

sheets of 8½"×11" paper, separated by dividers 18 and 20. Video display device 12 includes a flat panel display 22 disposed within a housing 24. Housing 24 further includes a speaker 26 for audibly reproducing any sounds which may accompany the video sequence to be stored and played back using device 12.

[0030] With continued reference to FIG. 1, it will be seen that housing 24 is actually configured as two, discrete, detachable sections, indicated generally at 24a and 24b. As will be described in greater detail shortly, section 24a houses the operative components of the display device 12 including, inter alia, flat panel display 22 and speaker 26, while section 24b defines a series of apertures intended to accommodate the integration of video display device 12 within a bound hybrid document such as hybrid document 10. It is contemplated by the inventor herein that a wide variety of binding situations may be encountered by the user of the video display system in accordance with this embodiment of the invention. As such section 24b may define one or more aperture patterns corresponding to any number of specific binding techniques. In addition to the embodiment of FIG. 1, in which two- and three-hole punch accommodations are provided by apertures 28 along the major axis of video display device 12, many other configurations are possible. A few non-limiting examples of these are shown in FIGS. 2A-2C, in which like numerals refer to like elements.

[0031] In FIG. 2A, for example, there are shown accommodations for velo binding via apertures 32, 34 along both the major and minor axis of housing 24, respectively. Similarly, in FIG. 2B there are shown accommodations for spiral binding along the major axis of housing 24 via apertures 36 and for two hole-punch binding via apertures 38 along the minor axis of housing 24. As seen in FIG. 2C, techniques of binding involving the use of an adhesive 40 such, for example, as glue, heat tape, or fast back, may also be employed.

[0032] Returning briefly to FIG. 1, it will be seen that to accommodate the detachable relationship of housing sections 24a and 24b, an interlocking tongue and groove arrangement may be used. FIGS. 2A-2C show various groove configurations, with FIGS. 2A and 2C employing a dovetail groove 42 along interior surface 44 of housing section 24b and FIG. 2B employing a circular groove 46. A rectangular groove 48 is provided in interior surface 50 along the minor axis of housing section 24b. Of course, it will be readily appreciated by those skilled in the art that resort may be had to a wide variety of conventional joining techniques suitable for securing detachable sections as 24a and 24b. It should be borne in mind, however, that a two-piece housing configuration such as the type depicted in FIGS. 1-2C is suggested merely in the interest of economic convenience, and it should not be regarded as a prerequisite for practicing the applicant's invention.

[0033] Although a three color active matrix type screen is preferred, it is also contemplated that less costly screen types, as for example, a mono-color liquid crystal display screen, may be also be employed. As best seen in FIG. 1, video display housing 24 is thin and flat—in the range of five to fourteen inches wide and preferably eight inches wide, and in the range of five to eighteen inches long and preferably eleven inches long, with a thickness in the range of 0.1 to 1.0 inches being preferred and a thickness of between 0.25

and 0.5 inches being especially preferred. The ratio of width and length to thickness is at least 5:1 and preferably in the range of 17:1 to 34:1. The video display document does not have an image taking lens, such as a zoom lens, or an image to data or signal transducer, such as a charge coupled device (CCD).

[0034] Turning now to FIG. 3, there is shown in block diagram form an illustrative configuration of the electronic processing system employed by video display device 12 in accordance with the present invention. As seen in FIG. 3, the electronic processing system 70 of video display device 12 of FIG. 1 comprises a single touch-sensitive display screen 22 mounted within housing section 24a (FIG. 1), display controller 52, touch screen controller 54, a microprocessor and memory module 56, a communication interface such as RS-232 port 58, an updateable memory storage unit 60 for storing input video sequence data, and an internal power unit 62 with battery, all configured into a handheld, portable unit.

[0035] Updateable video memory storage unit 60 serves to store video sequence data which, in accordance with an illustrative embodiment of the present invention, is received and stored as an avi or MPEG-2 encoded data file, with microprocessor system 56 being configured with appropriate software to function as an MPEG-2 or avi file decoder. Illustratively, the updateable ROM 60 memory storage device may comprise 500 to 1,000 megabytes or more of memory such as provided by PCMCIA memory storage cards, solid state EEPROMs, flash memory devices, bubble memory, a compact, large-capacity, miniature hard disk drive, or the like, depending upon the actual amount of information to be stored on the device. By way of illustrative example, with a ROM memory storage device of approximately 300 megabytes, the video display device 12 of the present invention will have sufficient storage to store up to twenty minutes of compressed video data (and accompanying audio) in its entirety. In an especially preferred form of the invention, however, the updateable video or ROM memory storage 60 is permanently mounted within housing 24.

[0036] The electronic processing system of the illustrative embodiment of FIG. 3 controls and monitors the operations of the video display device 12 in accordance with user requests and under software control, the system comprising touch screen controller 54, display controller 52, microcomputer system 56 with random access memory (RAM), and security circuit 64. Microcomputer system 56 comprises the CPU which is controlled by the proprietary operating system embedded in a solid-state device, the BIOS ROM, and random access memory (RA) that provides the primary memory space to write, store and retrieve information and program instructions used by the CPU. The microcomputer system 56 comprises a general-purpose microprocessor with supporting circuitry such as a logic board with an Intel 486DX2/66MHz processor or better, or with a Pentium processor, a PowerPC processor with supporting circuitry such as a 100 MHz 603e processor; a RISC (reduced instruction set configuration) chip with supporting circuitry; or the like.

[0037] The video display device is powered from the power unit 62 that comprises one or more rechargeable batteries and power and charging circuits. These power and