



INDEPENDENT  
**GAMBLING CONTROL**  
OFFICE

## **TGS4**

# **Technical Gaming Standard for Electronic Bingo Systems in Bingo Facilities**

Version 2.0 – April 13, 2026



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# 1. Overview

## 1.1 Introduction

### 1.1.1 Purpose

This Technical Gaming Standard (standard) outlines requirements for electronic bingo systems including requirements:

- a) for testing systems;
- b) that systems must meet to receive approval from the Independent Gambling Control Office (IGCO) for use in a lottery scheme; and
- c) for the operation of approved electronic bingo systems.

### 1.1.2 Changes from Previous Version of this Standard

This standard replaces version 1.3 of B.C.'s Technical Gaming Standards for Electronic Bingo Systems in Gaming Venues. Changes from the previous version of the standard include:

- a) Updates required to align with the new British Columbia *Gaming Control Act* and regulations that came into force on April 13, 2026;
- b) Updates to reflect the renaming of the Gaming Policy and Enforcement Branch (GPEB) as the IGCO;
- c) Deletion of requirements relating to the content of submissions to Independent Testing Laboratories (ITLs). The IGCO expects that ITLs will work with the BC Lottery Corporation (BCLC) and registered gaming suppliers to ensure all relevant information is provided to enable adequate testing; and
- d) Edits to improve the clarity and consistency of language used within the standard.

### 1.1.3 Electronic Bingo System Defined

An electronic bingo 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 for bingo games, or other similar draw games. This TSD applies to the following types of electronic bingo 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 games using player terminals.

*Note: An "electronic bingo system" does NOT include, for purposes of this standard, ancillary electronic equipment used in the conduct of Table Games.*

### 1.1.4 Definitions

The following are commonly used terms in describing the game of bingo and the play of the game that are used throughout this standard.

**"Audit Number"** means the number that is generally displayed at the top right side of a bingo card

that identifies the unique pattern of numbers displayed on that card.

**“Books”** 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.

**“Deal”** means each separate package or series of packages consisting of one game of instant bingo or book of 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” (“EBM”)** means an electronic device that is used by a bingo player to monitor bingo cards purchased at a bingo facility. 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 permissible unless prohibited by municipal bylaws. Any device into which coin, currency, or tokens are inserted to activate play is not an EBM.

**“Electronic verification”** means the verification of bingo by entering the audit 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.

**“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 is connected to a central bingo system and allows 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.

**“Series number”** means a unique number displayed or printed by the manufacturer on each set of bingo cards or each instant bingo 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.

**“System”** means an electronic bingo system.

### **1.1.5 Other Technical Gaming Standards That May Apply**

This standard includes electronic bingo system requirements for displaying selected balls or numbers, verifying and awarding player winnings, and accounting for and reporting all financial and game history data as needed to properly audit the system. The following standards may apply to

ancillary equipment:

- a) TGS1 – Technical Gaming Standard for Gambling Devices in Casinos;
- b) TGS2 – Technical Gaming Standard for Progressive Gaming Devices in Casinos; and/or
- c) TGS3 – Technical Gaming Standard for On-line Monitoring and Control Systems and Validation Systems in Casinos.

### **1.1.6 Conflict with Legislation or Regulation**

In the event of a conflict between this standard and the provisions of the *Gaming Control Act*, its regulations, or any other applicable legislation or regulation, the legislation or regulation applies.

## **2. Electronic Bingo System Requirements**

### **2.1 General Operating Procedures**

#### **2.1.1 Game Display**

A system must 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.

#### **2.1.2 Ball Drawing**

Balls must be drawn one at a time from a machine that mixes the balls or via an approved electronic RNG approved by the IGCO for use in the game of bingo. An operator must have no discretion over which ball is drawn.

#### **2.1.3 Book Sales**

There must be an easy means to determine the number of books sold.

### **2.2 Point of Sale or Cashier Station Requirements**

#### **2.2.1 General Statement**

A 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 electronic bingo system.

#### **2.2.2 Accounting Requirements**

A system must have the capability of recording and printing reports detailing sales and accounting information. This information must include, but is not limited to, price of card faces or books, number of faces or books sold, total sales for both paper and electronic faces, and total paid.

#### **2.2.3 Backup Requirements**

A 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.

#### **2.2.4 Sales and Accounting Report Requirements**

A system must 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 must have the option of printing this log on demand.

## **2.2.5 Configuration Access Requirements**

Interface element setup/configuration menu(s) must not be available unless using an authorized access method.

## **2.2.6 Sales Adjustments and Corrections**

A system must 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.

## **2.2.7 Remote or Portable Sales Stations**

A system may have the capability of supporting remote sales units provided that each unit communicates 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.

## **2.3 Callers Desk Requirements**

### **2.3.1 General Statement**

A system may possess a 'callers desk' or other means in which the selected balls or numbers get entered into the system for validation purposes. A callers desk must not have the ability to sell or modify sales information.

### **2.3.2 Ball Draw Information**

A callers desk must have either an approved ball blower system or an approved electronic RNG (see also Section 2.6 Electronic RNG Requirements) to determine the order of drawn balls. Each drawn ball must be announced prior to marking the light board. If the system uses EBM devices, the ball draw information must be entered into the system at the same time as the number is announced. A callers desk must have some means of correcting any input errors regarding drawn balls up to the time the game is closed.

### **2.3.3 Winning Bingo Card Verification**

A system must 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, must be entered into the system and the system must verify that the claim is valid. A printed record of all drawn balls, and each card face that won for each game must be kept.

## **2.4 Server and Database Requirements**

### **2.4.1 General Statement**

A system must possess a database of all cards in the perm. Modification or changes to card faces must not be permitted. Access to the database must be controlled by password authorization or another secure method.

## **2.4.2 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 must be used for the following:

- a) Time stamping of significant events;
- b) Reference clock for reporting; and
- c) Time stamping of all sales and draw events.

## **2.4.3 Synchronization Feature**

If multiple clocks are supported, the system must have a facility whereby it is able to update all clocks in components.

## **2.4.4 System Accounting Reporting Requirements**

The system or other equipment must 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 package 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 cheque expenses; and
- i) The total tax, cash, expenses and deposits.

## **2.4.5 Game Schedule Reports**

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

# **2.5 Electronic Bingo Card Marking Device (EBM) Requirements (Hand Held Bingo Units)**

## **2.5.1 Bingo Card Limitation**

An EBM must have the ability to limit the number of bingo cards per game.

## **2.5.2 Clearing of EBM**

An EBM must be programmed to automatically erase all electronic bingo cards and/or bingo card face numbers stored in the 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.

## **2.5.3 Card Selection**

An EBM must not be designed to allow bingo players the ability to design their own bingo cards by choosing, rearranging, or placing numbers on a card.

#### **2.5.4 EBM without a Site System**

If an 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 BCLC and will require approval from the IGCO. Additionally, the system must have a means of configuring the limitation. A site system must 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.

#### **2.5.5 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.

#### **2.5.6 Printing of Bingo Game Information**

A site system must 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.

#### **2.5.7 Site System Malfunction**

If any malfunction or problem with a 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.

#### **2.5.8 EBM Back-up**

It is recommended that regardless of the number of EBMs made available for play; at least one device be reserved as a back-up device, in the event a device in play malfunctions.

#### **2.5.9 Bingo Card Verification**

Numbers appearing on a bingo card identified by an EBM to be a winning bingo card must be entered into an electronic card verifier.

### **2.6 Electronic RNG Requirements**

#### **2.6.1 RNG Requirements**

Where use of an RNG results in the selection of game symbols or production of game outcomes, the selection must:

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

#### **2.6.2 Applied Tests**

BCLC and/or the ITL may use various recognized tests to determine whether the random values produced by the RNG pass the desired confidence level of 95%. These tests may include, but need not be necessarily 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); or
- m) Tests on subsequences.

### **2.6.3 Background RNG Activity Requirement**

An RNG must be cycled continuously in the background between games and during game play at a speed that cannot be timed by the player. It is recognized that at times during the game, the RNG may not be cycled when interrupts have suspended game operation. This exception must be kept to a minimum and will only be approved by the IGCO where the suspension of RNG cycling does not represent a threat to the non-predictability of game play.

### **2.6.4 RNG Seeding**

The first seed must be randomly determined by an uncontrolled event. After every ball draw, there must 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 the seed value is secure, and that games will not synchronize.

### **2.6.5 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 must be depicted. For games with bonus features and additional balls that are selected, they must be chosen from the original selection without duplicating an already chosen ball;
- b) The barrel must not be re-mixed except as provided by the rules of the game depicted; and
- c) As balls are drawn from the barrel, they must 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 electronic bingo system).

### **2.6.6 Scaling Algorithms**

- a) If a random number with a range shorter than that provided by the RNG is required for some purpose within the electronic bingo system, 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.

## **2.7 Mechanical RNG Requirements**

### **2.7.1 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 standard, with the exception of the requirements for electronic RNGs. In addition, mechanical based RNG games must meet the following requirements:

- a) BCLC and/or the ITL must test via PC communications multiple iterations to gather enough data to verify the randomness. 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 must not disintegrate);
- c) The properties of physical items used to choose the selection must not be altered; and
- d) The player must 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: BCLC or the IGCO may require replacement parts after a predetermined amount of time. In addition, the device(s) may require periodic inspections to ensure the integrity of the device. Each mechanical based RNG game must be reviewed (and approved by the IGCO) on an individual basis.*

### **2.7.2 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 RNGs to draw the winning balls. This device must be constructed in the following manner:

- a) It must 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.

### **2.7.3 Bingo Balls**

- a) The set of balls used in the game must each bear a unique number and the letters B, I, N, G, or O. The letters B, I, N, G, or O need not appear if the balls are used for speed or hidden face bingo games.
- b) The entire set of balls must be available for inspection by the players before a bingo session begins to determine that all are present and in operating condition;
- c) Each numbered ball must be the same weight as each of the other balls and free from any defects; and
- d) Each set of balls in play must be distinguishable from all other sets of balls in play.

### **2.7.4 RNG Outcome**

There must 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.