



# ChipWriter

## ROM/RAM Emulator

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The Data I/O® line of EPROM and RAM/ROM emulator cards expands the ChipWriter™ programming system into a powerful in-system development tool for real-time code editing and emulation capability. Available in 8- and 16-bit configurations (128K × 8 or 16 and 512K × 8 or 16), the optional emulators support EPROMs, RAMs and ROMs up to 8 Mb. Their extremely fast download times optimize design and development efficiency. And with their variable voltage capability, you can emulate 5V, mixed-voltage, and 3V devices — all with one development system.

The easy-to-use, Windows® software provides a wide range of powerful and flexible features — including “on-the-fly” code editing during emulation, programmable active high/low interrupts, and programmable active high/low resets (supplied by the programmer’s ZIF socket). The communications channel is designed to support bidirectional communication between the target system and your PC. 8051 protocol source code is included, along with instructions to generate source code for other processors.

Each emulator system comes complete with a circuit board fitted with an edge-card connector, emulation software, data manual, and emulator cable(s). The 8-bit systems include one cable with an attached 32-pin DIP header. The 16-bit models come standard with two 8-bit emulator cables, both with 32-pin DIP headers, plus a 16-bit EPROM adapter that converts the two 32-pin headers to a single 40-pin DIP header. Third-party adapters are available to modify the DIP headers for emulation of surface-mount devices.

Supplied as a card that slides easily inside the ChipWriter programmer case, the emulator’s built-in design makes emulation and debugging simple and convenient. The programmer/emulator will operate with any XT or later IBM-compatible PC (386 and above recommended) with a standard IBM DB 25 interface (parallel printer port). The software is compatible with Windows 95 or MS-DOS.® Several 8-bit standard file formats are accepted, including raw/binary, Motorola S records, and several HEX formats: Tektronix, Extended Tektronix, Intel and ASCII-SPACE-HEX. Sixteen and 32-bit formats are supported using the programmer’s byte-swapping feature.

**DATA I/O**

## With ChipWriter ROM/RAM Emulator Cards\*, You Can:

- Emulate 8-bit ROMs/EPROMs, including latched EPROMs
- Emulate 16-bit ROMs/EPROMs or 2 × 8-bit EPROMs, including latched EPROMs (16-bit Emulator versions only)
- Emulate 8-bit RAMs
- Emulate in 3.3-volt or 5-volt systems
- Modify data on-the-fly during active emulation
- Upload contents from the emulator and save to disk
- Support bidirectional communication between the target system and the PC
- Generate interrupts asynchronously from the communications port or via the IRQ addressing system
- Generate active high and low resets, using the programmer ZIF socket (300mA at 5V or 3.3V)
- Download data rapidly (128Kbytes in 3 seconds)
- Verify correct emulator installation and operation using the system's self-test software

\* Emulator cards compatible with ChipWriter only. Not supported on ChipWriter Portable or ChipWriter Gang configurations. Cards do not emulate Flash devices.

## Specifications

### Device Support

Emulator Size	128K × 8	512K × 8	128K × 16	512K × 16
EPROMs/ROMs	128K × 8	512K × 8	128K × 16 256K × 8 2 × 128K × 8	512K × 16 1024K × 8 2 × 512K × 16
RAMs	128K × 8	512K × 8	256K × 8	1024K × 8

### Emulation Speed

- 100 ns minimum access time

### File Formats

- RAW/BINARY
- ASCII-SPACE-HEX
- ASCII-OCTAL
- HEX-AUTO RECOGNITION
- HEX-MOTOROLA S1, S2 and S3 RECORDS
- HEX-INTEL MCS86
- HEX-TEKTRONIX
- HEX-EXTENDED TEKTRONIX

### Standard Accessories

- Self-test software
- User manual
- One 8-bit emulator cable with attached 32-pin DIP header (8-bit systems)

- Two 8-bit emulator cables with attached 32-pin DIP header, and one 16-bit EPROM adapter (16-bit systems only)

### Minimum System Requirements

- Any XT or later PC or compatible (386 recommended)
- Windows 95 or MS-DOS 3.0 or higher
- Hard disk drive
- Recommended available disk space: 2 MB (for both the programmer and emulator)

### Operating Voltages

- 100/110/220/240VAC

### Physical Dimensions

- 5.7 x 6.1 x 0.4 in (145 x 155 x 10 mm)

### Weight

- 0.2 lb (88 g)

### Shipping weight

- 0.5 lb (227 g)

### Temperature

- Line Supply: +32°F to +158°F (+0°C to +70°C)
- Battery Supply: +50°F to +95°F (+10°C to +35°C)

### Humidity

- 20% to 80% RH noncondensing

## Ordering Information

Order Code: †	CW-128X8EMUL	CW-512X8EMUL	CW-128X16EMUL	CW-512X16EMUL
Board Configuration	128K × 8	512K × 8	128K × 16	512K × 16
8-bit emulator cable w/32-pin DIP header	quantity 1	quantity 1	quantity 2	quantity 2
16-bit EPROM adapter ††	N/A	N/A	quantity 1	quantity 1

†Systems include user software and manual

††Converts two 32-pin headers to a single 40-pin DIP header



## DATA I/O

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