intel®

# iSBC® 307 128K BYTE RAM
MULTIMODULE ™ BOARD WITH PARITY

- On-board memory expansion for the iSBC® 188/48 Advanced Communicating Computer

- Expands the iSBC® 188/48 on-board RAM to 192K Bytes and provides parity for total 192K Bytes

- Simple, reliable mechanical and electrical interconnection

- iSBC® 307 module provides 128K Bytes of RAM with parity expansion

- Low power requirements

The iSBC® 307 RAM MULTIMODULE board provides simple, low-cost expansion of the iSBC 188/48 board memory. The 128K Bytes of memory provided by the iSBC 307 MULTIMODULE board and the 64K Bytes of memory supplied by the iSBC 188/48 board provides a total of 192K Bytes of on-board RAM. The iSBC 307 MULTIMODULE board generates parity during all write operations and performs parity checking during all read cycles. This MULTIMODULE board offers systems designers flexibility in designing and implementing data communications networks.
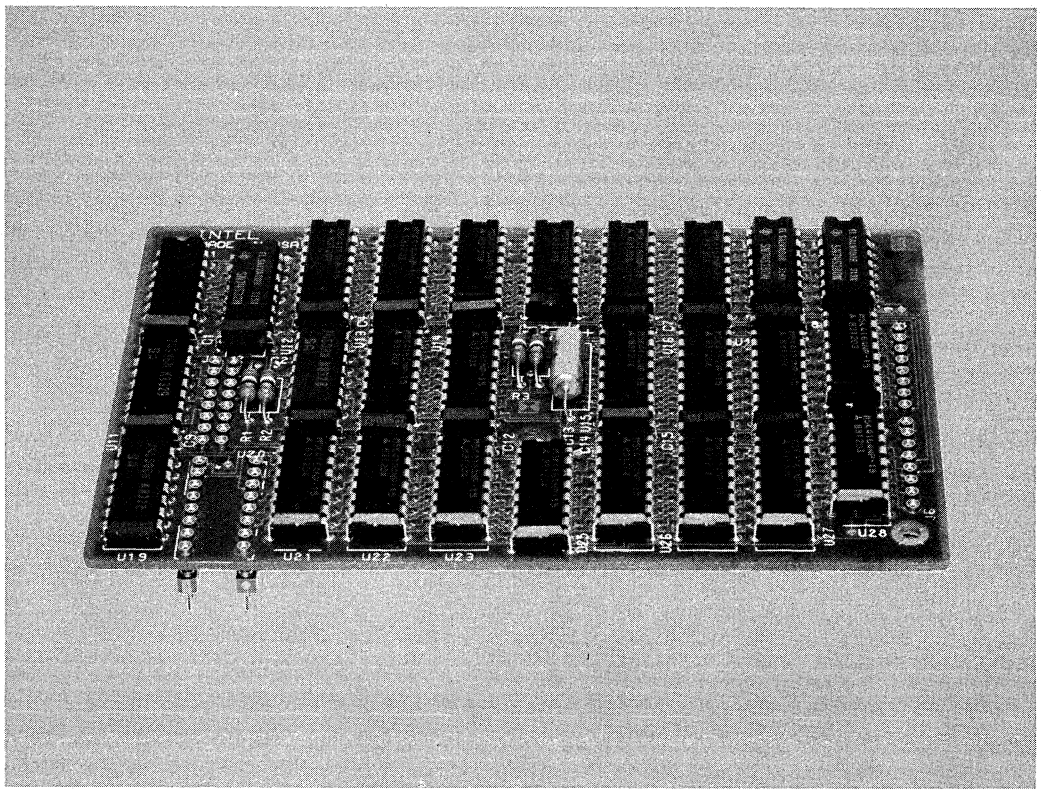
FUNCTIONAL DESCRIPTION

The iSBC 307 MULTIMODULE board provides an additional 128K Bytes of on-board RAM to the iSBC 188/48 Advanced Communicating Computer. The iSBC 307 board also provides parity generation and check of all write and read cycles to the total 192K Bytes of on-board memory including the 64K Bytes on the iSBC 188/48 board.

PARITY GENERATION AND CHECKING

The iSBC 307 MULTIMODULE board generates parity during all write operations and performs parity checking during all read operations. When a parity error is detected, the iSBC 307 board generates a parity interrupt. Polarity can be set to even or odd through the Parity Test Pin. For upward capability with future 16-bit Single Board Computer boards, two parity generators are provided. The parity generators (74S20) generate parity for the selected bank of memory.

INSTALLATION:

The iSBC 307 MULTIMODULE board is mounted onto the host board. The board is secured at 1 point with nylon hardware to ensure the mechanical integrity of the assembly. The mounting technique used for the iSBC 188/48 is illustrated below in Figure 1. To install the module, the 2164 Dynamic RAM component from position U101 on the iSBC 188/48 board is removed. This 2164 is then installed into socket U20 on the iSBC 307 board.

The module is then secured by installing one of the supplied screws through the top of the hole above position U24 of the iSBC 307 board. Pins extending from the iSBC 307 MULTIMODULE board mate with connector receptacles located on the iSBC 188/48 board. When all the pins are properly mated, the MULTIMODULE board is seated to the iSBC 188/48 by pressing down firmly and evenly on the iSBC 307 board. Installing the final plastic nut onto the iSBC 307 board securing screw from the trace side of the iSBC 188/48 board completes installation.
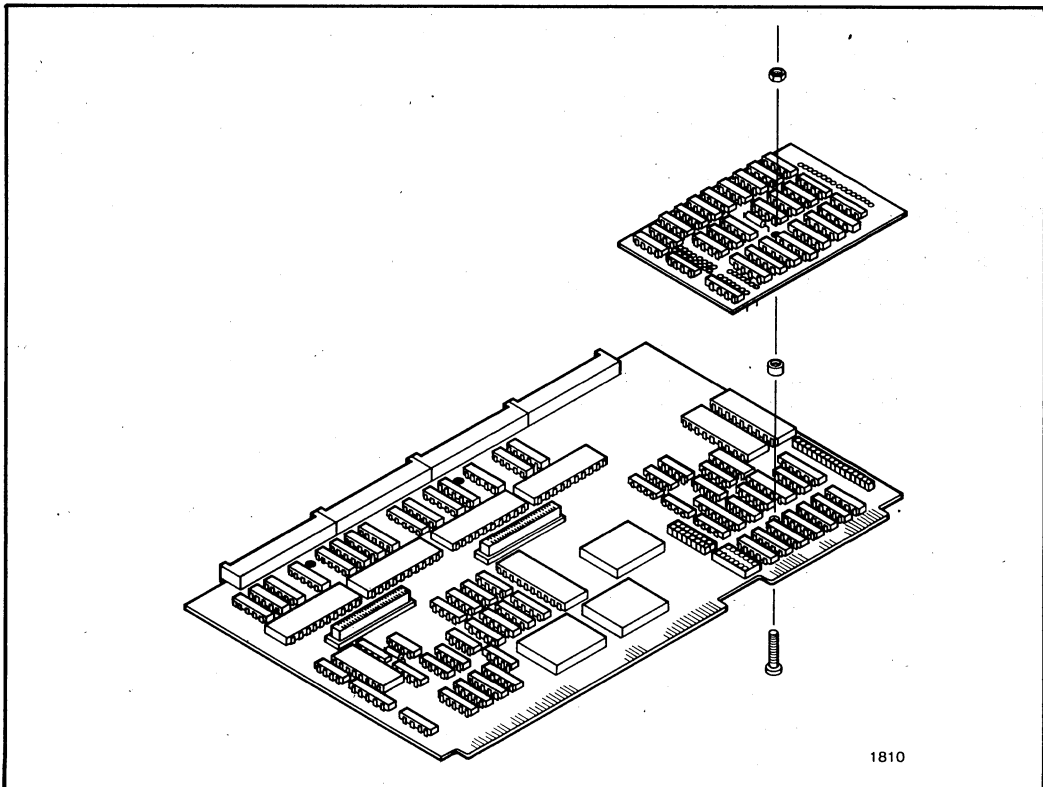

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Figure 1. Installation of the iSBC® 307 RAM MULTIMODULE™ board on the iSBC® 188/48 Advanced Communicating Computer

SPECIFICATIONS

Word Size: 8 bits or 16 bits

Memory Size: 131,072 Bytes

Memory Access Time:

	MIN	MAX
On-Board (Read/Fetch)	0 wait state	1 wait state
On-Board (Write)	0 wait state	2 wait states
MULTIBUS Access (command to xack)	1108 nsec	1275 nsec

Refresh Timing:

Refresh Delay Time: 1002 ns. or 1 μsec. (Increase to normal access time due to a refresh cycle occurring)

Refresh Cycle Time: 1 Refresh cycle ever 15.6 μsec.

Address Selection:

Memory: Fixed by the baseboard.

Interface:

The iSBC 307 MULTIMODULE board option is specifically designed for the iSBC 188/48 Advanced Communication Computer board.

Physical Characteristics:

WEIGHT: 3.00 oz. (85.05 gm.)

WIDTH: 3.00 in. (7.62 cm.)

LENGTH: 4.45 in. (11.30 cm.)

HEIGHT: iSBC 188/48 board plus iSBC 307 MULTIMODULE board combined thickness is .724 inches max. (1.84 cm.) (As measured from the solder side of the iSBC 188/48 to the top of the components on the iSBC 307.)

Electrical Characteristics:

DC Power Requirements: Supplied by iSBC 188/48 board

Main Power (+5v): .44A (iSBC 307 stand-by) .80A (iSBC 307 active)

(Active = memory being accessed either WRITE or READ)

ORDERING INFORMATION:

Part Number: Description
SBC 307 128K Byte RAM MULTIMODULE with Parity

Hardware Reference Manual: Covered in iSBC 188/48 Hardware Reference Manual Order Number: 146218-001

230970-002