



CFN Series

Gilbarco® CRIND® PC Interface for Site Controller III with Windows®

MDE-4337G
(formerly C35912)

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Approvals

Gasboy, Greensboro, is an ISO 9001:2000 registered facility.

Underwriters Laboratories (UL):

UL File#	Products listed with UL
MH4314	All dispensers and self-contained pumping units
MH10581	Key control unit, Model GKE-B Series Card reader terminals, Models 1000, 1000P Site Controller, Model 2000S CFN Series Data entry terminals, Model TPK-900 Series Fuel Point Reader System

California Air Resources Board (CARB):

Executive Order #	Product
G-70-52-AM	Balance Vapor Recovery
G-70-150-AE	VaporVac

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Gasboy pumps and dispensers are evaluated by NCWM under the National Type Evaluation Program (NTEP). NCWM has issued the following CoC:

CoC#	Product	Model #	CoC#	Product	Model #	CoC#	Product	Model #
95-179	Dispenser	9100 Retail Series, 8700 Series, 9700 Series	91-019	Dispenser	9100 Commercial Series	05-002	Atlas	8700K, 8800K, 9100K, 9200K, 9800K
95-136	Dispenser	9800 Series	91-057	Controller	1000 Series FMS, 2000S-CFN Series			

Patents

Gasboy products are manufactured or sold under one or more of the following US patents:

Dispensers

5,257,720

Point of Sale/Back Office Equipment

D335,673

Additional US and foreign patents pending.

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1 – Introduction

Purpose

This manual provides information on setting up Gilbarco® CRIND® and ICR2 devices with Gasboy® systems using the Gasboy Gilbarco CRIND PC Interface. This interface connects directly to the Gilbarco Distribution Box, eliminating the need for the Gasboy Current Loop Interface box or a Gilbarco Pump Access Module (PAM). It allows a Gasboy Site Controller (SC) III to control up to 32 CRIND devices and makes it possible to run the CRIND device in native mode (single-line display) or graphics mode (using Gasboy canned graphics).

The Gasboy Gilbarco CRIND PC Interface uses the SC III PC Communication ports. It is imperative that communication port availability is determined before installing the interface.

Intended Users

This manual is intended for technicians and field engineers who set up Gilbarco CRIND devices with Gasboy systems using the Gasboy Gilbarco CRIND PC Interface.

Related Documents

CFN III - Version 3.5 and Later

Document Number	Document Title	GOLD Library
C35923	Point Of Sale and Shift Change	Gasboy CFN Series Controllers & POS
MDE-4355	CFN Series Profit Point Clerk's Manual	Gasboy CFN Series Controllers & POS
MDE-4356	CFN Series Profit Point Reference Manual	Gasboy CFN Series Controllers & POS
MDE-4762	CFN III Manager's Manual for Windows XP® Embedded	Gasboy CFN Series Controllers & POS
MDE-4773	CFN III Configuration Manual for Windows XP	Gasboy CFN Series Controllers & POS
MDE-4872	CFN III Configuration Manual for Windows® XP	Gasboy CFN Series Controllers & POS

CFN III - Version 3.4

Document Number	Document Title	GOLD Library
MDE-4315	CFN Series CFN III Manager's Manual for Windows NT®	Gasboy CFN Series Controllers & POS
MDE-4316	CFN Series CFN III Configuration Manual for Windows NT	Gasboy CFN Series Controllers & POS
MDE-4479	Gasboy CFN III Quick Reference Guide V3.4	Gasboy CFN Series Controllers & POS

Credit and Debit Card Networks

Document Number	Document Title	GOLD Library
MDE-4390	CFN Series NBS (GL3) Credit and Debit Networks	G/B CFN Series Ntwrks,Crd Hndlr&Pmp Intrfce
MDE-4572	CFN Series Paymentech™ 005 Credit and Debit Card Networks	G/B CFN Series Ntwrks,Crd Hndlr&Pmp Intrfce
MDE-4606	CFN Series Buypass SM Credit and Debit Card Networks	G/B CFN Series Ntwrks,Crd Hndlr&Pmp Intrfce

Pump Interface

Document Number	Document Title	GOLD Library
C35924	SDI/Unitec® Interface	G/B CFN Series Ntwrks,Crd Hndlr&Pmp Intrfce
MDE-4501	CFN Series Wayne® CAT PC Interface	G/B CFN Series Ntwrks,Crd Hndlr&Pmp Intrfce
MDE-4559	CFN Series Insight Interface V2.0 for Site Controller III with Windows NT and Windows XPE	G/B CFN Series Ntwrks,Crd Hndlr&Pmp Intrfce
MDE-4624	CFN Series Tokheim® Pump PC Interface	G/B CFN Series Ntwrks,Crd Hndlr&Pmp Intrfce
MDE-4634	CFN Series Gilbarco Pump PC Interface	G/B CFN Series Ntwrks,Crd Hndlr&Pmp Intrfce
MDE-4651	CFN Series Wayne Pump PC Interface for Site Controller III with Windows NT and Windows XPE	G/B CFN Series Ntwrks,Crd Hndlr&Pmp Intrfce

Miscellaneous

Document Number	Document Title	GOLD Library
MDE-2562	MPD-3 and The Advantage® Series Single-Line CRIND, CRIND with Monochrome LCD, Infoscreeen®, External CRIND, C-PAM CRIND Service Manual	<ul style="list-style-type: none"> • Service Manual • CRIND and TRIND
MDE-2597	Gilbarco Security Module (GSM®) PA0258000XXXX - Installation and Service Instructions	POS Peripheral Devices
MDE-2713	Universal Distribution Box - Installation Manual	<ul style="list-style-type: none"> • G-SITE® • POS Peripheral Devices • Advantage & Legacy Models
MDE-4185	Encore® 500/Eclipse® Electronics CRIND BIOS Configuration Interface Manual	<ul style="list-style-type: none"> • CRIND and TRIND • Encore and Eclipse

Abbreviations and Acronyms

Term	Description
CFN	Cash Flow Network
CRIND	Card Reader IN Dispenser
DES	Data Encryption Standard
DUKPT	Derived Unique Key Per Transaction
EPP	Encrypting PIN Pad
GSM	Gilbarco Security Module
ICR	Island Card Reader
PAM	Pump Access Module
PIN	Personal Identification Number
POS	Point Of Sale
SC	Site Controller

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2 – Setup for PC-based Application using SC III

To use CRIND/ICR2 devices with the Site Controller, configure the READER.BIN menu 3 parameter as follows:

- Representative Pump Number - The pump number associated with each CRIND device.
- Auto Pump Select - Must be set to “Yes” for all CRIND devices and “No” for any Island Card Reader (ICR) or ICR2, printer, or anything else that is not a Card Reader built into the dispenser.

Note: Setting Auto to “Yes” for an ICR will cause unexpected deactivation of the representative pump.

- Reader Type - Must be set to CRIND (type 7).

Gilbarco CRIND Keyboard Layout System Parameter

On page 4 of the SYS_PAR configuration, the Keypads parameter allows you to change the default functions of the keys, if you have a Gilbarco CRIND or ICR2.

After selecting the Device type (1=CRIND, and so on), you will be prompted to enter the key functions as a string of characters. The following table lists the characters and their respective functions. The position of the character in the string corresponds to the position number of the keys shown in the examples on the following pages.

Note: The characters are case-sensitive.

Character	Function
0-9	Numeric Digits 0 to 9
.	Decimal Point
E	ENTER
C	CLEAR
Y	Yes
N	No
X	CANCEL
x	CLEAR/CANCEL (CLEAR if Data Entry started; else CANCEL)
H	Help
h	Help/Decimal (Decimal if Data Entry started; else Help)
n	No/CANCEL (No if in yes/no state; else CANCEL)
u	Unused Key
d	Debit Outside
b	Credit Outside
The following functions are not used on an ICR2:	
\$	Cash Inside
c	Cash Outside
D	Debit Inside
B	Credit (Bank Card) Inside
S	Start

CRIND Keypad Layout

The CRIND keypad can have a 4 X 5 or 4 X 6 keypad, or a FlexPay™ EPP keypad, which is a 4 X 4 keypad.

The position numbers of the keys on a 4 X 5 CRIND keypad are as follows:

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

Note: The function of the keys on the left half of the keyboard, that is, 1, 2, 3, 6, 7, 8, 11, 12, 13, 16, 17, and 18 cannot be changed.

The default function arrangement of the CRIND keypad is as follows:

1	2	3	u	b
4	5	6	\$	B
7	8	9	N	Y
C	0	E	H	X

The string entered in the SYS_PAR parameter to obtain the CRIND keypad function arrangement shown above is 123ub456\$B789NYC0EHX.

The position numbers of the keys on a 4 X 6 CRIND keypad are as follows:

1	2	3	4	5	21
6	7	8	9	10	22
11	12	13	14	15	23
16	17	18	19	20	24

The default function arrangement of the CRIND keypad is as follows:

1	2	3	u	u	H
4	5	6	u	u	X
7	8	9	u	u	u
C	0	E	u	u	u

The string entered into the SYS_PAR parameter to obtain the CRIND keypad function arrangement shown above is 123uu456uu789uuC0EuuHXuu.

The FlexPay EPP CRIND keypad is a 4 X 4 keypad that uses a row and column number combination to identify the keypad key internally. The FlexPay EPP keypad is physically a 4 X 4 keypad. However, it can be programmed as a 4 X 6 keypad.

Note: The position numbers 1-3, 6-8, 11-13, 17-18 cannot be changed. They must be 123, 456, 789, C0E respectively.

The position numbers of the keys on the FlexPay EPP keypad are as follows:

Note: The numbers 1-24 represent the position in the SYS_PAR string.

	C1	C2	C3	C4	C5	C6
R1	1	2	3	4	5	21
R2	6	7	8	9	10	22
R3	11	12	13	14	15	23
R4	16	17	18	19	20	24

The FlexPay EPP keypad position numbers are programmed using a grid system consisting of rows and columns. The row (R) and column (C) combination programmed in the FlexPay EPP keypad are mapped to the position numbers in the SYS_PAR string. For example, R3C4 is equal to the position number 14 in the SYS_PAR string or “A” in the string as follows: 123uu456uu789AuC0EuuYNXH.

The default factory key mapping of the FlexPay EPP CRIND keypad is as follows:

	C1	C2	C3	C6
R1	R1C1 or #1	R1C2 or #2	R1C3 or #3	R1C6 or #21
R2	R2C1 or #6	R2C2 or #7	R2C3 or #8	R2C6 or #22
R3	R3C1 or #11	R3C2 or #12	R3C3 or #13	R3C6 or #23
R4	R4C1 or #16	R4C2 or #17	R4C3 or #18	R4C6 or #24

The string entered in to the SYS_PAR parameter to obtain the CRIND keypad function arrangement shown above is 123uu456uu789uuC0EuuYNXH.

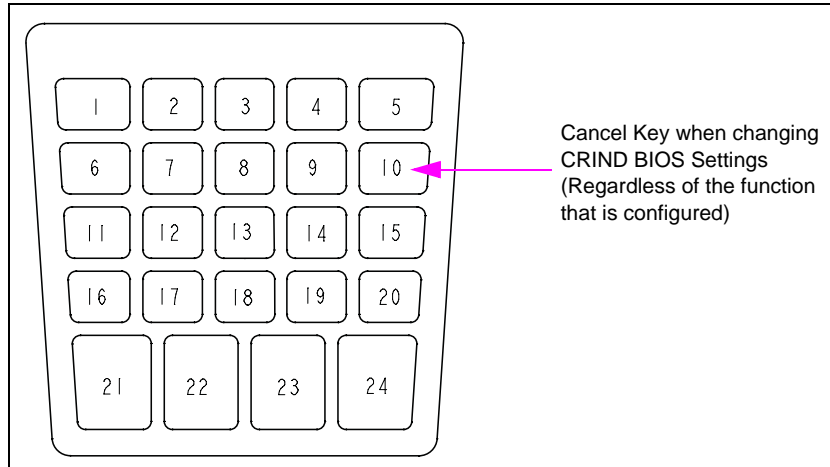
Note: To include payment soft keys on the CRIND device’s graphic display, replace the unused keys (u) with the required soft keys (B, b, D, d, \$, c).

IMPORTANT INFORMATION

If the default SYS_PAR string does not produce the expected results when the key is pressed, refer to the [“Mapping of FlexPay EPP Keypad Using the CRIND Diagnostic Card”](#) on [page 23](#).

Default ICR2 Keypad Layout

Figure 2-1: Position Numbers of the Keys on a Default ICR2 Keypad



The string entered into the SYS_PAR parameter to obtain the ICR2 keypad function arrangement for the default ICR2 keypad is 123YY456NN789hhC0EXXuuuu.

CRIND BIOS Settings

Refer to MDE-4185 Encore 500/Eclipse Electronics CRIND BIOS or MDE-2562 CRIND Service Manual to make the following CRIND BIOS settings:

- CRIND ID Side 1 - Match the reader number in the Site Controller (ID 1 would be reader number 1)
- CRIND ID Side 2 - Match the reader number in the Site Controller (not used in ICR2)
- CRIND Mode - Generic (for ICR2, use Generic KIOSK)

All other BIOS settings must retain the default values. The “Change Printer Font Size” setting (found in the printer menu) may be changed, depending on site-specific requirements.

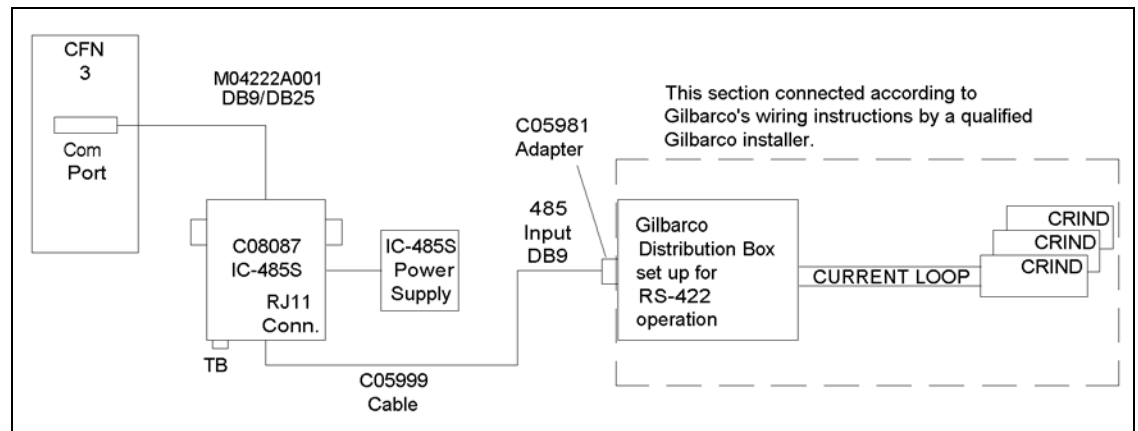
Receipt Heading/Footing

For loading and/or changing the receipt heading and footing lines, refer to MDE-4315 CFN III Manager’s Manual for Windows NT or MDE-4762 CFN III Manager’s Manual for Windows XP Embedded. Using this interface, the first line of the heading loaded into the Site Controller will affect the receipt font width. If the first heading line contains 20 characters or less, it may wrap some of the following lines. It is recommended that the first heading line be changed to contain “@C” (to center the text that follows it in the line), or contain more than 20 characters, if lines are being wrapped when printed.

3 – Hardware Connections

Use a standard PC DB-9 to DB-25 Cable (Gasboy Part Number M04222A001) to connect the selected PC Comm Port to the DB-25 Connector of the IC-485S (Gasboy Part Number C08087). An overview of the connections is shown in [Figure 3-1](#).

Figure 3-1: Hardware Wiring Connections



Both SW1 and SW2 of the IC-485S converter must be set to position 1. Connect the power supply to the power jack of the converter and plug it in.

Set the address of each CRIND device to match the reader number in the Site Controller. CRIND address 1 will be reader number 1. For more information, refer to [“Setup for PC-based Application using SC III”](#) on [page 5](#).

If the distance between the SC III and Gilbarco Distribution Box is greater than 8-feet, then the cable is extended using an RJ-11 1:1 telephone cable or the pinout as shown in [Figure 3-2](#). This pinout allows you to hard wire the DB-9 Connector of the D-Box to the terminal block of the converter.

Figure 3-2: Converter-to-D-Box Pinouts

Converter TB Position	D-Box Connection
1	3
2	7
3	6
4	2

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4 – Installation

To install the interface, proceed as follows.

- 1 Log in as the Administrator.
Note: If SC III is running, shut down the site using ALT-X to end the session.
- 2 Place the CRIND interface diskette in the disk drive.
- 3 Run a:\install from the CRIND interface disk. In the Taskbar, select **Start > Run > A:\install**. A message appears “Are you connecting CRINDs to any Comm Ports?”.
- 4 Enter **y** to agree.
- 5 Enter the Comm Port number when prompted and press **ENTER**. A prompt message “Are you going to use a GSM for DEBIT?” appears.
- 6 Enter the Comm Port number that is connected to the Gilbarco Security Module (GSM); otherwise, press **ENTER**.
- 7 Edit the parameter file to match your site setup when prompted by the Install program. You can edit this file later, in the XBIN directory, if required.
- 8 If you have multiple Comm Ports for CRIND devices, enter the next Comm Port number when prompted, or press **ENTER** to end the program.

When the SC III is started, it will automatically start the CRIND program on the selected ports. The session title will be CRIND session on COM x, where x is the selected Comm Port.

The parameter file is C:\SC3\XBIN\CRIND.A0x, where x is the selected Comm Port. Parameter files can be edited with any text editor.

- 9 Start the SC III program.
Notes: 1) If CRIND devices are not displayed, verify the following:
 - Switch to the CRIND session window and press **1**. If there are communication problems, error messages must display on the screen. A message must display at least once every 10 seconds. Press **2** to display all messages, successful or not.
 - Check the number of site polls. If it is 0, the site is not polling for any CRIND devices in the range specified in the parameter file. If some CRIND devices are displayed and others do not, ensure that those addresses are in the range displayed in the parameter file.
- 2) For the CRIND Diagnostic Card Test and Setup Procedure, refer to MDE-4185 Encore 500/Eclipse Electronics CRIND BIOS.

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5 – Softkey and Animation Sequences

The graphic CRIND device (Gilbarco's InfoScreen) is capable of displaying several softkey screens and animation sequences. To use them, embed the specified ~ sequence in the text or prompt. Any display message (or prompt) may contain graphic animation sequences. The fixed DPT messages already have these (site V3.0B+), but you may want to add to the messages loaded in the reader configuration.

For example,

- If you want to use the card animation sequence with the Insert Card prompt, use the sequence Insert Card~C.
- You may use a softkey and one animation sequence together. For example, Insert Card~C~c uses both the card animation AND cancel/help softkeys.

Softkeys

~s = start/cancel/help
~p = payment type
~c = cancel/help
~q = Yes/No
~h = enter/cancel/help
~d = dollar preset (use with Enter the Amount step in reader configuration)
~M = merchandise
~m = show softkeys for CASH, CREDIT, CANCEL, and HELP

If softkeys are being used, the top center part of the display will be used to show the prompts from the Site Controller reader program configuration or messages defined in the parameter file CRIND.axx (refer to [“PC Applications”](#) on [page 15](#)). Prompts can be displayed on the second line down from the top (refer to DISPLAY_OFFSET parameter on [page 17](#)).

Animation Sequences

~C = insert card
~w = car wash
~R = receipt printing
~\$ = cash
~N = remove nozzle
~n = replace nozzle
~l = lift lever
~L = remove nozzle and lift lever

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6 – PC Applications

For the PC Application, all CRIND devices are controlled by the Gilbarco program, which uses the CRIND.a0x parameter file that is located in C:\SC3\XBIN\ (see [Figure 6-1](#)).

Figure 6-1: Example of CRIND.a0x Parameter File

```
ID=CRIND1-16
FIRST_ADDRESS=1
LAST_ADDRESS=16
NATIVE_MODE=N
DEBIT_MODE=Y

ITEM=Qt oil:99:42
ITEM=Other:0:42
ITEM=Beer:129:42
ITEM=Junk:999:42

READ_ERROR_MESSAGE=           Please insert again
REMOVE_CARD_MESSAGE= Remove card quickly
CASH_INSIDE_PROMPT=CASH INSIDE
CREDIT_INSIDE_PROMPT=CREDIT INSIDE
DEBIT_INSIDE_PROMPT=DEBIT INSIDE
PLEASE_WAIT_MESSAGE=One moment please

WASH_TYPE_PROMPT=Select car wash type
WASH_TYPE=reg
WASH_TYPE=super
WASH_TYPE=deluxe
```

Note: This example is for illustration purposes only. Your file will differ depending on site-specific requirements. The CRIND.a0x file must contain only what is required to operate, but you can comment out lines by placing an asterisk () at the beginning of each line that must be ignored by the system.*

These XBIN files must all have unique file extensions. For example, if the site has one Gilbarco pump with a Gilpump.a01 parameter file, one Gilbarco CRIND device with a CRIND.a02 parameter file, and a Unitec Car Wash, the Car Wash parameter file cannot be named WASH.a01 or WASH.a02; it must be named WASH.a03.

The CRIND program reads only this file when it starts. Therefore, you must restart the program using ALT-R, whenever a change is made. You must perform the same for broadcast messages and receipt headings loaded in the site.

Parameters

The CRIND.axx file contains the following parameters. These are sample settings and the information after the equals sign (=) may vary between systems. An example is shown in [Figure 6-1 on page 15](#).

- FIRST_ADDRESS= and LAST_ADDRESS= refer to the CRIND address range that this application is supposed to control.
ID=CRINDs1-16
FIRST_ADDRESS=1
LAST_ADDRESS=16

- The following setting determines if the CRIND device is to run in the debit mode for Master Session or DUKPT with the GSM:
DEBIT_MODE=Y (for Master Session)
DEBIT_MODE=N (for no debit mode)
DEBIT_MODE=DUKPT (for DUKPT)

If the line is missing, the CRIND device assumes the non-debit mode (DEBIT_MODE=N).

- If using an injected FlexPay EPP for debit, make the following settings:
DEBIT_MODE=DUKPT
Note: The injected FlexPay EPP can be used only with interface version 2.1.3.0 or later.
- The parameter file also allows you to set messages to be used for some pre-defined conditions. The keyword phrase must be sufficient to describe the condition in which each message is displayed.
READ_ERROR_MESSAGE=Please insert again
REMOVE_CARD_MESSAGE=Remove card quickly
PLEASE_WAIT_MESSAGE=One moment please...
OUT_OF_SERVICE_MESSAGE=Cannot process card
- Cash, Credit, and Debit prompts are displayed for softkey labels when the Press Payment key is used. Payment softkeys placement can be controlled by setting the prompt label in the parameter file (crind.aol) and by including the softkey position in the text. For example, "DEBIT_HERE_PROMPT=~1Debit Here" will put the "Debit Here" softkey in the top left position (softkey 1).
CASH_HERE_PROMPT=Cash Here
CASH_INSIDE_PROMPT=Cash Inside
CREDIT_HERE_PROMPT=Credit Here
CREDIT_INSIDE_PROMPT=Credit Inside
DEBIT_HERE_PROMPT=Debit Here
DEBIT_INSIDE_PROMPT=Debit Inside
- The following setting determines whether the CRIND device must run in the graphics mode or in the native mode with no graphics or softkeys. If the line is missing, the CRIND device assumes the graphics mode (NATIVE_MODE=N).
NATIVE_MODE=Y
~ OR ~
NATIVE_MODE=N

- To display softkeys, set the parameter to `USE_SOFTKEYS=Y` in the parameter file. If you do not want the softkeys to be displayed, set the parameter to `USE_SOFTKEYS=N` in the parameter file.
- To display the softkeys on the left side of CRIND, set the parameter to `ONLY_LEFT_SOFTKEYS=Y`.
- For graphics mode using softkeys, to shift all prompting down by one line on the CRIND display, set the parameter (requires interface version 2.1.3.0 or later) to `DISPLAY_OFFSET=20`.

Note: For interface version 2.1.2.7 and earlier, messages can be displayed on the second line down from the top by placing ~2 at the beginning of the message text. The ~2 will not be displayed. No space is required between ~2 and the text (for example, ~2One moment please...).

- Some CRIND devices may have a longer receipt chute, or changing the printer font can make the receipt length shorter. If the receipt length must be adjusted, set the parameter to `MIN_RECEIPT_LENGTH=xx`.

Where xx is equal to the total number of lines in the receipt. If the line is missing, the CRIND device assumes a 24-line, which will provide a 3-inch receipt. There are approximately eight lines per inch. For a 3-1/2 inch receipt, set xx to 28.

- The following setting limits the number of continuous beeps to x. This is useful for the “pay inside” message that appears for 20 seconds after a transaction. Without setting this parameter, there will be continuous beeps for 20 seconds. By setting this parameter, there will be only x number of beeps: `BEEP_LIMIT=x`.
- In case you want a message to be displayed other than “Sale Cancelled” after a sale has been cancelled, the text can be changed by setting the parameter to `SALE_CANCELLED_MESSAGE=Sale Cancelled`.
- The Encore graphic CRIND displays appear in pairs, one on each side of the dispenser. It is normal to have consecutive addresses with the lowest address being odd (for example, 1,2... 5,6...). If this is not true, you must list all the exceptions with `CRIND_PAIR` lines. For example, you could have `CRIND_PAIR=1,32` and `CRIND_PAIR=2,31`. Set the parameter to `CRIND_PAIR=x,y`.

Car Wash

Use the softkey sequence ~w in the Unitec Car Wash parameters (3) menu in gate configuration of the Site Controller. Refer to MDE-4872 CFN III Configuration Manual for Windows XP. This gives the most basic wash type selection with four choices.

The selection can be further refined by adding the following lines to the parameter file (CRIND.a0x). Following is the main Car Wash type prompt that appears:

WASH_TYPE_PROMPT=Select car wash type

Note: Substitute your own text as required.

The following lines describe the types of washes available for wash types listed in the order starting with 1. There may be up to six types of washes available. This group of wash types can be placed anywhere in the CRIND.A0x file.

WASH_TYPE=reg
WASH_TYPE=super
WASH_TYPE=deluxe
WASH_TYPE=ult

~W car wash and ~q yes/no that is embedded in the prompt text, are used by the graphical display. ~W will display the car wash graphic along with the text and ~q enables Yes/No softkeys. Insert these in the ICR Program (menu 1) Want Car Wash, step 8 (of the Site Controller - refer to MDE-4872 CFN III Configuration Manual). Substitute your own softkey labels as required.

Merchandise Sales

The CRIND.axx file contains the following parameters for selling merchandise:

ITEM_AMOUNT_PROMPT=enter amount \$
ITEM=Cig pack:189:22
ITEM=Qt oil:99:22
ITEM=Other:0:22
ITEM=Donut:75:22
ITEM=Beer:129:22
ITEM=Junk:999:22

The ITEM_AMOUNT_PROMPT= line is the prompt that must be used for merchandise entry when an ITEM with 0 price is selected. This message appears, prompting you to enter the dollar amount of the item.

The ITEM= lines are the merchandise items that are to be displayed on the CRIND device menu when merchandise is requested. The name of the item (and after the colon) is followed by the price in cents (no decimal point). Following this is another colon and the department number that must be used for the item. Currently, all department numbers must be the same because all items are added together locally before sending. In future, multiple items being sent separately from different departments may be allowed.

To perform a transaction, the pump limit must be in \$ and there must be at least one ITEM= line in the file so that the site knows which department must be used for the merchandise. This may be a single-item with 0 price, which causes the CRIND device to prompt for a dollar amount instead of displaying a list of items.

When the site asks for merchandise, the CRIND device displays the prompt and waits for an answer. If the answer is YES, the CRIND device displays the items in the CRIND parameter file (CRIND.axx) on the screen. When the user selects an item, the total is added to the merchandise total, which is displayed on the top of the screen. The user can select multiple items and press **DONE** to exit. If the item's price is 0, the CRIND device prompts the user to enter the price on the keypad. That amount is then added to the total and the item menu reappears.

If the CRIND device does not have a graphic display or does not have softkeys, or the parameter file has no non-zero priced items in it, then the CRIND device will skip the item menu screen and go straight to enter an amount if the answer to "want merchandise?" is Yes. After an amount is entered, it displays the total amount and prompts "More merchandise?". This repeats until you press **NO** or **CANCEL** in response to the prompt "More merchandise?".

For information on loading merchandise in the Site Controller, refer to MDE-4762 CFN III Manager's Manual for Windows XP Embedded.

Debit

If a GSM is used for encoding PIN information, use only one of the following settings in the CRIND parameter file:

- For the DUKPT mode, the setting is DEBIT_MODE=DUKPT
- For the Master/Session mode, the setting is DEBIT_MODE=Y

If an injected FlexPay EPP is used for debit, GSM is not required. The setting is as follows:

DEBIT_MODE=DUKPT
DEBIT=EPP

If non-injected FlexPay EPPs are used, a type-7 GSM is required.

The Master/Session and DUKPT mode cannot be run at the same time. Only one of the two parameters can be placed in the CRIND parameter file.

Connect the GSM to the PC Comm Port (specified when the program is installed) using the C07248 Cable (and an adapter to convert the DB-25 Male end to a DB-9 Female end to connect to the new communication board when using the SC III).

The following Gilbarco parts are supplied with the GSM and can be used for debit. Refer to MDE-2597 Gilbarco Security Module (GSM) PA0258000XXXX supplied with the GSM.

Gilbarco Part Number	Description
Q13180-04B	9-pin (DB-9 Male) to 8-pin Modular Jack, GSM Gender Mender
Q13180-20B	9-pin (DB-9 Female) to 8-pin Modular Jack, RS-232 Gender Mender
Q13180-22B	25-pin (DB-25 Male) to 8-pin Modular Jack, RS-232 Gender Mender <i>Note: For SC III, this Gender Mender needs to be a DB-9 Male; it could be DB-9 or DB-25 with older units.</i>
Q13850-10	10-feet Work Area Cable

7 – Troubleshooting

Troubleshooting Tips

Problem	Resolution
The wrong payment keys are showing up on the CRIND display and/or any other keys on the keypad are not where you expect them.	The CRIND keyboard layout (sys_par page 4) is required to be adjusted for the preferred payment types.
DES not ready	This message appears only if the GSM module is not operating at the time the site tries to encrypt the PIN, or if the site does not have the encryption keys loaded (requires fake master key, but real working key).
Need Debit GSM or set DEBIT MODE=N	This message appears if the GSM is not connected and operating when the site is started up.
Unexpected graphics appear on the CRIND display.	If you add animation sequences to any of the card prompts or the receipt printer program, verify if they match the function in the READER configuration.
The CRIND session does not open up with the CFN III session.	The CRIND.exe may not be installed. Reinstall the CRIND files by typing a:install from the CRIND installation disk. It could also indicate that the Site Controller program is not running or has crashed. Verify if the Site Controller window is up and running.
CRIND Readers are not communicating with Site Controller.	Verify if the cable connected to com 1 of the Site Controller and IC-485S converter box is securely connected. Also, verify if the connection between the IC-485S and Gilbarco Distribution Box follows the wiring diagram in Figure 3-1 on page 9 .
Some of the CRIND Readers do not come online.	Verify the first and last address in the CRIND parameter file. If you have eight readers, then the first and last reader address must be set to 1 and 8 respectively, for all the readers to come up. If the addresses check out without an issue, recheck the wiring and validity of the hardware for the CRIND Readers.
Log Message "GSM went down" is printed on logger.	This message will be printed on the log each time the GSM is disconnected from the port on the PC or shut off. After the GSM is connected or switches come back on, the message "GSM came up" will be logged.

Technical Debug Options

Keystrokes

At the CRIND session (on NT), the following keystrokes serve debug purposes:

0 = debug off (default)

1 = debug level 1, only display errors

2 = debug level 2, display all CRIND traffic

3 = debug level 3, display all CRIND and site traffic

s = send debug output to the screen (default)

f = send debug output to the file crnd_log.cxx (described below)

' ' (space) = toggles the display ON and OFF when debug output is going to the screen

ALT-R = restarts the CRIND session

Debug Log File

All the log files are in a subdirectory named: c:\sc3\crnd_log. Each debug log file is saved as crnd_log.cxx, where:

c = Comm Port number

xx = cycles from 00 to 99, then 00 over again

When you start for the first time on com1 and press **f**, the logging will go to:

crnd_log.100 for 1Meg of data, then to

crnd_log.101 for another 1Meg, then

o

o

o

crnd_log.199 for another 1Meg, then

crnd_log.100 and cycles through again.

It is possible to have logging on two sessions at one time. For com2, the file would start at crnd_log.200 and follow the same format as com1.

If you restart the CRIND session, it starts with the next file after the last one written. For example, if you quit during crnd_log.123 with (**ALT-X**) and start over, or restart (**ALT-R**), and turn on file logging again it will begin with crnd_log.124.

If you see an event that you want to capture, press **ALT-R** (then press **f** again if you want to continue with logging, which will start a new log file), then you can remove or copy the old file.

Mapping of FlexPay EPP Keypad Using the CRIND Diagnostic Card

To find out how the FlexPay EPP keypad is mapped internally using the CRIND Diagnostic Card, proceed as follows:

- 1** Swipe the CRIND Diagnostic Card.
- 2** Select **1** from the Main Menu.
- 3** Select **2** from Device Config.
- 4** Press **8** on the keypad.
- 5** Press any key on the keypad to view the row and column settings.

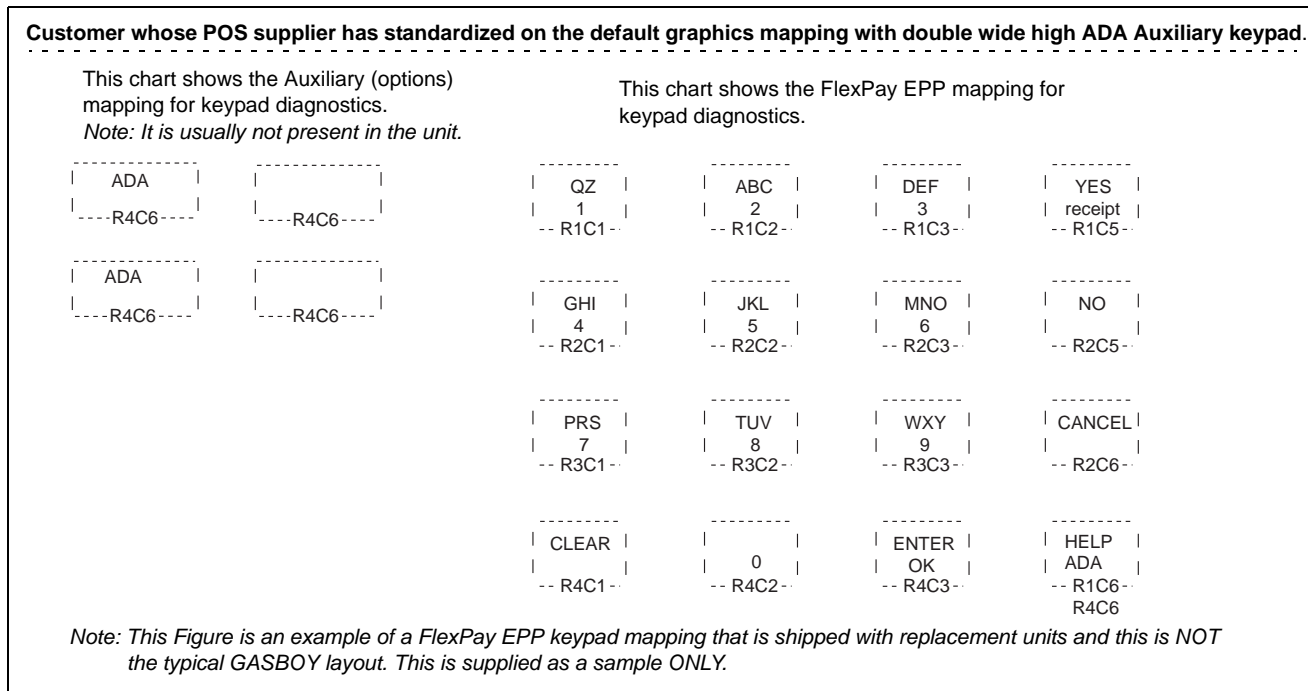
The information displays as R# C# in the top right hand portion of the CRIND screen.

- 6** Make adjustment to the SYS_PAR CRIND keypad string using the R#C# related to the malfunctioning key.

If a mapping of the FlexPay EPP keypad is supplied with the unit, then this can be used to construct the SYS_PAR CRIND keypad string.

The diagram of the keypad layout loaded in the FlexPay EPP keypad by the factory is as shown in [Figure 7-1](#). This is only an illustration and it varies based on the part number that was ordered. You can see row and column numbers assigned to each key of the FlexPay EPP keypad. This allows you to create a string for the sys_par keypads: setting. This keypads string must be 123uY456uN789uuC0EuuHXuW.

Figure 7-1: FlexPay EPP Keypad Layout - Example Only



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