HK68/M™ Multibus™ Family

HK68/ME

Powerful Single Board Microcomputer for Real-Time and Dedicated Function Control Applications

Heurikon is proud to introduce the HK68/ME microcomputer, designed for real-time applications and function control tasks such as I/O and communications control. The ME is available as a basic processor with several options which allow you to choose the level of sophistication necessary to achieve your application goals.

Key features include:

- No wait-state. 10 or 12.5 MHz Motorola 68000 MPU
- Up to 1 MByte of on-board, dual access DRAM with parity
- Up to 128K EPROM
- Optional 2 or 4-channel DMAC
- Optional 68881 Floating Point Processor (via iSBX™ module)
- 20-bit programmable parallel I/O port with 8-bit DMA support
- Optional ANSI compatible full SCSI interface (via iSBX module)
- Two RS-232 serial ports (RS-422 optional)
- QIC-02 tape interface (also usable as Centronics interface)
- Twin 8/16-bit iSBX connectors
- Full master/slave interface to Multibus (IEEE-796) with 16-bit data path and 24-bit addressing
- Militarized versions available

Like the HK68/M10, a related product serving UNIX™ and other sophisticated applications, the ME incorporates the quality, performance and reliability resulting from over 13 years experience in microcomputer design and manufacturing. The HK68/ME is but one member of the HK68/M Family of Multibus products and complementary software. For more information, please consult your Heurikon representative or call Heurikon directly.
Technical Specifications

Bus Interface
- Multibus architecture (IEEE 796) with 16-bit data path, 24-bit addressing and 8 bus interrupts assures compatibility with a wide range of peripheral boards serving a variety of applications.
- Operates in both Master Mode (Compliance Level: D16 M24 116 VOL) and Slave Mode (Compliance Level: D16 M24 VOL).

Processor
- No wait-state Motorola 68000 MPU operating at either 10 or 12.5 MHz.
- Watchdog Timer provided to terminate accesses otherwise causing system deadlock.

Memory
- Random Access Memory (Up to 1 MByte of on-board dual access DRAM with parity in multiples of 128K).
- Read-Only Memory (Up to 128K of EPROM (two 28-pin JEDEC ROM sockets).

Direct Memory Access
- Optional 2-channel 68440 or 4-channel 68450 DMA controller increase system performance for memory to memory and device to memory data transfers.
- DMAC single-cycle mode operation supported for transfers directly from I/O to memory in a single bus cycle.
- Programmable 8- or 16-bit word size.

Peripheral Device Interfaces
- Small Computer System Interface (SCSI) via ISBX™ Module
- ANSI compatible Small Computer System Interface (SCSI) permits connection of up to 8 independent SCSI compatible I/O controllers such as disk, tape and a variety of other devices.
- Transfer rates of up to 1.5 MBytes/second supported.
- Various device drivers available for VRTX® operating system.

Parallel I/O Interface
- 20-bit parallel port provided via Zilog Z8536 CIO chip.
- Configurable in various ways including an 8-bit port with full DMA support.
- Additional 8-bit parallel port (on connector P3) provided for use as is without hand-shaking or for combination with OIC-02 to form 16-bit port with full hand-shaking and DMA support.

OIC-02 Tape Interface
- 8-bit interface for direct connect to OIC-02 compatible Streamer Tape Drive.
- Port can be configured for connection to Centronics compatible printer interface or for use with P3 parallel port to form 16-bit port with full hand-shaking and DMA support.

Serial I/O
- Two RS-232 serial I/O ports provided via Z8530 Serial Communications Controller.
- Separate software controlled baud rate generator for each port.
- All ports support asynchronous or synchronous communications including IBM BiSync, HDLC, SDLC, and others.
- RS-232-C standard with EIA RS-422 available on all ports.
- Transfer rates of 38.4 K baud asynchronous and 1 Mbit/Second synchronous obtainable.
- Number of serial ports expandable via ISBX modules (please refer to section on Expansion Modules).

Counter/Timers
- Six programmable 16-bit Counter/Timer channels are available.

Expansion Module Connectors (ISBX)
- Twin 8/16-bit ISBX connectors allow attachment of a variety of plug-in modules for I/O expansion and the addition of peripheral devices for simple, economical tailoring of the HK68/ME to specific applications. (Heurikon offers a variety of expansion modules including a floppy disk drive controller, quad-channel serial I/O, floating point processor, and SCSI interface module.)

Floating Point Processor Module
- Motorola 68811 Floating Point Processor available via ISBX module.
- System performance enhanced via execution of floating point operations in hardware at speeds up to 100 times that of the 68000.
- C, Fortran and Pascal compilers generating 68811 in-line code to be available.

Light Emitting Diodes and Jumpers
- Four user programmable LEDs and eight jumper positions provided.

Operating Systems Supported
- Hunter and Ready VRTX Real-Time Executive.
- Other operating systems to become available. (For complete information on software availability, please contact your Heurikon representative or Heurikon directly.)

Board Configuration Options
- MPU—10 or 12.5 MHz Motorola 68000.
- DMAC—68440, 68450.
- Floating Point Processor—68811 on ISBX Module.
- RS-422 on up to 2 serial ports.

Physical and Environmental Characteristics
- Multilayer with ground and VCC planes.
- Board size—30.5 cm x 17.2 cm (12.0 in x 6.75 in).
- Power Requirements: +5 VDC @ 4.75 A, +12 VDC @ 6 A, −12 VDC @ 2 A.
- Operating Range: 0 to 55°C, 100% relative humidity (non-condensing).

For detailed information on the operation of the HK68/ME, please refer to the User’s Manual. Specifications subject to change without notice.

For more information, please call: 1-800-356-9602

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