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Global Leaders in Car Wash Technology

Codax Embedded Serial Terminal Operators Manual

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Car Wash and Forecourt Equipment.

CET-SER-UM-ENG-280121-1.05

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REVISION HISTORY

Document Number	Version	Date	Comments
CET-SER-UM-ENG-110220-1.01	1.01	11th February 2020	1st Release
CET-SER-UM-ENG-150320-1.02	1.02	15th March 2020	Manuals split into SER and ETH
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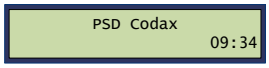
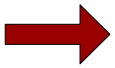
CET-SER-UM-ENG-280121-1.05	1.05	28th January	Round 2 Testing

KEY

	Screen		Print
	Function Keys (Service Required)		Print Feed
	Function Keys (Function Required)		Correct
	Key Pad		Incorrect
	Flow Correct		On
	Flow Incorrect		Off
	Print		Printer Unavailable
	Clear		Insert Smartcard
	Expanded Menu		Remove Smartcard
	DHCP Option		Decision Required

CONTENTS

1 IMPORTANT SAFETY INFORMATION

Prior to installing or operating this equipment, please read this Important Safety Information carefully.

Codax must only be installed and serviced by a competent person who has sufficient electrical systems and product service knowledge. End users/owners must not attempt any service operations or remove any covers.

Removal of any covers, especially at the car wash/service interface keypad may expose high voltage electrical components and risk of electrical shock which can cause serious injury and death.

Car wash machines are often powered by a 415/420 volts three-phase electrical supply. S*uch supplies are extremely dangerous when unqualified persons attempt to service/touch them, presenting a very high risk of instant death.*

- The only end user serviceable component is replacement ticket paper rolls.
- The person(s) responsible for installing or commissioning Codax must ensure that the Owner/Operator Manual is presented to the owner/operator of the system.
- CE The CE mark applying to Codax relates to Codax as a standalone system. It is the responsibility of the installer and or equipment manufacturer to ensure that the integrity of Codax or the equipment, especially the electrical integrity, is not affected or compromised in any way.
- The Codax 24VDC power supply unit (12VDC for printer-less POS linked Terminals) and Codax Ticket Terminal must be installed in a dry environment and only connected to an electrical supply that has been installed by a qualified electrician.
- The Codax Ticket Terminal/Codax Embedded Terminal must only be powered by a Codax 24VDC/12VDC Power Supply unit - It must never be connected to other power supplies and never connected directly to the mains electrical supply.
- The Codax Ticket Terminal/Codax Embedded Terminal is designed to be installed and operated indoors. Do not allow fluids to enter or to be splashed onto it.
- The Codax system or components are not designed to be installed or operated in hazardous areas.
- Check that the machine is safe to operate and clear of persons and property before testing at the end of the installation process.

- At end of life dispose of Waste Electrical and Electronic Equipment (WEEE) responsibly.

Codax ™ is designed and manufactured by PSD Codax Ltd.

Axis 8, Hawkfield Business Park
Whitchurch
Bristol, BS14 0BY
England
www.psdcodax.com

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When you purchase each single Codax system you are granted a single licence to operate the one version of the operating system supplied with the hardware. No permission is granted to resellers or end purchasers to make copies of this software. Software changes or upgrades supplied by PSD by download or module format are for a single installation and must not be copied. Again a single licence is granted with each download or module. You are advised not to purchase or operate illegal versions of Codax software.

2 CODAX SYSTEM INSTALLATION

2.1 SUMMARY OF CODAX SYSTEM COMPONENTS

The PSD Codax system generally consists of items from the following component list and will depend on the clients purchase order instructions. Always check customer instructions and packing note to determine components required.

Please refer to Codax sales information to identify the features available according to the desired installation mode. In Retro (Cable-free) mode certain features and functions will not be available.

Ticket Terminals

CTT	Codax Ticket Terminal – Standard unit
CTT-Ex	Codax Ticket Terminal – Extended database version
CTT-S	Codax Ticket Terminal Secondary – Add a second Ticket Terminal to an Ultra (Cabled) installation
CET-Ser	Codax Embedded Terminal – For Serial POS linked installations
CET-Eth	Codax Embedded Terminal – For Ethernet POS linked installations
CTT-POS-Ser	Codax Ticket Terminal - With Serial POS connection, including Smartcard
CTT-POS-Eth	Codax Ticket Terminal - With Ethernet POS connection, including Smartcard

Ticket Terminal Upgrades:

SCU-CTT	Smartcard Upgrade for CTT – Add a Smartcard reader to CTT
WCB	Wash Connect Bridge – Optional upgrade to add access to Wash Connect

Access Terminals:

CAT-16	Standard Bezel Mount Codax Access Terminal – 16 Character display version
CAT-24	Flush mount Codax Access Terminal – 24 Character display version
CAT-ANC-16	CAT ANC Secondary Terminal – 16 Character display version
CAT-ANC-24	CAT ANC Secondary Terminal – 24 Character display version

Access Terminal Upgrades

SCU-CAT	Smartcard Upgrade for CAT – Add a Smartcard reader to CAT
BSM-CAT	Barcode Scanner Module – Optional upgrade kit for CAT

Installation:

CDU	Codax Distribution Unit – Distributes signal and power for Ultra (Cabled) installations
CPS24-xx	Codax 24VDC Power Supply unit – For Retro (Cable-free) installations
CPS12-UK	Codax 12VDC Powers Supply unit – For CET Retro installations
CPS-CAT	24VDC Power supply for Codax Access Terminal – Option for Retro connected machines without suitable 24VDC power supply
CWIIK	Car Wash Interface and Installation Kit – Machine specific for CAT installation
CAT-HP	Codax Access Unit Housing with bi-directional Pedestal
CAT-HW	Codax Access Unit Housing with Wall mounting bracket
MK-CAT	Mounting Kit for Codax Access Terminal – When Access Unit housing is not required
POS-LK	Point Of Sale Link Kit
DRK-232	Dual Retro Kit for RS232
DRK-485	Dual Retro Kit for RS485

ANC	Access Network Controller – Local network controller for multiple services of same type
ANC-Ex	Access Network Controller – Expanded version
BOB-232	Breakout Box for RS232
SER-232	Serial Router for RS232

2.2 CODAX SYSTEM COMPONENTS

2.2.1 CODAX TICKET TERMINALS

The Codax Ticket Terminal in its various forms is the central controller for all Codax installations. From here the system is configured and Ticket sales are made. The CTT is normally situated on the kiosk sales desk convenient for the sales person. Adequate space should be allowed behind to allow cable access.

Ticket Terminal variations:

CTT	Codax Ticket Terminal - Standard version for generating Codax codes stand alone with printer.
CTT-Ex	Codax Ticket Terminal with Extended Database Range. Similar to standard version but uses an extended database range to allow both terminals to operate on the same installation. Add a second Ticket Terminal to a Retro installation.
CTT-S	Codax Ticket Terminal Secondary – The Codax Ticket Terminal Secondary unit allows a second Ticket Terminal to be added to provide a second ticket sales point. Codes issued at the Secondary are requested from the Primary Ticket Terminal. This is normally for Ultra (Cabled) installations as it requires a CDU. For Retro the CTT-Ex may be a better solution – See installation examples.
CET-Ser	Codax Embedded Terminal – Serial – Codax code generator with Serial POS link without printer in smaller housing.
CET-Eth	Codax Embedded Terminal – Ethernet – Codax code generator with Ethernet POS link without printer in smaller housing.
CTT-POS-Ser	Codax Ticket Terminal POS linked – Serial – Codax code generator with Serial POS link with printer and Smartcard in standard CTT housing.
CTT-POS-Eth	Codax Ticket Terminal POS linked – Ethernet – Codax code generator with Ethernet POS link with printer and Smartcard in standard CTT housing.

The following items are available as upgrades to the standard Ticket Terminals list above.

Smartcard Upgrade for Codax Ticket Terminal CTT (SCU-CTT)

This upgrade is available for CTT and CTT-S to allow the Codax Smartcard to be added to the system. This option should be added at the time of CTT purchase as this is an internal fit and may not be added retrospectively. This upgrade is not available for CET. If POS link and Smartcard is required, CTT-POS should be used.

Wash Connect Bridge (WCB)

The Wash Connect Bridge connects to Wash Connect. Contact PSD Codax for more details. *See Contact details at the end of this manual, 6 CONTACT INFORMATION.*

2.2.2 CODAX ACCESS TERMINALS

The Codax Access Terminal is fitted at the car wash machine or other service controller and it is where the customer redeems the unique Codax code purchased. The CAT provides the control signals required to operate the wash service and is capable of operating all common automatic car wash machines. Auxiliary service controls are also available to operate manual services such as Jet-Washes and Vacuum stations. For cabled installations (Ultra), the CAT is linked to the Codax Distribution Unit at the sales point via a 4-core screened cable. For cable-free installations (Retro) no such link is required – refer to installation examples.

Two Access Terminal variations:

CAT-16	Standard version with a 16 character display mounted in a water resistant housing.
CAT-24	Flush mount version with a 24-character display mounted on a flush mountable panel.

ANC Secondary Terminal (CAT-ANC-16/24)

The CAT-ANC is a special version of the CAT when using the Access Network Controller – see Installation examples. When using the Codax Access Terminal as an ANC-Secondary, two versions are available for 16 and 24 character displays as for standard unit defined above

The following items are available as upgrades to the standard Ticket Terminals list above.

Smartcard Upgrade for Codax Access Terminal CAT (SCU-CAT)

This upgrade is available for CAT to allow the Codax Smartcard to be added to the system. The SCU-CAT is part of the CAT installation and may be fitted retrospectively with a modified CAT mounting panel.

Barcode Scanner Module for Codax Access Terminal (BSM-CAT)

The Barcode Scanner Module is an optional addition to the Codax Access Terminal installation. With Barcode printing enabled on the Ticket Terminal the 6-digit Codax code is printed in the form of a barcode that the user can scan at the Access Terminal instead of manual entry. The BSM-CAT is part of the CAT installation and may be fitted retrospectively with a modified CAT mounting panel.

2.2.3 INSTALLATION OPTIONS

Codax Distribution Unit (CDU)

The CDU is only required for Ultra (Cabled) installations. The CDU is designed to be wall mounted using the brackets supplied. The unit should not be covered as overheating could occur. The unit requires a 240 Volt AC electric supply fused at 5 amps. The CDU receives the cable connections from the Codax Ticket Terminal, Point of Sale Terminal (optional) and the Codax Access Terminal(s).This unit provides 24VDC power supply to the CTT and CAT(s). A standard 5 metre connection lead is supplied for connecting the CDU to the Codax Ticket Terminal.

A single CDU connects to a maximum of 4 CATs. This however may be easily expanded – Contact PSD Codax for expansion possibilities. *See Contact details at the end of this manual, 6 CONTACT INFORMATION.*

Codax Power Supply unit - 24VDC (CPS24-xx)

This is for Retro (Cable-free) installations to provide a 24 Volt DC power supply for the CTT and should therefore be located in a suitable and convenient location close to the CTT. A standard 5 metre connection lead is supplied for connecting this unit to the CTT. This is supplied for CTT and CTT-POS Retro installation.

Four versions are available to suit the local power outlet:

CPS24-EU	European style plug
CPS24-UK	UK style plug
CPS24-US	US style plug
CPS24-AX	Auxiliary No plug

Codax Power Supply unit - 12VDC (CPS12-UK)

This is lower-cost, lower-power PSU alternative, suitable for the CET only. Available with UK style plug only.

Codax Power Supply for Codax Access Terminal (CPS-CAT)

This 24VDC power supply is available to provide power for the CAT if this is not available at the machine installation. This is not necessary for an Ultra installation where power is supplied via the cable to the CDU.

Car Wash Interface and Installation Kit (CWIIK)

This is a machine specific kit according to the installation. This includes a 6/16 way interface (as required), cabling and including CAT – language and machine variant.

Mounting Kit for Codax Access Terminal (MK-CAT)

Hardware mounting kit for the Standard CAT (16-character). This is a non-flush-mount for installation into the operators own cabinet design.

Codax Access Terminal – Housing Pedestal (CAT-HP)

Pedestal Housing kit for the Standard and Flush-mount CAT (24-character). This housing includes front panel, with Smartcard and Barcode options, top box surround and pedestal leg.

Codax Access Terminal – Housing for Wall mounting (CAT-HW)
Wall Mounted Housing kit for the Standard and Flush-mount CAT. This housing includes front panel, with Smartcard and Barcode options, top box surround and wall mounting kit.

Point Of Sale Link Kit (POS-LK)
Connection kit for CET to POS. Cable for single POS connection. Codax Serial Router included for multiple POS connection.

Dual Retro Kit for RS232 link (DRK-232)
This kit allows two CAT terminals to be connected and handle the Dual Retro operation mode over RS232. This kit includes two Current Loop Drivers (CLD) with connections to CAT. The CLD not only provides an extended operating range but also maintains dual mode functionality if the power to either machine is removed for maintenance.

Dual Retro Kit for RS485 link (DRK-485)
This kit allows two CAT terminals to be connected and handle the Dual Retro operation mode over RS485. This kit includes two Dual Link Power Loop (DLPL) with connections to CAT. The DLPL maintains dual mode functionality if the power to either machine is removed for maintenance.

Access Network Controller (ANC)
The ANC allows three or more machines of the same type to be connected for Retro installations up to a maximum of eight. An example of this is a Jet Wash with three or more bays. A single ticket for Jet Wash may then be used at any Jet Wash bay. The ANC provides a local comms network linking the CATs in this installation. See installation examples for the ANC configuration.

Access Network Controller Expanded (ANC-EX)
Expanded ANC increases the maximum number of machines networked, to sixteen.

Breakout Box for RS232 (BBX-232)
This unit is used to add a Secondary CTT to an installation or a single POS connection for CET.

Serial Router for RS232 (SRR-232)
This unit allows up to 3 POS terminals to be added to an installation for CET.

2.3 SERIAL PROTOCOL DEFAULT SETTINGS

Fast Serial: 9600 baud, 8 data bits, no parity

Ultra-Plus Serial: 2400 baud, 7 data bits, even parity

Legacy Serial: 2400 baud, 8 data bits, no parity

Codax Serial: 9600 baud, 8 bits, no parity

Barcode: 9600 baud, 8 data bits, no parity

2.4 STANDARD CONNECTIONS – ULTRA or RETRO

The basic Codax system has a number of Codax Access Terminals (CAT) connected to and controlling the forecourt services and a Codax Embedded Terminal (CET) located within the sales kiosk. Tickets, for a specific service and program number, purchased at the kiosk and issued by the CET containing a six-digit Codax code that is redeemed when entered at the CAT and the wash is started.

Each CAT can operate in one of two modes, Ultra and Retro. This is determined by the installation and how service codes are issued and validated. The main difference between the two modes is in the connection of the CET to CAT. For Ultra (cabled), the CET is connected to the CAT via the Codax Distribution Unit (CDU). For Retro (cable-free) no physical connection between CET and CAT is required.

Some additional functionality is available at the CET when operating in Ultra mode, such as Multi-use tickets and connection to the ICS Wash Connect facility. This installation requires cross-forecourt cabling.

Contact PSD Codax to discuss specific installation requirements. *See Contact details at the end of this manual, 6 CONTACT INFORMATION.*

2.5 INSTALLATION EXAMPLES

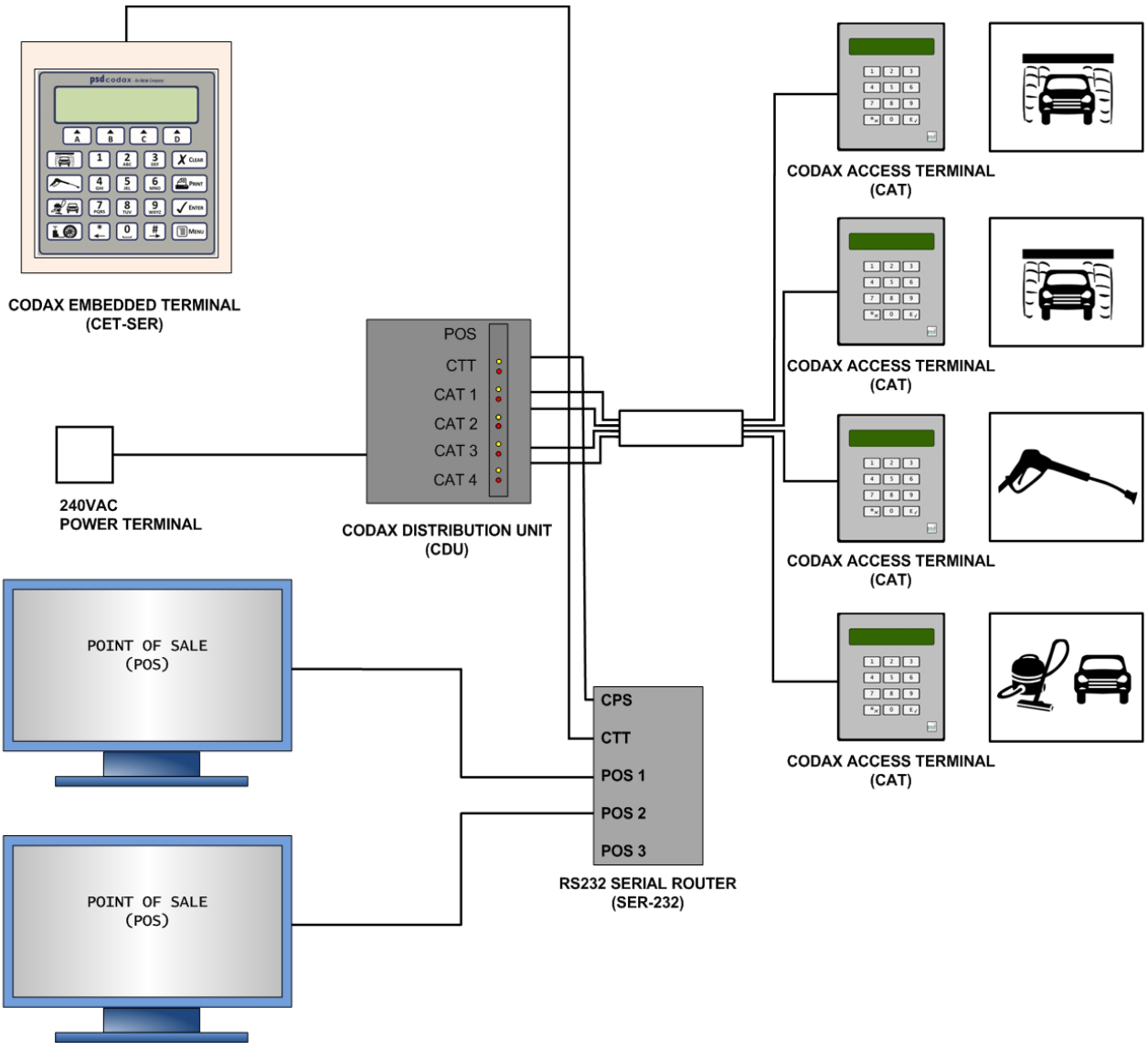
2.5.1 STANDARD ULTRA CABLED CONNECTION WITH SERIAL POS LINK

In an Ultra configured system all the Codax Access Terminals (CAT) operating in this mode are connected to the Codax Embedded Terminal (CET) via the Codax Distribution Unit (CDU). Each CAT is issued with a set-up code which it uses to synchronise with the CET. Unique set-up codes are issued for all the different service types, Brush Wash, Jet Wash etc, configured to the system. For installations with CATs connected to two or more of the same service type, the same set-up code is used. No additional equipment is required for an Ultra installation in this instance. The Ultra database within the CET contains information on every ticket issued by the system. Using this information the validity of a ticket is checked when requested by the CAT.

Ultra connection using RS232 Serial Router

The Codax RS232 Serial Router (SER-232) links power and comms from the CDU to the CET and allows up to three POS terminals to be attached via RS232.

The example below shows a standard Codax Ultra installation with two POS terminals serially connected. This installation example supports two Brush Wash machines, a Jet Wash bay and a Vacuum bay.

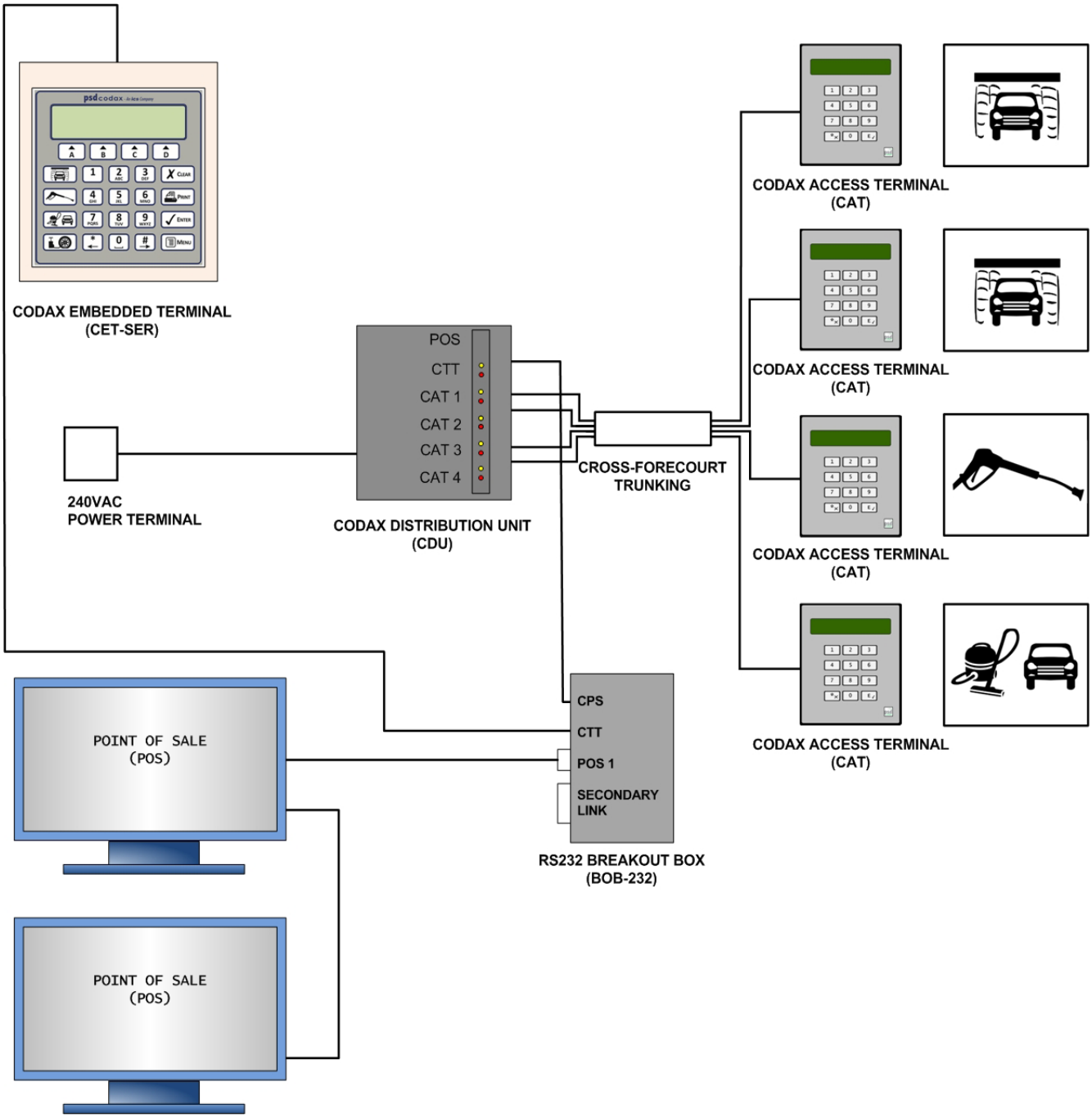


Standard Serial POS Linked Codax Installation using RS232 Serial Router for Ultra

Ultra Connection using RS232 Breakout Box

The Codax RS232 Breakout Box (BOB-232) links power and comms from the CDU to the CET allowing connection to a single POS terminal or linked POS terminals.

The example below shows a standard Codax Ultra installation using the RS232 Breakout Box to connect serially with a single POS terminal. This installation example supports two Brush Wash machines, a Jet Wash bay and a Vacuum bay.



Standard Serial POS Linked Codax Installations using RS232 Breakout Box for Ultra

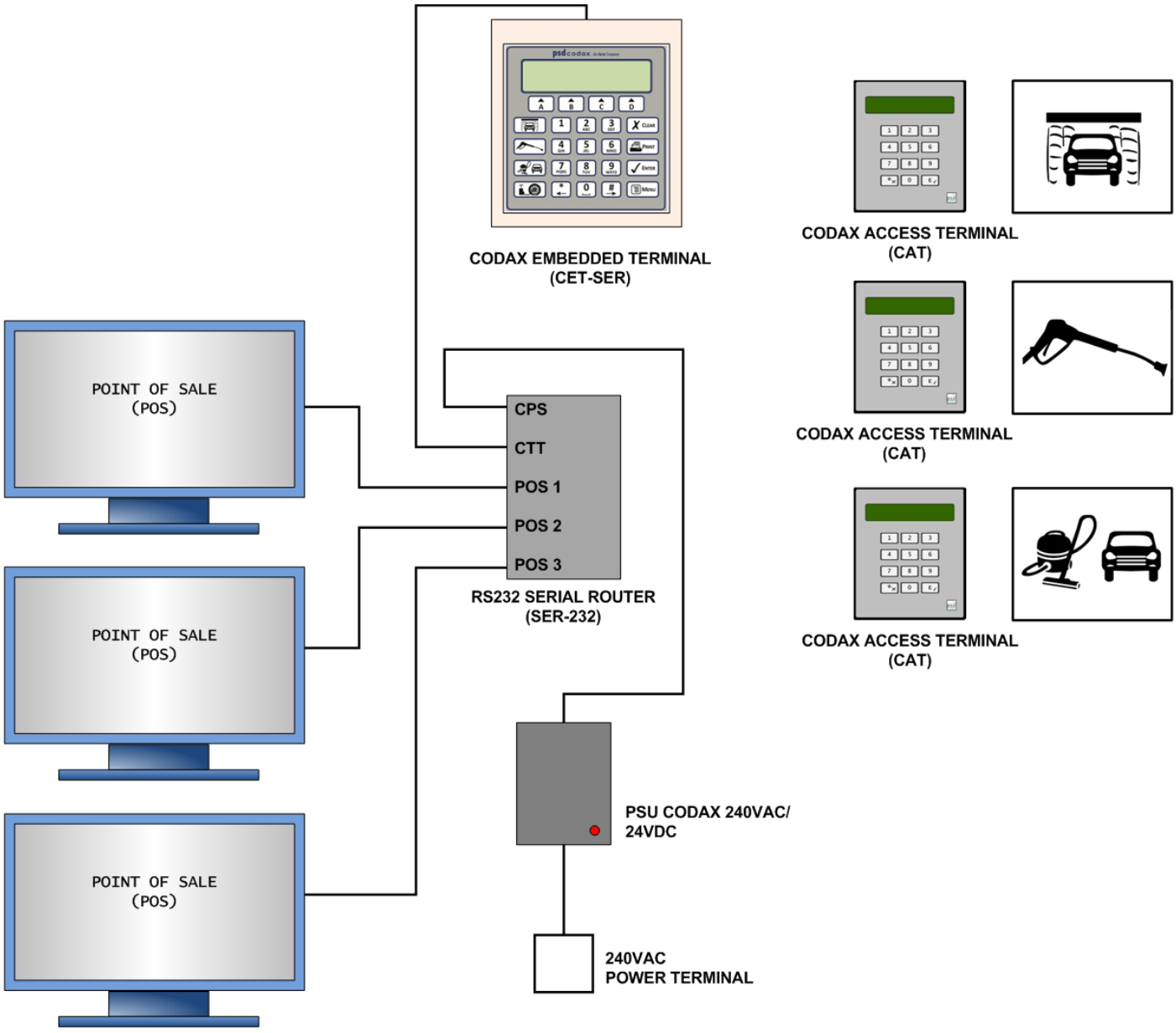
2.5.2 STANDARD RETRO CABLE-FREE INSTALLATION WITH SERIAL POS LINK

In a Retro configured system the Codax Access Terminals (CAT) are not physically connected to the Codax Embedded Terminal (CET). Each CAT is issued with a set-up code and program base number which it uses to synchronise with the CET.

Retro connection using RS232 Serial Router

The Codax RS232 Serial Router (SER-232) links power and comms from the CDU to the CET and allows up to three POS terminals to be attached via RS232.

The example below shows a standard Codax Retro installation with the Point of Sale Link Kit (POS-LK) included for three serial POS connections. This installation example supports a Brush Wash machine, a Jet Wash bay and a Vacuum bay.

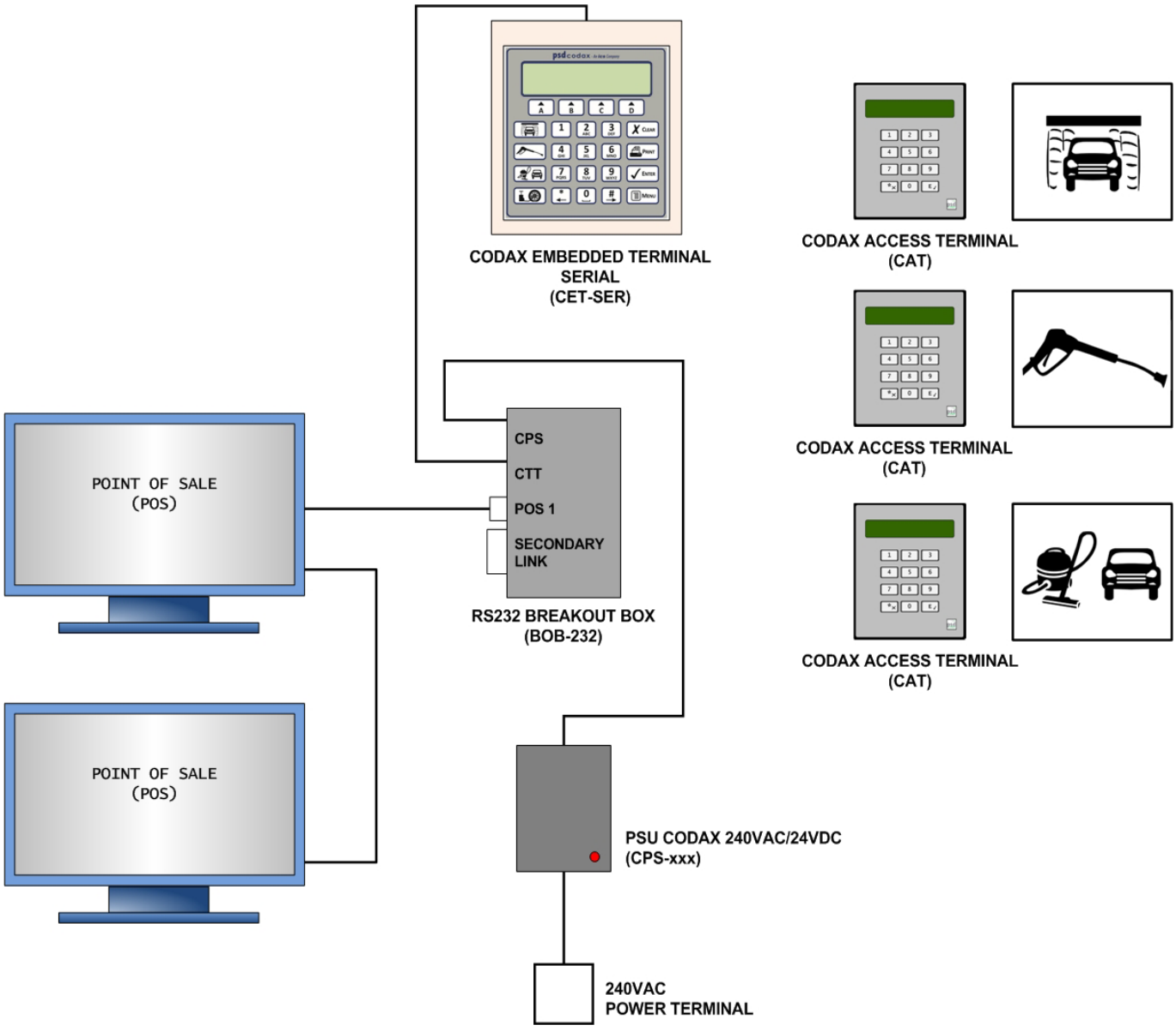


Standard Retro Codax Installation with serial POS Link Kit

Retro Connection using RS232 Breakout Box

The Codax RS232 Breakout Box (BOB-232) links power and comms to the CET allowing connection to a single POS terminal or linked POS terminals.

The example below shows a standard Codax Retro installation using the RS232 Breakout Box to connect serially with two linked POS terminals. This installation example supports a Brush Wash machine, a Jet Wash bay and a Vacuum bay.

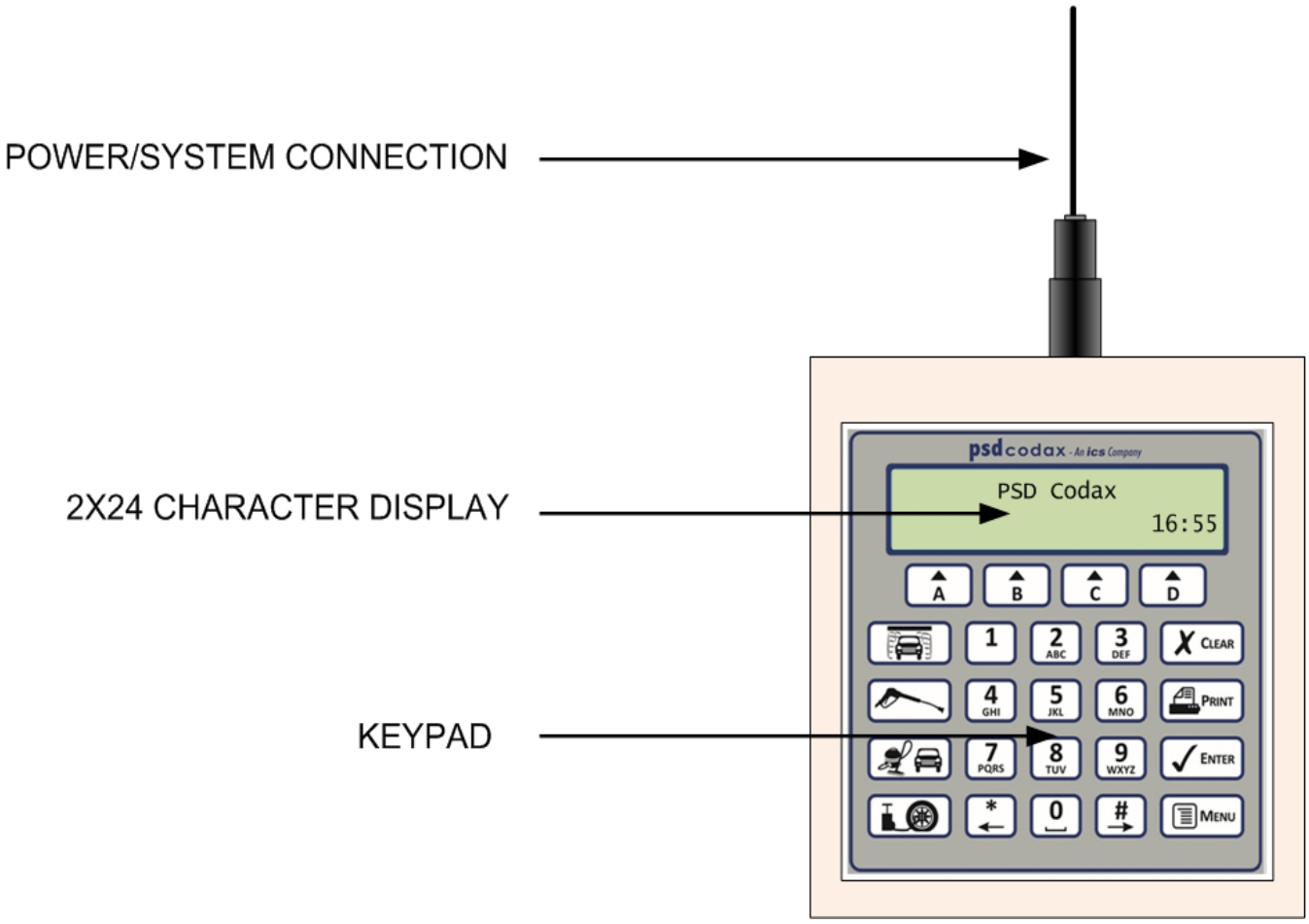


Standard Serial POS Linked Codax Installations using RS232 Breakout Box for Retro

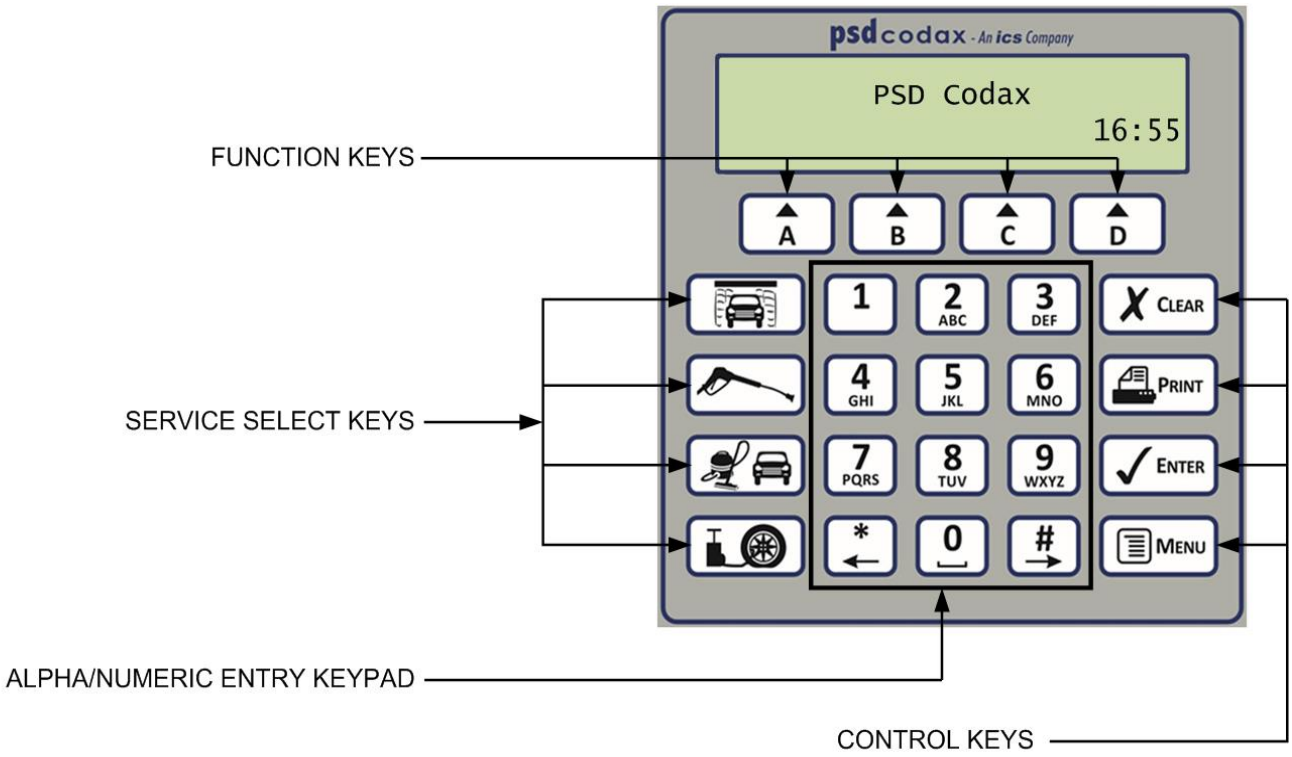
3 TERMINAL OVERVIEW AND LAYOUT

3.1 FEATURES AND CONTROLS

3.1.1 TERMINAL LAYOUT



3.1.2 KEYPAD OVERVIEW AND LAYOUT



3.1.3 FUNCTION KEYS

The operations performed by the function keys are variable. The functions available are shown on the screen adjacent to the respective function key.

3.1.4 SERVICE SELECT KEYS

These buttons have no function in the Codax Embedded Terminal.

BRUSH WASH – No function

JET WASH - No function

VACUUM - No function

AIR - No function

3.1.5 ALPHA NUMERIC ENTRY KEYPAD

These keys allows the user to make numeric entries and edit text using an SMS Text message style text editor.

3.1.6 CONTROL KEYS

Delete or Cancel

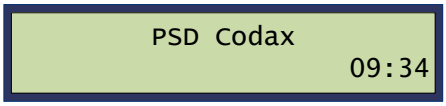
Print – No function

Submit or Confirm

Menu access

3.1.7 THE WELCOME SCREEN

The default welcome screen shows the PSD Codax header with the current time shown in the bottom right of the screen.



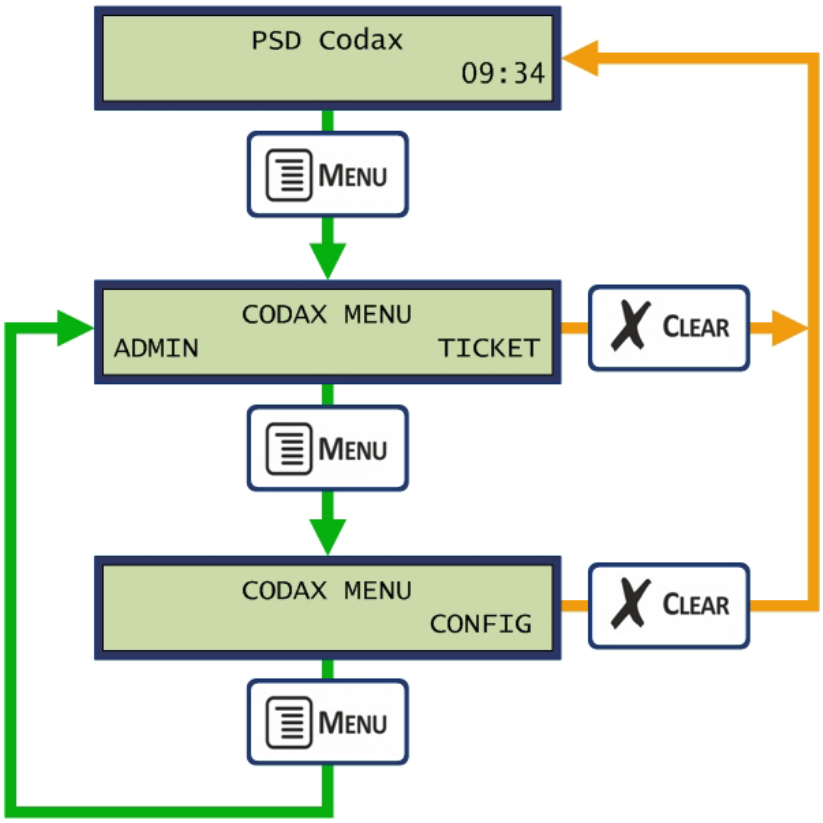
For welcome screen variations, see section 3.1.7. THE WELCOME SCREEN.

3.2 MENU ACCESS

3.2.1 THE CODAX MAIN MENUS

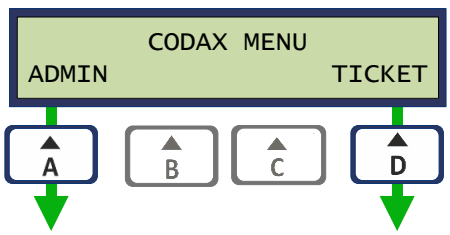
The Codax menus are accessed by pressing the MENU key. Two main menus are available as illustrated below.

Pressing the CLEAR key at any time will return the operator to the welcome screen.



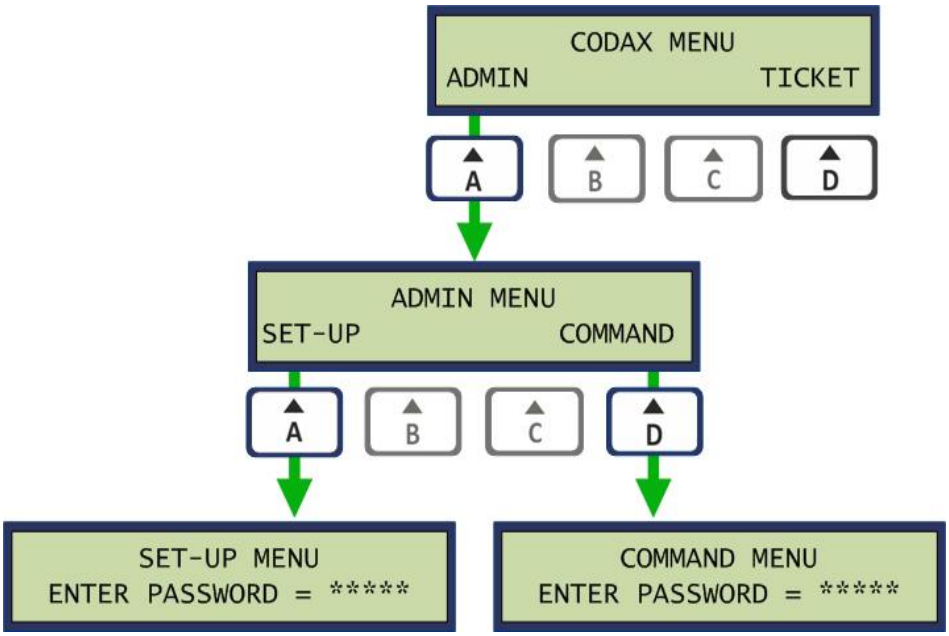
3.2.2 CODAX LEVEL 1 MENU

The first Codax Menu allows the Admin menu to be accessed (ADMIN) and the Ticket menu to be access (TICKET).



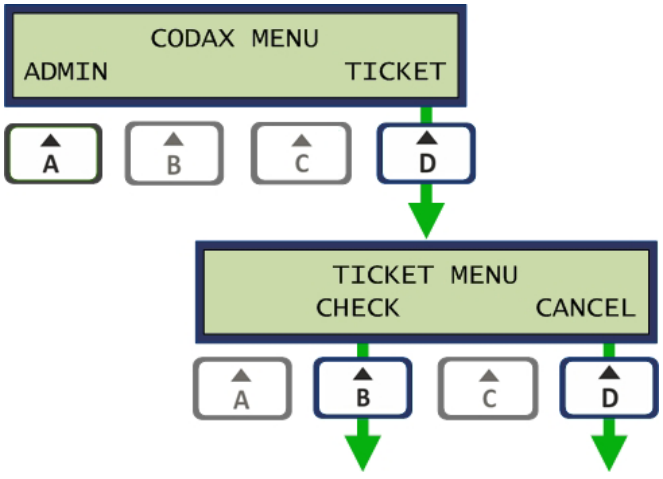
Admin Menu

The Admin Menu provides access to the system configuration facilities. Both of these facilities require password entry to access. *See section 4.1 THE COMMAND MENU and 4.4 SYSTEM SETUP MENU, for more details.*



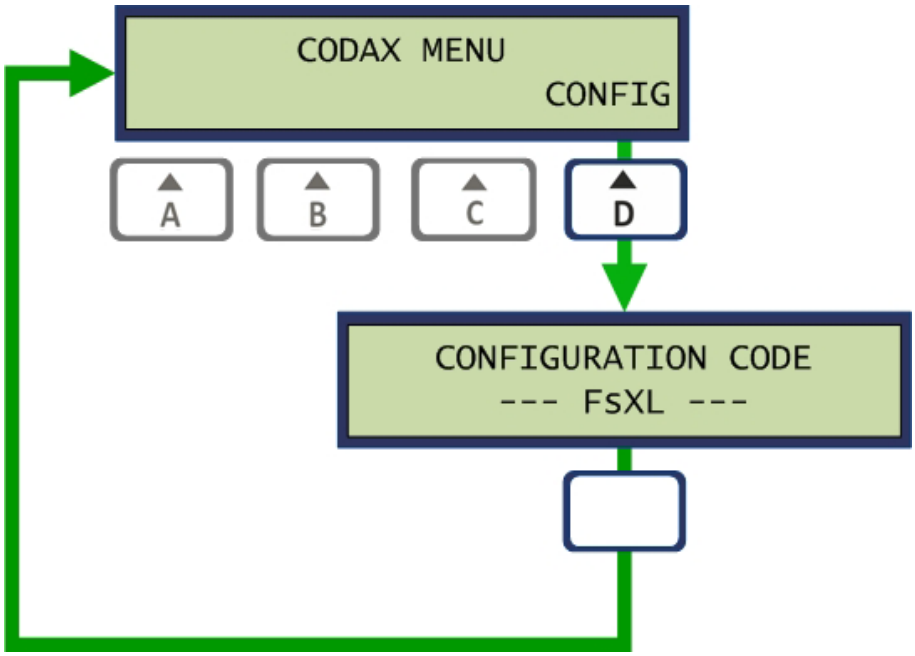
Ticket Menu

The Ticket Menu is available by selecting the TICKET option from the Codax Menu to allow the ticket check and clear facilities to be accessed. This facility allows the status of a ticket to be checked and provides the ability to clear a ticket from the database so that it becomes invalid. This function is only available for systems operating in Ultra mode. Ticket checking for Retro mode is available however at the Codax Access Terminal*. See section 4.6 TICKET SERVICES.*



3.2.3 CODAX LEVEL 2 MENU

The second Codax Menu has only one option (CONFIG), to show the factory configuration of the Codax Embedded Terminal. This is for reference only.



The configuration code defines the factory set-up from the following:

Fs – Fast Serial protocol selected
Us – Ultra-Plus Serial protocol selected
Ls – Legacy, protocol selected
Cs – Codax Serial protocol selected
Bs – Barcode protocol selected

X – Extended Database enabled
L – Multi-Language option available

3.3 FUNCTIONAL OVERVIEW

3.3.1 TERMINAL CONFIGURATION

Cold Start Configuration

The Cold Start Configuration process configures the Codax System to meet the service requirements for a particular site installation. It allows the operator to define the services available as well as the number of programs available for each service. It also defines how each service connects to the system, either Ultra or Retro. The product of the Cold Start is the CAT setup codes used to align the CAT to the CET.

Cold Start Configuration is available via the Command menu which requires the Engineer's password to access. *See section 4.1 THE COMMAND MENU.*

Warning: All outstanding unused tickets will be cancelled by this operation.

Reset Configuration

The Reset Configuration is similar to a Cold Start in that CAT setup codes are produced. The system is reconfigured to the previous Cold Start configuration and does not affect the system setup.

Reset Configuration is available via the Command menu which requires the Engineer's password to access. *See section 4.1 THE COMMAND MENU.*

Warning: All outstanding unused tickets will be cancelled by this operation.

System Setup

The System Setup is defined by a series of setup options available from the Setup menu. These setup options fully customise the Ticket Terminal to the site operator's requirement.

The System Setup menus are available from the Admin menu and require the Manager's Password to access. *See section 4.4.1 ACCESSING THE SETUP MENU.*

Resetting Factory Defaults

The terminal may be returned at any time to its factory default setting using this function.

Resetting Factory Defaults is available via the Command menu which requires the Engineer's password to access. *See section 4.1 THE COMMAND MENU.*

Warning: Following the Factory Reset a full configuration of the system including a Cold Start will be required.

Saving User Configuration

The user configuration is stored in Battery Backed RAM and protected by a Cyclic Redundancy Check (CRC). A second level of protection is provided by the removable E2PROM module. Changing the internal battery does therefore not destroy the current configuration.

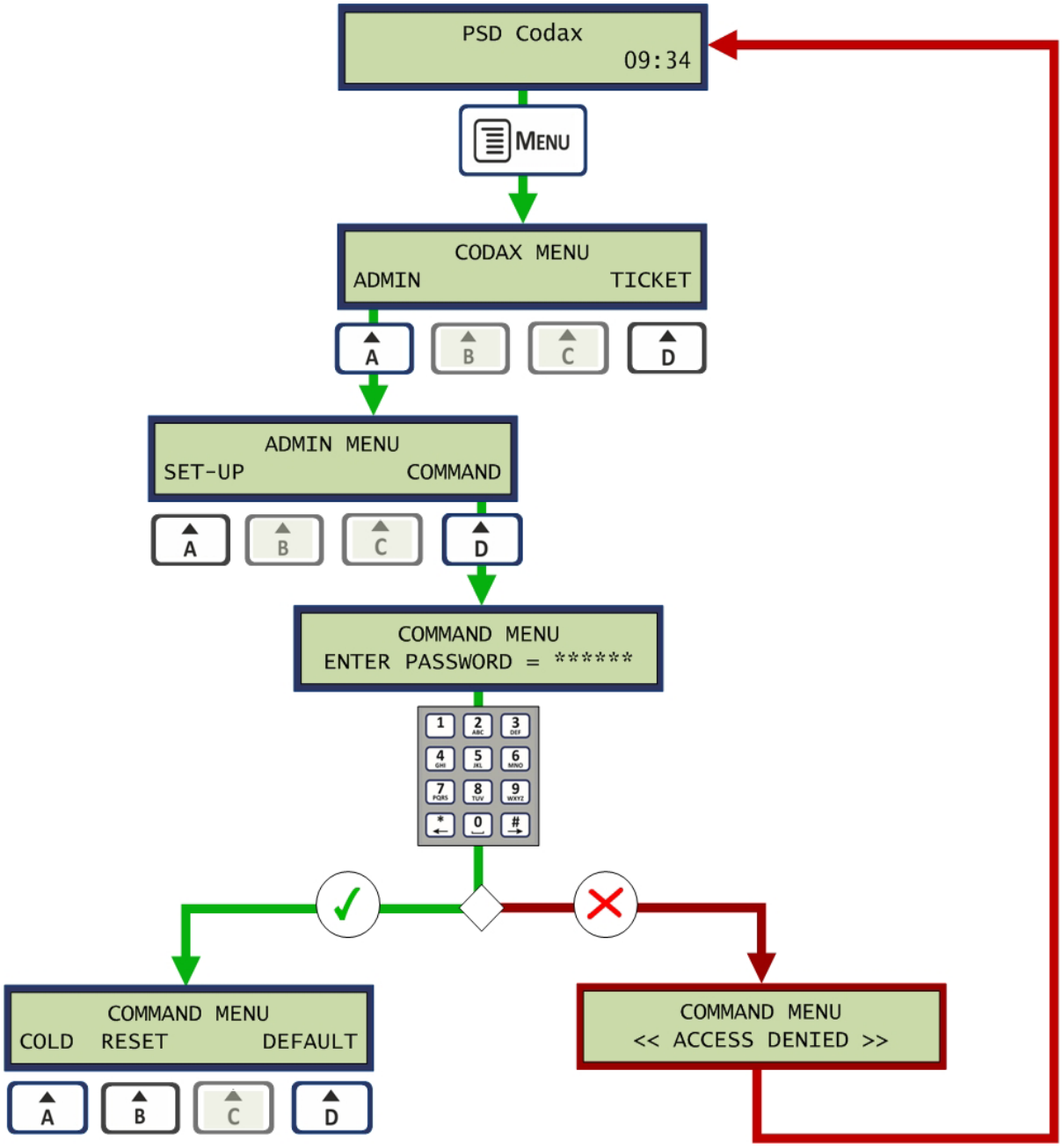
4 TERMINAL CONFIGURATION

4.1 THE COMMAND MENU

The command Menu provides access to the system configuration facilities. These facilities are not normally available to the sales assistant and are therefore password protected.

The Command Menu is accessed by selecting the *COMMAND* option from the Admin Menu. Access to this menu requires the Engineer's Password to be entered.

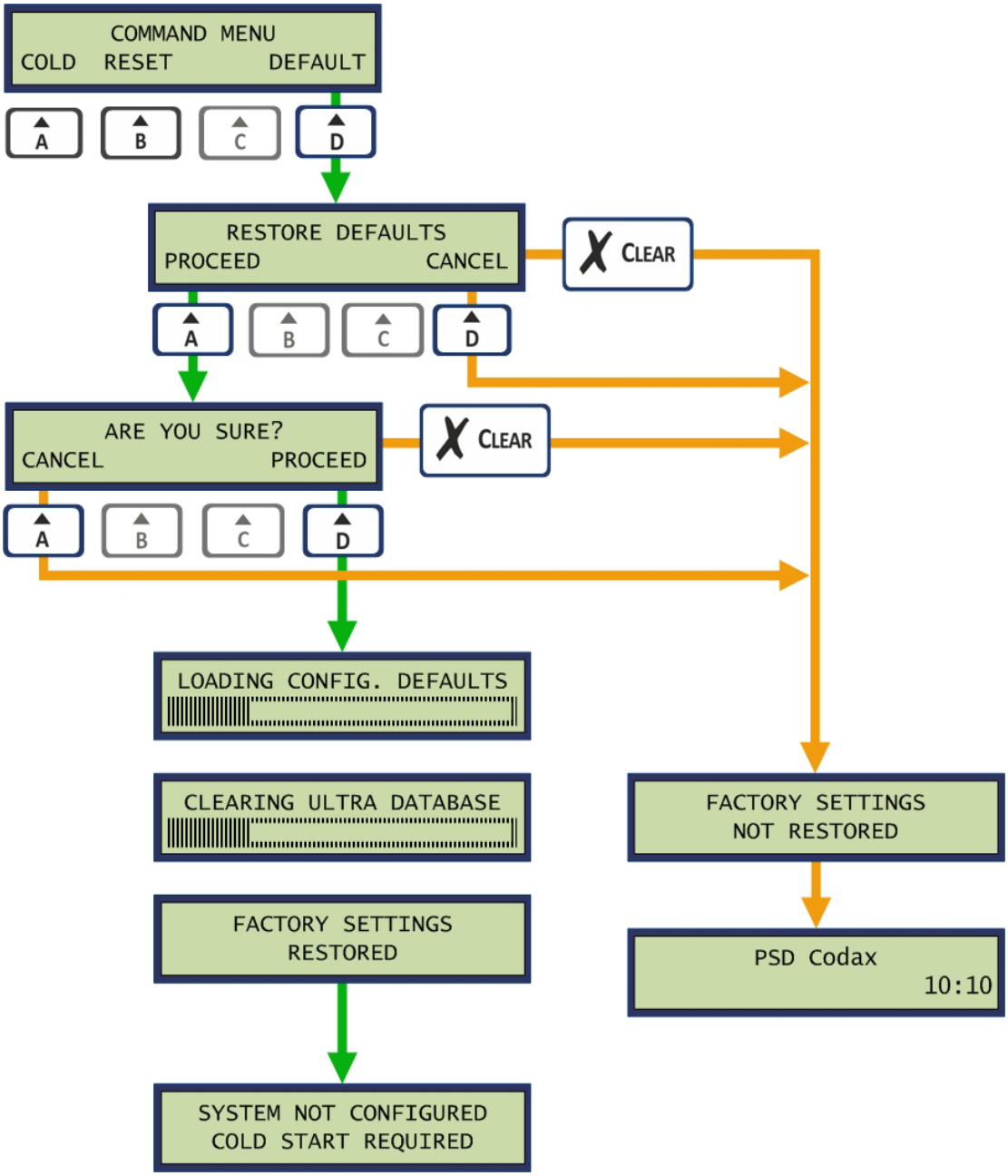
Engineer's Password 32923



4.2 RESTORING SYSTEM DEFAULTS

System configuration settings may be returned to their factory default setting by selecting the *DEFAULT* option from the Command Menu.

Warning: This operation will overwrite the current configuration and a complete reconfiguration of the system will be required.



4.3 COLD START

4.3.1 THE COLD START SYSTEM CONFIGURATION PROCESS

Cold Start is the process used to configure the Codax Ticket Terminal to match the forecourt services available for a particular site installation. Cold Start enables the services used and sets the number of programs available for each service. Cold Start also determines how the Codax Access Terminal controlling a service is connected, Ultra or Retro, and provides the set-up codes for those terminals.

The following service types are available:

Brush Wash	Automatic drive in car wash
Jet Wash	Hand held lance type wash bay
Vacuum	Vacuum service bay
Air	Tyre inflation service
Auxiliary	User definable service

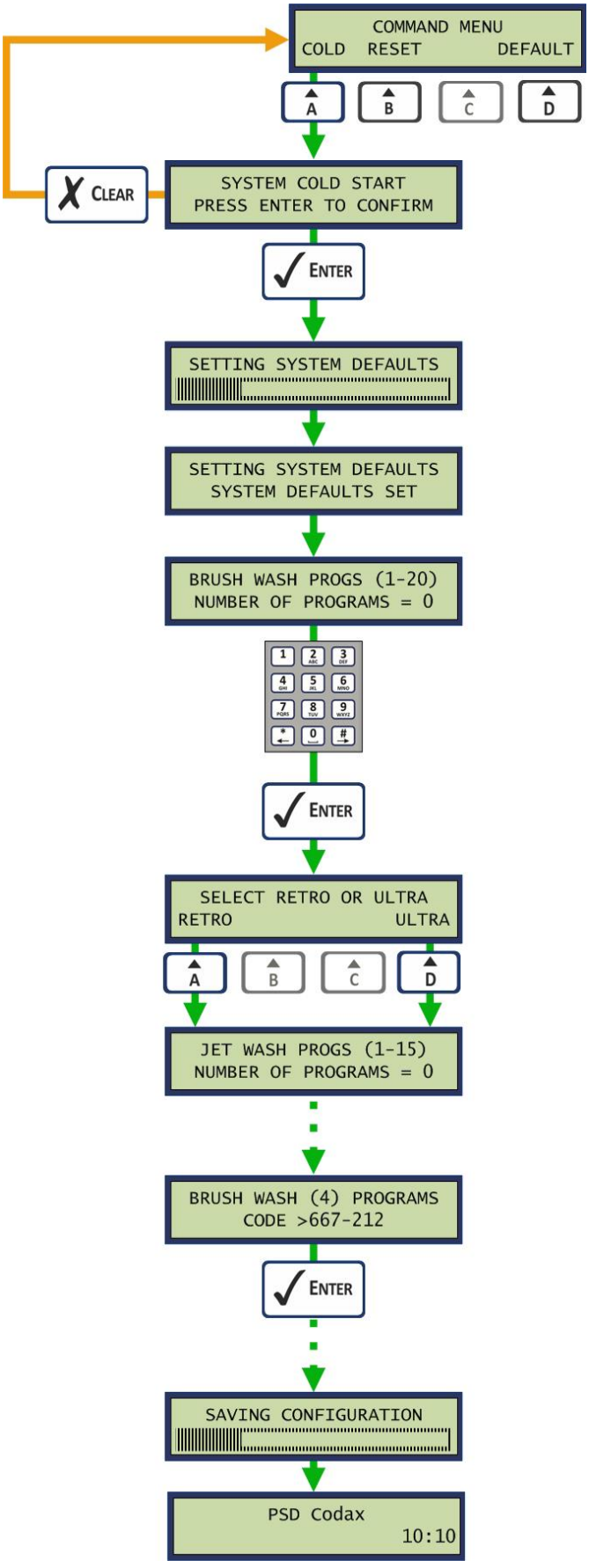
A total of 31 system programs are available for distribution amongst the services available. The maximum number of programs available varies per service and is shown on the CET screen during the Cold Start process.

The Cold Start function is available from the Command Menu which requires the Engineer's password to access. *See section 4.1 - THE COMMAND MENU.*

After Selecting and confirming the Cold Start option the Cold Start default settings are loaded. This process clears the internal databases and may take a few minutes. Following this the configuration begins. The operator is stepped through each of the service types and the number of programs available for each service available is entered – or zero for service not available.

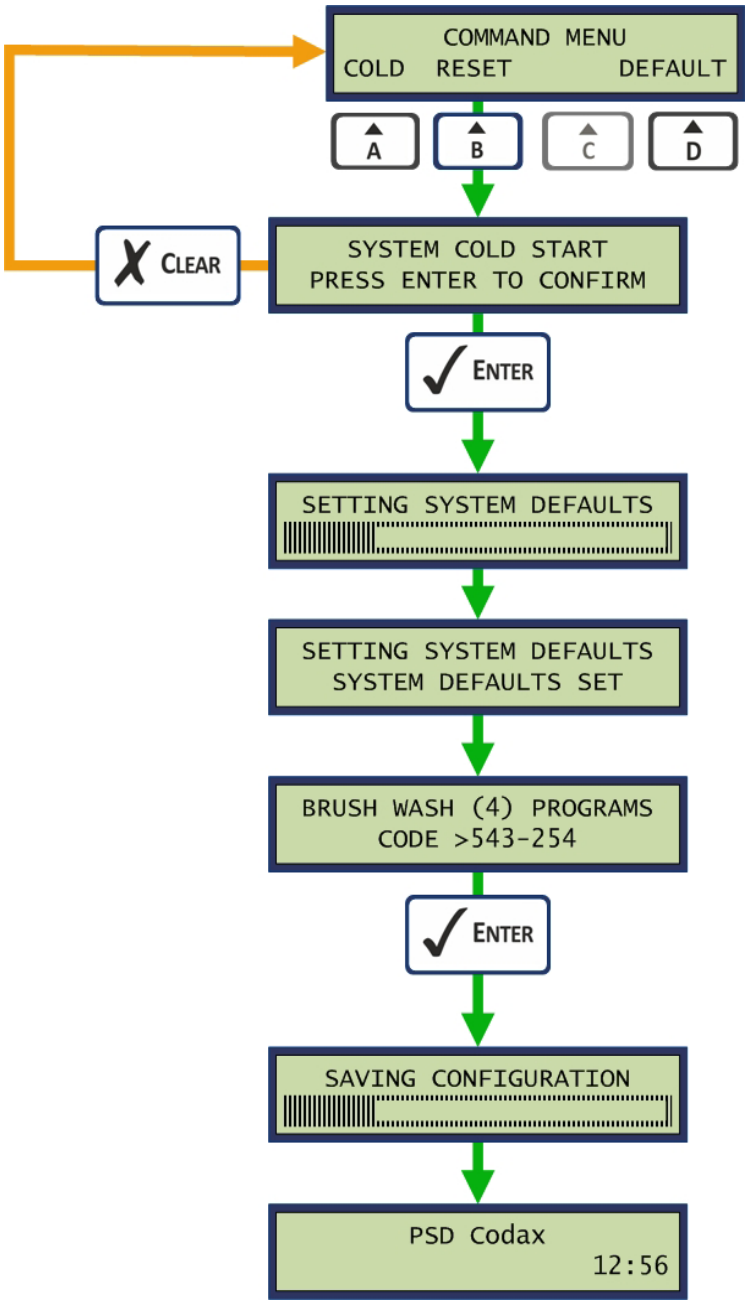
The operator also selects whether the service is operating in Ultra or Retro mode. After stepping through each service the configuration is saved and the system configuration codes given.

The following diagram illustrates the Cold Start Process.



4.3.2 RESETTING THE SYSTEM CONFIGURATION

The Reset system configuration allows a Cold Start reset of the system without changing the current configuration. As a result of this new system configuration codes are issued to reset and realign the Access Terminals.



4.3.3 ENABLING MULTI-USE TICKETS (ULTRA ONLY)

Multi-use offers discounts for a multiple use ticket. This ticket type is available for the Brush Wash service only. During the Cold Start configuration if the Brush Wash service is enabled in Ultra mode, the *Multi-use Discounts* option is presented. Selecting the *MULTI* option from the Select System Type menu will enable this option. Selecting *SINGLE* will disable Multi-use.

Two operational modes are available:

In *NORMAL* mode, 5, 10 or 15 use tickets are available with validity of 5, 10 and 15 weeks respectively.

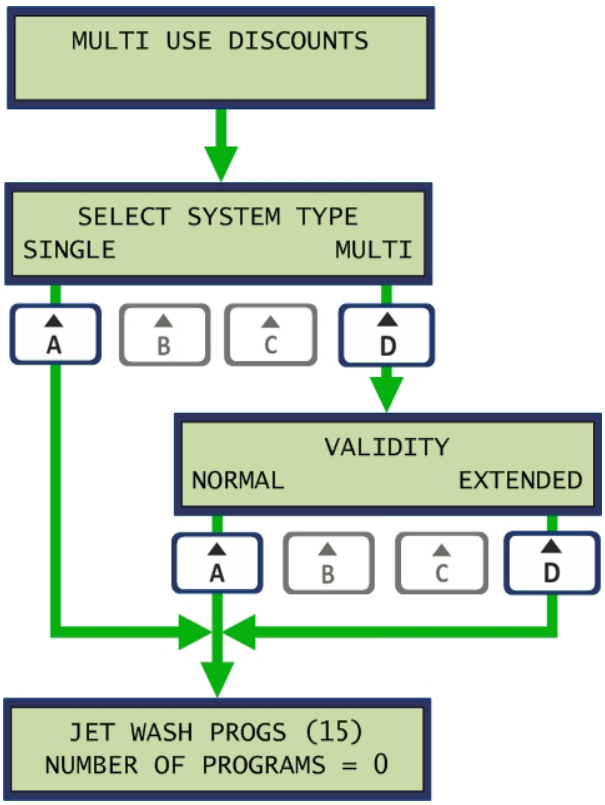
In *EXTENDED* mode, a 5 use ticket is available with a validity of 15 weeks.

Multi-use discounts are defined from the *Price* option in the Set-up menu. *See section 4.6.5 PRICES.*

Note: When using Multi-use tickets, the validity of single-use ticket is restricted to a maximum of seven days.

Note: The multi-use option is only available for the Fast Serial, Legacy Serial and Codax Serial protocols.

Below is a section of the Cold Start Process, detailing the Multi-use selection.

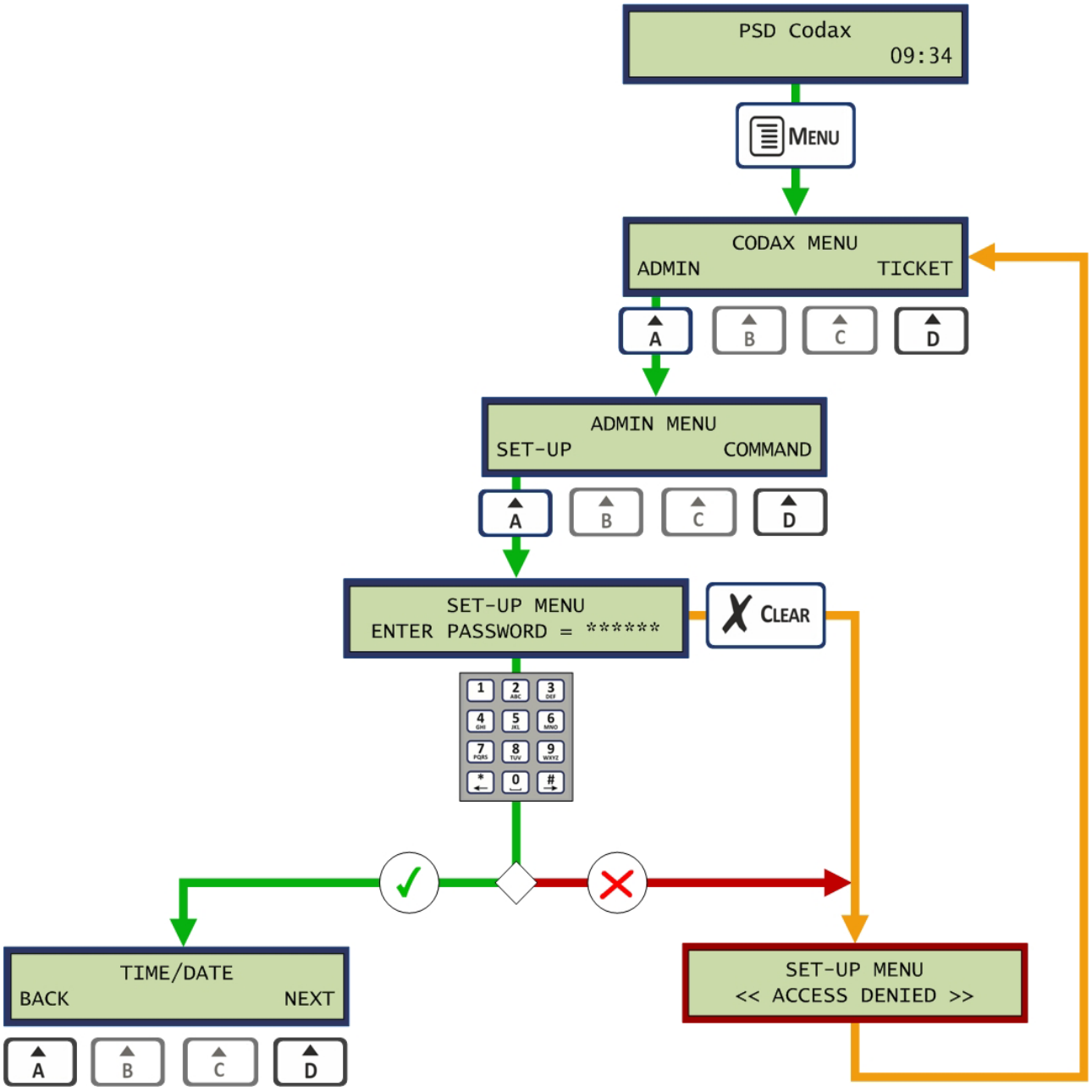


4.4 SYSTEM SETUP MENU

4.4.1 ACCESSING THE SETUP MENU

The *System Setup Menu* is accessed by selecting the SET-UP option from the Admin Menu. Access to this menu requires the Managers Password to be entered.

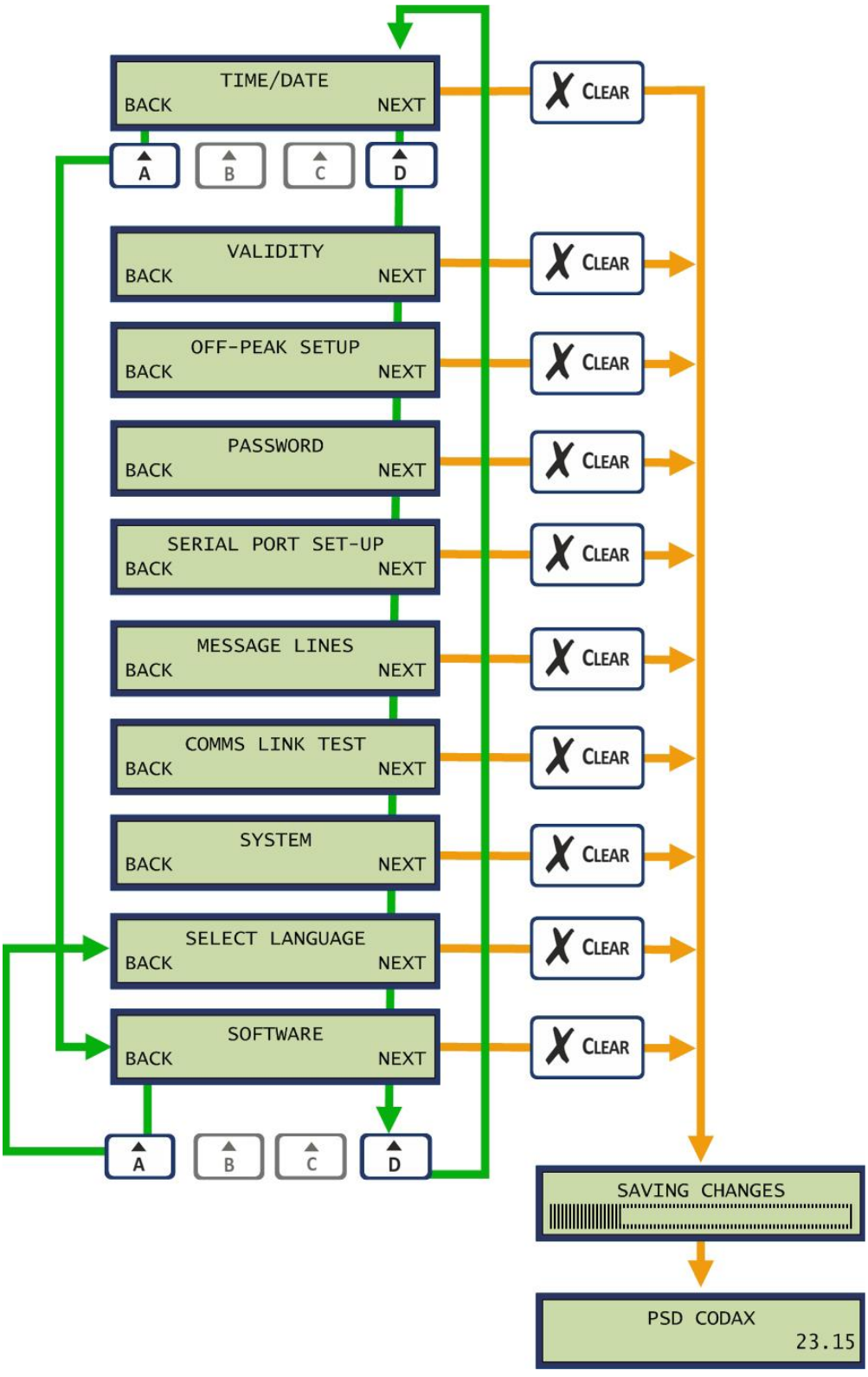
Managers Default Password 12345



4.4.2 NAVIGATING THE SETUP MENUS

The setup menu is navigated using the option A and D keys to step through the options. The Enter key is pressed to select and edit the option shown. The Clear key may be pressed at any time to exit the menu and save any changes made.

Note: Some of the items in the following header list are optional and not available for certain installations and protocols.

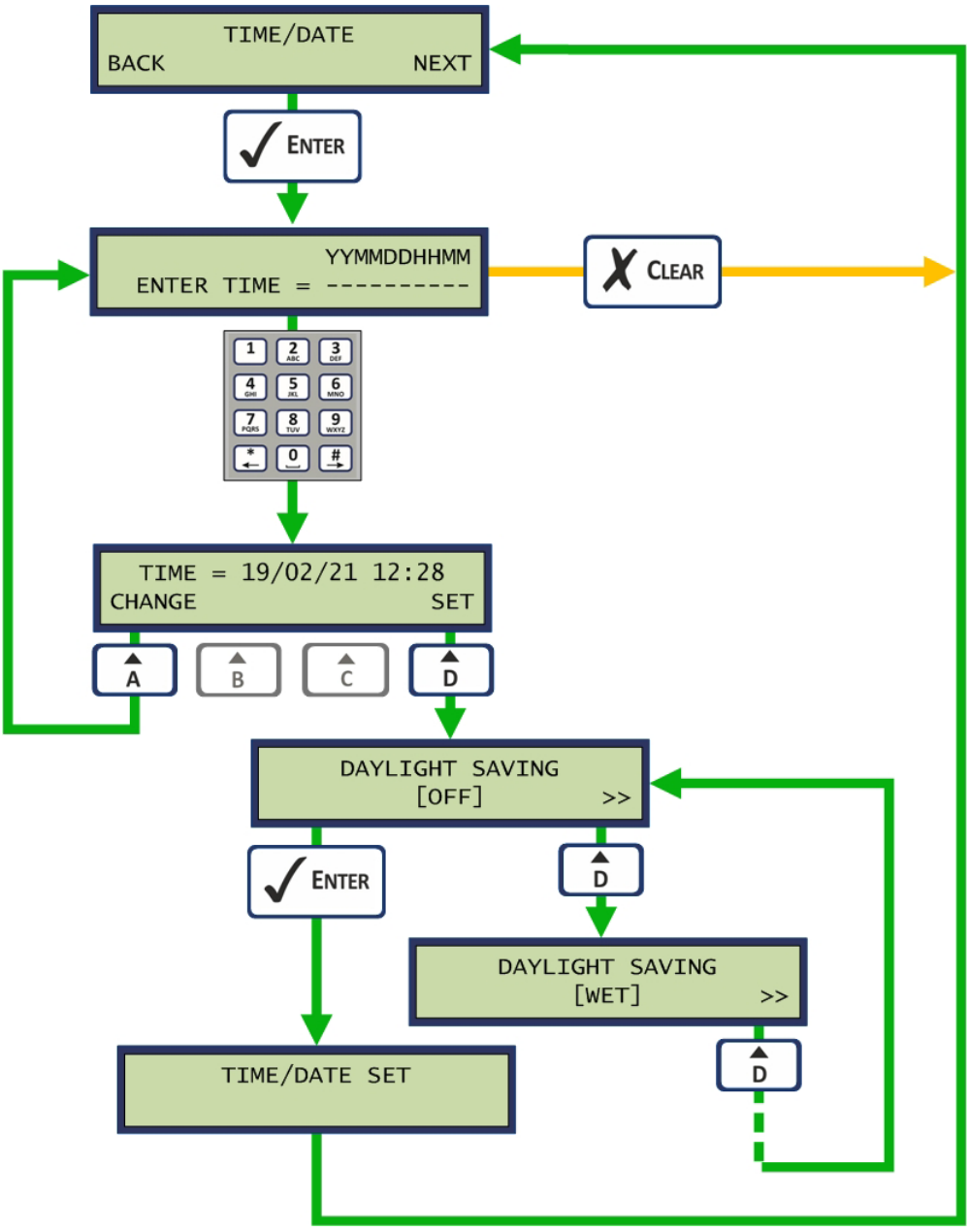


4.5 SETUP MENU FUNCTIONS

4.5.1 TIME AND DATE

The *Time/Date* function allows the current time and date to be adjusted. Date and Time is entered in the order: Year/Month/Day/Hour/Minute. Times are entered in 24 hour format. The automatic daylight saving zone may be selected or turned off. The following zones are included:

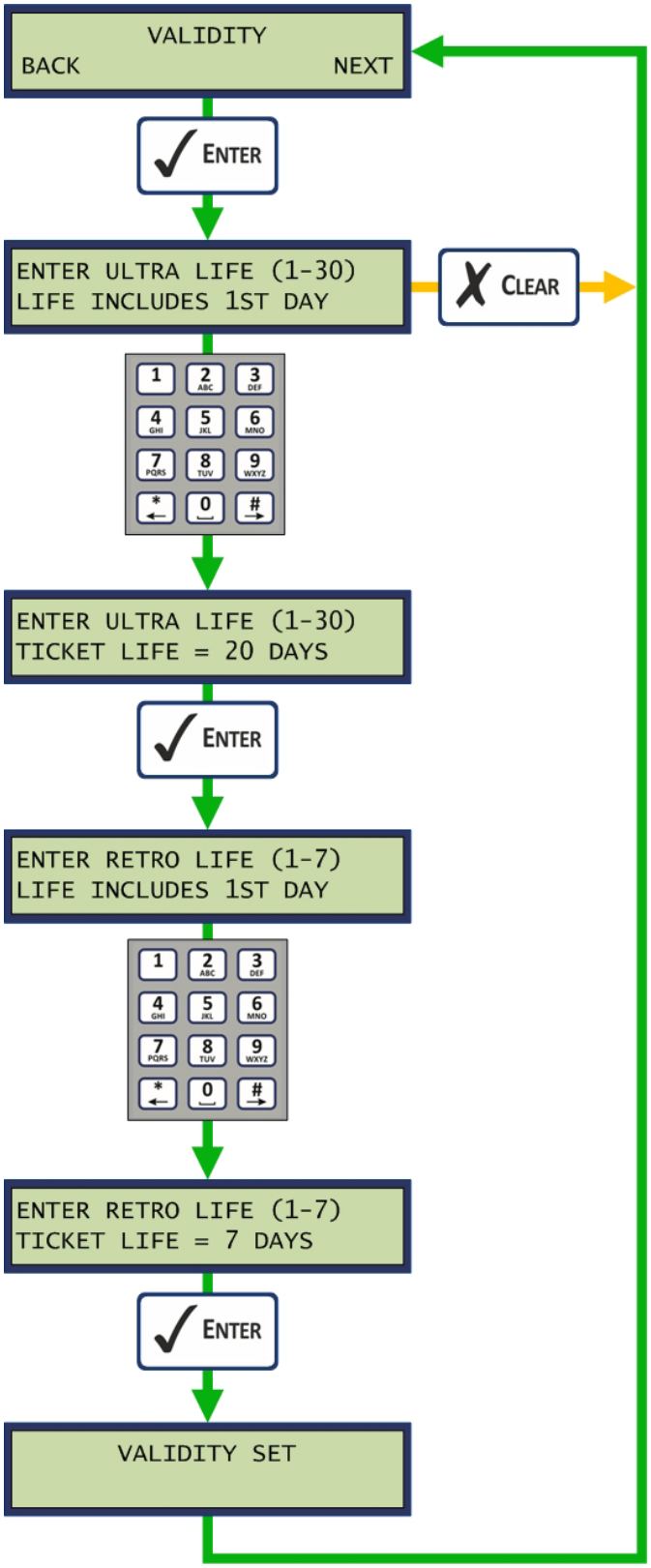
OFF	No daylight saving adjustment
WET	Western European Time
CET	Central European Time
EET	Eastern European Time
USA	United States of America
AUS	Australia
NZL	New Zealand



4.5.2 VALIDITY

The *Validity* function sets the number of days that a single ticket is valid for. Separate entries are made for Ultra and Retro.

Note: If Multi-use tickets are enabled, single ticket life is restricted to a maximum of 7 days.

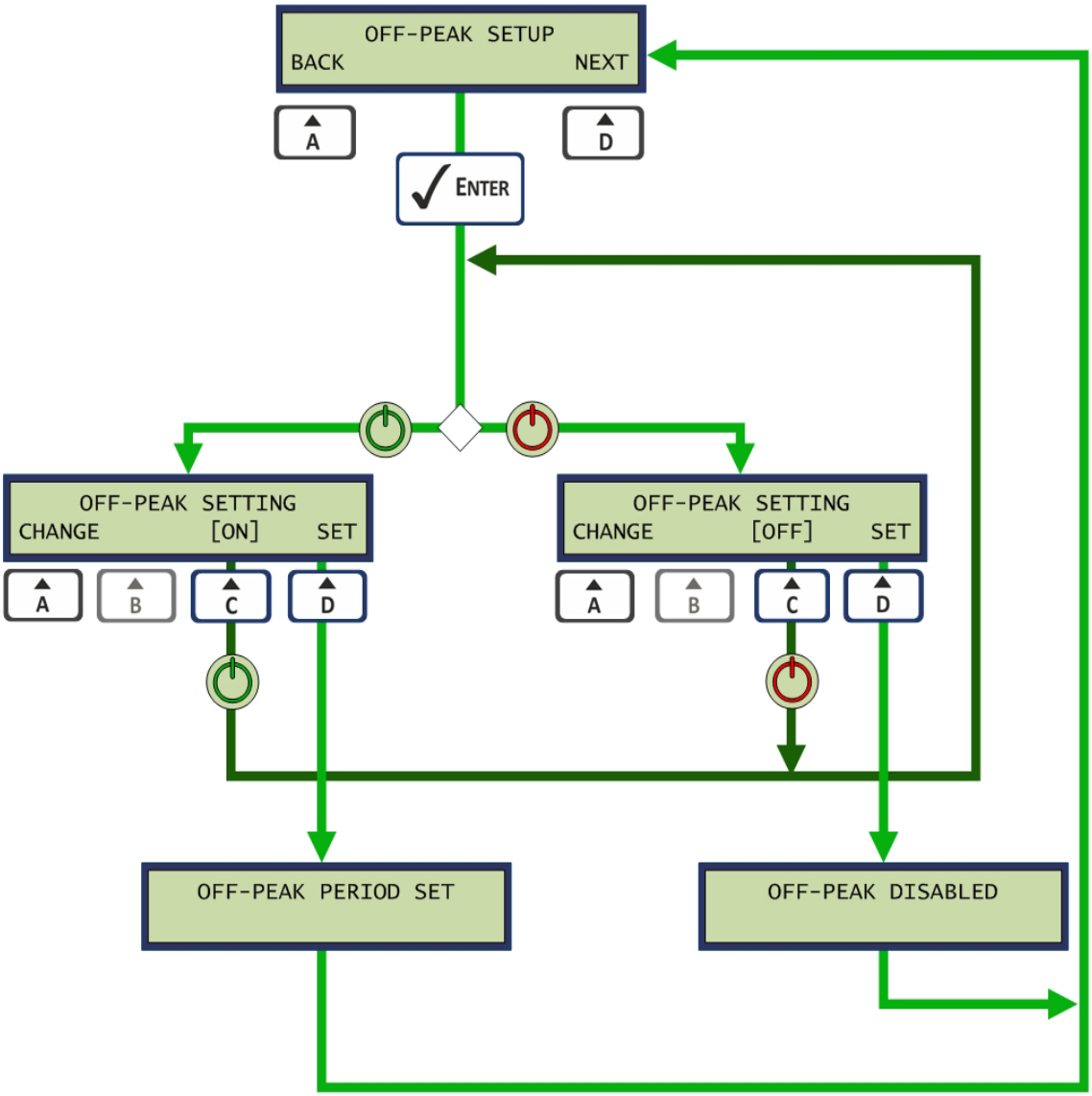


4.5.3 OFF PEAK SETUP

The *Off-Peak Setup* function allows a site to offer discounted prices for off-peak or low volume times of the week. Here the start and end times are set as well as the days of the week when the offer is valid.

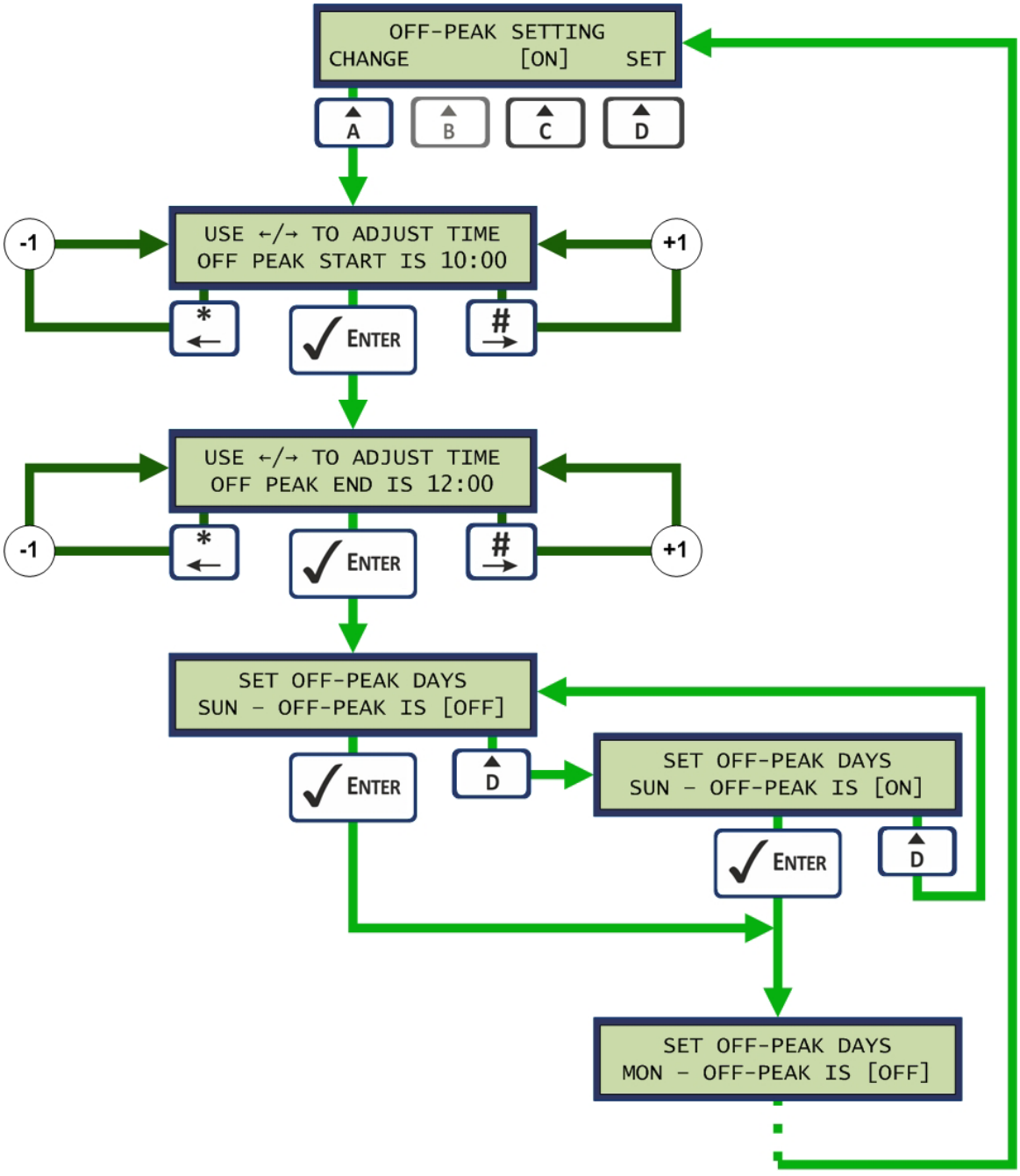
Note: This feature is specified as an Ultra-function only. Off-Peak is available for Retro also but off-peak settings are entered at the Access Terminal. See Codax Access Terminal manual for details.

Note: This function is available for all protocols if the POS has been programmed to do so. Otherwise this function should be left disabled.



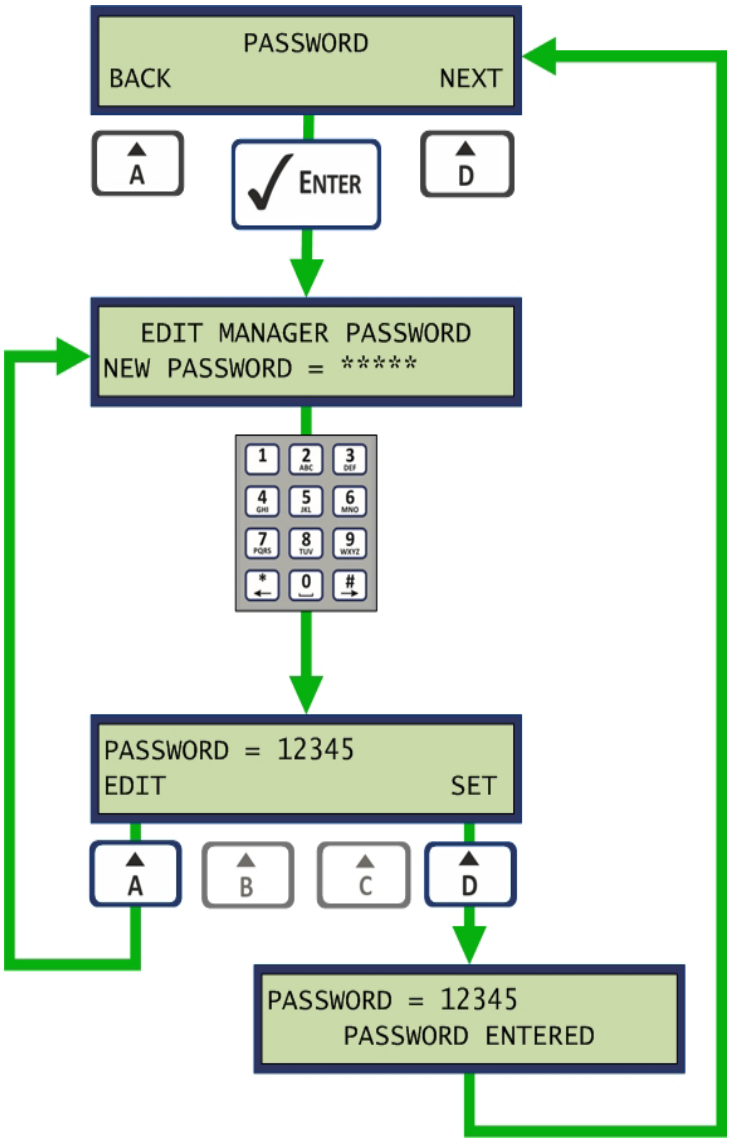
Changing Off-Peak Times

The *Off-Peak* period start and stop times are set using the * and # keys. Each day of the week may then be enabled or disabled to operate the off-peak facility.



4.5.4 PASSWORD

The *Password* option allows the Manager's password to be edited. The Manager's password is required to access the setup menus.



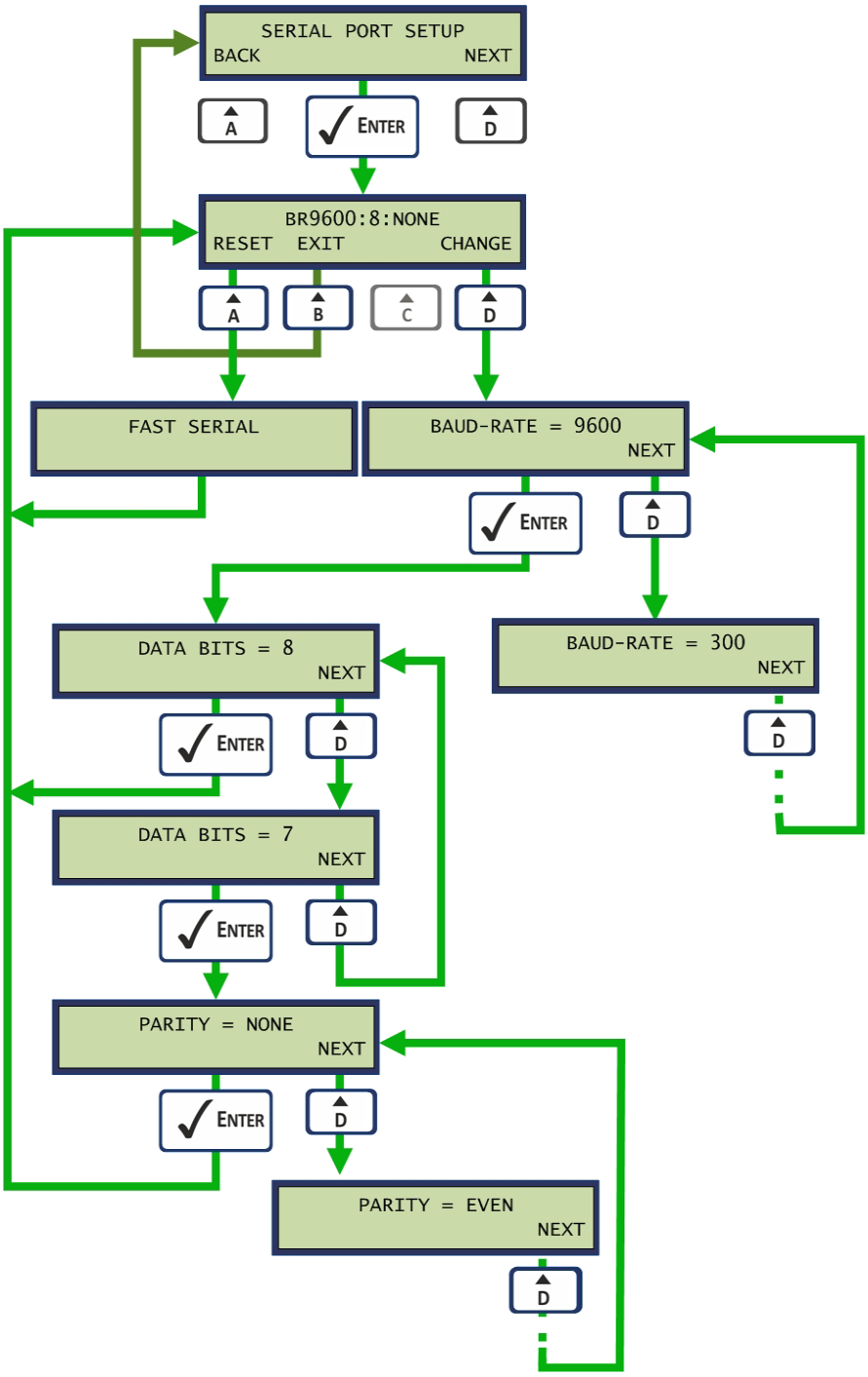
4.5.5 SERIAL PORT SETUP

The *Serial Port Setup* option allows the serial POS interface to be defined. Default settings are applied according to protocol type but may be adjusted here if required.

Baud-rate settings: 9600, 4800, 2400, 1200, 600 or 300.
Data bit settings: 7 or 8.
Parity settings: None, Even or Odd.

See section 2.3 SERIAL PROTOCOL DEFAULT SETTINGS

Note: For Fast Serial protocol an extra Timeout setting adjustment is available. Settings Tokheim (and others) 200ms for CBE 100ms



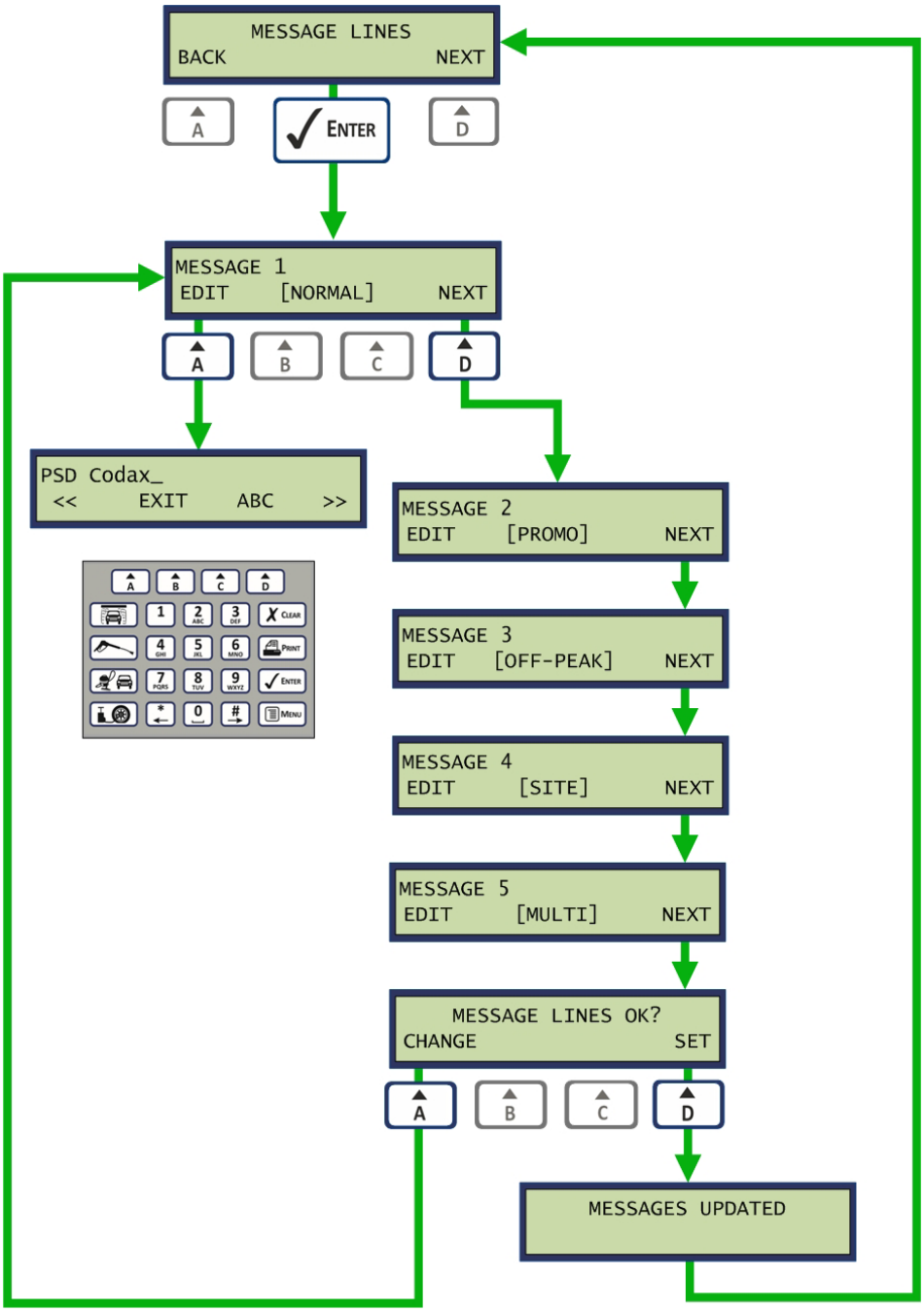
4.5.6 EDIT CUSTOM MESSAGES

User customisable messages for certain ticket types may be included with the Codax Code and sent to the POS by the CET for certain serial protocols. When these messages are available the following illustration shows how they may be selected for editing.

Note: This function is only available for the Fast Serial and Codax Serial protocols

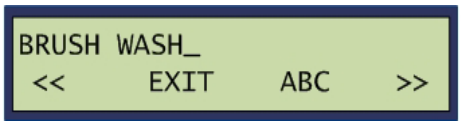
Custom messages are available for:

- Normal Tickets
- Promotional Tickets
- Site Tickets
- Multi-use Tickets



4.5.7 TEXT EDITING

The Text editor is based on the standard SMS style editor and uses a standard telephone style numeric keypad with various letters assigned to each key. The screen layout and the keys used for text editing are shown in the diagram below. Many of the keys have a primary function, activated when the key is pressed and released immediately, and a secondary function, activated when the key is pressed and held for a second.



Primary Text Editing Control Key Operations

The Primary functions of the keys used in editing text messages are defined below. These functions are activated when the keys are pressed and immediately released.

<< Scroll Decrement – Scrolls the message to the right keeping the cursor in the same display position.

EXIT - Submit and Exit – Submits the message entry and returns control to the previous screen.

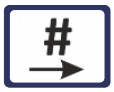
ABC Character Type Select – Selects the type of character to be inserted into the message when the character pad is pressed. This key scrolls through the following options:

- ABC Capital letter entry
- abc Lower case letter entry
- 123 Numeric key entry

>> Scroll Increment – Scrolls the message left keeping the cursor in the same display position.

Alpha Numeric Entry – Enter the letters or numerals indicated on the key. Scrolls through each of the characters printed on the button, starting with the first letter, each time the button is pressed. The character selected is automatically entered into the text line if the button is not pressed again for one second, or if a different button is pressed, with the cursor being automatically incremented. The number 1 key enters punctuation characters not shown on the button. The following characters are selected as the key is pressed: . , - ? ! ‘ @ : 1. The 0 key enters a space character or the digit ‘0’. A selection of characters with an accent is available on certain keys.

Decrement Cursor Position – Moves the cursor one position to the left without affecting the characters on the screen. Auto scrolls, if possible, when the end of the display is reached.



Increment Cursor Position – Moves the cursor one position to the right without affecting the characters on the screen. Auto scrolls, if necessary, when the end of the display is reached.

Delete Character – Deletes the character at the cursor position and all the characters to the right scroll left to fill the gap.

Submit Message – Submits the message entry and returns control to the previous screen.

Secondary Text Editing Control Key Operations

A second function is added to some of the message editing keys. This is accessed by pressing and holding the key down for more than one second.

<< Scroll Decrement – No secondary function.

EXIT - Submit and Exit – No secondary function.

ABC Character Type Select – No secondary function.

>> Scroll Increment – No secondary function.

Alpha Numeric Entry – Pressing and holding any of the numeric keys will enter the numeric value of the key into the text instead of the character.

Scroll to Start of Message – Immediate scroll to the start of the message. The cursor ends up at the start of the message. If the message is shorter than the edit window, just the cursor moves.

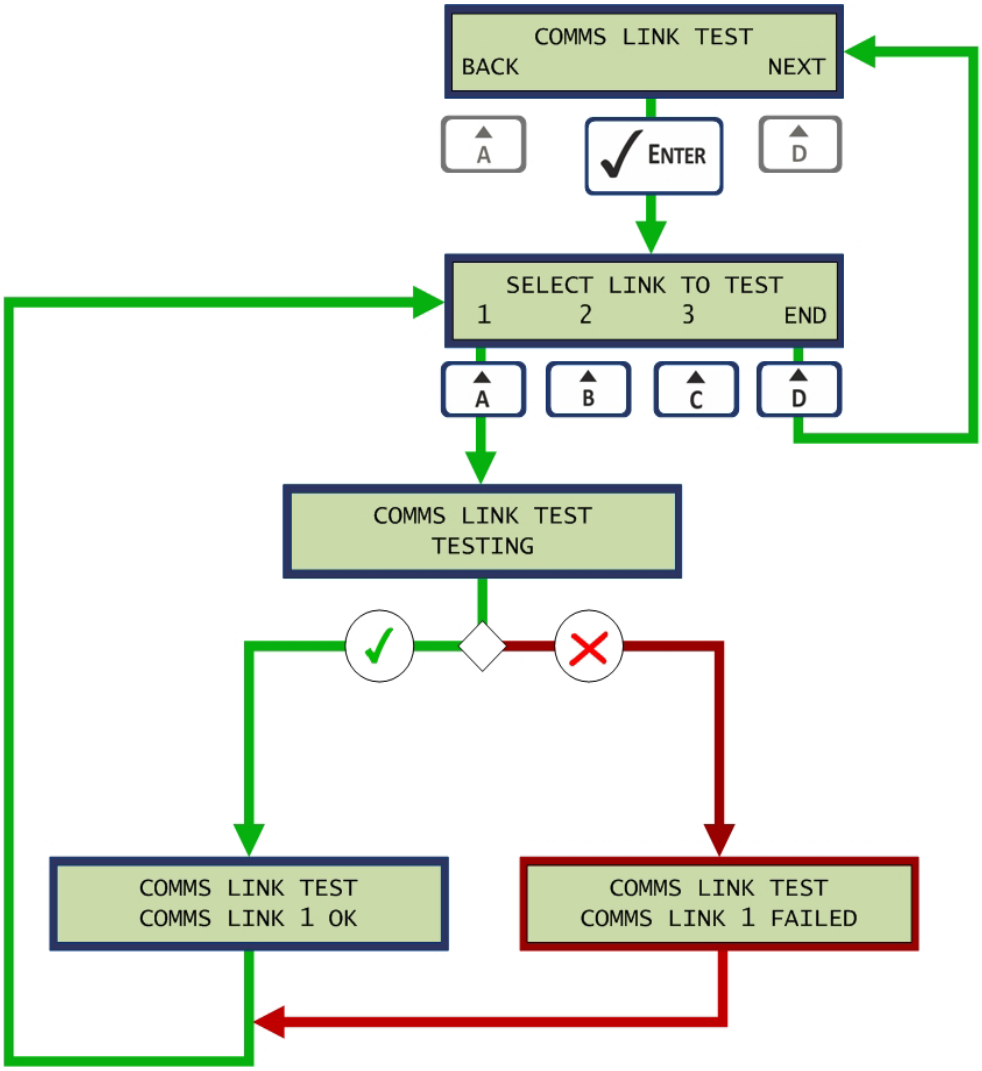
Scroll to End of Message – Immediate scroll to the end of the message. The cursor ends up at the end of the message. If the message is shorter than the edit window, just the cursor moves.

Clear Message – Pressing and holding the Clear key will delete all characters in the message.

Submit Message – No secondary function.

4.5.8 COMMS LINK TEST

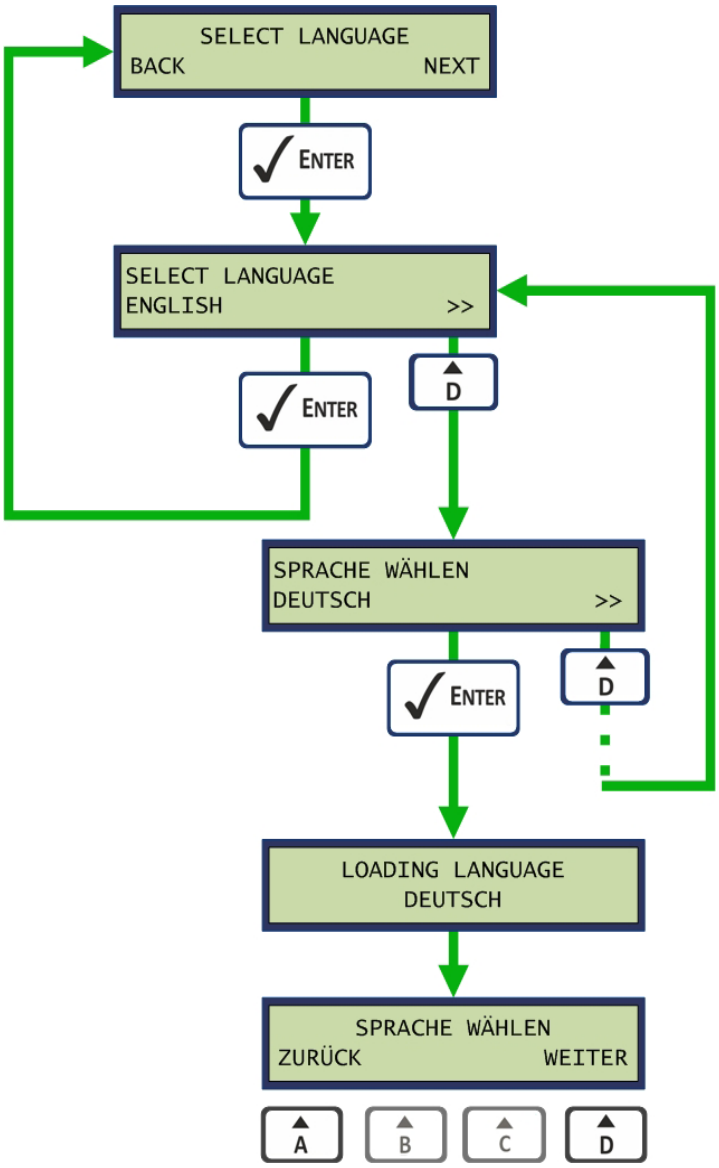
The *Comms Link Test* is a loop back test for the serial POS interface. Before running this test the transmit and receive wires from the serial link must be joined to allow a loop test to be performed – Contact PSD Codax for advice. The serial comms is often connected to a serial router and for this reason the three link test are given. If no serial router is used the router command is ignored and each link test is effectively the same.



4.5.9 SELECT LANGUAGE

OPTIONAL UPGRADE

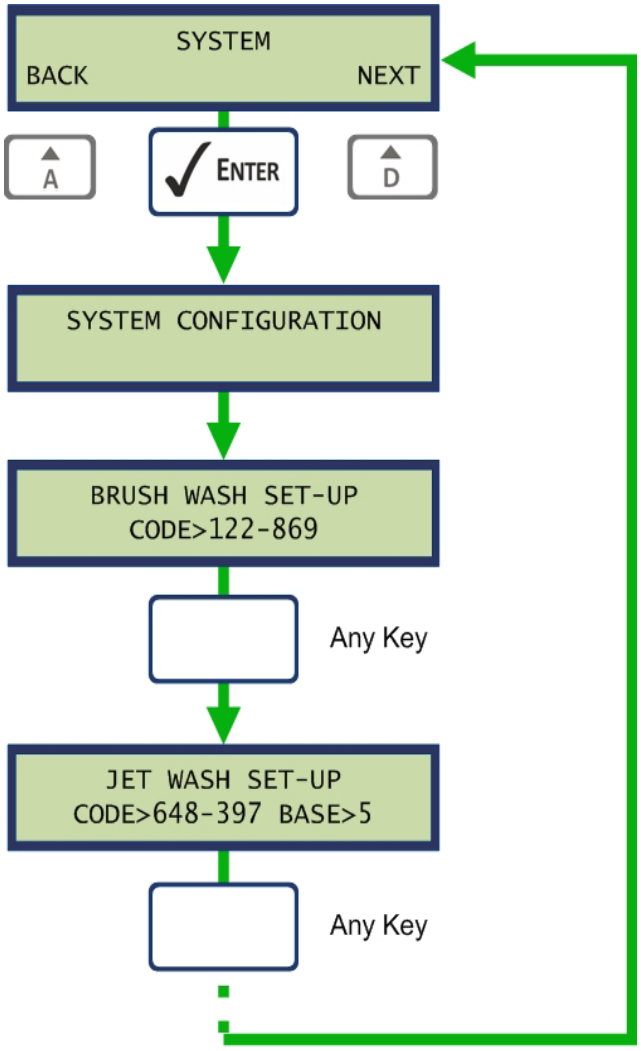
The *Select Language* option allows the language for which all on screen messages are displayed. Language variations are contained in the removable E2PROM module and are factory defined. Languages available vary and are based on geographical regions.



4.5.10 SYSTEM

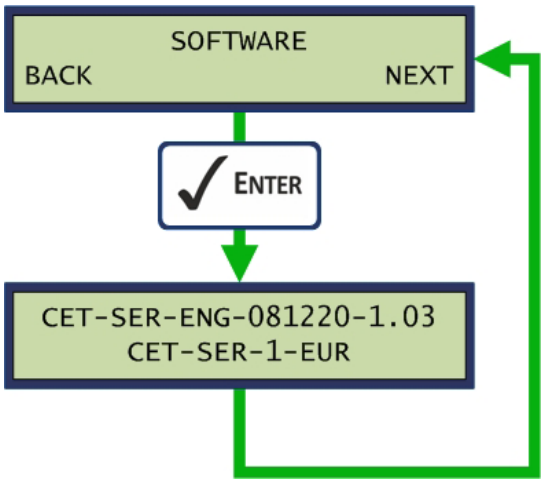
The *System* option allows the System Configuration to be shown. The numbers shown are the CAT Setup Codes and Program Base values used to align the CAT to the CET during a Cold Start.

The following illustration shows an example of the System option sequence.



4.5.11 SOFTWARE

The *Software* option displays the software version of the CET firmware and the E2PROM memory module.

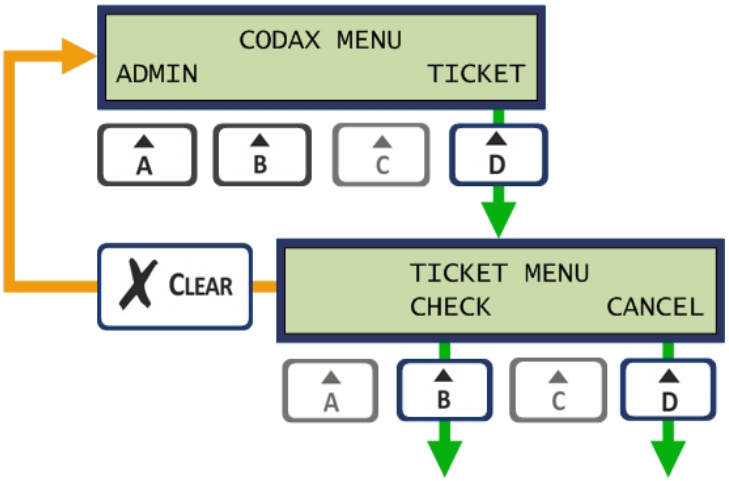


4.6 TICKET SERVICES

Ticket services are available for *Wash* Services operating in *Ultra Mode* only.

4.6.1 THE TICKET MENU

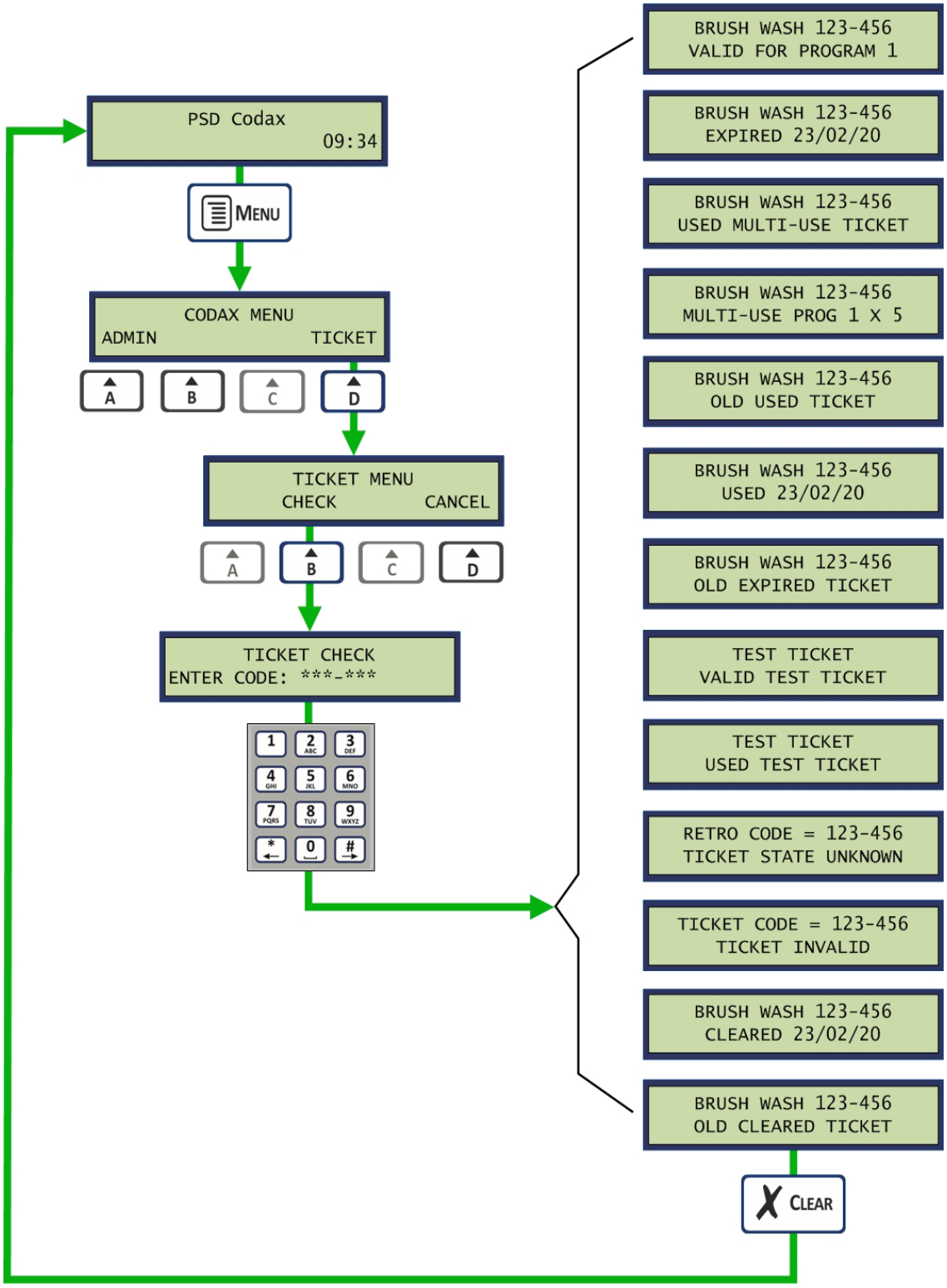
The *Ticket Menu* is available from the *TICKET* option in the *Codax Menu.* From this menu the *CHECK* option selects the ticket check function and the *CANCEL* option selects the clear ticket function.



4.6.2 CHECKING TICKETS (ULTRA ONLY)

The *Ticket Check* facility allows a Codax coded ticket to be checked for its current status. This facility is available for service connected in Ultra mode only.

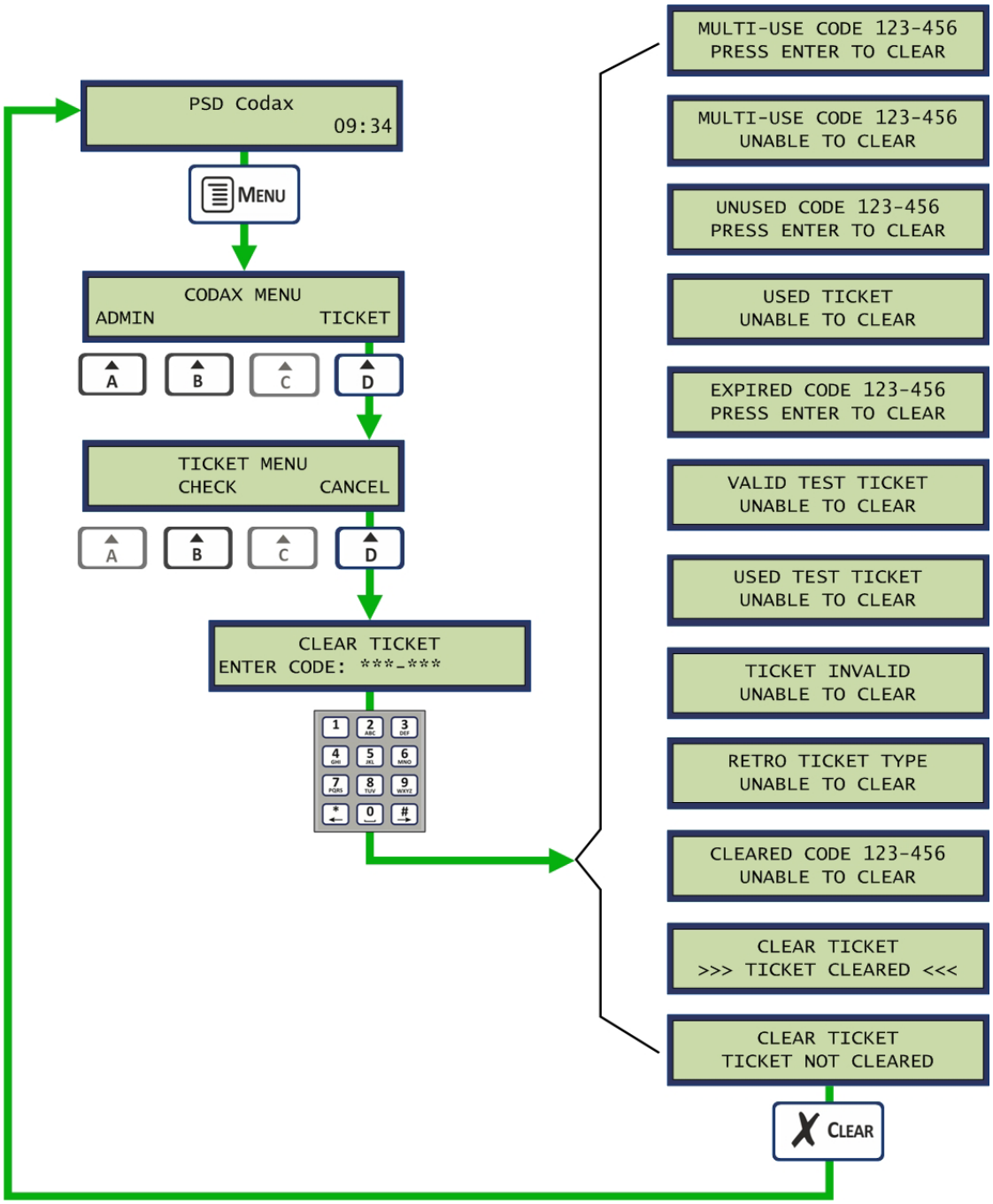
The following illustration shows this sequence and all the possible result messages.



4.6.3 CANCELLING TICKETS (ULTRA ONLY)

The *Ticket Cancel* facility allows a Codax coded ticket to be cleared from the database and therefore not accepted at the Codax Access Terminal. This facility is available for services connected in Ultra mode only.

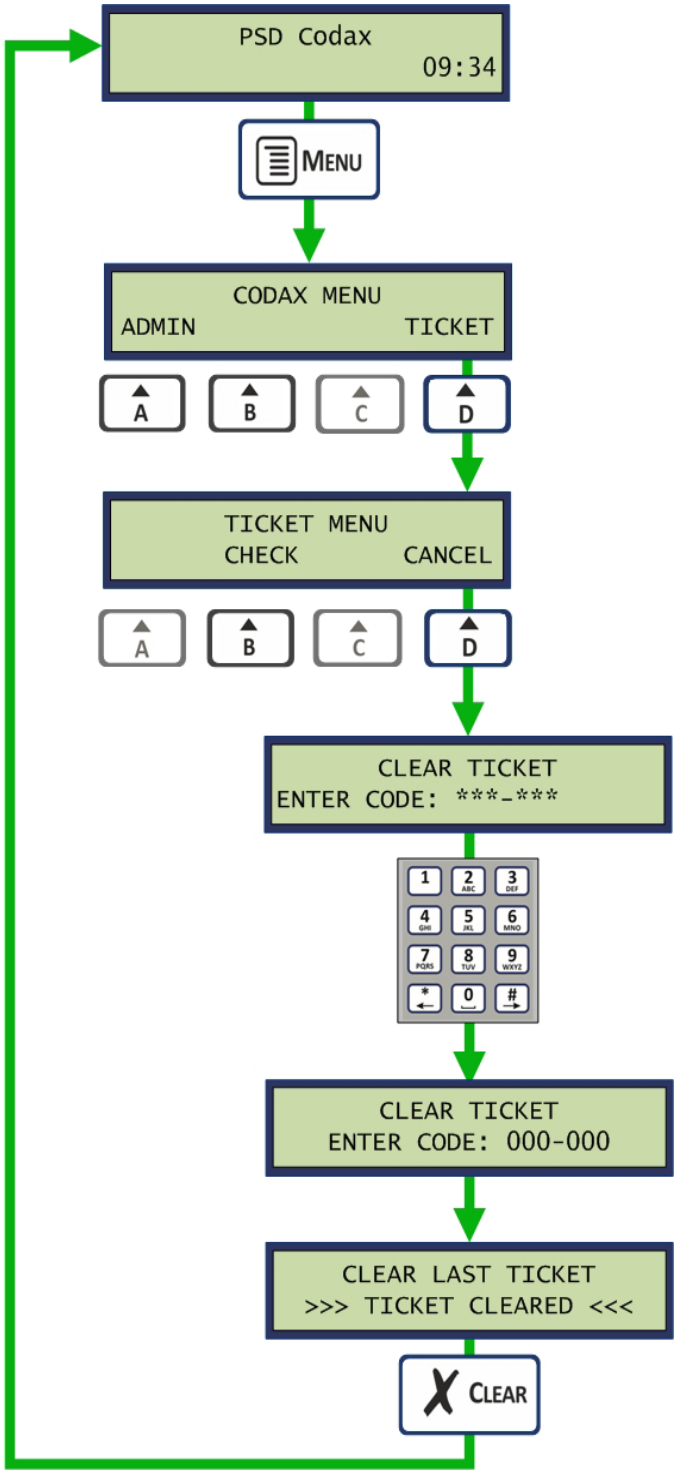
The following illustration shows this sequence and all the possible result messages.



4.6.4 CANCELLING THE LAST TICKET ISSUED (ULTRA ONLY)

The last ticket issued may be cancelled by entering code *000-000*. This sequence is illustrated below. This facility is available for service connected in Ultra mode only.

Note: Other results are possible. See section 4.6.3 CANCELLING TICKETS.

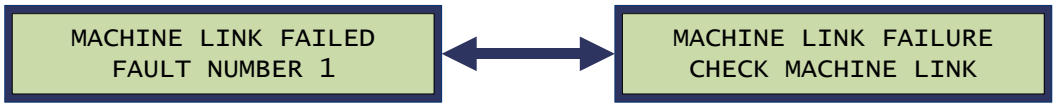


5 TROUBLE SHOOTING

5.1 CODAX SYSTEM FAULT CODES

5.1.1 FAULT CODE 1 – MACHINE LINK ERROR

The Machine Link refers to the cable connecting the CAT to the Machine. Specifically the signal wire or wires controlling the machines operation. If a problem is detected when a wash is started, the Machine Link fault is reported. The following message screens alternate at the CAT until cleared by the operator by pressing the *× key.

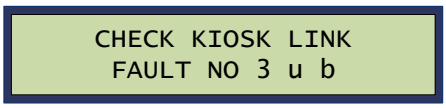


5.1.2 FAULT CODE 2 – MACHINE POWER FAILURE

This fault is reported by the CAT when the power indication from the Machine is lost. The following message screens alternate at the CAT until the power indication is restored. The fault display automatically clears and normal operation is resumed.

5.1.3 FAULT CODE 3 – KIOSK LINK FAILURE

If a fault is detected by the CAT during communication with the CET the Kiosk Link fault is reported. The following fault screen is shown at the CAT until cleared by the operator by pressing the *× key.



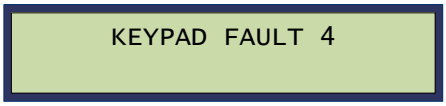
Additional information on the nature of the fault is indicated by the following letter codes:

u	No Loop Error
b	Kiosk Link Break error
p	Kiosk Link Poll error
a	Kiosk Link Acknowledge error
r	Kiosk Link Reply error
t	Kiosk Link Try's error
k	Access Code Entry (2368)

*Note: Entering Access Code **2363** at the CAT will test the Kiosk Link. See Codax Access Terminal Operators Manual for details.*

5.1.4 FAULT CODE 4 – KEYPAD FAULT

This fault is reported by the Access Terminal when a suspected keypad fault is detected. The fault occurs when an unrecognisable code is entered a number of times at the CAT. This may be due to a faulty keypad but could also be caused by random code entry in an attempt to overcome the system. The keypad fault in this instance is designed to deter such action.



Note: This fault is automatically cleared from the Access Terminal after a few seconds

5.1.5 FAULT CODE 5 – ACCESS LINK ERROR

The access link error indicates that there is a problem with the Ultra communication link from Codax Ticket Terminal via the Codax Distribution Unit to the Access Terminal. The CDU LED indicators may indicate which channel is causing the problem.

Ultra Link Fault

This is the connection from the CET to the CAT via the Codax Distribution Unit. It is normally caused by a break in the communication cable. The series of CDU LED indicators will show which CAT cable is causing the problem*. See Section 5.2 CODAX DISTRIBUTION UNIT LED INDICATORS.*

5.2 CODAX DISTRIBUTION UNIT LED INDICATORS

5.2.1 CODAX DISTRIBUTION UNIT POWER INDICATION

The yellow LED is a power indicator. The normal condition of this LED is ON. The LED OFF indicates a loss of power due to a short circuit or overload. CAT and CET power outputs from the CDU are protected by thermal fuses. An overload on these outputs will cause the fuse to overheat and shutdown.

Note: These fuses automatically recover when the fault condition clears. No user serviceable parts are fitted to this unit

LED On - Power ON

LED Off - Power OFF

5.2.2 CODAX DISTRIBUTION UNIT SIGNAL INDICATION

The red LED is a communication link indicator. The normal condition of this LED is off. The LED may flash on when the Ticket Terminal is communicating with an Access Terminal. A loss of communication is indicated by the LED remaining on. This fault is normally caused by a break in the cabling to the CET or CAT.

LED On - Connection error

LED Flashing - Normal comms indication

LED Off - Normal operation

6 CONTACT INFORMATION

Codax **™** is designed and manufactured by PSD Codax Ltd.
Bristol, England, BS14 0BY

Full Address:

PSD Codax Ltd
Axis 8
Hawkfield Business Park
Whitchurch
Bristol
BS14 0BY
England

PSD Codax website: www.psdcodax.com

For product information, pricing or to place an order:	**For technical support:**
Email: sales@psdcodax.com	Email: service@psdcodax.com
Call: +44 (0) 1275 866910.	Call: +44 (0) 1275 866910.

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psd codax
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t: +44 (0) 1275 866 910
w: www.psdcodax.com
e: info@psdcodax.com

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