

# TVGA 8900D TVGA 9000i User's Manual

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# Introduction

## 1.1 Features

Thank you for purchasing our VGA graphics board. The adapter works with your IBM PC/AT (or compatible) to bring you super-high resolution, 256-color capability, fast screen redraw, compatibility with most software and hardware.

## Compatibility

- 486, 386, 286 and PC compatibles
- Register compatible with Hercules, MDA, CGA, EGA and VGA
- Non-interlaced or interlaced monitor support
- Compatible with Multi-Sync and PS/2 monitors
- 72Hz VESA standard (800x600 resolution)
- 1024x768 70Hz refresh

## Resolution And Color Selection

(All modes non-interlaced except where indicated by an "I")

Memory	256K DRAM	512K DRAM	1MB DRAM***
640x400	---	256	256
640x480	16	16,256	16,256,32K*,16M**
768x1024	---	16-I	16-I
800x600	16	16,256-I/NI	16,256,32K*
1024x768	---	16-I/NI	16-I/NI,256-I/NI

\*Same DRAM requirement for 64K COLOUR

\*\*32K/64K HiCOLOUR are optional features

\*\*\*1MB DRAM features apply for TVGA 8900D only

## Extended Text Display

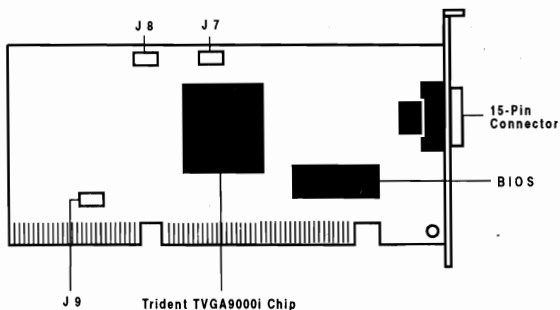
- 80-column text modes in 30, 43, and 60 rows
- 132-column text modes in 25, 30, 43 and 60 rows

## Software Drivers Supported

- AutoCAD
- Lotus
- Symphony
- Quattro Pro
- OS/2 Presentation Manager (Optional)
- Autoshade
- MS Windows
- Ventura
- VESA BIOS Extension
- GEM Desktop
- MS Word
- WordPerfect

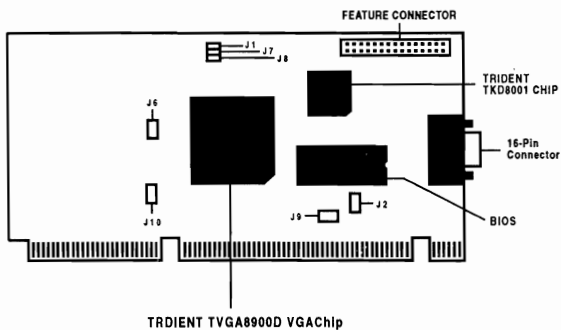
## 2.1 Hardware Configuration

Figure 1 is a diagram of the VGA graphics adapters. (TVGA 9000i)



**FIGURE 1. Jumpers & Component Locations**

Figure 1A is a diagram of the VGA graphics adapters. (TVGA 8900D)



**FIGURE 1A. Jumpers & Component Locations**

## 2.2 JUMPER SETTING:

J1*	Open	FIFO On
	Short	FIFO Off
J2*	Open	Disable Zero WS
	Short	Enable Zero WS
J3*	Open	For 512K/1MB Memory
	Short	For 256KB Memory
J6*	Open**	Using 16 Bit Slot
	Short	Using 8 Bit Slot
J7	Open	For Non-Interlaced(NI)Monitor
	Short**	For Interlaced (I) Monitor
J8	Open	Enable Autodetect 8/16 Bit BIOS Interface
	Short	Disable Autodetect 8/16 Bit BIOS Interface
J9	All Open**	Using 16 Bit Slot
	All Short	Using 8 Bit Slot
J10*	Open	Using 8 Bit Slot
	Short**	Using 16 Bit Slot

\* for 8900D only

\*\* Default

## 3.1 Software Drivers & utilities

### Installation procedures

To start the program, insert Driver & Utilities Diskette into drive A. From drive A type: **README [Enter]**. Choose whether you would like the contents of the utility disk expanded to C:, D:, or E: drive. Be sure the destination hard drive has at least 3MB of memory available.

Once all files have been copied/expanded to the hard drive, the driver/utility program may be started by typing **README** from the TVGAUTIL directory on your selected hard drive.

#### **Remark:**

For update information, please refer to the file (if exist) **README.lst** in the Display Drivers & Utilities diskette.

# Appendix A

## Sync and Polarity Specifications

Table 1 lists the horizontal sync, vertical sync, and polarity for all available VGA modes. If you are not sure if your monitor will support a particular mode, check your monitor's specification for horizontal sync, vertical sync, and polarity against these tables.

**TABLE 1 . Sync and Polarity Specifications**

Mode (h)	Clock (MHz)	Horz Sync (KHz)	Vert Sync (Hz)	Polarity (H, V)
0,1	25.175	31.4	70	+, -
2,3	25.175	31.4	70	+, -
0 <sup>1</sup> ,1 <sup>1</sup>	25.175	31.4	70	-, +
2 <sup>1</sup> ,3 <sup>1</sup>	25.175	31.4	70	-, +
0 <sup>2</sup> ,1 <sup>2</sup>	28.322	31.5	70	+, -
2 <sup>2</sup> ,3 <sup>2</sup>	28.322	31.5	70	+, -
4,5	25.175	31.4	70	+, -
6	25.175	31.4	70	+, -
7	28.322	31.5	70	+, +
7+	28.322	31.5	70	+, +
D	25.175	31.4	70	+, -
E	25.175	31.4	70	+, -
F	25.175	31.4	70	-, +
10	25.175	31.4	70	-, +
11	25.175	31.4	60	-, -
12	25.175	31.4	60	-, -
13	25.175	31.4	70	+, -
50	25.175	31.5	60	-, -
51	25.175	31.5	60	-, -
52	25.175	31.5	60	-, -
53	40.000	31.2	70	-, +
54	40.000	31.2	60	-, -
55	40.000	31.2	60	-, -
56	40.000	31.2	60	-, -
57	44.900	31.2	70	-, +
58	44.900	31.2	60	-, -
59	44.900	31.2	60	-, -
5A	44.900	31.2	60	-, -
5B <sup>8</sup>	36.000	35.2	56	-, -
5B <sup>3,9,10</sup>	50.350	48.0	72	+, +

**TABLE 1. Sync and Polarity Specifications - Continued**

Mode (h)	Clock (MHz)	Horz Sync (KHz)	Vert Sync (Hz)	Polarity (H, V)
5C <sup>3</sup>	50.350	31.5	70	-, +
5C <sup>4</sup>	25.175	31.5	70	-, +
5D <sup>3</sup>	50.350	31.5	60	-, -
5D <sup>4</sup>	25.175	31.5	60	-, -
5E <sup>5,7</sup>	57.272	29.5	90	+, +
5E <sup>4,6,8</sup>	36.000	35.2	56	-, -
5E <sup>4,6,9</sup>	50.350	48.0	72	+, +
5F <sup>4,5,8</sup>	44.900	35.5	86	+, +
5F <sup>4,6,9,10</sup>	65.000	48.7	60	+, +
5F <sup>4,6,9,12</sup>	75.000	56.4	70	+, +
60 <sup>5</sup>	44.900	35.5	86	+, +
61 <sup>11</sup>	44.900	37.9	70	+, +
62 <sup>4,5,8</sup>	44.900	35.5	86	+, +
62 <sup>4,6,9,10</sup>	65.000	48.7	60	+, +
62 <sup>4,6,9,12</sup>	75.000	56.4	70	+, +
6C <sup>4,6</sup>	75.000	31.4	60	-, -
74/75 <sup>4,6</sup>	50.350	31.4	60	-, -
76/77 <sup>4,6</sup>	72.000	35.2	56	-, -

**Table Notes:**

- <sup>1</sup> EGA text modes with 8x14 and 9x14 character sizes and 350 lines vertical resolution.
- <sup>2</sup> VGA text modes with 9x16 character size and 400 lines vertical resolution.
- <sup>3</sup> Supported by 512KB and IMB configurations only.
- <sup>4</sup> Supported by IMB configuration only.
- <sup>5</sup> Interlaced mode.
- <sup>6</sup> Non-interlaced mode.
- <sup>7</sup> Supported by 512KB configuration only.
- <sup>8</sup> Jumper J7 connected.
- <sup>9</sup> Jumper J7 open.
- <sup>10</sup> High refresh monitor required with horizontal frequency greater than 48KHz.
- <sup>11</sup> Portrait monitor.
- <sup>12</sup> High refresh monitor required with horizontal frequency greater than 56 KHz.

# Appendix B

## FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undersired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measure:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the following prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problem." This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Notes: In order for an installation of this product to maintain compliance with the limits for a class B device, shielded cables and power cord must be used.