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Attorneys for Plaintiff IGT

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

SOUTHERN DIVISION

IGT,

Plaintiff,

v.

ARISTOCRAT TECHNOLOGIES, INC., ARISTOCRAT LEISURE LIMITED,

Defendants.

Case No. SACV10-1748 JVS(MLGx)

COMPLAINT FOR PATENT INFRINGEMENT

DEMAND FOR JURY TRIAL

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff IGT brings this civil action for patent infringement against Defendants Aristocrat Technologies, Inc., and Aristocrat Leisure Limited (collectively the "Defendants") and avers and complains as follows :

JURISDICTION AND VENUE

1. This is an action for patent infringement under the Patent Laws of the United States, Title 35 of the United States Code. The Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§1331 and 1338(a). Venue lies in

this judicial district pursuant to 28 U.S.C. §§ 1391 and 1400(b).

2. This Court has personal jurisdiction over each of Defendants by virtue of defendants and each of them having conducted and conducting business within the State of California and this jurisdiction, directly or indirectly through intermediaries or agents, and by virtue of their acts that infringe U.S. Pat. Nos. 6,620,047 and RE 39,370.

THE PARTIES

3. IGT is a corporation organized under the laws of the State of Nevada with a principal place of business located at 6355 South Buffalo Drive, Las Vegas, NV 89113-2133.

4. Defendant Aristocrat Technologies, Inc. is a corporation organized under the laws of the State of Nevada with its principal place of business located at 7230 Amigo St., Las Vegas, NV.

5. Defendant Aristocrat Leisure Limited is a corporation organized under the laws of Australia with its principal place of business located at 85 Epping Road, North Ryde NSW 2113, Australia.

THE PATENTS-IN-SUIT

6. IGT is the owner of all right, title, and interest in U.S. Patent 6,620,047 ("the '047 Patent") issued on September 16, 2003. The '047 Patent is titled "Electronic Gaming Apparatus Having Authentication Data Sets." An Ex Parte Reexamination Certificate issued on July 22, 2008 confirming the patentability of claims 1-18. A true and correct copy of the '047 Patent is attached hereto as Exhibit A.

7. IGT is the owner of all right, title, and interest in U.S. Patent No. RE 39,370 ("the '370 Patent") issued on October 31, 2006. The '370 Patent is titled "Electronic Casino Gaming System with Improved Play Capacity, Authentication and Security." An Ex Parte Reexamination Certificate issued on July 8, 2008 confirming the patentability of claims 16-112. Certificates of Correction issued on April 8, 2008

and October 14, 2008 respectively. A true and correct copy of the '370 Patent is attached hereto as Exhibit B.

INFRINGEMENT BY DEFENDANTS

8. Defendants and each of them have been and/or are directly infringing and/or inducing infringement of and/or contributorily infringing the '047 and '370 Patents by, among other things, making, using, offering to sell, selling and/or otherwise making available in the United States, products, devices and/or systems that infringe one or more claims of the '047 and '370 Patents, including, by way of example and not limitation, the Viridian WS machine, all without any authorization or license from IGT.

9. On information and belief, Defendants and each of them have been and still are actively inducing one or more third parties to infringe the '047 and '370 Patents.

10. On information and belief, Defendants and each of them have both actual and constructive notice of the '047 and '370 Patents.

11. On information and belief, the acts of Defendants and each of them as set forth above have been willful, wanton and deliberate.

12. The harm to IGT resulting from the acts of Defendants and each of them as set forth above is irreparable, continuing, not fully compensable in money damages and will continue unless Defendants and each of them are enjoined by this Court.

CLAIMS FOR RELIEF AS TO

INFRINGEMENT OF U.S. PATENT NO. 6,620,047

13. IGT incorporates by reference in these claims for relief the averments contained in paragraphs 1-12 above.

14. The acts of Defendants and each of them described above constitute direct, inducing and contributory infringement of the '047 patent in violation of 35 U.S.C. § 271 and in particular Sections 271(a), (b) and (c).

CLAIMS FOR RELIEF AS TO INFRINGEMENT OF U.S. PATENT NO. RE 39,370

15. IGT incorporates by reference in these claims for relief the averments contained in paragraphs 1-12 above.

16. The acts of Defendants and each of them described above constitute direct, inducing and contributory infringement of the '370 patent in violation of 35 U.S.C. § 271 and in particular Sections 271(a), (b) and (c).

PRAYER FOR RELIEF

WHEREFORE, IGT prays for the following relief:

a) That Defendants and each of them be adjudged to have infringed the '047 and '370 Patents;

b) That Defendants and each of them and their officers, agents, servants, employees, attorneys, and those persons in active concert or participation or privity with any of them or otherwise controlled by any of them, be preliminarily and permanently restrained and enjoined from directly or indirectly infringing the '047 and '370 Patents;

c) An award of damages and injuries for the infringements by Defendants and each of them, and as appropriate any post-verdict and/or post-judgment damages and injuries;

d) An award of treble damages in accordance with 35 U.S.C. § 284;

e) An award of pre-judgment and post-judgment interest and costs against Defendants, together with an award of such interest and costs, in accordance with 35 U.S.C. § 284;

f) An award of IGT's attorneys' fees pursuant to 35 U.S.C. § 285; and

g) Such other and further relief as this Court may deem just and proper.

Respectfully submitted,

SIDLEY AUSTIN LLP

Dated: November 15, 2010

By: _____
Edward G. Poplawski
Paul D. Tripodi II
Attorneys for Plaintiff IGT

DEMAND FOR JURY TRIAL

IGT respectfully requests a jury trial on all issues triable by jury.

Respectfully submitted,

SIDLEY AUSTIN LLP

Dated: November 15, 2010

By: _____
Edward G. Poplawski
Paul D. Tripodi II
Attorneys for Plaintiff IGT

EXHIBIT A

US006620047B1

(12) **United States Patent**
Alcorn et al.

(10) **Patent No.: US 6,620,047 B1**
(45) **Date of Patent: *Sep. 16, 2003**

(54) **ELECTRONIC GAMING APPARATUS HAVING AUTHENTICATION DATA SETS**

(75) Inventors: **Allan E. Alcorn**, Portola Valley, CA (US); **Harry H. Jenkins**, Knoxville, TN (US)

(73) Assignee: **IGT**, Reno, NV (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/677,129**

(22) Filed: **Sep. 29, 2000**

Related U.S. Application Data

(63) Continuation of application No. 08/864,700, filed on May 28, 1997, now abandoned, and a continuation of application No. 09/107,031, filed on Jun. 29, 1998, now Pat. No. 6,149,522, which is a continuation-in-part of application No. 08/981,882, filed on Jun. 17, 1996, now Pat. No. 6,106,396, which is a continuation-in-part of application No. 08/497,662, filed on Jun. 29, 1995, now Pat. No. 5,643,086, which is a continuation-in-part of application No. 08/672,775, filed on Jun. 28, 1996, now Pat. No. 6,287,202.

(51) **Int. Cl.**[7] **A63F 9/24**
(52) **U.S. Cl.** **463/37**; 463/20
(58) **Field of Search** ..... 463/1, 9, 11–13, 463/16, 20, 25, 29–30, 36–37, 40, 42, 43, 46; 273/138.1, 138.2, 237, 143 R, 292; 345/173

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Assignment of U.S Patent No. 5,643,086 to IGT.

Assignment of U.S. Patent No. 6,149,522 to IGT.

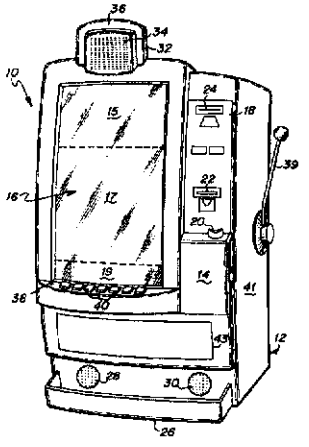
Assignment of U.S. Serial. No. 09/677,129 to IGT.

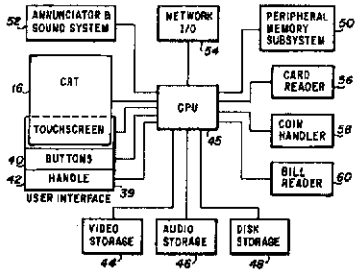
Primary Examiner—Mark Sager
(74) *Attorney, Agent, or Firm*—Marshall, Gerstein & Borun

(57) **ABSTRACT**

Improved electronic gaming apparatus, including a cabinet for housing video and sound generating electronics, coin-handling and pay-out mechanism and a video display screen. The display screen is substantially taller than it is wide and preferably has a touch screen associated therewith. Although the displayed video presentation may take any form, the preferred slot machine display embodiment includes graphics replicating the standard play board at top, game board in middle, and principal user input interface below.

18 Claims, 4 Drawing Sheets





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6,149,522	A	11/2000	Alcorn et al.	463/29

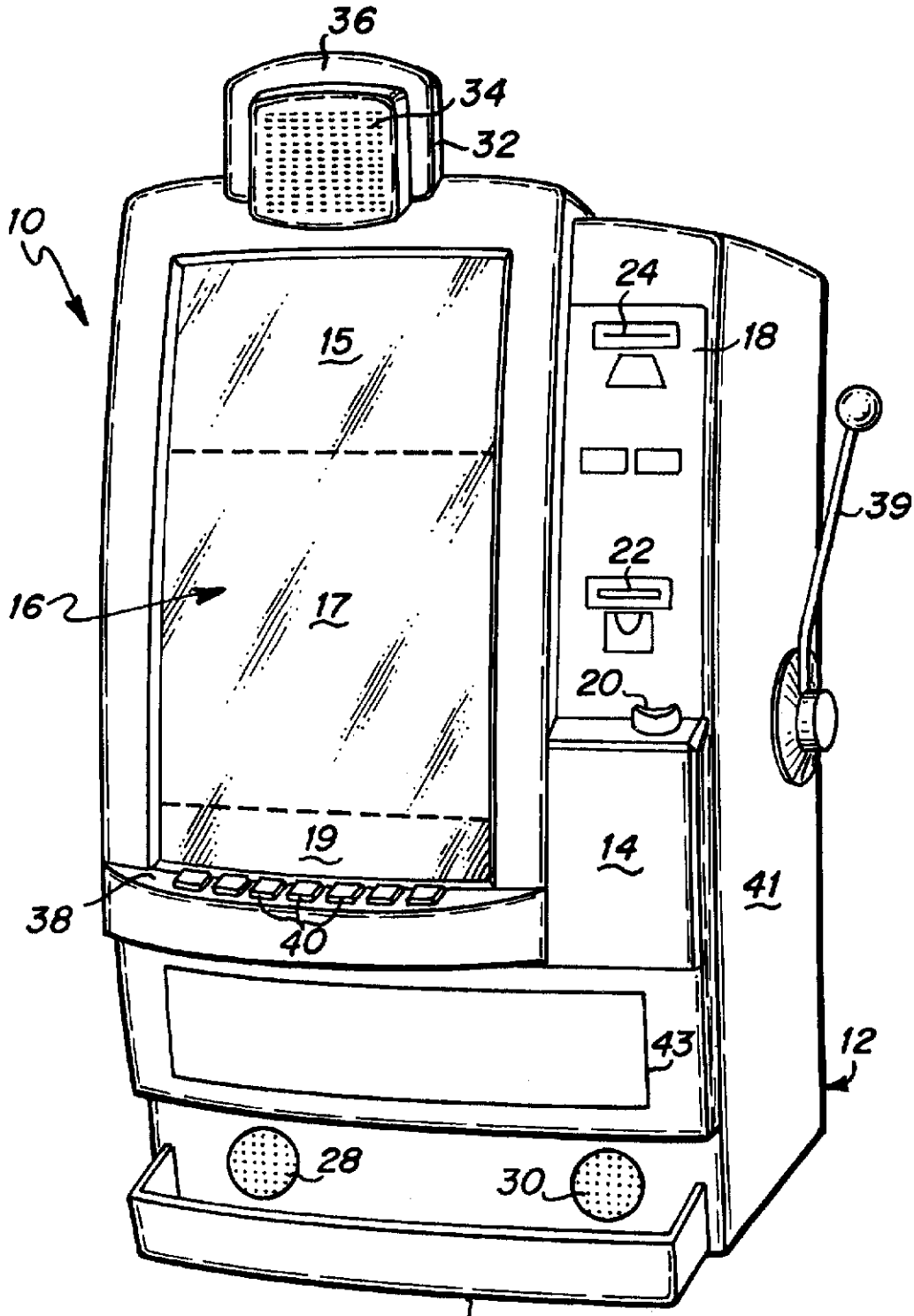

Fig_1

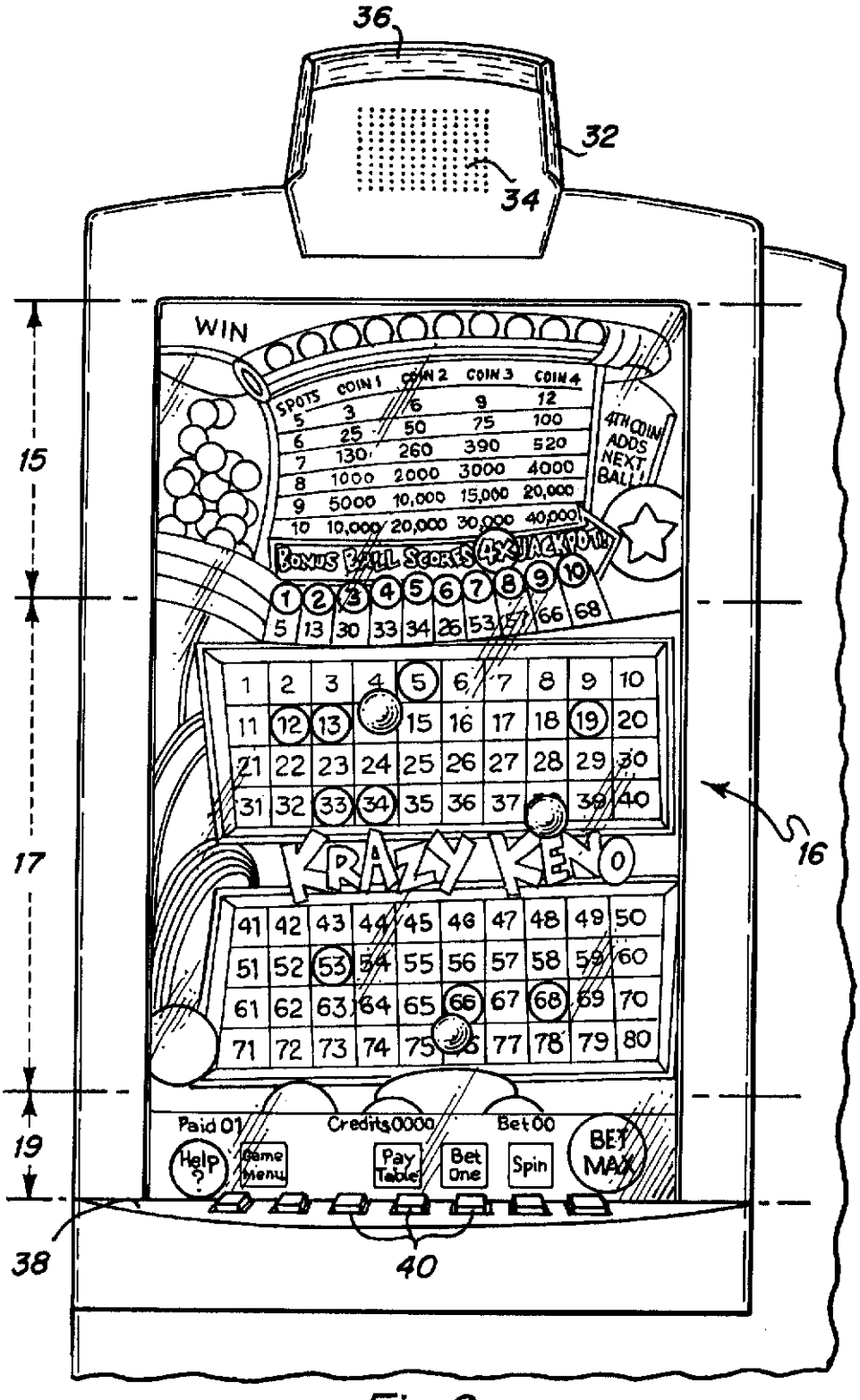
36
32
34
15
17
19
38
40
16
WIN
SPOTS COIN 1 COIN 2 COIN 3 COIN 4
5 3 6 9 12
6 25 50 75 100
7 130 260 390 520
8 1000 2000 3000 4000
9 5000 10,000 15,000 20,000
10 10,000 20,000 30,000 40,000
4TH COIN ADDS NEXT BALL!
BONUS BALL SCORES 4X 4X 4X
1 2 3 4 5 6 7 8 9 10
5 13 30 33 34 26 53 57 66 68
KRAZY KENO
Paid 01
Credits 0000
Bet 00
Help ?
Game Menu
Pay Table
Bet One
Spin
BET MAX

Fig_2

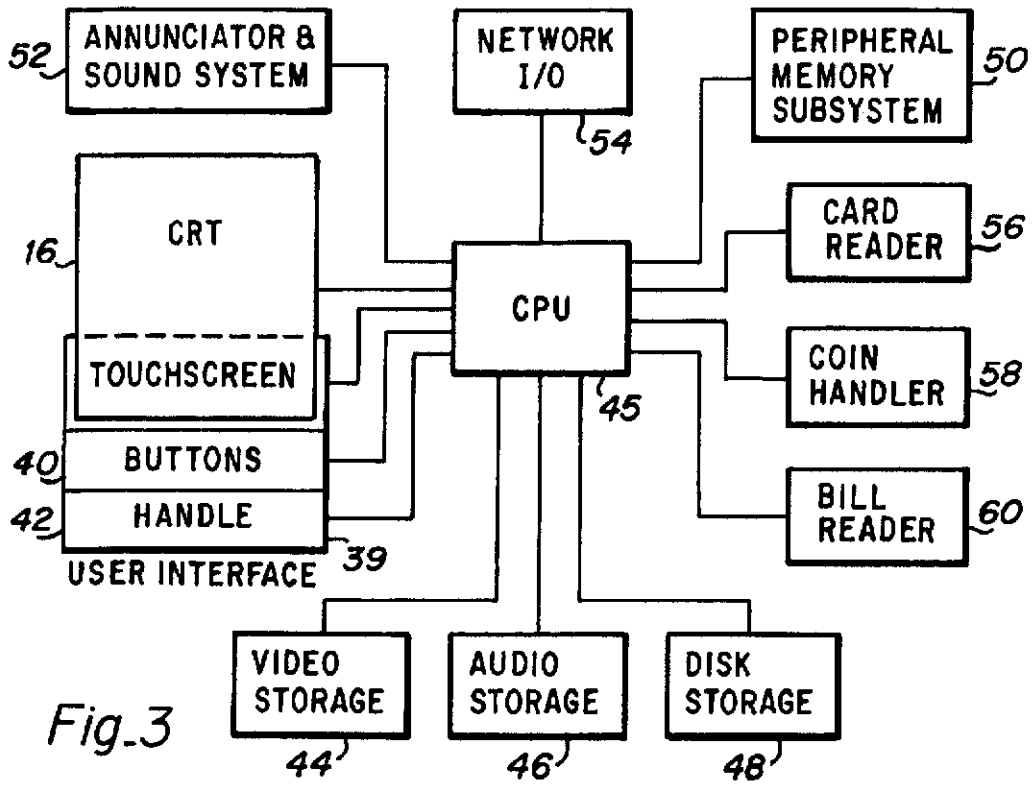
ANNUNCIATOR & SOUND SYSTEM
52
NETWORK I/O
54
PERIPHERAL MEMORY SUBSYSTEM
50
CRT
16
CARD READER
56
CPU
TOUCHSCREEN
COIN HANDLER
58
45
BUTTONS
40
HANDLE
42
BILL READER
60
USER INTERFACE
39
VIDEO STORAGE
44
AUDIO STORAGE
46
DISK STORAGE
48

Fig_3

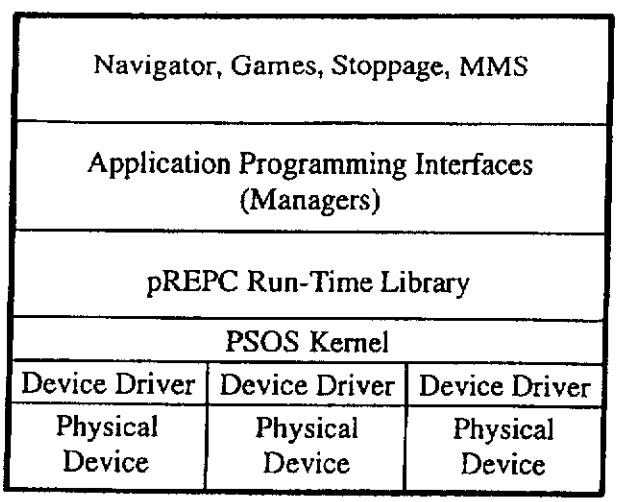
Navigator, Games, Stoppage, MMS
Application Programming Interfaces (Managers)
pREPC Run-Time Library
PSOS Kernel
Device Driver
Device Driver
Device Driver
Physical Device
Physical Device
Physical Device

Fig_4

Manager	Description
Data Streamer	Enables an application to use data within a large file without loading the entire file's contents into memory.
Display Manager	Enables an application to control screen drawing to the video display.
Cash Manager	Provides the application with a secure interface for monetary transactions .
Hotspot Manager	Provides the application interface to the touchscreen.
Button Manager	Provides the application interface to the hard buttons on the slot machine bezel.

Fig_5

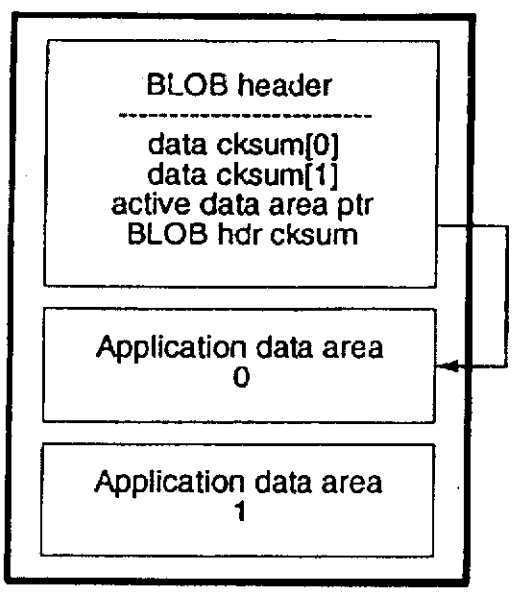

Fig_6

ELECTRONIC GAMING APPARATUS HAVING AUTHENTICATION DATA SETS

This is a continuation of U.S. Ser. No. 08/864,700 filed in the Patent Office on May 28, 1997 and entitled "Improved Electronic Gaming Apparatus", now abandoned, and a continuation-in-part of U.S. Ser. No. 09/107,031 filed in the Patent Office on Jun. 29, 1998 and entitled "Method of Authennticating Game Data Sets in an Electronic Casino Gaming System", now U.S. Patent No. 6,149,522, which is a continuation-in-part of U.S. Ser. No. 08/981,882 filed on Jun. 17, 1996 (as International Application No. PCT/US96/10463) and entitled "Entitled Casino Gaming System With Improved Play Capacity, Authentication and Security", now U.S. Patent No. 6,106,396, which is a continuation-in-part of U.S. Ser. No. 08/497,662 filed in the Patent Office on Jun. 29, 1995 and entitled "Electronic Casino Gaming Apparatus With Improved Play Capacity, Authentication and Security", now U.S. Patent No. 5,643,086.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to electronic gaming apparatus, and more particularly to an improved gaming machine for improving the play and display of gaming graphics utilizing a vertically oriented video screen having touch screen input as a player interface to the device.

2. Brief Description of the Prior Art

Electronic gaming devices have long been provided for playing games such as roulette, poker, bingo, keno, lotto and various other games, and have historically been constructed in a slot machine format typically including a pay board wherein the winning pay-out combinations are displayed; a play section in which electronic or mechanical reels, card-playing indica or other gaming objects are displayed; and a third area in which a player interface is provided by means of an assortment of buttons, switches, etc. More modern gaming machines have included a video display screen (CRT tube) that is driven by an image generator coupled to a microprocessor that serves as the game controller. In such video implementations, standard television-style cathode ray tubes have normally been used, and electronically generated reels, cards and other objects have been depicted thereon for implementing play of the game. In some embodiments, the pay board is also included as part of the video display, but because this limits the active display area available for gaming presentation, a different screen or type of screen separate and apart from the video display is often utilized. Touch screen interfaces have also been used in gaming machines, but are often limited in their application because of the limited space available on the video screen. Another limitation of the prior art devices using video display screens is that the display has been quite sterile in its presentation, often comprising nothing more than an attempt to electronically present a two-dimensional image replicating the functional display elements of the prior art mechanical gaming apparatus.

There is thus a need for an improved gaming station or machine that uses modern video graphics and sound technology to provide a complete user interface that in at least one aspect conveniently integrates pay board, play screen, and player input interface in a single uniquely designed and oriented video screen format.

SUMMARY OF THE INVENTION

In one aspect, the invention is directed to a gaming machine comprising: a cabinet; at least one user-interface button; a value receiving mechanism associated with the cabinet; a value-dispensing mechanism assoicated with the cabinet; a video display unit associated with the cabinet; a touch-sensitive device associated with the video display unit; a processor disposed in the cabinet and operatively coupled to the user-interface button, the value-receiving mechanism, the video display unit and the touch-sensitive device; a read only memory disposed in the cabinet; basic input/output system (BIOS) software stored in the read-only memory; a critical data storage software that causes critical system data to be stored in the nonvolatile memory; disk memory disposed in the cabinet and operatively coupled to the processor; system software stored in the disk memory, the system software comprising software representing a game that may be played by a player; encoded data stored in the disk memory, the encoded data having been generated from at least one message digest that was generated based on using an encoding function with the system software; secure loading software stored in memory that loads system software from the disk memory into random-access memory and verifies correctness and authenticity of the system software, the secure loading software verifying correctness and authenticity of the system software based on a comparison of data generated from the encoded data and data generated from the system software; and operating system (OS) software stored in memory, the operating system software comprising an application programming interface including a first application programming interface portion that provides a software interface to the video display unit and a second application programming interface portion that provides a software interface to the touch-sensitive device.

This and other aspects of the invention will be apparent in view of the following description of various embodiments of the invention, which is made in connection with the figures of the drawing briefly described below.

IN THE DRAWING

FIG. **1** is a perspective view illustrating a gaming machine in accordance with the present invention;

FIG. **2** depicts a typical screen display in accordance with the present invention;

FIG. **3** is a functional block diagram illustrating the principal functional components used in the gaming machine of the present invention; and

FIGS. **4**, **5** and **6** are diagrams generally illustrating software architecture and features of the preferred embodiment.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A preferred embodiment of the present invention is depicted at **10** in FIG. **1** and includes a more or less rectangularly configured cabinet **12** forming an enclosure for the various functional mechanical, electrical and electronic components. The front face **14** of cabinet **12** is uniquely configured to include as the principal component thereof a video display screen **16** disposed in portrait format with its vertical dimension being substantially larger than its horizontal dimension. As is apparent from the illustration, the screen **16** occupies a substantial part of the front face of the device **10**. Positioned to the right of screen **16** is a currency input section **18** including a coin-receiving slot **20**, a paper money-receiving slot **22**, and a credit/debit card slot **24**. A pair of buttons **23** and **25** may be provided for allowing the player to select a "cash" or "credit" mode for payout of winnings.

Disposed beneath screen **16** and at the bottom of the front face is a coin drop receptacle **26**. Immediately above the coin drop receptacle are a pair of high-quality audio speakers **28** and **30**. Above screen **16** is an annunciator **32** including a third high-quality audio speaker or signal generator **34** and a multi-colored, multi-light display apparatus **36**. Disposed immediately beneath screen **16** on a slightly protruding shelf **38** are a plurality of user interface buttons **40** that are of conventional configuration. Formed integral with the front face of display screen **16** is a transparent touch screen that is dynamically configurable to allow manual user inputs at screen positions determined by the software associated with the particular game or attract mode being presented.

On the right side of cabinet **12** is a conventional pull handle **39** that may be optionally used as a part of the user interface to the gaming apparatus.

The cabinet **12** was designed to coincide with the overall dimensions of traditional slot machines so that the device can be placed in existing casino carousels without requiring reconfiguration of the stands or machine layouts. The right side of the cabinet forms a compartment for containing currency input devices such as coin and bill acceptors, a card reader, keypad, and perhaps a display for a player tracking network interface. A locked service door **41** forms the right side wall of the cabinet and allows access to the currency components in this section. The front **43** of the lower section of the enclosure contains a coin hopper (a cache of coins that is used to pay out the player's winnings when playing in cash mode). The back of the lower section of the cabinet (behind the hopper) contains a CPU box with all of the associated electronics and power supplies. A locked service door allows access to the hopper in this section.

Player tracking network electronics are located in the top of the system and are accessed by removing a top cover (not shown).

The cabinet layout, which is more or less traditional for video-type slot machines, leaves a tall and narrow section at the upper left for the CRT that forms the display screen **16**. To maximize the screen area in the available space, a 26", wide screen CRT display device rotated 90° into a "portrait mode" is used with the screen origin at the bottom left corner, and the image scanned from left to right. For purposes of this disclosure "portrait mode" is defined as a display configuration in which a display screen has a height dimension that is substantially larger than its width dimension. The wide screen CRT has a 16×9 (height to width) aspect ratio and a 0.69 mm dot pitch allowing for an 856×480 visible display area. Portrait mode configured display screens or CRTs having other aspect ratios may also be used. For example, although less desirable, a standard 4×3 CRT monitor rotated into a portrait mode could be used.

In accordance with one aspect of the present invention, when operating in a game play mode, the display screen may be electronically subdivided into three arbitrarily sized regions: an upper region **15** in which a pay board will be displayed, setting forth the jackpot payouts as a function of the coins input; a mid region **17** in which a game board, play reels, card hands, or other game play indica is displayed; and a lower region **19** in which touch screen "buttons" are displayed for facilitating player selection of various input functions such as "hold," "bet 1," "draw," etc. One example of a "3-way" screen configuration is illustrated in FIG. **2**. Depending on the particular game being played, the dimensions of these regions may change. Furthermore, the configuration of the touch screen responsive areas within each region may likewise change to correspond to associated graphics displayed in one ore more of the regions. Moreover, in "attract mode" the screen may be subdivided into a geometrically grid of regions, e.g., a 2×4 or 2×6 (etc.) grid in which passive or active game logos may be simultaneously displayed for selection by a player. In such mode the touch screen would typically be configured to call up the game corresponding to the logo touched by the player.

An integrated touch screen overlaying the display screen, along with the series of "hard" buttons **40** arrayed along the bottom edge of the display, provide the main player interface to the system.

In FIG. **3** of the drawing, a generalized block diagram depicts the principal functional components of the system and includes a central processing unit (CPU) **45**, the CRT **16**, a user interface **42** that includes the touch screen buttons **40** and pull handle **39**, a video storage subsystem **44**, an audio storage subsystem **46**, a disk storage subsystem **48**, a peripheral memory subsystem **50**, an annunciator and sound system **52**, a network I/O **54**, a card reader **56**, a coin handler **58**, and a bill reader **60**. In the preferred embodiment, CPU **45** is a 133 MHz Pentium processor using a combination of the DUCK video Codec for motion video, A-RL (Alpha Run-Length) decoding of static graphics, and software compositing for the individual elements.

Although not shown in detail herein, the system includes a motherboard, a PCI-based video board and SCSI controller, a peripheral memory board, a general purpose input/output (GPIO) board, a power transformer, a disk drive, and a CPU power supply. The peripheral memory board is installed on the mother board PCI bus and is used to replace the BIOS ROMs of the standard PC architecture. Whereas on the standard mother boards the PCI-to-ISA bridge (PIB) chip provides the interface to the system BIOS ROMs by subtractive decoding of PCI accesses in the normal PCI BIOS range and its high-memory aliases, the peripheral memory board in the preferred embodiment responds to accesses to the BIOS address range using positive decoding, responding to the requested cycles before the PIB chip responds. This allows the ROM-based BIOS and OS to reside at these locations without modifying the mother board.

In addition, the peripheral memory board provides a removable subsystem containing all of the machine states, thereby allowing secure system auditing. The peripheral memory board contains 1 MB of EPROM to hold the BIOS and OS (including the secure loader described below), 64 KB of nonvolatile RAM to implement a SafeStore system, and 128 KB of electrically erasable PROM (EEPROM) to store the system configuration.

A peripheral memory controller performs byte-assembly and disassembly on memory reads/writes and parity generation on the PCI reads.

The preferred embodiment exhibits total immunity to Electric-Static Discharge (ESD) to a level of 27 KV. The requirement for this level of ESD immunity is an artifact of low humidity and prevalence of synthetic materials (carpeting, etc.) in Nevada casinos. All standard mother boards support an IEEE 1284 compatible parallel port, and such port provides the interface to the GPIO board. The GPIO board provides an electrically isolated interface to the external device ports and maps them to registers accessible through the mother board parallel port.

The system software is designed to address the unique requirements of casino gaming machines, including high reliability and security, fault detection and recovery, and

responsive performance. The system software architecture is illustrated in FIG. **4**.

A pSOS real-time operating system serves as the basis for the software platform of the preferred embodiment. This pSOS system consists of a multi-tasking kernel, the pREPC, ANSI-C, run-time library function, and a driver support library to access physical devices through a set of device drivers. The run-time Application Programming Interface (API) is a layer of system software providing a set of standard functions that application programmers develop to. Because the API provides a layer of abstraction between the applications and the hardware, the applications are not affected if the hardware or lower level system software are modified. The API is divided into a series of managers, each of which provides either access to some physical device or provides some set of services for the programmer. Examples of these managers are shown in the table illustrated in FIG. **5**.

The system applications include a Navigator, Play Stoppage, a suite of games, and the Machine Management System. The Navigator presents the player with an animated icon of each game. The animation describes the key features of the game; users enter a game by touching its icon. Each game is a custom application offering a specific set of propositions to the player. Each game is accompanied by on-line help that describes the rules of play, general disclaimers for the game, and so on. Play Stoppage is an application that runs short animations or video segments that entertain the player if a system fault occurs, while communicating information about why a game was interrupted and when it will be returned to play. The Machine Management System (MMS) provides a graphical interface to all technical support functions of the slot machine. This includes player conflict resolution, accounting, product configuration, and machine diagnostics.

As described in detail in the above-referenced U.S. patent application Ser. No. 08/497,662, before software can be loaded from the hard disk, it must be verified as being an authentic proprietary product. A secure loader is the system software component that loads executable files from the disk subsystem into RAM, verifies that the contents are correct, and then executes the image. The secure loader is based on the use of two-key cryptographic authentication from RSA Data Security, Inc. of Redwood City, Calif.

When a software release is ready for shipment, a HASH function designed for cryptographic use generates a unique fixed-length string of 128 bits for the loadable code image. This string, called a message digest, is then encrypted using RSA software and the proprietor's private key to produce a digital signature for the image. The signature is then written to disk with the loadable code image. When the code image is loaded from the disk and is ready to be executed during the system boot sequence, the secure loader decrypts the digital signature using the public key stored in ROM. The secure loader verifies that the image is authentic by comparing the message digest computed for the loadable code image with the message digest decrypted from disk. The software can be authenticated at any time since the console diagnostics include tools that allow the operator to query all loadable applications and run the RSA verification algorithm on them on demand. The authentication process is not limited to just software images. Graphics files or any binary data set can be authenticated. Because the graphics images are so large, they are not verified every time a game is loaded. If needed, critical graphic images such as the faces of cards can be verified before initial use in a game.

A SafeStore application provides fault-tolerant storage for critical system data called safe objects stored in system nonvolatile SRAM. To facilitate recovery of information after a crash or system failure, state information about each safe object along with the object data is saved in an internal format known as a binary large object (BLOB). To protect against hardware or software faults corrupting SafeStore, all safe objects are mirrored across two independent nonvolatile SRAMs. If corruption occurs by hard or soft failures to indicate locations in SRAM, or if complete SRAM failures occur, SafeStore will detect this corruption and recover the data.

FIG. **6** depicts a BLOB in SafeStore with all of the important BLOB header fields. The data check sum fields **0** and **1** contain the check sums of the data in data areas **0** and **1**, respectively. The active data area pointer field indicates that data area **0** contains the latest data written to SafeStore. The BLOB header check sum field contains a check sum of the BLOB header, including the data area check sums and the data area pointer. During a SafeStore update, the BLOB header is read into main memory where the header check sum is computed and checked against the value of the header check sum field. If the check sum does not match, the system will tilt. Assuming it matches, the new data is copied into the inactive data area. The copy of the BLOB header in main memory is updated with the check sum of the new data; the active data area pointer is updated to point to the data area **1**; and the new header check sum is computed and written to SafeStore.

Although the present invention has been described above in terms of specific embodiments, it is anticipated that alterations and modifications thereof will no doubt become apparent to those skilled in the art. For example, it is contemplated that video screens formed by other apparatus such as liquid crystal displays, field emission displays, interference element displays, projection TV, and perhaps holographic and other display technology may be used in place of the CRT device presently used in the preferred embodiment. Furthermore, other cabinet configurations and designs may be used to support a large portrait-mode display screen, and whereas the preferred embodiment utilizes a single means to form the display screen, it is contemplated that a similar result may be achieved by using a plurality of contiguous display devices synchronously driven to display different portions of a common image. It is therefore intended that the following claims be interpreted as covering all such alterations and modifications as fall within the true spirit and scope of the invention.

What is claimed is:

1. A gaming machine, comprising:

a cabinet;

at least one user-interface button;

a value-receiving mechanism associated with said cabinet;

a value-dispensing mechanism associated with said cabinet;

a video display unit associated with said cabinet;

a touch-sensitive device associated with said video display unit;

a processor disposed in said cabinet and operatively coupled to said user interface button, said value-receiving mechanism, said video display unit and said touch-sensitive device;

a read-only memory disposed in said cabinet;

basic input/output system (BIOS) software stored in said read-only memory;

a nonvolatile memory capable of storing critical system data;

critical data storage software that causes critical system data to be stored in said nonvolatile memory;

disk memory disposed in said cabinet and operatively coupled to said processor;

system software stored in said disk memory, said system software comprising:

a first software portion representing a first game that may be played by a player;

a second software portion representing a second game that may be played by a player; and

a third software portion that causes a first icon representing said first game and a second icon representing said second game to be generated on said video display unit, said third software portion causing one of said first and second games to be initiated in response to a player touching one of said first and second icons;

encoded data stored in said disk memory, said encoded data having been generated from at least one message digest that was generated based on using an encoding function with said system software;

secure loading software stored in memory that loads system software from said disk memory into random-access memory and verifies correctness and authenticity of said system software, said secure loading software verifying correctness and authenticity of said system software based on a comparison of data generated from said encoded data and data generated from said system software; and

operating system (OS) software stored in memory, said operating system software comprising an application programming interface including a first application programming interface portion that provides a software interface to said video display unit and a second application programming interface portion that provides a software interface to said touch-sensitive device.

2. A gaming machine as defined in claim **1** wherein said encoded data was generated from at least one message digest that was generated based on using a Hash function with said system software.

3. A gaming machine as defined in claim **1** wherein said encoded data comprises data that was generated by encrypting at least one message digest that was generated based on using a Hash function on said system software.

4. A gaming machine as defined in claim **1** wherein said secure loading software verifies correctness and authenticity of said system software based on a comparison of data generated by decoding said encoded data and at least one message digest generated from said system software.

5. A gaming machine as defined in claim 1,

wherein said encoded data was generated by encrypting at least one message digest that was generated from said system software, and

wherein said secure loading software verifies correctness and authenticity of said system software based on a comparison of data generated by decrypting said encoded data and at least one message digest generated from said system software.

6. A gaming machine as defined in claim **1** wherein said value-receiving mechanism comprises a coin-receiving slot.

7. A gaming machine as defined in claim **1** wherein said value-receiving mechanism comprises a paper money-receiving slot.

8. A gaming machine as defined in claim **1** wherein said value-receiving mechanism comprises a credit/debit card slot.

9. A gaming machine as defined in claim **1** wherein said value-dispensing mechanism comprises a coin hopper.

10. A gaming machine, comprising:

a cabinet;

at least one user-interface button;

a value-receiving mechanism associated with said cabinet;

a value-dispensing mechanism associated with said cabinet;

a video display unit associated with said cabinet;

a touch-sensitive device associated with said video display unit;

a processor disposed in said cabinet and operatively coupled to said user-interface button, said value-receiving mechanism, said video display unit and said touch-sensitive device;

a read-only memory disposed in said cabinet;

basic input/output system (BIOS) software stored in said read-only memory;

a nonvolatile memory capable of storing critical system data;

critical data storage software that causes critical system data to be stored in said nonvolatile memory;

disk memory disposed in said cabinet and operatively coupled to said processor;

system software stored in said disk memory, said system software comprising software representing a game that may be played by a player;

encoded data stored in said disk memory, said encoded data having been generated from at least one message digest that was generated based on using an encoding function with said system software;

secure loading software stored in memory that loads system software from said disk memory into random-access memory and verifies correctness and authenticity of said system software, said secure loading software verifying correctness and authenticity of said system software based on a comparison of data generated from said encoded data and data generated from said system software; and

operating system (OS) software stored in memory, said operating system software comprising an application programming interface including a first application programming interface portion that provides a software interface to said video display unit and a second application programming interface portion that provides a software interface to said touch-sensitive device.

11. A gaming machine as defined in claim **10** wherein said encoded data was generated from at least one message digest that was generated based on using a Hash function with said system software.

12. A gaming machine as defined in claim **11** wherein said encoded data comprises data that was generated by encrypting at least one message digest that was generated based on using a Hash function on said system software.

13. A gaming machine as defined in claim **11** wherein said secure loading software verifies correctness and authenticity of said system software based on a comparison of data

generated by decoding said encoded data and at least one message digest generated from said system software.

14. A gaming machine as defined in claim **11**,

wherein said encoded data was generated by encrypting at least one message digest that was generated from said system software, and

wherein said secure loading software verifies correctness and authenticity of said system software based on a comparison of data generated by decrypting said encoded data and at least one message digest generated from said system software.

15. A gaming machine as defined in claim **11** wherein said value-receiving mechanism comprises a coin-receiving slot.

16. A gaming machine as defined in claim **11** wherein said value-receiving mechanism comprises a paper money-receiving slot.

17. A gaming machine as defined in claim **11** wherein said value-receiving mechanism comprises a credit/debit card slot.

18. A gaming machine as defined in claim **11** wherein said value-dispensing mechanism comprises a coin hopper.

* * * * *

US006620047C1

(12) EX PARTE REEXAMINATION CERTIFICATE (6318th)

United States Patent

Alcorn et al.

(10) Number: US 6,620,047 C1
(45) Certificate Issued: *Jul. 22, 2008

(54) **ELECTRONIC GAMING APPARATUS HAVING AUTHENTICATION DATA SETS**

(75) Inventors: **Allan E. Alcorn**, Portola Valley, CA (US); **Harry H. Jenkins**, Knoxville, TN (US)

(73) Assignee: **IGT**, Reno, NV (US)

Reexamination Request:
No. 90/008,944, Dec. 4, 2007

Reexamination Certificate for:

Patent No.:	**6,620,047**
Issued:	**Sep. 16, 2003**
Appl. No.:	**09/677,129**
Filed:	**Sep. 29, 2000**

(*) Notice: This patent is subject to a terminal disclaimer.

Related U.S. Application Data

(63) Continuation of application No. 08/864,700, filed on May 28, 1997, now abandoned, which is a continuation-in-part of application No. 09/107,031, filed on Jun. 29, 1998, now Pat. No. 6,149,522, which is a continuation-in-part of application No. 08/981,882, filed as application No. PCT/US96/10463 on Jun. 17, 1996, now Pat. No. 6,106,396, which is a continuation-in-part of application No. 08/497,662, filed on Jun. 29, 1995, now Pat. No. 5,643,086.

(51) **Int. Cl.**

A63F 13/12	(2006.01)
A63F 13/08	(2006.01)
G06F 21/00	(2006.01)
G06Q 50/00	(2006.01)
G07F 17/32	(2006.01)

(52) **U.S. Cl.** **463/37**; 463/20

(58) **Field of Classification Search** ..... None
See application file for complete search history.

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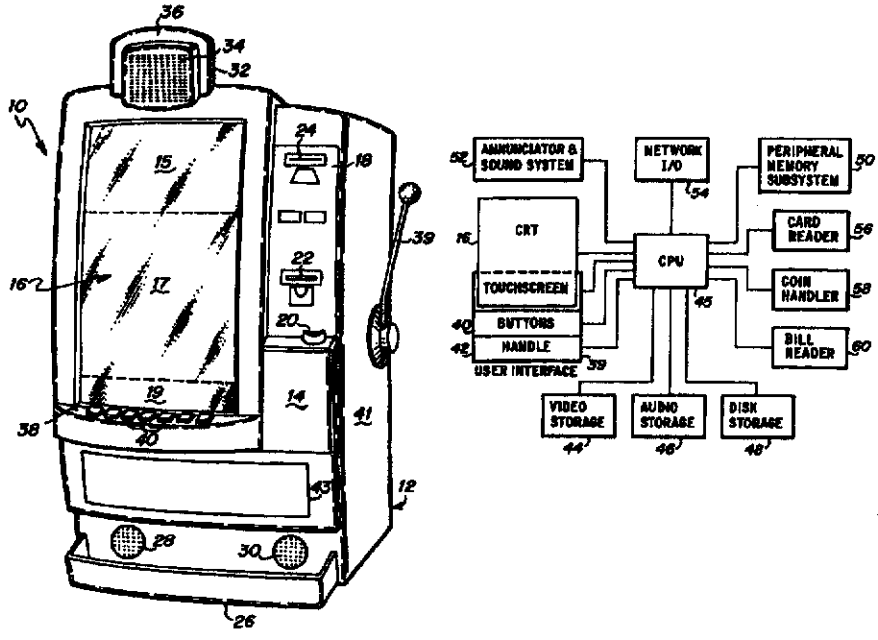
Primary Examiner—Peter C. English

(57) **ABSTRACT**

Improved electronic gaming apparatus, including a cabinet for housing video and sound generating electronics, coin-handling and pay-out mechanism and a video display screen. The display screen is substantially taller than it is wide and preferably has a touch screen associated therewith. Although the displayed video presentation may take any form, the preferred slot machine display embodiment includes graphics replicating the standard play board at top, game board in middle, and principal user input interface below.



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EX PARTE
REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307

NO AMENDMENTS HAVE BEEN MADE TO THE PATENT

2

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

The patentability of claims **1–18** is confirmed.

* * * * *

EXHIBIT B

US00RE39370E

(19) **United States**
(12) **Reissued Patent**
Alcorn et al.

(10) **Patent Number: US RE39,370 E**
(45) **Date of Reissued Patent: *Oct. 31, 2006**

(54) **ELECTRONIC CASINO GAMING SYSTEM WITH IMPROVED PLAY CAPACITY, AUTHENTICATION AND SECURITY**

(75) Inventors: **Allan E. Alcorn**, Portola Valley, CA (US); **Michael Barnett**, San Carlos, CA (US); **Louis D. Giacalone, Jr.**, Henderson, NV (US); **Adam E. Levinthal**, Redwood City, CA (US)

(73) Assignee: **IGT**, Reno, NV (US)

(*) Notice: This patent is subject to a terminal disclaimer.

(21) Appl. No.: **10/225,097**

(22) PCT Filed: **Jun. 17, 1996**

(86) PCT No.: **PCT/US96/10463**

§ 371 (c)(1),
(2), (4) Date: **Mar. 10, 1998**

(87) PCT Pub. No.: **WO97/01902**

PCT Pub. Date: **Jan. 16, 1997**

Related U.S. Patent Documents

Reissue of:

(64) Patent No.: **6,106,396**
Issued: **Aug. 22, 2000**
Appl. No.: **08/981,882**
Filed: **Mar. 10, 1998**

U.S. Applications:

(63) Continuation-in-part of application No. 08/497,662, filed on Jun. 29, 1995, now Pat. No. 5,643,086.

(51) **Int. Cl.**
A63F 13/00 (2006.01)
G06F 5/00 (2006.01)

(52) **U.S. Cl.** **463/29**; 380/25

(58) **Field of Classification Search** 463/16, 463/29, 40–44, 20, 25, 1; 380/4, 9, 23, 25, 380/30, 49, 50, 59, 251; 700/91–93
See application file for complete search history.

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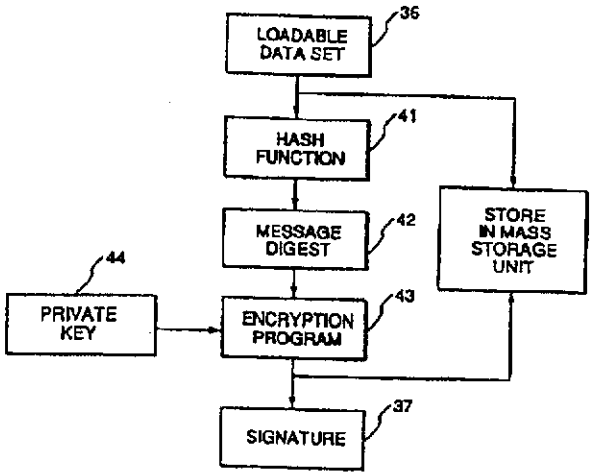
(57) **ABSTRACT**

The electronic casino gaming system consists of several system components, including a microprocessor (**12**), a main memory unit (**13**) that is typically a random access memory, and a system boot ROM (**14**). Also included in the electronic casino gaming system are a non-volatile RAM (**17**), a mass storage unit (**18**), a disk subsystem (**19**), and a PCI bus (**20**). The disk subsystem (**19**) preferably supports SCSI-**2** with options of fast and wide. A video subsystem (**22**) is also included in the electronic casino gaming system and is coupled to the PCI bus (**20**) to provide full color still images and MPEG movies.

97 Claims, 3 Drawing Sheets



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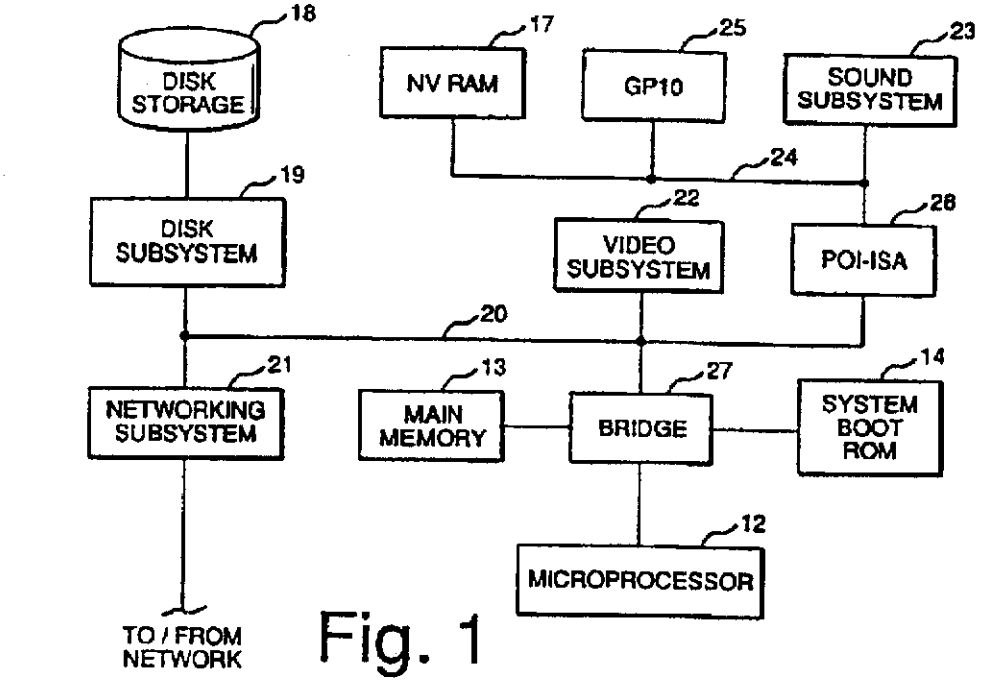


Fig. 1

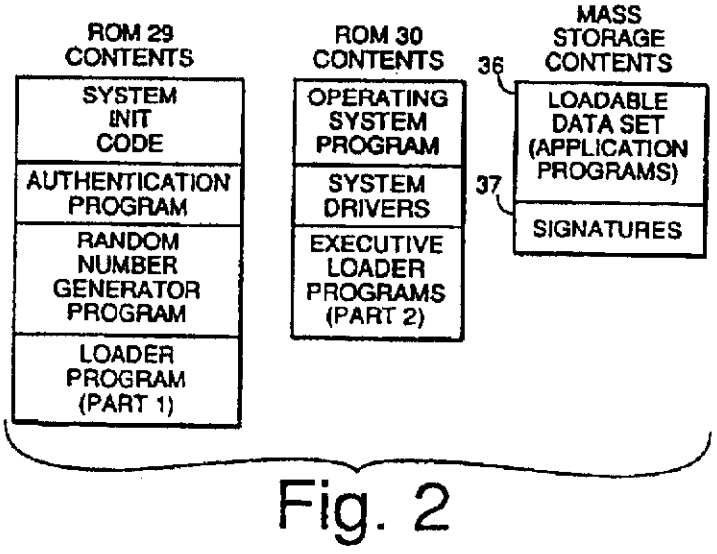


Fig. 2

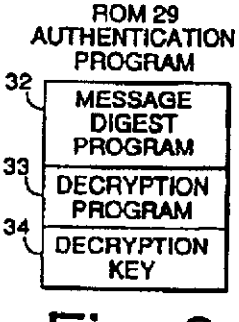


Fig. 3

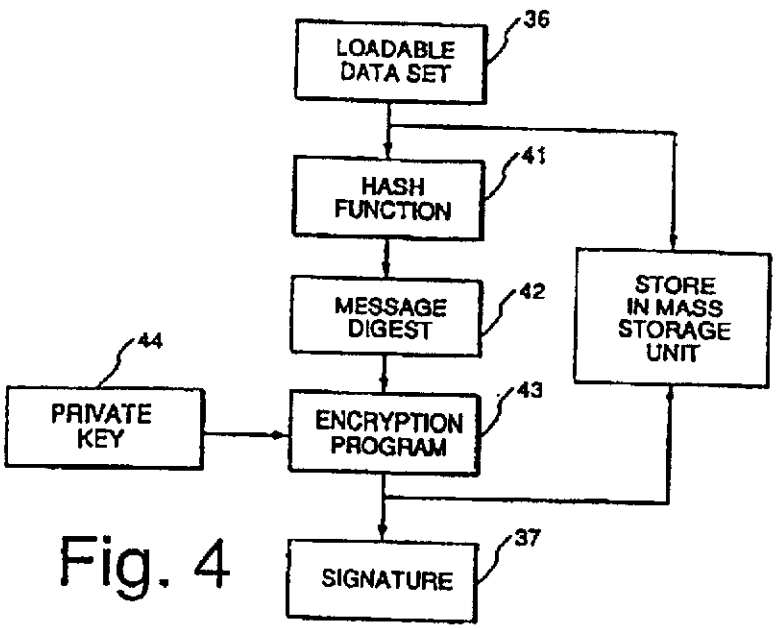

LOADABLE DATA SET
36
HASH FUNCTION
41
MESSAGE DIGEST
42
STORE IN MASS STORAGE UNIT
44
PRIVATE KEY
ENCRYPTION PROGRAM
43
SIGNATURE
37

Fig. 4

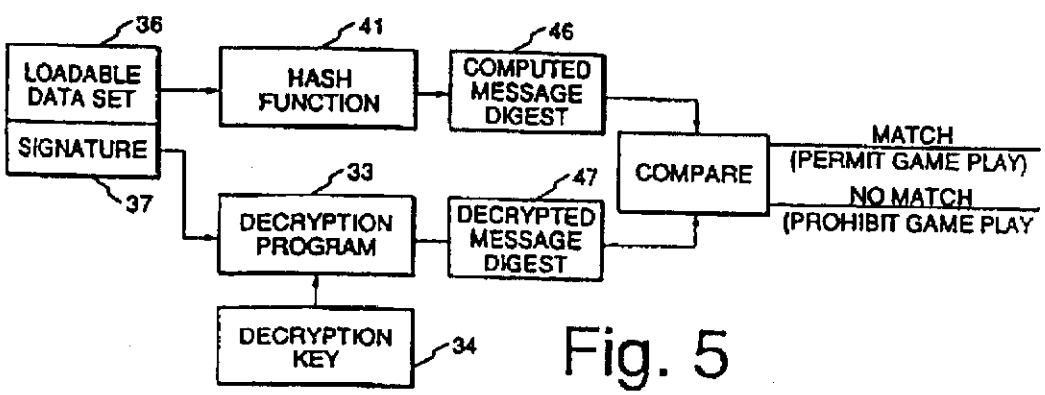

36
LOADABLE DATA SET
SIGNATURE
37
41
HASH FUNCTION
46
COMPUTED MESSAGE DIGEST
COMPARE
MATCH
(PERMIT GAME PLAY)
NO MATCH
(PROHIBIT GAME PLAY
33
DECRYPTION PROGRAM
47
DECRYPTED MESSAGE DIGEST
DECRYPTION KEY
34

Fig. 5

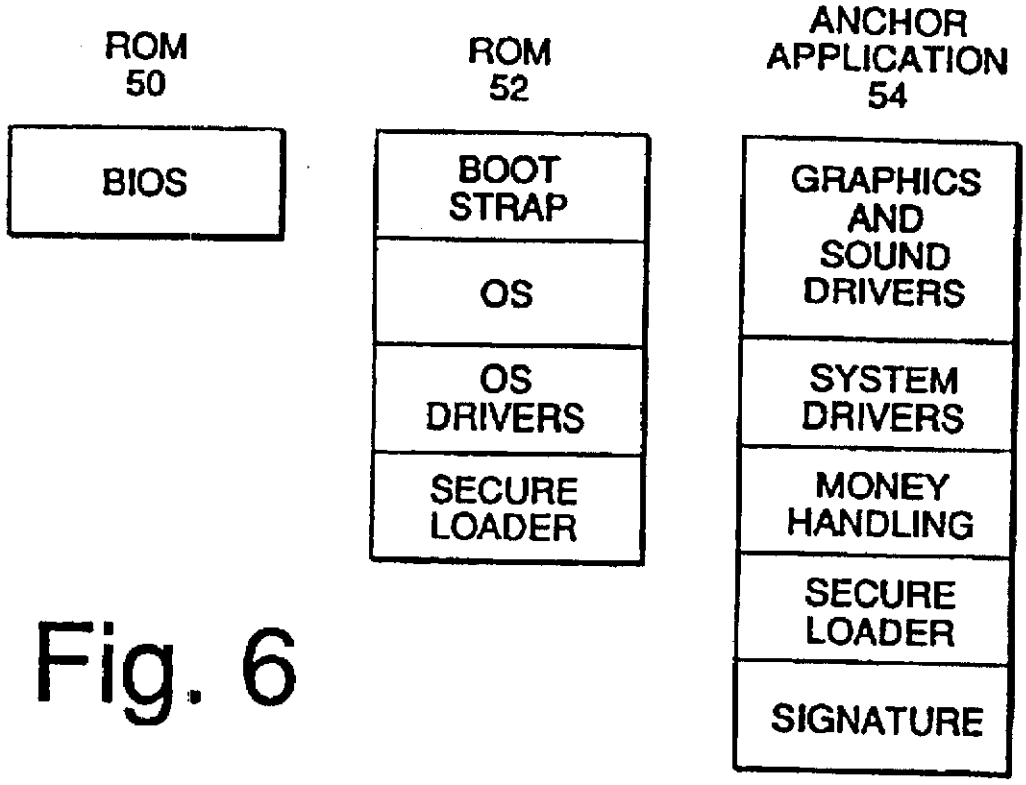

ROM
50
BIOS
ROM
52
BOOT
STRAP
OS
OS
DRIVERS
SECURE
LOADER
ANCHOR
APPLICATION
54
GRAPHICS
AND
SOUND
DRIVERS
SYSTEM
DRIVERS
MONEY
HANDLING
SECURE
LOADER
SIGNATURE

Fig. 6

ELECTRONIC CASINO GAMING SYSTEM WITH IMPROVED PLAY CAPACITY, AUTHENTICATION AND SECURITY

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.

[This application is the national stage of International Application No. PCT/US96/10463, filed on Jun. 17, 1996, which is a continuation-in-part of U.S. application Ser. No. 08/497,662, now U.S. Pat. No. 5,643,086, filed on Jun. 29, 1995.]

Notice: More than one reissue application has been filed for the reissue of U.S. Pat. No. 6,106,396. The reissue applications are Reissue application Ser. No. 10/225,096 filed Aug. 21, 2002, Reissue application Ser. No. 10/224,680 filed Aug. 21, 2002, Reissue application Ser. No. 10/225,116 filed Aug. 21, 2002, Reissue application Ser. No. 10/225,097 filed Aug. 21, 2002 (the present application) and Reissue application Ser. No. 10/224,699 filed Aug. 21, 2002, all of which are divisional reissues of U.S. Pat. No. 6,106,396, which issued from U.S. Ser. No. 08/981,882 which is the U.S. national phase of International Application No. PCT/US96/10463 filed Jun. 17, 1996, which is a continuation-in-part of U.S. Ser. No. 08/497,662 filed Jun. 29, 1995, now U.S. Pat. No. 5,643,086.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to microprocessor based gaming Systems used in gambling casinos.

2. Brief Description of the Prior Art

Microprocessor based gaming systems are known which are used in gambling casinos to augment the traditional slot machine games (e.g. three reel single or multi-line games) and card games, such as poker and black jack. In a typical gaming system of this type, a microprocessor based system includes both hardware and software components to provide the game playing capabilities. The hardware components include a video display for displaying the game play, mechanical switches for enabling player selection of additional cards or game play choices, coin acceptors and detectors and the electronic components usually found in a microprocessor based system, such as random access memory (RAM), read only memory (ROM), a processor and one or more busses. The software components include the initialization software, credit and payout routines, the game image and rules data set, and a random number generator algorithm. In order to be acceptable for casino use, an electronic gaming system must provide both security and authentication for the software components. For this reason, gaming commissions have heretofore required that all software components of an electronic gaming system be stored in unalterable memory, which is typically an unalterable ROM. In addition, a copy of the contents of the ROM or a message digest of the contents (or both) are normally kept on file in a secure location designated by the gaming commission so that the contents of an individual ROM removed from a gaming machine can be verified against the custodial version.

In a typical arrangement, a message digest of the ROM contents is initially generated prior to the installation of the ROM in the machine by using a known algorithm usually referred to as a hash function. A hash function is a computation procedure that produces a fixed-size string of bits from a variable-size digital input. The fixed-sized string of bits is termed the hash value. If the hash function is difficult to invert—termed a one-way hash function—the hash function is also termed a message digest function, and the result is termed the message digest. The message digest is unique to any given variable size input data set, i.e., the game data set stored in the ROM. When it becomes necessary to later authenticate the ROM from any given machine, the ROM is physically removed from the game console and the message digest of the ROM contents is computed directly from the ROM using the original hash function. The computed message digest is compared with the message digest on file at the designated custodial location (typically in the casino itself). This procedure is typically carried out whenever a machine produces a payoff beyond a given threshold value. If the two message digests match, then the contents of the ROM are considered to be authenticated (verified) and the payout is made to the player.

While such electronic casino gaming systems have been found to be useful in promoting casino game play, the restriction requiring that the casino game program be stored in unalterable ROM memory, leads to a number of disadvantageous limitations. First, due to the limited capacity of the ROM storage media traditionally used to hold the program, the scope of game play available with such systems is severely limited. For sophisticated games using motion video and audio multi-media elements, much more memory capacity, on the order of hundreds of megabytes, is necessary. However, physical verification of such a large quantity of physical devices is not practical, and has thus far been an impediment to creating sophisticated games with more player appeal. Second, the authentication check is only conducted on a limited basis (usually after a jackpot) or other significant winning game outcome, and the authentication procedure requires that game play be halted until the ROM contents have been found to be authentic.

SUMMARY OF THE INVENTION

In one aspect, the invention is directed to a casino gaming apparatus, comprising: a casino game console; a video display unit; a memory disposed in said casino game console, said memory having gaming data stored therein; and a processor disposed in said casino game console and being operatively coupled to said video display unit and said memory, said processor causing said gaming data to be checked based on a comparison of data generated by said processor from said gaming data with data previously generated from known gaming data, said processor utilizing a hash function in checking said gaming data, and said processor utilizing decryption in checking said gaming data.

In another aspect, the invention is directed to a casino gaming apparatus, comprising: a casino game console; a video display unit; a sound-generating apparatus; a first memory disposed in said casino game console; a second memory having a gigabyte storage capacity, said second memory having gaming data relating to a casino game stored therein, said second memory being disposed in said casino game console; and a processor disposed in said casino game console and being operatively coupled to said video display unit, said sound-generating apparatus, said first memory and said second memory, said processor causing said gaming data stored in said second memory to be transferred to said first memory, said processor causing said gaming data that was transferred from said second memory to said first memory to be authenticated, said processor causing said gaming data to be authenticated by: 1) subjecting said gaming data to a one-way hash function to

generate a first message digest, 2) decrypting an encrypted message digest previously generated by subjecting known gaming data to a one-way hash function to generate a decrypted message digest, and 3) comparing said first message digest with said decrypted message digest, and said processor causing a remedial action to be taken if said gaming data is not authentic as determined by said processor.

Other aspects of the invention are defined by the claims set forth at the end of this patent.

The invention comprises an electronic casino gaming system which greatly expands casino game play capability and enhances security and authentication capabilities. More particularly, the invention comprises an electronic casino gaming system and method having greatly expanded mass storage capability for storing a multiplicity of high resolution, high sound quality casino type games, and provides enhanced authentication of the stored game program information with a high security factor.

According to a first aspect of the invention, authentication of a casino game data set is carried out within the casino game console using an authentication program stored in an unalterable ROM physically located within the casino game console. The casino game data set and a unique signature are stored in a mass storage device, which may comprise a read only unit or a read/write unit and which may be physically located either within the casino game console or remotely located and linked to the casino game console over a suitable network. The authentication program stored in the unalterable ROM performs an authentication check on the casino game data set at appropriate times, such as prior to commencement of game play, at periodic intervals or upon demand. At appropriate occasions, the contents of the unalterable ROM can be verified by computing the message digest of the unalterable ROM contents and comparing this computed message digest with a securely stored copy of the message digest computed from the ROM contents prior to installation in the casino game console.

From a process standpoint, this aspect of the invention comprises a method of authenticating a data set of a casino style game which consists of two phases: a game data set preparation phase and a game data set checking phase. In the game data set preparation phase, the method proceeds by providing a data set for a casino game, computing a first abbreviated bit string unique to the casino game data set, encrypting the first abbreviated bit string to provide an encrypted signature of the casino game data set, and storing the casino game data set and the signature in a mass storage device. The first abbreviated bit string is preferably computed using a hash function to produce a message digest of the casino game data set. The signature is then encrypted from the message digest. After storage of the game data set and unique signature, this information is installed in a casino game console. The casino game data set checking phase proceeds by computing a second abbreviated bit string from the stored casino game data set using the same hash function, decrypting the stored encrypted signature to recover the first abbreviated bit string, and comparing the first and second abbreviated bit strings to determine whether the two strings match. If a match does occur the casino game data set is deemed authentic; if there is no match, authentication is denied and game play is prohibited.

The encryption/decryption process is preferably performed using a private key-public key technique in which the first abbreviated bit string is encrypted by the game manufacturer using a private encryption key maintained in the custody of the game manufacturer. The decryption of the signature is performed using a public key which is contained in an unalterable read only memory element located in the game console, along with the casino game data set. The casino game data set is preferably stored in a mass storage device, such as a magnetic or CD-ROM disk drive unit or a network file unit, the selected unit having a relatively large capacity. The actual size of the mass storage device will depend upon the casino game storage requirements and can be tailored to any specific application.

Each time a casino game data set is transferred from the mass storage device to the main memory of the system, the authentication routine is run. The authentication routine can also be means of an operator switch mounted in the game console or remotely via a network. Consequently, the authenticity of the data set can be automatically checked whenever the transfer occurs and at other appropriate times.

In order to detect attempts to tamper with the contents of the unalterable read only memory element located in the game console, a message digest computed for the authentication program stored therein is stored in a secure manner in a different location from the game console, such as the casino operator's security facilities or the facilities of a gaming commission (or both). The authenticity of the unalterable read only memory element is checked in the same way as that now performed in prior art devices: viz. computing the message digest directly from the unalterable read only memory device, and comparing the message digest thus computed with the custodial version.

From an apparatus standpoint, the first aspect of the invention comprises an electronic casino gaming system having means for providing authentication of a game data set of a casino type game prior to permitting game play, the system including first means for storing a casino game data set and a signature of the casino game data set, the signature comprising an encrypted version of a unique first abbreviated bit string computed from the casino game data set; second means for storing an authentication program capable of computing a second abbreviated bit string from the casino game data set stored in the first storing means and capable of decrypting the encrypted signature stored in the first storing means to recover the first abbreviated bit string; processing means for enabling the authentication program to compute an abbreviated bit string from the casino game data set stored in the first storing means and for enabling the authentication program to decrypt the encrypted signature; and means for comparing the computed second abbreviated bit string with the decrypted abbreviated bit string to determine whether a match is present. The first storing means preferably comprises a mass storage device, such as a disk drive unit, a CD-ROM unit or a network storage unit. The second storing means preferably comprises an unalterable read only memory in which the authentication program is stored.

According to a second aspect of the invention, the authentication program stored in the unalterable ROM located within the casino game console is used to test the authenticity of all other programs and fixed data stored in memory devices in the electronic casino gaming system, such as a system boot ROM, memory devices containing the operating system program, system drivers and executive/loader programs, and other memory devices incorporated into the electronic casino game system architecture. The contents of each such memory device, whether program information or fixed data, include signatures encrypted from message digests computed using a hash function from the original program information or fixed data set. Upon system

initialization, the authentication program in the unalterable ROM is used to authenticate the individual memory device contents in essentially the same fashion as that used to authenticate the casino game data sets. More specifically, the message digest for the given program or fixed data set is computed using the same hash function originally used to produce the message digest for that program or fixed data set. The encrypted signature is decrypted using the proper decryption program and decryption key to recover the message digest. The two versions of the message digest are then compared and, if found to be matching, the concerned program or fixed data set is deemed authentic and is permitted to be used by the system. Once all of the concerned programs and fixed data sets have been so authenticated, the casino game data set authentication procedure is run, after which game play is permitted (provided a match occurs).

From a process standpoint, this second aspect of the invention comprises a method of authenticating a program or data set of a casino style game which consists of two phases: a program or fixed data set preparation phase, and a program or fixed data set checking phase. In the program or fixed data set preparation phase, the method proceeds by providing a program or fixed data set for a casino game, computing a first abbreviated bit string unique to the program or fixed data set, encrypting the first abbreviated bit string to provide an encrypted signature of the program or fixed data set, and storing the program or fixed data set and the signature in a memory device. The first abbreviated bit string is preferably computed using a hash function to produce a message digest of the program or fixed data set. The signature is then encrypted from the message digest. After storage of the program or fixed data set and unique signature in the memory device, the memory device is installed in a casino game console. The casino game program or fixed data set checking phase proceeds by computing a second abbreviated bit string from the stored casino game program or fixed data set stored in the memory device using the same hash function, decrypting the encrypted signature stored in the memory device to recover the first abbreviated bit string, and comparing the first and second abbreviated bit strings to determine whether the two strings match. If a match does occur, the casino game program or fixed data set is deemed authentic; if thee is no match, authentication is denied and use of that casino game program or fixed data set is prohibited.

The authentication routine is run each time a given casino game program or fixed data set needs to be called or used. The authentication routine can also be run automatically on a periodic basis, or on demand—either locally by means of an operator switch mounted in the casino game console or remotely via a network. Consequently, the authenticity of the casino game program or fixed data set can be automatically checked whenever use of that program or fixed data set is required and at other appropriate times, such as in the course of a gaming commission audit.

From an apparatus standpoint this second aspect of the invention comprises an electronic casino gaming system for providing authentication of a casino game program or fixed data set prior to permitting system use of that casino game program or fixed data set, the system including first means for storing a casino game program or fixed data set and a signature of the casino game program or fixed data set; the signature comprising an encrypted version of a unique first abbreviated bit string computed from the casino game program or fixed data set; second means for storing an authentication program capable of computing a second abbreviated bit string from the casino game program or fixed data set stored in the first storing means and capable of decrypting the encrypted signature stored in the first storing means to recover the first abbreviated bit string; processing means for enabling the authentication program to compute an abbreviated bit string from the casino game program or fixed data set stored in the first storing means and for enabling the authentication program to decrypt the encrypted signature; and means for comparing the computed second abbreviated bit string with the decrypted abbreviated bit string to determine whether a match is present. The first storing means preferably comprises a memory device, such as a read only memory or random access memory. The second storing means preferably comprises an unalterable read only memory in which the authentication program is stored.

Electronic casino game systems incorporating the invention provide a vastly expanded capacity for more sophisticated and attractive casino-style games, while at the same time improving the authentication of the games without compromising security. In addition, casino game systems incorporating the invention provide great flexibility in changing casino game play, since the casino game data sets representing the various games can be stored in alterable media rather than read only memory units as with present casino game systems.

By separating the authentication process from the casino game data set storage, the invention affords secure distribution and execution of program code and data, regardless of the particular distribution or storage technique employed. More specifically, the invention allows the casino game data set to reside in any form of secondary storage media, such as the traditional ROM storage, hard magnetic disk drives and CD-ROM drives, or networked file systems. So long as the authentication procedure conducted on the game data set is performed using the authentication program stored in an unalterable ROM, and so long as that ROM can be verified reliably, any casino game data set can be loaded from any source and can be verified by the system at any time: either prior to use, during run-time, periodically during run-time or upon demand. The large quantities of storage that can be made available in a secure fashion using the invention, facilitates the creation of casino gaming systems offering both an increased diversity of games, and individual games of superior quality. In addition, the authentication of all casino game program and fixed data software ensures the integrity of all system software both prior to game play and thereafter at periodic or random intervals.

For a fuller understanding of the nature and advantages of the invention, reference should be had to the ensuing detailed description taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram of a system incorporating the invention;

FIG. **2** is a schematic diagram illustrating the contents of the read only memory and the mass storage device;

FIG. **3** is a more detailed schematic view of the authentication program stored in the ROM and the game data stored in the mass storage unit;

FIG. **4** is a diagram illustrating the preparation of the game data set;

FIG. **5** is a diagram illustrating the authentication procedure for the game data set; and

FIG. **6** is a diagram illustrating an alternative approach to the secure loading of software into the system.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Turning now to the drawings, FIG. **1** is a block diagram of an electronic casino gaming system incorporating the invention. As seen in this figure, the system consists of several system components under software control. These system components include a microprocessor **12**, which may comprise any general purpose microprocessor, such as a Pentium-based microprocessor from Intel Corporation. A main memory unit **13** is provided, which is typically a random access memory having a capacity of between 32 and 64 megabytes for storing the majority of programs and graphics elements during game play. A system boot ROM **14** provides the initialization software required when power is first applied to the system. ROM **14** contains additional programs in read only form, including the operating system, related drivers and the authentication software described in detail below. A non-volatile RAM **17** is a battery backed static RAM capable of maintaining its contents through power cycling. NV RAM **17** stores significant information relating to game play, such as the number of player credits, the last game outcome and certain diagnostic and error information not critical to an understanding of the invention.

A mass storage unit implemented in the FIG. **1** system as a magnetic hard disk drive unit **18** is coupled to and controlled by a disk subsystem **19** of conventional design and operation. Disk drive unit **18** provides storage for the game specific data set, which includes both program data and image data specifying the rules of the various different casino games or single casino game variations, and the types of images and image sequences to be displayed to the game players. The size of the disk drive unit **18** is a function of the number of games and game variations provided for a given system, as well as the amount of data required for each specific game. In general, the more motion video designed into a particular casino game, the more storage required for that casino game software. A disk drive unit **18** with a 4-gigabyte capacity will usually provide sufficient storage capacity. Disk subsystem **19** comprises a disk controller connected to a PCI bus **20** for controlling the disk drive unit **18**. Controller **19** preferably supports SCSI-**2**, with options of fast and wide. It should be noted that a number of different types of locally-based disk drive units may be used in the FIG. **1** system, including a CD-ROM storage unit. Also, the mass storage unit need not be physically located within the game console along with the other elements depicted in FIG. **1**: the mass storage unit may be located remotely from the game console and coupled thereto by means of an appropriate network, such as an ethernet, an R5232 link, or some other hard-wired or wireless network link. This latter alternate arrangement is indicated by the inclusion of a network subsystem **21** of appropriate configuration and functional characteristics, which may have ethernet, R5232 serial, or other network compatibility.

A video subsystem **22** is coupled to the PCI bus and provides the capability of displaying full color still images and MPEG movies with a relatively high frame rate (e.g. 30 frames per second) on an appropriate monitor (not shown). Optional 3D texture mapping may be added to this system, if desired.

A sound subsystem **23** having a stereo sound playback capability with up to 16 bit CD quality sound is coupled to an ISA bus **24**. A general purpose input/output unit **25** provides interfaces to the game mechanical devices (not illustrated) such as manually actuatable switches and display lights. A first bridge circuit **27** provides an interface between

microprocessor **12**, ROM **14**, main memory **13** and PCI bus **20**. Bridge circuit **27** is preferably a TRITON chip set available from INTEL Corporation. A second bridge circuit **28** provides an interface between the PCI bus **20** and the ISA bus **24**. Bridge circuit **28** is preferably a type 82378 chip available from Intel Corporation.

FIG. **2** illustrates the types of information stored in the system ROM **14** and the mass storage unit. As seen in FIG. **2**, the ROM unit **14** used in the FIG. **1** system comprises two separate ROM elements: ROM **29** and ROM **30**. ROM **29** must be an unalterable device, such as a Toshiba type C53400 512Kx8 bit mask programmed ROM. ROM **30** is preferably an unalterable device like ROM **29**, but may comprise a different type of ROM, such as a type 29FO40 field programmable flash ROM available from Intel Corp. ROM **29** contains the system initialization or book code, an authentication program, a random number generator program and an initial portion of the executive/loader programs. ROM **30** contains the operating system program, the system drivers and the remainder of the executive/loader programs as noted below. The mass storage unit contains the applications, which include the game image and sound data, rules of game play and the like, and the signature associated to each particular casino game.

FIG. **3** illustrates the authentication and application program information in more detail. As seen in this figure, the authentication program stored in unalterable ROM **29** comprises a message digest algorithm component **32**, a decryption algorithm component **33**, and a decryption key component **34**. The message digest algorithm component **32** stored in ROM **29** comprises an exact copy of a hash function program routine used to originally compute a message digest from the loadable game data set **36** in the manner described below. The decryption algorithm component **33** stored in ROM **29** comprises the algorithm required to decrypt any encrypted casino game data set signature using the decryption key component **34**.

The decryption key component **34** comprises the decryption key that is required to decrypt any of the encrypted signatures **37** in the manner described below during the authentication routine.

FIG. **4** illustrates the manner in which an encrypted data set signature **37** is generated. A loadable casino game data set **36** is processed using a hash function **41** to generate a message digest **42** which is unique to the loadable game data set **36**. The hash function employed may be one of a number of known hash functions, such as the MD**2**, MD**4**, and MD**5** hash functions and the SHS hash function; or any other suitable hash function capable of producing a unique abbreviated bit string from a variable size input data set. For further information about these hash functions, reference should be had to the publication entitled "Answers To Frequently Asked Questions About Today's Cryptography", Revision 2.0, Oct. 5, 1993, published by RSA Laboratories, Redwood City, Calif., and the publications listed in the references section thereof, the disclosures of which are hereby incorporated by reference. After generation, the message digest **42** is then encrypted with an encryption algorithm **43** using a private encryption key **44** to generate a signature **37** of the message digest. In the preferred embodiment, the two-key (private/public key) encryption technique developed by RSA Data Security, Inc. of Redwood City, Calif., is used. This technique is disclosed and described in U.S. Pat. Nos. 4,200,770, 4,218,582 and 4,405,829, the disclosures of which are hereby incorporated by reference. The signature **37** of the message digest **42** is then stored in the mass storage unit along with the loadable data set **36**.

FIG. **5** illustrates the authentication routine carried out in accordance with the invention, when the authentication routine is called (see below), the loadable casino game data set **36** is transferred from the mass storage unit to main memory **13** (unless already there), and the message digest of casino game data set **36** is computed using the message digest algorithm **32**. Message digest algorithm **32** uses the same hash function **41** as that used by the manufacturer to prepare the original message digest **42**. The result is an unencrypted version **46** of the message digest computed from the casino game data set **36** currently present in the mass storage unit. The encrypted data set signature **37** is decrypted using the public decryption key **34** matching the private key **44** used to originally encrypt the message digest **42** of the casino game data set **36**. The message digest **47** decrypted with decryption key **34** is then compared with the message digest **46** computed from the casino game data set **36**. If the two message digests match, then the casino game data set **36** is deemed authentic and game play may proceed. If there is no match, either the casino game data set **36** or the signature **37** is deemed corrupted and not authentic. Game play is prohibited and appropriate actions can be taken: e.g. alerting a security employee using a suitable messaging system (an audible alarm, flashing lights, or a network message from the game console to a central security area).

In order to ensure that the authentication routine cannot be bypassed by tampering with the loader program stored in ROM **30**, an initial part of the loader program is incorporated into unalterable ROM **29**. This initial portion of the loader program requires that the authentication program be called prior to the initiation of any casino game play. Since this initial portion of the loader program is located in the unalterable ROM **29**, and since no casino game play can occur until the particular casino game application data set **36** is loaded into main memory **13**, the authentication procedure cannot be bypassed by tampering with the software stored in ROM **30**.

Since authentication of the game data set **36** and signature **37** is entrusted to the contents of ROM **29**, a procedure must be provided to verify the ROM **29** contents. For this purpose, a message digest is computed for the authentication program stored in ROM **29**, and this message digest is stored in a secure manner with the casino operator or the gaming commission (or both) along with the hash function used to produce the message digest. This hash function may be the same hash function used to compute the message digest **42** of the casino game data set or a different hash function. In this way, the authenticity of the ROM **29** can be easily checked in the same way as that now performed in prior art devices: viz. computing the message digest directly from the ROM **29** and comparing the message digest thus computed with the custodial version of the message digest. If required by a given gaming commission or deemed desirable by a casino operator, the system may also display the message digest **42** of each particular data set **36** or the encrypted signature version **37** for auditing purposes. In addition, the system may transmit this information via networking subsystem **21** to an on-site or off-site remote location (such as the office of the gaming commission). The message digest displayed or transmitted may comprise the decrypted version or the computed version (or both).

The authentication procedure carried out by means of the message digest program **32**, decryption program **33** and decryption key **34** stored in unalterable ROM **29** in the manner described above is also used to authenticate the contents of all memory devices in the FIG. **1** system, such as the contents of ROM **30** (see FIG. **2**), the fixed data portions and program components stored in NV RAM **17** and the program and fixed data contents of any memory devices stored in the networking subsystem **21**, video subsystem **22**, sound subsystem **23**, PCI-ISA interface **24**, and GPIO unit **25**. Each program or fixed data set stored in any memory device in any of these units has an associated signature, which is encrypted from a message digest of the original program or fixed data set using a hash function, which is preferably the same hash function used to prepare the message digest of the casino game data set. Prior to permitting any such program or fixed data set to participate in the system operation, that program or fixed data set is subjected to the authorization procedure to ensure that the message digest computed from the current version of the program or fixed data set matches the message digest decrypted from the encrypted signature associated to the program or fixed data set. In addition, the authentication procedure can be run on each such program or fixed data set at periodic or random intervals (on demand) in a manner essentially identical to that described above with respect to the casino game data set authentication procedure. As a consequence, the integrity of all software in the system is checked prior to the use of that particular software in order to reveal any unauthorized changes to the software portion of the casino gaming system.

An alternative approach to the secure loading of software into the system is depicted in FIG. **6**. In this embodiment the basic input/output system (BIOS) software is stored in a ROM **50**, the first of two ROMs making up the system boot ROM **14** (FIG. **1**). The boot strap code, operating system code (OS), OS drivers and a secure loader are stored in a second ROM **52**. An anchor application **54** including graphics and sound drivers, system drivers, money-handling software, a second secure loader, and a signature is stored in the mass storage **18** (FIG. **1**).

When power is initially applied to the system on start-up, or when the system experiences a warm restart, the CPU **12** will begin executing code from the BIOS ROM **50**. The BIOS is responsible for initializing the motherboard and peripheral cards of the system. After the BIOS has completed the initialization, it jumps to the boot strap code in ROM **252** causing the boot strap to copy the OS, OS drivers, and the secure loader into RAM.

Once in RAM, the OS is started and the secure loader stored in ROM **52** is used to load the anchor application **54** from disk **18**. On disk, the anchor application has a signature that is used during the load to verify the validity of the anchor application.

After the anchor application **54** is started, it will be used to load all other applications. The secure loader of the anchor application will check the validity of an application to be loaded by computing the signature and comparing it against the one stored on disk with the application as described above.

An important advantage of the invention not found in 20 prior art systems is the manner in which the casino game data set can be authenticated. In prior art systems, authentication of the casino game data set is normally only done when a payout lying above a given threshold is required by the outcome of the game play, and this requires that the game be disabled while the ROM is physically removed and the ROM contents are verified. In systems incorporating the invention, the authenticity of a given casino game data set can be checked in a variety of ways. For example, the game data set **36** can be automatically subjected to the authentication procedure illustrated in FIG. **5** each time the game is

loaded from the mass storage unit into the main memory **13**. Thus, as a player selects a casino game for game play in the system, the authenticity of that game actually stored in the mass storage unit is automatically checked using the authentication procedure described above without removing the ROM **29**. Further, if desired, the authentication procedure may be initiated in response to the pull of a slot game handle, the detection of a coin insert, the payout of coins or issuing of credit, or any other detectable event related to game play. The authenticity of a given casino game data set **36** can also be checked on demand, either locally at the game console or remotely via a network, by providing a demand procedure. Such a procedure may be initiated, e.g. by providing a manually operable switch in the game console, accessible only to authorized persons, for initiating the authentication routine. Alternatively, the FIG. **1** system may be configured to respond to a demand command generated remotely (e.g. in a security area in the casino or off-site) and transmitted to the game console over a network to the networking subsystem **21**.

Another advantage of the invention lies in the fact that the game data set storage capacity of a system incorporating the invention is not limited by the size of a ROM, but is rather dictated by the size of the mass storage unit. As a consequence, games using high resolution, high motion video and high quality stereo sound can be designed and played on systems incorporating the invention. Also, since the mass storage unit need not be a read-only device, and need not be physically located in the game console, the invention affords great flexibility in game content, scheduling and changes. For example, to change the graphic images in a particular casino game or set of games, new casino game data sets can be generated along with new signatures and stored in the mass storage unit by either exchanging disk drives, replacing disks (for read only disk units), or writing new data to the media. In the networked mass storage application, these changes can be made to the files controlled by the network file server. Since the casino game data sets must pass the authentication procedure test, either periodically or on demand, corrupted data sets cannot go undetected. Thus the invention opens up the field of electronic casino gaming systems to readily modifiable games with flexible displays and rules, without sacrificing the essential security of such systems. In fact, security is greatly enhanced by the ability of the invention to authenticate all game data sets both regularly (for each handle pull) and at any time (on demand), without interfering with regular game play (unless no match occurs between the two forms of message digest).

While the above provides a full and complete disclosure of the preferred embodiments of the invention, various modifications, alternate constructions and equivalents may be employed without departing from the true spirit and scope of the invention. For example, while the RSA public/private key encryption technique is preferred (due to the known advantages of this technique), a single, private key encryption technique may be employed, if desired. In a system using this technique, the single key would be stored in ROM **29** in place of the public key **34**. Also, the message digest **42** and signature **37** for a given application **36** need not be computed from the entire casino game data set. For example, for some casino games it may be desirable to provide a fixed set of rules while permitting future changes in the casino game graphics, sound or both. For such casino games, it may be sufficient to compute the message digest **42** and signature **37** from only the rules portion of the applications program **36**. In other cases, it may be desirable or convenient to maintain the casino game video and audio portions constant, while allowing future changes to the rules of game play. For casino games of this category, the message digest **42** and signature **37** may be computed from the graphics and sound portions of the application program **36**. It may also be desirable to compute a message digest **42** and signature **37** from a subset of the rules, graphics or sound portions of a given applications program **36**, or from some other subset taken from a given applications program **36**. Therefore, the above should not be construed as limiting the scope of the invention, which is defined by the appended claims.

What is claimed is:

[1. An electronic gaming system for providing authentication of a data set associated with a casino type game, said system comprising:

(a) a first storage means for storing a game data set and a game signature comprising an encrypted version of a unique primary abbreviated game bit string computed from said game data set;

(b) a second storage means for storing,

an anchor application including a first authentication program capable of determining the validity of said game data set by,

computing a complementary abbreviated game bit string from said game data set,

decrypting said game signature set to recover said primary abbreviated game bit string,

comparing said complementary abbreviated game bit string with said primary abbreviated game bit string to determine whether a match is present, and

an anchor signature including an encrypted version of a unique primary abbreviated anchor bit string computed from said anchor application;

(c) a third storage means for storing a second authentication program capable of determining the validity of said anchor application by,

computing a complementary abbreviated anchor bit string from said anchor application,

decrypting said anchor signature to recover said primary abbreviated anchor bit string, and

comparing said complementary abbreviated anchor bit string with said primary abbreviated anchor bit string to determine whether a match is present; and

(d) processing means for enabling said first authentication program to determine the validity of said game data set and for enabling said second authentication program to determine the validity of said anchor application.**]**

[2. An electronic gaming system as recited in claim **1** further comprising a fourth storage means for storing basic input/output system (BIOS) code.**]**

[3. An electronic gaming system as recited in claim **2** wherein said fourth storage means is an unalterable ROM device.**]**

[4. An electronic gaming system as recited in claim **1** wherein said third storage means further stores operating system code, operating system drivers, and bootstrap code.**]**

[5. An electronic gaming system as recited in claim **1** wherein said first storage means and said second storage means comprise a single mass storage means.**]**

[6. An electronic gaming system as recited in claim **1** wherein said first storage means is a mass storage memory device.**]**

[7. An electronic gaming system as recited in claim **1** wherein said third storage means is an unalterable read only memory.**]**

[8. An electronic gaming system as recited in claim 1 wherein said first storage means is a CD ROM.]

[9. An electronic gaming system as recited in claim 1 wherein said first storage means is a hard disk drive.]

[10. An electronic gaming system as recited in claim 1 wherein said first storage means comprises a network storage system which is remote from the electronic gaming system.]

[11. An electronic gaming system as recited in claim 1 wherein said second storage means comprises a network storage system which is remote from the electronic gaming system.]

[12. An electronic gaming system as recited in claim 1 wherein said game data set is a game-modifying data set for changing game rules parameters of the casino type game.]

[13. An electronic gaming system as recited in claim 12 wherein said game-modifying data set includes a money handler modifying data set for changing money handling parameters of the casino type game.]

[14. An electronic gaming system as recited in claim 12 wherein said game-modifying data sets include a graphics modifying data set for changing graphics parameters of the casino type game.]

[15. An electronic gaming system as recited in claim 12 wherein said game-modifying data sets include a sound driver modifying data set for changing sound parameters of the casino type game.]

16. A casino gaming apparatus comprising:

a casino game console;

a video display unit;

a random access memory (RAM) for providing an executable space for a processor, said RAM being disposed in said casino game console;

a mass storage unit having gaming data relating to at least one casino game stored therein, said mass storage unit being disposed in said casino game console wherein the mass storage unit is operable as a read-only device;

a first memory storing a basic input/output system (BIOS) for initializing a motherboard and a second memory;

the second memory storing at least components of an operating system for controlling access to the mass storage unit wherein the components of the operating system are authenticated prior to the gaming data; and

the processor disposed in said casino game console and being operatively coupled to said video display unit, said first memory, said second memory, said mass storage unit, said motherboard and said RAM,

said processor operable to cause said gaming data to be authenticated by: 1) subjecting said gaming data to a one-way hash function to generate a first message digest, 2) decrypting an encrypted message digest previously generated by subjecting known gaming data to a one-way hash function to generate a decrypted message digest, and 3) comparing said first message digest with said decrypted message digest, and

said processor causing a remedial action to be taken if said gaming data is not authentic as determined by said processor.

17. The casino gaming apparatus as defined in claim 16 wherein said mass storage unit comprises an optical disk.

18. The casino gaming apparatus as defined in claim 16 further comprising at least one peripheral device, coupled to the gaming console, wherein the peripheral device includes a memory device and wherein the processor is operable to authenticate contents of the memory device.

19. The casino gaming apparatus as defined in claim 16 wherein said mass storage unit comprises a magnetic hard disk.

20. The casino gaming apparatus as defined in claim 16 wherein the mass storage unit is disposed in said casino game console.

21. The casino gaming apparatus as defined in claim 16 wherein the mass storage unit is disposed in a remote location separate from said casino game console.

22. The casino gaming apparatus as defined in claim 16 further comprising a nonvolatile memory operable to store gaming data relating to the play of the casino game.

23. The casino gaming apparatus as defined in claim 22 wherein the nonvolatile memory is disposed in said casino game console.

24. The casino gaming apparatus as defined in claim 22 wherein the nonvolatile memory is disposed in a remote location separate from said casino game console.

25. The casino gaming apparatus as defined in claim 16 wherein the video display unit is disposed in a remote location separate from said casino game console.

26. The casino gaming apparatus as defined in claim 16 further comprising a video subsystem, operatively coupled to the video display unit and operatively coupled to the processor, adapted for displaying still images, motion video or combinations thereof.

27. The casino gaming apparatus as defined in claim 16 wherein the processor is operable to generate a game play of a plurality of different casino games.

28. The casino gaming apparatus as defined in claim 16 wherein in response to receiving a selection of a particular casino game from a plurality of different casino games, the casino gaming apparatus is operable to generate a play of the particular casino game on the casino gaming apparatus.

29. The casino gaming apparatus as defined in claim 16 further comprising a sound-generating apparatus operatively coupled to the processor.

30. The casino gaming apparatus as defined in claim 16 further comprising a network interface wherein the network interface is designed to provide a wired connection or a wireless connection to a network.

31. A casino gaming apparatus comprising:

a casino game console;

a video display unit;

a mass storage unit having gaming data relating to at least one casino game stored therein;

a first memory storing a basic input/output system (BIOS) for initializing a motherboard and a second memory;

the second memory storing at least components of an operating system adapted for reading files in a file system on the mass storage unit wherein the components of the operating system are authenticated prior to the gaming data; and

a processor disposed in said casino game console and being operatively coupled to said video display unit, first memory and said second memory, said motherboard and said mass storage unit,

said processor operable to cause said gaming data to be authenticated by: 1) subjecting said gaming data to a one-way hash function to generate a first message digest and 2) comparing said first message digest to a second message digest previously generated by subjecting known gaming data to a one-way hash function, and

said processor operable to cause a remedial action to be taken if said gaming data is not authentic.

32. The casino gaming apparatus as defined in claim 31 wherein said mass storage unit comprises an optical disk.

33. The casino gaming apparatus as defined in claim 31 further comprising at least one peripheral device, coupled to the gaming console, wherein the peripheral device includes a memory device and wherein the processor is operable to authenticate contents of the memory device.

34. The casino gaming apparatus as defined in claim 31 wherein said mass storage unit comprises a magnetic hard disk.

35. The casino gaming apparatus as defined in claim 31 wherein said mass storage unit is operable as a read-only memory.

36. The casino gaming apparatus as defined in claim 31 wherein the mass storage unit is disposed in said casino game console.

37. The casino gaming apparatus as defined in claim 31 wherein the mass storage unit is disposed in a remote location separate from said casino game console.

38. The casino gaming apparatus as defined in claim 31 further comprising a nonvolatile memory operable to store gaming data relating to the play of the casino game.

39. The casino gaming apparatus as defined in claim 38 wherein the nonvolatile memory is disposed in said casino game console.

40. The casino gaming apparatus as defined in claim 38 wherein the nonvolatile memory is disposed in a remote location separate from said casino game console.

41. The casino gaming apparatus as defined in claim 31 wherein the video display unit is disposed in a remote location separate from said casino game console.

42. The casino gaming apparatus as defined in claim 31 further comprising a video subsystem, operatively coupled to the video display unit and operatively coupled to the processor, adapted for displaying still images, motion video or combinations thereof.

43. The casino gaming apparatus as defined in claim 31 wherein the processor is operable to generate a game play of a plurality of different casino games.

44. The casino gaming apparatus as defined in claim 31 wherein in response to receiving a selection of a particular casino game from a plurality of different casino games, the casino gaming apparatus is operable to generate a play of the particular casino game on the casino gaming apparatus.

45. The casino gaming apparatus as defined in claim 31 further comprising a sound-generating apparatus operatively coupled to the processor.

46. The casino gaming apparatus as defined in claim 31 further comprising a network interface wherein the network interface is designed to provide a wired connection or a wireless connection to a network.

47. A casino gaming apparatus comprising:

a casino game console;

a video display unit;

a mass storage unit disposed in said casino game console;

a network interface coupled to the gaming console for allowing communication with a remote storage device located on a network wherein the remote storage device is adapted to store second gaming data related to a second casino game;

a first memory storing a basic input/output system (BIOS) for initializing a motherboard and a second memory;

the second memory storing at least components of an operating system for controlling access to the mass storage unit wherein the components of the operating system are authenticated prior to the first gaming data or second gaming data; and

a processor disposed in said casino game console and being operatively coupled to said video display unit, first memory and said second memory, said motherboard, said network interface and said mass storage unit,

said processor operable to cause the second gaming data related to the second casino game to be transferred from the remote storage device to the casino gaming apparatus;

said processor operable to authenticate said first gaming data or to authenticate said second gaming data prior to generating the first casino game or the second casino game.

48. The casino gaming apparatus as defined in claim 47 wherein said mass storage unit comprises an optical disk.

49. The casino gaming apparatus as defined in claim 47 further comprising at least one peripheral device, coupled to the gaming console, wherein the peripheral device includes a memory device and wherein the processor is operable to authenticate contents of the memory device.

50. The casino gaming apparatus as defined in claim 47 wherein said mass storage unit comprises a magnetic hard disk.

51. The casino gaming apparatus as defined in claim 47 wherein said mass storage unit is operable as a read-only memory.

52. The casino gaming apparatus as defined in claim 47 wherein the mass storage unit is disposed in said casino game console.

53. The casino gaming apparatus as defined in claim 47 wherein the mass storage unit is disposed in a remote location separate from said casino game console.

54. The casino gaming apparatus as defined in claim 47 further comprising a nonvolatile memory operable to store gaming data relating to the play of the casino game.

55. The casino gaming apparatus as defined in claim 54 wherein the nonvolatile memory is disposed in said casino game console.

56. The casino gaming apparatus as defined in claim 54 wherein the nonvolatile memory is disposed in a remote location separate from said casino game console.

57. The casino gaming apparatus as defined in claim 47 wherein the video display unit is disposed in a remote location separate from said casino game console.

58. The casino gaming apparatus as defined in claim 47 further comprising a video subsystem, operatively coupled to the video display unit and operatively coupled to the processor, adapted for displaying still images, motion video or combinations thereof.

59. The casino gaming apparatus as defined in claim 47 wherein the processor is operable to generate a game play of a plurality of different casino games.

60. The casino gaming apparatus as defined in claim 47 wherein in response to receiving a selection of a particular casino game from a plurality of different casino games, the casino gaming apparatus is operable to generate a play of the particular casino game on the casino gaming apparatus.

61. The casino gaming apparatus as defined in claim 47 further comprising a sound-generating apparatus operatively coupled to the processor.

62. The casino gaming apparatus as defined in claim 47 wherein the network interface is deigned to provide a wired connection or a wireless connection to the network.

63. A casino gaming apparatus comprising:

a casino game console;

a video display unit;

a mass storage unit having first gaming data relating to a first casino game stored therein and having second gaming data relating to a second casino game stored therein;

a first memory storing a basic input/output system (BIOS) for initializing a motherboard and a second memory;

the second memory storing at least components of an operating system for reading files in a file system on the mass storage unit wherein the components of the operating system are authenticated prior to the first gaming data or second gaming data;

an input mechanism for receiving a selection of the first casino game or the second casino game; and

a processor disposed in said casino game console and being operatively coupled to said video display unit, first memory, said second memory, said input mechanism, said motherboard and said mass storage unit,

said processor operable to authenticate said first gaming data or to authenticate said second gaming data prior to generating the first casino game or generating the second casino game,

said processor operable to generate a play of the first casino game in response to receiving a selection of the first casino game via the input mechanism and

said processor operable to generate a play of the second casino game in response to receiving a selection of the second casino game via the input mechanism.

64. The casino gaming apparatus as defined in claim 63 wherein said mass storage unit comprises an optical disk.

65. The casino gaming apparatus as defined in claim 63 further comprising at least one peripheral device, coupled to the gaming console, wherein the peripheral device includes a memory device and wherein the processor is operable to authenticate contents of the memory device.

66. The casino gaming apparatus as defined in claim 63 wherein said mass storage unit comprises a magnetic hard disk.

67. The casino gaming apparatus as defined in claim 63 wherein said mass storage unit is operable as a read-only memory.

68. The casino gaming apparatus as defined in claim 63 wherein the mass storage unit is disposed in said casino game console.

69. The casino gaming apparatus as defined in claim 63 wherein the mass storage unit is disposed in a remote location separate from said casino game console.

70. The casino gaming apparatus as defined in claim 63 further comprising a nonvolatile memory operable to store gaming data relating to the play of the casino game.

71. The casino gaming apparatus as defined in claim 70 wherein the nonvolatile memory is disposed in said casino game console.

72. The casino gaming apparatus as defined in claim 70 wherein the nonvolatile memory is disposed in a remote location separate from said casino game console.

73. The casino gaming apparatus as defined in claim 63 wherein the video display unit is disposed in a remote location separate from said casino game console.

74. The casino gaming apparatus as defined in claim 63 further comprising a video subsystem, operatively coupled to the video display unit and operatively coupled to the processor, adapted for displaying still images, motion video or combinations thereof.

75. The casino gaming apparatus as defined in claim 63 wherein the processor is operable to generate a game play of a plurality of different casino games.

76. The casino gaming apparatus as defined in claim 63 wherein in response to receiving a selection of a particular casino game from a plurality of different casino games, the casino gaming apparatus is operable to generate a play of the particular casino game on the casino gaming apparatus.

77. The casino gaming apparatus as defined in claim 63 further comprising a sound-generating apparatus operatively coupled to the processor.

78. The casino gaming apparatus as defined in claim 63 further comprising a network interface wherein the network interface is designed to provide a wired connection or a wireless connection to a network.

79. A casino gaming apparatus, comprising:

a casino game console;

a video display unit;

a mass storage unit disposed in said casino game console;

a first memory storing a basic input/output system (BIOS) for initializing a motherboard and a second memory;

the second memory storing at least components of an operating system adapted for reading files in a file system on the mass storage unit wherein the components of the operating system are authenticated prior to the first gaming data or second gaming data;

a network interface coupled to the gaming console for allowing communication with a remote device located on a network;

a processor operatively coupled to the mass storage unit, the first memory, the second memory, the network interface and the motherboard,

said processor operable to authenticate said gaming data prior to generating a play of the casino game,

said processor operable to communicate information relating to the authentication of the gaming data to the remote device.

80. The casino gaming apparatus as defined in claim 79 wherein said mass storage unit comprises an optical disk.

81. The casino gaming apparatus as defined in claim 79 further comprising at least one peripheral device, coupled to the gaming console, wherein the peripheral device includes a memory device and wherein the processor is operable to authenticate contents of the memory device.

82. The casino gaming apparatus as defined in claim 79 wherein said mass storage unit comprises a magnetic hard disk.

83. The casino gaming apparatus as defined in claim 79 wherein said mass storage unit is operable as a read-only memory.

84. The casino gaming apparatus as defined in claim 79 wherein the mass storage unit is disposed in said casino game console.

85. The casino gaming apparatus as defined in claim 79 wherein the mass storage unit is disposed in a remote location separate from said casino game console.

86. The casino gaming apparatus as defined in claim 79 further comprising a nonvolatile memory operable to store gaming data relating to the play of the casino game.

87. The casino gaming apparatus as defined in claim 86 wherein the nonvolatile memory is disposed in said casino game console.

88. The casino gaming apparatus as defined in claim 86 wherein the nonvolatile memory is disposed in a remote location separate from said casino game console.

89. The casino gaming apparatus as defined in claim 79 wherein the video display unit is disposed in a remote location separate from said casino game console.

90. The casino gaming apparatus as defined in claim 79 further comprising a video subsystem, operatively coupled to the video display unit and operatively coupled to the processor, adapted for displaying still images, motion video or combinations thereof.

91. The casino gaming apparatus as defined in claim 79 wherein the processor is operable to generate a game play of a plurality of different casino games.

92. The casino gaming apparatus as defined in claim 79 wherein in response to receiving a selection of a particular casino game from a plurality of different casino games, the casino gaming apparatus is operable to generate a play of the particular casino game on the casino gaming apparatus.

93. The casino gaming apparatus as defined in claim 79 further comprising a sound-generating apparatus operatively coupled to the processor.

94. The casino gaming apparatus as defined in claim 79 wherein the network interface is designed to provide a wired connection or a wireless connection to a network.

95. The casino gaming apparatus as defined in claim 79 wherein the remote device is controlled by a regulatory body.

96. The casino gaming apparatus as defined in claim 95 wherein the regulatory body is a gaming commission.

97. A casino gaming apparatus comprising:

a casino game console;

a video display unit;

a mass storage having gaming data for a casino game stored therein;

a first memory storing a basic input/output system (BIOS) for initializing a motherboard and a second memory;

the second memory storing at least components of an operating system for reading files in a file system on the mass storage unit wherein the components of the operating system are authenticated prior to the first gaming data or second gaming data;

at least one peripheral device coupled to the casino game console wherein the peripheral device includes a memory device and wherein, prior to allowing the peripheral device to participate in system operations on the casino gaming apparatus, the casino gaming apparatus is operable to authenticate contents of the memory device; and

a processor disposed in said casino game console and being operatively coupled to said video display unit, said mass storage unit, said first memory, said second memory, said peripheral device and said motherboard,

said processor operable to authenticate said gaming data prior to generating a play of the casino game.

98. The casino gaming apparatus as defined in claim 97 wherein said mass storage unit comprises an optical disk.

99. The casino gaming apparatus as defined in claim 97 further comprising an input switch for receiving a selection of a casino game to play on the casino gaming apparatus.

100. The casino gaming apparatus as defined in claim 97 wherein said mass storage unit comprises a magnetic hard disk.

101. The casino gaming apparatus as defined in claim 97 wherein said mass storage unit is operable as a read-only memory.

102. The casino gaming apparatus as defined in claim 97 wherein the mass storage unit is disposed in said casino game console.

103. The casino gaming apparatus as defined in claim 97 wherein the mass storage unit is disposed in a remote location separate from said casino game console.

104. The casino gaming apparatus as defined in claim 97 further comprising a nonvolatile memory operable to store gaming data relating to the play of the casino game.

105. The casino gaming apparatus as defined in claim 104 wherein the nonvolatile memory is disposed in said casino game console.

106. The casino gaming apparatus as defined in claim 104 wherein the nonvolatile memory is disposed in a remote location separate from said casino game console.

107. The casino gaming apparatus as defined in claim 97 wherein the video display unit is disposed in a remote location separate from said casino game console.

108. The casino gaming apparatus as defined in claim 97 further comprising a video subsystem, operatively coupled to the video display unit and operatively coupled to the processor, adapted for displaying still images, motion video or combinations thereof.

109. The casino gaming apparatus as defined in claim 97 wherein the processor is operable to generate a game play of a plurality of different casino games.

110. The casino gaming apparatus as defined in claim 97 wherein in response to receiving a selection of a particular casino game from a plurality of different casino games, the casino gaming apparatus is operable to generate a play of the particular casino game on the casino gaming apparatus.

111. The casino gaming apparatus as defined in claim 97 further comprising a sound-generating apparatus operatively coupled to the processor.

112. The casino gaming apparatus as defined in claim 97 further comprising a network interface wherein the network interface is designed to provide a wired connection or a wireless connection to a network.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

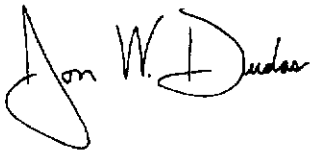
PATENT NO. : RE 39,370 E
APPLICATION NO. : 10/225097
DATED : October 31, 2006
INVENTOR(S) : Alcorn et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In line 2 of claim 62 [column 16, line 59] change "deigned" to --designed--.

Signed and Sealed this

Twenty-ninth Day of April, 2008



JON W. DUDAS
Director of the United States Patent and Trademark Office

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : RE 39,370 C1
APPLICATION NO. : 90/008883
DATED : July 8, 2008
INVENTOR(S) : Allan E. Alcorn et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title Page, Item (10) Number: "US RE39,370 F1" should read --US RE39,370 C1--.

Signed and Sealed this

Fourteenth Day of October, 2008

JON W. DUDAS
Director of the United States Patent and Trademark Office

US00RE39370F1

(12) EX PARTE REEXAMINATION CERTIFICATE (6282nd)

United States Patent

Alcorn et al.

(10) Number: US RE39,370 F1
(45) Certificate Issued: *Jul. 8, 2008

(54) **ELECTRONIC CASINO GAMING SYSTEM WITH IMPROVED PLAY CAPACITY, AUTHENTICATION AND SECURITY**

(75) Inventors: **Allan E. Alcorn**, Portola Valley, CA (US); **Michael Barnett**, San Carlos, CA (US); **Louis D. Giacalone, Jr.**, Henderson, NV (US); **Adam E. Levinthal**, Redwood City, CA (US)

(73) Assignee: **Silicon Gaming, Inc.**, Palo Alto, CA (US)

Reexamination Request:
No. 90/008,883, Oct. 17, 2007

Reexamination Certificate for:
Patent No.: **Re. 39,370**
Issued: **Oct. 31, 2006**
Appl. No.: **10/225,097**
Filed: **Aug. 21, 2002**

(*) Notice: This patent is subject to a terminal disclaimer.

(22) PCT Filed: **Jun. 17, 1996**

(86) PCT No.: **PCT/US96/10463**

§ 371 (c)(1),
(2), (4) Date: **Mar. 10, 1998**

(87) PCT Pub. No.: **WO97/01902**

PCT Pub. Date: **Jan. 16, 1997**

Related U.S. Patent Documents

Reissue of:
(64) Patent No.: **6,106,396**
Issued: **Aug. 22, 2000**
Appl. No.: **08/981,882**
Filed: **Mar. 10, 1998**

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/497,662, filed on Jun. 29, 1995, now Pat. No. 5,643,086.

(51) **Int. Cl.**
A63F 13/00 (2006.01)
G06F 5/00 (2006.01)

(52) **U.S. Cl.** **463/29**

(58) **Field of Classification Search** ..... None
See application file for complete search history.

(56) **References Cited**

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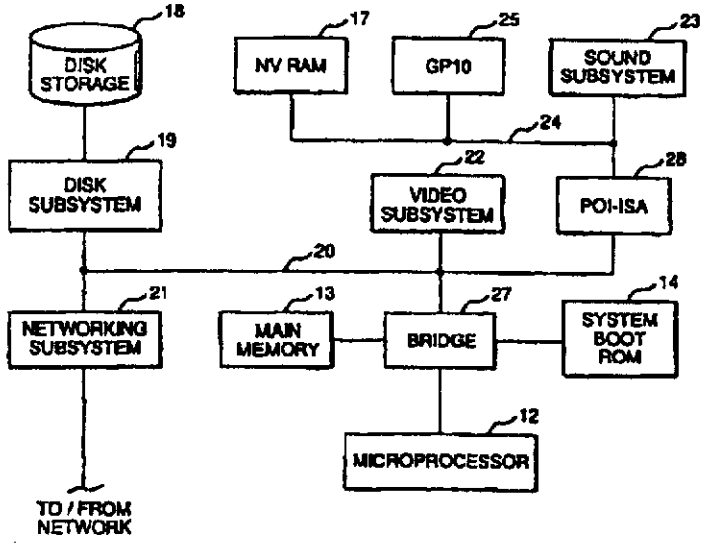
OTHER PUBLICATIONS

Gasser, Morrie; Le Roux, Yves; Lipner, Steve, The Digital Distributed System Security Architecture, Securicom 90, Mar. 14–16, 1990, 8th Worldwide Congress on Computer and Communications Security and Protection.

Primary Examiner—Peter C. English

(57) **ABSTRACT**

The electronic gaming system consists of several system components, including a microprocessor (**12**), a main memory unit (**13**) that is typically a random access memory, and a system boot ROM (**14**). Also included in the electronic casino gaming system are a non-volatile RAM (**17**), a mass storage unit (**18**), a disk subsystem (**19**), and a PCI bus (**20**). The disk subsystem (**19**) preferably supports SCSI-2 with options of fast and wide. A video subsystem (**22**) is also included in the electronic casino gaming system and is coupled to the PCI bus (**20**) to provide full color still images and MPEG movies.



EX PARTE REEXAMINATION CERTIFICATE ISSUED UNDER 35 U.S.C. 307

THE PATENT IS HEREBY AMENDED AS INDICATED BELOW.

Matter enclosed in heavy brackets [ ] appeared in the original patent but was deleted by the reissue patent; matter printed in italics was added by the reissue patent. Matter enclosed in heavy double brackets [[ ]]appeared in the reissue patent but is deleted by this reexamination certificate; matter printed in boldface is added by this reexamination certificate.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

The patentability of claims **16–112** is confirmed.

Claims **1–15** were previously cancelled.

* * * * *

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

NOTICE OF ASSIGNMENT TO UNITED STATES MAGISTRATE JUDGE FOR DISCOVERY

This case has been assigned to District Judge James V. Selna and the assigned discovery Magistrate Judge is Marc Goldman.

The case number on all documents filed with the Court should read as follows:

SACV10- 1748 JVS (MLGx)

Pursuant to General Order 05-07 of the United States District Court for the Central District of California, the Magistrate Judge has been designated to hear discovery related motions.

All discovery related motions should be noticed on the calendar of the Magistrate Judge

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NOTICE TO COUNSEL

A copy of this notice must be served with the summons and complaint on all defendants (if a removal action is filed, a copy of this notice must be served on all plaintiffs)

Subsequent documents must be filed at the following location:

[ ] **Western Division**
312 N. Spring St., Rm. G-8
Los Angeles, CA 90012

[X] **Southern Division**
411 West Fourth St., Rm. 1-053
Santa Ana, CA 92701-4516

[ ] **Eastern Division**
3470 Twelfth St., Rm. 134
Riverside, CA 92501

Failure to file at the proper location will result in your documents being returned to you.

Name & Address:
Edward G. Poplawski (State Bar No. 113590)
Paul D. Tripodi II (State Bar No. 162380)
SIDLEY AUSTIN LLP
555 W. Fifth Street, Suite 4000
Los Angeles, CA 90013 Tel. (213) 896-6000)

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

IGT, PLAINTIFF(S) v. ARISTOCRAT TECHNOLOGIES, INC., ARISTOCRAT LEISURE LIMITED, DEFENDANT(S).	CASE NUMBER **SACV10-1748 JVS(MLGx)** **SUMMONS**

TO: DEFENDANT(S): ARISTOCRAT TECHNOLOGIES, INC., ARISTOCRAT LEISURE LIMITED

A lawsuit has been filed against you.

Within 21 days after service of this summons on you (not counting the day you received it), you must serve on the plaintiff an answer to the attached ☑ complaint ☐ _____ amended complaint ☐ counterclaim ☐ cross-claim or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff's attorney, Edward G. Poplawski, whose address is SIDLEY AUSTIN LLP, 555 W. Fifth Street, Suite 4000, Los Angeles, CA 90013. If you fail to do so, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

Clerk, U.S. District Court

Dated: NOV 15 2010

By: _____
Deputy Clerk

(Seal of the Court)

[Use 60 days if the defendant is the United States or a United States agency, or is an officer or employee of the United States. Allowed 60 days by Rule 12(a)(3)]

Name & Address:
Edward G. Poplawski (State Bar No. 113590)
Paul D. Tripodi II (State Bar No. 162380)
SIDLEY AUSTIN LLP
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Los Angeles, CA 90013 Tel. (213) 896-6000)

UNITED STATES DISTRICT COURT
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Clerk, U.S. District Court

Dated: NOV 15 2010

By: NANCY CASTRO SEAL
Deputy Clerk

(Seal of the Court)

[Use 60 days if the defendant is the United States or a United States agency, or is an officer or employee of the United States. Allowed 60 days by Rule 12(a)(3)]

UNITED STATES DISTRICT COURT, CENTRAL DISTRICT OF CALIFORNIA
CIVIL COVER SHEET

I (a) PLAINTIFFS (Check box if you are representing yourself ☐)	DEFENDANTS
IGT	ARISTOCRAT TECHNOLOGIES, INC., ARISTOCRAT LEISURE LIMITED
(b) Attorneys (Firm Name, Address and Telephone Number. If you are representing yourself, provide same.) Edward G. Poplawski (SBN 113590), Paul D. Tripodi II (SBN 162380), SIDLEY AUSTIN LLP, 555 W. Fifth Street, Suite 4000, Los Angeles, CA 90013, Tel. (213) 896-6000	Attorneys (If Known)

II. BASIS OF JURISDICTION (Place an X in one box only.)

☐ 1 U.S. Government Plaintiff ☑ 3 Federal Question (U.S. Government Not a Party)

☐ 2 U.S. Government Defendant ☐ 4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES - For Diversity Cases Only (Place an X in one box for plaintiff and one for defendant.)

	PTF	DEF		PTF	DEF
Citizen of This State	☐ 1	☐ 1	Incorporated or Principal Place of Business in this State	☐ 4	☐ 4
Citizen of Another State	☐ 2	☐ 2	Incorporated and Principal Place of Business in Another State	☐ 5	☐ 5
Citizen or Subject of a Foreign Country	☐ 3	☐ 3	Foreign Nation	☐ 6	☐ 6

IV. ORIGIN (Place an X in one box only.)

☑ 1 Original Proceeding ☐ 2 Removed from State Court ☐ 3 Remanded from Appellate Court ☐ 4 Reinstated or Reopened ☐ 5 Transferred from another district (specify): ☐ 6 Multi-District Litigation ☐ 7 Appeal to District Judge from Magistrate Judge

V. REQUESTED IN COMPLAINT: JURY DEMAND: ☑ Yes ☐ No (Check 'Yes' only if demanded in complaint.)

CLASS ACTION under F.R.C.P. 23: ☐ Yes ☑ No ☐ MONEY DEMANDED IN COMPLAINT: $

VI. CAUSE OF ACTION (Cite the U.S. Civil Statute under which you are filing and write a brief statement of cause. Do not cite jurisdictional statutes unless diversity.)

This is an action for patent infringement under the Patent Laws of the United States, Title 35 of the United States Code.

VII. NATURE OF SUIT (Place an X in one box only.)

OTHER STATUTES	CONTRACT	TORTS PERSONAL INJURY	TORTS PERSONAL PROPERTY	PRISONER PETITIONS	LABOR
☐ 400 State Reapportionment	☐ 110 Insurance	☐ 310 Airplane	☐ 370 Other Fraud	☐ 510 Motions to Vacate Sentence Habeas Corpus	☐ 710 Fair Labor Standards Act
☐ 410 Antitrust	☐ 120 Marine	☐ 315 Airplane Product Liability	☐ 371 Truth in Lending	☐ 530 General	☐ 720 Labor/Mgmt Relations
☐ 430 Banks and Banking	☐ 130 Miller Act	☐ 320 Assault, Libel & Slander	☐ 380 Other Personal Property Damage	☐ 535 Death Penalty	☐ 730 Labor/Mgmt. Reporting & Disclosure Act
☐ 450 Commerce/ICC Rates/etc	☐ 140 Negotiable Instrument	☐ 330 Fed. Employers' Liability	☐ 385 Property Damage Product Liability	☐ 540 Mandamus/ Other	☐ 740 Railway Labor Act
☐ 460 Deportation	☐ 150 Recovery of Overpayment & Enforcement of Judgment	☐ 340 Marine	BANKRUPTCY	☐ 550 Civil Rights	☐ 790 Other Labor Litigation
☐ 470 Racketeer Influenced and Corrupt Organizations	☐ 151 Medicare Act	☐ 345 Marine Product Liability	☐ 422 Appeal 28 USC 158	☐ 555 Prison Condition	☐ 791 Empl. Ret. Inc Security Act
☐ 480 Consumer Credit	☐ 152 Recovery of Defaulted Student Loan (Excl. Veterans)	☐ 350 Motor Vehicle	☐ 423 Withdrawal 28 USC 157	FORFEITURE / PENALTY	PROPERTY RIGHTS
☐ 490 Cable/Sat TV	☐ 153 Recovery of Overpayment of Veteran's Benefits	☐ 355 Motor Vehicle Product Liability	CIVIL RIGHTS	☐ 610 Agriculture	☐ 820 Copyrights
☐ 810 Selective Service	☐ 160 Stockholders' Suits	☐ 360 Other Personal Injury	☐ 441 Voting	☐ 620 Other Food & Drug	☑ 830 Patent
☐ 850 Securities/Commodities/ Exchange	☐ 190 Other Contract	☐ 362 Personal Injury-Med Malpractice	☐ 442 Employment	☐ 625 Drug Related Seizure of Property 21 USC 881	☐ 840 Trademark
☐ 875 Customer Challenge 12 USC 3410	☐ 195 Contract Product Liability	☐ 365 Personal Injury-Product Liability	☐ 443 Housing/Accommodations	☐ 630 Liquor Laws	SOCIAL SECURITY
☐ 890 Other Statutory Actions	☐ 196 Franchise	☐ 368 Asbestos Personal Injury Product Liability	☐ 444 Welfare	☐ 640 R.R. & Truck	☐ 861 HIA (1395ff)
☐ 891 Agricultural Act	REAL PROPERTY	IMMIGRATION	☐ 445 American with Disabilities - Employment	☐ 650 Airline Regs	☐ 862 Black Lung (923)
☐ 892 Economic Stabilization Act	☐ 210 Land Condemnation	☐ 462 Naturalization Application	☐ 446 American with Disabilities - Other	☐ 660 Occupational Safety /Health	☐ 863 DIWC/DIWW (405(g))
☐ 893 Environmental Matters	☐ 220 Foreclosure	☐ 463 Habeas Corpus-Alien Detainee	☐ 440 Other Civil Rights	☐ 690 Other	☐ 864 SSID Title XVI
☐ 894 Energy Allocation Act	☐ 230 Rent Lease & Ejectment	☐ 465 Other Immigration Actions			☐ 865 RSI (405(g))
☐ 895 Freedom of Info. Act	☐ 240 Torts to Land				FEDERAL TAX SUITS
☐ 900 Appeal of Fee Determination Under Equal Access to Justice	☐ 245 Tort Product Liability				☐ 870 Taxes (U.S. Plaintiff or Defendant)
☐ 950 Constitutionality of State Statutes	☐ 290 All Other Real Property				☐ 871 IRS-Third Party 26 USC 7609

FOR OFFICE USE ONLY: Case Number SACV10-1748 JVS(MLGx)

AFTER COMPLETING THE FRONT SIDE OF FORM CV-71, COMPLETE THE INFORMATION REQUESTED BELOW.

UNITED STATES DISTRICT COURT, CENTRAL DISTRICT OF CALIFORNIA
CIVIL COVER SHEET

VIII(a). IDENTICAL CASES: Has this action been previously filed in this court and dismissed, remanded or closed? ☑ No ☐ Yes
If yes, list case number(s): _____

VIII(b). RELATED CASES: Have any cases been previously filed in this court that are related to the present case? ☑ No ☐ Yes
If yes, list case number(s): _____

Civil cases are deemed related if a previously filed case and the present case:
(Check all boxes that apply) ☐ A. Arise from the same or closely related transactions, happenings, or events; or
☐ B. Call for determination of the same or substantially related or similar questions of law and fact; or
☐ C. For other reasons would entail substantial duplication of labor if heard by different judges; or
☐ D. Involve the same patent, trademark or copyright, and one of the factors identified above in a, b or c also is present.

IX. VENUE: (When completing the following information, use an additional sheet if necessary.)

(a) List the County in this District; California County outside of this District; State if other than California; or Foreign Country, in which **EACH** named plaintiff resides.
☐ Check here if the government, its agencies or employees is a named plaintiff. If this box is checked, go to item (b).

County in this District:*	California County outside of this District; State, if other than California; or Foreign Country
Orange County, among others	Nevada

(b) List the County in this District; California County outside of this District; State if other than California; or Foreign Country, in which **EACH** named defendant resides.
☐ Check here if the government, its agencies or employees is a named defendant. If this box is checked, go to item (c).

County in this District:*	California County outside of this District; State, if other than California; or Foreign Country
Orange County, among others	Nevada, Australia

(c) List the County in this District; California County outside of this District; State if other than California; or Foreign Country, in which **EACH** claim arose.
Note: In land condemnation cases, use the location of the tract of land involved.

County in this District:*	California County outside of this District; State, if other than California; or Foreign Country
	Nevada

*** Los Angeles, Orange, San Bernardino, Riverside, Ventura, Santa Barbara, or San Luis Obispo Counties**
Note: In land condemnation cases, use the location of the tract of land involved

X. SIGNATURE OF ATTORNEY (OR PRO PER): _____ Date 11/15/2010

Notice to Counsel/Parties: The CV-71 (JS-44) Civil Cover Sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law. This form, approved by the Judicial Conference of the United States in September 1974, is required pursuant to Local Rule 3-1 is not filed but is used by the Clerk of the Court for the purpose of statistics, venue and initiating the civil docket sheet. (For more detailed instructions, see separate instructions sheet.)

Key to Statistical codes relating to Social Security Cases:

Nature of Suit Code	Abbreviation	Substantive Statement of Cause of Action
861	HIA	All claims for health insurance benefits (Medicare) under Title 18, Part A, of the Social Security Act, as amended. Also, include claims by hospitals, skilled nursing facilities, etc., for certification as providers of services under the program. (42 U.S.C. 1935FF(b))
862	BL	All claims for "Black Lung" benefits under Title 4, Part B, of the Federal Coal Mine Health and Safety Act of 1969. (30 U.S.C. 923)
863	DIWC	All claims filed by insured workers for disability insurance benefits under Title 2 of the Social Security Act, as amended; plus all claims filed for child's insurance benefits based on disability. (42 U.S.C. 405(g))
863	DIWW	All claims filed for widows or widowers insurance benefits based on disability under Title 2 of the Social Security Act, as amended. (42 U.S.C. 405(g))
864	SSID	All claims for supplemental security income payments based upon disability filed under Title 16 of the Social Security Act, as amended.
865	RSI	All claims for retirement (old age) and survivors benefits under Title 2 of the Social Security Act, as amended. (42 U.S.C. (g))