



Technote 1105

AppleVision Displays

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1 This Technote describes some of the design features and characteristics of the AppleVision series of displays.

Never Cache Sense Codes

AppleVision monitors support the type 6 extended sense codes as described in the HW 30 - Sense Lines technote and on page 1-5 of the Display Device Driver Guide. In reading these sense codes from AppleVision displays, developers should always return the current sense information read from the display. This information should never be cached as it may be changed by the Display Manager over the ADB connection at anytime--the sense info

Report All Available Timing Modes

Video drivers should always report all of the timing modes that are supported by their graphics card including those timing modes supported by the card that are not apparently valid for the connected display. The Dis

Other Guidelines

- You do not need to call `csResources`. Some drivers use the `kAllModesValid` or `kAllModesSafe` calls from `scsGetConnection`, rather than implementing `cscGetModeTiming` for all timings. If you add a group of invalid

NuBus Guidelines

- If your video card is intended to work on systems that were released before the Display Manager was introduced, you need to check for the Display Manager before enabling invalid timings. Otherwise, the user will see the invalid timings in the Monitors control panel.
- Do not trim invalid functions or resources. If your video card does not have a programmable ROM, you will need to put the trimmed resources back in when you patch your driver. These timing modes may be enabled by the display.

See Also: the "Graphics Drivers" chapter in .

Available Display Modes

This section discusses information regarding the resolution, timing, and operational modes available for AppleVision displays.

Screen resolutions

AppleVision 750 displays are adjusted at the factory for the following standard modes:

Mode	Pixel resolution	Vertical refresh	Horizontal Scan
VGA	640 x 480	60 Hz	31.5 kHz
Macintosh	640 x 480	66.67 Hz	34.97 kHz
VESA	800 x 600	60.31 Hz	37.9 kHz
VESA	800 x 600	75 Hz	46.9 kHz
Macintosh	832 x 624	74.55 Hz	49.7 kHz
Macintosh	1024 x 768	74.93 Hz	60.24 kHz
Macintosh	1152 x 870	75 Hz	68.7 kHz
VESA	1024 x 768	60 Hz	48.4 kHz
VESA	1280 x 1024	60 Hz	64.3 kHz
VESA	1280 x 1024	75.03 Hz	79.98 kHz

AppleVision 850 displays are adjusted at the factory for the following standard modes:

Mode	Pixel resolution	Vertical refresh	Horizontal Scan
VGA	640 x 480	60 Hz	31.469 kHz
Macintosh	640 x 480	67 Hz	35.036 kHz
VESA	640 x 480	72 Hz	37.861 kHz
VESA	640 x 480	75 Hz	37.500 kHz
VESA	640 x 480	85 Hz	43.269 kHz
VESA	800 x 600	56 Hz	35.160 kHz
VESA	800 x 600	60 Hz	37.879 kHz
VESA	800 x 600	72 Hz	48.077 kHz
VESA	800 x 600	75 Hz	46.875 kHz
VESA	800 x 600	85 Hz	53.674 kHz

AppleVision 850 Environmental and Power Requirements

Temperature	10° to 40° C (50° to 104° F) --	
	operating	20% to 95% non condensing --
	0° to 60° C (32° to 140° F) -- storage	operating
	-40° to 60° C (-4° to 140° F) --	5% to 95% non condensing --
	shipping	storage
	Relative humidity	5% to 95% non condensing --
		shipping
		Operating altitude
		Shipping altitude
		AC input range
		AC input Frequency range

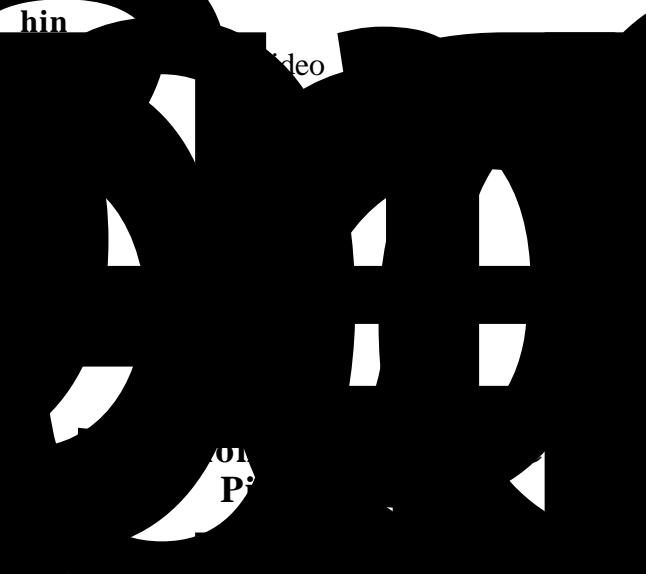
AppleVision 1710 Environment



Apple Vision 850 Connector Pin Assignments



Pin	Output
1	Red video
2	Red video
3	Not used
4	ID 1 or DDC return
5	Green video
6	Green video ground
7	ID 2 or DDC kCL
8	Not Used



Pin	Output
9	Blue video
10	ID 3 or DDC kCL
11	Vertical kync return
14	Vertical kync
13	Blue video ground
14	Horizontal kync return
15	Horizontal kync
Shell	Shield ground

Abbreviations used in the above tables:

- ID -- Identification
- DDC -- Display Data Channel
- kCL -- kerial Clock

Note:

In the past, graphics drivers sensed the type of display attached to the video card by means of three sen

ADB Port and Connector

The ADB port is only used in conjunction with Mac OS compatible computers and provides facilities fo

operation of the display in the remote operating mode allowing for software configuration of the display over the ADB connection. The ADB connection is used to transfer both audio and video control data between the

- PCI based CPU's including

- 27 c 0/90/100/120

- 75 c 0/100/120

- 26 c 0/120

- 85 c 0/120/132/150

- 9500/120/132/150

- 23 c 0/86 c 0/96 0/55 c 0/65 c 0

All PCI based machines shipping at the time of this document's publication are supported.

- PowerMac CPU's including

- 8100/80/1 c 0/110

- 81 c 0/80/1 0/110AV

- 71 c 0/66/80/1 c 0/66

- 61 c 0/60AV

Apple video cards 8.24, 8.24GC, and 4.8 do not support the AppleVision displays. In addition, plug-in video cards that do follow the new guidelines defined in the "Graphics Drivers" section of *Designing PCI Cards and Drivers* for Macintosh Computers do not support the displays.

Operating System Compatibility

You should use System 7.5 or later with the AppleVision display. If you run earlier versions of the operating system, iuickTime delays the loading of the AppleVision INIT. You may have renamed AppleVision INIT with a name that begins with a letter later than Q (iuickTime). This means that the INIT installs after iuickTime, and iuickTime moves the AppleVision components, delaying booting.**F**

- "Graphics Drivers" chapter in
(ftp://ftp.apple.com/devworld/Technical_Documentation/PCI_Information/Designing_PCI_Cards_-_Driv.sit) *Designing PCI Cards and Drivers*.68n ar r r d Q BT /F2 12 Tf 189.5 312 TD