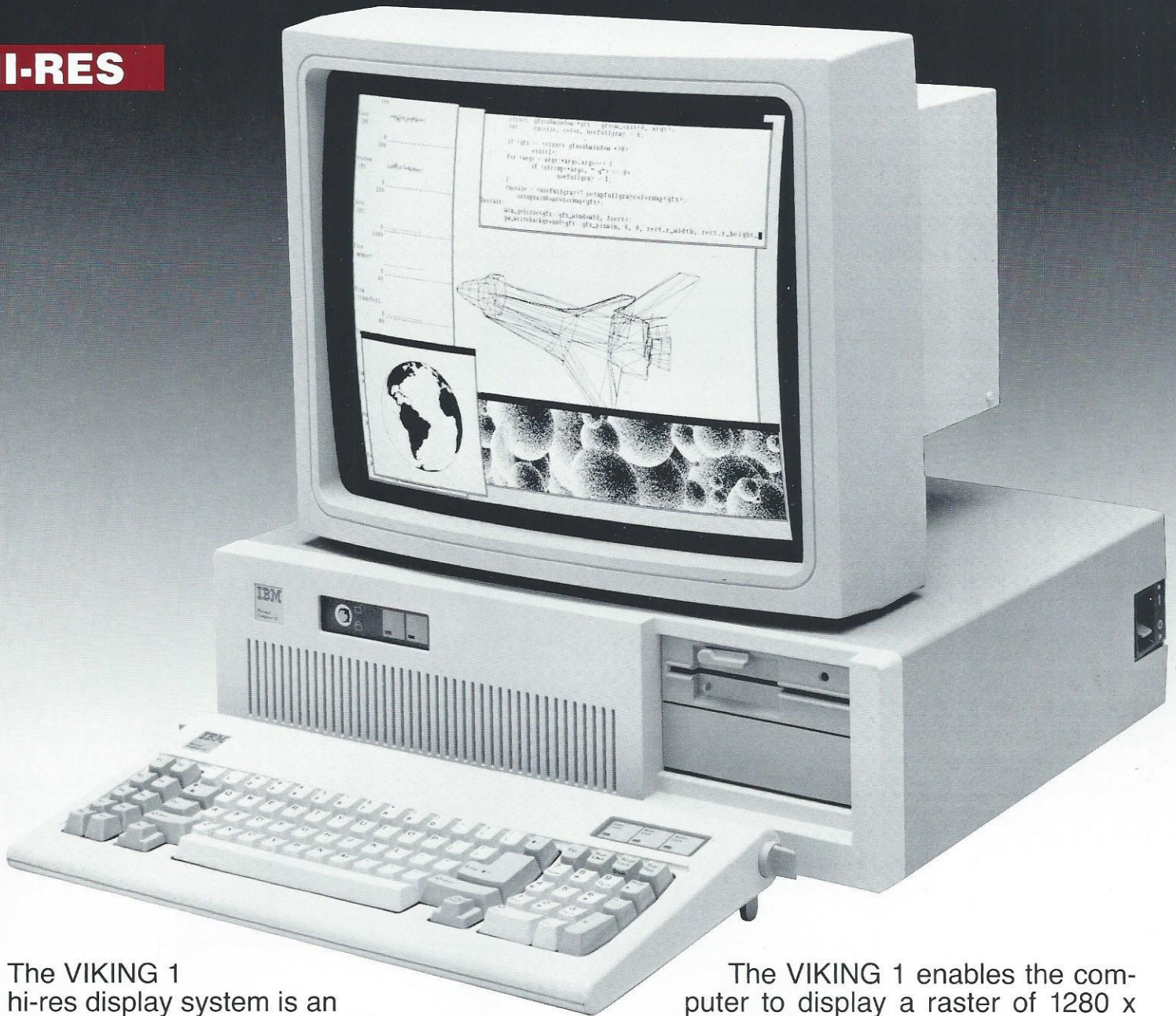# VIKING 1

GRAPHICS DISPLAY SYSTEM

HI-RES

The VIKING 1 hi-res display system is an add-in system to the IBM PC XT/AT/RT computers and other similar computers. It includes a compact 19″ hi-res monochrome monitor which is connected to an extremely powerful controller board occupying a single slot within the computer chassis. The monitor's appearance is compatible with the IBM PC family, and was specifically designed to sit directly on the PC.

The VIKING 1 enables the computer to display a raster of 1280 x 960 pixels refreshed at 66 Hz, a format which has previously been available only on very complex and expensive engineering workstations. Using the extremely powerful Hitachi HD63484 ACRTC controller chip, its high speed graphics control functions enable it to combine efficient character mode operations with sophisticated graphics functions within the same programs.

VIKING 1 SPECIFICATIONS

The VIKING 1 graphics controller is an interface card to the IBM PC and compatible computers. At the heart of the VIKING 1 is the Hitachi HD63484 ACRTC. Users of the VIKING 1 should be familiar with the operation of this device.

GENERAL

2 Megabit main memory, configured as 1K x 2K. 1280 x 960 bits are displayed. 1024 x 768 are reserved for buffer for fonts, figures or formats.
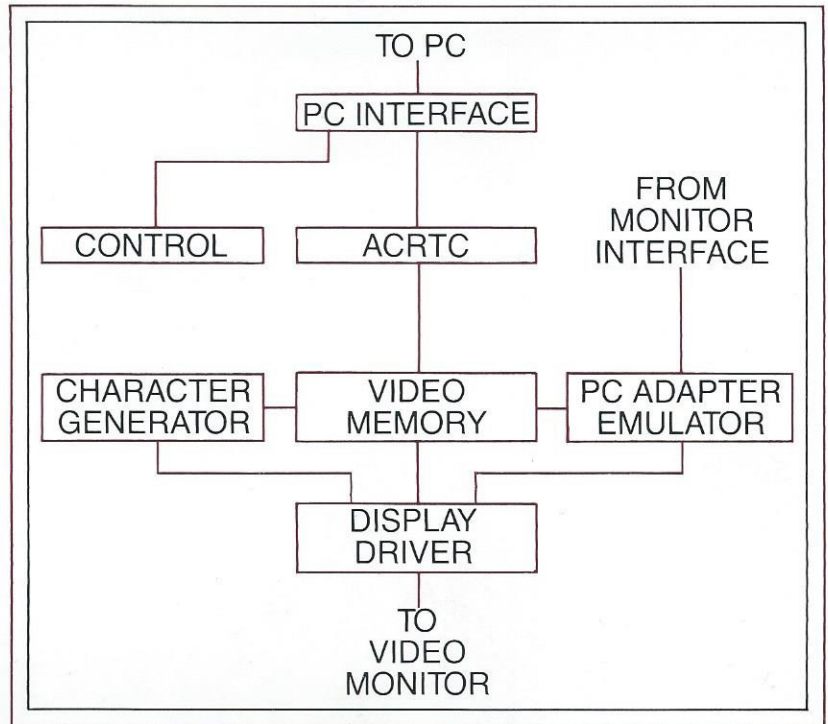
The PC interface includes DMA support and address decoding on the PC bus.

The hardware character generator "option" supports 60 lines of text with 128 characters per line, which can be intermixed with the bit mapped graphics on the screen.

The controller supports the usage of standard PC programs, for the IBM CGA, IBM Monochrome Adapter, or Hercules Adapter, without needing a second monitor.

The BIOS PROM is read upon startup to configure the DOS and initialize the Hitachi ACRTC chip.

The software interface involves accessing only the Hitachi ACRTC and the Control Register. Both are accessed in the I/O space of the PC.

BLOCK DIAGRAM

GRAPHICS

Bit Mapped Memory: 2 Megabits (2048 x 1024)
Character Memory: Up to 128K
Hardware Zoom and Pan
DMA Access

Hardware functions include:

BIT BLIT	PAINT
CIRCLE	DRAW LINE
RECTANGLE	POLYLINE
POLYGON	ELLIPSE
ELLIPSE ARC	COPY

MONITOR

Raster Size	11" x 14"	CRT size (diag)	19.6"
Horizontal pixels	1280	Monitor width	17.8"
Horizontal frequency	66KHz	Monitor height	14.5"
Vertical pixels	960	Monitor depth	15.0"
Vertical frequency	66Hz (Flicker Free!)	Monitor weight	36 lbs
Pixel frequency	110 MHz	Power consumption	60 watts
Phosphor	P-4 (White)		