

# **SDI/Unitec Interface**

**Version 1.0**

**Site Controller III version 3.0 and above**

**part number: C35924**

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# **Gasboy CFN Series**

## **SDI/Unitec Interface**

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**Version 1.0**

**for Site Controller III version 3.0 and above**

**03/07/03**

**C35924**

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<b>REVISION RECORD OF THIS DOCUMENT</b>		
<b>Part No.</b>	<b>Date Published</b>	<b>SC III Release Levels</b>
C35924	April 2, 1998	Version 3.0
C35924	August 5, 1999	Version 3.0
C35924	October 14, 1999	Version 3.0
C35924	March 7, 2003	Version 3.0

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# Site Controller III Related Publications

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## **Site Controller III - version 3.0 and above**

<i>Part No.</i>	<i>Title</i>
C35920	CFN III Manager's Manual for Windows NT, version 3.0
C09326	CFN III Configuration Manual for Windows NT, version 3.0
C35921	CFN III Pocket Reference
C09204	Check Point Reference Manual
C35745	Profit Point Clerk's Manual - Modular series
C35746	Profit Point Reference Manual - Modular series
C35923	Point of Sale and Shift Change, version 003

## **Credit and Debit Card Networks**

C35931	Amoco/DataCard	C35909	Generic Dial
C35901	Buypass	C35908	PaymenTech (formerly Gensar)
C35902	ADS-CITGO	C35910	NaBANCO
C35906	ADS-FINA	C35911	NDC
C35919	ADS-ZION	C35913	Sinclair
C35904	EDS-CCIS	C35914	SPS/Phillips
C35903	Comdata	C35915	T-Chek
C35905	FDR	C35916	UFDA
C35930	Gasboy Dial	C35917	VDOT
C35907	Gascard	C35918	VisaNet

## **Pump Interface**

C09146	Pump Interface Manual
C01745	Current Loop Interface Unit Manual
C35849	SDI/Wayne CAT Interface
C35924	SDI/Unitec Interface
C35933	Insight Interface

## **Card Encoding and Miscellaneous**

C09136	CFN Series Clubcard Format
C01687	CFN Series Card Encoding Manual

## **Remote Communications**

C09141	PC/SiteControl User's Manual
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## **Technical Publications**

C01759	CFN Diagnostic Manual
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# 001 UNITEC Interface

## Overview

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The interface from the Gasboy Site Controller III to the Unitec POS4000 Car Wash Controller uses a device called the Gasboy SDI (Serial Device Interface). This wraps/unwraps Unitec messages in Gasboy RS-485 loop messages.

The Unitec unit must be equipped with Uni-CAM Mark VII option, version 6.2 hardware (or Unitec specification). Set the Unitec unit for 2400 baud operation on the serial port. The Unitec car wash protocol we support is called the Uni-CAM protocol. Please refer to the Unitec documentation for the correct settings.

The SDI uses the SDI Generic Application Program, which allows direct Site Controller interfaces with serial devices that do not follow the Gasboy RS-485 protocol. Each kind of device is supported a driver in the Site Controller. The Unitec driver is supported only with Site Controller III.

## Cable Connections

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The Gasboy SDI has two RJ handset style connectors on one side to connect to the RS-485 loop. On the other side there is a DB25S connector which connects to the DB9P connector on the Car Wash Controller. The corresponding cable uses a DB25P on one end, and a DB9S on the other. The cable pinout is:

DB25P	DB9S	Signal
2	2	TxD
3	3	RxD
7	5	SG

This may be furnished by Gasboy P/N C06010.

The SDI is powered by an external power supply which connects to the SDI box by way of a circular DIN connector. The power supply plugs into an 110VAC outlet, which should be on the same phase and referenced to the same ground as the Gasboy Site Controller.

## SITE CONFIGURATION

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The Site Controller must contain SDI and Unitec drivers, as shown in the STATUS command:

```
Drivers: unitec(000) sdi(001)
```

The Unitec driver replaces the gate controller driver. TABLE.BIN must have one SDI entry for each SDI, and in addition, one gate entry.

## Gate configuration

Use the disk-based configuration program GATE to see the configuration submenus for the car wash information.

## Gate SubMenus

The following is a list of the submenus currently available for the gate and gate controllers.

- 1 = Gasboy gates
- 2 = Gasboy gate controller
- 3 = Unitec Wash parameter
- 4 = Unitec Wash types
- 5 = Unitec Wash discounts
- 6 = Quit

## Unitec Wash Parameters

```

#      Description
1      Reader car wash prompt           line 1: what type of wash
2                                           line 2:
3                                           line 3:
4                                           line 4:
5      Car wash price code: 0
6      Days carwash code valid: 0
-----

Enter number of parameter to modify or q to quit:

```

To change the parameters of the car wash, select submenu 3, Unitec Wash Parameters from the Gate Menu.

The items you can configure in the Unitec wash parameters are:

- Reader car wash prompt line 1 [What type of car wash]: Enter the first line of the display. The default will be displayed between the brackets. Enter additional information for lines 2-4 if needed. This information will be displayed at the card reader.
- Price code for car wash prices [0]: The car wash driver uses this one price CODE for all car washes. Each car type uses the price LEVEL corresponding to its type. For example, car wash type 42 will use price level 42 of the price code configured here. The price code you assign here must be entered on the site using the Load Price command.
- Days car wash code valid [0]: The Unitec car wash controller does not remove wash codes from memory automatically. This must be done with a user command at the Unitec console. The number of days listed here is to tell customers how often you plan to clear the Unitec memory.

## Unitec Wash Types

To change the types of the car wash, select submenu 4, Unitec Wash Types from the Gate Menu. If an ICR does not recognize the selection Car Wash, check that you have entered the car wash types in this screen.

#	Stock	Dept.	Disc	Name	Functions
1					
2					
3					
4					
5					
.					
.					
.					
13					
14					
15					
16					

-----  
Enter a to add, d to delete, m to modify, q to quit, or RETURN for next page

The following can be added or modified:

- Stock Number (from 100-65530)[0]: Enter a unique stock number for this wash type. Required.
- Associated department [10]: Enter the department (product code) this wash will be included in. Required.
- Discount level [0]: Discounts are used to allow island reader transactions to get a reduced price for a wash depending on how much fuel they buy. At the reader, only wash types of discount level zero may be chosen. When the sale completes, the type table is scanned for wash types with the same functions included but a different discount level. If the sale qualifies for the discount and the price is actually lower, the wash type for the sale will be changed to the discounted one.

For POS transactions, any type of wash can be chosen and it is up to the clerk to assign the correct wash type to the sale.

- Name: Enter the name of the wash type.
- Enter wash functions: A car wash consists of from 1 to 12 functions that can be enabled for a given wash. Consult the way your wash controller is configured to determine which combinations you desire to sell as different washes.

Enter a plus (+) to add or a minus (-) to subtract a function followed by the function number. You may do more than one. For example: +1+2+3-4-5 will add functions 1, 2, and 3, and subtract 4 and 5.

Note: Multiple Options do not work.

**NOTE:** If using a Profit Point, you must have matching Stock and Department numbers entered. Use the PLU Maintenance program of the Profit Point to enter this information. Receipts will not print the information unless this is entered.

At the Profit Point menu:

1. Select PLU Maintenance.
2. Select #1, Add an entry.
3. Select #2, Add a stock number.
4. Enter the same stock number that was entered above.
5. Enter the same department number that was entered above.
6. Enter the same retail price that was entered above.
7. Exit the Profit Point menu as directed by the program.

At the Site Controller prompt:

1. Type Load Product;A to load a new product.
2. Enter the Product Code. Assign a code that currently is not in use. 1-10 and 20-29 are set aside for fuel products.
3. Enter the Category number. This would be the merchandise category number if you are assigning the car wash as merchandise.

4. Enter the Product Name - Car Wash.
5. Enter the Minimum Price. A minimum price must be entered.
6. Enter the Maximum Price. A maximum price must be entered.
7. Enter the Taxes that are applicable to this site.
8. Exit Load Product.

Load the price code:

1. Type Load Price
2. Enter the Price Code - this must be the same code as entered in the Car Wash submenu 3.
3. Enter the Price level. Load your price level for Car Wash.
4. Exit Load Price.

Tie it all together:

1. Type the command **POS** to send the information from the site to the Profit Point.

## Unitec Wash Discounts

To change the wash discounts, select submenu 5, Unitec wash discounts from the Gate Menu. The following information is displayed:

```

#      Description
1      None
2      None
3      None
4      None
5      None
-----
Enter number of discount to modify or q to quit:

```

Type of discount [0]: The currently supported discount types are:

- 0: discount type disabled
- 1: Pumping of at least a given amount of fuel.

## Island Card Reader configuration

Check the ICR program step 8, Want car wash. This message must appear before the "Please Wait" step. The default message is Want Car Wash? Change this if necessary. Please refer to the chapter, Island Card Reader configuration in the *SCIII Configuration Manual*.

## Troubleshooting

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### ***Car Wash Item on receipt shows VOID***

Make sure the Car Wash Product is loaded and with minimum and maximum prices.

### ***No Car Wash Printed on Receipt***

Make sure Stock numbers are loaded in the GATE, submenu 4. If Car Wash is not printing at the Profit Point, make sure matching stock numbers are loaded in the PLU Maintenance menu and the POS command was executed at the Site terminal.

### **INVALID Merchandise error when using a fuel restricted Fleet Card**

Currently Fleet Cards with fuel restrictions may cause an Island Car Wash to be denied.

## Unitec Interface

---

For each Unitec interface you need an application binary and an arguments file. These are stored in the root directory of the Site Controller. For a SC3 the location would be C:/SC3/XBIN. The application binary for SDI #1 will have an extension of "B01", for SDI interface #2, "B02". For example, WASH.B01 would be a correct application binary name for SDI #1. There should only be one file that has the B01 extension in the C:XBIN directory.

Parameter file extensions begin with 'A' instead of 'B', so WASH.A01 would be a valid parameter file name. The site will attempt to keep the SDI loaded with the correct application and parameters.

The WASH.A01 parameter file for SDI #1 should contain:

```
ID=Unitec
CHANNEL=RS232
BAUD=2400
PARITY=NONE
CHAR_BITS=8
STOP_BITS=1
FLOW_CONTROL=NONE
RX-TX_DELAY=0
CHAR_DELAY=0
TURN_CHARS=CR EOT
END_CHANNEL
```

**NOTE:** If the site has an Insight or any additional SDIs, each SDI must have unique .A0# and .B0# files in the XBIN directory. For example, if the site has an Insight.A01 file then the Unitec parameter file should be named WASH.A02 with a corresponding WASH.B02 binary file.

## STARTUP

---

Connect the Gasboy RS-485 data loop into one of the phone-type jacks in the SDI box.

SDI status will show up in diagnostics. Additional diagnostics are supported:

- NB0 = The number of times SDI program has crashed.
- NB1 = The number of times application check failed.
- NB2 = The number of times downloads have failed.
- NB9 = The number of times downloads have succeeded.

The SDI box has a bank of switches visible through a slot in the side of the box, next to the LED. Normally the UP position, raised above the switch bank body, is OPEN. Default settings for these switches are all OPEN.

## SDI Box Switches

---

Switches are numbered 1-8 from left to right. OPEN may be either up or down; check the label on the switch in your unit. Default switch settings are all OPEN. Switch assignments are as follows.

1	2	3	4	5	6	7	8
ADDR	ADDR	ADDR	ADDR	ADDR	CLR	SDI	RESET
5	4	3	2	1	MEM	LOAD	

Switch	Function
SWA-1	SDI add a4, OPEN = 0
SWA-2	SDI addr a3, OPEN = 0
SWA-3	SDI addr a2, OPEN = 0
SWA-4	SDI addr a1, OPEN = 0
SWA-5	SDI addr a0, OPEN = 0
SWA-6	App b0, OPEN = 0. Suggest: application terminate.
SWA-7	Mode select A + B, Enable SDI programming
SWA-8	Reset

SDI address is switch setting plus 1:

Address	SWA-1	SWA-2	SWA-3	SWA-4	SWA-5
1	OPEN	OPEN	OPEN	OPEN	OPEN
2	OPEN	OPEN	OPEN	OPEN	CLOSE
3	OPEN	OPEN	OPEN	CLOSE	OPEN
4	OPEN	OPEN	OPEN	CLOSE	CLOSE
5	OPEN	OPEN	CLOSE	OPEN	OPEN
6	OPEN	OPEN	CLOSE	OPEN	CLOSE
7	OPEN	OPEN	CLOSE	CLOSE	OPEN
8	OPEN	OPEN	CLOSE	CLOSE	CLOSE
9	OPEN	CLOSE	OPEN	OPEN	OPEN
10	OPEN	CLOSE	OPEN	OPEN	CLOSE
11	OPEN	CLOSE	OPEN	CLOSE	OPEN
12	OPEN	CLOSE	OPEN	CLOSE	CLOSE
13	OPEN	CLOSE	CLOSE	OPEN	OPEN
14	OPEN	CLOSE	CLOSE	OPEN	CLOSE
15	OPEN	CLOSE	CLOSE	CLOSE	OPEN
16	OPEN	CLOSE	CLOSE	CLOSE	CLOSE
17	CLOSE	OPEN	OPEN	OPEN	OPEN
18	CLOSE	OPEN	OPEN	OPEN	CLOSE
19	CLOSE	OPEN	OPEN	CLOSE	OPEN
20	CLOSE	OPEN	OPEN	CLOSE	CLOSE
21	CLOSE	OPEN	CLOSE	OPEN	OPEN
22	CLOSE	OPEN	CLOSE	OPEN	CLOSE
23	CLOSE	OPEN	CLOSE	CLOSE	OPEN
24	CLOSE	OPEN	CLOSE	CLOSE	CLOSE
25	CLOSE	CLOSE	OPEN	OPEN	OPEN
26	CLOSE	CLOSE	OPEN	OPEN	CLOSE
27	CLOSE	CLOSE	OPEN	CLOSE	OPEN
28	CLOSE	CLOSE	OPEN	CLOSE	CLOSE
29	CLOSE	CLOSE	CLOSE	OPEN	OPEN
30	CLOSE	CLOSE	CLOSE	OPEN	CLOSE
31	CLOSE	CLOSE	CLOSE	CLOSE	OPEN
32	CLOSE	CLOSE	CLOSE	CLOSE	CLOSE

## Reset

To reset the SDI box, momentarily lower (CLOSE) the RESET switch.

## Clear memory

To clear application memory (only do this under instruction from qualified support engineer):

1. CLOSE position 6, enabling memory clear.
2. Wait for the LED to begin flashing in bursts of five short flashes.
3. OPEN position 6. When the Site Controller next talks to the SDI, it will download a new application program.

## Terminating the application

To terminate an application, causing the SDI to request new application download:

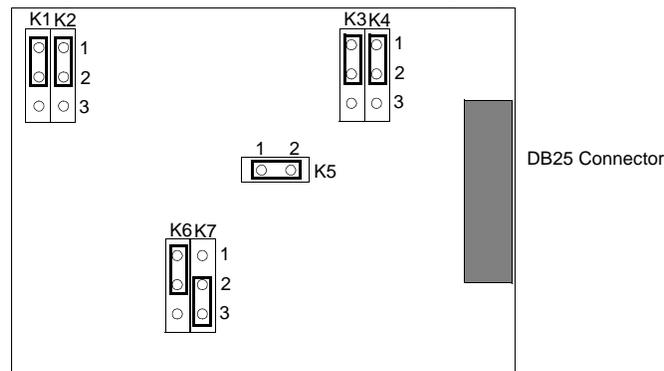
1. CLOSE SWA-6.
2. When LED begins flashing groups of five quick flashes, CLOSE SWA-8.
3. OPEN SWA-6.
4. OPEN SWA-8.
5. After the Site Controller says "SDI came up", the LED will flash somewhat irregularly as a new application is downloaded.
6. When the application is loaded, it takes over the LED. See the application documents for LED behavior.

A blank SDI will display no LED flashing at all. While a malfunction may also cause this, re-loading the SDI is the first thing to try.

## Booting an SDI

To boot a blank SDI from DOS PC:

1. Set up a Gasboy RS485 converter box jumpers:



You will need the converter's power supply plugged in.

2. Connect the serial cable to from PC COMM port 1 or 2 to Gasboy RS485 converter RS232 port, and a RS485 cross cable from the RS485 converter RS485 port to the SDI RS485 port.

The RS485 cross cable is a 1x3, 2x4 cable such as C04500, used for connecting the Current Loop Interface to the Site Controller. The RS422 cable should be a null modem or printer cable, depending on how your PC COMM ports are set up.

3. Power up the SDI box.
4. Set SWA-7 DOWN and SWA-8 DOWN. Set all other switches UP.
5. Set SWA-8 UP.
6. Give the command:  
    `BOOTSDI SDI.S19 1`  
or  
    `BOOTSDI SDI.S19 2`  
depending on whether the SDI is connected to COM1 or COM2.
7. The SDI LED should blink rapidly and somewhat irregularly, for duration of the download.
8. BOOTSDI should print a line of dots, and then say:  
    `sdi.s19 successful`  
    Done.  
If so, go to step 9.
9. If BOOTSDI, after several seconds, says:  
    `no sync from SDI, enter=retry, q=quit >`  
You may close SWA-8 again momentarily, then open it, press ENTER, and return to step 6.
10. When you have received the "Done" message, set SWA-8 CLOSED.
11. Immediately set SWA-7 OPEN.
12. Immediately set SWA-8 OPEN and the SDI will go to run mode. This should be signaled by regular on-off blink of the LED, a little faster than 30 blinks/minute.

## Booting SDI from Site III

---

You will need the SCIII hardware diagnostics program DIAG.BIN. For this file to operate properly it must be stored in C:\SC3\DIAG.BIN. You must also have the SDI operating system must be stored in C:\SC3\XBIN\SDI.HEX.

1. At the console, enter the command: REBOOT;A DIAG to load the hardware diagnostics.
2. Power up the SDI box.
3. Set SWA-7 DOWN and SWA-8 DOWN. Set all other switches UP.
4. Set SWA-8 UP.
5. After these steps have been completed, give the command 'L' which causes the SDI download. You can have one SCI being downloaded on each loop for a maximum of three. On the status line for the loop(s) that have a download proceeding you should see progress of the download indicated.  
If a failure is reported, check the cabling, do steps 2-5 again, then type 'L' again and proceed.
6. When you receive the "Loaded Successfully" message, set SWA-8 CLOSED.
7. Immediately set SWA-7 OPEN.
8. Next, set SWA-8 OPEN and the SDI will go to run mode. This should be

signaled by regular on-off blink of the LED, a little faster than 30 blinks/minute.

9. Press 'Q' to quit and return to the Site OS. FRAMOS.BIN will automatically load.