

CFN Series

FuelmanSM Credit and Debit Card Networks

Site Controller II Versions 2.3 and above Site Controller III Versions 3.3 and above Fuelman Router V001 Special Handler V002

MDE-4346

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Approvals

Gilbarco is Underwrite	an ISO 9001:2000 registered com ers Laboratories:	pany. New York City:		California Air Resources Board (CARB)		
U. L. File#	Products listed with U. L.	NYFD C of A #	Product	Executive Order #	Product	
MH/31/	All dispensers and self-contained pumping	4823	9100A, 9140A, 9152A, 9153A,	G-70-52-AM	Balance Vapor Recovery	
MI14314	units		9800A, 9840A, 9850A, 9852A,	G-70-150-AE	VaporVac	
MH6418	Power operated Transfer Pump Models 25,		9853A, 9140			
	25C, 26, 27, 28, 72, 72S, 72SP, 72X, 73 and	4997	9822A, 9823A			
	1820	5046 pending	9100Q, 9140Q, 9152Q, 9153Q,			
MH7404	Hand operated Transfer Pump Models 1230 Series, 1243 Series, 1520 and 1720 Series		9800Q, 9840Q, 9852Q, 9853Q			
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					

NCWM - Certificate of Compliance:

Gasboy pumps and dispensers are evaluated by the National Conference of Weights and Measures (NCWM) under the National Type Evaluation Program (NTEP). NCWM has issued the following Certificates of Compliance (COC):

COC#	Product	Model #	COC#	Product	Model #	COC#	Product	Model #
95-179A2	Dispenser	9100 Retail Series, 8700 Series, 9700 Series	91-019A2	Dispenser	9100 Commercial Series			
95-136A5	Dispenser	9800 Series	91-057A3	Controller	1000 Series FMS, 2000S-CFN Series			

Patents

Gasboy products are manufactured or sold under one or more of the following U.S. patents.:

Dispensers

5,257,720

Point of Sale/Back Office Equipment

D335,673

Trademarks

Non-registered trademarks	Regist
Consola TM	ASTRA
Infinity TM	Fuel Poin
	Carland

Registered trademarks

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Additional U.S. and foreign trademarks pending.

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Additional U.S. and foreign patents pending.



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1 – Introduction

The Network

The FuelmanSM/Gascard network is a proprietary system which provides fuel and maintenance services to government and commercial fleets. It operates under the National Bankcard Services (NBS) MIDAS network, which performs all transaction authorization, capture, and processing. Weekly and/or monthly reports are provided to the fleet operations. If you are connecting your site to Fuelman for card verification, use this manual for reference. This manual is for the following software versions:

- version 2.3 and above of the Site Controller II
- version 3.3 and above of the Site Controller III

Cards Accepted

The Fuelman network currently accepts these cards:

- Fuelman Classic
- Fuelman Plus
- Gascard Original Issue
- Gascard Access
- Gascard Sinclair® Fleet

2 – Configuration

Preparing for Configuration

You will need a modem for authorization. This is in addition to a modem used to poll transactions. Determine the Site Controller port to be connected to a modem that is 100% compatible with the Hayes® standard. (See the Hayes dial-out settings in the **Modem** appendix in the *Site Controller Manager's Manual*.)

Before you configure, you will need the following information from your Fuelman representative:

- Your 13-digit terminal ID, DDSSMMMMMMTTT.
- The phone number(s) the site dials to communicate to the Fuelman network computer.
- The baud rate for the modem communications.
- Any additional prompting information required for cards.

Configuring the Site Controller

Your Gasboy authorized service representative will configure your Site Controller. Before the service representative begins, make sure you have collected all the information that will be used for configuration.

Island Card Reader (READER)

The island card reader must be set up to prompt for the following information, depending on the types of cards the site will accept:

- You must include the Enter PIN step and it must be placed before the Verify Card step. If Enter PIN is not present, the router cannot accept cards and a denial will be issued when the card is swiped at the island. An error message: Missing Pin Step will also be displayed.
- The Select Pump step must be before the Verify Card step.
- Some Fuelman accepted cards may require an odometer reading. If you have an Enter Odometer step in your READER program, it must be before the Verify Card step.

Tables (TABLE)

The receipt table must have at least 100 entries. The router table must have at least 7160 entries.

Transaction Format (TRFMT)

Make certain that the transaction printout format includes the following:

- authorization number (field type 3)
- dollar amount (field type 11)

The CFN Card Account number fields cannot total more than 19 digits; however, the format should accommodate the maximum number of digits for the card types that this router accepts.

For example, if your site typically accepts cards with 12 digits (card, 4; account, 4; vehicle, 4) but the router also accepts cards with account numbers of 16 digits, you must allow for 16 digits in your card account fields. See the applicable SC II or SC III *Configuration Manual*, **Local Transaction Format** section for more on Card account number.

Configuring the Fuelman Router

Router and card handler software to interface with the various bank and card networks is part of the site controller operating system. Often, parameters within the site controller must be configured in a special way to interface properly with these routers. Sometimes a separate configuration file is used. This is the case with the Fuelman router.

The Fuelman router is configured to work with the site controller using parameters accessible through a menu program, FUELMAN.BIN. This program also includes parameters typically entered into the MODEMS.BIN program, such as modem type, handler, and baud rate. All the parameters are stored in a disk file, P:FMCONFIG.DTA.

Note: Once all the parameters have been loaded using the Fuelman program, you should back up this file as a safeguard against data loss. Be sure to back up this file after each subsequent configuration change.

While some routers verify that the configuration information contained in the FRAMOS.CFG file is compatible, the Fuelman router performs compatibility checks at boot time and incorrect configurations are changed to the correct value (based on what is in the FUELMAN.BIN program).

Run FUELMAN;I to initialize the Fuelman parameters.

Run the FUELMAN.BIN menu program by typing FUELMAN. The following main menu appears:



On the main menu, you can select the desired parameters to edit by typing the number. From any of the submenus, you can type \mathbf{Q} to return to the main menu. From any of the menus, you can type W to walkthrough the parameters. Walkthrough provides expanded parameter descriptions and acceptable values. (To exit from walkthrough modes, press ESC or CTRL-C. This will return you to the main menu; however, any parameter changes you made are retained.)

On the Main Menu, type 1 to change line/modem parameters. The following menu appears:

Gasboy International Site Controller Fuelman(001) Router Configuration (C) 2001 Gasboy International Change Line/Modem Parameters	
<pre>1 - Modem on channel: 1 2 - Modem baud rate: 2400 3 - Modem type: Hayes Accura 336 4 - Verification timeout: 60 seconds 5 - Modem wait for carrier: 35 seconds 6 - NBS Phone #1: 1-xxx-xxxx 7 - NBS Phone #2: 1-xxx-xxxx 8 - NBS Phone #3: 1-xxx-xxxx Select from list, 'Q' to go back or 'W' to walk through:</pre>	 System needs to be rebooted after the "Verification timeout" parameter is changed.

On the Main Menu, type 2 to change network parameters. The following menu appears:



On the Main Menu, type **3** to change miscellaneous parameters. The following menu appears:



On the Main Menu, type **4** to change card parameters. The card parameter selection menu appears:



When you select a card type to modify (Fuelman in this example), the following Card parameters submenu appears. The parameters are the same for each card type. Parameter 5, "Card requires extra input:" enables the text entered in parameter 6, "Prompt for extra input:" which is the message that appears at the reader. Pressing \mathbf{Q} will return you to the card parameter selection menu.



On the Main Menu, type **5** to change pump parameters. Pressing ENTER will display the next page of pumps (if present). Pressing ENTER again will go back to pump parameters 1 through 13. Pressing \mathbf{Q} will return to the Main Menu.

Gasboy International Site Controller Fuelman(001) Router Configuration (C) 2001 Gasboy International Change Pump Parameters
Choose pump to modify
1 - Pump #1 Full-Serve: No
2 - Pump #2 Full-Serve: No
3 - Pump #3 Full-Serve: No
4 - Pump #4 Full-Serve: No
5 - Pump #5 Full-Serve: No
6 - Pump #6 Full-Serve: No
7 - Pump #7 Full-Serve: No
8 - Pump #8 Full-Serve: No
9 - Pump #9 Full-Serve: No
10 - Pump #10 Full-Serve: No
11 - Pump #11 Full-Serve: No
12 - Pump #12 Full-Serve: No
13 - Pump #13 Full-Serve: No
Select from list, 'Q' to go back, 'W' to walk or ENTER for next page:

Note: Answering No to a pump parameter indicates a pump is self-serve. Answering Yes indicates that a pump is full serve.

The Fuelman Product cross reference allows you to take the non-fuel products defined in the site controller and cross reference them with a Fuelman equivalent. To cross reference fuel products, see "Special System Setup" on page 9. *Note: Non-fuel product capabilities are not implemented at this time.*

On the Main Menu, type **6** to change the Fuelman product cross reference. The first page of the Fuelman product cross reference screen appears:



Note: Non-fuel product capabilities are not implemented at this time.

On the Main Menu, type **7** to add or modify Fuelman Products. The first page of the Fuelman products screen appears:



Note: Non-fuel product capabilities are not implemented at this time.

On the Main Menu, type **8** to initialize the configuration (return it to its factory values). Typing FUELMAN; I at the command prompt will also perform this function.

On the Main Menu, type **9** to display the batch (or settlement) history. Typing FUELMAN -S at the command prompt will also perform this function.

On the Main Menu, type **10** to display the current configuration. Typing FUELMAN -P at the command prompt will also perform this function.

After entering the parameters within the FUELMAN.BIN program, there are some special system setups. These are covered in the sections that follow.

Special System Setup

Product Cross Reference and LOAD PRICE Command

The site pricing scheme must be configured so that the price code used for a fuel product (entered in the LOAD PRICE command) will be the same as the Fuelman product code for that fuel type (For example: the Fuelman product code for Diesel #2 is 5. The site product code for diesel can be anything the site owner wants it to be, but the price code must be 5.) Reference the table below for a listing of Fuelman product codes.

Fuel Product Codes				
Code	Description	Comments		
001	Regular Leaded			
002	Unleaded	Use as lowest octane when three or fewer unleaded grades are sold. Use as 87 octane when more than three grades are sold.		
003	Premium Unleaded	Use as highest octane when two or three unleaded grades are sold. Use as 91 octane when more than three grades are sold.		
004	Unleaded Plus	Use as mid-grade when three unleaded grades are sold. Use as 89 octane when more than three grades are sold.		
005	Diesel #2			
015	Methanol M-85			
016	Compressed Natural Gas			
030	Diesel #1			
033	Winterized Diesel			
034	Diesel Premium			
035	Hi Sulfer Diesel	Dyed fuel, not subject to tax		
036	Low Sulfur Diesel	Dyed fuel, not subject to tax		
039	Liquid Propane			
082	Unleaded 82	82 Octane: use when more than three unleaded grades are sold.		
086	Unleaded 86	86 Octane: use when more than three unleaded grades are sold.		
088	Unleaded 88	88 Octane: use when more than three unleaded grades are sold.		
090	Unleaded 90	90 Octane: use when more than three unleaded grades are sold.		
092	Unleaded 92	92 Octane: use when more than three unleaded grades are sold.		
093	Unleaded 93	93 Octane: use when more than three unleaded grades are sold.		
094	Unleaded 94	94 Octane: use when more than three unleaded grades are sold.		
095	Unleaded 95	95 Octane: use when more than three unleaded grades are sold.		

The authorization request from the site includes the current price to be charged for all the fuels on the dispenser. The prices used here are at a price level that is configured via FUELMAN.BIN. The host can then override that price if it desires.

If postpay is allowed at a site, the NBS host does not have the capability to change that price. (This is not a limitation of the site, the approval used for post-pay does not include the ability to re-price). For this reason, if post-pay is used, the configured price level for Fuelman transactions should be the fallback price level (usually price level 0).

3 – At the Console

Special Fuelman Console Operations

Authorization-only Transactions

Note: Non-fuel product capabilities are not implemented at this time.

To authorize a card and not apply any charge, an Authorization-only transaction is available. This might occur when a pre-check of credit is needed before doing some costly service work.

Before doing this transaction, the MDSE sale must be paid off.

MDSE PRESET dollar amount ENTER CREDIT card acceptance

MDSE PRESET dollar amount ENTER NETWORK KEY card acceptance

Operator Action	Console Display	Notes
1. Press MDSE.	** Merch \$0.00	Current lamp is on.
2. Press PRESET.	Preset amt \$	
3. Enter dollar amount.	Preset amt \$ 15.00	Dollar amount to be authorized.
4. Press CREDIT.	**** Enter card ****	
5. Slide card or enter card number and expiration date.	Enter PIN on PIN pad	The Enter PIN message may not appear.
6. Customer enters PIN on the PIN pad.	**** Verifying ****	The Enter PIN step is optional.
7. Wait for approval.	* Approved 123456 * or denial message	A transaction will log and a receipt can be printed.

Pre-authorization Transactions

Note: Non-fuel product capabilities are not implemented at this time.

To pay off a transaction that had previously been authorized, a Pre-authorization transaction is used. This might be used to pay off an Authorization-only transaction (previously described) or to pay off a transaction that had received voice authorization after normal authorization attempts had failed.

PUMP # 1 1 SPEC FUNC CREDIT card acceptance

MDSE 1 1 SPEC FUNC CREDIT card acceptance

Below is an example of a pre-authorization on a merchandise sale.

Operator Action	Console Display	Notes
1. Press MDSE to display the incomplete	\$! Merch \$4.83	
merchandise sale.		

Operator Action	Console Display	Notes
2. Press 1, 1, and SPEC FUNC.	Enter Auth Number	
3. Enter authorization number.	Auth # 123456	
4. Press CREDIT.	**** Enter card ****	
5. Slide card or enter card number and expiration date.	Enter PIN on PIN pad	The Enter PIN message may not appear.
6. Customer enters PIN on the PIN pad.	**** Verifying ****	The Enter PIN step is optional.
7. Wait for approval.	* Approved 123456 * or denial message	A transaction will log and a receipt can be printed.

Special Fuelman Considerations

- A flag is provided in an approval indicating whether the price should be shown on transaction receipts.
- The NBS host provides a time stamp that it wants used for a transaction in the approval. This will be the date/time shown for the transaction on the log.
- NBS requires significantly more data to be provided to the host during authorization and completion than will fit in the TIP or completed transaction records. To solve this problem, memory is allocated in the router table to handle the data while a transaction is in progress. Once the transaction is completed, the additional information is written to the FMBAGS.DTA disk file. In addition to the data necessary to be kept during a transaction, the NBS host requires information about each non-fuel product sold in a transaction (NBS imposes a limit of 30 non-fuel items in a sale). There is one record on disk for configured transaction.

Note: Non-fuel product capabilities are not implemented at this time.

- Reversals (voids) can only be performed on transactions that occurred in the same batch.
- Using two cards, if cards are manually entered and the sale is reversed by sliding a card, the site only asks for one card.
- When using two cards, the site will not allow manual entry of one and read the second. Both cards must be swiped or manually entered.

Fallback (off-line) Authorizations

When fallback is enabled in the Miscellaneous menu of Fuelman configuration, a list of cards denied by fuelman is kept. When the host is off-line, the system falls back to a local approval. Any cards on the denied list will be automatically denied; all others will be approved. If a card has been denied, but later approved, it is then removed from the denied list and can then be approved in the fallback case.

The denied list is the file P:FMLOCK.DTA.

CAUTION

Do not manually edit this file; if the file is edited, the next time the file is accessed by the router it will be deleted.

If the file gets too large over time and it is taking a long time to approve a card (this would be when there are hundreds of entries in the file), it may be a good idea to just delete the file and provide amnesty to the denied cards.

Settlement for Fuelman

Settlement within the Fuelman system is called Batch Close. There are two ways you can do this.

- Automatic batch close
- As part of end-of-day processing

Automatic batch close is set within the Fuelman configuration program. To configure for this option, answer **Yes** at the **Automatic Batch Close performed** parameter. The default time for automatic batch close is 1 a.m., but you change it using the **Auto batch close time** parameter. Specify the time for Automatic Batch Close to execute. Completing these parameters creates a cron command that will automatically run the comand **FMSETTLE.CMD** once a day at the time you specify.

C* p cr	
# When Command	
90 *** **/**/** 1:00 -fmsettle	
98 *** **/**/** 2:00 sweeper	
99 Restart -crash	
С*	

If you wish to run batch close as part of your end-of-day routine, you must include the **FMSETTLE.CMD**.

Regardless of the method used, settlement results are copied to a **FUELMAN.STL** file. Each time a settlement occurs, this file is appended to. When you use automatic batch close, the Fuelman software manages the size of this file by periodically purging it. If you just run **SETTLE** as part of your end-of-day processing, this does not occur, so you will need to manually purge the file by periodically running the **FUELMAN -S** option.

4 – Maintenance

The Transaction Pointer

If you are not regularly polling and resetting the transaction pointer, then you should run the PURGE SITE command once a day so you do not fill up the site controller's memory. It can be run from a cron once a day after the settlement, if the site memory is large enough to contain a full day of transactions. Always run a settlement and make sure the settlement was successful before running PURGE SITE. Busy locations may need to have the PURGE SITE run more often.

Fuelman Error Messages

Down, try later

This message indicates the Site Controller is not talking to its modem. Turn the modem off and back on to reset it.

Failed, retry

This message appears if the select pump step is after the verify card step; make sure the select pump step is before the verify card step. This message can also appear if the time to verify the card takes longer than the time limit set in the verification timeout parameter in FUELMAN.BIN. In this case, lengthen the time allotted for verification.

Transaction messages

The following list shows many of the messages that can appear on your console when you request an authorization from Fuelman.

Code	Displayed Message	Description
00	APPROVED	Transaction approved.
01	DECLINED	This is the general transaction denial response.
02	FORMAT ERROR	Format of communication packet is incorrect and/or garbled.
03	INVALID CARD	Card account not found (response for single-card systems).
04*	INVALID VEH CARD	Vehicle card account not found (response for dual-card systems).
05*	INVALID EMP CARD	Employee card account not found (response for dual-card systems).
06	INVALID TID	MIDAS terminal identifier is invalid.
07	INVALID FUEL	Fuel product code is invalid.
08	INVALID PIN	Personal Identification Number is invalid.
09	PRODUCT DENIED	Product code not allowed for location and/or card accounts.
10	PROD OVER LIMIT	Card account has exceeded limit for product code.
11	CARD EXPIRED	Card account has expired.
12	DENIED	Transaction declined due to miscellaneous restrictions.
13*	PICK UP CARD	Card(s) should be confiscated.
14	PLEASE TRY AGAIN	System is unable to respond/process at this time; try again.
15	HANGUP	Internal code for unacknowleged, but approved, captures.

Code	Displayed Message	Description
16	INVALID USER	Restricted user, either by site or card.
17	CALL CENTER	Call support center for advice. Site setup is incomplete or similar type problem.
18	INVALID ODOMETER	Odometer reading is required to complete/authorize transaction.
19	INVALID PO NO	Purchase order number does not match that of authorizer.
* Codes 04, 05, and 13 are not used according to FleetCor Technologies, Inc. Card & Data Exchange Specification Revision 1.00 document dated August 31, 2002. They are listed here for historical		

. documentation reasons.

5 – Appendix: Trademark Information

The following are the non-Gasboy trademarks used in this document.

- FuelmanSM is a service mark of FleetCor Technologies, Inc.
- Hayes[®] is a registered trademark of Zoom Telephonics, Inc.
- Sinclair® is a registered trademark of Sinclair Oil Corporation.



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