SKILL GAMES

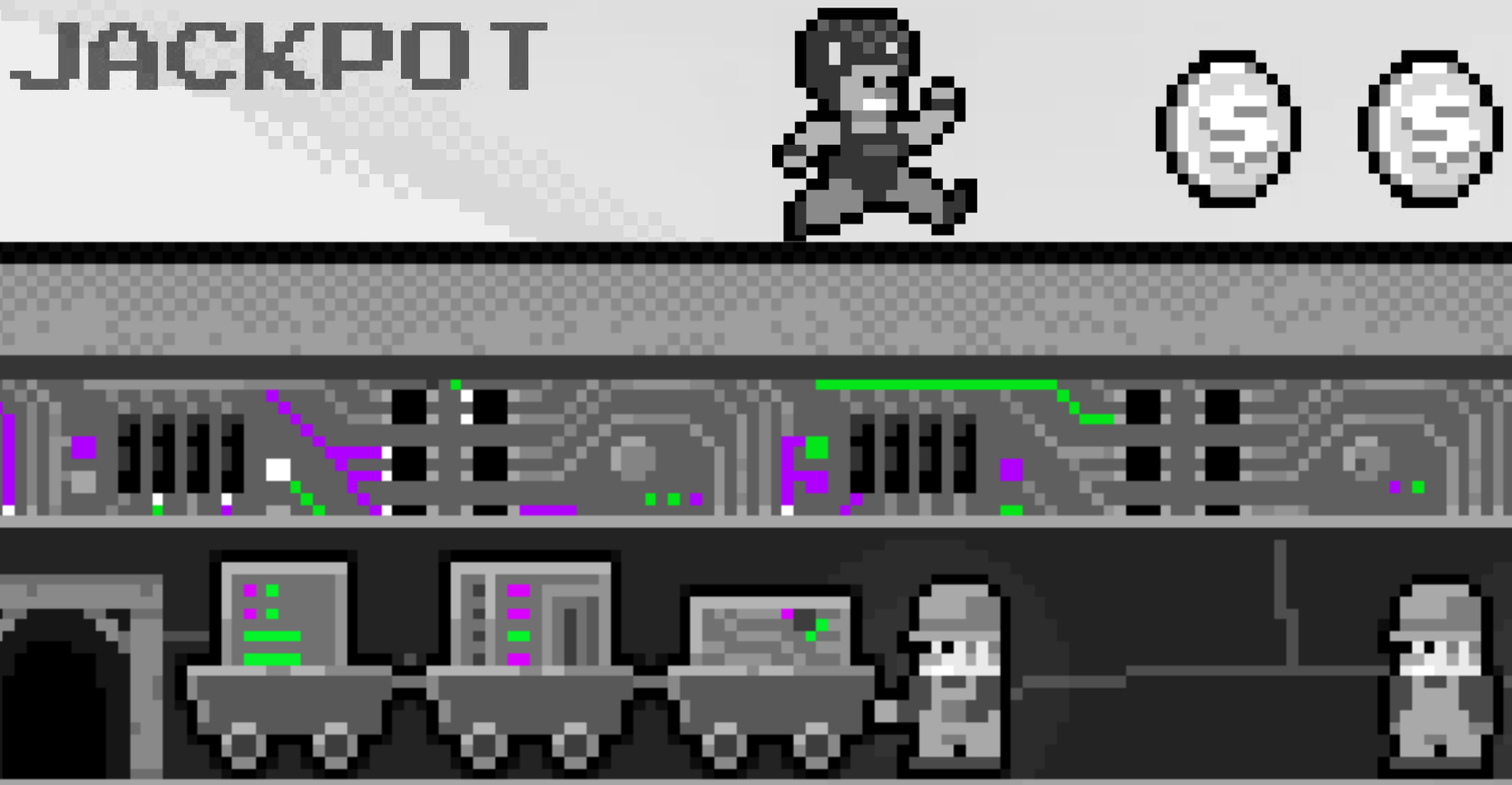
JENKA LAB BOARDS USER MANUAL

JENKA LAB®





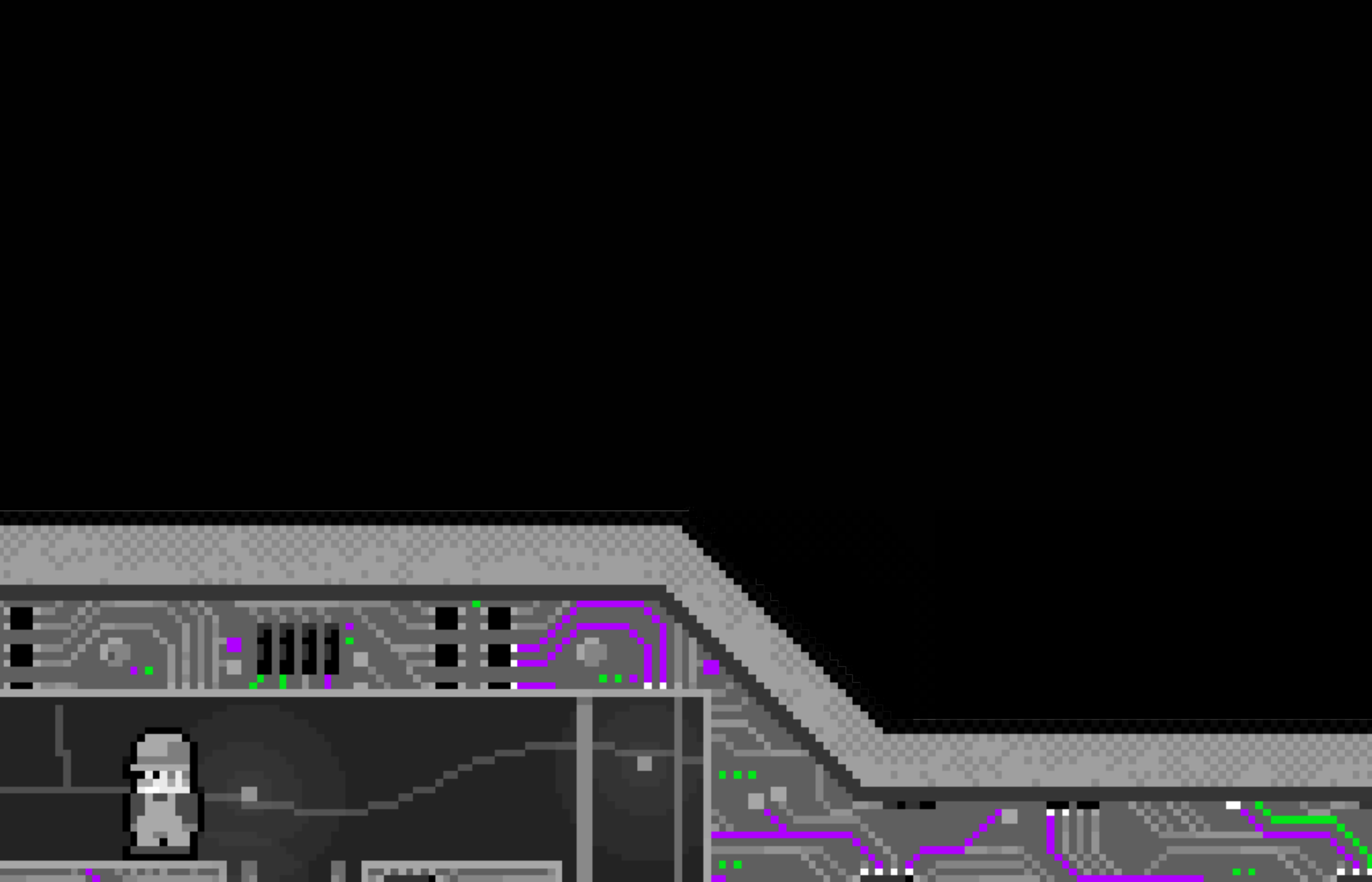




JENKA LAB BOARDS USER MANUAL

This manual describes how to set up and configure Jenka Lab logic boards for gaming machine cabinets. It is primarily intended for authorized specialists servicing gaming machines and contains information about the game board's installation and configuration.

To purchase Jenka Lab game boards, please check the website www.jenkalab.com for the distributors' contact information. We do not sell our game boards to machine operators due to the limited stock of hardware.

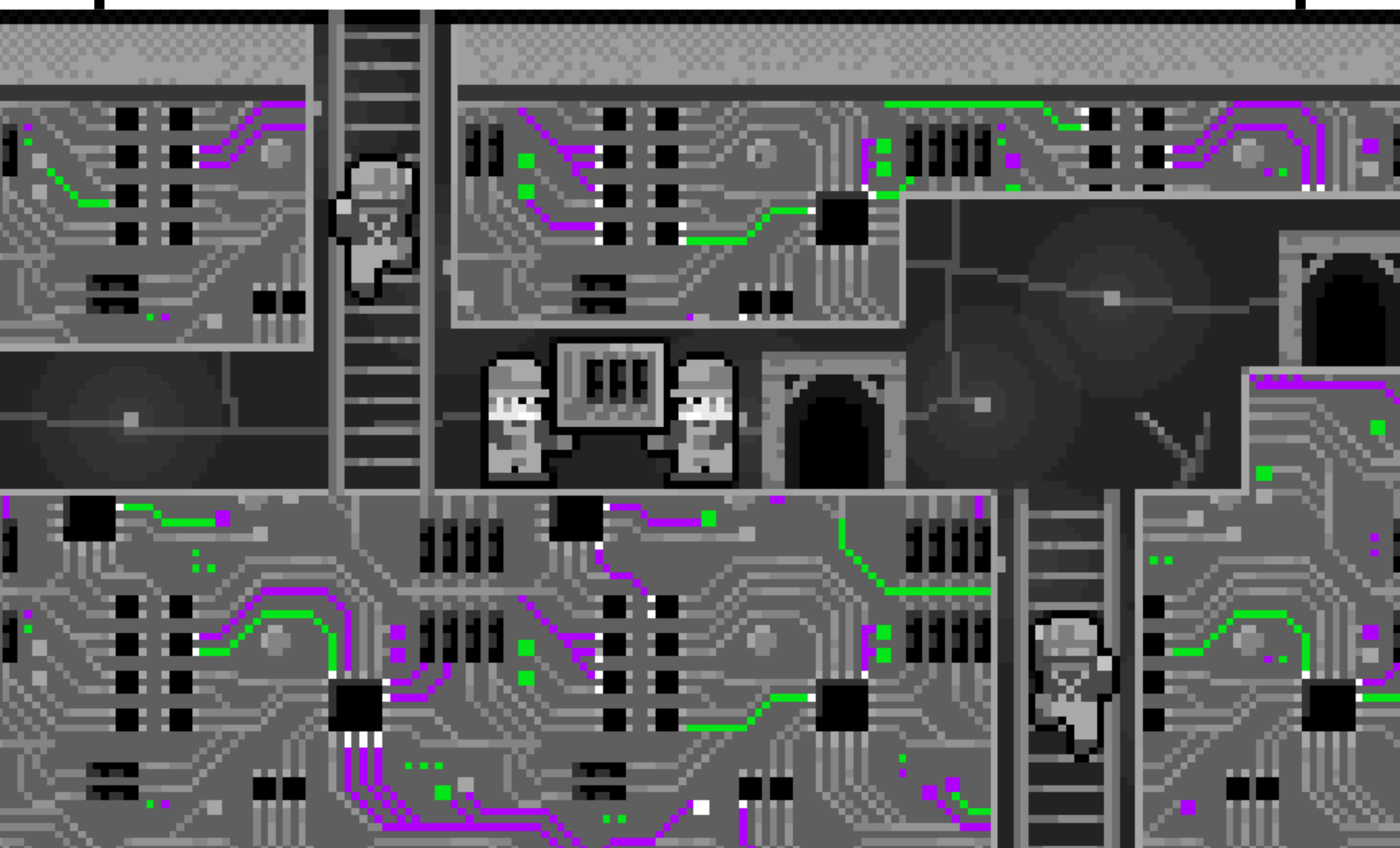


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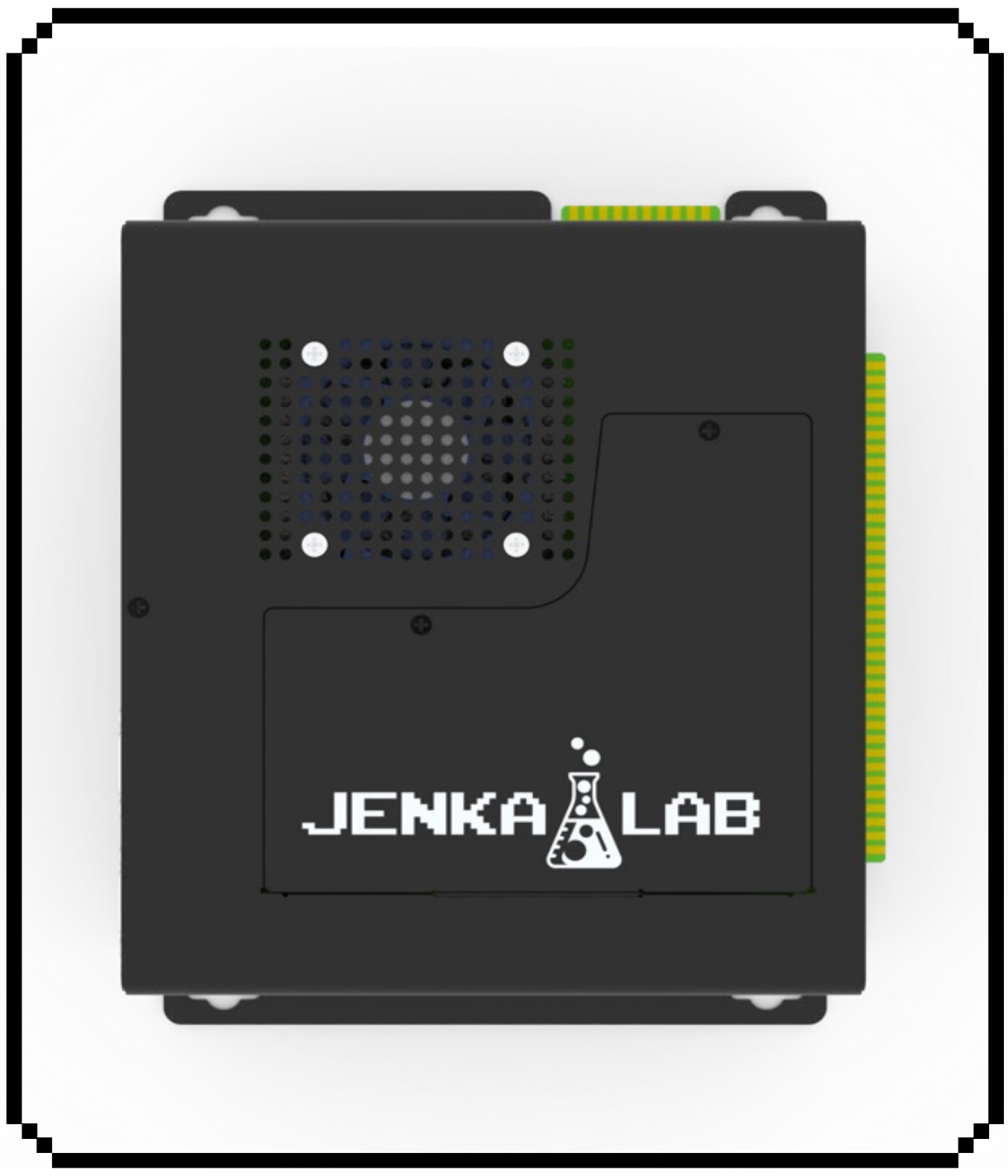


About

Jenka Lab BNK300 Game Board has 4 COM ports and 4 USB ports, as well as a LAN port for online updates and an HDMI/VGA port for connecting a monitor. Other peripheral devices, including SAS and network printing systems, can be connected as well.

In addition, a 36-pin I/O header for connecting to the cabinet and a 10-pin connector for the power supply are provided, see Pinout. For I/O pins, a JAMMA harness is used.





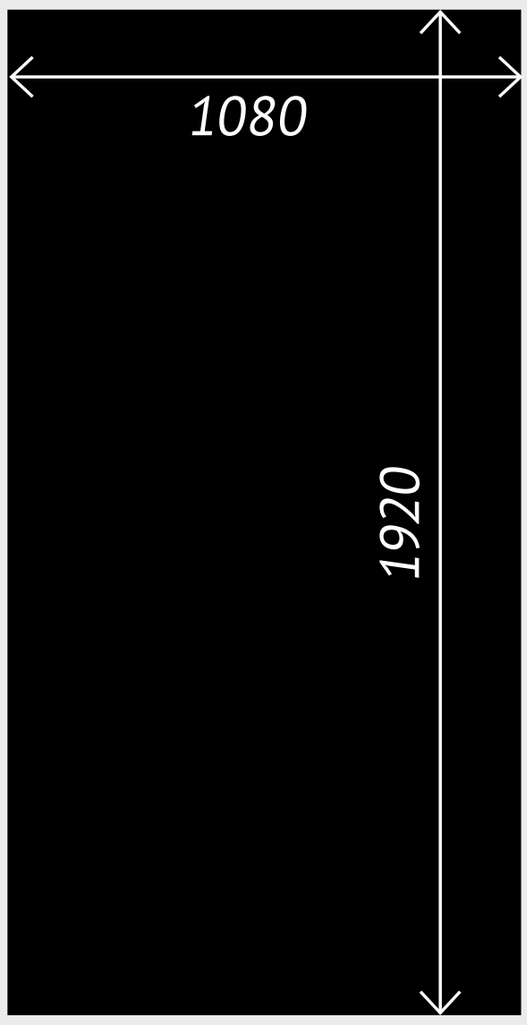
At minimum a 200W power supply is required for Jenka Lab game boards. If a single power supply will be used for multiple devices, consider more powerful options, e.g., 400W.

Peripheral devices

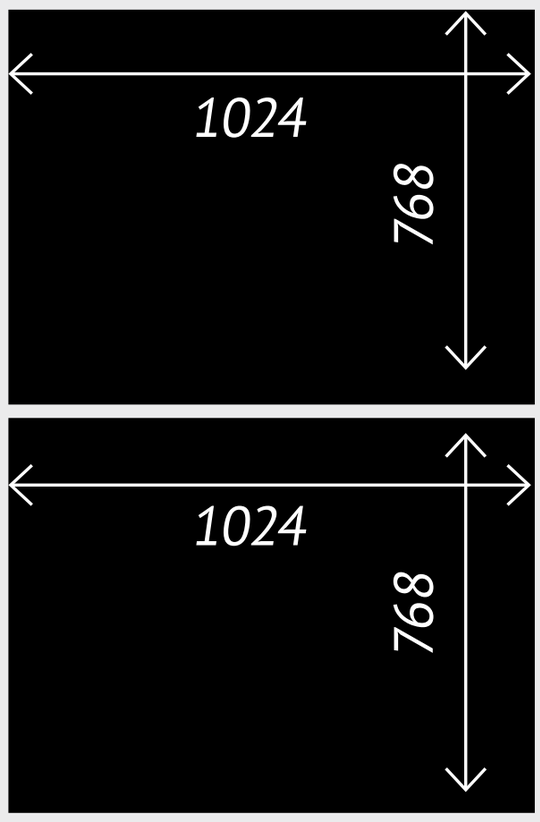
The BNK300 Game Board provides connectivity to several peripheral devices through the Serial RS232 COM ports and the 36 pin connector. Each COM port is designed for a specific type of peripheral device, e.g., a bill acceptor, a printer, SAS devices, or a serial touch screen. Some devices may require connecting via the USB, VGA, HDMI, or LED ports.

The following peripheral devices can be connected to the board:

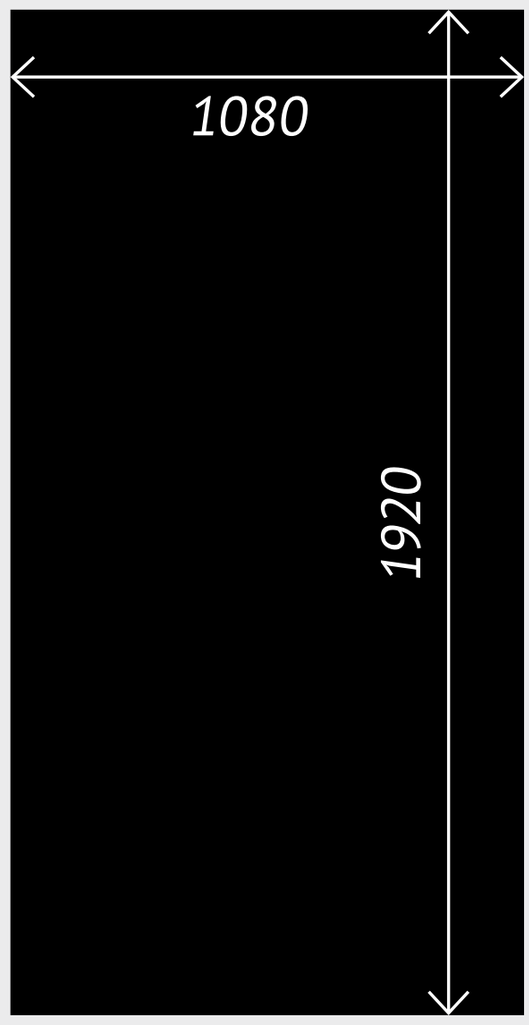
- A **monitor** of a specified screen resolution. Jenka Lab has several game themes designed for different types of cabinets. The following screen resolutions can be connected.

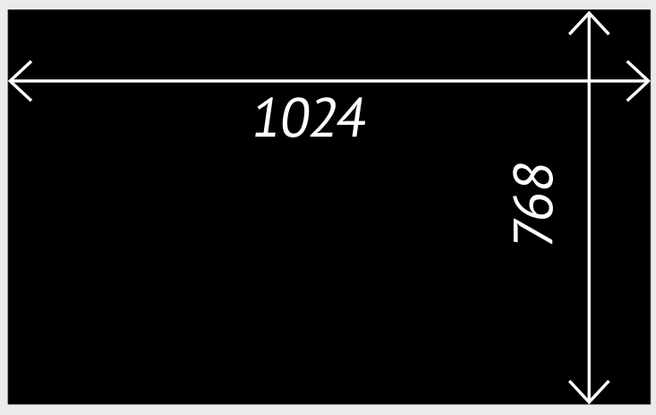


For vertical screen game boards — 1080x1920 Full HD displays only.



For single or dual screen game boards — each screen 1024x768 only.



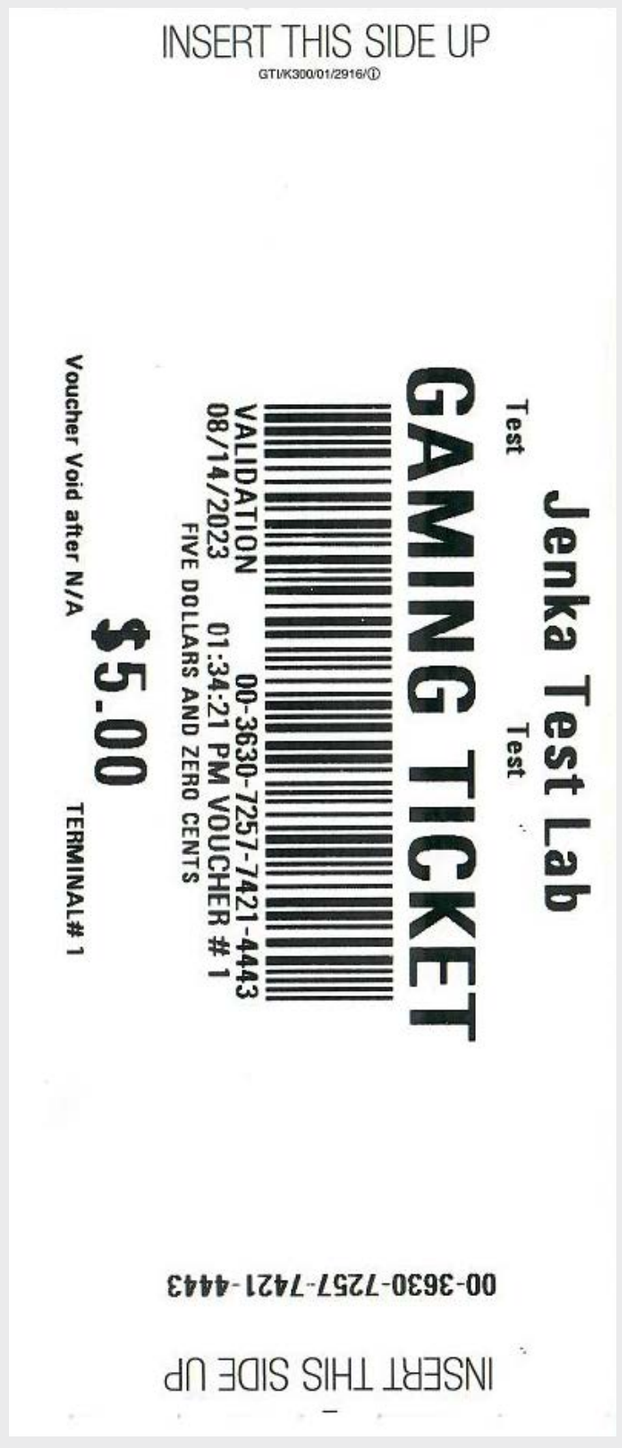


For dual vertical screen game boards — 1920x1080 for the top screen (vertical), 1280x1024 for the bottom screen.

Make sure your monitor supports the required screen resolution. To connect vertical screens, use an HDMI or VGA cable with any appropriate Digital port. For dual screens, only the HDMI 1–2 ports are used.

- A **bill validator** or a **bill acceptor** for accepting bills and barcoded tickets. Connection via the COM 1 or USB ports is required.
- A **touch screen**. Connection via COM 2 or USB is required.
- A **printer** to print tickets with barcodes issued for the credits won. Connection via the COM 4 port is required. Most printers support printing barcoded tickets in conjunction with a TITO Validation Controller.

If you have a separate printer connected to each machine, then you can modify the text on the tickets' template on the Devices tab. If an RKS Network Printing System is installed, template modification is unavailable.



A ticket printed by a standard printer



A ticket printed by an RKS network printer

- **Passive speakers** require connection through the 36-pin harness, see Pinout. For **active speakers** with an audio amplifier, use the Mini-Jack connector on the side of the game board.
- An **RMC2Link device**, for linking several gaming machines into a local area network for common progressive jackpots. Connect the RMC2Link device to the LAN port using CAT5 cables, and then use the **Enable RMC2Link** feature on the Games tab.

After plugging in all the devices, be sure to configure the settings on the Devices tab. To check the status of all the peripheral communications and controllers, go to the Diagnostics section.

NOTE

It is not recommended using pulse devices, such as old-style bill validators, as they operate with a voltage level that makes them vulnerable to jamming. We recommend using USB or serial port devices to avoid security issues, e.g., the RKS USB MultiFledgling.

Connecting to SAS Devices

In some cases, special third-party equipment is used, for example, for reporting machine events or for the validation of barcoded tickets. It requires a connection to the Slot Accounting System (SAS) host device, which allows machines from various manufacturers to easily accommodate the interfaces required for such equipment without controlling the process.

The most common example of such a device is a Ticket-In, Ticket-Out (TITO) Validation Controller.

To connect SAS devices, use the designated serial port. Then, on the Devices tab, specify the parameters related to the SAS host.

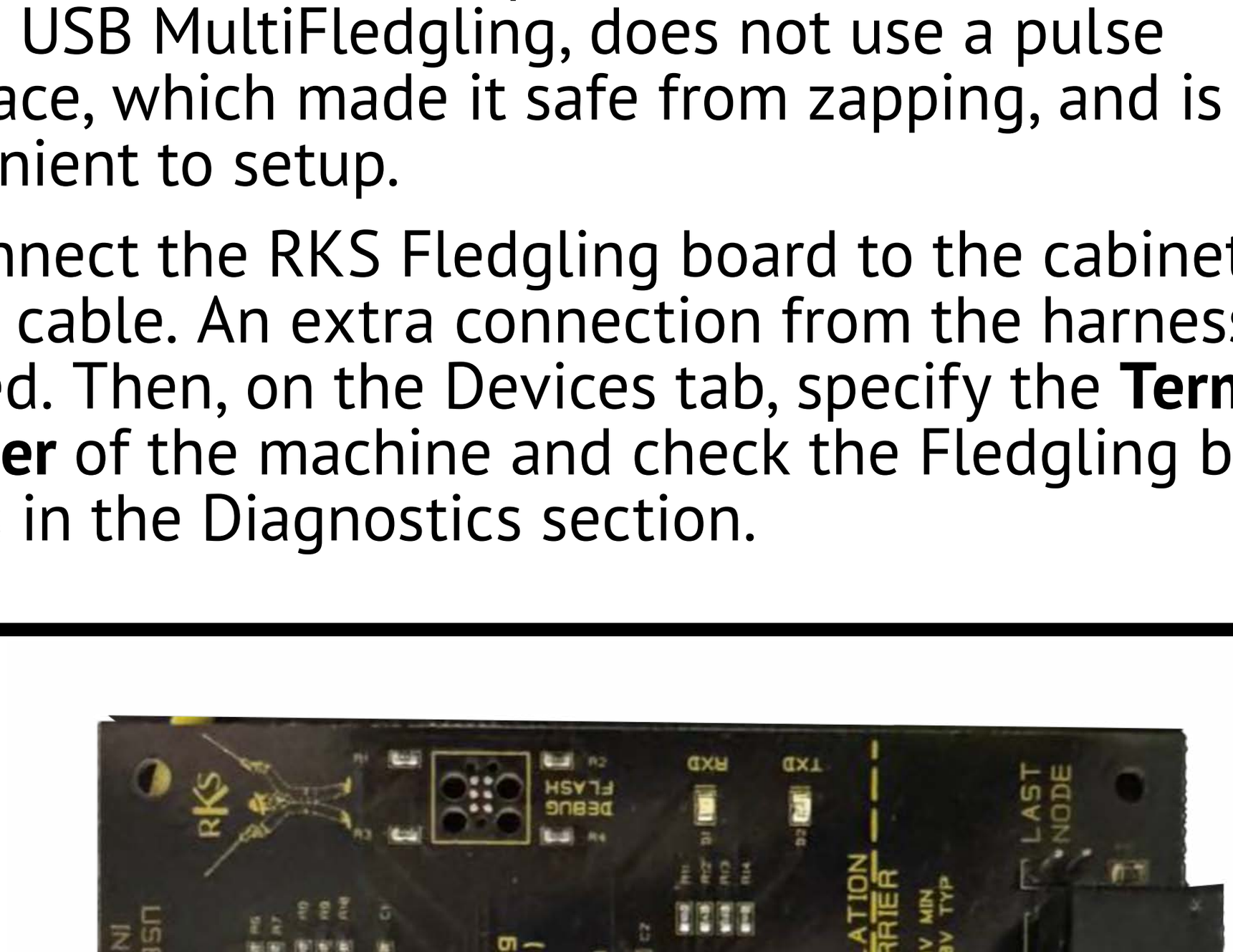
Using Network Printing Systems

For printing redemption tickets from several machines with a single printer, you may use special network printing equipment, e.g., the Mutha Goose & Gaggle system produced by RKS Inc. Network printing stations usually include the following components:

1. A print station, e.g., Mutha Goose & Gaggle.
2. A thermal printer, connected to the print station.
3. A Ciao Baby module to add credits remotely to the machines (optional).
4. A Fledgling board controlling money-in and money-out meters, connected to each machine individually.

RKS Inc. made a modification of their Fledgling board based on Jenka Lab's requirements. Its new version, called USB MultiFledgling, does not use a pulse interface, which made it safe from zapping, and is more convenient to setup.

To connect the RKS Fledgling board to the cabinet, use a USB cable. An extra connection from the harness is not needed. Then, on the Devices tab, specify the **Terminal Number** of the machine and check the Fledgling board's status in the Diagnostics section.



RKS's newest USB MultiFledgling also handles printing barcoded tickets when using a TITO Validation System. Note that such tickets cannot be inserted into a machine, but only redeemed at a Redemption Kiosk.

Pinout

NOTE

Jenka Lab manufactures 2 different game board types: The BNK100 is an older model and the BNK300 is the newest hardware design. While the location of the serial and USB ports are identical, the labels are different. Please pay attention to the hardware model. The BNK300 board has "Jenka Lab" written on the top and it has a bigger top cover.

NOTE (GEORGIA MARKET)

The programs for the Georgian market on BNK300 boards support dual SAS with the Secondary SAS through COM 2. There's no designated serial port for Serial Touch devices, so a USB-Serial adapter is required in such cases. ***The adapter has to be connected to the USB 1 port.*** *Most available USB-Serial adapters work with Jenka Lab equipment.*

36-PIN CONNECTOR

part side	#	solder side
	1	
	2	
Speaker Right +	3	Speaker Right -
Speaker Left +	4	Speaker Left -
	5	Speaker Left -
	6	
	7	
	8	
	9	
	10	PLAY Button
	11	
	12	Speaker Left +
	13	
Belly Door Switch	14	Logic Door Switch
	15	Main Door Switch
	16	TICKET Lamp
	17	
Pulse Bill In	18	
	19	
Attendant Menu Switch	20	ADMIN Menu Switch
	21	TICKET Button
	22	
Meter Total In	23	
	24	DISCONNECT
	25	
	26	DISCONNECT
	27	DISCONNECT
Meter Total Out	28	

part side	#	solder side
	29	
	30	
	31	PLAY Lamp
	32	
	33	
	34	
	35	DISCONNECT

SERIAL & USB PORTS BNK300 BOARD MODEL

USB/COM 1	Bill Validator
USB/COM 2	Touch Screen
COM 3	SAS
COM 4	Printer

SERIAL & USB PORTS BNK300 BOARD WITH GEORGIA SAS

USB/COM 1	Bill Validator
COM 2	Secondary SAS (TITO)
COM 3	Primary SAS (Intralot)
COM 4	Printer
USB	Touch Screen
USB 1	USB-Serial Adapter for Serial Touch

SERIAL & USB PORTS BNK100 BOARD MODEL

USB/COM 1	Bill Validator
USB/COM 2	Touch Screen
COM 3	SAS
COM 4	Printer

10-PIN CONNECTOR

part side	#	solder side
GROUND	1	GROUND
GROUND	2	GROUND
+5 V	3	+5 V
+5 V	4	+5 V
+12 V	5	+12 V
+12 V	6	+12 V
DISCONNECT	7	DISCONNECT
DISCONNECT	8	DISCONNECT
GROUND	9	GROUND
GROUND	10	GROUND

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Service Menu

Board settings can be configured in the service menu. Two configuration modes are available:

1. **Admin mode**, which provides full access to the board's settings.

   It is usually accessed by using the Admin switch inside the machine. We recommend securing the Admin switch to make sure it is only available to authorized technicians.

2. **Attendant mode**, which provides limited access to the board's settings.

   In Attendant mode, access to the Accounting, Settings, and Touch Screen sections is restricted.

The exact location of both the Attendant and Admin switches depend on the particular model of the gaming machine.

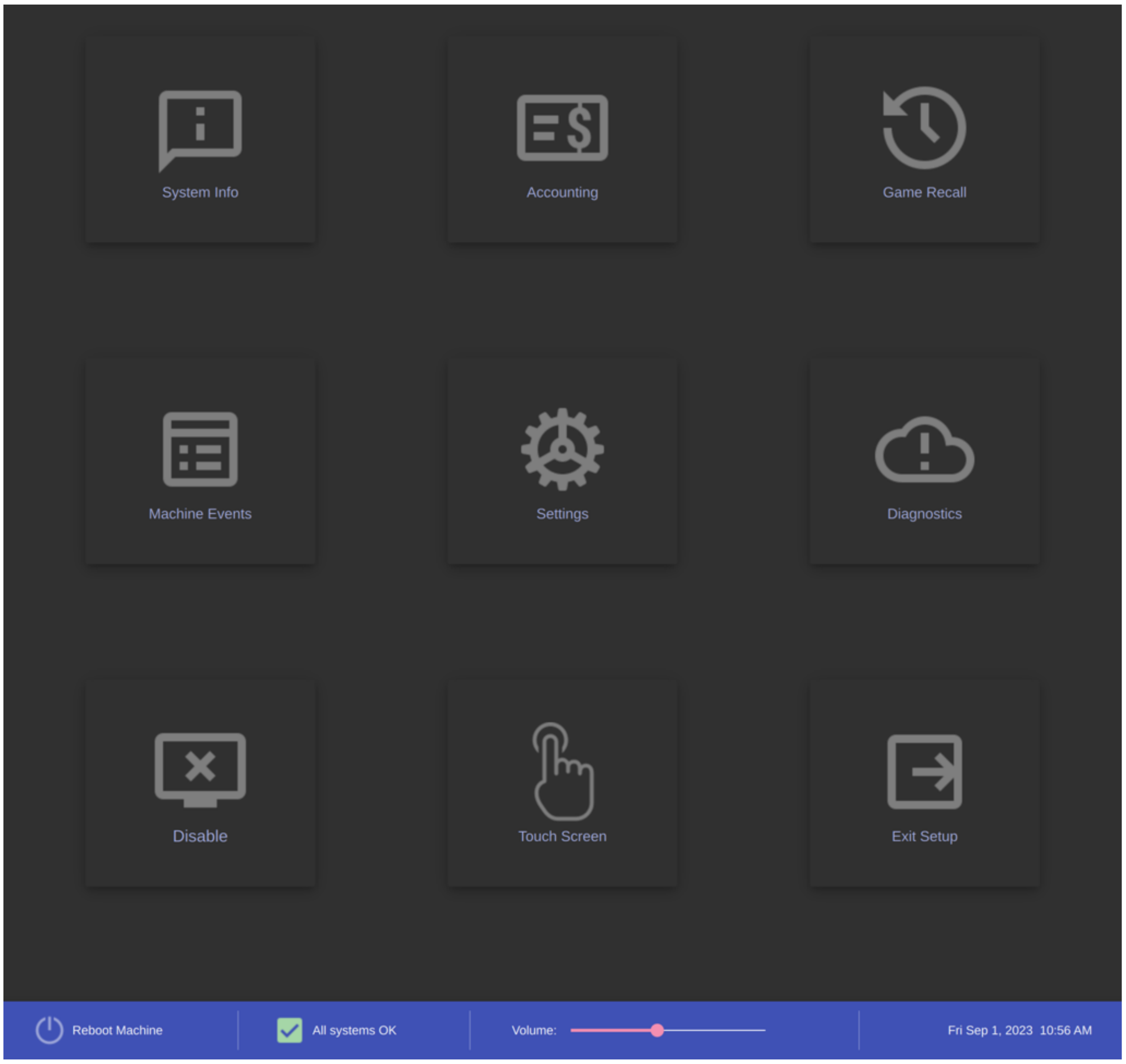
The main service menu contains 7 separate sections with the board settings and 2 buttons for disabling the machine and closing the service menu respectively.

There is also a blue bar at the bottom with additional settings:

- To reboot the machine, press **Reboot Machine** on the left side of the blue bar.
- To adjust the volume, drag the **Volume** slider in the middle of the blue bar.
- Click the date and time on the right side of the blue bar to adjust the system's date and time.



- To return to the main menu from any section, press the **<** button on the left side of the blue bar.
- To go to a section, press the corresponding button in the main menu. You can navigate between section tabs or pages by using the **>>** and **<<** buttons in the blue bar.



To close the service menu, press the **Exit Setup** button.

NOTE

In the blue bar, the system's status is displayed, showing the current state of the gaming machine. It shows if there are any technical problems, but as the list of statuses is currently incomplete, please use the Diagnostics section to check the devices' status instead.

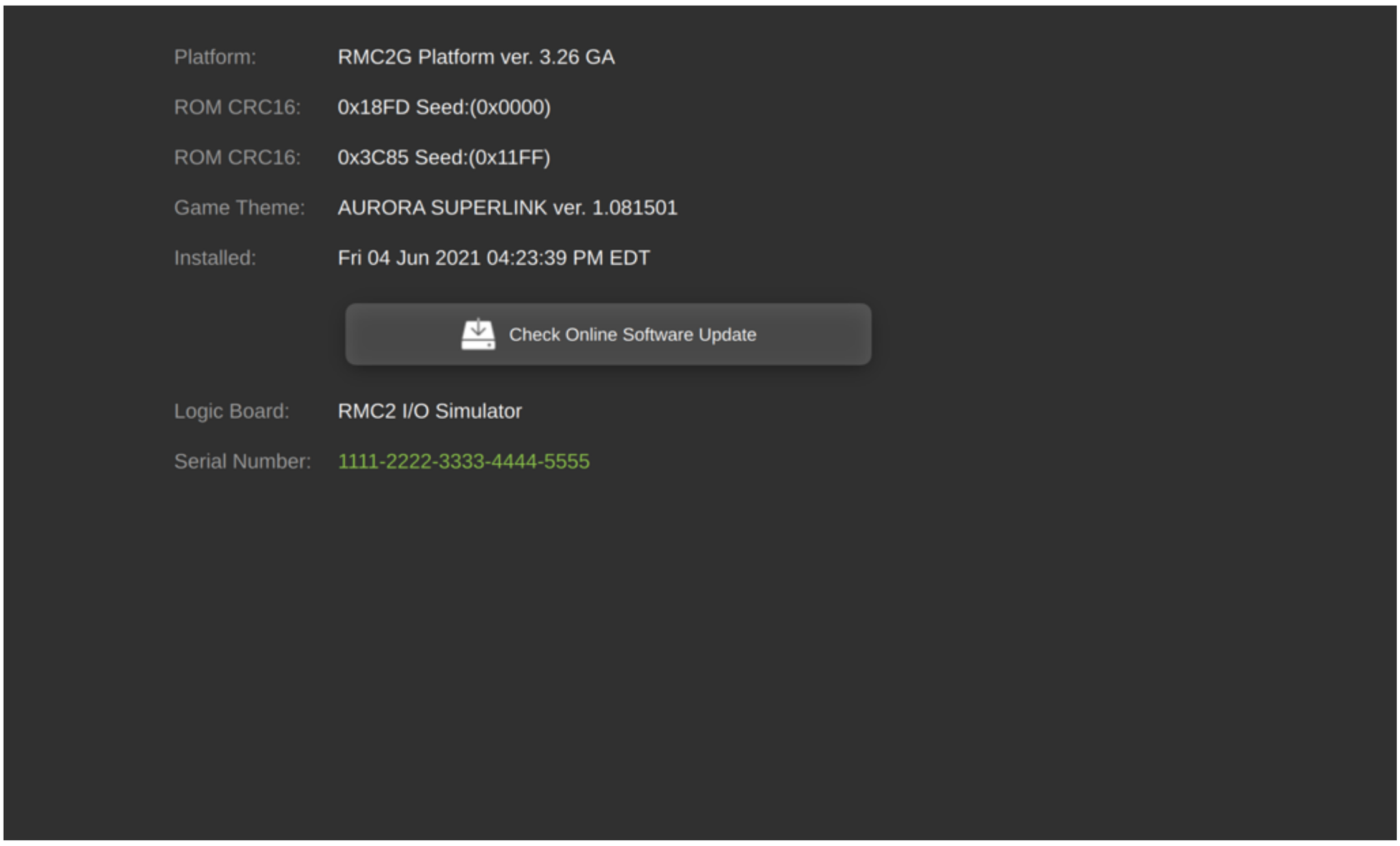
Attraction mode

During periods of inactivity, when there are no credits in the machine, a special demo mode turns on. Normally, the machine starts to show a video of various games' bonus features to attract attention.

In this mode, sounds are enabled by default. If needed, you can mute them by disabling the **Mute Screensaver** switch on the Machine tab of the **Settings** section.

System Info

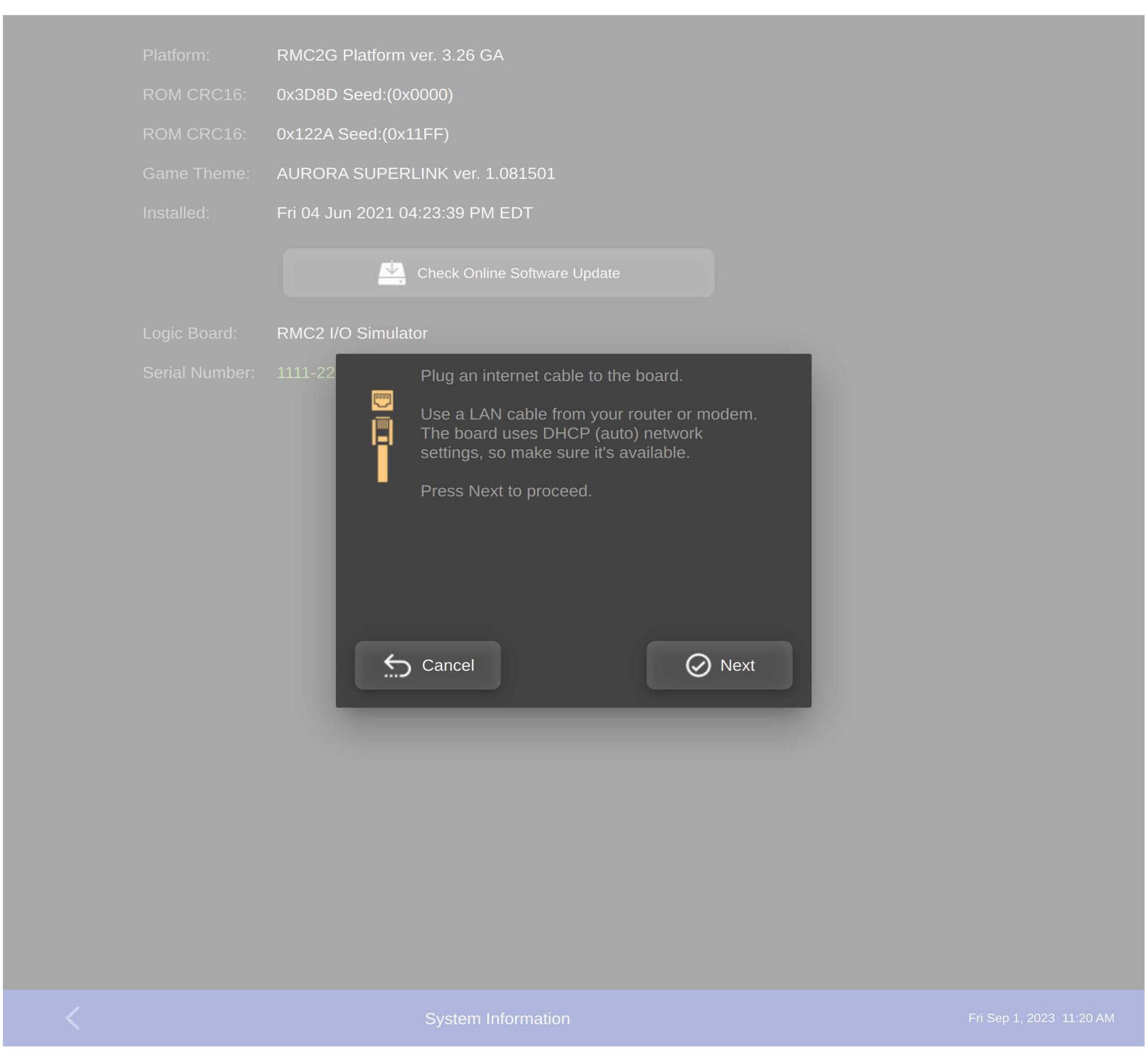
The **System Info** section provides general information about the platform and its hardware. You can also check for software updates here.



The section contains the following details:

- **Platform** shows the software version of the logic board.
- **ROM CRC16** shows the checksum for the program files.
- **Game Theme** is the gaming software version of the board. Most Jenka Lab game boards have a multi-game program installed with 5 to 9 game themes.
- **Installed** is the date and time of the software installation.
- **Logic Board** is the name and version of this hardware model.
- **Serial Number** is the unique identifier of this particular board.

To check for updates, press the **Check Online Software Update** button. A pop-up window with further instructions will appear.



Make sure that the network cable is plugged in to the **LAN** port on the game board. Then press **Next**.

If an update is available, a message will appear. Press **Next** to download the files. After the download is finished, return to the main menu and in the lower bar press **Reboot Machine** to apply the updates.

It is recommended to check for updates at least once a month during machine maintenance.

NOTE

Older versions of the software did not provide a check for updates button. To update such a game board, send it to the distributor for service.

Accounting

The **Accounting** section displays the values of the gaming machine meters, including period and lifetime data.

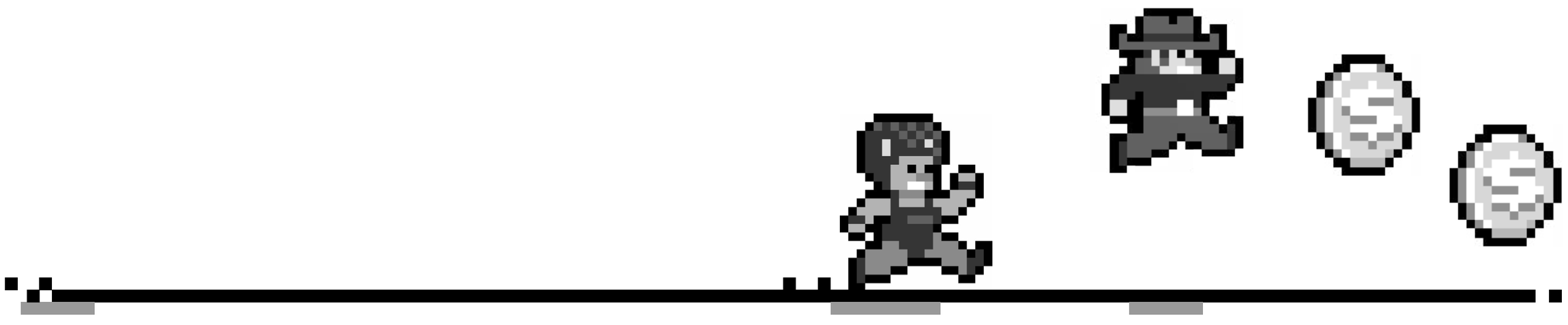
A period is a time interval within which the gaming and accounting data is gathered. Normally, once in a period, e.g., a month, the machine operators take the collected money from the gaming machine and then reset the meters' values to zero, thus starting a new period. The very first period starts when the board is first used.

Lifetime data is the data stored throughout the whole machine usage.

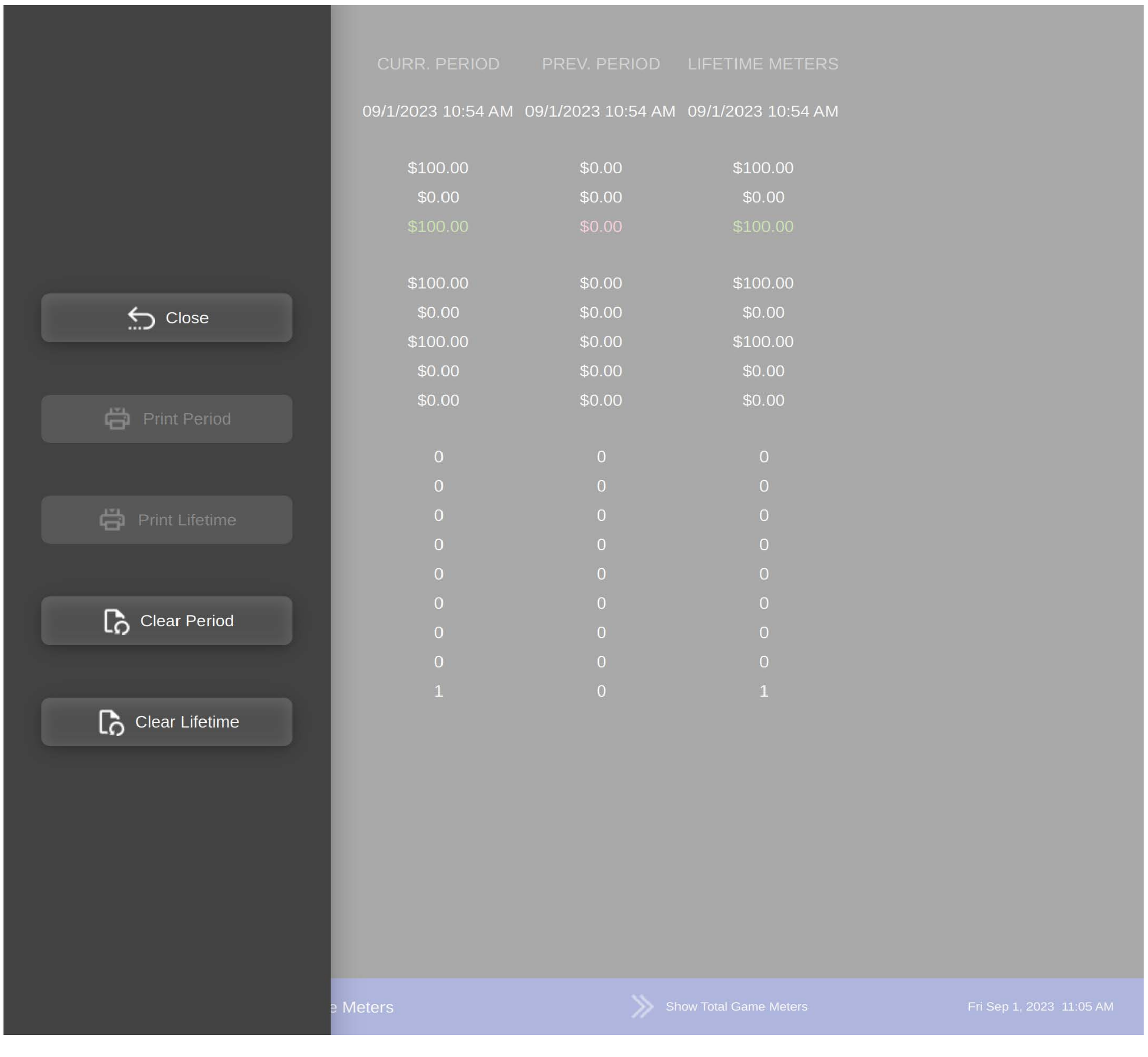
The section consists of several pages:

- **Machine meters**, which shows the amounts of money in and money out. This is the default page of the section.
- **Total Game meters**, which shows cumulative gaming data for all the games.
- **<Game Name> Meters**, which shows gaming data for each individual game.
  The number of game meters pages can go up to 9, depending on the board's game theme, which is specified in the System Info section.

Each page shows a table with the columns for the **Current Period** data and **Lifetime Meters** data. On the **Machine Meters** page, there is an additional column for the **Previous Period** data as well.



In the upper left corner of the section, there is a sub-menu, containing additional options. To open it, press ≡



The sub-menu contains the following actions:

- **Print Period** to print a report with data for the current period.
- **Print Lifetime** to print a report with data for the whole lifetime of the machine.
- **Clear Period** to start a new period. The meters will be reset to zero, but the data itself will be saved and available as the **Previous Period**.
- **Clear Lifetime** to clear all the existing data and reset all the meters to zero.

Note that to access printing options, printer set up is required.

To close the sub-menu, press **Close**.

Machine Meters page

The **Machine Meters** page displays the value of meters for money flows, along with a breakdown of bills and tickets inserted. In particular, the following parameters are displayed:

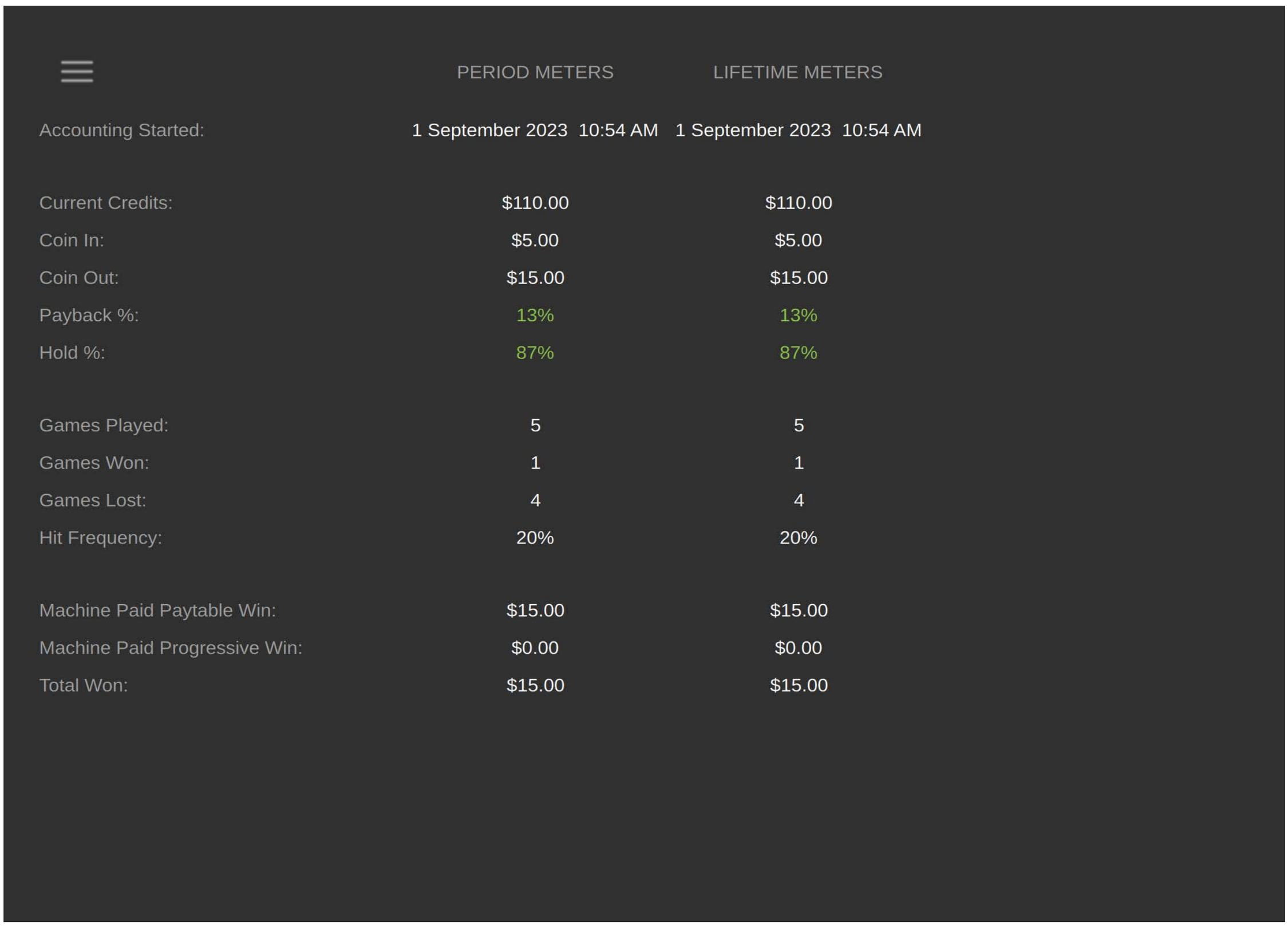
	CURR. PERIOD	PREV. PERIOD	LIFETIME METERS
Accounting Started:	09/1/2023 10:54 AM	09/1/2023 10:54 AM	09/1/2023 10:54 AM
Total Money In:	$100.00	$0.00	$100.00
Total Money Out:	$0.00	$0.00	$0.00
Total Net:	$100.00	$0.00	$100.00
Total Drop:	$100.00	$0.00	$100.00
Total Cancelled Credits:	$0.00	$0.00	$0.00
Total Credits from Bills:	$100.00	$0.00	$100.00
Total Ticket In:	$0.00	$0.00	$0.00
Total Ticket Out:	$0.00	$0.00	$0.00
Tickets In Count:	0	0	0
Tickets Out Count:	0	0	0
$1 Bills Count:	0	0	0
$2 Bills Count:	0	0	0
$5 Bills Count:	0	0	0
$10 Bills Count:	0	0	0
$20 Bills Count:	0	0	0
$50 Bills Count:	0	0	0
$100 Bills Count:	1	0	1

- **Accounting Started** shows the last date and time when the meters were reset to zero.
- **Total Money** In and **Total Money Out** show the amount of money inserted and redeemed through the gaming machine by any means. The actual difference between these values is **Total Net**.
- Total Drop is the amount of credits issued for money inserted into the machine. The meter's value is normally equal to the **Total Money In** value.
- **Total Cancelled Credits** is the amount of money redeemed from the machine. This value is normally equal to **Total Money Out**.
- **Total Credits** from Bills is the amount of credits issued for bills inserted into the machine through the bill validator.

- **Total Ticket In, Total Ticket Out** show the amount of money either received from the vouchers inserted into the machine or issued to the printed vouchers respectively.
- **Tickets In Count** and **Tickets Out Count** show the number of tickets put in the machine or printed by the machine. Normally, they are equal to the **Total Ticket In and Total Ticket Out** values.
- The remaining counters show the amounts of inserted bills, grouped by their denominations ($1 to $100).

Total Game Meters and Game Name Meters pages

The pages display the game accounting for the further analysis of the performance of games.



The following meters are displayed:

- **Current Credits**, showing the amount of money available to play games.
- **Coin In** for the total amount of all played bets, and **Coin Out** for the total winnings.

- **Payback %** for the percentage of coins won by players **(Coin Out)** in relation to **Coin In**.
- **Hold %** is the percentage of all coins held in the machine as profits, calculated as 100% minus **Payback %**.
- **Games Played, Games Won, Games Lost** is the number of games that ended with a particular result.
- **Hit Frequency**, which is calculated as the percentage of **Games Won** in relation to **Games Played**.
- **Machine Paid Paytable Win**, showing the amount of money won in base and bonus games, but excluding the prizes won through progressive jackpots.
- **Machine Paid Progressive Win**, showing how much money was won through progressive jackpots.

NOTE

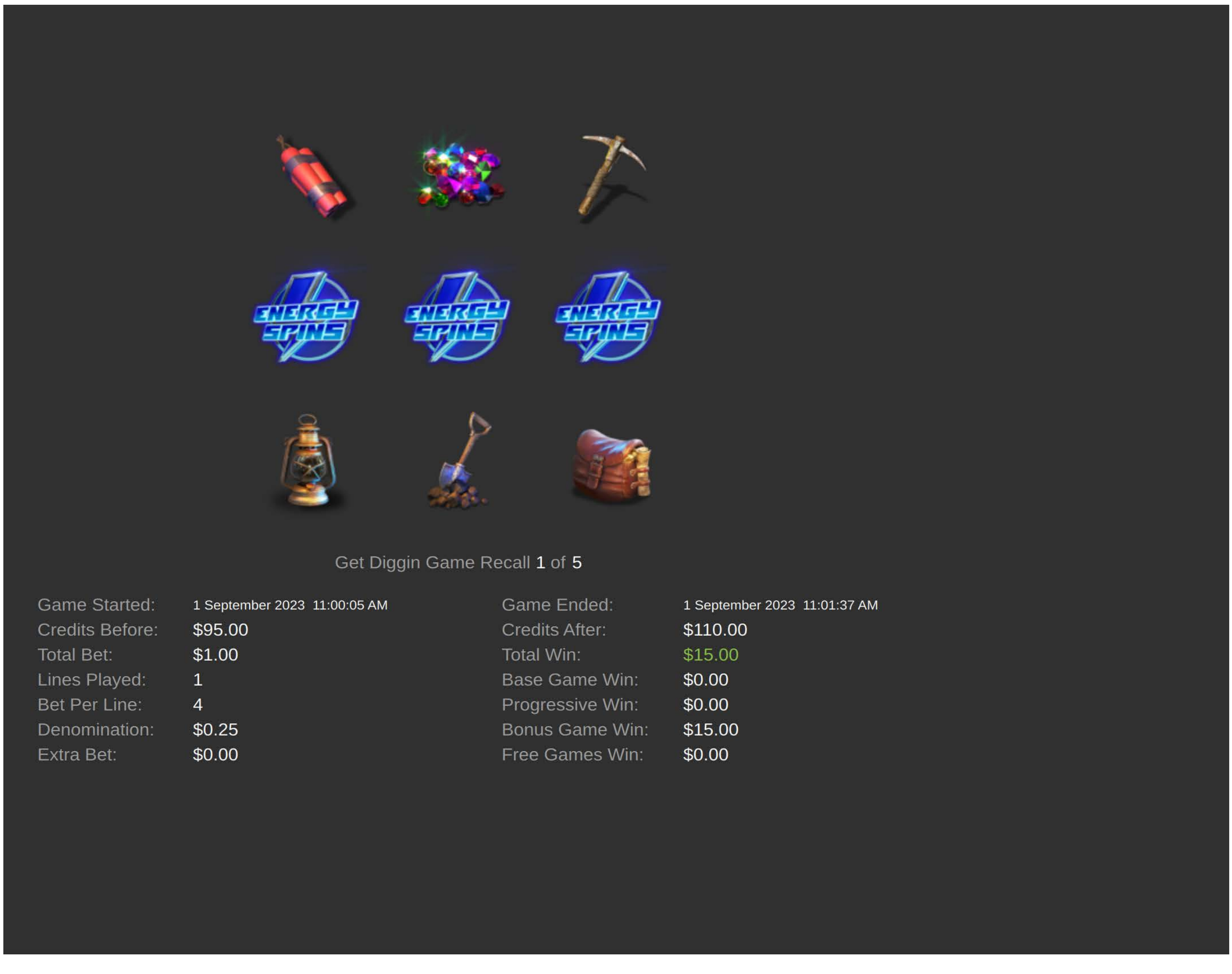
*The total percentage of this value won should not exceed 2% of the total prizes won. If the value is higher than that, it might mean that the **Min** amounts for progressive jackpots are set too high. See the Progressive tab for more details.*

- **Total Won**, which is normally equal to the **Coin Out** value.



Game recall

In this section, the history of last played games is stored. There can be up to 100 pages, one for each gaming session. The most recent game is displayed first.



For each gaming session, the following general information is available:

- **Game Started, Game Ended** — the date and time when the game took place.
- **Credits Before, Credits After** — the amount of credits available before and after the game.
- **Total Bet** — the amount of money that was bet during the game, calculated as **Denomination * Lines Played * Bet Per Line + Extra Bet**.
- **Total Win** — the amount of money that was won during the game.
- **Lines Played, Bet Per Line** — the number of bets made during the game and the average bet amount.

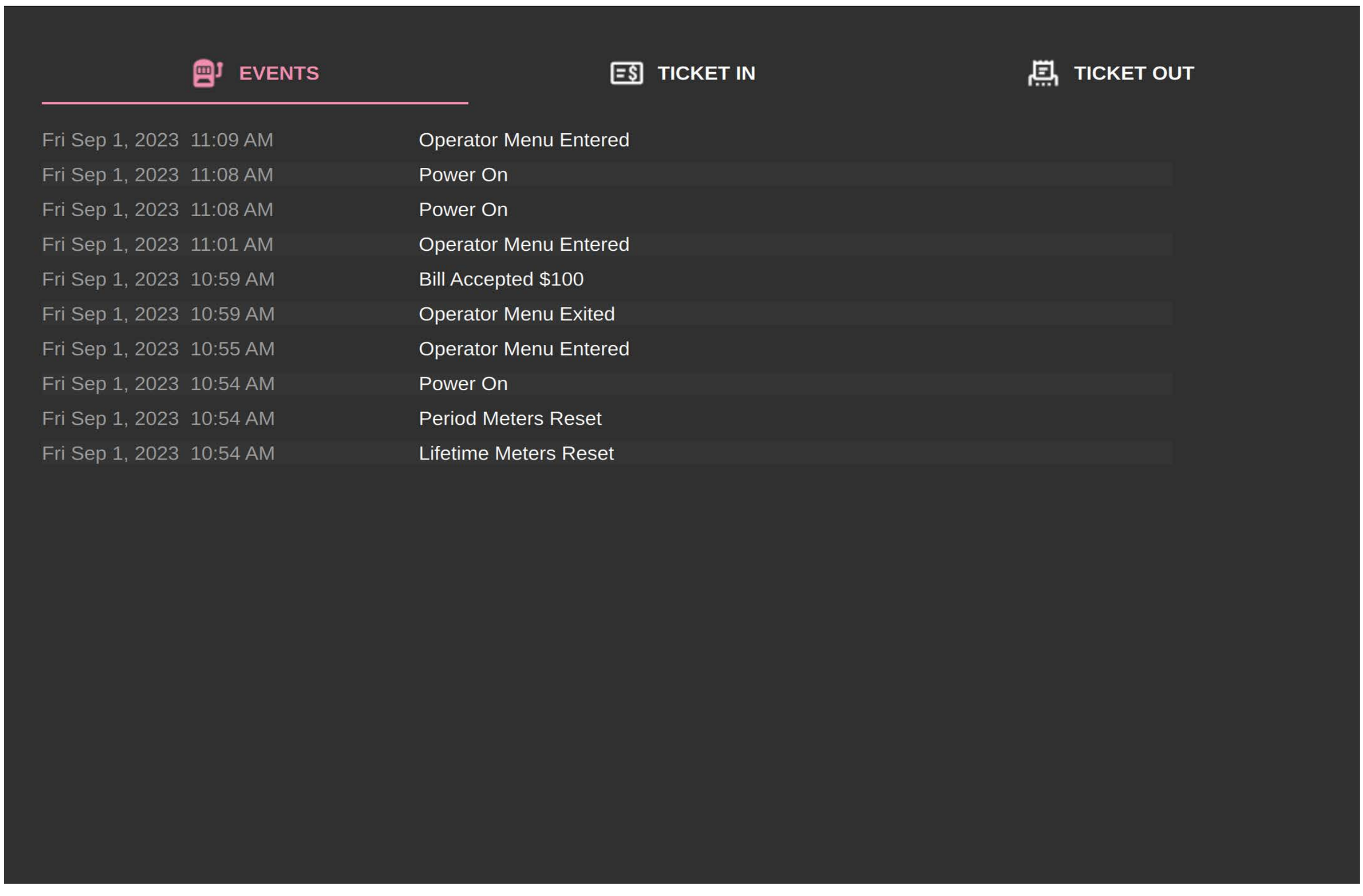
- **Base Game Win** — the amount of money won in the base game.
- **Progressive Win** — the amount of money won through progressive jackpots.
- **Bonus Game Win** — the amount of money won in a bonus game.
- **Free Games Win** — the amount of money won in a game with a free bet.
- **Denomination** — the denomination of bets made through the game, e.g., $0.25.
- **Extra Bet** — the amount of money used for extra bets.

Machine Events

This section contains the **Events, Ticket In**, and **Ticket Out** tabs.

Events tab

On the **Events** tab, the last 100 machine events are listed, starting from the most recent one. The date and time of each event are displayed.



POSSIBLE MACHINE EVENTS ARE PROVIDED IN THE TABLE BELOW

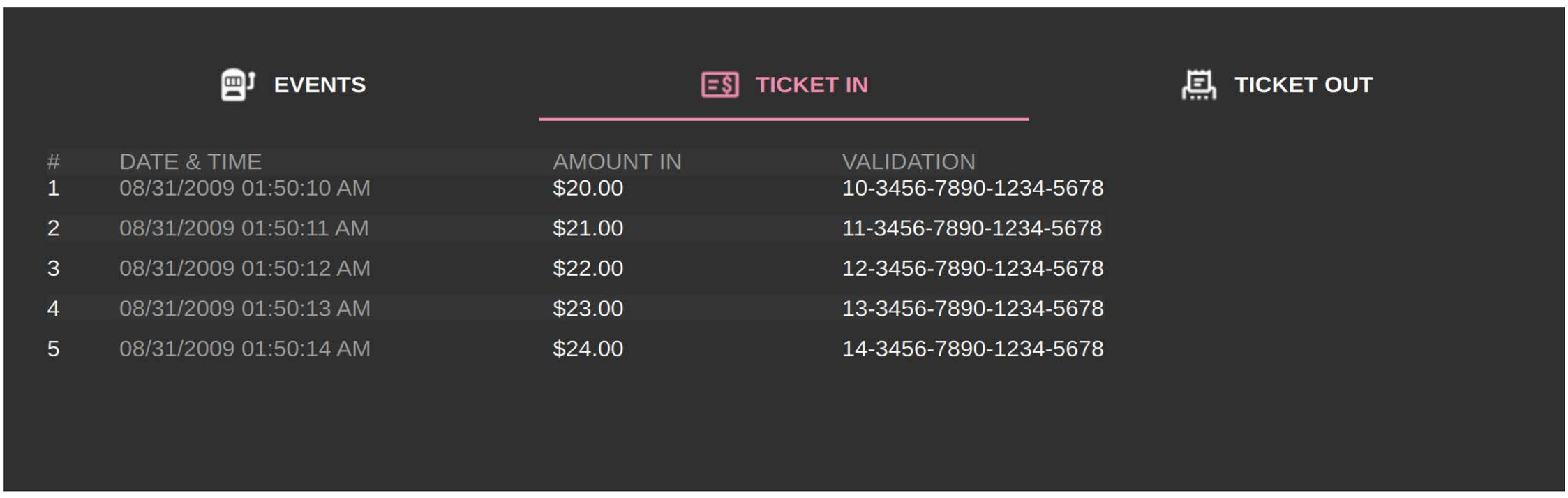
Name	State values and/or their description
Machine events	
Slot Door	Open/Closed
Drop Door	Open/Closed
Logic Door	Open/Closed
Power	Off/On
Cashbox Door	Open/Closed
Cashbox	} *Removed* } *Installed* } *Almost Full* } *Full* Note that some bill validators may not report the “Almost Full” and “Full” states
Belly Door	Open/Closed
Machine devices events	
Coin In/Coin Out Jam	Pulse coin in/out jam malfunction
Bill Jam	Bill validator jammed
Bill Acceptor	Hardware Failure
Printer	Comm Error: printer device doesn’t respond to the machine } *No Paper In Printer* } *Paper Low* } *Power Off/On* } *Replace Printer Ribbon* } *Printer Jammed*
Game Disabled From SAS Host	The machine was disabled from the SAS host system (see the Devices tab).
Cash Out Ticket Printed $X	A voucher of a certain denomination was printed, e.g., $5.
Bill Accepted $X	A bill of a certain denomination was inserted into the machine through the bill validator, e.g., $100.
Ticket Inserted	A barcoded voucher was inserted into the machine.
Logic Door Open While Power Off	The game board was accessed while the machine was powered off.
Main Door Open While Power Off	
Cashbox Door Open While Power Off	
Drop Door Open While Power Off	

Name	State values and/or their description
Game board events	
General Malfunction	Unknown system error
Low Backup Battery	Batteries on the game board need replacement.
RMC2Link Controller	RMC2Link progressive controller malfunction.
Game board settings events	
Operator Changed Settings	See Settings.
Lifetime Meters Reset	Lifetime data was cleared, see Accounting.
Period Meters Reset	A period's data was cleared, see Accounting.
Attendant Menu	Entered/Exited, see Service Menu.
Operator Menu	Entered/Exited, see Service Menu.
Out of Service	An operator pressed the Disable button in the service menu, see Service Menu.
Jackpot events	
Jackpot Handpay	› *Required* › *Was Reset* See the description of the Jackpot Handpay options on the Machine tab of the Settings section.
Progressive Jackpot Win $X	A certain amount of money was won through the progressive jackpot, e.g., $100.

Ticket In and Ticket Out tabs

On the **Ticket In** and **Ticket Out** tabs, you can check the history of both the inserted and printed barcoded vouchers. The list is displayed starting from the most recent to the oldest. Each entry includes:

- the date and time of the operation,
- the amount of money stated on the voucher,
- the validation code.



On the **Ticket Out** tab, a **Reprint** button is also available. Press it to print any voucher from the history.

NOTE

For printing redemption tickets, a third-party system is used. Jenka Lab does not provide any support for these devices. For any issues, contact the technical support of the network printer distributor.

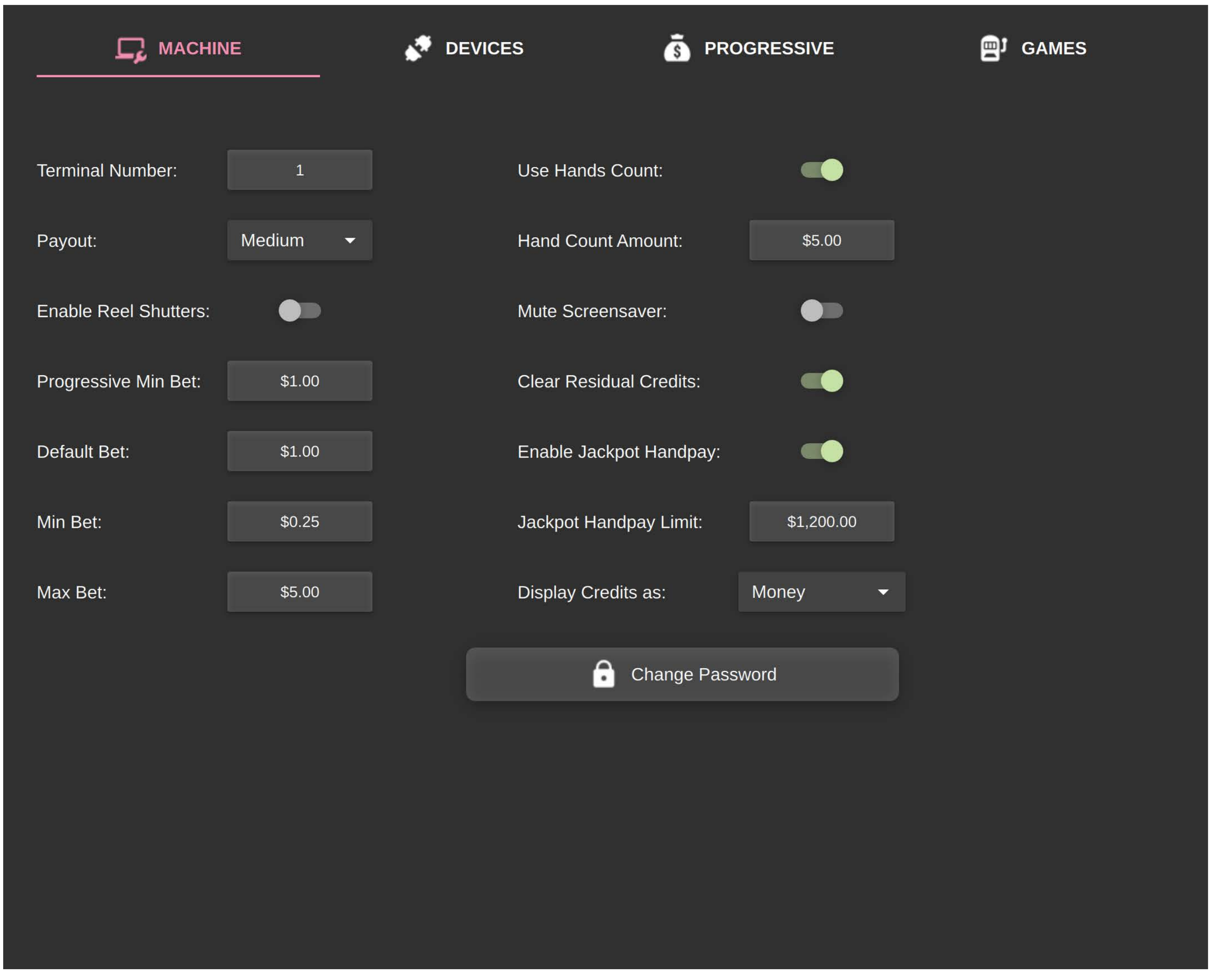
Settings

In the **Settings** section, technicians can configure and adjust the general settings of the machine and the connected devices, as well as the settings for the game program. Depending on the system's version, some options might not be present. The section is divided into four tabs:

- the Machine tab with general settings,
- the Devices tab with additional device settings,
- the Progressive tab with jackpot settings,
- the Games tab with individual switches for game themes.

Machine tab

The **Machine** tab allows you to configure the basic settings, common to all the games, and settings specific for the machine itself. Also, here you can set a password to restrict access to the service menu.



The following settings are available:

- The **Terminal Number** is a unique identifier specified for each machine in a location. This number is also printed on redemption tickets. If the RKS Fledgling board is connected, the **Terminal Number** will be also used to print redemption tickets through the RKS network printing system.
- **Payout** indicates the payout mode of games, meaning how hard or easy it is for a player to win. The higher the Payout, the lower the Hold, i.e., the amount of credits kept in the machine. The following options are available:
  - High for the highest payout and the lowest hold.
  - Medium, the default and recommended setting.
  - Low
  - Very Low with the lowest payout and the highest hold.
- **Enable Reel Shutters** — if enabled, the game reels do not spin, and a shutter animation is shown instead.
- **Progressive Min Bet** is the minimum bet amount allowed to participate in progressive jackpots. The default value is $1.
- **Default Bet** is the default amount offered to players to bet when playing any game. a player can enter any other bet instead of this on a per game basis.
- **Min Bet** and **Max Bet** define the limits for the bet amount a player can make.
- **Use Hand Count** enables the meter that starts to count each played game. It requires the **Hand Count Amount** to be specified, which limits the maximum amount of prizes that can be redeemed per game. This feature can be used to limit the redemption and is required in Georgia.

Example *Assume that the **Hand Count Amount** is set to $5 per hand, then a player inserted $1, played 1 game and immediately won $100. According to this setting, only $5 can be redeemed. The rest of the credits will stay on the machine and can be used for further play.*

- **Mute Screensaver** allows disabling the sounds the machine plays when in attraction mode.
- **Clear Residual Credits** — if enabled, any credits unavailable for play or redemption due to **Cash Out Increment** or **Hand Count** restrictions will be automatically cleared out after a timeout expiration. It will be shown at the end of each game, allowing players to add money and keep the residual credits for further bets. Otherwise, they will be cleared to zero.

  Example *If the **Cash Out** Increment value is $1 (set on the Devices tab), the **Min Bet** is $0.25, and the current amount of credits of $0.11, then the credits will be considered residual, as a player needs at least $0.25 to make a bet.*

  Note that if the **Hand Count** switch is enabled, after clearing residual credits the **Hand Count Amount** meter will also reset to zero.
- **Jackpot Handpay** is an option for so-called handpay validation. When a prize above a certain threshold is won on a single spin, the machine locks up, showing the “Jackpot Handpay Required” message. It means that the prize won must be verified by an attendant. To unlock the machine, press any of the service menu switches. After, the amount won will be transferred to the game’s credits, and the machine will be available to play again. Handpay validation is mandatory in some jurisdictions and is required for a single prize won over the specified Jackpot Handpay Limit. The default value is $1200.
- **Display Credit as** — how to display the game balance:
  - *As Money:* credits will be shown in the monetary format of $XX.XX.
  - *As Points:* credits will be shown as points, where 1 point equals 1 cent.

Below the list of settings, a **Change Password** button is displayed. You can set a numeric pin-code to restrict access to the Settings and Accounting sections.



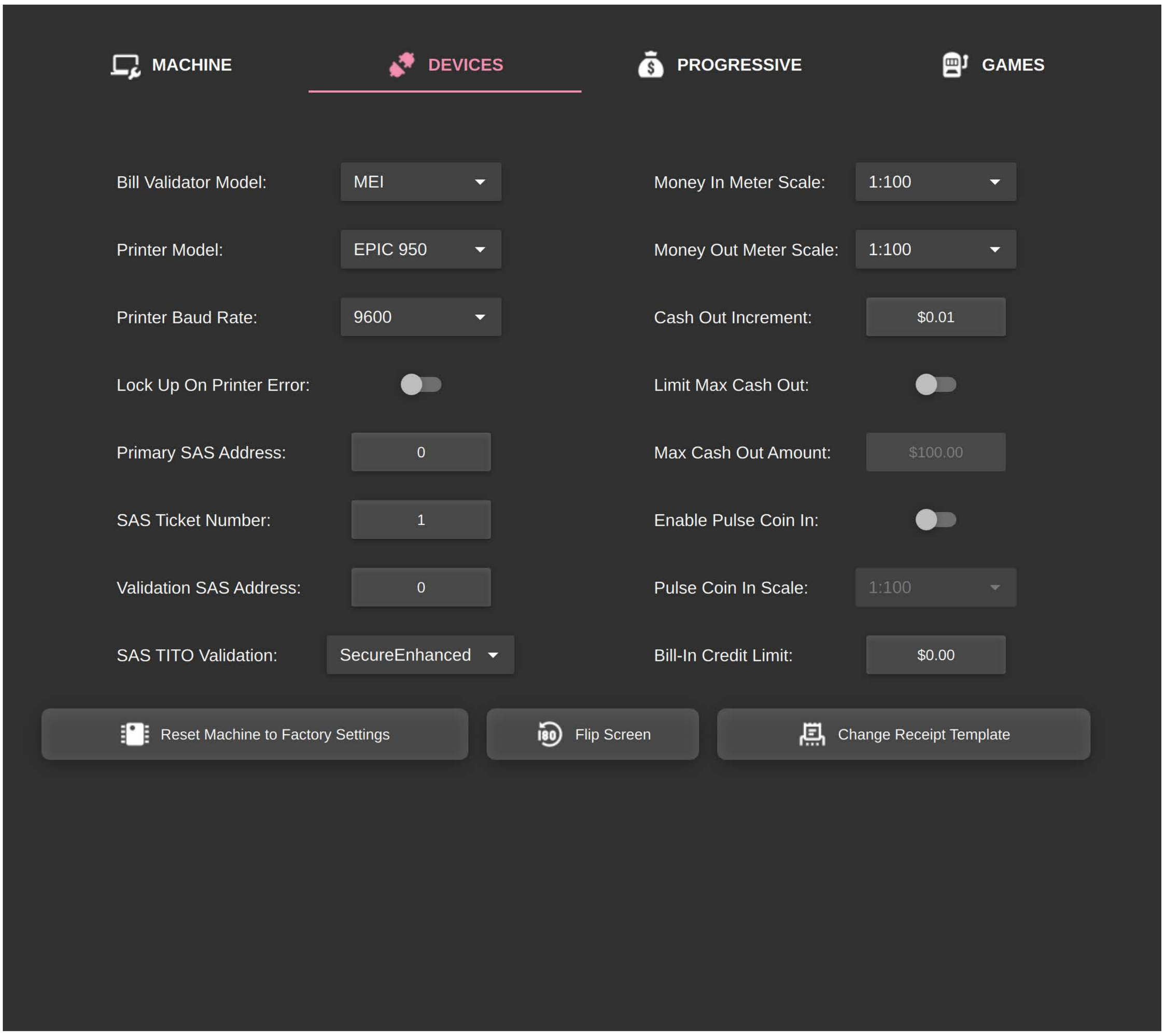
By default, no password is set. To set a password, press the **Change Password** button and enter a new one, then press **OK**. To remove the password, just add an empty one instead of the current one and then confirm it.

IMPORTANT

Please make sure to write down the password in a secure place for backup. If you forget it, you will have to extract the game board and send it to the distributor for service. Unfortunately, there is no way to reset a password onsite.

Devices tab

On the **Devices** tab, you can configure the additional devices used by the machine such as printers, bill validators, and the TITO (Ticket In Ticket Out) system devices, as well as set the accounting settings of meters.



The following settings can be configured:

- **Bill Validator Model** — a compatible model of serial or USB bill validator. Select the right option from the drop-down list:
  - Nothing (choose this if you use pulse devices or there is no validator connected to the machine).
  - MEI (for MEI, Astro or Pyramid bill validators).
  - JCM.
  - ICT.
  - ITL (for the ITL BV50 bill validator).

- **Printer Model** for printing vouchers. Select the right option from the drop-down list:
  - Nothing (choose this if you use pulse devices or there is no printer connected to the machine).
  - EPIC 950 (for Transact EPIC voucher printers).
  - GEN2/Paycheck (for GEN2 or Paycheck voucher printers).
  - Pyramid
  - Custom 24xx (for Custom 2400 series printers)
  - ICT GP-58 (for ICT Thermal printers a **Baud Rate of 2400 is required**)
  - Custom 558 (for Custom 558 printers)

Please note that Pyramid, Custom 24xx, ICT GP-58, and Custom 558 models do not support printing barcodes.

- **Printer Baud Rate** — the serial printer speed. The default value for most printers listed above is 9600. For an ICT GP-58 printer, select 2400 from the drop-down list.
- **Lock Up On Printer Error** — if enabled, any printer error locks up the machine and displays an error message. The list of possible printer errors can be found on the Events tab in the **Machine Events** section.

  Note that only EPIC950 and GEN2/Paycheck voucher printers support such an option. Thermal printers do not report errors, so the machine cannot recognize any printer malfunctions.
- **Primary SAS Address** — the address for connecting to the Slot Accounting System (SAS) for reporting meters and machine events, as well as the validation of barcoded tickets.

  Specifying the Primary SAS Address is also required by the Georgia Lottery Corporation and it is to be connected to the central monitoring system at all times. To indicate a Primary SAS Address, enter a value from 1 to 127. To disable Primary SAS Address reporting, enter 0.

- **SAS Ticket Number** — the sequential voucher number printed on a barcoded redemption ticket. You can specify this number when replacing the SAS Validation Controller.
- **Validation SAS Address** — the address of the Validation SAS Controller, needed for checking barcoded vouchers on the machine. Specify a secondary SAS address through which a TITO Validation System is connected to the machine.

  To disable the validation of the SAS address, enter 0.
- **SAS TITO Validation** — type of validation for ticket validation systems. Depending on the Ticket Validation Controller you use, select the appropriate option:
  - *SecureEnhanced* type of ticket validation, which is used by most manufacturers of ticket redemption systems.
  - *System* type of ticket validation, which is obsolete and usually is not recommended.

  Please consult with your Ticket Validation System supplier to identify which type of ticket validation to configure on your machine.

After changing the ticket validation type, rebooting the machine is required. Confirm rebooting in the special window that appears.

- **Money In Meter Scale, Money Out Meter Scale** — sets the scale for money output in a format of 1 pulse for XXX cents.

  The available options are 1:1, 1:5, 1:10, 1:25, 1:50, 1:75, 1:100. The default value is 1:100, meaning 1 meter click per 100 cents.
- **Cash Out Increment** — the value increment in $, limiting the redemption amount, e.g., $0.25, $1, $5, etc. The remaining amount, which cannot be redeemed, will stay in the machine and can be used for further play.

  The default value is $0.01, meaning players can basically redeem any amount.

- **Limit Max Cash Out, Max Cash Out Amount** — limitations on the maximum amount for cashout tickets. When enabling the **Limit Max Cash Out** switch, in the **Max Cash Out Amount** field, specify the maximum amount of prizes that can be redeemed with a single ticket out. The remaining amount will stay in the machine and can be redeemed again.
- **Enable Pulse Coin In, Pulse Coin In Scale** — for configuring pulse bill validators, connected through the 18-pin component side of the 36-pin JAMMA connector. Enable the switch to accept credits by pulses, then, in the **Pulse Coin In Scale** setting, specify the denomination of each pulse to credits. The default value is 1:100, which means 1 pulse adds 100 cents. Note that using the Pulse Coin-In pin is not recommended for security purposes.
- **Bill-In Credit Limit** — imits the maximum amount of inserted credits. If the credit amount is over this limit, the machine will disable the acceptance of bills for security purposes.

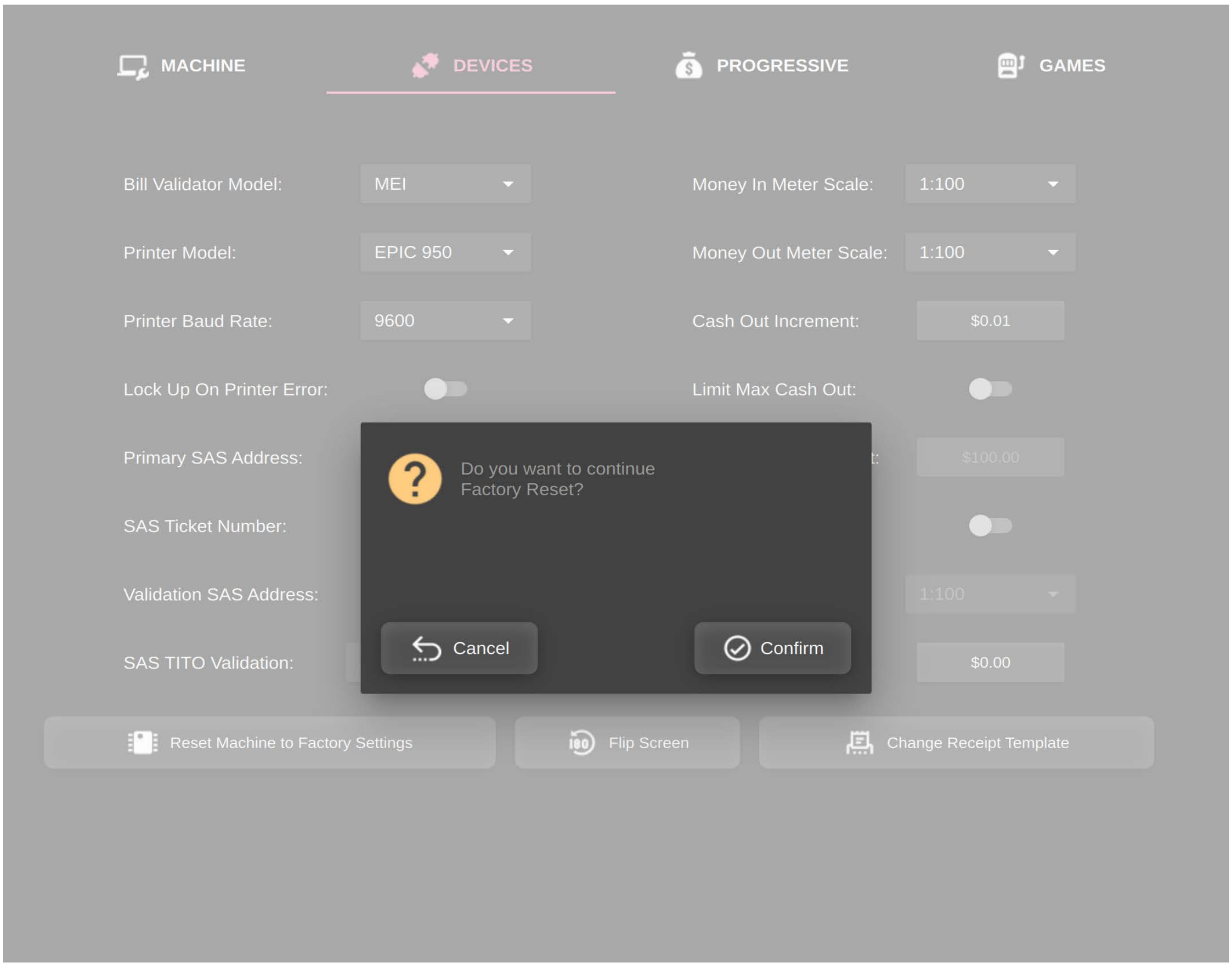
Example *If the limit is $100, the amount of credits is $90, and another $100 is inserted, bill acceptance will be disabled. When credits go below $100, bill acceptance will be enabled automatically.*

Below the list of settings, three additional buttons are available.

1. **Reset Machine to Factory Settings** — deletion of all game and accounting data from the machine. Before performing such a reset, make sure you have recorded the accounting data and settings, then press the button.

   A warning message will appear. Press Confirm to continue.

   It is recommended to always do a Factory Reset in case of changing the game cabinet, when the game board is moved to another machine.



2. **Flip Screen** — rotates the display orientation by 180 degrees for vertical screen games.

3. **Change Receipt Template** — configure the redemption ticket template for standard printers.

   The following details can be modified:

   - the name of the Location of the machine,
   - its Address,
   - additional Footer Lines, set exclusively for this machine.

NOTE

*If you use a TITO Validation Controller, then you do not have to set up the ticket data manually, since it is adjusted through the **Validation SAS Port**.*

If you use the RKS network printing system, then you cannot modify the ticket template.

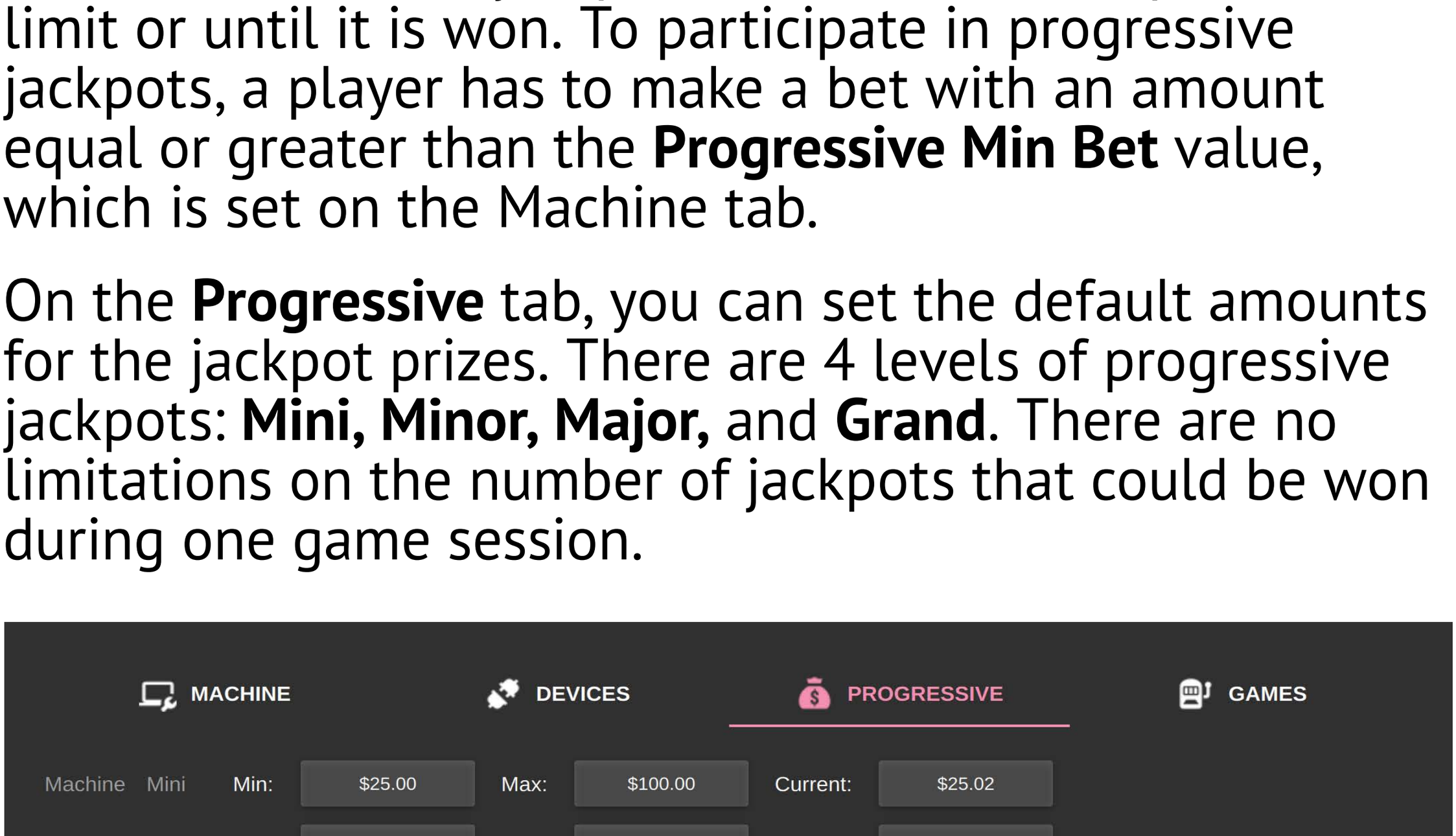
IMPORTANT

If you are having any issues using the on-screen keyboard, please connect a USB keyboard to type in the receipt values.

Progressive tab

A progressive jackpot is a prize, which grows by 0.5% of the bet amount each time the machine is played. It continues until the jackpot sum reaches the specified limit or until it is won. To participate in progressive jackpots, a player has to make a bet with an amount equal or greater than the **Progressive Min Bet** value, which is set on the Machine tab.

On the **Progressive** tab, you can set the default amounts for the jackpot prizes. There are 4 levels of progressive jackpots: **Mini, Minor, Major,** and **Grand**. There are no limitations on the number of jackpots that could be won during one game session.



For each level, the following values can be configured:

- The **Min** amount, from which the jackpot prize starts to grow.
- The **Max** amount, indicating the maximum possible prize. Once the jackpot amount reaches this value, it will stop incrementing. After the jackpot is won, its sum is reset to the **Min** amount, and the prize starts growing again.
- The **Current** amount, indicating the value of the jackpot prize at the moment. If necessary, It can be corrected by clicking on the amount and entering a new value between **Min** and **Max**. Note that the progressive prizes are designed to be won “naturally”, so adjusting the amounts will not trigger a payout.

The default values of minimum and maximum amounts are provided in the table below.

Jackpot Level	Min Amount	Max Amount
Mini	$25	$100
Minor	$100	$500
Major	$500	$1000
Grand	$1800	$5000

You can adjust the default values, but note that changing the minimum amounts can affect the machine payout. The smallest jackpot levels, Mini and Minor, are the most significant as they are won very frequently during bonus games. On the contrary, increasing the Grand jackpot minimum value over $1800 will not affect the payout significantly as it is designed to be won rarely and requires a lot of games to be played.

Nevertheless, be careful when setting the **Min** amount too high to avoid payout issues. To keep the payout at the same level, you need to adjust the **Progressive Min Bet** for participating in progressive jackpots on the Machine tab accordingly to the jackpot **Min** amount.

Thus, if you double the jackpot **Min** amount, then you most likely need to double the **Progressive Min Bet** value, too.

Example *If you have set Mini Jackpots starting from $50, then consider increasing the default **Progressive Min Bet** from $1 to $2, too, otherwise, the players will have an advantage to win a progressive jackpot.*

To control the payouts, always check the Machine Events and Game Recall sections to see how much has been won through progressive jackpots. It is also important to watch the **Progressive Win Machine Paid** value on the Game Meters pages of the **Accounting** section.

NOTE

There is also the possibility to link multiple machines together for common progressive jackpots. In this case, the prizes will grow faster, as the usual 0.5% of bet amounts will be added to the sum from all the machines being played.

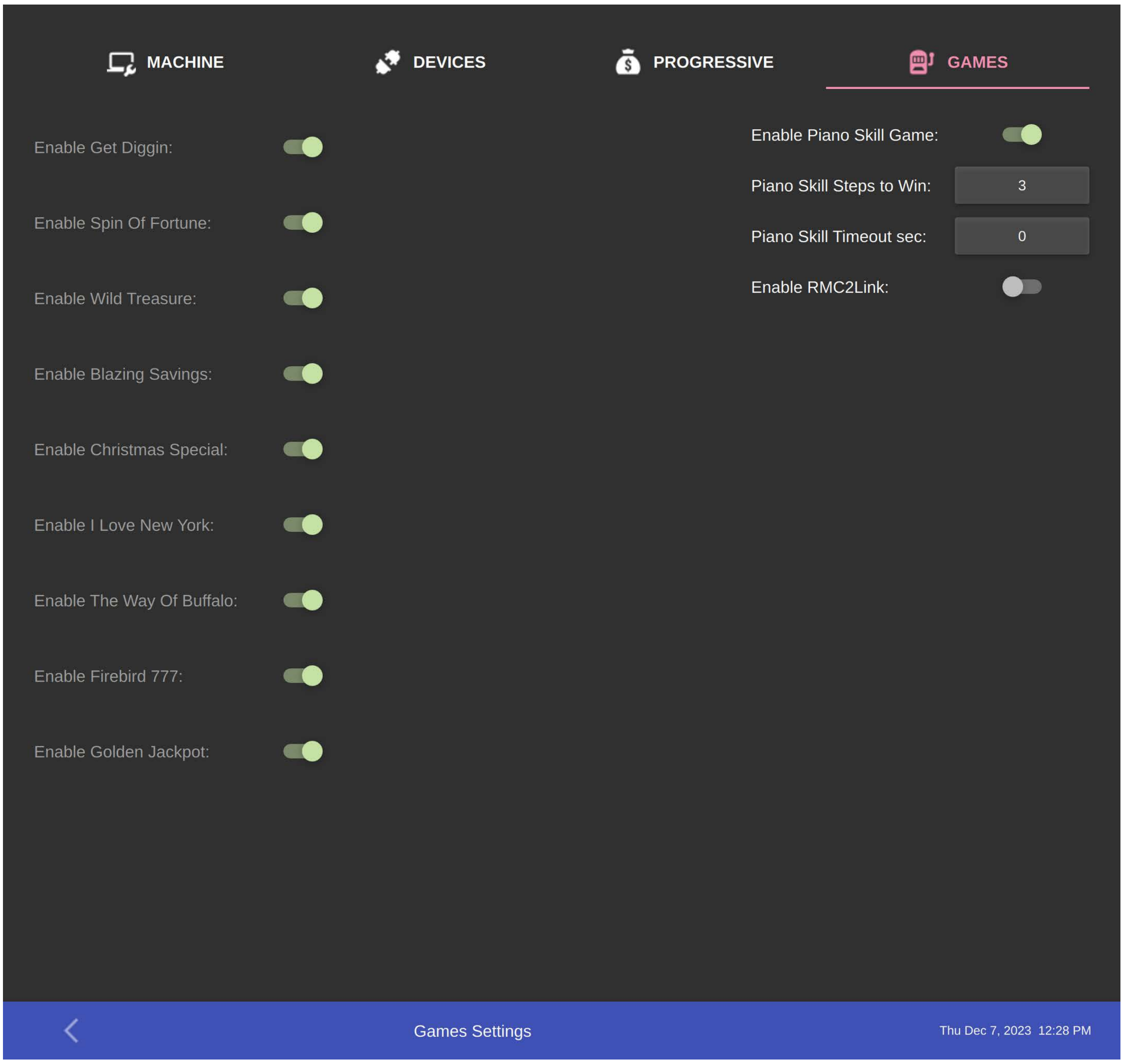
To do so, a connection to an RMC2Link controller is required. Note that it only supports a local area network and cannot be connected to the internet to link multiple locations. For connection details, see Peripheral devices.

Games tab

On the **Games** tab, you can temporarily disable some of the game themes on a multi-game board. The games will still be displayed in the game menu, but players will not be able to select them. By default, no games are disabled.

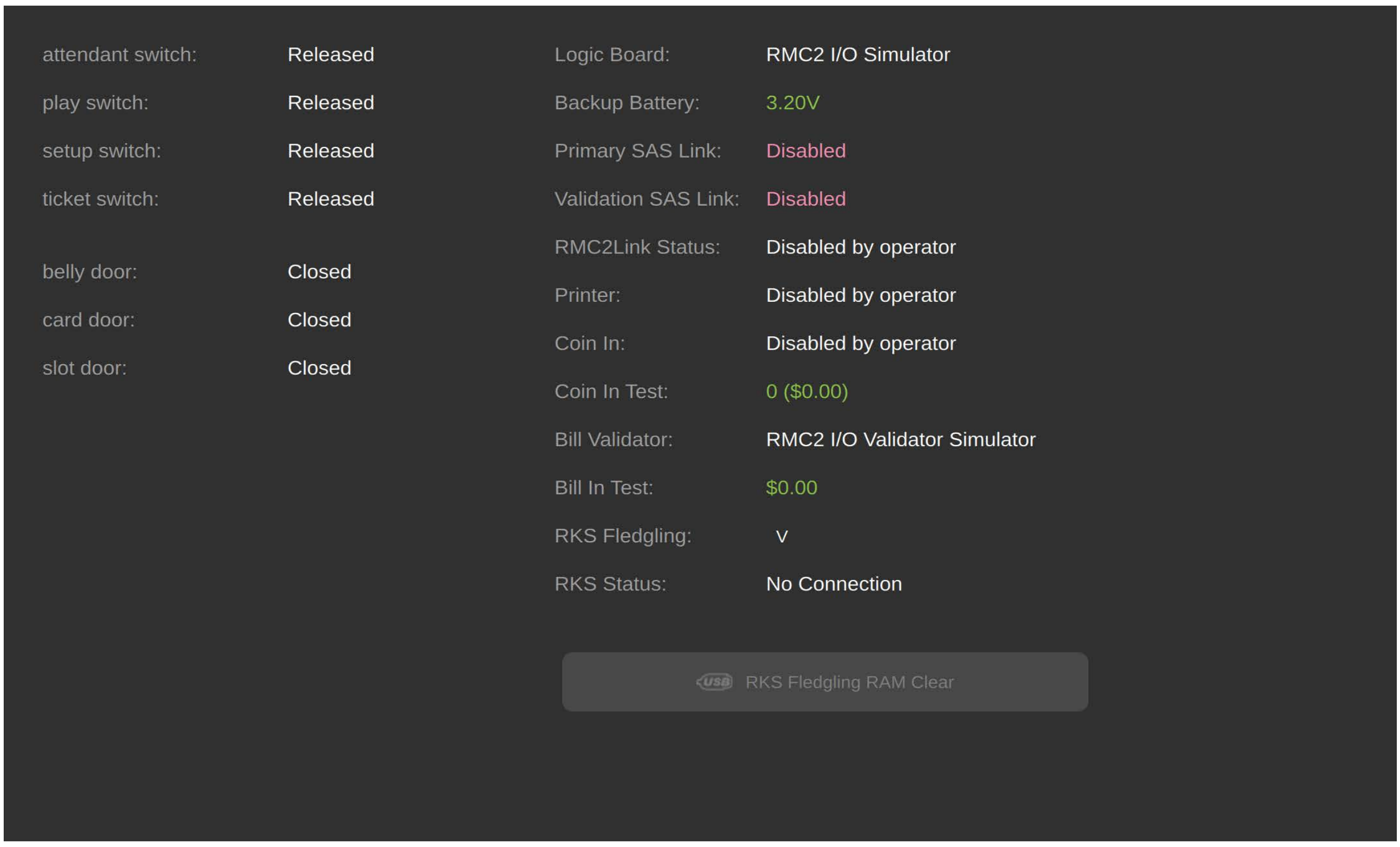
On this tab, the **Enable RMC2Link** switch can also be found, which enables a separate RMC2Link controller. It is used for linking several separate machines so that they share a common progressive jackpot. To learn more about connecting this device, see the Game board device section.

There are also a few settings to enable a secondary skill game (Piano Game) with configurable steps to win and an additional timeout to complete the game to make it more challenging. The timeout is set to 0 by default which means no timeout exists.



Diagnostics

The **Diagnostics** section allows you to check the status of the machine's components and test the game switches before letting the machine be used. You can view the voltage of the on-board battery here as well.



In the left column, the machine's switches are displayed. To make sure the harness is wired properly, press and then release the switches. The status of each input will be displayed as **Pressed** and then Released. The same can be done for the machine doors.

In the right column, the statuses of peripheral communications can be checked. The following information is provided:

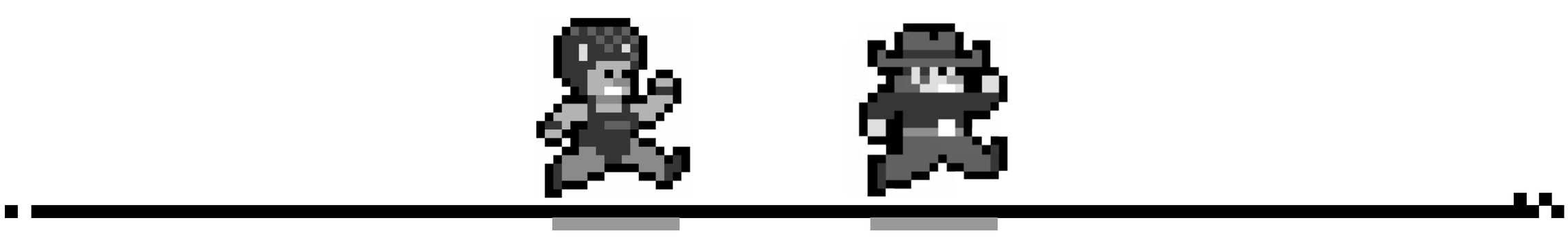
- The hardware model of the **Logic Board**.
- The voltage status of the **Backup Battery**, which should be more than 2.7V. Otherwise, the machine will not be able to save the data when powered off. If the voltage is low, replace the batteries.
- The status of the **Primary SAS Link** to the port: **Up**/**Down**/**Disabled**.
- The status of the **Validation SAS Link** to the secondary port: **Up**/**Down**/**Disabled**.

- **RMC2Link Status** of the RMC2Link progressive controller.
- The configured **Printer** (Serial) model connected.
- The status of the **Pulse Coin-In** pin. It is not recommended to use it for security purposes.
- The **Coin-In test** acceptance through the **Pulse Coin-In** pin. The inserted amounts will not be reflected in the accounting.
- The status of the configured **Bill Validator** (USB or Serial).
- The status of the **Bill In Test**. Insert the test bills and voucher through the USB or Serial bill validator. The inserted amounts will not be reflected in the accounting.
- The model of the USB **RKS Fledgling** device.
- The **RKS Status** of the RKS Fledgling device: No Connection/**Network Down**/**Working**.

Under the right column, the **RKS Fledgling RAM** Clear button is displayed. Press it to reset the money-in and money-out meters connected to the RKS Fledgling board to zero. It will not affect the machine accounting, but simply reset the Fledgling.

Disable/Enable

Press the **Disable** button in the Service Menu to temporarily put the machine out of service. To return it to active mode, enter the Service Menu and press the **Enable** button.

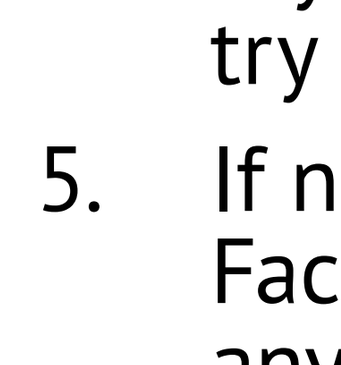


Touch Screen

In the **Touch Screen** section, you can calibrate the touch screen by pressing the 4 circles that appear on the screen.

If the touch screen does not work properly after calibration, follow these steps to perform touch screen diagnostics:

1. Identify if the touch screen device is connected:
    - Check the connection cables.
    - Open the service menu and see if the mouse pointer moves when you touch the screen. If so, it means that the touch device is operational.
2. Try to switch between Serial and USB connection:
    - If it is connected through USB, try serial and vice versa.
    - Reboot the machine after changing the connection for the touch screen.
3. Try to calibrate the touch screen:
    - In the Service Menu, go to the **Touch Screen** section to calibrate touch.
    - The calibration screen will require you to touch 4 corners with your finger.
4. If you still cannot click buttons in the Service Menu, try connecting a USB mouse.
5. If none of the above helps, perform a Machine Factory Reset on the Devices tab. This will remove any stored touch calibration.

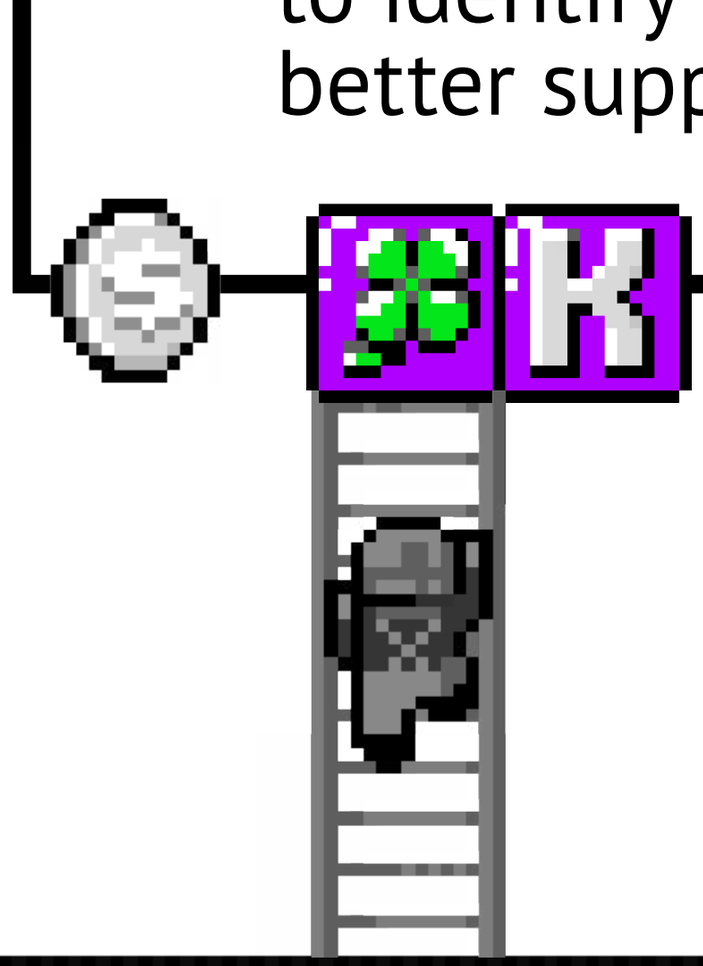


GET HELP

If you are having issues with your game that, which are not described in this manual:

1. Make sure the game board has the most recent software version and check online for software updates.
2. Make sure the touch screen is working properly. Some bonus games require selecting something on the screen and if the touch calibration is off, players cannot select it.
3. If none of the above helps: contact the distributor for more information, or email us at ask@jenkalab.com.

   When reporting any technical issues, please always include a picture of the System Info page. This will help us to identify the software version for better support.



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