STANDARD SERIES

GLI-24:

Electronic Table Game Systems

Version: 1.2

Release Date: September 6, 2006

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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 evidencing the certification to this Standard.

Electronic Table Game Systems

GLI-24 Revision 1.2

REVISION HISTORY

Rev 1.2

1.3.1 added other GLI Standards which may apply
3.2.2 changed word 'Update' to 'synchronize'
3.2.3 made various formatting and grammatical changes
3.3.2 changed verbiage for clarity of rule
3.3.5 made formatting change
3.6.1 added (See 3.7.1)
3.6.4 changed verbiage for clarity and made grammatical changes
3.7.1 added definition for Remote Access (General Statement became 3.7.2, Self Monitoring became 3.7.3)
3.7.2 added 'on a' and made grammatical changes
3.7.3 added 'and during each power-up and power reset'
3.8 removed 'if a house backed game added/hands'
3.9.2 removed 'to be filtered by:'
3.10 changed Player Terminal to Player Interface. Removed 'These conditions would not apply to thin client systems where the player term does not maintain its own logic'. Added main to b) and c)
3.10.2 made grammatical changes
3.10.3 added in its entirety
3.11.1 added verbiage for clarity of rule
3.11.2 added verbiage for clarity of rule
3.12.2 added verbiage for clarity of rule and made formatting and grammatical changes
3.14.1 removed 'as' from last statement
3.16 changed Player Terminal to ETGS
3.16.1 added in its entirety
3.17 removed words 'the' and 'for' from the last statement

V1.1 release date for comment: June 13, 2006

The document was modified to separate Electronic Table Game Systems from Table Game Systems that require human interaction. GLI-24 will address Electronic Table Game Systems where a dealer is not required for the play of the game. For those Table Game Systems that require a dealer, please refer to GLI-25.

Rev 1.0

V1.0 release date: March 7, 2006

Date Created: March 7, 2006

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CHAPTER 1

1.0 Standard Overview

1.1 Introduction

1.1.1 General Statement. **Gaming Laboratories International, Inc. (GLI)** has been testing gaming equipment since 1989. Over the years, we have developed numerous standards for jurisdictions all over the world. In recent years, many jurisdictions have opted to ask for technical standards without creating their own standards. In addition, with technology changing almost monthly, new technology is not being incorporated quickly enough into existing standards due to the long process of administrative rulemaking. This document, *GLI Standard 24*, will set forth the technical Standards for ELECTRONIC TABLE GAME SYSTEMS (ETGS).

This standard and all others may be obtained by downloading it from our website at www.gaminglabs.com or by writing to us at:

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1.2 Purpose of Technical Standards

1.2.1 ***General Statement***. The Purpose of this Technical Standard is as follows:

a) To eliminate subjective criteria in analyzing and certifying Electronic Table Game Systems operation.
b) To only test those criteria that impact the credibility and integrity of Electronic Table Game Systems from both the Revenue Collection and Player's play point of view.
c) To create a standard that will ensure that the Electronic Table Game 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 own 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.
f) 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.
g) To construct a standard that can be easily changed or modified to allow for new technology.
h) To construct a standard that does not specify any particular 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.

1.2.2 ***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.

1.3 Other Documents That May Apply

1.3.1 General Statement. The following other GLI standards may apply, depending on the features of the ETGS and references throughout this document. All GLI standards are available on our website at www.gaminglabs.com:.

a) GLI-11 Gaming Devices in Casinos;
b) GLI-12 Progressive Gaming Devices in Casinos;
c) GLI-13 On-Line Monitoring and Control Systems (MCS) and Validation Systems in Casinos;
d) GLI-16 Cashless Systems in Casinos;
e) GLI-17 Bonusing Systems in Casinos; and
f) GLI-18 Promotional Systems in Casinos.

NOTE: This standard covers the Technical Specifications of the operation of Electronic Table Game Systems, as defined within section 1.4.1 below, where the table games are operated electronically without a live dealer. Please refer to GLI-25 for Electronic Table Game Systems that utilize a live dealer.

1.4 Defining Electronic Table Game Systems

1.4.1 General Statement. An Electronic Table Game System (ETGS) is the combination of a Central Server, Player Interface and all Interface Elements that function collectively for the purpose of electronically simulating table game operations. **This standard is to be used when there is no live dealer and the game plays without significant human interaction** including the initiation of game play, responsible for all monetary transactions including credit acceptance, collecting wagers, distributing winnings, and ensuring all wagers are registered properly. **This standard will not make assumptions as to the classification of a device in a particular jurisdiction as being a table game or a gaming device, as defined within the GLI-11 Gaming Devices in Casinos standard. Nor does GLI offer an opinion as to how many 'devices' the equipment encompasses.**

NOTE: For table game systems that utilize a live dealer, please refer to the GLI Standard 25.

1.5 Phases of Testing

1.5.1 ***General Statement***. Electronic Table Game submissions to the Test Laboratory will be performed in two phases:

g) Within the laboratory setting; and
h) On-site following the initial install of the system to ensure proper configuration of the security applications.

NOTE: In addition to the on-site testing of the system, the Test Laboratory shall provide training on this new technology to the local regulators, recommended field auditing procedures, and assistance with the compilation of Internal Controls, if requested.

CHAPTER 2

2.0 SUBMISSION REQUIREMENTS

2.1 Reference Guide

Due to the variant ranges of systems and potential sizing limitations, each ETGS will have to be reviewed on an individual basis for custom submission requirements. It is our recommendation that the Submission Requirements outlined within GLI-13 Online Monitoring and Control and Validation Systems be observed as a guideline for system submissions.

CHAPTER 3

3.0 SYSTEM REQUIREMENTS

3.1 Introduction

This chapter would apply to the overall system operations to ensure the security, accountability and integrity of the equipment.

3.2 Technical Requirements

3.2.1 ***System Clock***. The 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 configuration changes.

3.2.2 ***Synchronization Feature***. If multiple clocks are supported, the system shall have a facility whereby it is able to synchronize those clocks in each system component, whereby conflicting information could not occur.

3.2.3 ***System Integrity***. The Laboratory will perform certain tests to determine whether or not outside influences affect game fairness to the player or create cheating opportunities. An Electronic Table Game System shall be able to withstand the following tests, resuming game play without operator intervention:

a) Random Number Generator If implemented, the random number generator and random selection process shall be impervious to influences from outside the device, including, but not limited to, electro-magnetic interference, electro-static interference, and radio frequency interference;

b) Electro-Magnetic Interference Electronic Table Game Systems shall not create electronic noise that affects the integrity or fairness of neighboring devices or associated equipment;

c) Electro-Static Interference. Protection against static discharges requires that the table game's conductive cabinets be earthed in such a way that static discharge energy shall not damage or inhibit the normal operation of the electronics or other components within the ETGS. The ETGS may exhibit temporary disruption when subjected to a significant electro-static discharge greater than human body discharge, but they shall exhibit a capacity to recover and complete any interrupted play without loss or corruption of any control or data information associated with the ETGS. The tests will be conducted with a severity level of a minimum of 27KV air discharge;

d) Radio Frequency Interference (RFI). Electronic Table Game Systems shall not divert from normal operation by the application of RFI at a frequency range from twenty-seven (27) to one thousand (1000) MHZ with a field strength of three (3) volts per meter;

e) Magnetic Interference. Electronic Table Game Systems shall not be adversely affected by magnetic interference. The manufacturer should supply any documentation if the device has had magnetic interference testing against any recognized standard; and

f) Liquid Spills. Liquid spills applied to the outside of the Electronic Table Game System shall not affect the normal operation of the machine, the integrity of the material or information stored inside the cabinet, or the safety of the players operating the equipment.

3.2.4 Physical Security. The server or system component(s) must reside in a secure area where access is limited to authorized personnel. It is recommended that logical access to the game be logged on the system or on a computer or other logging device that resides outside the secure area and is not accessible to the individual(s) accessing the secure area. The logged data should include the time, date, and the identity of the individual accessing the secure area. The resulting logs should be kept for a minimum of 90 days.

3.3 Random Number Generator

3.3.1 General Statement. The Random Number Generator (RNG) is the selection of game symbols or production of game outcomes. The regulations within section 3.3 are only applicable to ETGS's that utilize an RNG, which shall:

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

3.3.2 Selection Process. Mechanical and Electro-Mechanical Random Number Generator Requirements:

a) All Combinations and Outcomes Shall Be Available. Each possible permutation or combination of game elements that produces winning or losing game outcomes shall be available for random selection at the initiation of each play, unless otherwise denoted by the game.
b) No Near Miss. After selection of the game outcome, the ETGS shall not make a variable secondary decision, which affects the result shown to the player. For instance, the random number generator chooses an outcome that the game will be a loser.

c) No Corruption from Associated Equipment. An ETGS shall use a communication protocol that effectively protects the random number generator and random selection process from influence by associated equipment, which may be communicating with the ETGS.

3.3.3 ***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) Poker test;
f) Coupon collector's test;
g) Permutation test;
h) Kolmogorov-Smirnov test;
i) Adjacency criterion tests;
j) Order statistic test;
k) Runs tests (patterns of occurrences should not be recurrent);
l) Interplay correlation test;
m) Serial correlation test potency and degree of serial correlation (outcomes should be independent of the previous game); and n) Tests on subsequences.

3.3.4 ***Background RNG Activity***. 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.

3.3.5 ***RNG Seeding***. The first seed shall be randomly determined by an uncontrolled event. After every game 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.

3.3.6 ***Live Game Correlation***. Unless otherwise denoted on the pay glass/display, where the ETGS 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. For example, the odds of getting any particular number in Roulette where there is a single zero (0) and a double zero (00) on the wheel, shall be 1 in 38; the odds of drawing a specific card or cards in Poker shall be the same as in the live game.

3.3.7 ***Card Games***. The consequences for games depicting cards being drawn from a deck are the following:

a) At the start of each game/hand, it is recommended that the first hand of cards shall be drawn fairly from a randomly-shuffled deck; the replacement cards aren't drawn until needed;
b) Cards once removed from the deck shall not be returned to the deck except as provided by the rules of the game depicted;
c) As cards are removed from the deck they shall be immediately used as directed by the Rules of the Game (i.e., the cards are not to be discarded due to adaptive behavior by the ETGS)

3.4 Software/Program Authentication

3.4.1 ***Program Verification***. The system server(s) and each component of the ETGS that would have an effect on the integrity of the ETGS shall have the ability to Authenticate all critical files including, but not limited to, executables, data, operating system files and other files, which may affect the game outcome or system operation, which reside on the medium utilizing a third-party

industry standard secure hashing algorithm. (e.g. MD5 or SHA1) The algorithm shall use a key or seed of sufficient length and complexity. The manufacturer should be prepared to demonstrate the algorithm choice to both the testing laboratory and jurisdiction. The third-party verification process shall not include any process or security software provided by the operating system manufacturer. A secondary check may use commercially available software by the operating system manufacturer as part of the secondary verification.

NOTE: If the third-party verification tool is embedded within the Control Program, the Test Laboratory must be supplied with the tools needed to 'extract' the Control Program from the ETGS component. This will enable the laboratory to perform forensic examinations, at the request of the regulator.

3.5 Maintenance of Critical Memory

3.5.1 ***General Statement***. Critical memory storage shall be maintained by a methodology that enables errors to be identified and corrected in most circumstances. This methodology may involve signatures, checksums, partial checksums, multiple copies, timestamps and/or effective use of validity codes.

3.5.2 ***Comprehensive Checks***. Comprehensive checks of critical memory shall be made during each component restart (e.g., power up cycle). Upon power resumption, the integrity of all critical memory shall be checked. Control Programs (software that operates the system components) shall test for possible corruption caused by failure of the program storage medium and all critical game functions. Test methodology shall detect 99.99 percent of all possible failures.

3.5.3 ***Control Program***. The critical components of the system, including the system servers, shall ensure the integrity of all control program components during execution of said components.

3.5.4 Program Storage Devices (PSDs). All PSDs (program storage devices), in the executable address space of a main processor, shall be validated and checked for corruption during the following conditions:

a) Any power up; and
b) The first time the files are loaded for use (even if only partially loaded).

NOTE: RAM and PSD space that is not critical to the ETGS operations are not required to be validated.

3.6 System Security

3.6.1 General Statement. All communications, including Remote Access (See 3.7.1), must pass through at least one approved application-level firewall and must not have a facility that allows for an alternate network path.

3.6.2 Firewall Audit Logs. The firewall application must maintain an audit log of the following information and must disable all communications and generate an error event if the audit log becomes full:

a) all changes to configuration of the firewall;
b) all successful and unsuccessful connection attempts through the firewall; and
c) the source and destination IP Addresses, Port Numbers and MAC Addresses.

3.6.3 Surveillance/Security Functionality. The system shall provide for interrogation that enables on-line comprehensive searching of the significant event log.

3.6.4 Access Control. The system must support either a hierarchical role structure whereby user name and password define program access or individual menu item access or logon program /device security based strictly on user name and password or PIN. The system shall not permit the alteration of any significant log information without supervised access control. There shall be

a provision for system administrator notification and user lockout or audit trail entry after a set number of unsuccessful login attempts. The system shall record: Date and Time of the Login attempt, username supplied, and success or failure. The use of generic user accounts on servers is not permitted.

3.6.5 ***Data Alteration***. The system shall not permit the alteration of any accounting or significant event log information without supervised access controls. In the event financial data is changed, an audit log must be capable of being produced to document:

a) Data element altered;
b) Data element value prior to alteration;
c) Data element value after alteration;
d) Time and Date of alteration; and
e) Personnel that performed alteration (user login).

3.7 Remote Access

3.7.1 ***Remote Access defined***. Remote Access defines any access made by a component outside the 'trusted' network.

3.7.2 ***General Statement***. Remote access where permitted, shall authenticate all computer systems based on the authorized settings of the ETGS and firewall application that establishes a connection with the ETGS as long as the following requirements are met:

a) Remote Access User Activity log is maintained by both the property and the manufacturer, depicting: authorized by, purpose, logon name, time/date, duration, and activity while logged in;
b) No unauthorized remote user administration functionality (adding users, changing permissions, etc.);
c) No unauthorized access to database;
d) No unauthorized access to operating system; and

e) If remote access is to be on a continuous basis then a network filter (firewall) must be installed to protect access (Dependent upon jurisdictional approval).

3.7.3 Self Monitoring. The system must implement self monitoring of all critical Interface Elements (e.g. Central hosts, network devices, firewalls, links to third parties, etc.) and shall have the ability to effectively notify the system administrator of any error condition, provided the condition is not catastrophic. The system shall be able to perform this operation with a frequency of at least once in every 24-hour period and during each power-up and power reset.

3.8 Play History

For the purpose of settling disputes between players or players versus the house, the ETGS shall maintain the historical data for the play history. The play history shall provide all information required to fully reconstruct the last five (5) games/hands played. All values shall be displayed, including the initial credits, credits bet, credits won, credits paid, and the final outcome. For games that do not re-shuffle the cards at the beginning of each game, there must be secure procedures to permit a forced 're-shuffle' following access to the play history. These procedures are to be included in the system submission to the Test Laboratory.

3.9 Significant Logs and Events

3.9.1 General Statement. Significant events are generated at the ETGS and sent directly to the backend utilizing an approved Communication Protocol, as described in the later part of this document. All Significant Events that take place at each table will be monitored and recorded in an Event History. The Event History may be divided into sections (e.g. accounting, security, finance, errors, etc.); these events will be logged by date, time and event, and should be filterable. Each event must be stored in a database(s) which includes the following:

a) Date and time which the event occurred;
b) Identity of the ETGS component that generated the event;
c) A unique number/code that defines the event; or
d) A brief text that describes the event in the local language.

3.9.2 Significant Events Defined. The following events must be conveyed to the backend where a mechanism must exist for timely notification:

a) Power resets of any device;
b) Loss of communication with any device;
c) Error Conditions on any critical interface element;
d) Critical memory/control program corruption of any critical component.
e) Cashless account transactions,
f) Jackpots (W2G Reportable Events or Large Win Events)
g) Game start
h) Game stop
i) Software signature check and result (if supported)
j) Connection by authorized devices
k) Attempted connection by unauthorized devices

3.10 Player Interface Error Conditions

3.10.1 General Statement. The Player Interface, where applicable, shall be capable of detecting and displaying the following error conditions and illuminating a light system for each, or sound an audible alarm.:

a) Power reset.
b) Main Door open.
c) Main Door just closed.
d) Low critical memory battery (a designated battery replacement schedule may be used in lieu of a low battery detection scheme).
e) Program error (Defective program storage media).*
f) Uncorrectable critical memory error (critical memory defective or corrupted).*

* *These error conditions must disable game play and may only be cleared by an authorized person.*

3.10.2 Use of Error Codes. For systems that use error codes, a legend shall be affixed in a conspicuous location inside the device to allow for discernability.

3.10.3 Taxation Limits. The ETGS shall have the ability to enter a lock-up condition if a win creates a taxable situation.

3.11 Accounting Information

3.11.1 General Statement. There shall be a method to accurately maintain the accounting information that is needed for proper revenue reporting and auditing. For ETGS's that do not maintain this information electronically, operational procedures are to be included with the system submission. ETGS's that do maintain electronic accounting information shall effectively collect and store the information in a secure manner.

3.11.2 Clearing Meters. The clearing of stored Accounting Information may only be performed by authorized personnel via secure system controls or approved internal controls.

3.11.3 Backup Requirements. Data recorded by electronic meters shall be preserved after a power loss to an interface component and shall be maintained for a period of at least thirty (30) days.

3.12 Reports

3.12.1 General Statement. For ETGS's that maintain Significant Event and Accounting Information reports shall subsequently be available on demand. The reports must be generated accurately and provide effective information for the purpose of security and accounting auditing. For ETGS's that have the ability to communicate the Significant Event and Accounting

Information to a separate Monitoring Control System it must be via a secure communication protocol.

3.12.2 Cashless Transactions. The following reports are required for ETGS's that provide for cashless transactions unless properly communicated to a separate Monitoring Control System

a) Patron Account Summary and Detail Reports. These reports shall include beginning and ending account balance, transaction information depicting machine number, amount, date/time and are to be immediately available to a patron upon request.

b) Liability Report. This report is to include previous day's starting value of outstanding Cashless Liability, aggregate Cashless-In and out totals (Including rake, jackpot and amount in play), and ending Cashless liability, if applicable.

c) Cashless Meter Reconciliation Summary and Detail Reports. These reports will reconcile each participating device's cashless Meter(s) against the Electronic Table Game System's cashless activity. (Including Cashless in and Cashless out)

d) Cashier Summary and Detail Reports. To include patron account, Deposits and cash-out, amount of transaction, date and time of transaction, and cashier starting and ending balances, session start and end date/time (etc.) by cashier.

e) Device Transaction Summary and Detail Reports. Wagering, issuance, voids by device, date/time, account number, and transaction number.

f) Cashless Wagering System Activity Report. Deposits, transfers to and from ETGS, withdrawals, adjustments and balances, by wagering account.

g) ETGS Performance Report. Hands per hour, total hands played, number of hours of operation, dollars played, dollars contributed and average number of players.

h) Cashless Wagering Account Adjustment Report. For each individual adjustment made to a cashless wagering account or a promotional account, a summary of the adjustment to include:

i. Patron name and account number, or specific promotion, as applicable;
ii. Amount of, and explanation for, the adjustment; and
iii. Identification of the user completing and/or authorizing the adjustment.

3.13 System Integrity

3.13.1 ***System Redundancy, Backup & Recovery***. The system shall have sufficient redundancy and modularity so that if any single component or part of a component fails, gaming can continue. There shall be redundant copies of each log file or system database or both on the system with open support for backups and restoration.

3.13.2 ***Backup & Recovery***. In the event of a catastrophic failure when the system cannot be restarted in any other way, it shall be possible to reload the system from the last viable backup point and fully recover the contents of that backup, recommended to consist of at least the following information:

a) Significant events;
b) Accounting information;
c) Auditing information; and
d) Specific site information such as Device file, employee file, game profiles, etc

3.14 Rules of Play

3.14.1 Display. A placard or video display used to convey game play information shall be clearly identified and shall accurately state the house rules of the game, game profile and rake (collection) schedule, and the award that will be paid to the player when the player obtains a specific win. The placard or video display shall clearly indicate whether awards are designated in denominational units, currency, or some other unit. The table game shall reflect any change in award value, which may occur in the course of play. This may be accomplished with a digital display in a conspicuous location to the table game, and the table game must clearly indicate such. All paytable information should be available to the player, prior to them committing to a bet. Placard or video displays shall not be certified if the information is inaccurate or may cause confusion. The "reasonable player" standard shall be used for evaluation. Any table game which utilizes multiple decks of cards should alert the player to the number of card decks in play.

3.14.2 Multi-Wager Games

a) Each individual wager to be played shall be clearly indicated on the player interface so that the player is in no doubt as to which wagers have been made; and
b) The winning outcome(s) shall be clearly discernable to the player. (e.g., on an Electronic terminal it may be accomplished by highlighting the symbol(s) or wagers and/or the flashing of winning symbol(s) or wagers. Where there are wins on multiple wagers, each winning wager may be indicated in turn.)

3.15 Software Requirements for Percentage Payout

Each Electronic Table Game System shall theoretically payout a minimum of seventy-five percent (75%) during the expected lifetime of the game, including bonus games. In addition, the game must meet the following rules:

a) Optimum Play Used for Skill Games. Electronic Table Game Systems that may be affected by player skill shall be calculated using a method of play that will provide the greatest return to the player over a period of continuous play.
b) Minimum Percentage Requirement Met at All Times. The minimum percentage

requirement shall be met at all times. The minimum percentage requirement shall be met when playing at the lowest end of a non-linear paytable (i.e., if a game is continuously played at a minimum bet level for its total game cycle and the theoretical RTP is lower than the minimum percentage, then the game is unacceptable). This example also extends to games such as Keno, whereby the continuous playing of any spot combination results in a theoretical return to player lower than the minimum percentage.

c) Double-up or Gamble. The Double-up or Gamble options shall have a theoretical return to the player of one hundred percent (100%).
d) Additional or optional wagers – If these wagers can only be made by participating in the base game, the minimum and maximum payback percentage will be included with calculations of the base game.

Please be advised, the above rules regarding payback percentage are not applicable for non-house banked Electronic Table Game Systems*

3.16 Access to Secure Areas

The system or components of the system shall be able to detect and meter access to the following secure areas, where applicable:

a) All external doors on the ETGS;
b) Drop box door;
c) Logic door; and
d) Bill acceptor door.

3.16.1 ***ETGS Identification*** Each ETGS, at the direction of the local regulatory agency, shall have a not easily removable, without evidence of tampering, identification badge, permanently affixed to the exterior of the unit by the manufacturer and this badge shall include the following information:

a) The manufacturer;
b) A unique serial number;
c) The ETGS model number and
d) The date of manufacture

3.17 Player Interface Hardware

Player interface terminals may either be a display mechanism where the system performs all operations of the game (Thin Client), or contain it's own logic function in conjunction with the ETGS (Thick Client). In either case, the player interface terminal(s) must meet the hardware requirements outlined within the GLI-11 Standard, where applicable, to ensure security and player safety.

3.18 Communication Protocol

Each component of an ETGS must function as indicated by the communication protocol implemented. All protocols must use communication techniques that have proper error detection and/or recovery mechanisms which are designed to prevent unauthorized access or tampering, employing Data Encryption Standards (DES) or equivalent encryption with secure seeds or algorithms. Any alternative measures will be reviewed on a case-by-case basis, with regulator approval.