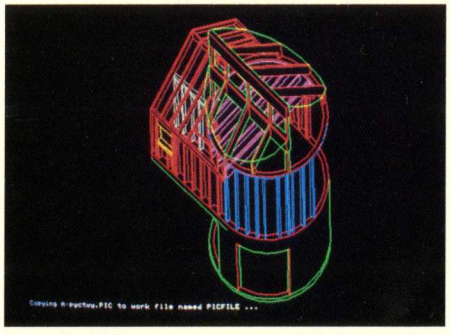
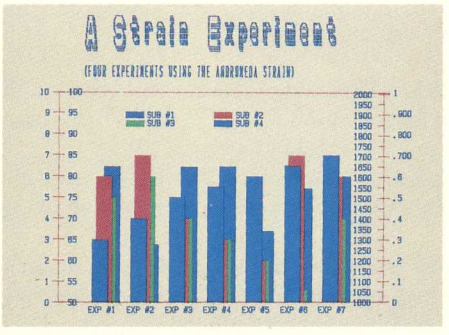
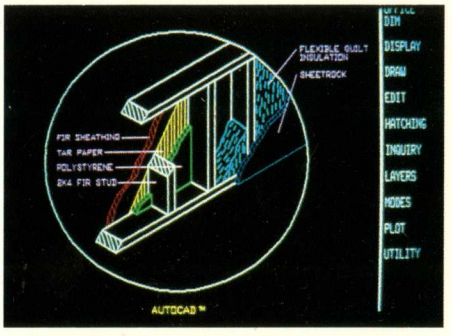


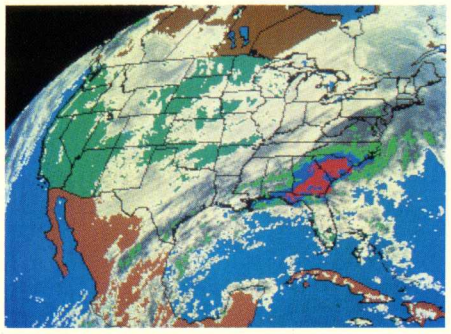
1. High Speed (MicroCAD Software)



2. Dual Display Modes (Energraphics Software)

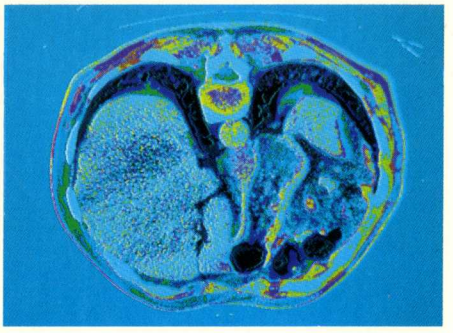


3. Simplified Processing (AutoCAD Software)



4. 9 Bit Planes (Courtesy WSI Inc., Bedford, MA)

5. 16.8M Color Shades (Courtesy Catherine Del Tito, Wave Graphics)



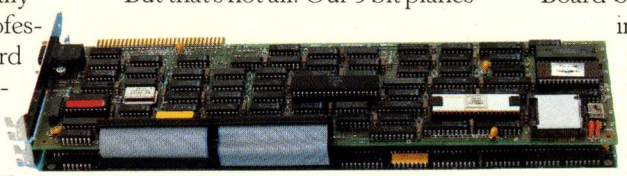
6. High Resolution (Courtesy University of North Carolina at Chapel Hill, Depts of Computer Science and Radiology)

Six reasons why professionals continue to choose Vectrix for quality IBM XT/PC graphics.

Even though IBM offers a color graphics card, professionals still choose Vectrix. It's not surprising. Especially once they've seen us in action. Professionals know that our VX/PC Board Set delivers the quality and performance they need for serious color graphics.

The VX/PC Board Set provides advanced features that help simplify sophisticated graphics design. Besides displaying 512 simultaneous colors from a palette of 16.8 million, the VX/PC supports an extensive library of on-board graphics macros for ease of programming and fast design, as well as full emulation of the IBM color card. And, an on-board 16-bit microprocessor frees your computer to concentrate on other tasks.

But that's not all. Our 9 bit planes add an extra dimension of sharpness and clarity to your image that must really be seen to be appreciated. That's why it's not surprising to see Vectrix color cards in applications such as medical imaging, weather satellite data mapping, computer aided design and drafting, and graphics arts, to name a few.



What you will find most surprising, however, is the price. Our VX/PC Board Set was designed with the OEM in mind. So when comparing the performance of Vectrix with the competition, check the price too. You'll like what you see.

For more information, contact Vectrix Corporation, 2606 Branchwood Drive, Greensboro, North Carolina 27408. Phone (919) 288-0520. Telex 574417.

Vectrix
THE COMPUTER GRAPHICS COMPANY

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EnerGraphics is a trademark of Enertronics Research, Inc., St. Louis, MO.

VECTRIX VX/PC BOARD SET

The VX/PC Series from Vectrix is a two-board IBM-compatible set that converts IBM personal computers into powerful color graphics workstations. Specifically designed for the IBM XT™, AT™, or PC™, the board set also runs in a variety of IBM look-alike computers.

The VX/PC Series delivers all the benefits and features of Vectrix' VX384A graphics system, including multiple on-board processors and an extensive library of graphics macros supporting both 2D and 3D applications. Also provided is full IBM Color Card emulation.

The system maintains two display modes in separate display areas which can be toggled back and forth without interference. This allows a space-saving single monitor which supports both high resolution Vectrix graphics and the lower resolution IBM Color Card display.

Standard features of the VX/PC include: hardware zoom with roam (pan), DMA access from the 80188 to the graphics frame buffer, light pen support, and an MS-DOS 2.0 software driver. It is software compatible with a variety of ink jet printers, including: Quadram's QuadJet™, Cannon™, Radio Shack CGP-220™, and Advanced Color Technology's ACT II™. The VX/PC also supports both the Instant Computer Camera™ from Celtic Technology and the VideoSlide 35™ from Lang Systems.

A wide variety of application software packages currently support the VX/PC Series. These include: AutoCad™ from AutoDesk of Sausalito, California, MicroCAD™ from Imagimedia Technologies, Inc. of San Francisco; EnerGraphics™ from Enertronics Research, Inc. of St. Louis; IGI Desktop 2100™ CAD/CAM Software from Infinite Graphics, Inc. of Minneapolis; NOVA*GKS™ from Nova Graphics International Corporation of Austin; D-PICT™ from DataPlotting Services, Inc. of Toronto; PC-CORE™, PC-100/4010™ and DIP-PLUS™ from Advanced Technology Center of Culver City, California; and numerous graphics arts packages including Vectrix' own PAINT Program.

Software support is an ongoing activity at Vectrix and packages are regularly added to our library of supported applications.

HARDWARE FEATURES

Resolution: 672H × 480V
Concurrently Viewable Colors: 512
Selectable Color Palette: 4,096 standard; 16.8 million optional
Graphics RAM: 384KB
Bit Planes: 9
Drawing Speed: 1600 nanosecond/pixel
Internal Processors: Intel 80188 16-bit microprocessor, 8MHz; NEC 7220
Processor RAM: 8K
Processor PROM: 16K standard (32K maximum)
Video Output: Analog RGB with separate H & V sync or combined H & V; optional video encoder for videotape and composite monitors

Power Requirements: 5 Volts at 4.5 amps
Full Hardware Emulation of the IBM Color Card
Frame Buffer Zoom, Pan and Scroll
Light Pen Support
MS-DOS 2.0 Software Driver

Vectrix
THE COMPUTER GRAPHICS COMPANY

For additional information on VX384A, VX128A, VX/PC Board Set, or VXMA Monitor call (919) 288-0520, or write Vectrix Corporation, 2606 Branchwood Drive, Greensboro, NC 27408, Telex 574417

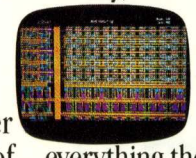
IBM XT, IBM AT, and IBM PC are trademarks of International Business Machines Corporation, White Plains, NY.

We were going to compare Vectrix graphics to IBM's. Unfortunately, there is no comparison.

Vectrix Midas Color Card

For the demanding professional, it's not fair to compare Vectrix's Midas Color Card set with IBM's own. Our 512 colors (out of a palette of 4,096) vs. their 16. Our beautiful 672 x 480 pixels vs. their not-quite-precise 640 x 200. Plus the logical, easy to use Vectrix command system. There's really no comparison.

But the IBM PC XT does other things well — like provide a wealth of outstanding software. That's the reason we made sure the Midas two-board set runs all the software that runs with IBM's color card (except in low resolution mode, which even IBM doesn't support). Options include a Siggraph core library, 4010 emulation package, Plot-10 compatible library and the amazingly versatile Vectrix paint program. Get everything the IBM PC XT has to offer.



Plus incomparably better graphics.

The Vectrix Midas Color Card set for the IBM PC XT or the IBM PC with expansion chassis. See for yourself — call or write today. Vectrix Corporation, 2606 Branchwood Drive, Greensboro, NC 27408 (919) 288-0520 Telex 574417.

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"Martini" image by Gray Lorig, Center for Interactive Computer Graphics, Rensselaer Polytechnic Institute
Nuclear Magnetic Resonance images by Technicare and University of North Carolina Dept. of Computer Science
"Memory Chip" image by Microelectronics Center of North Carolina Tree image by Catherine Del Tito, Wave Graphics

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PLOT 10 and 4010 are trademarks of Tektronix, Inc.

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Vectrix Midas Color Card

The Midas Color Card from Vectrix is a pair of IBM-compatible cards that turn the IBM XT family of computers into powerful color graphics workstations at a major savings for those who already have an IBM XT. The Midas Color Card not only delivers all the benefits and features of the VX384A graphics system, it also is fully compatible with the IBM color card. All of the software that runs with the IBM color card will function on the Midas Color Card without modification.

The system maintains two display modes in separate display areas. These can be toggled back and forth without interference. This allows a space-saving single monitor which supports both high resolution Vectrix graphics and the lower resolution IBM color card display.

The Midas Color Card also runs with the IBM PC, but in this configuration it requires the PC expansion chassis to meet power requirements.

Standard features of the Midas Color Card include: hardware zoom with roam (pan), DMA access from the 80188 to the graphics frame buffer, light pen support, and an MS-DOS 2.0 software driver. Software compatible with Radio Shack CGP-220 ink jet printer.

Hardware Features

RESOLUTION:	672H x 480V
CONCURRENTLY VIEWABLE COLORS:	512
SELECTABLE COLOR PALETTE:	4,096 Standard (16.8 million future option)
GRAPHICS RAM:	384KB
BIT PLANES:	9
DRAWING SPEED:	1600 nanosecond/pixel
INTERNAL PROCESSORS:	Intel 80188 16-bit microprocessor, 8MHz; Nec 7220
PROCESSOR RAM:	8K
PROCESSOR PROM:	16K standard (32K maximum)
VIDEO OUTPUT:	Analog RGB with separate H & V sync
POWER REQUIREMENTS:	5 Volts at 4.5 amps

FULL HARDWARE EMULATION OF THE IBM COLOR CARD

FRAME BUFFER ZOOM, PAN AND SCROLL

LIGHT PEN SUPPORT

MS-DOS 2.0 SOFTWARE DRIVER

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Vectrix Corporation 2606 Branchwood Drive Greensboro, N.C. 27408 (800) 334-8181 Telex 574417

VECTRIX™ VX128A/VX384A AND VX/PC
COMMAND SUMMARY

Graphics Primitives

M	<X> <Y> <Z>	Move
D	<X> <Y> <Z>	Dot
L	<X> <Y> <Z>	Line
P	<count> [<X> <Y> <Z>]	Polygon
F	<color> <count> [<X> <Y> <Z>]	Filled polygon
RF	<width> <height>	Rectangular Fill
XB	<boundary-color>	Complex Boundary fill
XF		Complex Flood fill
A	<radius> <start angle> <arc angle>	Arc or circle
OA	<radius> <start angle> <arc angle>	Originate Arc
WA	<radius> <start angle> <arc angle>	Wedge Arc
WB	<color> <radius> <start angle> <arc angle>	Wedge arc Boundary fill
N	<pattern>	Design pattern
RD		Return Drawing point
RL	<status>	Return Light pen position

3D Transformations

I		Initialize 3-D matrix
RX	<angle>	Rotation around X axis
RY	<angle>	Rotation around Y axis
RZ	<angle>	Rotation around Z axis
SP	<multiply factor> <divide factor>	Set Perspective scaling
SX	<multiply factor> <divide factor>	Scale along X axis
SY	<multiply factor> <divide factor>	Scale along Y axis
SZ	<multiply factor> <divide factor>	Scale along Z axis
TX	<translation>	Translate along X axis
TY	<translation>	Translate along Y axis
TZ	<translation>	Translate along Z axis
V	<left> <right> <bottom> <top>	Viewport

Color Manipulations

B	<bitplane mask register>	Bitplane write mask
C	<color>	Color
E	<color>	Erase
Q	<rows> <count> [<R> <G> <B>]	Define color lookup table
RQ	<rows> <count>	Return color lookup table
SQ		Set lookup table to default
OR		OR mode
RC		Replace Complement mode
RE		Replace mode
RA		Replace All mode

Hardcopy Printing

HD		Hardcopy Direct
HDOFF	<cr>	Hardcopy Direct OFF
HF		Hardcopy Formfeed
HNP		Hardcopy Non-dithered Print
HNR		Hardcopy Non-dithered Reverse
HP		Hardcopy dithered Print
HR		Hardcopy dithered Reverse

Modes

G		Go coldstart
G0		Go warmstart
KA		Absolute coordinates
KR		Relative coordinates
KB		Blank mode video
KF		Flash mode video
K2		2D coordinates
K3		3D coordinates
KD		Decimal mode
HX		Hexadecimal mode

Characters and Cross-hairs

JA	<slant angle> <rotation angle>	Adjust Angle
JD	<character> <rows 1-8>	Load character font
JM	<magnification factor>	Adjust Magnification
JN		Normal character set
JR	<rows 1-8>	Rectangular fill pattern
JS	<horizontal> <vertical> <line spacing>	Adjust Spacing
$	<character string> <cr>	Display character string
XHN		Cross-Hair on
XHF		Cross-Hair off
XHS	<width>	Cross-Hair Size
XHP	<x> <y>	Set Cross-Hair Position
XHR		Return Cross-Hair position
XHC		Set Cross-Hair at current drawing point

Video Commands

OF		Turn video OFF
ON		Turn video ON
PAN	<xpan> <ypan>	Pan video image

Pixel and RAM Commands

RP	<count>	Read Pixels
RNP	<count>	Read Pixels (encoded)
RR	<bitplane> <count>	Read graphics RAM
RNR	<bitplane> <count>	Read graphics RAM (encoded)
WP	<count> *[<colors>]*	Write Pixels
WNP	<count> *[<colors>]*	Write Pixels (encoded)
WR	<bitplane> <count> *[<words>]*	Write graphics RAM
WNR	<bitplane> <count> *[<words>]*	Write graphics RAM (encoded)
RP	<count>	Read Pixels bitplane mask sensitive
RNP	<count>	Read Pixels (encoded) bitplane mask sensitive
WP	<count> [<colors>]	Write Pixels bitplane mask sensitive
WNP	<count> [<colors>]	Write Pixels (encoded) bitplane mask sensitive

Miscellaneous Commands

K128		Emulate VX128 Mode
RV		Return Version number
TB	<left> <right> <bottom> <top>	Transfer block
U	<count> *[<program-bytes>]*	Upload and execute user code
WF	<count>	Wait Frames

VX/PC Only

SI		Switch to IBM mode
SV		Switch to Vectrix mode
SW		Set DMA write mode
SR		Set DMA read mode
SN		Set non-DMA mode
Z	<zoom factor>	Zoom Image