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# DESCRIÇÃO DE JUMPERS DA PLACA EMS

## FUNÇÃO DAS DIP'S E JUMPERS DA PLACA EMS

1) SW1: Define os endereços de I/o da placa EMS e das interfaces seriais.

| SW1-1 | SW1-2 | SW1-3 | SW1-4 | ENDEREÇOS DA PLACA |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0208 |
| 0 | 0 | 0 | 1 | 0218 * |
| 0 | 1 | 0 | 1 | 0258 |
| 0 | 1 | 1 | 0 | 0268 |
| 1 | 0 | 1 | 0 | 02A8 |
| 1 | 0 | 1 | 1 | 02B8 |
| 1 | 1 | 1 | 0 | 02E8 |

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Note-se que, em algumas DIP'S:

0 = ON = CLOSE

1 = OFF = OPEN

| SW1-5 | SW1-6 | SW1-7 | SW1-8 | ENDEREÇOS DAS SERIAIS | |
|---|---|---|---|---|---|
| | | | | PRIMÁRIA | SECUNDÁRIA |
| 1 | 1 | 1 | 0 | 03EX | 02EX |
| 1 | 1 | 1 | 1 | 03FX | 02FX * |

* DEFAUT

2) SW2 : Define a configuração da placa de expansão de memória.

a) SW2-1 : é utilizado para determinar se o microcomputador terá 640 KB ou 736 KB de RAM como memória convencional. A sua posição depende da placa controladora de vídeo utilizada:

| PLACA DE VÍDEO | QUANT. DE MEM. | SW2-1 |
|---|---|---|
| HÉRCULES, MONOCHROME, CGA | 736 KB | 0 |
| EGA, PGA | 640 KB | 1 * |

OBS: Atualmente, o I 7000 PCxt comercializado possui uma placa controladora de vídeo compatível com a CGA.

* DEFAUT

b) As três DIP'S a seguir devem ser configuradas de acordo com a quantidade de memória já instalada no micro que receberá a placa EMS:

| SW2-2 | SW2-3 | SW2-4 | QUANT. DE MEM. INSTALADA |
|---|---|---|---|
| 0 | 1 | 0 | 640 KB * |
| 1 | 0 | 1 | 256 KB |
| 1 | 1 | 0 | 512 KB |
| 1 | 1 | 1 | 0 KB (1º placa) |

* DEFAUT

c) De acordo com a configuração anterior, deve ser definido o número de bancos de RAM alocados para completar a memória convencional.

OBS: Cada banco contém 256 KB de RAM.

| SW2-5 | SW2-6 | Nº DE BANCOS |
|---|---|---|
| 0 | 0 | 0 * |
| 0 | 1 | 2 |
| 1 | 0 | 1 |
| 1 | 1 | 3 |

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d) DUAL - PAGE - MODE: é um recurso para permitir que dois blocos de 64 KB de RAM sejam inicializados.

| SW2-7 | Nº DE BLOCOS |
|---|---|
| 0 | 2 * |
| 1 | 1 |

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e) HABILITAÇÃO DE PARIDADE: Este switch permite que a checagem da paridade seja desabilitada por hardware e operacional.

| SW2-8 | POSIÇÃO |
|---|---|
| 0 | ENABLE * |
| 1 | DESABLE |

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3) J01 e J02 : Quando fechados*, habilitam respectivamente a interface serial primária e secundária.

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4) SW03 e J04: Definem o tipo de interface serial primária no conector CN03.

| | SW03 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TIPO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | J04 |
| LOOP PC | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 e 2 LIGADOS |
| LOOP ITAUTEC | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 2 e 3 LIGADOS |
| RS- 232 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 e 2 LIGADOS |

5) SW04 e J05 : Definem o tipo de interface serial secundária no conector CN02.

| | SW04 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TIPO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | J05 |
| LOOP PC | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 e 2 LIGADOS |
| LOOP ITAUTEC | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 2 e 3 LIGADOS |
| RS - 232 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 e 2 LIGADOS |

6-) J03: Habilita o funcionamento do BIOS quando a EMS estiver configurada como 1a. placa.

states that 70-nanosecond chips would be needed to have no wait states at 8 MHz (the normal clock frequency installed by AT users after the 90-day warranty has run out).

Programs running in the Cheetah Card memory run an average of 15 to 20 percent faster for a common mix of instructions. The extended memory speeds do not show as much of an improvement in our tests as conventional memory (only about 4 percent), mostly because of the overhead in switching into protected mode and back again.

If you already have 512K bytes on your system board, most of your programs will run in the system board memory and not take advantage of the higher-speed Cheetah Card. The documentation therefore recommends that you use only 256K of the memory on your AT system board. If you have a 512K machine, this requires a relatively painless jumper change.

Extended memory boards do not, in theory, need software, but the Cheetah Card comes with a disk including three programs. One of these, CSETUP, displays attractive large diagrams of the six sets of DIP switches on the board and helps you set them. You'll do better to rely on this program than to refer to the more obscure manual for configuring the board.

Also on the disk is FORCE, a remain-resident program that does nothing but take up space in memory to fill out the first 256K. And you thought you'd seen it all! This is not exactly the type of program you want to run if you're short for memory. The third program included with the Cheetah Card is CDISK, which can replace IBM's VDISK but is a tiny bit slower. (For consistency, the accompanying benchmark-test results show the timings with VDISK.)

PC AT speed freaks looking for an extra kick in their machines will like this board.

## Eccell

If you read the words "switchless installation" on the box of Orchid Technology's Eccell board, you would naturally assume that the board has no DIP switches, and you would be right. Unfortunately, you still must configure the board, but instead of fooling with DIP switches you get to play around with jumper connectors. I see no real advantage to jumper connectors, and at least one disadvantage: you can't drop DIP switches on the floor.

The basic Eccell can hold a megabyte of memory divided between extended and expanded, and a large daughterboard adds 2 megabytes to that. With the daughterboard, the board's width will intrude into the next expansion slot. Orchid also sells an alternative daughterboard with low-profile but more expensive sockets (the alternative board costs $299 with no memory installed).

A setup program on the supplied disk takes you through the process of configuring the jumpers correctly. It also checks your current system memory and whether you have the proper jumper settings for backfilling. During each step, the jumpers that need setting blink on a monochrome display and appear highlighted on a color display. You don't lose any memory by backfilling: a 512K-byte AT system board and a 3-megabyte Eccell board give you 640K-bytes of conventional memory and 2,944K of extended memory.

I was a little puzzled that the board had no jumpers to specify the split between extended and expanded memory, but that proved to be the most innovative part of the

## SOFTWARE: EXPANDED MEMORY SUPPORT CATCHES ON

*PC Magazine*'s first article examining the Lotus/Intel/Microsoft expanded memory specification ("Enlarging the Dimensions of Memory," Volume 5 Number 1) listed only four software packages that supported expanded memory or were scheduled for expanded memory upgrades. These were Lotus Development Corp.'s *1-2-3*, Release 2, and *Symphony* 1.1, Sorcim's *SuperCalc*, and Ashton-Tate's *Framework*.

However, the simplicity of the expanded memory specification and its availability for use by device drivers and resident programs (as well as normal application programs) made it obvious that these were just the first four of many. Sure enough, expanded memory is catching on.

Intel has been keeping track of companies that have announced support of expanded memory in their products.

Here's a list of programs currently shipping:

| | |
|---|---|
| Ashton-Tate | *Framework II* |
| Gryphon Microproducts | *dB/RA 3* |
| Javelin Software | *Javelin* |
| Living Videotext | *Ready!*, Version 1.0 |
| Living Videotext | *ThinkTank*, Version 2.1 |
| Lotus Development | *1-2-3*, Release 2 |
| Lotus Development | *Symphony*, Version 1.1 |
| MaxaMedia Corp | *Maxam Plus* |
| Microsoft | *Microsoft Windows* |
| Personal Computer Support Group | *Lightning* |
| Quarterdeck | *DESQview* |
| Sorcim/IUS | *SuperCalc 3*, Version 2.1 |
| Turner Hall Publications | *Note-It* |
| Borland | *Reflex* |

The following software packages were being prepared for shipping at the time of this review:

| | |
|---|---|
| Awesome Software | *Multiple Choice* |
| Information Builders | *PC/Focus* |
| Innovative Software | *Smart* series |
| Knowledgeware | *Information Engineering Workbench* |
| Media Cybernetics | *Dr. Halo Extended* |
| Polytron Corp. | *PolyWindows Desk Plus* |
| SSI Software | *WordPerfect Library* |
| Softlogic Solutions | *DoubleDOS* |
| Softlogic Solutions | *Software Carousel* |
| T&W Systems | *VersaCAD* |