STANDARD SERIES

GLI-15:
Electronic Bingo and Keno Systems

Gaming Laboratories International, Inc. (GLI)

Version 1.2
Release Date: April 12, 2002

GAMING LABS CERTIFIED™

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ABOUT THIS STANDARD

This Standard has been produced by Gaming Laboratories International, Inc. for the purpose of providing independent certifications to suppliers under this Standard and complies with the requirements set forth herein.

A supplier should submit equipment with a request that it be certified in accordance with this Standard. Upon certification, Gaming Laboratories International, Inc. will provide a certificate of compliance along with an appropriate *Gaming Labs Certified*™ mark evidencing the certification to this Standard.

Nothing in this standard shall be construed to offer an opinion as to the classification of Bingo and Keno Systems under the Indian Gaming Regulatory Act (IGRA).

Electronic Bingo and Keno Systems

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REVISION HISTORY

REV 1.2

General grammatical changes.
2.11.3(b)(ii)A & B removed both since the number of balls/numbers can vary depending on the game.
3.1.1 Manufacturer Definition was better clarified.
3.3.6 changed the reporting requirements to include the employee name/id instead of password.
3.4.3 added the printed record requirement to is needed as required by local ordinance.
3.5.4(d) changed the rule to require all information for special games that would be needed to validate the bingo and added examples. This was changed since there are so many different 'special games' and to clarify the intent of the rule.
3.6.10 removed the requirement for no player owned EBM's since this not a technical standard.
4.4.6(d)(iv) removed the requirement for the system to demonstrate the payout percentage and odds for each game since the location determines the payouts, not the system.

REV 1.1

General grammatical changes.
2.4.1(a) Changed the requirement to submit two sets of all EPROMs, CD-ROMs, etc for submissions where arrangements are made in advance of the submission.
2.7.2 (b) Clarified that schematics, diagrams, data sheets are only required for manufacturer designed and built components.
2.8.1 Clarified that the system security testing of the defined user roles and their passwords is to ensure that no unauthorized access would be allowed for specific areas.
3.1.1 "Electronic Bingo Card Monitoring Device" Definition. Clarified that Automatically marking numbers on the EBM is only permissible when allowed by local ordinance.
3.1.1 "Fixed Base Station" Definition. Added the definition for Fixed Base Station.
3.1.1 "Free space" Center Number", etc… changed the definition title to remove Perm Number since defined separately. Also, changed the definition to indicate the number that is 'displayed,' in the center space…..
3.1.1 "Packet" Definition. Changed to clarify a packet is defined as sets of bingo cards instead of 'sheets of bingo paper'.
3.1.1 "Perm Number" Definition. Added the definition for Perm Number.
3.1.1 "Player Terminal" Definition. Added the definition for Player Terminal.
3.1.1 "Serial number" Definition. Clarified that the Serial Number may be displayed or printed. Also, changed wording to read better.
3.1.1 "Session" Definition. Clarified the session ends after someone wins instead of the selection of the last ball.
3.2.1 Price Display. Removed this rule since the local ordinance will address this requirement and this is not a technical standard.
3.2.4 Renamed this section to Packet Sales from Packet Numbering. Removed the requirement for the electronic packets to contain sequential serial numbers and be issued in order as long as there is an easy means to determine the number of packets sold.

3.3.1 Clarified that the Bingo System shall need to determine all sales initiated through the Bingo System and not the overall bingo sales.
3.3.2 Changed the rule to require the 'system' to have the capability of recording and printing reports, instead of the sales station. Also added 'packages' to the information that can be included.
3.3.4 Clarified that the system shall allow for meter adjustments and sales data corrections, if able. Also, clarified that the log of the accounting changes should include the password authorized to make the change(s) instead of the name of the person.
3.4.1 Changed the rule to not allow the callers desk to sell or modify the sales information and removed 'auditing' from this rule since some callers desks may audit the information as a part of the procedures.
3.5.1 Clarified that access to the database shall be controlled by password authorization or another secure method.
3.5.4 Clarified that the system or other equipment shall be capable of producing general accounting reports because some companies or bingo halls use off the shelf accounting packages.
3.5.4(b) Clarified that the packets sold shall be included in the required information for accounting reports.
3.5.4(f) Added 'Other reports' as required by specific local ordinance since some jurisdictions may have additional reporting requirements.
3.5.5 Clarified that changes to the game parameters (was session) shall not be allowed once the game (was session) has begun.
3.6.2 Changed the title of this section to Bingo Card Limitation from Monitoring Limitation. Also, removed the requirement for the EBM to not be capable to monitor more than 75 cards per game. The rule now requires the EBM to have the ability to limit the number of cards, if required by local ordinances. This change was made because the limitation number can vary and some jurisdictions don't have a limitation.
3.6.3 Removed the rule that would require bingo card monitoring that can only be used in conjunction with disposable bingo cards and have to be entered into the EBM at the time of purchase since this is not a technical standard.
3.6.5 Changed the rule that prohibits the player the ability to design their own bingo cards to allow this feature provided it is permissible by the local ordinance.
3.6.6 Removed the reference to the 75-card limitation because of the change in 3.6.2, above.
3.6.7 Removed the reference to the 75-card limitation because of the change in 3.6.2, above.
3.6.9 Clarified the system must log and immediately notify operations of a malfunction, as soon as possible.
3.6.11 Removed the limitation on the number of EBM's per player since this is not a technical standard.
3.6.12 Remove the location requirement of the bingo player since this is not a technical standard.
3.6.13 Clarified that one EBM shall be reserved as a back up is a recommendation.
3.6.14 Removed the reference to the 75-card limitation because of the change in 3.6.2, above.
3.6.15 Removed the requirement for disposable and adequately marked cards and the requirement for EBMs for play since this is not a technical standard.
3.7.4 Clarified there shall be a random change in the RNG process after every ball draw instead of after every game.
3.7.5 Removed from this section and moved to 5.2.2. This section is now RESERVED to avoid offsetting the numbering of this document.
3.8.3 Removed the reference to seventy-five balls bearing the numbers one through seventy-five since the number of balls may vary.
3.8.4 Changed the title of this section from Flashboards to RNG Outcome. Also, changed the rule so there is a method to display the RNG Outcome for the numbers called and not specify the method shall be Flashboards.
5.2.2 Moved Live Game Correlation to this section from 3.7.5.
5.6.1(b) Clarified that all communications between remote peripheral devices and the system shall be encrypted instead of the previous requirement for the player terminal and account server be encrypted.

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CHAPTER 1

1.0 OVERVIEW - STANDARDS FOR ELECTRONIC BINGO AND KENO SYSTEMS

1.1 Introduction

1.1.1 ***Electronic Bingo and Keno Systems Defined***. An Electronic Bingo and Keno System is a game management system that is primarily tasked to provide logging, searching, and reporting of gaming significant events, collection of financial data, and display and verification of winning cards. These Standards are intended to provide guidance toward the certification of the following types of electronic Bingo and Keno systems:

a) Manual Draw games using paper Cards;
b) Electronic Draw games using paper cards;
c) Manual Draw games using electronic card marking devices;
d) Electronic Draw games using electronic card marking devices;
e) Manual Draw games using a combination of paper and electronic card marking devices;
f) Electronic Draw games using a combination of paper and electronic card marking devices; and
g) Electronic Draw game using player terminals.

1.1.2 ***Phases of Certification***. The approval of an Electronic Bingo or Keno System may be certified in up to two phases:

a) Initial laboratory testing, where the laboratory will test the integrity of the system in the laboratory setting with the equipment assembled; and

b) On-site certification where the system and configuration set up are tested on the gaming floor prior to implementation.

1.3 Acknowledgment of Other Standards Reviewed

1.3.1 ***General Statement***. These Standards have been developed by reviewing and using portions of the documents from the organizations listed below. We acknowledge the regulators who have assembled these documents and thank them:

a) The State of Kentucky, Dept. of Charitable Games;
b) Alberta Canada, Liquor and Gaming Authority;
c) The Texas Lottery;
d) The State of Louisiana Charitable Gaming Division;
e) The State of Nevada;
f) The State of New York, Charitable Games;
g) The State of Washington;
h) The Washington Charity Satellite Bingo Regulations;
i) The Province of British Columbia, Charitable Games;
j) The State of Illinois;
k) The State of Mississippi;
l) The State of Missouri;
m) The State of Nebraska;
n) The State of New Hampshire;
o) The Province of Nova Scotia, Canada;
p) The State of Virginia; and
q) The National Indian Gaming Commission.

1.4 Purpose of Standard

1.4.1 ***General Statement***. The purpose of this technical standard is as follows:

a) To eliminate subjective criteria in analyzing and certifying Electronic Bingo and Keno Systems.
b) To only test those criteria which impact the credibility and integrity of gaming from both the Revenue Collection and game play point of view.
c) To create a standard that will insure that Electronic Bingo and Keno systems are fair, secure, and able to be audited and operated correctly.
d) To distinguish between local public policy and laboratory criteria. At GLI, we believe that it is up to each local jurisdiction to set their public policy with respect to gaming.
e) To recognize that non-gaming testing (such as Electrical Testing) should not be incorporated into this standard but left to appropriate test laboratories that specialize in that type of testing. Except where specifically identified in the standard, testing is not directed at health or safety matters. These matters are the responsibility of the manufacturer, purchaser, and operator of the equipment.
f) To construct a standard that can be easily changed or modified to allow for new technology.
g) To construct a standard that does not specify any particular technology, method or algorithm. The intent is to allow a wide range of methods to be used to conform to the standards, while at the same time, to encourage new methods to be developed.

1.4.2 No Limitation of Technology. One should be cautioned that this document should not be read in such a way that limits the use of future technology. The document should not be interpreted that if the technology is not mentioned, then it is not allowed. Quite to the contrary, as new technology is developed, we will review this standard, make changes and incorporate new minimum standards for the new technology.

1.4.3 Scope of Standard. This standard will only govern Electronic Bingo and Keno System requirements necessary to achieve certification for the purpose of properly displaying selected

balls or numbers, properly verifying and awarding player winnings, and properly accounting for and reporting all financial and game history data as needed to properly audit the system.

1.5 Other Documents That May Apply

1.5.1 ***General Statement***. This standard covers the minimal requirements of electronic Bingo and Keno Systems and all associated components. The following other standards may apply:

a) GLI-11 Gaming Devices in Casinos;
b) GLI-12 Progressive Systems in Casinos; and
c) Individual Gaming Board Minimum Internal Control Procedures.

CHAPTER 2

2.0 SUBMISSION REQUIREMENTS

2.1 Introduction

2.1.1 ***General Statement***. This chapter shall govern the types of information that are, or may be required to be submitted by the submitting party in order to have equipment tested to this Standard. Where the information has not been submitted or is not otherwise in the possession of the test laboratory, the submitting party shall be asked to supply additional information. Failure to supply the information can result in denial in whole or in part of the submission and/or lead to testing delays.

2.1.2 ***Previous Submission***. Where the testing laboratory has been previously supplied with the information on a previous submission, duplicate documentation is not required, provided that the previous information is referred to by the submitting party, and those documents are easily located at the testing laboratory. Every effort shall be made to reduce the redundancy of submission information.

2.2 Prototype (Full Submission) Submissions

2.2.1 ***General Statement***. A Prototype (full submission) submission is a first time submission of a particular piece of hardware or software that has not previously been reviewed by the test laboratory. For Modifications of previous submissions, including required changes to previously submitted Prototype (full submission) certification, whether certified or pending certification, see 'Submissions of Modifications (partial submissions) to a Previously Certified Item,' Section 2.7.

NOTE*: Due to abnormal component complexity and/or excessive cost it is sometimes necessary for on-site testing of a system at the manufacturer's facility. Regular upgrades*

normally preclude testing at the manufacturers' facility except in the case of prototype submissions.

2.2.2 Submission Letter Requirements. Each submission shall include a request letter, on company letterhead, dated within one (1) week of the date the submission is received by the test laboratory. The letter should include the following:

a) The jurisdiction(s) for which you are requesting certification;
b) The items requested for certification. In the case of software, the submitting party shall include ID numbers and revision levels, if applicable. In the case of proprietary hardware, the submitting party shall indicate the manufacturer, model, and part and revision numbers of the associated components of hardware; and
c) A contact person who will serve as the main point of contact for engineering questions raised during evaluation of the submission. This may be either the person who signed the letter or another specified contact.

2.3 System Hardware Submission Requirements – Prototype (Full Submission) Certification

2.3.1 Presentation of Equipment to The Test Laboratory; Identical Equipment. Each item of gaming equipment supplied by a manufacturer to the field shall be functionally identical to the specimen tested and certified. For example, an interface element supplied as a certified device shall not have different internal wiring, components, firmware, circuit boards, circuit board track cuts or circuit board patch wires from the certified specimen, unless that change is also certified, see also 'Submissions of Modifications (partial submissions) to a Previously Certified Item,' Section 2.7.'

2.3.2 Inventory of Equipment to The Test Laboratory. Each submission of hardware shall contain the following:

a) Server, Database, Front End Controller, and Ancillary Stations to include but not limited to: Cashier Station functionality; Callers Desk/Ball Draw functionality; System Configuration Parameters functionality; and Accounting/Reporting Functionality;
b) Monitors, keyboards, mouse, printers, etc., to support the items listed above;
c) A supply of card faces or blank keno ticket stock to facilitate testing; and
d) Un-interruptible Power Supply (UPS) for critical components.

***NOTE**: In an effort to reduce system submission size, monitor and data switches may be used. Additionally, separate software may be housed in the same unit, as long as the functionality is not impaired and the software is identical to the field version.*

2.3.3 Accompanying Documentation. All accompanying technical documents, manuals, and schematics shall be submitted. In addition, the following items shall be provided:

a) If applicable, all UL, CSA, EC, AS3100, etc. or equivalent certification. This certification information may be supplied at a later date;
b) Any other proprietary equipment that may be used in the field in conjunction with the Submission, if necessary to test the requirements set forth;
c) Accompanying software, see also 'System Software Submission Requirements – Prototype (Full Submission) Certification,' Section 2.4; and
d) If the submitting party has specialized equipment and/or software which is needed by the test laboratory to test submitted system, such as load/game simulators or test data files, then the specialized equipment and/or software and all appropriate operation and user manuals for the equipment and/or software shall be included with the submission.

***NOTE**: Commercially available products are not required for submission unless omission will impact testing and proper operation of the system.*

2.4 System Software Submission Requirements – Prototype (Full Submission) Certification

2.4.1 ***General Statement***. Each submission of software shall contain the following:

a) Two sets of all EPROMs, CD-ROMs, or other storage media which contain identical contents. This includes all program executables, system component firmware, bin files, etc., unless other arrangements are made in advance of the submission. Where the test laboratory already has tested a software component, resubmission may not be necessary;
b) Source Code, a Link Map and Symbol Table for all primary software executables. In addition, if requested, explanation of all non-volatile RAM on any system device with the non-volatile RAM locations described;
c) All user manuals in both hard and soft copy format to include a general overview of the system from a component level, software and hardware setup and integration, and system block diagrams and flow charts for the communication program, if required;
d) If not included in the user manuals, a connectivity manual for all associated peripheral devices or remote sales or monitoring units;
e) If not included in the user manuals, provide example reports for each standard report capable of being generated on the system with a formula summary detailing all reporting calculations including data types involved, mathematical operations performed, and field limit;
f) If not included in the user manuals, a list of all supported communication protocols specifying version, if applicable; and
g) If utilizing a software verification algorithm provide a description of the algorithm, theoretical basis of the algorithm, results of any analyses or tests to demonstrate that the algorithm is suitable or the intended application, rules for selection of algorithm coefficients or "seeds", and means of setting the algorithm coefficients or "seeds."

2.5 Software Programming Requirements and Compilation

2.5.1 ***General Statement***. The following items shall be contained within all submitted source code or related modules:

a) Module Name;
b) Brief description of module function; and
c) Edit History, including who modified it, when and why.

2.5.2 ***Source Code Commented***. All source code submitted shall be commented in an informative and useful manner.

2.5.3 ***Source Code Completeness***. All source code submitted shall be correct, complete and able to be compiled.

2.6 Program Identification

2.6.1 ***Software Requirements***. On the primary system software components submitted and subsequently placed in the field, each program shall be uniquely identified and either display version information at all times or utilizing a user accessible function.

2.6.2 ***Firmware Requiremens***. On the system firmware submitted and subsequently placed in the field, each program shall be uniquely identified, displaying:

a) Program ID ;
b) Manufacturer;
c) Version number;

d) Type and size of medium (requirement can be met by manufacturer stamp); and
e) Location of installation in interface element device, if potentially confusing.

***NOTE**: For EPROM based firmware, the identification label shall be placed over the UV window to avoid erasing or alteration of the program.*

2.7 Submissions of Modifications (Partial Submissions) to a Previously Certified Item

2.7.1 General Statement. For any update submission (e.g., a revision to an existing hardware or software that is currently under review, certified or has been reviewed and not certified), the following information shall be required to process the submission in addition to the requirements set forth in 'Submission Letter Requirements,' Section 2.2.2. All modifications require re-testing, examination, and re-certification by the test laboratory.

2.7.2 Modification of Hardware. Each hardware submission shall:

a) Identify the individual items being submitted (including part number);
b) Supply a complete set of schematics, diagrams, data sheets, etc. describing the modification along with the reason for the change(s) for any manufacturer designed and built component; and
c) Provide the updated or new hardware, a description and the method of connection to the original system or hardware components.

2.7.3 Modification of System Software Functions or to Correct Software Error. The submitter should use the same requirements as in the 'Software Submission Requirements – Prototype (Full Submission) Certification' Section listed above, except where the documentation has not changed. In this case, a resubmission of identical

documents is not required. However, the submission must include a description of the software change(s) and modules affected, and new source code for the entire program, if applicable.

2.7.4 Software Submission - Modification to Existing or Create New System Functionality. For a system specific submission (e.g., new workstation software), the following information may be required to process the submission:

a) If new, a complete description of the function, including amendment manual and user documents, and new source code if applicable; and
b) If modifying, the submission must include a description of the software change(s), modules affected and new source code, if applicable.

2.8 System Security Submission Requirements

2.8.1 General Statement. Where a system requires the use of defined user roles with associated passwords or pin numbers, a default list of all users and passwords or pin numbers must be submitted including a method to access the database. This will allow testing of the permissible access and to ensure no unauthorized access would be allowed for specific areas.

2.9 Joint Venture Submissions

2.9.1 General Statement. A system is considered a joint venture when two or more companies are involved in the manufacturing of one system. Due to the increasing amount of joint venture submissions (more than one supplier involved in a product submission) and to alleviate any confusion to the suppliers, our regulator clients and our firm, GLI, has set forth the following procedures for such submissions.

a) One company will prepare and submit the entire submission, even if they are using parts from other suppliers, and must identify all part numbers of all components. This will be the primary contact for the submission;
b) The company submitting an approval request should do so on their letterhead. GLI will delegate an internal file number in this company's name and will bill this company for all costs incurred throughout the approval process;
c) The primary contact will be called when questions arise. However, GLI engineers will work with all parties involved, completing the review;
d) All suppliers who are part of the submission "group" may need to be licensed in the jurisdiction(s) where the submission is being approved. As a courtesy to the supplier, GLI may inquire as to whom does not need to be licensed from the regulator client. It should be noted that licensing questions should be handled directly with the jurisdiction; and
e) Upon completion, it is the primary contact company that will receive the approval letter, provided the submission meets the jurisdictional requirements. The primary contact company may then release copies of the approval letter to the associated manufacturer(s).

2.10 Random Number Generator Submission Requirements

2.10.1 General Statement. In some cases, where the system utilizes an electronic Random Number Generator, the electronic random number generator shall be submitted with the prototype (full submission) request. Random Number Generators shall be submitted for certification where:

a) The random number generator code has changed or the implementation of the random number has changed; or
b) Where a previously certified random number generator is being implemented on a new hardware platform (i.e. change of microprocessor); or

c) Where a previously certified random number generator is generating numbers that are outside the range of numbers previously tested; or
d) The random number generator has never been certified before under these standards. In this case, the random number generator will be certified as a part of the overall submission.

2.11 Hardware Requirements for RNG Testing

2.11.1 ***General Statement***. The manufacturer shall submit the device with all boards and associated hardware for testing.

2.11.2 ***Cable Requirements***. The manufacturer shall submit a cable to connect from the device to a PC-based computer. This cable will utilize serial type communications and easily attach to a standard PC. If any special attachments or converters are necessary, the submitting party shall supply the equipment.

2.11.3 ***GLI Standard Communications Specifications for RNG Testing***. The test laboratory has developed a relatively simple program to collect data through a serial communications port. Adherence to the specifications below allows the submitting party to use the test laboratory's PC-based RNG gathering program. Use of this protocol is NOT required; however, in that case, the submitting party shall supply the software collection interface software for the test lab's use, which will be reviewed prior to implementation. The following describes the implementation of our remote protocol:

a) The test laboratory's PC-based RNG gathering program uses the following communications protocol. The lab can configure a standard COM1 or COM2 port to the device/system's settings. The manufacturer shall supply correct settings to interface to their machine;
b) The manufacturer shall supply the test laboratory with a system or other medium test program running on the actual system or other medium that will do the following:

i. Look for the ASCII letter "R" for Ready, to be sent from the test laboratory collecting computer to the gaming device;
ii. Upon the gaming device or other medium receiving the "R," the game shall call the RNG for the numbers of the next game. The gaming device or other medium shall return to the collecting computer the amount of numbers called for each game.

c) The gaming device shall then send the numbers to the collecting computer in the following format:

i. The numbers SHALL be in ASCII format;
ii. The numbers SHALL be separated by a space;
iii. Leading zeros SHALL be inserted (e.g. if the game is returning twenty (20) balls for the game of keno with the range of numbers being between 1 and 80, the output to the collecting computer will look like the following: 23 25 01 00 10 09 43 51 03 04);
iv. The game should NOT send a space, line feed, or carriage return after the last number (the test laboratory will do that); and
v. After sending the numbers, the game shall look for another "R" and repeat the process.

*2.11.4 **Additional Requirements***.

a) The test program RNG shall be identical to the RNG contained in the system software except for the following changes which may be implemented to speed up the requirements of the test. The test laboratory may not allow any of the following changes where it determines such change might affect the data received from the RNG. It should be noted that production software may have a test mode that contains this imbedded RNG test mode, provided that the machine indicates clearly that it is in said test mode;

b) The RNG test program should NOT require credits in order to play;

c) The RNG test program should NOT award credits;

d) The RNG test program does not have to show the game play. The program can just display a message that states RNG test in progress;

e) The manufacturer shall supply the test laboratory with detailed instructions on how to set-up the system for test; and

f) The manufacturer shall supply the test laboratory with a detailed description of the RNG algorithm that includes a detailed description on the RNG implementation in their device, including how the initial SEED is generated. In addition, it shall provide the algorithm for reseeding or changing of the seed during game play, if applicable.

CHAPTER 3

3.0 BINGO SYSTEM REQUIREMENTS

3.1 Bingo System Definitions

3.1.1 ***General Statement***. The following are commonly used terms in describing the game of Bingo and the play of the game that are used throughout this chapter.

"Deal" means each separate package or series of packages consisting of one game of instant bingo, pull-tab raffle or seal cards with the same serial number.

"Designator" means an object used in the number selection process, such as a ping pong ball, upon which bingo letters and numbers are imprinted.

"Disposable paper card" means a non-reusable, paper bingo card manufactured with pre-printed numbers.

"Electronic Bingo Card Monitoring Device" (referred to as "EBM" throughout this chapter) means an electronic device that is used by a bingo player to monitor bingo cards purchased at the time and place of a licensed organization's bingo occasion. An EBM provides a means for bingo players to input numbers announced by a bingo caller; and compares the numbers entered by the player to the numbers contained on cards previously stored in the electronic memory of the device. An EBM also identifies the winning pattern; and signals only the bingo player when a winning bingo pattern is achieved. Automatically marking numbers on the EBM is only permissible when allowed by local ordinance. An EBM shall not mean or include any device into which coin, currency, or tokens are inserted to activate play.

"Electronic verification" means the verification of bingo by entering the free space number of the winning bingo card into computer equipment which contains pre-programmed software for this purpose.

"Equipment and video systems" includes equipment that facilitates the conduct of Bingo such as ball blowers, flash-boards, TV monitors, cameras, electronic verifiers and replacement parts for such equipment.

"Fixed Base Station" has the same meaning as Player Terminal.

"Free space number", "center number", "card" or "face number" means the number that is generally displayed in the center space of a bingo card that identifies the unique pattern of numbers displayed on that card.

"Manufacturer" means a person who modifies, converts, adds to or removes parts from a completed piece of bingo or other gaming equipment.

"Packet" means sets of bingo cards assembled in the order of games to be played. This may or may not include specials, winner-take-alls and jackpots.

"Perm Number" means a group of predefined bingo cards, each of which has a card number.

"Player Terminal" means a device or player station that are connected to a central system and allow the player to play the game of electronic bingo.

"Random selection" or "randomly selected" means a process of selecting number designators to produce random numbers during a bingo game in which each designator or number in the remaining population has an equal chance or probability of being selected.

"Serial number" means a unique number displayed or printed by the manufacturer on each set of bingo cards or each instant bingo or pull-tab card in a deal.

"Session" means a period of time during which one or more bingo games are conducted that begins with the selection of the first ball for the first game and ends after someone wins the last game.

3.2 General Operating Procedures

3.2.1 RESERVED.

3.2.2 Game Display. All systems shall utilize a lighted game board or other means to display to the public the drawn balls and the winning pattern of play for the game.

3.2.3 Ball Drawing. The balls shall be drawn one at a time from a machine that mixes the balls or via an approved electronic random number generator certified for use in the game of Bingo. The operator shall have no discretion over which ball is drawn.

3.2.4 Packet Sales. There shall be an easy means to determine the number of packs sold.

3.3 Point of Sale or Cashier Station Requirements

3.3.1 General Statement. Each bingo system must have a device or facility that provides for the sale of bingo cards and the collection and accounting tools needed to determine all sales initiated through the bingo system.

3.3.2 Accounting Requirements. The system must have the capability of recording and printing reports detailing sales and accounting information. This information can include,

but is not limited to, price of card faces or packages, number of faces or packages sold, total sales for both paper and electronic faces, total paid.

3.3.3 ***Backup Requirements***. The system must have a backup and archive utility to allow the operator to save critical data should a system failure occur. This backup can be automatically run after the end of each session or may be a manual process to be run at the operator's desire.

3.3.4 ***Sales and Accounting Report Requirements***. The system shall contain sales and accounting reports detailing all financial transactions on the system. In addition, a log of significant events relating to accounting and sales must be maintained on the system and the operator shall be given the option of printing this log on demand.

3.3.5 ***Configuration Access Requirements***. The interface element setup/configuration menu(s) must not be available unless using an authorized access method.

3.3.6 ***Sales Adjustments and Corrections***. The system shall allow for meter adjustments and sales data corrections, if applicable, through a password controlled audit menu. A log of all accounting changes including the employee name/ID, authorized to make the changes, the date of the change, the time of the change and the detailed items adjusted must be kept on the system. A printout of this audit log must also be available upon demand.

3.3.7 ***Remote or Portable Sales Stations***. The system may have the capability of supporting remote sales units provided that each unit communicate all sales to the main sales station either via radio communications or via direct wiring to the stations. Remote sales terminals may have all of the operational capabilities of the main sales station except that audit functions may only be done at the main station.

3.4 Callers Desk Requirements

3.4.1 ***General Statement***. A Bingo system may possess a 'Callers Desk' or other means in which the selected balls or numbers get entered into the system for validation purposes. The Callers Desk shall not have the ability to sell or modify sales information.

3.4.2 ***Ball Draw Information***. The Callers desk shall have either a manual ball blower system or an approved Electronic Random Number Generator, see also Section 3.7, 'Electronic Random Number Generator Requirements,' to determine the order of drawn balls. Each drawn ball shall be announced prior to marking the light board. If the system used EBM devices the ball draw information must be entered into the system at the same time as the number is announced. The Callers Desk should have some means of correcting any input errors regarding drawn balls up to the time the game is closed.

3.4.3 ***Winning Bingo Card Verification***. The system shall contain a means in which all card perm numbers or electronic serial numbers are contained within a database for winning card verification. The winning card number or numbers, if more than one card has simultaneous Bingo, shall be entered into the system and the system shall verify that the claim is valid. A printed record of all drawn balls, and each card face that won for each game, as required by local ordinance.

3.5 Server and Database Requirements

3.5.1 ***General Statement***. An Electronic Bingo System will possess a database of all cards in the perm. Modification or changes to card faces shall not be permitted. Access to the database shall be controlled by password authorization or another secure method.

3.5.2 ***System Clock***. A Bingo System must maintain an internal clock that reflects the current time (24hr format - which is understood by the local date/time format) and date that shall be used to provide for the following:

a) Time stamping of significant events;

b) Reference clock for reporting; and

c) Time stamping of all sales and draw events.

3.5.3 ***Synchronization Feature***. If multiple clocks are supported the system shall have a facility whereby it is able to update all clocks in components.

3.5.4 ***System Accounting Reporting Requirements***. The system or other equipment, shall be capable of producing general accounting reports to include the following information:

a) The name of the organization;

b) The game date and total number of cards and packets sold;

c) The sales for regular and packet games;

d) All information for special games that would be required to validate a bingo. (i.e., Color, special patterns, special cards, free strips, odd/even numbers, etc.)

e) The winner-take-all and bonus computations;

f) Cash due and cash received reconciliation;

g) All other monies received from bingo game;

h) Cash and check expenses;

i) The total tax, cash, expenses and deposits;

j) The signature and date of the person preparing the report; and

k) Other reports as required by the specific local ordinance

3.5.5 ***Game Schedule Reports***. A report detailing the game schedule and the type of games being played in the session shall be available to be printed from the system. Changes to the game parameters shall not be allowed once the game has begun.

3.6 Electronic Bingo Card Marking Device (EBM) Requirements

3.6.1 ***General Statement***. EBM shall not mean or include any device into which coin, currency, or tokens are inserted to activate play.

3.6.2 ***Bingo Card Limitation***. The EBM shall have the ability to limit the number of bingo cards per game, if required by local ordinances.

3.6.3 ***RESERVED***

3.6.4 ***Clearing of EBM***. Each EBM shall be programmed to automatically erase all electronic bingo cards and/or bingo card face numbers stored in device:

a) upon turning off the device after the last bingo game of the occasion has been played; or
b) by some secondary timing or clearing method.

3.6.5 ***Card Selection***. No EBM may be designed to allow bingo players the ability to design their own bingo cards by choosing, rearranging, or placing numbers on a card, unless permissible by the local ordinance.

3.6.6 ***EBM Without a Site System***. If the EBM is not used in conjunction with a site system but rather requires an organization to enter bingo card face numbers from disposable paper bingo cards, there must be a method to limit the number of cards loaded into the device. The limit will be established by local ordinance. Additionally, the system shall have a means of configuring the limitation, if required by local ordinance. A site system shall not be able to engage in any type of sale, void, or reload transaction unless the EBM is connected to and communicating with the site system.

3.6.7 ***Printing of Bingo Cards***. A receipting function for electronic bingo cards must be self contained within the site system and must record and print out on a copy which is given to the player, the device identification number, the date, number of electronic bingo cards purchased or loaded and the total amount charged for the electronic bingo cards.

3.6.8 Printing of Bingo Game Information. A site system shall be able to provide the winning numbers and game patterns required for the entire bingo occasion on a hard copy printout. The printout must be available upon demand at the bingo occasion.

3.6.9 EBM or Site System Malfunction. If any malfunction or problem with a EBM or site system that could affect the security or integrity of the bingo game, the bingo card monitoring devices, or the site system, is discovered, the system must log and immediately notify operations staff of the malfunction, as soon as possible.

3.6.10 RESERVED

3.6.11 RESERVED

3.6.12 RESERVED

3.6.13 EBM Back-up. It is recommended that regardless of the number of EBMs made available for play, at least one (1) device shall be reserved by the licensed organization as a back-up device, in the event a device in play malfunctions.

3.6.14 RESERVED

3.6.15 RESERVED

3.6.16 Bingo Card Verification. Numbers appearing on a bingo card identified by an EBM to be a winning bingo card, must be verified in the presence of the majority of the players or entry into an electronic card verifier.

3.7 Electronic Random Number Generator Requirements

3.7.1 Random Number Generator Requirements. The use of an RNG results in the selection of game symbols or production of game outcomes. The selection shall:

a) Be statistically independent;
b) Conform to the desired random distribution;
c) Pass various recognized statistical tests; and
d) Be unpredictable.

3.7.2 Applied Tests. The test laboratory may employ the use of various recognized tests to determine whether or not the random values produced by the random number generator pass the desired confidence level of 95%. These tests may include, but are not limited to:

a) Chi-square test;
b) Equi-distribution (frequency) test;
c) Gap test;
d) Overlaps test;
e) Coupon collector's test;
f) Permutation test;
g) Kolmogorov-Smirnov test;
h) Adjacency criterion tests;
i) Order statistic test;
j) Runs tests (patterns of occurrences should not be recurrent);
k) Interplay correlation test;
l) Serial correlation test potency and degree of serial correlation (outcomes should be independent of the previous game); and
m) Tests on subsequences.

3.7.3 Background RNG Activity Requirement. The RNG shall be cycled continuously in the background between games and during game play at a speed that cannot be timed by the player. The test laboratory recognizes that some time during the game, the RNG may not be cycled when interrupts may be suspended. The test laboratory recognizes this but shall find that this exception shall be kept to a minimum.

3.7.4 RNG Seeding. The first seed shall be randomly determined by an uncontrolled event. After every ball draw, there shall be a random change in the RNG process (new seed, random timer, delay, etc.). This will verify the RNG doesn't start at the same value, every time. It is permissible not to use a random seed; however, the manufacturer must ensure that games will not synchronize.

3.7.5 RESERVED

3.7.6 Ball Drawing Games. The consequences for games depicting balls being drawn from a barrel are as follows:

a) At the start of each game, only balls applicable to the game are to be depicted. For games with bonus features and additional balls that are selected, they should be chosen from the original selection without duplicating an already chosen ball;
b) The barrel shall not be re-mixed except as provided by the rules of the game depicted; and
c) As balls are drawn from the barrel, they shall be immediately used as directed by the Rules of the Game (i.e., the balls are not to be discarded due to adaptive behavior by the gaming device).

3.7.7 Scaling Algorithms.

a) If a random number with a range shorter than that provided by the RNG is required for some purpose within the gaming device, the method of re-scaling, (i.e., converting the number to the lower range), is to be designed in such a way that all numbers within the lower range are equally probable.
b) If a particular random number selected is outside the range of equal distribution of re-scaling values, it is permissible to discard that random number and select the next in sequence for the purpose of re-scaling.

3.8 Mechanical Random Number Generator Requirements

3.8.1 Mechanical Based RNG Games. Mechanical based RNG games are games that use the laws of physics to generate the outcome of the game. All mechanical based RNG games must meet the requirements of this document with the exception of the requirements for electronic random number generators. In addition, mechanical based RNG games must meet the following rules:

a) The test laboratory will test via PC communications multiple iterations to gather enough data to verify the randomness. In addition, the manufacturer may supply live data to assist in this evaluation;
b) The mechanical pieces must be constructed of materials to prevent decomposition of any component over time (e.g., a ball shall not disintegrate);
c) The properties of physical items used to choose the selection shall not be altered; and
d) The player shall not have the ability to physically interact or come into physical contact or manipulate the machine physically with the mechanical portion of the game.

***NOTE**: The laboratory reserves the right to require replacement parts after a pre-determined amount of time. In addition, the device(s) may require periodic inspections to ensure the integrity of the device. Each mechanical based RNG game shall be reviewed on a case-by-case basis.*

3.8.2 Mechanical Ball Mixing Method. A mechanical device that uses air flow for mixing and randomly withdrawing balls to determine the letters and numbers or symbols to be called must be utilized in locations that do not use Electronic RNG's to draw the winning balls. This device shall be constructed in the following manner:

a) It will allow participants full view of the mixing action of the balls; and

b) The operation cannot be interrupted to change the random placement of the balls at the exit receptacle of the device, except when the device is shut off.

3.8.3 ***Bingo Balls***. A set of balls, each bearing a unique number, and the letters B, I, N, G, or O provided, that the letters B, I, N, G, O need not appear if the balls are used for speed or hidden face bingo games. The following additional requirements regarding bingo balls must be met:

a) The entire set of balls shall be available for inspection by the players before a bingo session begins to determine that all are present and in operating condition;
b) Each numbered ball shall be the same weight as each of the other balls and free from any defects; and
c) Each set of balls in play must be distinguishable from all other sets of balls in play.

3.8.4 ***RNG Outcome***. There shall be a method to display the RNG Outcome for the numbers called at all bingo games. The display must be visible to all players and clearly indicate all numbers that have been called.

CHAPTER 4

4.0 ELECTRONIC KENO SYSTEM REQUIREMENTS

4.1 Keno System Definitions

4.1.1 ***General Statement***. The following are commonly used terms in describing the game of Keno and the play of the game.

"EPROM" means Erasable Programmable ROM.

"Exception log" means a record documenting a prize payout that has not been authorized by the computer.

"Inside ticket" means a blank Keno ticket:

a) Constructed with eighty (80) blocks numbered one (1) through eighty (80); and
b) Containing a bet block.

"Keno" means a numbers game in which:

a) A participant chooses from one (1) to ten (10) numbers from a pool of eighty (80) numbers; and
b) The winner and his prize is determined by correctly matching his numbers to the twenty (20) numbers generated in the game.

"Keno equipment" means:

a) Electronic selection device;
b) Random number generator;
c) Computerized Keno system; or

d) Integrated system of computer hardware and software that:
   i. Generates a player ticket;
   ii. Records a game outcome;
   iii. Verifies a winning ticket;
   iv. Produces a management report; or
   v. Performs other internal audit controls of a Keno operation.

"Keno manager" means the person in charge of the operation of the Keno game.

"Outside ticket" means a computer generated ticket given to the player which reflects certain game and wagering information.

"PROM" means programmable ROM.

"Quick pick" means a number selection made for the player by a computer.

"Random number generator" means a device:

a) For generating number values that exhibit characteristics of randomness; and
b) Composed of:
   i. Computer hardware;
   ii. Computer software; or
   iii. A combination of computer hardware and software.

"ROM" or "read only memory" means:

a) The electronic component used for storage of nonvolatile information in Keno equipment that provides instructions needed by the computer to begin its operations each time it is turned on;
b) "PROM"; and
c) "EPROM".

"Selection device" means a device that:

a) May be operated:
   i. Manually; or
   ii. Automatically; and
b) Is used to randomly select numbers.

"Transaction log" means a record of the same information printed on each outside ticket that is:

a) Retained in the computer's memory; or
b) Printed out by the computer.

4.2 General Operating Procedures

4.2.1 ***General Statement***. The rules within this section are general rules that govern the conduct of Keno.

4.2.2 ***Operation of Keno Equipment***. No player shall have access to, or be allowed to activate the Keno equipment. Each number selected by the player, along with the amount wagered and the total numbers played shall be entered into the computer by the operations staff, and an outside ticket shall be presented to the player. The inside ticket shall be retained until at least three games after the game in which the ticket was purchased for.

4.2.3 ***Ticket Marking***. Players shall mark the inside ticket with their number selections or selection by quick pick is permissible.

4.2.4 ***Outside Ticket***. Concurrently with the generation of the outside ticket, the information on the outside ticket shall be recorded on the transaction log.

4.2.5 ***Information on the Outside Ticket***. The outside ticket that is given to the player shall contain the following information:

a) Date of the game;
b) Numbers chosen by the player;
c) Ticket sequence number;
d) Conditioning of the ticket;
e) Station number where the ticket was generated;
f) Game number; and
g) The name of the organization.

4.2.6 Voiding a Ticket. If a ticket is voided, the void information shall be input in the computer, and the computer shall document the appropriate information pertaining to the voided wager. A void slip shall then be issued, which shall be retained with the outside tickets to serve as documentation of the transaction.

4.2.7 Malfunction During Number Selection. If the Keno equipment breaks down or malfunctions during the selection of the winning numbers and the problem is not promptly corrected, players shall be refunded the amount wagered upon presenting their outside ticket.

4.2.8 Start of the Game. Once the Keno manager is satisfied that all tickets for a game have been issued, the game shall be closed and all players shall be so notified. No tickets may be written or voided after a game has been closed and the number selection process has begun. Controls shall exist to prevent the writing and voiding of tickets after a game has been closed and after the number selection process has begun.

4.2.9 Display of Winnings. The potential payout or prize for each different type of wager shall be made known to the players prior to their selecting numbers. This may be done through posting the potential payouts in a manner clearly visible to the players or through a printed schedule that is available at each location where Keno is played.

4.2.10 Display of Time Restrictions. A statement indicating any time restrictions for redeeming a winning ticket shall be visibly posted at each location where Keno is played or printed on the outside ticket or the schedule of prize payouts.

4.2.11 Draw Ticket Generation. A draw ticket shall be prepared by the computer.

4.2.12 Collection of Winnings. A player shall wait until the last game wagered on has been called in order to collect any winnings. A player may be allowed to play fewer consecutive games than originally indicated, if approval has been obtained from the Keno manager and the voided wagers are properly documented in the transaction log.

4.2.13 Winner Verification. Winning tickets shall be verified prior to payout and paid in the following manner:

a) Procedures shall be established to preclude payment of a ticket previously presented for payment, unclaimed winning tickets after a specified period of time, voided tickets, and tickets which have not been issued.
b) The sequence number of a ticket presented for payment shall be input into the computer, and the payment amount shall be generated by the computer and shall be given to the player.
c) No payouts shall be made unless a winning outside ticket has been presented. If the payout amount is not indicated on the outside ticket, a payout slip shall be issued.
d) The exception log shall be produced and maintained documenting any payments made on tickets that have not been authorized by the computer.

4.2.14 Simultaneous Winners. If two (2) or more tickets fulfill the requirements for winning the largest prize on the same game, the full prize shall be divided equally among the winning tickets subject to any prize payout limit per game. Applicable prize payout limits shall be legibly posted at each location where Keno is played and printed on the schedule of prize payouts.

4.3 Hardware Requirements

4.3.1 ***General Statement***. All hardware associated with a Keno System must meet the following Hardware Requirements:

a) All electrical and mechanical parts and design principles shall follow acceptable industrial codes in standards in both design and manufacture;
b) Logic boards and software EPROM's shall be in a locked or sealed area within the machine or in a separate machine. No access to this area is allowed by persons other than the manufacturer's or distributor's authorized service personnel;
c) A surge protector that feeds all power to the equipment shall be installed;
d) The operation of the Keno equipment shall be impervious to influences from the outside of the device, including electro-magnetic interference, electro-static interference, and radio frequency interference;
e) All computer functions and programs shall be secured in a secured and protective housing; and
f) The design of the Keno equipment shall ensure that there are no readily accessible game function related points which would allow any input and that there is no access to input or output circuits unless it is necessary for the proper operation of the equipment. No switches or other controlling devices may be added to the machine that would cause the machine to operate in a manner other than in which it was designed to play.

4.4 Software Requirements

4.4.1 ***General Statement***. This section refers to all the associated software in a Keno System.

4.4.2 Storage of Software. All programs residing in the equipment shall be contained in a storage media which is not alterable through any use of the circuitry or programming of the machine itself.

4.4.3 Detection of Corruption. Machine programs shall be capable of detecting corruption and shall provide an error message due to failure of the program storage media and cause the machine to cease play until corrected.

4.4.4 Random Number Generator. A random number generator shall reside on a PROM or EPROM secured in the logic board of the computer. The numbers selected by the random number generator for each game shall be stored in the computer's memory and be capable of being output to produce a draw ticket with no manual input of the numbers required. Each possible combination of numbers which produce winning or losing game outcomes shall be available for random selection at the initiation of each game. The random selection process shall not produce any patterns of game outcomes, or be dependent upon any previous number selections or game outcomes, the amount wagered, or upon the style or method of play. The logic of the hardware or software may not interfere with the random number generator software, see also Section 3.7 'Electronic Random Number Generator Requirements' and Section 3.8 'Mechanical Random Number Generator Requirements.

4.4.5 Retention of Game Data. The following rules apply to the game data within the Keno System:

a) No Keno equipment shall have a mechanism whereby an error will cause the game data to automatically clear. Game data shall be maintained at all times regardless of whether the machine is being supplied with power.
b) Game data shall be stored in such a way as to prevent loss of the data when replacing parts or modules during normal maintenance.

4.4.6 Printer. The following rules apply to the printers associated with the Keno System:

a) The numbers that the player selects shall be printed on the outside ticket;
b) The printer mechanism shall have a paper-sensing device that upon sensing a "paper low" condition will allow the machine to finish printing the ticket and then prevent further ticket writing;
c) Each machine shall recognize a printer power loss occurrence and cease play until power has been restored to the printer and the machine is capable of producing a valid ticket;
d) The printer shall have the capability of producing, at a minimum, the following accounting reports: The records shall include:

    i. The information contained in the transaction log;
    ii. Payout information for each game played;
    iii. The number draw and time of the draw for each game played;
    iv. RESERVED;
    v. System exception information including voids and late pays for each game played; and
    vi. The exception log.

4.4.7 Report Requirements. At the conclusion of each day generate a daily report. The required reports are as follows:

a) Records shall be maintained which include win and write by individual writer for each day;
b) Records shall be maintained which include (for each licensed game) win, write, and win-to-write hold percentage for:

    i. Each shift;
    ii. Each day;

iii. Month-to-date; and

iv. Year-to-date or fiscal year-to-date as applicable.

c) Payout information (date, time, ticket number, amount, etc.);

d) Game information (number, ball draw, time, etc.);

e) Daily recap information which includes:

i. Write;

ii. Payouts; and

iii. Gross revenue (win).

f) System exception information, including:

i. Voids;

ii. Late pays; and

iii. Appropriate system parameter information (e.g., changes in paytables, ball draws, payouts over a predetermined amount, etc.)

CHAPTER 5

5.0 ELECTRONIC KENO AND BINGO GAMES USING PLAYER TERMINALS

5.1 Player Terminal Definitions

5.1.1 ***General Statement***. The following are commonly used terms in describing the games of Keno and Bingo and the play of the game that are used throughout this chapter.

"Cash-out ticket" means an instrument of value generated by a gaming machine representing a monetary amount owed to a customer at a specific gaming machine. This investment may be wagered at other machines by depositing the cash-out ticket in the machine document acceptor.

"EPROM" means erasable programmable read-only memory.

"Game server" means an electronic selection device, utilizing a random number generator.

"Gaming machine" means an electronic or electromechanical machine which contains a microprocessor with random number generator capability which allows a player to play games of chance, some of which may be affected by skill, which machine is activated by the insertion of a coin, token or currency, or by the use of a credit, and which awards game credits, cash, tokens, or replays, or a written statement of the player's accumulated credits, which written statements are redeemable for cash.

"Hold" means the relationship of win to coin-in for gaming machines.

"Hold percentage" means the percentage calculated by dividing the win by the drop or coin-in. Can be calculated for individual tables or slot machines, type of table games or slot machines on a per day or cumulative basis.

"Jackpot payout" means the portion of a jackpot paid by gaming machine personnel. The amount is usually determined as the difference between the total posted jackpot amount and the coins paid out by the machine. May also be the total amount of the jackpot.

"PIN" means personal identification number selected by player and used to access player's account.

"Player tracking system" means a system typically used in gaming machine departments that can record the gaming machine play of individual patrons.

"Random number generator" means a device that generates numbers in the absence of a pattern. May be used to determine numbers selected in various games such as keno and bingo. Also commonly used in gaming machines to generate game outcome.

"Theoretical hold" means the intended hold percentage or win of an individual coin-operated gaming machine as computed by reference to its payout schedule and reel strip settings or EPROM.

"Theoretical hold worksheet" means a worksheet provided by the manufacturer for all gaming machines which indicate the theoretical percentages that the gaming machine should hold based on adequate levels of coin-in. The worksheet also indicates the reel strip settings, number of coins that may be played, the payout schedule, the number of reels and other information descriptive of the particular type of gaming machine.

"Tokens" means a coin like money substitute, in various denominations, used for gambling transactions.

5.2 General Operating Procedures

5.2.1 ***General Statement***. The following are general rules that govern the conduct of Keno or Bingo games using player terminals.

a) Electronic player terminals must be designed to comply with the standards defined in GLI-11 and GLI-12, with the exception of the Random Number Generator requirements, provided that the Bingo or Keno system contains an approved RNG, and the cash handling equipment requirements, provided that the Bingo or Keno system supports cashier transactions; and

b) If the electronic equipment uses a bar code or microchip reader, the reader shall be tested periodically, by an entity independent of Bingo personnel, to determine that it is correctly reading the bar code or the microchip.

5.2.2 ***Live Game Correlation***. Unless otherwise denoted on the payglass, where the gaming device plays a game that is recognizable such as Poker, Blackjack, Roulette, etc., the same probabilities associated with the live game shall be evident in the simulated game.

5.3 Payment by Voucher or Payment Slip

5.3.1 ***General Statement***. If the electronic equipment returns a voucher or a payment slip to the player, the following shall apply:

a) The customer may request a cash-out ticket from the gaming machine which reflects all remaining credits. The cash-out ticket shall be printed at the gaming machine by an internal document printer;

b) The customer shall redeem the cash-out ticket at a change booth or cashiers' cage. Once presented for redemption, the cashier shall:

i. Scan the bar code via an optical reader or its equivalent; or
ii. Input the cash-out ticket validation number into the computer.

c) The information contained on the cash out ticket shall be transmitted to the host computer. The host computer shall verify the authenticity of the cash-out ticket and communicate directly to the change booth or cashier cage terminal;

d) If valid, the cashier pays the customer the appropriate amount and the cash-out ticket is electronically noted "paid" in the system;

e) If invalid, the host computer shall notify the cashier that one of the following conditions exists:

i. Serial number cannot be found on file (stale date, forgery, etc.);
ii. Cash-out ticket has already been paid; or
iii. Amount of cash-out ticket differs from amount on file. The cashier shall refuse payment to the customer and notify a supervisor of the invalid condition.

f) If the coinless/cashless gaming machine system temporarily goes down, cashiers may redeem cash-out tickets after recording the following:

i. Serial number of the cash-out ticket;
ii. Date;
iii. Dollar amount; and
iv. Issuing gaming machine number.

g) Cash-out tickets shall be validated as expeditiously as possible when the coinless/cashless gaming machine system is restored.

5.4 Cashless Player Terminals

5.4.1 ***General Statement***. If the gaming machine does not accept currency or coin and does not return currency or coin, the following standards shall apply:

a) The device must be connected to a central computer, with supporting hardware and software, to coordinate network activities, provide system interface, and store and manage a player/account database; or
b) A network of contiguous player terminals with touch-screen or button-controlled video monitors connected to an electronic selection device and the central computer via a communications network; or
c) One or more electronic selection devices, utilizing random number generators, each of which selects any combination or combinations of numbers, colors and/or symbols for a network of player terminals.

5.5 Game Server Requirements

5.5.1 ***General Statement***. If the player terminals are connected to a game server, the following standards shall apply:

a) The game server shall generate and transmit to the bank of player terminals a set of random numbers, colors and/or symbols at regular intervals. The subsequent game results are determined at the player terminal and the resulting information is transmitted to the account server;

b) The game servers shall be housed in a game server room or secure locked cabinet outside of the player terminal.

5.6 Account Server Requirements

5.6.1 ***General Statement***. A central computer acting as an account server shall provide customer account maintenance and the deposit/withdrawal function of those account

balances. If the player terminals are connected to an account server, the following standards shall apply:

a) Patrons may access their accounts on the computer system by means of a Player Identification Number or other secure method, at the player terminal. Each player terminal may be equipped with a card reader and PIN (personal identification number) pad or touch screen array for this purpose;
b) All communications between remote peripheral devices and the system shall be encrypted for security reasons;
c) A computer file for each patron shall be prepared by a clerk prior to the patron being issued a PIN card to be utilized for machine play. The patron shall select his/her four digit PIN, known only to the patron, to be used in conjunction with the PIN Card;
d) The clerk shall sign-on with a unique password to a terminal equipped with peripherals required to input data from the Patron Registration form. Passwords are issued and can only be changed by MIS personnel at the discretion of the department director; and
e) After entering a specified number of incorrect PIN entries at the cage or player terminal, the patron shall be directed to proceed to the Gaming Machine Information Center to obtain a new PIN. If a patron forgets, misplaces or requests a change to their four digit PIN, the patron shall proceed to the Gaming Machine Information Center.

5.6.2 ***Account Deposits***. When a patron is depositing credits into an existing account the following standards shall apply:

a) The cashier shall sign-on with a unique password to a cashier terminal equipped with peripherals required to complete the credit transactions. Passwords are issued and can only be changed by MIS personnel at the discretion of the department director;

b) The patron shall present cash, chips, coin or coupons along with their PIN Card to a cashier to deposit credits;
c) The cashier shall complete the transaction by utilizing a card scanner which the cashier shall slide the patron's PIN card through; and
d) The cashier shall accept the funds from the patron and enter the appropriate amount on the cashier terminal.

5.7 Required Reports

5.7.1 ***General Statement***. The accounting, game servers and player tracking systems shall contain the following accounting data and must be capable of producing accounting reports on demand of this data:

a) Data required to be maintained for each game played includes:

i. Date and time game start and game end.
ii. Sales information by location.
iii. Money distribution by location.
iv. Refund totals by location.
v. Cards-in-play count by location.
vi. Identification number of winning card(s).
vii. Ordered list of balls or numbers drawn.
viii. Prize amounts at start and end of game.

b) Sales information required shall include:

i. Daily sales totals by location.
ii. Commissions distribution summary by location.
iii. Game-by-game sales, prizes, refunds, by location.
iv. Daily network summary, by game by location.

c) Player account information shall include:

i. Printed receipts issued with any player account shall include a time/date stamp.
ii. All player transactions shall be maintained, chronologically by account number.
iii. the ability to, upon request, produce a printed account history, including all transactions, and a printed game summary (total purchases, deposits, wins, debits, for any account that has been active in the game during the preceding 24 hours).
iv. The software shall provide a "player account summary" at the end of every game. This summary shall list all accounts for which there were any transactions during that game day and include total purchases, total deposits, total credits (wins), total debits (cash-outs) and an ending balance.