# intel®

iSBC™ 302
8K-BYTE MULTIMODULE™ RAM

- **Expands on-board memory of the iSBC™ 86/05 and iSBC™ 88/25 Single Board Computers**

- **Uses four Intel® 2168 static RAMs**

- **Single +5V supply**

- **On-board memory expansion eliminates system bus latency and increases system throughput**

- **Reliable mechanical and electrical interconnection**

The Intel iSBC 302 8K-Byte MULTIMODULE RAM provides simple, low-cost expansion to double the RAM capacity on the iSBC 86/05 Single Board Computer to 16K bytes or increase RAM capacity on the iSBC 88/25 Single Board Computer to 12K bytes. This offers system designers a new level of flexibility in implementing system memory. Because the MULTIMODULE memory is configured on-board, it can be accessed as quickly as the standard on-board iSBC 86/05 or iSBC 88/25 memory, eliminating the need for accessing additional memory via the MULTIBUS system bus. As a result, the iSBC 302 board provides a high-speed, cost-effective solution for systems requiring incremental RAM expansion.
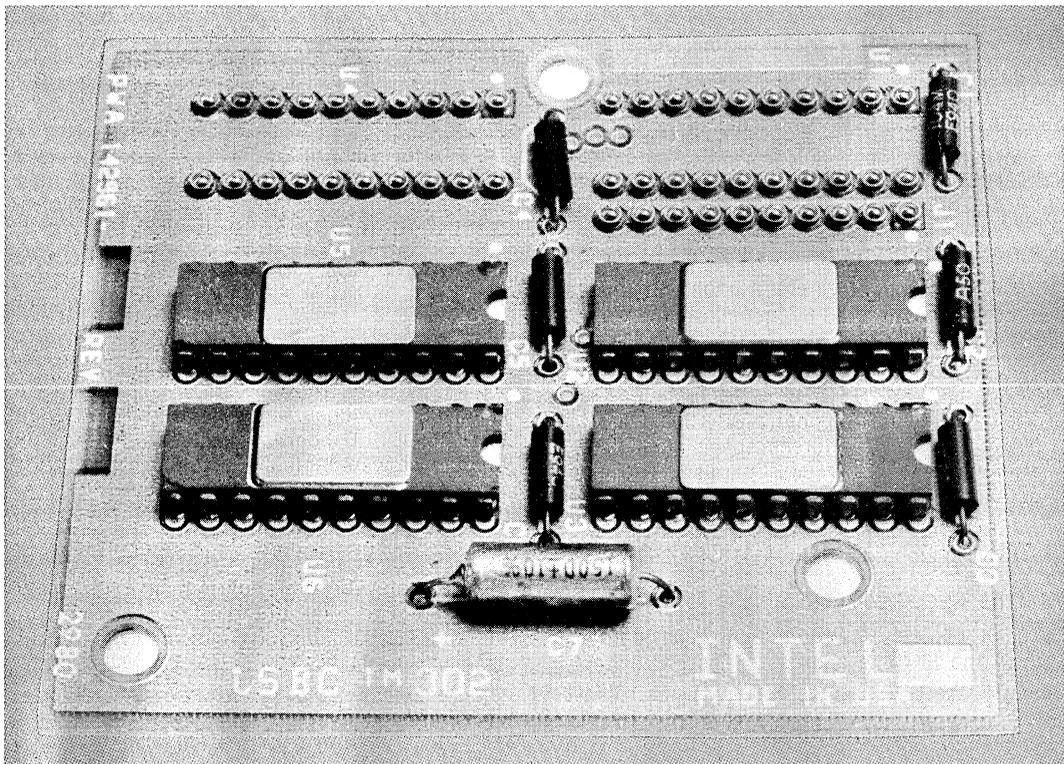
FUNCTIONAL DESCRIPTION

The iSBC 302 board measures 2.60″ by 2.30″ and mounts above the RAM area on the iSBC 86/05 or iSBC 88/25 Single Board Computer. The iSBC 302 MULTIMODULE board contains four 4K × 4 static RAM devices and sockets for two of the RAM devices on the iSBC 86/05 board. With the iSBC 302 module mounted on the iSBC 88/25 board, the two sockets on the iSBC 302 module may be filled with 4K × 4 static RAMs. The two sockets on the iSBC 302 module have extended pins which mate with two sockets on the base board. Additional pins mate to the power supply and chip select lines to complete the electrical interface. The mechanical integrity of the assembly is assured with nylon hardware securing the module in two places. With the iSBC 86/05 or iSBC 88/25 board mounted in the top slot of an iSBC 604/614 cardcage, sufficient clearance exists for the mounted iSBC 302 option. If the iSBC 86/05 or iSBC 88/25 board is inserted into some other slot, the combination of boards will physically (but not electrically) occupy two cardcage slots.

SPECIFICATIONS

Word Size

8/16 bits

Memory Size

16,384 bytes of RAM

Cycle Time

Provides "no wait state" memory operations on the iSBC 86/05 board at 5 MHz or 8 MHz or the iSBC 88/25 board at 5 MHz.

   5 MHz cycle time — 800 ns
   8 MHz cycle time — 500 ns

Memory Addressing

Memory addressing for the iSBC 302 MULTIMODULE board is controlled by the host board via the address and chip select signal lines.

With the iSBC 86/05 board:

   The 8K bytes of RAM on the iSBC 302 board occupy the 8K-byte address space immediately after that of the iSBC 86/05 board's 8K RAM (i.e., default configuration —

     iSBC 86/05 board's RAM — 00000–01FFF$_H$
     iSBC 302 board's RAM — 02000–03FFF$_H$).

With the iSBC 88/25 board:

   The 8K bytes of RAM on the iSBC 302 board occupy the 8K byte address space immediately after that of the iSBC 88/25 board's 4K RAM (i.e., default configuration —

     iSBC 88/25 board's RAM — 0–0FFF$_H$
     iSBC 302 board's RAM — 01000$_H$–02FFF$_H$).

Physical Characteristics

WIDTH — 2.6 in. (6.60 cm)

LENGTH — 2.3 in. (5.84 cm)

HEIGHT — 0.56 in. (1.42 cm) iSBC 302 board + iSBC 86/05 or iSBC 88/25 board

WEIGHT — 1.25 oz (35 gm)

Electrical Characteristics

DC POWER REQUIREMENTS — 720 mA at +5V incremental power

Environmental Characteristics

OPERATING TEMPERATURE — 0°C to +55°C

RELATIVE HUMIDITY — to 90% (without condensation)

Reference Manuals

All necessary documentation for the iSBC 302 MULTIMODULE board is included in the CPU board Hardware Reference Manuals (NOT SUPPLIED).

   iSBC 86/05 — Order No. 143153-001
   iSBC 88/25 — Order No. 143825-001

Manuals may be ordered from any Intel sales representative, distributor office, or from Intel Literature Department, 3065 Bowers Avenue, Santa Clara, California 95051.

ORDERING INFORMATION

Part Number   Description

SBC 302   8K-Byte MULTIMODULE RAM

AFN-01824A