GASBOY

™

MCE 300 AND MCE 300 HE

MOTORIZED PROGRAMMABLE

MAG CARD ENCODER

OPERATING INSTRUCTIONS

C01923

GASBOY INTERNATIONAL LLC

GASBOY

MCE 300 and MCE 300HE

MOTORIZED PROGRAMMABLE

MAG CARD ENCODER

OPERATING INSTRUCTIONS

C01923

Rev. 03/07/03

GASBOY INTERNATIONAL LLC   LANSDALE, PA

FCC INFORMATION

Both the US Federal Communications Commission (FCC) and the Canadian Department of Communication (DOC) require specific information be supplied to the users of any equipment which may emit radio frequency energy. Please read the following information.

FCC PART 15

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 device is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed 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.

CONTENTS

Section 1
INTRODUCTION

PURPOSE

This manual has been created to help familiarize you with your GASBOY MCE 300 and MCE 300HE Magnetic Stripe (MAG) Card Encoders. We strongly recommend that you read this manual BEFORE you try to operate your unit. Unless otherwise specified, when this book refers to the MCE 300, it includes both the standard MCE 300 and the MCE 300HE.

OVERVIEW

The GASBOY MCE 300 Motorized Mag Card Encoders provide the flexibility to easily encode and read your own mag cards. New accounts or employees can be added to your system right away. Lost or stolen cards can be replaced without delay. If you have experienced the delays involved in ordering new or replacement cards, you will appreciate the ability to encode your own mag cards.

The GASBOY MCE 300 and MCE 300HE are microprocessor-based units which utilize motorized encoders. The motorized encoder automatically transports the card over the heads for write/read operation. The MCE 300 is a low coercivity* encoder and uses standard low coercivity cards. For applications requiring additional resistance to accidental erasure of data, the MCE 300HE is available. The MCE 300HE is equipped with a high coercivity encoder and requires high coercivity cards.

NOTE: Coercivity relates to the amount of magnetic force needed to write or overwrite data on the magnetic stripe. High coercivity requires more magnetic force than low coercivity.

Operation of either MCE 300 requires an ASCII data terminal (e.g. CRT, terminal printer) for configuring the unit and entering the data to be encoded. GASBOY card system users may use their existing Panasonic or Texas Instrument terminal printer for the data terminal. The data terminal is connected to the MCE 300 through one of two asynchronous communication ports. The second port is for connection of an optional printer.

Through the use of the data terminal you can easily configure the MCE 300 to your specifications. The loading of card data is made easy by the use of automatically loaded standard, incrementing and/or decrementing fields. In many cases, only a few digits of information need to be loaded to encode the entire card thus greatly reducing the time required to encode cards. A battery backed memory saves your configuration and any card data in the file when the unit is turned off.

Standard features of the MCE 300 enable you to encode and read mag cards, print card data, generate PINs (Personal Identification Numbers) used on GASBOY CFN and Series 1000 Systems, and even produce labels that can be affixed to cards for specific identification of that card. The unit also automatically performs a read verification of each card after it is encoded to insure the card was encoded properly. Unauthorized use of the system is prevented by requiring the entry of a security access code before commands can be entered.

Although sophisticated in nature the GASBOY MCE 300 is easy to use. Past card encoding experience is not required to operate the unit. Should problems arise, help is readily available from our toll-free customer service center and authorized service representatives.

Section 2

INSTALLATION

ENVIRONMENTAL REQUIREMENTS

The MCE 300 should be located in a clean office-type environment to insure maximum life of the unit. A dirty environment may cause premature failure of the reader mechanism. Operating requirements are:

10º to 40º C., 20% to 90% Relative Humidity (non-condensing)

The MCE 300 and any of the devices connected to it must not be installed in or over a hazardous location.

POWER REQUIREMENTS

The MCE 300 will plug into any standard 115 VAC wall outlet. The power line should be free from any surges or other electrical interference. Power requirements are:

MCE 300   115 VAC $\pm$ 10%, 47-63 HZ, 30 Watts Maximum
MCE 300HE   115 VAC $\pm$ 10%, 47-63 HZ, 55 Watts Maximum

All wiring must conform with the National Electrical Code (NFPA 70), the Automotive and Marine Service Station Code (NFPA 30A), and State and Local Codes.

RS232 WIRING

Should it become necessary to construct special cables for interfacing a data terminal or printer to the MCE 300, the following information details the pins and signals available on the two ports of the unit (see the following page for standard communication connections).

PIN	FUNCTION	INPUT/OUTPUT
2	RxD	INPUT
3	TxD	OUTPUT
5,6,8	DTR	OUTPUT
7	Ground	-------
20	CD	INPUT

COMMUNICATION CONNECTIONS

The MCE 300 requires the use of a data terminal for operation. The type of data terminal used can vary according to the application and optional printer(s) that may be connected (see Section 3 for data terminal requirements).

1. Data terminal only (e.g. printer terminal).
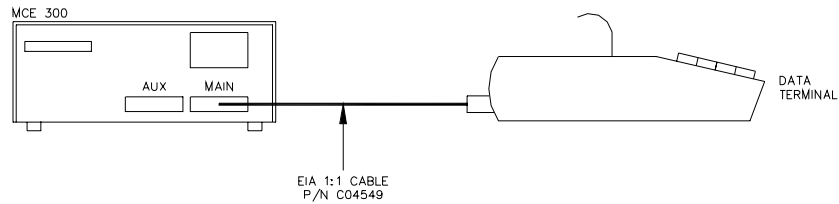
2. Data terminal and 1 optional printer (e.g. CRT terminal and hard copy/label printer, or printer terminal and label printer).
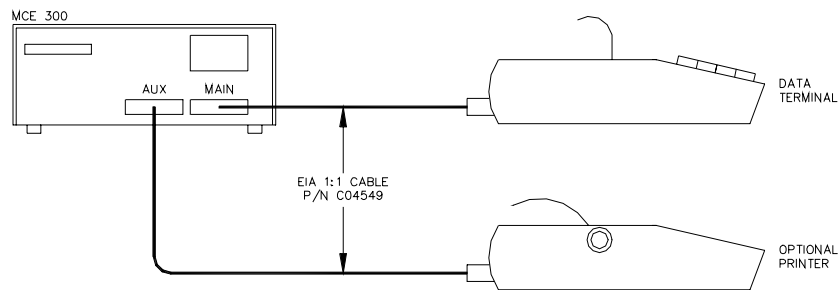
3. Data terminal and 2 optional printers (e.g. CRT terminal, hard copy printer, and label printer).
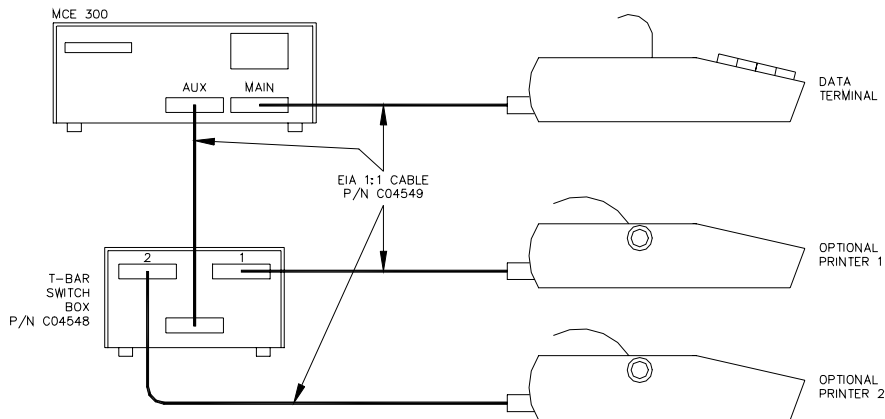
Section 3

COMMUNICATING WITH THE MCE 300

COMMUNICATION PORTS

The GASBOY MCE 300 has two asynchronous communication ports for connecting RS232 devices. The connections should be made by a direct cable. Cable length is limited to 50 feet. Each port has a selectable baud rate of 300, 600, 1200, 2400, 4800, or 9600 baud. (See Section 2 for specific installation connections).

Baud Rate Selection

```
        MAIN
         K1
9600 12 | o  o | 11
4800 10 | o  o | 9        K1 Main Port
2400  8 | o  o | 7        NOTE: Drawing is shown jumpered at 300 baud.
1200  6 | o  o | 5
 600  4 | o  o | 3
 300  2 |█████| 1
```

The MAIN port is used for connection of a data terminal or CRT. All commands to the MCE 300 are processed through this port.

The AUX port is used for connection of an optional printer(s). In cases where a CRT is used in the MAIN port, it may be desired to connect a printer to this port for hard-copy printouts. This port is also used to output the information that is used for printing labels. In cases where both of these printers are required, a GASBOY T-Bar box and the appropriate cables (see Section 2) should be used to allow for switching between the two printers.

DATA TERMINAL/PRINTER(S)

The type of device(s) connected to the MCE 300 for operation and printing can vary according to your application and requirements. The following basic guidelines should be used when selecting a unit(s):

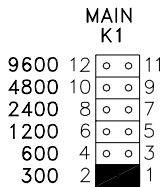- **Data Terminal** - This is used for operation of the system and is connected to the MAIN port. The device must be capable of transmitting and receiving full duplex, ASCII, asynchronous data via an Electric Industry Association (E.I.A.) standard RS232 communication protocol. This device should be U.L. Listed and should not be used over a hazardous location. This device should also be capable of providing a hardcopy printout (not necessary when an optional hardcopy printer is used). Data terminal devices standardly sold with GASBOY Card Systems will work in this application (e.g. T.I. 703, 743, 745, Panasonic KXD4910, KXD4911, KXD4920).

- **Hardcopy Printer** - This is an optional printer used to provide hard-copy printouts. This device would be connected to the AUX port if used. It should be capable of receiving full duplex, ASCII, asynchronous data via an E.I.A. standard RS232 communication protocol. This device should be U.L. listed and should not be used over a hazardous location.

- **Label Printer** - This is an optional printer used to print information onto self-adhesive labels. This device would be connected to the AUX port if used. It should be capable of receiving full duplex, ASCII, asynchronous data via an E.I.A. standard RS232 communication protocol. A tractor feed mechanism will be necessary to move the labels through the printer. Adjustable tractors are preferred over fixed tractors. This device should be U.L. Listed.

NOTE: The same printer can be used for a Hard-copy Printer and a Label Printer should you be willing to switch between paper and labels.

COMMUNICATION PROTOCOL

In some instances where the MCE 300 will not be connected to a standard data terminal or when connecting to a computer, it may be necessary to know the communication protocol of the unit.

There are no special characters transmitted to designate the beginning or end of data blocks. Data is transmitted in the following format:

Serial Bit Format Per Character

1. One Start Bit
2. Eight Data Bits
3. One Stop Bit

Each character is echoed back to the transmitting device (MAIN Port). This checks the integrity and enables a data terminal or CRT to display transmitted data.

SIGN ON

To guard against unauthorized use of your MCE 300, a security access code is required before you can enter commands into the unit. The MCE 300 is shipped with the security access code **GASBOY**. Follow the steps below to gain access to your unit.

NOTE: The security access code is required when the system is turned on or after the "E" (exit communications) command is entered.

To sign on:

1. Turn on the power to your data terminal (on-line mode).

2. Turn on the power to your MCE 300.

    You will be prompted: MCE 300 VX.X
                                 SIGN ON:

3. Enter "GASBOY" and press the carriage return key.

    The system will respond by prompting you with an asterisk (*).

    Example: Sign On

```
MCE 300 V1.0B
SIGN ON:  GASBOY(CR)
*
```

As you are typing the access code, for security, it will not appear on the data terminal. When the correct code has been entered and after the carriage return key has been pressed, the system will respond with an asterisk (*). The asterisk indicates the unit is now ready to receive commands.

If the correct access code was not entered, the unit will prompt you again for the correct access code.

W - CHANGE SECURITY ACCESS CODE

Once you have gained access to the MCE 300 and wish to change the preset access code, "GASBOY", follow the steps below:

To change the access code:

At an asterisk (*) prompt -

1.   Enter the W command

        You will be prompted: ENTER CODE:

2.   Enter your new access code of up to any ten (10) characters (e.g. your name, company name, group of numbers, etc.) and press the carriage return key.

3.   The system will respond with: CODE CHANGED
                                                              *

Example: Change Access Code

```
*W
ENTER CODE:   PASSWORD(CR)
CODE CHANGED
*
```


W COMMAND MESSAGES

CODE CHANGED - The security access code has been successfully changed.

CODE UNCHANGED - The security access code has not been changed because the W command was aborted with a "Control C" character.

LOST OR FORGOTTEN SECURITY ACCESS CODE

If at any time you cannot access the system because of a forgotten access code or system memory failure, you may use the special CODE CARD to change the access code back to "GASBOY". To change the access code in this manner, use the following steps:

1.   Turn on the power to your MCE 300.

2.   Enter the CODE CARD into the reader with the mag stripe down and to the right.

3.   You may now sign on with "GASBOY".

4.   If desired, you can use the W command to reload your own security access code.

E - EXIT COMMAND MODE

If you are currently in the command mode, by entering the E command the system exits the command mode. Access is not allowed to the system until the correct security access code is entered.

To exit the command mode:

At an asterisk (*) prompt -

1. Enter the E command

    You will be prompted : SIGN ON

    The unit will wait for the proper code or the entry of a code card.

Example: Exit Command

```
*E
SIGN ON:
```

Turning off the power to the MCE 300 will also cause the unit to exit the command mode and the security code must be entered when the unit is turned on.

Section 4

MCE 300 COMMANDS

COMMAND STRUCTURE

Once you are in the command mode, you can enter various one letter commands to load, add, change, or print data and operate your unit. All commands use capital letters. Certain keystrokes are used throughout the system to initiate various responses. They are:

CR (Carriage Return) - This is generally used to enter data that has been previously keyed in. When in the L (Load Configuration) command, this is used to accept the information presently loaded (as displayed) or invoke no change when a response is requested.

BSP (Backspace) - This is used to allow re-entry of data prior to the entry of a carriage return. When used in certain commands it can also move you backwards through a file. For keyboards without a BSP key, the same result can be accomplished by pressing the CTRL and H keys at the same time.

CTRL C (Control C) - This is used to stop commands in process. It provides a method of stopping printouts or simply exiting a function. This command can be executed by pressing the CTRL and C keys at the same time.

Throughout the examples to follow, data entered by the operator will be indicated by an underscore.

H - PRINT HELP LIST

This is a list for quick reference of the available system commands.

To print the help list:

At an asterisk (*) prompt -

1. Enter the H command

    If an optional printer is available, you will be prompted:

    SEND TO AUX PRINTER (Y/N)?

2. Entering a "Y" will cause the Help list to be printed on the optional printer (AUX port). Entering an "N" will cause the Help list to be printed on the data terminal (MAIN port).

    The Help List will print.

Example: Help List

```
*H

SEND TO AUX PRINTER (Y/N)?  N

COMMANDS ARE:

B - PRINT LABELS
C - PRINT CONFIGURATION
D - LOAD CARD DATA FILE
E - EXIT COMMAND MODE
H - PRINT HELP COMMAND
L - LOAD CONFIGURATION
M - ENCODE CARDS - RAW DATA MODE
N - READ CARDS - RAW DATA MODE
P - PRINT CARD DATA FILE
R - READ CARDS - CONFIGURATION MODE
S - ENCODE CARDS - CONFIGURATION MODE
T - PRINT CARD TOTALS
W - CHANGE PASSWORD
X - DIAGNOSTICS
  TEST 1 - RAM TEST
  TEST 2 - ROM TEST
  TEST 3 - DIP SWITCH TEST
*
```

H COMMAND MESSAGES

NO PRINTER ON LINE! - The unit was unable to print on the optional printer as requested because the printer was not in the on-line mode. The H command was automatically aborted.

T - PRINT CARD TOTALS

This command is used to monitor operation of the MCE 300. There are three totals maintained. They are:

TOTAL PASSES THROUGH THE READER - This is used for maintenance of the unit. It will give you the number of times a card has passed over the heads of the reader for encoding or reading. This counter will increment by two for cards that are encoded, and by one for cards that are read. This counter must be reset at the factory.

TOTAL CARDS ENCODED - This provides an additional security feature for the unit. Each time a card is encoded by the MCE 300, the count will increment by one. If this count is printed at the end of a card encoding session and rechecked prior to the next session, you can tell if any cards were encoded during the interim. This counter must be reset at the factory.

TOTAL CARDS IN DATA FILE - This provides a count of the number of cards presently stored in the card data file. This count is incremented by one for each card added to the file and decremented by one for each card deleted from the file. When the card data file is reset, this count is also reset to zero.

To print card totals:

At an asterisk (*) prompt

1. Enter the T command

    If an optional printer is available, you will be prompted:

    SEND TO AUX PRINTER (Y/N)?

2. Entering a "Y" will cause the card totals to be printed on the optional printer (AUX port). Entering an "N" will cause the card totals to be printed on the data terminal (MAIN port).

    The unit will respond with the card totals.

Example: Card Totals

```
*T
SEND TO AUX PRINTER (Y/N)? N
TOTAL PASSES THROUGH READER:            000035
TOTAL CARDS ENCODED:                    000008
TOTAL CARDS IN DATA FILE:                 0011
*
```

T COMMAND MESSAGES

NO PRINTER ON LINE! - The unit was unable to print on the optional printer as requested because the printer was not in the on-line mode. The T command was automatically aborted.

Section 5
CONFIGURATION

OVERVIEW

The MCE 300 can be customized to your specifications through switch settings and the L (Load Configuration) command. The RS232 devices connected to the unit, the card layout, and the features you desire enabled will determine the specific configuration for your unit. The L (Load Configuration) command must be properly loaded to allow use of the D (Load Data), S (Encode Cards), and R (Read Cards) commands. The configuration is not used for the M (Encode Cards - Raw Data) and N (Read Cards - Raw Data) commands.

SWITCH SETTINGS

There are three switch settings used in the configuration of your MCE 300. These switches are located on the Microprocessor PCB located inside your unit. These switch settings are set at the factory as indicated in the chart below. If it is necessary to change these switch settings follow the procedure below.

1. Turn off the power to the MCE 300 and unplug it from the AC outlet.

2. Remove the screws from the top cover of the unit.

3. Remove the top cover.

The switches are designated as SW2 on the PCB. There are eight switches grouped together in one block. These switches control:

SW-2		On or Closed	Off or Open
8	Optional Printer	Available	Not Available *
7	Label Printer	Available	Not Available *
6	Card Exit Mode	Rear	Front *
5-1	Not used		*Factory Setting

4. Change the switches to your desired configuration.

    Optional Printer - An optional hard copy printer is available and connected to the AUX port of the unit.

    Label Printer - An optional label printer is available and connected to the AUX port of the unit.

    Both of these switches should be enabled if:
    - Two separate printers are available
    - One printer is available that will be performing both functions

    Card Exit Mode - This determines where the card will exit from after encoding or reading.

5. Replace the top cover.

6. Replace the screws on the top cover.

    NOTE: The switch settings are read when the unit is turned on. Changing the switch settings while power is on will not change the configuration until power for the unit is cycled (OFF/ON).

SOFTWARE CONFIGURATION

The following sections describe the various configurable features available with the L command. Before using the L command you should familiarize yourself with these various features.

CARD LAYOUT

CHARACTERS ON CARD
This figure represents the number of data characters that are used on the card. This figure should include all numeric characters and field separators. This figure does not include Start, End, or Check Sum characters that are automatically entered by the unit itself. ABA track 2 is limited to 37 data characters.

CARD LAYOUT
The layout of the card which is followed when entering actual card data into the unit. The following characters represent the various functions of the card layout.

B - Start Sentinel
Additional start sentinel. The program automatically inserts the first start sentinel. Additional start sentinels can be inserted using the B key.

0 - 9, A, C, E
Constant character. This character is automatically the same for each card when the card data is loaded. Constant characters are typically used for system-ID or any field that remains the same for each card.

- (hyphen)
Constant field separator. This character is used where a field separator should always appear on the card.

X
Variable Character. This character is used where the actual card data that is loaded varies from one card to the next.

I
First sequential number. A sequential number up to 10-digits long can be indicated on the layout. This can be an incrementing or decrementing number. The beginning number and the increment/decrement status is selected immediately following the loading of the card layout. The unit always keeps track of the last sequential number that was loaded into the card data file. **I** should always be used as the first sequential field.

S
Second sequential number. This is the same as the **I** number except it is a second independent sequential number. **S** should always be used as the second sequential field.

T
Third sequential number. This is the same as the **I** number except it is a third independent sequential number. **T** should always be used as the third sequential field.

Space
The space character is used to separate fields when loading the card layout. This space will also appear when loading data to aid in differentiating between the various card fields. This character is encoded on the card nor does it count towards the total character count.

SEQUENTIAL NUMBERS
The unit automatically prompts you for any sequential numbers that were loaded in the card layout (**I**, **S**, or **T**). You will need to enter a beginning number and whether the number should increment or decrement.

PIN LAYOUT

Your MCE 300 can calculate and print PINs (Personal Identification Numbers) used on GASBOY CFN and Series 1000 Systems. PINs can be printed during the P (Print data) and R (Read data) commands. PINs can be calculated only against numeric data on the card. You cannot calculate a PIN against **A**, **C**, **E**, or a field separator. If PINs are desired, the following data must be loaded.

PIN LAYOUT
>   The PIN layout is used to determine which card characters are used for calculation of the PIN.

>   **P**
>   Calculation character. Indicates the associated card layout character is used for the PIN calculation. Only numeric characters should be indicated for the PIN calculation. No more than 20 characters can be designated for PIN calculation.

>   **X**
>   Non-calculation character. Indicates the associated card layout character is not used for the PIN calculation.

>   **PIN KEY**
>   The PIN key for your site should be loaded for proper PIN calculation.

>   *NOTE: PINs will not be printed for cards where a READ ERROR has occurred.*

LABEL LAYOUT

The MCE 300, when used with an optional tractor feed printer, can print information onto self-adhesive labels which can be affixed to cards for identification purposes. Up to two rows of 26 characters can be printed on each label. Labels can contain constant information which appears the same on each label (e.g. Company Name, CARD, VEHICLE, etc.) and variable numeric data which is obtained from the card data file and used for unique identification (e.g. card number, vehicle number, etc.). Switch 7 on the microprocessor PCB must be in the ON or CLOSED position to enable the label feature. If labels are desired, the following information must be loaded:

LABEL LAYOUT
The label layout is used to determine which card characters should be transferred to the label.

1-9
Transfer character. The associated card layout character should be transferred to the label. It is recommended that a set of numbers be used for each field that is to be transferred to the label (e.g., Four 1's may be used to identify a four digit card number that is to be transferred to the label).

X
Non-transfer character. The associated card layout character should not be transferred to the label.

FORMAT
The format determines the arrangement of the constant and transfer characters. A label can contain a maximum of two lines of 26 characters; however, this may need to be shortened to accommodate some printers that do not have adjustable left margins or adjustable tractors.

1-9
Transfer character. Numeric characters are used to transfer data from the card data file to the label. When loading the format you should indicate the location of the character to be transferred. The same number and type of transfer characters that appear on the label layout should appear in the format.

A-Z, Punctuation
Constant character. Alpha characters and punctuation can be used on each label. Numeric characters may not be used as constant characters.

CARDS PER LINE

The number of cards per line that will appear in the P (print card data) command can be loaded. This is useful when it is desired to print more than 50 cards per page (the P command prints 50 lines per page). The unit is capable of printing from one to nine cards per line; however, you should not set the unit to print more cards than will fit on one line.

RESET CARD DATA FILE

The opportunity to reset the card data file is provided at the end of the L (Load Configuration) command. It is recommended that the file be reset when changes have been made to the configuration that will affect the data in the file. Reset of the card data file will eliminate any card data previously loaded into the file. This will also reset the "TOTAL CARDS IN DATA FILE" count to zero. If a reset is requested, you will be prompted to verify the file should be reset.

  Y - Reset the card data file and verify the file should be reset.

  N - Do not reset the card data file or cancel the request during the verification sequence.

L - LOAD CONFIGURATION

This command is used to configure the MCE 300 software to your specifications. The configuration is stored in battery-backed memory so it will not be lost when power to the unit is turned off. In most cases your specifications will not change; therefore, the configuration should only need to be loaded when the unit is used for the first time. In cases where encoding for a dual card layout is necessary, minor changes to the configuration may be necessary for the encoding of employee or vehicle cards.

You should have a copy of your card layout by the unit when loading the configuration. It will also be necessary to know how cards will be encoded, that is what type of number sequences will be used, etc.

When loading the configuration, the unit may in some cases print the data loaded for a particular field and request if a change is to be made, or require that the data be loaded. This is contingent upon changes that have been made earlier in the configuration. Anytime the present data is acceptable, you may simply press the carriage return key (CR) to accept the data presently loaded. The type of responses in the following text and examples will assume we are totally reloading the configuration.

The next page shows samples of Series 1000 and CFN card layouts. The following pages show a step-by-step loading of the configuration along with an example. The sample configuration was loaded as a single card layout.

Example: Card Layouts

The following two layouts are examples of typical Series 1000 and CFN card layouts. The single card portion of these layouts is shown for simplicity. The configuration load example on the next page matches both of these layouts.

Series 1000 - The PIN (when used) for Series 1000 Systems is always calculated against the 4 digit card number.

CFN - The PIN (when used) for CFN Systems is always calculated against numbers in the account field. The account field begins immediately after the field separator which follows the system I.D. and continues until the next field separator. The PIN is calculated against the quantity of numbers in this field as indicated in "TOTAL # OF DIGITS FOR PIN CALC." The PIN calculation always begins against the first number of the account field.

To load the configuration:

1. At the ∗ prompt, type L. The system displays:

    ENTER NO. OF CHARACTERS ON CARD (DATA CHARACTERS ONLY): XX |
    (**XX** *indicates the number of characters presently loaded).*

2. Type the number of characters desired and press RETURN. The unit responds:

    ENTER CARD LAYOUT
    CARD

3. Enter the card layout and press RETURN. The unit prompts for any incrementing/decrementing numbers.

4. Type the starting number and press RETURN. Then, at the incrementing/decrementing prompt, type **I** for incrementing or **D** for decrementing and press RETURN. The unit prompts for any other incrementing/decrementing fields and then prompts:

    WILL PIN NUMBERS BE NEEDED (Y/N)? X | (**X** *indicates the present status)*

5. Type **Y** for yes or **N** for no. If **Y** is entered, the unit prints the present card outline and prompts you for the PIN outline.

6. Enter the PIN outline and press RETURN. The unit prompts:

    PIN KEY: XXXX | (**XXXX** *indicates the present PIN key)*

7. Type the PIN key and press RETURN. The unit prompts:

    WILL LABELS BE PRINTED (Y/N)? X | (**X** *indicates the present status)*

8. Type **Y** for yes or **N** for no. If **Y** is entered, the unit prints the present card outline and prompts you for the label outline.

9. Type the label outline and press RETURN. The unit prompts you for the label format.

10. Type the first line of label format and press RETURN. Then type the second line of label format and press RETURN. The unit prompts:

    CARDS PER LINE ON PRINTOUT = X | (**X** *indicates the present number loaded).*

11. Type the number of cards per line and press RETURN. The unit prompts:

    CUSTOMER NAME ON PRINTOUT (Y/N)? X | (**X** *indicates present status).*

12. Type **Y** for yes or **N** for no. If **Y** is entered, the unit prompts: **ENTER NAME:**

13. Type a name (up to 30 characters) and press RETURN. The unit prompts:

    RESET CARD DATA FILE (Y/N)?

14. Type **Y** for yes or **N** for no. If **Y** is entered, the unit responds: **ARE YOU SURE (Y/N)?**

15. Type **Y** for yes or **N** for no. If **Y** is entered, the card data file is cleared. The unit responds:

    CARD DATA FILE CLEARED
    CONFIGURATION COMPLETE
    ∗

Example: Configuration Load

Steps
1-4
	`*L`
	
	`ENTER NO. OF CHARACTERS ON CARD (DATA CHARACTERS ONLY):  10 │ 26(CR)`
	
	`ENTER CARD LAYOUT`
	`CARD   - 9999 - IIII SSSS TTTT - 9012 X X X(CR)`
	`LOAD I SEQUENTIAL BEGINNING NUMBER 0001(CR)`
	`INCREMENT OR DECREMENT (I/D)  I(CR)`
	`LOAD S SEQUENTIAL BEGINNING NUMBER:  5001(CR)`
	`INCREMENT OR DECREMENT (I/D)  I(CR)`
	`LOAD T SEQUENTIAL BEGINNING NUMBER:  9999(CR)`
	`INCREMENT OR DECREMENT (I/D)?  D(CR)`

Steps
5-7
	`WILL PIN NUMBERS BE NEEDED (Y/N)?  N │ Y`
	
	`CARD  - 9999 - IIII SSSS TTTT - 9012 X X X`
	`PIN   X XXXX X PPPP XXXX XXXX X XXXX X X X`
	
	`PIN KEY:  9876 │ 1234(CR)`

Steps
8-10
	`WILL LABELS BE PRINTED (Y/N)?  N │ Y`
	
	`CARD  - 9999 - IIII SSSS TTTT - 9012 X X X`
	`LABEL X XXXX X 1111 2222 3333 X XXXX X X X(CR)`
	
	`LABEL FORMAT:`
	`************************`
	`GASBOY PUMPS, LANSDALE PA.(CR)`
	`CARD 1111 EMP 2222 V 3333(CR)`
	`************************`

Step 11	`CARDS PER LINE ON PRINTOUT = 1  │  1(CR)`
Steps 12-13	`CUSTOMER NAME ON PRINTOUT (Y/N)?  N │ Y` `ENTER NAME:  GASBOY PUMPS(CR)`

Steps
14-15
	`RESET CARD DATA FILE (Y/N)?  Y`
	`ARE YOU SURE (Y/N)?  Y`
	`CARD DATA FILE CLEARED`
	
	`CONFIGURATION COMPLETE`
	`*`

L COMMAND MESSAGES

CONFIGURATION COMPLETE
The configuration was completely loaded.

CONFIGURATION NOT COMPLETE!
The configuration was not completely loaded because the L command was aborted with a "Control C" character.

C - PRINT CONFIGURATION

This command is used to view the present configuration. In cases where an optional printer is present, you will have the option of having the configuration print on the optional printer or the data terminal.

To print the configuration:

1.   At the **∗** prompt, type **C**.

       If an optional printer is available, you are prompted:

       SEND TO AUX PRINTER (Y/N)?

2.   Type **Y** to print the configuration data on the optional printer (AUX port).

       Type **N** to print the configuration on the data terminal (MAIN port).

       The unit responds by printing the present configuration.

Example: Configuration Printout

```
*C
SEND TO AUX PRINTER (Y/N)?  N


GASBOY PUMPS


CHARACTER COUNT:  26


CARD  - 9999 - IIII SSSS TTTT - 9012 X X X
PIN   X XXXX X PPPP XXXX XXXX X XXXX X X X
LABEL X XXXX X 1111 2222 3333 X XXXX X X X

I INCREMENTING NUMBER:  0012
S INCREMENTING NUMBER:  5012
T DECREMENTING NUMBER:  9988


PIN KEY:  1234


*************************
GASBOY PUMPS, LANSDALE PA.
CARD 1111 EMP 2222 V 3333
*************************


CARDS PER LINE ON PRINTOUT = 1


CARD FILE HAS DATA
*
```

C COMMAND MESSAGES

CARD FILE HAS DATA
There is data loaded in the card file.

NO DATA IN CARD FILE
There is no data loaded in the card file.

NO PRINTER ON LINE!
The unit was unable to print on the optional printer as requested because the printer was not in the on-line mode. The **C** command was automatically aborted.

Section 6

CARD DATA FILE

OVERVIEW

The card data file is used for storage of the actual card data that will be used for encoding cards, printing card data, or generating PIN (Personal Identification Number) lists. The card data file resides in battery-backed memory which means that it is not lost when the power to the file is turned off. The number of cards that can be stored in the memory at one time is contingent upon the number of data characters that are in the card. To calculate the number of cards your data file can hold using your card configuration, use the following formula:

1. Insert the number of data characters loaded in the configuration.

2. Add 1 to create the total character sum.

3. Divide 6016 by the total characters to determine the total cards that can be loaded into the file.

```
        ____   Card Data Characters
    + 1     add one
    =____   Total Characters

      6016  Data Space
    ÷____   Total Characters
    =____   Total Cards in File
```

Attempting to load more cards into the file than it is capable of holding will cause the error message CARD FILE IS FULL to appear.

It is important to make sure the Configuration of the unit is properly loaded prior to entering card data. The configuration of the unit determines the parameters by which the card data is loaded.

D - LOAD CARD DATA FILE

This command is used to input the actual card data into the card data file.

The option to reset the card data file appears at the beginning of the command. You should clear the card data file if you no longer need the data in the file. Reset of the card data file eliminates any previously loaded card data. It also resets the TOTAL CARDS IN DATA FILE count to zero. When you request a reset, you are prompted to verify that the file should be reset.

Typing Y at the reset prompt will reset the card data file after requesting verification that the file should be reset; typing N at the reset prompt does not reset the card data file. Typing N at the verification prompt cancels the request.

The data that is required for entry of each card depends upon what was loaded in the configuration. Four types of characters are involved with loading card data. They are:

Constant Characters
     Characters that are automatically printed for each card. They will be the same on every card.

Incrementing/Decrementing Numbers
     Characters that are automatically printed for each card. They automatically increment or decrement for each card.

Variable Characters
     Characters that vary for each card and are loaded at the time of card data entry.

Spaces
     Separate fields. The location of these spaces is determined by the configuration; they print automatically.

When loading Variable Characters, the unit accepts a numeric character from **0-9**, an **A**, **C**, or **E**, and a **-** (hyphen) for a field separator. When the last character of data for a particular card is loaded, the unit will not accept any more data but waits for one of these three responses:

CR (Carriage Return)
     Indicates the data displayed is correct and should be entered into the card data file. Upon the entry of a CR, the card data is saved, the CARDS IN DATA FILE count is incremented by 1, and the unit prepares for the entry of data for the next card. Any incrementing or decrementing numbers are updated at this time.

BSP (Backspace)
     Indicates the data displayed is incorrect and should not be entered into the card data file. Upon entry of a BSP, the data entered for the card is ignored and the unit prints DELETE and awaits the next response. If a CR is entered as the next response the unit prepares for entry of the next card. All incrementing and/or decrementing numbers remain sequential, that is, there will be no missing numbers due to the entry of a BSP. If a BSP is entered as the next response, the unit prints the data from the previously loaded card, prints DELETE behind it and awaits the next response. This data for this card is erased from the card data file and the CARDS IN DATA FILE count is decremented by one. You can also use the BSP until the beginning of the card data file is reached, at which time the unit will respond NO DATA IN CARD FILE. You can also enter a BSP before all data for a card is loaded. On data terminals without a BSP key, press CTRL H for backspace.

CTRL C (control C)
Indicates that no more cards need to be loaded into the card data file and that the D command should be terminated. Do not enter a CTRL C until all cards that should be in the card data file are properly entered with a CR. The entry of a CTRL C prior to a CR will cause the present line of card data not to be entered into the card data file.

To load the data:

1.   At the **∗** prompt, type **D.** The unit prompts:

      RESET CARD DATA FILE (Y/N)?

2.   Type **Y** for yes or **N** for no.

      If **Y** is entered, the unit responds: **ARE YOU SURE (Y/N)?**

3.   Type **Y** for yes or **N** for no.

      If **Y** is entered, the unit responds:

      CARD DATA FILE CLEARED
      ENTER CARDS

4.   Type the card data for each card and press RETURN.   Any constant or incrementing/decrementing numbers are automatically printed.

5.   Terminate the loading of data with a CTRL C.

Example: Load Data

```
*D

RESET CARD DATA FILE (Y/N)  Y
ARE YOU SURE (Y/N)>  Y
CARD DATA FILE CLEARED
ENTER CARDS

- 9999 - 0001 5001 9999 - 9012 1 1 2(CR)
- 9999 - 0002 5002 9998 - 9012 1 1 2(CR)
- 9999 - 0003 5003 9997 - 9012 1 2 2(CR)
- 9999 - 0004 5004 9996 - 9012 2 2 3(CR)
- 9999 - 0005 5005 9995 - 9012 2 4 3(CR)
- 9999 - 0006 5006 9994 - 9012 1 2 3(CR)
- 9999 - 0007 5007 9993 - 9012 1 1 1(CR)
- 9999 - 0008 5008 9992 - 9012 1 2 2(CR)
- 9999 - 0009 5009 9991 - 9012 2 3 0(CR)
- 9999 - 0010 5010 9990 - 9012 4 5 2(CR)
- 9999 - 0011 5011 9989 - 9012 1 0 1(CR)
- 9999 - 0012 5012 9988 - 9012 (CTRL C)
*
```

D COMMAND MESSAGES

CARD FILE IS FULL!
>   The card file is full and will not accept any more entries. The card file must be reset to allow for the entry of more data. The D command was automatically aborted.

NO DATA IN CARD FILE
>   The unit was unable to respond to a "Backspace" character and move back in the file because there is no data loaded in the file. The unit will remain in the D command and await the entry of data.

P - PRINT CARD DATA FILE

This command is used to print contents of the card data file. The printout will be formatted with 50 lines per page with each page numbered. The number of cards per line is determined by the configuration. Each P command printout will begin with Page 1. If a customer name is loaded into the configuration, it will be printed at the top of each page.

This command is also used to generate PIN's (personal identification number) for all cards in the data file when PIN is selected in the configuration.

In cases where an optional printer is present, you will have the option of having the data print on the optional printer instead of the data terminal.

To print card data:

1.   At the * prompt, type **P.**

      If an optional printer is available, you are prompted:

      SEND TO AUX PRINTER (Y/N)?

2.   Typing **Y** prints the card data file on the optional printer (AUX port).

      Typing **N** prints the card data file on the data terminal (MAIN port).

      The unit responds by printing all of the cards in the card data file.

Example: Print Card Data File.

```
*P
SEND TO AUX PRINTER (Y/N)?  N

GASBOY PUMPS
PAGE NO.  1


- 9999 - 0001 5001 9999 - 9012 1 1 2 PIN 6339
- 9999 - 0002 5002 9998 - 9012 1 1 2 PIN 8716
- 9999 - 0003 5003 9997 - 9012 1 2 2 PIN 0193
- 9999 - 0004 5004 9996 - 9012 2 2 3 PIN 2570
- 9999 - 0005 5005 9995 - 9012 2 4 3 PIN 4957
- 9999 - 0006 5006 9994 - 9012 1 2 3 PIN 6334
- 9999 - 0007 5007 9993 - 9012 1 1 1 PIN 8711
- 9999 - 0008 5008 9992 - 9012 1 2 2 PIN 0198
- 9999 - 0009 5009 9991 - 9012 2 3 0 PIN 2575
- 9999 - 0010 5010 9990 - 9012 4 5 2 PIN 6349
- 9999 - 0011 5011 9989 - 9012 1 0 1 PIN 8726
*
```

P COMMAND MESSAGES

CARD DATA ERROR! - RELOAD UNIT
>   The data in the card data file does not match the unit's configuration. The P command was automatically aborted. Check the unit's configuration, reset and reload the card data file.

NO PRINTER ON LINE!
>   The unit was unable to print on the optional printer as requested because the printer was not in the on-line mode. The P command was automatically aborted.

Section 7

ENCODE CARD DATA

OVERVIEW

The MCE 300 is capable of encoding data on ABA Track 2 of Mag Stripe Cards. There are two methods available for encoding data onto cards. They are:

S - ENCODE CARD DATA - CONFIGURATION MODE

This command utilizes the loaded configuration of the unit. Beofre encoding data, you must configure the unit to your specifications (See Section 5) and load the card data file (See Section 6). The motorized reader of the unit will automatically transport the card over the heads for encoding, reposition the card for a read verification, transport the card over the heads for a read verification, and send the card either out the front or rear of the reader according to the configuration of the unit. Every time a card is encoded the TOTAL PASSES THROUGH READER count increments by two (one for encoding, one for verification) and the TOTAL CARDS ENCODED count will increment by one.

M - ENCODE CARD DATA - RAW MODE

This command is used for encoding card data when you wish to ignore the present configuration or the data loaded in the card data file. The unit will allow the entry of card data and permit the immediate encoding of that data. None of the automatic features loaded in the configuration are used. As in the S command, the motorized reader of the unit will automatically transport the card over the heads for encoding, reposition the card for a read verification, transport the card over the heads for a read verification, and send the card either out the front or rear of the reader according to the configuration of the unit. Every time a card is encoded the TOTAL PASSES THROUGH READER count increments by two (one for encoding, one for verification) and the TOTAL CARDS ENCODED count will increment by one.

NOTE: While encoding cards, if a card becomes stuck in the reader, turn off the unit immediately! Failure to turn off the unit may result in damage to the reader mechanism. After a few seconds, turn the unit back on; the card should be immediately ejected out the front of the reader. If the card does not eject from the reader, turn off the unit again and have the unit serviced to physically remove the card.

S - ENCODE CARD DATA - CONFIGURATION MODE

This command is used to encode the previously loaded card data onto the card. There are two modes of operation within the configuration mode for encoding cards.

AUTOMATIC MODE
In this mode the unit encodes one card per line of card data loaded in the card data file. All cards in the data file will be sequentially prompted for encoding starting with the first card in the card data file. Once the S command is started in this mode, you simply need to feed cards into the reader and watch the data terminal for the read verification response. A CTRL C will terminate the S command.

MANUAL MODE
In this mode the unit allows you to move about throughout the card data file and encode more than one card per line of card data loaded in the card data file. When in this mode, the unit prompts you with a line of card data and awaits a response. There are five possible responses:

CR (Carriage Return)
Encode the card and move on to the next card. When the CR key is pressed, the unit responds ENCODE and waits for the card that is to be encoded to be inserted into the reader. After encoding and verifying the card, the unit prompts you with the next card in the data file and await a response.

A
Encode the card and redisplay it for encoding again. When the A key is pressed, the unit responds AGAIN and waits for the card to be encoded to be inserted into the reader. After encoding and verifying the card, the unit prompts you with the same card in the data file and await a response.

LF (Line Feed)
Skip this card and move to the next card. When the LF key is pressed, the unit responds SKIP, prompts you with the next card in the data file and awaits a response. For keypads without a LF key, press CTRL J.

BSP - (Backspace)
Ignore this card and back up one card. When the BSP key is pressed, the unit responds BACK, prompts you with the previous card in the data file, and awaits a response.

CTRL C (Control C)
Terminates the S command immediately.

READ VERIFICATION
Each card is automatically verified after encoding. The unit verifies that the data sent to the card matches what was encoded on the card by performing a read of the card. There are two possible responses from the unit:

OK
The data on the card matches the data in the file. The unit moves on to the next card.

READ ERROR
The data on the card does not match the data in the file. The unit beeps and prompts you with the same line of card data for re-encoding.

NOTE: *When the unit is configured for cards to exit the rear of the reader it is possible to feed cards too quickly into the reader. Do not enter a new card into the reader until the present card exits the reader and the reader shuts off. If a card is entered prematurely, it is not encoded and is automatically returned out the front of the reader.*

To encode cards (automatic mode):

1. At the ***** prompt, type **S**. The unit prompts:

    AUTOMATIC MODE (Y/N)?

2. Type **Y** for yes.

    The unit prints the first card in the data file and waits for you to enter a card into the reader.

3. Insert a card into the reader (stripe down and to the right).

    The unit encodes the card, checks the encoding, and prints the results of the check. It then repeats the process for the next card.

4. Continue to feed cards until all are encoded or until you terminate the command with a CTRL C. If all cards have been encoded, the unit responds: **LAST CARD IN FILE**.

Example: Encode Cards (automatic mode)

```
*S
AUTOMATIC MODE (Y/N)  Y
- 9999 - 0001 5001 9999 - 9012 1 1 2 OK
- 9999 - 0002 5002 9998 - 9012 1 1 2 OK
- 9999 - 0003 5003 9997 - 9012 1 2 2 OK
- 9999 - 0004 5004 9996 - 9012 2 2 3 OK
- 9999 - 0005 5005 9995 - 9012 2 4 3 OK
- 9999 - 0006 5006 9994 - 9012 1 2 3 OK
- 9999 - 0007 5007 9993 - 9012 1 1 1 READ ERROR
- 9999 - 0007 5007 9993 - 9012 1 1 1 OK
- 9999 - 0008 5008 9992 - 9012 1 1 1 OK
- 9999 - 0009 5009 9991 - 9012 2 3 0 OK
- 9999 - 0010 5010 9990 - 9012 4 5 2 OK
- 9999 - 0011 5011 9989 - 9012 1 0 1 OK


LAST CARD IN FILE
*
```

To encode cards (non-automatic mode):

1. At the ***** prompt, type **S**. The unit prompts:

    AUTOMATIC MODE (Y/N)?

2. Type **N** for no. The unit prints the first card in the data file and waits for a response.

    Carriage Return   - Encode the card.
    Line Feed   - Skip this card and move to the next.
    A   - Encode the card and repeat with the same card.
    Backspace   - Back up to the previous card.
    Control C   - Exit the S command.

3. Give the desired response.

    The unit indicates the desired action and awaits for the appropriate response. This continues until you reach the end of the data file or until the command is terminated (CTRL C). Once the unit reaches the end of the data file, it responds: **LAST CARD IN DATA FILE**.

Example: Encode Cards (non-automatic mode)

```
*S
AUTOMATIC MODE (Y/N)? N
- 9999 - 0001 5001 9999 - 9012 1 1 2   SEND ? (CR)   ENCODE   OK
- 9999 - 0002 5002 9998 - 9012 1 1 2   SEND ? (CR)   ENCODE   OK
- 9999 - 0003 5003 9997 - 9012 1 2 2   SEND ? (CR)   ENCODE   OK
- 9999 - 0004 5004 9996 - 9012 2 2 3   SEND ? (CR)   ENCODE   READ ERROR
- 9999 - 0004 5004 9996 - 9012 2 2 3   SEND ? (CR)   ENCODE   OK
- 9999 - 0005 5005 9995 - 9012 2 4 3   SEND ? (LF)   SKIP
- 9999 - 0006 5006 9994 - 9012 1 2 3   SEND ? (LF)   SKIP
- 9999 - 0007 5007 9993 - 9012 1 1 1   SEND ? (CR)   ENCODE   OK
- 9999 - 0008 5008 9992 - 9012 1 1 1   SEND ?  A     AGAIN    OK
- 9999 - 0008 5008 9992 - 9012 1 1 1   SEND ? (CR)   ENCODE   OK
- 9999 - 0009 5009 9991 - 9012 2 3 0   SEND ? (BSP) BACK
- 9999 - 0008 5008 9992 - 9012 1 1 1   SEND ? (BSP) BACK
- 9999 - 0007 5007 9993 - 9012 1 1 1   SEND ? (BSP) BACK
- 9999 - 0006 5006 9994 - 9012 1 2 3   SEND ? (CR)   ENCODE   OK
- 9999 - 0007 5007 9993 - 9012 1 1 1   SEND ? (LF)   SKIP
- 9999 - 0008 5008 9992 - 9012 1 1 1   SEND ? (LF)   SKIP
- 9999 - 0009 5009 9991 - 9012 2 3 0   SEND ? (LF)   SKIP
- 9999 - 0010 5010 9990 - 9012 4 5 2   SEND ? (LF)   SKIP
- 9999 - 0011 5011 9989 - 9012 1 0 1   SEND ? (LF)   SKIP


LAST CARD IN FILE
*
```

S COMMAND MESSAGES

CARD DATA ERROR! - RELOAD UNIT
>   The data in the card data file does not match the unit's configuration. The S command was automatically aborted. Check the unit's configuration, reset and reload the card data file.

FIRST CARD IN FILE
>   The unit was unable to respond to a "Backspace" character and move back in the file because this is the first card loaded in the file. The unit will remain in the S command and await the next command.

LAST CARD IN FILE
>   There are no other cards in the data file. The S command was automatically stopped.

M - ENCODE CARD DATA - RAW MODE

This command is used to encode card data that is loaded through the keyboard. Any size card up to 37 characters can be loaded independent of whatever is presently loaded in the MCE 300's configuration or data files. This mode will not generate PINs. When in this mode, the unit will accept the data for one card and then wait to encode that card. After the card has been encoded, the unit will await the entry of the next card's data or termination of the command. The following responses are used in the command:

B - Start Sentinel

Additional start sentinel. The program automatically inserts the first start sentinel. Additional start sentinels can be inserted using the B key.

0-9, A, C, E

Card data. Use to represent the desired data to be encoded.

- (hyphen)

Field separator. This should be used to represent a field separator that is to be encoded.

(CR) - Carriage Return

Indicates the previous data entered is complete and ready to encode. Upon entry of a CR the unit prepares to encode the card and prints ENCODE. The CR can also recall the data that was loaded to encode the previous card. To recall this data, enter the CR prior to the entry of any new data.

(BSP) - Backspace

Indicates the data entered is not correct and that new data will be entered. Upon entry of a BSP, the data entered is ignored and the unit awaits the entry of new data. A BSP must be entered prior to the entry of a CR to eliminate the data entered. On data terminals without a BSP key, press CTRL H.

CTRL C - Control C

Indicates that no more cards are to be encoded and immediately terminates the M command.

READ VERIFICATION

Each card is automatically verified after encoding. The unit verifies that the data sent to the card matches what was encoded on the card by performing a read of the card. There are two possible responses from the unit:

OK

The data on the card matches the data loaded through the keyboard.

READ ERROR

The data on the card does not match the data loaded through the keyboard. The unit beeps and prompts you. Entry of a CR at this point recalls the original data and allows you to try to encode the card again.

NOTE: *When the unit is configured for cards to exit the rear of the reader it is possible to feed cards too quickly into the reader. Do not enter a new card into the reader until the present card exits the reader and the reader shuts off. If a card is entered prematurely, it is not encoded and is automatically returned out the front of the reader.*

To encode cards in raw data mode:

1. At the **∗** prompt, type **M**. The unit prompts: **ENTER DATA:**

2. Type the data to be encoded and press RETURN. The unit prompts you: **ENCODE**

3. Insert a card in the reader (stripe down and to the right).

   The unit encodes the card, checks the encoding, and prints the results of the check. It then awaits the next entry.

4. Press RETURN to retrieve the same card data or enter new card data. Follow the same process until all cards are encoded.

Example: Encode Cards - Raw Data

```
*M
ENTER DATA:
-9999-00015001-9012112 (CR) ENCODE OK
1234567890(CR) ENCODE OK
(CR)1234567890 ENCODE OK
CTRL C
*
```

Section 8

READ CARD DATA

OVERVIEW

The MCE 300 is capable of reading card data from ABA Track 2 of Mag Stripe Cards. There are two methods available for reading data from cards. They are:

R - READ CARD DATA - CONFIGURATION MODE - The command utilizes the loaded configuration of the unit. Prior to reading data you will need to configure the unit to your specifications (see Section 5). The motorized reader of the unit will automatically transport the card over the heads of the reader and send the card out of the front or rear of the reader according to the configuration of the unit. Every time a card is read the "TOTAL PASSES THROUGH READER" count increments by one.

N - READ CARD DATA - RAW MODE - This command is used for reading card data when it is desired to ignore the present configuration of the unit. The printouts of this data will not be configured as in the R command and PIN's will not be generated. The motorized reader of the unit will automatically transport the card over the heads of the reader and send the card out of the front or rear of the reader according to the configuration of the unit. Every time a card is read the "TOTAL PASSES THROUGH READER" count increments by one.

NOTE: While reading cards, should a card become stuck in the reader, turn off the unit immediately! Failure to turn off the unit may result in damage to the reader mechanism. The unit may be turned back on after a few seconds which should cause the card to be immediately ejected out the front of the reader. If the card does not eject from the reader, turn off the unit again and have the unit serviced to physically remove the card.

R - READ CARD DATA - CONFIGURATION MODE

This command is used to read data previously encoded onto cards. In cases where PIN (Personal Identification Number) is enabled, the unit will print the appropriate PIN for the card read according to the parameters set in the configuration. The data will be printed on either the data terminal or optional printer according to the configuration and the selection made.

NOTE: When the unit is configured for cards to exit the rear of the reader it is possible to feed cards too quickly into the reader. A new card should not be entered into the reader until the present card has exited the reader and the reader shuts off. If a card is entered prematurely, it will not be read and automatically returned out of the front of the reader.

To read card data (configuration mode):

At an asterisk (*) prompt -

1. Enter the R command

   If an optional printer is available, you will be prompted:

   SEND TO AUX PRINTER (Y/N)?

2. Entering a "Y" will cause the card data read to be printed on your optional printer (AUX port). Entering an "N" will cause the card data read to be printed on the data terminal (MAIN port).

   The unit will prompt you: ENTER CARDS

3. Enter the card to be read (mag stripe down and to the right) into the reader.

   The unit will take the card, read it, send it out of the reader (front or rear contingent on configuration), and print the card data. PIN will be printed if that option is configured.

   The unit will remain in the read mode until the command is terminated via a CTRL C.

Example: Read Cards

```
*R
SEND TO AUX PRINTER (Y/N)? N


ENTER CARDS
- 9999 - 0001 5001 9999 - 9012 1 1 2   PIN 6339
- 9999 - 0002 5002 9998 - 9012 1 1 2   PIN 8716
- 9999 - 0003 5003 9997 - 9012 1 2 2   PIN 0193
- 9999 - 0004 5004 9996 - 9012 2 2 3   PIN 2570
- 9999 - 0005 5005 9995 - 9012 2 4 3   PIN 4975
*
```

R COMMAND MESSAGES

READ ERROR - The unit was not able to properly read the card. It will remain in the R command and await the next card entry or command.

N - READ CARD DATA - RAW MODE

This command is used to read data previously encoded into cards while ignoring the present configuration of the unit. The data will be printed on either the data terminal or optional printer according to the configuration and the selection made.

Note: When the unit is configured for cards to exit the rear of the reader it is possible to feed cards too quickly into the reader. A new card should not be entered into the reader until the present card has exited the reader and the reader shuts off. If a card is entered prematurely, it will not be read and automatically returned out of the front of the reader.

At an asterisk (*) prompt -

1.   Enter the N command

      If an optional printer is available, you will be prompted:

      SEND TO AUX PRINTER (Y/N)?

2.   Entering a "Y" will cause the card data read to be printed on your optional printer (AUX port).
      Entering an "N" will cause the card data read to be printed on the data terminal (MAIN port).

      The unit will prompt you: ENTER CARDS

3.   Enter the card to be read (mag stripe down and to the right) into the reader.

      The unit will take the card, read it, send it out of the reader (front or rear contingent on configuration), and print the card data.

      The unit will remain in the read mode until the command is terminated via a CTRL C.

Example: Read Cards - Raw Mode

```
*N
SEND TO AUX PRINTER (Y/N)?N
ENTER CARDS
-9999-00015001-9012112
1234567890
*
```

N COMMAND MESSAGES

READ ERROR - The unit was not able to properly read the card. It will remain in the N command and await the next card entry or command.

LABELS

OVERVIEW

The MCE 300, when used with an optional tractor feed printer, can print information onto self-adhesive labels which can be affixed to cards for identification purposes. Labels can contain constant information which appears the same on each label and variable numeric data which is obtained from the card data file and used for unique identification of each card. Prior to printing labels you will need to configure the unit to your specifications (see Section 5) and load the card data file (see Section 6).

B - PRINT LABELS

This command is used to print labels for card data previously loaded into the card data file.

LABELS PER CARD - The unit can print from one to ninety-nine labels per card. This is useful when multiple cards will be encoded or when additional labels are needed for other reasons.

STARTING POINT - You can choose the starting point in the card data file from which the unit will begin to print labels. Responses for the starting point are:

Y - Print labels starting with the first card in the file. A Y response will start the unit printing labels for all cards in the file (unless stopped by a CTRL C).

N - Do not start with the first card in the file. The unit will begin to display the card data file beginning with the first card and await one of three responses:

LF (Line Feed) - Skip to next card. The unit will display the next card and await a response.

CR (Carriage Return) - Start here. The unit will begin to print labels starting with this card. It will print labels for the remaining cards in the data file (unless stopped by a CTRL C).

CTRL C (Control C) - Terminates the B command.

To print labels:

At an asterisk (*) prompt -

1.   Enter the B command.

      You will be prompted: HOW MANY LABELS PER CARD?

2.   Enter a number from 1 to 99 followed by a CR.

      You will be prompted: START AT BEGINNING OF FILE (Y/N)?

3.   Enter a Y for all cards or an N for a selective starting point.

      If a Y is entered, the unit will begin to print labels from the beginning of the card data file.

      If an N is entered, you will be prompted with the first card in the card data file.
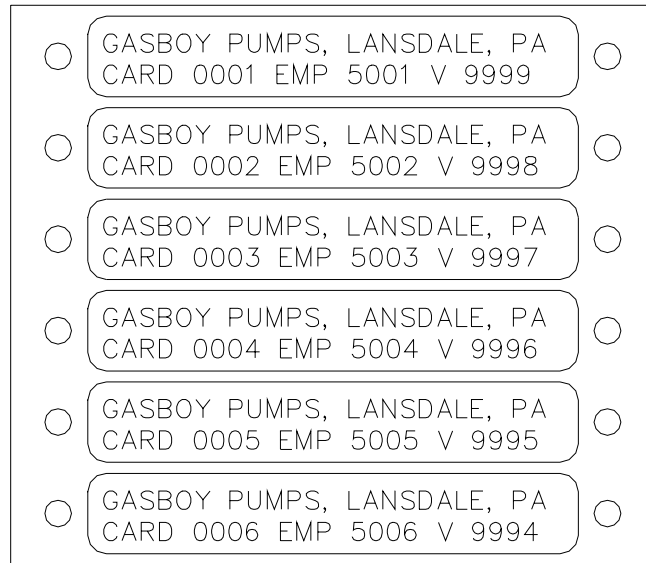
4.   (N only) - Enter a   LF - Skip to next card
                            CR - Start here
                            CTRL C - Stop

Upon completion of printing labels, you will be prompted: LABELS PRINTED.

Example:

```
*B
HOW MANY LABELS PER CARD?  1 (CR)
START AT BEGINNING OF FILE (Y/N)?  Y
LABELS PRINTED
*
```

Example: Labels Printed:

Labels should be attached to the card as shown in the drawing below. Labels attached in this area of the card are less likely to become caught in the mag card reader of the fuel management system should the card be improperly inserted.
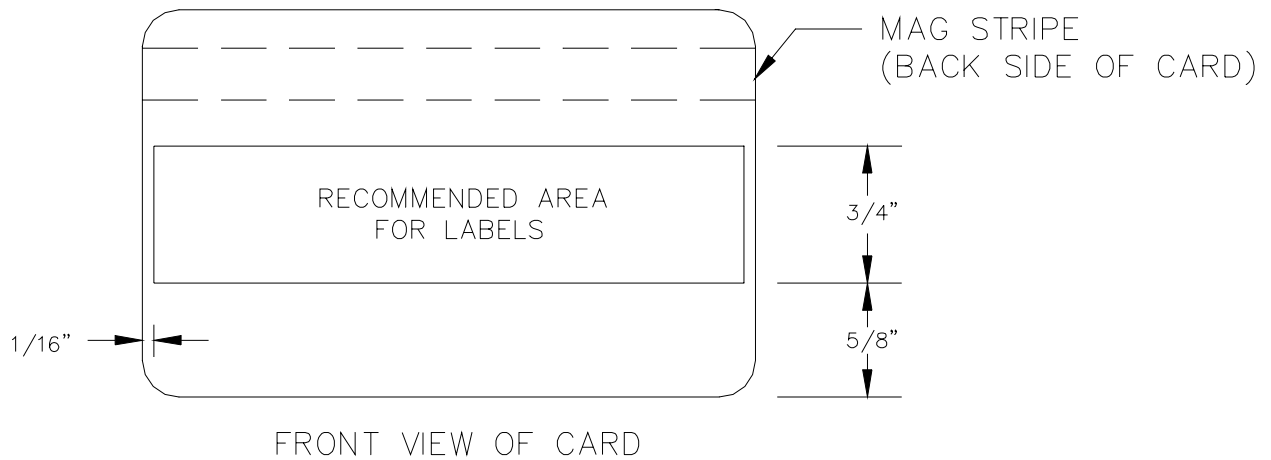
B COMMAND MESSAGES

LABEL NOT FORMATTED - The configuration is not loaded to allow the printing of labels. The B command was automatically aborted. Load the label portion of the configuration.

NO DATA IN CARD FILE - There is no data loaded in the card data file for labels to be printed. The B command was automatically aborted. Load the card data file.

NO PRINTER ON LINE! - The unit was unable to print on the label printer because the printer was not in the on-line mode. The B command was automatically aborted.

LAST CARD IN FILE - The unit was unable to respond to a "Line feed" character and move to the next card because this was the last card in the file. The B command was automatically stopped.

LABELS PRINTED - The labels have been successfully printed. The B command was automatically stopped.

Section 10

PREVENTIVE MAINTENANCE

The magnetic heads of the MCE 300 reader should be cleaned every 1000 passes or 6 months, whichever occurs first. The maintenance interval for the number of passes can be monitored by the TOTAL PASSES THROUGH READER count found in the T command (see Section 4). Proper and regular cleaning of the magnetic heads will help to ensure longer life of your unit.

Cleaning cards are available from GASBOY and sold in lots of 50 (GASBOY P/N C08757 is 1 box of 50 cards). Each card is saturated in cleaning fluid and individually wrapped.

To clean the reader:

At an asterisk (*) prompt -

1. Enter the R command.

    You will be prompted: ENTER CARDS

2. Enter the cleaning card into the reader with the rough wet side of the card down.

    The unit will send the card through the reader as any other mag card and print READ ERROR on the data terminal.

3. Repeat step 2 several times.

4. Throw away the cleaning card.

Section 11
DIAGNOSTICS

PURPOSE

The MCE 300 is designed to allow access to 3 diagnostic tests. These tests provide information which is helpful in diagnosing problems and providing full functional testing of the unit. The diagnostic command is set-up so that once the unit is in the diagnostic mode, you may access any of the 3 diagnostic tests. A CTRL C (control C) command will terminate the diagnostic mode.

TEST 1 - RAM TEST

This tests the unit's RAM module to make sure each location can be written to and read from. The information presently in the RAM will not be altered during this test. Upon completion of the test the unit will print either "RAM PASSED" or "RAM FAILED".

To perform the RAM test:

At an asterisk (*) prompt -

1.   Enter the X command.

       The unit will prompt you: DIAGNOSTIC MODE
                                                     SELECT TEST (1-3):

2.   Enter a 1 for the RAM test.

       The unit will respond with: RAM TEST

       Upon completion of the test the unit will respond with either:

                                                     RAM PASSED if the RAM is OK, or
                                                     RAM FAILED if the RAM is defective.

       The unit will prompt you: SELECT TEST (1-3):

3.   Enter the next test desired or a CTRL C to exit the diagnostic mode.

Example: RAM test

```
*X
DIAGNOSTIC MODE

SELECT TEST (1-3):   1

RAM TEST
RAM PASSED

SELECT TEST (1-3):
```

TEST 2 - ROM TEST

This test reads each location in the program chip, calculates a checksum and compares it to a checksum inserted in the program chip at the factory. Upon completion of the test the unit will print either "ROM PASSED" or "ROM FAILED".

To perform the ROM test:

At an asterisk (*) prompt:

1.   Enter the X command.

      The unit will prompt you: DIAGNOSTIC MODE
                                         SELECT TEST (1-3):

2.   Enter a 2 for the ROM test.

      The unit will respond with: ROM TEST

      Upon completion of the test the unit will respond with either:

                                         ROM PASSED if the ROM is OK, or
                                         ROM FAILED if the ROM is defective.

      The unit will then prompt you: SELECT TEST (1-3):

3.   Enter the next test desired or a CTRL C to exit the diagnostic mode.

Example: ROM test

```
*X
DIAGNOSTIC MODE

SELECT TEST (1-3):  2

ROM TEST
ROM PASSED

SELECT TEST (1-3):
```

TEST 3 - DIP SWITCH TEST

This test reads the setting of the DIP switches and displays their present status. A 1 indicates the switch is closed, a 0 indicates the switch is open and an X indicates the switch is not used. The switches can be changed between each test so their functionality can be tested. Changing these switches will not change the configuration of the unit unless the power for the unit is cycled (OFF/ON) as noted in Section 5 of this manual.

To perform the DIP switch test:

1.   Enter the X command.

       The unit will prompt you: DIAGNOSTIC MODE
                                           SELECT TEST (1-3):

2.   Set the DIP switches to the desired test position.

3.   Enter a 3 for the DIP switch test.

       The unit will respond with the switch settings.

       The unit will then prompt you: SELECT TEST (1-3):

4.   Reset the DIP switches to a new position and run the test again, select a new test, or enter a CTRL C to exit the diagnostic mode.

Example: DIP Switch test

```
*X
DIAGNOSTIC MODE

SELECT TEST (1-3):  3

DIP SWITCH TEST (1=CLOSED, 0=OPEN, X=NOT AVAILABLE)
1=X    2=X    3=0    4=0    5=0   6=0    7=0    8=0

SELECT TEST (1-3):
```

SPECIFICATIONS

CHARACTERISTICS

Dimensions: MCE 300   13" L x 11" W x 3 5/8" H
                                        MCE 300HE   15 1/4 L x 8 1/2" W x 5" H

Weight: MCE 300 10 lbs.; MCE 300HE 13 lbs., 4 oz.

Power Requirements: MCE 300: 115 VAC $\pm$ 10%, 47-63HZ, 30 watts maximum
                                 MCE 300HE 115 VAC $\pm$ 10%, 47-63HZ, 55 watts maximum

Environmental Requirements:
        Operating: 10º to 40º C., 20% to 90% R.H. (Non-condensing)
                      Unit should be located in a clean office-type environment for maximum life.
        Storage: -20º to 70º C., 20% to 90% R.H.
                      There should be no functional failure after 12 hours from returning to standard conditions.

Approvals: FCC

Memory: 8K RAM, battery backed (5 year retention)

Communication: 2 Asynchronous ports, both are RS-232 compatible
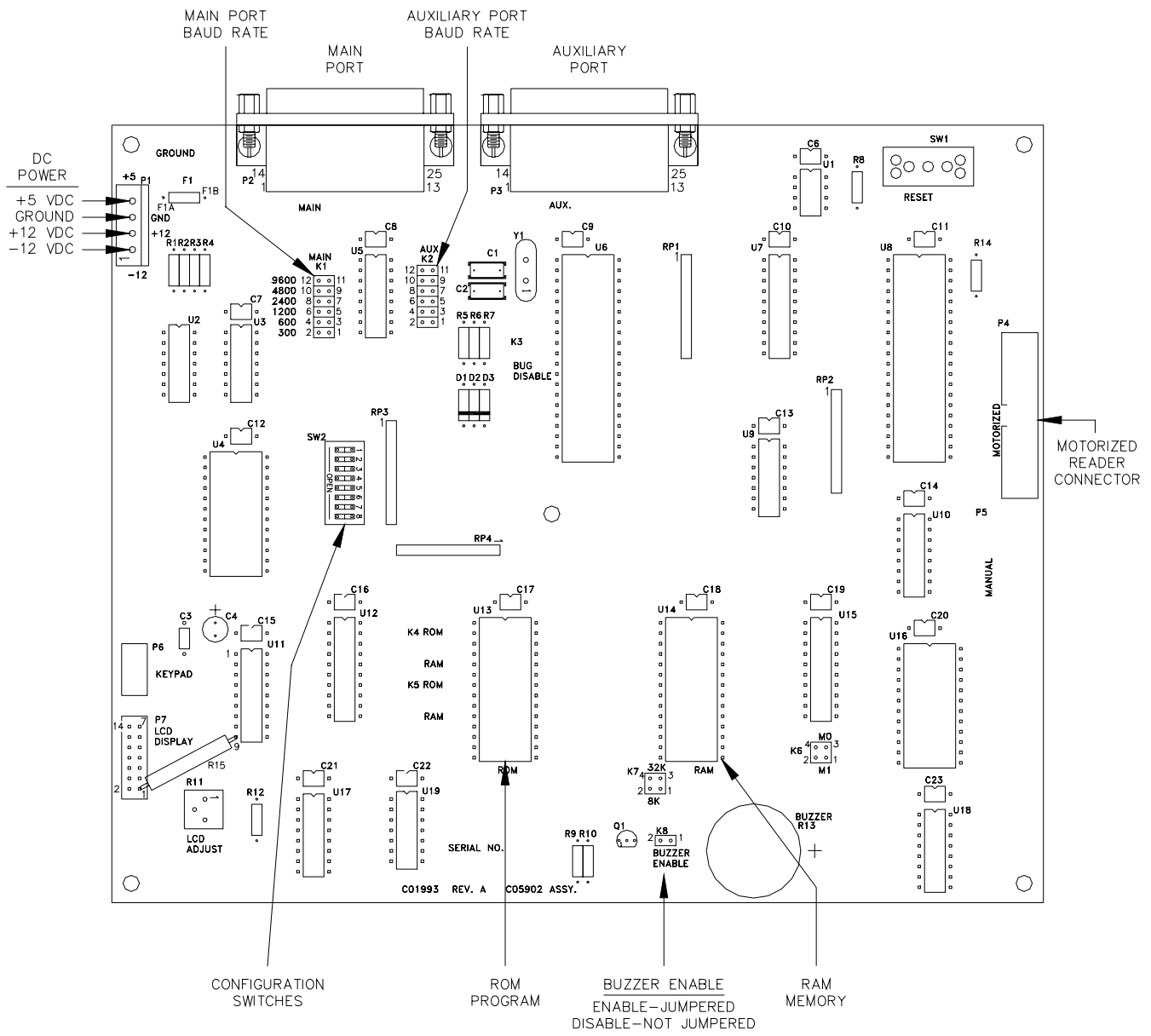   Baud Rates: 300, 600, 1200, 2400, 4800, 9600

Encoder:

        Write/Read Function: ABA Track 2

        Transport Mechanism: Motorized Forward and Reverse Control

   Life: 500,000 passes

PC BOARD LAYOUT

Section 13

PARTS

USING THE PARTS LISTS

The following pages list parts information for the MCE 300 Mag Card Encoder Models. Using part numbers when ordering will expedite your order and reduce the possiblility of the wrong parts being shipped. The following parts diagrams and parts lists are shown:
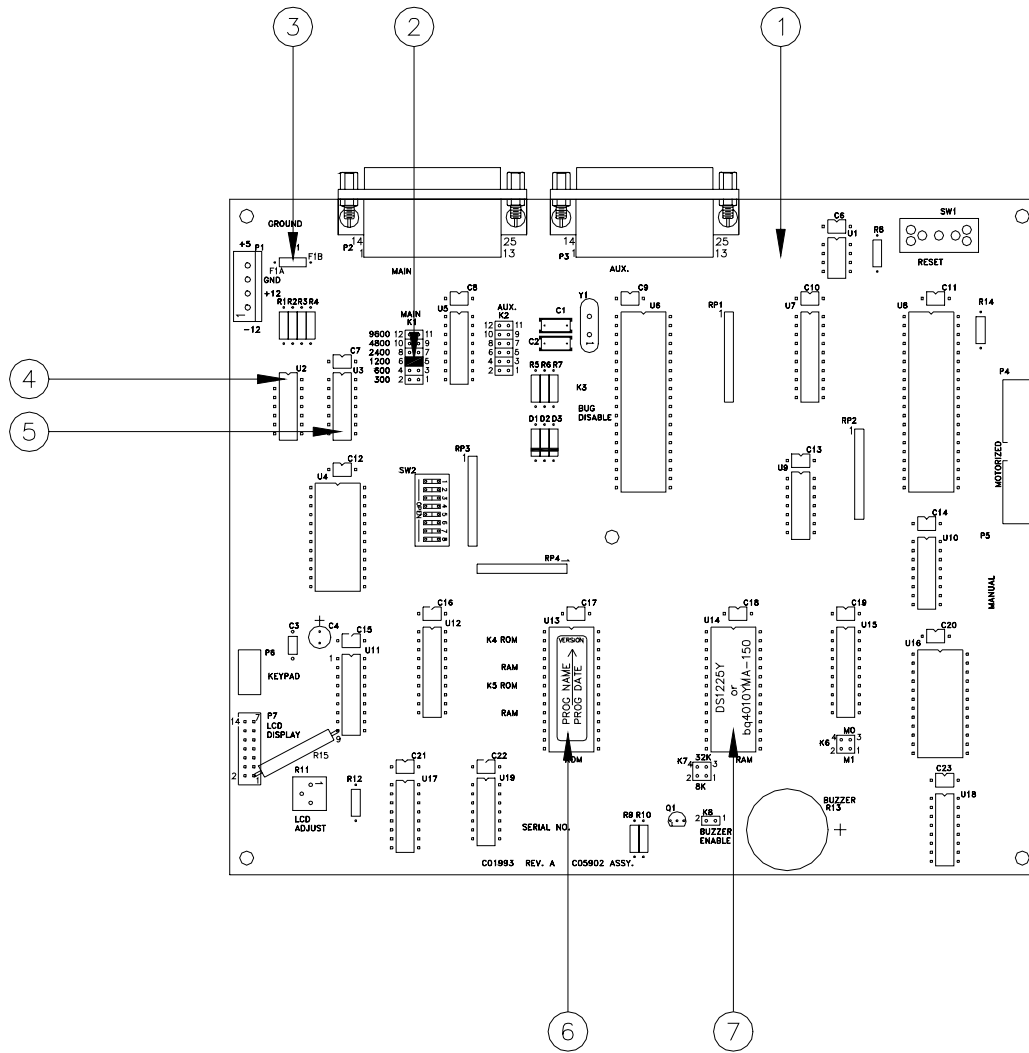
- MCE 300
- MCE 300HE
- MCE 300 PCB

DANGER
HIGH VOLTAGE
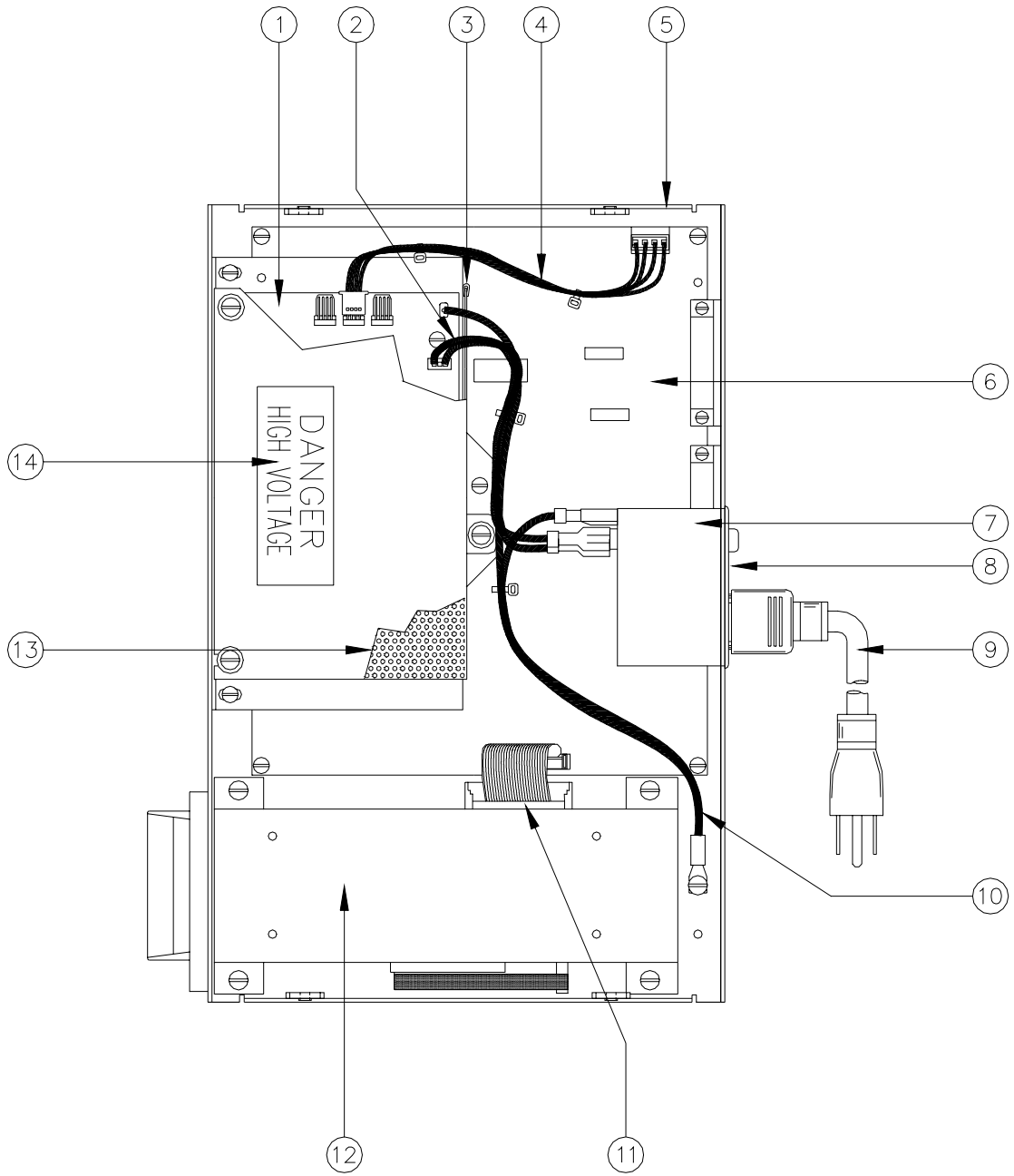
C05911   MCE 300

Item	Part No.	Description
1	C09053	Power Supply
2	C05904	Cable Assy., AC Power
3	C04371	Trim Material, Edge
4	C05903	Cable Assy., DC Power M
5	C35251	Base Assy. Housing, Silkscreened
6	C05902	PCB Assy., Mag Encode
7	C08330	Filter, RF Module
8	C08723	Fuse, 2 Amp Quick-Blow 5X
9	C04245	Power Supply Cord, 3 ft.
10	C05905	Cable Assy., Dual Ground
11	C05917	Cable Assy., Ribbon
12	C01920	Reader, Motorized Mag MTM
13	C35246	Cover, Power Supply Bracket, Perf.
14	C08756	Label, Danger High Voltage
	C35254	Cover, Housing (Not Shown)

DANGER
HIGH VOLTAGE
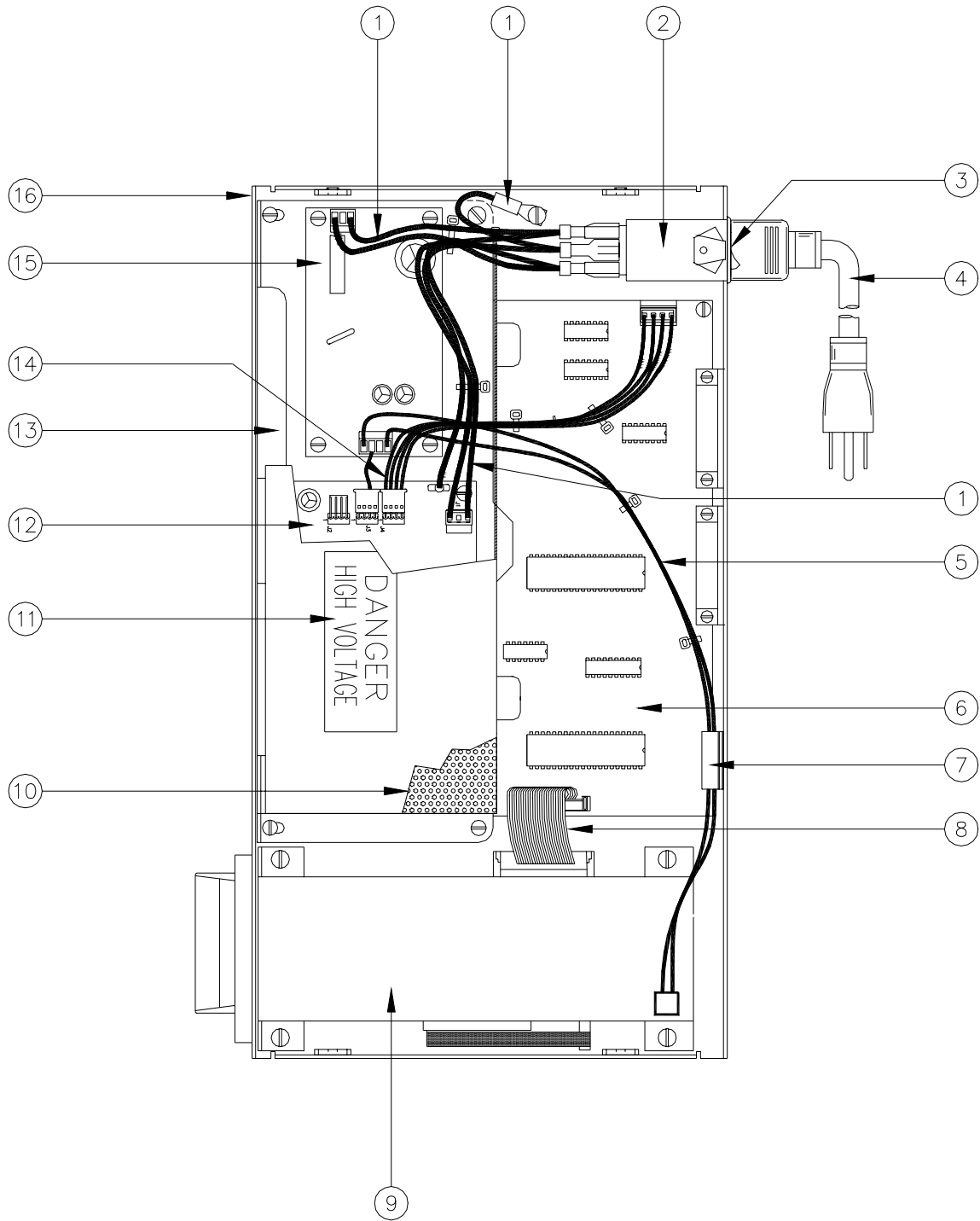
C06187   MCE 300HE

Item	Part No.	Description
1	C07398	Cable Assy., AC Power
2	C08330	Filter, RF Module
3	C08723	Fuse, 2 Amp Quick-Blow 5X
4	C04245	Power Supply Cord, 3 ft.
5	C07397	Cable Assy., 24VDC PW
6	C05902	PCB Assy., Mag Encode
7	C02207	Clamp, Ribbon Cable
8	C05917	Cable Assy., Ribbon
9	C01761	Reader, Motorized Mag
10	C35222	Cover, Power Supply, Perf.
11	C08756	Label, Danger High Voltage
12	C09053	Power Supply
13	C36022	Bracket Weld Assy., Power Supply
14	C06198	Cable Assy., 5/12V PW
15	C09837	Power Supply, SW 24V, 1 Amp
16	C35223	Base Assy. Housing, Silkscreened
	C35220	Cover, Housing (Not Shown)

C05902   MCE 300 PCB ASSEMBLY

Item   Part No.   Description

1   C05902   PCB Assy.
2   C03315   Connector, Jumper 2-Pos Fe
3   C02824   3 Amp Quick-Blow
4   C02267   IC, 1488P Quad Motl
5   C02268   IC, 1489P Quad Motl
6   C08721   IC, ROM
7   C08643   IC, RAM 8K

WARRANTY

General Statements:

Gasboy International LLC. warrants all new equipment manufactured by Gasboy against defective material and/or workmanship, for the warranty period specified below, when the equipment is installed in accordance with specifications prepared by Gasboy.

This warranty does not cover damage caused by accident, abuse, Acts of God, lack of surveillance of automatic recording systems, negligence, mis-application, faulty installation, improper or unauthorized maintenance, installation or use in violation of product manuals, instructions, or warnings.

Under no circumstance shall Gasboy be liable for any indirect, special, or consequential damages, losses, or expenses to include, but not limited to, loss of product, loss of profits, litigation fees, or the use, or inability to use, our product for any for any purpose whatsoever.

Parts Only - During the warranty period, Gasboy will, at its option, repair or replace defective parts returned transportation prepaid to its factory.

On-Site Labor Included - Gasboy will also provide, within the Continental United States and during the warranty period, the services of an Authorized Service Representative (ASR) for on-site repair or replacement of defective parts.

Replacement Parts - Any system components that are not part of the original system order, including Island Card Readers, Pump Control Units, etc., are considered replacement parts.

Equipment	Term	Coverage
Commercial Pumps and Dispensers Full-Cabinet Consumer Pumps	One year from date of installation or 18 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first.	Parts and Labor.
Small Transfer Pumps, Meters, Pressure Regulators	One year from date of installation or 18 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first.- Excepting the Model 2020 Hand Pump, which has a 90-day warranty from date of GASBOY International's invoice.	Parts Only.
Keytrol	One year from date of installation or 18 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first.	Parts and Labor.
Fuel Management Systems: - CFN/ Profit Point - Series 1000/Fleetkey - TopKAT - Fuel Point Readers (sold with new systems)	One year from date of start-up or 15 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first.- The basic warranty only applies to systems which have been started up by a Gasboy Authorized Service Representative (ASR).	Parts and Labor.
Additional Fuel Point Items: - Fuel Point Readers sold for retrofitting existing systems. - Fuel Point vehicle and dispenser components.	One year from date of start-up or 15 mos. from date of Gasboy International's invoice to the purchaser, whichever comes first.	Parts Only.
Encoders, Embossers, Modems, CRTs, and Logger Printers	Purchased with Fuel Management System (Encoders, Embossers only): 90 days from the date of start-up by a Gasboy ASR, or 180 days from date of Gasboy International's invoice, whichever occurs first. Purchased with Fuel Management System (Modems, CRTs, and Logger Printers only): Matches system warranty. Purchased Separately: 90 days from date of Gasboy International's invoice to the purchaser.	Purchased with System (Encoders, Embossers only): Parts only. Purchased with System (Modems, CRTs, Logger Printers only): Matches system warranty. Purchased Separately: Parts Only.
Air Diaphragm Pumps	Three years from date of purchase (for full warranty description, see Price List).	Parts Only.
Items not manufactured by Gasboy (ex. automatic nozzles, hoses, swivels, etc.)	Not warranted by Gasboy International (consult original manufacturer's warranty).	Not Applicable.
Replacement Parts	One year from date of Gasboy International's invoice to the purchaser.	Parts Only.