APPLIED MICROSYSTEMS
Corporation

For more information:

Microprocessor-based designs are no longer revolutionary, but the equipment now being provided to support these designs is. The enclosed information about Applied Microsystems will give you a general description of our company and the tools we build to support your needs. We would also appreciate the opportunity to send you more information for your unique applications. The reply card included with the literature was designed to help us provide you with these specific materials.

Contact your local Applied Microsystems representative or use our toll-free number: (1-800-426-3925) to have your questions answered, a demonstration at your facility, or simply to get the materials I mentioned above quickly. Again, thank you for your time, and we look forward to working with you in supporting your present and future microprocessor support requirements.

Sincerely,

APPLIED MICROSYSTEMS CORPORATION

Sandy McClure
Marketing Department

APPLIED MICROSYSTEMS

0 - 148th Avenue N.E.
. .J. Box 568
Redmond, WA 98052
(206) 882-2000
(800) 426-3965
Telex: 152471

Regional Offices

Central
Applied Microsystems Corporation
12750 Merit Drive
Suite 222 LB 20
Dallas, TX 75251
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7½ Harris Road
Nashua, NH 03062
(603) 888-3404

West
Applied Microsystems Corporation
22865 Lake Forest Drive
Lake Forest, CA 92630
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U.S. Representatives

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S.R.I.
(205) 882-1691

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(602) 943-8178
(602) 944-9185

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Aztec Enterprises
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Rical Associates
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Aztec Enterprises
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Rical Associates
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Cascade Data Marketing, Inc.
(503) 641-9266

Pennsylvania
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Micro Sales Corp.
(216) 734-3080

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Burton Forrester Assoc., Inc.
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(713) 467-2192

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(414) 342-0127

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(303) 795-0250

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Telex: 05-824845

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Telex: 04-507719

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Telex: 06-983693

Richmond, Ontario
(613) 838-3397
Telex: 053-4715

Edmondton, Alberta
(403) 428-9463

REV. 3/83

APPLIED MICROSYSTEMS

20 - 148th Avenue N.E.
P.O. Box 568
Redmond, WA 98052
(206) 882-2000

U.S. Price List
April 1983

1-800-426-3925

Ordering Information

When ordering, please specify complete part number, quantity, and price. Telephone orders must be confirmed by written order. Purchase orders should be addressed to:

APPLIED MICROSYSTEMS CORPORATION
5020 - 148th Avenue N.E.
P.O. Box 568
Redmond, WA 98052
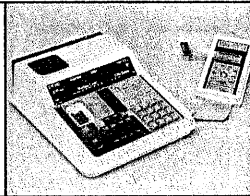
Attention: Sales Order Desk

Payment Terms
Net 30 days.
Shipments
All shipments are F.O.B. shipping point. Freight and insurance are prepaid and billed. Normal shipments are by U.P.S. Please specify if other methods are desired.
Warranty
Applied Microsystems' instruments are warranted against defects in material and workmanship for one year after delivery, under normal use.

EM-Series Diagnostic Emulators

part number	description	price
EM-180B	Emulator mainframe and pod assembly for Z80, Z80A, Z80B, MK3880, MK3880-4, and compatible processors. Includes Disassembler with mnemonic and register display, Null Target Software Simulation Tool, and Operator Manual.	$3,750.00
EM-186	Emulator mainframe and one (1) pod assembly for 6800, 68A00, and 68B00, or one (1) pod assembly for 6802, 68A02, 68B02, 6808, 68A08, and 68B08. Includes Disassembler with mnemonic and register display, and Operator Manual. (Please specify pod assembly part number on order.)	3,750.00
EM-188	Emulator mainframe and one (1) pod assembly for 8085A and 8085A-2, or one (1) pod assembly for 8080A and 8080A-1. Includes Disassembler with mnemonic and register display, Null Target Software Simulation Tool (8085 only), and Operator Manual. (Please specify pod assembly part number on order.)	3,750.00
EM-189	Emulator mainframe and one (1) pod assembly for 6809, 68A09, and 68B09, or one (1) pod assembly for 6809E, 68A09E, and 68B09E. Includes Disassembler with mnemonic and register display, Null Target Software Simulation Tool, and Operator Manual. (Please specify pod assembly part number on order.)	3,750.00
EM-149	Emulator mainframe and pod assembly for 8035, 8039, 8040, 8048, 8049, 8050, 8748, and 8749. Includes Disassembler with mnemonic and register display, Null Target Software Simulation Tool, 4K-byte RAM Overlay, and Operator Manual.	4,750.00

EM-Series Options

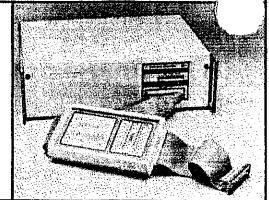| part number	description	price
RO16	16K-byte memory mapping RAM Overlay; four 4K by 8-bit blocks.	$1,050.00
RO64	64K-byte memory mapping RAM Overlay; sixteen 4K by 8-bit blocks. (EM-180B, EM-186, EM-188, EM-189 only.)	2,700.00
EP-6800	Emulator pod assembly for 6800, 68A00, and 68B00.	1,200.00
EP-6802	Emulator pod assembly for 6802, 68A02, 68B02, 6808, 68A08, and 68B08.	1,200.00
EP-8085	Emulator pod assembly for 8085A and 8085-2.	1,200.00
EP-8080	Emulator pod assembly for 8080A and 8080A-1.	1,200.00
EP-6809	Emulator pod assembly for 6809, 68A09, and 68B09.	1,200.00
EP-6809E	Emulator pod assembly for 6809E, 68A09E, and 68B09E.	1,200.00
OM-XX	Operator Manual for EM-Series Diagnostic Emulators. (Please specify which model emulator when ordering.)	50.00
SM-XX	Service Manual for EM-Series Diagnostic Emulators. (Please specify which model emulator when ordering.)	50.00
C-10	Carrying case for all EM-Series Diagnostic Emulators.	125.00
NT-XX	Null Target Software Simulation Module. Available for Z80, 8085, 8048, 6809, 6809E.	50.00

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Em-Pac Applications Software

part number	EM-Series model	description	price
RC-149-XX*	EM-149	Disk, PROM set, and Operator Manual.	$750.00
RC-180-XX*	EM-180/180B	Disk, PROM set, and Operator Manual.	750.00
RC-188-XX*	EM-188	Disk, PROM set, and Operator Manual.	750.00
OM-XXX-XX		Operator Manual.	25.00

*-XX refers to the format code; see below.

format code	description	computers supported
A1	CP/M 8" single density	California Computer Systems Heath/Zenith H8 & H47 Intel MDS 8" Morrow Discus SD Systems 8" Spacebyte Tarbell 8" TEI 8" Xerox 820 8"
A2	CP/M 8" double density	Intel MDS 8"
A3	ISIS 8" single density	Intel MDS 8"
A4	ISIS 8" double density	Intel MDS 8"
P7	CP/M 5 1/4" double density 48 TPI	Heath Zenith H89
P8	CP/M 5 1/4" single density hard sector	Heath Zenith H89
SA	CP/M 5 1/4" single density	Osborne-1
SX	CP/M 5 1/4" double density 100 TPI	Nicolet Paratronics 764
S6	CP/M 5 1/4" single density	Xerox 820 5 1/4" Kaypro II
P1	CP/M 5 1/4" single density hard sector	Northstar Horizon
P2	CP/M 5 1/4" double density hard sector	Northstar Horizon, Northstar Advantage
RG	CP/M 5 1/4" 13 sector	Apple-II with Softcard
RR	CP/M 5 1/4" 16 sector	Apple-II with Softcard

APPLIED MICROSYSTEMS

ES-Series Satellite Emulators

part number	description	price
ES-1800	Satellite Emulator mainframe with Event Monitor System, 72- by 2046-bit Trace Memory, emulation control system, and chassis.	$4,950.00
ES-8000B	Emulation Control board for Z8000 series microprocessors, Disassembler, and Operator Manual for Z8000 operation.	1,700.00
ES-68000B	Emulation Control board for 68000 series microprocessors, Disassembler, and Operator Manual for 68000 operation.	2,100.00
ES-8001P	Emulator pod assembly for Z8001 microprocessors.	1,200.00
ES-8002P	Emulator pod assembly for Z8002 microprocessors.	1,200.00
ES-68000P	Emulator pod assembly for 68000 microprocessors, and Null Target Software Simulation Tool.	1,400.00

ES-Series Options

part number	description	price
ES-RO-32	32K-byte RAM Overlay Memory	$1,500.00
ES-RO-64	64K-byte RAM Overlay Memory	2,700.00
ES-RO-128	128K-byte RAM Overlay Memory	4,500.00
ES-RO-256	256K-byte RAM Overlay Memory	available on request
ES-RO-512	512K-byte RAM Overlay Memory	available on request
ES-LA	Logic State Analyzer pod assembly	700.00
OM-8000	Operator Manual for Z8000 operation	75.00
OM-68000	Operator Manual for 68000 operation	75.00
SM-1800	Service Manual for ES-Series Satellite Emulators	50.00
C-15	Carrying case for Satellite Emulator	150.00
NT-XX	Null Target Software Simulation Tool (68000 only)	50.00

EXPAND

your ISIS™ and CP/M™ systems with emulation control software.

Take advantage of symbolic debugging.

Applied Microsystems just made microprocessor system debugging and integration faster and easier than ever before.

A new software package, together with your ISIS or CP/M-based system provides direct control of an Applied Microsystems EM-Series emulator.

This means symbolic definitions can be communicated to the emulator, eliminating the need to look up or recall absolute addresses of key locations.

Emulators support entire families.

New software packages are available for the EM-180B, EM-188 and EM-149 emulators, providing debugging and integration support for the following microprocessors and microcomputers:

EM-180B:	EM-188:	EM-149:	
Z-80	8085A	8035	8748
Z-80A	8085A-2	8039	8749
Z-80B	8080A	8048	8040
MK 3880	8080A-1	8049	8050
MK 3880-4	8080A-2		

Find errors others miss.

Analysis of your target system can be conducted faster when you link an Applied Microsystems emulator to your ISIS or CP/M-based system.

Emulation is executed in real-time, without wait states. A memory mapping overlay RAM, trace memory, multiple breakpoints and built-in diagnostic tests let you verify and correct programs with ease.

Operates in stand-alone mode, too.

If people are queuing up to use the development system for software generation, just take the Applied Microsystems emulator to another bench and keep on working. The internal power supply, displays and keyboard make it a true stand-alone diagnostic emulator.

Write or call today!

See how Applied Microsystems can expand the capability of your ISIS or CP/M-based software development system. For a product demonstration, or a copy of the new EM-Series catalog, contact Applied Microsystems at 5020 148th Ave. N.E., P.O. Box 568, Redmond, WA 98052. Phone (206) 882-2000, or **TOLL FREE 800-426-3925.**

APPLIED MICROSYSTEMS

Emulating for leaders in microprocessors.

Debugging Support for 68000 Based Systems

Debugging microprocessor based systems is tough work

Whether you are a hardware or software designer, or in production test, Applied Microsystems' ES-Series 68000 Satellite Emulator has the best cost versus performance ratio of any microprocessor system debugging tool.

True Real-Time Emulation

Take the microprocessor out of your system, replace it with the 68000 Satellite Emulator, and your system runs identically. True transparent emulation means no restrictions on memory, instructions, or interrupts. And, of course, real-time means operation at any frequency up to 10 MHz (with 12.5 MHz operation in the future).

Stand-Alone

You do your software creation on a large minicomputer or mainframe, or possibly even on a personal computer. What you need is powerful, low cost debugging capability. Connect your CRT terminal and your computer to the 68000 Satellite Emulator and avoid the need for expensive single purpose MDS systems.

The stand-alone approach allows the emulator to be small in size and weight. The 68000 Satellite Emulator easily fits on a bench or in a rack. It can also be easily carried around your lab or across the country.

Easy to use

The English language style commands are short and powerful. Coupled with help menus, the 68000 Satellite Emulator is easy to use, yet allows you to track down even the most complex of problems.

Trace History

Trace history is a powerful tool for observing what happened and how you got there with your program. All the data on the microprocessor's address and data busses, plus 68000 status lines, sixteen lines of logic state from other points of the circuit — 72 bits total — are captured for 2,046 steps. The data can be displayed disassembled, with only those instructions actually executed displayed, or just as it was captured from the microprocessor's bus.

Powerful Event Monitor System

Break emulation on any combination of address, data, status, pass counter, and logic state inputs. In addition, the Event Monitor System can be used for

qualifying Trace Memory storage, triggering an oscilloscope, incrementing the pass counter, and more.

The thirty-two comparators in four levels of nesting allow most conceivable combinations of event conditions to be specified. The 68000 Satellite Emulator easily solves the simple everyday problems of debugging. It can also track down those difficult to find problems requiring multiple trigger events.
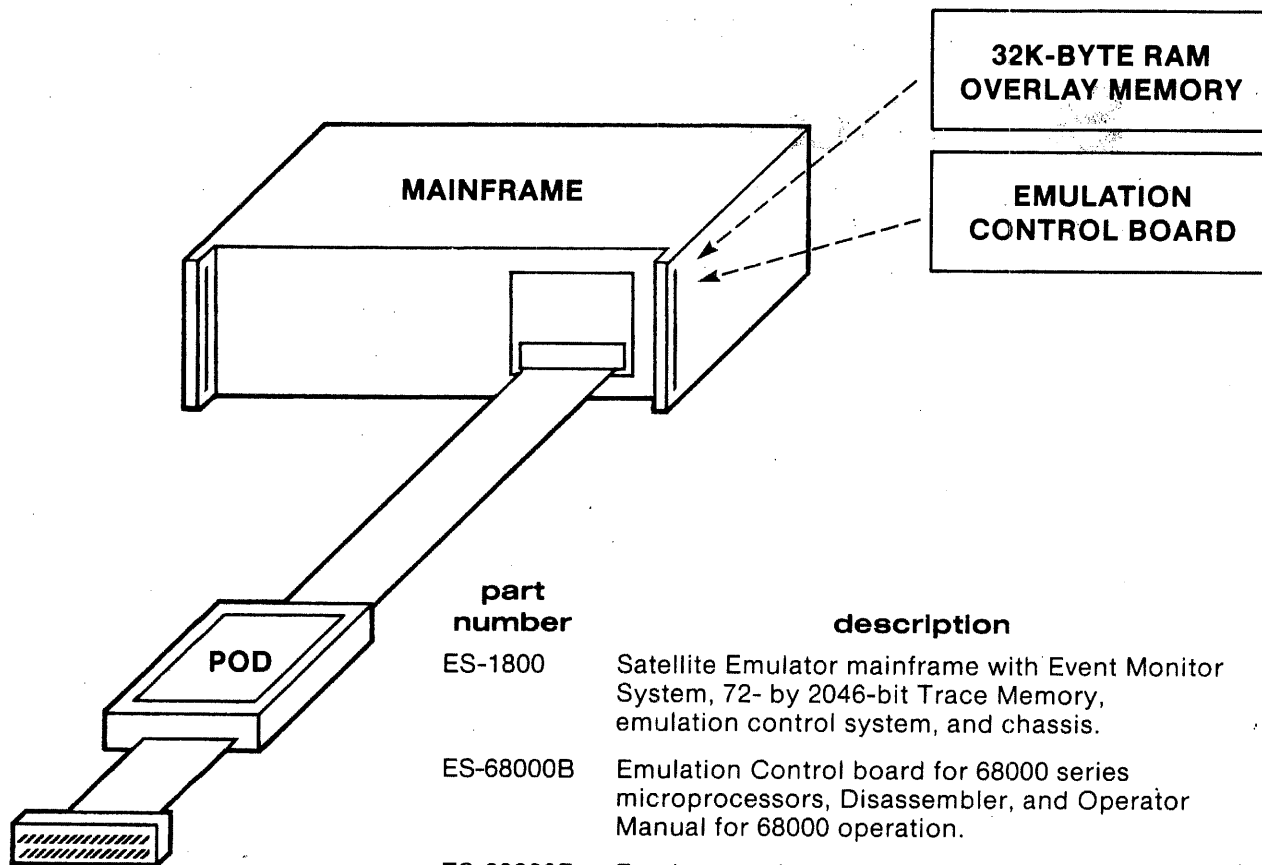
RAM Overlay Memory

Download your program directly from your host computer into your target system. Avoid the slow process of burning PROMs each time you reassemble or recompile your program. Make program patches in seconds then continue your testing to save time during your debugging sessions. With a 2K-byte minimum resolution, the RAM Overlay Memory can be mapped anywhere in any address space in your system. It can also be mapped as Read Only to simulate ROM, or Read/Write to simulate RAM. Five options ranging from 32K-bytes to 512K-bytes are available for the RAM Overlay Memory.

Typical System: $9,950

MAINFRAME

32K-BYTE RAM OVERLAY MEMORY

EMULATION CONTROL BOARD

POD

part number	description	price
ES-1800	Satellite Emulator mainframe with Event Monitor System, 72- by 2046-bit Trace Memory, emulation control system, and chassis.	$4,950.00
ES-68000B	Emulation Control board for 68000 series microprocessors, Disassembler, and Operator Manual for 68000 operation.	2,100.00
ES-68000P	Emulator pod assembly for 68000 microprocessors, and Null Target Software Simulation Tool.	1,400.00
ES-RO-32	32K-byte RAM Overlay Memory	1,500.00
ES-RO-64	64K-byte RAM Overlay Memory	2,700.00
ES-RO-128	128K-byte RAM Overlay Memory	4,500.00
ES-RO-256	256K-byte RAM Overlay Memory	available on request
ES-RO-512	512K-byte RAM Overlay Memory	available on request
ES-LA	Logic State Analyzer pod assembly	700.00
OM-68000	Operator Manual for 68000 operation	75.00
SM-1800	Service Manual for ES-Series Satellite Emulators	50.00
C-15	Carrying case for Satellite Emulator	150.00
NT-68000	Null Target Software Simulation Tool	50.00