GASBOY

™

SERIES 1000

FUEL MANAGEMENT SYSTEM

START-UP MANUAL

C08921

GASBOY INTERNATIONAL LLC

GASBOY

SERIES 1000

FUEL MANAGEMENT SYSTEM

START-UP MANUAL

C08921

Rev. 03/07/03

GASBOY INTERNATIONAL LLC
LANSDALE, PA

CONTENTS

Section 1
STARTING A SERIES 1000 SYSTEM

INTRODUCTION

This *Start-Up Manual* is provided to assist you in the start-up of a GASBOY Series 1000 System. As the start-up person, you should already be familiar with all of the Series 1000 manuals. Proper installation is critical to ensure correct and trouble-free operation. The Series 1000 includes a one-year parts warranty against defective material and/or workmanship. See the **Warranty** page at the back of this book for details.

NOTE: Noncompliance with the specifications of the Series 1000 Installation Manual and the checks in the accompanying Start-Up Form could void the warranty.

As you are performing the start-up process, any deviations from the specifications listed in the *Installation Manual* should be corrected. If any tests fail, correct the wiring or system problem and perform the test again. If you have any questions, cannot proceed to the next step, or you want authorization for exceptions, please contact GASBOY Customer Service at:

☎ 1-800-444-5529

In addition to this manual, the customer should have the following GASBOY Series 1000 Fuel Management System manuals.

● *Installation Manual, C08922*
   Contains instructions, restrictions and guidelines for planning, laying out, and wiring the Series 1000 System.

● *Card Encoding Manual, C08924*   **(Card Systems Only)**
   Describes the process of card encoding, including card layout, field descriptions, and filling out the card encoding form.

● *Operation Manual, C08923*   **(Card Systems Only)**
      or
   Cardless Operation Manual, C08926
      or
   FleetKey Operation Manual, C08379
   Contains detailed descriptions of system features, data terminal commands, transaction processing and additional system options.

● *Diagnostic Manual, C08925*
   Contains descriptions of system components, diagnostic tests, troubleshooting procedures, and replacement parts listings.

Customers having the Fuel Point option should also have the following manuals:

● *Fuel Point Reader Installation Manual, C35628*
● *Fuel Point Dispenser and Hose Retrofit Manual, C35593*
● *Fuel Point Vehicle Module Installation Manual, C35699*
● *Fuel Point Vehicle Module Programming Manual, C35629*

START-UP OVERVIEW

Start-up for the Series 1000 System consists of:

- verifying the system layout

- making sure the system complies with the guidelines and restrictions outlined in the system *Installation Guide* and this manual.

- testing the system

- helping the system user execute the commands needed to start the system

- making sure the customer understands how the system works

- filling out the GASBOY Series 1000 Start-up Form, 55F065

WHAT YOU NEED FOR TESTING

To perform the testing portion of start-up, you will need:
- a digital voltmeter

- a 1/4 inch flat blade screwdriver

- a Phillips head #1 screwdriver

- a Phillips head #2 screwdriver

- a plastic 1/8 inch or smaller flat blade screwdriver

- a tape measure

We recommend that you bring all your tools and spare parts when doing a start-up.

FILLING OUT THE START-UP FORM

A sample filled-out Start-Up form appears at the end of this manual. You should already have blank copies of the Start-up form; however, if you do not, you can obtain more by calling GASBOY Office Services Department. Throughout the procedures in this manual, you will find double-outlined boxes preceded by this symbol ✍ . This writing hand symbol tells you to "fill in" the start-up information for the entries contained in the box.

When you encounter a box, fill in all the information requested. If an option is not used or does not apply, fill in **N/A** (not applicable) in that space. It may be helpful to have the terminal operator review the *Series 1000 Operation Manual*, if he has not already done so, while you are starting up the system.

The Start-Up Form must be filled out completely and sent to:

> **Gasboy International LLC**
> Customer Service Dept.
> 707 N. Valley Forge Rd.
> P.O. Box 309
> Lansdale, Pa 19446

USING THIS BOOK

This book is designed to be followed from start to finish. The procedures are listed in a logical order and correspond to the layout of the Start-up form. Please follow the step-by-step procedures in this manual.

The following symbols are used in this manual:

Means fill in the Start-up form entries explained in the box.

Means mail the form to GASBOY.

↵   Means press the RETURN key.

Section 2
__SITE INFORMATION__

Before you can use the Series 1000, you must load in certain operating information. This section provides a template for you to fill in the information needed to perform the start-up commands in Section 11. Do not perform the commands at this time. Confirm with the customer the information that he will be using (e.g., fuel authorizations, limitations, etc.). Successful start-up requires coordination between separate components of the system: installation, card or key encoding, and operation. Each item listed contains a manual reference where you can find additional information.

For mag and optical card and FleetKey systems, the system identification, product authorization and product limitation codes are encoded on the access cards or keys and then entered into the system via commands. The commands you enter must match what is encoded on the cards. The *Series 1000 Card Encoding Manual* and the *FleetKey Operation Manual* explain the encoding of these items.

For cardless systems, the authorization and limitation codes are stored in the vehicle record. The commands you enter must match what is stored in the vehicle record. See **Fueling Restriction Commands** in the *Series 1000 Cardless Operation Manual* for more information.

1. **COMMUNICATION PORT SETTINGS** (Reference: *Operation Manual*: **Communicating with the Series 1000**)

Port 1	RS-232/RS-422	_____	Baud rate	_____
Port 2	RS-232/RS-422	_____	Baud rate	_____
Aux. Port 1	RS-232/RS-422	_____	Baud rate	_____
Aux. Port 2	RS-232	_____	Baud rate	_____

    NOTE: *If you have a tank monitoring system, receipt printer, or Fuel Point Reader (FPR), you also have the auxiliary communications port PCB. Port 1 is configurable for RS-232 or RS-422; Port 2 is RS-232 only. If the system does not have a FPR, Port 1 is always used for a tank monitor; port 2 is for the receipt printer. If a FPR is used, it is always Port 1, RS-422, 1200 Baud; port 2 can be used for a tank monitor or receipt printer. In all cases, the receipt printer must be set for 9600 baud.*

2. **SIGN ON PASSWORD** (Reference: *Operation Manual*: **LS Command**)

    Password (up to 10 characters)_____

3. **SYSTEM CONFIGURATION** (Reference: *Operation Manual*: **SC Command**)

    Site Number: _____ (0000-9999)

    Idle Message: _____ (20 characters maximum)

    Number of pumps: ____ (1-8)   Number of tanks: ____ (1-8)

    Receipt Printer?: ____

Pump No.	Pulser Type (Reed, Elec.)	Pulses Per Gallon ($, 1000, 500, 100, 10, 1)	Tank Number (1-8)	Fuel Code (1-99)
1				
2				
3				
4				
5				
6				
7				
8				

Price Data Format: _____   No Data

_____   Unit Price Only (valid option for $ pulsing only)

_____   Unit and Total Price

System ID: _____   **(Card or FleetKey Systems)**

Number of zero quantity transactions to disable a pump: _____ (01-99)

Card (Key) Expiration Date: _____ Enable _____ Disable **(Card or FleetKey Systems)**

Auto PIN lock out: _____ Enable _____ Disable **(Card or FleetKey Systems)**

PIN Entry: _____ Enable _____ Disable **(Cardless Systems Only)**

4. **SITE SHUT DOWN** (Reference: *Operation Manual*: **SC and SD Commands**)

Site Shut Down: Enable _____   Disable _____

Begin Time _____   End Time _____

5. PRODUCT AUTHORIZATION TABLE (Reference: *Operation Manuals*: **LF Command**)
Card Encoding Manual: **Product Authorization Code**

Auth. Code	Allowable Fuel Types (01-99) Per Code								
1									
2									
3									
4									
5									
6									
7									
8									
9									

6. PRODUCT LIMITATION TABLE   (Reference: *Operation Manuals*: **LL Command**)
Card Encoding Manual: **Product Limitation Code**)

Limit Cutoff (0-99999)

Limitation Code	Limit Cutoff
1	
2	
3	
4	
5	
6	
7	
8	
9	

7. **LOCKOUT TYPE** (Reference: *Operation Manual*: **VA and IA Commands**)

    Check type of lockout desired: Negative _____   Positive _____

    NOTE: *If you use the second account field, you may wish to use positive lockout for more security.*

After you have obtained this information, have the contact person provide you with the system's keys and, if applicable, the user cards or data keys. If actual user cards or data keys are not available, test cards or data keys are provided with the system.

CARDLESS SYSTEMS ONLY

8. **VEHICLE FILE** (Reference: *Operation Manual*: **Vehicle File Commands**)

    If the system is cardless, you must identify each record in the vehicle file that you wish to be active. Use this chart to get started, photocopy it if you need to define unique data for each record.

VEH. NO.	LIM. CODE	AUTH. CODE	CHECK DIGIT

9. SECOND ACCOUNT FIELD AND PIN DATA (Reference: *Operation Manual*)

Use of the second account field is optional and is determined by the check digit in the vehicle file. If you use the second account field and PIN entry is enabled in the **SC** command, all entries must have a PIN number. Use this chart to enter your second account field data and associated PIN data. You may wish to photocopy it if you need additional space.

2nd Account _____	PIN

FLEETKEY SYSTEMS ONLY

10. MAINTENANCE TABLE (Reference: *FleetKey Operation Manual*: **Maintenance Option**)

	MAINT A		MAINT B		MAINT C	
Class	**Miles**	**Days**	**Miles**	**Days**	**Miles**	**Days**
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

BEGIN START-UP FORM

PARTS 1 THROUGH 4

This section covers Parts 1 through 4 of the Start-up form. Parts 5 through 12 are covered in subsequent sections. A sample filled-out Start-up form appears at the end of this book.

1. SITE IDENTIFICATION	
Customer:	The name of the company that owns the system.
Location:	The address of the site where the system is located.
Contact:	The name of a responsible contact person at the site.
Customer Phone No.:	The phone number where the contact person can be reached.
Date:	Today's date (date of the start-up).
Distributor:	The distributor involved with the sale and/or installation of the system.
Distributor Phone No.:	The phone number where the distributor can be reached.
Start-up Person:	The name of the person performing the start-up.
Installer:	The firm that installed the system.

2. PUMPS/DISPENSERS	
Fuel Type:	The type of fuel dispensed by that pump or dispenser (e.g., No-Lead, Regular, etc.).
Fuel Code:	The product code number assigned to that fuel type.
Pump Make:	The name of the manufacturer of the pump or dispenser.
Pump Model #:	The model number of the pump or dispenser.
Pump Serial #:	The serial number of the pump or dispenser.
Motor Size:	The size of the motor used (e.g., 3/4HP, 1 1/2HP).
Pump Type:	The type of pump used to dispense the fuel. Is it a submersible pump (**Sub**) located in the tank or is it a suction pump (**Suc**) located in the pump housing? Circle one.
Starter Relay:	Is an external starter relay used to supply power to the pump. Circle **Y** for yes or **N** for no.
Pulser Rate:	The pulser rate of the pulser used by that pump or dispenser (e.g., $, 10:1, 100:1).

☞

3. COMMUNICATION	
Data Terminal:	The make and model number of the data terminal connected to the system. If a data terminal is not being used, indicate not applicable (**N/A**).
External Modem:	The make and model number of the external modem that is connected to the system. This can include Short Haul Modems used for distances over 1500 feet. If no external modems are used, indicate not applicable (**N/A**).
Modem Phone No:	The area code and phone number for the internal or external phone modem connected to the system. If a modem is not used, indicate not applicable (**N/A**).
Port 1:	The method of communication used for Port 1 (direct printout port). Circle either **RS-232** or **RS-422**. Indicate the baud rate.
Port 2:	The method of communication used for Port 2 (secondary port). Circle either **RS-232**, **RS-422**, or internal modem (**Int. Modem**). Internal modem should be circled when the internal modem is connected to Port 2 via the ribbon cable directly above the Port 2 RS-232 and RS-422 connectors. Nothing should be connected to the RS-232 or RS-422 ports when the ribbon cable is connected. Indicate the baud rate.
Aux. Port 1:	If auxiliary port 1 is used with a tank monitor, indicate the method of communication. Circle either **RS-232** or **RS-422**. Auxiliary port 2 is always RS-232. Indicate the baud rate.

☞

4. BREAKERS
Enter the breaker number for each of the items listed. When multiple breakers are used for powering a device (e.g., a breaker for the dispenser and a breaker for the submersible pump), list both breakers. All breakers pertaining to the system should be in the **OFF** position at this time.

Section 4

SYSTEM LAYOUT

1. Verify that the system is installed with a minimum clearance of 18 inches between the post and any of the pumps or dispensers. This clearance meets the NFPA 30A and NFPA 70 requirements and allows room for wiring and maintenance of the system. Adequate clearance around the head of the unit is important to provide room for maintenance of the system. A minimum of 14 inches of clearance from the rear of the unit must be provided to allow the rear door to open.

2. Remove the 10 screws from the upper side pedestal cover. Unlock and remove the cover. Remove the 10 screws from the lower side pedestal cover and remove the cover (same side of post as the upper pedestal cover).

3. Verify that the conduit is installed according to the following specifications:

    All wiring (AC and DC) connecting the different components of the Series 1000 System must be installed in **metal conduit. PVC IS NOT ACCEPTABLE.** Components of the system include pumps, dispensers, submersible pumps, submersible starter relays, Series 1000 System, and circuit breaker panels. Communications equipment signal wires should also be run in **metal conduit**, (except for RS-422 wiring as noted below).

    High voltage AC power wires must be installed in separate conduit from the low voltage DC signal wires. The AC power wires and DC signal wires must not be run in any sort of common conduit or trough (except for RS-422 wiring as noted below). All conduits should be connected to the Series 1000 pedestal through the holes and knockouts provided by the factory. No other holes should be made in either of these units unless previously approved by GASBOY.

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

    Conduits for the system port wiring must be as follows:

    RS-232 wires must be installed in a metal conduit separate from any AC wires.

    RS-422 wires should be installed in a metal conduit separate from any AC wires. The use of shielded two twisted pair cable (Belden 8102 or equivalent - GASBOY P/N C08728) allows for the following exceptions:

    - The cable can be run with AC wires in metal conduit. The shield drain wire must be connected to the system AC ground.

    - The cable can be run indoors without the use of metal conduit. The shield drain wire must be connected to the system AC ground. In no case should the cable be run outdoors without the use of metal conduit. Whenever possible the conduit should be run underground and not overhead.

    - A short haul modem (SHM) must be used for RS-422 communications.

☞

5. CONDUIT	
All Metal Conduit:	Indicate if all conduit is metal and not PVC. Circle **Y** for yes (all metal) or **N** for no (not all metal conduit).
AC and DC in Separate Conduits:	Indicate if all wiring is separated in the appropriate conduits according to the conduit specifications. Circle **Y** for yes if all AC and DC wiring is in separate conduits. Circle **N** for no if AC and DC wiring is combined in conduits where it should not be.
	*NOTE: In cases where the RS-422 communication lines are in the AC conduit using the correct shielded cable, and all other AC and DC lines are in separate conduits, indicate a **Y** for yes.*
Communication Wires:	Indicate through which conduit the communication wires (from the ports) are run. **Separate** indicates they have their own conduit, **DC** indicates they are included with DC wires, **AC** indicates they are included with AC wires.
Wiring Neatness:	Indicate the overall neatness of the installer's wiring. Is the appearance of the wiring neat and orderly or is it very disorderly? Circle **Good**, **Fair**, **Poor**, or **Bad**.

JUMPER AND SWITCH SETTINGS

SERIES 1000 JUMPERS

All jumpers and connectors must be set properly to ensure correct operation of the Series 1000 System.

1. Make sure all of the pump override switches, located in the pedestal (see Figure 5-1), are in the **OFF** position.
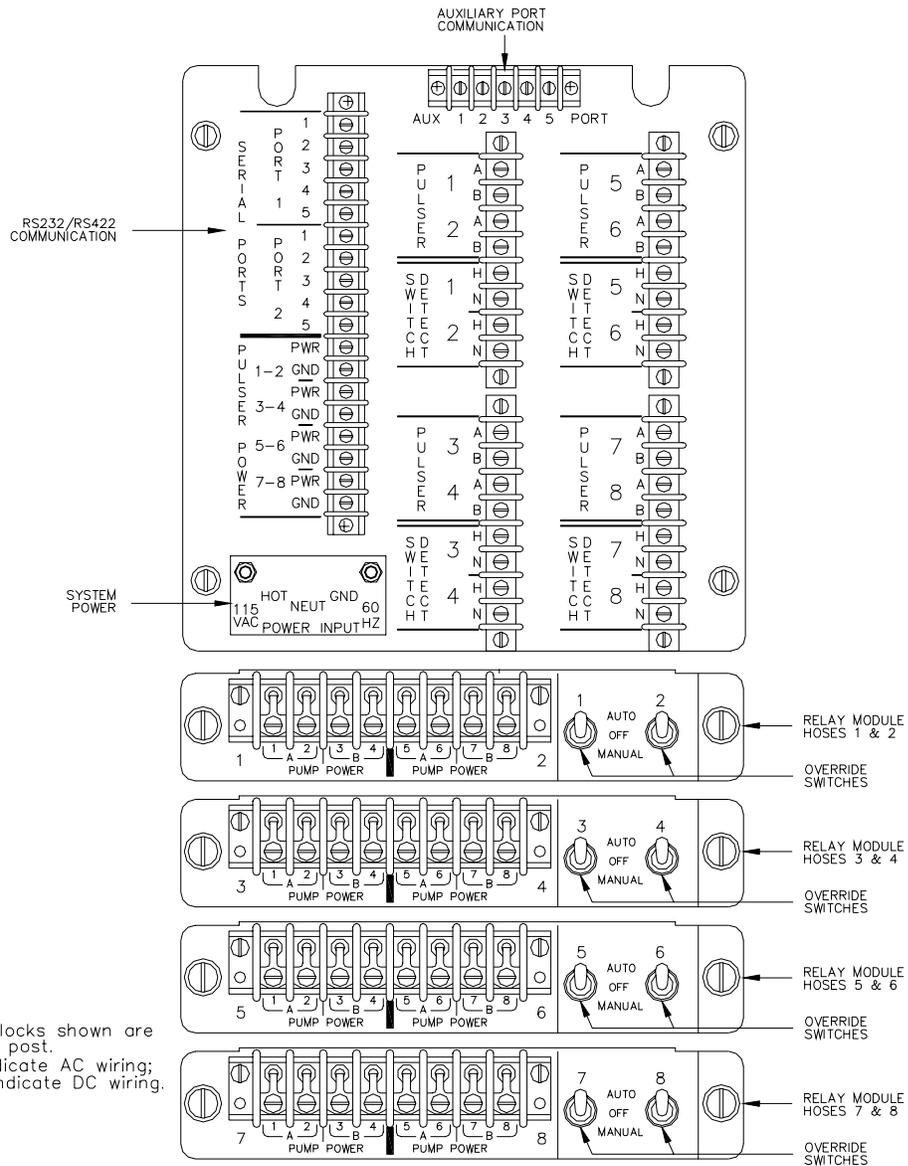
Figure 5-1. System and Pump/Dispenser Wiring Terminal Block ID

2. Unlock and lower the rear door of the Series 1000.

3. Make sure the Series 1000 **AC POWER** switch, located in the rear of the unit, is in the **OFF** position.

4. Loosen and remove the two inside knobs.

5. Remove the four screws from the outside of the hood.

6. Standing alongside of the unit, place one hand on the top rear of the hood assembly and one hand on the front plastic shield. (Be careful not to break or shatter the shield).

7. Lift the hood straight up and remove it.

8. Locate the microprocessor PCB mounted on the right side of the unit (see Figure 5-2 for Steps 9-12).

☞

6. SYSTEM IDENTIFICATION
System Serial #:   The serial number of the system. This number can be found on a tag mounted to the outside of the rear door.
Program Name/Date: The program name and date. This information is located on the system's ROM (program chip). The ROM is an integrated circuit (IC) located approximately in the center of the system's microprocessor PCB (see Figure 5-2). The program name is seven alphanumeric characters consisting of an alphabetic character followed by six numerics, e.g., A123456.

9. Port 1 - If necessary, move the cable for Port 1 to the appropriate connector for either RS-232 or RS-422 communication.

10. Port 1 - Jumper Port 1 for the appropriate baud rate.

11. Port 2 - If necessary, move the cable for Port 2 to the appropriate connector for either RS-232 or RS-422 communication. If an internal 1200 baud modem is supplied by GASBOY, make sure the Port 2 cable is not connected to either connector.

12. Port 2 - Jumper Port 2 for the appropriate baud rate.

13. If using the Fuel Point option, a tank monitoring system or a receipt printer, verify the connectors and jumpers for the auxiliary communications port. The auxiliary communications port PCB assembly is shown in Figure 5-4. With the Fuel Point option, Port 1 is always the Fuel Point; a tank monitor or receipt printer may be connected to Port 2. Without the Fuel Point option, the tank monitor cable must be connected to Port 1 and may be RS-232 or RS-422; the receipt printer is always connected to Port 2.

14. Auxiliary port jumpers - The K1 jumper patch contains 12 pins; the six at the left are for Port 1 and the six at the right are for Port 2. Ports 1 and 2 can be jumpered for 300 or 1200 baud. To eliminate problems, the data terminal must run at the same (or higher) baud rate as the tank monitor. Port 2 should always be jumpered at 9600 baud for receipt printer and 1200 baud for tank monitor.

Figure 5-2. Series 1000 Microprocessor Configuration

15. If your Series 1000 system has a Tripp Lite battery backup installed, remove the jumper or wire wrap on jumper patch JP8. This jumper must be removed to allow normal operation of the data terminal in a power fail condition. The JP8 jumper patch is located next to the diagnostic and reset switches on the right edge of the MPU PCB.

16. Pulse Rate - The pulse rate switch is mounted on the back side of the microprocessor PCB and can be accessed through a hole in the sheet metal on which the microprocessor PCB is mounted. Move this switch towards the rear of the unit to enable the pulse rate to be set during the configuration of the system. *NOTE: When the pulse rate switch is set to enabled, no transactions can occur at the system and the message* **REMOTE CONFIGURATION** *appears on the display. Be sure to set it to disabled when pulse rate setting is complete.*

17. Locate the pump control PCB(s) mounted to the rear door of the Series 1000 System (see Figure 5-3 for Steps 18-28).

18. Remove the flat ribbon cable connector from each of the pump control PCB's. (Ribbon cable is not shown in Figure 5-3. It attaches at the top right of the board).

19. Remove the two Phillips head screws which attach the pump control PCB bracket to the pump control card cage.

20. Note the orientation of the three black connectors on the opposite side of the pump control PCB for hoses 1 and 2. Remove these cables from the rear of the PCB. Slide the pump control PCB out of the card cage.

21. Pulse Configuration - Set the pulser configuration jumpers for hose 1 according to the type of pulser used. Set the pulser configuration jumpers for hose 2 according to the type of pulser used.

22. Pulse Rate (Debounce) - Set the pulse rate jumper according to the highest resolution pulser that is used on either hose (e.g., if hose 1 has a 10:1 pulser and hose 2 has a 100:1 pulser, set the jumper for 100:1).

23. Address - Verify that the pump control PCB is set for the proper address. This is jumpered at the factory and should be correct.

24. Slide the pump control PCB into the pump control card cage and screw it into place. Re-attach the three cables to the rear of the PCB. (*NOTE: These cables are keyed to prevent them from being installed upside down*). The cable for hose 1 attaches to side 1 (J1) and the cable for hose 2 attaches to side 2 (J2). The orientation of the sides is shown in Figure 5-3.

25. If the hardware for hoses 3 and 4 is installed, repeat Steps 19-24 substituting hose 3 for hose 1 and hose 4 for hose 2. If not available, skip to Step 28.

26. If the hardware for hoses 5 and 6 is installed, repeat Steps 19-24 substituting hose 5 for hose 1 and hose 6 for hose 2. If not available, skip to Step 28.

27. If the hardware for hoses 7 and 8 is installed, repeat Steps 19-24 substituting hose 7 for hose 1 and hose 8 for hose 2. If not available, skip to Step 28.

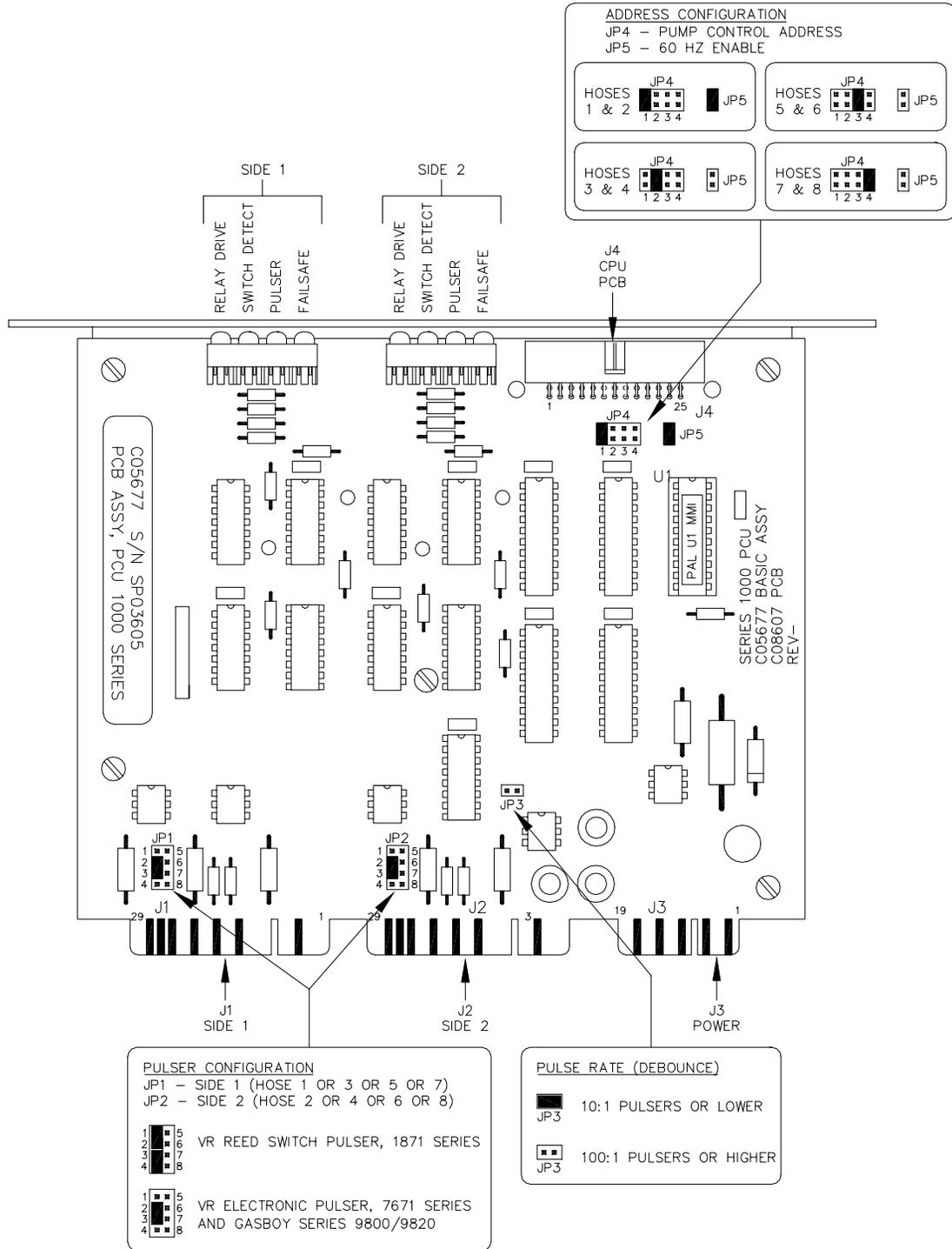28. Reconnect the ribbon cable to the pump control PCB(s).

Figure 5-3. Series 1000 Pump Control Configuration

AUXILIARY COMMUNICATIONS PORT PCB ASSEMBLY

When the system is equipped with a receipt printer, tank monitoring system, or Fuel Point Reader, an additional board is required. The Auxiliary Communications Port PCB assembly (Figure 5-4) is attached to the Series 1000 MPU Board via the expansion port (shown in Figure 5-2).
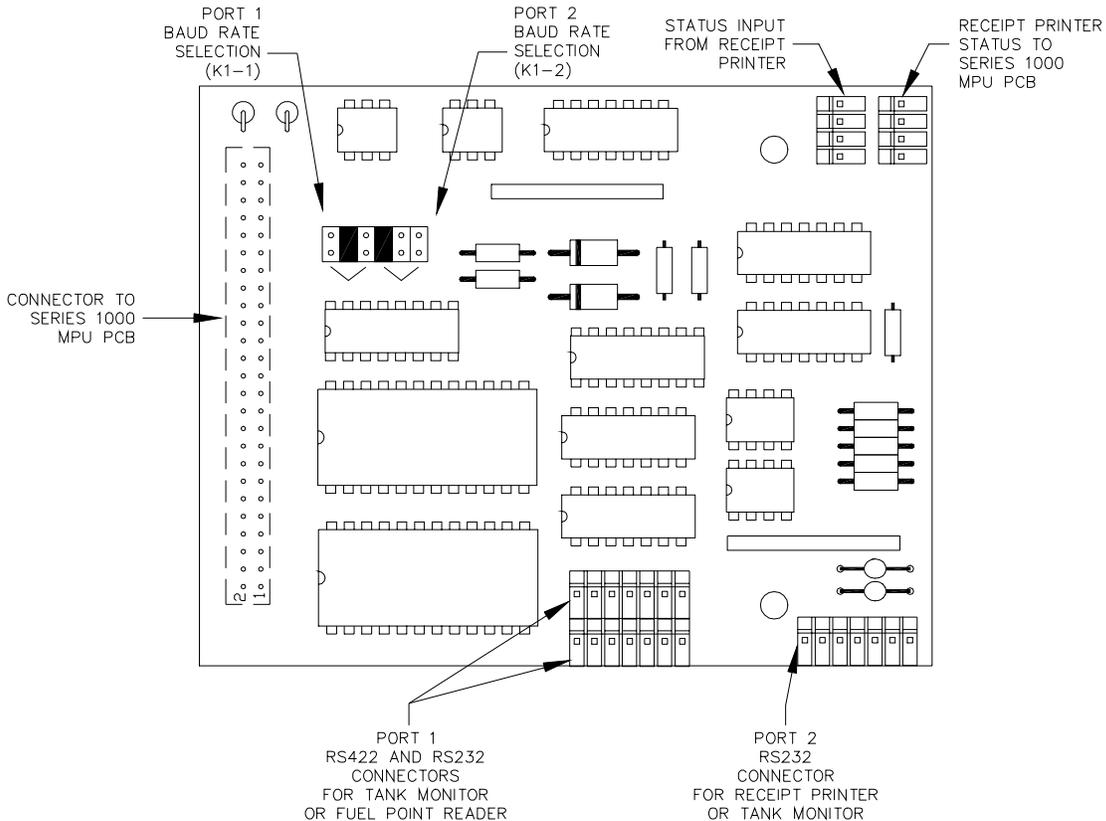
Figure 5-4. Auxiliary Communications Port Board

Veeder-Root TLS-250 Tank Monitor Switch Settings

When the Series 1000 is connected to a Veeder Root TLS-250 tank level sensor, set the baud rate jumper for 300 or 1200 baud. Setting the baud rate at 9600 is not recommended and may result in a loss of data received from the TLS-250.

The Option PCB, located inside the right hinged cover of the TLS-250 contains a rotary switch which must also be set. The switch is located at the lefthand center of the PCB and shows a numbered switch position. This switch should be set to 4 (1200 baud) or 6 (300 baud) to match the setting used in the Series 1000.

The TLS-250 Main PCB is located in the back of the TLS-250 box and accessed by opening the right hinged cover. It contains a 5-position DIP switch bank, located at the upper left of the Main PCB. These switches should be set as follows:

Switch	Function	Status
1-3	Control Interboard Communication Rate	Always Closed
4	Parity: Closed, Odd; Open Even	Set to Open
5	Security Code option. Open, disable; Closed, enable. Before setting this switch, see the Veeder Root Communications Manual for additional details.	Set to user preference

Veeder-Root TLS-350 Tank Monitor Switch Settings

When the Series 1000 is connected to a Veeder Root TLS-350 tank level sensor, set the baud rate jumper for 300 or 1200 baud. Setting the baud rate at 9600 is not recommended and may result in a loss of data received from the TLS-350.

The TLS-350 communications parameters are configured via the TLS-350 front panel keypad. Refer to the TLS-350 manuals for configuration options and how to change them.

The TLS-350 CPU board is located in the TLS-350 console printer compartment (lefthand door). It contains a 4-position DIP switch bank, located in the lower righthand corner of the printer compartment. These switches should be set as follows:

Switch	Function	Status
1	Front Panel Security Code Feature	Open, Disable; Closed, Enable
2	RS-232 Security Code Feature	Open, Disable; Closed, Enable
3 & 4	Not used	

Fuel Point Reader Port and Baud Rate Jumpers

When a Fuel Point Reader (FPR) is connected to a FleetKey, it is connected to P3 (RS-422 Port 1). The K1 baud rate jumper for port 1 must be set for 1200 baud.

GASBOY FUEL POINT READER SWITCHES

When the system is used with the Fuel Point Reader (FPR), verify that the switches on the FPR CPU PCB are set as shown.

Switch	Setting
1	ON
2	OFF
3	OFF
4	OFF
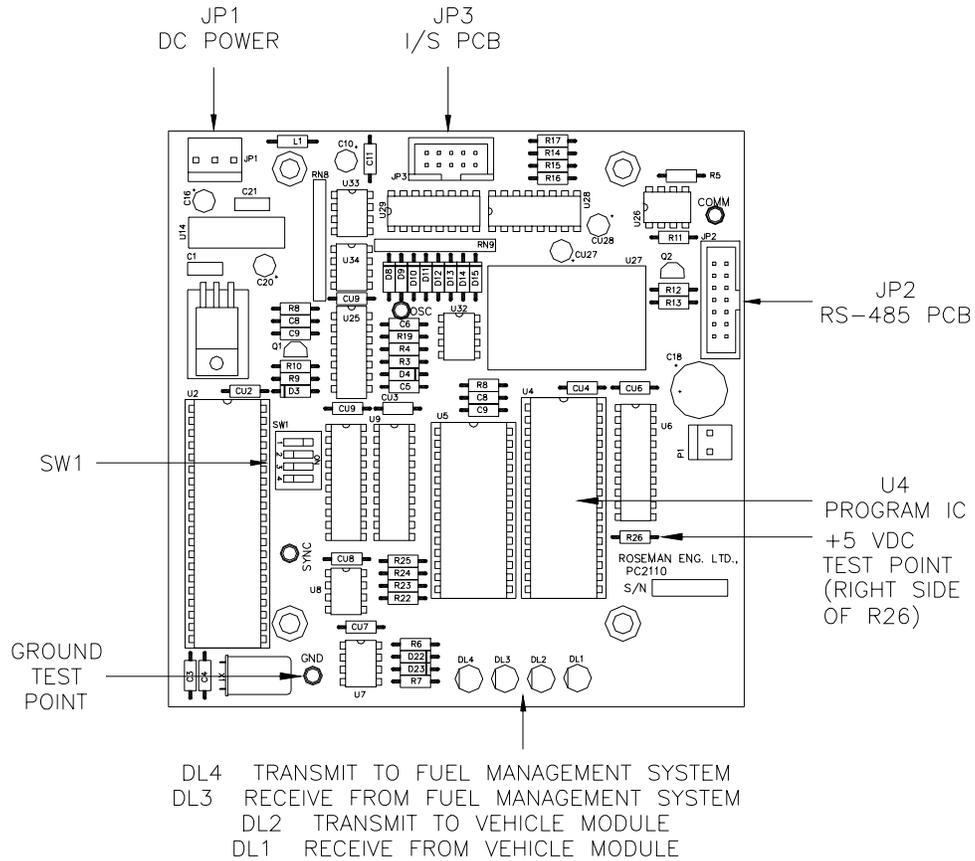
Figure 5-5. Fuel Point Reader (FPR) CPU PCB

LINK MC5 TERMINAL SETUP

Install and complete the setup of the terminal as specified in the manufacturer's setup instructions. Then you'll need to enter the Setup Mode and change parameters on five screens. This enables the terminal to function properly with both the Okidata printer and the Series 1000 system. Be sure to set the **LINES PER PAGE** in the **SC** command (Section 5) to 62.

When setting up the terminal, use the following keys as needed.

SHIFT and SELECT	Used together to enter Setup Mode.
Up/Down Arrows	Move to a menu item.
Left/Right Arrows	Change values for parameter.
TAB	Move to next column.
PAGE DOWN/UP	Move to next or previous screen.
F1 to F8	Select specific screens from 1 to 8.
E or F9	Exit Setup Mode.
S	Save current values.
P	Toggle between Main and Aux ports.
D	Defaults all values.
R	Restores values to previously saved settings.

In the steps that follow, setup parameters shown in bold are non-critical and can be configured to your preference.

1. Press CAPS LOCK to activate the caps lock feature. **CAPS** will appear in the upper lefthand corner of the status line.

2. Enter Setup Mode by pressing SHIFT and SELECT. Be careful not to press CTRL and SELECT. Doing so switches terminal control to Aux. If you find yourself in Aux mode, CTRL and SELECT will return you to Main mode. The first Setup Screen, General Setup displays:

   Important: Before you begin to change parameters, check to be sure the message **HOST IS ON MAIN PORT** is displayed. If the message reads **HOST IS ON AUX PORT**, press **P** to return to the Main port configuration.

```
                          General Setup


     Emulation            VT220-7        Auto Page              Off
     Enhancements            Off         Warning Bell            On
     Virtual Terminal        Off         Margin Bell            Off
     Scroll Style           Jump         Bell Sound              1
     Auto Scroll              On         Block Terminator     US/CR
     Auto Wrap                On         Send ACK               Off
     Received CR              CR         Monitor Mode           Off
```

3.   Press F2 or PAGE DOWN to display the next Setup Screen, Communications Setup.

```
                          Communications Setup


    Main Baud                1200        Aux Baud                9600
    Main Data/Parity       8/None        Aux Data/Parity       8/None
    Main Stop Bits              1        Aux Stop Bits              1
    Main Rcv Hndsk       XON/XOFF        Aux Rcv Hndsk           NONE
    Main Xmt Hndsk           NONE        Aux Xmt Hndsk       XON/XOFF
    Main Rcv Level            50%        Aux Rcv Level            50%
    Ignore 8th Bit           Off        Aux Port               RS232
    Comm Mode         Full Duplex        Aux Interface          RS232
    Disconnect             2 Sec        Printer               Serial
```

*NOTE: Series 1000 software prior to version 8.1 and FleetKey software prior to version 2.1 does not support XON/XOFF protocol. For these software versions, set the **Main Rcv Hndsk**, **Main Xmt Hndsk**, **Aux Rcv Hndsk** and **Aux Xmt Hndsk** parameters to **NONE** and set the **Main Baud** parameter to 1200 and **Aux Baud** parameter to 9600.*

4.   Press F3 or PAGE DOWN to display the next Setup Screen, Display Setup.

```
                            Display Setup


    Columns                   132        Background              Dark
    80/132 Clear               On        Attributes              Char
    Lines                      24        Wprt Intensity           Dim
    Pages                 1X Lines        Wprt Reverse             Off
    Status Line               Ext        Wprt Underline           Off
    Cursor Style      Blink Block        Refresh Rate            60Hz
    Cursor                     On        Pound Char                US
    Screen Saver           15 Min        Auto Font Load            On
```

*NOTE: The **Columns** setting of 132 may be changed to 80 if desired; however, this may cause transactions displayed on the screen (and on the Okidata printer) to wrap, hindering readability.*

5.   Press F4 or PAGE DOWN to display the next Setup Screen, Keyboard Setup.

```
                           Keyboard Setup


    Key Click                 Off        Break                 250 ms
    Key Repeat                 On        Xmt Limit               None
    Key Lock                 Caps        FKey Xmt Limit          None
    Return Key                 CR        Key Code               ASCII
    Enter Key                  CR        WP Keyboard Mode         Off
    Back Space Key         DEL/BS        Lock Keyboard        Disable
    Left Alt Key            Funct        Language                  US
    Delete Key             Normal
```

6.   Press F5 or PAGE DOWN to display the next Setup Screen, ANSI Setup.

```
                              ANSI Setup


    FKey Lock               Off         Send                  All
    Feature Lock            Off         Print             National
    Keypad              Numeric         Send Area           Screen
    Cursor Keys          Normal         Print Area          Screen
    Xfer Term               EOS         Send Term             None
    Char Mode     Multinational         Print Term            None
    Char Set            DEC-MCS         Print Mode            Auto
    Keys             Typewriter         Auto Answerback        Off
    VT100 ID            VT 100
```

7.   Press **S** to save Setup changes.

8.   Press F9 or **E** to exit Setup Mode.

OKIDATA 184 SETUP

To prepare the Okidata printer for operation with the LINK MC5 terminal and your GASBOY Fuel Management System, perform the following steps. Install and complete the setup of the printer as specified in the manufacturer's setup instructions. Then set up the switches as follows:

SW1-1 ON   Parity: Odd
SW1-2 ON   Parity: Without
SW1-3 ON   Data bits: 8
SW1-4 OFF   Protocol: XON/XOFF (Series 1000 V8.1 or higher)
          ON   Ready/Busy (Series 1000 versions prior to V8.1)
SW1-5 ON   Test select: Circuit
SW1-6 ON   Mode select: Print
SW1-7 ON   Busy line selection: DTR - Pin 20
SW1-8 ON   Busy line selection: DTR - Pin 20

SW2-1 OFF   Baud rate: 9600
SW2-2 ON   Baud rate: 9600
SW2-3 ON   Baud rate: 9600
SW2-4 ON   DSR output signal: Active
SW2-5 ON   Buffer threshold: 32 bytes
SW2-6 OFF   Busy signal timing: 1 sec (min.)
SW2-7 ON   DTR signal: Space after power on
SW2-8 OFF   Not used

1.   Turn the printer offline by pressing SELECT. The SELECT light should go off.

2.   Position the print head at the top of the paper and press the TOF SET button.

3.   Put the printer back online by pressing SELECT. The SELECT light should go on.

4.   Press the MODE button until the light next to **HSD** is lit.

5.   Press the PITCH button until the light next to **17** is lit.

     NOTE: Pitch may be set to a lower number (resulting in larger print) if transactions are less than 80 characters.

Section 6

PUMP/DISPENSER MANUAL TEST

1. Verify that the general guidelines listed below were met when installing the system's pumps and dispensers.

    Suction Pumps
    The Series 1000 System is capable of directly driving pump motors up to 3/4 HP at 115 VAC or 230 VAC. A starter relay must be used with pump motors over 3/4 HP. A separate circuit breaker should be supplied for each pump to meet the current requirements and to allow for isolated control with the circuit breaker panel in case of problems.

    Dispensers
    The Series 1000 System is capable of directly driving submersible pumps up to 3/4 HP at 115 VAC or 230 VAC. A separate circuit breaker should be supplied for each dispenser in cases where it will directly drive the submersible pump. A dispenser with a submersible pump rated over 3/4 HP will require the use of a submersible starter relay. Dispensers may be grouped together on a single breaker when the submersible pump has its own breaker. It is recommended that no more than two dispensers be powered from one breaker to maintain isolated control with the circuit breaker panel in case of problems.

2. **Manual Override Test:** The pumps and/or dispensers should be tested to verify the AC wiring. **DO NOT TURN ON THE SYSTEM POWER DURING THESE TESTS!** The steps below indicate the proper procedure for testing and the expected results. If any of these tests fail, correct the wiring and the perform the test again. See Figure 5-1 for location of the override switches.

    a. Turn on the breakers for all pumps and/or dispensers. DO NOT TURN ON THE BREAKER FOR THE SERIES 1000.

    > **CAUTION**
    > **AC power is present on the terminal blocks in the pedestal. Electrical shock may occur if the operator comes in contact with these connections.**

    b. Place the system override switch for Hose 1 in the **MANUAL** position.

    c. Turn on Hose 1. After completing reset, the hose should be able to dispense product.

    d. Turn on all other hoses. No other hoses beside 1 should activate.

    e. Turn off all hoses.

    f. Place the system override switch, for Hose 1 in the **OFF** position.

    g. Repeat Steps **b** through **f** for all remaining hoses. Substitute the hose number being tested for Hose 1.

Section 7

SYSTEM POWER

1. Verify that the AC Power for the Series 1000 System comes from a separate, dedicated circuit breaker. No other equipment, except for data terminals or external modems should be powered from this breaker. The system's pumps or dispensers must not be on this breaker. Whenever possible, one breaker should be used to supply the system, terminal, and modem. However, if necessary, the terminal or modem may be on a separate, dedicated breaker.

    Power for the system should be 115 VAC ± 10%, 47-63 HZ. The system draws 135 watts maximum. An unstable power source may require the use of a voltage conditioner. (GASBOY P/N C01862). If the Series 1000 is going to be used for the resale of fuel, Weights & Measures regulations require a backup power supply (GASBOY P/N C04395).

CAUTION
AC power is present on the terminal blocks in the pedestal. Electrical shock may occur if the operator comes in contact with these connections.

2. Turn on the circuit breaker for the system.

3. Locate the **SYSTEM POWER** terminal block in the pedestal on the chassis assembly (see Figure 5-1). Use a digital AC voltmeter to measure the following voltages. Holes in the plastic cover provide access to the terminal block for your meter leads.

    Hot to Neutral: AC voltage measured between the **H** and **N** screws. This voltage should be 115 VAC ± 10% (104 VAC to 126 VAC).

    Hot to Ground: AC voltage measured between the **H** and **G** screws. This voltage should be 115 VAC ± 10% (104 VAC to 126 VAC).

    Neutral to Ground: AC voltage measured between the **N** and **G** screws. This voltage should be 0 VAC ± 1 volt (-1 VAC to 1 VAC).

    NOTE: *If power is not within these specifications, correct it before you continue.*

4. **Grounding Method:**   Proper system grounding is an extremely important part of the system installation. Grounds for all system devices should be wired to the breaker panel ground bus bar which, in turn, should be grounded to a ground rod. A conduit ground does not provide a sufficient ground. It is recommended that the neutral and ground bus bars be bonded together unless prohibited by local codes.

☞

7. SYSTEM POWER
Record voltage readings from Step 3 for **Hot to Neutral**, **Hot to Ground**, **Neutral to Ground**, and the grounding method from Step 4 for **Grounding Method** (e.g., system to circuit breaker panel bus to ground rod).

DC POWER

SERIES 1000

1. Turn on the system **AC POWER** switch located in the rear of the unit. The fluorescent lamp should light and the system should begin to operate.

2. Using a digital DC voltmeter, measure the following voltages. If any of the measured DC voltages are outside of the tolerance noted below (except for +5 which can be adjusted), immediately shut off the **AC POWER** switch and diagnose the problem. Do not record any other DC voltages until this voltage is properly adjusted. Test points are provided on the rear edge of the microprocessor PCB (see Figure 5-2). All voltage measurements should be taken with the negative lead of the meter on the ground (**GND**) test point. This is the black test point and is easily identifiable.

☞

---
8. DC POWER

As you are measuring the noted voltages, fill in the readings for each in this section of the Start-up form.

    +5VDC
    Measure to the **+5** orange test point. The tolerance for this voltage is **+5.0** to **+5.1**; however, this voltage is adjustable and should be adjusted as close to **5.0** as possible. If an adjustment needs to be made, follow steps **a** through **f** below.

    a. Turn the **AC POWER** switch off.

    b. Remove the three screws from the mesh cover protecting the power supply and remove the cover.

    c. Turn the **AC POWER** switch back on.

> **CAUTION**
> **Be careful not to touch anything but the white adjustment screw located in the upper right hand corner. High voltage exists around the power supply and electrical shock may occur.**

    d. Using an 1/8 inch or smaller plastic flat blade screwdriver, adjust the power supply to **+5.0VDC** by turning the voltage adjustment screw clockwise to increase voltage, counterclockwise to decrease voltage. (The screw is located at the top and slightly to the right of the center of the power supply board.) Turn the screw slightly to judge the sensitivity.

    e. Turn the **AC POWER** switch off and replace the mesh cover.

    f. Turn the **AC POWER** switch back on.

+12VDC
Measure to the **+12** red test point. The tolerance for this voltage is **+11.8** to **+14.00** and is not adjustable.

-5VDC
Measure to the **-5** blue test point. The tolerance for this voltage is **-4.8** to **-5.2** and is not adjustable.

-12VDC
Measure to the **-12** white test point. The tolerance for this voltage is **-11.7** to **-14.00** and is not adjustable.

GASBOY FUEL POINT READER

Using a digital DC voltmeter, measure between the GND test point and the right side of resistor R26 of the FPR CPU PCB (See Section 5 for illustration).

The acceptable voltage range is +5.0 to +5.1 VDC, but try to adjust it as close as possible to +5.0 VDC. There is an access hole in the power supply bracket for adjustment.

Section 9

COMMUNICATIONS TESTS

1. Verify that the external communication devices are located in the proper environments as described below.

   Data Terminal
   When a data terminal is used with the system, it should be located in a clean, office-type environment. It should not be installed over a hazardous location. Data terminals supplied by GASBOY have an operative temperature range of 0º C to 40º C. Locating the terminal in a dirty environment may cause premature failures.

   External Modems
   When an external modem is used with the system, the modem should be located in an office-type environment. If this is not possible, it should be housed in a protective enclosure. It should not be installed over a hazardous location. External modems supplied by GASBOY have an operative temperature range of 0º C to 40º C.

2. Verify that the wiring for the communication ports meets the following installation requirements.

   - All wiring is to be installed and used in accordance with the National Electrical Code (NFPA 70) and the Automotive and Marine Service Station Code (NFPA 30A). Wiring is also to conform to local codes.

   - All peripheral equipment connected to the RS-232 ports should be UL-Listed, have an Electronics Industry Association (EIA) standard RS-232 communications protocol, and not be installed over a hazardous location.

   - The AC power for the peripheral equipment must be on a separate breaker (which can be the same as the system's breaker).

   - RS-232 distance is limited to 100 feet; RS-422 is limited to 1500 feet.

     NOTE: For distances over 1500 feet, see the Series 1000 Installation Manual for use of ME800 Short Haul Modems.

   - Wire

     RS-232   22 gauge for use with RS-232D connectors; 18 or 22 gauge for use with the GASBOY RS-232 termination box

     RS-422   Two twisted-pair cable (metal conduit separate from any AC wires)
     Two twisted-pair cable, shielded, Belden 8102 or equivalent (metal conduit not separate from AC wires or indoors with no metal conduit)

3. Test the communication ports. The required tests will vary according to the type of devices connected to the ports and the ports used. When testing the ports, the equipment and communication lines that will be used at the site should be used in the test whenever possible. It is recommended that a data terminal always be connected to Port 1 (direct printout port) so that transactions can be logged as they occur.

Testing the Direct Connect Device

a. Turn on the direct connect device (e.g., data terminal).

b. Locate the ON-LINE switch on the terminal and place it in the **ON** position.

c. Press CTRL F or press RETURN. The system should respond: **SIGN ON**.

d. Type **GASBOY** and press RETURN. The system should respond with an asterisk (**∗**).

   NOTE: For security reasons, GASBOY does not print as you type it.

e. Type **PD**. The system prints the date, time, and transaction numbers followed by another asterisk (**∗**).

f. Type **EX**. The system prints **EXIT**. When connected to Port 1, the system goes into the direct printout mode by printing the transaction header.

Testing the Modem

a. Turn on the modem/terminal device from which the call will originate.

b. Dial the Series 1000 site and establish a communication link with the system (See the modem operator's manual).

c. Press CTRL F or press RETURN. The system should respond: **SIGN ON**.

d. Type **GASBOY** and press RETURN. The system should respond with an asterisk (**∗**).

   NOTE: For security reasons, GASBOY does not print as you type it.

e. Type **PD**. The system prints the date, time, and transaction numbers followed by another asterisk (**∗**).

f. Type **EX**. The system prints **EXIT**.

g. Hang up the phone to terminate the communication link.

4. Lower the hood onto the unit so that the four slots (two each side) on the hood side brackets go over the pins on the base of the head assembly.

5. Replace the four screws on the outside of the hood.

6. Replace the two inside knobs.

7. Close and lock the rear door of the hood assembly.

Testing the Tank Monitor

a. Determine the device (direct connect or modem) from which the tank monitor will be contacted and follow steps **a** through **d** of **Testing the Direct Connect Device** or **Testing the Modem**.

b. Type **TM**. The system prints **TANK MONITOR LINK? <Y OR N>**.

c. Type **Y** and press RETURN. The system should respond with the **>** symbol indicating connection to the tank monitor.

d. Type any valid tank monitor command and the tank monitor should return the appropriate response.

e. Press CTRL E. The system should respond with an asterisk (∗) indicating it has terminated communications with the tank monitor and has resumed communications with the Series 1000.

f. Type **EX**. The system prints **EXIT**.

Testing the Fuel Point Reader

a. Connect a terminal to port 1 (direct printout port).

b. Turn FPR power switch on. The terminal should respond **FPR communications established @date time**.

c. Turn FPR power switch off. The terminal should respond **FPR communications lost @date time**.

Section 10
PUMP/DISPENSER AUTOMATIC TEST

The automatic test verifies the wiring and operation of the system in respect to the connections between the pumps and/or dispensers and the system. As each transaction is completed it should print on the direct printout data terminal (Port 1). For systems not using direct printout either a data terminal can be temporarily connected to Port 1 or the information will have to be manually polled.

In order to perform this test on a card system, you must have a test card. For a cardless system, a dummy vehicle number, zero (0), has been defined.

The steps below indicate the proper procedure for testing and the expected results.

1. Turn all the override switches, located in the pedestal (see Figure 5-1), into the **AUTO** position.

2. On a card system, use the test card (provided with each system); on a cardless system, enter vehicle number **0** and press ENT. Select Hose 1, then turn on Hose 1 using the pump handle. Hose 1 should reset and be able to dispense product.

3. Dispense some product with Hose 1.

4. Turn on all other hose handles. No other hoses besides 1 should activate.

5. Turn off all other hose handles.

6. Turn off the handle for Hose 1. Place the handle for Hose 1 back into the on position. Hose 1 should not reset and should not dispense product.

7. Verify that the quantity displayed on the Hose 1 register matches the quantity recorded on the system printout.

8. Repeat Steps 2 through 7 for all hose outlets.

   NOTE: *Steps 9 through 13 should be done in addition to the above only if you are using dispensers or dual hose single motor suction pumps.*

9. Again, using the test card or vehicle number **0**, select two hose outlets of the same product type (use the same pump).

10. Turn on both pump handles. Both hose outlets should reset and be able to dispense product.

11. While dispensing product from one hose (A), allow the other hose (B), to time out.

12. When Hose B has timed out, try to dispense product from it by squeezing the nozzle. You should not be able to dispense product from Hose B. If you can, verify that the dispensers use solenoids rather than hydraulic valves.

13. Repeat Steps 9 through 12 for all combinations of hose outlets of the same product type.

14. Replace and lock the upper side pedestal cover and secure it with the 10 screws. Replace the lower side pedestal cover and secure it with the 10 screws.

Section 11
START-UP COMMANDS

Use the following commands to set up the system at the initial start-up. The *Series 1000 Operation Manual* describes these commands in more detail. If you have the Fuel Point option, refer to Appendix D of the *FleetKey Operation Manual* for command changes. If you filled in the checklist in Section 2 of this manual, you already have all the information you need to start up your system. In the examples, bold represents the information that you enter, and this symbol ↵ represents the RETURN key.

1. Press CTRL F or RETURN. The system displays: **SIGN ON:**

2. Type **GASBOY** and press RETURN. (The word **GASBOY** is shown in the illustration for example only. You will not see the word **GASBOY** as you are typing it.) The asterisk prompt **∗** appears indicating that you are in Command Mode and can begin entering commands to configure your Series 1000 System.

```
SIGN ON: GASBOY↵
*
```

3. Type **LS** to change the initial password (**GASBOY**) to one of your choice (up to 10 characters).

```
*LS
PASSWORD: PASSWORD↵
*
```

4.   Type **SC** to load your system configuration data.

CARD OR CARDLESS SYSTEM

```
*SC
RESETTING SYSTEM CONFIGURATION
ARE YOU SURE? <Y OR N> Y↵

SITE NO.: <XXXX> 0003↵

IDLE MESSAGE: <20 CHARS> GASBOY SERIES 1000↵

NUMBER OF PUMPS: <1-8> 4↵

PUMP #1
   $ OR QTY PULSES? <$ OR Q>$↵

PUMP #2
   $ OR QTY PULSES? <$ OR Q>Q↵
   PULSES PER GAL. <1000,500,250,100,10,1>100↵

PUMP #3
   $ OR QTY PULSES? <$ OR Q>Q↵
   PULSES PER GAL. <1000,500,250,100,10,1>10↵

PUMP #4
   $ OR QTY PULSES? <$ OR Q>Q↵
   PULSES PER GAL. <1000,500,250,100,10,1>10↵

NO. OF TANKS: <1-8> 4↵

PRICE DATA FORMAT
   0 = NO PRICE DATA
   1 = UNIT PRICE
   2 = UNIT & TOTAL PRICE
   ENTER FORMAT: <0,1,2>0↵

SYSTEM ID:<XXXX>↵                               (Card Systems Only)

AUTO PUMP DISABLE
   NO. OF ZERO QTY. TRAN. <1-99> 5↵

LINES PER PAGE <0-62>: 62↵

CARD EXPIRATION DATE
   ENABLE OR DISABLE? <E OR D> E↵              (Mag Card Only)

AUTO PIN LOCKOUT                          (Card Systems Only)
   ENABLE OR DISABLE? <E OR D> E↵

PIN ENTRY                            (Cardless Systems Only)
   ENABLE OR DISABLE? <E OR D> E↵

AUTO SITE SHUT DOWN
   ENABLE OR DISABLE? <E OR D> D↵
```

NOTE: *Additional system configuration prompts may appear depending on the options available on your system. See the description of your option in the Operation Manual for command differences.*

FLEETKEY SYSTEM

```
*SC
RESETTING SYSTEM CONFIGURATION
ARE YOU SURE? <Y OR N> Y↵

SITE NO.: <XXXX> 0003↵

IDLE MESSAGE: <20 CHARS> GASBOY FLEETKEY↵

ENTER KEY TYPE 1 PROMPT:   INSERT GRAY KEY↵

ENTER KEY TYPE 2 PROMPT:   INSERT GREEN KEY↵

NUMBER OF PUMPS: <1-8> 4↵

PUMP #1
   $ OR QTY PULSES? <$ OR Q>$↵

PUMP #2
   $ OR QTY PULSES? <$ OR Q>Q↵
   PULSES PER GAL. <1000,500,100,10,1>100↵

PUMP #3
   $ OR QTY PULSES? <$ OR Q>Q↵
   PULSES PER GAL. <1000,500,100,10,1>10↵

PUMP #4
   $ OR QTY PULSES? <$ OR Q>Q↵
   PULSES PER GAL. <1000,500,100,10,1>10↵

NO. OF TANKS: <1-8> 4↵

PRICE DATA FORMAT
   0 = NO PRICE DATA
   1 = UNIT PRICE
   2 = UNIT & TOTAL PRICE
   ENTER FORMAT: <0,1,2>0↵

SYSTEM ID:<XXXX>↵

AUTO PUMP DISABLE
   NO. OF ZERO QTY. TRANS. <1-99> 5↵

KEY EXPIRATION DATE
   ENABLE OR DISABLE? <E OR D> E↵

AUTO PIN LOCKOUT
   ENABLE OR DISABLE? <E OR D> E↵

AUTO SITE SHUT DOWN
   ENABLE OR DISABLE? <E OR D> D↵

TRANSACTION MPG
   ENABLE OR DISABLE? <E OR D> D↵
```

5. For FleetKey systems only, type **CT** to clear the key receptacle read and error table.

```
*CT
CLEAR KEY READ TOTALIZERS? <Y or N>: Y↵
*
```

6. Type **RT** to initialize the transaction file.

```
*RT


RESET TRANS FILE ? <Y OR N> Y↵
*
```

7. Type **LN** to load the starting transaction number into the system.

```
*LN

ENTER NO. : 0000↵
*
```

8. Type **LD** to load the date and time into the system.

```
*LD

YEAR: 96↵
MONTH: 1↵
DAY:  23↵
HOURS: 9↵
MINS: 30↵
*
```

9. Type **MO** if you have a CRT attached and wish to display output one screen at a time.

```
*MO

DISPLAY OUTPUT ONE SCREEN AT A TIME <Y OR N>: Y↵
*
```

10. For Card or Cardless systems only, type **LK** to load the 4-digit PIN key that is assigned to your system at the time of order. This is used in calculating PIN numbers.

```
*LK

PIN KEY NO. 0015↵
*
```

NOTE: *The value shown is for example only. Use the PIN key assigned to your system. If you have a card system, the PIN key is listed on the card layout sheet attached to the Card Encoding Manual; cardless systems list the PIN key on the Field Information Form.*

11. For FleetKey systems only, type **WK** to load the 4-digit working key that is assigned to your system at the time of order. This is used in calculating PIN numbers.

```
*WK

WORKING KEY NO. 0015↵
*
```

NOTE: *The value shown is for example only. Use the working key assigned to your system. The working key is listed on the key layout sheet provided with your system.*

12. Type **SD** to load the start and end times for site shut down. If you disabled the Auto Site Shut Down feature through the **SC** command, you can skip this step.

```
*SD

SITE SHUT DOWN START TIME:
HOURS:  23↵
MINS:  00↵

SITE SHUT DOWN END TIME:
HOURS:  7↵
MINS:  00↵
*
```

13. Type **LI** to assign the initial inventory of each tank. For example, if Tank 2 currently contains 1700 gallons, the entries are:

```
*LI

TANK #2↵
AMOUNT: 1700↵

TANK #↵
*
```

14. Type **LR** to assign the inventory reorder point for each tank.

```
*LR

TANK #2↵
REORDER: 700↵

TANK #↵
*
```

15. Type **LP** to assign specific fuels, prices, tanks, totalizer readings, and timeouts to your pumps.

```
*LP

PUMP NO. 1
FUEL CODE:  1
FUEL NAME:  REGULAR
PRICE $1.189
TANK #1
AMOUNT: 0
BEFORE PUMP ACTIVATION TIME =  80
AFTER PUMP ACTIVATION TIME =  80

PUMP NO.↵
*
```

NOTES: **PRICE** *may not appear if you selected 0 for price data format in the SC command.*

16. Type **LF** to assign the fuel codes to the proper authorization codes. For initial start-up, assign fuel codes to all authorization codes, beginning with code 1 and continuing through code 9.

```
*LF

AUTH NO. :  1↵
ALLOW: 03 26↵
ALLOW: 00 13↵
ALLOW: 02↵
ALLOW: 16↵
ALLOW: 00 01↵

AUTH NO. :  2↵
ALLOW: 01↵
ALLOW: 00 20↵
        .
        .
        .
AUTH NO. :  9↵
ALLOW: 03↵
ALLOW: 00↵

AUTH NO. :  ↵
*
```

17. Type **LL** to assign the maximum fuel quantities to the limitation codes. For initial start-up, assign quantities to all codes, beginning with Code 0 and continuing through Code 9.

```
*LL

CODE=1↵
MAX =25↵
    .
    .
    .

CODE=9↵
MAX =100↵

CODE=↵
*
```

18. For cardless systems only, type **CV** to clear the vehicle file of any test data that may be present.

```
*CV
CLEAR VEHICLE FILE <Y OR N>: Y↵
*
```

19. For cardless systems only, type **LV** to load the vehicle records. You must load a record for each vehicle number you wish to be active.

```
*LV

VEH NO.: 0543↵
LIM. CODE: 2↵
AUTH CODE: 5↵
CHECK DIGIT: 1↵

VEH NO.:↵
*
```

> *NOTE: Data shown is for example only. Enter your own data in response to the prompts.*

20. If you plan to use a *negative* card, key, or vehicle record file (validate all cards/keys/vehicle records and invalidate individual cards/keys/vehicle records), type **VA**.

```
*VA
VALIDATE ALL CARDS? <Y OR N> Y↵
*
```

> *NOTE: The examples shown are for card systems. Your prompts will vary if you have a cardless or FleetKey system.*

21. If you plan to use a *positive* card, key, or vehicle record file (invalidate all cards/records and validate individual cards/keys/records), type **IA**.

```
*IA
INVALIDATE ALL CARDS? <Y OR N> Y↵
*
```

Section 12

CUSTOMER TRAINING

1. Explain to the terminal operator how the CRT terminal responds to commands. Review all relevant commands in the appropriate *Series 1000 Operation Manual*. Pay particular attention to **Card (or Key) Validation Commands** and **Polling Transaction Information**. For cardless systems, review **Record Validation Commands**.

2. See **Fueling with the Series 1000** in the appropriate *Operation Manual* and demonstrate how to dispense product with the Series 1000. If demonstrating a card or FleetKey system, use the customer's cards or keys, or, if none are available, use the demonstration cards or keys provided with the system.

3. Demonstrate how to clean the card reader, if applicable.

   For Magnetic Card Readers

   a. Use the GASBOY cleaning card. Order part number C08757 for a box of 50 cleaning cards.

   b. Insert the cleaning card with the fuzzy side facing down. Insert and remove the card several times.

   c. Turn the card around (fuzzy side still facing down) and insert and remove the card several times. By turning the card around you will utilize the entire cleaning area.

   d. Clean the card reader at least once a week. The frequency of cleaning required depends on the environment the system is in and how heavily it is used. Failure to clean the card reader regularly could result in premature failure.

   For Optical Card Readers

   a. Wrap a lint-free cloth (e.g., cheese cloth) around any optical card.

   b. Insert the card lengthwise and move it from side to side.

☞

---
9. SYSTEM APPROVALS

Note any remarks or comments from the customer in the space provided.

Have a responsible contact person sign the Start-Up Form and sign it yourself. This indicates that the system has been accepted by the customer and the installation is approved by you.

FINISH START-UP

1. Unlock and lower the rear door of the Series 1000 head assembly.

2. Move the Pulse Rate switch (located on backside of the microprocessor and accessed through a hole in the sheet metal) towards the front of the unit.

3. Close and lock the rear door.

☞

At the top of page 2, after **Customer:**, write the customer's name. This is used as a reference in case the two forms become separated.

10. CUSTOMER KNOWLEDGE

Briefly describe the customer's understanding of the Series 1000 system.

11. PARTS USED

Fill in the Source of Parts Used section. Write down any parts used in the start-up of the system. Include the serial numbers of old and new parts and why the part was changed.

12. SITE LAYOUT

Sketch a layout of the site. Be sure to include the location of the system, hose outlets, data terminals, external modems, circuit breakers and wiring distances.

---

4. Generate a printout showing transactions with quantity, pump fuel assignments, limitation codes, authorization codes, and pulse rates/timeouts. Use the commands **PT**, **PP**, **PL**, **PF**, and **XP**). Include this printout with the Start-up form.

5. Turn over the keys for the system (and test cards or data keys) to the person in charge of the site.

✉

Make a copy of the Start-up form for your records and send the form and the printout from Step 4 above to:

        GASBOY
        Technical Service Department
        707 N. Valley Forge Rd.
        P.O. Box 309
        Lansdale, Pa 19446

GASBOY SERIES 1000 START-UP FORM

1. SITE IDENTIFICATION

Customer _____

Location: _____

_____

Contact: _____

Customer Phone No: _____

Date: _____

Distributor: _____

Distributor Phone No: _____

Start-Up Person: _____

Installer: _____

2. PUMPS/DISPENSERS

Hose #	Fuel Type	Fuel Code	Pump Make	Pump Model #	Pump Serial #	Motor Size	Pump Type	Starter Relay	Pulser Rate
1	_____	____	_____	_____	_____	_____	Sub/Suc	Y/N	_____:1
2	_____	____	_____	_____	_____	_____	Sub/Suc	Y/N	_____:1
3	_____	____	_____	_____	_____	_____	Sub/Suc	Y/N	_____:1
4	_____	____	_____	_____	_____	_____	Sub/Suc	Y/N	_____:1
5	_____	____	_____	_____	_____	_____	Sub/Suc	Y/N	_____:1
6	_____	____	_____	_____	_____	_____	Sub/Suc	Y/N	_____:1
7	_____	____	_____	_____	_____	_____	Sub/Suc	Y/N	_____:1
8	_____	____	_____	_____	_____	_____	Sub/Suc	Y/N	_____:1

3. COMMUNICATION

Data Terminal: _____

External Modem: _____

Modem Phone No: _____

Port 1 - RS232/422 _____baud

Port 2 - RS232/422/Int. Modem _____baud

Aux. Port 1 - RS232/422 _____baud

4. BREAKERS

	Breaker #		Breaker #		Breaker #
Series 1000 System:_____		Hose Outlet #1:_____		Hose Outlet #5:_____	
Data Terminal:_____		Hose Outlet #2:_____		Hose Outlet #6:_____	
External Modem: _____		Hose Outlet #3:_____		Hose Outlet #7:_____	
FPR:_____		Hose Outlet #4:_____		Hose Outlet #8:_____	

5. CONDUIT

All Metal Conduit: Y/N   Communication Wires: Separate/DC/AC conduit

AC and DC in Separate Conduits: Y/N   Wiring Neatness: Good/Fair/Poor/Bad

6. SYSTEM IDENTIFICATION

System Serial #: _____   Program Name/Date:_____

FPR Serial #: _____

7. SYSTEM POWER

Hot to Neutral_____VAC   Hot to Ground_____VAC   Neutral to Ground_____VAC

Grounding Method:_____

8. DC POWER

System: +5VDC: ___.___   +12VDC: ___.___   -5VDC: ___.___   -12VDC: ___.___

FPR: +5VDC: ___.___

9. SYSTEM APPROVALS

I am satisfied with the installation of the Series 1000 System and have been trained in its use and operation.

_____ _____   _____ _____

Customer Signature   Date   Start-Up Tech Signature   Date

Please supply any additional customer comments in the space below:

_____

_____

_____

10. CUSTOMER KNOWLEDGE

_____

_____

_____

_____

_____

11.   SITE LAYOUT (Include wiring distances):