

The VGA 1024 Non-Interlaced Adapter in your computer provides all the functions of the VGA standard plus support of 256-color, 1024 x 768 graphics and other high-resolution modes.

FEATURES

The features of the adapter include:

- * 512KB of video memory to support 640 x 480 and 800 x 600 graphics with 256 colors and 1024 x 768 graphics with 16 colors
- * Optional video memory upgrade to support 1024 x 768 graphics with 256 colors
- * Monitor refresh rate of 60 or 70 Hz (non-interlaced) in 1024 x 768 modes (on supporting monitors)
- * Support for 80 and 132 column text modes
- * Color palette of over 262,000 possible colors for video modes that can display 256 colors at one time
- * Support for monochrome and color, fixed-frequency or multi-frequency VGA analog monitors
- * AutoSense circuit, which enables use in 8-bit as well as 16-bit bus computers
- * Compatibility with VESA monitor timings
- * Compatibility with software written for the Hercules Graphics Card and the IBM video standards preceding VGA: Monochrome Display Adapter (MDA), Color/Graphics Adapter (CGA), Multi-Color Graphics Adapter (MCGA), and Enhanced Graphics Adapter (EGA)

The adapter can be used with any interlaced or non-interlaced VGA analog multi-frequency monitor. Available video modes depend on the monitor frequency. Refer to "Monitor Compatibility" for a list of allowable monitor frequencies.

MONITOR COMPATIBILITY

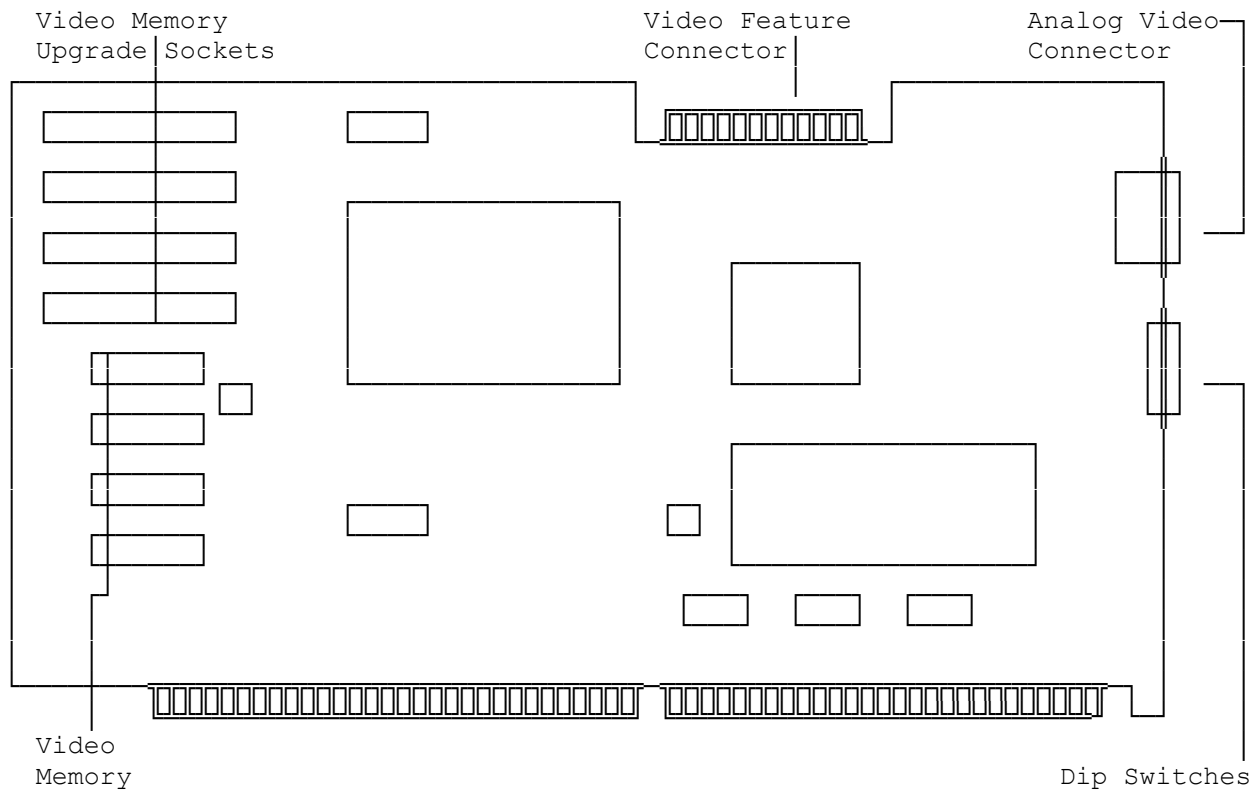
The following table lists Tandy monitors that are compatible with the VGA 1024 Non-Interlaced Adapter in your computer:

TANDY MONITOR	60 Hz 640x480	56Hz 800x600	60Hz 800x600	72Hz 800x600	42.5Hz 1024x768 Interlaced	60Hz 1024x768 NI	70Hz 1024x768 NI
VGM-100 25-4040	X						
VGM-200 25-4041	X						

VGM-220 25-4044	X						
VGM-300 25-4042	X						
VGM-440 25-4045	X	X	X		X		

ADAPTER LAYOUT

Study the following simplified illustration of the VGA 1024 Non-Interlaced Adapter. Being able to identify the items shown will help you understand this section as these items are referenced:



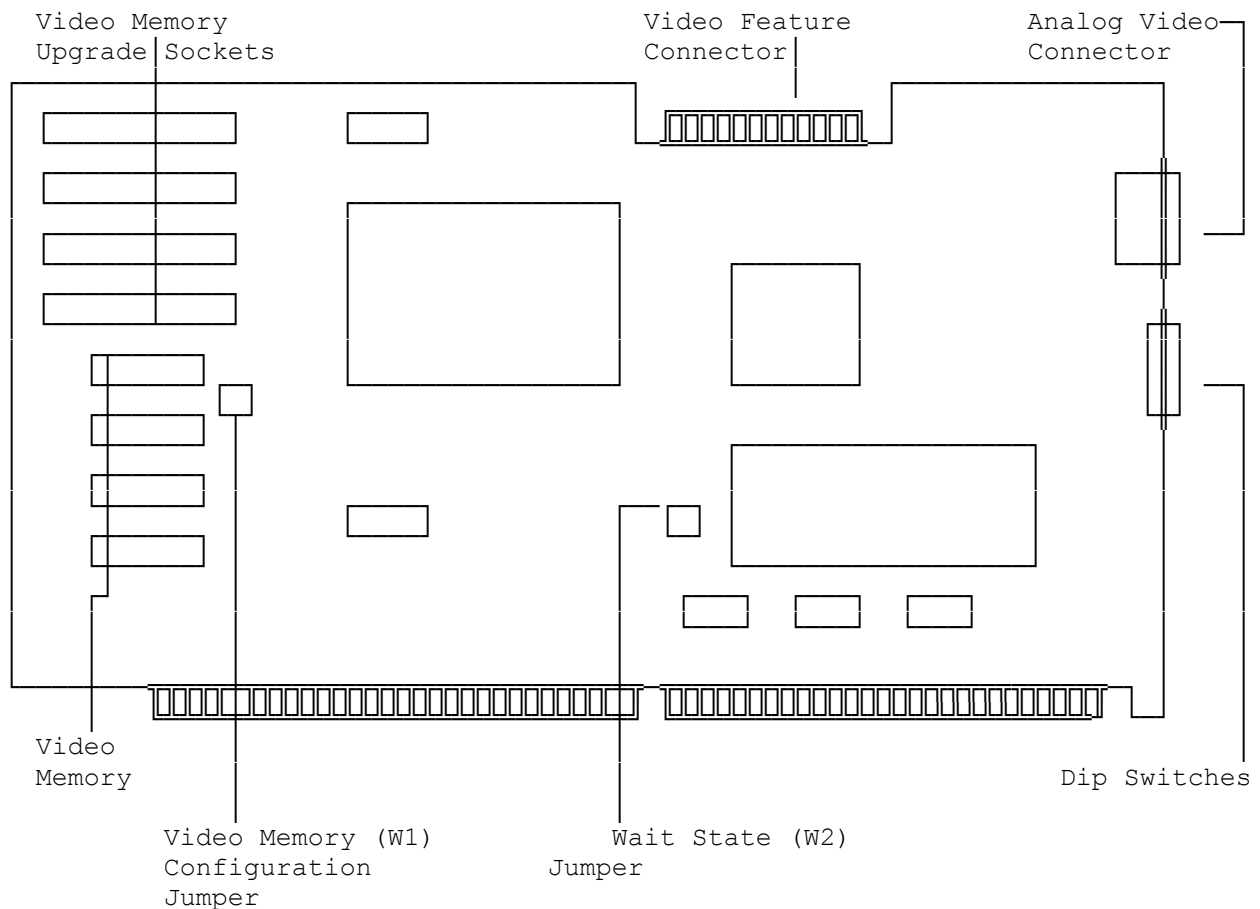
- * Analog Video Connector--Your monitor connects to this 15-pin socket. The adapter supports both monochrome and color analog VGA fixed-frequency monitors as well as compatible analog multi-frequency monitors.
- * DIP Switches--These five switches enable you to define the video configuration of the computer. Refer to "Jumpers and DIP Switches" for information on using these switches.
- * Video Feature Connector--This connector enables you to connect a high-resolution video adapter to the VGA 1024 NI Adapter. It is provided to maintain complete compatibility with the IBM VGA standard. Do not use this connector unless you install such an adapter.

- * Video Memory--512KB of video memory enables support of most Super VGA modes. Three 256-color graphics modes (640x400, 640x480, and 800x600) and the 16-color, 1024x768 graphics mode require 512KB of video memory.
- * Video Memory Upgrade Sockets--These sockets enable you to install four 256KBx4, 70ns DIP DRAMs to increase the adapter video memory to 1MB. However at this time Radio Shack does not currently carry these chips, so you will need to order them through Third Party Products.
- * 80 MHz RAMDAC Chip--Can be replaced with an 80MHz HiColor RAMDAC chip by your computer dealer. The HiColor chip provides 32,768 colors in the 640x400 and 640x480 modes.

JUMPERS AND DIP SWITCHES

This section explains how to change the operation of the VGA 1024 NI Adapter by re-installing the jumpers and changing the settings of the DIP switches.

The following illustration shows the location of the jumper blocks and the DIP Switches.



JUMPER SETTINGS

A jumper is a cover that contains metal contacts. A jumper is installed when placed over two jumper pins on a circuit board to connect or bypass a circuit.

A jumper can also be parked or removed.

Jumper W1 is the Video Memory Configuration jumper. It is installed at the factory to indicate that the adapter has 512KB of video memory. Remove the jumper if you upgrade the adapter to 1MB of video memory.

Jumper W2 is the Wait State jumper. It is installed at the factory to generate zero wait states and achieve maximum performance. Normally, you do not need to change this setting.

NOTE: If you experience screen data loss, you might need to remove Jumper W2. Some computers do not support zero wait states.

Jumper settings and their functions are listed in the following table.

JUMPER	SETTING	FUNCTION
W1	Installed*	512KB of video memory installed.
	Not Installed	1024KB of video memory installed.
W2	Installed*	Generate zero wait state for high performance.
	Not Installed	Do not generate zero wait state

* Indicates factory setting.

DIP SWITCH SETTINGS

Five DIP switches are located below the video connector on the adapter, where they are easily accessible from the rear of the computer when the adapter is installed.

A switch is off when in the left position, on when in the right position.

CAUTION: Incorrect settings can cause a computer malfunction or a decrease in performance.

Some switches are sensed only when you turn on the computer, so always turn off the computer before changing switch settings. To change a switch setting, use a pencil or other pointed instrument to push the switch to the left or right. The switch will snap into position.

DIP switch settings and their functions are listed in the following tables.

SWITCHES 1 AND 2 (MAXIMUM RESOLUTION 800 X 600)

SWITCH 1	SWITCH 2	MAXIMUM MONITOR FREQUENCY
OFF*	OFF*	56 Hz
ON	OFF	72 Hz
OFF	ON	60 Hz
ON	ON	56 Hz (Same as OFF,OFF)

* Indicates factory setting

SWITCHES 3 AND 4 (MAXIMUM RESOLUTION 1024 X 768)

SWITCH 3	SWITCH 4	MAXIMUM MONITOR FREQUENCY
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OFF*	OFF*	Interlaced
ON	OFF	70 Hz
OFF	ON	60 Hz
ON	ON	Interlaced (same as OFF,OFF)

* Indicates factory setting

SWITCH 5 (TIMING FOR STANDARD MODES, 0 TO 13)

OFF*	31.5 KHz horizontal scan rate
ON	40 KHz horizontal scan rate

* Indicates factory setting

CONFIGURING THE APPLICATION SOFTWARE

Many application packages include a setup, an installation, or a configuration program to prepare them for operation with your hardware. You can configure many applications without re-installing them. You can also configure applications during installation. Follow the tips below for best results.

- * To get the sharpest display, select the highest resolution mode available when you configure your application software packages.
- * Install your software for VGA or EGA if possible. This enables your software to run on your VGA 1024 Non-Interlaced Adapter in its default configuration.
- * If your software does not provide a VGA or an EGA option and you are using a color monitor, try installing the software for color, if available. This usually works with your adapter's default mode in color.
- * If your software supports a video standard other than EGA or VGA, configure the software for the best standard. Run VGAMODE.EXE and set the emulation mode to match the program.

VGA SOFTWARE DRIVERS

For some applications, you can install video drivers that configure the applications for use with Super VGA modes. The VGA drivers diskettes provide several such drivers; a driver installation program, INSTALL.BAT; and driver documentation.

Before installing video drivers:

- * Make copies of the two diskettes that contain VGA drivers. Refer to your operating system documentation if you need information on copying diskettes. Store the original diskettes in a safe place.
- * Be sure that the diskette copies are write enabled (the write-protect hole is closed). INSTALL.BAT must be able to write to the diskettes to install the drivers.

Run INSTALL.BAT to copy the desired video driver to the hard disk:

1. Insert the diskette containing the desired driver into Drive A. Type: a: and press ENTER. Then, type: install and press ENTER.

2. Follow the instructions on the screen.

The file README.TXT documents the drivers. To display or print README.TXT, insert the VGA 1024 NI Drivers Diskette into Drive A. Type: a: and press ENTER. Then, type: readme or printme and press ENTER.

OPERATION

The VGA 1024 NI Adapter, in its default configuration will support most application software that is designed for the VGA or EGA video standard. Just turn on the computer and install the application package as described in the application documentation. On system startup, the adapter will automatically configure itself to 80-column text mode.

SUPPORTED VIDEO MODES

Mode 3 (80-column text) is the default video mode for the VGA 1024 NI adapter. The VGA 1024 NI adapter supports the following classes of video modes:

- * Other standard VGA modes, EGA modes, and MCGA modes--Provide resolutions of up to 640x480.
- * Super VGA modes--Provide even higher resolutions and the ability to display more colors simultaneously. Super VGA can also display text 132 columns wide and 25, 43, 44 lines deep.
- * CGA, Hercules, and MDA modes--Required by applications designed to run under earlier video standards (CGA, Hercules, and MDA). For example, to run Hercules-compatible games, you must use a Hercules or a CGA mode. When in a CGA mode, a Hercules, or an MDA mode, the adapter emulates the earlier video standard.

The following tables list the supported video modes and resolutions available under each video standard. Following the tables are instructions for using VGAMODE.EXE to switch between the modes.

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