GASBOY

CFN Series

Card Encoding Manual

Computer Programs and Documentation

All Gasboy computer programs (including software on diskettes and within memory chips) and documentation are copyrighted by, and shall remain the property of, Gasboy. Such computer programs and documents may also contain trade secret information. The duplication, disclosure, modification, or unauthorized use of computer programs or documentation is strictly prohibited, unless otherwise licensed by Gasboy.

Federal Communications Commission (FCC) Warning

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Approvals

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

Underwriters Laboratories (UL):

U L File#	Products listed with U L
MH4314	All dispensers and self-contained pumping units
MH6418	Power operated Transfer Pump Models 25, 25C, 26, 27, 28, 72, 72S, 72SP, 72X, 73 and 1820
MH7404	Hand operated Transfer Pump Models 1230 Series, 1243 Series, 1520 and 1720 Series
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

New York City Fire Department (NYFD):

NYFD C of A #	Product
4823	9100A, 9140A, 9152A, 9153A, 9800A, 9840A, 9850A, 9852A, 9853A, 9140
4997	9822A, 9823A
5046	9100Q, 9140Q, 9152Q, 9153Q, 9800Q, 9840Q, 9852Q, 9853Q
5087	8753K, 8853K, 9153K, 9853K (restricted to diesel and non-retail gasoline sales)

California Air Resources Board (CARB):

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

National Conference of Weights and Measures (NCWM) - Certificate of Compliance (CoC):

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 #
95-179A2	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 US patents:

Dispensers

5,257,720

Point of Sale/Back Office Equipment

D335,673

Trademarks

Non-registered trademarks

Atlas™
Consola™
Infinity™

Registered trademarks

ASTRA®
Fuel Point®
Gasboy®
Keytrol®
Slimline®

Additional US and foreign trademarks pending.

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Table of Contents

1 – Introduction

Purpose

Access to the Gasboy® Cash Flow Network (CFN) system is controlled by the use of specially encoded cards called Club Cards or Private-issue Cards. This manual provides instructions for the following:
- Compiling the information to be encoded onto the cards
- Completing the card encoding form to encode your own cards, or have the cards encoded by Gasboy
- Embossing the cards

When you begin to use this manual, the following processes should be complete:
- With your input, a configuration order form should be filled out. You may not actually fill out this form as it may be prepared by your distributor or your Gasboy representative. This form lists the following information regarding your system:
  - Pumps
  - Information that appears on your transaction printout
  - Commands and who can execute them
  - General information about your system
  - Digits that will appear on your cards and the order of appearance
  - Working of the card reader program, and so on
- Your Gasboy representative will provide you with the following forms that will be attached to this manual:
  - Card Layout - It is based on the decision that you take on the configuration order form. It shows the manner in which your cards should be laid out.
  - Card Encoding Form - It lists the fields and field sizes as noted on your card layout, and contains blank lines where you can define the card data. As this form is customized with your own personal card fields, make a photocopy of it before you begin and retain the original.

Now you are ready to learn how to define your data for encoding. and describe the card fields and card formats for magnetic cards. Depending on your card type, follow the instructions in for magnetic cards.

For queries or more information, contact Gasboy Technical Services at this toll-free number: 1-800-444-5529.

Related Documentation

Document Number	Title	GOLD Library
MDE-4311	Site Controller II Manager's Manual version 2.2	Gasboy Fuel Management Products
MDE-4312	Site Controller II Configuration Manual version 2.3	Gasboy Fuel Management Products
MDE-4313	Site Controller III Manager's Manual for Windows NT version 3.3	Gasboy Fuel Management Products
MDE 4314	Site Controller III Configuration Manual for Windows NT, version 3.3	Gasboy Fuel Management Products
MDE-4315	Site Controller III Configuration Manual for Windows NT, version 3.4	Gasboy Fuel Management Products
MDE-4316	Site Controller III Configuration Manual for Windows NT, version 3.4	Gasboy Fuel Management Products

Abbreviations and Acronyms

Term	Description
ABA	American Bankers Association
ASC	Authorized Service Contractor
CFN	Cash Flow Network
ID	Identification
ICR	Island Card Reader
SC	Site Controller
TAC	Technical Assistance Center

Warranty

For information on warranty, refer to MDE-4255 Gasboy's Warranty Policy Statement. If you have any warranty-related questions, contact Gasboy's Warranty Department at its Greensboro location.

Cards

Magnetic (Mag) Stripe

Gasboy CFN Series systems are available with a magnetic stripe (Mag Stripe, ABA Track II). Mag Stripe cards are the most commonly used cards. They have information encoded on a magnetic stripe at the back of the card. This manual covers Mag Stripe cards.

You must follow the instructions in this manual carefully, so that your encoded cards will work correctly with your CFN system. If you need assistance, contact your local Gasboy distributor or call the Gasboy toll-free number.

Size

Mag Cards used in the Gasboy CFN Series systems must have the following dimensions: 3-3/8" x 2-1/8" and a maximum thickness of 0.032".

Site Controller II/III Software Compatibility

Several card types defined in this manual will not work with all versions of the Site Controller II/III software.
- If you are using a Site Controller II or III, the software must be provided with the Fleet package, to be able to accept fuel delivery cards, supervisor cards, dipstick cards, totalizer cards, fueler ID cards, and code cards.
- To be able to accept access cards, the Site Controller II or III software must be provided with the Attendant Card Handler.

To determine if the Site Controller II or III has the Fleet package or Attendant Card Handler software, sign on to the command terminal and provide a **STATUS V** command. Verify if the word "fleet" and/or "Attendant" appears in the printout. If it does not, contact your Gasboy representative.

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2 – Important Safety Information

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task will be found. Fire, explosion, electrical shock or pressure release could occur and cause death or serious injury if these safe service procedures are not followed.

Preliminary Precautions

You are working in a potentially dangerous environment of flammable fuels, vapors, and high voltage or pressures. Only trained or authorized individuals knowledgeable in the related procedures should install, inspect, maintain or service this equipment.

Emergency Total Electrical Shut-Off

The first and most important information you must know is how to stop all fuel flow to the pump and island. Locate the switch or circuit breakers that shut-off all power to all fueling equipment, dispensing devices, and submerged turbine pumps (STPs).

⚠ WARNING

The EMERGENCY STOP, ALL STOP, and PUMP STOP buttons at the cashier's station WILL NOT shut off electrical power to the pump/dispenser.

This means that even if you activate these stops, fuel may continue to flow uncontrolled.

You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an emergency and not only these cashier station "stops."

Total Electrical Shut-Off Before Access

Any procedure requiring access to electrical components or the electronics of the dispenser requires total electrical shut-off of that unit. Know the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gasboy equipment.

Evacuation, Barricading and Shut-Off

Any procedures requiring accessing the pump/dispenser or STPs requires the following three actions:

- An evacuation of all unauthorized persons and vehicles using safety tape, cones or barricades to the effected units
- A total electrical shut-off of that unit

Read the Manual

Read, understand and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call the Gasboy Customer Service at 1-800-444-5579, Tech Support 1-800-444-5529. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations

There is applicable information in NFPA 30A; *Automotive and Marine Service Code*, NFPA 70; *National Electrical Code (NEC)*, OSHA regulations and federal, state, and local codes which must be followed. Failure to install, inspect, maintain or service this equipment in accordance with these codes, regulations and standards may lead to legal citations with penalties or affect the safe use and operation of the equipment.

Replacement Parts

Use only genuine Gasboy replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gasboy replacement parts could create a safety hazard and violate local regulations.

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol

This safety alert symbol is used in this manual and on warning labels to alert you to a precaution which must be followed to prevent potential personal safety hazards. Obey safety directives that follow this symbol to avoid possible injury or death.

Signal Words

These signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions that follow must be followed to prevent death, injury or damage to the equipment

DANGER - This signal word is used to alert you to a hazard to unsafe practice which will result in death or serious injury

WARNING - This alerts you to a hazard or unsafe practice that could result in death or serious injury.

CAUTION with Alert symbol - This signal word designates a hazard or unsafe practice which may result in minor injury.

CAUTION without Alert symbol - When used by itself, CAUTION designates a hazard or unsafe practice which may result in property or equipment damage.

Working With Fuels and Electrical Energy

Prevent Explosions and Fires

Fuels and their vapors will become explosive if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause explosive vapors in the vicinity of dispenser or island.

No Open Flames

Open flames from matches, lighters, welding torches or other sources can ignite fuels and their vapors.

No Sparks - No Smoking

Sparks from starting vehicles, starting or using power tools, burning cigarettes, cigars or pipes can also ignite fuels and their vapors. Static electricity, including an electrostatic charge on your body, can cause a spark sufficient to ignite fuels and their vapors. After getting out of a vehicle, touch the metal of your vehicle to discharge any electrostatic charge before you approach the dispenser island.

Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Be familiar with Cardiopulmonary Resuscitation (CPR) methods if you are working with or around high voltages. This information is available from the American Red Cross. Always advise the station personnel about where you will be working, and caution them not to activate power while you are working on the equipment. Use the OSHA tag out and lock out procedures. If you are not familiar with this requirement, refer to information in the service manual and OSHA documentation.

Working With Electricity Safely

Be sure to use safe and established practices in working with electrical devices. Poorly wired devices may cause a fire, explosion or electrical shock. Be sure grounding connections are properly made. Make sure that sealing devices and compounds are in place. Be sure not to pinch wires when replacing covers Follow OSHA Lock-Out and Tag-Out requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while the equipment is down.

Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Be sure to clean hands after handling equipment. Do not place any equipment in mouth.

⚠ WARNING
This area contains a chemical known to the State of California to cause cancer.

⚠ WARNING
This area contains a chemical known to the State of California to cause birth defects or other reproductive harm.

IMPORTANT: Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

Emergency First Aid

Informing Emergency Personnel

Compile the following information for emergency personnel:
Location of accident (for example, address, front/back of building, and so on.)
Nature of accident (for example, possible heart attack, run over by car, burns, and so on.)
Age of victim (for example, baby, teenager, middle-age, elderly)
Whether or not victim has received first aid (for example, stopped bleeding by pressure, and so on.)
Whether or not a victim has vomited (for example, if swallowed or inhaled something, and so on.)

⚠ WARNING
Gasoline ingested may cause unconsciousness and burns to internal organs. Do not induce vomiting. Keep airway open. Oxygen may be needed at scene. Seek medical advice immediately.

⚠ WARNING
Gasoline inhaled may cause unconsciousness and burns to lips, mouth and lungs. Keep airway open. Seek medical advice immediately.

⚠ WARNING
Gasoline spilled in eyes may cause burns to eye tissue. Irrigate eyes with water for approximately 15 minutes. Seek medical advice immediately

⚠ WARNING
Gasoline spilled on skin may cause burns. Wash area thoroughly with clear/water. Seek medical advice immediately.

IMPORTANT: Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

Lockout/Tagout

Lockout/Tagout covers servicing and maintenance of Machines and equipment in which the unexpected energization or start up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel. Lockout/Tagout applies to all mechanical, hydraulic, chemical or other energy, but does not cover electrical hazards. Reference Subpart S of 29 CFR Part 1910 - Electrical Hazards, 29 CFR Part 1910.333 contains specific Lockout/Tagout provision for electrical hazards.

3 – Card Field Descriptions

The following are the types of card formats that can be used with CFN Systems:
- Standard format - single or dual card
- Manual entry format - Site Controller I only
- Fuel delivery format
- Supervisor format
- Dipstick format - Site Controller II/III only
- Totalizer format - Site Controller II/III only
- Fueler ID format - Site Controller II/III only
- Code card format
- Fuel Point card - Site Controller II/III only
- Access card - Site Controller II/III only

These formats are described in detail in "Card Formats" on page 17. Refer to the card format that your site uses to determine the field names/sizes that are used.

Note: The field names and sizes in this section may differ from those on your customized card layout. Customers must contact Customer Service, Technical Assistance Center (TAC) or their Authorized Service Contractor (ASC) for Card Layouts.

The fields that the card format contains are determined at the time of your order or when you choose your configuration options. Ensure that you follow your customized layout when encoding your cards.

Card Type Field - Mag Cards only

The Card Type field applies to Mag Cards only. It is not a data field on the card, but an indicator of whether the card is a single card or part of a dual card set. If the card is a single card, the card type indicator is a field separator (-). If it is part of a dual card set, both cards in the set begin with two field separators (--). For manual entry and fuel delivery cards, the card type indicator follows the system ID field (See "Field Separator - Mag Cards only" on page 8).

System ID Field - All Cards

The System ID indicated on your card layout, is a unique two to six-digit field assigned by Gasboy. Its purpose is to protect your system from unauthorized users of other systems. In a dual card system, the system ID is encoded and verified on both cards. If your system is being configured to match another Gasboy system, you can use the same system ID.

Field Separator - Mag Cards only

Field separators are used on Mag Cards. Field separators appear in various positions on cards. The number and position of field separators determines the card type. At least one field separator precedes and follows the account information fields, but they also appear in other places on the card.

The following table provides information regarding the location of field separators and their functions:

Location of Field Separator	Function
No separators	Code card*
One separator before and one separator after the system ID	Standard, single card format
One separator before and one separator after the system ID followed by data that may include As or Es	Supervisor card
Two separators before the system ID and one after the system ID	Standard, dual card format
Multiple separators in the Account Information field (in dual cards only)	Space filler for data encoded on other cards
One separator before the system ID and two after the system ID	Fuel delivery format, dipstick format, totalizer format, fueler ID format
One separator before the system ID and three after the system ID	Manual entry format
One separator before the system ID and four after the system ID	Fuel Point card format
One separator before the system ID and A after the system ID	Access card
Must begin with an extra start sentinel.	

Account Information Field

The Account Information field is used on the following cards: Standard, Manual Entry, Fuel Delivery, Supervisor, Dipstick, Totalizer, and Access.

The CFN system provides a 19-character field of account information. This field is commonly referred to as the Account Number. You can use the entire field as a string, or it can be split into sub-fields. Decide the arrangement of the field when your system is configured so that these fields are set when you get your system. This arrangement can be changed only by adjusting the configuration parameters. Depending on your application, this field can be arranged using a combination of the card number, employee number, customer account number, vehicle number, or other fields to suit your needs. For the Access card, the last two digits are the Attendant number.

Note: If you change your configuration after receiving your system, you will need to modify your customized card layout and order form received with this manual.

To facilitate card administration, card numbers should be assigned sequentially.

When using dual cards, Account Information fields are usually encoded on one card or the other. In Mag Card systems, field separators take the place of the card number on the other card.

Expiration Date Field

The Expiration Date field is used on the following cards: Standard, Manual Entry, Fuel Delivery, Supervisor, Dipstick, Fueler ID, Totalizer, and Access.

If used, this field can be of two or four digits. It is assigned to establish a lifetime for the card. The default is four digits, where the first two digits represent the year and the last two digits represent the month. If the field is two digits, both represent the year and the cards are valid to the end of the specified year.

When using dual cards, the expiration date may be encoded on one or both cards. If the expiration date is encoded on only one of the cards, field separators replace it on the other card. If the expiration date is encoded on both cards, it must be the same.

The cards may all be coded with a date in the distant future (up to 50 years) or you may use this feature to issue a temporary card (pending a credit check or other approval measure). Using an expiration date two or three years in the future can help keep your negative file of locked out cards from reaching an unmanageable size.

Note: The CFN system can be configured to ignore the expiration date described in page 4 and 5 of SYS_PAR.

Limitation Code Field

The Limitation Code field is used on the following cards: Standard, Supervisor, and Access.

If used, this field contains a one or two-digit Limitation Code (also called Limit Cutoff) that determines the maximum amount of product that can be dispensed in a single transaction. Most applications use one digit. Limitation Codes are provided mainly as a safeguard to minimize accidental spillage. When customers reach their limit cutoff, the transaction terminates immediately. If the customers want additional product, they can reactivate the dispenser and dispense the product again up to the limit cutoff.

When you use dual cards, the Limitation Code is usually encoded only on one card, typically a vehicle card. In Mag Card systems, a field separator takes the place of the digit on the other card.

The Limitation Code that is encoded onto the card is not an actual quantity/amount. When the ASR configures your system, a table is set up to your specifications. The table contains Limitation Codes and quantity values assigned to those limitation codes. Limitation Codes are generally linked with a vehicle card and are assigned a quantity just over the capacity of the vehicle's fuel tank. If you use a one-digit limitation code, you can use the digits 0-9. If you use a two-digit limitation code, you can use 0-99. Check your card layout to determine the limitation code size.

The following table displays some sample Limitation Codes. While the Limitation Codes shown here are sequential, they do not have to be so. With a two-digit Limitation Code, you can use any number from 0 to 99 as long as the number of codes does not exceed the maximum amount configured. For example, if the number of limit codes is configured to 20, the codes can be 0, 3, 5, 7, 28, 29, 30, 31, 34, and so on.

Code	Cutoff Point (Gallons)
0	999
1	10
2	20
3	30
4	40
5	50
6	75
7	150
8	250
9	500

Note: While this table is set up in gallon limits, you could also set up your limitation table in dollar limits.

Use the following template to assign your own limitation code values. If you have more than 20 Limitation Codes, you will need to photocopy this sheet. Ensure that you save this table for start-up. You will need to load this table into the system memory using the Load Limitation (**LO LI**) command.

Limitation Code	Value in gallons or dollars

Note: If you are defining limit cutoffs by dollar amounts, place a $ before the number (for example, $50 cuts off at 50 dollars, 50 cuts off at 50 gallons).

Authorization Code Field

The Authorization Code field is used on the following cards: Standard, Supervisor, and Access.

If used, this field contains a one or two-digit code (0-99) that authorizes products that each cardholder may access.
- If you have Site Controller I software, these products are fuels.
- If you have Site Controller II/III/IV software, these products can be fuels or non-fuel products. With fuel products, the authorization is positive, where in you authorize the fuel that a cardholder may get. With non-fuel products, the authorization is negative, where in you indicate the products or departments a customer may not get. See the applicable Manager's Manual for details.

Before you can assign Authorization Codes to products (fuel or non-fuel), you must make a list (table) of all your products and assign numeric codes to each product (or category of products). Later, at start-up time, you have to enter this table into the system memory using the load product (**LO PRO**) command. Once you have the list defined, you can assign one or multiple product codes to each Authorization Code. You will probably want to set up one Authorization Code for all fuels, one for each individual fuel, and individual ones for the combinations that you require.

The default table for a standard system consists of 20 assignments, but your table may be larger depending on how it is configured. You can identify your table size by checking the system parameters printout that is supplied to you when your system is delivered. If you have Site Controller II software, then you can print the table sizes. The maximum size for your table determines the number of slots available for codes. For example, using the default of 20, you can have 20 codes with one product each, 10 codes with two products each, or five codes with four products each, and so on.

Your Authorization Codes can be of one or two digits. Check your card layout to determine your Authorization Code size. If you use a one-digit Authorization Code, you can use the digits 0-9. If you use a two-digit Authorization Code, you can use 0-99. The table below is a sample Authorization Code table. While the Authorization Codes shown are sequential, they do not have to be so. The Authorization Code can be any number from 0 to 99 as long as the number of codes does not exceed the maximum amount configured. For example, in a two-digit Authorization Code table, the codes can be 0, 3, 5, 7, 28, 29, 30, 31, 34, and so on.

Code zero is preset and will allow all fuel types, unless you specifically assign a value to it. When you print your authorization table, code zero will not print unless a different value is assign to it. Load all other Authorization Codes with fuel codes. Use only the number of codes you need. If you use less than 10 codes, you may use a single digit on your card.

The following table is a sample of a very simple authorization table for Site Controller I, when in you have defined the following fuel products: 01-Regular; 02-Unleaded; 03-Super; 04-Diesel.

Auth Code	Fuels Allowed
0	All fuels
1	01

Auth Code	Fuels Allowed
2	02
3	03
4	04
5	01 02
6	01 02 03
7	01 02 03 04
8	02 03
9	03 04

Use the following template to assign two-digit numbers and descriptive names to each of your products (for example, 01-Unleaded Regular, 02-Unleaded Plus, 22-milk, 24-bread, and so on). If you have more than 10 codes, you will need to photocopy this sheet.

Two-Digit Product Code	Product Name

Use the following template to assign product codes to the Authorization Code numbers. This template allows you to define up to 10 codes with nine products each. If you have more than 10 codes or nine products per code, photocopy this sheet so you can continue your list. Ensure that you save this table for start-up. You will need to load this table into the system memory using the Load Authorization (**LO AU**) command.

Auth Code	Products

Price Level Field

The Price Level field is used on the following cards: Standard and Supervisor.

If used, this is a one or two-digit code that determines the price charged for fuel products. When using a dual-card system, this digit can be encoded on either of the cards.

The price levels enable you to have several different prices for each product. When you perform a system start-up, you must assign at least one price for each of your products. For Site Controller I, the following price levels are assigned:

0	Fallback Price
1	Cash Price
2	Credit Price
3	Debit Price

In addition, you can configure other price level codes as you wish (for example, special customer prices, and so on). For Site Controller II/III, the fallback price is configurable; hence, you can make any number as the fallback price. It is best to leave standard pricing at 0 through 3, and then enter custom price levels greater than 3 for cardholders.

To see where price levels fit in, it is helpful to see how they are set up. In the CFN system, you have both price codes and price levels. Each price code can have multiple price levels. Define price codes using the load price (**LO PRI**) command. Each price code definition contains levels 0 through a number (depending on your configuration), with prices defined for each.

Similar to Authorization Codes, you must make a list of all your products (**LO PRO**) and assign price codes to each. Assign price codes to products using the **LO FU** command. For more information on assigning prices, see the applicable Manager's Manual.

To illustrate this concept, assume that you have two pumps 1 and 2. Pump 1 holds full-serve diesel and pump 2 holds self-serve diesel. If you want to define different price levels for each, proceed as follows:

Your product code for diesel might be 01.

Your price code table (**LO PRI** command) will look like the following example:

01   0 1.309 1 1.309 2 1.459 3 1.329 4 1.409

02   0 1.209 1 1.209 2 1.309 3 1.229 4 1.309

Your pump information (some of which came from the **LO FU** command) will look like the following example:

P#	T#	PR	PC	PRICE	TOTALS	$TOTAL	RATE	LIMIT	SLOW
1	1	1	1	1.309	123.456	129.876	100/$	$ 50	0.500
2	1	1	2	1.209	4567.890	4321.987	100/$	$ 30	0.500

Knowing this information, assume that you encode your cards with price level 4. Following

this, whenever cardholders buy diesel at either one of your pumps, they will get the price loaded for price level 4 (1.409 for full-serve or 1.309 for self-serve).

A blank table is provided in the Start-up manual to assist you in laying out your price codes.

Restriction Code Field

The Restriction Codes field is used on the following cards: Standard, Supervisor, and Access.

Optionally, your cards can also include a one or two-digit Restriction Code. Most applications use one digit. Based on the value of this Restriction Code, you may be required to enter some information at the Island Card Reader (ICR) or console (Site Controller II/III).

There are several ways to determine the information that you must enter:
• System parameter
• ICR parameter
• Restriction Code on card
• Console parameter (Site Controller II/III only)

The system parameter is considered first. If the system parameter is set to the PIN required, the ICR program and card do not need to request for the PIN. If the system parameter is set to PIN optional, but the ICR program is set to PIN required, the PIN is requested even if the card does not indicate the PIN. If the system and ICR programs are set to PIN optional, but the Restriction Code on the card requests the PIN, then PIN will be required.

The table below lists the Restriction Codes and required user entry when this code is present.

First Digit		Second or Only Digit	
Value	**User Enters:**	**Value**	**User Enters:**
0	No entry required	0	No entry required
2	Dollar amount	1	Odometer
		2	Vehicle number*
		3	Odometer, vehicle number*
		4	PIN
		5	Odometer, PIN
		6	Vehicle number*, PIN
		7	Odometer, vehicle number*, PIN

Vehicle number is just an example. This entry can be whatever your account field is set up for.

Some entries, such as dollar amount, require that the Restriction Code be in two digits. To record one or a combination of other entries, the Restriction Code can be a single digit. For example, if you want the user to enter the odometer and vehicle, you have to use Restriction Code **3**. If you want the dollar amount, odometer, and vehicle, you have to use **23**.

Any of the entries listed in the Restriction Code table can be optional in the reader program, but they will be requested if they are card encoded.

Likewise, if the entries are required in the ICR program or the system parameters, they will be requested regardless of whether they are encoded on the card's Restriction Code.

Site ID Field - Fueler ID Format only

If you use Site Controller II/III, the site ID is a six-digit number configured in the system parameters of your site. Its purpose is to uniquely identify the site. It is a number assigned by you and can be changed by using the **SYS_PAR** configuration program. See the applicable Site Controller Configuration Manual for additional information.

Fueler ID Field - Fueler ID Format only

The Fueler ID field is used only by Site Controller II or III. If used, the fueler ID is a two-digit field (0-99). The fueler ID is assigned to a cluster (see the applicable Site Controller Configuration Manual for additional information on clusters). Once the fueler ID has been recorded by the site, all ICR and Fuel Point transactions from that cluster will have the fueler ID inserted into the clerk ID field of the disk journal transaction record. Transactions stored in the site memory will not record the fueler ID.

Code Number Field - Code Card Format only

If the Code Number field is used for Site Controller I, the length of the field must be 10 digits. If it is used for Site Controller II or III, it can be 1-19 digits, except that it cannot be the same as the configured club card account field length (see the applicable Site Controller Configuration Manual or Manager's Manual). When the code is read, the site searches the code file or LOOKUP table for the data loaded for that code. If the data has been loaded, it is used in place of card data for the transaction.

Field Type Field - Fuel Point Card Format only

The Field Type field is used only by Site Controller II/III with a Fuel Point Reader. If used, the field type is a three-digit field. The field type on the card is compared to the field type in the Fuel Point vehicle module's Reader Entry field to determine how the data encoded on the card should be handled. Generally, the field types on the card and the vehicle module are set to match, to ensure that the card data is being used as intended. If they do not match, the transaction is aborted. However, if the card field type is zero, the card data will be accepted for any field type encoded in the vehicle module's Reader Entry field. Conversely, if the vehicle module's field type is zero, the card data will be accepted for any field type encoded on the card. If both field types are zero, the transaction will be aborted.

The possible field types are:

FIELD	TYPE	FIELD	TYPE	FIELD	TYPE
Account	065	Employee	072	SKU	083
Agency	099	Equipment	073	Social Security	084
Asset	090	Fleet	074	Stock	085
Badge	067	Job	090	Tender Type *	095
Bus	091	License	075	Track-II *	222
Card	068	Manifest	076	Trailer	104
Charge	079	Manual	077	Truck	103
Clock	069	Participant ID	093	Type	100
Company	107	Patron	078	Unit	106
Department	070	PIN	092	Vehicle	086
District	101	Reefer	102	Work Order	087
Division	089	Route	080		
DIVLOC	088	Security	081		
Driver	071	Shift	082		

* These fields require special handling as explained below:

Tender Type: *For CFN only, the 3-digit Tender Type field is used in conjunction with the Track-II field. If used, it must come before the Track-II field. If not used, the tender will be set to Credit by default. Refer to C09215, Point Of Sale and Shift Change Manual.*

Track-II: *For CFN only, the Track-II field is used to program a Vehicle Module to match a bank card or some other non-club card format. When it is used, you do not have any of the other ID fields on the VM. When matching data from an existing card, a field separator character (-) must be represented as a **D** on the Programmer.*

Field Data Field - Fuel Point Card Format only

The Field Data field is used only by Site Controller II/III with a Fuel Point Reader. The field data is used in the field type indicated on the card or vehicle module, depending on the set up (see "Field Type Field - Fuel Point Card Format only" on page 15). The length of the field is determined by the site configuration and the field type it is replacing.

4 – Card Formats

Types of Card Formats

There are 11 types of card formats you can use with CFN Systems:
- Standard format - single or dual card
- Service format
- Code card format
- Supervisor format
- Manual entry format - Site Controller I only
- Fuel delivery format
- Dipstick format - Site Controller II/III only
- Totalizer format - Site Controller II/III only
- Fueler ID format - Site Controller II/III only
- Fuel Point card - Site Controller II/III only
- Access card - Site Controller II/III only

The remainder of this section describes each of these formats.

Note: The field names and sizes in this section may differ from those on your customized card layout.

The fields it contains will be determined at the time of your order or when you choose your configuration options. Ensure that you follow the customized layout when encoding your cards.

Site Controller II/III Software Compatibility

Several card types defined in this manual will not work with all versions of the Site Controller II/III software. If you are using Site Controller II or III, the software must be provided with the Fleet package to be able to accept fuel delivery cards, supervisor cards, dipstick cards, totalizer cards, fueler ID cards, and code cards. To accept access cards, the Site Controller II or III software must be provided with the Attendant Card Handler. To determine if Site Controller II or III has the Fleet package or Attendant Card Handler software, sign on to the command terminal and give a **STATUS V** command. Verify if the word "fleet" and/or "Attendant" appears in the printout. If it does not, contact your Gasboy representative.

Standard Card Format

Standard format cards are used with all Site Controllers. They are used to initiate a fuel transaction from the ICR or to access fuel from the postpay-prepay console. Standard cards can have all the information encoded onto one card (single card) or can have the information split between two cards that must be used together (dual cards). Systems can have a combination of both single and dual cards; they are not restricted to only one type.

Single cards are commonly used when a vehicle is assigned to a single driver, or in a retail application when only an account number needs to be identified. A card encoded as a single card cannot be used as a dual card. Dual cards are useful when employees operate different vehicles, but you still want both the employee and vehicle numbers to be identified. If a system is set up to accept dual cards, both cards must be used; neither card will be accepted independently unless you are using them at a gate controller where either one of the cards will be accepted.

The next two subsections describe the card field layout for both single and dual cards.

Single Card Layout

The card layout for a single card is **-ssssss-ccccccccccccccccccc-yymmllaapprr**, where:
- "**-**" is a field separator. In case of a dual card, the first two characters would be field separators.
  Note: Field separators are used on Mag Cards only.
- "**ssssss**" is a two- to six-digit system ID number.
- "**-**" is a field separator.
- "**ccccccccccccccccccc**" contains up to 19 digits of account information. This entire area can be used for a string of information up to 19 digits, or can be split into sub-fields (maximum of three fields on Site Controller I), the total of which cannot exceed 19 digits. For example, if you use 19 digits for a card number, you cannot define any other fields. Usually this 19-digit area is split as follows:
  - The first field is a four- to six-digit card number.
  - Fields after the first field are broken down into vehicle, employee, account number, department, or whatever you specified when you ordered for the system.
- "**yymmllaapprr**" implies any optional information.
- "**-**" is a field separator.
- "**yymm**" is a four-digit expiration date with **yy** being the two-digit year and **mm** being the two-digit month. This field could also use only two digits (**yy**).
- "**ll**" is a 0, or a one or two-digit limitation code.
- "**aa**" is a 0, or a one or two-digit authorization code.
- "**pp**" is a 0, or a one or two-digit price level.
- "**rr**" is a 0, or a one or two-digit restriction code. Depending on its value, the dollar amount, odometer, vehicle number, PIN, or a combination of these must be entered by the cardholder.

Dual Card Layout

If you are using a dual card system, part of the data is on one card, and the rest is on another card. Some data may be on both cards. The ICR adds the data from both cards to arrive at the complete data. If the data is on both cards, it must match exactly. If it is on one card and not the other, it is replaced, digit-for-digit, by field separators on the card that do not have it. Dual cards begin with two field separators to distinguish them from other cards.

A typical use of a two-card system is to have separate cards for each employee (driver card) and each vehicle (vehicle card), that allows you to keep track of the mileage and fuel usage by each. If you choose a set up like this, your fields may be split, as shown in the following table:

Driver Card	Vehicle Card
--	--
4-digit system ID (1234)	4-digit system ID (1234)
-	-
5-digit card number (00056)	-----
6-digit account number (345345)	6-digit account number (345345)
----	4-digit vehicle number (1119)
-	-
4-digit expiration date (yymm, 0007)	4-digit expiration date (yymm, 0007)
-	1-digit limitation code (2)
-	1-digit authorization code (4)
-	1-digit price level (4)
1-digit restriction code (3)	1-digit restriction code (3)

Note: Some of the fields appear (in the same positions) on both cards and others have data on one card and field separators on the other card.

The card layout for the above example appears as follows:

Card 1: Driver Card
--1234-00056345345-----0007---3

Card 2: Vehicle Card
--1234------3453451119-00072443

The ICR combines the data on the two cards to produce the following string:

--1234-00563453451119-00072443

Service Card Format

If you have a CFN 4 and Mag Card encoder, you can encode and use Service cards. A Service card enables the cardholder to get the status, set a limited number of configurations, and reboot the CFN system from a reader.

The site recognizes the card as a Service card when two field separators follow the system ID and the digit 6 follows the expiration date or the field separator after the account number, if no expiration date is configured.

The layout for Service cards is **-ssssss--ccccccccccccccccccc-yymm6**, where:
- "**-**" is a field separator.
- "**ssssss**" is a four- to six-digit system ID number.
- "**--**" are two field separators; these and the digit 6 at the end of the card indicate that this is a service card.
- "**ccccccccccccccccccc**" contains up to 19 digits of account information. This entire area can be used for a string of information up to 19 digits; or it can be split into sub-fields, the total of which does not exceed 19 digits. For example, if you use 19 digits for the card number, you cannot define any other field. Usually this 19-digit area is broken down as follows:
  - The first field is a four- to six-digit card number.
  - Fields after the first field are broken down into vehicle, employee, account number, department, or any other specification, up to a total of 19 digits.
- "**-**" is a field separator.
- "**yymm**" is a four-digit expiration date. This field can also be of two digits (**yy**) only.

Code Card Format

If you have a site controller configured to accept Code cards, you can encode Code cards. All American Banker's Association (ABA) track-two cards follow the standard format; start sentinel, data (field separators, numbers, A's, E's, and so on), end sentinel, and a Longitudinal Redundancy Check (LRC) checksum. The start sentinel, end sentinel, and the LRC checksum are encoded automatically by the card encoding equipment, such as a Gasboy MCE 300 Mag Card Encoder. To encode a Code card, you must have two start sentinels at the beginning of the card. Once the code is read from the card, the site searches the code file in the Site Controller I memory or the LOOKUP file on a Site Controller II/III for a matching record entry. If the entry exists, the data loaded for that code is used for the transaction. If the entry does not exist, the card is denied. The site recognizes the card as a Code card when two start sentinels are found at the beginning of the card.

The layout for Code cards is **Bssssssnnnnnnnnnn**, where:
- "**B**" is the second start sentinel (must be in uppercase).
- "**ssssss**" is a four- to six-digit system ID number.
- "**nnnnnnnnnn**" is the code number loaded into the Site Controller I memory or the Site Controller II/III LOOKUP file. For the Site Controller I, the code number must be a 10-digit number. For the Site Controller II/III, it can be two to 19 digits, except that it can not be the same as the configured club card account field length (refer to the applicable Site Controller Configuration Manual). Numbers 0 through 32 cannot be used as they may be mistaken for a pump number.

Supervisor Card Format

If you have a Site Controller that is configured to accept Supervisor cards, you can encode Supervisor cards. A Supervisor card is a special card that allows a supervisor to manually enter account information that is normally read from the card (card number, employee number, and so on), at the ICR or postpay/prepay console. This is useful in instances where a customer's or driver's card is lost or damaged and its account information cannot be read. The supervisor format may also be used for non-supervisory users in instances where multiple manual entries are desired.

Supervisor cards differ from standard cards in that you encode the alternating As and Es in the card information fields. The As and Es must be in the same position and be the same length as the field they are representing (for example, a four-digit card number would be replaced by four As). The ICR then uses the headings from the transaction printout to prompt for manual entry information.

An example of a standard card layout for a fuel site is **-123456-093818594100439-90072132**, where:
- "**-**" is a field separator
- "**123456**" is a six-digit system ID number
- "**-**" is a field separator
- "**09381**" is a five-digit card number
- "**8594**" is a four-digit employee number
- "**100439**" is a six-digit vehicle number
- "**-**" is a field separator
- "**9007**" is the expiration date
- "**2**" is a one-digit limitation code
- "**1**" is a one-digit authorization code
- "**3**" is a one-digit price level code
- "**2**" is a one-digit restriction code

A Supervisor card for the same fuel site would appear, as shown in the following example:

-123456-AAAAAEEEEAAAAAA-90072132

When this Supervisor card is used at the ICR, the system prompts for manual entry of the card number, employee number, and vehicle number.

You do not have to replace the entire account number with As and Es if you only wish to prompt for partial information (such as the card number and vehicle number, or card number only). The following are examples, to encode cards that prompt for partial account information:

Example 1: Prompts for card number only

-123456-AAAAA8594100439-90072132

Example 2: Prompts for card number and vehicle number

-123456-AAAAA85941EEEEE-90072132

Manual Entry Card Format

If you have Site Controller I software that is configured to accept Manual Entry cards, you can encode Manual Entry cards. A Manual Entry card allows the cardholder to enter data into the transaction file from the ICR. The ICR recognizes the card as a Manual Entry card when three field separators follow the system ID. A cardholder may have multiple Manual Entry cards that can be used at different times, each requesting a different type of data. The data for which the user is prompted depends on the values of the manual entry digits on the card. Each card may have up to three manual entry digits. The following table shows the manual entry digits and the data that each digit requests:

First Digit		Second Digit		Third Digit	
Value	User to Enter:	Value	User to Enter:	Value	User to Enter:
0	No entries required	0	No entries required	0	No entries required
1	Product	1	Odometer	1	Pump #
2	$ Amount	2	Vehicle	2	Account #
3	$ Amount, Product	3	Vehicle, Odometer	3	Account #, Pump #
4	Quantity	4	Price	4	
5	Quantity, Product	5	Price, Odometer	5	
6	$ Amount, Quantity	6	Vehicle, Price	6	
7	Quantity, $ Amount, product	7	vehicle, odometer, price	7	

The layout of the Manual Entry card is **-ssssss---ccccccccccccccccccc-yymmqqq**, where:
- "**-**" is a field separator.
- "**ssssss**" is a four- to six-digit system ID number.
- "**---**" three field separators. This indicates that it is a Manual Entry card.
- "**ccccccccccccccccccc**" contains up to 19 digits of account information. This entire area can be used for a string of information up to 19 digits; or can be split into up into three sub-fields, the total of which cannot exceed 19 digits. For example, if you use 19 digits for the card number, you cannot define any other field. Usually this 19-digit area is broken down as follows:
  - The first field is a four- to six-digit card number.
  - The second and third fields are broken down into vehicle, employee, account number, department, or any other specification, up to a total of 19 digits.
- "**-**" is a field separator.
- "**yymm**" is a four-digit expiration date. This field can also be two digits (**yy**).
- "**qqq**" is up to three digits of manual entry information. The information requested by each digit is outlined in the table above.

Fuel Delivery Card Format

If you have a site controller that is configured to accept Fuel Delivery cards, you can encode Fuel Delivery cards. A Fuel Delivery card (also called a Fuel Drop card) enables the cardholder to enter the tank number and fuel quantity at the ICR when a fuel delivery is made. If configured, this action automatically increments the tank's inventory, as maintained by the site controller. In Site Controller II/III, this action will either log a message on the site logger or create a transaction, as well as adjust the tank inventory. If configured to create a transaction:
- The account to charge is **UNPAID**
- The device type will be **GAUGE**
- The authorization code will be **DELIVR**
- The error code will be **DELIVERY (55)**

The ICR recognizes the card as a Fuel Delivery card when two field separators follow the system ID.

The layout of Fuel Delivery cards is **-ssssss--ccccccccccccccccccc-yymm,** where:
- "**-**" is a field separator.
- "**ssssss**" is a four- to six-digit system ID number.
- "**--**" two field separators. These indicate that this is a Fuel Delivery card.
- "**ccccccccccccccccccc**" contains up to 19 digits of account information. This entire area can be used for a string of information up to 19 digits; or can be split into sub-fields (maximum of three on Site Controller I), the total of which cannot exceed 19 digits. For example, if you use 19 digits for card number, you cannot define any other field. Usually this 19-digit area is broken down as follows:
  - The first field is a four- to six-digit card number.
  - Fields after the first field are broken down into vehicle, employee, account number, department or any other specification, up to a total of 19 digits.
- "**-**" is a field separator.
- "**yymm**" is a four-digit expiration date. This field can also be of two digits (**yy**).

Dipstick Card Format

If you have a Site Controller II/III configured to accept Dipstick cards, you can encode Dipstick cards. A Dipstick card enables the cardholder to enter the tank number and quantity measured in a tank at the ICR. If configured, this action will either log a message on the site logger or create a transaction. If the site is configured to create a transaction:
- The account to charge will be **UNPAID**
- The device type will be **GAUGE**
- The authorization code will be **DIPSTIK** or **DIPWTR** depending on the type of Dipstick card used (see the example below)
- The error code will be **DELIVERY (55)**

The site recognizes the card as a Dipstick card when two field separators follow the system ID and the digits 1, 3, or 4 follow the field separator after the account number or the expiration date, if one is configured.

The layout for Dipstick cards is **-ssssss--ccccccccccccccccccc-yymmt**, where:
- "**-**" is a field separator.
- "**ssssss**" is a four- to six-digit system ID number.
- "**--**" two field separators; these and the digits **1**, **3**, or **4** at the end of the card indicate that this is a Dipstick card.
- "**ccccccccccccccccccc**" contains up to 19 digits of account information. This entire area can be used for a string of information up to 19 digits or can be split into sub-fields, the total of which cannot exceed 19 digits. For example, if you use 19 digits for card number, you cannot define any other field. Usually this 19-digit area is broken down as follows:
  - The first field is a four- to six-digit card number.
  - Fields after the first field are broken down into vehicle, employee, account number, department, or any other specification, up to a total of 19 digits.
- "**-**" is a field separator.
- "**yymm**" is a four-digit expiration date. This field can also be of two digits (**yy**).
- "**t**" is used with the two field separators after the system ID to indicate that this is a Dipstick card. The possible Dipstick card types are as follows:
  - "**1**" Dipstick card that prompts for tank number and gallons.
  - "**3**" Dipstick card that prompts for tank number and inches.
  - "**4**" Dipstick card that prompts for tank number, inches, and water level.

Totalizer Card Format

If you have a Site Controller II/III configured to accept Totalizer cards, you can encode the Totalizer cards. A Totalizer card enables the cardholder to enter the pump number (and a hose number, if Multi-Product Dispenser [MPD]) and totalizer reading for that pump at the ICR. This action will create a transaction. In the transaction:
- The account to charge will be **UNPAID**
- The device type will be **GAUGE**
- The authorization code will be **TOTRED**
- The error code will be **DELIVERY (55)**

The site recognizes the card as a Totalizer card when two field separators follow the system ID and the digit 5 follows the field separator after the account number or the expiration date, if one is configured.

The layout for Totalizer cards is **-ssssss--ccccccccccccccccccc-yymm5**, where:
- "**-**" is a field separator.
- "**ssssss**" is a four- to six-digit system ID number.
- "**--**" two field separators; these and the digit 5 at the end of the card indicate that this is a Totalizer card.
- "**ccccccccccccccccccc**" contains up to 19 digits of account information. This entire area can be used for a string of information up to 19 digits; or can be split into sub-fields, the total of which cannot exceed 19 digits. For example, if you use 19 digits for card number, you cannot define any other field. Usually this 19-digit area is broken down as follows:
  - The first field is a four- to six-digit card number.
  - Fields after the first field are broken down into vehicle, employee, account number, department, or any other specification, up to a total of 19 digits.
- "**-**" is a field separator.
- "**yymm**" is a four-digit expiration date. This field can also be two digits (**yy**).
- "**5**" is used with the two field separators after the system ID to indicate that this is a Totalizer card.

Fueler ID Card Format

If you have a Site Controller II/III configured for a disk journal, you can encode Fueler ID cards. A Fueler ID card enables the cardholder to change the fueler ID number at the ICR. Once the Fueler ID has been recorded by the site, all ICR and Fuel Point transactions from that cluster will have the fueler ID inserted into the clerk ID field of the disk journal transaction record. Transactions stored in the site memory will not record the fueler ID. The site recognizes the card as a Fueler ID card when two field separators follow the system ID and the digit 2 follows the field separator after the fueler ID number or the expiration date, if one is configured.

The layout for Fueler ID cards is **-ssssss--nnnnnnii-yymm2**, where:
- "**-**" is a field separator.
- "**ssssss**" is a four- to six-digit system ID number.
- "**--**" two field separators; these and the digit 2 at the end of the card indicate that this is a Fueler ID card.
- "**nnnnnn**" is the site number configured in the Site Controller II/III system parameters.
- "**ii**" is the fueler ID number.
- "**-**" is a field separator.
- "**yymm**" is a four-digit expiration date. This field can also be of two digits (**yy**).
- "**2**" is used with the two field separators after the system ID to indicate that this is a Fueler ID card.

Fuel Point Card Format

If you have a Site Controller II or III with a Fuel Point Reader, you can encode Fuel Point cards. Fuel Point cards enable card entries to be combined with vehicle module data in the same transaction (for example, employee ID from the card and vehicle ID from the vehicle module). The vehicle module must be set up to require the card entry (see the Fuel Point Vehicle Module Programmer Manual).

If the maximum length of the field is programmed in the vehicle module reader entry field, only up to that number of digits will be used from the card regardless of the number of digits encoded on the card (for example, if the reader entry field specifies a maximum of eight digits and the card is encoded with 16, the first eight digits will be recorded).

The site recognizes the card as a Fuel Point format card when four field separators follow the system ID.

The layout for vehicle module additional field cards is **-ssssss----fffccccccccccccccccccc**, where:

- "**-**" is a field separator.
- "**ssssss**" is a four- to six-digit system ID number.
- "**----**" four field separators. These indicate that this is a vehicle module additional field card.
- "**fff**" is the field type where the data on the card should be used. If this field is all zeros, the field to be used is determined by the vehicle module. If the vehicle module field type and the card field type are both zero, the transaction will be aborted.
- "**ccccccccccccccccccc**" is up to 19 digits of field data that will be recorded in the field type specified. The actual length of this field depends on the site configuration and the field being used.

Access Card Format

Access format cards are used with either Site Controller II or III systems that use the Attendant Card Handler. These cards are used to record the full serve attendant number of the transaction in the disk journal file (refer to Attendant Special Card Handler Manual C35934). The site recognizes the card as an Access card when there is a one-field separator before the system ID and an A follows the system ID.

The layout for Access cards is **-ssssssAccccccccccccccccccc-yymmllaapprr**, where:

- "**-**" is a field separator.
- "**ssssss**" is a two- to six-digit system ID number.
- "**A**" after the system ID indicates that this is an Access card.
- "**ccccccccccccccccccc**" contains up to 19 digits of account information. This entire area can be used for a string of information up to 19 digits; or can be split into sub-fields, the total of which cannot exceed 19 digits. For example, if you use 19 digits for card number, you cannot define any other field. The last two digits of this field will be the attendant number recorded in the disk journal file. Usually this 19-digit area is broken down as follows:
  - The first field is a four- to six-digit card number.
  - Fields after the first field are broken down into vehicle, employee, account number, department, or any other specification provided when you ordered for the system.
- "**yymmllaapprr**" contains optional information
- "**-**" is a field separator.
- "**yymm**" is a four-digit expiration date with **yy** being the two-digit year and **mm** being the two-digit month. This field could also use only two digits (**yy**).
- "**ll**" is a 0 or, a one or two-digit limitation code.
- "**aa**" is a 0 or, a one or two-digit authorization code.
- "**pp**" is a 0 or, a one or two-digit price level. This field is ignored on the Access card when using the Attendant Card Handler.
- "**rr**" is a 0 or, a one or two-digit restriction code. Depending on its value, the dollar amount, odometer, vehicle number, PIN, or a combination of these must be entered by the cardholder.

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5 – Encoding Mag Cards

There are several options available for encoding cards. You can encode cards yourself, have them encoded for you by Gasboy, or send them to a card encoding company. In any case, you must fill in a Card Encoding Form to guide you. A customized Card Encoding Form and your card layout is attached to this manual. Photocopy this form to list all your cards for encoding. Save the original for future requirements.

Encoding your Mag Stripe Cards

Encoding your own Mag Stripe cards requires a device capable of encoding ABA Track II. If desired, you can purchase the following Gasboy products to encode your own cards:
- MCE 300 Mag Card Encoder (P/N C05911) or MCE 300HE High Energy Mag Card Encoder (P/N C06187) and data terminal (if desired).
- PC/MCE Interface Package (PCS010), a software program that lets you operate the Mag Card Encoder through a Personal Computer (PC).

To encode cards, complete the Card Encoding Form and then follow the instructions provided with your Mag Card Encoder.

Ordering Encoded Cards from Gasboy

You can order encoded cards through your Gasboy distributor. Complete the Card Encoding Form and give it to your distributor to be included with the card encoding order. Ensure that the order information section of the form is also completed. Consult your Gasboy distributor for available card colors. Card encoding orders with insufficient information will be returned for correction. For queries, contact your Gasboy distributor.

Card Encoding Form

The Card Encoding Form is provided to organize your standard card data for encoding. To fill out this form, you will need the following information:
- Your system ID number (on your customized card encoding form)
- Your limitation code table (see "Limitation Code Field" on page 9)
- Your authorization code table (see "Authorization Code Field" on page 11)
- Your price level table (see "Price Level Field" on page 13)
- Your restriction code table (see "Restriction Code Field" on page 14)

If you are encoding Manual Entry format cards, you will also need to reference the manual entry digits table (see "Manual Entry Card Format" on page 22). Special format cards (Code, Supervisor, Manual Entry, Fuel Delivery, Dipstick, Fueler ID, and Fuel Point) have different layout requirements. See "Card Formats" on page 17 for details.

Filling Out the Card Encoding Form

To fill out the Card Encoding Form, proceed as follows:

1 Make a photocopy of the Card Encoding Form. Make several copies if you are defining multiple types of cards. Retain the original Card Encoding Form.

2 Fill out the information at the top of the form (**System Owner**, **Bill To**, and **Ship To**). **Customer PO #** is for your use in assigning an internal purchase order number.

3 At **Card Color:** indicate the color of the card that you want.
Note: Consult your Gasboy distributor for a list of available colors.

4 At **Emboss Fields:** indicate the fields or reference information that need to be embossed.

5 At **Card Type:** fill in the type of card you are encoding by choosing one of the following designations: SINGLE, DUAL (DRIVER, VEHICLE, and so on), MANUAL ENTRY, SUPERVISOR.
Note: If you are providing data for dual cards, use a separate sheet for each card type (for example, one for DRIVER card and one for VEHICLE card). Do not list dual cards on the same sheet one after the other. Special format cards have different layout requirements. See,"Card Formats" on page 17 for details.

6   Fill in the data for each field. You must define the data for every field represented on your card layout. Do not leave blank spaces. The # **Digits/Field** line implies the numbers that need to go in each field. The first column is provided to write reference information (for example, employee name, account name, and so on). This column of information is not encoded on the card but may be embossed on the card. Ensure that you use the format **YYMM** (for example, 9712) for the **EXP Date** field.

Note: When completing the form for a dual card, ensure that you indicate the field separators as applicable, in the fields that are not encoded on that card.

The following two pages show a sample Mag Card layout and a sample Mag Card Encoding Form for a standard configuration. The card layout and Card Encoding Form is attached to the back of this manual. The field names and layout may differ from the samples, depending on your configuration. Photocopy the form as needed before you begin to list your card data.

A blank form is also provided in this section for your use in defining special format cards (Fuel Delivery, Dipstick, Totalizer, Fueler ID, Fuel Point, and Access). To complete the blank form, fill in the information at the top of the page and then, follow Steps 2 and 3 above. Use the customized card layout to fill in the field headings in the blank areas at the top of the columns. Then, fill in your data.

CFN Mag Card Layout

The following depicts the CFN Mag Card layout:

Single Card

FIELD NAME	FS	SYSTEM ID	FS	CARD	DRIVER	VEH	Not Used	Not Used	FS	EXP Date	Limit Code	Auth. Code	Price Code	Rest. Code
# Digits/Field	1	9999	1	4	4	4	0	0	1	4	1	1	1	1
Single Card	-	9999	-	xxxx	xxxx	xxxx			-	YYMM	x	x	x	x

Dual Card

FIELD NAME	FS	SYSTEM ID	FS	CARD	DRIVER	VEH	Not Used	Not Used	FS	EXP Date	Limit Code	Auth. Code	Price Code	Rest. Code
# Digits/Field	2	9999	1	4	4	4	0	0	1	4	1	1	1	1
Dual Card #1/Driver	- -	9999	--	xxxx	xxxx	----			-	YYMM	-	-	-	-
Dual Card #2/Vehicle	- -	9999	--	----	----	xxxx			-	----	x	x	x	x

Manual Entry Card (Site Controller I only)

FIELD NAME	FS	SYSTEM ID	FS	CARD	DRIVER	VEH	Not Used	Not Used	FS	EXP Date	no entries required	no entries required	no entries required
# Digits/Field	1	9999	3	4	4	4	0	0	1	4	0	0	0
Manual Entry Format	-	9999	---	xxxx	xxxx	xxxx			-	YYMM			

Fuel Delivery/Dropoff Card

FIELD NAME	FS	SYSTEM ID	FS	CARD	DRIVER	VEH	Not Used	Not Used	FS	EXP Date
# Digits/Field	1	9999	2	4	4	4	0	0	1	4
Fuel Delivery Format	-	9999	--	xxxx	xxxx	xxxx			-	YYMM

Supervisor Card
Use Single Card layout, inserting A's or E's instead of numbers in the ID fields need to be manually entered.

Dipstick Card (Site Controller II/III only)

FIELD NAME	FS	SYSTEM ID	FS	CARD	DRIVER	VEH	Not Used	Not Used	FS	EXP Date	Dipstick Code
# Digits/Field	1	9999	1	0	0	0	0	0	1	4	1
Dipstick Format	-	9999	-	xxxx	xxxx	xxxx			-	YYMM	1, 3 or 4

Totalizer Card (Site Controller II/III only)

FIELD NAME	FS	SYSTEM ID	FS	CARD	DRIVER	VEH	Not Used	Not Used	FS	EXP Date	Totalizer
# Digits/Field	1	9999	1	4	4	4	0	0	1	4	1
Totalizer Format	-	9999	-	xxxx	xxxx	xxxx			-	YYMM	5

Fueler ID Card (Site Controller II/III only)

FIELD NAME	FS	SYSTEM ID	FS	Site #	Fueler ID	VEH	Not Used	Not Used	FS	EXP Date	Fueler ID Code
# Digits/Field	1	9999	2	0	0	4	0	0	1	4	1
Fueler ID Format	-	9999	--	0	0	xxxx			-	YYMM	2

Code Card

FIELD NAME	2nd Start Sentinel	SYSTEM ID	Code #
# Digits/Field	1	9999	2-19
Code Card Format	b	9999	

Fuel Point Card Format (for combination VM and card transaction)

FIELD NAME	FS	SYSTEM ID	FS	Field Type	Field Data
# Digits/Field	1	9999	4	3	1-19
Fuel Point Card Format	-	9999	---	xxx	

Access Card (Site Controller II/III w/Attendant Cards Handler)

FIELD NAME	FS	SYSTEM ID	ID	CARD	DRIVER	VEH	Not Used	Not Used	FS	EXP Date	Lim Code	Auth Code	Price Level	Rest. Code
# Digits/Field	1	9999	A	4	4	4	0	0	1	4	2	2	2	2
Access Format	-	9999	A	xxxx	xxxx	xxxx			-	YYMM	xx	xx	xx	xx

CFN Mag Card Encoding Order Form

The following is a sample CFN Mag Card Encoding Order Form:

CFN Mag Card Encoding Order Form

System Owner: Bill To: Ship To:

0 _____

0 _____

0 _____

Cust PO# _____   Card Color: _____   Emboss Fields: _____

Card Type: _____

FIELD NAME	FS	SYSTEM ID	FS	CARD	DRIVER	VEH	Not Used	Not Used	FS	EXP Date	Limit Code	Auth. Code	Price Code	Rest. Code
# Digits/Field	1 or 2	9999	1	4	4	4			1	4	1	1	1	1
Reference	-	9999	-	xxxx	xxxx	xxxx			-	YYMM	x	x	x	x
		9999	-						-					
		9999	-						-					
		9999	-						-					
		9999	-						-					
		9999	-						-					
		9999	-						-					
		9999	-						-					
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		9999	-						-					
		9999	-						-					
		9999	-						-					
		9999	-						-					
		9999	-						-					
		9999	-						-					

Examples:

	FS	SYSTEM ID	FS	CARD	DRIVER	VEH	Not Used	Not Used	FS	EXP Date	Limit Code	Auth. Code	Price Code	Rest. Code
Single Card:	-	9999	-	3947	7195	8675			-	9912	1	5	8	2
Dual Card #1:	--	9999	-	4318	7895	----			-	9912	-	-	-	-
Dual Card #2:	--	9999	-	----	----	8253			-	----	3	6	7	5
Supervisor Card:	-	9999	-	6391	AAAA	EEEE			-	9912	2	3	6	5

CFN Mag Card Encoding Order Form

The following is a blank CFN Mag Card Encoding Order Form:

CFN Mag Card Encoding Order Form

System Owner: _____

Bill To: _____

Ship To: _____

Cust PO# _____

Card Color: _____

Emboss Fields: _____

Card Type: _____

| FIELD NAME	SYSTEM ID											
# Digits/Field												
Reference												

6 – Card Embossing

Cards can be ordered with embossed information such as the account number, card number, and so on, to visibly identify the card. If embossed cards are not ordered, they will be shipped with a temporary identification strip that indicates the card number.

On Mag Stripe cards, any area below one inch from the top of the card that encompasses the mag stripe may be embossed.

An electric card embosser is available from Gasboy (P/N C02220). See the Operator's Guide provided with the embosser, for proper use.

If you are having your cards encoded by Gasboy, you may also specify the information to be embossed by filling in the **EMBOSS FIELDS** section on the Card Encoding Form.
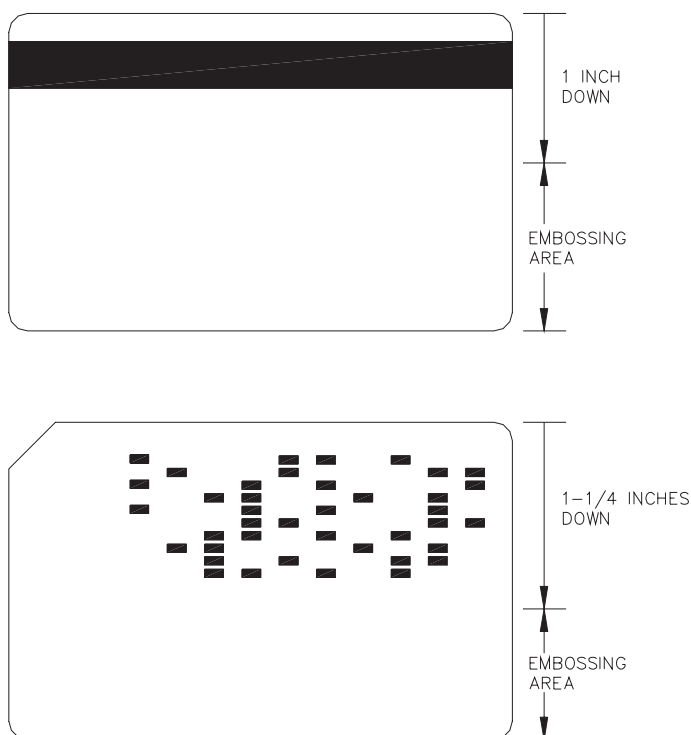
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