

### Introduction

Thank you for purchasing the FP-1 Conversion Kit for Four-Price Vending

This kit is guite simple to install and to operate and replaces the old FS-1+ conversion kit that has been around for so many years. The optional LCD display will enable you to program the basic function and retrieve accounting information such as the value in the coin tubes of the changer and the sales. Version FP-1+ of the conversion kit has DEX capability.

This kit allows you to replace your discontinued Four-price coin changer with a new state-of-the-art MDB coin changer and add other MDB peripherals such as a bill acceptor or cashless system.

The kit was designed to work solely in a Four-Price 24 or 120 volts machine. It cannot work in a Single-price machine. The SP-1 conversion kit is available for single-price machines. Both are very similar. The most recognizable difference is the number of relays. The SP-1 has only two relays while your FP-1 has five.

The FP-1 conversion kit can work in any country in the world providing you connect the proper coin changer, bill acceptor, cashless system, or a combination of those three peripherals. The FP-1 can display messages in the following four languages: English, French, Portuguese, and Spanish. Switching language is done using the two programming buttons on the board. The new FP-1 also offers a very unique feature called the basic price setting. Depending your needs, you can decide to set the basic value to match a specific base. In Brazil, Canada, and in the USA, the default price base is \$0.05. In Mexico, it is \$0.50.

You will find here how to install your FP-1 Conversion Kit, how to program it, and how to retrieve sales information. We are confident you will enjoy this

Version V1.6 and up includes token and coupon handling.

# The FP-1 conversion kit contains the following components:

- One 100-240V, 50-60 Hz Switching Power supply.
- One circuit board mounted on an aluminum plate and protected by a transparent Lexan.
- One harness to connect into the Four-Price socket of the ma-
- Optional 2X16 LCD display with stainless steel bezel and flat 24" (60cm) ribbon cable.
- If the distance to cover is more than 24" (60cm), an MDB display is available. This display connects into the MDB port.

## The FP-1 works with...

The FP-1 Conversion Kit will work with one or more of the following periph-

Coin changer: (Coinco, Conlux, MEI, NRI)

- MDB Level 2, 3-tube & 4-tube
- MDB Level 3, 4-tube, 5-tube, & 6-tube

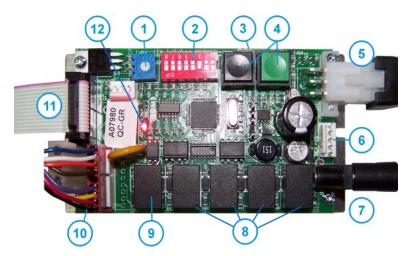
## Coin acceptor

- NRI G13 with its MDB adaptor. Please note that when using this acceptor, it is impossible to give back change (see Multi Vend parameter) Bill acceptor:
- Most MDB bill acceptor of any country
- Cashless
- The majority of MDB cashless devices on the market. (FP-1+ version only)

# Note about the electrical power outside of North America.

Most power outlets outside of North America offer a 220-volt, 50Hz source. Even though the switching power supply supplied with the FP-1 is capable of working on such a power source, the FP-1 was NOT designed to work with such a voltage. Applying 220-volt to the FP-1 will automatically damage it.

**DO NOT USE THE FP-1 IN A 220-VOLT ENVIRONMENT!** 



### **Description of board**

- LCD display level adjustment (POT 1)
- Price setting switches (SW 1)
- Programming LED
- Programming buttons
- MDB connector (J2)
- DEX connector (J3') FP-1+ version only
- 24-volt DC input (J1) Price Relays (RLY 1 to RLY 4)
- Exact change relay (RLY 5)
- Harness to machine (J6)
- Flat ribbon to display (J5)
- Accept Line detection LED (L6)

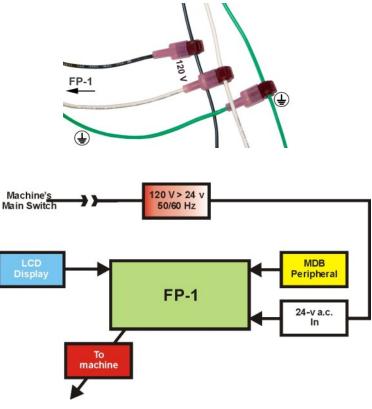
## Installing your FP-1 Conversion Kit into a Four-Price vending machine

Installing the FP-1 Conversion Kit does not require great technical skills. Just follow these simple instructions and it will take just few minutes. The FP-1 Conversion Kit can work in either a 24-volt or a 120-volt machine.

- Make sure your machine is in correct working condition and ready to dispense products.
- Disconnect the machine from the wall or shut off main power switch.
- Make sure there is no power in the machine before unplugging any element
- Remove the Four-Price coin changer from its current location.
- Do not forget to remove the change from the tubes.
- Install the new MDB coin changer and fill the tubes.
- Find a place where you can fix the new circuit board and the new power supply. Make sure no harnesses or wires will interfere with the coin insertion and the coin return arm. Make sure the new board cannot move.
- Connect the power supply to the board.
- Connect the new MDB peripherals into the FP-1 Conversion Kit.
- Connect the primary side of the power supply to a 120-volt source located immediately after the main switch using the tap connectors provided. (see figure)
- Connect the 8+1-pin Jones plug into the four-price socket of the ma-
- Install the optional LCD display using the instruction coming with it.
- Secure the flat ribbon harness so that it does not interfere with the operation of the machine
- Connect the flat ribbon in the proper socket on the new board Once everything properly connected, apply power to the machine.
- Program your kit according to your specific requirements (language, basic price, vend price, etc.).
- Make some tests

## **!!! ATTENTION !!!**

Once power is applied to the machine and the new FP-1 energized, 120 volts can be present on the circuit. The 120-volt section is comprised between the price relay (#8 on image) and the harness to the machine #10 on image). BE CAREFUL!



# **Programming your FP-1**

The following information applies to an FP-1 equipped with an LCD display. If you do not have the display, refer to the reverse of this sheet.

The display is a LCD 2-lines, 16-characters. It can be green or blue. The display can be permanent or portable only to program your FP-1.

Price base - (or Programming the value of dipswitch #1)

(To skip, press on black.) As the FP-1 can work in many countries around the world, it must adapt to the price level in each country. To achieve this goal, we added a unique feature that enables you to set the basic value of switch #1. This basic value starts at \$0.05 and goes up to \$12.75. To enter the programming, shut down power to the FP-1 (or the entire machine). Press and hold both the black and green buttons on the FP-1 while applying power. Release the buttons when the display becomes blank. Price base becomes visible on the display. If the price base is not what you want, press on the green button to increase it. To decrease, press and hold the green button and press on the black. This setting wraps around. If you are at \$0.05 and wish to go up to \$12.75, it is faster to go backward. Once the correct value is visible on the display, press on the black button to confirm the new setting. You will also move to the next parameter

Below is a figure showing the price combinations possible depending the setting of the Price base.

Price base	\$0,05	\$0,25	\$0,50	\$1,00	\$5,00	\$10,00	\$12,75
Switch 1	0,05	0,25	0,50	1,00	5,00	10,00	12,75
Switch 2	0,10	0,50	1,00	2,00	10,00	20,00	25,50
Switch 3	0,20	1,00	2,00	4,00	20,00	40,00	51,00
Switch 4	0,40	2,00	4,00	8,00	40,00	80,00	102,00
Switch 5	0,80	4,00	8,00	16,00	80,00	160,00	204,00
Switch 6	1,60	8,00	16,00	32,00	160,00	320,00	408,00
Switch 7	3,20	16,00	32,00	64,00	320,00	640,00	816,00
Switch 8	6,40	32,00	64,00	128,00	640,00	1 280,00	1 632,00
Max. Vend Price	\$12,75	\$63,75	\$127,50	\$255,00	\$1275,00	\$2550,00	\$3 251,25

### Language -

You have the choice between English, French, Portuguese, and Spanish. If it is not in your language, press the green button until you see the desire language. Confirm with black.

## Currency symbol -

You have the choice between the dollar sign (\$), the Euro sign (€) or none. Press on the green button to change it. Confirm with black.

#### Multi vend -

Multi Vend enables you to keep the credits in the memory of the FP-1 so that the customer can make a second transaction. You can select Yes or No. If you choose No, change will be given back after each sale. If you choose Yes, the credits stay for another transaction (with an NRI G13 coin acceptor only for example)

Cashless type - (visible only if you have version FP-1+)

Since there are now many types of cashless devices on the market. you must adapt the message on the display to match your system. You can have a swipe or insertion card type. You can also have a proximity card type. You can also have a cashless key or tag. Select the proper message to fit your cashless system. Cashless related messages will only be visible if a cashless device is detected upon powering up the FP-1.

**Token type -** (visible only if token information is sent by changer on power up)

The coin changer can be programmed to accept tokens and the bill acceptor coupons. In both cases, you must decide to give a free vend or send a value to the FP-1. If you choose Free Vend, the FP-1 will allow a transaction to take place, no matter the price of the selection. If you choose Value, that value will be sent to the FP-1 and the customer will be able to make a transaction of equal value or less. If the value is less than the price of the selection, the customer can insert money to complete the transaction. In both cases, no change will be given back to the customer.

## Token value -

If you choose Value in the preceding step, you must assign that value here. Press on the green button to increase it. To decrease, press and hold the green button and press on the black. Once the correct value is visible on the display, press on the black button to confirm the new setting and the display will come back to Insert coins. This setting wraps around. If you are at \$0.00 and wish to go up to \$12.75, it is faster to go backward. Press on the black button to confirm. A value set at \$0.00 will make the coin changer accepting the token without sending any value to the FP-1

All parameters are now programmed. The display now says Insert money. You can now go to the price programming

It is possible to assign an ID to your machine. The ID in numeric between 000 and 999. This number will appear in the proper field of the DEX transfer. Press on the green button to change it and black to confirm.

## Price Program -

Before you start programming the vend prices, make sure the value of dipswitch #1 is at the proper Price base. Refer to Programming the Price Base

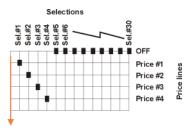
Programming the vend prices is quite simple if you follow carefully these three steps

To access the Price programming, press on the black button twice followed by the green button.

The first step is to place selections 1 to 4 (or A to D) on a price line. Disregard selections 5 and above for now. To do so, place selection #1 on PRICE LINE #1, selection #2 on PRICE LINE #2 and so on. (see illustration below). Assigning each selection to its real price will be done in step #3.

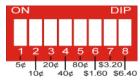
The number of selections and their real identification will vary depending the model of your vending machine.

...continue on the other side



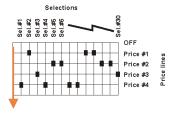
The **second step** is to assign a VALUE to each price line. To do so, see how many different prices you need starting with the lowest that you will assign to price line #1. Here is an example: You need prices  $75\phi$ ,  $85\phi$ , 1.00\$, 1.25\$. You will then assign  $75\phi$  to price line #1,  $85\phi$  to price line #2, \$1.00 to price line #3, and \$1.25 to price line #4. Using the price dipswitches, set the first value at  $75\phi$  and press on selection button #1. Set the second value at  $85\phi$  and press on selection #2. Repeat the same process with the correct value for price lines #3 and #4. Each time you will press on a selection and thus applying a value to that line, the display will confirm your action.

You can use more than one dipswitch to set the value. For example, to get price value 75¢, you will flip ON switches 1, 2, 3, and 4 making 5¢ + 10¢ + 20¢ + 40¢ or 75¢



The **third and final step** is to move each selection cursor to its proper price line. As a result, selection #1 could very well end up being set at price line #4. You will obviously have more than one selection per price line

<u>Caution!</u> If in the future you modify the value of a price line, this modification will affect all selections attached to this price line.



# The audit

The FP-1 keeps track of sales in monetary and unit values. It also keeps track of the money present in the tubes of the coin changer, the coin box and the bill box. Sales done using cash are apart from the sales done using cashless.

Some of those internal meters can be reset upon each visit. Others cannot. Below are the details of all the internal counters. Please note that the example below shows a FP-1 with a Canadian coin changer, a bill acceptor, and a card reader. Depending on the type of peripherals and the country you are in, the information will vary accordingly.

Press on the black button followed by the green. Press black again to scroll down.

	7	
Tube \$0.05	Value on coins in \$0.05 tube	Cannot erase
Tube \$0.10	Value on coins in \$0.10 tube	Cannot erase
Tube \$0.25	Value on coins in \$0.25 tube	Cannot erase
Tube \$1	Value on coins in \$1.00 tube	Cannot erase
Tube \$2	Value on coins in \$2.00 tube	Cannot erase
Cash box	Value of the coin in the coinbox	Green button to erase
	Value of the bills in the bill	
Bill box	stacker.	Green button to erase
Cash sales tot.	Sales in cash since last clear	Green button to erase
Cash sales cumu.	Sales in cash since day one	Cannot erase
	Sales with cashless since last	
Cashless sales tot.	clear (FP-1+ only)	Green button to erase
Cashless sales	Sales in cashless since day one	0
cumu.	(FP-1+ only)	Cannot erase
Sales with token total	Units sold with token since last clear	Green button to erase
Sales with token	Units sold with token since day	Groom button to order
cum.	one	Cannot erase
Sales w/value tk total	Units sold with value token since last clear	Green button to erase
Sales w/value tk cumu.	Units sold with value token since day one	Cannot erase
cuma.	Units sold at price #1 since last	Carriot erase
Unit sales #1 total	clear	Green button to erase
Unit sales #1 cumul.	Units sold at price #1 since day one	Cannot erase
Cash sales #1 total	Cash value sold at price #1 since last clear	Green button to erase
Cash sales #1 cumul.	Cash value sold at price #1 since day one	Cannot erase
	Units sold at price #2 since last	
Unit sales #2 total	clear	Green button to erase
Unit sales #2	Units sold at price #2 since day	
cumul.	one	Cannot erase
Cash sales #2	Cash value sold at price #2 since	
total	last clear	Green button to erase
Cash sales #2	Cash value sold at price #2 since	
cumul.	day one	Cannot erase

...and so on for price lines 3 and 4.

If you have version FP-1+ on the conversion kit, then the audit will also available for DEX transfer. Just connect your DEX transfer handheld computer to the port to capture the information.

If you need to adapt your DEX harness, the pin-out information is below.

FP-1	DB9 serial port PC
pin # 1 = GND ———	—— 5– GND
pin # 2 = RX —	2– RX
pin # 3 = TX	3– TX
pin # 4 = NO CONNEC	CTION
pin # 5 = 5 volts (reserv	ved use)

The DEX header (J3) is located beside the MDB connector



## Programming the FP-1 without the display

If you do not have the optional LCD display with your FP-1, the only thing you can program are the four prices. The price base will be at \$0.05 or at the last value you may have programmed it if you are using a portable display. You cannot program the price base without the display.

Just above the black and green buttons are two small LEDs. See the chart below to understand the meaning of the red LEDs.

	LED 1 (Black button)	LED2 (Green button)	Means
On stand by	Flashes	Off	Everything is fine
Pressing on black	Blinks slowly	Off	Now in pricing mode
Using the dip- switches, program the first price and press on the selec- tion corresponding to Price 1 in the machine	Flashes	Flashes	FP-1 is registering the new vend price on Price Line #1
Using the dip- switches, program the second price and press on the selection corre- sponding to Price 2 in the machine	Flashes	Flashes	FP-1 is registering the new vend price on Price Line #2
Using the dip- switches, program the third price and press on the selec- tion corresponding to Price 3 in the machine	Flashes	Flashes	FP-1 is registering the new vend price on Price Line #3
Using the dip- switches, program the fourth price and press on the selec- tion corresponding to Price 4 in the machine	Flashes	Flashes	FP-1 is registering the new vend price on Price Line #4
Pressing on black	Flashes	Off	Back to normal

### S.E.M. INC. - WARRANTY AND LIABILITY CONTRACT

By issuing a Purchase Order or contracting with S.E.M. Inc. to carry out the supply of products, clients are accepting the terms of this Warranty and Liability Contract.

S.E.M. Inc. warrants all parts of new equipment for one (1) year, from date of invoice against DEFECTIVE MATERIAL OR WORKMANSHIP, but not against damage caused by accident, abuse, faulty installation, or improper operation and installation.

S.E.M. Inc. shall not be liable for any direct, indirect and/or consequential damages or losses, including loss of use, revenue, profit incurred by the client, its customers and/or any third party as a result of the use of the work carried out by S.E.M. Inc. for the client, including any loss resulting from equipment failure or malfunctions, design or programming errors or any other use of the work carried out in this contract. The client specifically waives any claim or recourse it may have against S.E.M. Inc. in any of the above instances.

S.E.M. Inc.'s obligation under this warranty is limited to correcting, or at its option replacing, without charge at its factory any equipment, components, or parts thereof which are returned to its factory (transportation charges prepaid) within one year after date of invoice, examination of which disclose to S.E.M. Inc.'s satisfaction that the equipment, components, or parts thereof were originally defective.

Any changes in design or improvements added to the line of equipment shall not create any obligation to upgrade or modify equipments previously sold and delivered to the client.

Any unauthorized alteration of, or addition to, articles of the contractors manufacture voids this warranty.

Personal notes:		

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