



Technical Standards for Ticket In – Ticket Out (TITO) Systems

**Chilean Superintendency of Gambling
Casinos (SCJ)**

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Modifications to the Technical Standards for Ticket In – Ticket Out (TITO) Systems

The Technical Standards for Ticket In – Ticket Out (TITO) Systems were approved by Resolución Exenta (Exempt Resolution) No. 623, dated December 27th, 2013, of the Superintendencia de Casinos de Juego - SCJ (Chilean Superintendency of Gambling Casinos), and have been modified by:

1. Resolución Exenta 84-2014 of the SCJ, dated April 1st, 2014.
2. Resolución Exenta 127-2014 of the SCJ, dated June 16th.
3. Resolución Exenta 289-2014 of the SCJ, dated November 25th.
4. Resolución Exenta 52-2015, of the SCJ, dated March 20th.

1. Introduction

1.1. Purpose

The purpose of this document is to define the key requirements for an administration and monitoring system that is capable of handling the 'Ticket In - Ticket Out' (TITO) functionality, called TITO system, for its operation in the Republic of Chile.

The applicable requirements to slot machines capable of handling TITO functionality are stated in the Technical Standards for Slot Machines published by the Superintendency of Gambling Casinos (SCJ).

It is recommended that in order to get a better understanding of this document, all other regulations applicable to authorized gambling casinos in the Republic of Chile under the protection of Law No. 19,995 and its regulations are also read.

1.2. Objective and principles

The objective of this document is to set sufficient requirements and controls for the TITO system as to be:

1. Fair,
2. Harmless,
3. Safe,
4. Reliable,
5. Auditable.

The principles governing the production and use of this standard are:

1. Alternative implementations for the specifications included in this document will be considered on a case-by-case basis.
2. All hardware and software must work in accordance with the requirements of this document, and with those corresponding to the manufacturer's design and specifications.
3. TITO systems must not mislead or disadvantage players and must not endanger them or authorized personnel.

2. Ticket redemption

2.1. Ticket redemption shall mean the transaction thereof, whether the tickets are played or inserted into gaming machines or cashed, provided they are identified in the TITO system. Also, in the case of promotional tickets, there may be other mechanisms or sources of ticket issuance.

2.2. The TITO system must process the ticket redemption accordingly with the implemented protocol and with the conditions set in this Technical Standard hereof.

2.3. The TITO system must update the tickets status in the data base with every step of their validation process. With every change of status, it must be recorded in the data base, at least, the following information:

1. Date and time of the change of status
2. Ticket status (valid and uncollected, valid and paid, expired or not valid, pending, void, collection in process, etc.)
3. Ticket value

4. Slot machine number or identification of the source where the information came from
 5. Type of ticket (Cashable ticket of ticket standing for an amount of money, promotional or not cashable ticket, etc.)
- 2.4. With regards to cashier collection, access to all validation terminals must be controlled by usernames and passwords. When submitting a ticket for payment, the cashier operator must enter the ticket's validation number information (either by typing or scanning it) and, eventually, will be able to print a validation receipt after the ticket is validated. If such validation receipt is printed, it must include at least the following information:
1. Slot machine number
 2. Validation number
 3. Date and time the ticket was cashed
 4. Amount
 5. Cashier identification
- 2.5. The TITO system must have the ability to identify and report to the terminal, at least the following situations that can happen with an invalid ticket:
1. The ticket is not valid or has expired (date or period of expiration)
 2. The issuer of the ticket does not belong to the gaming casino
 3. The ticket is fake
 4. The ticket has already been paid
 5. The amount of the ticket registered in the TITO system is different from the amount printed (this situation can happen when a ticket is cashed at the cashier, at the time the ticket is shown to the respective cashier).
- 2.6. Regarding the use of promotional or non-cashable credits, when a player collects credits on the slot machine, the TITO system must have the ability to issue a ticket with the remaining or unused promotional credits and a different ticket with cashable credits.

3. Communication requirements

- 3.1. All data transmitted to and from the slot machine and other payment terminals interconnected to the TITO system, must use an appropriate encryption mechanism or secure communication protocol. This standard does not require that data transmitted between a slot machine and a slot machine's interface or communications port, or its equivalent, must be encrypted. Every important communication between slot machines, and other interconnected payment terminals, and the TITO system, must be encrypted. At a minimum, all external communication to the physical security of the slot machines and auxiliary equipment and the TITO system must be secure.

The use of secure proprietary communication protocols will be allowed, which must at least authenticate the data and allow encryption of those critical data communications that are not secured by this protocol, including the ticket's date (day, month and year) and time of issuance, sequence number, validation number and barcode.

- 3.2. All data communication associated with the operation of tickets with the TITO system will incorporate an error detection and correction scheme capable of detecting a minimum of 99.99% of them.
- 3.3. In the event that a slot machine, cashiers and other interconnected terminals integrated into a TITO system have a slot machine communications interface or equivalent, it must be installed in a secure area of the slot machine, or it will use a secure communication method that fulfills the two preceding requirements for data transmission between the slot machine and the TITO system.
- 3.4. The slot machine, cashiers and other interconnected terminals or the TITO system will provide as a configurable parameter in Chilean pesos above which the slot machine will not automatically generate a ticket.
- 3.5. For every transaction triggered by a customer using the TITO system, a transaction number will be assigned, and it must be generated in a coherent way by the system or slot machine, cashier or any other interconnected terminal.
- 3.6. The TITO system must use a suitable technic to ensure the authenticity of all tickets issued by the system. An appropriate method to achieve this goal is to configure the slot machine to use secure validation, or to use the validation system for ticket printing.
- 3.7.
 - a) For all ticket tickets generated by the TITO system, it will have the ability to assign a unique validation number of at least sixteen digits to each ticket. At least four digits of the validation number will be made up of randomly generated numbers to prevent a person from being able to predict the pattern or any other validation number generated by the system.
 - b) The validation system must send an exclusive seed to the slot machine once the system recognizes that the machine is capable of printing tickets. The system can subsequently send a new seed to the slot machine after the ticket has been printed. The algorithm or methods used to determine the seed must guarantee a negligible percentage of repeated validation numbers.
 - c) After a loss of communication event, where tickets can be issued offline, in the process of requesting a new seed (Re-Seeding) the slot machine should not ask for validation numbers and seeds, keys, etc. , corresponding to values used in the issuance of tickets, until the information of all pending offline tickets has been fully communicated to the ticket validation system.
 - d) The slot machine must ask for/request a new set of validation and seed numbers, key, etc. (new seeds or Re-Seeding), corresponding to values used in the online/offline ticketing, if the current list of validation numbers and seeds, key, etc. have the potential to be compromised, which may include, but is not limited to, the following:
 - i. After the power supply has been restored, and/or
 - ii. When leaving a main door open status.
 - e) The values for the seed, key, etc. should never be visible through any slot machine display. Furthermore, the validation numbers must always be masked when they are visible through the slot machine display so that only the last 4 digits of the validation number are visible.

- f) The slot machine must not issue more offline tickets than the available space to store and display information in the record of issued tickets kept in the slot machine.
 - g) If it is possible to issue offline tickets, there must be an offline authentication identifier, which at least must be printed on the ticket on the next line right after the validation number on the leading edge, in such a way that it does not overwrites or compromises the printing of the validation number on the ticket.
 - h) The offline authentication identifier must be obtained from a method of generating keys or signatures (hash) or another secure encryption method of at least 128 bits, which will identify the ticket as unique, verify that the system used for the redemption is also the issuing one and will validate the amount of the ticket.
 - i) For cases where the offline authentication identifier cannot be printed on the ticket, the slot machine shall not print more than one ticket after the loss of communication between the slot machine and the system.
 - j) The TITO system must have the capacity to support the identification and redemption of tickets offline through an application provided by the system.
- 3.8. The TITO System will have the ability to configure a validity period determined by the SCJ for the tickets issued, and the slot machines will not accept those tickets after this period.
- 3.9. The TITO System and the slot machine will have the ability to display suitable informative messages, whenever an activity related to the tickets that has been initiated by a client is being processed.
- 3.10. In the event that communication between the system and a slot machine is lost, the TITO system will not allow more than one ticket to be printed, unless the system is capable of issuing offline tickets, complying with the requirements set in number 3.8 of this document.
- 3.11. Once the slot machines and other redemption devices have been registered in the TITO system, it must be possible to recognize the identity of these registered devices at any time.
- 3.12. The TITO system will have the ability to recognize the identity of the device from which any data communication associated with an operation with this system has been originated, and to reject the data received from any device not recognized by the TITO system.
- 3.13. The TITO system will have the ability to detect and act on any communication information received in which there is partial loss of data.
- 3.14. The TITO system will have the ability to automatically generate and change all the encryption keys associated with communication and data storage, at any time.
- 3.15. The TITO system will be designed in such a way as to ensure that a loss of power supply, or a restart in any way, does not cause the loss of ticket information or the generation of duplicate tickets.

- 3.16. The TITO system will be able to maintain and synchronize the time for all nodes in the system, in order to ensure that the information printed on all tickets is accurate.
- 3.17. The design specifications of the tickets must comply with the requirements issued by the SCJ in accordance with the provisions of the Technical Standards for Slot Machines and what is established in other regulatory bodies that regulate this matter, whether it substitutes, adds, develops and/or supplement these standards.
- 3.18. The interconnected payment terminals called kiosks, which have, among others, the functionalities of cashing and/or issuing tickets, breaking bills and/or redeeming credits and/or promotional points, must be connected to a TITO system and comply with the standards that for these purposes, the SCJ will dictate.

4. TITO system reports

The TITO system must generate, in addition to the reports detailed in this standard, at least the following, differentiating, if any and as appropriate, the promotional tickets.

1. Ticket issuance report: Tickets issued in a certain period of time,
2. Ticket payment report: Tickets paid in a certain period of time,
3. Report of financial obligation of tickets: Valuation of tickets issued and not cashed,
4. Detailed report of transactions, showing all the tickets issued by a slot machine, played on a slot machine and all the tickets cashed in interconnected payment terminals, for a given period of time, and if they exist, the promotional tickets issued by another issuing source
5. Cashier report, with the detail and total amount of cashed tickets, both from the cashiers and from the interconnected payment terminals.

5. Security requirements

- 5.1. The TITO system will include a secure method to prevent unauthorized modification and viewing of the secure data associated with all critical and sensitive information.
- 5.2. The TITO system will be designed in such a way that the access privileges needed to carry out different types of user functions are associated with different types of user accounts, in order to restrict access and ensure the sensitive sections of the slot machines monitoring system and the TITO system.
- 5.3. The TITO system will have the ability to securely monitor, record and keep information related to access, by any person, to the system configuration, to database files and tables that have critical information.
- 5.4. The TITO system database will be designed in such a way that all critical information, such as ticket validation numbers, amounts and statuses, is protected using an appropriate security method or another method approved by the SCJ. The system must prevent the redemption of tickets if critical information has been corrupted in the database, like date (day, month and year) and time of issue, sequence number, validation number, barcode.

Additionally, any personal information of customers that is stored in the TITO system database must be encrypted or a secure storage method must be used. The certification laboratory must explicitly inform of the method to store critical information and data in the database.

- 5.5. The TITO system will have the capacity to generate daily monitoring logs of user access and security incidents, among others.
- 5.6. The TITO system database will be designed, installed and/or ensured in such a way that there is no single point of failure in any part of the system that could cause loss or corruption of data.
- 5.7. The TITO system and the associated database will have the ability to record transaction measurement data, associated with the slot machine, as any ticket is generated or exchanged. Such data includes, at least, the following: control for ticket in and ticket out meters, operator's company name, issue date, validation number, slot machine number, transaction amount expressed in Chilean pesos, period of validity, date of printing and type of ticket. This data must also be stored in a secure way, to avoid its alteration or any attempt to do so.
- 5.8. When a transaction has occurred, the TITO system will have the ability to validate the total sum of printed and redeemed tickets associated with the respective transactions registered in the slot machines meters. The TITO system must deliver a report to indicate any difference between these two records, if any. If the slot machines or the TITO system are not capable of meeting this reconciliation requirement, the operating company or supplier, as appropriate, must submit an alternative reconciliation method to the SCJ for review and approval.
- 5.9. The TITO system must record all the details associated with tickets generated by any slot machine. The period or expiration date must be printed on the ticket, in addition to the information stated in Circular No. 10 of April 2010, or those that substitute, add, develop and/or complement it, and in the Technical Standards for Slot Machines.

6. Validation options

- 6.1. The TITO system will have the ability to only validate and accept an authorized ticket, by valid validation number.
- 6.2. The TITO system will have the ability to generate a report of all expired tickets.
- 6.3. The TITO system will have the ability to generate a report of the tickets pending to be paid, which must cover or mask at least the stated minimum number of digits of the randomly generated ticket validation number, which is 4 digits.

If a ticket is inserted with a value that cannot be divided by the denomination configured in the slot machine, the TITO system or the slot machines will be designed in such a way that the residual value will be reflected in the player's credit meter and it will be returned to the player by means of a ticket or a residual credit suppression game will be provided.

- 6.4. The TITO system will track the pertinent cashier details for all tickets redeemed at any checkout validation terminal.
- 6.5. The TITO system will include the ability to validate a ticket printed on the slot machine when the ticket is not redeemed at a slot machine. The procedures for the redemption of tickets done in other devices than slot machines will be addressed in

internal controls implemented by the operating company that are duly informed to the SCJ.

- 6.6. The TITO system will be able to generate a report of redemption methods that will include at least the connected users, the location, the date and the time.
- 6.7. The casino operator will specify in its internal controls all procedures that use the ability to authenticate and redeem tickets when the slot machine is offline from the system database.