Contents

1 Introduction

Welcome to FDX   retail equipment.

FDX has been developed to work with the Balvin FD100, FD200 and FD304 series forecourt dispensers. When linked to Balvin TG4 tank gauge, a graphic display of fule level and volume is displayed on the screen.

The FDX not only provides simple and effective way of controlling fuel delivery and sales through each pump but also a means of adding dry goods sale. The stock entry and pricing for dry goods allows the user to keep accounting records for basic sales and purchase ledger.

Basic System

FDX controller fully equipped with LCD screen and keyboard.
FDX2006 retail software
Receipt printer
Log printer

The log printer can be used to not only to log all transactions but also to print the daily or weekly reports.

Options

Touch screen panel

Chip & PIN card terminal

Customer display

Cash Drawer

BRCS Balvin Remote Control Software
The user can access and collate the information from all the outlets either using the dial up network or LAN

2 Fueling

Fueling can take place only in the active mode of FDX but to enter this mode, an operator shift has to be started. Operators are added/deleted in the management mode by an authorized person only. The operator then controls fueling permissions if the pumps are set to self-service mode.

The operator code is always an integer number that is assigned to the operator by the management.

This is the amount of cash that is present in the till when the operator is taking over from another operator.

The manager the assigns passwords to each operator, maximum of 8 characters.
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This is an amount that an operator may add to the till. This may be required if there is no cash in the till and some change has to be present to trade with the customers.

This is the total amount that is present in the till when the shift starst. It automatically calculates this value as the sum of the above two fields.

The OK button starts the shift. ENTER key has the same effect.

CANCEL button closes the Start Shift. ESC key has the same effect.

Before an operator exits to make way for the new shift all transactions must be reconciled.
ccount Holders – can fuel any time with a valid card or key**.** Setting up the system to achieve these functions are explained below.

Self-service Mode: The user fuels on his own and then pays at the kiosk. When the user lifts the nozzle to fuel, the respective pump flashes. The shift operator has to then authorize the pump by pressing the pump number or click. If the pump number is made up of two digits the numbers must be pressed in quick succession. Once authorized, the button is set to an orange color. When the user replaces the nozzle back, the transaction is displayed on the FDX2006 panel and the button turns back to yellow. These transactions are cleared when payment is made. A pump can only have two unpaid transactions.

Attendant Mode: There is an attendant present at the pump island to fuel the vehicles. Authorization is automatically granted on lifting of the nozzle. Within this mode there can be two methods of payment; with auto pay active the attendant collects the cash and transactions are paid for as they are displayed and the other with auto pay inactive where the customer comes to the kiosk to pay. On the start of the shift all pumps configured in the system are displayed. An active pump has its button in yellow and the disabled in white. Pump are generally disabled during maintenance.
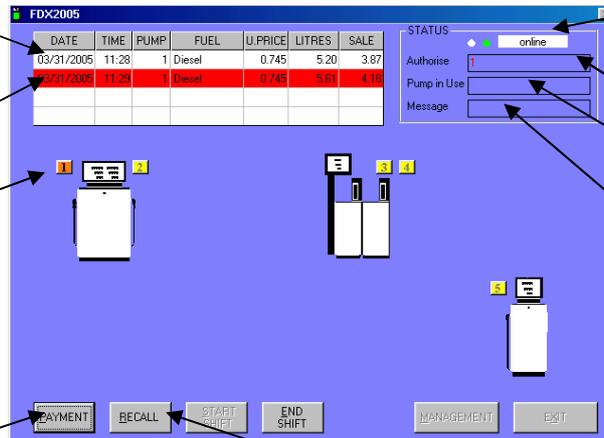
Renumbering Pumps and Tanks: Use the Ctrl + Alt+ I key to renumber the pumps and the tanks. This has to be done initially and never again unless pumps are added or the connections changed. Great care need be taken when using this feature. This assigns a number to every pump in the system depending on their order in the wiring connections. The same applies to the tanks also.

Sending Address To Pump: Use the Ctrl + Alt+ A key to send address and other static information that needs be printed on the pump printer. This information is entered in the address tab of setup. To be sure all the information is send it is advisable to do it twice.

The transaction grid displays each fueling operation on completion. Newer transactions appear below pushing older ones upwards and out.

A red row indicates an account transaction.

Authorization sought on Pump 1

Communication status with the pumps. This displays red and green flashing dots and the message online normally.

Pumps waiting for authorization
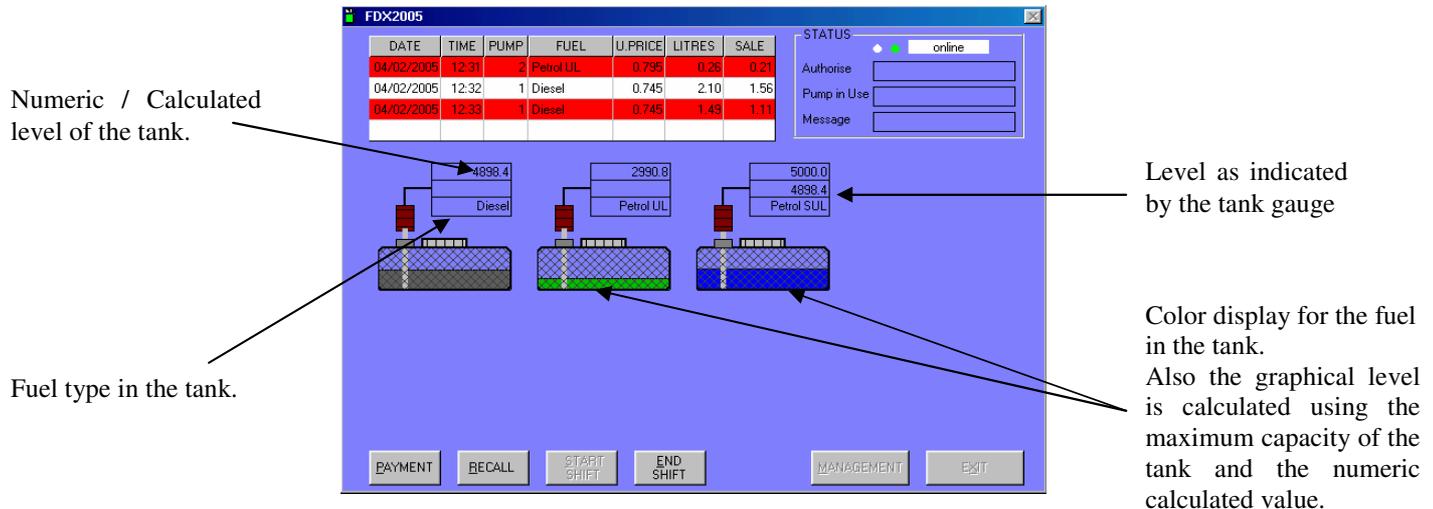
Pumps that are fueling.

Tank low message, Authorization reject message.
End of address sent.
Pump and tank response to numbering.

Payment button brings up the Mini-POS screen. Payments for fuel and dry goods can be executed.

Recall payments made of fuel transactions.

In the figure above there are five pumps configured. There are three pump islands with an FD102, FD204 and FD101 Balvin dispensers respectively.

Besides the graphical representation of the pumps as seen on the previous page FDX2006 also displays the graphical representation on the tanks that are setup. To display this view press the F12 key. It displays the type of fuel in the tank, the calculated/numeric level of the tank and the level as read in from the tank gauge if connected. The F12 key can be used to toggle between the two views.

Numeric / Calculated level of the tank.

Fuel type in the tank.

Level as indicated by the tank gauge

Color display for the fuel in the tank.
Also the graphical level is calculated using the maximum capacity of the tank and the numeric calculated value.

3   PAYMENT

All transactions have to be cleared/paid before the shift can be ended. The payment screen chooses the transactions that need to be paid. The 'Insert' key should be used to move forward in the grid whilst 'Shift + Insert' moves the focus in the reverse.

Type in the pump number for which payment needs to be made.
The PgUp and PgDown keys allow navigation between the transactions of same pump number.

The Item codes for dry goods need be entered.
If code is not known then leave column 1 blank and press ESC or click on column 2 to get a selection box for item names that can be selected.

The fuel transaction to be paid. The transaction selected for payment only if present on the transaction grid is highlighted in yellow color.

Entries for payment of dry goods sold. Each item sold has to be added in the dry goods section as well as their respective invoice entries.
Entering the code brings up the name and unit price.
The operator then needs to feed in the quantity.

Sales

S.No.	Code	Name	U.Price	Quantity	Amount
Fuel	3	Petrol UL	0.795	0.29	0.23
1	123	MLK BAR 100 GMS	26.000	2	52.00
2	134	SLICE 500 ML	12.000	3	36.00
3	112	TYRE R12	120.000	1	120.00
4	133	Slice 250Ml	6.000	1	6.00
5					

Payment Mode
- Cash (F5)
- Cheque (F6)
- Credit (F7)
- Account (F8)

Totals 214.23

Paid   Cancel

Error!

There are four modes by which payments can be made: Cash, Cheque, Credit Card or he doesn't pay for as he has an account with the fuel station. The function keys F5, F6, F7 and F8 also make these selections respectively.

Completes the sales and prints receipt if selected.
Dry good sales once entered cannot be recalled but fuel transaction can.

Closes the sales screen and return to the fuelling mode. No sale has been paid for. Esc key has the same effect.

The system has to be configured before it can be used for fuelling. The configuration of the software should be in accordance with the switch settings on the pump. Both the settings should match for the proper functioning of the system. The Setup is divided into four sections as individual tabs explained below. The General Tab provides various setting that are required for the operations of different features in the system.
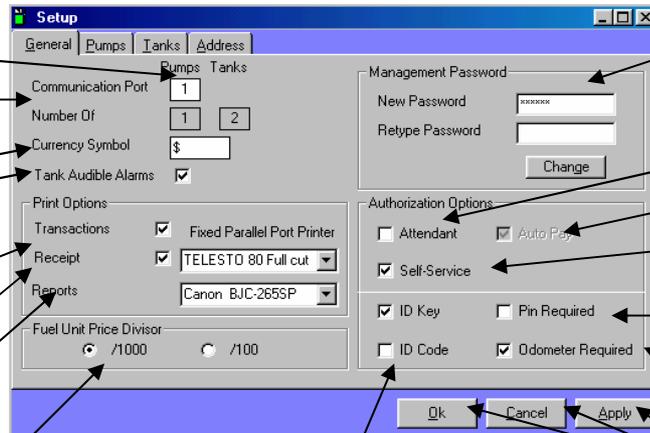
Specify the serial port number to which the FX board is connected.

Indicates the no. of pumps and tanks in the setup respectively.

Currency symbol on receipt

Beep on tank low

Print transactions as it occurs. Always prints to the parallel port printer of the system.

Print receipt on payment. Select the receipt printer.

Select printer for reports.

Change the management password by typing the new password in both the boxes and click change.

Select Attendant Mode. Select AutoPay for Attendat Mode

Select Self-Service Mode

Select Pin requirement for account fueling

Select odometer requirement for account fueling

The unit price of a fuel as specified on the Tank input page is divided either by 1000 or by 100 depending on the currency. The unit price should always be quoted in the least possible denomination. E.g Pence in the UK, cents in Europe.

Select the type of account fueling. Either the account holders are issued a key or assigned a code that he has to use for fuelling.

OK, saves and exits setup. Cancel, exits without saving.

ed and Apply, saves but doesn't before pumps are added.

Hose activation for dispenser. A hose once activated can be software disabled by deselecting it here.

Selection for the type of dispenser installed on the pump island. Eight islands in all. Hoses are activated depending upon the type of dispenser selected.

This amount indicates the maximum liters that the corresponding hose can dispense.

The pump totalisor r reading should be set at the time of installation.

Select the tank number that the hose is connected to.

Setup

General | Pumps | Tanks | Address

FD102 | Isle 2 | Isle 3 | Isle 4 | Isle 5 | Isle 6 | Isle 7 | Isle 8

	Pump 1		Pump 2		Tank Connected To Hose	Fuel Dispensed By Hose	Maximum Fuel Dispensed Limit
	Activate	Totaliser	Activate	Totaliser			
Hose1	☑	220.3	Hose1 ☐		1 ▼	Diesel	5.00
Hose2	☐		Hose2 ☑	132.0	2 ▼	Petrol UL	6.00
Hose3	☐		Hose3 ☐		▼		
Hose4	☐		Hose4 ☐		▼		

Ok | Cancel | Apply

In the figure above FD102 is selected on Isle 1. It is a two-product two-hose dispenser. One dispenses Diesel and the other Petrol Unleaded.

The Tanks tab allows for the activation and fuel assignment of the tanks. There are eight tanks that can be activated. Fuel is selected from a list that is preset in the software.

Select the fuel to be filled in the tank. Deleting value removes the tank.

The color for the fuel

The unit price is entered without any decimal points. The value should be equivalent to the least amount of denomination. E.g Pence in the UK and cents in Europe.

Vat percentage that is applied to the fuel.

Low limit level at which an indication is to be given to the operator for refilling the tank.

Maximum capacity to which the tank can be filled.
Utilized in the tank view

Value used to improve accuracy of Balvin tank gauge height

Shape of tank

The tank to which the hoses are connected. Hoses bearing the same number of both the pumps in the pair always dispense the same fuel hence always connected to the same tank. Tank setup has to be configured before pump setup are applied for the tank id's to appear in the selection

Parameters for the shape of tank.

Represented in the image above.

Current Stock:
Quantity of fuel that exists in the tank.
Reduced each time

Type of gauge if any.
Double click to remove.
Port only for other

The address tab provides for inputs that are to be printed on to the receipt. The receipt also contains a transaction number if there is a fuel payment and a sales number if there is payment made for dry goods.

All this information is printed onto the receipt.
VAT number is also printed on all the receipts. This is a must.

The message is printed at the end of the receipt.

Serial number issued by Balvin. If this is wrong then there could be many problems.

5   ACCOUNTS & ID'S

FDX2006 allows for fueling of account holders. Accounts need to be created and Id's assigned to the accounts. The Id's can be either a Balvin Key or a simple code depending upon the setting in setup. PIN is issued also depending upon its selection in setup.

Alpha-numeric Account Number   Id assigned to the Account,

Optional details required for billing. Name is required.

Save an account. Once saved, all fields are blanked out.

Fuel Limit for an account, Is set for Day, Week or Month. The sum of fuel taken by all Id's will not be allowed to exceed this value.

Save an Id. Once saved all fields are blanked. Account remains and ID

Selection will disable the Id.

The Add Tank Stock screen is used to add fuel stocks to the tanks. All stocks added here for every tank can be viewed in tank transaction reports.

Tank number to which fuel stock is to be added.

Indicates the current stock of fuel as present in the tank. This value decreases as transactions occur during fueling and

Increment Tank Id   Decrement Tank Id   Fuel type in tank.

Add Tank Stocks

Tank Number 3 [+] [-]   **Petrol SUL**

Current Stock 5000   Date 04/04/2005

Stock Added 1000   Total Cost 8540.00
(0.00 Format)

Total Sock 6000   Vat 213.00

Supplier Shell

[Add]   [Close]

Amount of fuel that has been supplied and added to the tank. If the tank is not configured then this field is not editable.

This field displays the total stock that will be present in the tank after addition of the fuel. Only after the Add button is clicked.

Amount paid for the quantity of fuel.

Vat part of the cost.

Name of fuel supplier.

After all entries are made as per the supply, selecting the Add button will update the tank stock. The amount in the Total Stock field will now appear in the Current Stock field.

7   Shift Operators

This screen allows for addition, deletion and modification of shift operators.

Error!

The Operator Code. This code number is required when starting a shift.

Operator's Name corresponding to the code and password.

A non-editable grid that displays operator information per row. The present active row is indicated in red.

Editable fields for the operator code , name and password. Modifications can be made here for the active row or selecting the blank row or specifying a new code number not already present can also activate a new operator.

The password field is a must and should be known only to the FDX manager and the operator concerned.
The password has to be specified along with code for starting of a shift.

Closes the Operator view and return to management.

On selection modifies the active row with the details in the editable fields. If the code number matches else a new row is added.

Deletes the operator from the list indicated by the active row.

8   Reports

The most significant aspect of FDX2006 is its report generation that not only gives an accurate analysis of the sales made during a period but also maintains proper accounting information.

Sales Analysis: This report has two sections, one displays the fuel sale per hose while at the bottom it displays the sale per fuel type.

These two columns display the current and previous totalisor readings of the hose.

The date up to when report is to me generated, inclusive.

This section of the report displays the sales for the same period according to the type of fuel. Thus also individual fuel types sold during the period are reported here.

ra   period.

amount for the period.

Specify the pump id for which to display the report. A void value here is considered as all pumps

Enter a hose number here to display its report. Void value generates report for all hose id's of selected pump.

The total amount of sales that occurred for the selected pump and hose.

Sales Analysis

| Date From | 01/01/03 | | Date To | 07/05/03 | |

Pump	Hose	Fuel	Current	Previous	Litres	Sale
2	2	Petrol SUL	6.57	0.00	6.57	5.61
2	3	Petrol	5.09	0.00	5.09	4.19
2	4	Petrol UL	9.53	0.00	9.53	7.94

| | Total Sale | | | | 79.06 |

Summary

Fuel		Litres	Sale
Diesel	Dsl	43.72	34.95
Petrol	Pet	11.84	9.73
Petrol SUL	SUL	16.29	13.92
Petrol UL	UL	24.59	20.46

| Display | Print | Return |

| Pump Id | 1 | Hose Id | 2 |

Date	Time	Pump	Hose	Fuel	Litres	Sale
29/04/03	09:40	1	2	Petrol SUL	1.98	1.69
30/04/03	08:56	1	2	Petrol SUL	2.02	1.73
30/04/03	09:02	1	2	Petrol SUL	4.75	4.06
30/04/03	09:15	1	2	Petrol SUL	0.37	0.32
30/04/03	09:20	1	2	Petrol SUL	0.29	0.25
30/04/03	09:27	1	2	Petrol SUL	0.31	0.26

| | Total Sale | | | | 8.31 |

Described below are the other reports that could be generated for fuel transactions..

Shift Transactions: Displays all the transactions that occurred during every shift within the specified period. It also gives the amount present in the till at the start and at the end of the shift.

Account Transactions: Displays all the transactions that have occurred during the period by account holders only. The account number can be specified to display transactions of a single account only.

Tank Transactions: Displays all the entries made for tank stock addition. Selection could be only for a specific tank.

Tank Stocks: Displays the stocks present in all the tanks. Also provides information on the throughput for all the hoses connected to the respective tanks.

9 Dry Goods

Dry goods include all items besides fuel. FDX2006 does incorporate a POS feature that allows for the payment of other goods besides fuel provided they are added to the system. This section describes the manner in which the POS system can be configured and the reporting of their sales.

Sales Item screen is used to add dry goods to the system. Modifications to existing goods are also possible here. The offer price is the unit price of the item that is displayed on the payment screen. If the offer price is left blank then the unit price is taken as the offer price on saving.

Select the criteria for display.

Make new entries by typing in the new code and other information. If the code already exists then the corresponding information comes up in the row.

Select the criteria above and then display all the items as per the criteria.

Saves all the items and then blanks out the grid.

Edit the unit price or other information of the items displayed.
Move from one cell to the next or one row to the next using the enter key, similarly shift + enter moves backwards.

Deletes the items that are displayed in the grid.

Item Code	Description	Category	Unit Value	Offer Value	VAT Code
127	PEPSI 250 ML	COLD DRINKS	6.00	6.00	1
128	PEPSI 500 ML	COLD DRINKS	12.00	12.00	1
130	PEPSI CAN	COLD DRINKS	30.00	30.00	1
131	7 UP 250 ML	COLD DRINKS	6.00	6.00	1
132	7 UP 500 ML	COLD DRINKS	12.00	12.00	1
133	Slice 250Ml	COLD DRINKS	6.00	6.00	0
134	SLICE 500 ML	COLD DRINKS	12.00	12.00	0

VAT   1 : 0%   2 : 5%   3 : 10%   4 : 17.5%   5 : 20%

Display   Save   Delete   Cancel

Stock Entry is used to add the invoices received from suppliers. Saving the invoices will add the quantity in the invoice to the stock of the items. The grid is blanked on saving. The code of the item can be typed in the first column or alternatively if the first column is left blank then the second column brings up a selection box for the items. Enter key and Shift + Enter Keys are used to move forwards and backwards respectively.

Date on the invoice.

The invoice number and supplier name on the invoice.

Enter the item code in the column if known.

If item code not known then select from the selection box that comes up only if first column is blank.

The VAT percentages and their codes.

VAT applied.

Blanks out the grid.

Display the items with the respective invoice details as above. Display also gets activated whenever focus is lost from the date, invoice or supplier fields. This is provided so that old invoice entries can be modified.

Saves the invoice and blanks the grid and the invoice and supplier fields. If an earlier invoice exists it is replaced with the entries as in the grid.

report generated

could be selected as per the item code or the sales number.

Stock Report: Provides a report of the stocks of an item, with its unit price and VAT code applied. Stocks that have diminished to zero are marked in red to grab attention.

Invoice Report: Provides a report of the invoice entries had have been entered for a period. Used for checking that entries made are proper as per the invoices.

VAT Entry: This is an input screen for assigning VAT percentages to the VAT codes.