Tech Info Library

Macintosh 630 Family: Display Resolution and Color Depth (02/95)

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TOPIC ---

This article describes the various resolutions and color depths supported by the Macintosh 630 family along with the most commonly used displays to be used at the various resolutions.

The Macintosh 630 family can use both the Multiple Scan 17 and Multiple Scan 20 monitors though their resolutions are limited to 832 x 624 with no support for the TV/Video Module.

The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.

DISCUSSION ---

What is Resolution?

Resolution is the number of pixels (dots) a monitor can display on the entire screen. The more pixels there are, the higher the resolution. For example, a resolution of 640x480 is a total of 307,200 pixels on the screen (640 pixels horizontally and 480 pixels vertically). A resolution of 800x600 is 480,000 pixels. The increased number of pixels on the screen provides for a more detailed, crisper image – as well as slower screen-related processing (such as displaying an image).

What is Color Depth?

Color depth is the number of colors or shades of grey that a single pixel can display, which depends on the number of bits in memory each pixel uses (each byte of memory equals eight bits). The more bits-per-pixel used, the more colors and shades of grey you can display and the more video RAM you need to store the information. (The 630 family includes 1MB for video RAM.) For example, a color depth of one bit can display black or white. An 8-bit color depth can display 256 colors or shades of grey (the bits in one byte can be combined 256 different ways). A 16-bit color depth can display 32,768 colors. You can tell the video RAM needed by multiplying the resolution by the color depth (example: 640 times 480 times 2 (bytes) equals 614,400 bytes or 614K)

Resolution and Color Depth Table

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             Scan   Color    Video
Resolution   Rate   Depth     RAM    Most Common Displays and Options
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640x480      60Hz   32,768    614K   Multiple Scan 15 Display
                                     Apple Presentation System
                                     Apple TV/Video System


640x480      67Hz   32,768    614K   Performa Plus Display
                                     Apple Color Plus
                                     Apple Presentation System
                                     Apple Video System


800x600      60Hz      256    480K   Multiple Scan 15 Display
                                     Apple TV/Video System


800x600      72Hz      256    480K   Multiple Scan 15 Display
                                     No support for Apple TV/Video System


832x624 (1)  75Hz      256    519K   No support for Multiple Scan 15 Display
                                     No support for Apple TV/Video System
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Notes:
(1) The resolution switching software, which is built into the Macintosh 630, lets a Multiple Scan Display use the 832x624 resolution. However, the video-in and TV tuner features of the Macintosh 630 will not work properly at this resolution.

(2) Full screen video capture and output is only supported at the 640x480 resolutions. This requires the Apple TV/Video System or Apple Video System to capture video and the Apple Presentation System to output video.

Article Change History:
17 Feb 1995 - Noted that Multiple Scan 17 and 21 work at limited
              resolution.
11 Jan 1995 - Added color depth and resolution defs & Video RAM column.
15 Dec 1994 - Added keyword and made minor updates.

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