# CATALOG
## 94/95

HI-LO SYSTEMS

PAC-DIP32

ALL-07 UNIVERSAL PROGRAMMER & TESTER

PAC-DIP40

GOOD

HI-LO SYSTEMS

ALL-07 UNIVERSAL PROGRAMMER & TESTER

YES

PAC-PLCC44

GOOD

HI-LO SYSTEMS

PROGRAMMER & TESTER

# Contents

# History & Evolution

## HI-LO creates a New Programming Era

1984, under Taiwan's sweltering heat, 4 young computer engineers started their studio, HI-LO, to design microcomputer software and hardware supporting major IC manufacturers such as OKI, HITACHI, and NEC....

They soon encountered the major problems faced by all engineers, that the programmer, the indespensible tool, is much more expensive than an individual can afford and can not keep up with the rapid pace of IC development. They initiated research to develop a high quality low cost programmer to overcome this obstacle, and fit to meet the requirements of all design engineers.

1986, the first generation EPROM programmer/01/04/08 was introduced, the result of HI-LO's persistence and dedication. From that time onward HI-LO has continually set new standards in programmer development.

1987, a series of programmers for BPROM, PAL, 8748 series, 8751 series and IC tester were introduced which have been acclaimed by the international market.

1988, ALL-01, the first generation Universal Programmer & Tester, was launched winning a good reputation for its professional features.

1989, ALL-02, the second generation Universal Programmer & Tester, was launched. This improved version, won wide approval from leading IC manufacturers. Engineers have also come to appreciate HI-LO Systems unique trade-in service.

1990, HI-LO expanded its organization by bringing new blood to its R&D Department, by establishing an Art & Design Department, and a Sales & Marketing Department to enhance its professional image.

ALL-03, the third generation Universal Programmer & Tester, and its 50 adaptors rocked the programming field. In the same year, a series of high speed EPROM programmers: EPP-01A/04A/08A, SEP-81/84/88 were developed.

1991, a complete R&D environment was formed to diversify HI-LO's development. New product lines such as the Handy IC Tester (PRÜFER-20), ROM Emulator (EML51 2), 8751 In Circuit Emulator (V'NICE-51, POD-8031, 8051S,...) were introduced to the market.

1992, ALL-03A, the fourth generation Universal Programmer, was launched and the number of adaptors was increased to 125. More advantageous products such as QUICK-32, FLEX SYSTEMS, V'NICE-51 POD-8052H, POD-80C550 etc. were added to the market. 1993, ALL-07, the fifth generation Universal Programmer, and PACKS, were launched. Each step of HI-LO's development has been forethought and steady.

Today, in addition to its innovative products which meet professional requirements, a technical service department provides complete after-sales service to more than 50 agents worldwide. Moreover to assure the hardware accuracy of its products HI-LO updates its software every three months.

HI-LO's rational management closely links all Departments: the decision making core, manufacturing Dept., art & design Dept.... ensuring they develop the best high quality reasonably priced products. This has been proved by the trust HI-LO has earned from its users and by the praise received from manufacturers worldwide (AMD, ATMEL, WSI, SIGNETICS, LATTICE, ALTERA, INTEL, NS, TI...)

From its beginning as a 4 men studio, HI-LO has grown to the point where its products are sold worldwide, its determination in making Taiwan a foundation to serve the world has been successful. HI-LO will now carry forward its strict and thoughtful attitude in research, and its precision achievement and to satisfy the growing needs of its customers.

# ALL-07
## Universal Programmer & Tester

### INTRODUCTION:

The ALL-07 series is HI-LO Systems' fifth generation Universal Programmer and Tester. It is the product of over 7 years of research and development based on our own experience and the unsolicited honest opinions from many of our 60,000 universal programmer users worldwide. The ALL-07 is a PC-based programmer that can be connected to any PC XT/AT/286/386/486 via the standard parallel/ printer port. This connection allows a download speed 10 times faster than conventional RS-232C. The power supply is built into the unit allowing direct connection to Notebook or Handbook PC's in addition to desktop systems. The ALL-07's software supports programming and testing of over 3,000 E/EPROM, FLASH PROM, SERIAL PROM, BPROM, IC MEMORY CARDS, PLD, GAL, EPLD, MAX, MACH, MAPL, MPU, TTL 74 series, CMOS 40/45 series, SRAM, and DRAM. An 80 pin industrial connector accepts programming PACs that support devices with 8 pins up to as many as 256 pins in DIP, PLCC, QFP, PGA, SOP, TSOP,... packaging. This connector also supports our special high speed gang PACs which can program 4 or 8 pieces at a time in DIP or PLCC packaging in PC-based or stand-alone modes. Using the latest in pin driver technology 4 or 8 pieces of 27C010 devices can be programmed in about 30 seconds. The external 'YES' key and 'GOOD' LED on the programmer allow one key operation for mass production programming. Our design also provides for full functional vector testing of todays latest PLD/GAL devices including those requiring multiple clock pulses to be applied simultaneously. The ALL-07's advanced architecture eliminates the need for several adapters to program devices with different pinouts in the same packaging. Only one 40 pin DIP PAC is required to program virtually all DIP devices with 8 to 40 pins. Our Universal PLCC-XX PACs can be used to program virtually all PLCC devices with 44, 52, 68... pins. Only one PAC is required for each pin count.

### FEATURES:

- Convenient and efficient parallel/printer port connection to any IBM compatible PC, Notebook, or Handbook.
- Built-in 90 VAC-265VAC, 47 HZ-65HZ Universal Power supply.

- a sheet of antistatic electricity sponge on the module to protect sensitive CMOS devices.
- Variable programming PACK choices include: Universal DIP-40 PACK, 4-gang PACK, 8-gang PACK, Universal PLCC-44 PACK,...
- The pin driver expansion connector can be expanded to up to 256 pins to support all of today's and tomorrow's high pin count devices.
- Socket converters for PLCC, PGA, QFP, PQFP, SOP, TSOP,...
* Menu-driven software supporting the following IC's:
  - All EPROM, EEPROM, FLASH EPROM, SERIAL EPROM BPROM
  - All MPU/MCU from AMD, DALLAS, HITACHI, INTEL, MICROCHIP, MOTOROLA, NEC, SGS-THOMSON, PHILIPS, TI, TOSHIBA, WSI, and ZILOG.
  - PAL, GAL, PEEL, EPLD, FPL, MACH, MAX and MAPL
  - IC Tester for 74/54, CMOS 40/45, DRAM and SRAM (SIMM/SIP module available)
  - advanced PLD vector testing of today's fastest PLD's including parts requiring two simultaneous clock inputs.
  - Continuous software updates for new devices.
* Menu-driven functions include:
  - DOS shell
  - HEX/BIN/JEDEC file loading and saving
  - Manufacturer and Type selection
  - Blank check, Read, Program, Security, Auto, and Verify
  - 2-way or 4-way binary file splitter or shuffler
  - Full screen editor allows direct editing of any address on the screen in Binary, ASCII, or Logic Fuse Map format

### ORDERING INFORMATION:

ALL-07:
includes ALL-07 main module, printer card, D-25 cable (1-M long), software for all devices supported and user's manual(optional PACK is required to form a complete set e.g. ALL-07 + PAC-DIP40).

ALL-07PC:
all functions are exactly the same as ALL-07, except the power supply is excluded in the module. Its power is supplied from a desk top PC by using a SAC-701 interface card to connect programmer and the slot inside the PC.

Optional:
Converters: converters for various IC packages (like PLCC, QFP, PGA, SOP, TSOP....), please refer to Converter List.
Adaptors: various specific adaptors (like AMD MACH230 68 pin PLCC), please refer to Adaptor List
PACKS: various specific PACKS (like high speed 8-gang socket PACK), please refer to PACK List
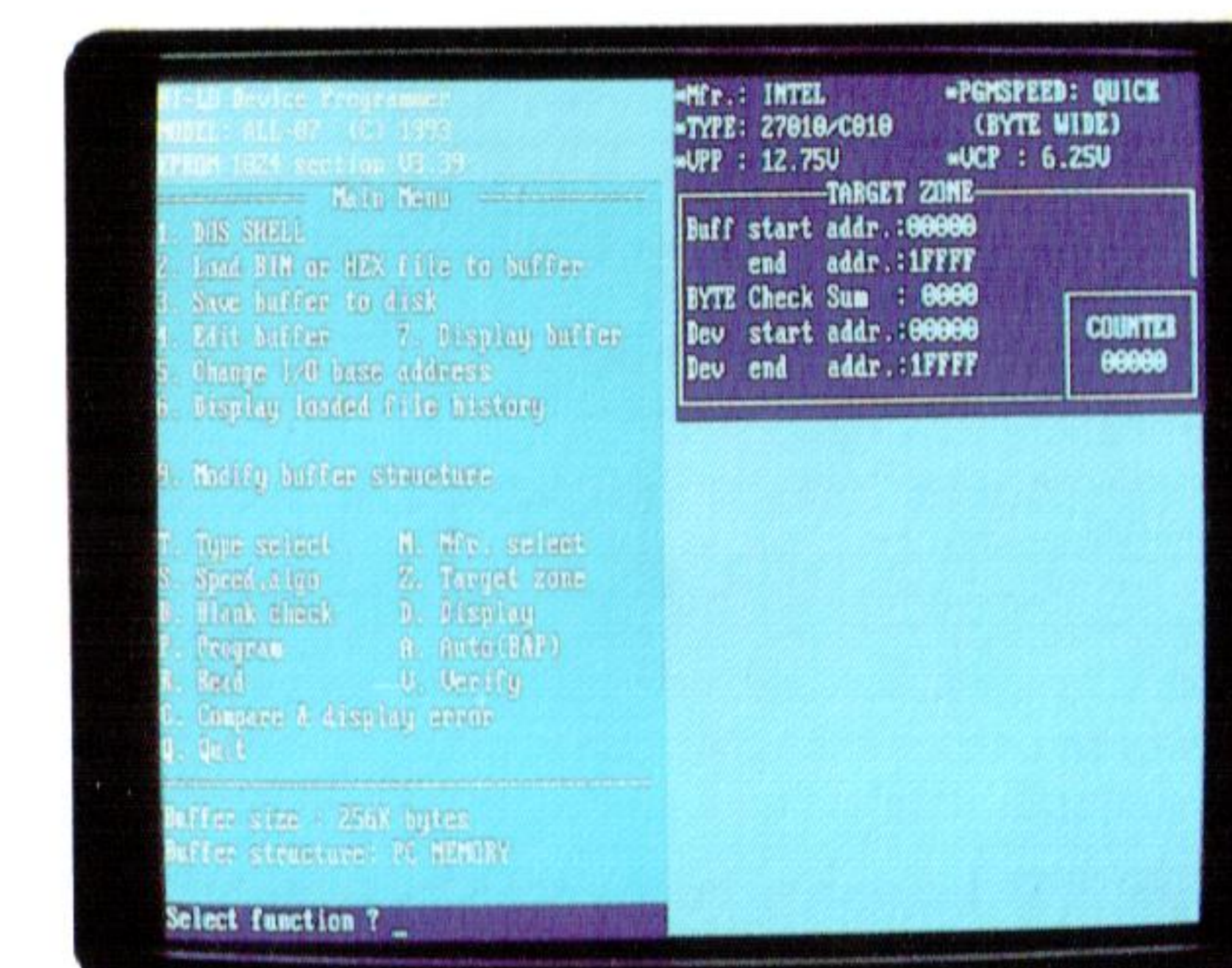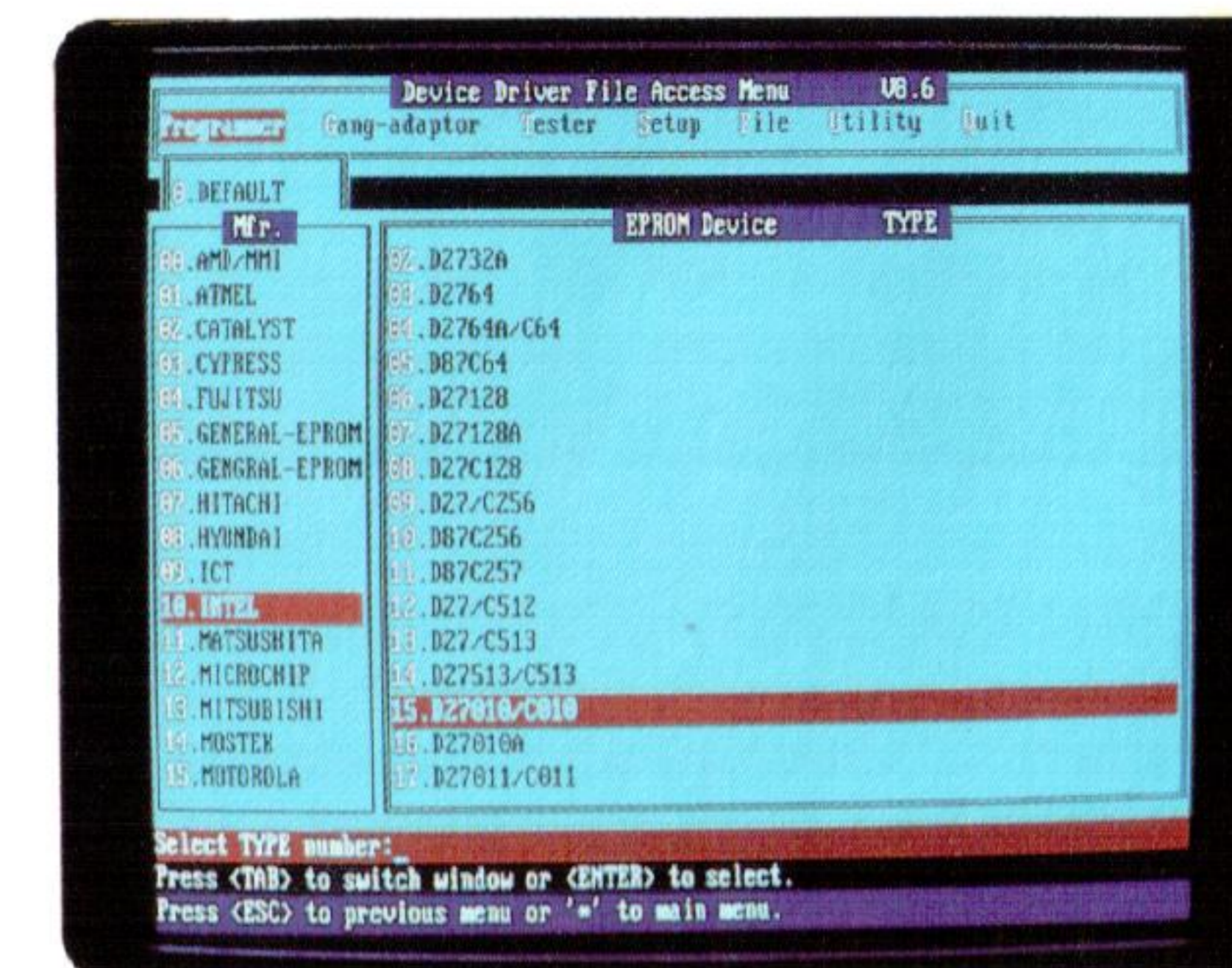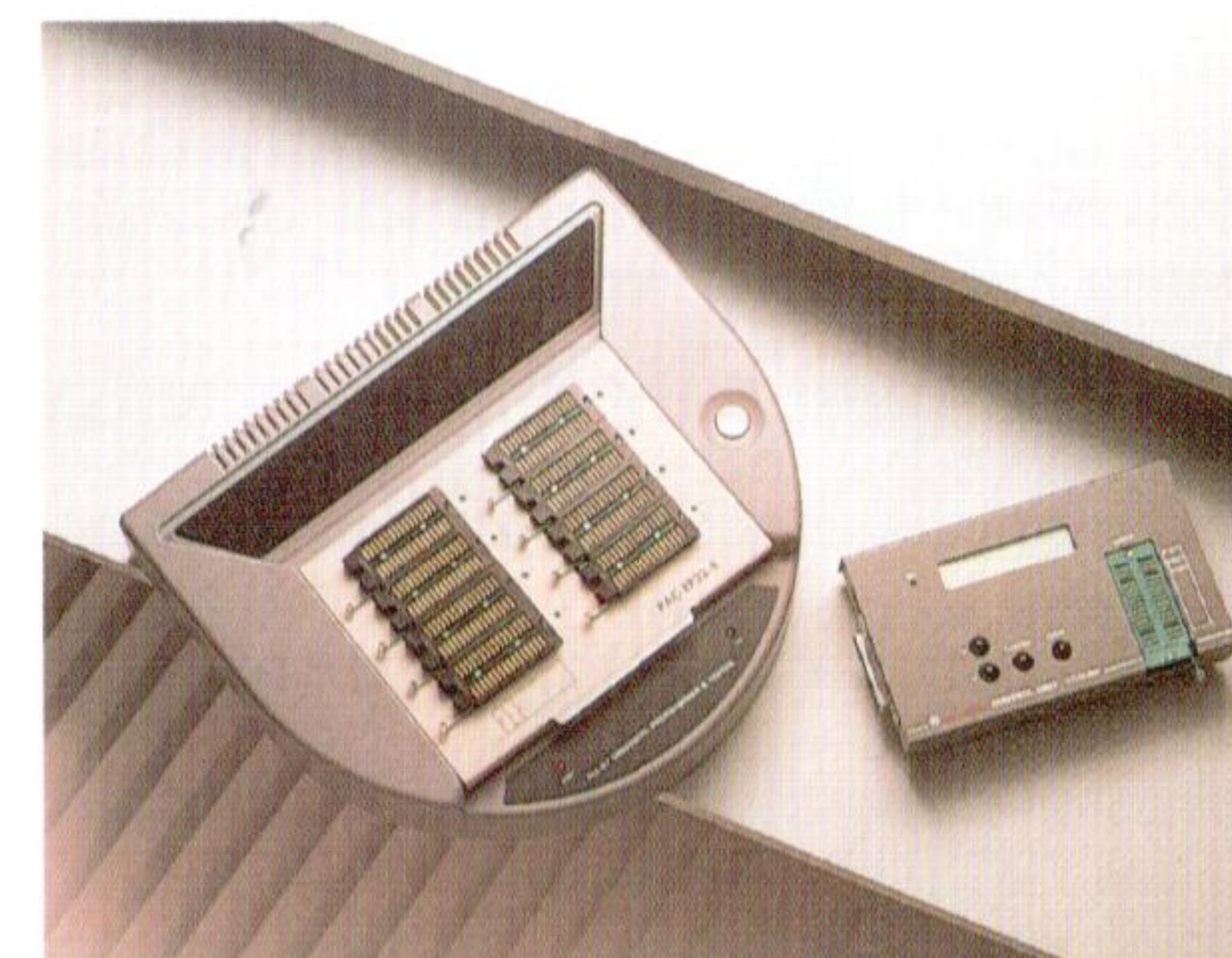
# PACKS

## Packs For ALL-07

### INTRODUCTION:

The PACK series of Universal Programmer modules have been very well received since their introduction in late 1993. The PACK modules let you fully utilize all of the capabilities built into our Universal Programmers for development and production programming. The following is a brief introduction to the PACK series:

**Universal DIP-32 PACK**
**PAC-DIP32**
1. Programs ICs in a DIP package ranging from 8 - 32 pins including E/EPROM, Serial PROM, BPROM, MPU, PLD, EPLD, GAL, FPL, MACH, MAX, MAPL, etc.
2. Socket converters can be added to the PAC-DIP32 pack for programming ICs in different packages, such as PLCC, SOP, TSOP, QFP, etc.

**Universal DIP-40 PACK**
**PAC-DIP40**
1. Programs ICs in a DIP package ranging from 8 - 40 pins including E/EPROM, Serial PROM, BPROM, MPU, PLD, EPLD, GAL, FPL, MACH, MAX, MAPL, etc.
2. Socket converters can be added to the PAC-DIP40 pack for programming ICs in different packages, such as PLCC, SOP, TSOP, QFP, etc.
3. Adapters can be added to the PAC-DIP40 pack for programming ICs of more than 40 pins or of particular pin assignment, such as INTEL 8796BH PGA type.

**Universal DIP-48 PACK**
**PAC-DIP48**
1. Programs ICs in a DIP package ranging from 8 - 48 pins including E/EPROM, Serial PROM, BPROM, MPU, PLD, EPLD, GAL, FPL, MACH, MAX, MAPL, etc.
2. Socket converters can be added to the PAC-DIP48 pack for programming ICs in different packages, such as PLCC, SOP, TSOP, QFP, etc.
3. Adapters can be added to the PAC-DIP48 pack for programming ICs of more than 48 pins or of particular pin assignment, such as INTEL 8796BH PGA type.

**Universal PLCC-44 PACK**
**PAC-PLCC44**
1. Programs most ICs in a 44-pin PLCC package including E/EPROM, MPU, PLD, EPLD, MAX, MACH, MAPL, etc.

**Universal PLCC-68 PACK**
**PAC-PLCC68**
1. Programs most ICs in a 68-pin PLCC package including MPU, PLD, EPLD, MAX, MACH, MAPL, etc.

**4 Gang PACK for DIP-32 EPROM**
**PAC-EP32-4**
1. Programs virtually all EPROM, EEPROM and Flash PROM that range from 24 - 32 pins.
2. High speed programming - only 7.5 seconds are required for programming four 27C256.

**8 Gang PACK for DIP-32 EPROM**
**PAC-EP32-8**
1. Programs virtually all EPROM, EEPROM and Flash PROM that range from 24 - 32 pins.
2. High speed programming - only 7.5 seconds are required for programming eight 27C256.

**4 Gang PACK for 16K-512K PLCC EPROM**
**PAC-EP512-4PL**
1. Programs virtually all EPROM, EEPROM and Flash PROM that range from 16K - 512K.
2. High speed programming - only 7.5 seconds are required for programming four 27C256.

**4 Gang PACK for 1M-8M PLCC EPROM**
**PAC-EP1M-4PL**
1. Programs virtually all EPROM, EEPROM and Flash PROM that range from 1M - 8M.
2. High speed programming - only 30 seconds are required for programming four 27C010.

**8 Gang PACK for 16K-512K PLCC EPROM**
**PAC-EP512-8PL**
1. Programs virtually all EPROM, EEPROM and Flash PROM that range from 16K - 512K.
2. High speed programming - only 7.5 seconds are required for programming eight 27C256.

**8 Gang PACK for 1M-8M PLCC EPROM**
**PAC-EP1M-8PL**
1. Programs virtually all EPROM, EEPROM and Flash PROM that range from 1M - 8M.
2. High speed programming - only 30 seconds are required for programming eight 27C010.

**4 Gang PACK for DIP-40 EPROM**
**PAC-EP40-4**
1. Programs virtually all EPROMs of 40 pins.
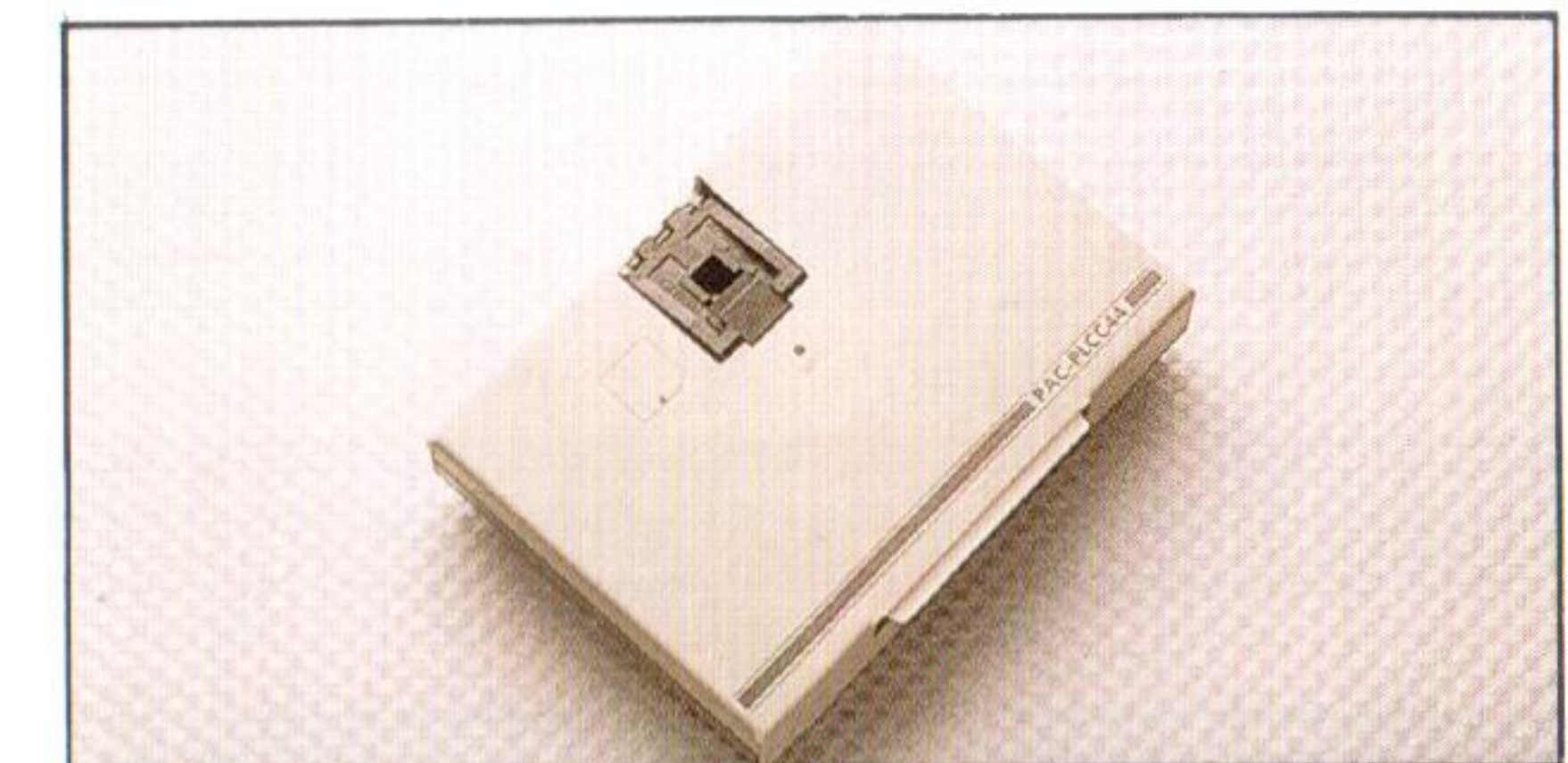2. High speed programming - only 25 seconds are required for programming four 27C1024.

**4 Gang PACK for PLCC-44 EPROM**
**PAC-EP40-4PL**
1. Programs virtually all EPROMs of PLCC 44 pins.
2. High speed programming - only 25 seconds are required for programming four 27C1024.

**4 Gang PACK for Memory Card**
**PAC-MEMCARD-4**
1. Programs virtually all PCMCIA 68-pin memory card.
2. High speed programming - only 99 seconds are required for programming four 1MB memory card.

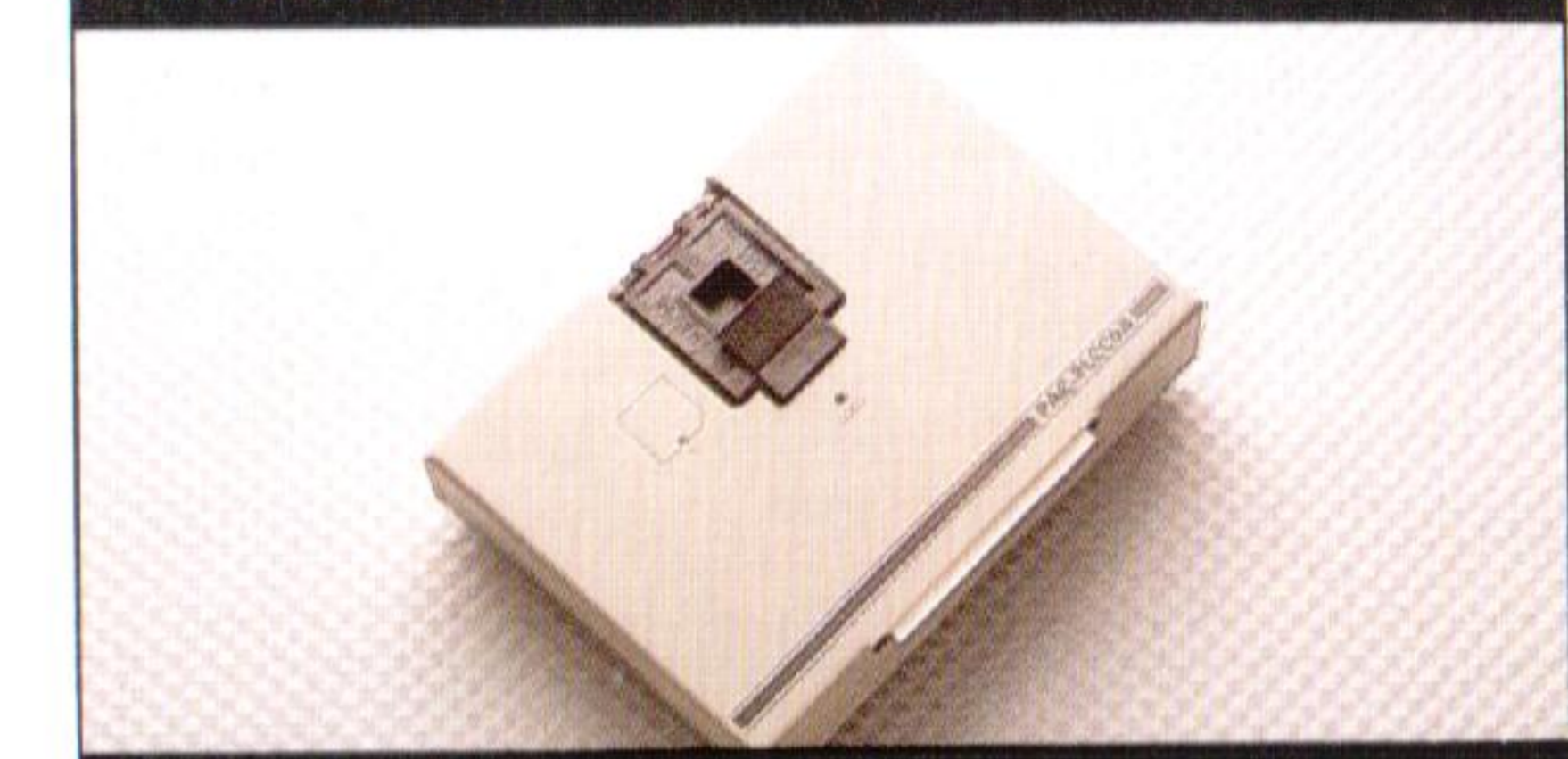**CON-200**
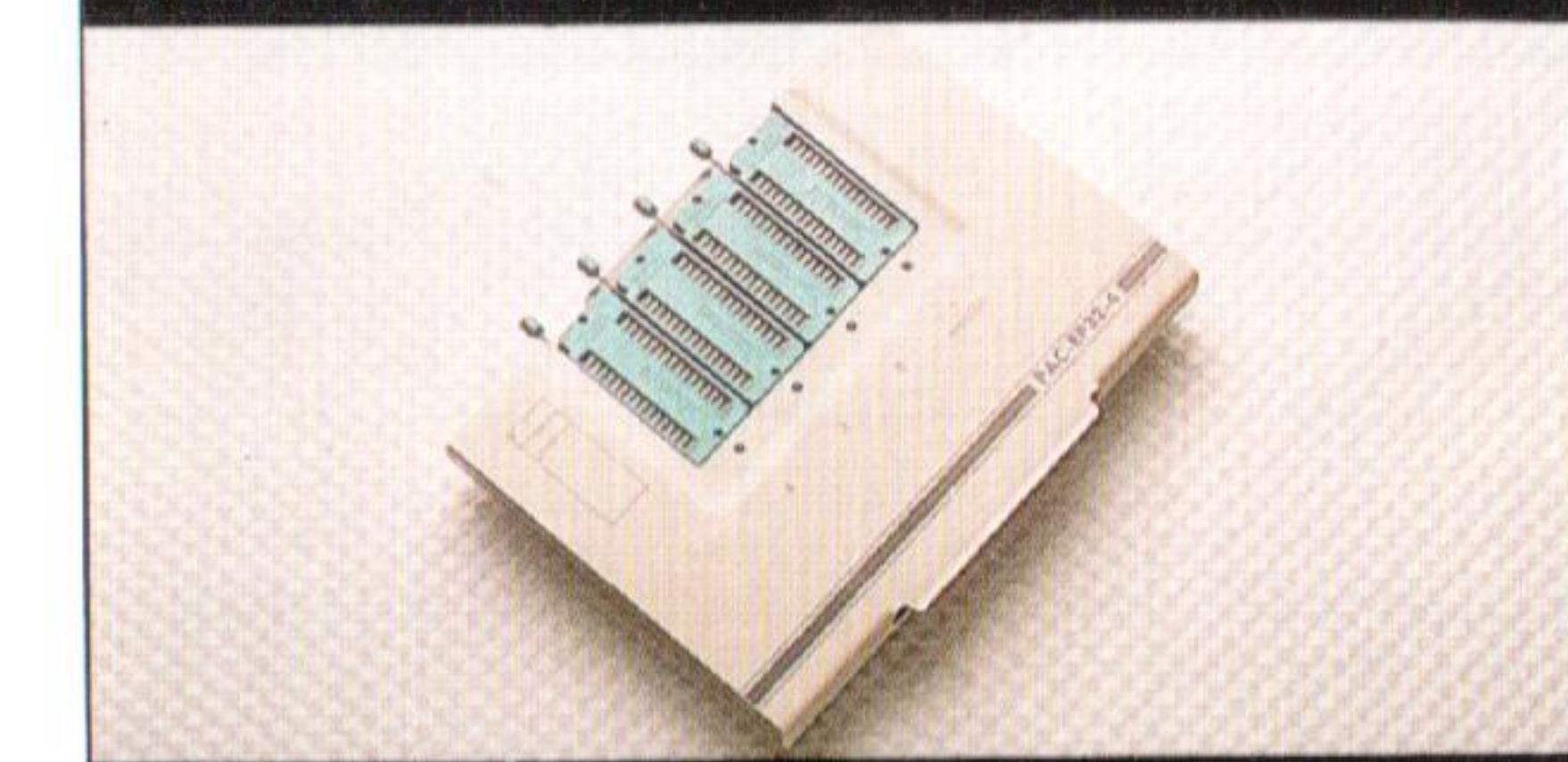**Stand-alone Unit for PAC-EP32-4, PAC-EP32-8, PAC-EP512-8PL, PAC-EP1M-8PL**
1. The CON-200 control unit eliminates the need for a PC when programming EPROM, EEPROM, or FLASH devices with the PAC-EP32-4, PAC-EP32-8, PAC-EP512-8PL, or PAC-EP1M-8PL.
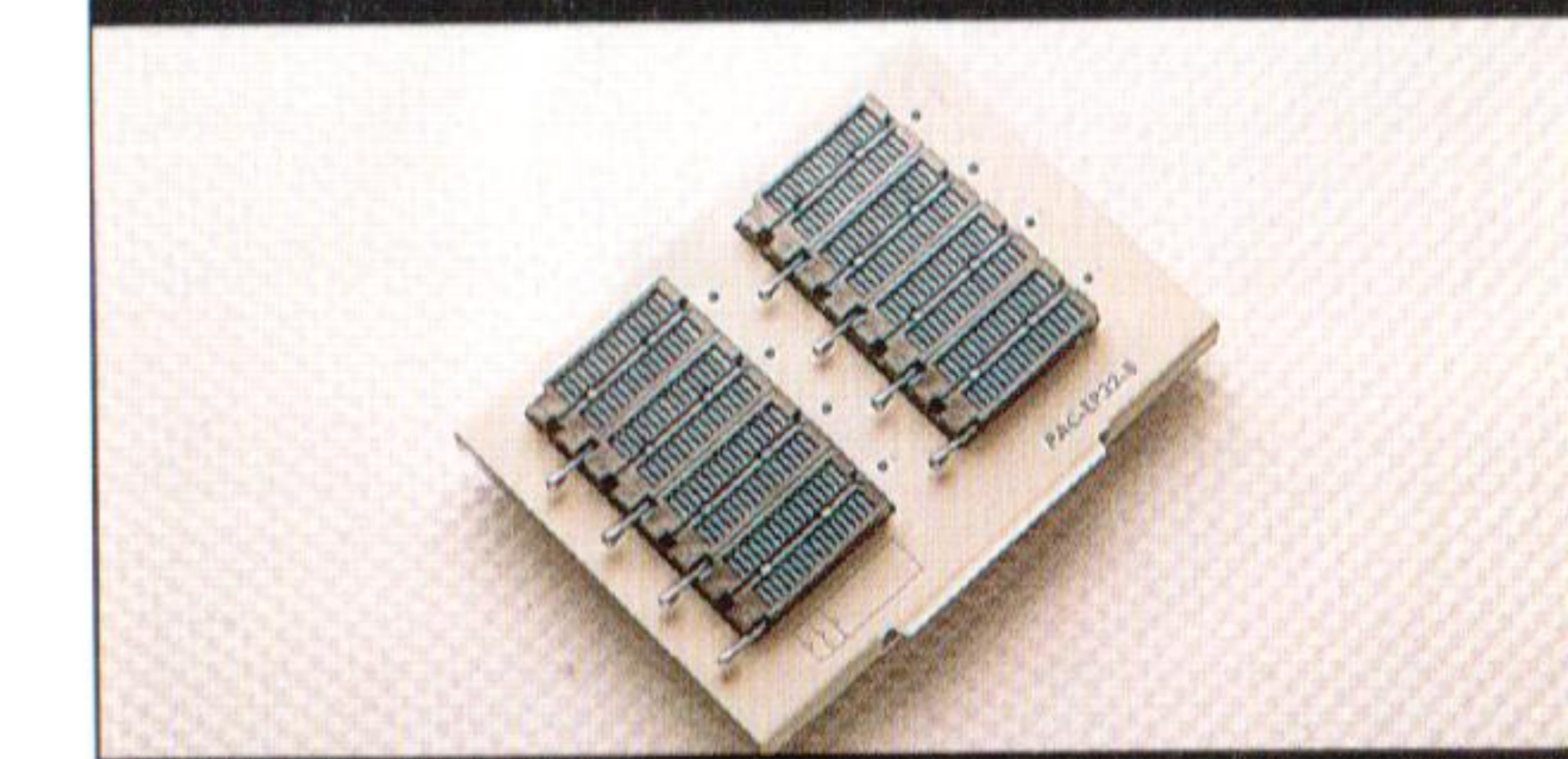2. High speed programming - only 7.5 seconds are required for programming eight 27C256.
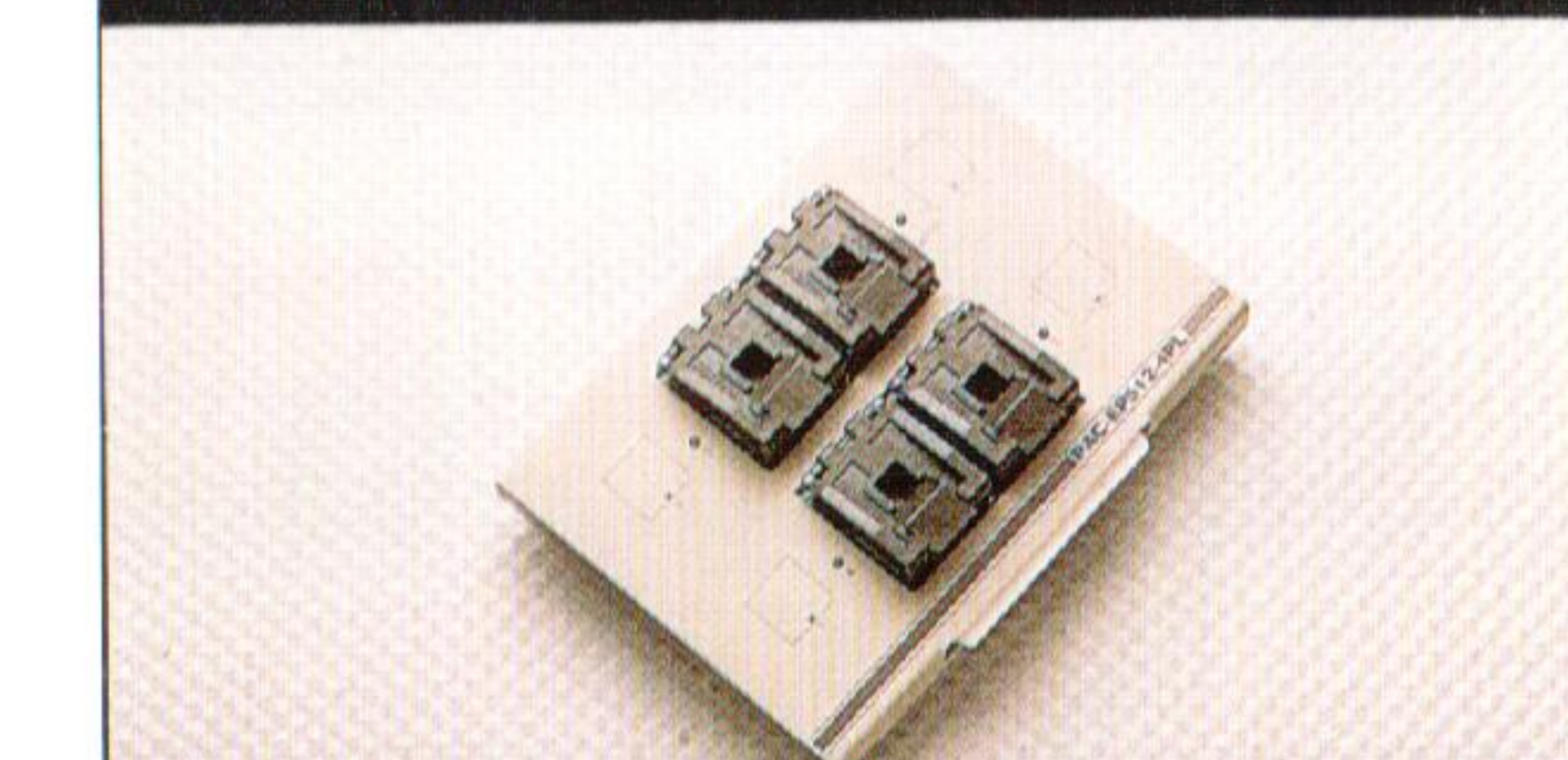


**Universal DIP-32 PACK PAC-DIP32**

**Universal DIP-40 PACK PAC-DIP40**

**Universal DIP-48 PACK PAC-DIP-48**

**Universal PLCC-44 PACK PAC-PLCC44**

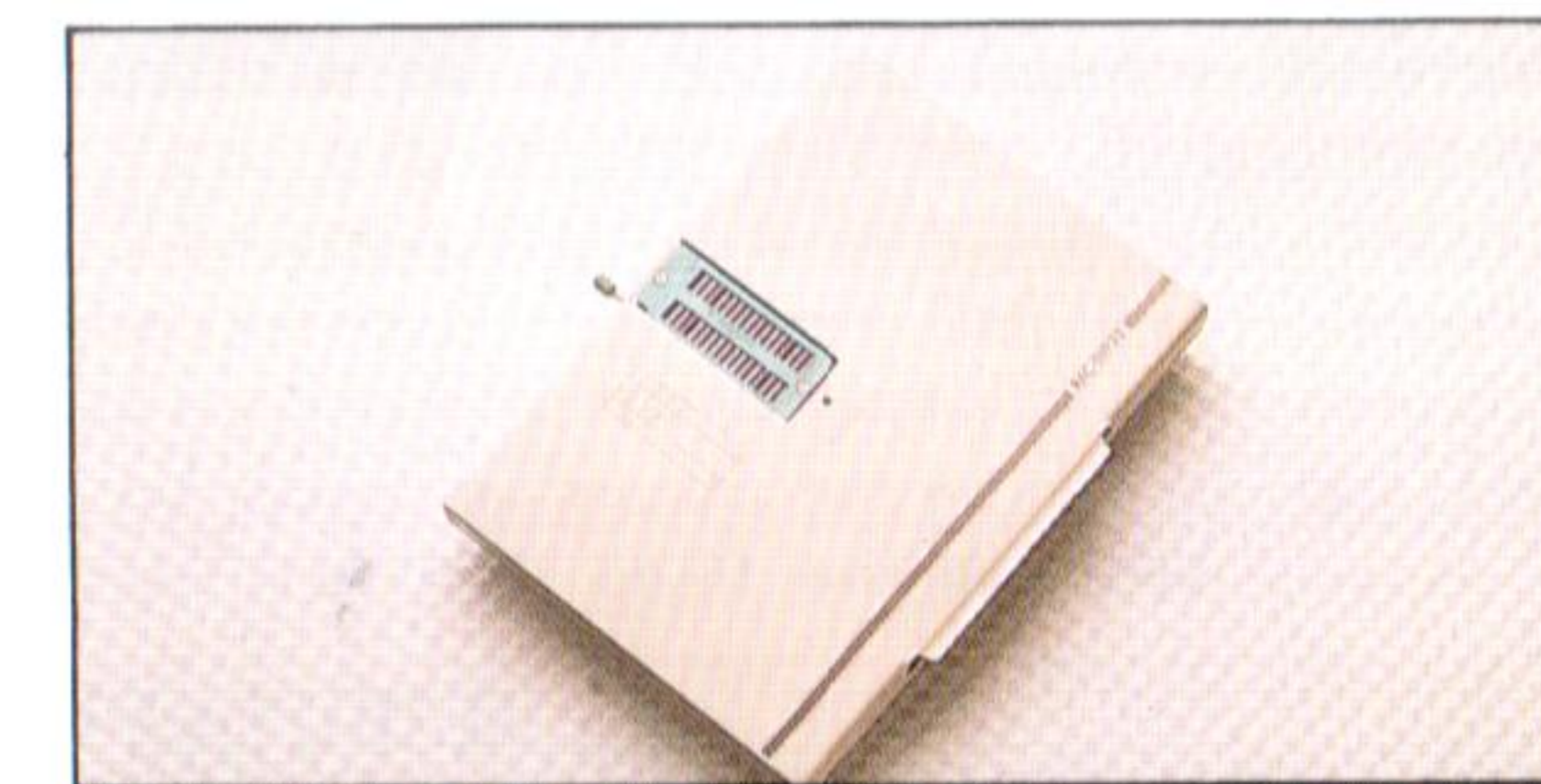**Universal PLCC-68 PACK PAC-PLCC68**

**4 Gang PACK for DIP-32 EPROM PAC-EP32-4**
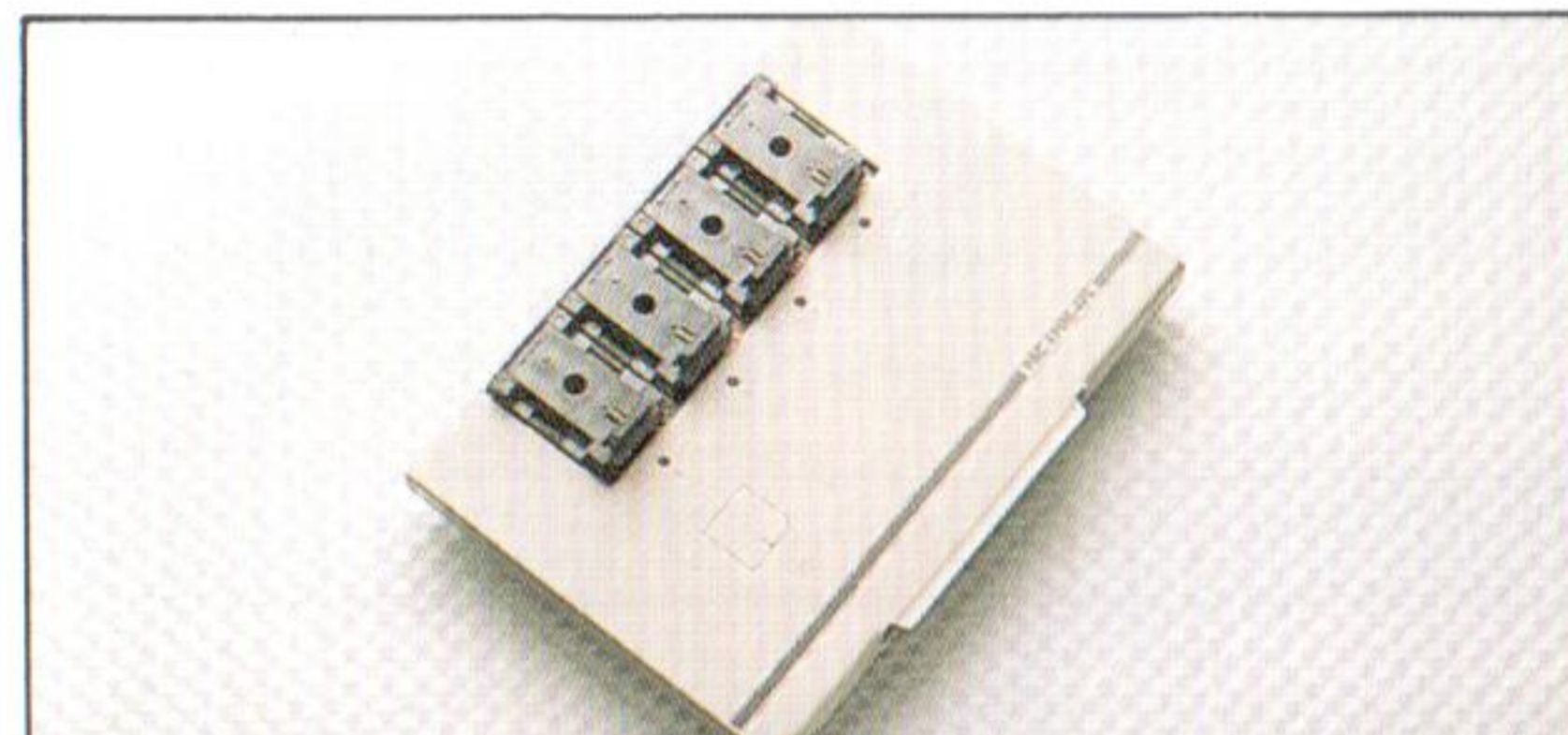
**8 Gang PACK for DIP-32 EPROM PAC-EP32-8**
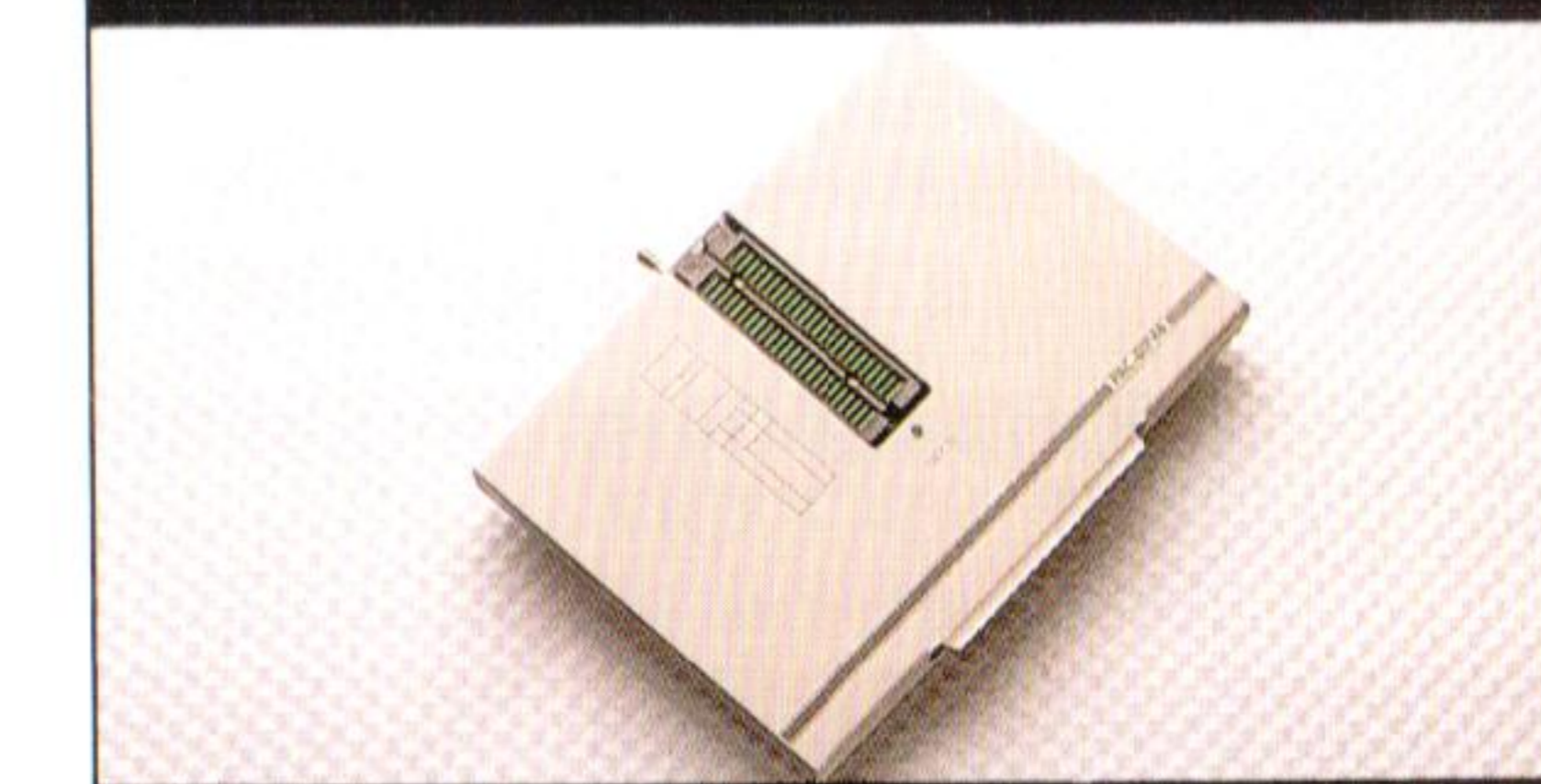
**4 Gang PACK for 16K-512K PLCC EPROM PAC-EP512-4PL**
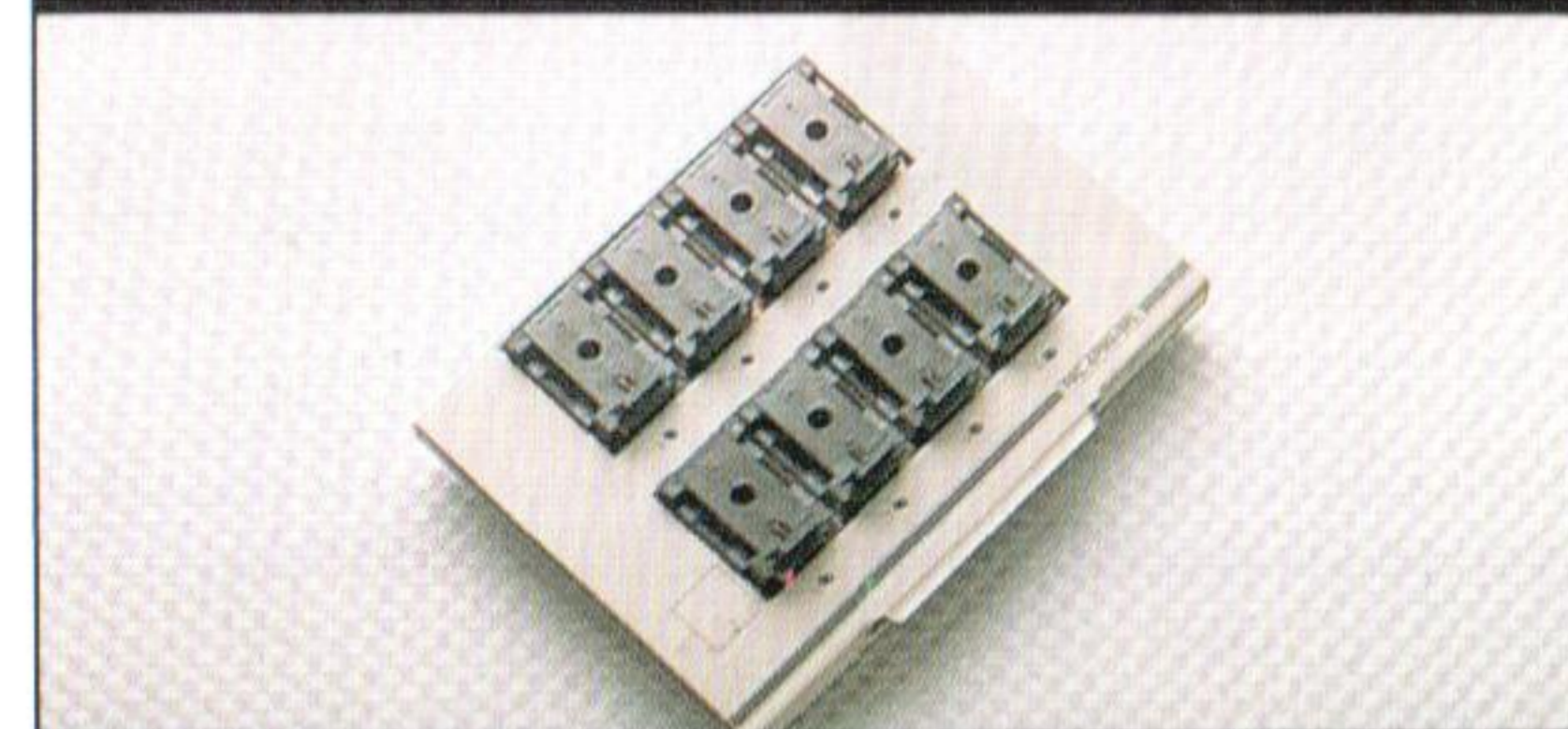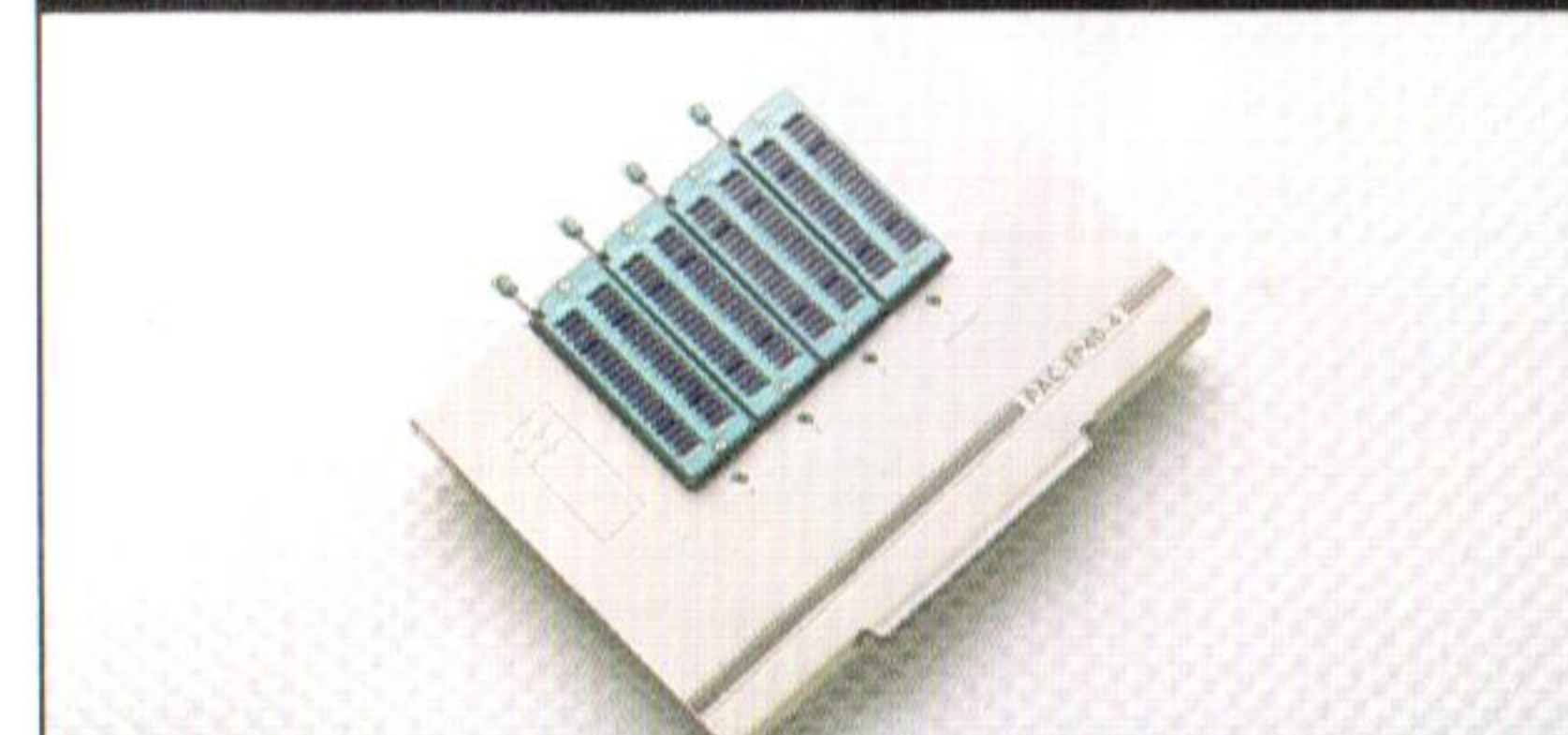
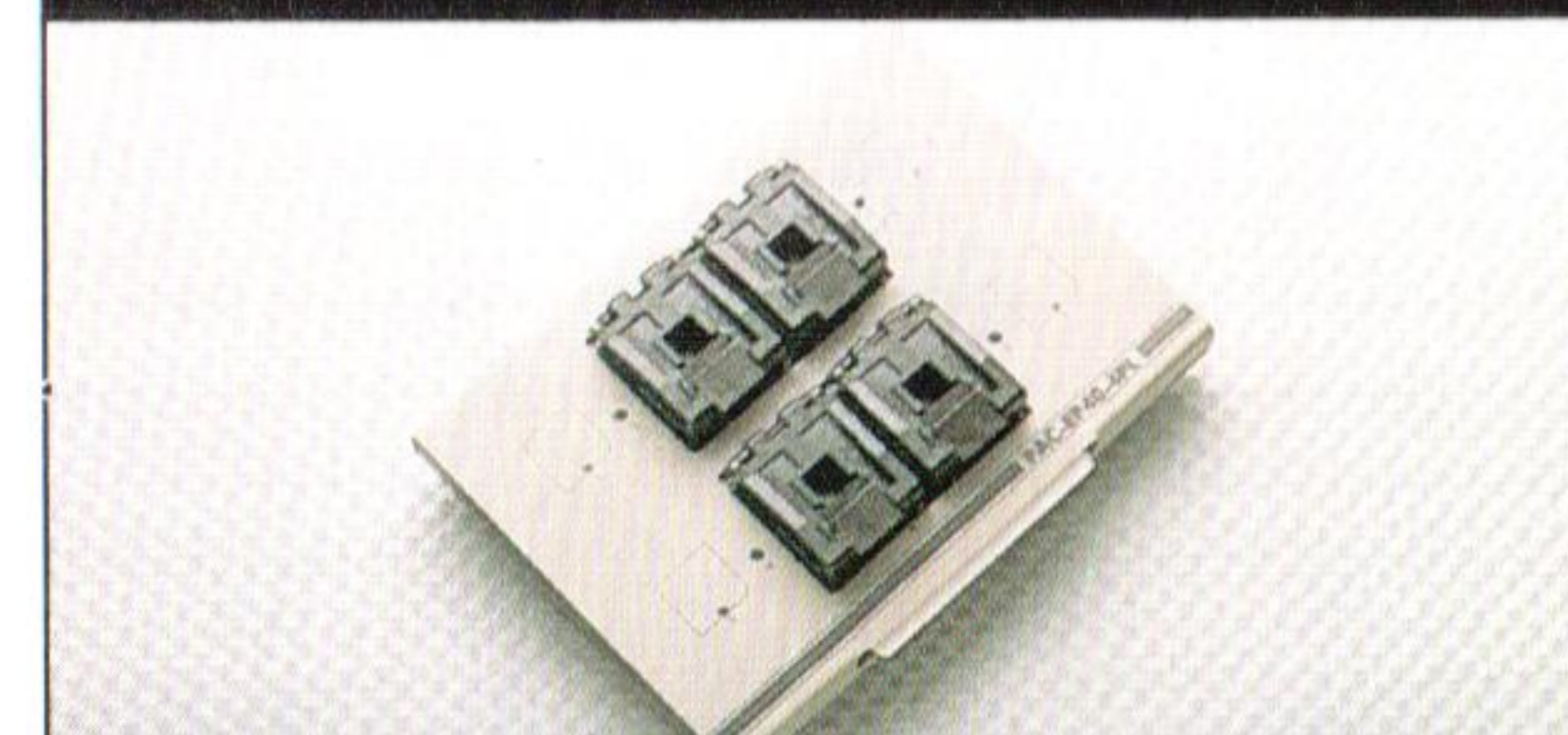**4 Gang PACK for 1M-8M PLCC EPROM**
**PAC-EP1M-4PL**
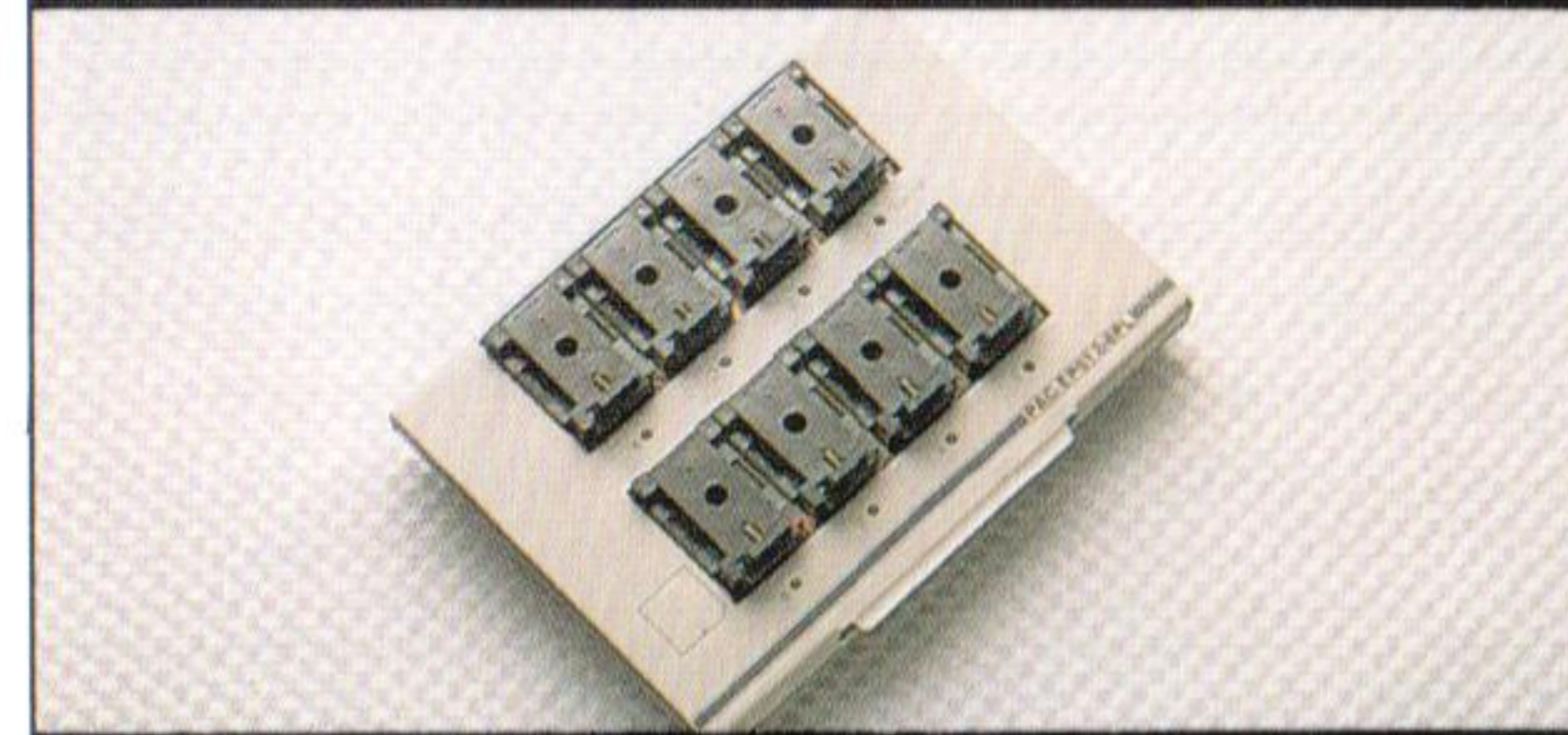


**8 Gang PACK for 16K-512K PLCC EPROM**
**PAC-EP512-8PL**



**8 Gang PACK for 1M-8M PLCC EPROM**
**PAC-EP1M-8PL**



**4 Gang PACK for DIP-40 EPROM**
**PAC-EP40-4**



**4 Gang PACK for PLCC-44 EPROM**
**PAC-EP40-4PL**



**4 Gang PACK for Memory Card**
**PAC-MEMCARD-4**



**CON-200**
**Stand-alone Unit for PAC-EP32-4, PAC-EP32-8, PAC-EP512-8PL, PAC-EP1M-8PL**

# ADAPTORS
## Adaptors, and Convertors For PAC-DIP40/48

### INTRODUCTION:

With the rapid development of ICs, many special packaging and different programming requirements have arisen. The special requirements vary from one IC to another, and are sometimes beyond the capabilities of a normal Universal Programmer pin driver circuit. For example:
- SIGNETICS 87C751/752 require a high speed serial data transmission;
- MOTOROLA 68705 series uses an inside program file for programming;
- NS D-PAL uses current source in programming;
- INTEL 8796 is produced in a 68-pin PGA packaging;
- ....

We have developed more than 133 adapters and 32 socket converters to enhance the functions of the Universal Programmer. The adapter designed for each specific requirement is the most convenient and cost-effective solution to making the Universal Programmer more truly universal.







### FEATURES:
All available adapters and PLCC converters, according to their different functions, are categorised into the following 5 groups.
1. PROM/MPU GROUP: for EPROM, EEPROM, BPROM, MPU and the like;
2. PLD Group: EPLD, GAL, PEEL, MAX, MACH and others;
3. Gang Socket Group: for EPROM, MPU, GAL and PEEL, etc., in volume production;
4. Special Group: Adapters with additional special functions, e.g. testing SIMM RAM, emulating EPROM...;
5. PLCC/QFP/SOP Converter Group: whose sockets are suitable for all brands of programmers.

### ORDERING INFORMATION:
Please refer to ''PACKS, ADAPTERS and SOCKET CONVERTOR'' list for more details.
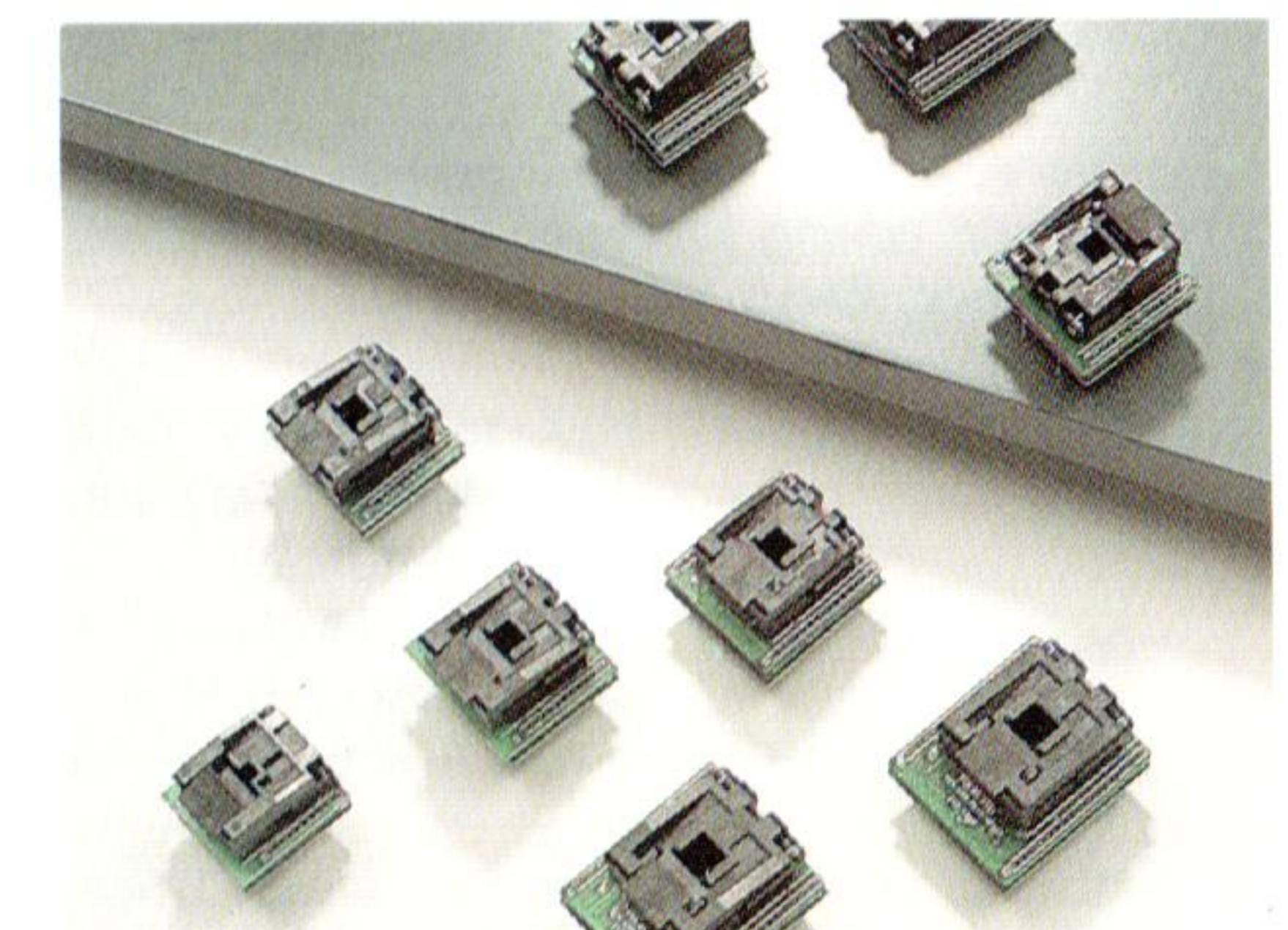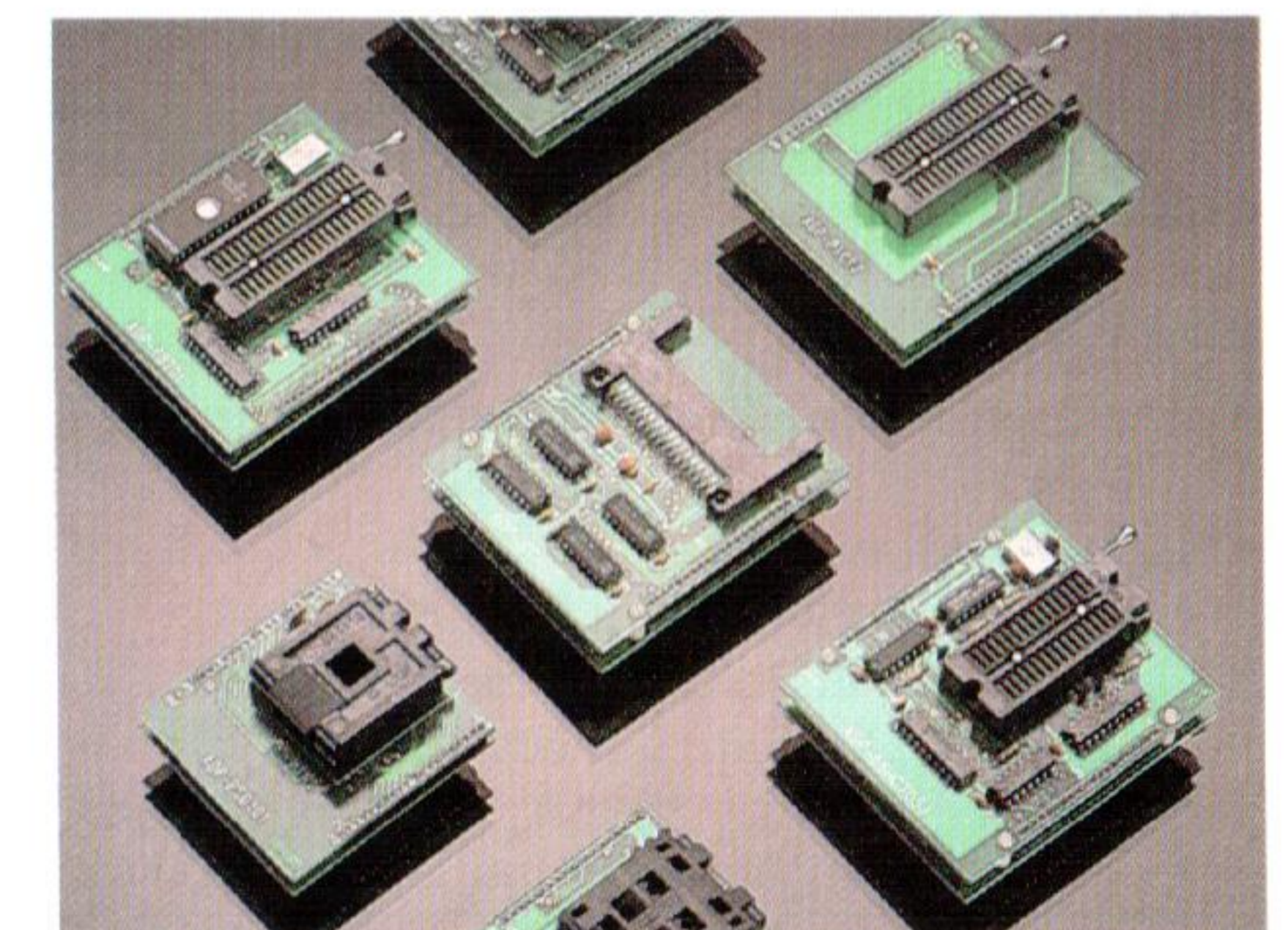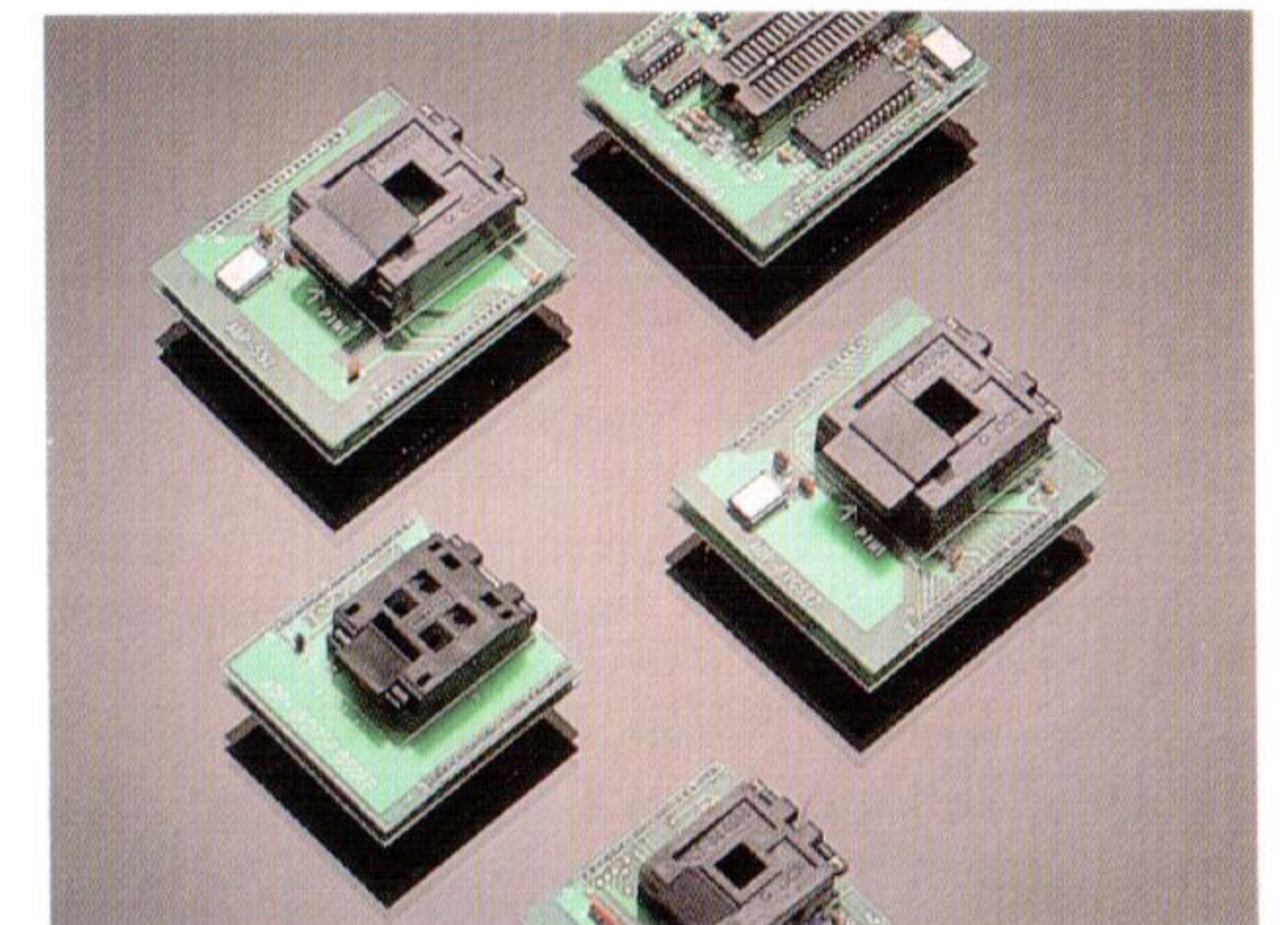
# SEP-81AE/84AE, EPP-01AE/04AE EPP-01CE

## Quick EPROM Programmer For XT/AT/386/486

### INTRODUCTION:

SEP-8xAE series, EPP-0xAE series, and EPP-01CE the new-generation PC-based programmers, are developed from our years of experience. It applies the newest high-speed interface card (SAC-201) to connect with PC and directly shares all its resources (CPU, Memory, I/O, Keyboard, Display, Disk, Power supply). Thus it achieves high efficiency, high speed, high capacity, high quality and is easy to operate. SEP-8xAE series program EPROMs up to 8 Mbit, whose capability suits most advanced users. EPP-0xAE series have similar programming speed and quality as SEP-8xAE series, except it programs only EPROMs no higher than 1 Mbit. EPP-01CE has similar programming speed and quality as SEP-8xAE series, except it programs only EPROMs no higher than 512Kbit.

### FEATURES:

- Window-driven menu. All functions are clearly in sight for a simple operation.
- Support following ICs:
  - Byte Wide NMOS/CMOS EPROM:
    - from 2716B to 27512 and 1 Mbit.
    - 2 Mbit, 4 Mbit, 8 Mbit
  - EEPROM: 2816, 2816A, 2817A, 2864A, 28256A
  - Page Mode EPROM: 27513, 27011
  - Flash EEPROM: 28F256-29F040
- Quick program time: 7.5 seconds for four 27256.
- Functions: DOS Shell, File loading and saving, Full screen editing for Binary and ASCII data, Blank check, Read, Program, Verify, Auto.
- Utility:
  - HEXBIN, HEXBIN2: HEX to BINARY code converter for Intel 80/86 HEX, Motorola S1/S2/S3 HEX. Tektronics HEX, Digital research HEX
  - SPLIT2, SPLIT4: 2-way and 4-way Binary file splitter
  - SHUFF2, SHUFF4: 2-way and 4-way Binary file shuffler
  - DUMP: Dump file to console in Binary format
- The protection facilities like noise filter, current limiter and short-circuit protect circuits keep the programmer to a very low defect rate.

### ORDERING INFORMATION:

# SEP-84AE: contains SEP-84AE programmer (four 8 Mbit sockets, SAC-201 interface card, D-25 cable, software and user's manual.

# SEP-81AE: contains SEP-81 programmer (one 8 Mbit socket), SAC-201 interface card, D-25 cable, software and user's manual.

# EPP-04AE: contains EPP-04AE programmer (four 1 Mbit sockets), SAC-201 interface card. D-25 cable, software and user's manual.

# EPP-01AE: contains EPP-01AE programmer (one 1 Mbit socket), SAC-201 interface card, D-25 cable, software and user's manual.

# EPP-01CE: contains EPP-01CE programmer (one 512Kbit socket), SAC-201 interface card, D-25 cable, software and user's manual.





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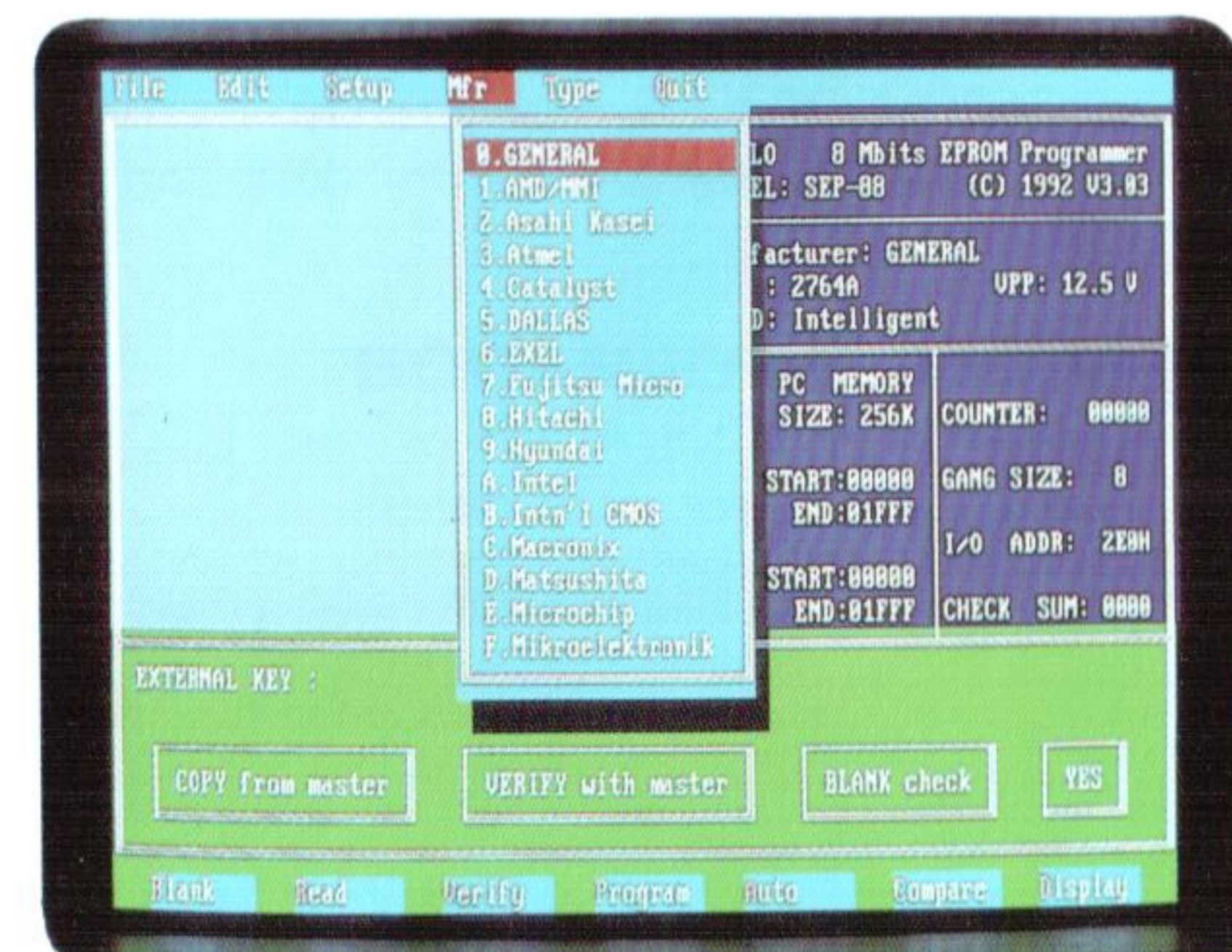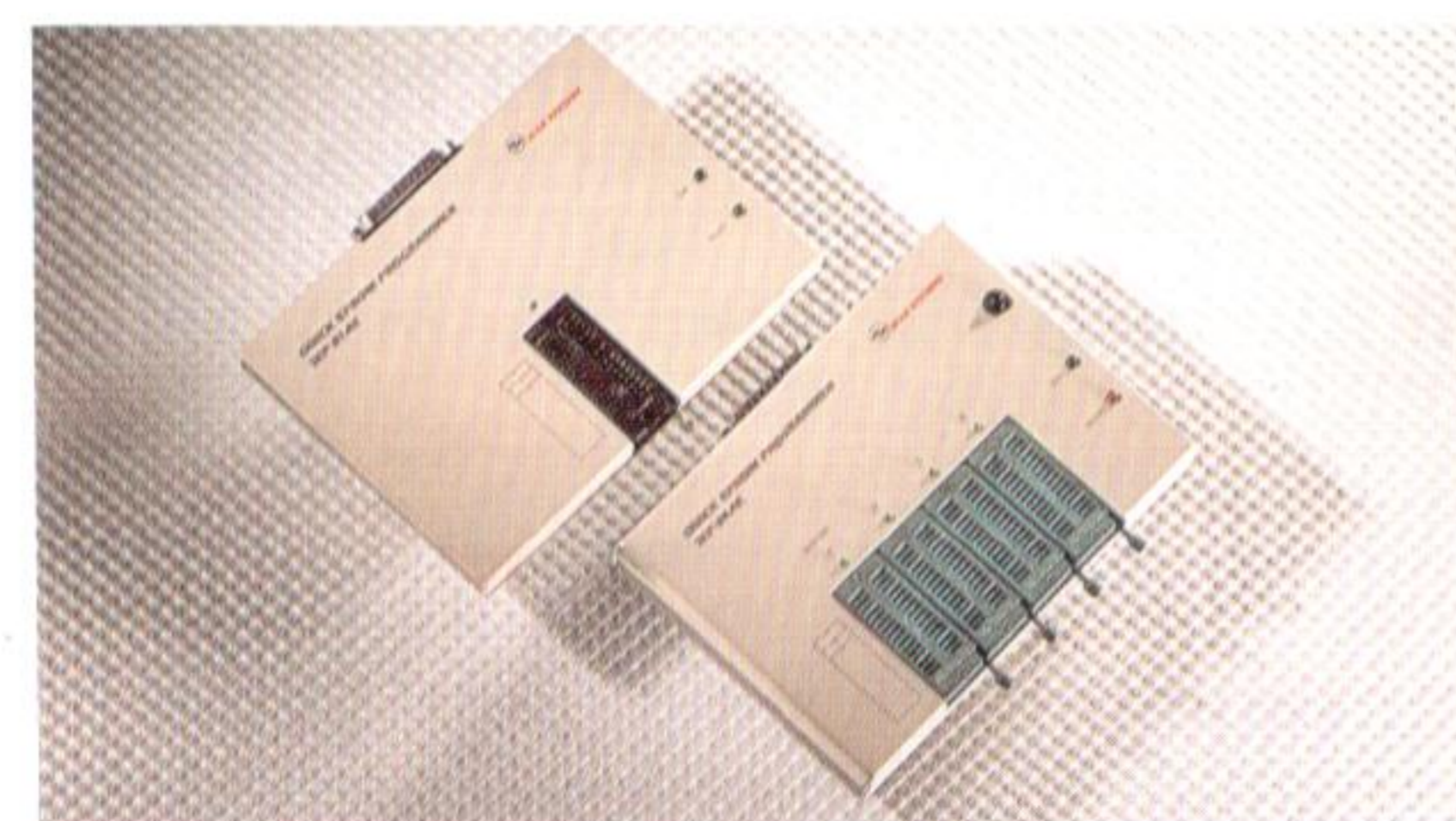
# CHIPRASE

## Handy EPROM Eraser

### INTRODUCTION:

The first professional UV EPROM eraser that lets you erase so many IC's in such a small space.

### Feature:

- Light weight, space saving, and durable plastic body design.
- Electronic Timer adjusts UV exposure from 10 to 60 minutes.
- Two layer design utilizes the top and bottom areas of the UV tube:
  Top layer capacity: Up to 8 pieces of 32 pin ICs.
  Bottom layer capacity: Up to 9 pieces of 40 pin DIP ICs.
- Top layer features a stair type receptacle for ICs. This ensure that all 24, 28, and 32 pin ICs are positioned correctly for maximum UV exposure. (IC windows face downward through an opening in the receptacle.)
- Automatic UV shut off switches protect users from UV exposure when opening the top cover or bottom drawer.
- Anti-static sponge surfaces provide ICs with protection from static pentatration.
- Power-on LED indicators.

### Specification:

- Dimension: 78mm(W)×71mm(H)×217mm(L)
- Gross Weight: 660g.
- Adapter: 9V DC, 600mA, 218g.
- UV light tube: 2537 A, 4W, 6 inches.

### Ordering Information:

- AT-701/110: 110VAC line voltage
- AT-701/220: 220VAC line voltage
- AT-701/240: 240VAC line coltage

# PRÜFER-20
## Handy IC Tester

### INTRODUCTION:

PRÜFER-20 is an easy-to-operate and cost-effective IC tester with excellent functions. Its test range covers TTL 74 series, CMOS 40/50 series, DRAM 4164-411000, 4416-44256. It is specially designed for maintenance technicians and design engineers.

PRÜFER-20 has compact functions. It is controlled by an eight-bit microprocessor with data of ICs to be tested. Because of its smart circuit, the user need only replace the built-in program (EPROM type) when updating.

### FEATURES:
- Test key: for testing digital ICs TTL 74 series, CMOS 40, 45 series and DRAM 4164-411000, 4416-44256
- Search key: for searching unknown logical IC number
- Type key: for selecting different types of TTL, CMOS, and DRAM series
- Reset key: to reset the tester
- LCD display of 16 characters in one line
- 9V battery and 9V AC-DC adaptor
- Auto power down reduces power consumption

### ORDERING INFORMATION:
PRÜFER-20: includes a PRÜFER-20 IC tester, 9V battery and user's manual.



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# EML-ROM2M
## ROM/RAM Emulator For PC/XT/AT/386/486

### INTRODUCTION:

EML-ROM2M is a simple, easy and affordable developing tool. It meets design engineers' requirements in general firmware houses, saves EPROM material consumption and reduces repeated time in erasing the EPROMs.

Our software enables you to load the file directly from disk to emulator and to use the full screen editor to efficiently modify the file either in HEX format or ASCII format.

The hardware circuit includes 2 independent emulators controlled by software. This flexibility allows 2 different ROMs or RAMs, which acts as two 8-bit emulators with 128K Byte capacity as well as one 16-Bit (Even/Odd) emulator with 128K word capacity.

Automatically saving the emulated file for your next emulation reference is a superior function not found in other emulators.

A disassemble environment is provided to allow other relevant software to disassemble the machine code. This enhances the readability of machine code.

### FEATURES:
- Two independent 8-Bit emulators can be combined by software control as one 16-Bit (Even/Odd) emulator.
- Direct down-load or up-Load filing to PC can be done through PC bus for immediate operation.
- The emulators can be assigned to ROM or RAM seperately by software control. The ROM/RAM access time is 120 ns.
  ROM: 2764/C64, 27128/C128, 27256/C256, 27512/C512, 27C010, 27C1024, 27C2048, 27C020
  RAM: 6264, 62256, 581000 (1M SRAM)
- 2 signal outputs for Reset and Halt control.
- DOS shell function: shares the DOS resources and keeps the control software in PC memory.
- Load and Save function: performs 8-Bit file or 16-Bit file down-load or up-Load.
- Display function: touch a single key to display ROM/RAM contents under main menu.
- Binary Code Disassemble: relevant options are available to disassemble Binary code.

### ORDERING INFORMATION:
- EML-ROM512 (1MB version) includes:
  Emulator module, system adaptor (SAC-201), 25 D-type cable, 2 PODs for 1 Mbit EPROM, 2 flat cables with 28 pin DIP connectors, user manual and control software.
- EML-ROM2M (2MB version) includes:
  Emulator module, system adaptor (SAC-201), 25 D-type cable, 2 flat cables with 28 pin DIP connectors 2 flat cables with 32 pin DIP connectors: 1 POD for 2 Mbit EPROM (byte wide), 1 POD for 1 Mbit or 2 Mbit EPROM (word wide), user manual and control software.
- Relevant software sold seperately:
  – DASMZ80.EXE : Z80 disassembler
  – DASM51.EXE : 8051 disassembler
  – DASM48.EXE : 8048 disassembler
  – DASM85.EXE : 8085 disassembler
  – DASM09.EXE : 6809 disassembler
  – DASM11.EXE : 68HC11 disassembler

# V'Nice-52

## 8051 Series In-Circuit Emulator

### INTRODUCTION:

The V'Nice-52 offers real emulation of the 8051 series. The emulator occupies no space in interrupt, serial channel, code space, I/O port, etc. of the microcontroller. Also, the V'Nice-52 system comes standard with 128k emulation memory with no need for expensive memory upgrades in the future.

The architecture of the V'Nice-52 uses the microcontroller itself in the special "Hooks" mode for true hardware and software emulation.

The V'Nice-52 uses a small, parallel system interface card which is plugged directly into the PC-bus. The emulator unit is then connected to the system interface card via a standard D-25 type cable. The unit is connected to a flat cable which plugs directly into your target board.

#### MENU-DRIVEN

The software uses pull-down menu-driven functions.

The main screen will show the following four individual information windows.

1. The Special Function Registers (SFR) Window displays contents of commonly used registers.
2. The Code Window displays the user's source code in both HEX and assembly mnemonic formats including symbolic information.
3. The Data Memory Window display on-chip RAM values.
4. The External Data Memory Window displays the 64K external data RAM values.

#### FLEXIBLE EDITING

The V'Nice-52's full screen editor allows you to directly modify or edit Code Memory, External Data Memory, Special Function Registers, On-chip RAM and Bit Addresses. You can edit in HEX or ASCII format. A line assembler is provided to edit small parts of your program in RAM without having to reassemble, link, and load your entire program over and over again.

#### DEBUGGER

The V'Nice-52 comes with a C and ASM symbolic debugger. You can combine BIN or HEX code with SYM for emulation in your code's original format.

#### SINGLE STEP

The single step feature can be used to step through every instruction. It can also be used to step through every instruction but execute subroutines in real time.

### BREAK POINT

The V'Nice-52 has extremely efficient 64K hardware breakpoints. It breaks on timing of fetch, read, and write instructions, on an external signal, and on 10 sets of conditional addresses, and on combinations of all of these conditions.

These features make it very easy to follow the program execution on the screen and to figure out where the problems lie.

### FEATURES:

- The complete memory consist of a 64K-byte code memory and a 64K-byte external data memory: It takes no space in user memory, I/O, interrupt, register, or stack.
- Code memory and external data memory can be mapped to the emulator or the target in 4K byte blocks.
- A 1-bit external signal input is provided for conditional break.
  18-bit external signal inputs are available for conditional trace.
- Downloads BIN, HEX, and SYM files to the code memory, and downloads data to the external data memory.
- In-line assembler and in-line disassembler; the disassembled file can be saved on diskette.
  The full screen editor can edit and modify the following data:
  1. Code memory.
  2. External data memory.
  3. All internal SFR of the CPU.
  4. All RAM and bit data inside the CPU.
- Sets conditions for 10 breakpoint sets and operates efficiently with external signals.
- Performs Real Time Go, Single Step Go and Slow Go. The operational processing of Code, SFR, External Data, On-chip RAM can be clearly observed from the information windows.

CPU descriptions: applies the "HOOK" technique to directly emulate the following CPUs.

- mode 0: emulates the external ROM and RAM of 8031, 80C31, 8032, 80C32.
- mode 1: emulates the internal ROM of the 8051, 80C51, 8052, 80C52.
- mode 2: emulates the internal ROM and external ROM of the 8051, 80C51, 8052, 80C52.

### ORDERING INFORMATION:

V-Nice-52 includes: Emulator unit, system adapter card (SAC-201), 25 pin D connector and cable, 40 pin flat cable with DIP IC connector, software, and user's manual.
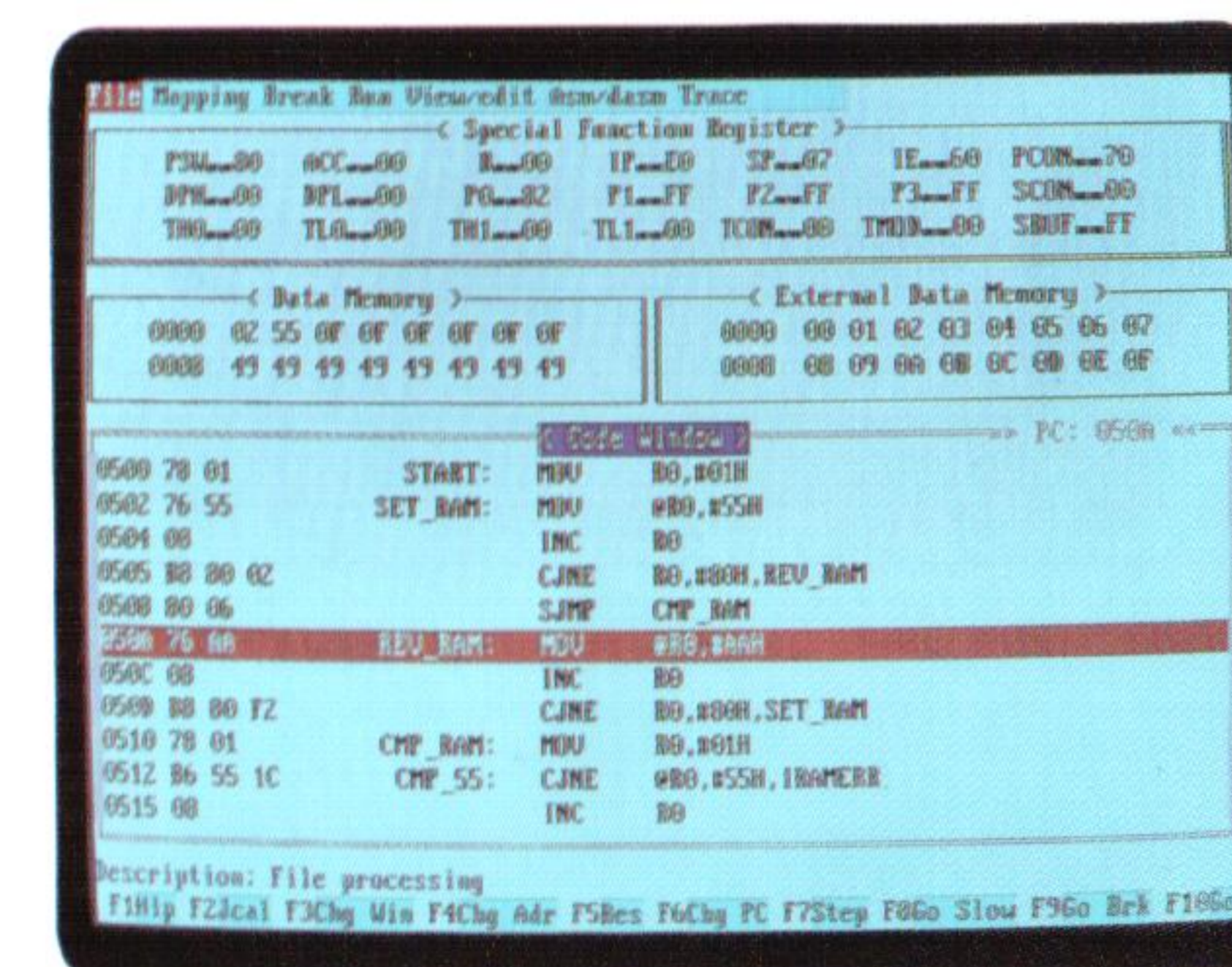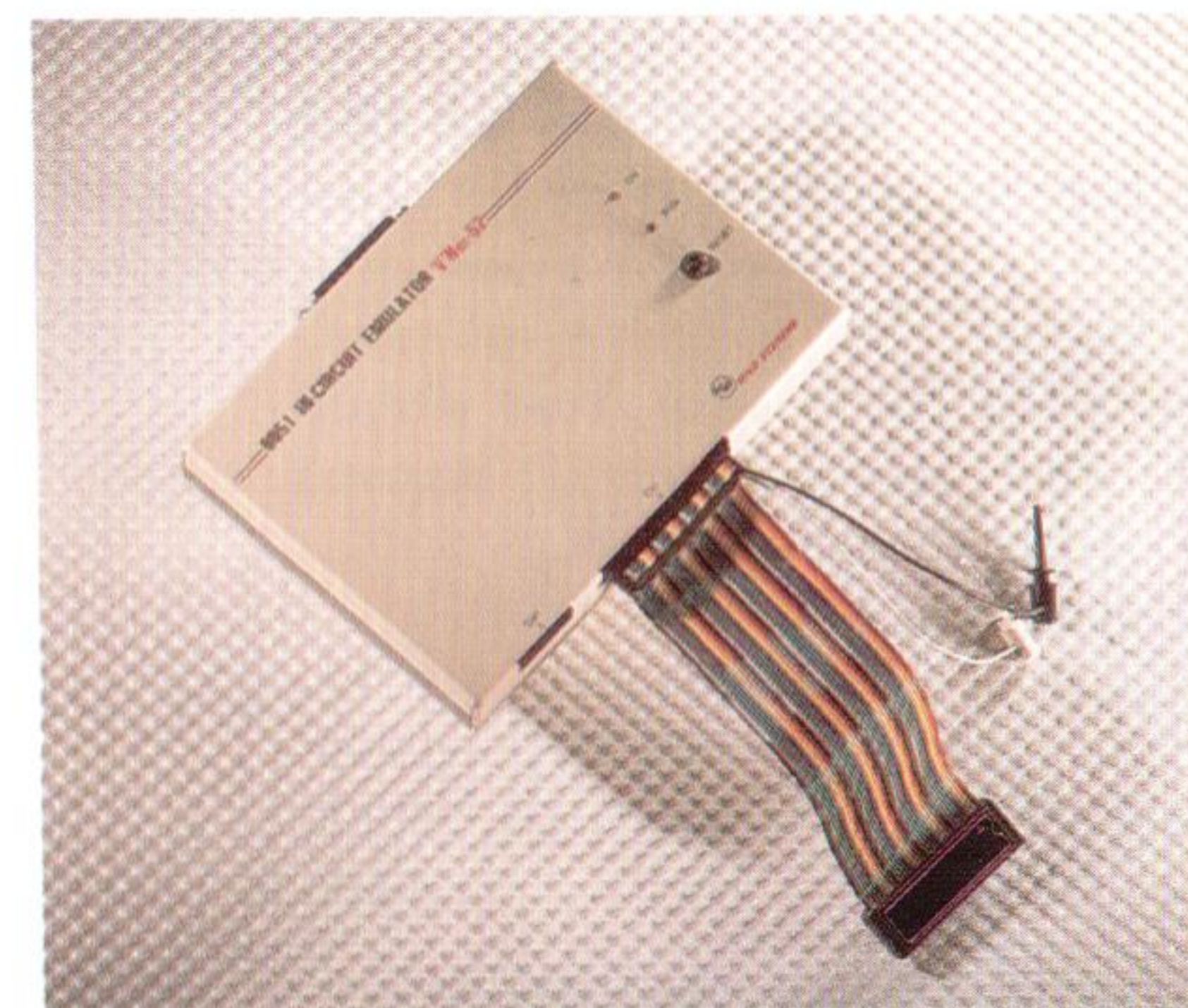
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