

# **BelSlots V4.02 / V4.03**

Rev. E1.03 – Rom

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## **Technical manual**



All information in these operating and game instructions were elaborated and compiled with the greatest care and checked using effective inspection measures. However, errors cannot be completely excluded. With respect to this, BELCOIN®BELGIUM would like to point out that it does not give a guarantee for, assume legal responsibility or any liability for the consequences resulting from incorrect information. All technical information should be taken from the equipment manual.

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**FOREWORD**

Congratulations for buying a BELCOIN®BELGIUM product.

Please read these instructions carefully.

This guarantees you the best way to use this product.

- Keep this manual on a safe place, so that you can refer to it in the future.
- Always switch off the power supply when you change a PC-Board !  
This can save you expensive repairing costs.
- Always check the DC power supply before you put in a new PC-Board !  
It may not be higher than "5,3 Volts", otherwise you will destroy the new PC-Board immediately !
- Avoid electrostatical charges by transporting this electronic equipment, because it could clear all data or destroy electronic components.
- Please observe all safety comments with the sign "(!)" .

*We wish you a lot of succes with your new game.*



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# 1. TECHNICAL DATA

## 1.1. POWER SUPPLY (DC) : (!)

DC + 5 VOLT ELECTRONIC	-1% - +5% max. current carrying capacity	4,95 - 5,25 V "at AM systemplug" 400-600 mA
CD - 12 VOLT soundpart lamps counter	-15% max. current carrying capacity current carrying capacity current carrying capacity	10,50 - 13,80 V 100-500 mA according to volume strength 800-2000 mA according to light strength 100-500 mA according type of counter

## 1.2. OVERVOLTAGE & WRONG POLARITY PROTECTION : (!)

All components of the 5 Volt supply are protected with a special capacity diode against overload and wrong polarity.

There are 5 fuses fixed in the form of small printed conductors on the soldering side under the connector. The fuse in the middle is connected with the circuitry, the other 4 are open.

If a fuse should burn out through shortcircuit, higher input voltage or a wrong polarity, than you can replace it by soldering a still open solderstrap.

In each case, the reason must be found, corrected and tested !

## 1.3. VIDEO : (!)

The videochassis makes an RGB-signal for the colour monitor with an input impedance of 75 to 150 Ohm and a voltage of 2,5 volt. The synchronising composite Sync-signal has a horizontal frequency of 15625 Hz and a vertical frequency of 50 Hz with a voltage of 5 Volt. The video ground may not be connected with the normal mass, this could result in interferences. Each colour monitor should be used according to EAG norm with ÖVE or VDE check.

## 1.4. AUDIO : (!)

The loudspeaker should have an impedance of minimum 8 Ohm, a lower loudspeaker impedance could destroy the audio amplifier.

## 1.5. DIPSWITCHBANK : (!)

All banks may be switched only against the mass. A voltage of above +5,7 or under -0,7 Volt at the banks can destroy the component "74HC245".

## 1.6. SWITCH OUTPUTS : (!)

All switch outputs have Darlington-transistors with open-collector, each of them may be stretched with 300 mA.

Always verify the right polarity of the diode when you change the mechanical counter, otherwise you will destroy the component "ULN 2803".

## 2. GAME DESCRIPTION

### 2.1. GENERAL INFORMATION

Random generator controlled Slots game with win-payment.  
 Game input = 1 to 5 credits. (1 credit = 1000 Lei)  
 Highest win = 200 x stake.

### 2.2. INSTALLATION

After switching on the machine, the GAME OVER mode will appear.  
 If you switch off and on the machine again in a period of 5 minutes, then a warning signal will sound for 7 seconds after the appearance of the logo. (Switch it off using a service key)  
 Because of that, manipulation through constantly switching off and on the machine is effectively prevented.

Without credits, only the GAME OVER mode runs. It will alternately show the win plan and the BelSlots cover with the BELCOIN®BELGIUM logo.

This game can accept 4 different notes, which are programmed by our company :

- 10.000 Lei
- 50.000 Lei
- 100.000 Lei
- 500.000 Lei

### 2.3. GAME COURSE :

If you put in a 10.000 Lei note in the acceptor, the creditmeter will show "10" and the BET will show "1". You only see the winplan and you're able to make your stake.  
 You can see that the win plan depends on the stake.

#### 2.3.1. Winplan



The game uses 10 symbols with a certain pointvalue, pictured in the middle of the screen. On the left side of the screen, there are some features that give extra bonus points. On the right side, there is the winplan, that show how many points you have to score to win a certain amount of credits

The used symbols and their point values are : cherry (20 points), lemon (20 points), orange (20 points), plum 40 points), strawberry (40 points), kiwi (60 points), pear (60 points), banana (60 points), grapes (120 points) and a diamond (300 points).

Insert coins and/or notes and adjust the stake with the “STAKE” button.

You will see, that the scores in the win plan have always the same ratio as the stake.

Push the “Start” button to start the game. On the left side of the screen, you will see a combination of 3 vertically-placed symbols. The player has to place this combination in one of the four slots using the corresponding “Slot” buttons. The purpose of the game is to create a horizontal or diagonal row of the same symbols to achieve the points corresponding to the symbol. The total score is the sum of the scores of the 4 slots. See “bonus wins” for extra features.

The wins will be added to the credit meter and the game is finished.

### 2.3.2. Wins

<u>Points scored</u>	<u>Bet 1</u>	<u>Bet 2</u>	<u>Bet 3</u>	<u>Bet 4</u>	<u>Bet 5</u>
1000	200	400	600	800	1000
750	100	200	300	400	500
500	40	80	120	160	200
400	20	40	60	80	100
300	10	20	30	40	50
250	6	12	18	24	30
200	4	8	12	16	20
150	3	6	9	12	15
100	2	4	6	8	10

### 2.3.3. Bonus wins

#### 2.3.3.1. 3 winning lines

If you have points in 3 slots, the total points score will be multiplied by 1,5.

#### 2.3.3.2. 4 winning lines

If you have points in 4 slots, the total points score will be doubled.

#### 2.3.3.3. 9 alike

When there are 9 symbols of the same kind, in one or more slots, the player wins 200 points extra (for each 9-alike slot) and the mystery bonus.

#### 2.3.3.4. Mystery

The mysterybonus is a feature which will be build up by the player during a random number of games. Every time the player plays a “3 winning slot”

combination, the mystery counter rises with 1 credit. For every “4 winning slots” combination, it rises with 10 credits.

If then a “9 alike” bonus has been played, the player wins the “9 alike” bonus plus the mystery bonus. The maximum value of the mystery bonus is limited as follows, depending on the stake. When the mystery bonus reached its maximum value, it will be displayed in red.

<b><u>Bet</u></b>	<b><u>Maximum Mystery</u></b>
<b>1</b>	<b>50 credits</b>
<b>2</b>	<b>150 credits</b>
<b>3</b>	<b>300 credits</b>
<b>4</b>	<b>500 credits</b>
<b>5</b>	<b>1000 credits</b>

### **2.3.4. Win Payment**

In this game there are several possibilities to pay out the wins.

- **Variation a :**

With this variation, the total win amount can be payed out with a button or with keyswitch. This amount will be registered in the bookkeeping and at the mechanical “OUT” counter.

- **Variation b :**

If your machine has a hopper for coin payout, the win-amount can be paid out in coins or tokens.

For the hopper payout it is necessary to have an additional payout button.

The coin payout is registered in the bookkeeping and also at the mechanical “OUT” counter.

- **Variation c :**

If you use our electronic keyssystem, you have the possibility to make all win pay outs by key and this through various persons. Till 6 persons can work with it.

Every person will be registered with date and time at the bookkeeping.

All payout amounts will be registered at the mechanical “OUT” counter.

### 3. BOOKKEEPING, STATISTICS, SETTINGS

#### 2.4. Bookkeeping



Start with the Hold 1 button.

#### 2.4.1. Owner Bookkeeping

COIN A	xxx	Coin insert A	
COIN B	xxx	Coin insert B	
COIN C	xxx	Coin insert C	
COIN D	xxx	Coin insert D (notes)	
SERVICE IN	xxx	Credits booked by service key	
HOPPER OUT	xxx	Payment by hopper	
KEY OUT	xxx	Payment by key	
TOTAL IN	xxx	Sum of all inserts	
TOTAL OUT	xxx	Sum of all payments	
HOPPER REFILL	xxx	Total refilled coins	.
NETTO	xxx	Difference	
F-FACTOR	xxx	Games played with added credits	(*)
TOTAL OUT/TOTAL IN	xxx %	In/Out percentage	(*)

(\*) Only visualised in the Owner Bookkeeping

#### 2.4.2. Security/Rental Bookkeeping

COIN A	xxx	Coin insert A	
COIN B	xxx	Coin insert B	
COIN C	xxx	Coin insert C	
COIN D	xxx	Coin insert D (notes)	
SERVICE IN	xxx	Credits booked by service key	
HOPPER OUT	xxx	Payment by hopper	
KEY OUT	xxx	Payment by key	
TOTAL IN	xxx	Sum of all inserts	
TOTAL OUT	xxx	Sum of all payments	
HOPPER REFILL	xxx	Total refilled coins	.
NETTO	xxx	Difference	



2.4.3. Service 1-6 Bookkeeping

TOTAL IN	xxx	Credits booked by service key
TOTAL OUT	xxx	Credits paid by service key
HOPPER REFILL	xxx	Amount of refilled coins
NETTO	xxx	Difference

2.5. In – Out List

Displays all credits with date, time, amount, and the corresponding action to have taken place on the machine.

For example :

1	20000	01.01	09:31	1
2	50000	01.01	16:12	1
3	5000	01.01	18:20	2
4	10000	01.01	21:05	2
5	250000	02.01	01:27	2
6	3000	02.01	09:42	1

If, for example, you have a gambling hall with unknown staff which opens at 9.00 hrs and closes at 24.00 hrs. Until now, you had no control possibilities, whether your staff played on your machines, or not, outside the openinghours.

In this payout list, for example, you can see that someone of the staff has debited the amount of 25000 points with servicekey number 2, the 02.01(date), at 01.27hrs (time).

2.6. Settings



Start with the Hold 3 button.

Page 1:

COIN A	—————>	OFF (Value for COIN A)
COIN B	—————>	OFF (Value for COIN B)
COIN C	—————>	5 (Value for COIN C)
COIN D	—————>	OFF (Value for COIN D)
SERVICE REMOTE	—————>	OFF (Acceptance of credit by service key)
HOPPER COIN	—————>	OFF
HOPPER MAX	—————>	OFF
CHANGE CHANNEL	—————>	OFF
CHANGE FUNCTION	—————>	ALL

**Page 2:**

BET MIN	—————▶	1
BET MAX	—————▶	5
PAYOUT	—————▶	4
CREDIT LIMIT	—————▶	OFF

**Page 3:**

COUNTERS IN	—————▶	100 %
COUNTERS OUT	—————▶	100 %
JP-SIG.MIKOHN	—————▶	0 %

**Page 4:**

RENTAL CLEAR BK	—————▶	OFF (Clearing of rental bookkeeping)
SERVICE DISPLAY BK	—————▶	OFF (Displaying service bookkeeping)
SERVICE CLEAR CREDIT	—————▶	ON (Clearing of credits)
ALARM TIME SWITCH ON	—————▶	7 SEC (Length of alarm in the event of manipulation attempts)

**Page 5:**

Settings of date and time

**Page 6:**

FLASH WINNING LINES	—————▶	ON
CREDIT INPUT LIMIT	—————▶	OFF

The winning quota can be adjusted in 5 steps and comes up every individual demand. We recommend the adjustments win = 4 ; this corresponds to a longterm payout quota of about 60-70 % (CashOut/CashIn) after 100.000 games.

To become the Win / Bet percentage, use the following calculation ;

$$\begin{aligned} \text{Tot In} \times f &= \text{Tot Bet} \\ \text{Tot Bet} - (\text{Tot In} - \text{Tot Out}) &= \text{Tot Win} \\ (\text{Tot Win} / \text{Tot Bet}) \times 100 &= \% \end{aligned}$$

**-----> !!ATTENTION !!**

Changing the win quota can have serious consequences, therefore you shouldn't use this possibility very often, or even not at all.

You have to avoid changing the win quota on several machines at the same time, because this can be recognized by the players ! This program has not a reflex, which changes the win quota in proportion to the "Cash In" and "payout". This has the advantage that speculative attempts of players, or some of the staff can be avoided.

***We herewith want to warn you for copied BELCOIN®BELGIUM games.  
These products can reach a payout quota of up to 500 % !!***

## 2.7. IO-Check



Start with the Hold 4 button.

In this test, the entry / exit functionality can be checked, the monitor can be set by means of a test card and the volume of the game can be adjusted.

## 2.8. Key Settings



Start with the Hold 5 button.

### 2.8.1. Introduction

This key system is an electronically programmable security key available for all traditional game systems via the six individual switch outputs. This key or the system key is built into a jack. This key disposes of a 48-bit information storage system whose code is programmed only once by the manufacturer. This 48-bit system theoretically offers you "281 billion" different locking possibilities.

Therefore, successful locking by unauthorised persons can be excluded.

This has the purpose of preventing manipulations such as drilling of the casing and the short-circuiting of the key contacts.

Many similar or various key patterns can be used with this system. Whatever the demand is, there is always a possibility.

#### Listing of individual key functions of the keysystem :

FUNCTIONS	TRANSISTOR	KIND OF RIGHT
1 Master 1	K1 = BOOK MAIN	central key
2 Master 2	K1 = BOOK MAIN	key for the technician
3 Master 3	K1 = BOOK MAIN	key for the cashier
4 Master 4	K3 = BOOK RENTAL	key for the owner
5 Master 5	K3 = BOOK RENTAL	key for reading
6 Service 1	K4 = CREDIT CLEAR	staff 1 1st day
7 Service 2	K4 = CREDIT CLEAR	staff 2 1st day
8 Service 3	K4 = CREDIT CLEAR	staff 3 1st day
9 Service 4	K4 = CREDIT CLEAR	staff 4 1st day
10 Service 5	K4 = CREDIT CLEAR	staff 5 1st day
11 Service 6	K4 = CREDIT CLEAR	staff 5 2nd day
12 Book. Main	K1 = BOOK MAIN	main bookkeeping
13 Book. Rent	K3 = BOOK RENTAL	rental bookkeeping
14 Remote 1	K2 = REMOTE 1	credit-key
15 Change only	K5 = COIN C CHANGE	change-key
16 Credit Clear	K4 = CREDIT CLEAR	pay-out-key
17 OFF	K6 = SIGNAL IMPULS	illegal-key

### 2.8.2. Advantages of the System

With the use of traditional mechanical key switches, the various functions (service, accounting) require several different locks. This solution was expensive and proved insecure in the event of manipulations. If one key was lost, it was always necessary to put in a new lock, which was expensive and took a lot of time for gambling halls and operators with a high number of machines.

### 2.8.3. Programming (General)

Insert the MASTER 1 key into the microphone socket until the service menu appears on the monitor. You can access the key-programming menu by pressing the Hold 5 button. All keys programmed on the system are displayed. You can programme up to 24 keys on each system. With the "master 1" key you are able to change, to clear and/or to program additional keys. Press the "STAKE" button 2 times, to go back to the normal game mode.

### 2.8.4. Creating a New Key

If the key-programming menu is displayed on the monitor, insert the key to be programmed into the microphone socket, then choose an available storage location with the Hold 2 and Hold 3 buttons. Press the Hold 1 button; the key is then read. Once the key has been successfully read, the "NO FUNCTION" message appears at the selected storage location. Now give the key the desired function using the Hold 5 button. Press the Start button twice to store the new settings.

### 2.8.5. Clearing a key

If the key-programming menu is displayed, choose the key to be cleared using the Hold 2 and Hold 3 buttons. Now press the Hold 1 button; the key is then cleared. Press the Start button twice to store the new settings.

### 2.8.6. Functions of the keys

#### MASTER 1 (black):

This key is provided for the fitter. It allows him to determine all of the settings and to look at and clear all of the bookkeeping.

**N.B.: Never remove your MASTER 1 key without first creating a copy of the MASTER 1 key. You cannot cancel the clearance thereof at a later date. The result of this is that it is impossible to create an additional MASTER 1 key.**

#### MASTER 2 (red):

This key is provided for the technician. It allows him to determine all of the settings; however, not all of the bookkeeping can be looked at or cleared.

#### MASTER 3 (blue):

This key is provided for the cashier. It allows him to look at and clear all of the bookkeeping except for the security bookkeeping.

**MASTER 4 (green):**

This key is provided for the bar manager or amusement arcade supervisor. It only allows him to look at and clear – depending the settings – the rental and service bookkeeping.

**SERVICE 1 – 6 (white):**

This key is provided for the service personnel in order to add credits to or deduct credits from the machine as well as for performing hopper refills.

Menu control buttons:

- Hold 1 button → Read or clear key
- Hold 2 button → Move cursor upwards
- Hold 3 button → Move cursor downwards
- Hold 4 button → Decrease set priorities
- Hold 5 button → Increase set priorities.
- Start button → EXIT! / Change in the selection menu

KEYS		NEW CPU					OLD CPU					
		Master 1	Master 2	Master 3	Master 4	Master 5	Service 1-6	Book Main	Book Rent.	Re-mote 1	Coin Change	Credit Clear
functions	selectiv functions						•	•	•	•	•	•
	programm keys	•	(•)									
	set clock	•	•	•				•				
	preferences	•	•	(•)				•				
	payoutlist	•	•	•				•				
check	service book keeping	•	•	•	•	•		•	•			
	rental book keeping	•	•	•	•	•		•	•			
	owner book keeping	•	•	•				•				
	security book keeping	•						•				
clear	service book keeping	•	•	•	•			•				
	rental book keeping	•	•	•	•			•	•			
	owner book keeping	•	•	•				•				
	security book keeping	•										

**2.9. Statistics**



Start with the Collection button.

**2.9.1. Info Page**

CLEARED BK	Number, Date, and Time of the cleared bookkeeping
CHANGED SETTINGS	Number, Date, and Time of the changed settings.
KEY ALARMS	Number, Date, and Time of the key alarms
ALARMS	Number, Date, and Time of the alarms
DOOR OPENINGS	Number, Date, and Time of the door openings
POWER ON	Number, Date, and Time of power on

**2.9.2. Game Statistics**

Slotgame			# OF WINS
100 points	00-00	00:00	.....XX
150 points	00-00	00:00	.....XX
200 points	00-00	00:00	.....XX
250 points	00-00	00:00	.....XX
300 points	00-00	00:00	.....XX
400 points	00-00	00:00	.....XX
500 points	00-00	00:00	.....XX
750 points	00-00	00:00	.....XX
1000 points	00-00	00:00	.....XX
3 winning	00-00	00:00	.....XX
4 winning	00-00	00:00	.....XX
9 alike	00-00	00:00	.....XX
Mystery	00-00	00:00	.....XX
NUMBER OF GAMES.....			XXXX

In the statistics, you can oversee, how often the adjustments are changed and the bookkeeping is cleared. Of course, the last intervention will retain with the date and time. You can also read, how many hours this game has been running since the last statement, how often it has been switched on and off or when the machine has been switched on the last time. The last one is suitable for controlling opening hours. You can also control, when and how often the key system is manipulated, when and how often the machine has been opened and when the key settings has been changed the last time.

## **4. SERVICE INFORMATION :**

Possible errors and their reasons :

### **4.1. Dynamic Memory Error !**

The reason for this error message can be a defective Ram circuit package (IC-13 to IC-16) or an electrostatic charge after switching on the machine.

### **4.2. Static Memory Error !**

This error message can have the following reasons :

- a) Loss of data through electrostatic charge : you have to initialize the memory (INIT MACHINE)
- b) If this error appears often, after the machine has been switched off for a long time, the battery has to be changed.
- c) Circuit packages (IC23 and IC24) can be defective.

The memory initialization can only be done in the statistics with the "HOLD 1" button.

### **4.3. Credit Limit Error !**

The credit insertion is outside the allowed limit :

- a) At a maximum bet of 5 till 100, the creditlimit is 100.000 points.
- b) At a maximum bet of more than 100 (not used), there are maximum 700.000 points allowed.
- c) When using the adjustments "x10" or "x100", the values above have to be multiplied in the same proportion.

To clear the error, the credit sum has to be pulled down.

### **4.4. Bookkeeping Error !**

There can be a difference between the bookkeeping and the win statistics caused by attempts at manipulation, power failures and electrostatic errors.

The same happens when there is a big sum on the credit display before you erase the bookkeeping or initialize the memory.

This error can be cleared by adjusting the credit display to 0 and afterwards erasing the bookkeeping.

### **4.5. Serial Memory Error !**

The serial Eprom (IC26) can't be read or written. This circuit package is defective and has to be changed.

#### **4.6. Timer Error !**

The circuit package (IC31) could be defective.

#### **4.7. Initialize Error !**

The serial Eprom (IC26) shows the wrong checksum. This error message can be caused by :

- a) High voltage manipulation or supply errors
- b) The Eprom (IC26) could be defective
- c) Removing the circuit package (IC26)

To remove the error, the adjustments has to be controlled and corrected.

#### **4.8. Out Of Range Error !**

This error message shows you, that one or more adjustment parameters are outside the allowed range. This error can be caused as follows :

- a) Static loading !
- b) Manipulations with high voltage or supply errors !
- c) The Eprom (IC26) could be defective !
- d) When some adjustment points in the software are changed at a future program updating.

To remove this error, the adjustments have to be controlled and corrected.

#### **4.9. Input Or Button Error !**

One or more function buttons or other incoming circuits are already active when the machine is switched on. To find the error, you can use the I/O-test in the statistics.

#### **4.10. Hopper Error ! Call Adjustant !?**

The hopper is either empty or blocked. To remove this error you have different possibilities :

- a) Use the function "credit clear"
- b) Call and leave service bookkeeping
- c) Do a "hopper refill"
- d) Switch the machine off and on.

#### **4.11. No Operation Error !**

The circuit package (IC29) or the quartz (Q3) could be defective. If this error happens often, please call the BELCOIN®BELGIUM customer service department.

#### **4.12. Credit Compare Error!**

The data for the credit display is multiple registered and always compared. If there is a difference, this error message is shown.



**4.13. Funtion Error! 01B5613D000000B8!**

The circuit package (CON-5) could be defective. If this error happens often please call the BELCOIN®BELGIUM customer service department.

**4.14. Guru Meditation Error!**

Through any manipulation, function important pieces can sometimes be destroyed in this program.

Switch on and off your machine.

Should you have this fault once again, than you have to call the BELCOIN®BELGIUM customer service department immediately !

**4.15. Switch Off And On!**

The reason for this fault signal can be perhaps an electrostatical loading or a defective lamp.

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## 5. TECHNICAL INFORMATION

### 5.1. System-plug

COMPONENT SIDE		SOLDERING SIDE	
lamp HOLD 3	a	1	coin lock (active - acceptance)
lamp payout-button	b	2	NC (reserve, exit, Jackpot)
counter hopper refill	c	3	counter, coins in cash-box
hopper high	d	4	not designated (reserve IN 6)
not designated (reserve IN 7)	e	5	counter control-entrance (IN 8)
alarm-entrance (reserve IN 9)	f	6	credit erase, chipcard (IN 5)
door-switch	h	7	counter, coins in cash-box
mass (black)	j	8	mass black
mass (black)	A	1	mass (black)
mass (black)	B	2	mass (black)
mass (black)	C	3	mass (black)
plus 5 Volt (red)	D	4	plus 5 Volt (red)
plus 12 Volt (orange)	E	5	plus 12 Volt (orange)
lamp HOLD 1	F	6	lamp START
lamp HOLD 2	H	7	lamp HOLD 5
lamp CLEAR	J	8	lamp HOLD 4
coin-entrance (coin B)	K	9	hopper engine
counter total in	L	10	external on key
counter total out	M	11	button HOLD 1
counter external in	N	12	button CLEAR
button HOLD 5	P	13	button START
adjusting/owner bookkeeping	R	14	waiter bookkeeping
button HOLD 2	S	15	button HOLD 4
hopper-payout-button	T	16	button HOLD 3
hopper-coin-switch	U	17	coin-entrance (coin C = notes)
bookkeeping 3 extra function	V	18	coin-entrance (coin A)
video green	W	19	video red
video synchronization-signal	X	20	video blue
loudspeaker plus	Y	21	video mass
erase credit	Z	22	loudspeaker mass



**5.2. JCM Notereader**

- The JCM notereader should be used with different notes depending on the notereader model and softwareversion.

**5.2.1 JCM - EBA10**

```

Date of prog.      : 25.12.1999          Filename : ROM-PB.HEX
Modelname         : EBA-10 (ROM) (-PB)
Rom-ID           : 0A2 [Parallel(ID-001) & Pulse]
Version          : V2.60
Checksum         : 57B5              EPROM-Type: 27C512
                                         Recommended Guide Blocks Type NONE

Currency         : Romanian Lei
Accepted notes : 10000, 50000, 100000   Accepted ways: 4
    
```

Dip switch settings:

1	Setting to OFF (ON:Test and adjustment mode)	(*)
	Normal Operation (SW 6=OFF)	(SW 6=ON) Enable/Disable Denomination Mode
	PULSE MODE	PARALLEL MODE
2	ON : SW2 SW3 Pulse-ms	Escrow mode
	OFF:  -----	Non escrow mode
	----  OFF OFF 150/180	
3	ON OFF 80/120	Set to OFF
	OFF ON 50/ 50	
	ON ON 50/300	
4	ON : 100 Lei / pulse	Set to OFF
	OFF: 500 Lei / pulse	
5	ON : PB Unit -Operation	
	OFF: Head only-Operation	
6	Setting to OFF (Normal Operation)	/ Setting to ON (Enable/Disable Denomination Set Mode)
7	ON : High Security mode	ON: Disable
	OFF: Normal Security mode	OFF: Enable
		\ Denomination Setting
8	ON : Pulse mode	
	OFF: Parallel mode	

Vend signal (Bill identification signal)

Parallel Mode (SW 8=OFF)				Pulse Mode (SW 8=ON) No. of pulse setting	
Vend1	Vend2	Vend3	SW 4	No. of pulse ==>	Vend 1
Waiting	HI	HI	ON	100 Lei/pulse	(100 Lei=10 pulses)
reserved	LO	HI	OFF	500 Lei/pulse	(500 Lei= 2 pulses)
reserved	HI	LO			
reserved	LO	LO			
10000 Lei	HI	HI			
50000 Lei	LO	HI			

```
-----
100000 Lei  HI      LO      LO
-----
```

```
Operating  LO      LO      LO
-----
```

(\*) Enable / Disable Denomination Setting

1. Power up the acceptor at normal operation (Pulse or Parallel).
2. Set DipSw 6 = ON in the standby mode (condition LED will turn on).
3. Set Enable or Disable
  - . Enable Denomination DipSw 7 = OFF.
  - . Disable Denomination DipSw 7 = ON.
4. Insert the required banknote.
5. Acceptor rejects the bill
  - . When Enable Denomination Setting > Reject with condition LED OFF
  - . When Disable Denomination Setting > Reject with condition LED Signaled
  - . When validation was not good > Reject with condition LED ON
6. For another banknote repeat from procedure 3 on.
7. If Setting is completed, set DipSw 6 = OFF
8. Acceptor returns to standby mode and the setup is completed.

### 5.2.2 JCM - EBA11(1)

```
Date of sending : 06.07.2000          Filename : ROM-PB.HEX
Modelname       : EBA-11 (ROM) (-PB)
Rom-ID         : 0A2
Version        : V2.65
Checksum       : 4EBD                EPROM-Type: 27C010
                                           Recommended Guide Blocks Type NONE
Currency        : Romanian Lei
Accepted notes : 10000, 50000n+, 100000          Accepted ways: 4
```

Dip switch settings:

1	Setting to OFF (ON:Test and adjustment mode)	(*)
	Normal Operation (SW 6=OFF)	(SW 6=ON) Enable/Disable Denomination Mode
	PULSE MODE	PARALLEL MODE
2	ON : SW2 SW3 Pulse-ms	Escrow mode
	OFF:  -----	Non escrow mode
	----  OFF OFF 150/180	
3	ON OFF 80/120	Set to OFF
	OFF ON 50/ 50	
	ON ON 50/300	
4	ON : 100 Lei / pulse	Set to OFF
	OFF: 500 Lei / pulse	
5	ON : PB Unit -Operation	
	OFF: Head only-Operation	
6	Setting to OFF (Normal Operation)	/ Setting to ON (Enable/Disable Denomination Set Mode)
7	ON : High Security mode	ON: Disable
	OFF: Normal Security mode	OFF: Enable
		\ Denomination Setting
8	ON : Pulse mode	
	OFF: Parallel mode	

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Vend signal (Bill identification signal)

Parallel Mode (SW 8=OFF)				Pulse Mode (SW 8=ON) No. of pulse setting	
	Vend1	Vend2	Vend3	SW 4	No. of pulse ==> Vend 1
Waiting	HI	HI	HI	ON	100 Lei/pulse (100 Lei=10 pulses)
reserved	LO	HI	HI	OFF	500 Lei/pulse (500 Lei= 2 pulses)
reserved	HI	LO	HI		
reserved	LO	LO	HI		
10000 Lei	HI	HI	LO		
50000 Lei	LO	HI	LO		
100000 Lei	HI	LO	LO		
Operating	LO	LO	LO		

(\*) Enable / Disable Denomination Setting

1. Power up the acceptor at normal operation (Pulse or Parallel).
2. Set DipSw 6 = ON in the standby mode (condition LED will turn on).
3. Set Enable or Disable
  - . Enable Denomination DipSw 7 = OFF.
  - . Disable Denomination DipSw 7 = ON.
4. Insert the required banknote.
5. Acceptor rejects the bill
  - . When Enable Denomination Setting > Reject with condition LED OFF
  - . When Disable Denomination Setting > Reject with condition LED Signaled
  - . When validation was not good > Reject with condition LED ON
6. For another banknote repeat from procedure 3 on.
7. If Setting is completed, set DipSw 6 = OFF
8. Acceptor returns to standby mode and the setup is completed.





(\*) Enable / Disable Denomination Setting

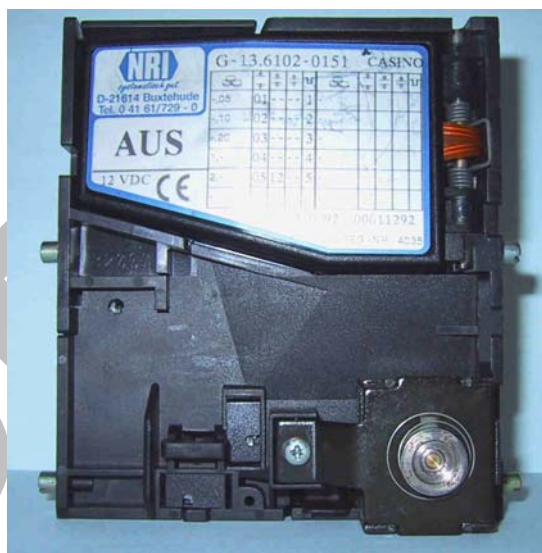
1. Power up the acceptor at normal operation (Pulse or Parallel).
2. Set DipSw 6 = ON in the standby mode (condition LED will turn on).
3. Set Enable or Disable
  - . Enable Denomination DipSw 7 = OFF.
  - . Disable Denomination DipSw 7 = ON.
4. Insert the required banknote.
5. Acceptor rejects the bill
  - . When Enable Denomination Setting > Reject with condition LED OFF
  - . When Disable Denomination Setting > Reject with condition LED Signaled
  - . When validation was not good > Reject with condition LED ON
6. For another banknote repeat from procedure 3 on.
7. If Setting is completed, set DipSw 6 = OFF
8. Acceptor returns to standby mode and the setup is completed.

### **5.3. NRI Coin Acceptor**

The validator G-13.6000 is a worldwide established product for the machine industry in standardized 31/2" format. Due to its modular design and the compact construction the validator is the optimum solution for the amusement and services industry.

Due to the CMOS processor and an electronic system that is done completely in SMD technique a greater functional variety, an improved measuring system and a greater protection against manipulation are possible. Apart from that the system now provides 2x12 coin channels.

Starting with number /1 (marking within the model number) the G-13.6000 offers the possibility to choose from two configurations (blocks) with 12 coin channels each. These blocks may be programmed in a different way and thus can obtain different coin combinations. This feature is particularly suitable for flexible switching over from one currency to the other.



The teach mode offers more flexibility to the operator when selecting coins and token. Without any additional help only by using the teach mode you can programme quickly coins or token on site.

**WARNING :** Before changing the device take care that the supply voltage is switched off.

#### **5.3.1. Single blocking :**

Two blocks with six DIL switches each are installed on the back side of the coin validator. They can be used to block individual coin channels. To do this the **corresponding** switch must be set to the upper position. (*If more than one channel is assigned to one type of coin, e.g. for old and new coins or for different bandwidths all the switches must be set to the upper position.*)

Six output lines are assigned to the 12 coin channels (*not valid for totalizers*). If an inserted coin is recognized the corresponding channel receives a signal. If one type of coin is blocked externally the corresponding output line is set to ground potential. Line 6 can be used to block the whole acceptance (*all types of coins*).

### **5.3.2. Teach Mode**

By using the teach mode you can programme coins or token in channel 10 and 11. In all versions of the G-13. validator the teach mode is programmable.

Using the teach mode:

The validator remains connected in the machine.

- On the rear of the validator two Dual-In-Line switches are positioned. Switch no. 12 ON.
- Depending on the intention to teach channel 10 or 11, please switch ON the appropriate switch.
- Insert coins or token. After insertion of the 10th coin (token) the validator gives an acoustic signal (click of the acceptance gate). The measured values are now registered.
- Turn switch no. 12 OFF.
- Also turn appropriate switch for channel 10 or 11 OFF. Once again the acceptance gate gives an acoustic signal (1 time), i.e. the programming has been finished successfully.

In case the acceptance rate for a coin or token programmed by teach mode is not sufficient, you can programme the coin or token with wider acceptance bandwidths. Therefore please do the following:

- DIL-switch no. 12 ON. Teach mode is now active.
- Turn switch for desired channel 10 or 11 ON.
- Insert new coin or token at least 10 times. The acceptance gate gives an acoustic signal (1 time). Coin values are registered.
- Turn channel no. 10 and 11 ON. Wide acceptance bandwidths are now calculated.
- Turn switch no. 12 OFF.
- Turn switch 10 and 11 OFF. Coin or token is now programmed. The teach mode has now be finished and the channel 10 and 11 are enabled. In case the acceptance gates gives an acoustic signal twice, the following reasons could be possible:
- coin could not be programmed. It exist an overlapping of the acceptance limits with already programmed coins/token.
- an error has happend during measurement.
- the programming has been interrupted.
- the acceptance limits could not be assigned to a channel as switch no. 10 or 11 was turned ON first instead of switch no. 12.

If a coin or token could not be programmed the existing values remain stored in any case.

### **5.3.3. Block switch-over**

Starting with model no. G-13/1the validator offers the possibility to have two configurations, independent from each



other. To each of these 'blocks' 12 individual coin channels are assigned with appropriate tables (signals, denominations, sorting information). The programming is done either at NRI or at a service station. Although both blocks are programmed you can only work with one of them. This type of validator can be recognized by the label with the extended indications.

This function is ideal for storing additionally to the actual currency a second coin combination with individual interface information (table). For example in case of a currency conversion the actual settings are deactivated and the new ones are activated. A further application can be if independent from currency an alternative vending machine interface is selected. For standard devices the switch-over is done by only one DILswitch!

On the rear of the G-13 two switch arrangements are positioned. For switching over from block 0 to block 1 please use switch no. 8 of the lower switch arrangement. Please proceed as follows:

- Switch off power supply.
- Switch on switch no. 8
  - lower position = block 0 active only (left side on label)
  - upper position = block 1 active only (right side on label)
- Switch on power supply.
- Check coin acceptance (please refer to label).

#### 5.3.4. Assignment of pins, standard coin validators

<u>pin</u>	<u>assignment</u>	<u>potential</u>	<u>characteristic feature</u>
1	GND	low	
2	UB +12V DC	high	10V - 16V DC / 20mA
3	output line 5	act. low	low = blocking A5
4	output line 6	act. low	low = blocking A6
5	return	act. low	accept sensor signal for Casino variant possible
6	total blocking	act. high	
7	output line 1	act. low	low = blocking A1
8	output line 2	act. low	low = blocking A2
9	output line 3	act. low	low = blocking A3
10	output line 4	act. low	low = blocking A4

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