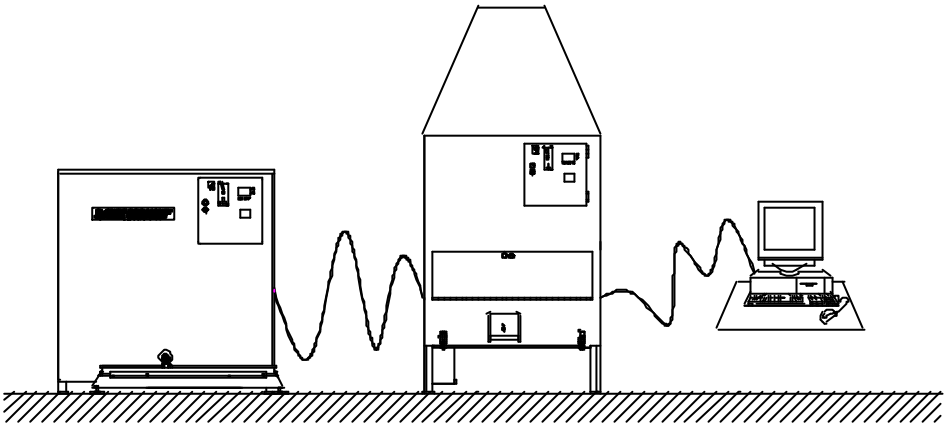
ENGLISH

RANGE SERVANT®

http://www.rangeservant.com

USER MANUAL

Select Control System



Preface

This manual describes the Select Control System; the Select Control System can be installed in all Range Servant ball machines.
For information regarding the ball machines we refer to the manual of that machine.

This user manual contains all information necessary to fully understand the maintenance and operation of the Range Servant Control System.
Study this Manual carefully before using the machines. If these instructions are not followed, persons using the machine may be injured or the equipment itself may be damaged. In many cases, following the instructions is a necessary condition for Range Servants' warranty to be applicable. Every person operating the machine must read these instructions.

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Select User Manual
Davor Toncic
2000-08-03

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1 Description

As the ranges are getting bigger and a higher demand for control and information and an easy to use system Range Servant have developed the Select Control System, with advance electronics and the option to connect the ball machine to a computer, a full control over the management of the driving range is reached.

Range Servant have different types of ball machines such as ball dispensers and Tee-up machines, the Select control system can be installed in every Range Servant Ball Machine no matter type or age.
The Select Control System handles different types of payment systems from token acceptors, coin controls, bill acceptors to magnetic, proximity and barcode readers.

The Range Servant Control Systems is also prepared for a connection to PoS (Point of Sale) System. *(For more information see the Select Mainframe Interface Manual).*

The Select Control System is divided into three parts.

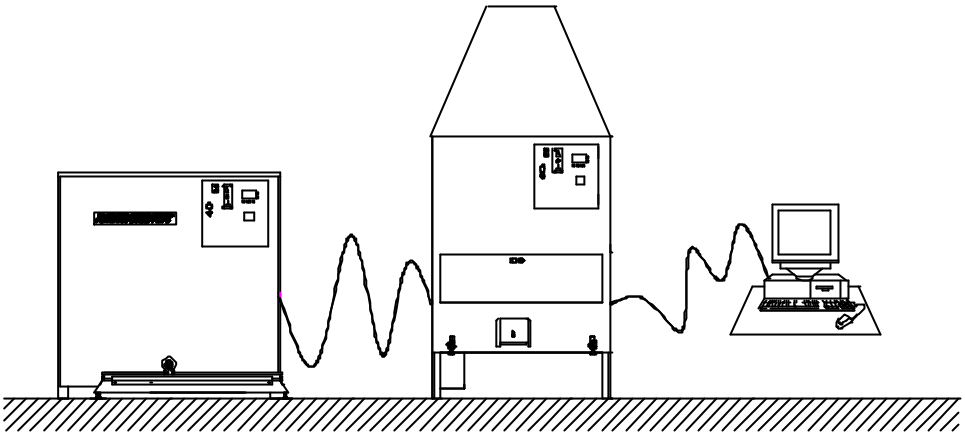
- Electronic part: CPU-97 Main circuit board and a display (DSP-97). This is referred to as Select Standalone mode (art no 930157).
- Computer Software: Select Control Manager
- Network Kit: Hardware for Computer-Ball machine connection (art no 930299)

The electronic part which contains the circuit board and the display that are mounted inside the machine.
The Select stand-alone mode handles payments, happy hour periods and small amount of statistics.

The Select Configuration Manager is a computer program used for configuring the machine, running the online payment system and displaying a more detailed overview of statistics generated by the machines.

The network kit is hardware, which is used for enabling the connection between a computer and the ball machine.

1.1 General Information



The following main components of the control system are described:

- **CPU-97** **Main Circuit Board**
- **DSP-97** **Display Circuit Board**
- **TUP-97** **Tee-up Circuit Board**
- **PWM-97** **Pulse Modular Circuit Board**
- **TSP-97** **Proximity Card Reader**
- **MT215232** **Magnetic Card Reader**
- **PRINTER** **Printer**
- **KEYPAD** **KeyPad For PrePaid Balls**
- **BA97_CFG** **Select Configuration Manager**

1.1.1 System features

To ensure satisfaction Range Servant has listened to suggestions and requests from range owners and players to for fill the most common needs.

- Single Machine (stand-alone) Operation.
  - Three different prices available.
  - Four happy-hour periods with three differentiated prices.
  - Integrated counters counting dispensed balls inserted tokens and coins.
  - Paper printout of sales by a printer.

- Network Operation (interconnection of up to 250 machines in a network).
  - Connection to a central computer for the monitoring of prices, statistics etc.
  - Advertising possibilities via the display.
  - Payment by an online payment system.
  - Online payment system where users can be divided into customer groups, different types of discounts
  - A Prepaid Feature which replaces the use of tokens.
  - Access control such as logins and passwords.

2 Installation

NOTE!

An authorized person should carry out the installation and maintenance of the system.

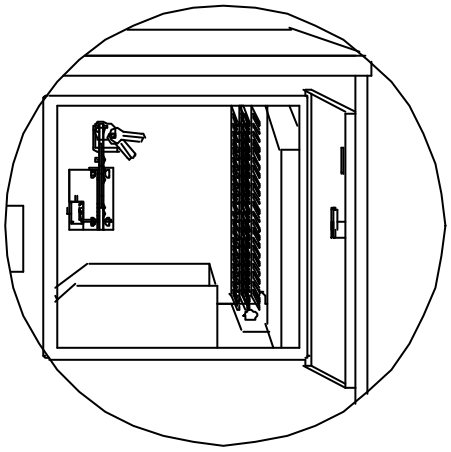
This chapter describes the installation of the hardware electronics for the ball machines

- RS-Ultima
- RS-Ball Dispenser
- RS-Tee-Up
- RS-Tee-up 2000

Regarding the mechanical installations and the constructions of the ball machines we refer to the corresponding machine manual.

2.1 Installation of the Select Control System

To ensure safe and reliable operation, the control system must be correctly installed and grounded (earthen) for good immunity against electronic noise.



2.1.1 Cables and Wiring

For a reliable installation and working operation the cable specifications below are used.

2.1.1.1 Cable Specifications

UNIT	*CABLE TYPE*
External power supply	RKK 3x1mm^2
Multi drop network	LI2YCYv 2x2x0.34 mm^2
Internal RS-485	LIYY 2x2x0.34 mm^2
Internal RS-232	LIYY 4x0.34mm^2
Display DSP-97	AWG 28 16x0.09mm^2

A conductor in a cable **may not** be used in separate sub systems.
Conductors in a cable **may not be shared** for use in separate sub systems.

2.1.1.2 Cable layout

Communication cables must be placed at least 10 cm away from power cables.
If this is not possible shielded cables for communication should be used between the ball dispensers or tee-up machines with **one** end of the shield connected to the copper bar.

2.1.1.3 Power supply

All units may be powered with 230/115 VAC +/- 20% 50-60Hz.
If possible, all units should be powered from one central and connected to the same ground.

2.1.1.4 Grounding

The maximum difference in ground potential between different units may not exceed 4 volts.
If this cannot be guaranteed all units must be connected with a 35mm^2 ground cable. The ground cable is connected to the protected ground at the central power supply.

SIGNAL GROUND SHOULD NEVER BE CONNECTED TO PROTECTED GROUND

2.2 Wiring for the Range Servant Ball Dispenser Ultima

The Range Servant ball dispenser is the latest addition to the Range Servant family of ball dispensers, which has the ability to dispense a single ball at a time; this makes the Ultima one of the most flexible machines on the market today.

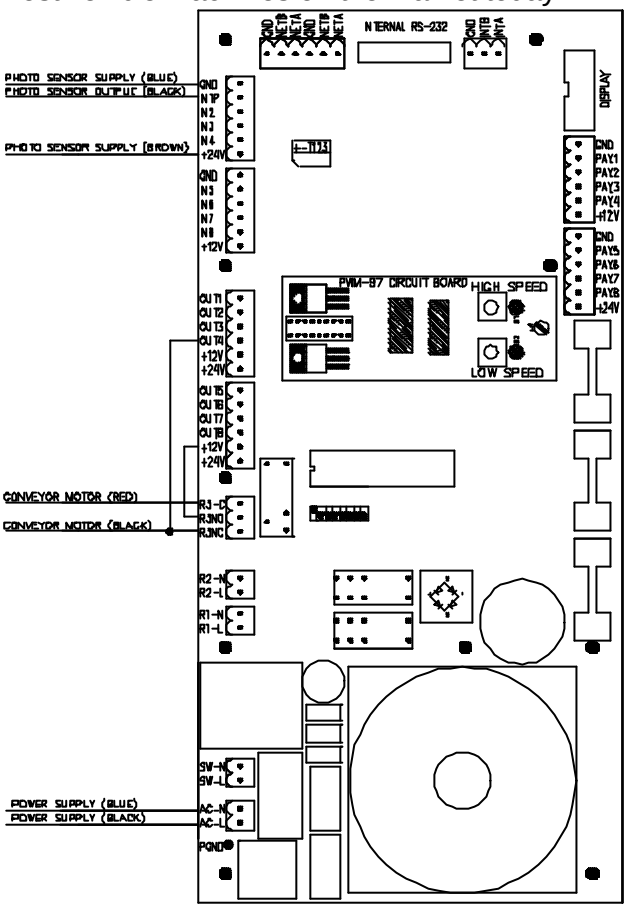


Figure 1 Wireing diagram for RS-Ultima

2.3 Pulse Width Modular Circuit Board (PWM-97)

This circuit board is used for adjusting the speed of the conveyor belt on the CPU-97 circuit board when controlling the RS-Ultima.
The board is mounted with circuit pins into the IC 15 socket of the CPU-97 board and is tighten into the H4 hole of the CPU-97 circuit board with a distance.
Adjusting the speed is done with the two potentiometers R1 and R2.

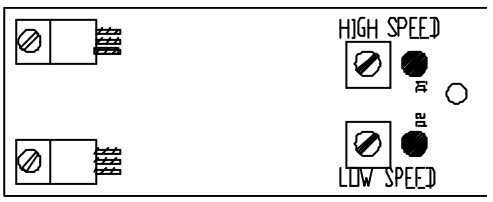


Figure 2 Pulse Modular Circuit Board

2.4 Wiring for the Range Servant Ball Dispenser

The Range Servant ball dispenser is the old type, which works with a cradle.

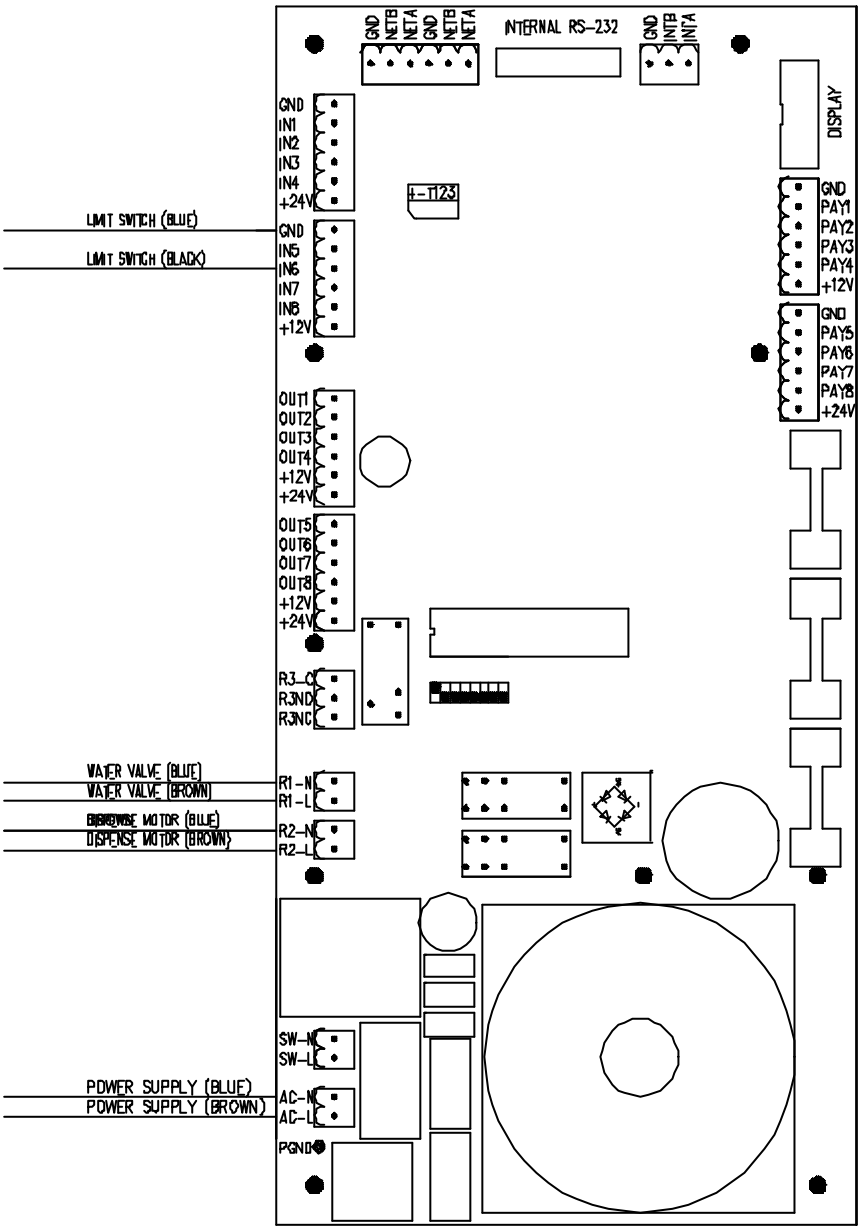


Figure 3 Wiring diagram for RS - Ball Dispenser

2.5 Wiring for the Range Servant Tee-up

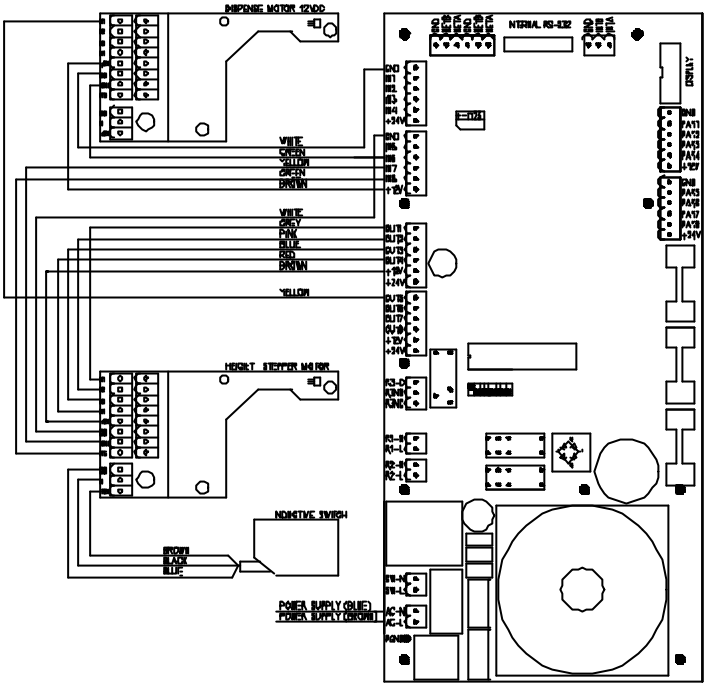


Figure 4 Wiring diagram for RS Tee-up

2.5.1 Wiring for the Stepper Motor

The type of stepper motor in use from (970801) is Portescape, model HSM 5655-1.8-8-27-00.

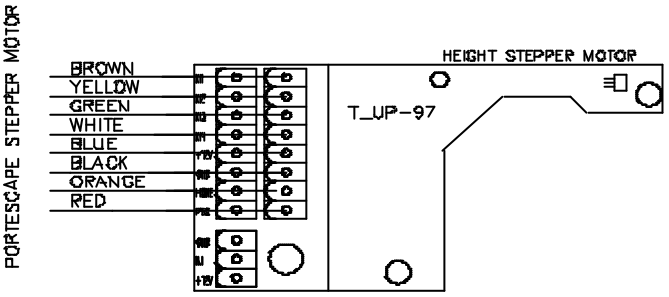


Figure. 5: Wiring diagram for stepper motor for the Tee-up and Tee-up 2000.

2.5.2 Wiring for the Dispense Motor

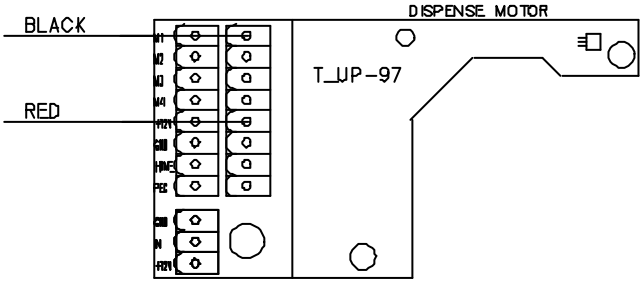


Figure 6 Wireing diagram for dispense motor for RS Tee-up

2.6 Wiring for the Range Servant Tee-up 2000

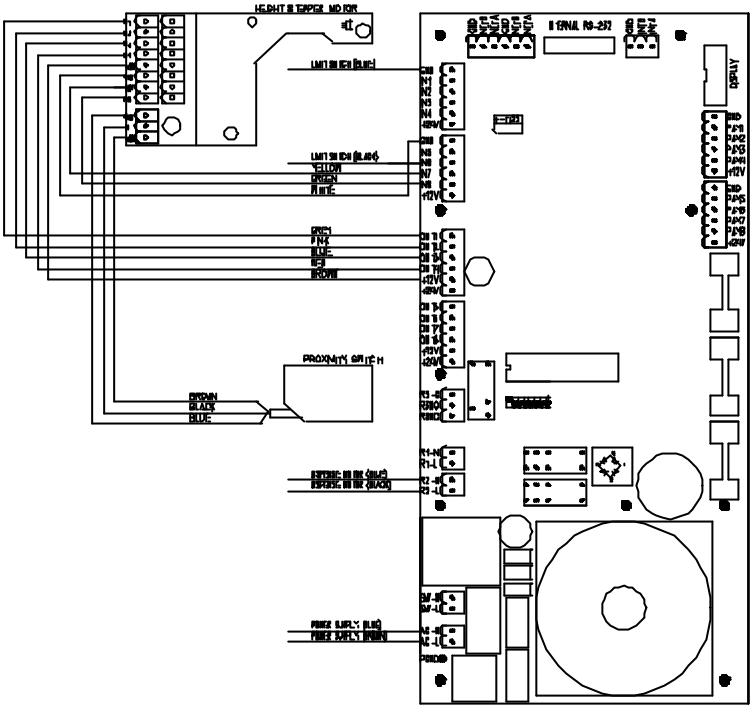


Figure 7 Wiring diagram for RS Tee-up 2000

2.7 Connecting the Computer to the Ball machine

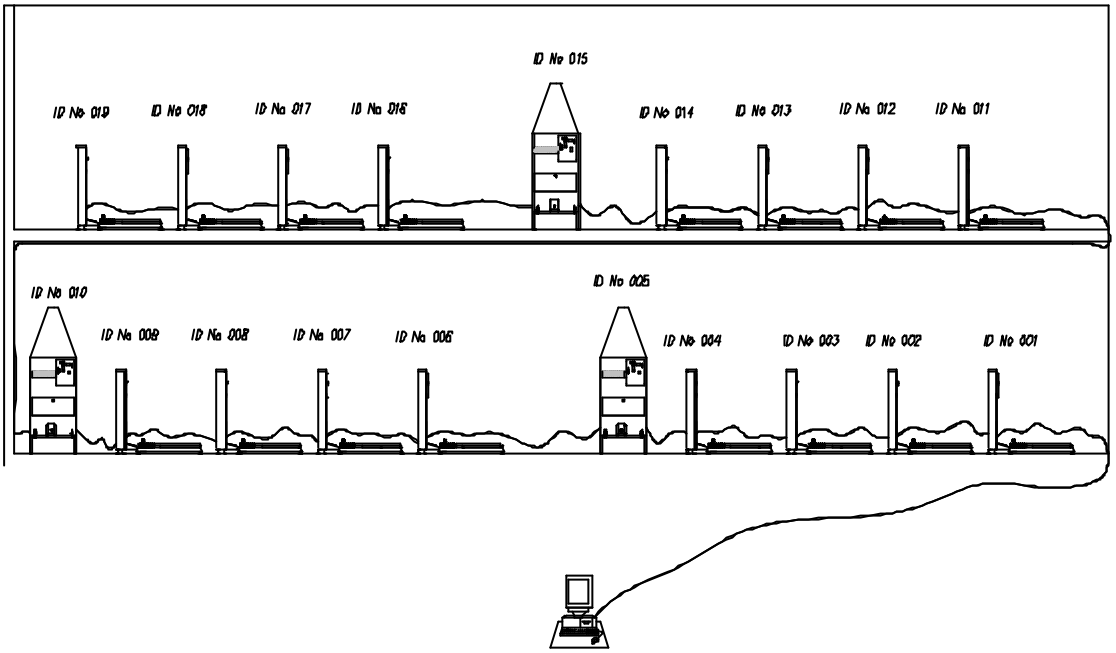


Figure. 8: Example of ball machines connected in a network.

2.7.1 Multi drop Network

A total of 250 machines can be connected to the computer. A RS-485 multi drop network using a shielded two-conductor wire with an accompanying signal ground cable is used for the communication between the main computer and the ball machines.
The cable is shielded in one end to the copper bar. All machines must have one shield connected.
The machines are connected in groups of 32 machines. Between groups there should be an opto-insulated RS-485 repeater.
A signal converter has to be connected between the machines and the computer.

2.7.2 Connecting the Computer and the Ball Machine Together

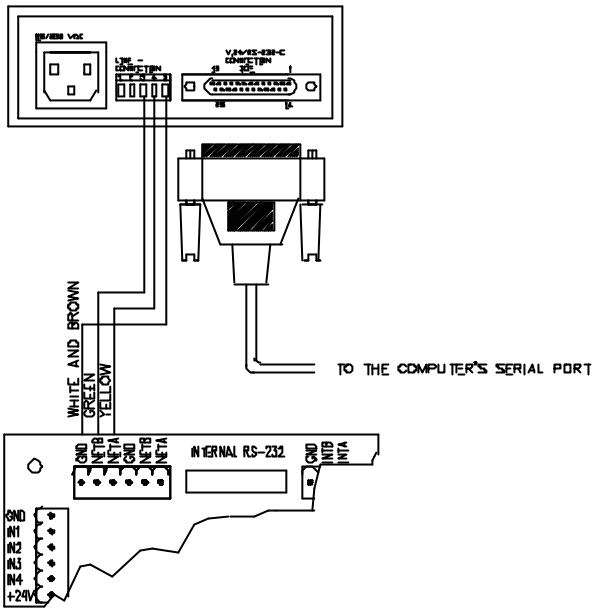


Figure. 66: Wiring diagram for connecting the signal converter between the computer and the ball machines

The signal converter used by the Select system is a RITEX M-4E.
The serial cable between the computer and the signal converter should be PIN2 to PIN2, PIN3 to PIN3 connected. The cable between the signal converter and the ball machine is a twisted pair cable 2x2x0.34mm^2.

2.7.3 Connecting Machine to Machine

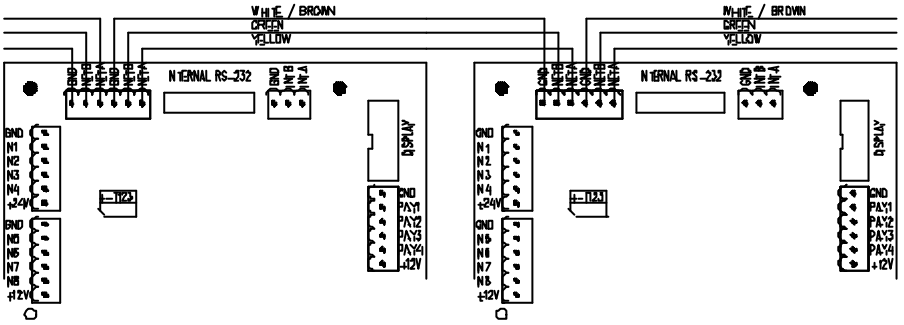


Figure 9 Connecting machines in the network

2.7.4 RS-485 Termination

The RS-485 communication line must be properly terminated. Termination is done by using the jumpers on the pin bar named *TERMINATION* on the CPU-97 circuit board. There are seven pins on the pin bar:

1	T	Cable termination
2	+	Pull-up to +5V
3	-	Pull down to ground (GND)
4		Not used
5	1	Parking slot for unused T- bar.
6	2	Parking slot for unused + bar.
7	3	Parking slot for unused - bar.

Two types of termination are used:

1. Impedance matching to the cable impedance. A 120 Ω resistor is connected to each end of the cable. The units on each end of the cable must have the jumper connected to the pin bar labeled T.
2. If the communication line is disabled, it must be secured. The positions **+** and **-** on the pin bar TERMINATION must be connected.

Note!

Jumpers must be connected at **+** and **-** on the termination pin bar on the unit with the lowest ID No.

If only one unit is used then all jumpers must be connected to T, +, -.

***Example**:*

One Machine

Connect T, +, -

Two Machines

Machine 1	*Machine 2*
T, +, -	*T*

Three Machines

Machine 1	*Machine 2*	*Machine 3*
T, +, -	*None*	*T*

If more than 4 machines are used then every second machine should have + and – connected.

2.8 Utilities

This chapter describes different types of add-ons to the system.

2.8.1 Printer FT190SP

A machine in stand alone mode can have a printer installed which can make a print-out of the sales statistics and configurations of the ball machine.

The printer has a control panel located at the front of the printer and has a print key, a feed key and two LEDs: Power and Status.

- PRINT Key: The Sales statistics are printed out, at the same time the display is displaying if the statistics should be reset.
- FEED Key: When this button is pressed the paper feed out manually.
- The POWER SUPPLY LED indicates that the printer is receiving a digital power supply.
- The STATUS LED, when flashing indicates that the paper is finished, when lit steadily, it signals the presence of an error (the head power is too high or low or head temperature too high).

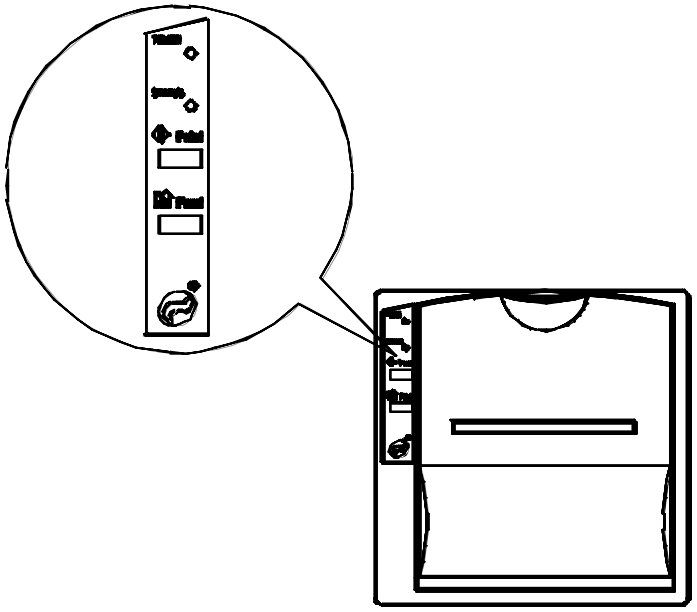


Figure 10 Printer control panel

2.8.1.1 Connecting the Printer

The printer is connected to the internal RS-232 serial connector.

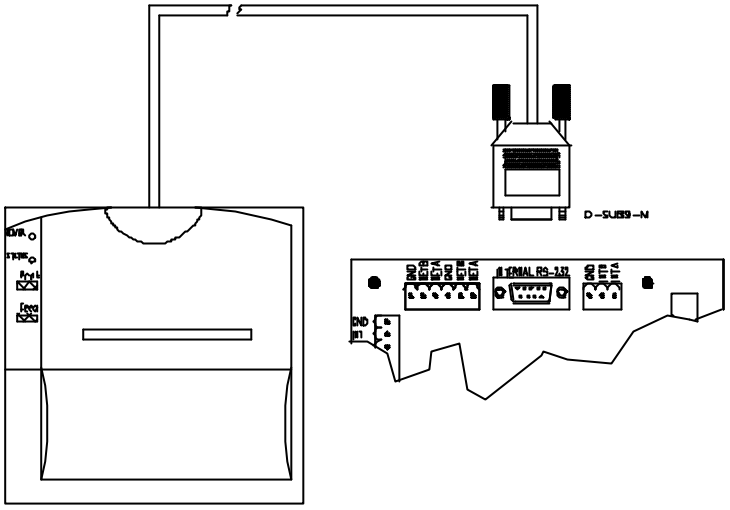


Figure 11 Connecting the printer

2.8.1.2 Changing the printer roll

To change the paper rolls, proceed as follows:

1. Open the printer cover and press down the swinging support of the print mechanism at the point marked PUSH;
2. Insert the paper roll in the slit of the print mechanism and position the paper roll so it rotates in the right direction, as shown the figure;
3. The paper is automatically pulled by the printer for 3 or 4 centimeters;
4. Tear of the paper and re-close the cover.

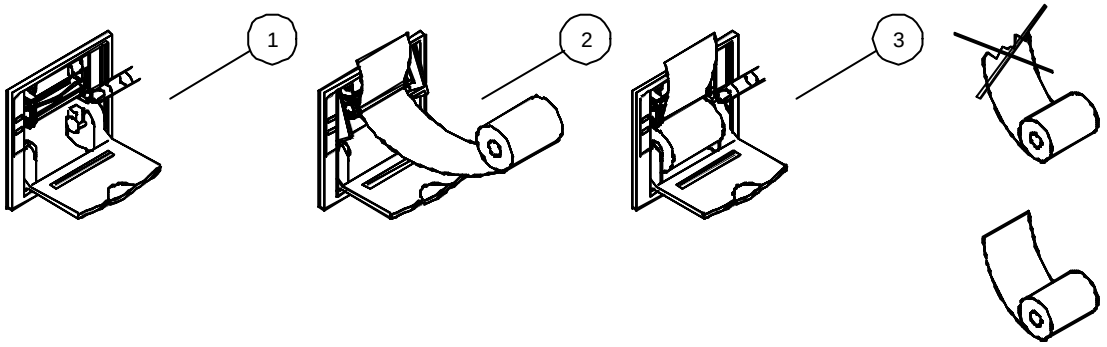


Figure 12 Changing the paper roll

WARNING

Make sure that the paper edge is straight before inserting it in the machine.

2.8.2 Keypad

If a Keypad is installed it is used for pressing the five or six-digit code received by the prepaid balls feature see 4.2.5.4 Prepaid Balls for more information.

2.8.3 PrePaid Balls Desk Printer DPT282

This is the printer that prints the receipt in the prepaid balls feature.
The paper used is 60 mm termopaper. (Artnumber:930400).

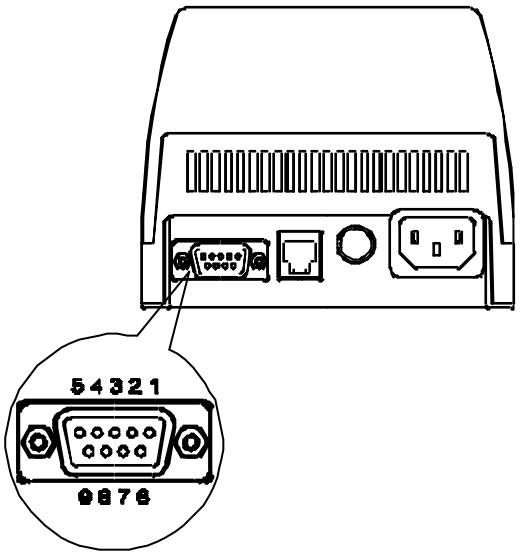


Figure 13 The Desk Printer Connectors.

2.8.3.1 Cable for connecting the printer to a PC.

The printer is connected to the computer serial port with a standard Pin-to-Pin cable.

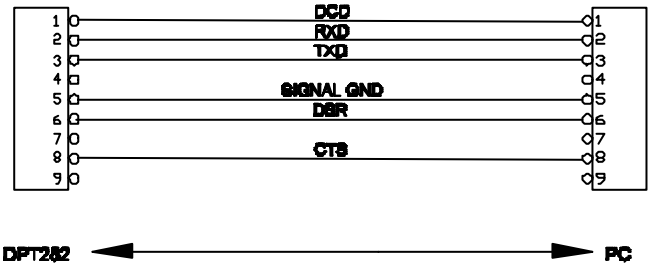


Figure 14 Connecting the printer with a 9Pin D-Sub Serial Cable

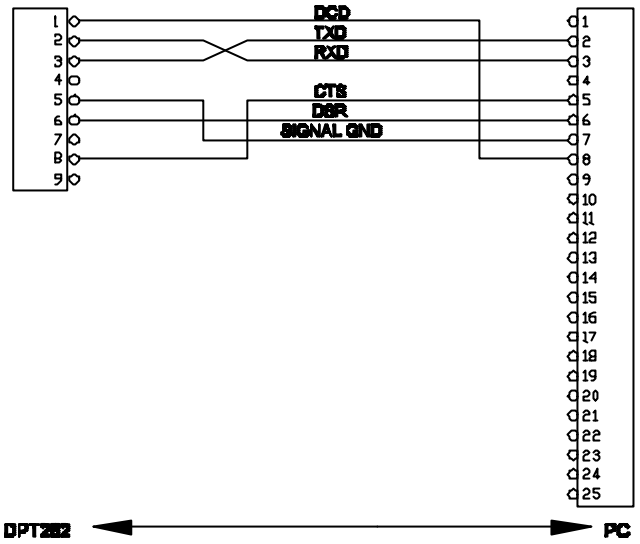
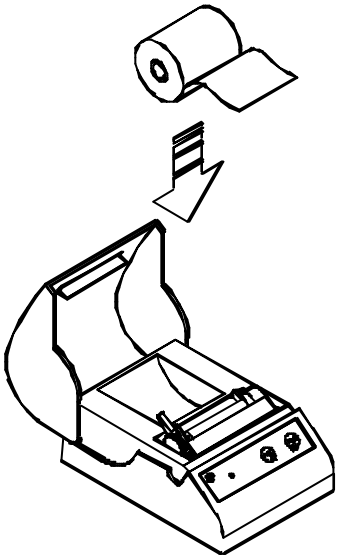
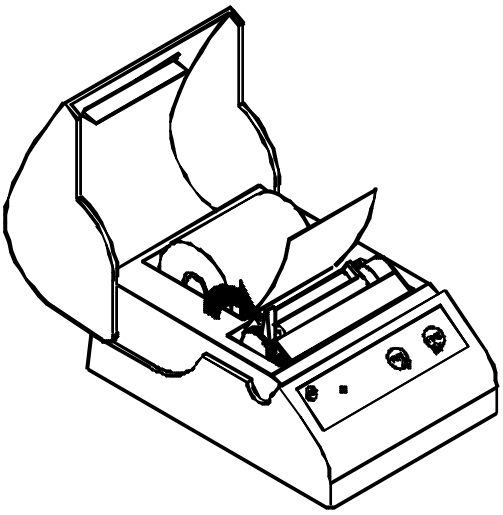


Figure 15 Connecting the printer with a 9-25 Pin Serial Cable.

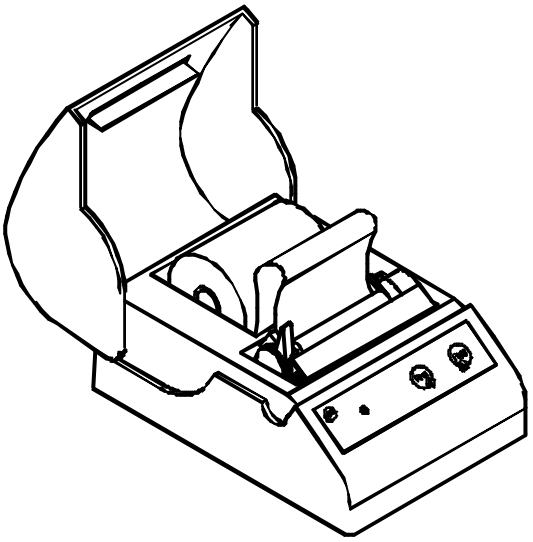
2.8.3.2 Changing the printer roll.



1. Open the upper cover and position the paper so that it rotates in the right direction.



2.Raise the head lever to lift the print head



3.Insert the end of the roll in the printing mechanism opening and wait until the roll auto loads.

2.8.4 Connecting the Keypad

The keypad is connected to the contact pins marked J2 on the DSP-97 display circuit board.

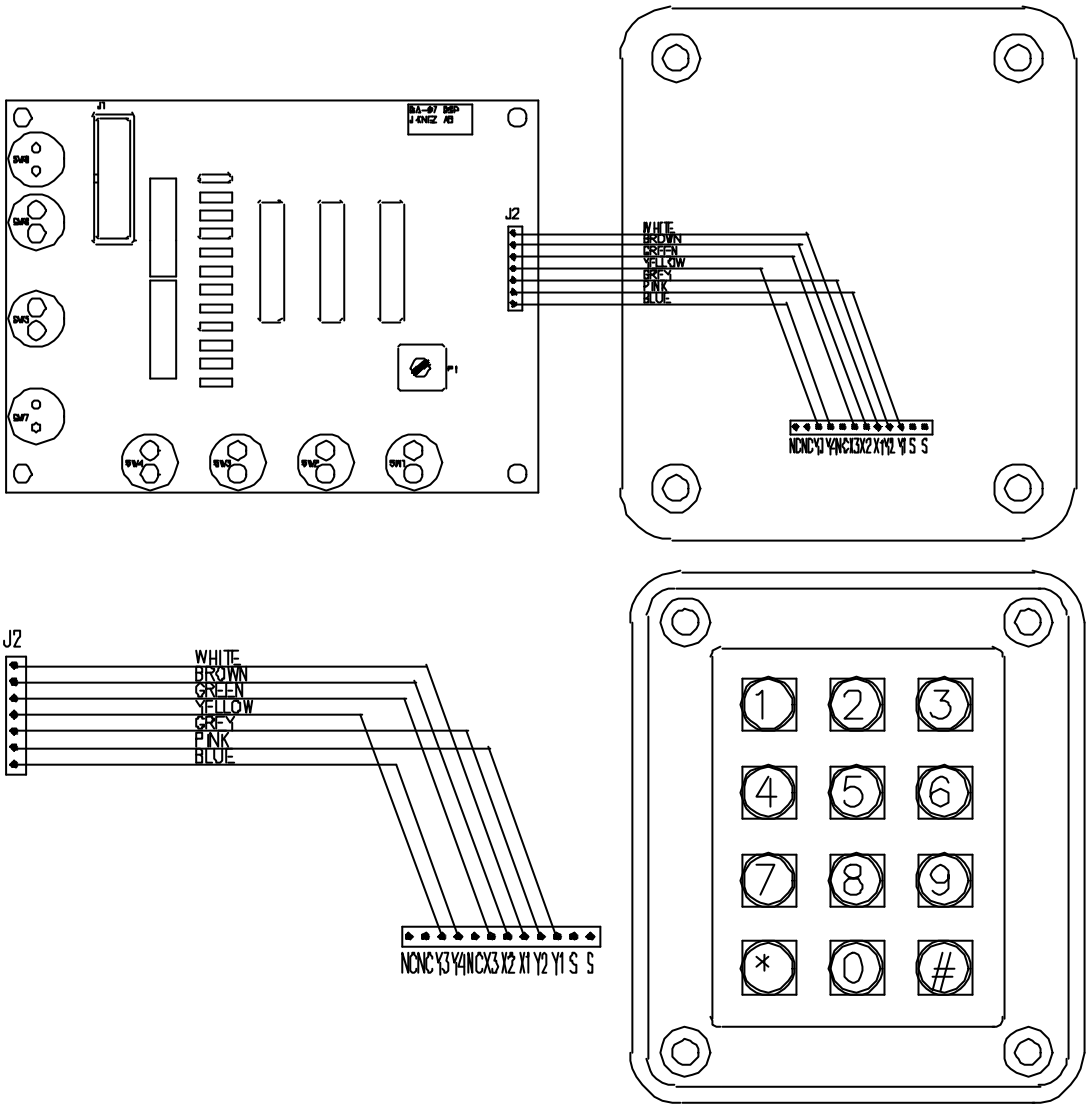


Figure 16 Connecting the KeyPad

3 Getting started

1. Connect the main power supply to the ball machine. The factory default price-list will be displayed.
2. If necessary, adjust the contrast of the DSP-97 display with a small screwdriver (see Figure. 17: Adjusting the contrast of the display DSP-97).

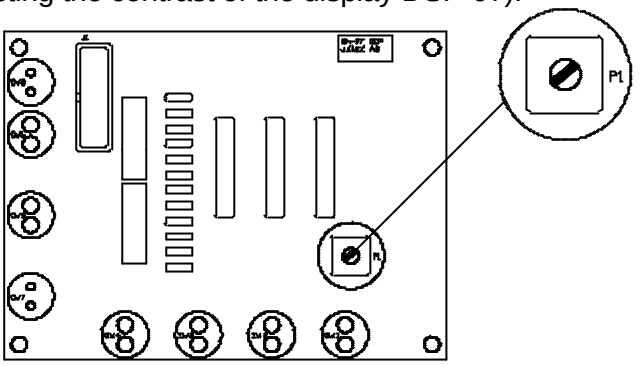


Figure. 17: Adjusting the contrast of the display DSP-97

3. For configuration of the machine see chapter 3.2CPU-97 operating modes

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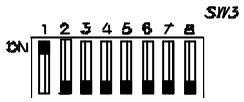
3.1.1 Payment procedures for the ball machines.

The ball machine can offer three different prices. The machine can be configured either to start a dispense directly upon registration of payment or to accumulate the payments to reach a specified price level (see 3.2.2.1.1, Configuration / Price). The default setting is to accumulate the payments. After a payment has been inserted and registered the display will show the amount of credit inserted and the amount of balls to be dispensed, to start the dispensing the OK button *(green pushbutton)* has to be pressed in. Payments can be inserted during a dispense and is then accumulated to the price. For the machine to start dispensing the first price level must be reached.

The old type of Ball dispenser works with a cradle, which dispenses 9-17 balls at a time; if payment inserted reaches up between two price levels the ball dispenser will dispense balls according to lower price level.

3.2 CPU-97 operating modes

The 8-pin switch SW3 on the main circuit board CPU-97 is used to select the desired operating mode and to switch features ON/OFF.
When switching the switch SW3 the menu displayed works little like a cellular phone.



	ON	Configuration mode: configuration of prices, happy-hour periods, values etc.
SW 3.2		Not used
SW 3.3		Not used
SW 3.4		Not used
SW 3.5		Not used
SW 3.6		Not used
SW 3.7		Not used
SW 3.8	OFF	Relay 1 is turned OFF during dispensing (Water valve)
	ON	Relay 1 is activated during dispensing (Water valve)

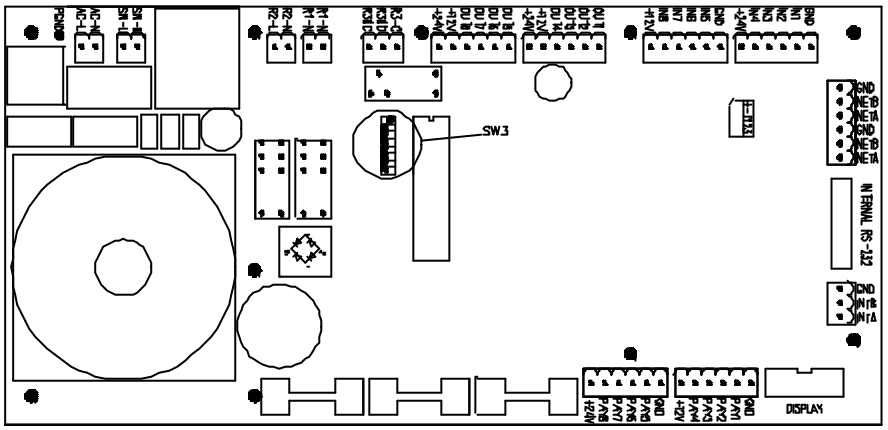


Figure. 18: SW3 switch of the CPU-97 circuit board.

3.2.1 DSP97 Display - Navigating between menus

The configuration menu will be displayed as in Figure. 19: Moving through the menus.

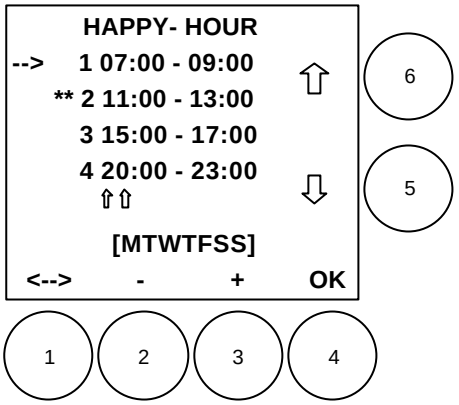


Figure. 19: Moving through the menus.

The pushbuttons of the DSP-97 display are numbered from 1-6 and identified by the corresponding symbols. They have the following functions:

***Example*:**

Pushbutton	Symbol	Function
1	←→, ESC	Moves the cursor to the right, escapes to a previous menu
2	-	Reduces a value
3	+	Increases a value
4	OK	Saves a value on display
5	↑	Moves one step upwards in the menu
6	↓	Moves one step downwards in the menu

The vertical cursor keys 5 and 6 are used for moving between the items of the menu; a high-beep signal indicates that the end of the menu list has been reached. Any item can be a key to a submenu (only the name of the submenu to be opened appears).

3.2.2 CPU-97 menu system.

Figure. 20: Select Menu System

CONFIGURATION menu: contains the values of pay channels, prices, happy-hour periods etc.

UTILITIES menu: contains data and commands for the management of the system's accounting structure.

SERVICE menu: contains data and commands for service personnel only.

3.2.2.1 Configuration Submenu

The submenu allows the operator to check and modify the settings of the ball machine; it is possible to modify prices, happy-hour periods and happy-hour prices. *(Language and Security is not in use 980130)*.

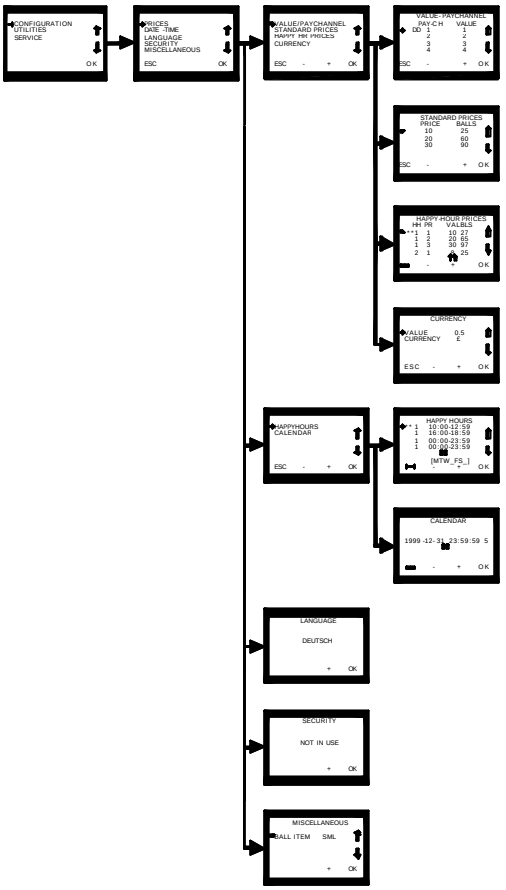
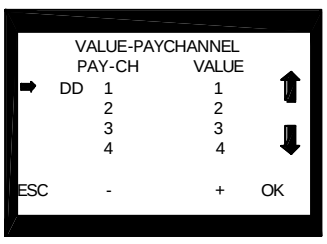


Figure. 21: Configuration submenu.

3.2.2.1.1 Configuration / Prices

The Configuration / Prices submenu is used for setting the prices and the lowest payment values used by the system and to display the currency currently in use.

Value / Payment channel: defines the values of the pay channels.



The main circuit board CPU-97 has eight pay channels. Every used pay channel must be programmed for a value; this is due to that the system accumulates the payments to reach up to a price level.

Example*:* When using a coin validator programmed for different coins, such as 10p, 20p, 50p and £1, each coin is programmed into a different pay channel:

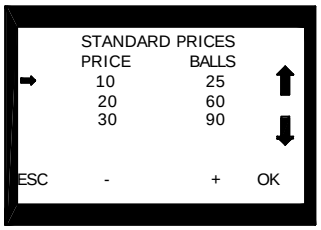
Channel 1 10p
Channel 2 20p
Channel 3 50 p
Channel 4 £ 1

Note! When using tokens these must be given a value that corresponds to a price level.

Example: Channel 5 — Token RS-1 is worth £1

DD (Direct Dispense) — If set to YES, the ball machine will dispense the balls directly upon registration on the pay channel if the value for the pay channel is same or higher than the first price level. If set to NO, the payments are accumulated to reach a price level. Direct Dispense is mostly used for tokens that are preset to give a specific amount of balls.

Standard price — Defines the prices for the different numbers of balls to be dispensed.

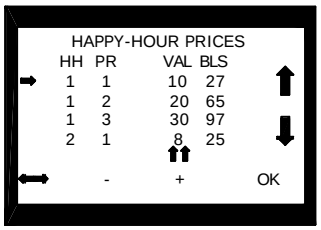


Three different prices are available. The price is valid until the next price level is reached.

Example:

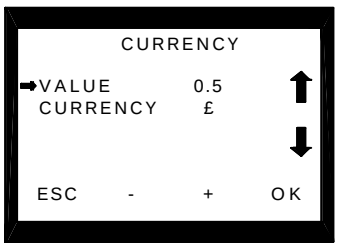
PRICE	*BALLS*	*PRICE/BALL*
10	*17*	*10 / 17 = 0.59*
18	*34*	*18/34 = 0.53*
25	*51*	*25/51 = 0.49*

Happy-Hour price defines the price during a specific time period.



There are three price settings for each of the four happy hour periods that can be programmed, where the price can be lowered or the amount of balls to be dispensed can be increased.

Currency / Value



Monetary Unit (MU), is used by the system to count payments, one MU being the lowest payment value used

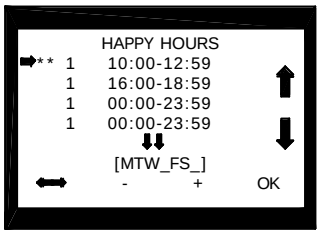
Currency displays the currency, which the machine is accepting.

Kr, $, £, DM, Pesos and Pesetas are available.

Configuration / Date-Time

The Configuration / Date-Time submenu is used for programming the happy-hour periods and setting the date and time of the internal clock.

Date-Time / "Happy-Hour"

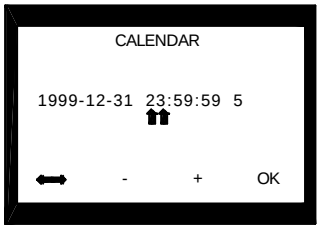


Is used to set start and stop of a happy-hour period.

Use the double pointed arrow to step thru the menu. If [MTWTFSS] is lighted a repetition of a Happy hour is set with repetition for specific days from Monday-Sunday. This repetition is repeated weekly.

The two (**) indicates that the happy-hour period is enabled.

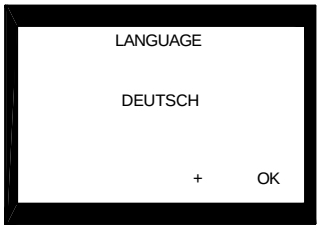
Date-Time / Calendar



Is used to set the internal clock.

Year, month, day, hour, minute and the day of the week. Monday is day one.

3.2.2.1.2 Configuration / Language



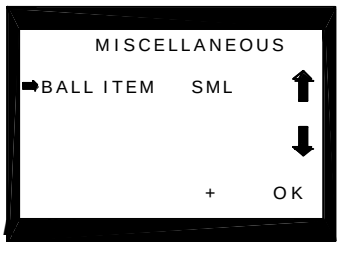
Four languages will be available: English, German, Spanish, and Swedish.

The desired language is selected using pushbutton [+]. The selection is confirmed with OK. *(NOTE! 971105: only English available)*

3.2.2.1.3 Configuration / Password

(Not in use 1997-11-05)

3.2.2.1.4 Configuration / Miscellaneous



The Miscellaneous submenu is used to select how to display the dispensed amount of balls: small, medium, large or numerically.

3.2.2.2 Utilities Submenu

In the utility submenu are stored the statistics of payment inputs and balls dispensed. In this menu are also the printer options available.

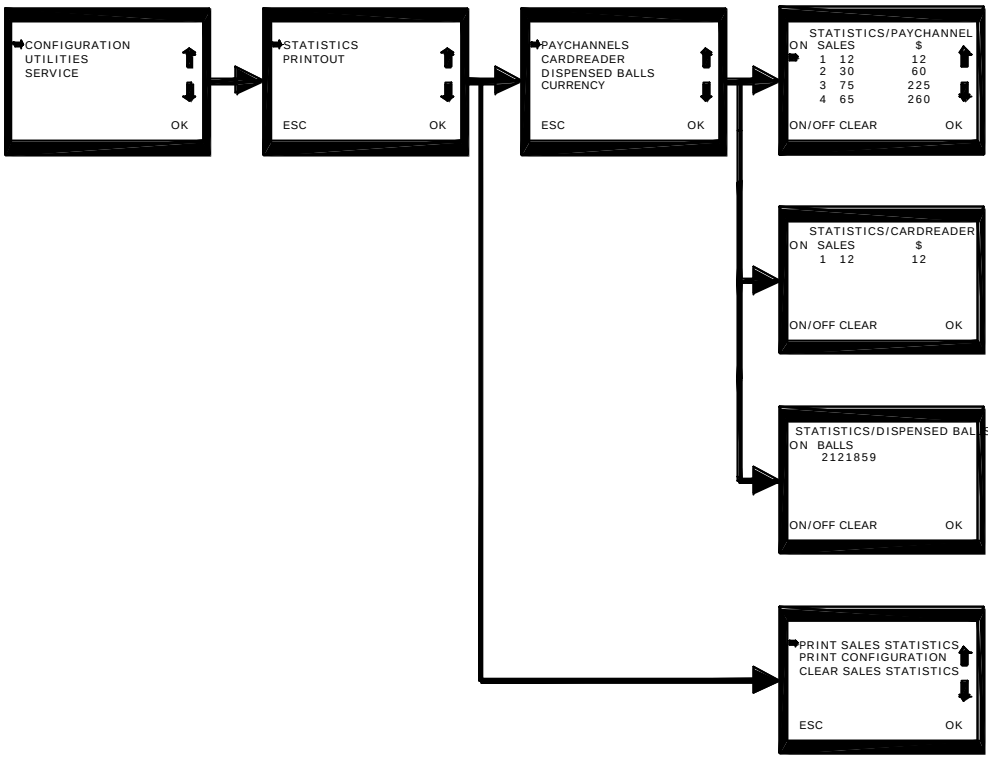
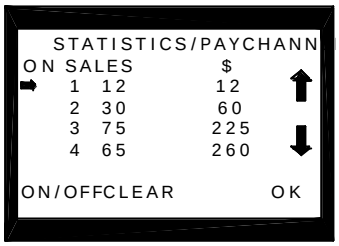


Figure. 22: Utilities Submenu

3.2.2.2.1 Utilities / Statistics

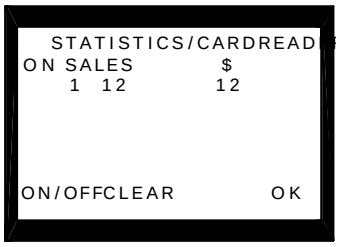
PAYMENT CHANNEL



Displays the number of sales for the eight pay channels.

Counters can be turned off and reset.

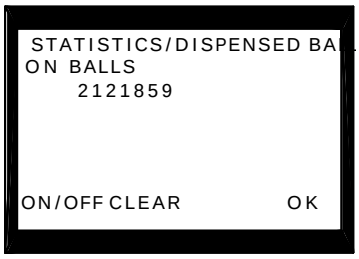
CARD-READER



Displays the insertions of payment by the online payment system.

Counters can be turned off and reset.

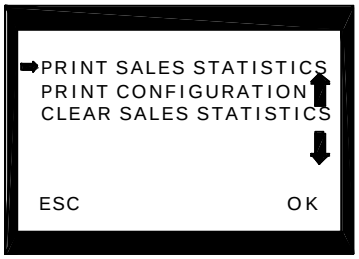
DISPENSED BALLS



Displays the total amount of dispensed balls.

Counter can be turned off and reset.

3.2.2.2.2 Utilities/Printouts



Print Sales Statistics Prints the statistics from the pay channels and the total amount of balls dispensed.

Print Config Prints the configuration setting of the machine. *Not implemented 991013*

Clear Sales Statistics Resets all sales statistics

3.2.2.3 Service Submenu

This menu is intended for service personnel only.

The service menu is used to set machine type, network ID number, factory defaults and the type of payment in the pay channels.

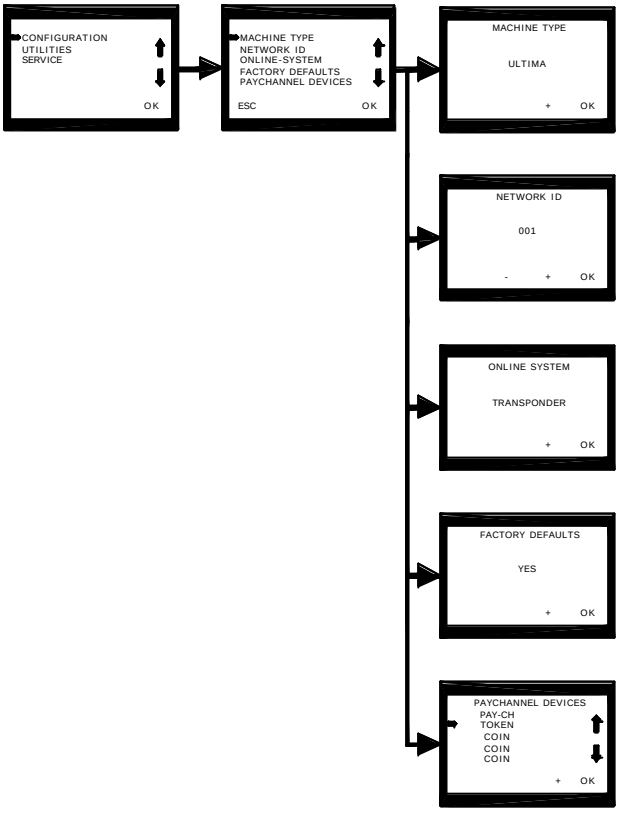
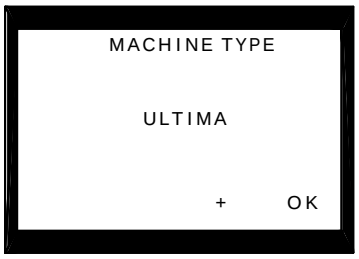


Figure. 23: Service Submenu.

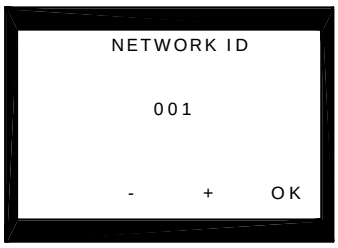
3.2.2.3.1 Service / Machine Type



Because of the use of the same electronics the electronics need to be set to what kind of machine is used. Ball Dispenser, Tee-up, Tee-up 2000, RS Ultima.

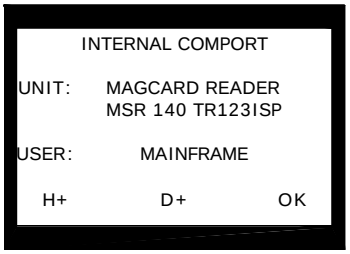
NOTE!! When configuring the old type of Ball dispenser the amount of balls per cradle rock has to be configured for the display to display the right amount is dispensed.

3.2.2.3.2 Service / Network ID



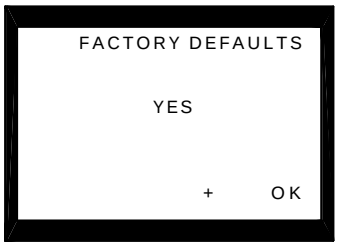
To enable communication to a machine an ID number must be set, every machine must have it's own specific ID number.
Up to 250 machines can be connected to the computer.

3.2.2.3.3 Service / ONLINE System



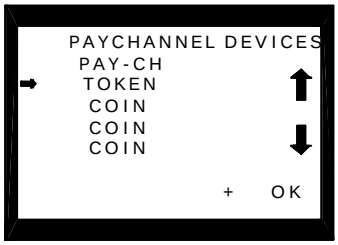
Different types of card readers and other equipment can be installed in the machine, which are connected to the internal RS-232 connector on the CPU-97 circuit board. Transponder (Touch less card reader), magnetic card reader and printer. D+ toggles the device used. H+ toggles the handler that uses the device. Select Online, Mainframe.

3.2.2.3.4 Service / Factory Defaults



Is used to reset the entire configuration of the CPU-97 to factory settings.

3.2.2.3.5 Service / Pay channel device



Is used to select the type of payment for the respective pay channel: coin, token etc.
This must be set or payment will **NOT** be registered.

4 Computer Software Select Configuration Manager

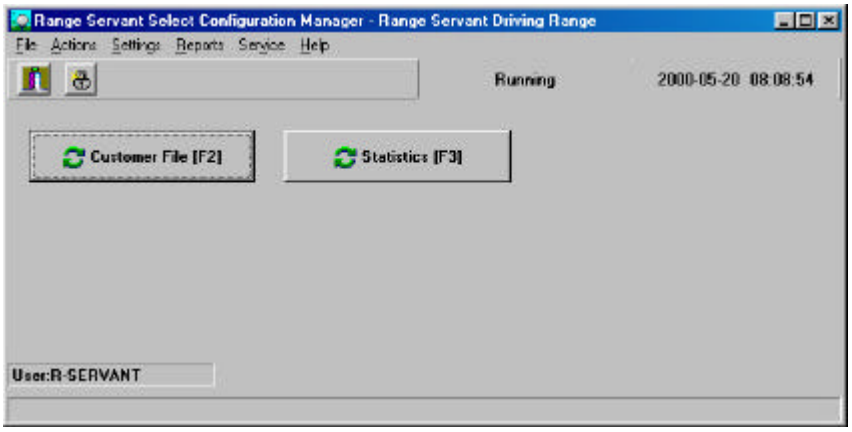


Figure 24 Select Configuration Manager

The computer software is used for configuring network and machines, for gathering and presenting statistics and for running the online payment system.

Hardware specification:

- Computer Pentium 200 or higher
- Microsoft® Windows 95/98/NT®
- 128MB RAM
- 600x 800 SVGA screen
- PS/2 Mouse (if the computer is not equipped with a PS/2 mouse, see chapter 4.2.3.2, Com Port Selection (Alt+C))
- Two available serial ports. (If the PrePaid feature is to be used a third serial port is needed.

4.1 Installation of Select Configuration Manager

- Close all running applications.
- From the Program Manager, select File menu and choose RUN.
- Type d:\Installation disc\setup (depending on the the setting of your CD-Rom and press enter.
- Follow the instructions on the screen.
- If there is an update in the Installation disc /update catalogue follow the instruction in the Read me file.
- Copy the user_man.pdf file from the manual catalogue into the root of the ba97_cfg catalogue. To read the manual it requires that Adobe Acrobat Reader version 4.0 be installed on the computer.

The default Login is Golf.
The default Password is Golf.
To change login and password follow the instructions in section 0 User ID (Alt+U)

For full capability the software version in the machine (ball dispenser) must be 1.14 or greater.

4.2 Select Configuration Manager

Commands:

File (Alt+F)	exits the current Select session. Import, Export function.
Action (Alt+A)	shortcuts to Customer File, Statistics, Manual PrePaid Balls feature.
Settings (Alt+S)	contain the settings of the online payment system, the network, the machine configurations, settings of the online payment system and the selection of serial communication ports.
Reports (Alt+R)	contains the previews and printing of reports regarding the online payment system, export function of the customer data base and a feature of group E-mail to customers registered in Customer File.
Service (Alt+V)	for service personnel only; for testing the hardware, activating relays, reading inputs and outputs and viewing of the data bases.
Help (Alt+H)	help menus; about Select Configuration Manager, and online manual

CUSTOMER FILE	is used for registering customers, cards etc. for the online payment system **(see section 4.2.7)**
STATISTICS	is used for statistical presentation of the machines connected in the network **(see section 4.2.8)**.

4.2.1 Main Menu

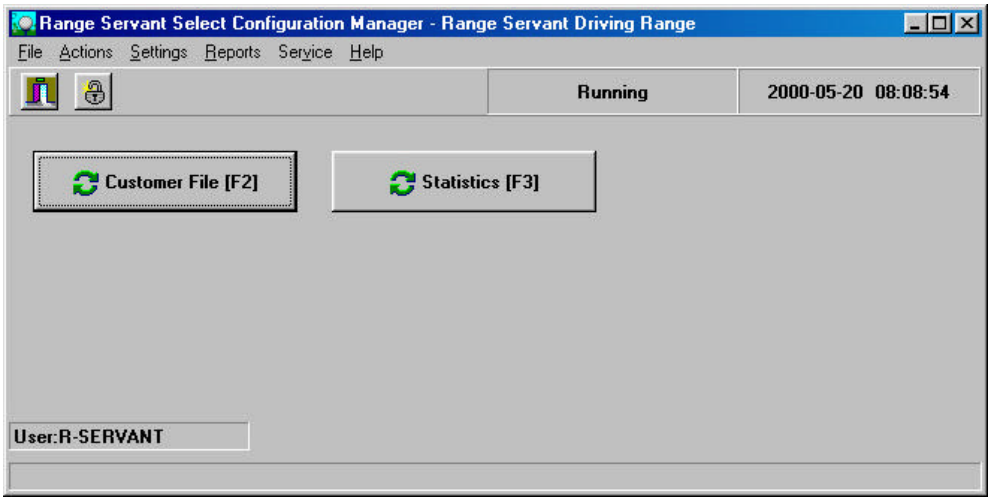


Figure. 25: Select Main Menu

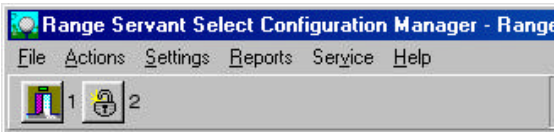


Figure. 26: Pushbuttons of the Select Main Menu.

1. ***Exit*** Ends the current Select Configuration Manager session.
2. ***Login*** Opens the login / password menu.

4.2.2 File (Alt+F)

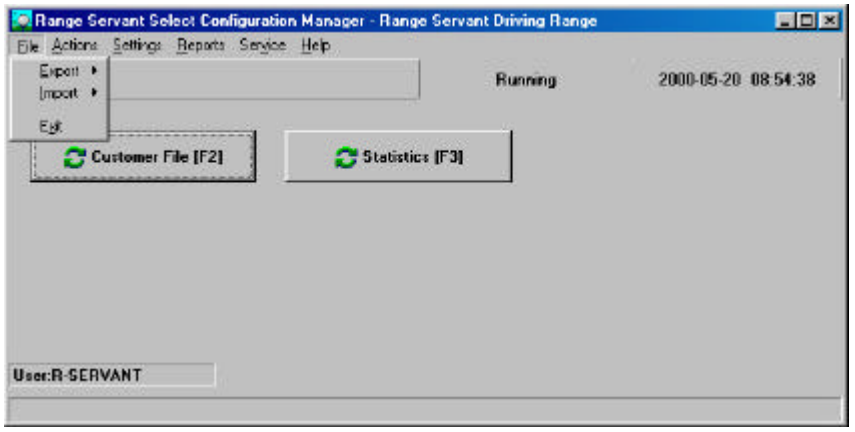


Figure 27 Export / Import of Customer Details

4.2.2.1 Export

In this menu one can export the customer data base into an ASCII file which can then be imported into a third party data base program such as Microsoft Access®. After have been exported a group E-mail can be send to all customers that are registered with an E-mail in Customer File.

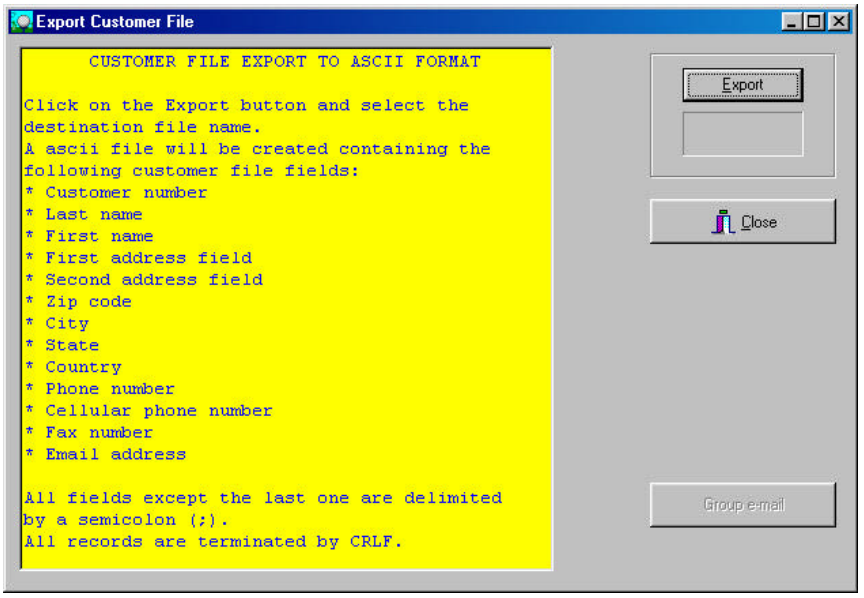
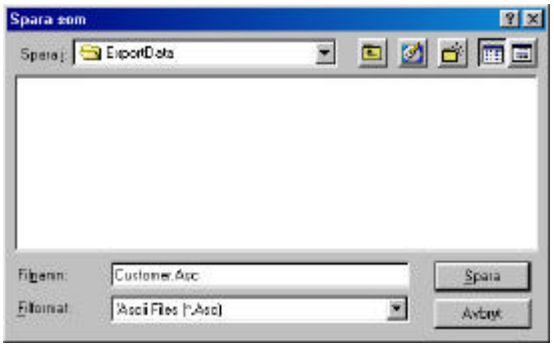


Figure 28 Exporting Customer Details

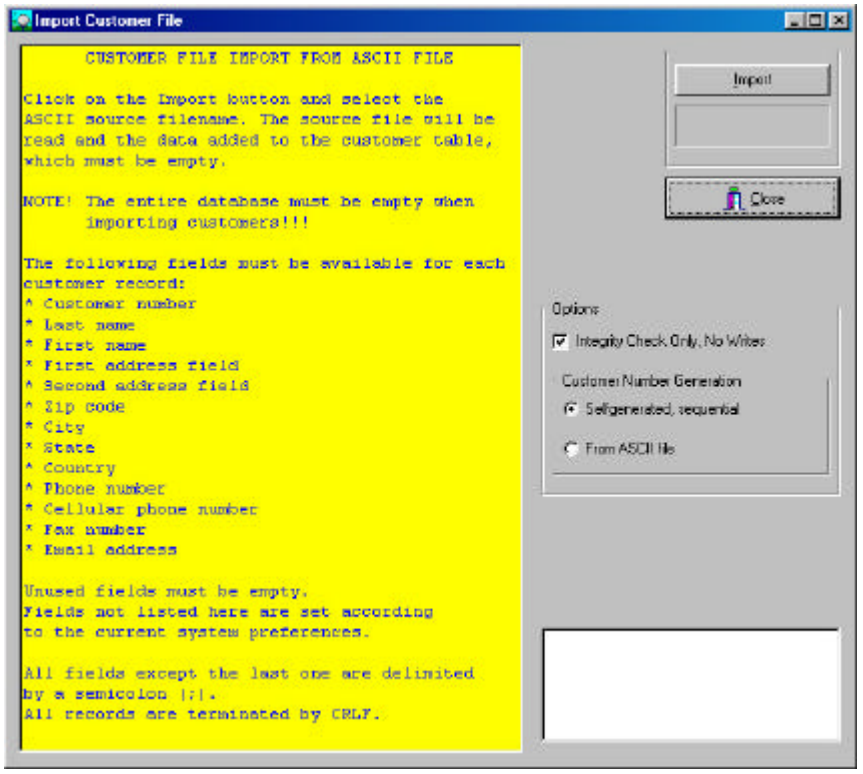
To Export Customer Details:

1. Press the Export Button.
2. 

3. Import to the third party program for further use. The Group E-Mail Button will enabled, if you press the Group E-Mail Button then the E-Mail Program will start and all the E-Mail Addresses written in the *Customer File* will be written in the TO field.

4.2.2.2 Import

In this menu one is able to import customer details into the Select Configuration Manager Customer File from a third party supplier such as Microsoft Access®. The File imported must be an ASCII file where the data is delimited with;. The file must end with CRLF.
IMPORTANT!!!! The Customer File must be empty before importing data into the Customer File. The data customer numbers can be self-generated by the Select Configuration Manager or one can have the third party program customer numbers to be imported into the system.
Always do an integrity check before writing in to the database or you will regret that you were ever born ☺.



To Import data into the Customer File:

1. Export the data from your third party program and save the file as Customer.Asc.
2. Check the Integrity CheckBox and Press the IMPORT button.
3. Find the Customer.Asc file that you have saved from your third party program.
4. If there are any errors and the Select Control System doesn't allow you to import the data it will be displayed in the memo box.
5. If the Self generated, sequential radio box is checked then Select will make up the Customer numbers. If From ASCII File the Customer numbers are imported from the third party data file.

4.2.3 Settings (Alt+S)

This menu is used for selecting the serial ports to be used, different preferences of the customer in the online payment system.

Machine Configuration (Alt+M)	to set the prices and happy-hour periods of the machine, the advertising text etc;
Com Port Selection (Alt+C)	to select the serial ports for network, card reader for shop, mainframe etc.
Network Configuration (Alt+N)	is used for activating the polling of the nodes in the communication network.
Base Registers (Alt+B)	to enter the different discounts menu etc, for the online payment system. Set the Criteria for the PrePaid Balls feature and Hotkeys.
User ID (Alt+U)	to register user logins and passwords and the privileges of the users.
Miscellaneous Configurations	For information see the Select Mainframe Interface manual.
Set Site Name (Alt+S)	set the header of the reports and printouts.

4.2.3.1 Machine configuration (Alt+M)

Configuration menu for the machines connected to the network, the values of the payment channels, the happy-hour periods etc.

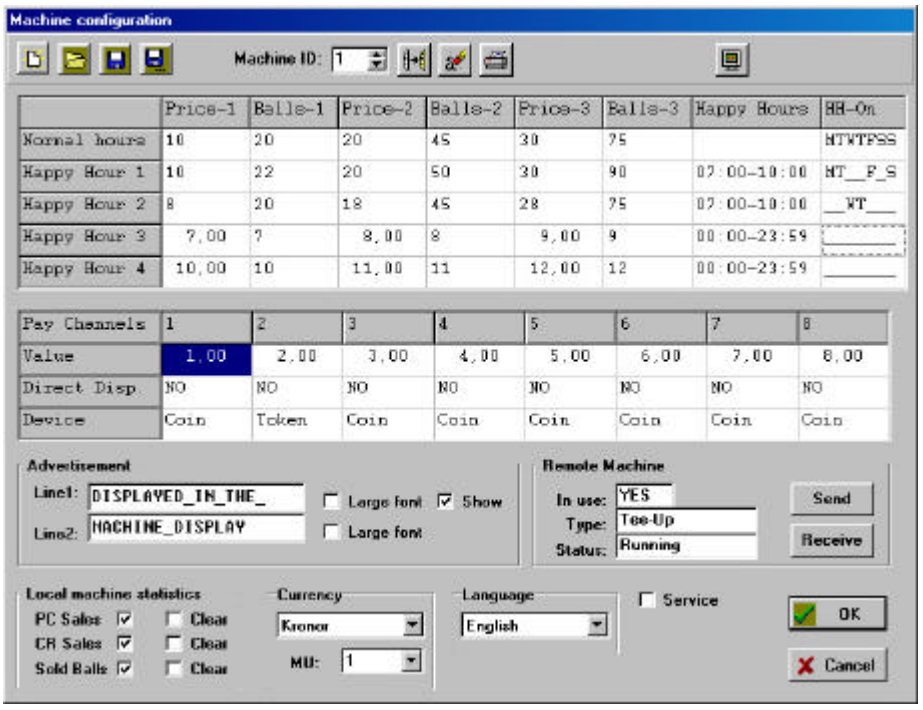


Figure. 29: Machine Configuration

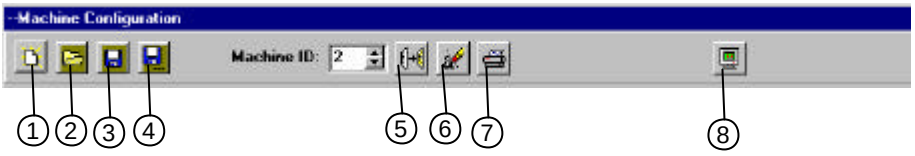


Figure. 30: Pushbuttons in the Machine Configuration Menu

1. New	Creates a new configuration file.
2. Open	Reads an existing configuration file into memory. A display box shows the files in the current directory.
3. Save	Saves the configuration file loaded in memory onto disk, overwriting the current version.
4. Save as	Specifies a new name for a configuration file currently being edited and saves it as a separate file.
5. Copy a Configuration	Copies a configuration from one machine to another.
6. Set Configuration to Factory	Sets the configuration of the machine to ***Defaults*** factory setting.
7. Print	Prints the machine configuration files.
8. Print screen	Makes a screen printout of the current configuration setup.
Machine ID	Configuration menu of the machine responding.
Standard Price 1-3	Defines the prices 1-3.
Balls 1-3	Defines the number of balls to be dispensed for prices 1-3.
Happy-Hour 1-4	Defines the four happy-hour periods.
HH-On	Repetition of the happy-hour period.
	Example: Happy-Hour 11.00-14.00 every Monday and Thursday.
Pay channels / Value	Defines the value of the eight pay channels.
Direct Dispense	If set to YES, the ball dispenser or Tee-up will dispense the balls directly upon registration on the pay channel.
Device	Displays the payment device connected to the pay channel: coin acceptor, token mechanism.
Advertisement	Configures the text to alternate with the price list in the display.
Service	When marked the internal counters counting the pay channels are switched off, used during service and maintenance.

4.2.3.2 Com Port Selection (Alt+C)

Network	Selects the serial communication port used for network communication;

ID-port	Selects the serial communication port used for card readers for the shop;
Unit Type	Selects the type of reader connected to the communication port;
Main Frame	Selects the port of the external PoS (Point Of Sales) system, for more information see the Select Mainframe Interface manual.
Auxiliary	Displays which comport the PrePaid balls printer is connected to.

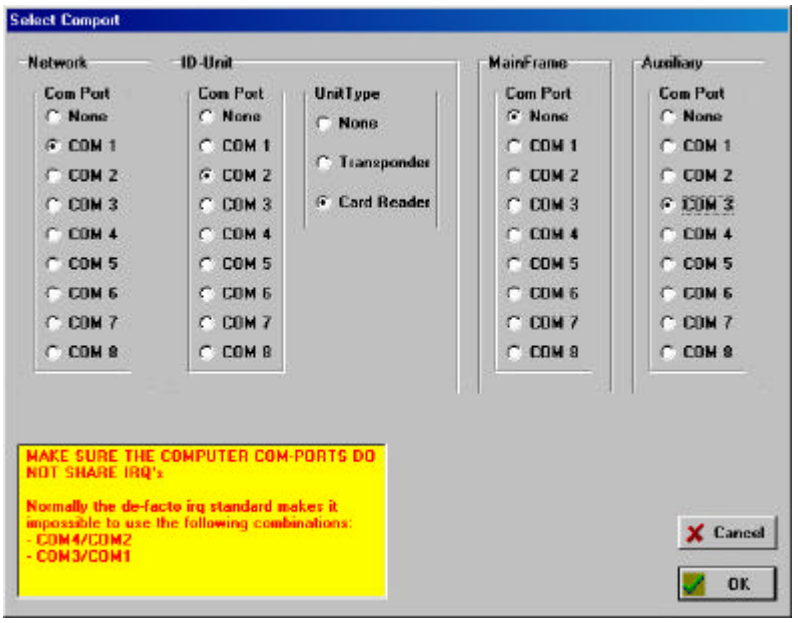


Figure. 31: Settings / Comports

When using a computer with several serial com ports it is very important that each port has its own interrupt (IRQ) (see the manual of your computer).

4.2.3.3 Network Configuration (Alt+N)

Displays the machines connected in the multi drop network. Each machine in the network has its own individual ID number

Node Number of position in network

In Use Yes/No, Enable/Disable the polling of the node.

Machine Displays the type of machine connected to the node:

- Ball dispenser
- Tee-up
- Tee-up 2000
- Ultima

Status Displays the status of the machines connected to the network.
Not responding: Communication failure or the machine is turned off.
Configuration: The machine is placed in configuration mode.
Running: Communication is ok!
Dispensing: The machine is currently dispensing balls.
Not Running: The ball machine has locked it self and has to be reset.

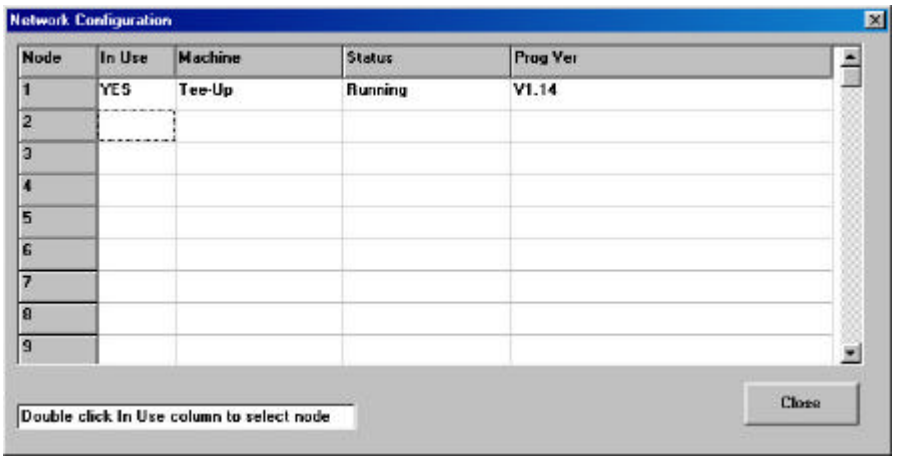


Figure. 32: Network Configuration

4.2.3.4 Base Registers (Alt+B)

The base registers menu is used to set the different discounts for users of the online payment system and other system preferences.

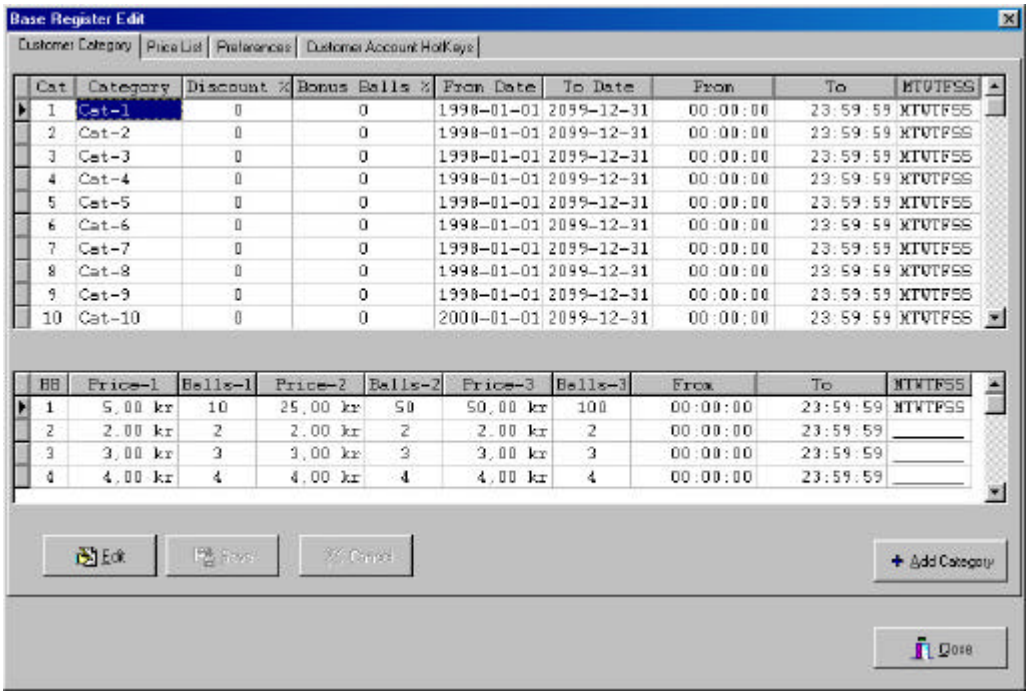


Figure. 33: Base Registers

Cat — Up to 99 different customer groups can be programmed. The standard category follows the pre-set price list in the machine configuration menu.

Category Text — The text can be changed to suit your category specifications.

Discount % — Setting the discount received by the customer when inserting money to his account.

***Example**: Customer pays £100 worth of balls but pays only £90. Discount 10%.*

Bonus balls % — The customer receives a specified amount of bonus balls when inserting balls into his account.

***Example**: Customer pays for 100 balls but receives 110. Bonus balls 10%.*

From Date — Sets the start date for the validation of a customer category.

To Date — Sets the stop date for the validation of a customer category.

From: — Sets the start time (hour) for the validation of a customer category. This is on a daily basis.

To:	Sets the stop time (hour) for the validation of a customer category. This is on a daily basis.
MTWTFSS	Sets the repetition Monday-Sunday for the validation of a customer category.

4.2.3.4.1 Price List

Sets the price intervals for the customers using the ball account.

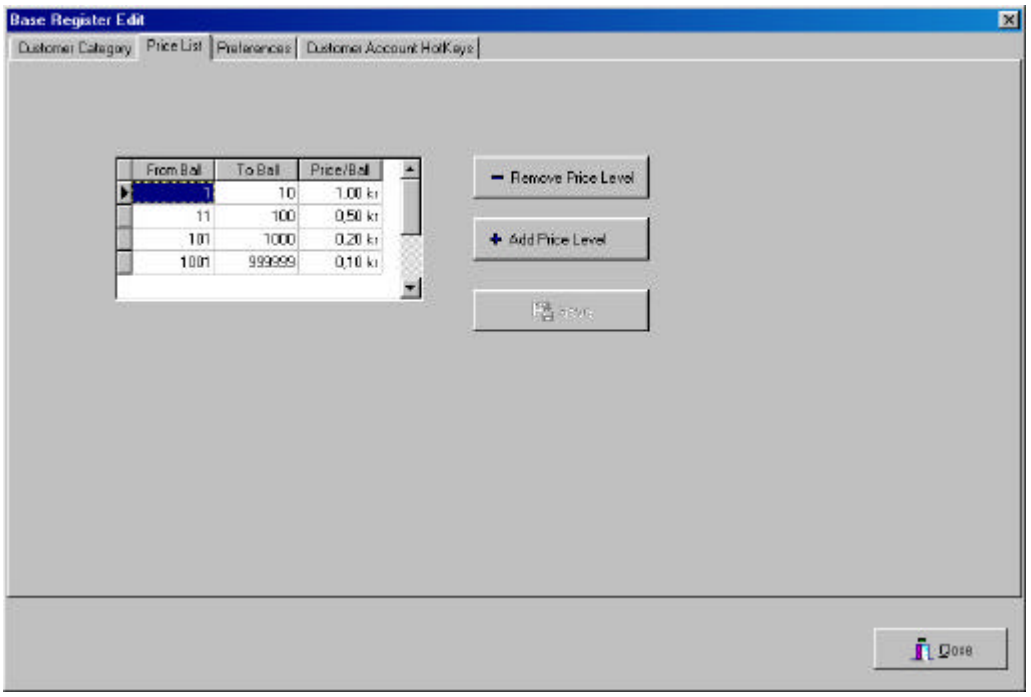


Figure. 34: Price List when using the balls account.

To add more price levels:

1. Press the Add Price Level button and write the values in to the grid.
2. Mark the price level you want to remove and press the Remove Price Level button.

4.2.3.4.2 Preferences

In the Base registers / Preferences menu one is able to preset the customer configuration that is mostly used, this is to speed up the registration of customers. And the standard settings for the PrePaid balls feature see also the Customer Account Hot Keys menu for more information

.

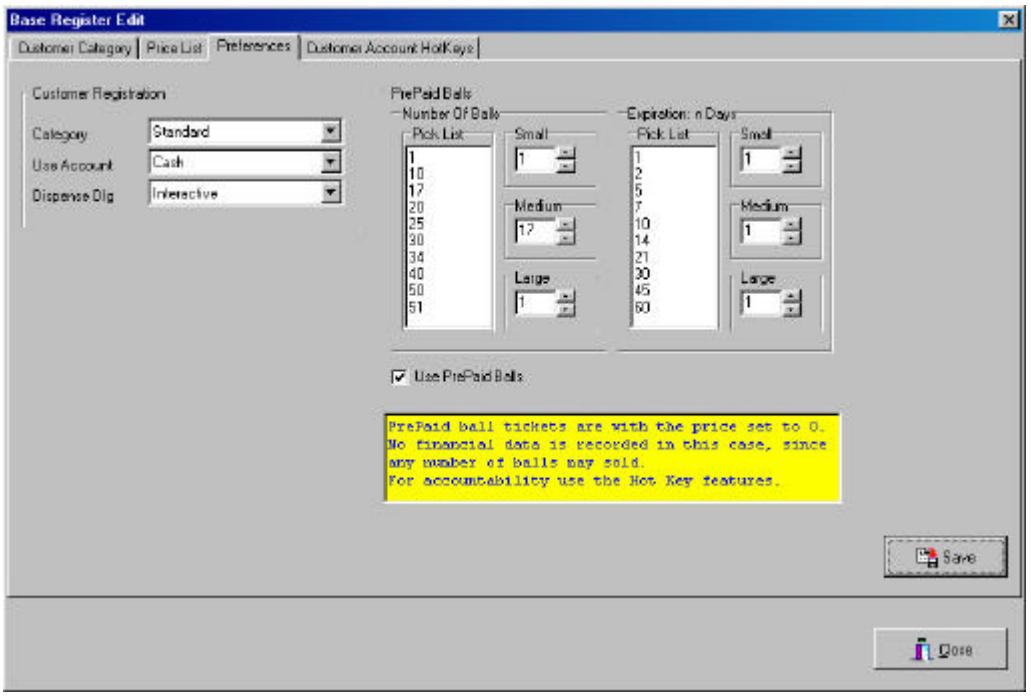


Figure 35 Base Registers / Preferences

Customer Registration

Set the most common preferences when registrating new customers.

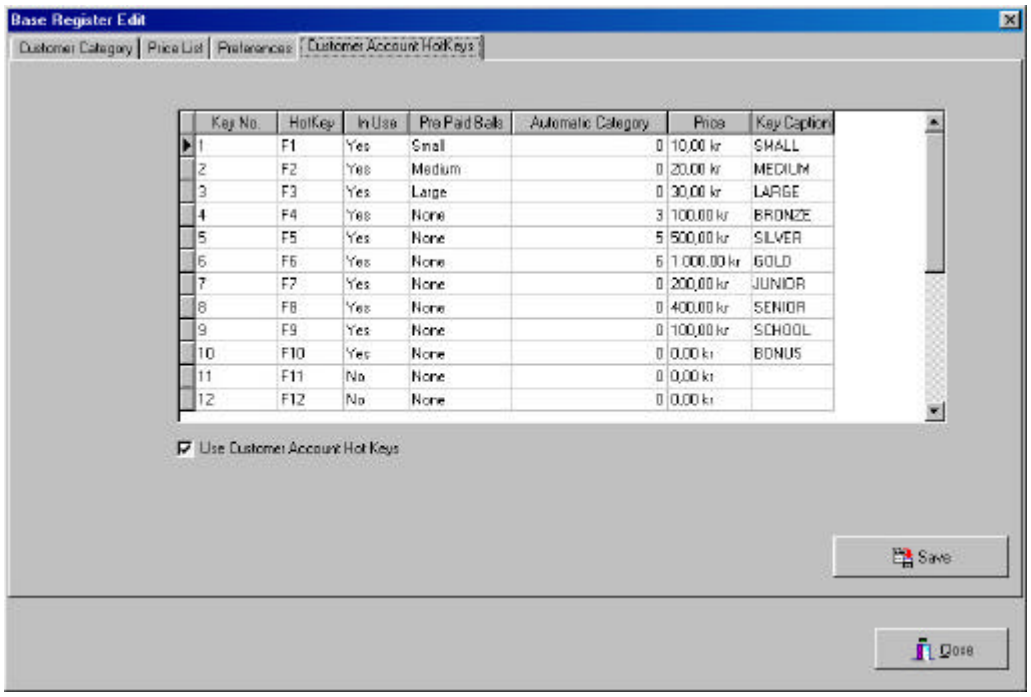
Category	Set the most common category to be used.
Use Account	Set the most common account to be used.
Dispense Dlg.	Set the most common ways that the customers should receive their balls.

PrePaid Balls

To set the balls and expiration date on the tickets in the prepaid balls feature.
See also the *Customer Account HotKeys* menu.
To add more number of balls settings to be dispensed write the amount in the list box marked Number of Balls, to add different expiration dates write the dates in the listbox marked Expiration n Days. Set the Number of balls to be dispensed as Small, Medium and Large. Set also the expiration dates for small medium and large.

4.2.3.4.3 Customer Account HotKeys

In this menu one is able to set shortcuts to reduce the transaction time when inserting money into the accounts and to write different types of tickets in the prepaid balls feature. One is also able to change customer category depending on how much credit one is inserting into the accounts.



Key No.	HotKey	In Use	Pre Paid Balls	Automatic Category	Price	Key Caption
1	F1	Yes	Small	0	10,00 kr	SMALL
2	F2	Yes	Medium	0	20,00 kr	MEDIUM
3	F3	Yes	Large	0	30,00 kr	LARGE
4	F4	Yes	None	3	100,00 kr	BRONZE
5	F5	Yes	None	5	500,00 kr	SILVER
6	F6	Yes	None	6	1.000,00 kr	GOLD
7	F7	Yes	None	0	200,00 kr	JUNIOR
8	F8	Yes	None	0	400,00 kr	SENIOR
9	F9	Yes	None	0	100,00 kr	SCHOOL
10	F10	Yes	None	0	0,00 kr	BONUS
11	F11	No	None	0	0,00 kr	
12	F12	No	None	0	0,00 kr	

Figure 36 Customer Account HotKeys

The twelve function keys can be programmed to reduce the transaction time when inserting the credits into the different accounts.

HotKey	Displays the key to be used.
InUse	Enables/Disables the use of the function key F1-F12.
PrePaid Balls	Sets if the function key should be used for printing receipts in the PrePaid Balls feature.
Automatic Category	If a customer inserts credits into an account with a price as set in the price field then one can be upgrade the customer to a category specified in the Automatic Category field. When set to 0 then the customer is not moved to an other category.
Price	Sets the amount to be inserted into a customer account.
Caption	Sets the caption of the button in the *Customer File* form.

4.2.3.5 User ID (Alt+U)

The User ID menu is used for registering a user's login and password and level of access to the Select Control System.

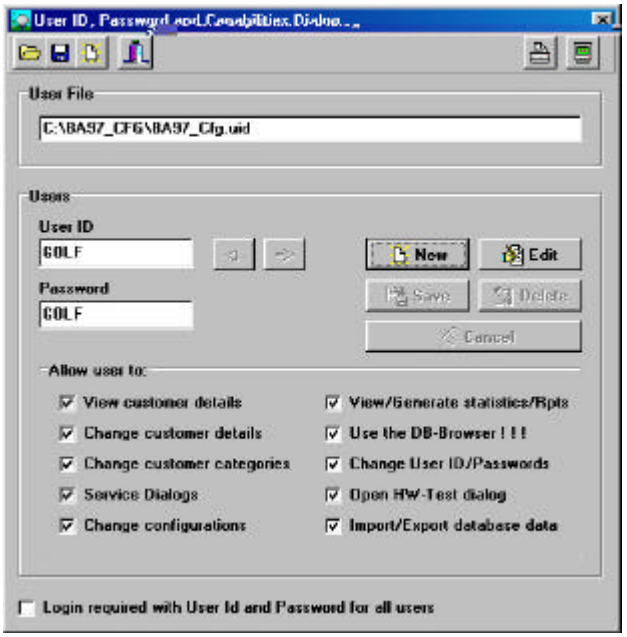


Figure. 37: User logins & passwords.

If the Checkbox labeled Login required with than the logins and password is requested to enter the system. If not the login system is disabled.

A user login and Password is saved as follows:

1. Open the file Ba97_cfg.uid
2. Press the key marked " New".
3. Write the login name of the user (minimum four letters).
4. Write the password for the user (minimum four letters).
5. Choose the level of access privileges for the user.
6. Save the set-up of the user.
7. Save the file Ba97_cfg.uid

4.2.3.6 Text configuration (Alt+T)

Not implemented 990823

4.2.3.7 Miscellaneous configurations

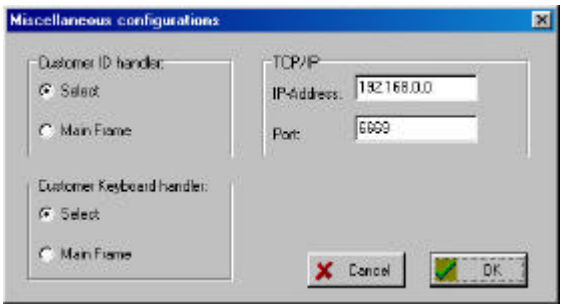


Figure 38 Setting / Miscellaneous configurations

This chapter is described in the Select Mainframe Interface manual.

4.2.3.8 Set Site Name (Alt+S)

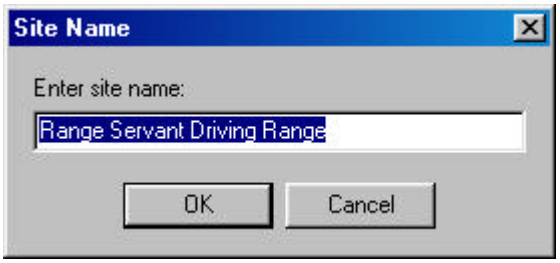


Figure 39 Set Site Name

Set the header of the reports and printouts.

4.2.4 Reports

The Cash flow report displays the total amount of money received by the system, money inserted in the machines and money registered in the online payment system accounts.

4.2.4.1 Cash flow

The cashflow report displays the total amount of money received into the system in terms of the money received in the machines and the amount of money inserted in the different accounts of the online payment system and sales with the prepaid balls feature when using the hotkeys.

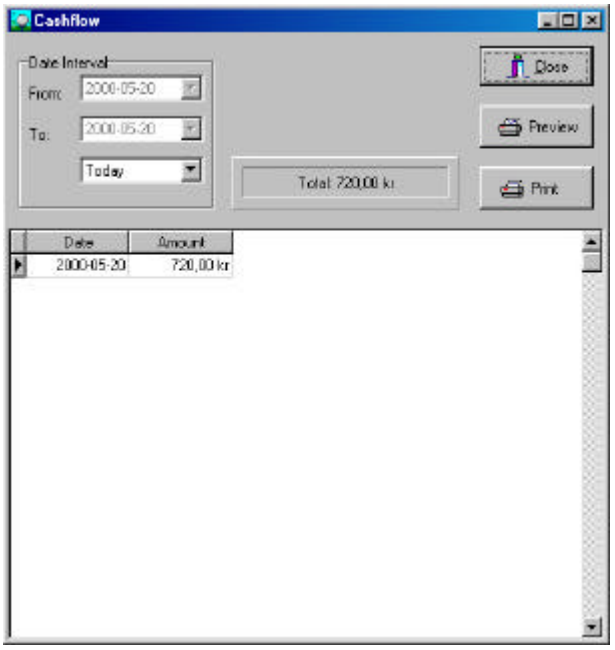
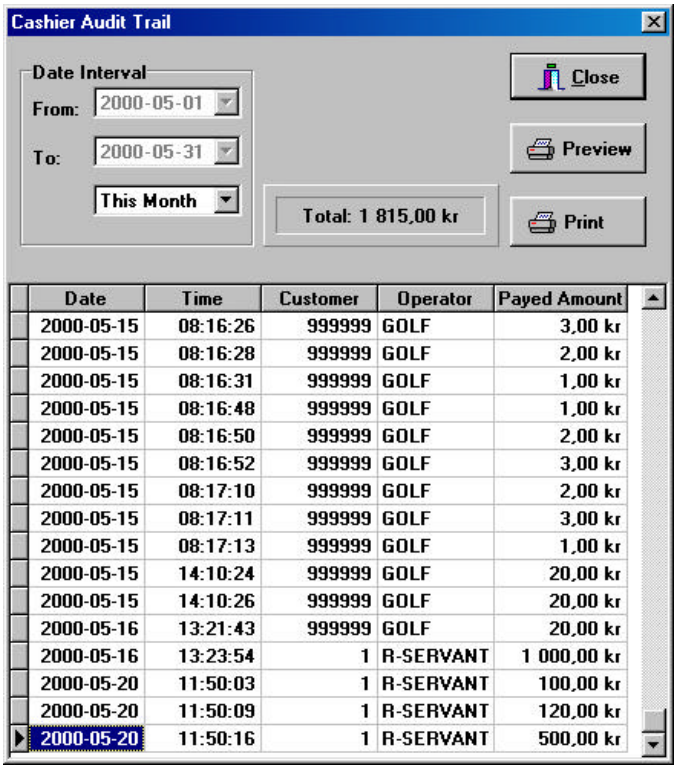


Figure 40 Report / Cashflow

4.2.4.2 Cashier Audit Trail

The Cashier Audit Trail displays the money inserted into the online payment system in terms of the user logged in the system the date, time, which customer account and the amount of money inserted into the account. This can all be previewed and printed.



Date	Time	Customer	Operator	Payed Amount
2000-05-15	08:16:26	999999	GOLF	3,00 kr
2000-05-15	08:16:28	999999	GOLF	2,00 kr
2000-05-15	08:16:31	999999	GOLF	1,00 kr
2000-05-15	08:16:48	999999	GOLF	1,00 kr
2000-05-15	08:16:50	999999	GOLF	2,00 kr
2000-05-15	08:16:52	999999	GOLF	3,00 kr
2000-05-15	08:17:10	999999	GOLF	2,00 kr
2000-05-15	08:17:11	999999	GOLF	3,00 kr
2000-05-15	08:17:13	999999	GOLF	1,00 kr
2000-05-15	14:10:24	999999	GOLF	20,00 kr
2000-05-15	14:10:26	999999	GOLF	20,00 kr
2000-05-16	13:21:43	999999	GOLF	20,00 kr
2000-05-16	13:23:54	1	R-SERVANT	1 000,00 kr
2000-05-20	11:50:03	1	R-SERVANT	100,00 kr
2000-05-20	11:50:09	1	R-SERVANT	120,00 kr
2000-05-20	11:50:16	1	R-SERVANT	500,00 kr

Figure 41 Report / Cashier Audit Trail

The Cashier Audit Trail displays the data/time/customer number/operator (The person who was logged into the system) and the credit paid.
In the Cashier Audit Trail the customer 999999 is the registrations of purchases of the PrePaid Balls.

4.2.5 Service (Alt+V)

Event log	Displays the different events registered. This is a tool for Range Servant.
HW-Test	Hardware test of the components connected to CPU-97. This is a tool for Range Servant
DB-Browser	Database browser; stores the data gathered from the machines. This is a tool for Range Servant.
Prepaid Balls	This is a test tool for Range Servant for the feature where balls are purchased in the shop and are dispensed after a six-digit code is pressed on the keypad. This is not to be used.

4.2.5.1 Event Log (Alt+E)

All actions of the machines that are connected to the Select Control System are logged and displayed in the Event Log menu. This menu is a good tool for trouble shooting the machines.
The log displays the latest 100 events in the machine.

Example*: Dispensed ball(s): 17, payment received on pay channel 8, warm system restart.*

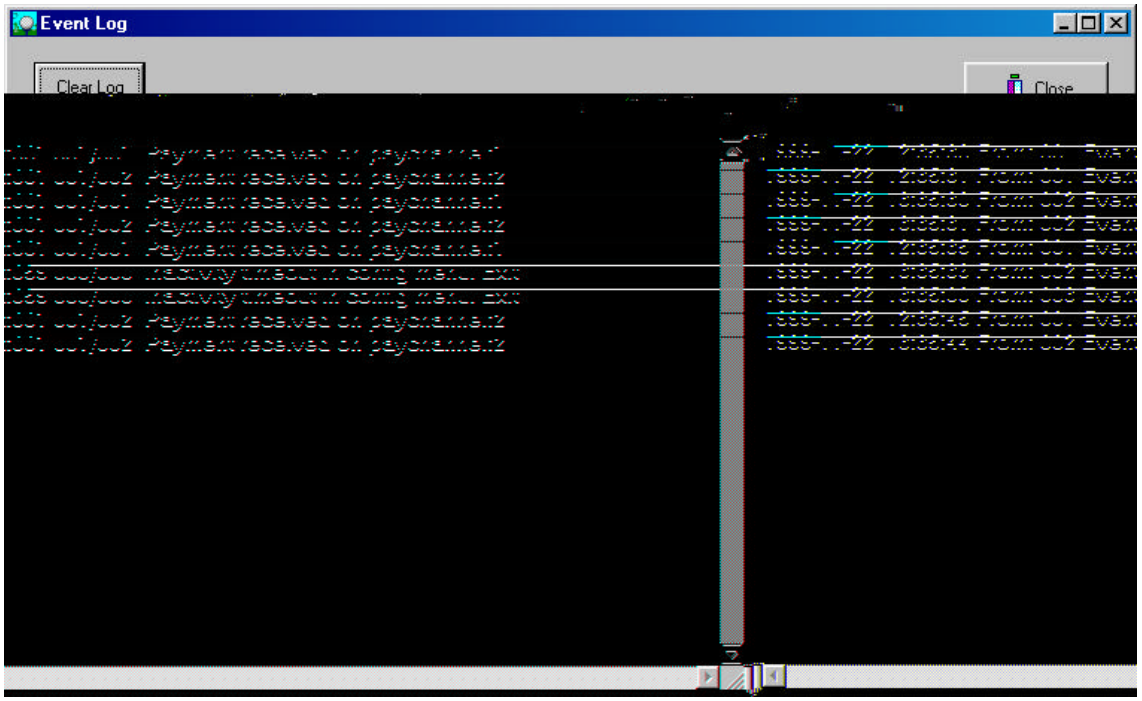


Figure. 42: Event log

4.2.5.2 Online hardware test (Alt+H)

This function allows testing of the hardware of the Select system: relays, display, motors, communication lines etc.

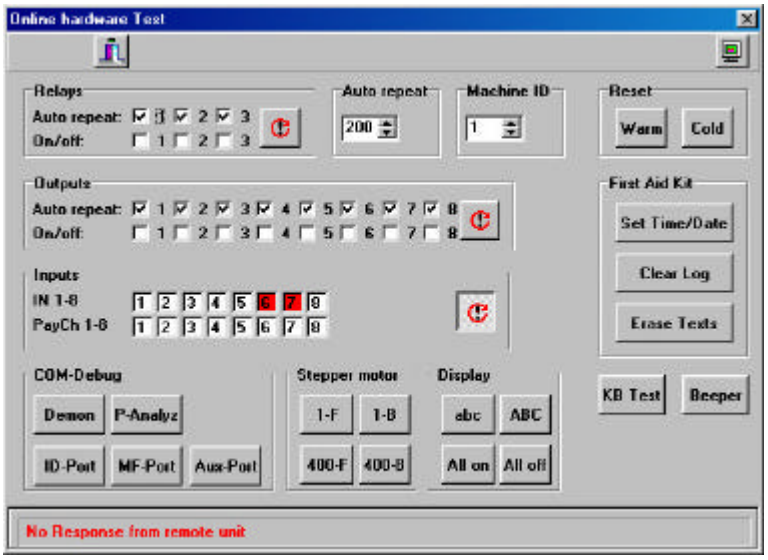


Figure. 43: Hardware Test Menu of the components connected to the CPU-97 circuit board.

Relays	1, 2, 3 activates/deactivates the corresponding R1, R2, R3 relays. With or without auto repeat.
Auto repeat	Setting the auto repeat between 200ms and 1000ms.
Machine ID	Selecting the node for communication within the network.
Reset	*Warm:* Resets the CPU-97 *(turning the power off and on.)*
	Cold: Resets the CPU-97 to factory defaults.
Outputs	Registering an active output. The output indication box turns red when activated.
Inputs	Registering an active input. The input indication box turns red when activated.
First Aid Kit	*Set Time/Date:* To set the internal clock of the remote unit to the same time as the main control PC.
	Clear Log: To clear the internal log of the CPU-97.
	Erase Texts: To erase the texts in the remote unit *(advertisement text etc).*
Com Debug	*Demon:* To test the communication lines within the multi drop network. This is a test tool for Range Servant.

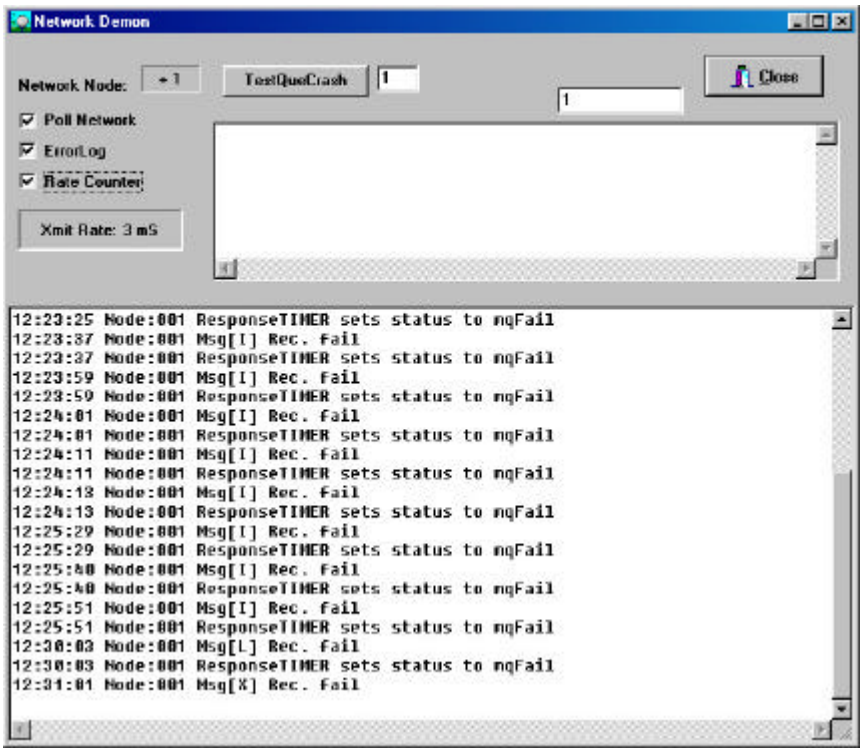


Figure 44 Communication log.

P-Analyzer: Displays the communication line between the main computer and the remote units. Any failure in the communication is logged.

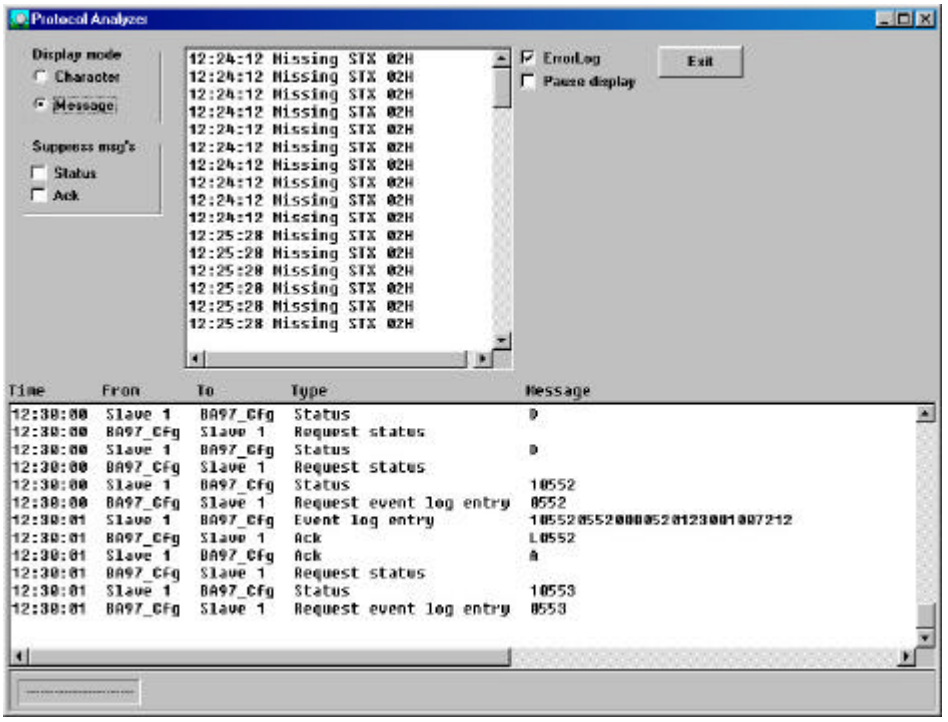


Figure 45 Displays the communication to the remote units

ID-Port: Displays the communication line between the main computer and the online payment system, registration unit.

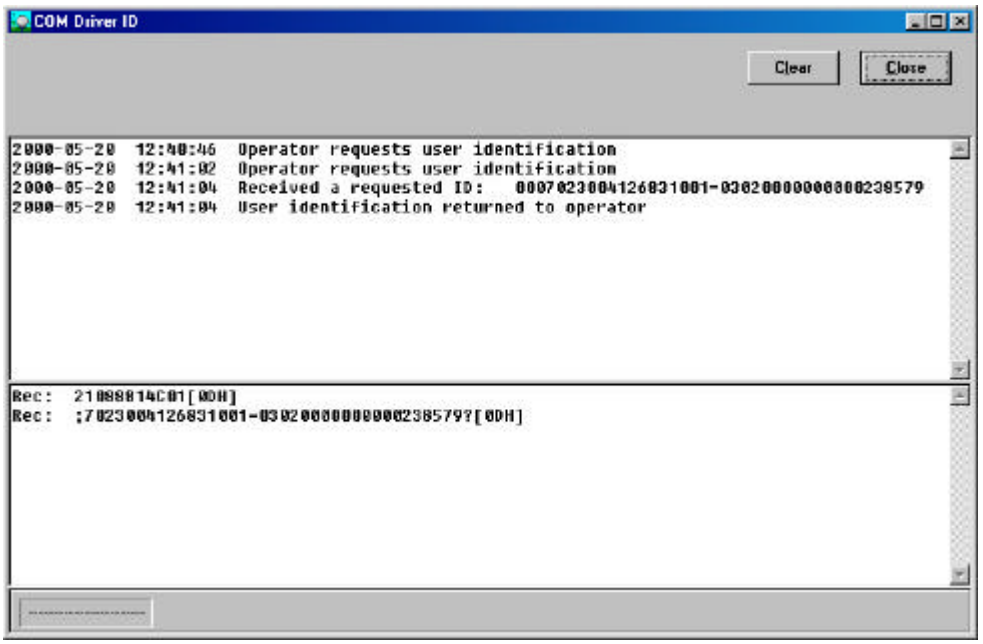


Figure 46Displays the communication to the ID-Units such as card readers.

MF-Port: Mainframe debugger. Displays the communication from the PoS *(Point Of Sale)* system. This is more described in the Select MainFrame Manual.

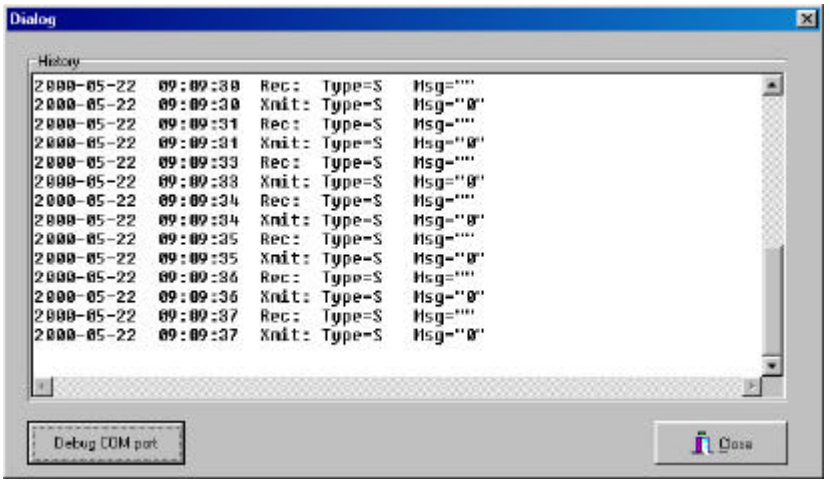


Figure 47 Displays the communication from the mainframe.

Aux-Port: Auxiliary debugger. Displays the communication from Desk printer in the PrePaid Balls feature or any other hardware connected to the Aux-port.

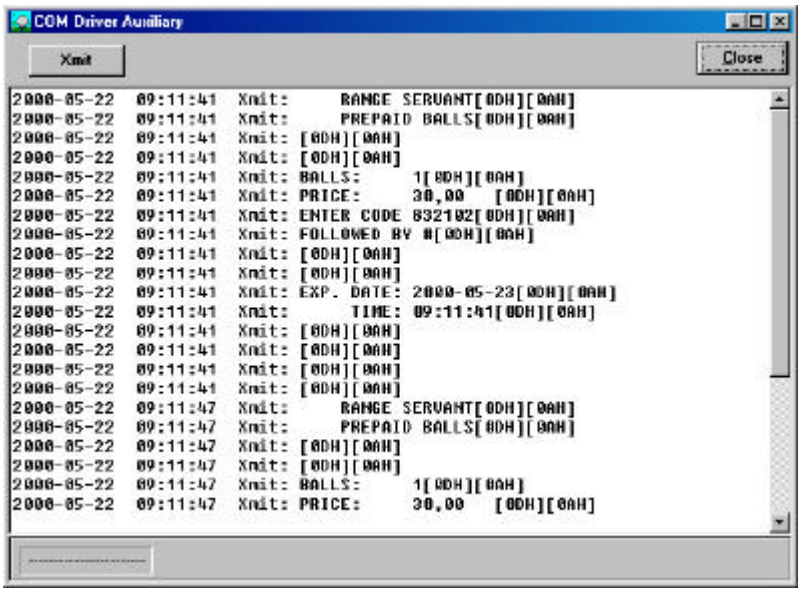


Figure 48 Displays the communication from hardware connected to the Aux Serial port.

Stepper Motor	*1-F:* Moving the stepper motor one step forwards.
(Tee-up, Tee-up 2000)	*1-B:* Moving the stepper motor one step backwards.
	400-F: Moving the stepper motor 400 steps (one turn) forwards.
	400-B: Moving the stepper motor 400 steps (one turn) backwards.
Display	*abc:* Displaying the text in small fonts.
	ABC: Displaying the text in big fonts
	All on: Turning ON all the pixels in the display.
	All off: Turning OFF all the pixels in the display.
KB Test (Keyboard Test)	To test the keys on the keyboard. When pressing key 1 the character A is displayed. Pressing key 2 shows character B etc. If the external keypad is connected this is also tested.
Beeper	To activate the summer on the CPU-97 circuit board.

4.2.5.3 DB-Browser (Alt+D)

The database browser is a tool for quick searches of the information logged in the different databases such as customer files and ID-cards.

4.2.5.3.1 Customer Details

The database *Customer Details* stores the data of the customers registered as ID-card users.

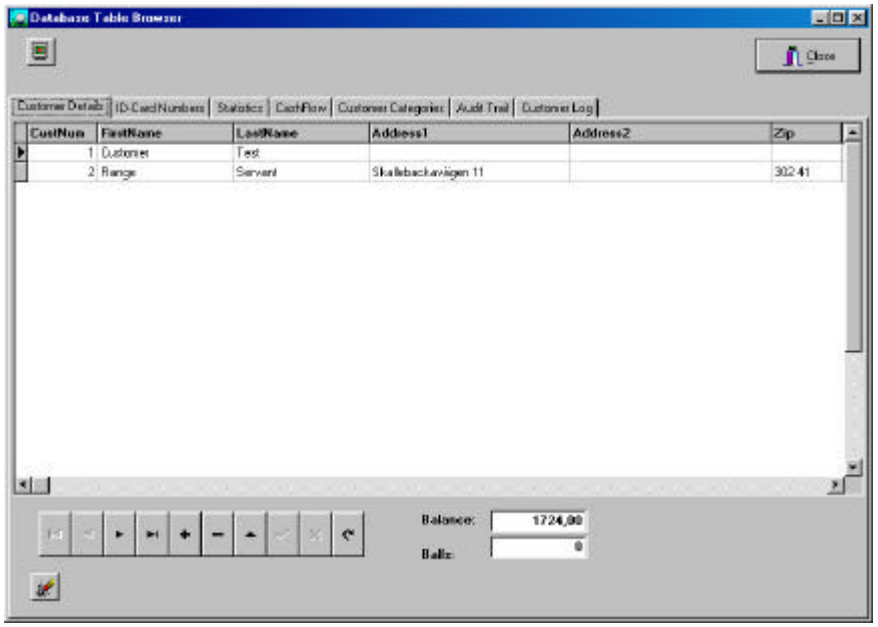


Figure. 49: Customer Details

4.2.5.3.2 ID-Card Numbers

The database *ID-Card Numbers* stores the data of the ID-cards in use and the customer to whom the card belongs.

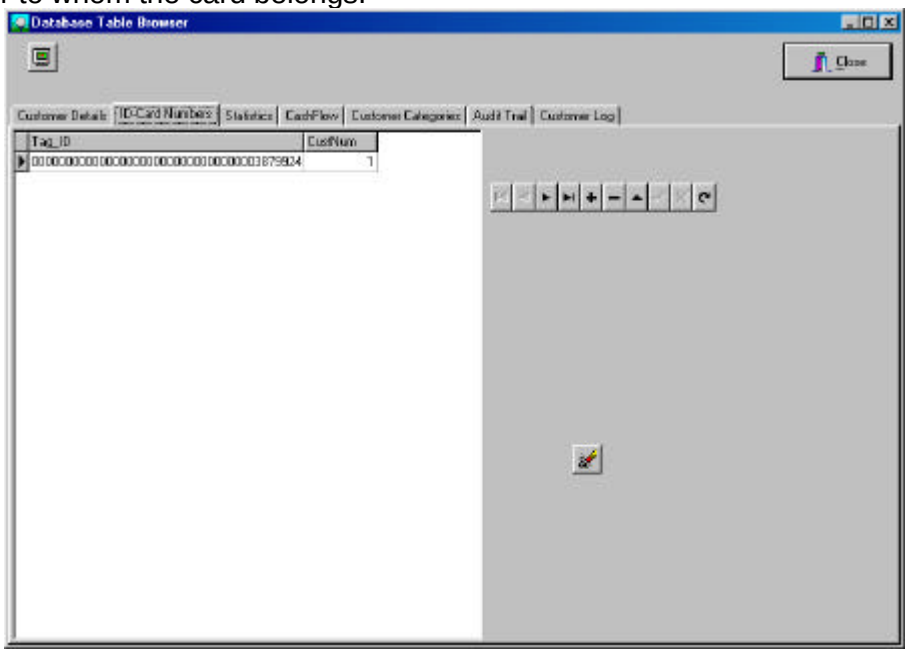


Figure 50 ID-Card Numbers

4.2.5.3.3 Statistics

The database *Statistics* stores the information gathered by the machines.

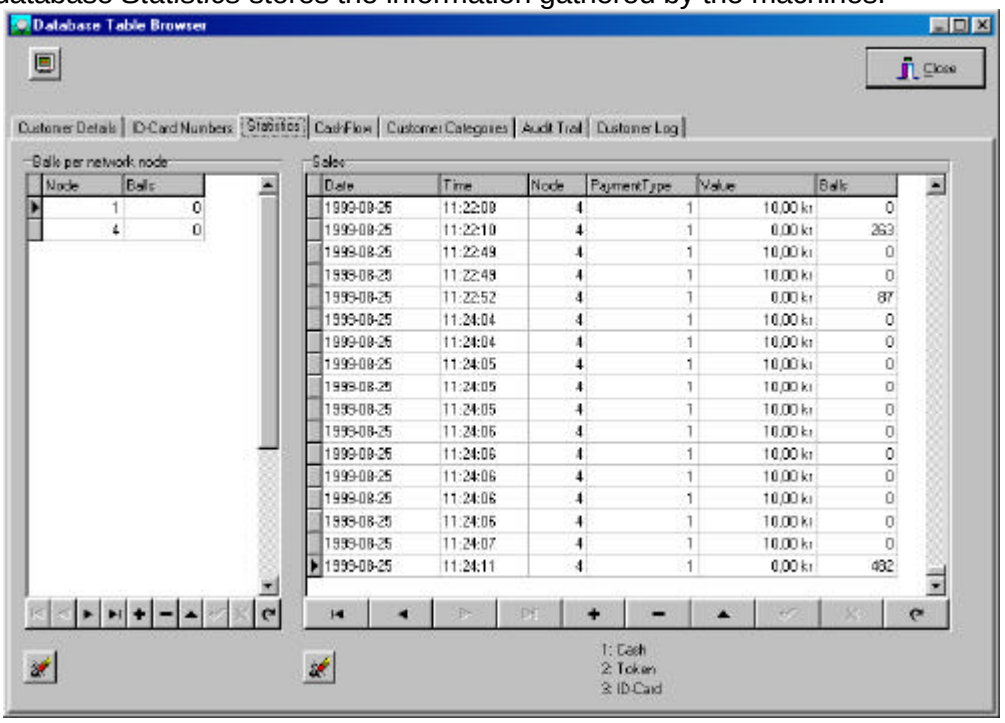


Figure 51 Statistics

4.2.5.3.4 Cashflow

The database *Cashflow* stores the statistics of the turnover.
Turnover = the total amount of money inserted into the system.

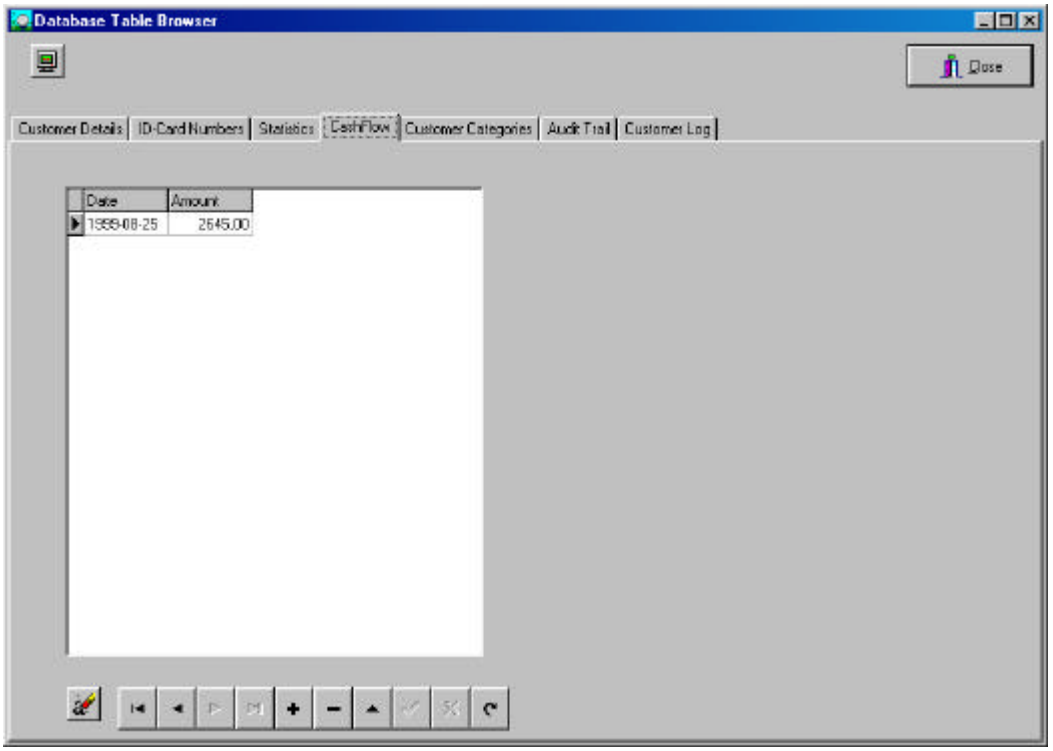


Figure 52 Cashflow

4.2.5.3.5 Customer Categories

The database *Customer categories* stores the settings of the customer groups and happy-hour periods.

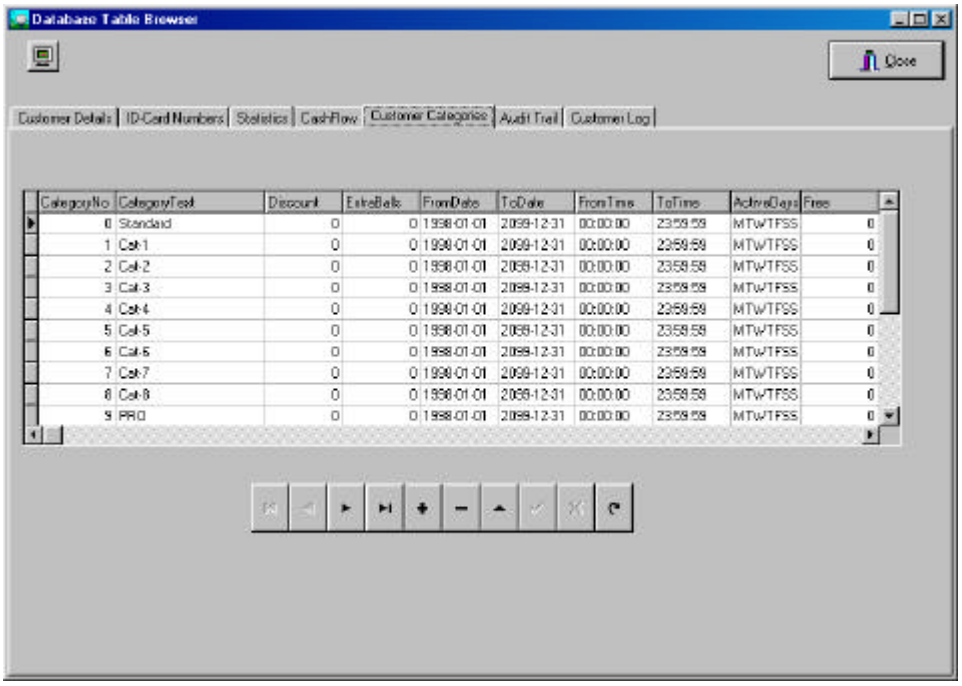


Figure 53Customer Categories

4.2.5.3.6 Audit Trail

The database *Audit Trail* displays dates, times and the amount when a particular customer inserted money / balls into his account and which logged user has registered the purchase.

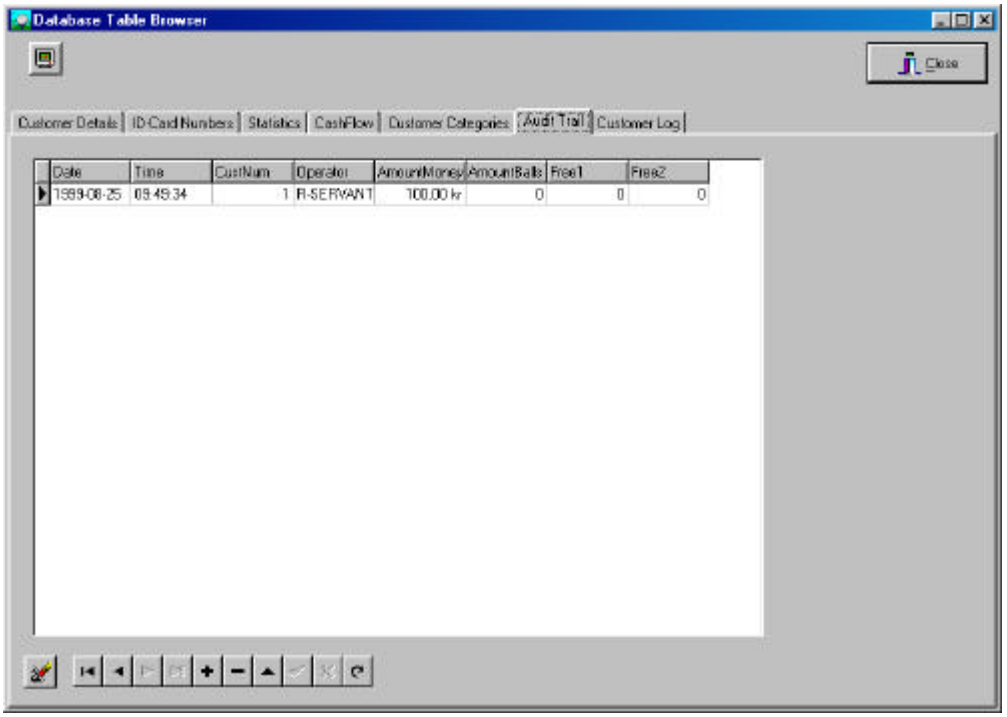


Figure 54 Audit Trail

4.2.5.3.7 Customer log

The database *Customer log* displays the dates and times when a particular customer has received balls from the ball dispenser or Tee-up.

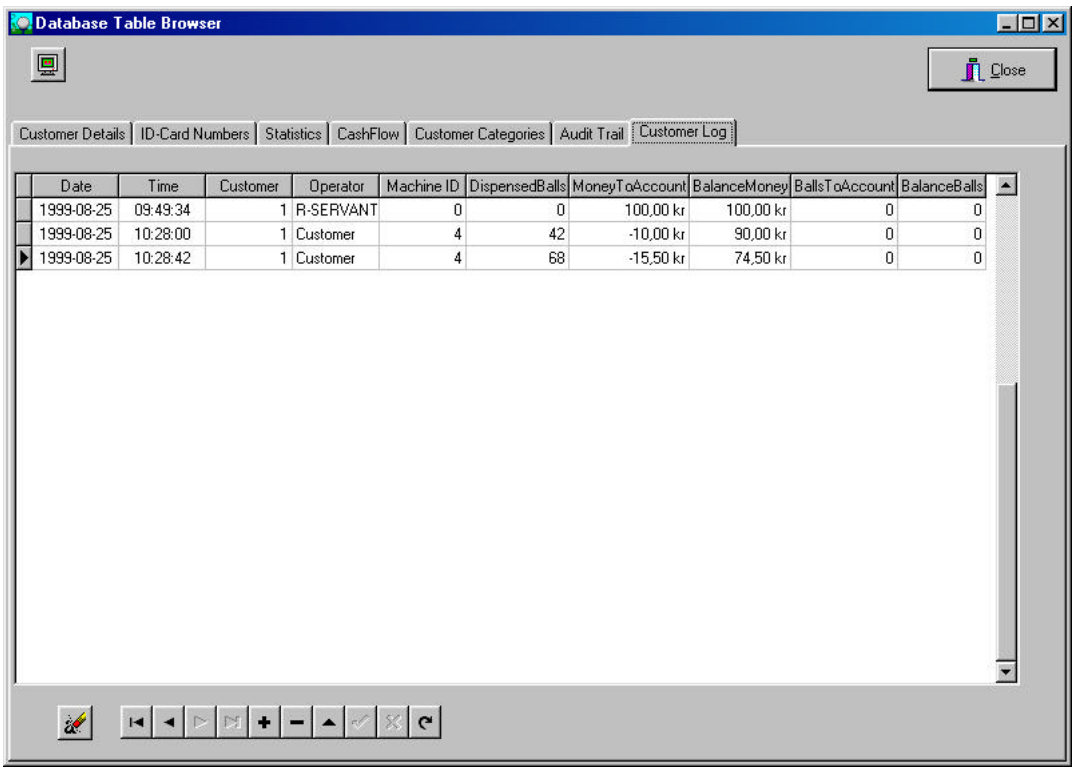


Figure 55 Customer log

4.2.5.4 Prepaid Balls

The prepaid balls feature works in the way that a customer pays for an amount of balls in the shop and receives a receipt with a four-digit code. The customer has then a limited time to go out to the ball machine and press in the four digit code on the keypad on the ball machine or the balls will be lost.

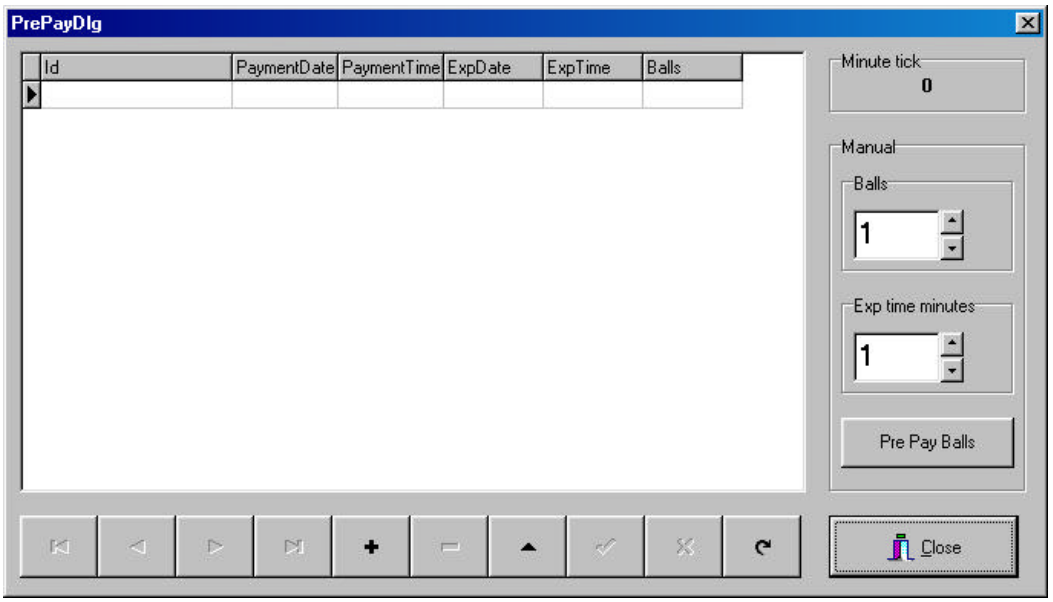


Figure 56 PrePaid Balls

4.2.6 Help (Alt+H)

Displays the version of the Select software.
Here is also the online manual for the Select Control System.
For more updated information check out our website.
For more support on the Select Control System you can send an E-mail to info@rangeservant.com.

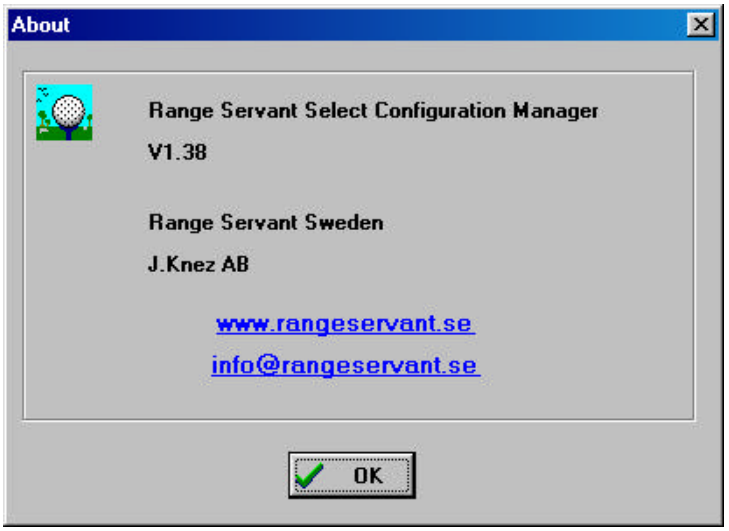


Figure. 57: Help/About Menu displays the version of the Select software.

4.2.7 Customer File

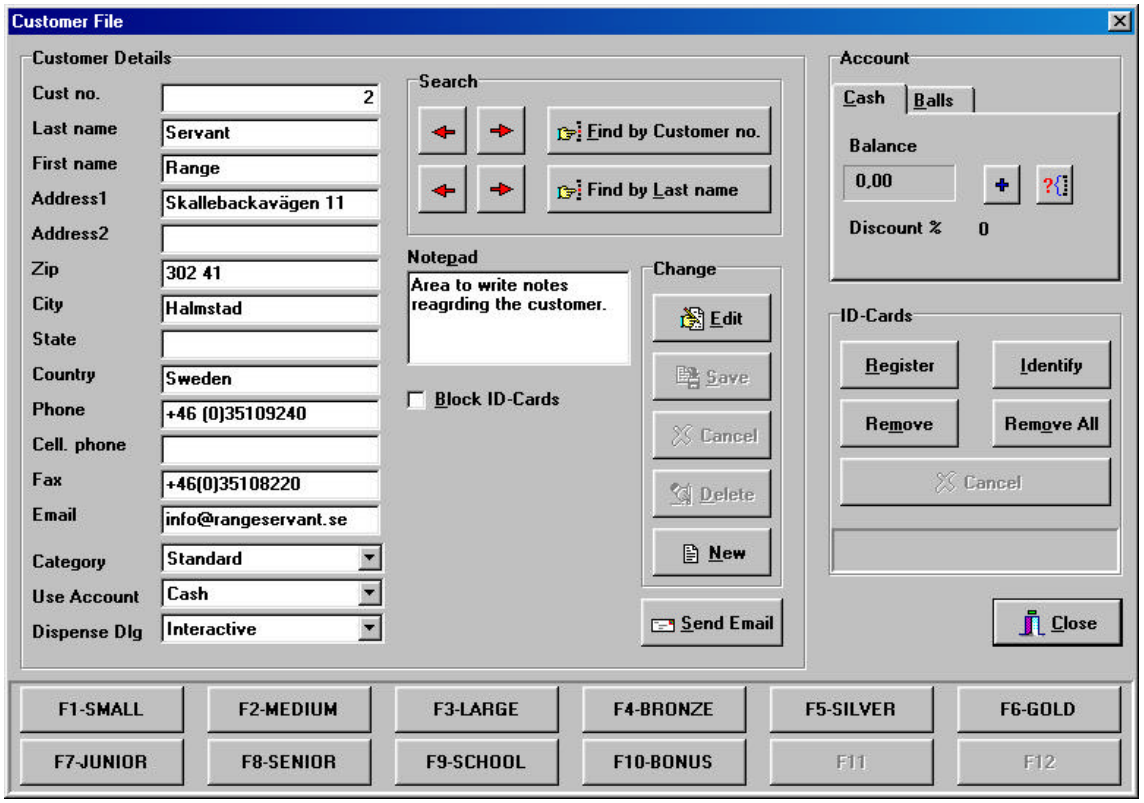


Figure. 58: Customer File

The customer file is used for registration of the customers using the online payment system.

Customer Details

Cust no:	Customer number
Last name:	Last name
First name:	First name
Address1:	Home address
Address2:	Work address
Zip:	Zip area code
City:	City
State:	State
Country:	Country
Phone:	Telephone number
Cell. Phone:	Cellular phone number
Fax:	Telefax number
Email:	E-mail address

Category:	Set the customer category to which the customer shall belong.
Use Account: Money, Balls	Type of account used by the customer.
Dispense Dlg:	Ball dispensing system used by the customer: *Interactive or Immediate 1-3.*
	Interactive: The customer can decide the number of balls he wishes to receive each time.
	Immediate 1-3: a tag with the number 1, 2 or 3 is displayed and the machine dispenses immediately the number of balls corresponding to price 1, 2 or 3 when displaying the ID-Card to the reader.
Notepad:	Remarks regarding the customer.
Block ID-Tag:	When marked, all tags registered to the customer are blocked and cannot be used.
Send E-mail	Starts up the e-mail program for sending an e-mail to the address registered in the field E-mail.

Search

The search function is a tool to help finding a particular registered customer.

Find by Customer no. (Alt+F)	This key is used for searching by customer number. The number is displayed with the help of the arrows.
Find by Last name (Alt+L)	This key is used for searching by last name. The name is displayed with the help of the arrows. If there is more than one customer with the same last name check them all one by one until you find the one you are looking for.

Change

Edit (Alt+E)	To edit the settings of the customer.
Save (Alt+S)	To save the settings of the customer.
Cancel (Alt+C)	To cancel the settings of the customer.
Delete (Alt+D)	To delete a customer from the register along with the ID-Cards registered to him.
New (Alt+N)	To enter the settings of a new customer.

Account

Discount%	Displaying the customer's discount.
Ball bonus %	Displaying the customer's ball bonus percentage.
Money	Displaying the money balance in the customers account.
Balls	Displaying the ball balance in the customers account.
Account Log (Cash, Ball)	Displaying the history regarding the customers accounts as to the dates and times of purchases and inserts of payment to the account. The account

data can be displayed for between specific dates or all data regarding the account.

ID-Cards

The ID-Cards function is used for registering, deleting and identifying customer cards.

The customer cards can be in the form of proximity, barcode or magnetic cards.

Register (Alt+R) — Registering new customer cards. Press the key marked ”Register” and run through or hold the card in front of the reader. An information box appears confirming that the tag has been registered.

Identify (Alt+I) — Identifying a customer card. Press the key marked ”Identify” and run through or hold the card in front of the reader. If the card is previously registered an information box will appear and display the customer.

Remove (Alt+E) — Removing a customer card. Press the key marked ”Remove” and run through or hold the card in front of the reader. An information box appears confirming that the tag has been removed.

Remove All (Alt+O) — Removing all cards belonging to one customer. Press the key marked ”Remove All” and run through or hold the card in front of the reader. An information box appears confirming that the customer cards have been removed from the system.

HotKeys — Here are the buttons displayed that are configured in the base registers *Customer Account HotKeys*. For settings of the HotKeys see *Base Registers*.

4.2.8 Statistics (Pushbutton)

The Statistics screen is used to display the balance of the various machines integrated in the network: money deposited in the accounts, tokens and coins inserted into the machines, balls dispensed from the machines etc.

Node Selection	Is used to select the node (machine in the network) from which the statistics should be displayed. Statistics from a specific machine or all machines can be selected.
Date and Time Interval Selection	Sets the desired time intervals for the presentation of statistics.
Quick Selection	Suggests some common time intervals for quick selection: Today, Yesterday, and This Year etc.
Run	Is used for start the calculation of the statistics. The date and time of the last calculation of statistics is also displayed.
Preview	Displays a view of the statistics rapport.
Print	Prints the statistics rapport.
CASHFLOW	Displays the total revenue of the system: money deposit in the different accounts and money received in the ball machines.

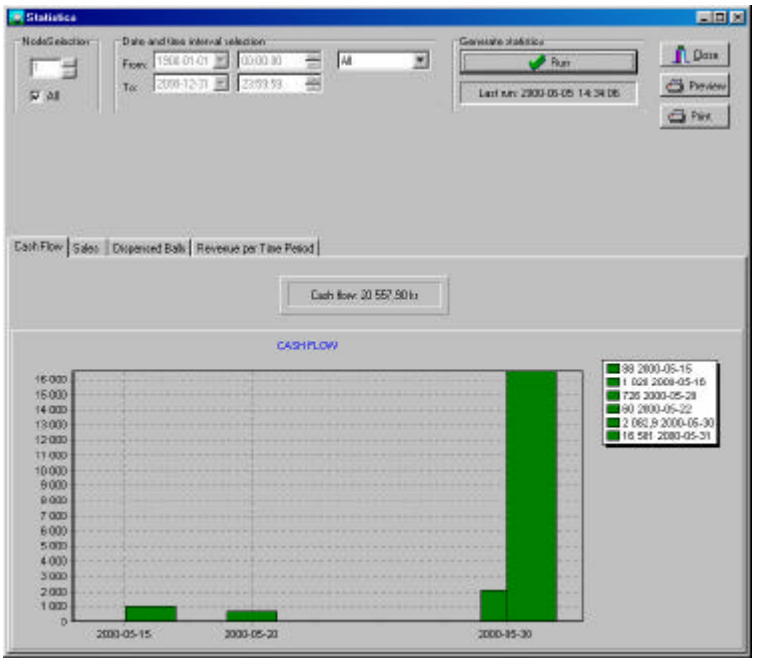


Figure. 59: Statistics/Cashflow

SALES

Displays sales per payment method: revenue in the form of coins and tokens and in payments on the online payment system (ID-Cards).

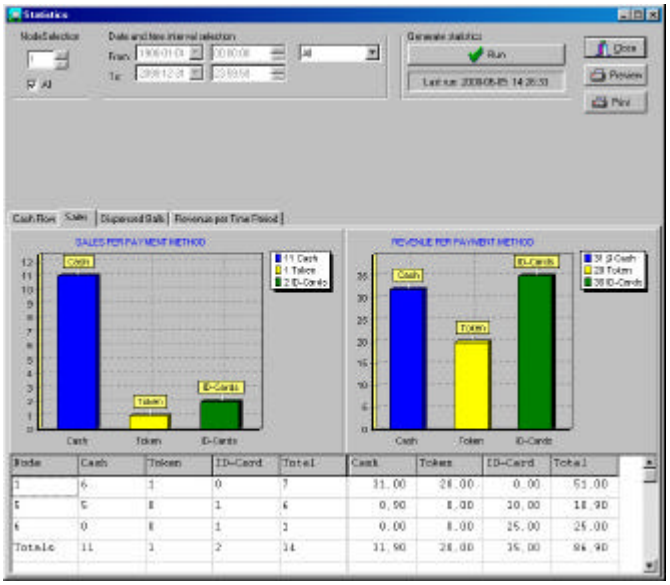


Figure. 60: Statistics/Sales

DISPENSED BALLS

Displays the total number of balls dispensed by all the machines as well as the number of balls dispensed per machine. This statistics does not have time-selected interval.

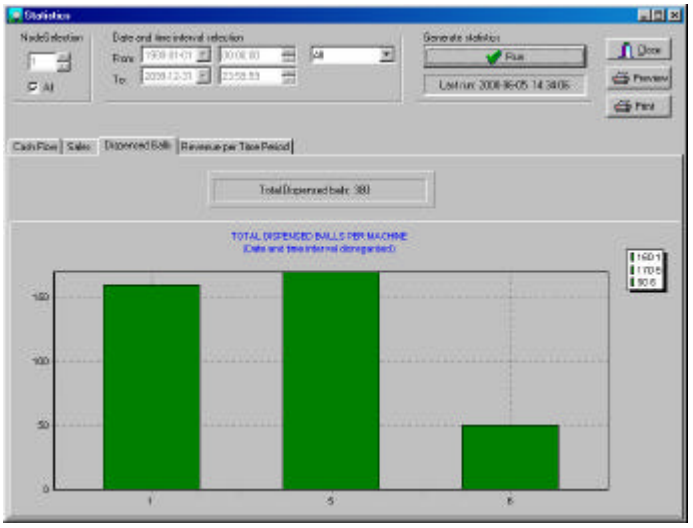


Figure. 61: Statistics/Dispensed Balls.

REVENUE PER TIME PERIOD

Displays the revenue per time period: hour of day, day of week, day of month, month.

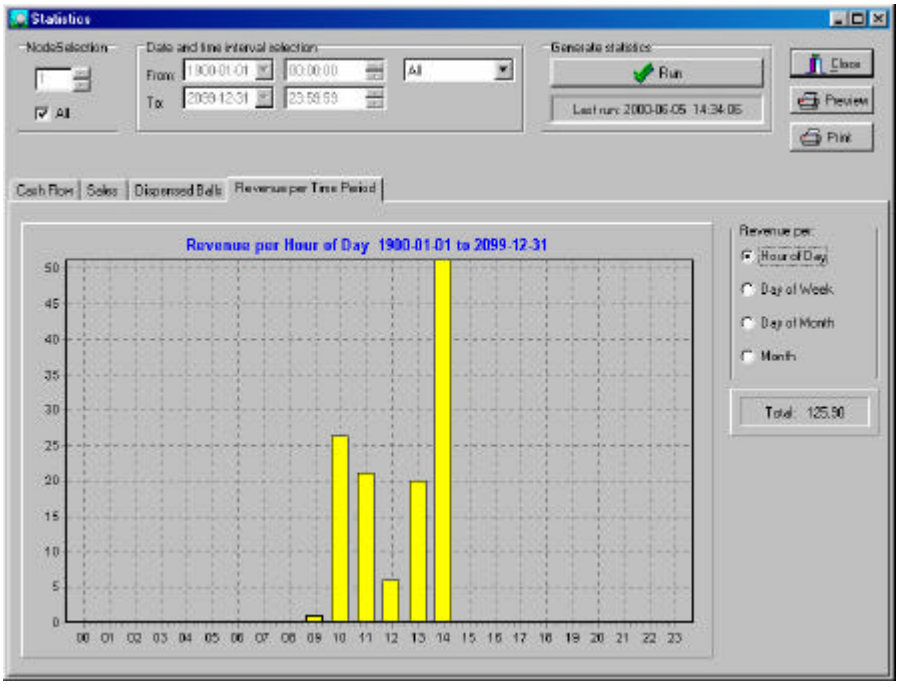


Figure. 62: Revenue per Time Period

REPORTS

This is the display of the type of reports that one that are generated from the Select Control System.

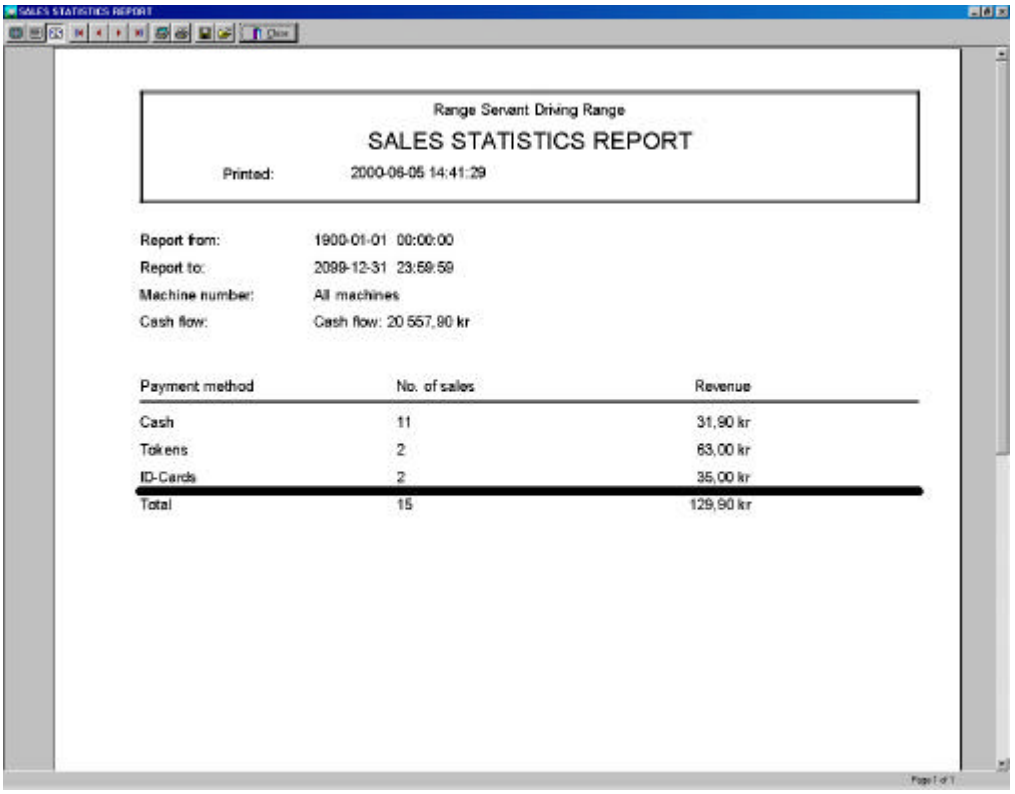


Figure 63 Example of a report

5 Payment systems

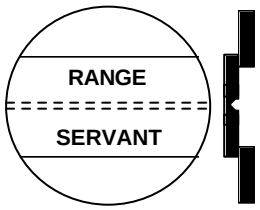
Range Servant ball machines can be equipped with different types of payment systems such as token acceptors, bill acceptors, card readers.
This chapter describes the different types and installation of payment systems that can be installed in the ball machines, some of the payment systems are for the American market and are marked with **.

5.1 Range Servant Tokens

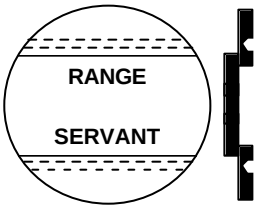
Range Servant manufactures 15 different types tokens that can be used in the Range Servant Token acceptors and the electronic coin acceptors.

Range Servant® has 12 different types of tokens, which can be used in the Range Servant Mechanical token acceptor.
Token type: RS-1 - RS-4, RS-A - RS-H

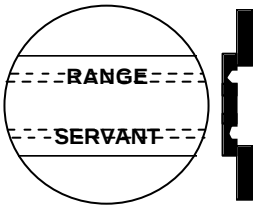
Range Servant® has also two token types for use in the electronic coin validator.
Token type: RS-90, RS-91



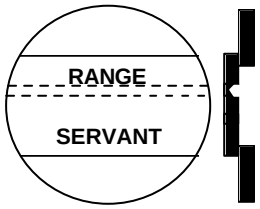
RS-A



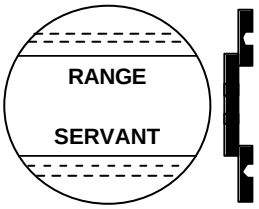
RS-B



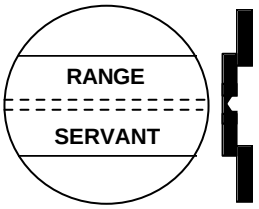
RS-C



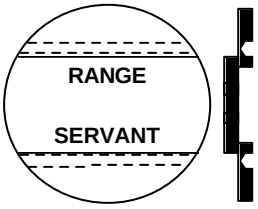
RS-D



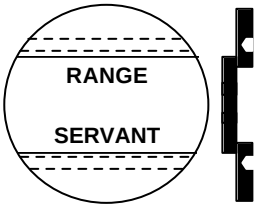
RS-E



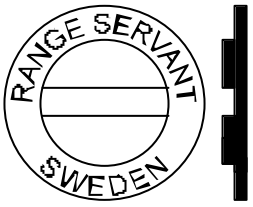
RS-F



RS-G



RS-H



RS-I

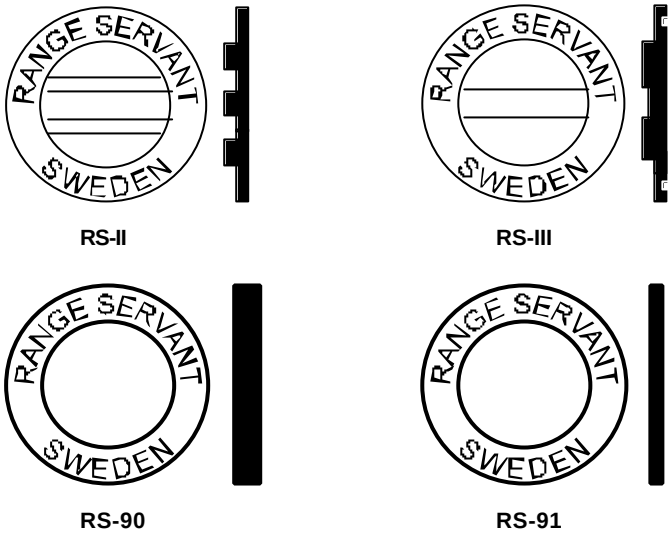


Figure 64 Range Servant Tokens

5.1.1 Payment System Wiring

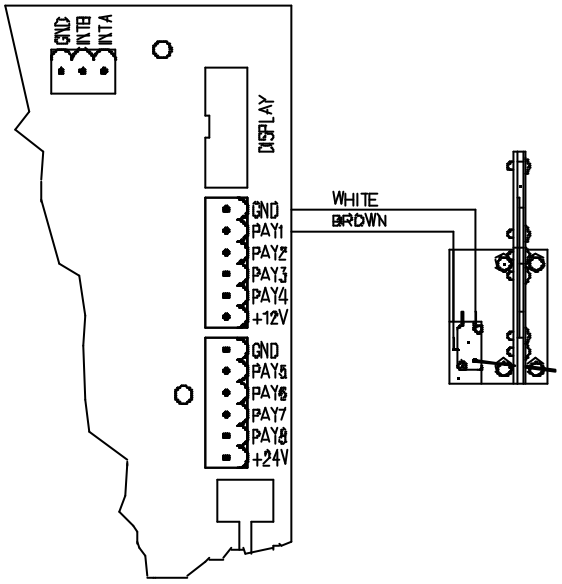


Figure. 60: Wiring diagram for the Range Servant Token Acceptor.

The token switch is connected NO (Normally Open).

5.2 Electronic Coin Acceptor

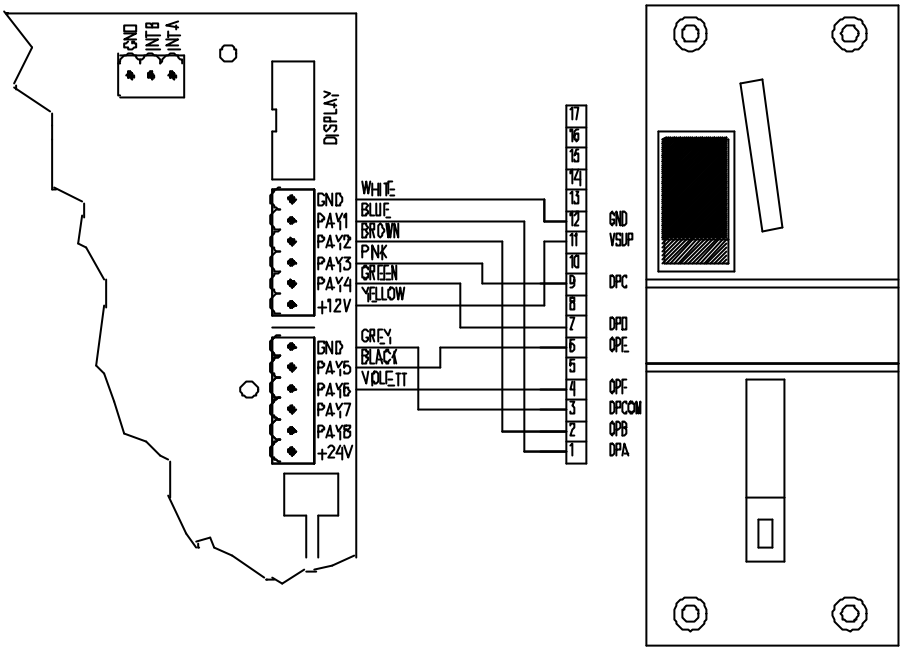


Figure. 61: Wiring diagram for the MARS® Cashflow 330.

The electronic coin monitor Cashflow 330 is a validator sending a signal for every coin that is accepted. Twelve different types of coins/tokens can be programmed such as the Range Servant® tokens RS-90, RS-91. Cashflow has six coin outputs for different coins and tokens. The different coin outputs are programmed with Mars® Route Alpha. For more information see The Cashflow 330 Reference Series Acceptor Applications Design Guide by Mars® Electronics.

5.2.1 Settings of the Electronic Acceptor

Example: A Cashflow 330 programmed with the following coins and tokens:
5 p, 5 p (new), 10 p, 10 p (new), 50 p, £ 1, RS-90, RS-91should be set as follows:

ADDRESS	PARAMETER	RANGE	MEANING	SET
1	Coin 1 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
2	Coin 2 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
3	Coin 3 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
4	Coin 4 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
5	Coin 5 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
6	Coin 6 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0

7	Coin 7 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
8	Coin 8 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
9	Coin 9 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
10	Coin 10 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
11	Coin 11 inhibit	0-1	0 = Coin allowed 1 = Coin inhibited	0
12	Coin 12 inhibit		0 = Coin allowed 1 = Coin inhibited	0
15	Accept direction		0 = Left 1 = Right	1
16	Strobes	1/2/4/8	Value = sum of codes 1 = direction strobe left 2 = direction strobe right 4 = post gate left 8 = post gate right	10
21	Coin 1 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0
22	Coin 2 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0
23	Coin 3 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0
24	Coin 4 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0
25	Coin 5 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0
26	Coin 6 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0
27	Coin 7 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	1 RS-90
28	Coin 8 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	1 RS-91
29	Coin 9 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0
30	Coin 10 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0
31	Coin 11 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0

32	Coin 12 type	0-2	0 = Coin, 1 = Value token 2 = Vend Token	0
140	Inhibit lines 1-8 inhibits map part i	0-15	Value = Sum of codes where1/2/4/8 = coins 1/2/3/4	0
141	Inhibit lines 1-8 inhibits map part ii	0-15	Value = Sum of codes where1/2/4/8 = coins 5/6/7/8	0
142	Inhibit lines 1-8 inhibits map part iii	0-15	Value = Sum of codes where1/2/4/8 = coins 9/10/11/12	0
143	Inhibit lines 1-8 inhibits map part i	0-15	Value = Sum of codes where1/2/4/8 = coins 1/2/3/4	0
144	Inhibit lines 1-8 inhibits map part ii	0-15	Value = Sum of codes where1/2/4/8 = coins 5/6/7/8	0
145	Inhibit lines 1-8 inhibits map part iii	0-15	Value = Sum of codes where1/2/4/8 = coins 9/10/11/12	0
146	Inhibit lines 1-8 inhibits map part i	0-15	Value = Sum of codes where1/2/4/8 = coins 1/2/3/4	0
147	Inhibit lines 1-8 inhibits map part ii	0-15	Value = Sum of codes where1/2/4/8 = coins 5/6/7/8	0
148	Inhibit lines 1-8 inhibits map part iii	0-15	Value = Sum of codes where1/2/4/8 = coins 9/10/11/12	0
149	Inhibit lines 1-8 inhibits map part i	0-15	Value = Sum of codes where1/2/4/8 = coins 1/2/3/4	0
150	Inhibit lines 1-8 inhibits map part ii	0-15	Value = Sum of codes where1/2/4/8 = coins 5/6/7/8	0
151	Inhibit lines 1-8 inhibits map part iii	0-15	Value = Sum of codes where1/2/4/8 = coins 9/10/11/12	0
152	Inhibit lines 1-8 inhibits map part i	0-15	Value = Sum of codes where1/2/4/8 = coins 1/2/3/4	0
153	Inhibit lines 1-8 inhibits map part ii	0-15	Value = Sum of codes where1/2/4/8 = coins 5/6/7/8	0
154	Inhibit lines 1-8 inhibits map part iii	0-15	Value = Sum of codes where1/2/4/8 = coins 9/10/11/12	0
155	Inhibit lines 1-8 inhibits map part i	0-15	Value = Sum of codes where1/2/4/8 = coins 1/2/3/4	0

156	Inhibit lines 1-8 inhibits map part ii	0-15	Value = Sum of codes where1/2/4/8 = coins 5/6/7/8	0
157	Inhibit lines 1-8 inhibits map part iii	0-15	Value = Sum of codes where1/2/4/8 = coins 9/10/11/12	0
158	Inhibit lines 1-8 inhibits map part i	0-15	Value = Sum of codes where1/2/4/8 = coins 1/2/3/4	0
159	Inhibit lines 1-8 inhibits map part ii	0-15	Value = Sum of codes where1/2/4/8 = coins 5/6/7/8	0
160	Inhibit lines 1-8 inhibits map part iii	0-15	Value = Sum of codes where1/2/4/8 = coins 9/10/11/12	0
161	Inhibit lines 1-8 inhibits map part i	0-15	Value = Sum of codes where1/2/4/8 = coins 1/2/3/4	0
162	Inhibit lines 1-8 inhibits map part ii	0-15	Value = Sum of codes where1/2/4/8 = coins 5/6/7/8	0
163	Inhibit lines 1-8 inhibits map part iii	0-15	Value = Sum of codes where1/2/4/8 = coins 9/10/11/12	0
164 Coin 1	Coins 1-12 output map part i	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	1 5 p OPA
165 Coin 1	Coins 1-12 output map part ii	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	0
166 Coin 2	Coins 1-12 output map part iii	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	1 5 p (new) OPA
167 Coin 2	Coins 1-12 output map part i	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	0
168 Coin 3	Coins 1-12 output map part ii	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	2 10 p OPB
169 Coin 3	Coins 1-12 output map part iii	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	0
170 Coin 4	Coins 1-12 output map part i	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	2 10 p (new) OPB
171 Coin 4	Coins 1-12 output map part ii	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	0
172 Coin 5	Coins 1-12 output map part iii	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	4 50 p OPC

173 Coin 5	Coins 1-12 output map part i	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	
174 Coin 6	Coins 1-12 output map part ii	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	8 £ 1 OPD
175 Coin 6	Coins 1-12 output map part iii	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	0
176 Coin 7	Coins 1-12 output map part i	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	0
177 Coin 7	Coins 1-12 output map part ii	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	1 RS-90 OPE
178 Coin 8	Coins 1-12 output map part iii	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	0
179 Coin 8	Coins 1-12 output map part i	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	2 RS-91 OPF
180 Coin 9	Coins 1-12 output map part ii	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	0
181 Coin 9	Coins 1-12 output map part iii	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	0
182 Coin 10	Coins 1-12 output map part i	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	0
183 Coin 10	Coins 1-12 output map part ii	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	0
184 Coin 11	Coins 1-12 output map part iii	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	0
185 Coin 11	Coins 1-12 output map part iii	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	0
186 Coin 12	Coins 1-12 output map part i	0-15	Value = Sum of codes where1/2/4/8 = outputs a/b/c/d	0
187 Coin 12	Coins 1-12 output map part ii	0-15	Value = Sum of codes where1/2/4/8 = outputs e/f/g/h	0
188	Inhibit pull-up polarity	0-1	0 = Pull down 1 = Pull up	1
189	Master inhibit polarity	0-1	0 = Active high 1 = Active low	1
190	External inhibit enable	0-1	0 = disabled 1 = Enabled	0
191	FIB enable	0-1	0 = disabled 1 = Enabled	0

If two coins are of the same type but of a new and old model they should be programmed with the same coin output.
The RS-90 and RS-91 tokens are value tokens.

5.2.2 Range Servant ® Select Online Payment System

This method of payment is based upon the use of a main computer and **CAN NOT BE USED** with machines in a "stand-alone" mode.

The basic principle is as follows.
The customer makes a payment in advance to the owner, who registers the customer's card / tag with a card reader. The card and the money paid in advance are registered in a database. When the customer inserts / shows the card in / to the card reader in the ball dispenser or Tee-up machine, the main computer is "called up" and the corresponding amount deducted from the customer's account.

After acceptance of the payment a menu is displayed as in Figure 5.2, showing the prices for the balls, the balance in the customer's account and the selection of the number of balls.
Customers can be divided into as much as nine categories with up to four different happy-hour periods with repetition daily or weekly for each category.
There is also a standard customer category using default settings for price and time periods.
The use of cards belonging to a particular customer category can be time limited to specific dates and repeated daily or weekly.

Example: *A customer category can have a happy hour every Tuesday, Thursday and Sunday between 08:00-12:00 during a month, after which period the card cannot be used.* There are two accounts for the customer to use: a money account and a ball account. The money account works as an ordinary bank account. Customers using a ball account receive the balls they paid for without any discounts. However, a customer can receive bonus balls when buying.

Example: *A customer with 10% bonus balls will receive 110 balls in his account when buying 100.*

Example: *A customer with 10% discount inserts $100 into his account but is only paying $90.*

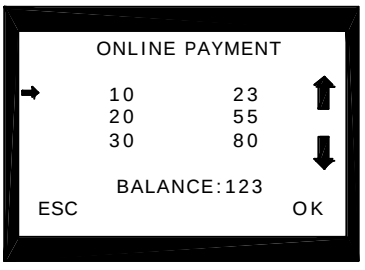


Figure. 65: Display during payment with the online payment system.

5.2.2.1 Features of the Online Payment System

- Registering new customers.
- Changing customer information.
- Deleting customers.

- Registering cards.
- Identifying cards used in the system.
- Blocking a card reported lost.
- Deducting money from an account.
- Dividing customers into customer groups with different discounts (See chapter 4.2.3.4, Base Registers (Alt+B))
- Display and print reports of the customers' purchases.

5.3 Online Contact Less Reader (transponder) TSP-97

5.3.1.1 Transponder (Touch less card reader) TSP- 97

125 KHz read only proximity cards are used. The transponder TSP-97 reader is connected to the internal RS-232 connector of the CPU-97 circuit board. The system is contact less, which means that there is no physical contact between the card and the reader.

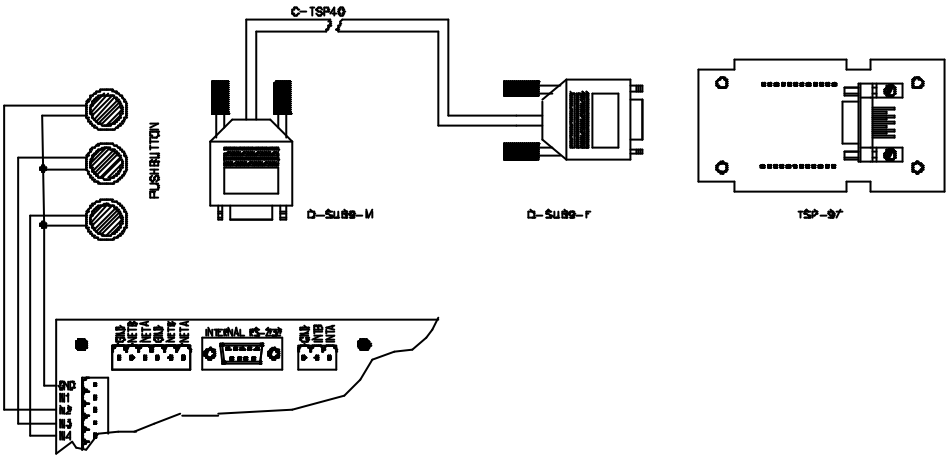


Figure. 64: Wiring the Range Servant transponder TSP-97 reader.

The cable C-TSP40 used between CPU-97 and the TSP-97 reader has two standard D-sub-9 connectors, one male and one female. The three pushbuttons are NO (normally open) and are connected to the inputs IN2, IN3, N4. When one of the push buttons (1-3) is pressed, the item corresponding to the price is dispensed: IN2-Price 1, IN3-Price 2 and IN4-Price 3.

5.3.1.2 Online Contact Less Reader TSP-97 for the shop

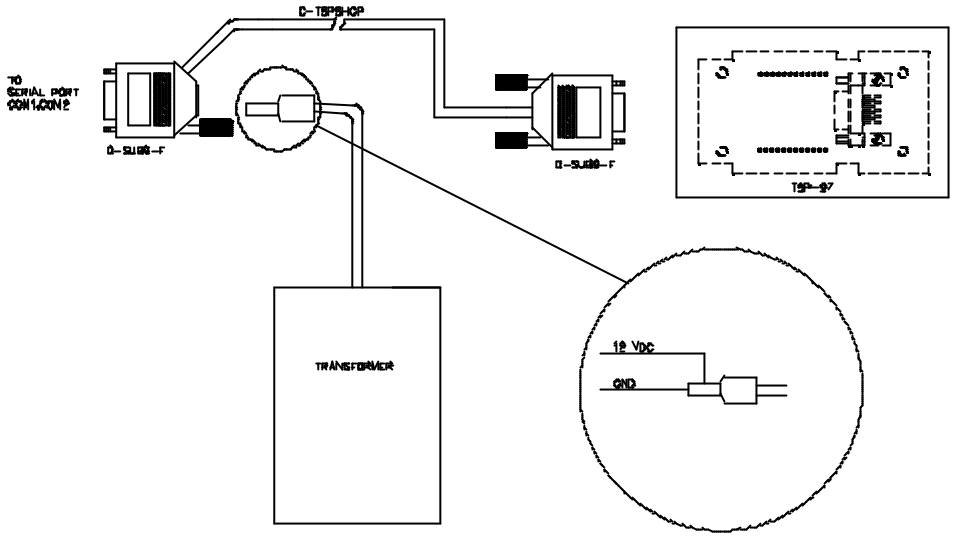


Figure. 65: Wiring the Range Servant Transponder TSP-reader.

Connect the reader to serial port COM 1-COM 8 (see also chapter 4.2.3.2, Com Port Selection (Alt+C) and the manual for your computer).
A 12 VDC, 300mA unregulated transformer is used with the 2.1 mm contact plug.
The 2.1mm plug from the transformer must be wired with the GND to the tip of the plug and 12 VDC to the shield.

5.4 Magnetic reader

The Select standard magnetic card reader is a Magtek 215232 manual insertion reader for tracks 1-2 according to standard ISO7810, 7811-1 – 7811-6.

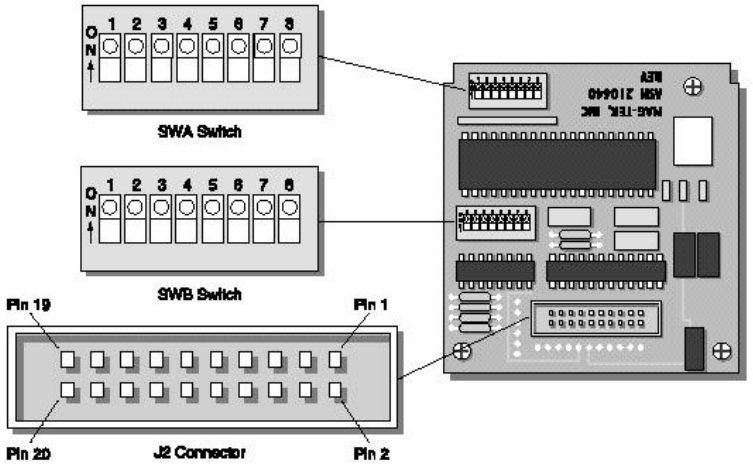
5.4.1 Magtek MT215232 Reader Settings (This reader is not in use from 00-01-01).

Card reader configuration for using the Magtek MT215232.

SWITCHES:	ON/OFF:	EXPLANATIONS:
SWA1	ON	9600 Baud
SWA2	OFF	9600 Baud
SWA3	OFF	9600 Baud
SWA4	OFF	Parity Space ???
SWA5	OFF	Parity Space ???
SWA6	OFF	No STX framing character
SWA7	OFF	No Escape character
SWA8	ON	ETX for End of Text framing
SWB1	OFF	No CR
SWB2	OFF	Unbuffered
SWB3	OFF	Aux Drivers OFF
SWB4	OFF	+/-
SWB5	OFF	Factory setting Always OFF
SWB6	OFF	Read upon withdrawal
SWB7	ON	Loop back RTS/CTS

SWB8	ON	Loop back DSR/DTR

5.4.1.1 CPU-97 Configuration	Explanation:
Pass-Through	Raw data transfer



5.4.2 Cable for Magtek 215232

The Magtek uses a 20-pin header and the CPU-97 uses a DB9M connector.
A header to DB9M cable is used as follows.

20 PIN	1	3	15	13
|	|	|	|	|
DB9M	6	5	3	2

5.4.2.1 PIN	Explanation:
1	5V
3	GND
13	Transmit Data
15	Receive Data

Connect the 20-pin flat conductor cable to the reader and the 9-pin D-sub connector to the internal RS-232 connector on the CPU-97 circuit board.

5.4.3 Magnetic Insertion Reader Magtek 21065090

This card reader is installed in the Range Servant ballmachines as standard from 00-01-01.
It is an updated version of the 215232 and works in the same.
This cardreader is automatically configured from the CPU-97 board. For this reader to work online the Online Device in the Service menu of the must be set to Magtek Track 2.

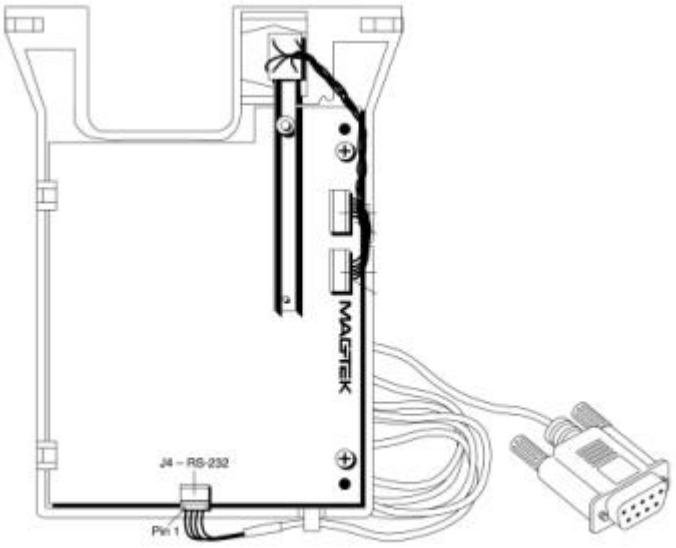


Figure 66 Magtek Magnetic Card Reader.

The card reader is connected to the Internal RS-232 connector of the CPU-97 circuit board.

5.5 Magnetic Card reader for the shop

The magnetic swipe card reader for the shop is a three track Magtek card reader.
The card reader is connected to one of the serial ports of the computer; see 4.2.3.2 Com Port Selection (Alt+C) for more information.

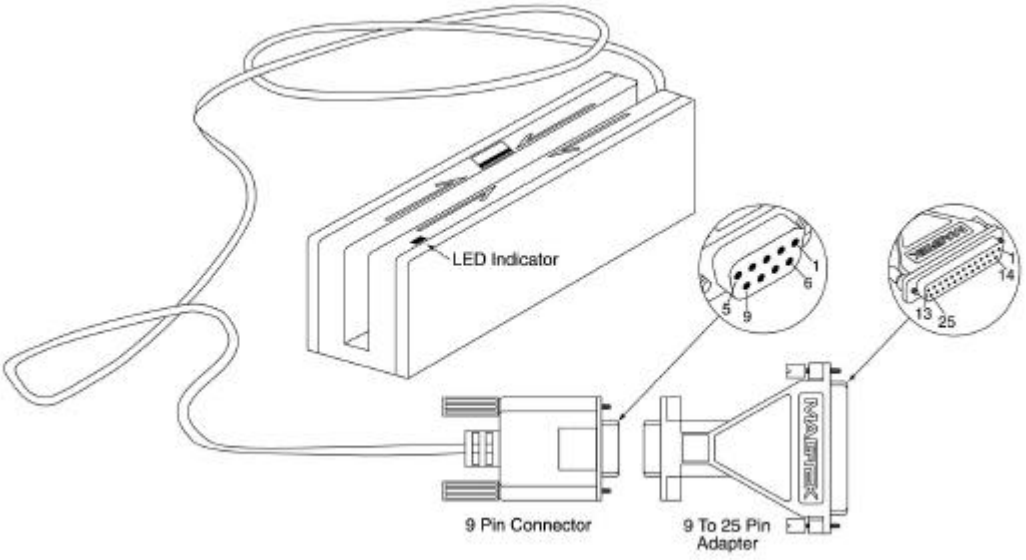


Figure 67 Magtek Swipe Card Reader.

5.5.1 Magtek Swipe Card Reader Connector and Cable.

J2 Connector	25 Pin	9 Pin	Signal

on the PCB	Adapter	Adapter	
	-	1	NC*
1	3	2	RXD To PC
2	2	3	TXD** To PC
3	20	4	DTR From PC
4	7	5	GND
		6-9	NC*

*NC No Connection
** Pin must be connected to TXD (or DTR if TXD is not available).

5.6 Bar-Code Reader

5.6.1 Bar-Code Reader DLS2000-M

A barcode reader DLS2000-M reads the standard barcodes. For more information see the instruction manual for the DLS-2000- M reader. The Barcode reader is connected to the internal RS-232 connector of the CPU-97 circuit board.
The bar code reader can read the following barcodes.

- EAN 8
- EAN 13
- UPC A
- UPC E
- Standard Code 39
- Interleaved 2/5

5.6.2 Barcode reader Settings

Datalogic DLS 2032R-MP, bar code card reader.
This reader has been modified by Datalogic to suit the CPU-97 cabling requirements as described below.
The CPU-97 reader part number is 900301010ABJC9063.
For more information we refer to the manual from Datalogic on DLS2000-M

5.6.3 Wiring for the Bar-Code reader

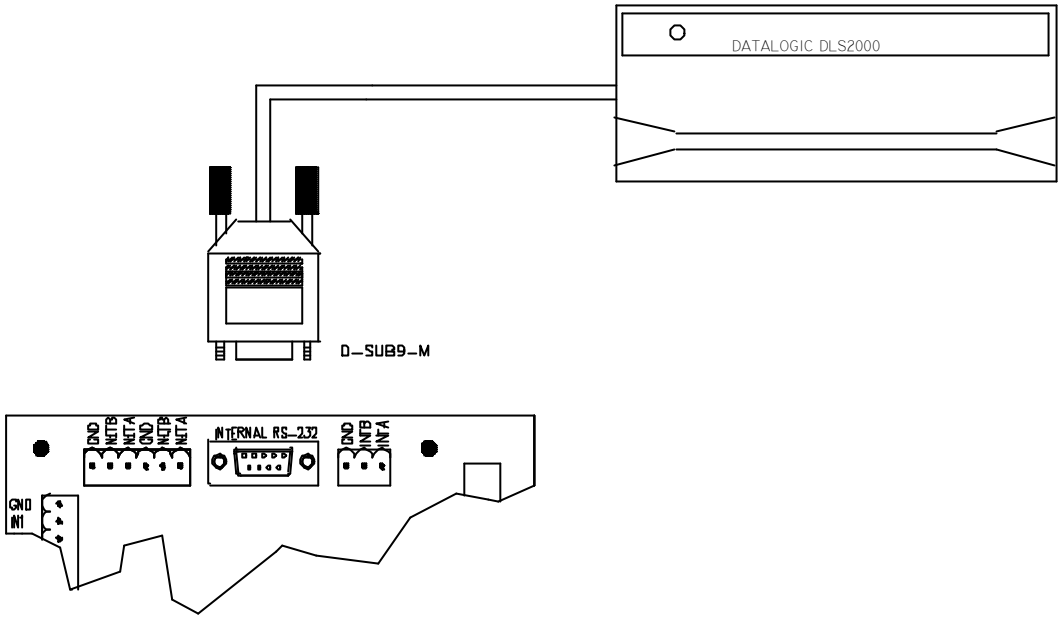


Figure 68 Wiring diagram for the barcode reader.

5.6.4 Bar-Code Reader Settings.

5.6.4.1 Bar Code Reader Configurations	Explanation:
RS-232 Default Configuration	

5.6.5 Bar Code Reader Status Indicator

The Bar code reader DLS2000-M has two indicators, LED and beeper.
They indicate several operating conditions, which are described in the tables below.

POWER UP

BEEPER	Explanation
LLLL	Parameters loaded correctly
H H H H (Long tones)	Parameters loading error, reading or writing error in the non-volatile memory.
HLHL	Hardware error in EEPROM

CONFIGURATION

BEEPER	Explanation
LLLL	Parameters loaded correctly
H H H H (Long tones)	Parameters loading error, reading or writing error in the non-volatile memory.
HLHL	Hardware error in EEPROM

DATA ENTRY

LED	BEEPER	Explanation
ON	ONE BEEP	Correct read of a code in normal mode.
OFF		Ready to read a code.
	HLHL	Output interface not selected.
	HL (Long tones)	Tx buffer full

H = High Tone. L= Low Tone

5.7 Bar Code reader for the shop.

The bar code reader for the shop is connected to one of the computers serial ports.
For more information see 4.2.3.2 Com Port Selection (Alt+C).

5.7.1 Cable

The cable connected to the CPU-97 DB9-F connector is as follows:
Cable DB9-M
Length 400 mm

DB9-M	SIGNAL / COLOR	EXPLANATION
PIN 2	RD / GREEN	Data TO Reader
PIN 3	TD / BLUE	Data FROM Reader
PIN5	GND / YELLOW	Signal Ground
PIN6	+5V / VIOLET	5 VDC Power to reader

5.8 PrePaid Balls

Instead of selling tokens the token has been changed to a one time receipt. The customer buys a receipt in the shop instead of a token, goes out to the machine and presses in a 5-6 digit code. The Ball machine will start to dispense the amount of balls according to the code.
The receipt is an one-time use only and can be time limited up to 999 days.
When using the prepaid balls feature the ballamount is **NOT** to attached to any happy period
Transaction when using the HotKeys is accumulated into the statistics of the system.
The PrePaid Balls feature contains of a desk receipt printer and a KeyPad mounted on the machine.

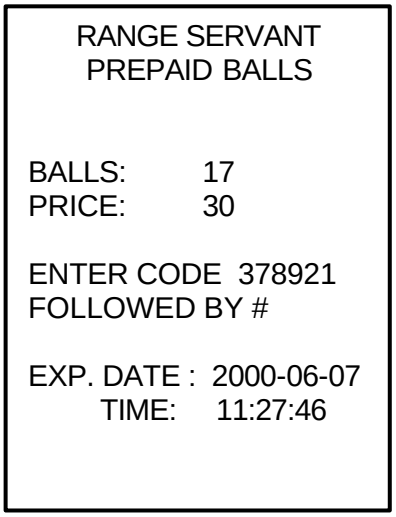


Figure 69 PrePaid Balls Receipt

6 Troubleshooting and repair

The operation of the machine is normally most reliable but problems may arise for various reasons. The problem is then indicated on the status bar in Select configuration manager or on the DSP-97 display.

6.1.1 Troubleshooting, Select Control System

Note!

To reduce the need for troubleshooting, always check that the connections are properly tightened and clean.

6.1.1.1 Ball Dispenser RS-4, RS8, RS11, RS-12, RS-20, RS45

If a problem is diagnosed that you cannot correct yourself (see troubleshooting chart on the following pages) you must contact a qualified technician familiar with this kind of machinery.
If the ball dispenser is connected online the service menu (see chapter 4.2.5.2,

Online hardware test (Alt+H)) of the Select_cfg could be used to test the hardware inputs / outputs.

SYMPTOM	POSSIBLE CAUSE	REMEDY
The display does not show any text.	The power supply is not connected.	Check the power supply.
	The display cable is not connected.	Connect the display cable.
	The potentiometer P1 is not properly adjusted.	.Adjust the potentiometer (see 1.2 Getting started)
The ball dispenser does not dispense any balls	The dispenser motor does not receive any power.	Check the connections to the relay R2. Measure the voltage.
	The cradle does not turn.	Check that the shock absorber is fasten to the shock absorber and to the lever. Check for a ball jam in the cradle.
	The brush does not turn.	The motor turns but not the brush. Check that the motor shaft is intact.
The ball dispenser dispenses to many balls	The limitation switch is not adjusted.	Check the roller on the limit switch. When pressed in, half of the pin on the roller should be visible.
	Dispenser motor has a short circuit	Measure the voltage over the motor.
No water sprinkled over the balls.	Switch SW3.8 is not set.	Set the switch SW3.8. See CPU-97 Operating Modes
	The water valve is not correctly connected.	Check the connections to relay R1. Measure the voltage.
	The water valve is not switching.	Change the water valve.

Figure. 70: Troubleshooting: RS-4, RS-8, RS-11, RS-12, RS-18, RS-20, RS-45.

If the limit switch is affected in a period time the machine will stop dispensing and display a message at the display for a reset. This message will also be displayed in the Select Configuration Manager Status Bar.

6.1.1.2 Tee-up

SYMPTOM	POSSIBLE CAUSE	REMEDY
The display does not display any text.	The power supply is not connected.	Check the power supply.
	The display cable is not connected.	Connect the display cable.
	The potentiometer P1 is not properly adjusted.	.Adjust the potentiometer (see 1.2 Getting started)
The Tee-up does not dispense any balls	The Tee-up is not filled with balls.	Fill up the Tee-up with balls.
	A damaged ball is stuck in the dispense pipe.	Remove the damaged ball.
The ball is not teed up.	The screw in front of the proximity switch has to be adjusted.	See the Tee-up manual for adjusting the screw infront of the proximity switch.

Figure. 71: Troubleshooting Tee-up

6.1.1.3 Tee-up 2000

SYMPTOM	POSSIBLE CAUSE	REMEDY
The display does not display any text.	The power supply is not connected.	Check the power supply.
	The display cable is not connected.	Connect the display cable.
	The potentiometer P1 is not properly adjusted.	.Adjust the potentiometer (see 1.2 Getting Started).
The Tee-up does not dispense any balls.	The dispense motor does not receive any power.	Check the connections to the relay R2. Measure the voltage.
	The balls are stuck in the roller.	Adjust the liver fasted on the lever and excenter.
	The limit switch is not properly adjusted.	When the limit switch is pressed In half of the pin on the roller has be visible.
The balls are not teed up.	The screw infront ofthe inductive switch has to be adjusted.	See the Tee-up manual for adjusting the screw infront of the inductive switch.

Figure. 72: Trouble Shooting Tee-up-2000

6.1.1.4 RS Ultima

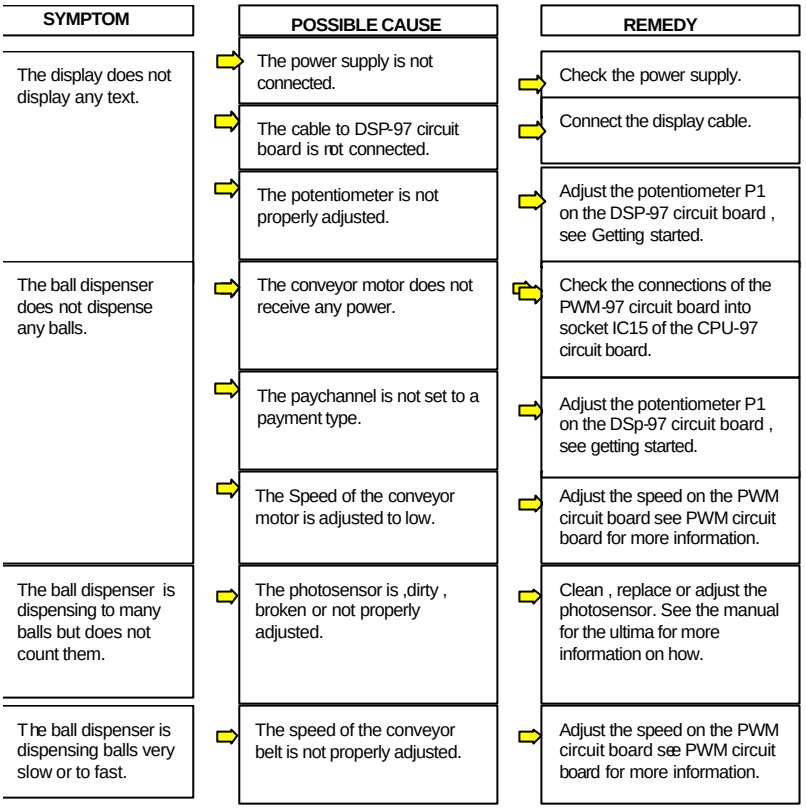


Figure. 73: Troubleshooting: RS-Ultima RS-8, RS-12, RS-20, RS-45.

If the ball sensor does not detect a ball within 10 sec the ball dispenser will stop and display a message in the display and in the Select Configuration Manager Status Bar.

7 Spare parts

In this chapter you will find detailed drawings of the parts of the Select Control System and showing the locations of different spare parts. The tables accompanying the drawings contain information about spare parts number and designation and the quantity of each spare part installed.
()= Optional accessories are marked with a parenthesis around the figure representing quantity.
- = The alternative marked with ”-” depends on the customer’s choice of equipment.

7.1 Outside view

7.1.1 Control box

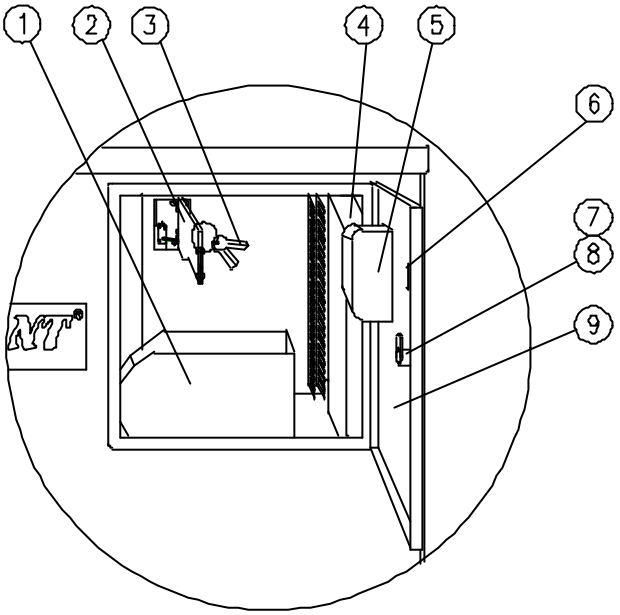


Figure. 69: Control box

Pos.	Part. No.	Designation	AMOUNT
1	109410	Token collecting tray, small	1
1	109400	Token collecting tray, large	1
2	108600	Token monitor	1
3	101920	Spare keys	-
4	930125	Printed circuit board CPU-97	1
5	OKA0002	Coin validator Cashflow 330	-
6	-	Token slot	-
7	101900	Lock	1
8	101960	Shackle, control box door	1
9	930126	Printed circuit board DSP-97	1
10	-	Control box door	1

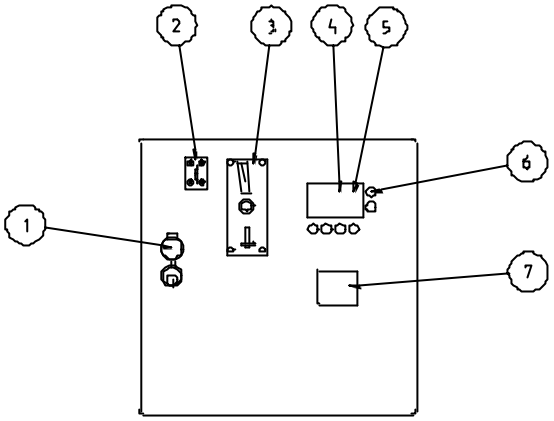


Figure. 70: Control box, Select and transponder

Pos.	Part No.	Designation	AMOUNT
1	101900	Lock	1
2	-	Token slot	1
3	OKA0002	Coin Validator 330	1
4	930126	Display DSP-97	1
5	930307	Cover for display	1
6	930128	Pushbutton	6
7	930151	Transponder TSP-97	1

8 Retailers and Range Servant representatives

The following list contains all the necessary information concerning the Range Servant representative closest to where you live.
The list is continuously updated on our home page http://www.rangeservant.com

8.1 Head Office

Sweden

J.Knez AB
Skallebackavägen 11
302 41 HALMSTAD
Telephone: +46 35 10 92 40
Fax: +46 35 10 82 20
E-Mail: sales@rangeservant.com

8.2 Europe

Austria

Company:	EASY TECH GMBH
Address:	Carlbergerstrasse 66 A-1230 Vienna
Telephone:	+43 13186268
Fax:	+43 13186366
Mobile:	664 3556520
E-mail:	golftech@golftech.telecom.at
URL:	
Contact:	Thomas Reiter

Belgium

Company:	ALL PROFESSIONAL GOLF SUPPLIER
Address:	Groenenborgerlaan 69 2610 Wilrijk
Telephone:	+32 38 28 93 46
Fax:	+32 38 28 51 55
Mobile:	
E-mail:	allpro.golf@skynet.be
URL:	
Contact:	Vivian Joukes

Denmark

Hauna Trading Aps
Denmark

Customer ID:	210001
Company:	HAUNA TRADING APS
Address:	Frederik Clausens Vaenge 1 DK-2480 Holte
Telephone:	+45 45 42 07 84
Fax:	+45 45 42 07 84
Mobile:	
Contact:	Poul Jensen

Finland

Company:	EVESKO TECH OY
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Telephone:	+358 9548 5076
Fax:	+ 358 9536 797
Mobile:	+ 358 50 592 4082
E-mail:	pekka.palojarvi@evesko.fi
Url:	www.evesko.fi
Contact:	Pekka Palojärvi

France

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Address:	Route de Sailly 2118 Hamblain Les Press
Telephone:	+33 321 59 53 04
Fax:	+33 321 58 52 44
Mobile:	
Contact:	René Defossé Maria Defossé

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Address:	151-153 Avenue Jean Jaures 93307 Aubervilliers Cedex
Telephone:	+33 1 53 56 12 12
Fax:	+33 1 53 56 12 13
Mobile:	
Contact:	Caroline Levet

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Company:	ERIK SELLSCHOPP GMBH
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Fax:	+49 41 54 818 49
Mobile:	+49 0171 48 09 725

Contact: Pieter Blank
E-mail: sellschopp@t-online.de

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TN39 3UR
Telephone: +44 1424819008
Fax: +44 1421819007
Mobile: 07771880385
Contact: Andrew Lofting

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1118 Budapest
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Fax:
Mobile: +36 30 9518554
Contact: Mathias Magyar

Iceland

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Telephone: +354 5 65 10 44
Fax: +354 5 65 10 44
Mobile:
Contact: Sveinbjörn Jónsson

Company: HAGI EHF
Address: Malrhöfdi 2A
112 Reykjavik, Simi
Telephone: +354 587 1565
Fax: +354 567 1415
Mobile:

Ireland

Company: IRISH FARM & GARDEN MACHINERY LTD.
Address: Hazelbrook
Malahide Co. Dublin
Telephone: +353 18 46 39 22
Fax: +353 18 46 13 21
Mobile:
Contact: Ken Hefferman

Italy

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10141 Torino
Telephone: +39 011 33 71 71
Fax: +39 011 382 51 20
Mobile:
E-mail: grenco@ipsnet.it
Url:
Contact: Eduardo L. Chevallard

Netherlands

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NL-3899 BR Zeewolde
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Fax: +31 30 60 22 999
Mobile:
E-mail: info@oxland.nl
url: www.oxland.com
Contact: Mike Van Donkersgoed

Company: DUCHELL B.V.
Address: Sterrebergweg 40
3769 BT Soesterberg
Telephone: +31-346 35 05 50
Fax: +31-346 35 41 30
Mobile: +31 653406235
Contact: Duco van Oosterhout

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Address: Niels Leuchsv. 99
N-1343 Eiksmarka
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Fax: +47 67 14 76 90
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Contact: Sigvart B. Eriksen

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8135 Almancil
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Fax: +351 289 390 168
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Contact: José Rodriges
Vasco Bettencourt

Slovenia

Company: AB GOLF SLOVENIJA
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Breg 76
SI-4270 Zirovnica
Telephone: +386 64 580 52 10
Fax: +386 64 580 11 02
Mobile:
E-mail: ab@ab-breg.si
url: www.AB-breg.si
Contact: Aleksandra Bozic´

Spain

Company: GOLF HISPANO DE DEPORTES SA
Address: C/. Farnes
22 Bajos
E-08904 Hospitalet de Llobregat (Barcelona)
Telephone: +34 - 93 4482491
Fax: +34 - 93 333 56 79
Mobile:
Contact: Emilio de Miguel

Switzerland

Company: SIBE HANDELS AG
Address: Postfach 472
8047 Zürich
Telephone: +41 1 400 44 95
Fax: +41 1 400 44 99
Mobile:
Contact: MaxEisenbart

8.3 North America

Company: RANGE SERVANT AMERICA INC.
Address: 5865 G Oakbrook Parkway
Norcross, Georgia 30093
Telephone: +1 770 448 80 55
Fax: +1 770 448 80 60
Mobile:
E-mail: rangeservant@mindspring.com
url: www.rangeservant.com
Contact: Bengt Tönsgård
Anders Jahn
Niklas Jahn

Canada East

Company: ONEX SPORTS
Address: 12759, Fenton Road 16
ON K1T3T8 Glochester
Telephone: (613) 822 2233
Fax: (613) 822 6791
Mobile:
Contact: Rick Hovey

Canada West

Company: FORE STAR ENTERPRISE LTD, UNIT 101
Address: 9295, 198th Street
BC V1M3J9 Langley
Telephone: (604) 888 8311
Fax: (604) 888 9418
Mobile:
E-mail: forestargolf@telus.net
url:
Contact: Bill Wright

8.4 Australia

Company: COUNTRYCLUB INTERNATIONAL
Address: 466 Warrigal Road Moorabbin
Victoria 3189

Telephone: +61 3 9570 2202
Fax: +61 3 9563 8451
Mobile:
E-mail: countryclub@ozemail.com.au
url:
Contact: Mike Baker