

MOVING THREE-DIMENSIONAL DISPLAY FOR A GAMING MACHINE

BACKGROUND

[0001] The present disclosure is related to presenting games on gaming machines such as reel-type slot machines, video poker machines, etc.

[0002] Various presentation techniques for gaming machines have been previously described. For example, contemporary mechanical reel-type slot machines include three-dimensional spinning reels that can be viewed by a player. Also, contemporary video gaming machines (e.g., video reel-type slots, video poker, video blackjack, video keno, video bingo, etc.) include display devices that generate two-dimensional images such as visual representations of spinning reels, cards, symbols, characters, etc. that appear in primary games, secondary games, help screens, attract modes, etc.

[0003] Additionally, some video gaming machines generate two-dimensional images that appear to be three-dimensional. These video gaming machines may employ shading, highlighting, and perspective techniques to cause a person to perceive depth in a two-dimensional image.

[0004] Some gaming machines have employed beam splitters and/or mirrors to generate three-dimensional representations. U.S. Pat. No. 5,669,685 to Kotani et al. describes a game machine in which an image of eyes and a mouth generated by a cathode ray tube is superimposed on an image of a three-dimensional object in the shape of a human face. The image of the human face is reflected off a large semitransparent mirror such that it can be viewed by a player. The image of the eyes and mouth are projected onto a large screen behind the semitransparent mirror. The image of the eyes and mouth on the screen may be seen by the player through the semitransparent mirror such that the eyes and mouth appear superimposed on the image of the human face as seen by the player. A projector housing includes the screen and a cathode ray tube that projects the image of the eyes and mouth onto the screen. The projector housing can be moved such that the eyes and mouth appear to be behind or in front of the image of the human face as seen by the player.

SUMMARY

[0005] In one embodiment, a gaming apparatus is provided. The gaming apparatus may comprise a primary display unit, and a value input device. The gaming apparatus may also comprise a first controller operatively coupled to the primary display unit and the value input device. The first controller may include a first microprocessor and a first memory operatively coupled to the first microprocessor. The first controller may be configured to receive wager data from the value input device, the wager data indicative of a wager submitted by a player. The first controller may also be configured to cause the primary display unit to display an outcome of a game, and to determine a value payout associated with the outcome of the game. The gaming apparatus may further comprise a secondary display unit separate from the primary display unit. The secondary display unit may include a viewing window, a first object coupled to a movable member, and a second object. The secondary display unit may also include a semitransparent

mirror positioned posterior to the viewing window to reflect an image of one of the first object and the second object and to transmit an image of the other of the first object and the second object, wherein the image of the first object and the image of the second object are viewable through the viewing window. The secondary display unit may additionally include a first motor coupled to the movable member to move the first object such that a depth of the image of the first object changes relative to a depth of the image of the second object as viewed through the viewing window.

[0006] In another embodiment, a gaming method is provided. The gaming method may include receiving a wager from a player via a value input device, and displaying an outcome of a game via a primary display unit. The gaming method may additionally include determining a value payout associated with the outcome of the game. The gaming method may also include displaying an image of a first object and an image of a second object via a secondary display unit, the secondary display unit having a viewing window, wherein the image of the first object and the image of the second object appear superimposed as viewed from the viewing window. The gaming method may further include determining a bonus condition of the game, and in response to the bonus condition, causing the first object to repeatedly move during a period of time, wherein a depth of the image of the first object relative to a depth of the image of the second object changes as viewed from the viewing window during the period of time. The gaming method may still further include, after the period of time, causing the first object to stop at a first ending position.

[0007] In yet another embodiment, a gaming apparatus is provided. The gaming apparatus may comprise a primary display unit, and a value input device. The gaming apparatus may also comprise a first controller operatively coupled to the primary display unit and the value input device. The first controller may include a first microprocessor and a first memory operatively coupled to the first microprocessor. The first controller may be configured to receive wager data from the value input device, the wager data indicative of a wager submitted by a player. The first controller may additionally be configured to cause the primary display unit to display an outcome of a game, and to determine if the game is in bonus. The first controller being may also be configured to transmit bonus information to a second controller if the game is in bonus, and to determine a value payout associated with the outcome of the game. The gaming apparatus may further comprise a secondary display unit separate from the primary display unit. The secondary display unit may include a viewing window, and a first object coupled to a movable member, the first object including a numeric display, the numeric display capable of displaying at least numbers, wherein numbers displayed by the numeric display are viewable through the viewing window. The secondary display unit may additionally include a second object, and a semitransparent mirror positioned posterior to the viewing window to reflect an image of one of the first object and the second object and to transmit an image of the other of the first object and the second object, wherein the image of the first object and the image of the second object are viewable through the viewing window. The secondary display unit may further include a first motor coupled to the movable member to move the first object such that a depth of the image of the first object changes relative to a depth of the image of the second object as viewed through the viewing