

devices (LCDs). Other display technologies are also suitable for use. Various companies have developed relatively flat display devices that have the capacity to be transparent or translucent. One such company is Uni-Pixel Displays, Inc., Inc. of Houston Tex., which sells display screens that employ time multiplex optical shutter (TMOS) technology. This TMOS display technology includes: (a) selectively controlled pixels that shutter light out of a light guidance substrate by violating the light guidance conditions of the substrate and (b) a system for repeatedly causing such violation in a time multiplex fashion. The display screens that embody TMOS technology are inherently transparent and they can be switched to display colors in any pixel area. A transparent OLED may also be used. An electroluminescent display is also suitable for use with proximate display devices **18a** and **18b**. Also, Planar Systems Inc. of Beaverton OR and Samsung of Korea, both produce several display devices that are suitable for use herein and that can be translucent or transparent. Kent Displays Inc. of Kent OH also produces Cholesteric LCD display devices that operate as a light valve and/or a monochrome LCD panel.

[0075] FIG. 4C shows another layered video display device arrangement in accordance with a specific embodiment. In this arrangement, a touchscreen **16** is arranged in front of an exterior LCD panel **18a**, an intermediate light valve **18e** and a curved display device **18d**.

[0076] A common line of sight **20** passes through all four layered devices. As the term is used herein, a common line of sight refers to a straight line that intersects a portion of each display device. The line of sight is a geometric construct used herein for describing a spatial arrangement of display devices. If all the proximate display devices are transparent along the line of sight, then a person should be able see through all the display devices along the line of sight. Multiple lines of sight may also be present in many instances.

[0077] Light valve **18e** selectively permits light to pass therethrough in response to a control signal. Various devices may be utilized for the light valve **18e**, including, but not limited to, suspended particle devices (SPD), Cholesteric LCD devices, electrochromic devices, polymer dispersed liquid crystal (PDLC) devices, etc. Light valve **18e** switches between being transparent, and being opaque (or translucent), depending on a received control signal. For example, SPDs and PDLC devices become transparent when a current is applied and become opaque or translucent when little or no current is applied. On the other hand, electrochromic devices become opaque when a current is applied and transparent when little or no current is applied. Additionally, light valve **18e** may attain varying levels of translucency and opacity. For example, while a PDLC device is generally either transparent or opaque, suspended particle devices and electrochromic devices allow for varying degrees of transparency, opacity or translucency, depending on the applied current level.

[0078] In one embodiment, the gaming machine includes a touchscreen **16** disposed outside the exterior video display device **18a**. Touchscreen **16** detects and senses pressure, and in some cases varying degrees of pressure, applied by a person to the touchscreen **16**. Touchscreen **16** may include a capacitive, resistive, acoustic or other pressure sensitive technology. Electrical communication between touchscreen **16** and the gaming machine processor enable the processor to detect a player pressing on an area of the display screen (and, for some touchscreens, how hard a player is pushing on a

particular area of the display screen). Using one or more programs stored within memory of the gaming machine, the processor enables a player to activate game elements or functions by applying pressure to certain portions of touchscreen **16**. Several vendors known to those of skill in the art produce a touchscreen suitable for use with a gaming machine. Additionally, touchscreen technology which uses infrared or other optical sensing methods to detect screen contact in lieu of pressure sensing may be employed, such as the proprietary technology developed by NextWindow Ltd. of Auckland, New Zealand.

[0079] Rear display device **18d** includes a digital display device with a curved surface. A digital display device refers to a display device that is configured to receive and respond to a digital communication, e.g., from a processor or video card. Thus, OLED, LCD and projection type (LCD or DMD) devices are all examples of suitable digital display devices. E Ink Corporation of Cambridge Mass. produces electronic ink displays that are suitable for use in rear display device **18d**. Microscale container display devices, such as those produced SiPix of Fremont Calif., are also suitable for use in rear display device **18d**. Several other suitable digital display devices are provided below.

[0080] Referring to FIGS. 5A and 5B, portions **15** of proximate display device **18a** are significantly transparent or translucent. Pixelated element panels on many non-emissive displays such as LCD panels are largely invisible to a viewer. More specifically, many display technologies, such as electroluminescent displays and LCD panels, include portions that are transparent when no video images are displayed thereon. For example, an electroluminescent display may utilize non-organic phosphors that are both transparent and emissive (such as a tOLED), and addressed through transparent row and column drivers. Pixelated element panels on LCD panels are also available in significantly transparent or translucent designs that permit a person to see through the pixelated panels when not locally displaying an image.

[0081] If used, corresponding portions of touchscreen **16** and light valve **18e** along the lines of sight for portions **15** are also translucent or transparent, or alternatively have the capacity to be translucent or transparent in response to control signals from a processor included in the gaming machine. When portions (or all) of the screens for touchscreen **16**, display devices **18a** and **18b**, and light valve **18e** are transparent or translucent, a player can simultaneously see images displayed on the display screen **18a** (and/or **18b**)—as well as the images displayed on the interior display devices **18c**—by looking through the transparent portions **15** of proximate display devices.

[0082] In another embodiment, the layered displays in a gaming machine include a design or commercially available unit from Pure Depth of Redwood City, Calif. The Pure Depth technology incorporates two or more LCD displays into a physical unit, where each LCD display is separately addressable to provide separate or coordinated images between the LCDs. Many Pure Depth display systems include a high-brightened backlight, a rear image panel, such as an active matrix color LCD, a diffuser, a refractor, and a front image plane; these devices are arranged to form a stack. The LCDs in these units are stacked at set distances.

[0083] The layered display devices **18** may be used in a variety of manners to output games on a gaming machine. In some cases, video data and images displayed on the display devices **18a** and **18c** are positioned such that the images do