The video circuitry for the Tandy 2500SX/25 is included on the main logic
board.
This circuitry features:

* IBM VGA compatibility plus support for Super VGA modes with 132-column text
  and both 800 x 600 and 1024 x 768 resolution graphics

* Support for Version 1 of the VESA (Video Electronics Standard Association)
  Super VGA BIOS Extension specification

* 256KB video memory (RAM), expandable to 512KB to support more extended VGA
  modes

* A color palette of more than 262,000 possible colors

* Compatibility with both monochrome and color, fixed and multiple-frequency
  monitors (including 8514/A-compatible monitors)

NOTE: The Video Chip Set is WD90C00.

MONITOR AND SOFTWARE COMPATIBILITY

The video circuitry is compatible with software written for the following
video standards on color or monochrome VGA analog monitors:

* VGA (Video Graphics Array)
* VESA Super VGA
* MCGA (Multi-Color Graphics Array)
* EGA (Enhanced Graphics Adapter)
* CGA (Color/Graphics Adapter)
* MDA (Monochrome Display Adapter)
* Hercules graphics (Hercules Graphics Card)

To emulate one of these video standards, use the vga.1024.exe utility on
MS-DOS Disk 2. Some Super VGA modes require application-specific drivers. Run
vesa.exe on MS-DOS Disk 2 before your run an application that uses a
VESA-compatible driver.

DEFAULT VIDEO MODE

The video circuitry is in the VGA text mode when you turn on the computer. If
your have a monochrome monitor (or no monitor connected at startup) and the
VGA BIOS mode jumper is set to AT, the video default is monochrome text mode.
Otherwise, 80-column color text mode is the default. The vga1023.exe utility
enables you to easily switch between color and monochrome modes.

OPERATION

The video circuitry, in its default configuration, supports most application
software designed for VGA or EGA video support. Just turn on the computer, and
install the application as instructed by the software manufacturer

CAUTION: The video circuitry requires a VGA analog color or monochrome
monitor. Don not use any other type of monitor.

Connect the monitor to the 15-pin video connector on the back of the computer. Refer to "Configuration Settings" in the "Installing Optional Hardware" section for video-related jumper settings.

CONFIGURING THE APPLICATION SOFTWARE

Many application software packages include a program that prepares the application for use with your particular hardware. you can reconfigure many applications without re-installing them. You can also configure applications during installation.l Follow the tips below for best results:

* To get the best-looking display, select the highest resolution mode
  available when you install your application software packages.

* Install your software for VGA or EGA if possible, so that the software runs
  in the video circuitry's default configuration.

* If your software supports a video standard other than EGA or VGA, configure
  it for the best standard. Run vga1024.exe and set the emulation mode to
  match the program.

* If your software does not provide a VGA, a PS/2, or an EGA option and you
  use an RGB color analog monitor, install the software for color, if
  available. This usually works with the video circuitry in default color mode
  on a color monitor.

* Software that requires a certain video mapping may require you to set the
  video circuitry to color or monochrome text mode. For example, if the video
  circuitry is set for color VGA text mode and your software requires
  monochrome text, you must use the vga1024.exe utility to switch modes.

* The default mapping is color for a color monitor and monochrome for a
  monochrome monitor.

Because some software packages are written specifically for hardware that is not EGA-standard or VGA-standard, you might need to configure the video circuitry to emulate the video adapter needed by the software. Use the vga1023.exe utility as described in "Using Vga1024.exe." The tables in this section list the video standards supported by the video circuitry and the video modes and resolutions that are available under each standard.

USING VESA.EXE

Super VGA modes can be used only with applications designed to support high-resolution graphics. Many such applications require the use of additional drivers. The vesa.exe file is a terminate-and-stay resident (TSR) program that makes the video BIOS compatible with the VESA Super VGA BIOS Extension (Standard Number VS900602).

NOTE: Super VGA modes that require you to use a multiple-frequency monitor are indicated in the list of vga1024 options in "Using Vga.1024.exe." to use some non-standard multiple-frequency monitors, you must reinstall the Monitor Type jumper. Refer to "Configuration Settings" in the "Installing Optional Hardware" section for more information.

Before running an application that uses a VESA-compatible driver, type vesa and press [ENTER] to load vesa.exe.

USING VGA1024.EXE

The vga1024.exe utility enables you to select on of the standards supported
by the video circuitry. You can choose a standard either from a menu or
directly from the MS-DOS command prompt.

If you have a hard disk installed, you can copy the vga1024.exe utility to the
hard disk. We recommend making a backup copy of the VGA utilities.

To access vga1024.exe from diskette:

1. Start up your computer.

2. At the MS-DOS prompt, insert the MS-DOS Disk 2 into Drive A.

3. Type a: and press [ENTER]. Then, type vga1024.exe menu. Then, press
   [ENTER]. To exit, choose EXIT to DOS and press [ENTER].

You can bypass the vga1024.exe menu by including the desired video option(s)
when accessing vga1024.exe. At the MS-DOS prompt or in a batch file, type the
vga1024 command in the form: a:vga1024 (options)

where options is one of the following video options:

VGA--Selects VGA mode (the default configuration).

CGA--Selects CGA mode (emulates the video capabilities of the IBM
Color/Graphics Adapter).

MDA--Emulates the Hercules Graphics Card with no graphics memory allocated
(equivalent to IBM's text-only Monochrome Display Adapter).

HERCO--Emulates the Hercules Graphics Card with one page of graphics memory
allocated (equivalent to using the Hercules Graphics Card is HALF mode).

HERC1--Emulates the Hercules Graphics Card with two pages of graphics memory
allocated (equivalent to the Hercules Graphics Card in FULL mode).

COLOR--Sets the video circuitry to color mapping as needed, supporting video
modes that require color mapping.

MONO--Sets the video circuitry to monochrome mapping as needed, supporting
video modes that use monochrome mapping (such as monochrome text mode).

640--Sets 256-color, 640 x 480 graphics mode; use only with application
programs designed to take advantage of Super VGA graphics.

800--Sets 16-color, 800 x 600 graphics mode; use only with application
programs designed to take advantage of Super VGA graphics. This mode requires
a multiple-frequency monitor.

1024--Sets 16-color, 1024 x 768 graphics mode; use only with application
programs designed to take advantage of Super VGA graphics. This mode requires
a multiple-frequency monitor.

200--Sets the video circuitry to display 200 scan lines.

350--Sets the video circuitry to display 350 scan lines.

400--Sets the video circuitry to display 400 scan lines.

13225--Sets 132-column, 25-line color text mode; use only with application programs designed to take advantage to Super VGA text capabilities.

13243--Sets 132-column, 43-line color text mode; use only with application programs designed to take advantage to Super VGA text capabilities.

LOCK--Locks in the current video configuration as the new default configuration. This command can be used with another parameter to lock in that particular mode. For example, the command vga1024 cga lock will enable the video circuitry to remain configured as a color/graphics adapter even after you press [CTRL] + [ALT] + [DEL]. Any specific video mode command, such as vga1024 cga, unlocks the video circuitry unless you lock in your particular command.

USING A MOUSE WITH VGA1024

If your mouse driver is a program such as mouse.com or if you include a DEVICE command in your config.sys file to install your mouse driver, you might need to restart the computer after choosing a video mode:

1. At the vga1024.exe menu, select your desired option. (Set CGA, Hercules, or MDA.)

2. Choose the REBOOT SYSTEM IN CURRENT MODE option. The system restarts. Reload any drivers or TSR utilities you want to run.

3. To return to VGA mode, run the vga1024.exe utility and select a VGA option.

Refer to your mouse installation guide for more instructions on installing and using the mouse.

NOTES:

* Using the REBOOT SYSTEM IN CURRENT MODE option is equivalent to activating the vga1024.exe utility's Lock Current Mode option and then pressing [CTRL] + [ALT] + [DEL]. Subsequent restarts cause the VGA adapter to come up in the selected mode (Hercules, MDA, or CGA). Using the vga1024.exe utility to select any other mode causes subsequent restarts to come up in the default VGA mode.

* The REBOOT SYSTEM IN CURRENT MODE option can be accessed from the MS-DOS command line or through an MS-DOS batch file by using the REBOOT parameter For example, to switch from VGA to Hercules mode when the mouse driver has been loaded, use the following command: vga1024 herc1 reboot

VIDEO PORT CONNECTOR PINOUT

The following table indicates the pin functions of the video connector:

PIN   FUNCTION

1   Red Video

```
2               Green Video                          1    11
3               Blue Video                           O    O
4               Monitor ID Bit 2 (not used)            7
5               Ground                                 O
6               Red Return (ground)                  2    12
7               Green Return (ground)                O    O
8               Blue Return (ground)                   8
9               Key (no pin)                           O
10              Sync Return (ground)                 3    13
11              Monitor ID Bit 0 (not used)          O    O
12              Monitor ID Bit 1 (ground)
13              Horizontal Sync                      4    14
14              Vertical Sync                        O    O
15              Not Used
                                                       10
                                                       O

                                                     5    15
                                                     O    O
```

Monochrome-type monitors use Green Video for all video input and ignore Red
Video and Blue Video.

Monitor ID Bits are not used. The monitor type is determined when your system
is turned on.