Title: THIN FILM TRANSISTOR LCD

S P E C I F I C A T I O N

This invention generally relates to gaming machines, and more particularly to a thin film cold cathode display also known as TFT LCD which is to be used in a gaming machine's belly art.

This thin film cold cathode display generally refers to a "Thin Film, Transistor LCD with cold cathode fluorescent backlight" flat panel display and a "Thin Film Transistor LCD with LED backlight" flat panel display.

The belly art of a slot machine is the form of media that slot manufacturers use to display visual pay table, game rules, and fancy game graphics to explain the game and to attract players.

Before the emergence of the LCD display, all belly art were printed on a piece of plastic and then stuck on a slot machine's belly glass panel. With the plastic printed belly art, graphics are statistically and specifically printed for each game. This means that each game must have its own belly art, and more importantly,

due to the nature of printing, no modifications can be made, in any form, once printing is done.

Changing a slot machine from Game A to Game B, while in the field, has become a time-consuming and complicated task with this type of belly art. This is because a set of physical belly glass panels have to be produced in a factory and then sent to the technician who carries out the game conversion. The technician must now carry this glass panel to the gaming floor and replace the old belly art glass panel with the new one.

Further, due to the size of belly glass, the amount of information that can be printed on a single belly glass is extremely limited. When using printed belly art, the way to explain the game to players and to attract players to play the game at the same time has become a very challenging task for manufacturers.

Moreover, no animation can be supported through a static graphic, which, in tern, has greatly reduced the game's appeal to players and its effectiveness of attracting players.

It is therefore the primary objective of the present invention to provide an LCD panel to all gaming machines. With its thinness, its lightness and its inexpensive

price, it could rapidly replace the traditional CRT monitor and be used in all gaming machines.

Although the LCD is still more expensive than the traditional printed belly art, with the introduction of the dual LCD in slot machines, a part of the belly art's functionalities has started to be moved away from the printed belly art and is now being implemented on the second LCD. For example, many European manufacturers have used the second LCD monitor to display real time pay tables according to game states on a slot machine.

Another objective of this invention is to provide an LCD panel that supports real time information display. Game pay tables can be divided into multi-pages and displayed in real time to players according to symbols and game states on a player's main screen. This has completely removed the size restriction usually tied with the printed bell art.

Still another objective is to provide an LCD panel wherein animation can be easily portrayed as animated graphics. This is much more appealing to people than printed static graphics in terms of attracting people to the machine. The LCD is therefore much more effective than printed belly arts.

Furthermore, the LCD can make the switching and changing of games much simpler. There will no longer be any need to carry heavy glass and replace and exchange the physical glass in the machines. The game's information or the glass' contents can now be easily downloaded into an LCD in real time. This is extremely important and useful for server based multi-game systems. Belly art graphics, on the other hand, can only be downloaded with the selected games from the server at the same time.

These and the other objectives and advantages of the present invention will become apparent upon a reading of the following detailed description:

In using LCD belly art in practice, a player selects the game she wants to play from a machine's game selection interface, which is usually the machine's main screen. A slot motherboard receives the request and then downloads the requested game from a game server. All images of that game are downloaded into the slot motherboard. The slot motherboard would then separate the belly art images from the downloaded images then transfer the belly art images to an LCD belly panel.

Downloading the game from the server is optional in a multi-game system. The selected game's belly art can be directly transferred to an LCD belly panel from the slot motherboard.

A detailed comparison between the LCD belly art and the printed belly art, including its costs, is listed below.

FUNCTIONALITY	LCD BELLY ART	PRINTED BELLY ART
Display quality	Good	Good
Real time image Display	Supported,	Not Supported
Animated images	Supported	Not Supported
Supporting run time for game switching	Supported	Not Supported
Supporting run time for Advertising	Supported	Not Supported
Fulfilling regulator's Concern	Yes	Yes, for now, but as more and more information is being added into the regulations, it may run out of space eventually
Price	HK$1.5K-2k Base on size And quality	HK$500 set up cost, HK$200 each on production run

Due to the growth of regulations and the development of technologies, printed belly art will become more and

more insufficient in providing regulators the required information. The LCD belly art will become cheaper and cheaper and eventually, LCD belly art will replace printed belly art.

With the advantages in using LCD for belly art, there is no doubt that the traditional printed belly art will be completely replaced by the LCD in the foreseeable future.

CLAIM:

1. A gaming machine having a belly art made from a thin film cold cathode display (TFT LCD) belly panel.