



AT&T

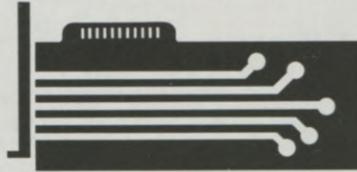


**TRUEVISION®**

Add A New Dimension To Personal Computer Graphics  
With Truevision High Color Resolution Imaging Products

# IMAGE CAPTURE BOARD

## Capture And Display TV-Quality Images



The AT&T Truevision Image Capture Board (ICB) brings your PC the gift of sight. The ICB lets you capture and display full-color, TV-quality pictures. Simply, reliably, and economically.

The ICB is a high color-resolution, single-slot graphics board that can grab and store realistic images from any standard video source such as a video camera, VCR or video disc player. AT&T Bell Laboratories-developed technology provides high-quality, dependable image capture in one-sixtieth of a second, allowing the ICB to take electronic photographs from live video, not just from stills. The ICB digitizes and then displays these images on analog RGB or composite video monitors.

The Image Capture Board's lavish color palette can display 32,768 colors simultaneously on the screen. Like a color television set, the ICB uses subtle shading and color transi-

tions to produce crisp, vibrant pictures of brilliant intensity.

### Specifications:

Resolution Mode:  
Ultra High Color-Resolution Mode—  
256 pixels by 240 pixels by 32,768  
colors (15 bits/pixel)

Input Signal:  
NTSC composite video (for image  
capture)

Output Signals  
A. NTSC composite video  
B. Analog RGB and sync

Bit-Mapped Display:  
128K bytes

Connectors  
A. 1 RGB (out)  
B. 2 Composite (in, out)

Programmable Options  
A. Location of active area on screen  
B. Application process interrupt on  
vertical blanking interval or speci-  
fied pixel

C. Odd or even field capture  
D. Interlaced or non-interlaced video  
output

Display Memory Contention: less  
than 1 percent

Border Color: black

Power:  
0.5 amps at 5 volts  
0.25 amps at 12 volts  
0.25 amps at -12 volts

ICB Settings and Adjustments

A. Interlaced or non-interlaced cap-  
ture and display  
B. Image centering on screen  
C. Color adjustment (monitor)  
D. Hue, saturation, and contrast  
adjustment (input signal)  
E. Gen-lock adjustment (i.e., video  
camera or VCR/video disc player)

Programming tools for ICB soft-  
ware development available upon  
request (MS-DOS 2.0, C Language  
Bindings) ■

# VIDEO DISPLAY ADAPTER WITH DIGITAL ENHANCEMENT

## Create And Display Graphics With Continuous-Tone Realism

The AT&T Truevision Video Display Adapter with Digital Enhancement (VDA/D) is a single-slot, high color-resolution graphics board that lets your personal computer work with continuous-tone images. Use the VDA/D to create your own colorful pictures from scratch or to display TV-quality electronic photographs taken with the Truevision Image Capture Board.

Each VDA/D image has its own unique set of 256 colors drawn from a palette of over 32,768 colors. You can even display as many as 1,008 colors at one time by using up to four of the VDA/D's eight color maps simultaneously, in different areas of the screen.

VDA/D images can be displayed on composite video or analog RGB monitors. The VDA/D even works with selected digital RGB monitors such as the IBM Color Display and the Sears Total Video System. Imagine seeing startlingly realistic, full-color images on a standard color display. Amazing! And only with the Truevision

Video Display Adapter with Digital Enhancement.

### Specifications:

Resolution Modes

A. High Color-Resolution Mode:  
256 pixels by 240 pixels by 256  
colors (from a palette of 32,768  
colors; 8 bits/pixel with a 15/bit  
color look-up table)

B. High Spatial-Resolution Mode:  
512 pixels by 240 pixels by 16 col-  
ors (from a palette of 8 colors with  
two intensity levels per color)

Input Signal (for signal pass-through  
from standard color graphics adap-  
ter): Digital RGB

Output Signals  
A. NTSC composite video  
B. Analog RGB and sync  
C. Digital RGB (NTSC scan  
frequency)

Bit-Mapped Display: 64K bytes

Connectors  
A. 2 RGB (in,out)  
B. 1 Composite (out)

Programmable Options

A. Color- or Spatial-Resolution Mode  
B. Signal pass-through from standard  
color graphics adapter  
C. Color look-up table (selectable  
from a set of eight; up to four can  
be employed simultaneously in  
different areas of screen)  
D. Pixel write mask  
E. Location of active area on screen  
F. Application process interrupt on  
vertical blanking interval or  
specified pixel  
G. Interlaced or non-interlaced  
video output  
H. Border color

Display Segment Specification  
(including disable)

Input/Output Block Specification  
Analog or Digital RGB Specification

Display Memory Contention: less  
than 1 percent

Power: 0.5 amps at 5 volts  
0.25 amps at 12 volts  
0.25 amps at -12 volts ■

# TRUEVISION ADVANCED RASTER GRAPHICS ADAPTER

## High Spatial-Resolution Frame Capture And Display



Introducing a technological triumph from AT&T – the Truevision Advanced Raster Graphics Adapter (TARGA™) series of single-slot graphics boards. The five separate TARGA models digitize and display pictures of striking clarity and realism at even higher spatial resolution than the Image Capture Board.

TARGA captures continuous-tone images in real time: one-thirtieth of a second per frame. And TARGA is elegantly engineered for speed, performance, and reliability. Its robust gen-lock capability lets you digitize video signals from a variety of sources, including video cameras, VCRs, and video disc players. TARGA incorporates a number of sophisticated hardware features, including 2X, 4X and 8X zoom. Smooth, independent horizontal and vertical panning. Bit plane masking and other

programmable options offer incredible flexibility in working with continuous-tone images.

The TARGA series provides up to 512 by 482 pixel resolution at different color depths. Display device options include analog RGB monitors for TARGA models M8, 16, 24 and 32. Composite video monitors for TARGA 16. And monochromatic video monitors for TARGA 8 and M8.

### Specifications:

#### Spatial Resolution Modes

- A. 512 x 482 pixels (interlaced only); board memory accommodates one 512 x 512 image
- B. 512 x 240 pixels (interlaced/non-interlaced); board memory accommodates two full-screen 512 x 256 images

- C. 256 x 240 pixels (interlaced/non-interlaced); board memory accommodates four full-screen 256 x 256 images

#### Gen-Lock Capability

- A. Master or slave
- B. Automatic switching to master mode in the absence of video input

Capture Time: 1/60th of a second per field, 1/30th of a second per frame

Hardware Zoom: 2X, 4X, and 8X

Hardware Panning: Independent horizontal and vertical smooth panning

#### Programmable Options

- A. Independent vertical and horizontal screen centering
- B. Display modes: selectable border color or live border

Bit Plane Read/Write Mask

Vertical Scrolling With Wrap-Around ■

	TARGA 8	TARGA M8	TARGA 16	TARGA 24	TARGA 32
Color Resolution	256 levels of grey	256 grey levels; or 256 colors from a palette of 16,777,216	32,768 colors	16,777,216 colors	16,777,216 colors
Input Signals	RS 170 compatible (black and white) video	4 RS-170 compatible (black & white) video channels, or analog RGB (for sequential color capture); Digital RGBI input (for pass-through of CGA output)	RS 170A compatible (color) video Analog RGB	Analog RGB	Analog RGB
Output Signals	RS 170 compatible (black and white) video	Analog RGB Monochrome, RS-170 composite video	RS 170A compatible (color) video Analog RGB	Analog RGB	Analog RGB
Overlay Capability		Overlay live input with memory (one entry in color look-up table)	Overlay live input with memory (1 bit)		Overlay live input with memory (1 bit) and 128 levels of mix for blending live input with memory (7 bits)
Memory	8 bits/pixel 256K bytes	8 bits/pixel 256K bytes	16 bits/pixel 512K bytes	24 bits/pixel 768K bytes	32 bits/pixel 1,024K bytes

### Overscan For TARGA

TARGA has been developed so that your images will always appear within a safe title area (44 microsecond active video interval). However, it is possible that for certain video and

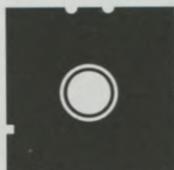
video production-oriented applications, you may need to go to a full 52.6 microsecond video width (10.9 microsecond blanking interval).

Now you can increase your visual image area with our TARGA Overscan

Option, available with any of the TARGA models we offer. And you'll find our Truevision Image Processing Software (TIPS) to be compatible. An Overscan-equipped TARGA will occupy two slots in your PC. ■

# TRUEVISION SOFTWARE PRODUCTS

Put Continuous-Tone Graphics To Work—For You!



## Truevision Image Processing Software

*The power to put your imagination to work.*

Truevision Image Processing Software (TIPS™) unleashes powers you never dreamed your PC possessed. The power to work with digitized video images, captured in living color. The power to create your own images, with incredible flexibility. And the power to blend a little of both, with remarkable dexterity.

Digitize an image with your Truevision Advanced Raster Graphics Adapter (TARGA) or Image Capture Board (ICB), and then put TIPS to work. Airbrush, change colors, copy portions of the screen and blend

them, smoothly. Move items and add elements, or eliminate them altogether. Superimpose text and graphics. TIPS also lets you create your own artwork with drawing functions that put you in control of lines, polygons, brushes, patterns and type fonts. TIPS puts powerful manipulation functions at your fingertips. Award-winning TIPS is surprisingly easy to learn. And versatile. Use TIPS to construct images for hundreds of purposes, including incorporation into electronic slide shows with Truevision Slide Presentation Software. ■

*(Separate TIPS versions designed for use with the AT&T Truevision Advanced Raster Graphics Adapter Models M8, 16, 24 and 32.)*

*Image Capture Board, and Video Display Adapter with Digital Enhancement. Requires 512K of RAM for VDA/D, ICB or TARGA M8 or 16; 640K of RAM for TARGA 24 or 32. TARGA TIPS can utilize EMS/LIM specification expanded memory.)*

## Truevision Fonts for TIPS

*The power to show your type.*

Now with Truevision Fonts for TIPS you can broaden design and presentation applications with a wide variety of type styles and sizes. A perfect complement to TIPS, this addition to your software library has thirty selections from which to choose. For graphic design, video production, education, training, presentations, proposals and hundreds of other uses. ■

## Truevision Slide Presentation Software

*Engage your PC for dramatic presentations.*

AT&T Truevision Slide Presentation Software helps you make professional presentations quickly and inexpensively. It lets you present a series of TV-quality images taken from real life with the Image Capture Board or TARGA 16, or stored on the Video Display Adapter with Digital Enhancement. The images form an electronic slide show which can be pre-timed and pre-arranged to go from one image to another with a variety of twelve differ-

ent fades, wipes and dissolves, giving your presentation a more dramatic and engaging appearance.

An electronic slide show with Truevision Slide Presentation Software is better than 35mm slides. You can capture or create your own images quickly, conveniently, and very inexpensively. Add or delete slides just moments before you're on. And Slide Presentation Software is friendly. Its pop-up menus are easy to learn and disappear when you don't need them to let you see the whole screen.

So, anywhere you'd use slides, use Slide Presentation Software instead. It

can improve your presentations by making them more interesting and more professional. It can simplify your preparation by enabling you to create and/or modify your images yourself. And it can save you money by eliminating the need for expensive slide preparation services. ■

*(Designed for use with the AT&T Truevision Advanced Raster Graphics Adapter Model 16, Image Capture Board, and Video Display Adapter with Digital Enhancement. Requires 256K of RAM for VDA/D or ICB, 640K or RAM for TARGA 16. TARGA Overscan Option requires 1 megabyte EMS/LIM specification expanded memory.)*

## Truevision PicturePower

*A new look to database information.*

See your databases as never before with Truevision PicturePower, an integrated software system for incorporating pictures in databases. Where identification, documentation and cataloging are essential, PicturePower provides total information—text and pictures—at your fingertips.

And it's a snap to use. The package comes with its own database manager for creating, maintaining, and

searching databases. With PicturePower and the TARGA 16, you can capture a picture from a video source, then edit it, add text, and store it in an electronic filing cabinet in your PC. And you can retrieve your pictures quickly and easily.

Truevision PicturePower has its own image editor, forms generator, and data communications capabilities built right in. And for more extensive or sophisticated retrieval needs, it can even incorporate pictures into files generated by

Ashton-Tate's dBase III Plus.

Look into the applications for Truevision PicturePower. Catalogs, inventory, personnel. Security, real estate, laboratory or medical records. Art collections, jewelry, antiques. And then add a new look to your databases. With Truevision PicturePower. ■

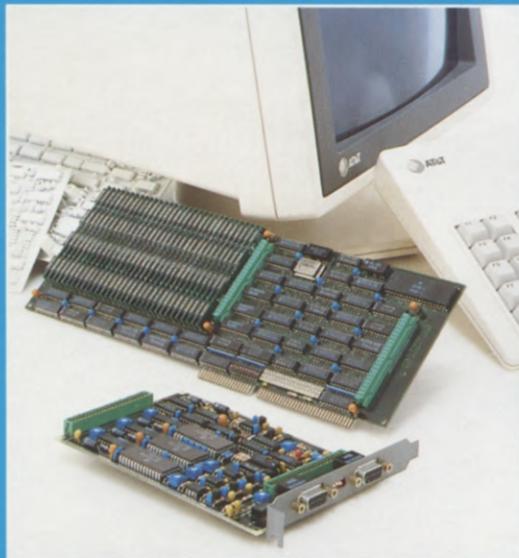
*(Designed for use with the AT&T Truevision Advanced Raster Graphics Adapter Model 16. Requires 640K RAM. Can use EMS/LIM specification expanded memory.)*

**NOTE ON SOFTWARE REQUIREMENTS:** Each Truevision software product has slightly different hardware requirements, but all make use of the following components:

- AT&T PC 6300 or IBM PC, XT, AT or plug-compatible personal computer. Hard disk (recommended) or double disk drive system.
- AT&T Truevision graphics board.
- Appropriate monitor for Truevision graphics board.
- Input device: AT&T, Microsoft or compatible mouse or Summagraphics 961 or 1201 tablet.
- Video source (for use with ICB or TARGA).
- DOS (2.0 or later version).

# TRUEVISION®

A True Breakthrough



AT&T technology puts real pictures on personal computers. With the same clarity and full color intensity you see on a television screen. We call it Truevision. And what you can do with it is truly amazing.

The AT&T Truevision family of graphics hardware and software products opens up exciting opportunities for new personal computer uses and provides dramatic enhancement to existing applications. At amazingly affordable prices.

Our graphics boards let you grab true-to-life, full-color images from a video source in real time and display them on a variety of monitors. The astonishing realism of Truevision images comes from our boards' high

color-resolution and medium to high spatial-resolution. Truevision boards fit in a single expansion slot of your AT&T (6300, 6300 Plus), IBM (PC, XT, AT), or plug-compatible personal computer. And our newest hardware addition, the Truevision Film Printer, lets you make prints, 35mm slides or overhead transparencies of your images, instantly.

Our Truevision software products let you put your images to work. Manipulate them. Incorporate them into electronic slide shows. Transmit them over telephone lines. You can even create your own continuous-tone images from scratch.

Truevision images can transform business, industrial and consumer

marketing. Open up new possibilities in education and training. Improve productivity in graphic design. Add a new dimension to databases for on-line shopping services, real estate, security, inventory, and medical systems. And they can revolutionize communications, throughout the country and around the world. On-line databases deliver digitized images.

Truevision takes you beyond the cartoons and stick figures of ordinary PC graphics into a world of life-like, television-quality imagery. Into a world where your images match reality in color, clarity and intensity. And where the applications are limited only by your imagination. ■



### Image Capture Board(ICB)-

256 pixels by 240 pixels by  
32,768 colors.



### Video Display Adapter with Digital Enhancement(VDA/D)-

256 pixels by 240 pixels by  
256 colors.



### Truevision Advanced Raster Graphics Adapter, (TARGA 16)-

512 pixels by 482 pixels (interlaced  
only) by 32,768 colors.

# TRUEVISION FILM PRINTER

Hard Copy At An Easy Price.

Now with the AT&T Truevision Film Printer you can get hard copy of images you've captured or created. Instantly. In glorious color. Our Film Printer produces beautiful photographs of your ICB, VDA/D, TARGA M8 or

TARGA 16 images at the touch of a button. With resolution you'll find hard to believe. And it's a snap to use.

If you prefer slides to snapshots, the Truevision Film Printer can handle that, too. Optional camera backs are availa-

ble to produce 35mm slides and full color overhead transparencies.

So, when you're hard-pressed for hard copy, remember the Truevision Film Printer. ■

## AUXILLIARY CABLES FOR TRUEVISION

Connections that make a perfect picture.

Truevision dealers also stock cables to connect your Truevision graphics board to a monitor and a video source for a perfect picture. Please review product specifications or see your authorized Truevision dealer to determine which cable you will need.

### **Composite Video Cable (6 feet)**

RCA phono-type plug; for use with ICB (input or output) or VDA/D (output).

### **AT&T RGB 1.0 Cable (5 feet)**

9-pin D to 4 BNC plugs (R,G,B and Sync); analog RGB cable for use with ICB (output), VDA/D (output), TARGA 16, 24 or 32 (input or output), or TARGA M8 (output).

### **TARGA Composite Video Cable (4 feet)**

9-pin D to RCA phono-type plug with female-female RCA adapter; for use with TARGA 8 (input or output), TARGA 16 (input or output) or TARGA M8 (output).

### **VDA/D Loop-Through Cable (8-inch)**

9-pin D to 9-pin D; for use with VDA/D; loops IBM Color Graphics Adapter (CGA) digital RGB output into VDA/D digital RGB input.

*[NOTE: Loop-Through Cable required for use only in PCs with CGA (or 100% compatible boards) and standard digital RGB monitors (e.g. IBM Color Display or Sears Total Video Display) or analog RGB monitors.]*

### **AT&T RGB 2.0 Cable (4 feet)**

9-pin D to Sony Profeel female 34-pin; for use with VDA/D, ICB, TARGA 16, 24 or 32 (output) to display images on a Sony Profeel analog RGB monitor with 34-pin male connector.

### **TARGA M8 Input Cable (4 feet)**

General purpose cable to input analog RGB video; up to 4 composite RS170 sources and IBM CGA text/graphics in the TARGA M8.

Pigtail cable comprised of 15-pin D (male) for connection to TARGA M8 input; 9-pin D (male) to IBM CGA and 4 composite video coax cables with BNC plugs.

For additional information or for the location of the dealer nearest you, please write or call:  
AT&T  
Electronic Photography and Imaging Center  
7351 Shadeland Station, Suite 100  
Indianapolis, IN 46256  
1-800-858-TRUE



**AT&T**

The right choice.

Dear Friend,

Thanks for your interest in our TRUEVISION videographics products. We invite you to join us in the exciting field of PC-based imaging with our affordable frame grabbers/buffers or with our imaging software products. TRUEVISION videographics adapters create dynamic realism by merging high color resolution with real time capture from a video source. From the industry-standard TARGA™ 16 and the rest of the TARGA family, to the trend-setting TrueVista™ series of co-processor based videographics adapters, you'll find a consistent commitment to the highest quality standards and the latest technological advances in any PC-based graphics product. Our VDA/D, ICB and TARGAs all operate in IBM<sup>R</sup> PC and plug-compatible machines, the AT Vista™ runs in an IBM PC AT or 100% compatible, and the NuVista™ operates in the Apple<sup>R</sup> Macintosh™ II.

Our line of software products has the same high level of innovation and quality. It includes the award-winning TIPST<sup>™</sup> paint program, TRUEVISION Slide Presentation Software, and some developer level programming tools. Here is the most current pricing for the entire TRUEVISION product family:

HARDWARE	PRICES
VDA/D (Video Display Adapter with Digital Enhancement)— display-only graphics board	\$695.
ICB (Image Capture Board)—captures and displays images from any video source	1295.
TARGA Videographics Adapters—capture/display boards with frame buffers	
TARGA 8- 256 levels of grey	1595.
TARGA M8-256 levels of grey, or 256 colors from 16.7 Million palette	1995.
TARGA 16- 32,768 colors, plus video overlay and overscan --	<b>NEW, LOWER PRICE!!</b> 1995.
TARGA 24- 16.7 Million colors	3995.
TARGA 32- 16.7 Million colors, plus overlay and blending	4995.
Overscan - optional for TARGA 8,M8,24,32	200.
TRUEVista Videographics Series—capture/display boards incorporating TI 34010 Graphics Processor	
AT Vista—4 Mbytes of on-board Video Memory. For IBM PC AT and plug compatibles.	5995.
AT Vista 2M—2Mbytes of on-board Video Memory. For IBM PC AT and plug compatibles.	4250.
NuVISTA — same specs as AT Vista, only for the Apple Macintosh II	5995.
NuVISTA 2M — same specs as AT Vista 2M, only for the Macintosh II	4250.

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**PRICES**

<b>CVA</b> (Composite Video Adapter) — board which converts RGB to composite video, and vice versa	<b>\$495.</b>
<b>TFP</b> (TRUEVISION Film Printer)—multiple hardcopy output devices, produces slides, instant prints or overhead transparencies. Base unit includes instant film back.	<b>2550.</b>
35mm Film back	<b>448.</b>
Overhead/Transparency back	<b>348.</b>

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**SOFTWARE**

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<b>TIPS™</b> Imaging Software—award-winning image enhancement and graphics design program. TIPS is available for:	
VDA/D	<b>250.</b>
ICB	<b>695.</b>
TARGA M8	<b>995.</b>
TARGA 16	<b>1250.</b>
TARGA24/32	<b>1250.</b>
AT-VISTA	<b>2500.</b>
TIPS Fonts- extra type fonts for your use	<b>100.</b>
<b>SPS</b> (Slide Presentation Software)—program which lets you arrange and display VDA/D, ICB, TARGA M8 or TARGA 16 images in an electronic slide show	<b>150.</b>
<b>STAGE</b> —our programming environment software specifically written for TRUEVISTA products. This programmer's toolkit is written to provide TI 34010 GSP programming functionality, allowing the board to talk to the host PC.	<b>250.</b>
<b>C86 TOOLS</b> —programmer's toolkit for VDA/D, ICB or TARGA	<b>25.</b>
<b>TRUTILITIES</b> —a group of utility programs, including .TGA to PostScript and TIFF conversions, a colormap program, and more.	<b>25.</b>
<b>TARGA 16 WINDOWS Driver</b> —driver which allows you to run a TARGA 16 under WINDOWS on an IBM PC.	<b>25.</b>

(NOTE: PRICES ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.)

We truly appreciate your interest in our products. If you would like to learn more or wish to see a product demonstration, contact your local Authorized TRUEVISION Reseller. To find the nearest one, call **800/858-TRUE** or write us at:

**TRUEVISION, Inc.**  
**7351 Shadeland Station, Suite 100**  
**Indianapolis, IN 46256**