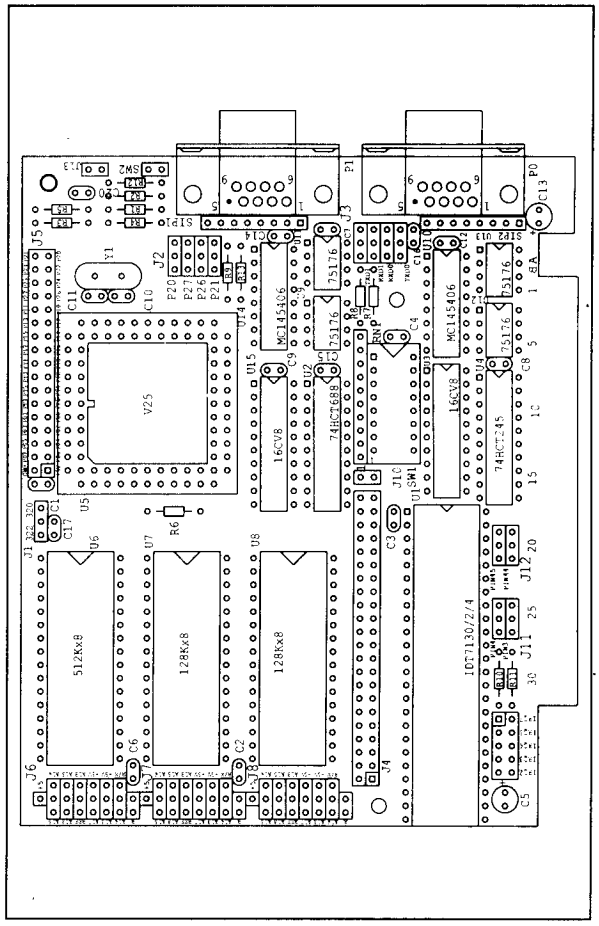
NMIP-0025 NEC V25 CPU CARD

The NMIP-0025 is New Micros' NEC-V25-based CPU coprocessor board for the PC. A valuable feature of the NMIP-0025 is its code compatibility with the PC's processor, offered on a half card format.

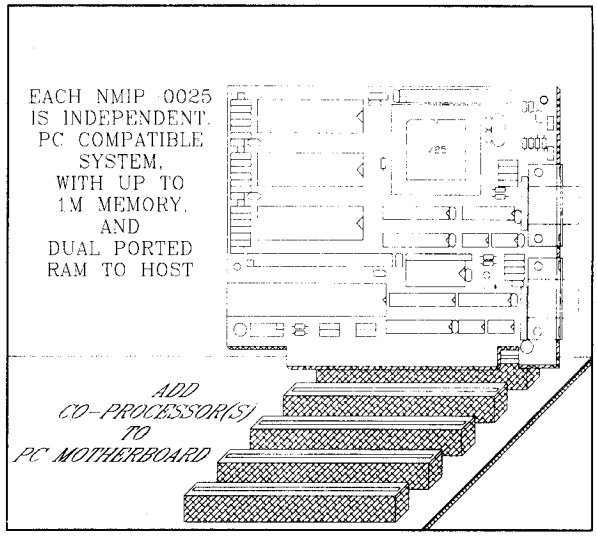
FEATURES

- V25 CPU with 16-bit internal architecture
- Software compatible with 8086/8088
- Programmable Interrupt Controller
- Two DMA controller channels
- 3 parallel ports
- 2 Asynchronous Serial Channels
- 8-channel Voltage Comparator
- Time Base Counter
- 16-bit Timer
- Programmable Wait State Generator
- 1/4K RAM internal to the processor
- 1M address space
- Three 32-pin JEDEC memory sockets
- Flexible address decoding, socket assignments
- Battery backup circuits for memory
- 44-pin JEDSTACK™ Vertical Stacking Connector (VSC-44)
- 1,2 or 4K dual ported RAM to host

The NMIP-0025 is a coprocessor tightly coupled to the host system by dual ported RAM. Communications can be handled through this dual ported RAM. Tasks can be off loaded from the host to run unattended on the NMIP-0025. Intelligent serial channels, data loggers and servo motor control systems are some possible uses. These are more aptly run by a coprocessor without the burden of system overhead. The host needs only to "check once in a while", leaving the time intensive operations to the dedicated coprocessor. The NMIP-0025 has a VSC-44 bus connector. It is compatible with the New Micros NMIT and NMIS series peripherals. The VSC-44 bus is local to the NMIP-0025, free from the PC's bus activity.



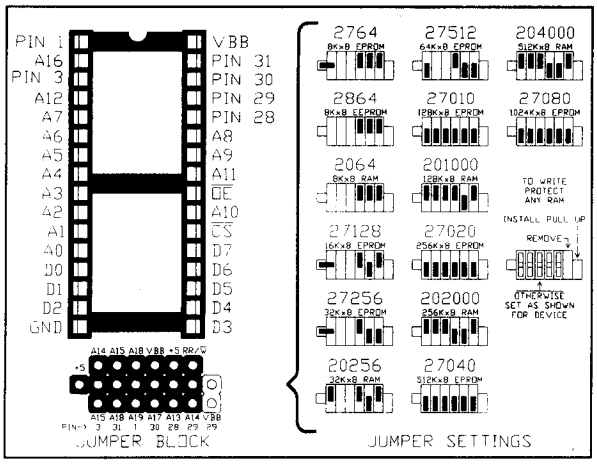
Not to scale - actual size is half PC card



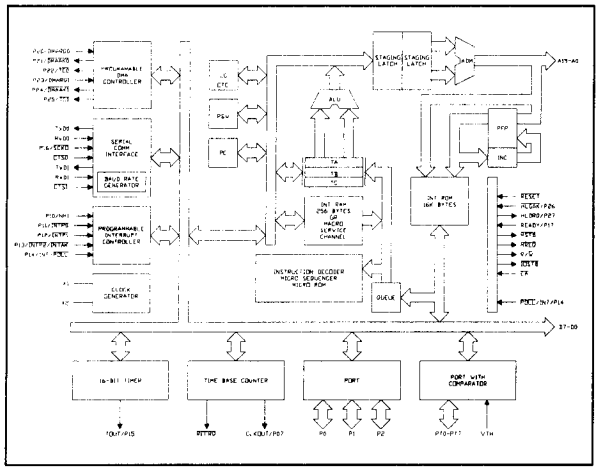
Application

NMIP-0025

NMIP-0025 NEC V25 CPU CARD XT Series



JEDEC Memory Sockets



V25 CPU Block Diagram

The sockets accepting JEDEC memory devices have flexible pinouts. Refer to the figure at the left. Two sockets cover the 1M address space, with 512K in the lower and 512K in the upper. This allows a full 1M of RAMto be installed on the board. The third socket's position and size in memory is selected by jumper setting. It can overmapped the other sockets with a third device. A full memory configuration might have a psudeo-static 512K RAM in lower memory, a 128K static or psuedo-static RAM above that, with a ROM or EPROM overmapped in upper memory. This is similar to the normal PC setup with 640K RAM and 384K ROM.

Many NMIP and NMIS peripherals are available for the NMIP-0025. These include PC compatible Serial and Parallel Ports, as well as more exotic cards, such as Optoislolated Inputs and Outputs, A/D's and D/A's, Stepper and Servo motor Controllers, and LCD-keypad controllers. The VSC-44 provides the interconnection.

On board, each of the NMIP-0025's serial channels is jumper configureable for RS-232, or RS-422 or RS-485. The RS-232 channel is convenient for on-board code development, and the RS-422,485 channel for communications in embedded control environments.

The NMIP-0025 makes a very cost effective solution as part of a coprocessoring system, particularly when ease of development and 8086 code compatibility are required. Language support includes resident FORTH and Assembly Language. A PC compatible BIOS is also planned. Due to its PC compatibility, third party support is wide spread. FORTH, BASIC and C cross compilers and assemblers are also available.

NMIP-0025

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