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Macintosh 630 Family: Video and Communications Modules (2/95)

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TOPIC -----

Several features of the Macintosh 630 family of computers are implemented as plug-in modules available either as a configuration option at the time of purchase or as a later upgrade. The modules are designed so that they can be installed by the user.

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 -----

TV Tuner Module

The TV tuner module turns the computer into a television receiver, complete with remote control. The features of the TV tuner module are similar to those of the TV tuner in the earlier Macintosh TV computer, with two improvements: the TV picture is in its own window on the desktop, and the TV signal is carried in YUV format for improved picture clarity.

The features of the TV tuner module in the Macintosh 630 family computers are:

- Ability to tune 181 broadcast and cable channels (US version).
- Coaxial connector for TV antenna or cable input (F-type connector in US and Japanese versions; IEC-type connector in Europe).
- TV picture in a resizable and movable window.
- YUV format for improved clarity.
- Support for closed captioning and teletext.
- Software password protection.
- Automatic and manual channel programming.
- Single remote control for TV and for playback of audio CDs.

The TV tuner module is available in versions for NTSC, PAL, and SECAM television systems. The TV picture appears in its own window. The default size of the window is 320 by 240 pixels. You can resize the TV window up to a maximum size of 640 by 480 pixels or down to a minimum size of 160 by 120 pixels. The resolution of the TV picture does not increase at the larger window sizes; instead, the image is enlarged by doubling the size of the pixels.

The TV tuner module works in conjunction with the video input module, which converts the video data into digital YUV format and stores it in the display buffer. The TV tuner comes with a remote control device similar to the one used with the Macintosh TV computer. You can switch channels either by using the remote control or by typing the channel numbers on the keyboard. You can toggle between the current and previous channel by pressing the Tab key on the keyboard. Each time the channel changes, the computer displays the channel name (assigned by you) on the picture in the video window.

You can customize the operation of the TV tuner by adding or removing TV channels that are unused or unwanted. The computer can program the channels automatically, scanning through all available channels and disabling those that do not have a valid signal. When you scan for the next channel by using the remote control or the Tab key on the keyboard, the tuner skips the disabled channels.

The software that supports the TV tuner module is an application called Apple Video Player. The application includes password protection for the disabled channels. Parents might use this feature to prevent children from watching undesirable channels. The software lets you capture or freeze a single frame of video or record a segment of video as a QuickTime Movie. The TV window cannot be resized while the computer is recording a movie.

Note: The TV Tuner Module is NOT available separately, it must be purchased along with the Video Input Module.

Video Input Module

The video input module accepts video from an external source and displays it in a window on the computer's display. The features of the video input module are:

- Accepts video input in NTSC, PAL, or SECAM format
- Connectors for stereo sound, composite video, and S-video (Y/C)
- Video display in a 320-by-240-pixel window
- Pixel doubling for 640-by-480-pixel maximum display
- Video overlay capability
- YUV format for digital video input
- A digital video connector for adding a video processor on an expansion card

The video input module provides AV features similar to those of the Macintosh Quadra 660AV, with one key improvement. Whereas the Macintosh Quadra 660AV digitizes color video using a 16-bit RGB format, the video input module uses a digital YUV format. Because a standard television signal has more information in its chrominance channel than in its luminance channels, digitizing the video signal as YUV format results in a clearer picture.

The video input module can accept video input from either an external device such as a VCR or camcorder, or from the internal TV tuner module. The external device can be connected to the video input module either through the composite video connector or the S-video connector. The default window size is 320 by 240 pixels; the user can resize the window up to 640 by 480 pixels – the full screen on a 14-inch monitor. The large image uses pixel doubling of the 320 by 240

pixel image.

Note: The video input module does not work on video monitors with screens larger than 800x600 pixels. It works with 800x600-pixel displays that have a 60 Hz refresh rate, but not with that size display at a 72 Hz refresh rate.

The video input module plugs into a dedicated slot on the main logic board. The slot connector is a 60-pin microchannel connector. The module fits only its proper slot and only in the proper orientation so that you can safely install the video input module.

Video Output Module

The video output module is an external module that uses the 15-pin video output connector and provides a video signal for a separate television display. The video output can also be recorded on a VCR. A standard television monitor has overscan: to ensure that the entire screen is filled, the image is larger than the screen, causing the outer parts of the picture to be cut off by the edges of the screen. The video output module provides a video signal with a 640x480 pixel display inside the safe display area so that no information is lost.

The video output module supports video mirror mode: in this mode, the image on the television display is the same as that on the computer's primary video monitor. This mode of operation is appropriate, for example, for presentations, so that the audience and the presenter can see the same displays. Apple expects to provide separate video output modules for NTSC and PAL systems.

Communications Modules

The main logic board in the Macintosh 630 family computers has a communications slot that is compatible with the communications slot first introduced in the Macintosh LC 575 computer. The slot lets the computer support a communications module without occupying the expansion slot. A communications module can be installed by either the user or the dealer. The communications slot in the Macintosh 630 family computers supports all communications cards developed for the Macintosh LC 575, including the:

- 10BaseT, Ethernet CS Twisted-Pair Card - M3065
- 10Base2, Ethernet CS Thin Coax Card - M2708
- AAUI, Ethernet CS Apple Standard Card - M3066
- 14.4 Fax/Data Modem CS Card - M2480

Article Change History:

17 Feb 1995 - Slight revisions to format.
15 Dec 1994 - Added keyword and made minor technical updates.
29 Nov 1994 - Clarified the size of monitors that can be used.

Support Information Services

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