NORTECH

FeeMaster Smart Console

OPERATOR'S MANUAL

Contents

1. Introduction

1.1 Overview

The FeeMaster time-based access control system provides a simple and cost-effective way of managing access to facilities such as car parks and controlling access validity periods without the need for expensive cabling between components. It can record visitor arrival times using Entry Tickets and strictly control the final exit time using Mifare smart cards. Fees are automatically calculated from the time of entry, the validity period of the card and tariff tables.

Mifare cards are encoded with validity data at a reception point and then given to the visitors to allow them to enter and exit controlled areas during the validity period. When a card is presented to a card reader at an appropriate access point during its validity period, it will grant access and will be returned to the user. Once the card validity period has expired, access will not be granted. There is also an option for the card reader at the exit station to 'capture' the card, allowing it to be re-cycled.

The FeeMaster Smart console is a self-contained fee calculation system and card-encoding unit that would normally be situated in an easily accessible, manned location such as a reception desk. The console calculates fees to be charged based on the time of arrival, the required validity period and predetermined tariff details. It then encodes the required validity data onto a smart card for use by the visitor. It can also display the fee details to the visitor via a pole display and can print a receipt via a point-of-sale receipt printer.

The console can be operated as a standalone unit or it can be linked to a PC to provide additional features such as transaction logging.

1.2 Encoding Cards

Each card is encoded with a validity period (start date/time and end date/time) for a given installation. The encoding operation is simple and speedy so that the operator can provide a swift, efficient service to their customers.

The console has 4 encoding modes:

Exit Token – quickly encodes single exit cards for visitors

Short Stay – quickly encode Short Stay multiple-use cards for guests

Season Card - quickly encodes Season Cards for members, etc.

Pre-Issue – allows the operator to enter all card encoding values including the start date and time. This is used for special encoding actions such as advanced issue guests' passes with post-dated validity period.

Once the card details have been set up in the console, the card is encoded by simply placing the card on the encoding pad on the top of the console. The card is instantly encoded and verified, with a visual and audible indication of the success or failure of the process.

The console can also read the details of a previously encoded card. This is possible from any of the operating modes.

1.3   Fee Calculation

With the exception of Season Cards, fees are calculated according to the length of stay and the active tariff data (see below). It is important that you are aware of the tariff system in operation as there are some minor differences to the way that the operator deals with the tariffs.

For Season Cards, the fee corresponds to a preset validity period. These preset validity periods and corresponding fees are assigned to the function keys of the numeric keypad.

1.3.1. Fixed Rate

This is the standard factory setting of the FeeMaster Smart console. The fee calculation is based on predetermined tariff tables. The tariff calculation uses up to 3 tariff programmes, each having an hourly rate and a daily rate. When a card is being encoded, the operator selects the appropriate tariff for the customer being attended to. The tariff information, together with the entry time and selected validity period, is used to calculate the fee to be paid. This is then displayed to the operator and, where a customer fee display is fitted, to the customer.

1.3.2. Variable Rate

FeeMaster PC software can be used to load a variable rate tariff programme to the console. This allows the hourly rate to change from the first hour of stay to the second hour, from the second to the third, etc. (e.g. the first hour can be charged at £2.00 and subsequent hours charged at £1.00 per hour).

1.3.3. Matrix Tariff

FeeMaster PC software can be used to load a matrix tariff programme to the console. This enables the administration to set different rates for each hour of the day on each day of the week, thereby assigning different tariffs for peak and off-peak periods. Up to 4 rates can be set plus free parking. Any of these rates can be applied to any hour of the week.

2.   Identifying the Components

Validity period function keys

Special function keys

Numeric keypad

Card writing status indicators

Menu navigation

Card encoding pad

4 line x 20 character LCD display
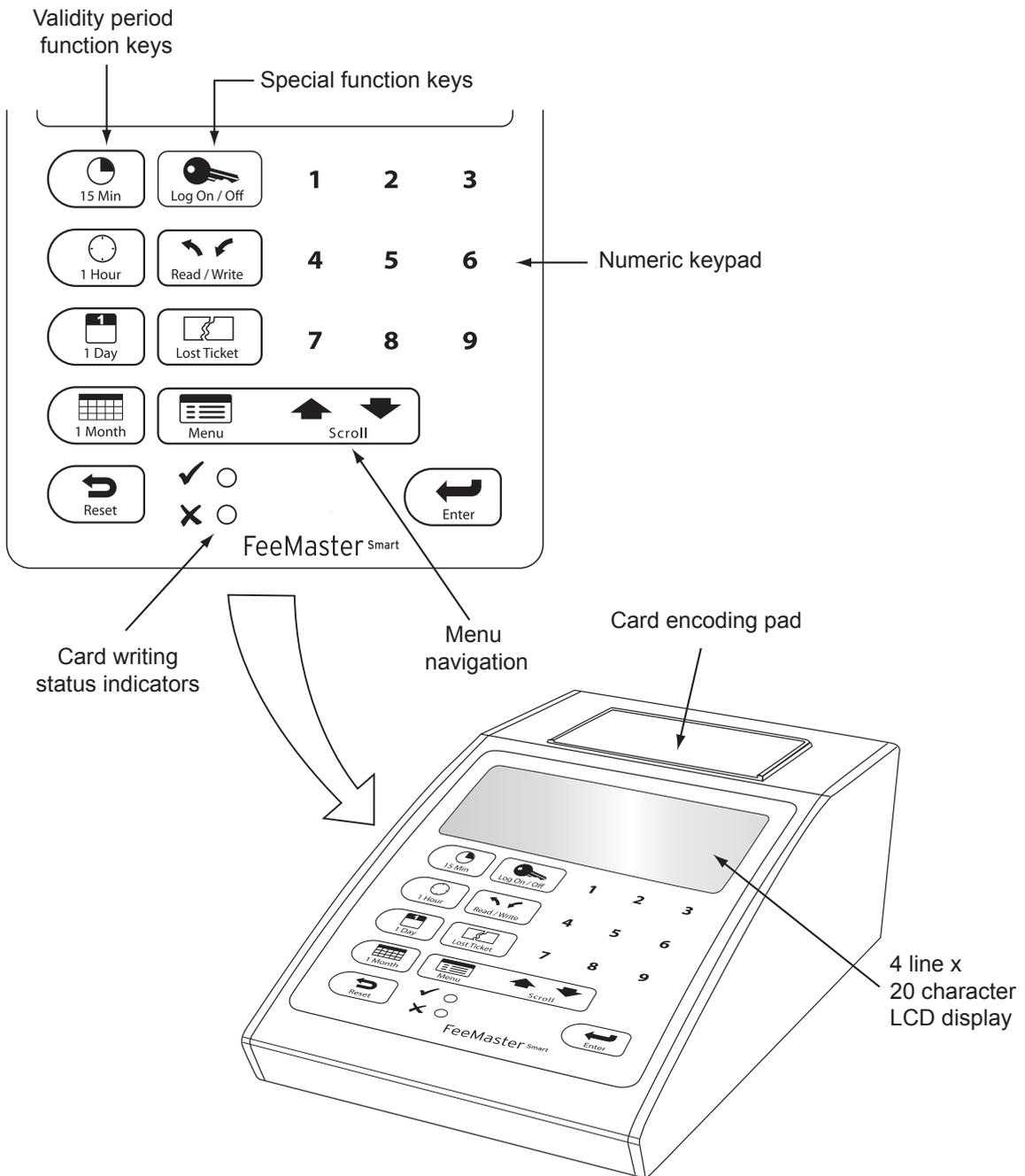
2.1   Keypads

2.1.1. Numeric Keypad

This is used for manually entering data such as passwords, card numbers, time information, etc. The keys also serve as programmable function keys for fast encoding of Season Cards.

2.1.2. Menu Navigation and Enter Keys

The Menu and Scroll keys are used in conjunction with the enter key to navigate through menu options such as operating modes, configuration, etc.

The menu key is used to enter and leave menus.

The up arrow and down arrow keys are used for scrolling through menu items (active item identified by a chevron '>' to its left)

the enter key is used to select the 'active' menu item.

2.1.3. Validity Period Function Keys

These keys are used to quickly set the required validity period for Exit Tokens and Short Stay Cards.

2.1.4. Special Function Keys

These keys are used as follows:

Log On / Off — This key is used for manually logging on and off. Pressing this key in any operating mode logs the current user off and reverts to Power-Up mode. Pressing the key when in Power-Up mode activates the manual log-on screen.

Read / Write — This key toggles between card reading mode and the current card encoding mode.
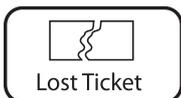
Lost Ticket — This key can be pressed to set a default fixed charge or start time for the charge period associated with an Exit Token where the customer does not have a barcode Entry Ticket.

2.2   Built-in LCD Display

```
14/02/13        08:59
   FeeMaster Smart
     Version x.xx
```
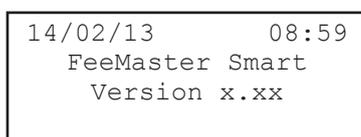
The large 4-row x 20-character backlit display is used in conjunction with the keypad to allow operators to manage all configuration and operation of the console without the need for an external PC. The image shows a typical Power-Up screen.

The top row displays the current date and time and the third row shows the firmware version.

To save power, the backlighting of the screen will dim after a preset time (typically 1 minute) of no keypad activity. Any key press will re-light the screen. To light the screen without affecting a transaction, press the menu key twice.

Card Encoding Pad

When the console is ready to write to or read from a smart card, the operator simply places the card on the encoding pad. The card will then be read or encoded as necessary and the console will give audible and visual indications of the success or failure of the process.

2.3   Attachments

There are three external devices that can be plugged into the ports in the rear panel of the console. These are:

Barcode Scanner

Receipt/ticket Printer

Customer Fee Display.

There is also a serial port for connection to a PC and an auxiliary output port for connection to third party equipment.
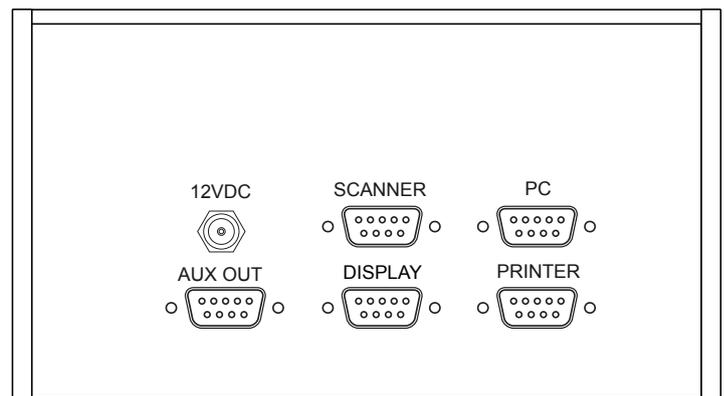
Rear Panel

2.3.1. Barcode Scanner
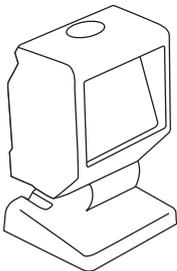
Where a ticket issuer is fitted at the entrance, the time and date of arrival contained within the barcode on the ticket can be used to calculate the fee associated with an Exit Token or Short Stay card. With the barcode scanner connected to the 'Scanner' port at the back of the console, the operator can start the Exit Token process by simply presenting the customer's arrival ticket to the scanner.

2.3.2. Receipt Printer
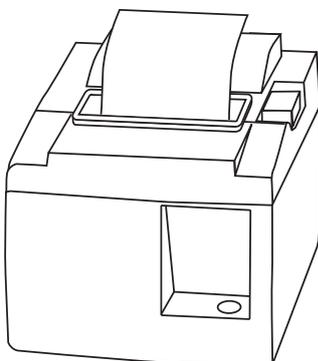
Whenever a fee transaction is carried out on the FeeMaster Smart console, it is possible to print a receipt for the customer. This requires the POS printer to be connected to the 'Printer' port at the back of the console.

The printer can also be used to print barcode Exit Tokens if the exit pedestal is fitted with a barcode scanner. This avoids the need to use magnetic stripe cards as Exit Tokens (e.g. where hotel key cards are used for guest parking).

2.3.3. Customer Fee Display
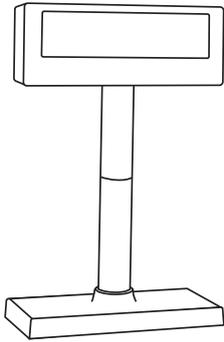
The FeeMaster Smart console can display the fee payable on an external 2-line display. This display shows the fee to the customer once it has been calculated.

The display is plugged into the 'Display' port at the back of the console. The pole display stand has variable height adjustment to allow for a range of counter heights.

3. Encoding Cards

This section explains the various methods of encoding cards. It has been assumed that the console has been fully installed and configured as necessary. Refer to the Configuration Manual for information on the configuration of the console.

There are several options for using the FeeMaster Smart console for encoding cards and/or barcode tickets depending upon on the installation. Operators are advised to become familiar with both the type of the installation and the administration's card issuing strategy before reading the detailed procedures.

3.1 Card Encoding Overview

As briefly mentioned in the main introduction, there are several card types to cater for different applications. Here is a fuller explanation of the card types:

3.1.1. Exit Token

The Exit Token is used for a single exit and is captured by the exit card reader. Typically, this is used for short-term visitors that don't need to return to the facility once they have left. This may be a vehicle dropping off a guest at a hotel, a restaurant or bar customer or a standard customer at a public car parking facility. The card is encoded with a validity period (usually set in hours and minutes). The guest must use the card within the validity period or they will be refused exit and would therefore need to return to the reception/attendant's desk to obtain a new token.

There are several options for fee calculation and Exit Token encoding:

1. If a ticket issuer is used at the entrance, customers must bring their Entry Tickets with them when they come to the reception/attendant's desk to request an Exit Token. Depending upon the way the system operates, the process may be:

   a. The period is calculated from the time of arrival to the current time. This would be when the customer calls at the reception/attendant's desk at the end of their stay (or for drop-off vehicles, etc.). Here the receptionist/attendant would issue an Exit Token encoded with a grace period only, and the customer will be expected to leave the facility immediately.

   b. The period is calculated from the time of arrival to a future date/time. This would be used for customers that call at the reception/attendant's desk upon arrival and wish to stay for a period. Here the receptionist/attendant would issue an Exit Token encoded with an appropriate validity period.

2. Where Entry Tickets are used but the customer has lost his/her ticket, the receptionist/attendant can press the 'LOST TICKET ' key and use one of several charging options. These are:

   • Set a fixed time of entry

   • Apply a fixed price

   The process will then proceed as in either 1a or 1b above.

3. If there is no ticket issuer at the entrance barrier, and there is no other proof of the arrival time, it is not practical to use Exit Tokens with variable fee charging. In this case, there is an option of a fixed fee for Exit Tokens. Here the receptionist/attendant will press the 'LOST TICKET ' key and follow the procedure for 'Fixed Price'.

4. Where it is not necessary to have proof of arrival time, the Exit Token fee can be calculated from the time that the customer visits the reception/attendant's desk. The receptionist/attendant can enter the 'Exit Token' mode manually and set the charging period from the current time to the expiry time requested by the customer.

All of the above processes are simple and speedy, provided that the receptionist/attendant is following the procedures in force at that particular installation.

Note: Exit Tokens may be either smart cards, programmed to be captured at the exit reader or disposable single use barcode tickets. This would depend upon the type of installation.

3.1.2. Short Stay Cards

Short Stay cards are for visitors that require multiple entries and exits during a relatively short period (usually up to several days). They are encoded in a similar way to Exit Tokens with the exception that, when an Entry Ticket has been scanned, the operator must select 'Short Stay' before proceeding. A 'Short Stay' card can be reused for entry and exit as many times as necessary during the validity period but will be captured when used at an exit point during the final day of validity (optional), and where an attempt to use is made after it has expired.

A limitation of the Short Stay card is that it can't be individually set to be valid at certain points of entry and exit and invalid at other points of entry and exit. For this type of application, the Season Card must be used.

3.1.3. Season Cards

Season Cards are designed for long-term users of the facility such as staff, club members or season ticket holders. In addition, they can be assigned individual card numbers that allow them to be treated differently at each entry and/or exit point. For example, in a hotel with a leisure centre attached, hotel guests may be issued with a Season Card for the car parking facility only. Those guests that wish to use the leisure centre can be issued with a 'special' Season Card that also allows them entry to the leisure centre.

For club members and/or staff, each Season Card can be given an individual number (up to 4000) so that, if the card is lost, it can be made invalid at the entry and exit points regardless of the validity period contained on the card.

For charging purposes, the start date would normally be set to the current date (i.e. when the card is encoded). Once encoded, the Season Card can be reused for entry and exit as many times as necessary at valid entry and exit points during its validity period, but it will be captured when used at an exit point during the final day of validity (optional), and where an attempt to use is made after it has expired.

The validity start time on the first day of validity and validity end time on the last day of validity is set globally for all Season Cards.

3.1.4. Card Type Summary

The following table summarises the use of each card type and treatment by the reader:

Type	Use	Time of Use	Capture or Return to User	Allow or Disallow Entry/Exit
Exit Token	Single exit only	During validity period	Capture	Allow
		After expiry of validity period	Return	Disallow
Short Stay	Multiple entries/exits during several days	During validity period except for final day	Return	Allow
		On final day of validity period	See note 1	Allow
		After expiry of validity period	See note 2	
Season Card and Pre-Issue	Multiple entries/exits during long periods	Before the validity period starts	Return	Disallow
		During validity period except for final day	Return	Allow
		On final day of validity period	See note 1	Allow
		After expiry of validity period	See note 2	

Notes:

1. Individual entry and exit stations can be programmed to either capture or return cards on the last day of validity.

2. Individual entry and exit stations can be programmed to treat expired cards differently. The most common setting is to capture and disallow.

3. Although the encoder has four modes of operation, individual applications may only require the use of one or two of these modes.

3.2   Validity Period Setting Options

To ensure that receptionist/attendant can encode cards as quickly and easily as possible, the FeeMaster Smart console has quick programming function keys. This allows the operator to set a required validity period with just a few key presses.

Where a card needs to be encoded with a future validity start time and date, there is a 'Pre-issue' mode available. This allows the operator to set both the start time and date and the end time and date of the validity period.

3.3   Tariff Options

With the Standard Tariff mode, up to 3 tariff programmes may be applied to accommodate different types of customer. The operator can quickly select the appropriate tariff for the customer or choose 'FREE ISSUE' if a charge is not applicable.

There are two other Tariff options available if the FeeMaster PC software is used These are:

• Varying Tariff Mode (Hourly tariffs vary according to the length of stay)

• Matrix Tariff Mode (Hourly tariffs vary according to the time of day/day of week)

In each of these two modes, the same tariff applies to all customers.

Note: Only one Tariff mode can be in force at any time.

3.4 Card Numbers

When a card is encoded, it is assigned a card number. Card numbers are used both to identify the card type and, in the case of Season Cards, to control card validity at each entry/exit station.

Exit Tokens are all given the card number '0000' and may be used with any entry/exit station within the installation for which Exit Tokens are accepted.

Short Stay cards are all given the card number '0001' and may be used with any entry/exit station within the installation for which Short Stay cards are accepted.

Season Cards can be allocated individual numbers between '0002' and '4000'. More than one card can be assigned the same card number. Each Season Card can only be used at those entry/ exit stations that have been programmed to accept that card number. If a card has been lost or it is suspected that a card may be used fraudulently, then each entry/exit station can be programmed to disallow entry/exit and to capture the card when it is next used.

Card numbers can also be used as a means of setting different 'classes' for Season Cards. For example, cards that are assigned card number '2' may be valid for use at station 'A' only, cards that are assigned card number '3' may be valid for use at station 'B' only, and cards that are assigned card number '4' may be valid for use at all entry and exit stations.

4. Logging On and Off

Each authorised operator will be issued with a single digit ID and a 4-digit password.

4.1 Logging On

To log on using your ID and password, carry out the following:

ACTION	RESULTING SCREEN
Press **Log On / Off**	```14/02/13 08:59 FeeMaster Smart Enter User Num:_```
Enter a single digit user number (example '4')	```14/02/13 08:59 FeeMaster Smart Enter User Num:4 Enter Password:_```
Enter the 4-digit password and press **Enter** The console give two short beeps.	```14/02/13 08:59 FeeMaster Smart USER 4 LOGGED ON Access Level 2```
Wait for 1.5 seconds	```14/02/13 08:59 **PREVIOUS MODE""```

Note: **PREVIOUS MODE** indicates that the console reverts to the previous logged-in mode (regardless of previous operator).

If an incorrect password is entered, the message 'USER *n* DENIED' with be displayed together with continuous beeping for 10 seconds before reverting back to the' Power-Up' display.

4.2 Logging Off

Press **Log On / Off** in any mode to return to the 'Power-Up' display.

5. Card Encoding Procedures

To encode a card of any type, there are generally 5 basic stages as follows:

1. Present the Entry Ticket (if available) or press 'LOST TICKET'.

2. Select the type of card to be encoded (if not already selected).

3. Enter the validity information using the keypad.

4. Insert the card to be encoded (fee is displayed)

This will vary slightly according to the configuration of the system.

5.1 Exit Token

To encode an Exit Token, start the process in either of the following ways according to the application:

Entry Tickets Used

Present the Entry Ticket to the scanner.

```
Up to 1h        09:05
 EXIT TOKEN: 0001.50
00m 00h 00d 00m
     >Tariff 1
```

If the Entry Ticket is presented within the grace period, the start date and time is set to the current date and time. Otherwise the start date and time is set to the value on the Entry Ticket, and the initial chargeable period is displayed in the top left corner of the screen. This is based on the period from the entry time to the current time.

The displayed fee value is calculated from the initial chargeable period at the currently displayed tariff rate (bottom of screen).

Note: As long as the reset key is not pressed during the transaction, the console will return to its previous Mode once this transaction is complete.

LOST TICKET?
If a customer loses his/her ticket, there is an option to apply either a fixed arrival time or a fixed price.

See appendix B for the 'Lost Ticket' procedures.

No Entry Ticket System

If already in Exit Token Mode, go straight to section 5.1.1

Otherwise press Menu

```
>Select Mode
 Settings
 Admin
 Tariffs
```

Press Enter

```
 Exit Token
>Short Stay
 Season Card
 Pre-Issue
```

Use the Scroll keys to select 'Exit Token'

and press Enter

```
14/02/13        09:05
 Exit Token: 0000.00
 00m 00h 00d 00m
   >Tariff 1
```

The start date and time set to the current date and time. The fee value is set to zero.
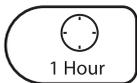
5.1.1. Setting the Validity Period

```
Up to 1h        09:05
 EXIT TOKEN: £001.50
 00m 00h 00d 00m
   >Tariff 1
```

Set the length of the validity period from the current date and time by combined values of Months, Days, Hours and Minutes. To change the values of each of these fields, use the associated function keys on the left of the keypad.

15 Min	Adds between 00 and 45 minutes in 15-minute increments
1 Hour	Adds between 00 and 23 hours in 1-hour increments.
1 Day	Adds between 00 and 99 days in 1-day increments.
1 Month	Adds between 00 and 99 months in 1-month increments'
Reset	Sets all values to '00'.

Example: To set a validity period of 1 day, 4 hours and 30 minutes you must press ⌨ 1 Day once, ⌨ 1 Hour four times and ⌨ 15 Min twice.

The screen display will then be similar to:

```
Up to 2d        09:05
 EXIT TOKEN: 0020.00
 30m 04h 01d 00m
   >Tariff 1
```

The validity period displayed now includes the added validity time and the displayed fee now covers the full validity period at the selected tariff.

⚠ **IMPORTANT**
If you accidentally press 'Reset' after presenting an Entry Ticket, you need to present the Entry Ticket once again to recover the arrival time details.

5.1.2. Changing The Tariff

If the tariff shown at the bottom of the screen is not applicable to the type of customer (refer to the tariff details in Appendix A) use the ▲ ▼ Scroll keys to select the required tariff.

For 'VARYING TARIFF' or 'MATRIX' , the option to apply different tariffs is not available but 'FREE ISSUE' can be selected if necessary.

⚠ **IMPORTANT**
Always ensure that you have the correct tariff set before you encode a card or print a Barcode Exit Token.

5.1.3. Exit Token Format Options

Depending upon the installation, there are two possible forms of Exit Token:Mifare Smart Card

- Barcode Ticket

The next step will depend on the type used.

For smart cards, go to section 5.1.4.

For barcode tickets, go to section 5.1.5.

5.1.4. Encoding a Smart Card

Now that you have the data ready, the display should look similar to the following example:

```
Up to 2d        09:05
 EXIT TOKEN: 0020.00
 30m 04h 01d 00m
  >Tariff 1
```

If fitted, the Customer Fee Display Unit (see section 2.5.3) will also display the fee payable.

Place the card on the encoding pad. The console will generate two short beeps, the green 'Encoded' LED will light momentarily, and the confirmation screen will be displayed for 2.5 seconds:

```
      EXIT TOKEN
     CARD ENCODED
EXP: 15/02/13 15:00
```

This indicates that the card has been encoded correctly. The expiry date and time is shown at the bottom of the screen. The expiry time is calculated as follows:

Time of issue + operator added time + 15 minutes grace period

This is then rounded up to the end of the 15-minute segment (i.e. on the hour, on the half-hour, 15 minutes to the hour or 15 minutes past the hour)

➡ Customer receipt printed if receipt printing is enabled and a printer is attached.

The transaction is now complete (and has been recorded). The Exit Token can be issued.

ENCODING ERROR

If the card encoding process fails, the screen display will be similar to:

```
    EXIT TOKEN
 ENCODING ERROR
 Error Code: 02
```

The red 'Error' LED will also light momentarily and the buzzer will sound.

If this is the case, make a note of the error code and refer to Appendix C for an explanation.

After 2.5 seconds the card data screen is restored ready for a new transaction. An exception to this is where cards are being encoded without the use of an Entry Ticket or the 'Lost Ticket' key. Here the data from the last transaction is maintained so that further cards can be encoded with that data (see 'Batch Encoding' below).

5.1.4.1.   Batch Encoding

The FeeMaster Smart console supports batch encoding where it is necessary to encode many Exit Tokens with the same data (e.g. to allow all visitors to an event to leave before a certain time). It is only necessary to set up the data once, and cards can be encoded one after the other very quickly.

Once the task is complete, the data can be cleared by pressing the (Reset) key.

If it is necessary to interrupt batch encoding to encode an individual card or barcode ticket using an Entry Ticket or 'Lost Ticket' transaction, this is possible without deleting the bulk encoding data. The original data will be restored automatically after the transaction.

5.1.5. Printing a Barcode Exit Token

If Barcode Exit Token printing is enable, you can print the Exit Token when the screen display is similar to:

```
Up to 2d        09:05
 EXIT TOKEN: 0020.00
 30m 04h 01d 00m
  >Tariff 1
```

If fitted, the Customer Fee Display Unit (see section 2.5.3) will also display the fee payable.
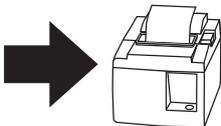
Simply press (Enter) to print the Exit Token.

The screen provided a confirmation screen for 1.5 seconds similar to that shown below.

```
    BARCODE ISSUED
     FEE: 0002.00
```

The expiry date and time of the Exit Token is calculated as follows:

Time of issue + operator added time + 15 minutes grace period

This is then rounded up to the end of the 15-minute segment (i.e. on the hour, on the half-hour, 15 minutes to the hour or 15 minutes past the hour)

If printing the expiry date has been enabled, this information will be printed on the ticket.

The transaction is now complete (and has been recorded). The Exit Token can be issued.

After 2 seconds the card data screen is restored ready for a new transaction. An exception to this is where tickets are being encoded without the use of an Entry Ticket or the 'Lost Ticket' key. Here the data from the last transaction is maintained so that further tickets can be printed with that data. (see section 5.4.1.4).

5.2   Short Stay

To encode a Short Stay card, choose either of the following procedures according to the system in place.

Entry Tickets Used

Present the Entry Ticket to the barcode scanner.

```
>Select Mode
 User Admin
 Settings
 Tariffs
```

Press (Enter)

```
>Select Mode
 User Admin
 Settings
 Tariffs
```

Press (Enter)

```
>Exit Token
 Short Stay
 Season Card
 Pre-Issue
```

Use the ▲▼ Scroll keys to select 'Short Stay'

and press (Enter) .

```
Up to 1h        09:05
 SHORT STAY: 0001.50
00m 00h 00d 00m
  >Tariff 1
```

If the Entry Ticket is presented within the grace period, the start date and time is set to the current date and time. Otherwise the start date and time is set to the value on the Entry Ticket, and the initial chargeable period is displayed in the top left corner of the screen. This is based on the period from the entry time to the current time.

The displayed fee value is calculated from the initial chargeable period at the currently displayed tariff rate (bottom of screen).

Note: As long as the reset key is not pressed during the transaction, the console will return to its previous Mode once this transaction is complete.

No Entry Ticket System

If already in Short Stay Mode, go straight to section 5.2.1

Otherwise press [Menu]

```
Up to 1h        09:05
 EXIT TOKEN: 0001.50
00m 00h 00d 00m
  >Tariff 1
```

Press (Enter)

```
>Exit Token
 Short Stay
 Season Card
 Pre-Issue
```

Use the ▲▼ Scroll keys to select 'Short

Stay' and press (Enter)

```
14/02/13        09:05
 SHORT STAY: 0000.00
00m 00h 00d 00m
  >Tariff 1
```

The start date and time set to the current date and time. The displayed fee value is calculated based on any validly period shown on the screen at the currently displayed tariff rate.

LOST TICKET?
If a customer loses his/her ticket, there is an option to apply either a fixed arrival time or a fixed price.

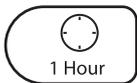See appendix B for the 'Lost Ticket' procedures.

5.2.1. Setting the Validity Period

```
Up to 1h        09:05
 SHORT STAY: 0001.50
 00m 00h 00d 00m
  >Tariff 1
```

Set the length of the validity period from the start date and time by combined values of Months, Days, Hours and Minutes. To change the values of each of these fields, use the associated function keys on the left of the keypad.

15 Min	Adds between 00 and 45 minutes in 15-minute increments
1 Hour	Adds between 00 and 23 hours in 1-hour increments.
1 Day	Adds between 00 and 99 days in 1-day increments.
1 Month	Adds between 00 and 99 months in 1-month increments'
Reset	Sets all values to '00'.

Example: To set a validity period of 1 day, 4 hours and 30 minutes you must press [1 Day] once, [1 Hour] four times and [15 Min] twice.

The screen will then show:

```
Up to 2d        09:05
 SHORT STAY: 0020.00
 30m 04h 01d 00m
  >Tariff 1
```

The validity period displayed now includes the added validity time and the displayed fee now covers the full validity period at the selected tariff.

⚠️ If you accidentally press 'Reset' after presenting an Entry Ticket, you need to present the Entry Ticket once again to recover the arrival time details.

5.2.3. Changing The Tariff

If the tariff shown at the bottom of the screen is not applicable to the type of customer (refer to the tariff details in Appendix A) use the ⬆️⬇️ *Scroll* scroll keys to select the required tariff.

For 'VARYING TARIFF' or 'MATRIX' , the option to apply different tariffs is not available but 'FREE ISSUE' can be selected if necessary.

⚠️ Always ensure that you have the correct tariff set before you encode a card.

5.2.4. Encoding a Smart Card

Now that you have the data ready, the display should look similar the following example:

```
Up to 2d        09:05
 SHORT STAY: 0020.00
 30m 04h 01d 00m
  >Tariff 1
```

If fitted, the Customer Fee Display Unit (see section 2.5.3) will also display the fee payable.
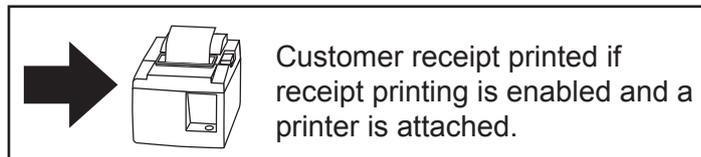
Place the card on the encoding pad. The console will generate two short beeps, the green 'Encoded' LED will light momentarily, and the confirmation screen will be displayed for 2.5 seconds:

```
        SHORT STAY
       CARD ENCODED
  EXP: 15/02/13 15:00
```

This indicates that the card has been encoded correctly. The expiry date and time is shown at the bottom of the screen. The expiry time is calculated as follows:

Time of issue + operator added time + 15 minutes grace period

This is then rounded up to the end of the 15-minute segment (i.e. on the hour, on the half-hour, 15 minutes to the hour or 15 minutes past the hour)

ENCODING ERROR
If the card encoding process fails, the screen display will be similar to:

```
        SHORT STAY
     ENCODING ERROR
     Error Code: 02
```

The red 'Error' LED will also light momentarily and the buzzer will sound.

If this is the case, make a note of the error code and refer to Appendix C for an explanation.

Customer receipt printed if receipt printing is enabled and a printer is attached.

The transaction is now complete (and has been recorded). The Short Stay Card can be issued.

After 2.5 seconds the card data screen is restored ready for a new transaction. An exception to this is where cards are being encoded without the use of an Entry Ticket or the 'Lost Ticket' key. Here the data from the last transaction is maintained so that further cards can be encoded with that data (see 'Batch Encoding' below).

5.2.4.1.   Batch Encoding

The FeeMaster Smart console supports batch encoding where it is necessary to encode many Short Stay cards with the same data (e.g. to cater for a group booking). It is only necessary to set up the data once, and cards can be encoded one after the other very quickly. Once the task is complete, the

data can be cleared by pressing the (⮌ Reset) key.

If it is necessary to interrupt batch encoding to encode an individual card or barcode ticket using an Entry Ticket or 'Lost Ticket' transaction, this is possible without deleting the bulk encoding data. The original data will be restored automatically after the transaction.

5.3 Season Card

The Season Card validity is programmed in whole days using the numeric keypad as function keys. Each of the keys 1 to 9 is pre-assigned with a number of validity days and an associated fee payable. This information should be kept close to the encoder. There is a table in Appendix A for recording the function key assignments.

Press [Menu]

```
>Select Mode
 User Admin
 Settings
 Tariffs
```

Press [Enter]

```
>Exit Token
 Short Stay
 Season Card
 Pre-Issue
```

Use the [Scroll] keys to select 'Season Card' if not already selected and then press [Enter]

```
 14/02/13       09:05
SEASON CARD: 0000.00
    >Days:0000
     Card:0000
```

5.3.1. Set Days

With the chevron marking 'days' as shown above, set the number of validity days using the numeric keypad function keys. Refer to the table in Appendix A for the settings of the function keys.

Example: Assume that key '2' was set to 30 days with a fee of £20. To set a validity period of 30 days press '2' once, the screen would appear as follows:

```
 14/02/13       09:05
SEASON CARD: 0020.00
    >Days:0030
     Card:0000
```

5.3.2. Set Card Number

The console can be programmed to automatically increment the card number each time a Season Card is encoded. To set a card number to a specific value (must be between 2 and 4000), use the

[Scroll] keys to select 'Card' and type the required card number (example 500) . The screen would then appear as follows:

```
 01/02/13       09:05
SEASON CARD: 0010.00
     Days:0030
    >Card:0500
```

5.3.3. Encoding a Season Card

Now that you have the validity data ready, the display should look similar to the following example:
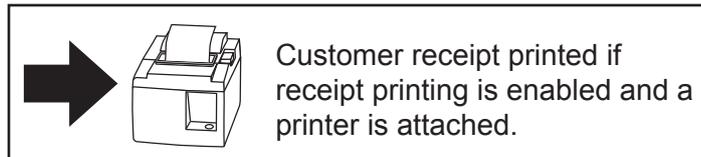
```
 14/02/13        09:05
SEASON CARD: 0020.00
     Days:0030
     >Card:0500
```

If fitted, the Customer Fee Display Unit (see section 2.5.3) will also display the fee payable.

Place the card on the encoding pad. The console will generate two short beeps, the green 'Encoded' LED will light momentarily, and the confirmation screen will be displayed for 2.5 seconds:

```
       SEASON CARD
      CARD ENCODED
EXP: 12/03/13 12:00
```

This indicates that the card has been encoded correctly. The expiry date and time is shown at the bottom of the screen.

Customer receipt printed if receipt printing is enabled and a printer is attached.

The transaction is now complete (and has been recorded). The Season Card can be issued.

ENCODING ERROR

If the card encoding process fails, the screen display will be similar to:

```
      SEASON CARD
    ENCODING ERROR
    Error Code: 02
```

The red 'Error' LED will also light momentarily and the buzzer will sound.

If this is the case, make a note of the error code and refer to Appendix C for an explanation.

After 2.5 seconds the card data screen is restored with the data from the last transaction so that further cards can be encoded with that data (see 'Batch Encoding' below).

5.3.3.1.   Batch Encoding

The FeeMaster Smart console supports batch encoding where it is necessary to encode many Season Cards with the same data (e.g. to produce contract parking passes at the beginning of the contract term). It is only necessary to set up the data once, and cards can be encoded one after the other very quickly.

If 'Auto-increment' is enabled in the encoder, each card presented will be given a new card number.

Once the task is complete, the data can be cleared by pressing the [⮌ Reset] key.

If it is necessary to interrupt batch encoding to encode an individual card or barcode ticket using an Entry Ticket or 'Lost Ticket' transaction, this is possible without deleting the bulk encoding data. The original data will be restored automatically after the transaction.

5.4 Pre-Issue Season Card

The pre-issue facility allows the operator to encode a Season Card with a future validity start time. This is useful for issuing cards in advance, while preventing them from being used before the arranged period. This procedure uses precise setting of both the validity start and expiry dates.

⚠️ Before entering this mode, ensure that the correct tariff has been set in either 'Exit Token' or 'Short Stay' mode. This tariff will be used for the pre-issue cards and can't be altered from within this mode.

Press [Menu]

```
>Select Mode
 User Admin
 Settings
 Tariffs
```

Press [Enter]

```
>Exit Token
 Short Stay
 Season Card
 Pre-Issue
```

Use the keys to select 'Pre-Issue' if not already selected and then press [Enter].

```
PRE_ISSUE:     0000.0
CARD: 0007  Auto=OFF
St.:22/04/13  14:36
End:22/04/13  14:45
```

5.4.1. Enter a Card Number

If you wish to change the card number, press [Enter], type a number between 2 and 4000 and then press [Enter] again.

Note: If you press 'Enter' twice without changing the card number, the cursor will jump to the end of the screen preventing changes to the validity date. This feature is for batch encoding cards.

Enter Start and End Dates/Times

The cursor starts at the beginning of the start date. Edit each field of the start date and time (day/month/year/ hour:min) one-by-one by entering a new value and pressing [Enter] or simply press [Enter] if you wish to keep the displayed value.

The cursor will move through the fields each time you press [Enter] and will then pass to the end date and time.

Once all values have been stepped through, the cursor is removed and the new fee value will be displayed.

Example Setting

```
PRE_ISSUE:     0550.0
CARD: 0400  Auto=OFF
St.:01/05/13  08:00
End:01/05/14  00:00
```

This will encode a Season Card with number 400 to be valid for a year starting at 08:00 on the 1st of May 2013.

5.4.2. Encoding a Pre-Issue Season Card

Now that you have the validity data ready, the display should look similar to the following example:

```
PRE_ISSUE:     0550.0
CARD: 0400  Auto=OFF
St.:01/05/13  08:00
End:01/05/14  00:00
```

If fitted, the Customer Fee Display Unit (see section 2.5.3) will also display the fee payable.

Place the card on the encoding pad. The console will generate two short beeps, the green 'Encoded' LED will light momentarily, and the confirmation screen will be displayed for 2.5 seconds:

```
       PRE ISSUE
     CARD ENCODED
EXP: 01/05/14 00:00
```

This indicates that the card has been encoded correctly. The expiry date and time is shown at the bottom of the screen.
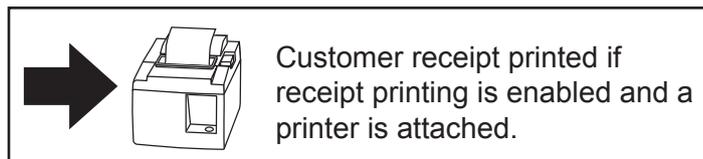
Customer receipt printed if receipt printing is enabled and a printer is attached.

The transaction is now complete (and has been recorded). The Season Card can be issued.

After 2.5 seconds the card data screen is restored with the data from the last transaction so that further cards can be encoded with that data (see 'Batch Encoding' in section 5.3.3.1).

ENCODING ERROR

If the card encoding process fails, the screen display will be similar to:

```
      PRE ISSUE
   ENCODING ERROR
   Error Code: 02
```

The red 'Error' LED will also light momentarily and the buzzer will sound.

If this is the case, make a note of the error code and refer to Appendix C for an explanation.

5.5   Reading a Card

While in any of the operating modes, it is possible to quickly check the details encoded onto a card.

To read a card, simply press [Read / Write] once. The screen displays:

```
15/05/13        18:32
     READ MODE
```

Place the card on the encoding pad. If the card is valid, the console will generate a short beep and the green LED will light momentarily. Otherwise, the console will generate a long beep and the red LED will light momentarily. The card data will be displayed on the screen, and will remain until the card is removed from the pad.

5.5.1. Example Card Data

Valid Card

```
15/05/13        18:32
     READ MODE
Card :0001  VALID
Exp  :19/05/13 13:15
```

This is a 'Short Stay' card (card number 0001) and is still valid. It will expire on the 19th of May 2013 at 13:15.

Expired Card

```
15/05/13        18:32
     READ MODE
Card :0000  EXPIRED
Exp  :10/05/13 13:30
```

This is an 'Exit Token' (card number 0000) expired on the 10th of May 2013 at 13:30.

Pre-issued Card

```
15/05/13        18:32
     READ MODE
Card :0300  EARLY
Start:20/05/13 08:00
```

This card is a 'Season Card' with card number 300 and is not yet valid. Its validity period will start on the 20th of May at 08:00.

CARD READING ERROR

If the card reading process fails, the screen display will be similar to:

```
01/05/13        18:32
     READ MODE
 Error Reading Card
        (02)
```

The red 'Error' LED will light momentarily and console will generate a long beep

If this is the case, make a note of the error code and refer to Appendix C for an explanation.

Appendix A - Installation Settings

Season Card Function Keys		
Key	Days	Fee
1		
2		
3		
4		
5		
6		
7		
8		
9		

Tariff Assignment (standard tariffs)	
Tariff	Customer Type
1	
2	
3	

A-2

Appendix B - Lost Ticket Procedure

If a customer loses his/her ticket, there is an option to apply either a fixed arrival time or a fixed price.

Instead of presenting an Entry Ticket to the barcode reader, you must press the [Lost Ticket] key.

Apply a Fixed Price

Press [Lost Ticket]

```
>Lost Ticket (Price)
 Lost Ticket (Time)
```

The fee value is already set to the 'default' value.

Press [Enter]

```
LOST TICKET CHARGE

   Fee: 0001.50
```

To keep the default value, simply press [Enter] and go to the end of the procedure.

To change the 'pounds' value, type the new value ('2' in this example) and press [Enter]. The cursor then moves to the 'pence':

```
LOST TICKET CHARGE

   Fee: 0002.50
```

To change the 'pence' value, type the new value and press [Enter] or simply press [Enter] to keep the current value.

At the end of the process, the screen display will then be similar to:

```
01/02/13        18:32
 EXIT TOKEN: 0002.50
 00m 00h 00d 00m
  >Tariff 1
```

The displayed fee value is now set to the fixed price. This will increase as validity time is added.

Continue the procedure in the same way as if the Entry Ticket had been scanned.

Apply a Fixed Arrival Time

Press [Lost Ticket]

```
>Lost Ticket (Price)
 Lost Ticket (Time)
```

Use the ⬆⬇ scroll keys to select 'Lost Ticket (Time)' on the screen and then [Enter]

```
ARRIVAL TIME
>Date: 01/02/08
 Time: 06:00
```

The date/time values are already set to the current date and the 'default' time. The cursor is at the first value.

To keep these date values, press [Enter] repeatedly until all values are displayed.

If you wish to change the value of any of the parameters during this process, enter the new value using the numeric keys before pressing [Enter]. Repeat this for each parameter until the screen returns to the normal encoding screen:

```
Up to 1d      18:32
EXIT TOKEN: 0010.00
00m 00h 00d 00m
    >Tariff 1
```

The displayed charge time value is based on the period from the fixed arrival time to the current time. The displayed fee is based on the displayed charge time at the displayed tariff rate. These will increase as validity time is added.

Continue the procedure in the same way as if the Entry Ticket had been scanned.

Appendix C - Card Read/Write Error Codes

If the console fails to read a card or write data to a card, an error code will be displayed on the screen. Refer to the table below for an interpretation of each error code and advice on how to respond.

Error Code	Description	Action
01	Reader reply error	This may be due to a faulty card or invalid card type. Remove the card from the pad and present it again several times. If the same error code is displayed each time, you will need to replace the card.
02	Reader reply error	
03	Reader reply error	
04	Reader reply error	
05	Reader reply error	
06	Reader reply error	
10	Card read error	
07	Reader comm's error	Possible equipment fault. Present the card again. If the same error code is displayed each time, report the problem to your administrator.
11	Reader reply error	
18	Reader reply error	
12	Site code out of range	The card data appear to corrupt - re-encode the card
13	Wrong site code detected	The site code on the card is not valid for this site. The card must be treated as invalid.
14	Card number out of range	The card data appear to corrupt - re-encode the card
20	No response from reader	This message appears on when you log on and indicates that there is a problem within the console. Report the problem to your administrator.