20GP		
City _____ State _____ Zip _____		FOR INTEL USE ONLY. DO NOT WRITE IN THIS SHADED AREA.		
Business Phone (____) _____		REGION:		
CORP-1020		K		





## TABLE OF CONTENTS

	PAGE
PRODUCT OVERVIEW .....	1
MEMORY COMPONENTS .....	1
Bubble Memory .....	1
TELECOM .....	1
MICROCONTROLLERS .....	2
8048, 8051, 8096 .....	2
MICROPROCESSORS .....	3
8080/8085 and Support Circuits .....	3
iAPX 86/10 (8086) .....	4
iAPX 86/20 (8087) .....	4
iAPX 88/10 (8088) .....	4
iAPX 286/10 (80286) .....	5
iAPX 287 (80287) .....	5
iAPX 432 .....	5
Intel 432 Cross Development System .....	6
iMAX 432 .....	6
System 432/600 .....	6
PERIPHERALS .....	6
MILITARY .....	7
DEVELOPMENT SYSTEMS .....	7
Emulators .....	8
PROM Programmers .....	9
PROMPT .....	10
PSCOPE .....	10
INSTRUMENTATION .....	10
SOFTWARE .....	10
Systems Software .....	13
SINGLE BOARD COMPUTERS .....	15
Prototype Microcomputer Kits .....	17
iCS Industrial Control Series .....	18
Distributed Control Modules Products .....	18
MULTIMODULE Boards .....	18
Local Area Network Products .....	18
Speech Transaction Products .....	19
OEM SYSTEMS .....	19
86/300 Product Family .....	19
DATABASE PRODUCTS .....	19
Database Processors .....	19



## TITLE

ORDER NO. COST

**PRODUCT OVERVIEW**

Intel Product Guide <i>This guide contains a listing of Intel's complete product line along with information on quality/reliability, packaging and ordering, customer training classes and product services.</i>	210946-002	N/C
Intel Yellow Pages Software Directory <i>A cross-referenced directory listing over 2,000 programs offered by Intel, independent software vendors and consultants in the United States and Europe. Application and systems software and services are included. Note: Only requests on company letterhead will be honored.</i>	210960-002	N/C
SOLUTIONS Magazine <i>SOLUTIONS is a bi-monthly magazine that reports the latest trends and developments in the electronics industry. It features news about recent innovations and market dynamics, customer stories, new additions to Intel's product line, and application notes for a range of microprocessors, peripherals, memories, systems, and software. There is no charge for a subscription. Readers need only fill out and mail in the application card found on page 8 of the magazine.</i>	231100-001	N/C

**MEMORY COMPONENTS**

Memory Components Handbook <i>Contains all application notes, article reprints, data sheets and other design information on RAMs, DRAMs, EPROMs, E<sup>2</sup>PROMs, Bubble Memories.</i>	210830-003	15.00
--	------------	-------

**Bubble Memory**

Memory Components Handbook <i>Contains all application notes, article reprints, data sheets and other design information on RAMs, DRAMs, EPROMs, E<sup>2</sup>PROMs, Bubble Memories</i>	210830-003	15.00
---	------------	-------

BPK-72 Bubble Memory Prototype Kit Users Manual	121685-003	23.00
---	------------	-------

**TELECOM**

Telecommunication Products Handbook <i>Contains all application notes, article reprints and data sheets for telecommunication products.</i>	230730-002	7.50
--	------------	------

2920 Signal Processing Applications Compiler User's Guide	121529-002	25.00
---	------------	-------

2920 Assembly Language Manual (98-987) <i>Principal reference tool for the 2920 Signal Processor and includes a full product description, assembly language elements, instruction set and programming techniques.</i>	407105-001	20.00
--	------------	-------

## TITLE

ORDER NO. COST

**TELECOM (Cont'd)**

2920 Simulator User's Guide <i>An introduction to the use of the SM2920 Simulator, this guide describes test and modification of programs utilizing the 2920 processor chip. Included are a general overview of the SM2920 module, followed by a discussion of individual commands with their full syntax.</i>	980988-002	15.00
---	------------	-------

**MICROCONTROLLERS****8048, 8051, 8096**

Microcontroller Handbook <i>A guide to the MCS-48, MCS-51, and MCS-96 families. It contains such critical design decision information as detailed overviews of each product family, application notes, data sheets, and article reprints.</i>	210918-002	15.00
--	------------	-------

MCS-48 & UPI-41A Assembly Language Manual <i>Divided into two main sections, the manual first details the assembly language for programming the MCS-48 and UPI41 families. The second part of the book describes procedures and controls for operating the assemblers used to translate the source file into object code that is recognizable by the MCS-48 and UPI-41 microcomputer systems.</i>	980255-006	15.00
--	------------	-------

**"The 8051: Programming, Interfacing and Applications. 81 Experiments with the SDK-51:" by Howard Boyet and Ron Katz.**

*A hands-on approach to learning about the 8051 single chip microcomputer. Contents include: background material, mechanics of hands-on with the SDK-51, using monitor subroutines as tools, instruction set with applications, control applications experiments, two 16-bit timer counters, serial I/O, special arithmetic, and using the auxiliary keypad for special user functions. Price: \$22.95. To order, contact author: Dr. H. Boyet, 14 East 8th St., New York, New York 10003 (212)473-4947.*

MCS-51 Utilities User's Guide	121737-003	13.00
-------------------------------	------------	-------

MCS-51 Macro Assembly User's Guide	980937-003	10.00
------------------------------------	------------	-------

MCS-51 8048 & 8051 Assembly Language Operators Instructions, for ISIS II User's	980934-001	5.00
---	------------	------

MCS-96 User's Manual <i>Provides comprehensive information on the architecture and instruction set of the MCS-96 family of microcontrollers. Both hardware and software design information is presented with several examples. Pertinent data sheets are included.</i>	230883-001	7.50
---	------------	------

MCS-96 Utilities User's Guide	122049-002	15.00
-------------------------------	------------	-------

MCS-96 Macro Assembler User's Guide	122048-001	35.00
-------------------------------------	------------	-------

The 8096 Floating Point Arithmetic Library User's Guide	122133-001	13.00
---	------------	-------

## TITLE

ORDER NO. COST

**MICROPROCESSORS**

Microsystem Components Handbook	230843-001	20.00
<i>Contains data sheets, article reprints, application notes, technical papers and user's manuals for microprocessors and peripherals (2 Volumes).</i>		
<b>8080/8085 and Support Circuits</b>		
MCS-80/85 Family User's Manual (121506)	205775-002	7.50
<i>This is the basic reference document for MCS-80 and MCS-85 users. Introductory chapters include functional description, system operation, instruction set and 8080 CPU description.</i>		
8080/8085 Assembly Language Programming Manual	980940-001	13.00
<i>Designed as a reference and instructional tool for programming with Intel's assembly language, the manual contains an overview of assembly language as it relates to 8-bit processors. Also included are a full instruction set description, definition and examples of directives and macros, programming examples and a description of the interrupt system.</i>		
MCS-80/85 Relocatable Object Module Formats	121747-001	15.00
8080/8085 Floating-Point Arithmetic Library User's Manual	980452-003	7.00
8080/8085 Fundamental Support Package (FSP) Reference & Operator's Instructions for ISIS-II Users	980887-001	25.00
MCS-80/85 Utilities User's Guide for 80/85 Based Development Systems	121617-001	13.00

**"The 8085 Fundamentals and Applications: 84 Control Experiments with the Intel SDK-85", Vol. I, 2nd Edition by Dr. Howard Boyet**, features the SDK-85 in control applications and is intended for a laboratory hands-on course of one or two semesters length. The 452-page book starts from ground up, assuming no previous microprocessor background, and proceeds into the world of microcomputer control. Price: \$21.95.

**"The 8085/SDK-85: 54 Control Experiments", Vol II by Dr. Howard Boyet**, emphasizes control applications and interfacing to the real world, but covers more advanced applications and topics than the first volume. Price: \$20.95.

For further information on either volume, contact: Dr. Howard Boyet, 14 E. 8th Street, New York, NY 10003, Phone: (212) 473-4947.

**"Microcomputer Experimentation with the Intel SDK-85", by Lance Leventhall and Colin Walsh**, offers a new series of laboratory experiments based on Intel's easily available and inexpensive microcomputer, the SDK-85, the experiments emphasize actual and practical applications commonly encountered in engineering design, and do not assume a background in specialized subjects.

For further information, contact: Prentice-Hall Inc., Englewood Cliffs, NJ 07632.

**iAPX 86/10 (8086)**

**iAPX 86/88, 186/188 User's Manual—Programmer's Reference**, basic reference document for iAPX 86/88, iAPX 186/188 users covering CPU architecture memory, interrupts and design information. In addition, it includes a general description of the 8087 numeric processor extension, the 8089 I/O processor, and the 80/30 operating system firmware. This book can be obtained for \$16.95 a copy directly from Reston Publishing Co., Inc., Order Dept., 11480 Sunset Hills Road, Reston, VA 22090. Phone orders call (800) 336-0338, (703) 437-8900 (inside Virginia). Europe order from Prentice-Hall International in your respective country. (Intel Field Sales order through Intel Literature Distribution Dept., Order No. 210911.

**"Microcomputer Systems: The 8086/8088 Family-Architecture, Programming, and Design"**, by Yu-cheng Liu and Glenn A. Gibson. A complete tutorial on microcomputer systems featuring the Intel 8086/8088 family. Topics include a review of general computing concepts, architecture, assembly programming, multi programming, I/O, memory, multiprocessing, and an overview of Intel's support components. Price: \$32.95

For further information, contact Prentice-Hall, Inc., Englewood Cliffs, NJ 07632.

iAPX 86,88 Family Utilities User's Guide	121616-004	23.00
Runtime Support for iAPX 86/88 Applications	121776-002	23.00
86 Absolute Object File Format	980821-001	1.00
An Introduction to ASM 86 (iAPX 86)	121689-001	7.50
ASM 86 Language Reference Manual	121703-003	42.00
ASM 86 Macro Assembler Pocket Reference	121674-002	3.00
ASM-86 Macro Assembler Operating Instructions for 8086-Based Systems Manual	121628-003	13.00

**iAPX 86/20 (8087)**

**"8087 Applications and Programming for the IBM PC and Other PCs,"** by Richard Startz, A book that gives you a clear, complete explanation of the number crunching 8087 microprocessor for the IBM PC and other compatible machines. Whether you're a 'program writer' or 'program user,' this book helps you understand how the 8087 chip works, what it does, and how fast it processes. For novice and potential chip users, program writers who want to know intimate details about the chip, and program users. The book can be obtained for \$19.95 a copy directly from Robert J. Brady Co. a Prentice-Hall Publishing and Communications Company, Bowie, MD 20715. Telephone: (301) 262-6300.

**iAPX 88/10 (8088)**

**iAPX 88 Book, with an introduction to the 188**, an easy-to-use, illustrated guide to the 8088. Includes a tutorial for readers unfamiliar with the iAPX 86,88 microprocessor line, complete 8088 instruction set, design, examples, benchmarks, and data sheets. The 8088 CPU overview includes configuring multiple processors and how to use the iAPX coprocessors. The audience for this book ranges from students, hobbyists, & engineers, to management evaluating 8-bit designs. The book can be obtained for \$20.95 a copy directly from Reston Publishing Co., Inc., Order Dept., 11480 Sunset Hills Road, Reston, VA 22090. Phone orders call (800) 336-0338, (703) 437-8900 (inside Virginia). Europe order from Prentice-Hall International in your respective country.

TITLE	ORDER NO.	COST
<b>iAPX 286/10 (80286)</b>		
iAPX 286 Programmer's Reference Manual including the 286 Numeric Supplement, <i>Describes the architecture of the iAPX 286 from a software point of view. Detailed information is included on the advanced memory management and protection features of the iAPX 286. The included supplement describes the 80287 Numeric Processor Extension. This book should be of interest to application programmers, system programmers, and system designers.</i>	210498-002	14.95
iAPX 286 Operating Systems Writer's Guide <i>Written for system designers and operating system designers and programmers who plan to use the iAPX 286 in its protected, virtual-address mode. It assumes the reader has an introductory knowledge of multitasking operating systems and the architecture of the iAPX 286.</i>	121960-001	15.00
iAPX 286 Hardware Reference Manual <i>This manual serves as the definitive hardware reference guide for iAPX 286 system designs. It is written for system engineers and hardware designers who understand the operating principles of microprocessors and microcomputer systems. Readers of this manual should already be familiar with the iAPX 286 architecture at the level described in the Introduction to the iAPX 286 (Intel publication Order Number 210308).</i>	210760-002	15.00
iAPX 286 Utilities User's Guide	121934-003	13.00
iAPX 286 Evaluation Simulator Operating Instructions	121712-001	23.00
iAPX-286 Simulator User's Guide	121951-001	17.00
iAPX 286 System Builder User's Guide	121935-002	17.00
ASM-286 Assembler Language Reference Manual	121924-002	42.00
ASM-286 Assembler Language Pocket Reference	121926-002	1.50
<b>iAPX 287 (80287)</b>		
80287 Support Library Reference Manual	122129-001	23.00
<b>iAPX 432</b>		
Intel 432 System Summary: Manager's Perspective <i>An overview of the Intel 432 product family aimed at engineering managers. The benefits of the architecture and the individual software and hardware products are discussed.</i>	171867-001	7.50
<b>"A Programmer's View of the Intel 432 System," by Elliott I. Organick, for system designers, application engineers, or anyone interested in state-of-the-art chip capabilities. This book covers the architecture, operating systems, and support systems of the new Intel iAPX 432 'mainframe on a micro' chip. Also introduces and uses Ada in a top-down fashion. The book may be obtained for \$29.95 a copy directly from McGraw-Hill Book Company, 1221 Avenue of the Americas, New York, NY 10020.</b>		
iAPX 432 Object Primer	171858-001	20.00
iAPX 432 General Data Processor Architecture Reference Manual	171860-004	35.00
iAPX 432 Interface Processor Architecture Reference Manual	171863-004	35.00

## TITLE

## ORDER NO. COST

**iAPX 432 (Cont'd)**

iAPX 432 Interconnect Architecture Reference Manual 172487-001 35.00

**"Advances in Computer Architecture," second edition, Glenford J. Meyers, John Wiley & Sons, 1982.** *The entire field of computer architecture has undergone dramatic changes in recent years. Here is a guide to help computer designers take advantage of the new developments. It contains detailed information on alternatives to classical von Naumann architecture, examining language-directed, software-oriented, and data flow architectures. Three chapters explore the significance of the object oriented architecture of the Intel iAPX 432. The book can be obtained for \$47.50 a copy directly from John Wiley & Sons, Inc., 1 Wiley Drive, Somerset, NJ 08873, or through any distributor of technical books.*

**Intel 432 Cross Development System**

Introduction to the Intel 432 Cross Development System 171954-003 10.00

Intel 432 CDS Ada Support Packages User's Guide 172521-001 23.00

Reference Manual for Ada Programming Language 171869-003 7.00

Reference Manual for the Intel 432 Extensions to Ada 172283-002 6.00

Intel 432 Cross Development System VAX Host User's Guide 171870-003 15.00

Asynchronous Communications Link User's Guide (Intel 432) 172174-002 12.00

Intel 432 Cross Development System Workstation User's Guide 172097-001 35.00

**iMAX 432**

iMAX 432 Reference Manual 172103-003 30.00

**System 432/600**

System 432/600 Hardware Reference Manual-Volume 1 172100-001 30.00

System 432/600 Hardware Reference, Volume 2 172172-001 30.00

System 432/600 System Reference Manual 172098-002 15.00

System 432/600 Diagnostic Software User's Guide 172099-001 14.00

**PERIPHERALS**

Microsystem Components Handbook 230843-001 20.00

*Contains data sheets, article reprints, application notes, technical papers and user's manuals for microprocessors and peripherals (2 Volumes).*

Peripheral Microprocessor UPI User's Manual 210317-001 7.50

*Provides an in-depth discussion of UPI functions, instruction set, modes & system operation as well as application notes, data sheets and system support information.*

LAN Components User's Manual 230814-001 14.95

*Contains overview and detailed design information on Intel's 82586/82501 Local Area Network components. Includes applications notes and data sheets.*

DS 677 Ethernet Development System Upgrade Installation and Checkout 404130-001 13.00



TITLE	ORDER NO.	COST
<b>MILITARY</b>		
Military Handbook <i>A comprehensive catalog containing complete data sheets for all military products. Information on Leadless Chip Carriers and on Quality Assurance is also included.</i>	210461-002	10.00
<b>DEVELOPMENT SYSTEMS</b>		
Development Systems Handbook <i>Includes data sheet materials for Intel's development systems, support options, and design kits</i>	210940-002	10.00
iPDS Personal Development System User's Guide	162606-004	35.00
iPDS Demonstration Kit	210745-001	150.00
iPDS-130 Optional Flexible Disk Drive Installation Instructions Booklet	164498-002	2.50
F-Trans File Transport Utility User's Manual	163600-001	10.00
Intelligent CRT Terminal Operator's Reference Manual	133878-001	10.00
Character Printer Operation and Maintenance Manual	132792-002	10.00
Intellec Double Density Diskette Operating System Hardware Reference Manual	980422-001	30.00
Diskette Operating System Reference Manual	980212-001	35.00
A Guide to Intellec Microcomputer Development Systems <i>Designed as an introduction to the Intellec Series II Microcomputer Development System, the guide contains a full description of the system monitor, text editor, PL/M programming language, PL/M compiler, incircuit emulation products and assemblers. Authored by Daniel McCracken, leading consultant in computer programming.</i>	980558-001	3.00
Intellec Series II Microcomputer Development System Hardware Reference Manual	980556-002	20.00
Mainframe Link Users Guide	121565-002	23.00
iMDX 455 Network Workstation Upgrade Kit Installation and Checkout Manual	121882-006	23.00
Installation Instructions Double Density Upgrade Kit Model 503	121505-002	15.00
iMDX-511 IOC Firmware Enhancement Kit Installation Instructions	122014-002	3.00
Model 556E Resident Processor Board Kit Installation and Checkout Manual	121694-001	13.00
iMDX-557 Resident Processor Card Installation Manual	122015-002	13.00
iMDX-580 ISIS Cluster Board Package Installation, Operation, and Service Manual	122100-002	15.00
Model 740 Hard Disk Sub. System Operator and Checkout Manual (98-943)	404160-004	7.00
Intellec Series II Model 22X/23X Installation and Service Manual	980559-007	15.00
Intellec Series II Hardware Interface Manual	980555-002	20.00
Intellec Series II CRT Keyboard Interface Manual	122029-002	10.00
Intellec Series II MDS Hardware Reference Manual	980556-003	20.00

TITLE	ORDER NO.	COST
<b>DEVELOPMENT SYSTEMS (Cont'd)</b>		
Intellec Series II Microcomputer Development System Boot/ Monitor Listing Manual	980605-002	15.00
Debug-88 User's Manual	121758-003	15.00
III-820 IOC Upgrade Kit Installation Instruction's Manual	122018-001	13.00
Guide to Intellec Series III Microcomputer Development Systems (121632) <i>Provides a tutorial for using the Series III operating system and leads you step-by-step through a typical software development process. Features include CREDIT text editing, Pascal 86 and PL/M-86 programming, and programming with a Macro Assembler. In a sample DEBUG session, both the applications debugger and ICE are used.</i>	404410-001	3.00
Intellec Series III Microcomputer Development System Product Overview	121575-003	1.00
Intellec Series III Microcomputer Development System Console Operating Instructions	121609-003	23.00
Intellec Series III Microcomputer Development System Installation and Checkout Manual	121612-001	13.00
Intellec Series III Programmer's Reference Manual	121618-004	17.00
Intellec Series IV Microcomputer Development System Overview	121752-001	5.00
Intellec Series IV Operating and Programming Guide	121753-004	25.00
Intellec Series IV Installation and Checkout Manual	121757-004	26.00
Intellec Series IV Microcomputer Development System Pocket Reference	121760-003	1.50
NDS-II Network Development System Overview	121761-004	5.00
NDS-II ISIS III User's Guide	121765-004	23.00
NDS-II ISIS-III(C) User's Guide Supplement	122098-002	12.00
NDS II Network Resource Manager User's Guide	134300-002	10.00
<b>Emulators</b>		
ICE-22 Operator's Instructions for ISIS II Users Manual (98-739)	405900-001	9.00
ICE-41A In-Circuit Emulator Operating Instructions for ISIS-II Users (98-740)	305055-001	20.00
ICE-42 In-Circuit Emulator Operating Instructions for ISIS-II Users	163232-001	29.00
HSE-49 High Speed Emulator Operating Instructions	162180-001	13.00
ICE-49 In-Circuit Emulator Operating Instructions for ISIS-II Users	980632-002	10.00
EMV-51 Emulation Vehicle User's Guide	162611-002	35.00
In-Circuit Emulator—Getting Started with ICE-51	121595-001	13.00
ICE-51 Operating Instructions for ISIS II	981004-004	15.00
ICE-51/ICE-44 In-Circuit Emulator Operating Instructions (Supporting PL/M-51) For ISIS Users	164221-001	15.00
ICE-51/ICE-44 In-Circuit Emulator Command Dictionary	981005-002	10.00
ICE-51/ICE-44 In-Circuit Emulator (Supporting PL/M-51) Command Dictionary	164222-001	15.00

TITLE	ORDER NO.	COST
<b>DEVELOPMENT SYSTEMS (Cont'd)</b>		
In-Circuit Emulator/80 Microcomputer Development System Hardware Reference Manual	980167-003	35.00
In-Circuit Emulator/80 Operator's Manual (98-185)	406105-004	25.00
ICE-85B In-Circuit Emulator Operating Instructions for ISIS-II Users	980463-003	25.00
ICE-86A/88A Microsystems In-Circuit Emulator Operating Instructions for ISIS-II Users	162554-006	50.00
ICE-86A/ICE-88A Pocket Reference	162358-004	2.50
ICE-86A/88A In-Circuit Emulator System Test Guide	163654-001	25.00
8089 Real-Time Breakpoint Facility Instructions for ICE-86A In- Circuit Emulator Users	162490-001	23.00
ICE 88 In-Circuit Operating Instructions for ISIS II Users	980949-001	25.00
Multi-ICE Operating Instructions for ISIS-II Users	980672-002	20.00
Guide to Using Intel In-Circuit Emulators on the Intellec Series IV Development System	163500-001	2.50
EM2 8022 Emulation Board User's Guide	980719-001	7.00
EM-51 Operating Instructions	121555-001	13.00
I <sup>2</sup> ICE Integrated Instrumentation and In-Circuit Emulation Guide to Using the I <sup>2</sup> ICE	163251-002	12.00
I <sup>2</sup> ICE Integrated Instrumentation and In-Circuit Emulation System Overview and Installation	163250-002	25.00
I <sup>2</sup> ICE Integrated Instrumentation and In-Circuit Emulation System - I <sup>2</sup> ICE Reference Manual	163252-002	40.00
I <sup>2</sup> ICE Integrated Instrumentation and In-Circuit Emulation System Command Dictionary	163253-001	15.00
+ I <sup>2</sup> ICE Optional High Speed Memory Board Installation Instructions Booklet	164833-001	5.00
<b>PROM Programmers</b>		
Universal PROM Programmer User's Manual	980819-003	15.00
iUP 200/201 U1 Upgrade Installation Manual	164857-001	3.00
iUP 200/UP 201 Universal PROM Programmer Pocket Reference	162614-002	2.50
iUP 200/201 Universal User's Guide	162613-003	15.00
iUP 200A/201A Universal Programmer User's Guide	164852-001	10.00
+ iPPS PROM Programming Software User's Guide	164861-001	20.00
iUP-FAST 27/K Personality Module User's Guide	164376-001	3.00
iUP-F27/128 Personality Module User's Guide	162848-001	7.50
iUP F36/32 Personality Module User's Guide	163370-001	7.50
iUP-F87/44 Personality Module User's Guide	163354-001	7.50
iUP-F87/51 Personality Module User's Guide	163353-001	7.50
iUP-F87/51A Personality Module User's Guide	164855-001	3.00
iUP-PAK Upgrade Kit Installation Manual	163557-001	7.50

TITLE	ORDER NO.	COST
<b>PROMPT</b>		
Intellec PROMPT 48 User's Manual (98-402) <i>The main reference document for PROMPT 48, the manual is designed as a tool to aid in learning MCS-48 family programming and in the writing, debugging and testing of the programs. Contents include a detailed description of MCS-48 family microcomputers, PROMPT 48 operation, and specific details on how to use PROMPT 48.</i>	304800-003	15.00
PROMPT 48 Monitor Listing	980583-001	15.00
PROMPT 48 Programming Pads	980401-002	2.00
PROMPT SPP User's Manual	980467-001	15.00
<b>PSCOPE</b>		
PSCOPE 86 User's Guide	121790-002	15.00
<b>INSTRUMENTATION</b>		
iLTA Reference Manual	163257-001	40.00
iLTA Logic Timing Analyzer Learner's Guide	163258-001	15.00
<b>SOFTWARE</b>		
Software Handbook <i>Contains all data sheets, article reprints, and application notes for all software offered by Intel.</i>	230786-001	10.00
AEDIT-80 Text Editor User's Guide	122143-002	15.00
AEDIT Text Editor User's Guide	121756-002	13.00
C-86 Compiler Language User's Guide	122085-001	17.00
iCIS-COBOL Compiler Operating Instructions for ISIS-II Users	980928-001	15.00
Level II COBOL Language Reference Manual	122158-001	35.00
Level II COBOL Animator Operating Guide	122185-001	13.00
Level II COBOL Operating Guide Version 2 (For use with the XENIX Operating System)	122159-001	25.00
Forms-2 Utility Manual for use with Level II COBOL	122160-001	7.50
PASCAL 80 User's Guide <i>This guide is intended for programmers already familiar with PASCAL. Included is a general description of the PASCAL-80 system, an overview of language features, details of predeclared procedures, operating instructions and example programs as well as detailed appendices for further product reference.</i>	981015-002	15.00
PASCAL 86 User's Guide	121539-004	35.00
PASCAL-286 User's Guide	122051-001	42.00
FORTTRAN-80 Programming Manual	980481-001	15.00
FORTTRAN 86 User's Guide	121570-002	35.00
PL/M-51 User's Guide	121966-003	23.00

## TITLE

ORDER NO. COST

## SOFTWARE (Cont'd)

PL/M-80 Programming Manual	980268-002	15.00
<i>Describes the PL/M-80 language as implemented by the PL/M-80 compiler. Attention is given to the basic constituents of a PL/M program, data elements, expressions and assignment statements, procedures and sample programs. Appendices include special characters, reserved words and predeclared identifiers.</i>		
<b>"McCracken A Guide to PL/M Programming for Microcomputer Applications", by Daniel D. McCracken, is specifically written for the beginner who wants to quickly understand programming for microcomputers, using a high-level language. The book concentrates on basic information and has many easy-to-follow sample programs. The book can be obtained for \$13.95 a copy directly from Addison-Wesley Publishing Co., Inc., South Street, Reading, MA 01867.</b>		
PL/M-86 Programming Manual	980466-003	20.00
<i>Step-by-step programming instructions include details of basic constituents of PL/M-86 program, expressions and assignments, sample program, and procedures and variables in this basic guide to PL/M-86 programming.</i>		
PL/M-86 User's Guide	121636-003	13.00
PL/M 96 User's Guide	122134-001	35.00
PL/M 286 User's Guide	121945-001	25.00
BASIC-80 Reference Manual	980758-002	20.00
<i>The manual provides a full explanation of the features and conventions of Disk Extended BASIC-80, as implemented (1) on Intellec Microcomputer Development Systems using the Intel Systems Implementation Supervisor (ISIS-II), and (2) on Single Board Computer Systems using the RealTime Multitasking Executive (RMX-80).</i>		
Winchester Peripheral ISIS-II Supplement Manual	121899-002	23.00
ISIS-II FORTRAN-80 Compiler Operator's Manual	980480-003	15.00
<i>Containing operating procedures for the ISIS-II FORTRAN80 Compiler and run-time libraries, the book describes the steps needed, to execute the compiled program. This includes all necessary linkage, relocation, and run-time requirements</i>		
ISIS-II PL/M 80 Compiler Operator's Manual	980300-004	15.00
<i>Describes the operation of the compiler (version 3.1), which runs under the ISIS-II operating system, supporting relocation and linkage of object code programs. Specific topics include compiler control Language, listing formats, and run-time conventions.</i>		
ISIS-II PL/M-86 Compiler Operator's Manual	980478-004	15.00
<i>Describes the operation of the PL/M-86 Compiler (version 1.2), which accepts PL/M-86 source as input and produces relocatable 8086 object code as output. Specific topics include compiler control language, program size, listing formats, and run time procedure.</i>		

## TITLE

ORDER NO. COST

## SOFTWARE (Cont'd)

TITLE	ORDER NO.	COST
ISIS-II 8080/8085 Macro Assembler Operator's Manual <i>Describes operating procedures for the ISIS-II 8080/8085 macro assembler, concentrating on controls, list file formats, PL/M linkage conventions and error messages. The manual is a companion to the 8080/8085 Assembly Language Programming Manual, which contains full details on assembly language and assembler directives.</i>	980292-004	10.00
ISIS-II User's Guide	980306-008	20.00
A Guide to Program Management Tools	121958-002	13.00
• ISIS II Software Toolbox Hardware Reference Manual	121727-002	15.00
ISIS-II Credit (CRT-Based Text Editor) User's Guide	980902-003	15.00
MCS 80/85 Relocatable Object Module Formats	121747-001	15.00
86 Assembly Language Converter Operating Instructions for ISIS-II Users	980642-002	13.00
86 Macro Assembler Operating Instructions for ISIS-II Users <i>As a follow-up to the MCS-86 Macro Assembly Language Reference Manual, this book instructs the user in MCS-86 assembler operation through the use of the assembler controls or commands. Also included are specific error messages and ways to recover from the conditions causing errors.</i>	980641-002	15.00
8086 Software Toolbox Manual	122203-001	35.00
8086 Relocatable Object Module Formats	121748-001	15.00
8086 Family Utilities User's Guide <i>This guide provides a full description of the LINK86, LOC86, LIB86, and OH86 commands that support 8086 program development. It is intended for use with 8086 programs using PL/M-86 or ASM86 or any other language translator that generates object code compatible with the commands noted above.</i>	980639-004	20.00
8086/8087/8088 Macro Assembler Language Reference Manual for 8085 Based Development System	121623-001	42.00
8086/8087/8088 Macro Assembler Operating Instructions for the 8080/8085 Based Development System	121624-001	17.00
8087 Support Library Reference Manual	121725-001	23.00
VAX/VMS iAPX 286 Cross Software Installation Manual and User's Guide	122261-001	13.00
iAPX 86,88 Development Software Installation Manual and User's Guide for VAX/VMS	121950-001	5.00
iAPX 286 Architecture Extension Kernel K286 User's Guide	121961-001	29.00
iPLP 720 Graphics Software Reference Manual for Release 1	146144-001	16.00
8089 Assembler User's Guide	980938-002	25.00
Mark Williams Co. XY BASIC Programming Manual for 8080 Based Computer	121900-001	23.00
MICROSOFT BASIC Compiler Manual	121805-001	23.00
+MICROSOFT BASIC Reference Manual	174421-001	20.00
MICROSOFT BASIC Reference Book	121857-001	7.50

## TITLE

ORDER NO. COST

**SOFTWARE** (Cont'd)

TITLE	ORDER NO.	COST
+ MICROSOFT BASIC User's Guide	174220-001	13.00
MICROSOFT BASIC-80 Reference Manual	121806-001	35.00
MICROSOFT BASIC-86 Interpreter User's Guide for iRMX 86 Operating System	121986-001	13.00
MICROSOFT COBOL User's Guide	121802-001	13.00
MICROSOFT FORTRAN-80 User's Manual	121799-001	13.00
MICROSOFT FORTRAN-80 Reference Manual	121798-001	17.00
MICROSOFT FORTRAN Compiler User's Guide for the XENIX Operating System	173677-001	17.00
MICROSOFT FORTRAN Reference Manual for the XENIX Operating System	173678-001	23.00
MICROSOFT UTILITY Software Manual	121797-001	17.00
MICROSOFT M/Sort Reference Manual	121809-001	29.00
MICROSOFT Multiplan Electronic Worksheet for CP/M 80 Reference Manual	122090-001	13.00
XENIX Operating System Documentation (Package) <i>Contained in this documentation package are the following: The XENIX Installation Guide, XENIX Fundamentals, XENIX Operations Guide, XENIX Reference Manual, XENIX Software Development Manual, and the XENIX Text Processing Manual.</i>	173258-001	150.00

**"A User Guide to the Unix\* System"** by Rebecca Thomas, Ph.D. and Jean Yates, written for first time users of computers and the Unix system. It defines and examines the system's basic concepts and terms to provide tutorials for immediate, practical fluency. The book can be obtained for \$15.99 a copy directly from Osborne/McGraw-Hill, 630 Bancroft Way, Berkeley, CA 94702.

**"The C Programming Language"** by Brian W. Kernighan and Dennis M. Ritchie. The book is meant to help the reader learn how to program in C. It contains chapters on each major feature and a reference manual along with algorithms and principles of good style and sound design. The book may be obtained for \$19.95 a copy from Prentice-Hall, Inc., Englewood Cliffs, NJ 07632.

**"Using the Unix System"** by Richard Gauthier, written for people with some knowledge of computer sciences, but with no specific knowledge of the Unix system. This does not exclude those who are already using the Unix system. They will find that many options exist that are rarely used, but extremely valuable. The book can be obtained for \$15.95 paperback, \$21.95 hardback from Reston Publishing Co., Inc., 11480 Sunset Hills Road, Reston, VA 22090.

\*Unix is a trademark of Bell Laboratories in the USA.

NDS-II Electronic Mail User's Guide	122146-001	17.00
-------------------------------------	------------	-------

**Systems Software**

EDIT Reference Manual	143587-001	17.00
iSDM 86 System Debug Monitor Reference Manual	146165-001	27.00
iSDM 286 System Debug Monitor Reference Manual	145804-001	20.00
iMMX 800 Software Reference Manual and User's Guide	144912-001	25.00
iRMX/80 User's Guide	980522-006	25.00
iRMX/80 Installation Instructions Manual (98-3087)	501285-003	7.00

## TITLE

ORDER NO. COST

**Systems Software (Cont'd)**

TITLE	ORDER NO.	COST
iRMX 86 Introduction and Operator's Manual	146194-001	30.00
iRMX 86 Operators Manual	144523-001	15.00
Getting Started with iRMX 86 Systems Manual	144349-001	29.00
Getting Started with the Release 5 — iRMX-86 System Manual	145073-001	20.00
Master Index for Release 5 of the iRMX 86 Operating System	145015-001	15.00
Guide to Installing the iRMX 86 Release 5 on System 86/300	172762-002	18.00
iRMX 86 Release 5 System Debug Monitor Reference Manual	172763-001	15.00
iRMX 86 Release 5 Operator's Manual	172764-001	25.00
iRMX 86 Release 5 Configuration Guide	172765-001	15.00
iRMX 86 Release 5 Basic I/O System Reference Manual	172766-001	25.00
iRMX 86 Release 5 Extended I/O System Reference Manual	172767-001	25.00
iRMX 86 Documentation Addendum for Release 5	146032-001	15.00
+iRMX 86 Introduction and Operator's Reference Manual for Release 6	146538-001	1.00
+iRMX 86 Programmer's Reference Manual for Release 6, Part 1	146539-001	1.00
+iRMX 86 Programmer's Reference Manual for Release 6, Part 2	146540-001	1.00
+iRMX 86 Installation and Configuration Guide for Release 6	146541-001	1.00
Guide to Installing iRMX 86 Operating System on System 286/300 Series Microcomputer	173762-001	7.50
Guide to Writing Device Drivers for iRMX 86 and iRMX 88 I/O Systems	142926-004	13.00
+iRMX 86 Installation and Configuration Guide	146177-001	30.00
iRMX 86 Installation Guide	983125-005	18.00
iRMX 86 Configuration Guide (December 1981)	983126-005	15.00
iRMX 86 Crash Analyzer Reference Manual	144522-001	13.00
iRMX 86 Terminal Handler Reference Manual	143324-002	15.00
iRMX 86 Loader Reference Manual	143318-002	13.00
iRMX 86 Debugger Reference Manual	143323-002	17.00
iRMX 86 Human Interface Reference Manual	983202-003	23.00
iRMX 86 Disk Verification Utility Reference Manual	144133-002	20.00
iRMX 86 Extended I/O System Reference Manual	143308-002	29.00
iRMX 86 Basic I/O System Reference Manual	983123-005	25.00
iRMX 86 Nucleus Reference Manual	983122-004	15.00
+iRMX 86 Programming Reference Manual	146195-001	30.00
iRMX 86 Programming Reference Manual Part II	146196-001	30.00
iRMX 86 Programming Techniques Manual	142982-003	13.00
Introduction to the iRMX 86 Operating System	983124-004	5.00
iRMX 86 Quick Reference Guide	230838-001	65.00
iRMX 286R Installation and Configuration Guide for Release 1	145556-001	18.00
Introduction to iRMX 80/88 Real-Time Multitasking Executives	143238-002	10.00
iRMX 80/88 Interactive Configuration Utility User's Guide	142603-004	10.00
iRMX 88 Installation Instructions	143241-003	10.00
iOSP 86 Support Package Reference Manual for Release 2	145393-001	35.00



## TITLE

## ORDER NO. COST

**SINGLE BOARD COMPUTERS**

TITLE	ORDER NO.	COST
OEM Systems Handbook <i>Contains all application notes, article reprints and data sheets for OEM boards and systems.</i>	210941-002	15.00
iLBX Bus Specifications	145695-001	15.00
Intel MULTIBUS Specification	980683-004	13.00
MULTIBUS Handbook	210883-001	25.00
MULTIBUS II Architecture Specification Handbook	146077-002	25.00
Multichannel Bus Specifications	142804-001	15.00
iSBC 80/04 Combination I/O Single Board Computer Hardware Reference Manual (98-482)	501320-002	17.00
iSBC 80/05 Single Board Computer Hardware Reference Manual (98-483) <i>Beginning with a general overview of the 80/05 board, the manual features installation procedures, principles of operation and service information. Appendix contains full description of the 8085A instruction set.</i>	501330-002	18.00
iSBC 80/10 & 80/10A Single Board Computer Hardware Reference Manual (98-483)	501140-007	25.00
iSBC 80/10B Single Board Computer Hardware Reference Manual (98-3119)	501145-001	23.00
iSBC 80/16 Hardware Reference Manual	144779-001	25.00
iSBC 80/20 & iSBC 80/20-4 Single Board Computer Hardware Reference Manual	980317-004	20.00
iSBC 80/24 Single Board Computer Hardware Reference Manual	142648-002	29.00
iSBC 80/30 Single Board Computer Hardware Reference Manual (98-611)	501230-002	20.00
iSBC 86/05 Single Board Computer Hardware Reference Manual (143153)	501388-001	29.00
iSBC 86/12A Single Board Computer Hardware Reference Manual <i>Provides general information, installation instructions, programming information, principles of operation and service information for the iSBC 86/12A single board computer. Also included are details on the optional iSBC 300 multimodule RAM and iSBC 340 Multimodule EPROM.</i>	983074-002	18.00
iSBC 86/14 and iSBC 86/30 Hardware Reference Manual	144044-002	29.00
iSBC 88/25 Single Board Computer Hardware Reference Manual	143825-001	23.00
+iSBC 86/35 Single Board Computer Hardware Reference Manual	146245-001	20.00
iSBC 88/40 Measurement & Control Computer Hardware Reference Manual (142978)	501218-001	35.00
iSBC 88/45 Advance Data Hardware Reference Manual	143824-002	42.00
Guide to Using the iSBC 286/10 Single Board Computer	146271-001	19.00
iSBC 012B RAM Board Hardware Reference Manual	112748-001	12.00
iSBC 016A/032A/064A/028A/056A Hardware Reference Manual	143572-001	13.00
iSBC 028C/056C/012C RAM Boards Hardware Reference Manual	145183-001	15.00

TITLE	ORDER NO.	COST
<b>SINGLE BOARD COMPUTERS (Cont'd)</b>		
iSBC 028CX/056CX/012CX RAM Boards Hardware Reference Manual	145158-002	15.00
iSBC 094 4K Byte CMOS RAM Battery Backup Board Hardware Reference Manual (98-449)	501380-002	15.00
iSBC 108A/116A Combination Memory and I/O Expansion Boards Hardware Reference Manual	980862-001	15.00
iSBC 186/03 Single Board Computer Hardware Reference Manual	146414-001	20.00
iSBC 186/51 COMMputer Board Hardware Reference Manual	122136-001	25.00
+ iSBC 186/78 Video Graphics Subsystem Hardware Reference Manual	146666-001	20.00
iSBC 188/48 Hardware Reference Manual	146218-001	20.00
iSBC 202 Double Density Diskette Controller Hardware Reference Manual	501500-001	18.00
iSBC 204 Flexible Diskette Controller Hardware Reference Manual (98-568)	501510-002	15.00
iSBC 208 Hardware Reference Manual	143078-001	23.00
iSBC 213 Data Separator Kit Installation Guide	146232-001	5.00
iSBC 215 Winchester Drive Controller Hardware Reference Manual	121593-002	29.00
iSBC 215 Generic Winchester Disk Controller Hardware Reference Manual	144780-001	23.00
iSBX 218A Flexible Diskette Controller Board Hardware Reference Manual	145911-001	13.00
iSBC 220 SMD Disk Controller Hardware Reference Manual (121597)	501600-001	23.00
iSBC 304C ECC MULTIMODULE Board Hardware Reference Manual	122153-001	5.00
iSBC 305/306 Hardware Reference Manual	144508-001	13.00
iSBC 308/309 Memory Management and Protection Hardware Reference Manual	144686-001	13.00
iSBC 310A High-Speed Mathematics Unit Hardware Reference Manual (98-410)	501710-001	17.00
iSBC 337 Multimodule Numeric Data Processor Hardware Reference Manual	142887-001	13.00
iSBC 416 16K PROM/ROM Expansion Board Hardware Reference Manual (98-265)	501910-001	5.00
iSBC 428 Universal Site Memory Expansion Board Hardware Reference Manual	145696-001	13.00
iSBC 464 PROM/ROM Board Hardware Reference Manual	980643-001	17.00
iSBC 501 Direct Memory Access Controller Hardware Reference Manual	980294-002	10.00
iSBC 508 I/O Expansion Board Hardware Reference Manual (98-278)	502110-002	13.00
iSBC 517 Combination I/O Expansion Board Hardware Reference Manual (98-388)	502120-001	18.00
iSBC 519 Programmable I/O Expansion Board Hardware Reference Manual (98-385)	502130-001	18.00

TITLE	ORDER NO.	COST
<b>SINGLE BOARD COMPUTERS (Cont'd)</b>		
iSBC 534 Four Channel Communication Expansion Board Hardware Reference Manual	980450-002	20.00
iSBC 544 Intelligent Communications Controller Board Hardware Reference Manual	980616-002	18.00
iSBC 550 Ethernet Hardware Reference Manual	502165-001	29.00
iSBC 556 Optically Isolated Programmable I/O Board Hardware Reference Manual (98-489)	502170-002	18.00
iSBC 569 Intelligent Digital Controller Board Hardware Reference Manual (98-845)	502180-001	18.00
iSBC 580 Multichannel/iLBX Interface Board Hardware Reference Manual	144457-001	15.00
iSBC 589 Hardware Reference Manual	142996-002	29.00
iSBC 604/614 Cardcage Hardware Reference Manual	980708-002	13.00
iSBC 608/618 Hardware Reference Manual	144261-002	13.00
iSBC 635/635A Power Supply Hardware Reference Manual	980298-004	13.00
iSBC 640 Power Supply Hardware Reference Manual	980803-003	13.00
iSBC 645 Power Supply Hardware Reference Manual	142918-001	13.00
iSBC 655 System Chassis Hardware Reference Manual	980709-001	18.00
iSBC 660 System Chassis Hardware Reference Manual	980505-004	18.00
iSBC 661 Chassis Reference Manual	145340-001	15.00
iSBC 665/666 Hardware Reference Manual	142836-001	23.00
iSBC 680/681 Multistore Hardware Reference Manual	162432-001	10.00
iSBC 711 Analog Input Board Hardware Reference Manual (98-485)	502610-002	18.00
iSBC 711A Analog Input Board Hardware Reference Manual (142890)	502620-001	13.00
iSBC 724A Analog Output Board Hardware Reference Manual (142891)	502630-002	18.00
iSBC 732A Hardware Reference Manual (142892)	502645-001	13.00
iSBC 941 Industrial Digital Processor User's Guide (98-3077)	503100-002	5.00
iSBC 957B- iAPX 86/88 User's Guide	143979-001	20.00
iSBC 2545 Hardware Reference Manual	113844-001	15.00
<b>Prototype Microcomputer Kits</b>		
SDK-51 Assembly Manual	121589-002	13.00
SDK-51/MCS-51 System Design Kit User's Guide	121588-002	23.00
SDK-51 Monitor Listing Manual	121590-003	15.00
SDK-85 System Design Kit User's Manual <i>Includes complete instructions for assembly and operation for the SDK-85 kit, a detailed hardware description, and software section with programming examples and monitor listing.</i>	980451-002	15.00
SDK-86 System Design Assembly Manual	980697-003	15.00
SDK-86 System Design Kit User's Guide	980698-002	15.00
SDK-86 System Design Kit Monitor Listing	980699-003	15.00

TITLE	ORDER NO.	COST
<b>Prototype Microcomputer Kits (Cont'd)</b>		
SDK-2920 System Design Kit User's Guide	162418-003	5.00
<b>iCS Industrial Control Series</b>		
iCS 80 Industrial Chassis Hardware Reference Manual	980799-003	17.00
iCS 910 Analog Signal Conditioning/Termination Panel Hardware Reference Manual	980800-001	15.00
iCS 920 Digital Signal Conditioning/Termination Panel Hardware Reference Manual (98-801)	500140-002	17.00
iCS 930 AC Signal Conditioning/Termination Panel Hardware Reference Manual (98-802)	500145-002	13.00
<b>Distributed Control Modules Products</b>		
Guide to Using Distributed Control Modules	146312-001	25.00
<b>MULTIMODULE Boards</b>		
iSBX 217 Magnetic Cartridge Tape Interface MULTIMODULE Board Hardware Reference Manual	145497-001	17.00
iSBX 218 Flexible Disk Controller Hardware Reference Manual	121583-001	13.00
iSBX 251 Magnetic Bubble Memory MULTIMODULE Board Technical Reference Manual	112924-004	15.00
iSBX 270 Hardware Reference Manual	143444-001	17.00
iSBX 275 Video Graphics Controller MULTIMODULE Board Reference Manual	144829-001	18.00
iSBX 311 Hardware Reference Manual (142913)	503875-001	13.00
iSBX 328 Hardware Reference Manual	142914-002	23.00
iSBX 331 Math MULTIMODULE Board Hardware Reference Manual (142668)	503910-001	13.00
iSBX 332 Floating Point Math MULTIMODULE Board Hardware Reference Manual (98-3204)	504010-001	13.00
iSBX 350 Parallel I/O MULTIMODULE Board Hardware Reference Manual	983191-002	13.00
iSBX 351 Serial I/O MULTIMODULE Board Hardware Reference Manual	983190-002	15.00
iSBX 352 Hardware Reference Manual	143983-001	13.00
+ iSBX 354 Dual Channel Serial I/O Board Hardware Reference Manual	146531-001	15.00
iSBX 488 GPIB Multimodule Board Hardware Reference Manual	143154-001	13.00
<b>Local Area Network Products</b>		
iNA Architecture Reference Manual	122044-001	20.00
iNA 950-1 Programmer's Reference Manual	122032-001	20.00
iNA 955 iRMX NDS-II User's Guide	122256-001	13.00
iNA 960 Programmer's Reference Manual	122193-001	13.00

TITLE	ORDER NO.	COST
<b>Speech Transaction Products</b>		
iSBC 570/576 Speech Transaction Development Set Hardware Reference Manual	113867-003	35.00
Speech Transaction Manager Manual	113862-001	23.00
+ Speech Transaction Manager Reference Manual	122201-001	35.00
Speech Transaction Generator Software Reference Manual	113863-001	15.00
<b>OEM SYSTEMS</b>		
<b>86/300 Product Family</b>		
Terminal Communication Installation Guide Package for System 86/300 Family Microcomputers	173177-001	10.00
System 86/300 Series Diagnostic Maintenance Manual	144813-004	20.00
Introduction to the System 310 Microcomputer	173202-001	9.00
System 310 Hardware Integration Guide	173203-001	9.00
System 310 Configuration Guide	173205-001	9.00
+ System 310 Memory Configuration Guide: 286 Based Systems Manual	173443-001	9.50
+ System 310 Processor Configuration Guide: iSBC 286/10 Single Board Computer	173442-001	9.50
System 310 Disk Configuration Guide	173207-001	9.00
System 310 Hardware Maintenance Manual	173208-001	9.00
System 310 Installation and Operation Guide	173211-001	9.00
System 310 Publications Guide	173441-001	9.00
System 86/330A Hardware Reference Manual	172759-001	22.00
System 86/380 Hardware Reference Manual	172761-001	25.00
System 86/380 Installation and Maintenance Manual	144721-001	29.00
System 86/380 Overview Manual	144720-001	13.00
Introduction to the System 86/380 and 86/330A Microcomputer System Manual	172758-001	15.00
System 286/300 Series Diagnostic Software User's Guide	173767-001	25.00
iSXM 101 XENIX 86 Extension Module Installation Guide and XENIX 86 Operating System Installation Instructions	173077-001	5.00
iSXM 951 Terminal Communicators Installation Guide for System 310 Microcomputers	173074-002	5.00
iSXM 952 Terminal Communications Installation Guide for System 86/330A Microcomputers	173075-001	5.00
iSXM 953 Terminal Communications Installation Guide for System 86/380 Microcomputers	173076-001	5.00
<b>DATABASE PRODUCTS</b>		
<b>Database Processors</b>		
iDBP 86/440A Hardware Reference Addendum	222113-001	10.00
iDBP DBMS Reference Manual	222100-003	45.00
iDBP Operations Manual	222101-003	15.00
iDBP Host Link Reference Manual	222102-003	10.00

TITLE	ORDER NO.	COST
<b>Database Processors</b> (Cont'd)		
iDBP Custom Link Host Reference Manual	222115-001	10.00
iDBP 86/441 DELPHI User's Guide	222109-003	10.00
iDBP DBMS Completion Codes Manual	222110-003	20.00



## DOMESTIC SALES OFFICES

### ALABAMA

Intel Corp.  
5015 Bradford Drive  
Suite 2  
Huntsville 35805  
Tel: (205) 830-4010

### ARIZONA

Intel Corp.  
11625 N. 28th Drive  
Suite 2140  
Phoenix 85029  
Tel: (602) 980-4980

Intel Corp.  
1161 N. El Dorado Place  
Suite 301  
Tucson 85715  
Tel: (602) 299-6815

### CALIFORNIA

Intel Corp.  
21515 Vanowen Street  
Suite 116  
Canoga Park 91303  
Tel: (818) 706-0333

Intel Corp.  
2250 E. Imperial Highway  
Suite 218  
El Segundo 90245  
Tel: (213) 640-6040

Intel Corp.  
1010 Hurley Way  
Suite 300  
Sacramento 95825  
Tel: (916) 929-4078

Intel Corp.  
4350 Executive Drive  
Suite 150  
San Diego 92111  
(619) 452-5880

Intel Corp.\*  
2000 East 4th Street  
Suite 100  
Santa Ana 92705  
Tel: (714) 835-9642  
TWX: 910-955-1114

Intel Corp.\*  
1350 Shorebird Way  
Mt. View 94043  
Tel: (415) 968-8086  
TWX: 910-339-9279  
910-338-0255

Intel Corp.\*  
5530 Corbin Avenue  
Suite 120  
Tarzana 91356  
Tel: (818) 709-0333  
TWX: 910-495-2045

### COLORADO

Intel Corp.  
4445 Northpark Drive  
Suite 100  
Colorado Springs 80907  
Tel: (303) 594-6622

Intel Corp.\*  
650 S. Cherry Street  
Suite 720  
Denver 80222  
Tel: (303) 321-8086  
TWX: 910-931-2289

### CONNECTICUT

Intel Corp.  
26 Mill Plain Road  
Danbury 06810  
Tel: (203) 748-3130  
TWX: 710-456-1199

EMC Corp.  
222 Summer Street  
Stamford 06901  
Tel: (203) 327-2934

### FLORIDA

Intel Corp.  
242 N. Westmonie Drive  
Suite 105  
Altamonte Springs 32714  
Tel: (305) 869-5588

### FLORIDA (Cont'd)

Intel Corp.  
1500 N.W. 62nd Street  
Suite 104  
Ft. Lauderdale 33309  
Tel: (305) 771-0600  
TWX: 510-956-9407

Intel Corp.  
11300 4th Street South  
Suite 170  
St. Petersburg 33702  
Tel: (813) 577-2413

### GEORGIA

Intel Corp.  
3280 Pointe Parkway  
Suite 200  
Norcross 30092  
Tel: (404) 449-0541

### ILLINOIS

Intel Corp.\*  
2550 Gulf Road  
Suite 815  
Rolling Meadows 60008  
Tel: (312) 981-7200  
TWX: 910-651-5881

### INDIANA

Intel Corp.  
9100 Purdue Road  
Suite 400  
Indianapolis 46268  
Tel: (317) 875-0623

### IOWA

Intel Corp.  
St. Andrews Building  
1930 St. Andrews Drive N.E.  
Cedar Rapids 52402  
Tel: (319) 393-5510

### KANSAS

Intel Corp.  
8400 W. 110th Street  
Suite 170  
Overland Park 66210  
Tel: (913) 642-8080

### LOUISIANA

Industrial Digital Systems Corp.  
Tel: (504) 698-1654

### MARYLAND

Intel Corp.\*  
7321 Parkway Drive South-  
Suite C  
Hanover 21076  
Tel: (301) 796-7500  
TWX: 710-862-1944

Intel Corp.  
7833 Walker Drive  
Greenbelt 20770  
Tel: (301) 441-1020

### MASSACHUSETTS

Intel Corp.\*  
27 Industrial Avenue  
Chelmsford 01824  
Tel: (617) 256-1800  
TWX: 710-343-6333

### MICHIGAN

Intel Corp.  
7071 Orchard Lake Road  
Suite 100  
West Bloomfield 48033  
Tel: (313) 851-8096

### MINNESOTA

Intel Corp.  
3500 W. 80th Street  
Suite 560  
Bloomington 55431  
Tel: (612) 835-6722  
TWX: 910-576-2667

### MISSOURI

Intel Corp.  
4203 Earth City Expressway  
Suite 131  
Earth City 63045  
Tel: (314) 291-1990

### NEW JERSEY

Intel Corp.\*  
Raritan Plaza III  
Raritan Center  
Edison 08837  
Tel: (201) 225-3000  
TWX: 710-480-6238

### NEW MEXICO

Intel Corp.  
8500 Menaul Boulevard N.E.  
Suite B 295  
Albuquerque 87112  
Tel: (505) 292-8086

### NEW YORK

Intel Corp.\*  
300 Vanderbilt Motor Parkway  
Hauppauge 11789  
Tel: (516) 201-3300  
TWX: 510-227-6236

Intel Corp.  
80 Washington Street  
Poughkeepsie 12601  
Tel: (914) 472-2303  
TWX: 510-248-0060

Intel Corp.\*  
211 White Spruce Boulevard  
Rochester 14623  
Tel: (716) 424-1050  
TWX: 510-253-7391

T-Squared  
6443 Ridings Road  
Syracuse 13206  
Tel: (315) 463-8592  
TWX: 710-541-0554

T-Squared  
7353 Pfistered  
Victor Road  
Victor 14564  
Tel: (716) 924-9101  
TWX: 510-254-8542

### NORTH CAROLINA

Intel Corp.  
2700 Wyckoff Road  
Suite 102  
Raleigh 27607  
Tel: (919) 781-8022

### OHIO

Intel Corp.\*  
6500 Fox Avenue  
Dayton 45414  
Tel: (513) 890-5350  
TWX: 810-450-2528

Intel Corp.\*  
Chagrin-Brenard Bldg., No. 300  
28001 Chagrin Boulevard  
Cleveland 44122  
Tel: (216) 464-2736  
TWX: 810-427-9298

### OKLAHOMA

Intel Corp.  
4157 S. Harvard Avenue  
Suite 123  
Tulsa 74135  
Tel: (918) 749-8688

### OREGON

Intel Corp.  
10700 S.W. Beaverton  
Hillsdale Highway  
Suite 22  
Beaverton 97005  
Tel: (503) 641-8086  
TWX: 910-467-8741

### PENNSYLVANIA

Intel Corp.\*  
455 Pennsylvania Avenue  
Fort Washington 19034  
Tel: (215) 641-1000  
TWX: 510-661-2077

Intel Corp.\*  
400 Penn Center Boulevard  
Suite 610  
Pittsburgh 15235  
Tel: (412) 823-4970

Q.E.D. Electronics  
139 Tenwood Road  
Willow Grove 19090  
Tel: (215) 657-5600

### TEXAS

Intel Corp.\*  
12300 Ford Road  
Suite 380  
Dallas 75234  
Tel: (214) 241-8087  
TWX: 910-860-5617

Intel Corp.\*  
7332 S.W. Freeway  
Suite 1650  
Houston 77074  
Tel: (713) 968-8036  
TWX: 910-861-2490

Industrial Digital Systems Corp.  
5925 Sovereign  
Suite 120  
Houston 77036  
Tel: (713) 988-9421

Intel Corp.  
313 E. Anderson Lane  
Suite 314  
Austin 78752  
Tel: (512) 454-3628

### UTAH

Intel Corp.  
5201 Green Street  
Suite 290  
Salt Lake City 84123  
Tel: (801) 263-9051

### VIRGINIA

Intel Corp.  
1603 Santa Rosa Road  
Suite 109  
Richmond 23288  
Tel: (804) 282-5668

### WASHINGTON

Intel Corp.  
110 110th Avenue N.E.  
Suite 510  
Bellevue 98004  
Tel: (206) 453-8086  
TWX: 910-443-3002

Intel Corp.  
408 N. Mullan Road  
Suite 102  
Spokane 99206  
Tel: (509) 928-8086

### WISCONSIN

Intel Corp.  
450 N. Sunnyslope Road  
Chancellor Park I  
Brookfield 53005  
Tel: (414) 784-9060

### CANADA

Ontario  
Intel Semiconductor of Canada, Ltd.  
Suite 202, Bell Mews  
39 Highway 7  
Brampton #21 8R2  
Tel: (613) 829-9714  
TELEX: 053-4115

Intel Semiconductor of Canada, Ltd.  
190 Attwell Drive  
Suite 500  
Rexdale #9W 6H8  
Tel: (416) 675-2105  
TELEX: 06993574

### QUEBEC

Intel Semiconductor of Canada, Ltd.  
8860 Cote Vertu Rd.  
Suite 210  
St. Laurent #4R 1V4  
Tel: (514) 334-0560  
TELEX: 05-824172

\*Field Application Location



## DOMESTIC DISTRIBUTORS

### ALABAMA

Arrow Electronics, Inc.  
3611 Memorial Parkway So.  
Huntsville 35801  
Tel: (256) 982-2730

Hamilton/Avnet Electronics  
4940 Research Drive  
Huntsville 35805  
Tel: (205) 837-7210  
TWX: 810-726-1162

Pioneer Electronics  
1207 Putnam Drive N.W.  
Huntsville 35805  
Tel: (205) 837-9000  
TWX: 810-726-2197

### ARIZONA

Hamilton/Avnet Electronics  
505 S. Madison Drive  
Tempe 85281  
Tel: (602) 231-5140  
TWX: 910-950-0077

Wyle Distribution Group  
8155 N. 24th Avenue  
Phoenix 85021  
Tel: (602) 249-2232  
TWX: 910-951-4282

### CALIFORNIA

Arrow Electronics, Inc.  
521 Weddell Drive  
Sunnyvale 94086  
Tel: (408) 745-6800  
TWX: 910-339-3371

Arrow Electronics, Inc.  
19746 Dearborn Street  
Chatsworth 91311  
Tel: (818) 701-7600  
TWX: 910-493-2086

Arrow Electronics, Inc.  
2961 Dow Avenue  
Tustin 92680  
Tel: (714) 838-5422  
TWX: 910-595-2960

Avnet Electronics  
350 McCormick Avenue  
Costa Mesa 92626  
Tel: (714) 754-6051  
TWX: 910-595-1928

Hamilton/Avnet Electronics  
1175 Bordeaux Drive  
Sunnyvale 94086  
Tel: (408) 743-3300  
TWX: 910-339-9332

Hamilton/Avnet Electronics  
4545 Viewridge Avenue  
San Diego 92123  
Tel: (619) 571-7500  
TWX: 910-595-2636

Hamilton/Avnet Electronics  
20501 Plummer Street  
Chatsworth 91311  
Tel: (818) 701-8271  
TWX: 910-494-2207

Hamilton/Avnet Electronics  
4103 Northgate Boulevard  
Sacramento 95834  
Tel: (916) 328-3150

Hamilton/Avnet Electronics  
3002 G Street  
Ontario 91311  
Tel: (714) 999-9411

Hamilton/Avnet Electronics  
9515 So. Vermont Avenue  
Torrance 90502  
Tel: (213) 615-2913  
TWX: 910-349-6263

Hamilton Electro Sales  
10912 W. Washington Boulevard  
Culver City 90230  
Tel: (213) 558-2458  
TWX: 910-340-6364

Hamilton Electro Sales  
3170 Pullman Street  
Costa Mesa 92626  
Tel: (714) 641-6150  
TWX: 910-595-2638

Hamilton Electro Sales  
9650 De Soto Avenue  
Chatsworth 91311  
Tel: (818) 700-6500

Kierulff Electronics, Inc.  
1180 Murphy Avenue  
San Jose 95131  
Tel: (408) 931-2600  
TWX: 910-379-6430

### CALIFORNIA (Cont'd)

Kierulff Electronics, Inc.  
1401 Franklin Avenue  
Tustin 92680  
Tel: (714) 701-5711  
TWX: 910-595-2599

Kierulff Electronics, Inc.  
2685 Commerce Way  
Los Angeles 90040  
Tel: (213) 723-625  
TWX: 910-580-3106

Wyle Distribution Group  
124 Maryland Street  
El Segundo 90245  
Tel: (213) 322-8100  
TWX: 910-348-7140 or 7111

Wyle Distribution Group  
17872 Cowan Avenue  
Irvine 92714  
Tel: (714) 843-9953  
TWX: 910-595-1572

Wyle Distribution Group  
1151 Sun Center Drive  
Rancho Cordova 95670  
Tel: (916) 638-5282

Wyle Distribution Group  
8525 Chesapeake Drive  
San Diego 92123  
Tel: (619) 565-9171  
TWX: 910-335-1590

Wyle Distribution Group  
3003 Bowers Avenue  
Santa Clara 95051  
Tel: (408) 727-2500  
TWX: 910-338-0286

Wyle Military  
17810 Teller Avenue  
Irvine 92750  
Tel: (714) 851-9956  
TWX: 310-371-9127

Wyle Systems  
15292 Bolsa Chica  
Huntington Beach 92649  
Tel: (714) 851-9956  
TWX: 910-595-2642

### COLORADO

Wyle Distribution Group  
451 E. 124th Avenue  
Thornton 80241  
Tel: (303) 457-9953  
TWX: 910-936-0770

Hamilton/Avnet Electronics  
8765 E. Orchard Road  
Suite 708  
Englewood 80111  
Tel: (303) 740-1017  
TWX: 910-936-0787

### CONNECTICUT

Arrow Electronics, Inc.  
12 Beaumont Road  
Wallingford 06492  
Tel: (203) 265-7741  
TWX: 710-476-0162

Hamilton/Avnet Electronics  
Commerce Industrial Park  
Commerce Drive  
Danbury 06810  
Tel: (203) 797-2600  
TWX: 710-456-9974

Pioneer Northeast Electronics  
12 Main Street  
Norwalk 06851  
Tel: (203) 855-1515  
TWX: 710-468-5273

### FLORIDA

Arrow Electronics, Inc.  
8001 N.W. 52nd Street  
Suite 108  
Ft. Lauderdale 33309  
Tel: (305) 775-7790  
TWX: 510-955-9456

Arrow Electronics, Inc.  
50 Woodlake Drive W.  
Bldg. 5  
Palm Bay 32905  
Tel: (305) 725-1480  
TWX: 510-959-6337

Hamilton/Avnet Electronics  
6801 N.W. 15th Way  
Ft. Lauderdale 33309  
Tel: (305) 371-2900  
TWX: 510-955-3087

Hamilton/Avnet Electronics  
2397 Tech Drive North  
St. Petersburg 33702  
Tel: (813) 576-3930  
TWX: 910-963-0374

### FLORIDA (Cont'd)

Arrow Electronics  
6947 University Boulevard  
Winterpark 32792  
Tel: (305) 678-8888  
TWX: 810-853-0322

Pioneer Electronics  
221 N. Lake Boulevard  
Suite 412  
Alta Monte Springs 32701  
Tel: (305) 834-9090  
TWX: 810-853-0284

Pioneer Electronics  
1500 62nd Street N.W.  
Suite 506  
Ft. Lauderdale 33309  
Tel: (305) 771-7520  
TWX: 510-955-9653

### GEORGIA

Arrow Electronics, Inc.  
2979 Pacific Drive  
Norcross 30071  
Tel: (404) 448-8252  
TWX: 810-766-0439

Hamilton/Avnet Electronics  
5825 D. Peachtree Corners  
Norcross 30092  
Tel: (404) 447-7500  
TWX: 810-766-0432

Pioneer Electronics  
5835B Peachtree Corners E.  
Norcross 30092  
Tel: (404) 448-1711  
TWX: 810-766-4515

### ILLINOIS

Arrow Electronics, Inc.  
2000 E. Algonquin Street  
Schaumburg 60195  
Tel: (312) 397-3440  
TWX: 910-291-3544

Hamilton/Avnet Electronics  
1130 Thorndale Avenue  
 Bensenville 60006  
Tel: (312) 437-9680  
TWX: 910-222-1634

Arrow Electronics, Inc.  
2718 Rand Road  
Indianapolis 46241  
Tel: (317) 243-9353  
TWX: 810-341-3119

Hamilton/Avnet Electronics  
485 Grady Drive  
Carmel 46032  
Tel: (317) 844-9333  
TWX: 810-260-3966

Pioneer Electronics  
6408 Castleplace Drive  
Indianapolis 46250  
Tel: (317) 849-7300  
TWX: 810-260-1794

### INDIANA

Arrow Electronics, Inc.  
4801 Benson Avenue  
Baltimore 21227  
Tel: (301) 247-5200  
TWX: 710-862-9681

Hamilton/Avnet Electronics  
9213 Quivers Road  
Overland Park 66215  
Tel: (913) 888-8900  
TWX: 910-743-0005

### KANSAS

Hamilton/Avnet Electronics  
9213 Quivers Road  
Overland Park 66215  
Tel: (913) 888-8900  
TWX: 910-743-0005

### MARYLAND

Arrow Electronics, Inc.  
4801 Benson Avenue  
Baltimore 21227  
Tel: (301) 247-5200  
TWX: 710-862-9681

Hamilton/Avnet Electronics  
8622 Oak Hill Lane  
Columbia 21045  
Tel: (301) 995-3500  
TWX: 710-862-9681

Mass Technology Corporation  
16021 Industrial Drive  
Gaithersburg 20877  
Tel: (301) 948-4500  
TWX: 710-928-9752

Pioneer Electronics  
9100 Gather Road  
Gaithersburg 20877  
Tel: (301) 948-0710  
TWX: 710-828-0545

### MASSACHUSETTS

Arrow Electronics, Inc.  
1 Arrow Drive  
Woburn 01801  
Tel: (617) 303-8130  
TWX: 710-393-6770

Hamilton/Avnet Electronics  
50 Tower Office Park  
Woburn 01801  
Tel: (617) 305-9700  
TWX: 710-393-0382

Pioneer Northeast Electronics  
44 Hartwell Avenue  
Lexington 02173  
Tel: (617) 863-1200  
TWX: 710-326-6617

### MICHIGAN

Arrow Electronics, Inc.  
3810 Varsity Drive  
Ann Arbor 48104  
Tel: (313) 971-8220  
TWX: 810-223-6200

Pioneer Electronics  
13485 Standford  
Livonia 48150  
Tel: (313) 525-1800  
TWX: 810-242-3271

Hamilton/Avnet Electronics  
32467 Schoolcraft Road  
Livonia 48150  
Tel: (313) 522-4700  
TWX: 810-242-8775

Hamilton/Avnet Electronics  
2215 29th Street S.E.  
Space A5  
Grand Rapids 49508  
Tel: (616) 243-8926  
TWX: 810-273-6921

### MINNESOTA

Arrow Electronics, Inc.  
5200 W. 73rd Street  
Edina 55435  
Tel: (612) 830-1800  
TWX: 910-575-3125

Hamilton/Avnet Electronics  
10300 Bren Road East  
Minnetonka 55345  
Tel: (612) 932-0600  
TWX: (910) 576-2720

Pioneer Electronics  
10203 Bren Road East  
Minnetonka 55345  
Tel: (612) 835-5444  
TWX: 910-576-2738

### MISSOURI

Arrow Electronics, Inc.  
2380 Schuetz  
St. Louis 63141  
Tel: (314) 567-6888  
TWX: 910-764-0682

Hamilton/Avnet Electronics  
13743 Shoreline Court  
Earth City 63045  
Tel: (314) 344-1200  
TWX: 910-762-0684

### NEW HAMPSHIRE

Arrow Electronics, Inc.  
1 Perimeter Road  
Manchester 03103  
Tel: (603) 669-9966  
TWX: 710-220-1684

### NEW JERSEY

Arrow Electronics, Inc.  
6000 Lincoln East  
Marlton 08053  
Tel: (215) 328-1800  
TWX: 710-897-0829

Arrow Electronics, Inc.  
2 Industrial Road  
Fairfield 07006  
Tel: (201) 570-5300  
TWX: 710-996-2206

Hamilton/Avnet Electronics  
1 Keystone Avenue  
Bldg. 36  
Cherry Hill 08003  
Tel: (609) 424-0110  
TWX: 710-940-0262

Hamilton/Avnet Electronics  
10 Industrial  
Fairfield 07006  
Tel: (201) 575-3390  
TWX: 710-734-4388





ABCDEFGHI  
TUVWXYZ&  
LMNOPQRS  
TUVWXYZ&  
HIJKLMNO  
&ABCDEFGHI