HEURIKON CORP.

8 User-Programmable Jumpers

4 User-Programmable LEDs

QIC-02 Tape Interface (Usable as Centronics Interface)

8-Bit Parallel I/O Port

No Wait-State, 10 or 12.5 MHz 68000 MPU

20-Bit Parallel I/O Port

6 16-Bit Counter/Timers

2 RS-232 Serial Ports (RS-422 Optional)

Up to 128K EPROM

Up to 1 MB DRAM

Optional 2- or 4-Channel DMAC (68440, 68450)
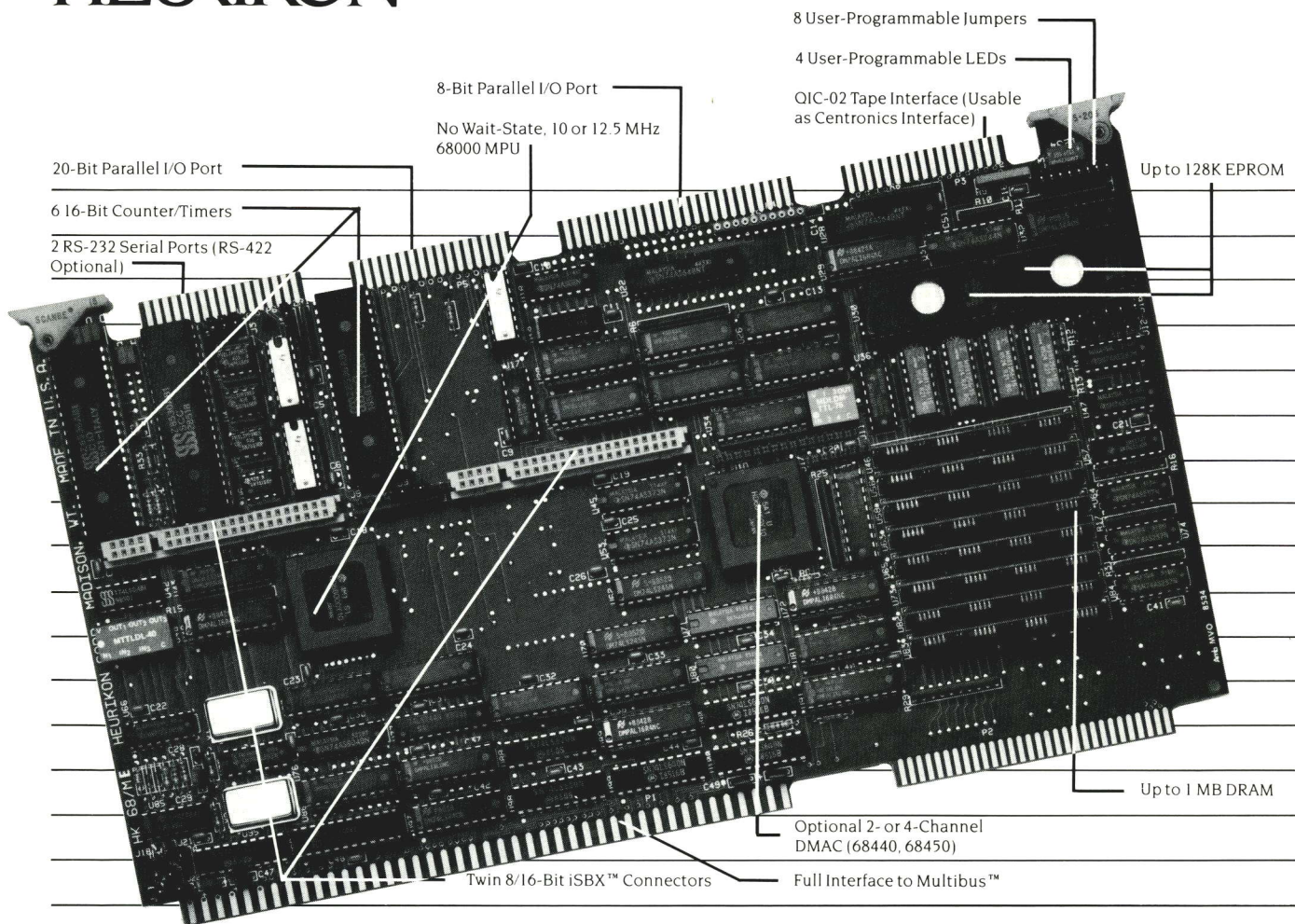
Twin 8/16-Bit iSBX™ Connectors

Full Interface to Multibus™

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 I16 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 DMAC 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 QIC-02 to form 16-bit port with full hand-shaking and DMA support.

QIC-02 Tape Interface
■ 8-bit interface for direct connect to QIC-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 Z6530 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 38.4K 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 68881 Floating Point Processor available via iSBX module ■ System performance enhanced via execution of floating point operations in hardware at speeds of up to 100 times that of the 68000. ■ **C, Fortran and Pascal compilers generating 68881 in-line code to be available.**
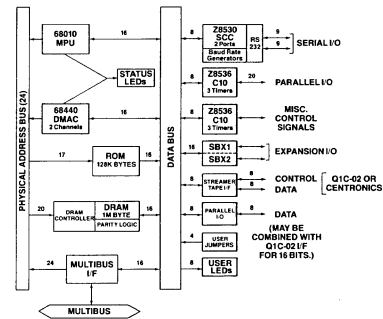
Light Emitting Diodes and Jumpers

■ 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

HK68/ME Block Diagram

availability, please contact your Heurikon representative or Heurikon directly.)

Board Configuration Options

■ MPU—10 or 12.5 MHz Motorola 68000 ■ DRAM—128K, 256K, 512K, 1 MB with Parity ■ DMAC—68440, 68450 ■ Floating Point Processor— 68881 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, + 12VDC @ .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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