Tech Info Library

PowerBook 3400: Video Out Specifications (3/97)

```
Revised:        3/18/97
Security:       Everyone
```

PowerBook 3400: Video Out Specifications (3/97)

===

Article Created: 10 March 1997
Article Reviewed/Updated: 17 March 1997

TOPIC ---

This article describes the PowerBook 3400 built-in video out specifications.

DISCUSSION --

The PowerBook 3400 computer has a 16-bit video out VGA connector built into the backplane for an external video monitor. The connector is standard DB9/15 for use with VGA or SVGA monitors.

You can connect a VGA or SVGA monitor all the way up to a 21" monitor with 1024 x 768 resolution projected in 256 colors (8-bit). Video projection devices can also be attached via the VGA connector.

Video Adapter

An optional video adapter allows the user to connect a standard Apple video cable to the computer. The adapter is similar to another video adapter used with older Macintosh PowerBooks. The adapter is granite colored and enables the PowerBook 3400 computer to recognize a wider range of monitor types. The Apple part number for the new adapter is 590-0289-A.

Video Ram

The PowerBook 3400 ships with 1MB of VRAM which enables it to support up to 16 bits per pixel on most monitors, and up to 8 bits per pixel on larger monitors.

NOTE: The video ram (VRAM) is not upgradeable.

Colors Supported
----
16 bit (thousands) at 640x480
16 bit (thousands) at 800x600

```
8 bit  (256) at 832x624
8 bit  (256) at 1024x768
```

Video Mirroring

There is no video mirroring control panel/strip. If the external monitor can
display 800 by 600 pixels at 60 Hz, the PowerBook 3400 computer can display
simultaneously on both the external monitor and the flat panel display. This
mode of display, called Simulscan, provides the same information on both
displays.

Examples: When connected to a 17" Multiscan monitor:

```
640x480 67Hz  -  Thousands of colors (external monitor available only)
800x600 60Hz  -  Thousands of colors (Simulscan "Mirroring")
800x600 75Hz  -  Thousands of colors (external monitor available only)
832x624 75Hz  -  256 colors (external monitor available only)
1024x768 70Hz -  256 colors (external monitor available only)
```

Begin_Table

Monitor Pixel Depths

The following table lists the pixel depths supported for each type of monitor.

Monitor type	Resolution	Bits per pixel
12-inch color	512 by 384	1, 4, 8, 16, 24
12-inch monochrome	640 by 480	1, 4, 8
13-inch and 14-inch color	640 by 480	1, 4, 8, 16
VGA and SVGA	640 by 480*	1, 4, 8, 16
SVGA	800 by 600	1, 4, 8, 16
SVGA	1024 by 768	1, 4, 8
Full-page monochrome	640 by 870	1, 4, 8
Full-page color	640 by 870	1, 4, 8
16-inch color	832 by 624	1, 4, 8
Apple 15-inch multiple scan	640 by 480	1, 4, 8, 16
Apple 15-inch multiple scan	800 by 600*	1, 4, 8, 16
Apple 15-inch multiple scan	832 by 624	1, 4, 8
Apple 17-inch multiple scan	640 by 480	1, 4, 8, 16
Apple 17-inch multiple scan	800 by 600*	1, 4, 8, 16
Apple 17-inch multiple scan	832 by 624	1, 4, 8
Apple 17-inch multiple scan	1024 by 768	1, 4, 8
Apple 20-inch multiple scan	640 by 480	1, 4, 8, 16
Apple 20-inch multiple scan	800 by 600*	1, 4, 8, 16
Apple 20-inch multiple scan	832 by 624	1, 4, 8
Apple 20-inch multiple scan	1024 by 768	1, 4, 8
NTSC TV monitor	512 by 384*	1, 4, 8, 16, 24
NTSC TV monitor	640 by 480	1, 4, 8, 16
PAL TV monitor	640 by 480*	16 only
PAL TV monitor	768 by 576	1, 4, 8, 16

End_Table

Notes:
1) The computer does not provide a display with 2 bits per pixel.

2) An asterisk (*) indicates the startup resolution. Other resolutions can be selected using the Monitors control panel or the control strip.

3) For multiple scan monitors, The table indicates the default resolution with an asterisk. For example, when first connected to the computer, an SVGA monitor's display resolution will be 640 by 480 pixels. The user can switch to a higher resolution by using the Monitors control panel or the control strip. The resolution set by the user will be used the next time the computer is started up.

4) When connected to a non-multiscan monitor you will only get the external monitor at the set resolution.

Example: Apple 16" monitor 832 by 624 75Hz - 256 colors

This article was published in the 18 March 1997 "Information Alley."

Article Change History:
17 Mar 1997 - Changed distribution status.

Tech Info Library Article Number:21098