# Introducing ...the world's lowest cost computer system

JOLT<sup>®</sup> is the new, fully-tested microcomputer with the exclusive on-board DEMON<sup>®</sup> debug monitor. You can build it, plug it in and talk to it in three hours or less . . . for a price of just \$249!

The basic JOLT<sup>(10)</sup> card includes an 8-bit MOS Technology Model 6502 CPU, which requires no clock, can directly address 65k of memory, has two index registers, 58 instructions with 11 addressing modes, two interrupts and includes both single step and address halt capability. And that's only a part of it.

JOLT's<sup>TM</sup> CPU card is available IMMEDIATELY\* in either kit form or assembled (\$249 for the kit in single quantity and \$348 assembled). Either way, the JOLT<sup>™</sup> CPU is completely tested prior to delivery. It comes complete with a terminal interface (TTY or EIA) and a unique software DEbugger/MONitor called DEMON<sup>®</sup>, for which full documentation is provided. It is very easy to program, and any JOLT<sup>®</sup> delivery includes an easy-tofollow assembly instruction manual, showing you exactly how to put everything together ... correctly. Complete assembly should take you no more than three hours if you choose the CPU in kit form. Besides the JOLT<sup>™</sup> CPU — the 6502 from MOS Technology - the basic JOLT® card has a fully static memory accommodating 512 bytes of the user RAM. The JOLT<sup>®</sup> CPU memory also has 64 bytes of interrupt vector RAM. ROM Program memory on the basic card consists of 1k bytes of monitor/debugger with an automatic Power-On bootstrap program — so you can start talking to JOLT<sup>™</sup> and it to you as soon as you plug it in to your terminal. On-board Input/Output devices on the JOLT<sup>®</sup> CPU card include TTY 20 milliamp current loop and an EIA interface, both full duplex. The card has high speed reader interface lines and 16 fully programmable user I/O lines with full TTL drive.

### Nobody, but nobody, except MAI can offer you an on-board debugger/monitor like DEMON<sup>TH</sup>. It's fully documented, too.

The exclusive DEMON<sup>®</sup> Debug Monitor really makes JOLT<sup>®</sup> one of the most outstanding computer systems offered at any time, at any price. Even without DEMON<sup>®</sup> and its superior software features, JOLT<sup>®</sup> is the lowest cost computer system in existence. And DEMON<sup>®</sup> is a bonus you'll have to use to believe. First, it self-adapts



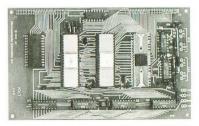
All kits are delivered with a complete instruction manual and packaged for easy visual identification of parts to aid you in assembly.

to any terminal speed from 10-30 CPS. With it, you can display and alter your CPU register and memory locations, plus you can read, write and punch Hex formatted data ... with Write/Punch BNPF format data for PROM programmers. It has unlimited breakpoint capability along with separate non-maskable interrupt entry and identification. External device interrupts can be directed to any location you choose, or they can be defaulted to DEMON<sup>®</sup> recognition. DEMON<sup>®</sup> also gives you (1) a completely protected ROM resident debug/monitor; (2) the capability to begin execution at any location in memory; (3) the capability to bypass DEMON<sup>®</sup> entirely to permit full control by you over your system; (4) a high-speed 8-bit parallel input option; and (5) it includes user callable DEMON<sup>™</sup> I/O subroutines. MOST IM-PORTANT, DEMON<sup>®</sup> IS INCLUDED AS STANDARD WITH ANY JOLT® CPU KIT **OR ASSEMBLED BOARD!** 

Obviously, the JOLT<sup>®</sup> basic card is a computer in and of itself. But you can add significantly to its capacity and versatility by adding 4k RAM JOLT<sup>®</sup> memories — in one card or a whole bunch. A RAM card kit is only \$265 (\$320 assembled). Now. 4096 Bit RAM 4K BYTE

The JOLT<sup>®</sup> memory card is a fully static 4,096-bit Random Access Memory (RAM) with 1 microsecond access time and onboard decoding. It is also available now.\* And the quantity of one price is what you might expect to pay in quantities of 100... very inexpensive!

There's also a JOLT<sup>®</sup> I/O card for you, our Peripheral Interface Adapter. You can't beat the price — single kit 96 bucks — or the function.



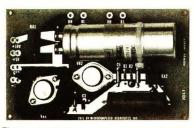
Pictured above is the assembled JOLT<sup>®</sup> CPU card with DEMON<sup>®</sup>, just plug it in and you're ready to go.

The JOLT<sup>®</sup> PIA (Peripheral Interface Adapter) I/O card includes two PIA LSI chips, 32 input/output lines, two interrupt lines, on-board decoding and standard TTL drive. It is also fully programmable and available IMMEDIATELY\* in either kit or assembled form ... at a very attractive single unit price (\$140 assembled).

#### Considering the function and capacity of the JOLT<sup>THE</sup> Power Supply Card, you probably think the quantity of one price — \$145 — is a misprint. It isn't.

The JOLT<sup>®</sup> family also includes a power supply card, which operates at any of

three voltages -+5, +12 and -10. The power supply supports the basic JOLT® CPU card, plus 4,096 bytes of RAM and I/O. The only two words for the price are "dirt cheap." It is available for delivery immediately with a single unit kit price of \$145 (\$190 assembled).



The assembled power supply card shown above powers the JOLT CPU, I/O, and RAM Memory cards

You can also choose a blank JOLT<sup>®</sup> universal card. Or several.

The JOLT<sup>™</sup> Universal card is completely nude. It's a blank you can use any way you wish, for control panels, T.V. interfaces, keyboards, LED's, or any other interface logic, because the card's holes are drilled to accept 14, 16, 24, or 40 pin sockets and has the same form factor as the other JOLT<sup>®</sup> cards. The single unit price is just \$25.

#### If you think you need extra cables, wires and the like, choose a Super Value JOLT™ Accessory Bag. A \$55 Value for iust \$40.

The JOLT<sup>®</sup> Accessory Bag includes 25 separate parts, enough hardware to connect one JOLT<sup>®</sup> card to another. Order an Accessory Bag for each additional JOLT® card. The Bag contains such necessary items as flat cable, connectors, cord spacers, hardware, wire, etc.

#### THE JOLT PLAIN ENGLISH WARRANTY

All components in the JOLT® family are new and fully tested prior to shipment. Kit components are fully warranted during the first 60 days of ownership. Assembled parts are fully warranted during the first 6 months of ownership. If your properly assembled kit does not work, just ship your order back to Microcomputer Associates Inc. and we'll repair, replace, or refund your money.

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## **20% BONUS**

NOW! Special ONE TIME BONUS DISCOUNT. Order one CPU before November 10, 1975 and deduct 20% off of all additional cards and accessories. (Note: Discount does not apply to CPU cards, assembled or unassembled.)

# We told you JOLT<sup>®</sup> was the world's lowest priced computer system. These prices prove it.

20%

BONUS

| JOLT KITS<br>(ALL PAYMENTS MUST BE IN U.S. DOLLARS)<br>QUANTITY PRICING |       |       |       |       |        |  |  |
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| JOLT <sup>®</sup> CPU   | \$249 | \$235 | \$230 | \$225 | \$215  |  |  |
| JOLT <sup>®</sup> RAM   | 265   | 255   | 250   | 245   | 235    |  |  |
| JOLT® I/O   | 96    | 90    | 88    | 82    | 75     |  |  |
| JOLT <sup>®</sup> POWER   |       |       |       |       |        |  |  |
| SUPPLY  | 145   | 135   | 130   | 128   | 115    |  |  |
| JOLT <sup>®</sup> UNIVERSA  | L.    |       |       |       |        |  |  |
| CARD  | 25    | 20    | 18    | 16    | 14     |  |  |
| JOLT <sup>®</sup> ACCES SO  | RY    |       |       |       |        |  |  |
| BAG   | 40    | 36    | 34    | 32    | 30     |  |  |

ALL JOLT® KITS ARE DELIVERED COMPLETE WITH A DETAILED AND ILLUSTRATED ASSEMBLY MANUAL

\* Order will be shipped within 15 days.

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# This coupon will bring you a JOLT<sup>®</sup>! Complete and return it.

Here is my check, money order or credit card payment for the following JOLT<sup>®</sup> products. If a U.S. or Canadian order, please add \$4.86 for shipping, handling and insurance. (Orders to all other countries are priced F.O.B. Los Altos and will be shipped FREIGHT COLLECT.)

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|  | JOLT <sup>®</sup> POWER SUPPLY ASSEMBLE  | D       | ADDRESS   |  |  |
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