WHIZZARD 7200

High quality, high performance raster and calligraphic displays from one Graphics Engine™, one software package.

The WHIZZARD 7200 Family of interactive graphics systems provides cost-effective solutions for a variety of vector graphics problems and applications. The systems are modular and allow configurations tailored to the requirements of each application.

The basic 7200 Graphics Engine™ with its Host Computer Interface, 64 KB RAM of Vector Memory, and 32 bit-wide, bit slice Graphics Processor, is capable of driving both raster and calligraphic displays, as well as electrostatic and dot matrix impact plotters. When configured with the Calligraphic Vector Generator, the 7200 becomes a total refresh vector system of unequalled picture quality with state-of-the-art vector specifications. When configured with the Digital Vector Generator, the 7200 becomes a vector-oriented raster display capable of displaying pictures of unlimited complication in up to 16 colors.

The Raster 7200 can update its double-buffered raster memory bit-planes at speeds which allow dynamics rivaling the very fast picture update rates of the Calligraphic 7200.

A further benefit of the WHIZZARD 7200 Family approach to graphics is that the identical software can drive both Raster and Calligraphic displays. Driving both kinds of displays with the 7200 Graphics Engine can greatly reduce software development costs in situations which require both raster and calligraphic displays. Further display capabilities include real-time 3-D hardware transformations, selective erase, textured or blinking lines, and 12-bit (4096 x 4096) vector display space. Sixteen levels of vector intensity allow precise control of figure differentiation. In addition to the standard 96-character ASCII subset, a hardware character generator will accommodate special user-defined symbol sets.

The WHIZZARD 7200 Family is supported by a full complement of peripherals such as data tablets, keyboards, joysticks, function switches and control dials, pick modules with light pens and digital comparators, etc. Software support is provided by a single field proven Megatek WAND software package supporting the entire 7200 family.

The block diagram (inside) depicts some of the standard and optional devices which can be used in configuring a WHIZZARD 7200 System. It's possible to configure up to four calligraphic, four raster workstations, or two of each driven by a single 7200 Graphics Engine, each with an assortment of microprocessor-controlled, interactive, peripheral devices. With high-speed parallel interfaces to most mini- and midi-computers, and an intelligent RS-232 interface capable of local memory management at the segment level, the WHIZZARD 7200 Family allows an economical solution to virtually any computer graphics problem.
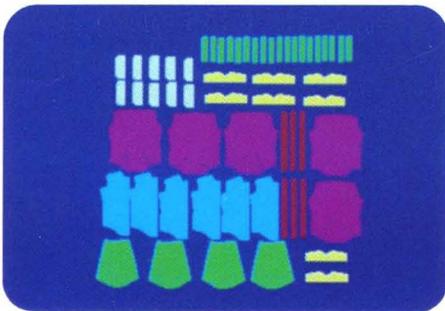
Raster displays offering the real-time dynamics of full refresh calligraphic systems.
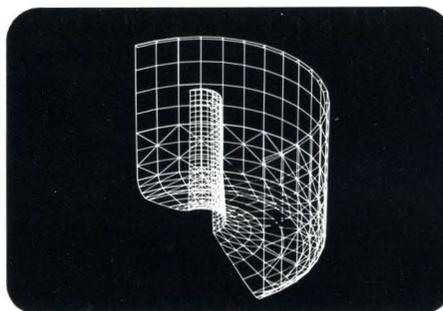
Precise calligraphic displays offer the finest picture quality available.

Megatek's unique, modular dual bus architecture.

More computer graphics power...more host computing power available.

The WHIZZARD 7200 Family of interactive graphics systems achieve unsurpassed performance using an advanced tri-state, dual bus architecture. The systems incorporate a 32-bit wide Graphics Data Bus to handle display processing and refresh, and a 16-bit wide Graphics Peripherals Bus to handle host communication with the graphics peripherals. Providing a separate bus for peripheral interaction means that 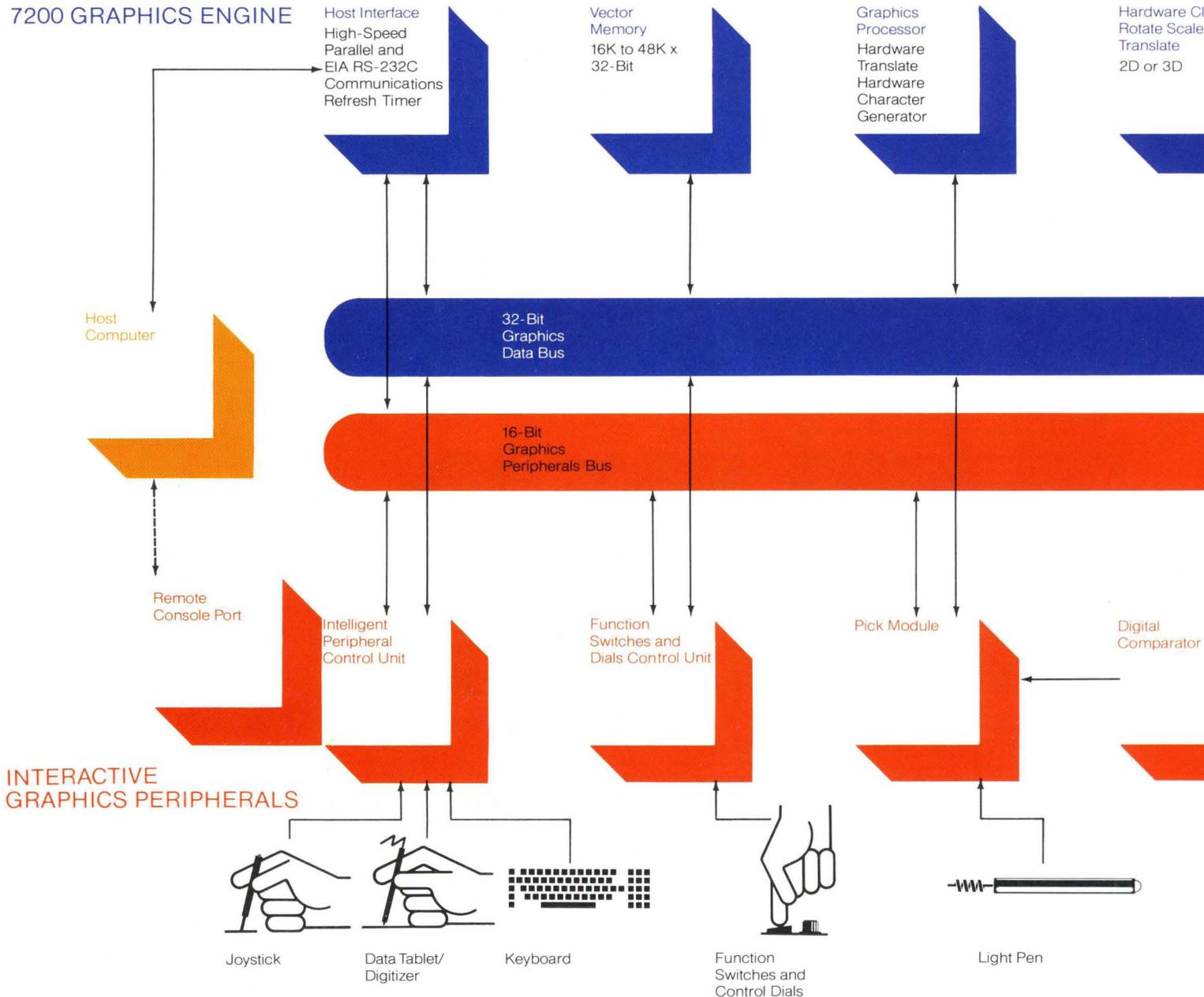peripheral I/O does not interfere with graphics data processing, allowing display processing speeds unburdened by peripheral interaction.

At the heart of all WHIZZARD 7200 systems is the Graphics Engine.™ The Engine is composed of the Host Interface, Vector Memory, Graphics Processor, and optional 2-D and 3-D hardware transformation modules. As the block diagram indicates, the Host Interface allows host communications on both the Graphics and Peripherals Buses. The remainder of the Graphics Engine devices communicate over the Graphics Bus. The 32-bit-wide bus allows up to two vectors to be processed with a single memory access, thus minimizing processing time and maximizing throughput to the high-speed calligraphic and raster displays. The hardware transformation modules will scale, rotate and translate each vector and then clip the result to the specified viewport. This transformation is performed on each refresh cycle, providing the fastest frame update rate possible.

The Graphics Engine supports both color raster and calligraphic (stroke) refresh displays. On calli-

7200 GRAPHICS ENGINE

Host Interface
High-Speed Parallel and EIA RS-232C Communications Refresh Timer

Vector Memory
16K to 48K x 32-Bit

Graphics Processor
Hardware Translate Hardware Character Generator

Hardware Clip Rotate Scale Translate
2D or 3D

Host Computer

Remote Console Port

32-Bit Graphics Data Bus

16-Bit Graphics Peripherals Bus

Intelligent Peripheral Control Unit

Function Switches and Dials Control Unit

Pick Module

Digital Comparator

INTERACTIVE GRAPHICS PERIPHERALS

Joystick

Data Tablet/ Digitizer

Keyboard

Function Switches and Control Dials

Light Pen

graphic systems, throughput is further maximized by the inclusion of a first-in/first-out buffer on the Vector Generator and proprietary Adaptive Timing™ circuitry which minimizes set-up time required by the monitor when drawing short vectors. On raster systems, the double-buffered design of the Raster Memory Planes and the high-speed Digital Vector Generator allow frame update rates comparable to those for the calligraphic systems. The WHIZZARD 7200 Family allows real-time dynamics on both calligraphic and raster systems. A single Graphics Engine can even support both raster and calligraphic displays simultaneously. Only Megatek provides these features.
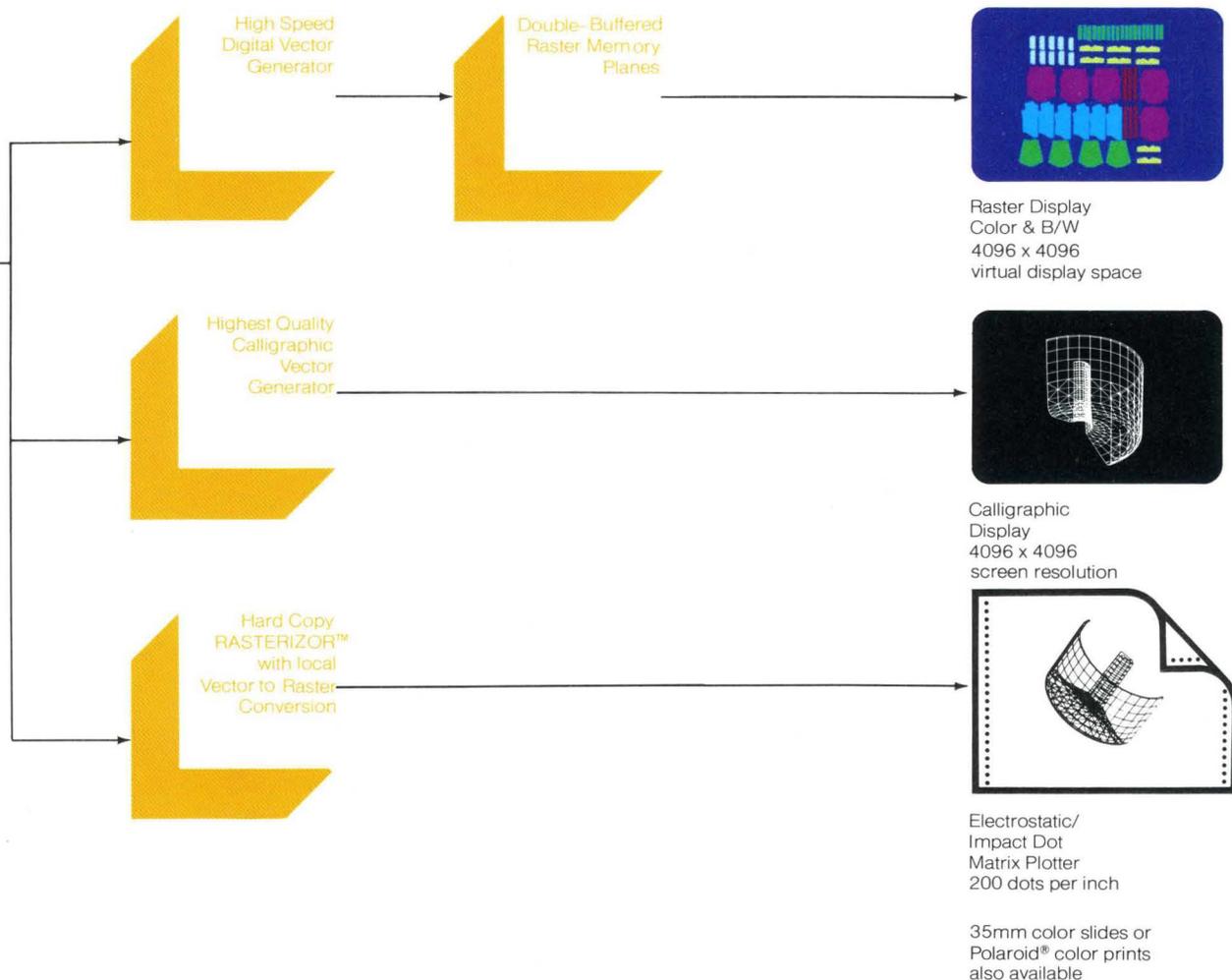
The WHIZZARD 7200 systems support a full line of intelligent interactive graphics peripherals, each controlled by a microprocessor-based peripheral control unit. Host processing requirements are thus minimized.

Peripheral devices communicate on both the Graphics Bus and the Peripherals Bus. Host communications are handled on the Peripherals Bus through the Host Interface, while display related functions are handled on the Graphics Bus. The Intelligent Peripheral Control Unit and Function Switches and Dials Control Unit use the Graphics Bus to maintain status areas in Vector Memory, while the Pick Module and Digital Comparator read vector information on the Graphics Bus.

The WHIZZARD 7200 Family of systems. Flexible and cost-effective architecture. A single 7200 Family software package. Full refresh vector displays of unmatched picture quality. Color raster displays providing real-time 3-D dynamics. No other manufacturer can provide such power. The WHIZZARD will amaze you.

OUTPUT DEVICES

High Speed Digital Vector Generator

Double-Buffered Raster Memory Planes

Raster Display
Color & B/W
4096 x 4096
virtual display space

Highest Quality Calligraphic Vector Generator

Calligraphic Display
4096 x 4096
screen resolution

Hard Copy RASTERIZOR™ with local Vector to Raster Conversion

Electrostatic/
Impact Dot
Matrix Plotter
200 dots per inch

35mm color slides or Polaroid® color prints also available

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