

## SUPPLEMENT TO CERTIFICATE Series: 003 Revision 3

issued by:

**The National Measurement Office**

issued to:

**VME Retail  
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United Kingdom**

Authorisation is hereby given by the Secretary of State for Trade and Industry for the following Certificates of approval relating to a pattern of a liquid flowmeter to be modified as described below.

Certificate No.	Supplement No.	Certificate No.	Supplement No.
1918	78	2437/41*	55
1940	73	2486/54*	79
2017	99	2536	83
2162/92*	96	2619/43*	71
2176/78*	103	2650/53*	60
2286/58*	62	-----	----

(\*) Refers to the dispenser only, the self service device described in these certificates is not part of this approval.

As described in the Certificates but modified to have an alternative self service device, as detailed in the descriptive annex, and having the following characteristics:-

**DISPENSER:** Dispensers described in Certification Nos.: 1918, 1940, 2017, 2162, 2176, 2286, 2437, 2486, 2536, 2619 and 2650.

**FORECOURT CONTROL SYSTEM:** Integration Technologies forecourt control system (NZ) as described in the descriptive annex.

**COMBINED KIOSK CONTROL AND POINT OF SALE TERMINAL:** Fujitsu TeamPos 2000 running VME Retail 'IntelliStore' software as described in the descriptive annex.

**Issue Date:** 09 February 2015  
**Reference No:** T1119/0011



**Signatory: G Stones  
for Chief Executive**

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# Descriptive Annex

## 1 INTRODUCTION

This supplement describes the IntelliStore point of sale (POS) system connected to the specified fuel containers. The general arrangements are shown in schematic form in Figure 1 and Figure 2.

Dispensers are controlled via a forecourt distribution module (FDM) as shown in Figure 3 and within figure 1. This module is housed in a suitable enclosure and may be powered internally or externally by a 12V supply.

The FDM is installed into a general purpose enclosure unit labelled VME FDM 001 and routes all data via a single connection to the “Enabler” card. This is a PCI plug-in card (see Figure 4) which is inserted into a suitable host PC unit. The interconnections between dispensers, FDM and Enabler card are illustrated in Figure 5. The Enabler card controls the remainder of the kiosk (POS units and other equipment) via a single local area network (LAN) connection distributed via an Ethernet “hub” or “switch”. Figure 1 provides an overview of the system.

In summary, the IntelliStore POS systems comprises the following:

- Master POS fitted with “Enabler2 PCI fuel card”
- pump controller interface unit
- one or more slave POS terminals. The POS terminals connected to the server via a LAN network coupled via a hub or switch unit.

Additionally, the system optionally contains:

- Back office PC
- Barcode reader
- EFT card reader
- Chip and pin reader
- Receipt printer
- Cash drawer
- Scales
- Customer display unit (CDU)

Typical back office PC connections are shown in Figure 2.

## 2 CONSTRUCTION

### 2.1 Back-office server PC

The back office server PC will be any suitable CE marked device.

## **2.2 Enabler PCI card**

The “Enabler” PCI card contains the fuel POS system software embedded in storage devices. The card is inserted into the Master POS and forms the core of the system.

Connection from the card to “pump interface modules” enables control of the dispensers. These pump interface modules are described. Each module can control up to 8 dispensers and the Enabler card can drive up to 4 such modules.

Connection to POS till units is via a LAN distribution using hubs or switches. Up to 32 POS units may be supported.

## **2.3 Point of sale base unit**

Any PC based POS system, or custom POS unit approved by NWML for use in fuel sales may be used, including the units detailed as follows:

### **2.3.1 Fujitsu ICL Teampos 2000**

This comprises a PC, a customer display unit, an operator display unit, a keyboard, a printer and a cash drawer.

## **2.4 Operator display – IntelliStore POS display**

The operator display is an LCD touch-sensitive display, e.g. TEC or Microtouch, which is attached either by PS2, USB or RS232 connection to the PC. The display has a matrix covering the screen which is sensitive to the touch of a finger. Only functions that are valid at a particular time will have icons / keys on the screen. Details of operator screens (interface) are given in Section 3.

## **2.5 EFT card reader**

The card reader is a separate unit attached to the system via RS232 (other terminals may use different protocols). Any suitable CE marked device may be used.

## **2.6 Barcode reader**

This is used for the scanning of barcodes on dry stock items. It is attached to a serial port or as a keyboard wedge on the PC. Any suitable CE marked device may be used.

## **2.7 Receipt printer**

The receipt printer can be connected to either the serial or USB port on the PC. Any suitable CE marked device may be used.

## **2.8 Cash drawer**

The cash drawer is connected to a printer. Any ‘generic’, ‘mini’ or ‘flip-top’ cash drawer may be fitted. Any suitable CE marked device may be used.

## **2.9 Customer display unit (CDU)**

This is a 2-line CDU, which connected to the serial port on the rear of the PC. Any suitable CE marked device may be used.

## **2.10 Uninterruptible power supply (UPS)**

The system is powered by a UPS which provides power for at least 15 minutes in the event of a power failure to allow completion of current transactions and safe shutdown of the system. Individual UPS units may be attached to each PC to provide power during a mains failure. Alternatively, a large UPS, capable of supporting the complete system, POS terminals and back office PC, may be installed together with UPS sockets installed at each PC terminal. The UPS installation is dependent upon the customer requirements but any UPS install will carry the CE mark for EMC conformity.

## **2.11 Other related hardware**

### **2.11.1 Back office PC**

A back office PC may be connected to the system over the LAN or RS232. This PC is used to manage the wet and dry stock. Any suitable CE marked device may be used.

### **2.11.2 LAN hub or switch**

This provides communications with all devices connected by the LAN. Any suitable CE marked device may be used.

### **2.11.3 Modem**

This may be added for remote support and diagnostics. Any suitable CE marked device may be used.

## **2.12 Software**

### **2.12.1 Operating system (OS)**

The OS is Microsoft Windows NT4, Microsoft Windows 2000 Professional, Microsoft Windows XP Professional or Microsoft Windows Vista.

### **2.12.2 Pump interfaces**

The following pump interfaces are supported:

- Standard 2 wire (pump specific protocol)
- IFSF

**2.12.3** The software is identified using the version number structure, x.y.n. Status at time of issue is 2.3.8.

x (numeric) denotes major functional change and is the legally relevant part. This number must not change without authorisation from NWML.

y (numeric) denotes minor functional change

n (numeric) refers to changes due to fault fixes.

The software version numbers are displayed when the POS is signed off.

### **2.13 Weighing instrument**

Any weighing instrument having a type approval certificate in accordance with The Council Directive 90/384/EEC on Non-Automatic Weighing Instruments may be connected to the store controller serial port. The software controlling the operation of the weighing instrument is described in NWML Test Certificate GB-1159.

## **3 OPERATION**

### **3.1 Touchscreen**

User control of the IntelliStore POS is via the integrated LCD display with integrated touchscreen controller. All functions and data entry are executed / entered by touching screen keys.

#### **3.1.1 Signing on**

A sign-on function is universal to all configurations of IntelliStore POS systems, and is the first screen displayed when the program has loaded.

A typical example of a sign-on screen is illustrated in Figure 7. To sign on, you need an operator number and an operator alphanumeric password for security. Security passwords and other data required for signing-on are entered using an onscreen alphanumeric keypad.

#### **3.1.2 Sales screen**

The operator sales screen (Figure 8) shows an example of a typical configuration. For fuel sales, the most significant part of this screen is the pump key display at the bottom. The pump keys and their operation are described in 3.2.

Other significant features include:

- The status line at the top-left of the screen, which provides time and date information, as well as till and cashier details.
- The transaction panel, which displays either current or previous transactions.
- The panel at the bottom left of the screen shows the number of items in the transaction and the sub-total of the latest transaction.

The operator panel, which identifies the operator and facilitates security through the [SIGN OFF] and [SECURE] keys. The [SECURE] key inhibits use of the touchscreen, secures the cash drawer and requires a valid operator number and password for next use of the POS.

## 3.2 Fuel sales

The pump control operations and fuel sales procedure remain the same at the POS irrespective of the forecourt (site) control unit employed.

### 3.2.1 Fuel sale keys / icons – overview

Fuel sale information and functions are divided between the pump keys display (Figure 8) and pump details display (figure 11) which appears when the operator touches the correct pump key to select a sale for confirmation / transfer to the POS for payment.

### 3.2.2 Pump keys

These keys (Figures 8 – 10) display the pump status at any given time. Up to 15 may be displayed:

- Authorisation request
- Fuelling in progress (value shown)
- Fuelling complete

They also provide functionality, directly or indirectly (through pump details display) for:

- Fuel sale authorisation
- Fuel sale transfer to POS for payment


### 3.2.3 Fuel transaction summary

	Forecourt	Combined pump control and POS	Operator action
1	Nozzle out	Update POS display Beep	
2			Authorise delivery
3		Start fuelling Create new transaction	
4	Nozzle in	Update POS display and beep Store transaction	
5		Lock transaction Show transaction on CDU	Select transaction Confirm with customer
6		Update CDU item and total Add to sale	Accept payment
7		Clear transaction	

### 3.2.4 Pump authorisation (Figure 9)

When the customer removes the nozzle at the pump, the POS operator is alerted by a flashing ‘?’ symbol, indicating whether it is the first sale on the pump, or the second (but with a stored first sale). The operator authorises the pump by touching the flashing pump icon.

### **3.2.5 Fuelling**

During fuelling, the pump icon displays progress – the increasing sales value and a horizontal hose icon (see Figure 9). A stored sale is indicated by a stacking symbol - 

### **3.2.6 Fuelling complete**

When the customer replaces the nozzle, the pump key icon changes, and the hose returns to the “completed” state. The screen also indicates whether it is the 1<sup>st</sup> sale on the pump, or whether there is more than one sale “stacked”.

### **3.2.7 Completing fuel sale (single fuel sale on pump)**

To select a sale and transfer it to the POS, the operator touches the transaction in the appropriate pump screen (e.g. pump 1), then presses the [ADD SALE] button. The amount and the sale is transferred to the POS transaction panel for payment as usual. Dry goods may form part of the transaction.

### **3.2.8 Completing fuel sale (two fuel sales on one pump)**

To select a sale and transfer it to the POS, the operator touches the pump key. The pump sale details display will have values shown on the Current Sale and Stored Sale keys (Figure 11). The operator selects a sale for transfer then touches the sale amount and sale is transferred to the POS transaction panel for payment as usual. The operator can complete the sales in any order. Dry goods may form part of the transaction.

### **3.2.9 Removing a fuel sale from a transaction – [VOID] key**

To remove a fuel sale displayed in the transaction panel, the operator touches the fuel line in the transaction panel, then presses the [CANCEL / SUB NEXT] key. The fuel sale is returned to the pump icon. The value is shown below the pump.

Note: the sale has, in effect, only be postponed, and must be paid for in another transaction.

### **3.2.10 Stopping a pump from dispensing**

To stop a pump from dispensing, the operator touches the [PUMP] key. The pump details display appears (Figure 11) and the operator touches the red [EMERGENCY STOP] symbol producing the display shown in Figure 12.

### **3.2.11 Restarting a pump / starting a pump for a second sale**

To resume fuelling on a second pump, or to start a pump for a second sale, the operator presses the appropriate pump key, then the [AUTHORISE PUMP] symbol on the pump details display (Figure 11).



### 3.2.12 Payment

Fuel and dry goods sales can be combined in any order. Fuel sales are transferred to the POS using the procedure in 3.2. Dry goods are entered using a number of methods including:

- Keying an item code using an onscreen keypad.
- Scanning a barcode using a barcode scanner
- Selling by value, and entering a department (key) on the on-screen keyboard.
- Touching a pre-set value / item key.

Promotions (automatic) and discounts / surcharges / vouchers (operator-controlled) can be applied to both fuel and dry goods sales

Payment can be made by any of the usual methods: cash, cheque, EFT card (credit, debit or fuel card) or local account card. All payments are entered by touching the [TOTAL] key, then choosing the method of payment. For cash transactions, the cashier can then select a key corresponding to the amount of money received, or alternatively enter a figure using the on-screen keyboard.

EFT cards are processed by inserting the card or swiping the card at a connected terminal, or they may be keyed in at the terminal if they fail to swipe.

As soon as the payment procedure is completed (including card authorisation of EFT card if appropriate), the sale, including the fuel component, is cleared from the POS. A typical payment sequence is:

Total key	Totals the sales
Cash key	Selected payment method
£8.61 entered using screen keypad	Amount being tendered by customer
Receipt issued automatically	Issue receipt for sale paid

### 3.3 Interlocks and security features

- Timeouts and interlocks related to the dispenser are applicable (see related certificates).
- With both current and stored sales for a pump in the “not paid” status, no further sales may be authorised on that pump until one of the sales for that pump has been paid.
- A fuel transaction transferred to the POS terminal in error may be transferred back to the dispenser control by pressing the [CANCEL / SUB NEXT] button. This operation is only possible provided that the dispenser concerned has not both an outstanding current and stored transaction.
- Grade prices cannot be changed while any sales are currently active on the pumps.
- In the event of a fault, an error message (RED bar) indicating the type of fault is displayed on the POS. Details of the fault are displayed in the pump details screen, displayed when the pump icon is touched.

- If an error condition occurs, the pump motors will stop and the transaction must be terminated. The dispenser will not operate until the fault is corrected (via site controller).
- A second transaction on a dispenser cannot be initiated until a guard time of at least 5 seconds has elapsed (via site controller).

### **3.4 Mains power failure**

- In the event of a power failure, the back office server will indicate a power failure and isolate communications with the dispenser. Any transactions completed may be paid for as normal, both current and stored. The UPS will maintain power allowing the payment of sales for at least 15 minutes.
- Sales in progress must be terminated by replacing the nozzle. The operator display will indicate a pump error on these pumps. Sales taking place on these pumps must be paid for by reference to the pump display head.

## **4 AUTHORISED ALTERNATIVES**

### **4.1 Alternative POS PC – Dell Poweredge 840 (figure 15)**

As described in the certificate but having a Dell Poweredge 840 PC running the master POS i.e. housing the enabler PCI card (see section 2.2).

### **4.2 Alternative forecourt controller: DOMS PSS 5000**

As described in the certificate but having the DOMS PSS 5000 forecourt controller replacing the FDM and master till with enabler PC card.

#### **4.2.1 Construction**

The DOMS PSS5000 forecourt controller comprises a metal rectangular box (Figure 16) housing the following main components. The general arrangement is shown in Figure 17.

- A power supply
- A central processing board (CPU) with 8 serial ports (CPB508).
- This has an LCD 16x2 character alphanumerical display and a keyboard comprising 5 keys for navigating the menu options, an adjacent legend describes the key functions as shown in Figure 18.
- Hardware interface modules. Dispensers are connected to the CPU board via an appropriate hardware interface module compatible with the communication protocol of the dispenser.

#### **4.2.2 Software**

The DOMS PSS5000 has a legal authority module (LAM) for the UK containing specific parameter values and functions. The LAM version number is 498-06-101 and the checksum number is 084C. These can be viewed by selecting the appropriate menu heading using the operator keys on the CPU.

### **4.2.3**            Operation

The operation of the Iridium forecourt control system remains the same. The LAM version number and checksum are accessed as follows.

When the PSS is powered on, the first line displays the application software version and the current time. The second line displays the W&M Service menu. Pressing the down arrow once, displays the W & M menu which comprises 7 sub-menus, W.1 to W.7. Press the right button once to obtain W.1 – LAM INFO and press again to display Version and Checksum information.

### **4.2.4**            DOMS 5000 SITE CONTROLLER with LAN (Ethernet) connectivity

As described in the certification but having connected the DOMS 5000 site controller with provision of LAN (Ethernet) connectivity. Implementation of this connectivity is achieved by fitting revised main board incorporating the Ethernet circuitry. This version is designated CPB505 or CPB509.

## **4.3**                **Alternative graphical display**

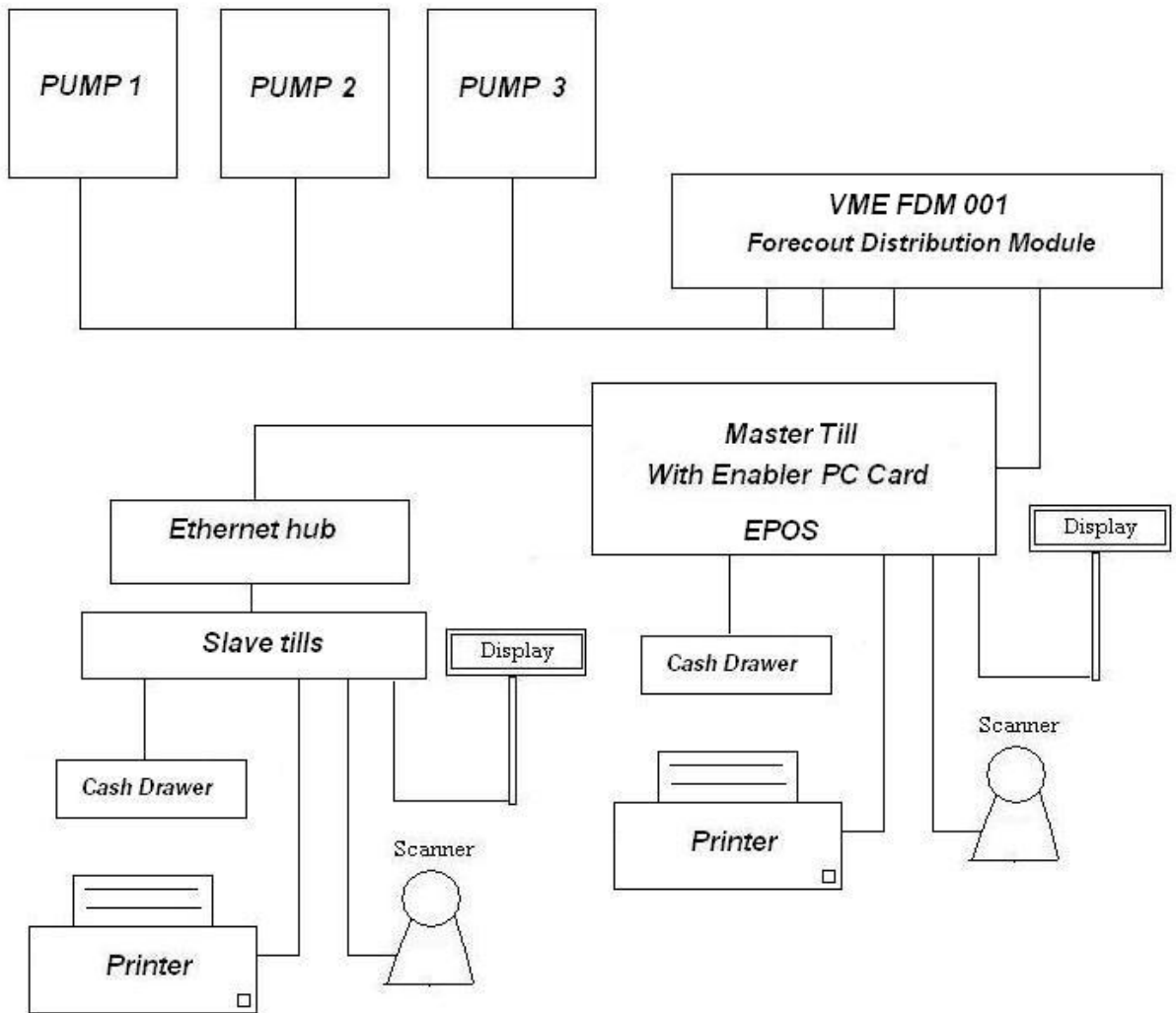
**4.3.1**            As described in the certificate but having an alternative style of graphics as shown in Figure 19. This style is present from software version 2.24.x and later.

## **5**                 **RECOMMENDED TESTS**

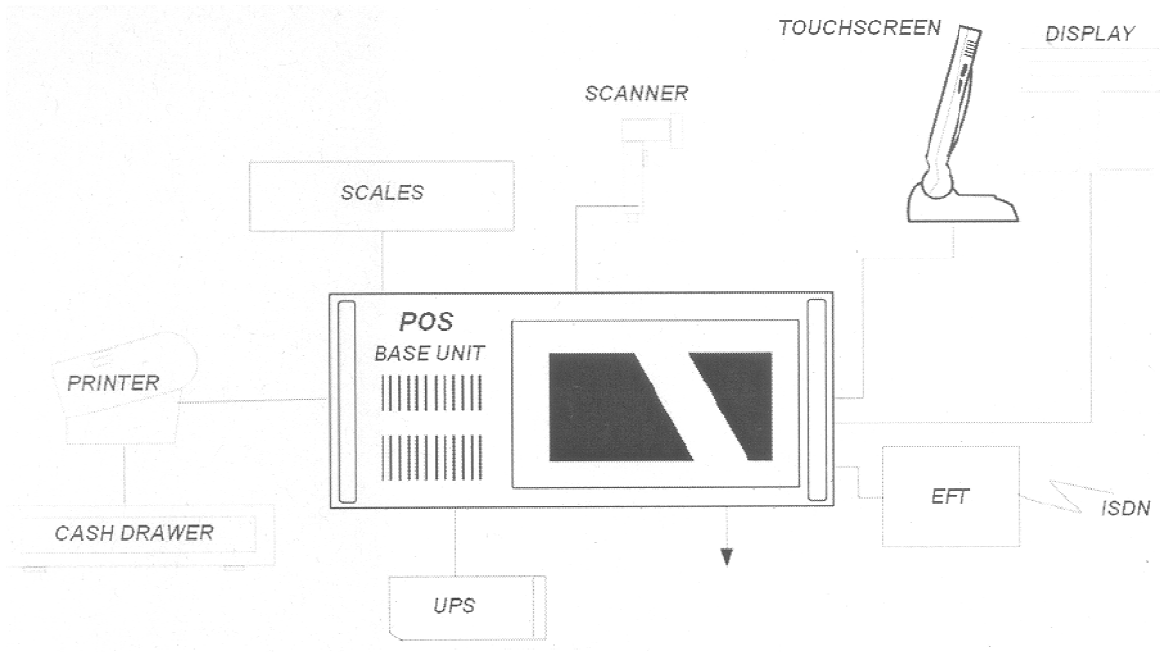
- Check that the legally relevant software version numbers are correct for the system configuration (see Section 2.12.2).
- Check that the UPS maintains power to the system allowing uncompleted fuel transactions to be completed for at least 15 minutes after the power is switched off.
- Check that the volume and calculated price shown on the dispenser(s) correspond with the customer display and POS receipt. For installations with more than one dispenser, the dispenser number must accompany the volume and calculated price.
- Check that no more than one additional transaction can be stored for each dispenser. Each transaction must be accompanied by a clear indicator representing the current or stored transaction.

## CERTIFICATE HISTORY

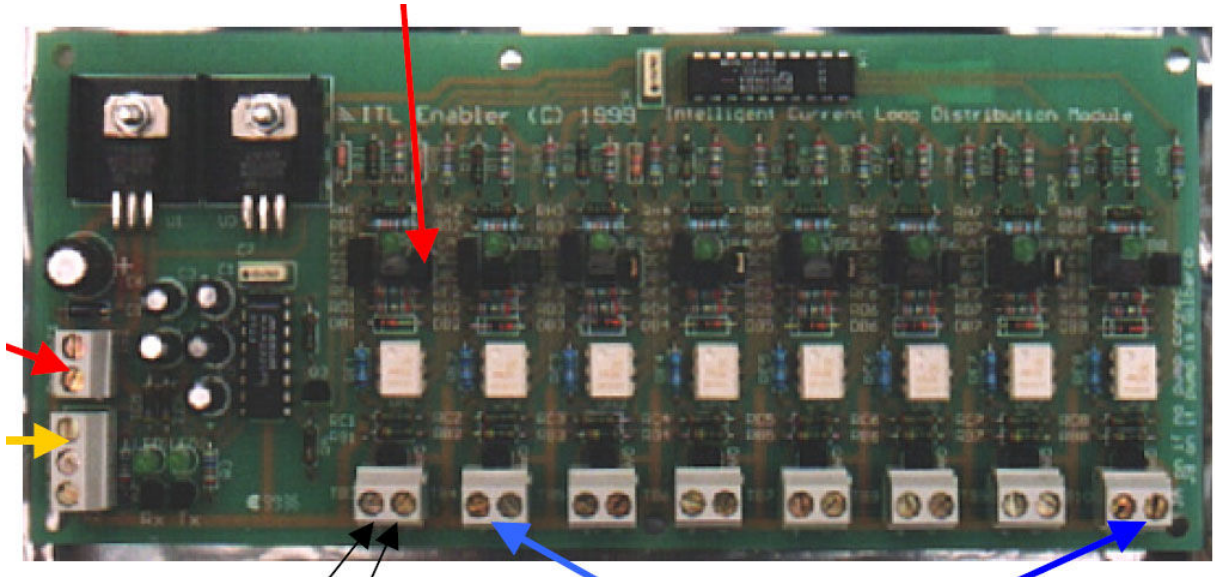
ISSUE NO.	DATE	DESCRIPTION
Certification No 1918/78 Certification No 1940/73 Certification No 2162/96 Certification No 2286 /62 Certification No 2650/60	20 November 2006 20 November 2006 20 November 2006 20 November 2006 20 November 2006	Type examination certificate first issued. Type examination certificate first issued. Type examination certificate first issued. Type examination certificate first issued. Type examination certificate first issued.
<u>Series V003</u>	20 November 2006	Original variant certificates 1918/78, 1940/73, 2162/96, 2286/62, and 2650/60 consolidated into one certificate.
V003 Revision 1	21 October 2011	Addition of: Section 4.1 Alternative POS PC – Dell Poweredge 840, and Figure 15
V003 Revision 2	26 June 2013	Addition of: sections 4.2, Alternative forecourt controller DOMS PSS 5000 and 4.3, Alternative graphical display
V003 Revision 3	09 February 2015	Front page: certificate numbers for dispensers: 2017, 2176, 2437, 2486, 2536 and 2619 added to table with new supplements, and also added to list of Dispensers.



**Figure 1 Overview of the system**



**Figure 2 Typical connections within a kiosk**



**Figure 3 Forecourt distribution module (FDM)**

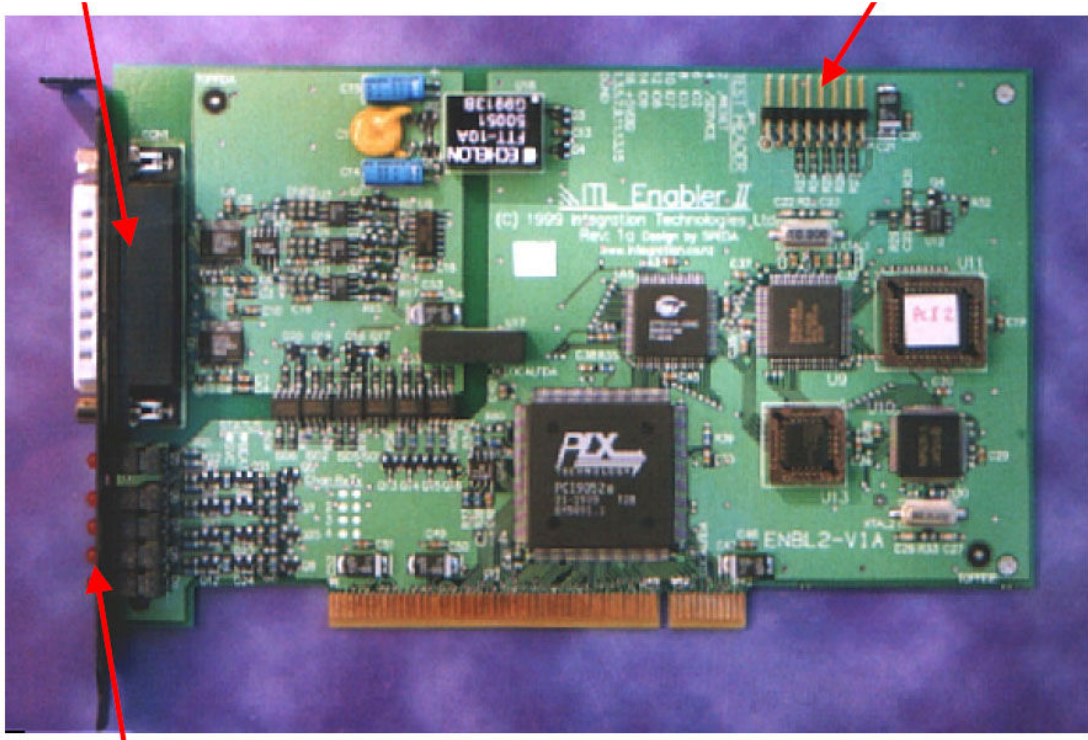


Figure 4 Enabler PCI card

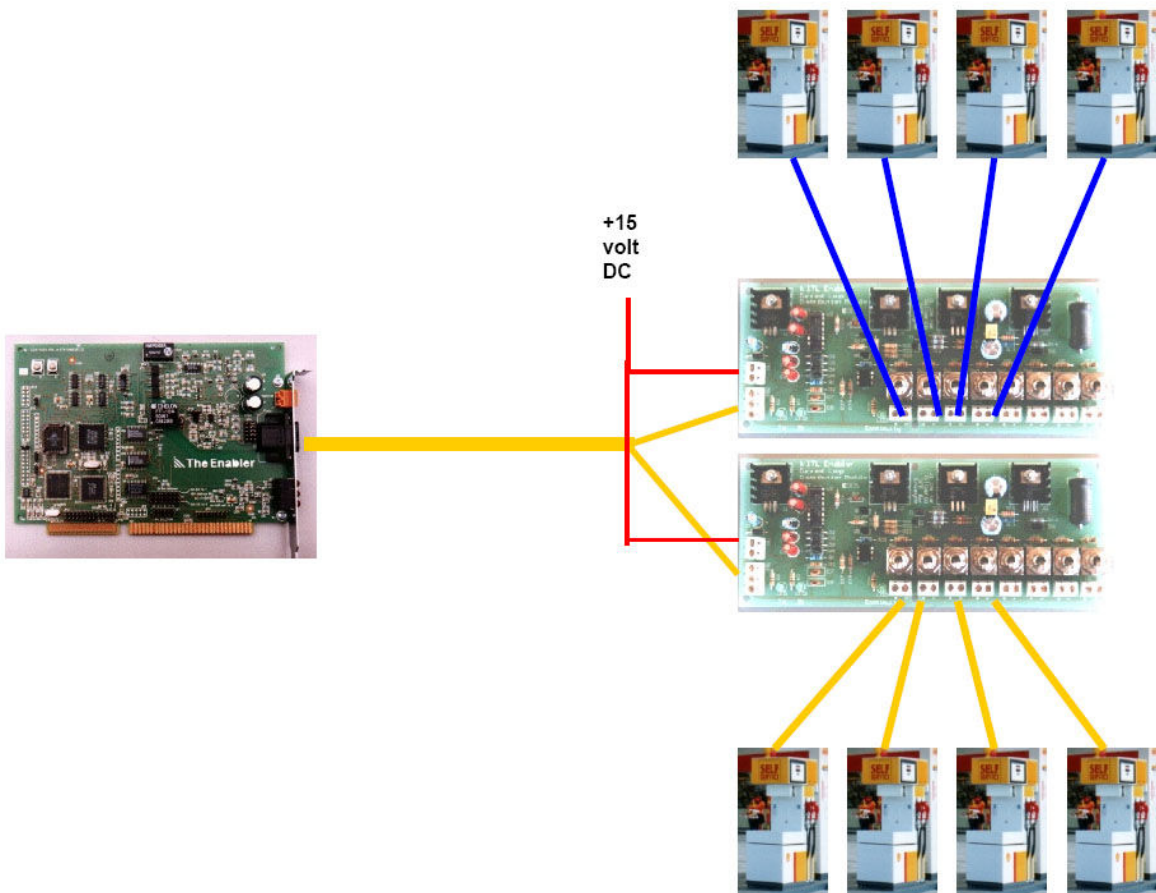


Figure 5 Schematic of typical Enabler configuration



**Figure 6 Example POS hardware type**



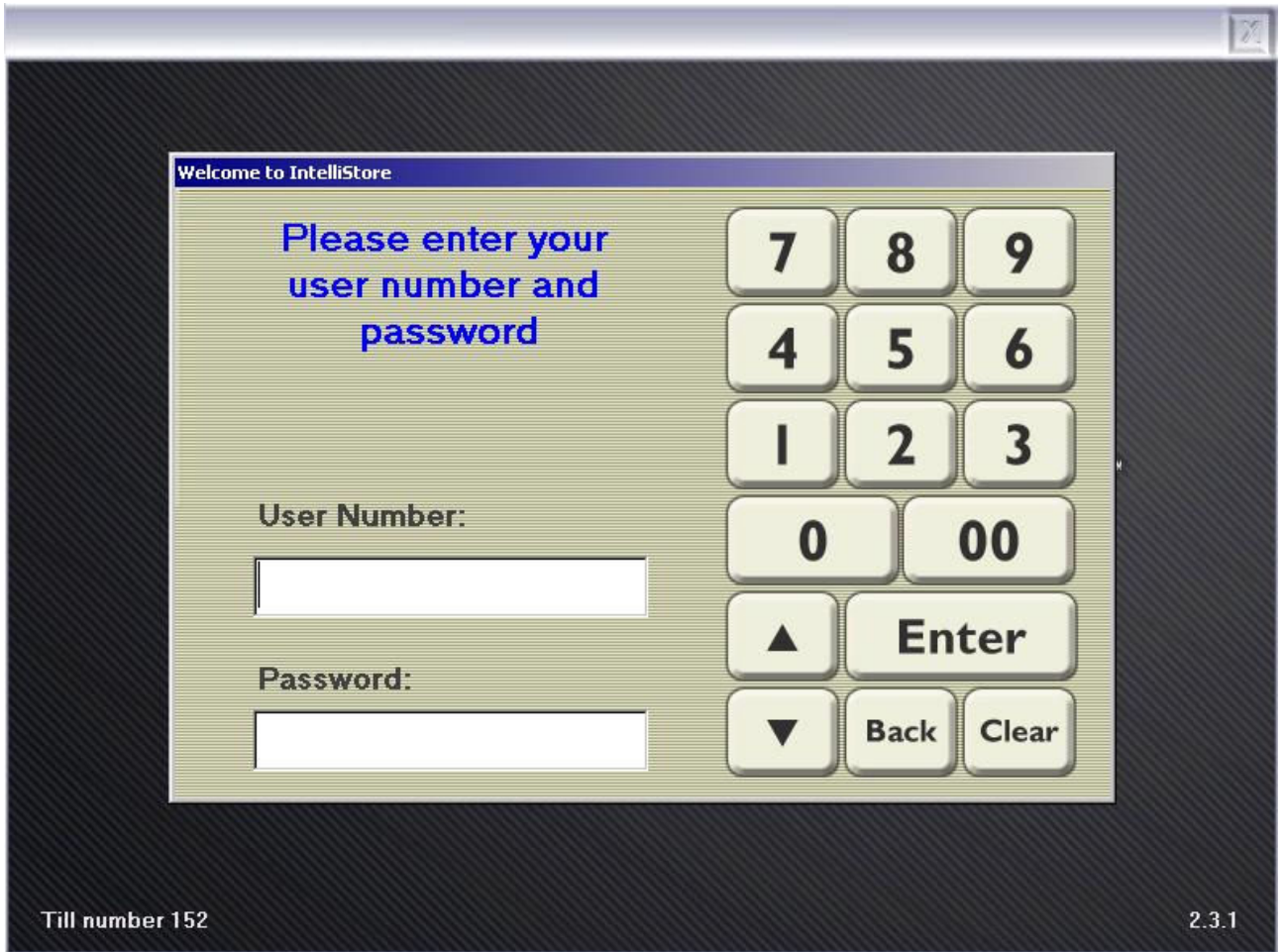


Figure 7 Sign-on screen

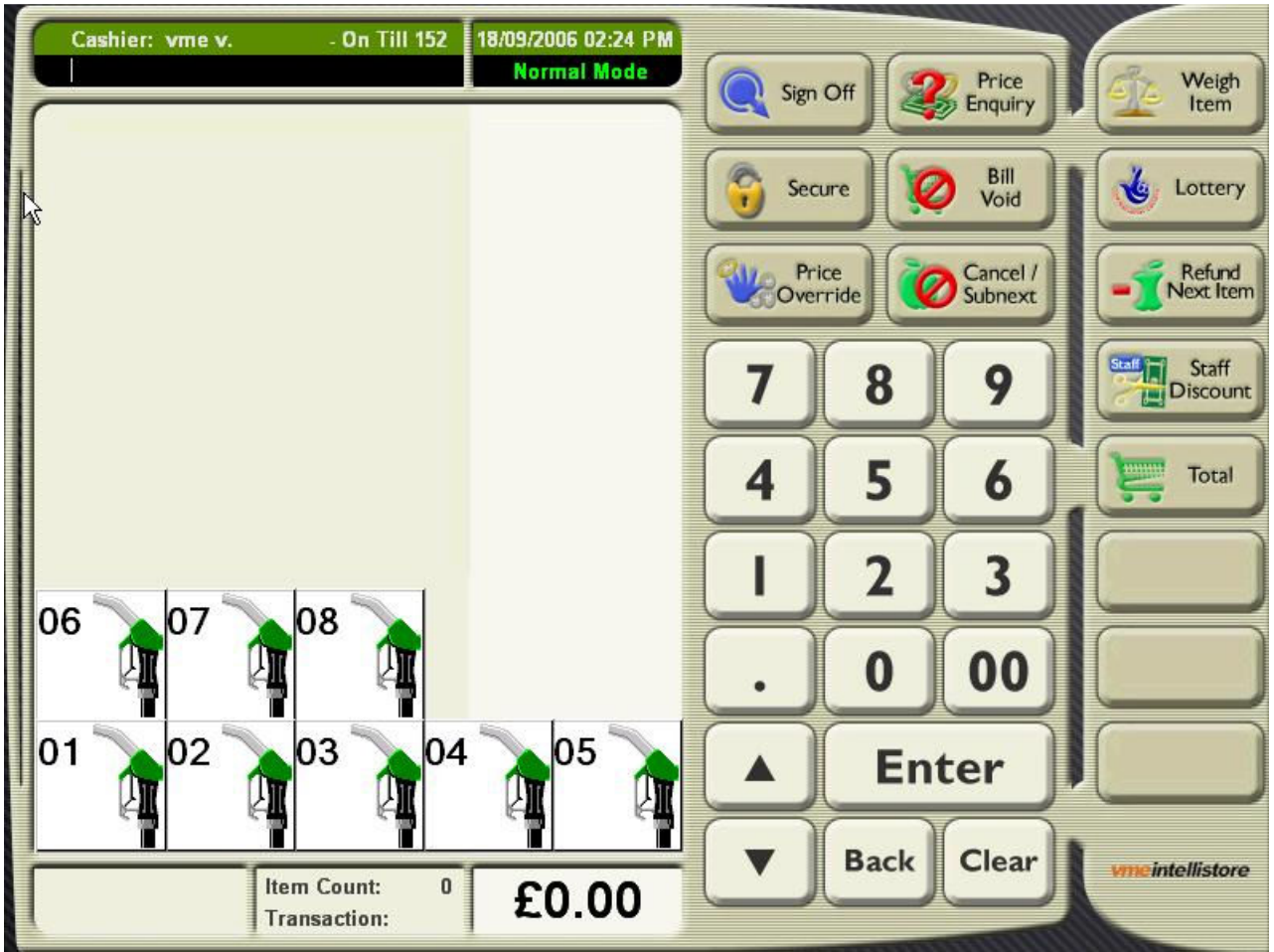










Figure 8 Sales screen

01 Premium Icon: Pump with question mark	01 Premium £37.73 Icon: Pump with question mark	01 Premium £47.16 Icon: Pump with question mark	01 Icon: Pump
Authorisation	Dispensing	Completed	Idle

Figure 9

Pump icons: different stages of sale, e.g. authorisation, dispensing, idle

<p>Pump idle</p> 	<p>Pump out of service / stopped</p> 
<p>Pump requiring authorisation</p> 	<p>Pump requiring authorisation with another sale queued</p> 
<p>Pump fuelling</p> 	<p>Pump fuelling with another sale queued</p> 
<p>Fuel delivery complete Ready for payment</p> 	<p>Fuel delivery complete 2 stored sales ready for payment</p> 

**Figure 10 Pump icons - functions**

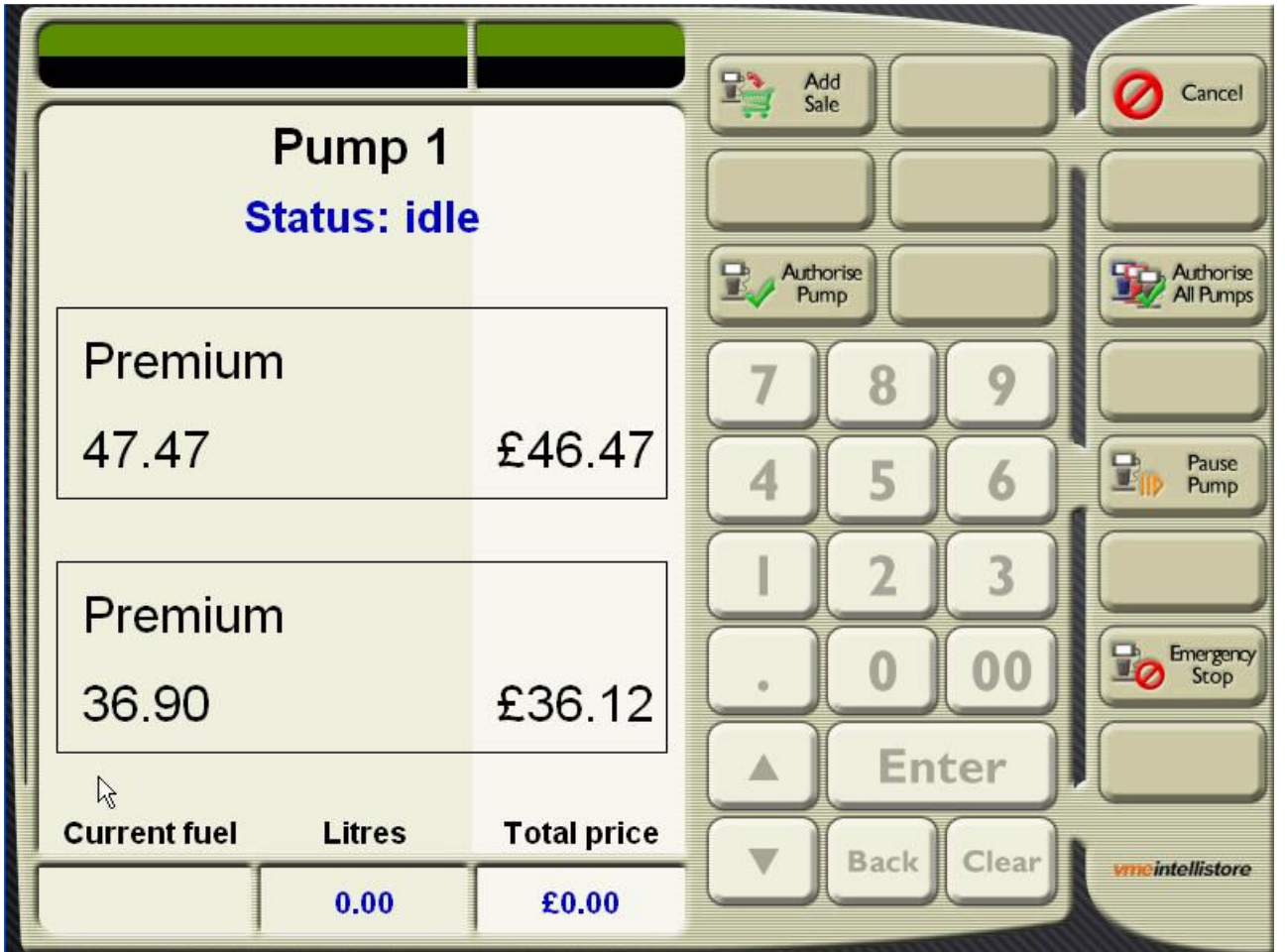


Figure 11 Pump details display



Figure 12 Pump stopped icon



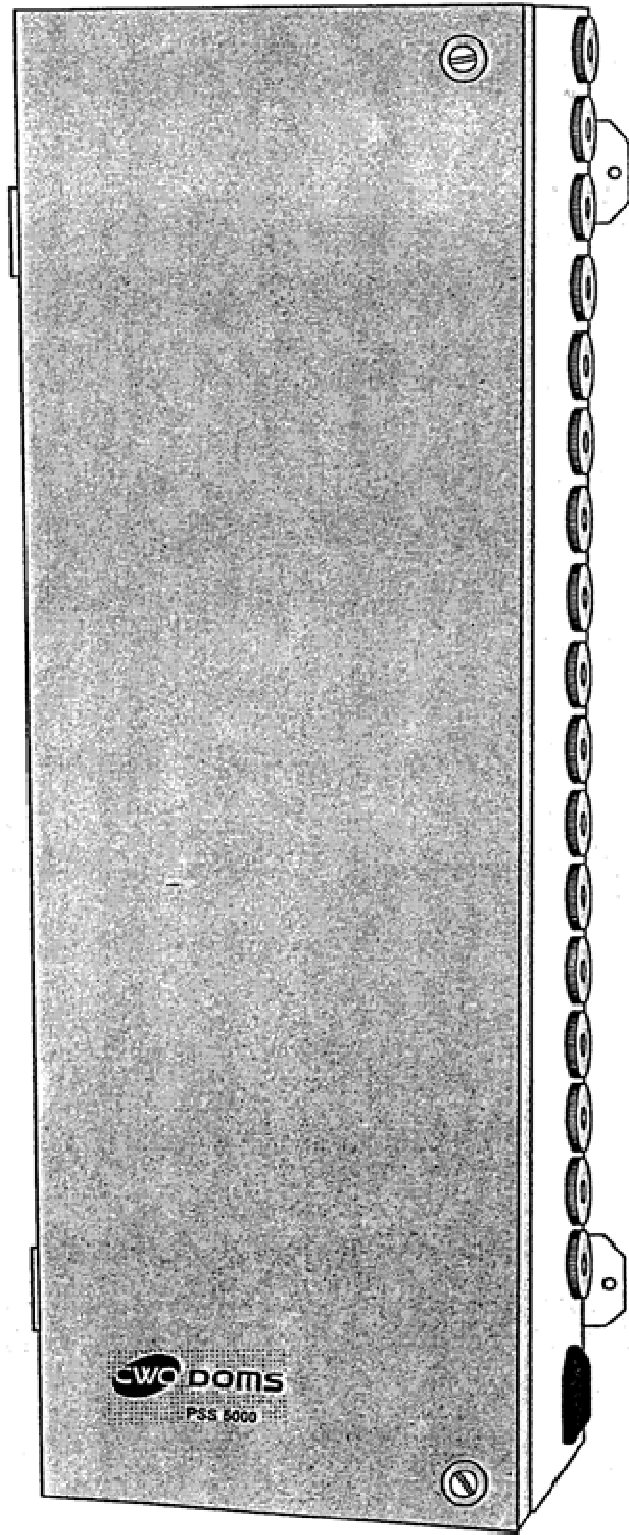
Figure 13 Customer display unit – typical displays



Figure 14 Typical receipt



**Figure 15** Alternative POS PC – Dell Poweredge 840



**Figure 16**      **DOMS PSS 5000 enclosure**

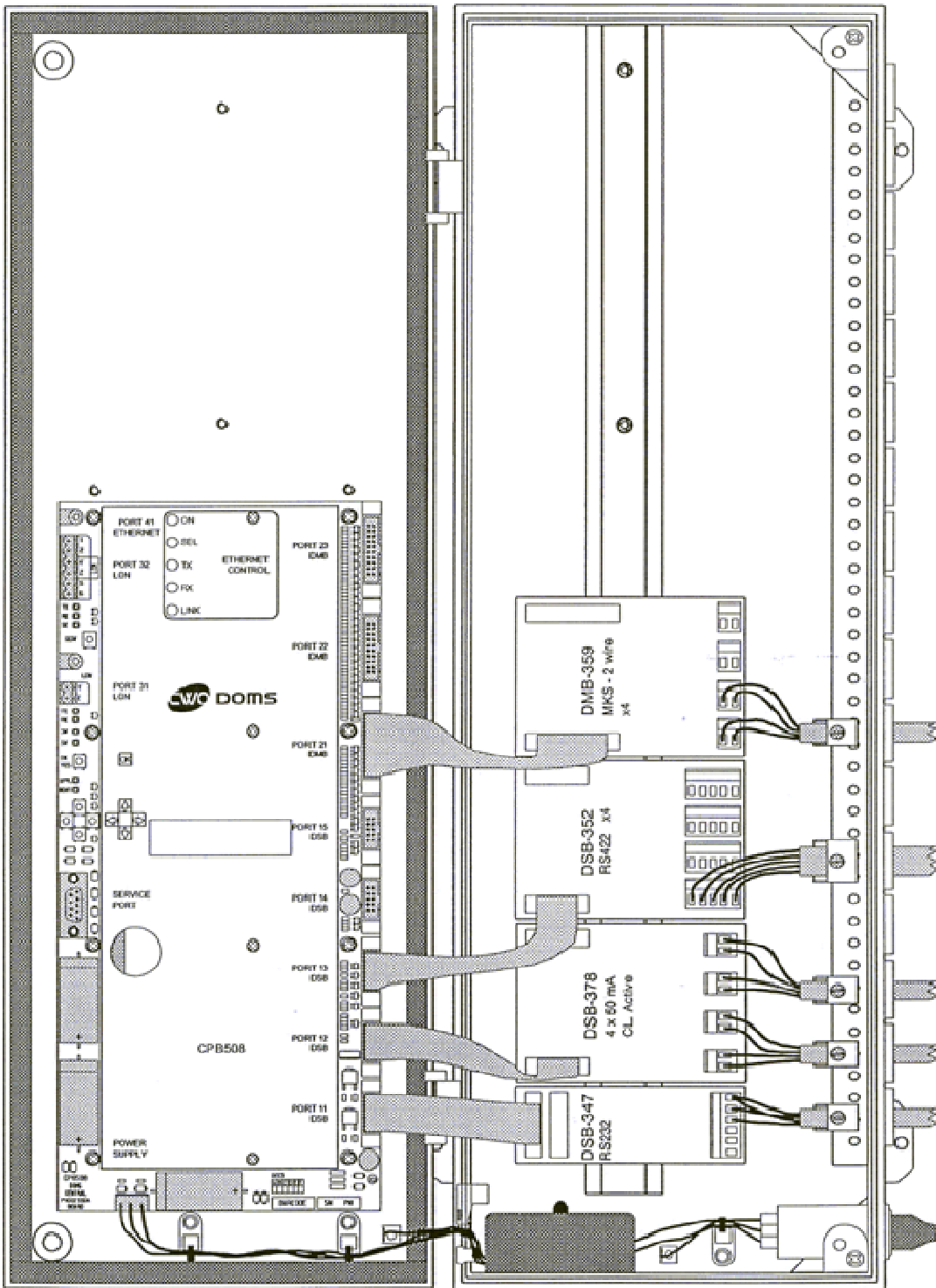


Figure 17 DOMS PSS 5000 typical electronic component layout





**Figure 18** Central processing board (CPB508) display and menu navigation keys



**Figure 19** Alternative graphical display