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VRT19 Monitor

EK-VRT19-TC-001

This chapter describes the VRT19 monitor. It tells you about

- VRT19 monitor controls and indicators
- Graphics modules that work with the VRT19 monitor
- How to connect a VRT19 monitor to your workstation

VRT19 Monitor Hardware

The VRT19 monitor is a 19-inch color monitor. Different models of the VRT19 operate at different frequencies.

- The VRT19-DA/D4 monitor operates at 66 Hz.
- The VRT19-HA/H4 automatically operates at 66 or 72 Hz to match the frequency of the graphics module to which the monitor is connected.

The monitor model number appears on the label next to the high-sc/low-scan switch on the back of the monitor.

Several controls and connectors on the VRT19 monitor let you adjust the monitor and connect it to your workstation.

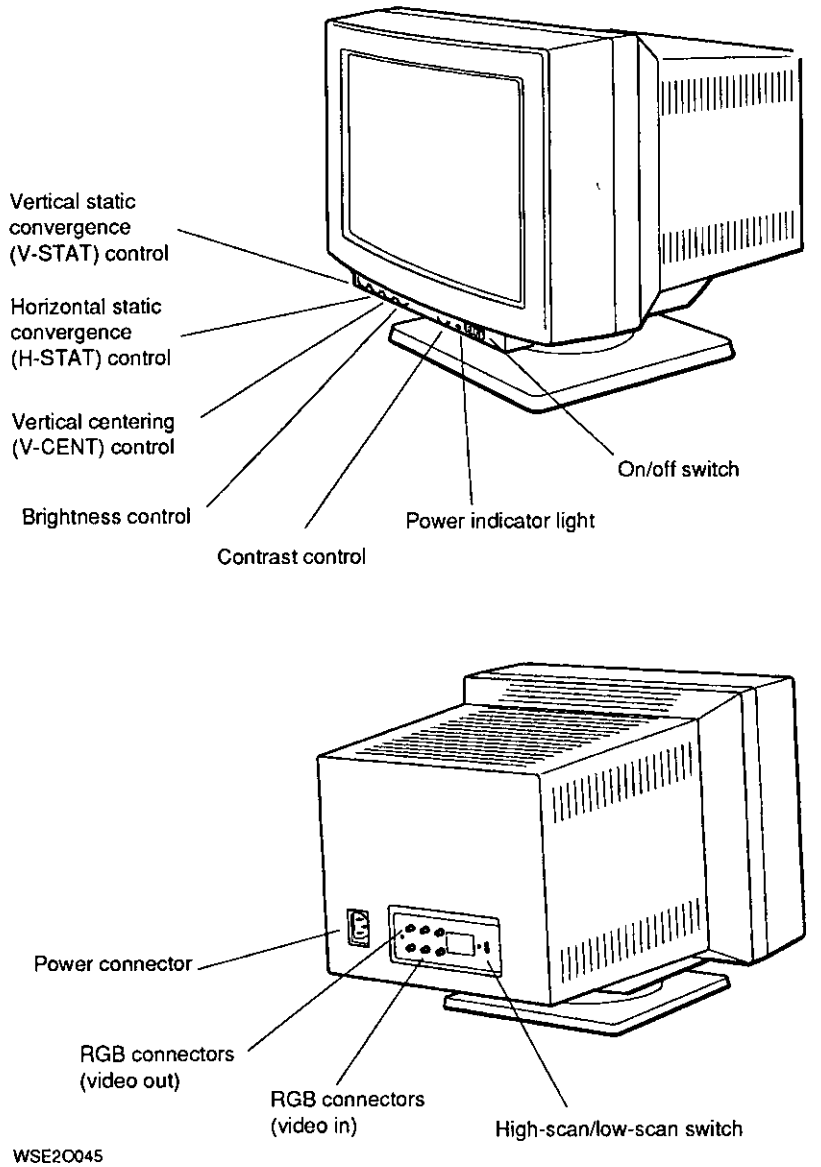

Figure 1. VRT19 monitor controls and indicators

Table 1 lists the purpose of each control and connector.

Table 1. Controls and Connectors on the VRT19 Monitor

Item	Function
Power indicator light	Glows green when the monitor power is receiving power
Contrast control	Adjusts the contrast in the monitor display
Brightness control	Adjusts the brightness of the monitor display
Vertical centering (V-CENT)	Moves the picture upward or downward on the screen
Vertical static convergence (V-STAT) control	Moves the red and blue horizontal lines in the display in relation to the green horizontal line in the display
Horizontal static convergence (H-STAT) control	Moves the red and blue vertical lines in the display in relation to the green vertical line in the display
RGB signal cable connectors	Connects the video cable to the monitor
Fuse	Protects the monitor from electrical damage
Power connector	Connects the power cord to the monitor
On/off switch	Turns the monitor on and off
High-scan/low-scan switch	Not used by a VRT16 monitor when connected to a TURBOchannel graphics module

Connecting the VRT19 Monitor to a Graphics Module

The VRT19-DA/D4 monitor can display graphics generated by these TURBOchannel graphics modules:

- True color frame buffer module, model type PMAG-JA
- Smart frame buffer module, model type PMAGB-BA
- 2D graphics accelerator module, model type PMAG-CA
- Low 3D graphics accelerator module, model type PMAG-DA
- Mid 3D graphics accelerator module, model type PMAG-EA
- High 3D graphics accelerator module, model type PMAG-FA

The VRT19-HA/H4 monitor can display graphics generated by these TURBOchannel graphics modules:

- True color frame buffer module, model types PMAG-JA and PMAGB-JA
- Smart frame buffer module, model types PMAGB-BA, PMAGB-BC, and PMAGB-BE
- 2D graphics accelerator module, model type PMAG-CA
- Low 3D graphics module, model type PMAG-DA
- Low 3D graphics plus module, model type PMAGB-DA
- Mid 3D graphics module, model type PMAG-EA
- Mid 3D graphics plus module, model type PMAGB-EA
- High 3D graphics module, model type PMAG-FA
- High 3D graphics plus module, model type PMAGB-FA

To Connect the VRT19 to a Graphics Module

1. Find the monitor cable that came with your shipment.
2. Turn off the monitor. Then turn off the workstation or TURBOchannel extender that holds the graphics module to which you want to connect the monitor.
3. Hold the 3-pin connector on the video cable so the widest part of the connector is on top.

   Be sure to align the connector correctly. If the connector is upside down, the connectors for red and blue displays are reversed, and these colors will be reversed on the monitor.
4. Firmly push the cable connector into the graphics module connector.
5. Tighten the two screws on the 3-pin connector to lock the connector securely in place.
6. Connect the red, green, and blue signal cables to the bottom set of RGB connectors on the monitor.
   a. Align the slots on the collar of the red signal cable connector with the pins on the monitor connector labeled R.
   b. Push the signal cable connector onto the monitor connector. Then twist the cable connector to the right to lock it.
   c. Repeat steps a and b to connect the green and blue signal cables. Connect the green signal cable to the monitor connector labeled G. Then connect the blue signal cable connector to the monitor connector labeled B.

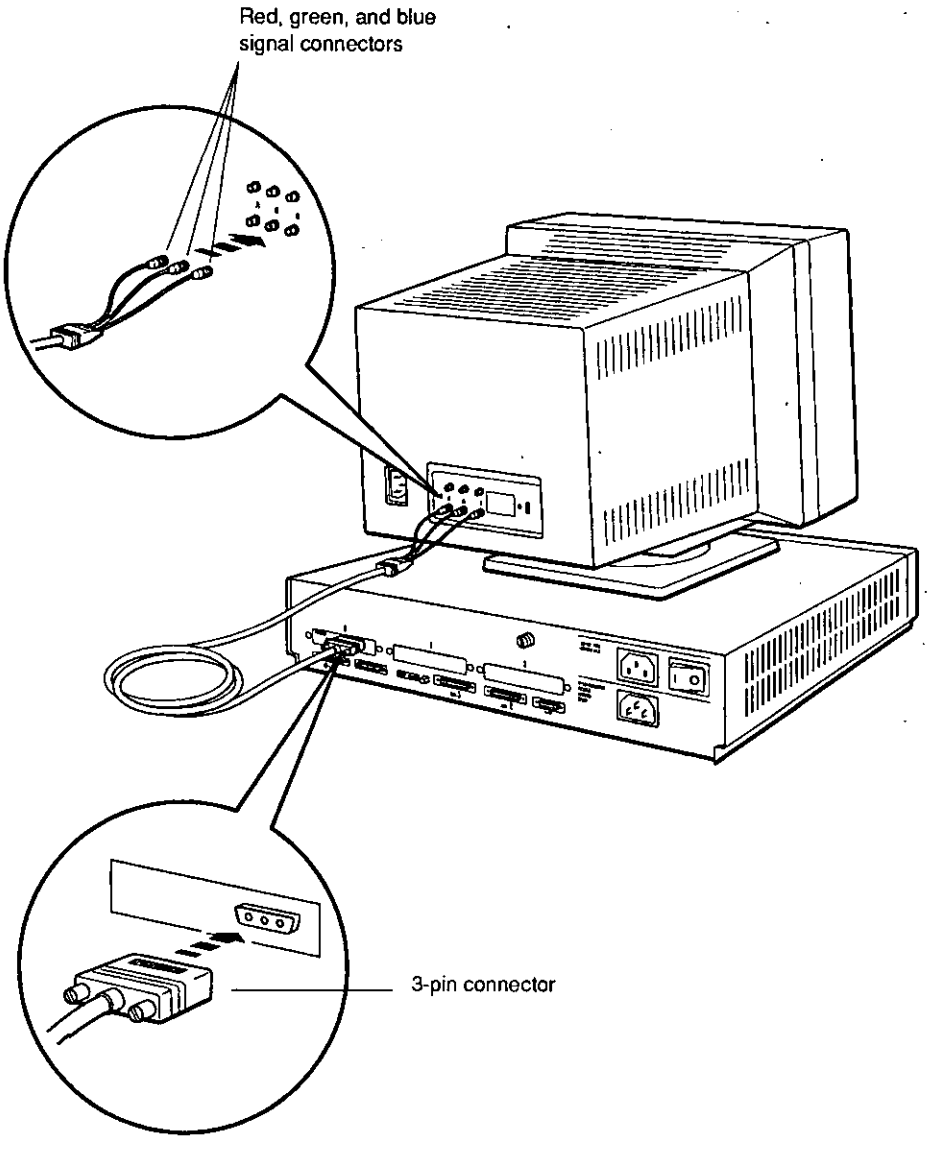

Figure 2. Connecting a VRT19 monitor to a graphics module

To Disconnect a VRT19 Monitor

1. Turn off the monitor. Then turn off the workstation or TURBOchannel extender attached to the monitor that you want to disconnect.
2. Twist the red signal cable connector all the way to the left. Then pull the connector away from the monitor.
3. Repeat step 2 for the green and blue signal cable connectors.
4. Loosen the two screws that hold the 3-pin connector to the graphics module.
5. Pull the 3-pin connector away from the graphics module.

For Further Information

For information about the graphics module that connects to the monitor, see the chapter in this guide that describes that module.

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VRT19 Monitor Specifications

Table A-1. VRT19-HA and VRT19-H4 Monitor Description

Weight	34.02 kg (75.00 lb)
Height	47.55 cm (18.72 in)
Width	48.0 cm (18.90 in)
Depth	50.45 cm (19.86 in)
External controls, switches, and indicators	Brightness Contrast Power switch Power indicator V-CENT, H-STAT, V-STAT
Swivel range	±45°
Tilt range	−5° to +15°
Cathode-ray tube (CRT)	508 mm (20 in) diagonal Trinitron aperture grill 0.31 mm triad pitch 90° deflection angle 3 color High-efficiency antiglare, antistatic treatment
Display characteristics	1,280 by 1,024 pixels Maximum brightness no less than 30 footlamberts (fl)
Video input	
– Termination	75 ohms BNC

(continued on next page)

Table A-1 (Cont.). VRT19-HA and VRT19-H4 Monitor Description

– Amplitude	Red: 0.7 Vpp Green (with sync): 1 Vpp Blue: 0.7 Vpp Monitor syncs automatically to 66 hz (mode 1) or 72 hz (mode 2)
Horizontal rate timing	
– Active video	9.7853 μs (1280 pixels)
– Back porch	1712.4 ns (224 pixels)
– Blanking interval	3.1802 μs (416 pixels)
– Frequency	77.1728 kHz
– Front porch	244.6 ns (32 pixels)
– Horizontal period	12.9656 μs (1696 pixels)
– Sync pulse	1223.2 ns (160 pixels)
Vertical rate timing	
– Active video	13.2768 ms
– Blanking interval	39 horizontal lines
– Frequency	72.5562 Hz
– Front porch	3 horizontal lines
– Sync pulse	3 horizontal lines
– Vertical period	13.7824 ms
Power	
– ac input voltage	90–132 to 198–264 Vac
– Frequency	47 to 63 Hz
– Power consumption	220 watts maximum

Table A-2. VRT19-HA and VRT19-H4 Monitor Operating Conditions

Temperature range [1]	10°C to 40°C (50° to 104°F)
Relative humidity	10% to 95%
Maximum wet-bulb temperature	32°C (89°F)
Minimum dew-point temperature	2°C (36°F)
Altitude	10,000 ft maximum

[1]Reduce maximum temperature by 1.8°C for each 1,000 meter (1.0°F for each 1,000 ft) increase in altitude.

Table A-3. VRT19-HA and VRT19-H4 Monitor Nonoperating Conditions

Temperature range	−40°C to 60°C (−40°F to 145°F)
Relative humidity	10% to 95%
Maximum wet-bulb temperature	46°C (115°F) packaged
Minimum dew-point temperature	2°C (36°F)
Altitude	12,780 m (50,000 ft) maximum