

BOARD BB01

VENDING MACHINE

**Mod. 100-101-169-189-217-218-220-254-258  
320-611-701-811-Minivendor**



SandenVendo Europe S.p.A.  
Regione Cavallino, 2  
15030 Coniolo (AL) - ITALIA  
Tel.: +39 0142 335111 – Fax: +39 0142 562348  
e-mail: [marketing@sandenvendo.it](mailto:marketing@sandenvendo.it)  
website: [www.sandenvendo.com](http://www.sandenvendo.com)

Revision: 05  
Date: 09/01/2014  
Code : 395117

### **SandenVendo Europe S.p.A.**

Regione Cavallino, 2  
15030 Coniolo (AL) Italy  
Tel.:+ 39 0142 335111  
Fax.:+ 39 0142 562348  
e-mail: [marketing@sandenvendo.it](mailto:marketing@sandenvendo.it)  
[www.sandenvendo.com](http://www.sandenvendo.com)

### **SandenVendo GmbH (Germany, UK & Export)**

Spangerstrasse 22  
40599 Dusseldorf  
Germany  
Tel.: + 49 211 740390  
Fax: + 49 211 7488541  
e-mail: [info@sandenvendo.de](mailto:info@sandenvendo.de)

### **SandenVendo France**

Jean-François Suteau: Tel: +33 6 67 38 43 26  
[jfsuteau@sandenvendo.be](mailto:jfsuteau@sandenvendo.be)  
Michel Mirczewski: Tel: +33 6 11 01 67 65  
[mmirczewski@sandenvendo.be](mailto:mmirczewski@sandenvendo.be)  
Philippe Mirczewski: Tel: +33 6 89 15 19 52  
[phmirczewski@sandenvendo.be](mailto:phmirczewski@sandenvendo.be)  
Tel. +33 1 73 06 98 54  
**SAV: 08 92 00 12 49** (1) numéro payant 0,34 cts la  
minute

### **SandenVendo Benelux S.A.**

Avenue A. Van Oss 1 - Boîte 21  
1120 Bruxelles - Belgium  
Tel.: +32 (0)2 2682595  
Fax :+32 (0)2 2682862  
e-mail: [info@sandenvendo.be](mailto:info@sandenvendo.be)

### **SandenVendo Iberia S.A.**

Poligono Industrial la Almeda  
C/. Sant Ferrán, no. 92  
E-08940 Cornellà (Barcelona) - Spain  
Tel. : +34 (0)93 4741555  
Fax : +34 (0)93 4741842  
e-mail: [info@sandenvendo.es](mailto:info@sandenvendo.es)

<b>1 GENERAL WARNINGS .....</b>	<b>3</b>
1.1 Purpose of this manual .....	3
1.2 To whom this manual is addressed.....	3
1.3 Responsibility.....	5
1.4 Manufacturer.....	5
1.5 Service centers .....	6
1.6 Warranty .....	6
1.7 General safety warnings .....	7
<b>2 SPECIFICATIONS FOR ELECTRONIC BOARD BB01 .....</b>	<b>10</b>
2.1 Hardware Feature .....	10
2.2 Software Feature .....	10
<b>3 USAGE OF THE SELECTION SWITCHES IN THE SERVICE MODE.....</b>	<b>13</b>
<b>4 SERVICE ROUTINE .....</b>	<b>14</b>
4.1 Error routine .....	15
4.1.1 Column Jam Error Routine.....	15
4.1.2 Vend Mechanism error routine.....	16
4.1.3 Door Switch error routine .....	16
4.1.4 Selection Switch error routine .....	16
4.1.5 Changer error routine.....	16
4.1.6 Chute sensor error routine .....	17
4.1.7 Bill Validator error routine.....	17
4.2 Coin payout routine.....	17
4.3 Tube fill routine .....	17
4.4 Test vend routine .....	18
<b>5 PROTECTED MENUS.....</b>	<b>18</b>
5.1 Cash counter routine.....	18
5.2 Sales counter routine .....	18
5.3 Price setting routine .....	18
5.4 Space to sales setting routine.....	19
5.5 Machine configuration setting routine .....	19
5.5.1 C1 Single price / Multi price .....	20
5.5.2 C2 Low change equation .....	20
5.5.3 C3 Low change level.....	20
5.5.4 C4 Single / Multi vend .....	20
5.5.5 C5 Post or pre-payment.....	21
5.5.6 C6 & C7 Accepted Coins .....	21
5.5.7 C8 & C9 Accepted coins in low change condition .....	21
5.5.8 C10 Reset to the factory default value .....	22
5.5.9 C11 Accepted Banknotes.....	22
5.5.10 C12 Accepted banknotes in low change condition .....	23
5.6 Money counter routine (if available).....	23
5.7 Set configuration .....	23
5.7.1 ST1 Identification number of VMC .....	24
5.7.2 ST2 Area identification number of VMC.....	24
5.7.3 ST3 Message of VMC .....	24
5.7.4 ST4 Counter Clearing .....	24
5.7.5 ST5 Language of VMC.....	24
5.7.6 ST6 Motor Reset After Door Close .....	25
5.7.7 ST7 Coin Changer Keypad Managing .....	25
5.7.8 ST8 Machine Type.....	25

---

5.7.9 ST9 MIS Reset.....	25
5.7.10 ST10 Location code (programmable via windex program).....	25
5.7.11 ST11 Revaluation with Coins to Cashless .....	25
5.8 Coin Acceptor Parameter Setting.....	25
5.9 Return to normal mode door open state routine.....	25
<b>6 ADDITIONAL INFORMATION .....</b>	<b>26</b>
6.1 Column filled with products but sold out lamp lit .....	26
6.2 How to bring vend motors in end position .....	26
<b>7 VIDTS FILE GENERATED BY VMC(BBMDEX-BBFDEX) .....</b>	<b>27</b>
<b>8 SERVICE ROUTINE DIAGRAM.....</b>	<b>28</b>
<b>9 ANNEXE SOFTWARE VERSIONS BB01.....</b>	<b>30</b>

# 1 GENERAL WARNINGS

## 1.1 Purpose of this manual

The manual contains the correct procedures for programming of the Vending Machine. This manual is an integral part of the machine and must therefore be kept intact and available to hand for the machine's entire productive life.

### **KEEP INSIDE THE MACHINE**

## 1.2 To whom this manual is addressed

This manual is addressed to those persons in charge of installing, setting, and extraordinary maintenance of the vendor (Installer/Maintenance technician). It is compulsory that all personnel in charge of these operations are familiar with the instructions and abide by the procedures contained in this manual.

## **Technicians allowed to operate this vending machine:**

- **Installer/ Maintenance / Specialized technician**
- The intervention of the maintenance technician is required for all those operations where the lower protection carter must be opened: when carter is removed all operations must be done only by SandenVendo personnel or by authorized technicians (trained and informed) and not by general operators because of electrical and mechanical risks.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



## 1.3 Responsibility

The **manufacturer's** responsibility is confined to the correct use of the machine, in the limits indicated in this manual.

**“SandenVendo Europe Spa”** declines all responsibility for any damages caused to persons and/or property as the result of:

- Incorrect installation
- Use of unauthorized spare parts
- Execution of changes unforeseen/unauthorized by the manufacturer
- Improper use of the machine
- Connection to inadequate supply systems and non in conformity with the regulations in force

## 1.4 Manufacturer

**“SandenVendo Europe Spa.”** has over 50 years experience in constructing beverage vending machines, and it is precisely the technological know-how it has developed over many years of research working closely with the production and international marketing, which is the best guarantee that **SandenVendo Europe Spa.** can offer.

## 1.5 Service centers

“**SandenVendo Europe Spa.**” is represented by a valid and prepared sales network in both Italy and Europe (see inner cover page).

## 1.6 Warranty

The warranty on the Vending Machine components, starting from the date shown on the delivery note, is for 24 months for the cooling system.

The warranty includes exclusively the parts replaced, with labor excluded.

**The Warranty does not include**, damages to the vending machine caused by:

- Transport and/or handling
- Operator errors
- Lack of maintenance as explained in this manual
- Failures and/or breakages not due to malfunction of the vending machine



## 1.7 General safety warnings

- Carefully read the manual before starting or loading the vending machine
- Protect the vending machine against weather conditions
- Only maintenance technicians should remove the protective covers
- Always read the programming manual before operating the electronic board settings
- Never position the vending machine in direct sunlight
- Never sell the products with the door open
- Refer to the routine maintenance chapter to clean the vending machine
- Disconnect the power supply cable before investigating or unblocking a blocked product
- Use a special protection system/Residual current device or similar.
- Install the appliance so that the electrical plug can be easily accessed afterwards
- If the power cable is damaged, it must be replaced by the manufacturer or by one of its technical support personnel or by a qualified electrician.
- This machine is not suitable for installation in areas where water jets are used

- This machine is not suitable for outside installation
- To prevent hazards due to machine instability, secure the machine according to the instructions
- In case of a failure and/or poor operation, only seek help of the qualified personnel of our service centers.
- Use only spare parts authorized by the manufacturer
- Should this manual be lost or damaged, you may request a copy from the manufacturer: please enclose the serial number of your vending machine with your request.



**CAUTION: FAILURE TO FOLLOW THE INSTRUCTIONS CONTAINED IN THIS MANUAL MAY INVOLVE DAMAGES TO THE MACHINE AND/OR PERSONNEL**

The pictures and illustrations in this document are only indicative. **SandenVendo Europe S.p.A.** recalls that the technical and performance of products can change without notice.

“**SandenVendo Europe S.p.A.**” reserves the right of making changes on their vending machines without any advice; moreover they declare that the vendors listed in this manual are in conformity with the following directives: **98/37/CE** (EC markings).

“**SandenVendo Europe S.p.A.**” assumes no liability for the correctness of the contents or damages caused by using this manual.

“**SandenVendo Europe S.p.A.**” reserves the right to make changes to this manual without prior notice.

## 2 SPECIFICATIONS FOR ELECTRONIC BOARD BB01

### 2.1 Hardware Feature

This board called BB01 has all functions inboard.

Power supply :     24 Volt AC 6 A rms  
                      26 Volt DC NO FILTERED 4 A rms  
                      10 Volt AC 1,5 A rms

10 motor outputs 24 VAC 6 Amp rms

10 motor micro-switches

10 sold-out micro-switches

10 sold-out leds

10 selections switches

Door switch

DEX/UCS audit output. Jack plug and TTL signal ( in option RS232 for serial printer ).

The board uses an 80C552 microcontroller with up to 64K or program Setting and audit saved on EPROM

Display 5 digits 7 led segments and decimal point

In option display fluorescent 2 lines 20 characters (Cyrillic characters available)

A correct change LED indicator

Master and Slave optically isolated serial link for     MDB  
  EXECUTIVE

### 2.2 Software Feature

The BB01 software includes all above functions

Service Programming routine

Credit Accumulation

Coin Mechanism Interface

Consumer Manipulation and Vend process

Multi pricing

Programmable Space to Sales

Escrow

Sold-out Indication

Correct change Indicator

Manual Payout

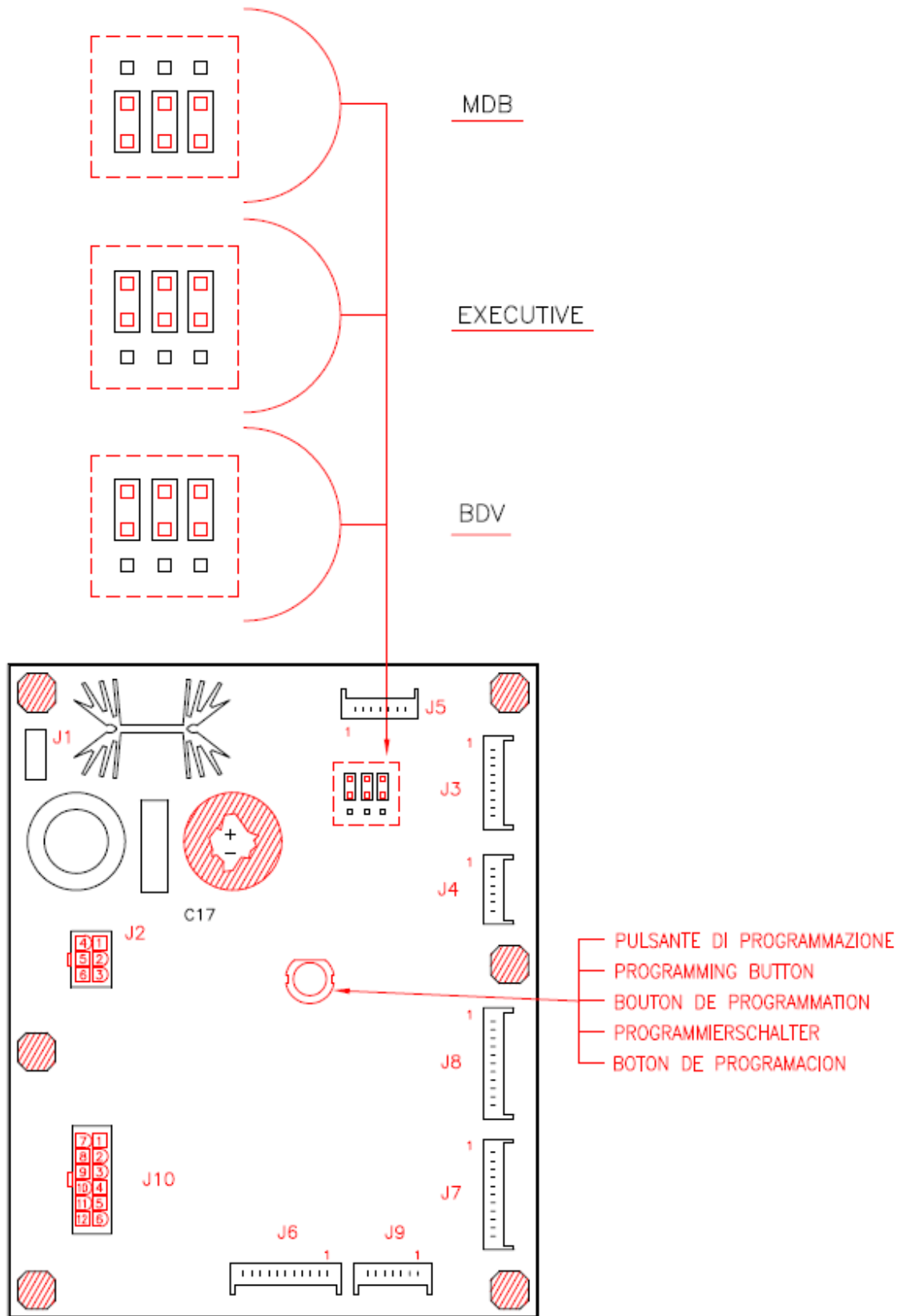
Manual Tubes filling

Saved Error listing

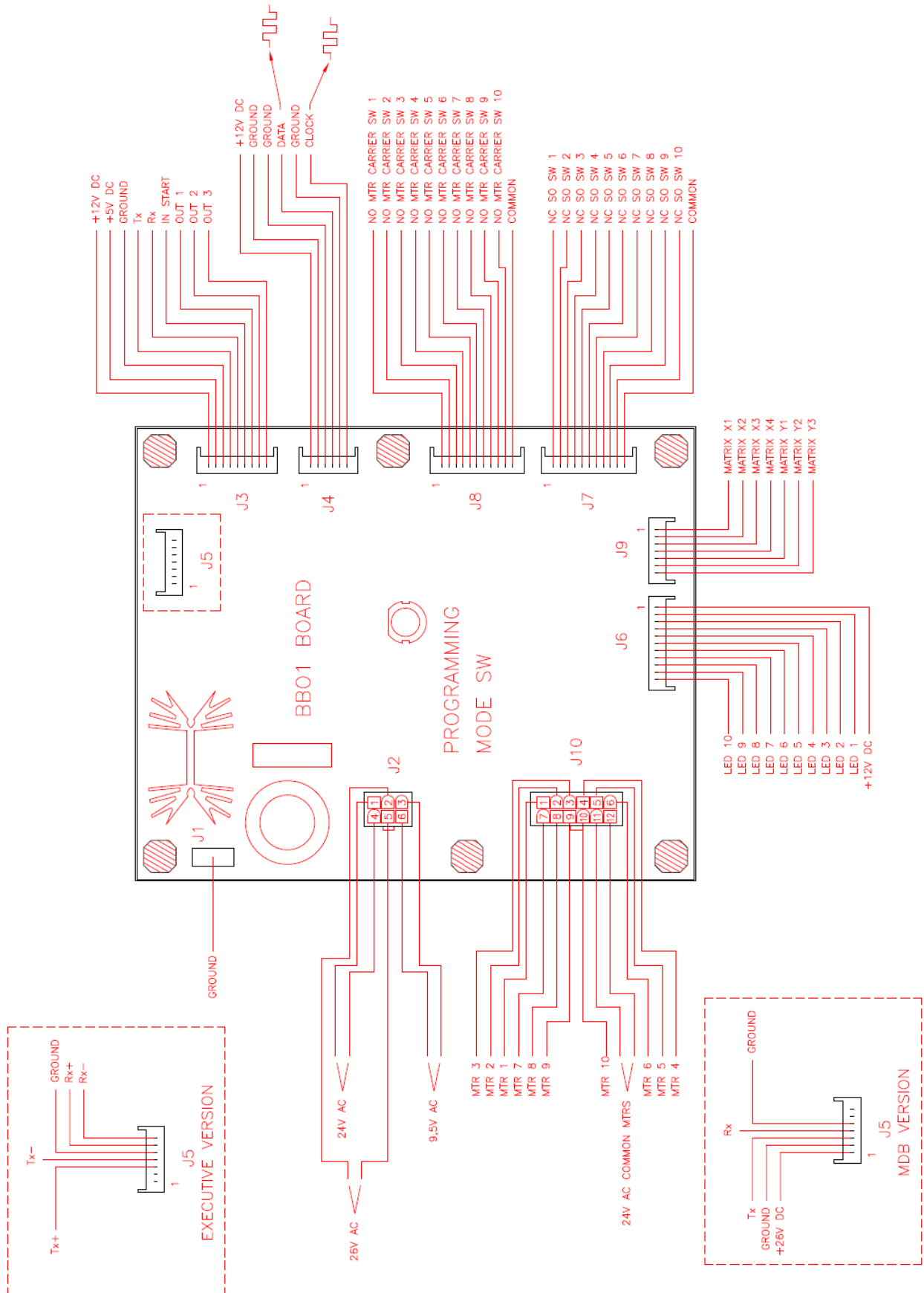
Audit

Vend counters display automatically when door open





SETUP BOARD



# Instructions for programming BB01 Board functions



### 3 USAGE OF THE SELECTION SWITCHES IN THE SERVICE MODE

Selection Switch No.1	Home 	Escape or Cancel
Selection Switch No.2	Up 	Next or increase
Selection Switch No.3	Down 	Previous or Decrease
Selection Switch No.4	Enter 	Accept or Enter

Only the fourth menu has no pass control. In case of pass request the display shows:

"PASS" and "\_ \_ \_ \_"

To enter push the button **4-2-3-1**

**Password: 4 - 2 - 3 - 1**

**Entry by selection buttons:**

**4 = key 4**  
**2 = key 2**  
**3 = key 3**  
**1 = key 1**

When the door is open, the display shows the total vend counter:

SALE/-XXXX/XXXX-/



## 4 SERVICE ROUTINE

In the service mode, information such as sales by selection, total sales, total cash flow through the machine, and diagnostic error codes can be accessed by using the selection buttons and the electronic display. In addition, storage column assignments and vend pricing can be set in this mode using the same techniques. The service mode can only be entered when the vender door is open and when the service mode switch is activated.

The selection switches are used to step through the various programming function as described in the previous page.

After entry into the service mode the operator can select one of several routines to read data registers or to program machine configuration information. This level is called the code level. Each of these paths is identified by a service code. The code for the various paths are as follows.

<b>EROR</b>	Error routine	
<b>CPO</b>	Coin Payout Routine	
<b>TUFL</b>	Tube Fill Routine	
<b>TEST</b>	Test Vend Routine	
Protected menu	<b>CASH</b>	Cash Counter Routine (Pass)
	<b>SALE</b>	Sales Counter Routine (Pass)
	<b>PRIC</b>	Prices Setting Routine (Pass)
	<b>STOS</b>	Spaces to sales Setting Routine (Pass)
	<b>CONF</b>	Machine Configuration Setting Routine (Pass)
	<b>SET</b>	Audit Setting and Message Setting (Pass)
<b>ACCP</b>	Coin rejector parameter setting (Pass) (only for executive eprom)	
<b>RTN</b>	Return to normal mode door open state	

Codes followed by a (Pass) indicate that they are password protected features and cannot be accessed from the selection panel until the correct password has been entered while the display reads "**PASS**".

Pass code is **4-2-3-1**.

The purpose of this password is to prevent accidental reprogramming by the operator.

## 4.1 Error routine

If the ENTER button is activated at the **"EROR"** prompt the VMC will enter in the error routine. If no errors have occurred since the last error reset the display will show a **"NONE"** message. If an error has been detected since the last error reset the display will show the first summary level error code that has occurred, such as **"COLJ"**, which would indicate a column jam error. Using the UP or DOWN buttons will cycle through the various summary level error. On the appendix A (Map of internal menu) you find all the error that the machine can generate.

Activation of the BACK button while summary level error code is displayed will return the VMC to the **"EROR"** prompt.

Activation of the BACK button at **"EROR"** prompt returns the VMC to the normal mode door open state.

**A simple way to clear all the error on the VMC is to put key on the door switch and press the programming button on the electronic board.**

Errors listing are :

<b>COLJ</b>	Column jam
<b>VEND</b>	Vend Mechanism
<b>DOOR</b>	Door open
<b>SELS</b>	Selection Switch
<b>CHAR</b>	Changer
<b>CHUT</b>	Chute/Carrier Switch
<b>STS</b>	Space to sales programming
<b>BUAL</b>	Bill Validator
<b>CRDR</b>	Card reader

### 4.1.1 Column Jam Error Routine

If the ENTER button is activated at the **"COLJ"** prompt the VMC will display a **"CJXX"** message where XX indicates the columns that have been detected as being jammed.

Using the UP and DOWN buttons will cycle through all jammed columns. If the ENTER button is pressed and held for two seconds during the display of any error code, that code will be cleared.

After clearing, VMC will display the next existing column jam error, or **"NONE"** if no other error.

Activation of HOME button will return the VMC to the code level at the **"EROR"** message.

#### 4.1.2 Vend Mechanism error routine

If the ENTER button is activated at the "**VEND**" prompt the VMC will display a "**HSXX**" message where "**XX**" indicates the first column that has been detected with a home sensor error.

Using the UP or DOWN buttons will cycle through all jammed columns. If the ENTER button is pressed and held for two seconds during the display of any error code, that code will be cleared.

After clearing VMC will display the next existing column jam error, or "**NONE**" if no other error.

Activation of HOME button will return the VMC to the code level at the "**EROR**" message.

#### 4.1.3 Door Switch error routine

If the ENTER button is activated at the "**DOOR**" prompt the VMC will display a "**DS**" message indicating a door switch error was detected (door open for more than one hour).

If the ENTER button is pressed and held for two seconds during the display of any error code, that code will be cleared.

After clearing VMC will display the next existing error or "**NONE**" if no other error.

Activation of HOME button will return the VMC to the code level at the "**EROR**" message.

#### 4.1.4 Selection Switch error routine

If the ENTER button is activated at the "**SELS**" prompt the VMC will display a "**SSXX**" message where "**XX**" indicates the first selection switch error (switch always close).

Using the UP and DOWN buttons will cycle through all selection switch error. If the ENTER button is pressed and held for two seconds during the display of any error code, that code will be cleared.

After clearing VMC will display the next existing error, or "**NONE**" if no other error.

Activation of HOME button will return the VMC to the code level at the "**EROR**" message.

#### 4.1.5 Changer error routine

If the ENTER button is activated at the "**CHAR**" prompt the VMC will display a "**CC**" message indicating a changer communication error a "**TS**" message indicating a tube sensor error, an "**IC**" message indicating an Inlet chute blocked error (no coins sensed in the acceptor for a supplier pre-determined number of hours, a "**TJ**" message indicating a tube jam error, or a "**CRCH**" message indicating a changer ROM checksum error. "**EE**" message indicating excessive escrow attempts (escrow to vends greater than a pre-determined supplier standard), and "**NJ**" message indicating a coin jam (sensed and reported by coin mechanism), "**LA**" message indicating a low acceptance rate, "**DIS**" changer disconnect "**ROUT**" coin rout error. Using the UP or DOWN buttons will cycle through all acceptor errors. If the ENTER button is pressed and held for two seconds during the display of any error code, that code will be cleared.

After clearing VMC will display the next existing error, or "**NONE**" if no other error.

Activation of BACK button will return the VMC to the code level at the "**EROR**" message.

#### 4.1.6 Chute sensor error routine

If the ENTER button is activated at the "**CHUT**" prompt the VMC will display a "**CS**" message indicating a chute sensor error.

If the ENTER button is pressed and held for two seconds during the "**CS**" error code, that code will be cleared.

After clearing VMC will display the next error, or "**NONE**" if no other error.

Activation of HOME button will return the VMC to the code level at the "**EROR**" message.

#### 4.1.7 Bill Validator error routine

If the ENTER button is activated at the "**BUAL**" prompt the VMC will display a "**BC**" message indicating a bill validator communication error, a "**BFUL**" message indicating that the bill staker is full, a "**BILL**" message indicating a defective motor, a "**BJ**" message indicating that there is a bill jammed in the bill validator, a "**BRCH**" message indicating a checksum error, a "**BOPN**" message indicating an open cash box, or a "**BS**" message indicating a bill sensor error. The first column that has been detected with a home sense error.

Using the UP or DOWN buttons will cycle through all bill validators errors. If the ENTER button is pressed and held for two seconds during the display of any error code that code will be cleared. After clearing VMC will display the next existing error, or "**NONE**" if no other error. Activation of HOME button will return the VMC to the code level at the "**EROR**" message.

#### 4.2 Coin payout routine

If the ENTER button is activated at the "**CPO**" prompt the VMC will enter the coin payout routine. Upon entry into this routine the display will show the lowest coin value dispensable.

Pressing the UP button will increase the display to the next highest coin value, the DOWN will decrease to the next lowest coin values. When the changer has only 3 tubes, the fourth value will display to 0, means don't exist the fourth tube.

Pressing the ENTER button will payout the displayed coin type. Activation of the HOME button while a coin value is displayed will return the VMC to the "**CPO**" prompt.

Pressing button 5 will display the coins present in the TUBE

Activation of the HOME button at the "**CPO**" prompt returns the VMC to the " normal mode door open state.

#### 4.3 Tube fill routine

If the ENTER button is activated at the "**TUFL**" prompt the VMC will enter the tube fill routine. The purpose of this routine is to allow the operator to fill the tubes by entering them through the acceptor and thus have total coin accountability, if they so choose.

Upon entry into this routine the VMC will enable acceptance of any coin type that will be routed to an inventory tube and disable all others.

The VMC will count and display all inventoried coins and will not disable the acceptor from taking coins when the highest price setting is reached. Activation of HOME button while a coin inventory is displayed will return the VMC to the "**TUFL**" prompt. Activation of the HOME button at the "**TUFL**" prompt returns the VMC to the normal mode door open state

BBMDEX 5.15 can manage 5 tubes

#### 4.4 Test vend routine

If the ENTER button is activated at the **"TEST"** prompt the VMC will enter the test vend routine. Upon entry into this routine the display will show a **"CO 1"** message indicating that a test vend of column 1 may be initiated. Using the UP or DOWN buttons will cycle through the available columns for test vending. Activation of the ENTER button will initiate a test vend of displayed column. Vends made while in this routine will increase the test vend counters only. Activation of the HOME button while a column is displayed will return the VMC to the **"TEST"** prompt. Activation of the HOME button at the **"TEST"** prompt will return the VMC to normal mode door open state.

### 5 PROTECTED MENUS

#### 5.1 Cash counter routine

If the correct password is entered, and if the ENTER button is activated at the **"CASH"** prompt the VMC will enter the cash counter routine. Upon entry into this routine the display will show a **"CASH" / "-XXXX" / "XXXX-"** message where **"XXXX"** characters are the historical total cash counters due to vends that have been recorded by the VMC.

**"-XXXX"** is the highest digit and **"XXXX-"** is the lowest.

Using the UP and DOWN button at this point will change the display to **"CL N" / "-XXXX" / "XXXX-"** where **N** is a column number and **"XXXX"** are the cash counter for that column. Using the UP and DOWN buttons will cycle through the available column cash counters. Activation of the HOME button while a column counter is displayed will return the VMC to the **"CASH"** prompt. Activation of the HOME button at the **"CASH"** prompt will return the VMC to the normal door open state.

#### 5.2 Sales counter routine

If the correct password is entered and the ENTER button is activated at the **"SALE"** prompt the VMC will enter the sales counter routine. Upon entry into this routine the display will show a **"SALE" "-XXXX", "XXX-X"** message where **"XXXX"** characters are the historical total sale counters due to vends that have been recorded by the VMC.

**"-XXXX"** are the highest digits and **"XXXX-"** are the lowest.

Using the UP and DOWN button at this point will change the display to **"SL N" / "-XXXX" / "XXXX-"** where **N** is a column number and **"XXXX"** are the sales counter for that column. Using the UP and DOWN buttons will cycle through the available column sales counters. Activation of the HOME button while a column counter is displayed will return the VMC to the **"SALE"** prompt. Activation of the HOME button at the **"SALE"** prompt will return the VMC to the normal door open state.

#### 5.3 Price setting routine

Machine include 5 price lines PRI1 to PRI 5 for each product column

PRI 1 is for Cash (coins and bills )

PRI 2 to PRI 5 price line for Cashless (the price to use is the price line reported by cashless)

If the correct password is entered and if the ENTER button is activated at the **"PRIC"** prompt the VMC will enter the price setting routine.

The display will show a "PR 1" message where the "1" indicates the column. Using UP and DOWN buttons will cycle through available column prices. Activation of the ENTER button will allow access to the displayed column current price. Using UP and DOWN button will increase or decrease the price by one lowest coin value respectively.

Activation of the ENTER button while the desired price is displayed will save that price. Activation of the HOME button while a column price is displayed, without doing an ENTER before will return the VMC to the column display without saving the displayed column price. Activation of the HOME button while a column is displayed will return the VMC to the "PRIC" prompt. Activation of the HOME button returns the VMC to the normal door open state. **If the single price mode has been enabled (see "CONF" routine), the price entered for column 1 will be used for all other column.**

#### 5.4 Space to sales setting routine

The VMC feature the ability to assign each of selection button to one of any column.

If the correct password is entered and the ENTER button is activated at the "STOS" prompt the VMC will enter the space to sale setting routine. The display will show the "SL 1" which is the first selection switch, using the UP and DOWN button will cycle through available selections. Activation of the ENTER button will allow access to the columns assigned to that selection. The display will show "CO X" where X is the column number using UP and DOWN button will cycle through available columns.

Activation of the ENTER button while the configuration is displayed will save that configuration. Activation of the HOME button while configuration is displayed, without doing an ENTER before, will return the VMC to the "SL X" display without saving the displayed configuration.

Activation of the HOME button from the "SL X" prompt will return the VMC in "STOS" prompt.

**If there is less than 10 selections (on the door) the selection that doesn't exist must be set to "-----"**

#### 5.5 Machine configuration setting routine

If the correct password is entered and if the ENTER button is activated at the "CONF" prompt the VMC will enter the machine configuration setting routine. The display will show a "C1" message where the "1" indicates configuration setting number 1. Using UP and DOWN button will cycle through the available configuration setting numbers. Activation of the ENTER button while a configuration setting number is displayed will allow access to the current setting number of the displayed configuration setting.

Activation of the ENTER button will save the displayed configuration. Activation of the HOME button while configuration is displayed, without doing an ENTER before, will return the VMC to the "CONF" display without saving the displayed configuration. Activation of the HOME button returns the VMC to the normal door open state.

**(\*) Parameters C2 to C3 have different function in MDB and Executive protocol.**

**Parameters C4 to C10 are only used for MDB protocol. In the Executive protocol these parameters are directly setting in the changer.**

**The following information describes the various machine configuration settings**

### 5.5.1 C1 Single price / Multi price

This setting is used to enable the single price mode. In this mode, all columns prices are set to the value that is entered into the selection 1 price filed in the service mode. At the prompt, "C1", after the activation of the ENTER button if the value = 1 the VMC is in the single price mode. If the value is set to 0 the multi-price mode is enabled (default).

### 5.5.2 C2 Low change equation

#### IN MDB

This parameter defines the exact change equation. The combination of the empty tube states assume the exact change state.

"CHANGE EQUATION" if empty tubes are:

- 0 : TUBE A and TUBE B and TUBE C and TUBE D
- 1 : TUBE A or TUBE B or TUBE C
- 2 : TUBE A only
- 3 : TUBE B only
- 4 : TUBE C only
- 5 : TUBE D only
- 6 : TUBE B or TUBE C or TUBE D
- 7 : TUBE A and TUBE B or TUBE C
- 8 : TUBE A and TUBE B or TUBE D
- 9 : TUBE A and TUBE C or TUBE D
- 10 : TUBE B and TUBE C or TUBE D
- 11 : TUBE A and TUBE D or TUBE C
- 12 : TUBE B and TUBE D or TUBE A
- 13 : TUBE C and TUBE D or TUBE D
- 14 : TUBE A or TUBE B and TUBE C

#### IN EXECUTIVE

C2= 0 Normal Executive mode. Vend prices managed by VMC (Vending Machine Control).  
C2= 1 Price Holding Mode. Vend prices are set in coin changer. Coin Changer must be set for Price Holding Mode.

### 5.5.3 C3 Low change level

#### IN MDB

This parameter is used to set the minimum number of coins for setting the changer in low change.

#### IN EXECUTIVE

Offset send with the selection should be at 0

### 5.5.4 C4 Single / Multi vend (only MDB)

This parameter is used to allow the multivend or not

- 1 single vend (give exchange after selection)
- 0 multivend (keep extra money for other selection)



### 5.5.5 C5 Post or pre-payment (only MDB)

This parameter determines if the VMC allow return coins without vend  
1 No Forced Vend (you can obtain the exchange without make a selection)  
0 Forced vend (you must make a selection)

### 5.5.6 C6 & C7 Accepted Coins (only MDB)

This parameter is used for determining the 16 accepted coins by the changer.  
Coin 1 is assumed to be the smallest coin, and coin 16 the highest.

C6 = coins 1 to 8

C7 = coins 9 to 16

Each coin has a binary value as

In C6 coin 1	=	1	in C7	coin 9	=	1
coin 2	=	2	coin 10	=	2	
coin 3	=	4	coin 11	=	4	
coin 4	=	8	coin 12	=	8	
coin 5	=	16	coin 13	=	16	
coin 6	=	32	coin 14	=	32	
coin 7	=	64	coin 15	=	64	
coin 8	=	128	coin 16	=	128	

**EXAMPLE:** If you want to accept coin 1 – 2 – 3 – 4 – 13 – 15 you must add the correspondent values

$$C6 = 1 + 2 + 4 + 8 = 15$$

$$C7 = 16 + 64 = 80$$

### 5.5.7 C8 & C9 Accepted coins in low change condition (only MDB)

This parameter is used to determine the 16 accepted coins when the changer is in low changer condition.

Coin 1 is assumed to be the smallest coin, and coin 16 the highest.

C8 = coins 1 to 8

C9 = coins 9 to 16

Each coin has binary value as

In C8 coin 1	=	1	in C9	coin 9	=	1
coin 2	=	2	coin 10	=	2	
coin 3	=	4	coin 11	=	4	
coin 4	=	8	coin 12	=	8	
coin 5	=	16	coin 13	=	16	
coin 6	=	32	coin 14	=	32	
coin 7	=	64	coin 15	=	64	
coin 8	=	128	coin 16	=	128	

**EXAMPLE:** If you want to accept coin 1 – 2 – 3 – 4 – 13 – 15 when you have low change, you must add the correspondent values

$$C8 = 1 + 2 + 4 + 8 = 15$$

$$C9 = 16 + 64 = 80$$

### 5.5.8 C10 Reset to the factory default value

**Be careful using this option you lose all the configuration parameters on the machine, and reset all the counters (also the total counter).**

The valid value for this menu are:

- 18 for 9 selection machine
- 19 for 5 selection machine
- 20 for 6 selection machine
- 21 for 7 selection machine
- 22 for 7 selection machine with price for Egypt

The procedure to reset the factory default is:

- Put a valid value on the C10 submenu
- Turn off the machine
- Press and keep pressed the button on the board and turn on the machine
- Waiting to the end of initialisation of the board (when you read message “**EROR**” on the display)
- Release the button on the board

Now you have to reprogramming all the parameters (STOS, PRICE, etc..)

### 5.5.9 C11 Accepted Banknotes (only MDB from Software versions BBM 2.23 / BBM DEX ))

This parameter is used for determining the acceptance of up to 8 bills (depending on the bill validator program).

Bill 1 is assumed to be the smallest in value, 8 the highest bill

Each bill has a binary value as

In C11	bill	1	=	1
	bill	2	=	2
	bill	3	=	4
	bill	4	=	8
	bill	5	=	16
	bill	6	=	32
	bill	7	=	64
	bill	8	=	128

**EXAMPLE:** If you want to accept bills 1 – 2 – 3 – 4 you must add the correspondent values:

$$C11 = 1 + 2 + 4 + 8 = \underline{15}$$

### 5.5.10 C12 Accepted banknotes in low change condition (only MDB from Software versions BBM 2.23 / BBM DEX ))

This parameter is used for determining the acceptance of up to 8 bills (depending on the bill validator program) when the changer is in low change condition.

Bill 1 is assumed to be the smallest in value, 8 the highest bill

Each bill has a binary value as

In C12	bill	1	=	1
	bill	2	=	2
	bill	3	=	4
	bill	4	=	8
	bill	5	=	16
	bill	6	=	32
	bill	7	=	64
	bill	8	=	128

**EXAMPLE:** If you want to accept bills 1 + 2 you must add the correspondent values:

$$C12 = 1 + 2 = 3$$

### 5.6 Money counter routine (if available) (from Software BBF DEX & BBMDX)

If the correct password is entered and if the ENTER button is activated at the "**MONEY**" prompt the VMC will enter the money counter routine. Upon entry into this routine the display will show a "**G bo**" / "**-XXXX**" / "**XXXX-**" message where "**XXXX**" characters are the total money on the cashbox. Using up button you see the other money counter submenu:

"**G BO**" / "**-XXXX**" / "**XXXX-**" money on cashbox

"**G TUB**" / "**-XXXX**" / "**XXXX-**" money on the coinage tube

"**G RET**" / "**-XXXX**" / "**XXXX-**" money gave from the coinage as change.

"**G NAN**" / "**-XXXX**" / "**XXXX-**" money gave from the coinage using manual payout submenu.

"**G CAR**" / "**-XXXX**" / "**XXXX-**" money paid using a card.

"**G BIL**" / "**-XXXX**" / "**XXXX-**" money on bill stacker

"**-XXXX**" is the highest digit and "**XXXX-**" is the lowest.

### 5.7 Set configuration

If the correct password is entered and if the ENTER button is activated at the "**SET**" prompt the VMC will enter the machine configuration setting routine. The display will show a "**ST**" message where the "**1**" indicates configuration setting number 1. Using UP and DOWN button will cycle through the available configuration setting numbers. Activation of the ENTER button while a configuration setting number is displayed will allow access to the current setting number of the displayed configuration setting.

Activation of the ENTER button will save the displayed configuration. Activation of the HOME button while configuration is displayed, without doing an ENTER before, will return the VMC to the "**SET**" display without saving the displayed configuration. Activation of the HOME button returns the VMC to the normal door open state.

### 5.7.1 ST1 Identification number of VMC

ST1 = Machine identification number

### 5.7.2 ST2 Area identification number of VMC

ST2 = Machine area number (for Audit)

### 5.7.3 ST3 Message of VMC

ST 3= 0 No Message (The Credit 0 is blinking)

ST 3= 1 Customer Message 1

ST 3= 2 Customer Message 2

### 5.7.4 ST4 Counter Clearing

ST4= 0 no clearing

ST4 = 1 cash counter clearing

ST4 = 2 sale counter clearing

ST4 = 3 sale and cash clearing

After setting ST4 to the corresponding value, to start the clear procedure: power off the machine and power on again and in the same time push the button PROG on the BB01 board until the display show "**EROR**". So now the counters requested are cleared.

**Is not possible to clear the total vend counter using this submenu (ST4)**

### 5.7.5 ST5 Language of VMC

#### For 5 digit display (BBMDEX)

ST5= 0 English

ST5= 1 Italian

ST5= 2 German

ST5= 3 French

ST5= 4 Spanish

ST5= 5 Dutch

#### For fluorescent display (BBFDEX)

ST5= 0 English

ST5= 1 Spain

ST5= 2 Austria 1

ST5= 3 Austria 2

ST5= 4 Latvia

ST5= 5 Poland B&C

ST5= 6 Norway

ST5= 7 Hungary

ST5= 8 Italy

ST5= 9 Belgium

ST5= 10 Switzerland 1

ST5= 11 Switzerland 2

ST5= 12 Germany

ST5= 13 Ukraine

ST5= 14 Romania

ST5= 15 Slovakian

ST5= 16 Poland TP vendor

### 5.7.6 ST6 Motor Reset After Door Close

ST6 = 0 no reset after door close

ST6 = 1 if a motor is not in home position the VMC reset the motor after door close

### 5.7.7 ST7 Coin Changer Keypad Managing

ST7= 0 Key pad changer inhibited

ST7= 1 Key pad changer used allowed

### 5.7.8 ST8 Machine Type

ST8= 0 Normal (0 to 9 columns)

ST8= 1 Tetra pack allowed (10 motors with 9 selection the last selection activated alternative motor 9 and 10 until one of this column is empty)

### 5.7.9 ST9 MIS Reset

ST9= 0 Resettable counters NOT reset after MIS audit performed

ST9= 1 Resettable counters reset after MIS audit performed

### 5.7.10 ST10 Location code (programmable via windex program)

### 5.7.11 ST11 Revaluation with Coins to Cashless

ST11= 0 Revaluation with coins to cashless possible

ST11= 1 Revaluation with coins inhibited

## 5.8 Coin Acceptor Parameter Setting (only for Executive eprom)

If the correct password is entered and if the ENTER button is activated at the "**ACCP**" prompt the VMC will enter the coin rejector configuration setting routine. The display will show a "**P01**" message where the "**1**" indicates the line of the rejector. Using UP and DOWN button will cycle through the available line. Activation of the ENTER button while a line number is displayed will allow access to the current value of the line. You can change the value using UP and DOWN button (if it doesn't work you must set the step using the "**PB**" submenu).

Activation of the ENTER button will save the displayed value.

Using the submenu "**P01**"-"**P06**" you can change the value of the 6 lines of the rejector.

Using the submenu "**PB**" you set the step that you use on the line setting submenu.

Using the submenu "**PD**" you set the decimal point position.

Activation of the HOME button while configuration is displayed, without doing an ENTER before, will return the VMC to the "**ACCP**" display without saving the displayed value.

Activation of the HOME button returns the VMC to the normal door open state.

## 5.9 Return to normal mode door open state routine

If the ENTER button is activated at the "**RTN**" prompt the VMC will exit the service mode and return to the normal door open state.

## 6 Additional Information

### 6.1 Column filled with products but sold out lamp lit

If after correct programming of the Space To Sales menu sold out lamps are lit, all errors must be cleared as follows:

1. Open the door.
2. Push programming mode button located in the center of the control board.
3. Display shows "EROR".
4. Push button 4 to display the first saved error (refer to menu 4.1).
5. Push and hold button 4 until flashing "Clear" is displayed.
6. Keep button 4 pressed until "Clear" stops flashing.
7. The following error (if any) is displayed.
8. Repeat clear procedure until display shows „None“.
9. All errors are cleared now and after closing the door all sold out lamps should be off.

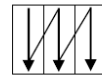
### 6.2 How to bring vend motors in end position

1. Open the door
2. Actuate door switch by use of the actuator key.
3. Push and hold programming mode button until display shows ----- .
4. If not prevented by mechanical failures all motors are running now in end position.

**7 VIDTS file Generated by  
VMC(BBMDEX-BBFDEX)**

PA1\*8\*100\*

Start



next page

F20036000005201999130720525990856  
052  
DXS\*ASC0010001\*VA\*V1/1\*1\*PV4/0/4  
ST\*001\*0001\*052599084406  
ID1\*\*BB01\*5.00\*\*\*266  
ID4\*0039\*10\*  
VA1\*300\*3\*300\*3\*  
CA1\*FAG12345678901200000CG4400S  
\*  
BA1\*CBV000000000000125\*EGYPT\*\*\*\*  
DA1\*\*  
CA3\*30\*0\*0\*30\*30\*0\*0\*30  
CA4\*0\*0\*0\*0\*  
CA8\*0\*0\*  
CA10\*0\*0\*  
DA2\*0\*0\*0\*0\*  
TA1\*0\*0\*0\*0\*0\*  
DA4\*0\*0\*  
EA3\*0\*  
EA7\*1\*1\*  
LS\*0001  
PA1\*1\*100\*  
PA2\*0\*0\*0\*0\*0\*  
PA5\*\*\*0\*  
PA1\*2\*100\*  
PA2\*0\*0\*0\*0\*0\*  
PA5\*\*\*0\*  
PA1\*3\*100\*  
PA2\*0\*0\*0\*0\*0\*  
PA5\*\*\*0\*  
PA1\*4\*100\*  
PA2\*2\*200\*2\*200\*  
PA5\*\*\*0\*  
PA1\*5\*100\*  
PA2\*1\*100\*1\*100\*  
PA5\*\*\*0\*  
PA1\*6\*100\*  
PA2\*0\*0\*0\*0\*0\*  
PA5\*\*\*0\*  
PA1\*7\*100\*  
PA2\*0\*0\*0\*0\*0\*  
PA5\*\*\*0\*

PA2\*0\*0\*0\*0\*0\*  
PA5\*\*\*0\*  
PA1\*9\*100\*  
PA2\*0\*0\*0\*0\*0\*  
PA5\*\*\*0\*  
PA1\*0\*100\*  
PA2\*0\*0\*0\*0\*0\*  
PA5\*\*\*0\*  
LE\*0001  
EA2\*DO\*1\*  
EA2\*CR\*0\*  
MA5\*ERROR\*  
MA5\*BAUD\*9600  
MA5\*TUBE1\*\*0\*0\*1\*0\*4\*0\*0\*0\*0\*  
MA5\*TUBE2\*\*0\*0\*0\*0\*0\*0\*0\*0\*0\*0\*  
SD1\*000000  
G85\*9990  
SE\*57\*0001  
DXE\*1\*1



## 8 Service Routine Diagram

		← selection 1	selection 4 →	
MAIN MENU	1 st SUB MENU	2 nd SUB MENU	DESCRIPTION	
EROR	COLJ	CJXX	<b>XX</b> column jammed	
	VEnd	hSXX	<b>XX</b> home position error	
	door		door open	
	SELS	SSXX	<b>XX</b> selection switch always close	
	CHar	CC	Changer comunication error	
		tS	Tube sensor error	
		IC	Inlet chute blocked	
		tJ	Tube jam	
		CRCH	Changer Rom checksum error	
		EE	Excessive escrow	
		nJ	Coin jam	
		LA	Low acceptance rate	
		Chut	CS	Chute sensor error
		STS		Space to sale error (invalid value)
		bUAL	bC	Bill validator comunication error
			bFul	Bill validator stacker full
			biLL	Bill validator defective motor
			bj	Bill jammed
			brCH	Checksum error
			bOPn	Bill cashbox open
			bS	Bill sensor error
		Crdr		Card reader error
		nonE		No errors
CPO	tube 1 value		Empty tube 1	
	tube 2 value		Empty tube 2	
	tube 3 value		Empty tube 3	
	tube 4 value		Empty tube 4	
TUFL	value on tube		Tube fill	
TEST	CO <b>XX</b>		Vend test on motor <b>XX</b>	
CASH	total cash		Total cash value (not resetable)	
	CL <b>XX</b>		Cash value for Column <b>XX</b>	
SALE	total sale		Total sale (not resetable)	
	SL <b>XX</b>		Sale for Column <b>XX</b>	
PRIC	Pri 1to 5	PR <b>XX</b>	Price for selection <b>XX</b>	
STOS	SL <b>XX</b>	CO <b>XX</b>	Selection <b>XX</b> = Column <b>XX</b>	
		-----	Selection <b>XX</b> doesn't exist	

		← selection 1	selection 4 →	
MAIN MENU	1 st SUB MENU	2 nd SUB MENU	DESCRIPTION	
↑ selection 3	CONF	C 1	<i>1=single price - 0=multi price</i>	
		C 2	<i>Low change equation 0 to 14</i>	
		C 3	<i>Low change level 0 to 10</i>	
		C 4	<i>1=single vend - 0=multi vend</i>	
		C 5	<i>1=escrow allowed - 0=forced vend</i>	
		C 6	<i>Accepted coins 0-255</i>	
		C 7	<i>Accepted coins 0-255</i>	
		C 8	<i>Accepted coins in low change 0-255</i>	
		C 9	<i>Accepted coins in low change 0-255</i>	
		C 10	<i>Factory code for total reset</i>	
		C 11	<i>Accepted Banknotes</i>	
		C 12	<i>Accepted banknotes in low change condition</i>	
↓ selection 2	SET	St 1	<i>Machine identification number</i>	
		St 2	<i>Audit language</i>	
		St 3	<i>customer message (0=no message)</i>	
		St 4	<i>Clear parameter after audit</i>	
		St 5	<i>Language of VMC</i>	
		St 6	<i>Motor reset after closed the door</i>	
		St 7	<i>coinage button inhibit (0 inhibit-1 allow.)</i>	
		St 8	<i>Machine type (0 normal-1 Tetrapack)</i>	
		St 9	<i>MIS resetable after readout</i>	
		St 10	<i>Location code</i>	
		St 11	<i>Cashless revaluation mode</i>	
rtn	<i>Return on vending mode</i>			

To go in this menu is required a password  
 The password is a sequence of this selection 4-2-3-1

This submenu with this description is valid only for MDB  
 protocol, for the meaning on Executive protocol see the manual

## 9 ANNEXE SOFTWARE VERSIONS BB01

### **BBMDEX 4.43**

For 5 digits display MDB (coins & bill acceptance manually managed in CONF/C6-C7-C8-C9 ) & CASHLESS & DEX

### **BBFDEX 5.15**

For 2 lines fluorescent display MDB (coins & bill acceptance automatically acceptance managed ) & CASHLESS & DEX

### **BBEXE Version 3.14**

5 digits display EXECUTIVE NO DEX

### **BBM 2.23**

5 digits MDB Manual coins acceptance only (coins & bill acceptance manually managed in CONF/C6-C7-C8-C9 ) NO CASHLESS – NO DEX

SandenVendo Europe S.p.A.  
Regione Cavallino,2  
15030 CONIOLO (AL)  
ITALY

**dichiara sotto la propria responsabilità che la seguente macchina:**  
**declares under its responsibility that the following vending machine:**

Distributore automatico Modello	SVE 100 - SVE 101 - SVE 189 - SVE 217
Vending machine Model	SVE 218 - SVE 220 - SVE 254 - SVE 258
	SVE 320 - SVE 611 - SVE 701 - SVE 811
	SVE 75E - SVE 75X - SVE 75C - SVE 75R

**E' conforme alle seguenti Direttive:**  
**Is in conformity with the following Directives:**

- Direttiva 2006/42/CE (Direttiva Macchine)  
*Directive 2006/42/EC (Machinery)*
- Direttiva 2006/95/CE (Bassa Tensione)  
*Directive 2006/95/EC (Electrical Equipment)*
- Direttiva 2004/108/CE (Direttiva Compatibilità Elettromagnetica)  
*Directive 2004/108/EC (Electromagnetic Compatibility)*

**E' conforme alle disposizioni delle seguenti norme:**  
**Is in conformity with the following standards and normative documents:**

- UNI EN 12100 Sicurezza del macchinario – Principi generali di progettazione – Valutazione del rischio e riduzione del rischio  
*UNI EN 12100 Safety of machinery – General principles for design – Risk assessment and risk reduction*
- UNI EN 60204 (Equipaggiamento elettrico delle macchine)  
*EN 60204 (Electrical Equipment of Machines)*

Il fabbricante vieta un utilizzo della macchina o di una sua parte in maniera non conforme a quanto indicato sul Manuale d'Uso e Manutenzione fornito a corredo.  
*The manufacturer forbids the use of the machine/equipment described in this declaration in any different way from the one indicated into the Use and maintenance Manual attached to the machine.*

La persona autorizzata a costituire il fascicolo tecnico è il Sig. Carlevaro  
*The person empowered to draw up the Technical Construction File is Mr. Carlevaro*

**SandenVendo Europe S.p.A.**

Coniolo, 18/01/2013

(Luogo e data di emissione)  
(Place and Date of release)

Director



Stefano Carlevaro

## Revisioni manuali Revisions manual

---

Revision	Date	Change	Page
1	July 1997		
2	June 1998		
3	June 2004		
4	16/10/2013	Change layout and made all languages equal	
5	09/01/2014	Update service center page	
		Change layout	
		Change page of point 7 Service Routine Diagram	
		Update point 4 Service Routine	
		Update point 4.1 Error routine	
		Update point 4.1.5 Changer error routine	
		Add point 5.5.9 C11 Accepted Banknotes	
		Add point 5.5.10 C12 Accepted banknotes in low change condition	
		Update point 5.7 Set configuration	
		Add point 5.8 Coin Acceptor Parameter Setting	
		Add point 6 Additional Information	