«Roll Fruit»
Board documentation

Contents

Operator's instructions

Switching on and off of the machine

To set up the machine it is necessary to connect it to the **alternating** current with the **220** V voltage. After the giving of power supply the board will start the system condition check, which will be accompanied by the illumination of game-machine buttons. That is necessary for preliminary diagnosis of board faultinesses. If the testing is successful, an inscription "**HARD TEST PASSED**" will appear, which means that the board is in order and is ready for work.

After the accomplishment of actions stated above the machine should launch a playing or a demonstration mode. It should be taken into account, that the rules of game machine functioning imply switching off while the credit is equal to null (in the demonstration mode), and the game mode after the switching on means that these rules were broken last time. In this case you should know, whose credit is in the machine. The evidence of the fact, that the machine is in the demonstration mode, is an inscription "Insert coin" in the central part of the screen. The evidences of the game mode are non-nil value of the credit, sound accompaniment and lack of the tablet "service mode" in the central part of the screen and common work of the hopper giving out the winnings. If the machine did not enter game or demonstration mode, go to appendix 1: problems solution. **It is strongly prohibited to allow customers to use the machine that have not launched a playing or a demonstration mode!**

The game machine can be switched off at any moment – after switching on it will reestablish the condition, in which it was before switching off. But for comfort a simple rule is recommended to follow. **If the machine needs to be switched off, it is recommended to do this while the demonstration or statistic mode is one.**

Entering of the credit and giving out of the winnings.

Entering of the credit can be accomplished with the help of coin slot. Giving out of the winnings by the hopper is accomplished automatically. Usually, these two processes do not require an interfering of an operator. It should be remembered and passed to the players, that entering of the credit is limited usually by some figure while the machine is adjusted and it is blocked when the large winnings are given out. In this case a coin slot does not accept a coin. If while the winning is given out an untypical situation takes place (a coin get stuck, there are no coins left), the hopper engine switches itself off and an inscription "call attendant" appears. All information on the winning, its part given out and the credit is saved on the screen. To correct the situation the door should be opened, the reason for not giving out removed and the door closed again – giving out will continue.

Service mode.

Service mode is switched on while one of two available doors is opened and one of the service buttons – "SHOW" or "CHANGE" is pressed. The game will be stopped after the end of the regular cycle. The demonstration mode is interrupted at once.

Statistic

The statistic mode is switched by the pressing of the button "SHOW" while the door is opened.

CREDIT	– current credit value;
TOTAL GAMES	– amount of game starts;
TOTAL BET	– amount of credits lost;
GAME WIN	– amount of credits given out by the machine;
PERCENTAGE	– percentage of credit entered, which was paid out as winnings, is calculated via formula

$$\frac{TOTAL\ WIN}{TOTAL\ BET\ +\ CREDIT} \cdot 100\% \ .$$

Then follows the statistic of winnings. For each type of winnings their quantity, sum and date of the last hit is shown.

Instructions on service and setup of the machine

To gain access to the service menu, one should firstly open the machine door. An inscription «service mode» will appear. If the door control in the machine does not accomplish, the switch is to be situated inside the case, and it should be turned on. The service buttons are available only after the entering of the "service mode". Service menu is switched on by the button "CHANGE" while the door is open. Navigation in the menu is accomplished with the buttons "SHOW" – cursor motion down – and "CHANGE" – changing of a figure or entering of a sub menu.

Options

The main menu contains following items:

WIN PERCENT – the percentage of the give out of the machine in the conventional figures, (from 1 to 5, 3 as default), the higher the figure is, the more winnings are given out. This parameter can be changed after an initialization and before a game starts (the appearance of the first bet lost). If there is a necessity to change this item, initialization should be accomplished (next item in the menu), after which a desirable value can be adjusted;

INITIALIZATION – an initialization of the machine (the button "CHANGE" should be pressed and the time, while the countdown ends, elapse). Nulls all electronic statistic of the machine.

SET CLOCK – date and time adjustment;

COIN INHIBIT LEVEL – level of signal of the coin slot block;

COIN RECEPTION LIMIT – minimum rate of the credit, by which the coin slot should be blocked;

HOPPER INHIBIT LEVEL – level of signal of the hopper error;

HOPPER SW EDGE – edge of the signal of the last coin pass for the hopper engine to be stopped;

HOPPER TEST MODE – work mode (**NOT PLAYING**) without a hopper. This mode is used to test the board while the hopper is off. If this mode is on by mistake, the count of coins will not proceed and the hopper engine will be turned off at the moment of switching on;

COUNTER RATE – setting of scale for mechanical counters for the credits entered and given out;

BET COUNTER RATE – setting of counter of bets lost. Two these parameters adjust the value of the figure in credits. I.e. if BET COUNTER RATE is equal to 50, the corresponding counter will be changed on 1 only after the sum of the credits collected will increase on 50;

< TESTS > – enter of the menu of the lower level (tests of sound, connector contacts, hopper unload and error list);

EXIT – exit to game or demonstration mode (depends on credits available).

At the very top of the screen there is an information line with the title and version of the game, and current date. Below an example of information line deciphering is given:

```
ROLL FRUIT        V-xxxxxx  01.04.03  14:13
```
— Current time

— Current date

— Program version

— Board title

Controls in all menus of lower level are similar to those of the main one.

A bit lower information on the date of the machine last initialization, and at the bottom information about the buttons is given.

Set Clock

With the help of this menu the setting of time and date is accomplished.

Change of an editing area is accomplished with the button "SHOW". Change of the value is accomplished with the button "CHANGE". Exit with the saving of adjusted time is accomplished with activation (press "CHANGE") of an "APPLY" item, without the saving – "EXIT".

Tests

After entering of this unit of the menu, you get to the sub menu, in which you can choose:

`KEYS TEST`   – ports test;
`SOUND TEST`   – sound test;
`HOPPER UNLOAD`   – unload of the hopper;
`ERROR LIST`   – records about errors.

Choosing **the ports test,** you will get to the screen, where all board ports are listed (title and location on the connector), and also their current condition. If you think, that you have some external device or button unable to work, then after entering of this mode, you will be able to check your supposition.

After choosing the sound test, there will be three inscriptions: "`CHANNEL 1`", "`CHANNEL 2`" and "`CHANNEL 3`" appearing in turns on the screen. At that time the sound will be given through, correspondingly, the first, the second and the third channels.

Unload of the hopper is accomplished with the simultaneous display of the coins thrown out. With the help of this function efficiency and accuracy of the adjustment of this devise can be checked, and besides, the quantity of coins can be counted.

Error list is needed for the registration of not established situation. If the machine behaves itself in a "strange" way or suddenly demanded an initialization, then, probably, a situation of that type has occurred. A type of the error can be learnt from this list. This list is necessary only for the producer. If there is no serious reason, do not pay attention to the errors.

Initialization does not clear this list. To clear it, it is necessary to press the button **CANCEL** (**BET**) while viewing it and then hold it for five seconds.

Attention! If some inscription has appeared in your error list, that is a ground for contact with the support service of the machine seller.

Game rules

On the screen there are three reels, the table of winnings and three fields: «BET» – price of game in units[*], «PAID» – usually, contains zero value and after the winning – an amount of units given out and "CREDIT" – sum, entered into the machine – after entering of a coin it increases and after a stars it lowers down on 5 units.

The game starts after the entering of an admissible coin in the coin slot. In the "CREDIT" field an amount of money entered into the machine is shown. A player can enter several coins not waiting until the game circle is over. Every coin entered changes the value of the credit on five units. The machine producer can limit the maximum value of the credit, after attaining of which the coin slot is blocked and the entering of coins is allowed again only after the value of the credit is decreased. The games will follow automatically one after another, deducting 5 units from the credit at every game before the credit value is not equal to null. Un some time after this figure becomes null the game will enter the demonstration mode and an inscription "INSERT COIN" will appear.

The start of each game is featured with the decreasing of the figure in the "CREDIT" field on 5 units and the beginning of the reels rotation, which is accompanied by the peculiar sound (if that is provided by the producer of a certain machine). After all three reels stop, the winning, if there is one, will be shown on the screen (type and amount) and accompanied by the sound and then the give out will start. An amount of units given out will be displayed in the "PAID" field. While giving out the coin slot is switched off, i.e. the machine does not accept the money. After the give out is over the machine allows coin entering again and if the "CREDIT" field is not equal to null, a regular game cycle starts.

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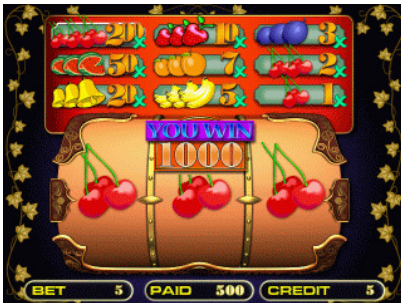
[*] Here and further it is meant, that a unit is equal to one Russian rouble, therefore, one coin changes any field on 5 units, while the usage of five ruble coins is assumed.

Appendix №1: problems solution

Q: The machine does not enter the demonstration or the game modes. It drops itself constantly and writes «INIT MACHINE».

A: Probably, a serious error has occurred. It is necessary to initialize the board. It is possible to learn about an error from the error list (see "Instructions on service and setup of the machine" chapter "Tests").

Q: The machine gave out an inscription «HARD TEST PASSED» and one or several more from the list: «SHORT STATISTIC ERROR», «LONG STATISTIC ERROR», «MAIN SETTINGS ERROR», «INTERNAL ERROR», «ERROR: FAILED MEMORY! INIT NEEDED!» And did not enter game/demonstration mode.

A: A memory failure has occurred in the corresponding domain of data. It is recommended to clear corresponding statistic, if an error occurred in it, or, having entered the service menu, change damaged settings. In any case, it is better to accomplish an initialization of the board and if it repeats again, contact the organization that sold the board/the machine.

Q: A just bought machine gives a large amount of winnings. Its percentage of exit exceeds 100%.

A: Such behavior is peculiar for any new machine. That is kind of advertising and attracts customers. In some time it will start to maintain specified percentage. If that does not suit you, play yourself and when the machine reaches the necessary percentage, start its usual exploitation.

Q: Players do not play games on this machine.

A: Probably, too low percentage of winnings was established. Increase it to the maximum value. If after that people will not play, than, obviously, the game does not suit their taste.

Q: The hopper started to give out money, but did not give them all. An inscription CALL ATTENDANT appeared.

A: The hopper ran out of coins. It is necessary to add them there. There is the tablet with information about winning (tablet "YOU WIN") and about the part given out (field "PAID" in the lower part of the screen) on the screen. A tablet "CALL ATTENDANT" is taken away after one of the doors is opened, but a tablet "SERVICE MODE" appears. After the doors are closed the hopper engine is turned on again and the give out continue. If such situation occurs often, you are using a hopper of an insufficient volume. The minimum volume of a hopper for the normal work is 400 coins.

Q: An inscription "SERVICE MODE" appeared and the game stopped.

A: One of the doors (front or back) was opened or the contact of a corresponding sensor was disturbed. It is necessary to close the door or to fix the sensor. It should be remembered, that the demonstration mode is not interrupted while the doors are open, but all the same in this case the inscription "SERVICE MODE" means, that the machine exploitation is unavailable before the reason is removed. Coin slot does not work with the door opened.

Appendix №2: admissible setting values.

Title	List of possible values
WIN PERCENT	1 (low pay percent- «greedy game»), 2, **3**[*], 4, 5 (high pay out percent - «generous game»)
COIN INHIBIT LEVEL	HIGH, **LOW**
COIN RECEPTION LIMIT	5, 10, 20, 30, 40, 50, 60, 70, 80, 90, **100**, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 250, 300
HOPPER INHIBIT LEVEL	**HIGH**, LOW
HOPPER SW EDGE	**FRONT**, BACK
HOPPER TEST MODE	ON, **OFF**
COUNTER RATE	**1**, 10, 100
BET COUNTER RATE	**1**, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 2000, 5000

[*]**In bold** settings by default are emphasized.

Appendix №3: Instruction on devices and buttons connection

Buttons connection

Four buttons can be used in the game, they all are situated inside the machine and should be inaccessible for players. Two buttons are used to control the doors, one for statistic browsing and one for the entering of the parameters adjustment mode. For navigation in the parameters adjustment mode the buttons "PARAMETERS ADJUSTMENT" and "STATISTICS" are used.

The doors buttons should be unsticked while the game mode is on. Holding any of the buttons pressed will lead to the game pause, stop of the coin slot and the hopper and gives an opportunity to use "PARAMETERS ADJUSTMENT" and "STATISTIC" buttons. Holding any of the door buttons is indicated with an inscription "SERVICE MODE". It is not necessary to connect both buttons, if only one door is used, it is permitted to use one (any) of them. It is prohibited not to use buttons at all. Instead of the button a toggle switch can be used. Any interruption of the game process starts with the pressing and holding of one of the door buttons.

"PARAMETERS ADJUSTMENT" buttons is used while the board is initialized and for the parameters to be adjusted according to the description. The button works only if one of the door buttons is pressed. For navigation two buttons are used: "PARAMETERS ADJUSTMENT" and "STATISTIC". Closing of the doors leads to the end of the parameters adjustment mode.

The "STATISTIC" button is used for the statistic browsing. It is situated inside the machine and is accessible only while the door is opened.

Coin slot connection

The connection of this device is obligatory. For a connection of the coin slot two signals are used, one inlet for impulse from the coin slot reading and one outlet for a block of the coin slot. Polarity of the block signal can be changed in the parameters adjustment menu, if your coin slot uses another one. The connection of signals is recommended for the correct work of the program, but without it the functioning is still possible.

Hopper connection

The connection of this device is obligatory, its volume for the proper work should be at least 400 coins. Two signals should be used for its connection: outlet – "hopper engine" and inlet "impulse from hopper". Current of the switching on of the hopper engine should not exceed 0,5 amperes. If an out-of-date model of the hopper with the current of three amperes is used, an electromechanical relay for commutation should be used. The program allows using an "inhibit" signal, which some models of hoppers can give out, but without it the functioning will be correct.

Mechanical counters connection

It is possible to connect three counters: a counter of the credits entered, a counter of the credits given out and a counter of the bets lost. It is possible to adjust the scale. The utilization of these counters is not obligatory; they are doubling the data, which are available for being displayed in the "STATISTIC" mode.

Upper lantern connection

It is possible to connect the upper lantern (three bulbs of different colors) for work mode indication. If a three-color indicator of the work mode connected to the machine, than:

red – technical mode (adjustment and statistics);
yellow – an intrusion of the service stuff is required (lack of coins in the hopper);
green – demonstration mode, entering of the credit is awaited;
all are off – game mode.

Appendix №4: Diagram of connectors

		COMPONENT SIDE	SOLDER SIDE		
		1A	1B		
		2A	2B		
Out	SPEAKER	3A	3B	GND	
In		4A	4B		In
In		5A	5B		In
In		6A	6B		In
In		7A	7B		In
In		8A	8B	HOPPER INHIBIT*	In
In		9A	9B		In
In		10A	10B		In
In		11A	11B		In
In		12A	12B		In
In		13A	13B		In
In		14A	14B		In
In		15A	15B		In
In	FRONT DOOR SW	16A	16B		In
In	BACK DOOR SW	17A	17B		In
In		18A	18B	COIN B	In
In		19A	19B		In
In	STATISTIC SW	20A	20B	SERVICE SW (setting)	In
In		21A	21B		In
Out		22A	22B	HOPPER COIN SW	In
Out		23A	23B	COIN LOCK	Out
Out		24A	24B		Out
Out	TOTAL IN COUNTER	25A	25B	UPPER LAMP GREEN	Out
Out	TOTAL OUT COUNTER	26A	26B	UPPER LAMP RED	Out
Out		27A	27B	UPPER LAMP YELLOW	Out
Out		28A	28B	TOTAL BET COUNTER	Out
Out		29A	29B		Out
Out		30A	30B		Out
Out		31A	31B		Out
Out		32A	32B		Out
Out		33A	33B	HOPPER MOTOR	Out
Out		34A	34B		Out
In		35A	35B		In
	GND	36A	36B	GND	
	COMPONENT SIDE		SOLDER SIDE		
	GND	1A	1B	GND	
	GND	2A	2B	GND	
	+5V	3A	3B	+5V	
	+5V	4A	4B	+5V	
	+12V	5A	5B	+12V	
		6A	6B		
		7A	7B		
		8A	8B		
	GND	9A	9B	GND	
	GND	10A	10B	GND	