



Communicator Installation & Service Manual

Version 1.0.3

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- Compac Industries Limited accepts no liability for personal injury or property damage resulting from working on or adjusting this unit incorrectly or without authorisation.
- Along with any warnings, instructions, and procedures in this manual, you should also observe any other common sense procedures that are generally applicable to equipment of this type.
- Failure to comply with any warnings, instructions, procedures, or any other common sense procedures may result in injury, equipment damage, property damage, or poor performance of the Compac equipment
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Communicator Controller Product Identification

Manual Title	Communicator Controller Service Manual
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Application	Compac Communicator Controller - All Models	
	Power supply	220 - 240 V +/- 10%, 50 Hz, 2 Amp

Related Manuals	Communicator Controller Installation Sheet
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Validity	Compac Industries Limited reserves the right to revise or change product specifications at any time. This publication describes the state of the Communicator Controller at the time of publication and may not reflect the product at all times in the past or in the future.
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1.0.3	29/08 2012	R Lacey	Updated Conditions of Use. Added Colibri TG info. New Config A settings, Roseman spec Compac box, Litres Total info.

Distribution

Name	Indicator	Location

Symbols and Units of Measure

Symbols

Symbols are used in this manual to highlight information that is critical to the safety of people and equipment, and for the safe and correct operation of the Compac equipment

⚠ DANGER *An extreme hazard that may result in death or injury if proper precautions are not taken.*

⚠ DANGER *A reminder of safety practices or unsafe practices that could result in personal injury or damage to associated equipment.*

⚠ CAUTION *A reminder of safety practices or unsafe practices that could result in damage to associated equipment and/or voids the warranty.*

⚠ NOTE *Important information essential to the installation and operation of the Compac equipment*

Units of Measure

The following units of measure are used in this manual:

Unit	Measure
Pressure	Bar (bar)
Temperature	Degrees Celsius (°C)
Volume	Litres (L) Cubic Metres (m ³)
Mass	Kilograms (kg)
Length	Metres (m) Millimetres (mm) Microns, Micrometres (µm) Inches (")
Torque	Newton Metres (Nm)
Voltage	Volts (V)
Current	Amps (A)
Frequency	Frequency (Hz)

Communicator Controller Safety

You must adhere to the following safety precautions at all times when working on the Compac equipment. Failure to observe these safety precautions could result in damage to the dispenser, injury, or death.

Make sure that you read and understand all safety precautions before operating the Compac equipment.

Electrical Safety

Observe the following electrical precautions:

⚠ DANGER Always turn off the power to the Communicator Controller before removing the box lid. Never touch wiring or components inside the Communicator Controller with the power on.

⚠ CAUTION Always take basic anti-static precautions when working on the electronics, i.e., wearing a wristband with an earth strap.

Introduction

The Compac Communicator is designed as a versatile, multi-purpose authorisation and fuel management station.

It is compatible with most common fuel pumps and can be easily customised to accept a variety of authorisation methods and provide detailed transaction reporting. The main features include:

- Card, PIN, iTrack, HID or CWID authorisation options
- Site management by Netbase, CompacOnline, USB key or LAN
- Can transmit tank gauging information

The unit can be managed remotely by either Netbase or CompacOnline. Communication can be made by:

- Dial-up modem over phone line
- Broadband connection over ADSL capable phone line
- Wireless connection using cellular modem

Compatibility

The Communicator can be configured with the appropriate hardware to communicate to and control Compac, PEC protocol and selected Gilbarco and Email protocol pumps.

Tank gauging for VeederRoot, Diptronic, Colbri and Franklin gauges.

Litres Total

From July 2012, Compac dispensers that are connected to Compac fuel management systems (FMS) that do not have a customer receipt printer, are fitted with an additional display line labelled "Litres Total". This display shows the total amount of fuel dispensed from the site to the authorisation card or ID tag. The total is shown as litres to two decimal places.

Use

When a PIN number is entered, authorisation card swiped or an ID tag detected by the fuel management system, the selected dispenser will display the current total litres dispensed to the card (or ID tag) by the site FMS.

The total will update as fuel is dispensed. When the transaction has been completed, the new total is stored in the fuel management system. The next time the card is swiped or ID tag detected by the FMS, the current Litres Total will display on any of Litres Total capable dispensers on the site.

NOTE *The displayed total only relates to the amount of fuel dispensed to the individual card or tag on that particular site.*

Standalone

If the dispenser is set to standalone mode, the authorisation unit is bypassed and no totals are recorded against the card or ID tag.

Software

The dispensers with Litres Total capability run software version 29255.

Fuel management systems manufactured after July 2012 have Litres Total capability. Systems manufactured earlier than this require a software upgrade.

Installation

The Compac Communicator must be installed in an office or suitable location inside a building. It must not be exposed to water, dust, excess heat or humidity.

In areas that experience temperature extremes or are subject to high humidity, an air-conditioned environment is recommended.

The unit can be wall or desk mounted.

Do not place in any situation where the ventilation holes are covered.

Mounting

Use suitable fasteners for the material you are attaching the Communicator to. Recommended shank diameter is 3 mm to 4 mm

Hole centres are in a square pattern, 255 mm high and wide.

Partly screw in the fasteners, place the Controller over the heads of the fasteners, lower onto the slots and tighten up the fasteners.

Wiring

Wiring will depend on the set up of the unit.

The three phase power lead plugs into the switch/socket.

Other plugs will be labelled.

Pump comms wiring must not exceed a total of 100 metres,

Compac, PEC and Email pumps are wired in parallel, Gilbarco pumps are wired in series.

Audit trail printer plugs into the unit via the labelled port.

Tank Gauging Setup

For Communicator Controllers, tank gauging connects to a DB9 plug in the back of the unit. For other units, tank gauging is wired into the terminals inside the enclosure marked Tx, Rx and G.

The tank gauging unit will have to be set up with the correct outputs to communicate with the FMS board. Settings depend on the unit.

Type	Mode	Baud Rate	Parity	Bit	1 Stop Bit	Handshake
Veeder Root	Serial	1200	Odd	7 Bit	Yes	Off
Franklin	Veeder Root	9600	No	8 Bit	Yes	Off
Colibri	Veeder Root	9600	No	8 Bit	Yes	Off

The Compac settings for each model of tank gauge are usually either set at the factory or sent via CompacOnline.

System Setup

The unit uses the ComFMS circuit board. All set up is done using the four line dot matrix display on the PIN Pad.

Please contact your local Compac service agent if you have any problems.

The area where installers have the most difficulty is in setting up pumps and cards.

Where possible Compac will set up the Pumps and Cards in the unit during manufacture. However as these details are not always available, some setting up may be required on site

NOTE Refer to tables later in this manual for detailed instructions on how to set up each parameter.

Setting up Pumps

Setting up a pump requires all the following parameters to be set. Take particular care when doing this as one wrong parameter will stop the pump communicating.

1	Set Pump number
2	Set Comms Channel (1 or 2)
3	Set Comms type (e.g. Compac, Email, Gilbarco Electroline or Hiline)
4	Set ID number (same as pump number)
5	Assign a product group to the Pump
6	Assign a Grade to the Product Group

Cards

Because the Access / ISO numbers and Card type are frequently not known at the time of manufacture, most systems will require the cards to be set up as part of the commissioning process.

To set up a card in the Communicator the following parameters are required.

1	Set the Access code
2	Set the ISO (Oil company identification number)
3	Set the Configuration Codes A and B

NOTE *If the Communicator is part of a Netbase system the cards **must** be downloaded to the Communicator from Netbase. Contact the system Administrator or Oil Company representative.*

Software Identification

To identify the software versions installed in the unit, the eeprom software version and then the downloaded software version are shown on the display during power-up. The downloaded software version is displayed in the screen below.



NOTE *Software version may differ from example shown above. Check with help desk for the appropriate version for your unit.*

Passcodes

The factory set passcode is '000000'. This can be entered as '0' to speed up the setup procedure.

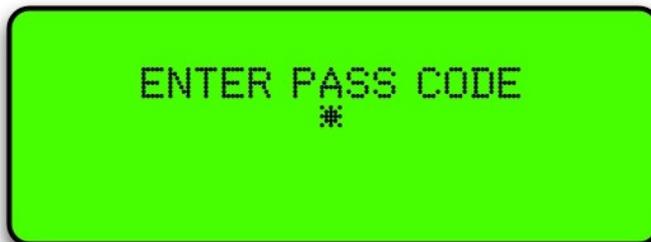
After commissioning the customer can change the passcode

Main Menu Options

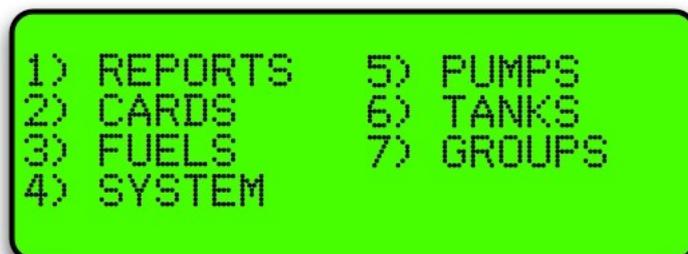
Apart from Communicator Controllers, all units display Pass Card when not in use. Communicators display "Enter Pass Code".



If setup is required, push <NO> and "ENTER PASS CODE" will be displayed. Enter the pass code to access the main menu. (Factory default 654321). If you lose your pass code, contact Compac to get it reset.

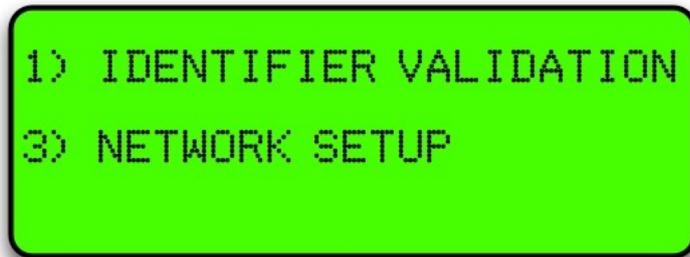


The following options are displayed:



Option #2 CARDS

Selecting 2 Cards will bring up this screen



Choose 1 Identifier Validation to set up cards or 3 Network Setup to enter Access and ISO settings

Identifier Validation

NOTE *Manually setting up cards using identifier validation can only be done on units equipped with standard memory. For mega-memory equipped units, card setup should be done using a card base via Netbase or CompacOnline.*

Selecting Identifier Validation will bring up the following screen:



Press 1 and enter in the card number and press Enter

Wait 2 seconds.

Line 2 will read whether the card is valid or invalid

Pressing 2 will toggle between Valid and Invalid

When you have the right setting, wait 2 seconds and the original screen will appear

Select new card number or Clear to exit

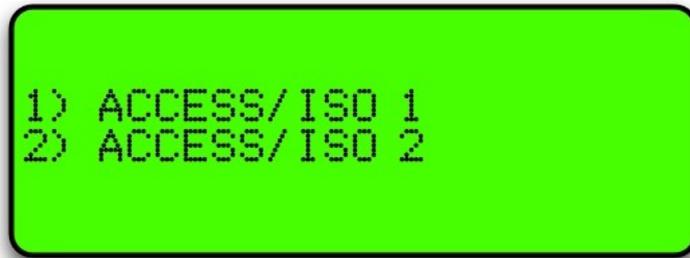
The following table describes the process

Keyboard Entry	Result on Display	Operation
Enter Passcode		
<ENTER>	Main Menu is displayed	
<2>	Cards Menu is displayed	
<1>	Identifier validation	Validate cards
	1) # ?	
<1>	1) # (flashes)	
Type in card number		
<ENTER>		
Wait 2 seconds	# XXXX IS VALID or IS INVALID	Shows whether card is Valid or Invalid
<2>	Repeatedly pressing this key toggles from VALID to INVALID. When selection correct wait 2 seconds after pressing to allow time to set	
<1>	To validate or invalidate next card	
or <3> Network Setup	ACCESS / ISO 1 ACCESS / ISO 2	Set up Access Code/ISO number
<1>	ACCESS 1 XXXXX ISO 1 XXXXXX	
<1>	ACCESS 1 XXXXX (flashes) 2) ISO 1 XXXXXX	Set up Access 1
Type in Access code		
<ENTER>		
<2>	ACCESS 1 XXXXX 2) ISO 1 XXXXXX (flashes)	Set up ISO 1
Type in ISO number		
<ENTER>		
<CLEAR>	ACCESS / ISO 1 2) ACCESS / ISO 2	
<2>	As for ACCESS / ISO 1	Set up Access and ISO 2
OR <CLEAR>	Return to Main Menu	

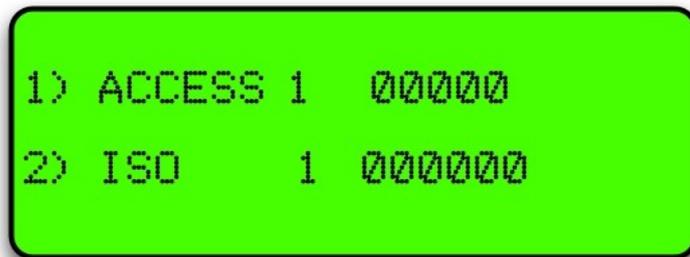
NOTE This procedure also applies to CWID, HID and iTrack keys/tags

Network Setup

Selecting Network Setup will bring up the following screen:



Two card bases can be run at the same time. Each card base requires its own access code and ISO code, supplied by the card manufacturer. To view the Access and ISO code 1 press 1. This will bring up the following screen where you can check and change your settings.



To change the Access code press 1, enter the number and press Enter. The following table describes the process.

Keyboard Entry	Result on Display	Operation
Enter Passcode		
<ENTER>	Main Menu is displayed	
<2>	Cards Menu is displayed	
<3> Network Setup	ACCESS / ISO 1 ACCESS / ISO 2	Set up Access Code/ISO number
<1>	ACCESS 1 XXXXX ISO 1 XXXXX	
<1>	ACCESS 1 XXXXX (flashes) 2) ISO 1 XXXXX	Set up Access 1
Type in Access code		
<ENTER>		
<2>	ACCESS 1 XXXXX 2) ISO 1 XXXXX (flashes)	Set up ISO 1
Type in ISO number		
<ENTER>		
<CLEAR>	ACCESS / ISO 1 2) ACCESS / ISO 2	
<2>	As for ACCESS / ISO 1	Set up Access and ISO 2
OR <CLEAR>	Return to Main Menu	

NOTE This procedure also applies to CWID, HID and iTrack keys/tags

Option #3 FUELS

Selecting Fuels will bring up the following screen:

NOTE Depending on your software, the Density line may not show.



Use the Yes and No buttons to scroll through the fuel types.

To change the price for the fuel grade, press 2 and the price will start flashing

Enter the new price in a four digit format and press Enter.

The following table describes the process.

Keyboard Entry	Result on Display	Operation
Enter Passcode		
<ENTER>	Main Menu is displayed	
<3>	Fuel Menu is displayed	
	1) GRADE XX 2) PRICE 0.000	Change Price
<2>	1) GRADE XX 2) PRICE 0.000 (flashes)	Use the N and Y keys to scroll up and down the Grades
Type in new price	1) GRADE XX 2) PRICE 0.000 (still flashes)	
<ENTER>	1) GRADE XX 2) PRICE 0.000 (stops flashing)	
<N> or <Y> to change grade		Change another price
<CLEAR>	Returns to Main Menu	Escape

NOTE Manual pricing is overridden by USB or internet pricing.

Pump Grade Maps

Grade Number	Standard Setup	BP Fuelcard Setup (NZ)	Mobil Fuelcard Setup (NZ)
1	Super	Diesel	Super
2	Unleaded	Super	Unleaded
3	Diesel	Oil 1	Diesel
4	PULP	Oil 2	CNG
5	LPG	T/Wash	LPG
6	Oil	C/Park	Oil
7	Kerosene	LPG	Kerosene
8	Avgas	Unleaded	Avgas
9	Jet A1	W/Bridge	Jet A1
10	Water	Oil 3	Water
11	CNG	Avgas	(not used)
12	MPD (Multi-product)	Jet A1	Multi-product
13	Oil 1	Multi-product	Oil 1
14	Oil 2	Oil 4	Avgas
15	Oil 3	Oil 5	Jet A1
16	Oil 4	N/A	N/A
21	Receipt	Receipt	Receipt
22	Auth.	Auth.	Auth.

A **receipt station** (grade 21) has a cardreader with which the holder of a validated card may request a receipt for a transaction carried out on any pump.

An **authorisation station** (grade 22) has a cardreader that enables the holder of a validated card to select and use a pump. This is typically used when non-Compac pumps are installed. An optional receipt printer may be attached to the authorisation station.

Option #4 SYSTEM

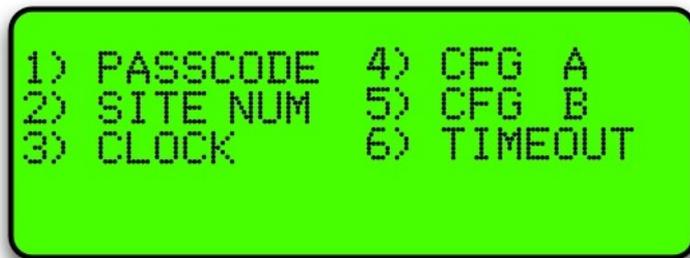
To set up a system the following parameters have to be set:

NOTE *The Passcode and Site number have to be set up to enable Netbase to dial into it.*

The password and site number have to be set on site as they cannot be changed remotely by Netbase

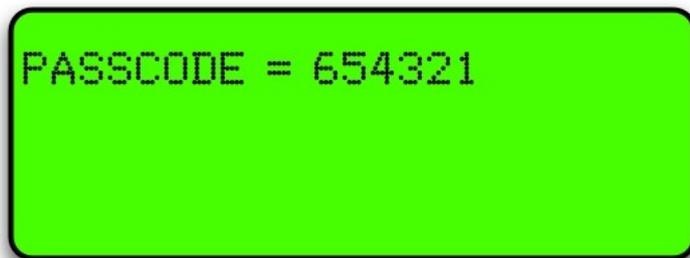
The Compac factory Passcode on new equipment is 654321.

The system screen looks like this:



Passcode

The factory set passcode 654321 can be changed using the "PASSCODE" option in the Systems menu. Passcodes can be from 1 to 6 digits long.



If you want to change the passcode, enter it and press Enter.

Make sure you have recorded the new passcode as you will be locked out if you forget it and the memory will have to be erased to reset it.

The following table describes the process.

Keyboard Entry	Result on Display	Operation
Enter Passcode		
<ENTER>	Main Menu is displayed	
<4>	System menu is displayed	
<1>	PASSCODE = XXXXXX (flashes)	Change Passcode
Type in new passcode	PASSCODE = XXXXXX (still flashes)	
<ENTER>	Returns to System menu	

Site Number

The site number is set by using the "SITE NUM" option in the Systems menu



If you want to set the site number, enter it and press Enter.

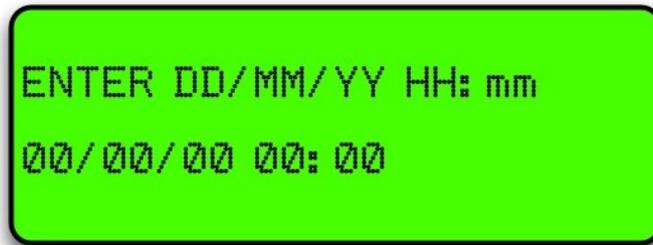
The following table describes the process.

Keyboard Entry	Result on Display	Operation
Enter Passcode		
<ENTER>	Main Menu is displayed	
<4>	System menu is displayed	
<2>	SITE = XXXXXX (flashes)	Change Site Number
Type in site number (Factory set Site number is #1 which can be left if unit is not part of a Network. If part of a Network, consult the Network Supervisor.)	SITE = XXXXXX (still flashes)	
<ENTER>	Returns to System menu	

Setting the Clock

The setting of the clock is very important, as transactions are stored in chronological order. The clock will need to be changed to compensate for Daylight Saving time.

NOTE *If the clock setting is found to be wrong, upload transactions before setting the clock correctly to ensure that transactions are picked up in the correct order*



To set the clock follow this procedure carefully as changing the wrong numbers may disable the system < > means push that key.

Keyboard Entry	Result on Display	Operation
Enter Passcode		
<ENTER>	Main menu is displayed	
<4>	System menu is displayed	
<3>	ENTER DD/MM/YY HH:mm DD = day MM = month YY = year (20YY) HH = hour (in 24hr time) mm = minutes	Set Date and Time
<ENTER>	Returns to system menu	

NOTE *The clock setting is not shown on the display. To check the clock setting is correct, do a zero dollar transaction and check the time/date data on the receipt.*

Configuration "A" Settings

The configuration "A" is a 12 digit code that configures the unit for each application. This is usually set at the factory. Only change the configuration settings if you are sure that all information is backed up and that you are aware of any consequences.

Digit	Operation	Options	Display
1	Controller Type	0- Default Communicator Controller Setting 3 - Driveway Card Acceptor (DCA / ComFutra Default / Card King) 4 - Enable HID reader (Clock&Data) 5 - Enable HID reader (26bit Wiegand)	
2	Unused	0- Default	
3	Unused	0- Default	
4	Receipt Option	0 - Default 5 - Does not display NO RECEIPT in DCA mode if no receipt printer fitted	PR2
5	Unused	0- Default	
6	Card File	0 - Default 5 - Big Hot Card file	
7	User ID option	0 - No PIN. Note: Encoding on the card can activate a prompt for PIN 1 - Prompts for Employee number 2 - Prompts for Fleet number 4 - Prompts to "Enter Pin" and then forced User ID. If the wrong pin is entered it will display "invalid Card" 6 - Prompts for Vehicle number	UIP
8	Odometer prompt	0 - No odometer. Note: Encoding on the card can prompt for odo 1 - Load Odo/Engine Hours	ODO
9	Card type	0 - Cards not requiring specific configuration 2 - Mobilcard 4 - Prompts for Employee Number (Card number used as Employee Number) 6 - Air BP card 7 - Shellcard 9 -Vehicle Number Authorisation (Prompts for vehicle number)	ABP
10	Validation option	2 - Limited Validation - Cards 3 - Extended validation - Cards	LVC EVC
11	Unused	0 - Default	
12	Track	2 - Track 2	T2

Changing the "A" Settings

This is changed using the keypad and display. Follow this procedure carefully as changing the wrong numbers may disable the system. < > means push that key.

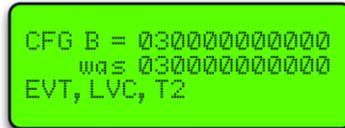
Keyboard Entry	Result on Display	Operation
Enter Passcode		
<ENTER>	Main Menu is displayed	
<4>	System menu is displayed	
<4>	CFG A = XXXXXXXXXXXXX (flashes) was XXXXXXXXXXXXX	Set Configuration A
Edit 12 digit number	CFG A = XXXXXXXXXXXXX (still flashes) was XXXXXXXXXXXXX	
<ENTER>	Returns to System menu	

Communicator Configuration code B (CFG B)

The Configuration Code B options available may depend on the software version. Refer to the following charts for options.

For credit card units refer Credit Card Units "B" Settings

NOTE *Not all options shown may be available on your unit. If unsure, please refer to the Helpdesk for more information.*



```
CFG B = 030000000000
wd = 030000000000
EVT, LVC, T2
```

Digit	Operation	Options
1	Unused	0
2	Printer	0 - Seiko drop box printer 2 - T2460 printer with cutter 3 - T2460 printer without cutter
3	Unused	0
4	CIM-less DCA	0 – DCA with CIM (early version card reader) Default Setting 1 – DCA with PINPad and Magtek TTL card-reader (changes receipt cut length)
5	Unused	0
6	Shift Reports	0
7	Audit Trial	0 - LX300 (7bit; Even parity; 1 stop bit; 9600baud) 1 - LX300+ (8bit; No parity; 1 stop bit; 9600baud)
8	Unused	0
9	Unused	0
10	Unused	0
11	Override	0 - Default 1 - Ignore expiry date 2 - Ignore Grade Restriction 3 - Ignore both Expiry date and Grade restriction (software dependent)
12	OIML options	1 - OIML checking 2 - OIML checking and Video Primary display (COMMANDER) 2- UPS checking (DCA)

To change the "B" settings

This is changed on the keypad and display on the unit. Follow this procedure carefully as changing the wrong numbers may disable the system < > means push that key.

Keyboard Entry	Result on Display	Operation
Enter Passcode		
<ENTER>	Main Menu is displayed	
<4>	System menu is displayed	
<5>	CFG B = XXXXXXXXXXXXX (flashes) was XXXXXXXXXXXXX	Set Configuration B
Type in 12 digit number	CFG B = XXXXXXXXXXXXX (still flashes) was XXXXXXXXXXXXX	
<ENTER>	Returns to System menu	

Option #5 PUMPS

To set up a pump each of the following parameters have to be set:

(There is also an option for Bay Number which is only used in special applications.)

Use the YES and NO keys to select to the pump number

If a Dual pump on Gilbarco comms the pump number on side B should be lower than the pump number on side A. e.g. A = 2, B = 1

For Compac comms the side A pump number is usually the larger number but will work either way round.

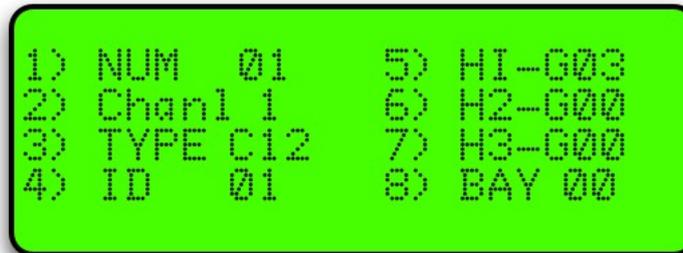


Figure 1: Typical settings for hose 1

Pump Number

Use the No and Yes keys to scroll up or down to select the pump you wish to set.

Enter the number of the option you wish to change

Enter the new setting and press Enter

Comms Channel

The comms channel will usually be set at the factory depending on the site setup. Channel 1 or Channel 2 are the available options.

Number	Operation
1	Channel 1 pump comms e.g. via 2 pin 'PUMP COMMS 1' on rear panel (for Compac pumps) Can also be setup for RS232 comms via Port #5
2	Channel 2 pump comms used for the following: (a) Gilbarco comms I/F via TTL Port #4 (b) Email comms I/F via TTL Port #4 (c) 2 nd Comms channel (pumps 17 to 32) 'PUMP COMMS 2' on rear panel via TTL Port #4 (d) Tankgauging I/F (e.g. VeederRoot, Diptronic, Franklin)
0	No comms -This will disable comms to a pump even if all the other parameters are set correctly

Comms Type

For Compac pumps enter <2>

For Gilbarco pumps enter <6> (goes to sub-menu to select Gilbarco type)

Important note when setting up Gilbarco pumps

Electroline pumps may need to be setup as Hilines or vice-versa. If experiencing difficulties getting Gilbarco pumps to work on a Communicator, try changing the type. After changing the type, the Communicator MUST be re-powered.

For Email pumps enter <7> or <8> (depending on type of pump)

If in doubt, contact your Compac agent for the correct settings.

Pump ID

For simplicity, this is usually set to the same number as the Pump number. The Controller looks for a pump with a pump number that matches the ID number

Eg. Pump number 01 set up in controller but ID set to 05

Controller looks for a pump with pump # 05

Comms Type

Comms type will usually be set at the factory and will depend on your site equipment.

Pump ID

Pump ID will usually match the pump number.

The only usual exception is on sites with more than 16 pumps where channel 1 and channel 2 comms are used.

Product Group Number

NOTE Options 1,4,5,6 & 7 require the <ENTER> key to be pressed to save the number you have entered (the cursor flashes). Options 2 & 3 are saved as you type in the number (the cursor does not flash).

Keyboard Entry	Result on Display	Operation
Enter Passcode *		
<ENTER>	Main Menu is displayed	
<5>	Pump Menu is displayed	
<1>	'Num xx' flashes	Set Pump Number
Type in pump number	'Num xx' still flashes	
<ENTER>	'Num xx' stops flashing (number saved)	
<2> **	Scrolls between 1,2 & 0 each time <2> pressed	Set pump channel number
<3> ***	Comms Type Menu is displayed	Set pump comms type
<4>	'ID' flashes	Set ID Number
Type in ID number	'ID' still flashes	
<ENTER>	'ID' stops flashing (number saved)	
<5>	'H1-G01' flashes	Set hose 1 Product group
Type in Number	'H1-G01' still flashes	(Single, Dual, 4 & 6 Hose Multi)
<ENTER>	'H1-G01' stops flashing (number saved)	
<6>	'H1-G02' flashes	Set hose 2 Product group
Type in Number	'H1-G02' still flashes	(Dual, 4 & 6 Hose Multi only)
<ENTER>	'H1-G02' stops flashing (number saved)	
<7>	'H1-G03' flashes	Set hose 1 Product group
Type in Number	'H1-G03' still flashes	(6 Hose Multi only)
<ENTER>	'H1-G03' stops flashing (number saved)	

Refer to Tanks/Pumps/Groups (see page 35) first for a detailed explanation on how to set up groups.

Option #6 TANKS

This is usually set at the factory. The only time it might need to be changed is if a tank gauge is added or if the tank gauge is changed.

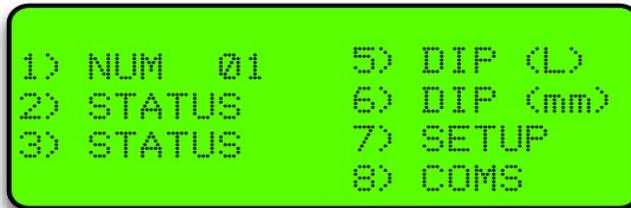
The following Tank interface options are available:

1. Theoretical (THEO)
2. VeederRoot (VDDR or FRNK)
3. Diptronic (DIPT)
4. Franklin (FRNK)
5. Colibri (FRNK)

The following instructions refer to the Franklin setup. Slightly different screens may appear if other tank options are selected.

The Franklin setup displays the information sent from the tank gauging unit and also works for Veeder Root TLS2 and Colibri units. Other setups require a strapping table to be entered.

Select Tanks from the main menu.



Menu Option	Function	Operation
1. No XX	Tank number	Scroll up and down with NO and YES to select tank
2. Status	Displays theoretical Capacity and Volume	
3. Status	Displays tank temperature (Franklin option only)	
4. Delivery	Enter in delivery of product	Type in delivery volume (Theoretical only)
5. Dip (L)	Enter in dipped volume (in litres)	Type in new volume (Theoretical only)
7. Setup	Sets up alarms, capacity and Product Group.	Refer to Tank setup table
8. COMMS	Sets up comms type	Refer to Tank Comms table

Tank number is usually set as 1. If there are more tanks, use the YES and NO keys to select to the tank number you want to set up.

Tank Main menu

Tank Setup Table

Select Setup from the Tanks menu and the following screen will open.



For the Franklin and Colibri units, only the capacity and group (if using groups) need to be entered.

Keyboard Entry	Result on Display	Operation
<7>	Capacity Group 00	
<3>	Capacity = XXXXXXXX	Set Tank capacity (NOT required for Diptronic, Franklin or Colibri)
Type in capacity		
<ENTER>	Returns to Setup menu	
<4>	Cursor flashes	Set group
Type in product group number		
<ENTER>	Cursor stops flashing	
<CLEAR>	Returns to setup menu	
<CLEAR>	Returns to main menu	

For the units setup with Franklin comms, return to the main tanks menu and select (2) Status. The tank gauge readings should be displayed. Select (3) Status and the tank temperature should be displayed.

Depending on tank gauging and software installed, other options may or may not be available.

Tank Comms Table

Select Comms from the menu and the following screen will open.



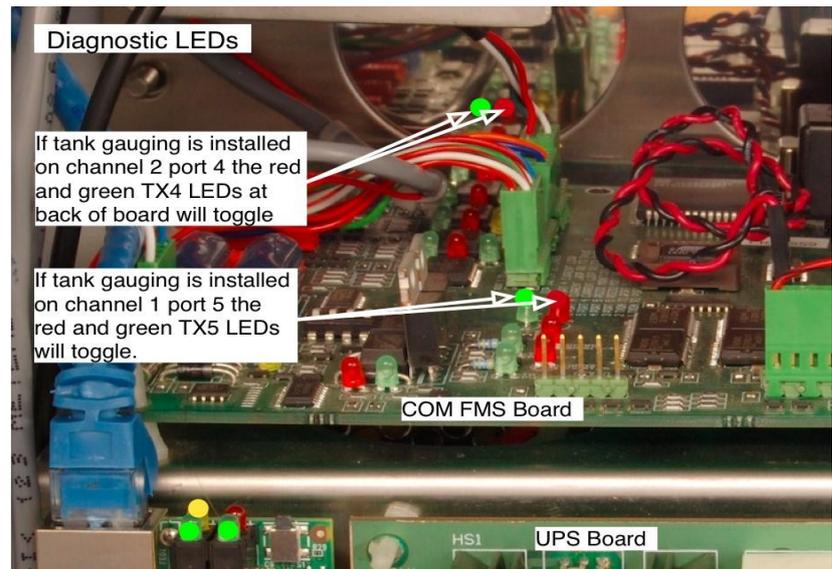
Pressing 1 will scroll through the comms options.

Keyboard Entry	Result on Display	Operation
<8>		
<1>	THEO \ FRNK \ VDDR \ DIPT 2. CHANNEL X 3. ID XX 4. PGRM ID	Scroll through by repeatedly pressing <1> to select comms type
<2> (NOT shown in THEO Mode)	2. CHANNEL 0, 1 or 2	Scroll through by repeatedly pressing <2> to select Channel number 2 ⚠ NOTE Tank Gauging normally works on Channel 2 (Selecting Channel 0 turns the tank off)
<3>	ID	Same as tank number
<4>	PGRM ID	Not used

Depending on tank gauging and software installed, other options may or may not be available.

Tank Gauging Troubleshooting

To check that the tank gauging unit is communicating with the FMS board, look at the following LEDs:



NOTE Most tank gauging is set up on Port 4 Channel 2. The exception is for units controlling Gilbarco pumps.

If the green Tx LED is not flashing, check the settings in the FMS board.

If the red Rx LED is not flashing, check the settings in the tank gauge unit.

If all settings are correct, check for a cable fault by shorting the Rx and Tx wires together at the tank gauge end. The LEDs should flash together. If not, there is a break in the cable.

The wiring of the tank gauging cable may change for different models. If you are changing tank gauge units, you may need to swap the Tx and Rx wires to get it to work.

Option #7 PRODUCT GROUPS and GRADES

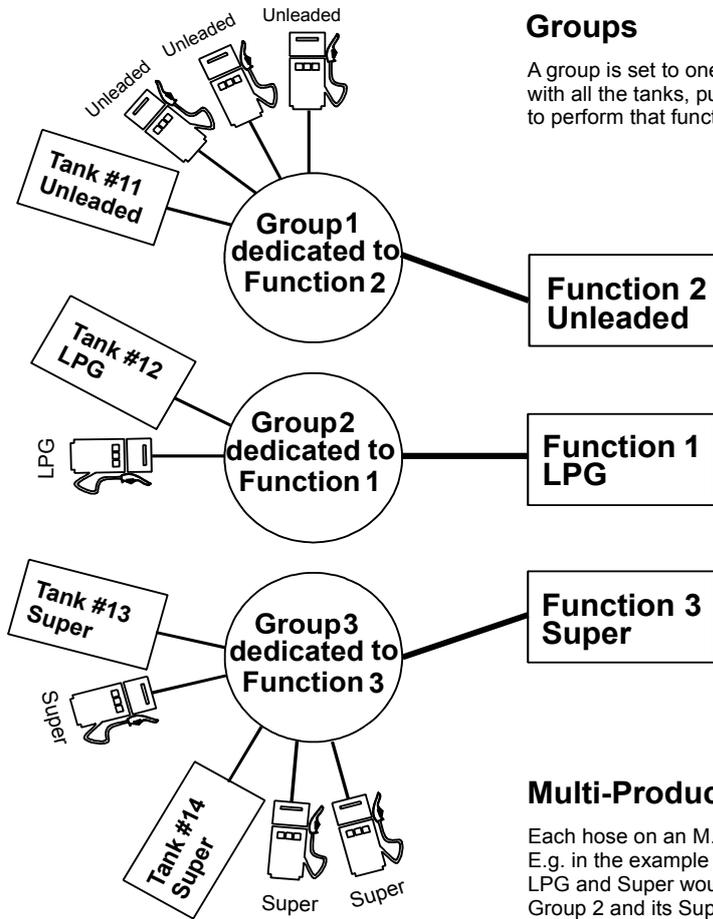
The allocation of tanks and pumps for fuel dispensing involves the use of groups. (If you are used to the concept of grades, you can think of groups as the equivalent of grades.) The group is a controller protocol that aids product reconciliation and also enables fuel dispensing to be tailored to suit different local conditions. The group is like a junction box through which tanks, pumps, devices and products are assigned.



```
GROUP NUMBER 01      N
IS 00 NOT SET       Y
```

Tanks/Pumps/Groups

Concept



Groups

A group is set to one function - e.g. a product - with all the tanks, pumps, and devices needed to perform that function.

Functions

A function is an interface between the installation and client - e.g. dispensing a product. Functions 1 - 16 are products, Function 21 is the receipt station, Function 22 is the authorisation station.

Tanks

Each tank must be individually set to a group. A tank can only be set to one group. However, more than one tank may be set to the same group.

Pumps

Each pump must be individually set to a group. A pump can only be set to one group. However, more than one pump may be set to the same group.

Multi-Product Dispensers

Each hose on an M.P.D. must be individually set to a group. E.g. in the example shown, an M.P.D. dispensing LPG and Super would have its LPG hose(s) set to Group 2 and its Super hose(s) set to Group 3.

Groups

The first stage in setting up is to marry the functions performed by the site to groups that you create in the groups menu option. Each group is dedicated to one grade or function.

In the 'Groups' menu option, first select a unique number for a group, then select the number of the grade or function it is to be dedicated to. The group numbers don't have to be in sequence and may be any numbers between 1 and 20.

For the grade/function map refer to Pump Grade maps (see page 19).

Tanks

Once the groups have been decided, the 'Tanks' menu option enables each tank to be allocated to a group. A tank must be dedicated to one group; it cannot be allocated to different groups. However, more than one tank may be dedicated to the same group.

Select Tank

Each tank must be set up individually

Select Tank - Group

This option allows you to match the tank number to the appropriate group number.

Pumps

The 'Pumps' menu option is where pumps are set up.

Select Pump

Each pump is set up individually.

Set Channel

0 - offline / not used.

1 - on board current loop 1 / external protocol converter.

2 - on board current loop 2 / internal protocol converter.

Set Type

C12 - Compac current loop pump comms, 1200 baud (NZ Standard).

C24 - Compac current loop pump comms, 2400 baud (Compac pumps only).

GC - Gilbarco Calcopac.

GEL - Gilbarco Electroline.

GHL - Gilbarco High line.

GMP - Gilbarco Multi product.

EME - Email Eclipse

EMV - Email Vision

Set ID

The number in the pump head. This must be unique per channel, per protocol.

Set hose – Group

Allocate different product hoses to different groups; for a single hose just set H1.

Setting Product Groups

Pumps are not directly assigned to a Product Grade

Each pump is assigned to a Product Group

Each Product Group is in turn assigned to a Product Grade

For simplicity, in the majority of applications the Product Group numbers can mirror the Product Grade numbers according to the standard Grade Map

The most common are:

Grade number	Product names as they appear in the Communicator / Commander	Also referred to, or used for the following products
1	Super	Premium, Premium Unleaded, 96, LRP
2	Unleaded	Unleaded 91 , 91, ULP
3	Diesel	
4	PULP	Premium Unleaded Petrol
5	LPG	
6	Oil	
7	Kerosene	
8	AVGAS	
9	JET A1	

This option simply assigns products to groups

Keyboard Entry	Result on Display	Operation
Enter Passcode		
<ENTER>	Main Menu is displayed	
<7>	1) Group # XX 2) IS XX Product (or NOT set)	
Use N and Y keys to scroll up or down the Groups		Select Group to assign product to
<2>	1) Group # XX 2) IS XX (flashes) Product (or NOT set)	
Type in product number Refer to Grade Map for Product number		
<ENTER>	2) IS (Selected Product name)	
Use N and Y keys to scroll up or down to select another Group	Same as for previous Group	
or <CLEAR>	Returns to Main menu	

Assigning Pump Numbers to Hoses

Pump numbers for each model

Model	Number of pump numbers to set up
Master Premier Laser Single	One
Master Premier Laser Dual	Two
Laser 4 hose Quad	Two
Legend 4 hose	Two
Legend 6 hose	One in each C4000

Order of pump numbers

Compac comms

The pump number for Side A is usually **lower** than Side B

Gilbarco comms

The pump number for Side A must be **higher** than Side B

Assigning Hoses to Product Groups

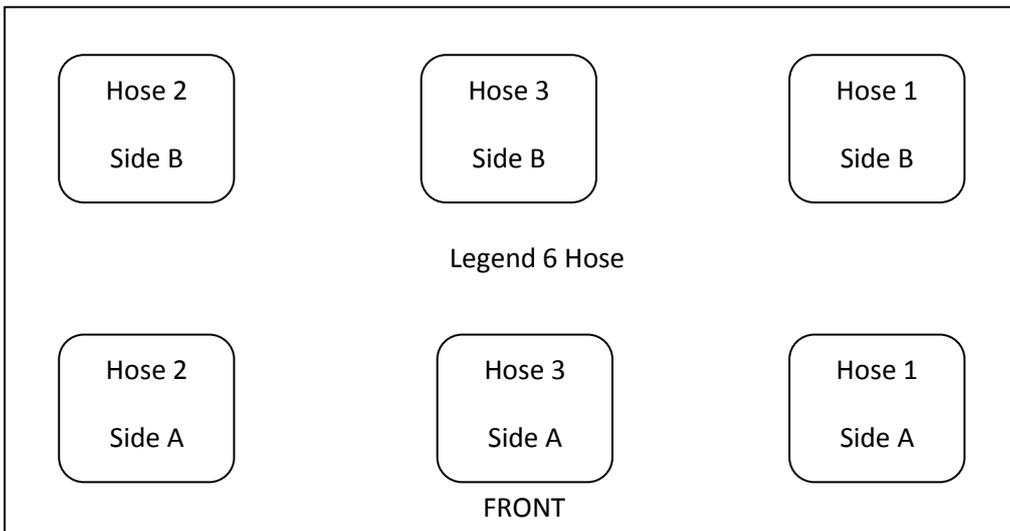
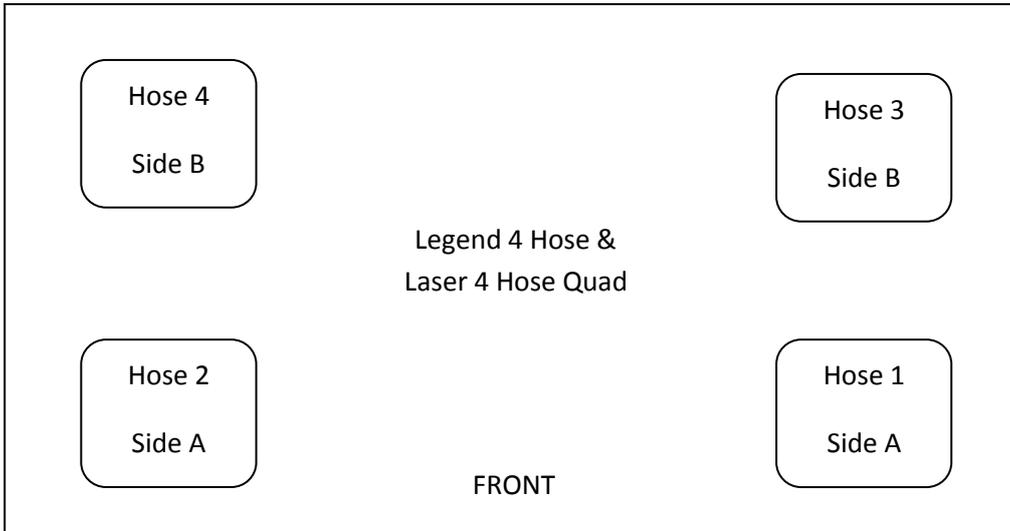
It is important to look at the Pump or Dispenser from the 'FRONT'

Remove the doors and a 'FRONT' sticker will be found on the hydraulic mounting rail.

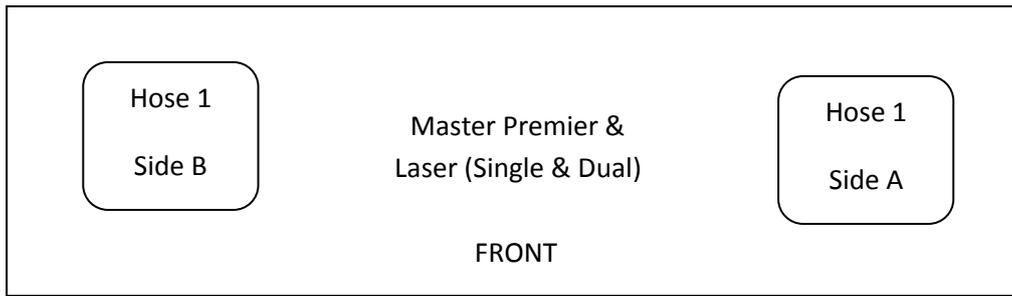
When looking at the front of the Pump/Dispenser, Hose 1-Side A is always on your right (as per the following diagrams)

Legend 4 Hose, 6 Hose and Laser 4 Hose Quad

- The layout for Hose 1 and 2 is the same for 4 hose and 6 hose MPDs
- On a 6 hose MPD, hose 3 is in the middle
- As Hose 1 (side A) is opposite Hose 1 (side B) the product group will be the same for both.



Master, Premier and Laser (Single and Dual)



Cards

Expiry Date

The expiry date on the card must be less than 10 years from today's date. If the date is more than 10 years old, *Expired Card* will appear when the card is swiped. To allow expired cards to be used you can use this procedure:

Change the second digit from the right in the 'B' configuration code to 1.

Overriding the Expiry Date

Enter the Passcode. If the Display on the unit reads "ENTER PASS CODE" type in your 6 digit Passcode. (If you do not know the passcode, contact the Compac Industries Help Desk. The default Password on new Communicator Controllers is 000000) Or, if the display reads PASS CARD, press the <NO> key. This will then bring up "ENTER PASS CODE". The main menu will then be displayed.

Press <4> (SYSTEM) The system sub menu will be displayed.

1. Press <5> (CFG B)
2. Display will read: CFG B = XXXXXXXXXXXX (12 digit binary number) Was XXXXXXXXXXXX
3. Take careful note of the existing CFG B number
4. Type in a new 12 digit number with the 11th digit from the left = 1 for example XXXXXXXXXXX1X. This will overwrite the existing number in the top line but you will still be able to still view the old number in the bottom line as you type in the new number. for example Old CFG B was 000000100000 new CFG B with expiry date override = 000000100010
5. Press <ENTER>
6. Press <CLEAR> twice to return to Main screen.

NOTE Although it is possible to put the clock back in the Communicator to less than 10 years from the expiry date of the card to make it work this is not recommended as date range reporting functionality is affected and some transactions may not be able to be retrieved.

Setting ISO and Access codes

NOTE If two cards systems are being supported (i.e. an Oil company / Nationwide card and an in-house Compac Standard card) then the Oil company card must be set up as ISO/Access code 1 and the Compac Standard in-house card set up as ISO and Access 2

If they are setup the other way around the system may return a 'BAD CARD' or 'INVALID CARD'

Oil company ISO and Access codes

If the unit is part of a Network, the appropriate ISO and Access codes will be downloaded via the modem by the System Administrator. Otherwise contact the Compac Helpdesk.

Cardreaders

Units built from January 2004 onwards no longer have CIMs and use a Magtek cardreader. These work with software version EAB1800 onwards. **NOTE** This also requires B configuration code setting to work -Refer to Configuration code tables.

Wiring connections are:

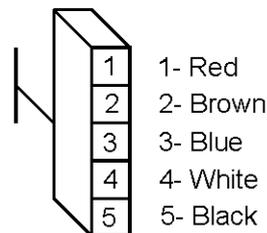
Cardreader end J3

1. Unused
2. Blue RDP
3. White CLS
4. Brown RCP
5. Unused
6. Red Vcc
7. Black Ground
8. Unused
9. Unused

Note pin 1 is marked on the cardreader pcb next to "J3"

Communicator Controller end

"CARDREADER" plug on Communicator board



USB Module

The USB Module is mounted in a plastic enclosure with a sealed lid. Under the lid is a slot for a USB stick, an LCD display and four buttons:

↑ and ↓ arrows toggle between the screens

✓ accepts the Yes/No option displayed

✗ rejects the Yes/No option displayed and returns to the "press any key" screen

The screens available for uploading and downloading are:

- Set Price - Upload new price schedule from USB stick
- Send Cards - Uploads new card authorisation files from USB stick
- Get Trans - Downloads all untagged transaction details to the USB stick
- Get Buffer - Downloads all transactions in the memory to the USB stick including previously downloaded transactions. (This could be up to several thousand transactions.)
- Get All - Uploads and downloads all the above files

The USB module and key can be used while the unit is in operation.

While not recommended, if the USB key is removed while in use, no transaction data will be lost. If the USB key is removed, the operation will need to be repeated to ensure all the data stored on the unit is retrieved.



Figure 2: USB Module

USB Memory Stick

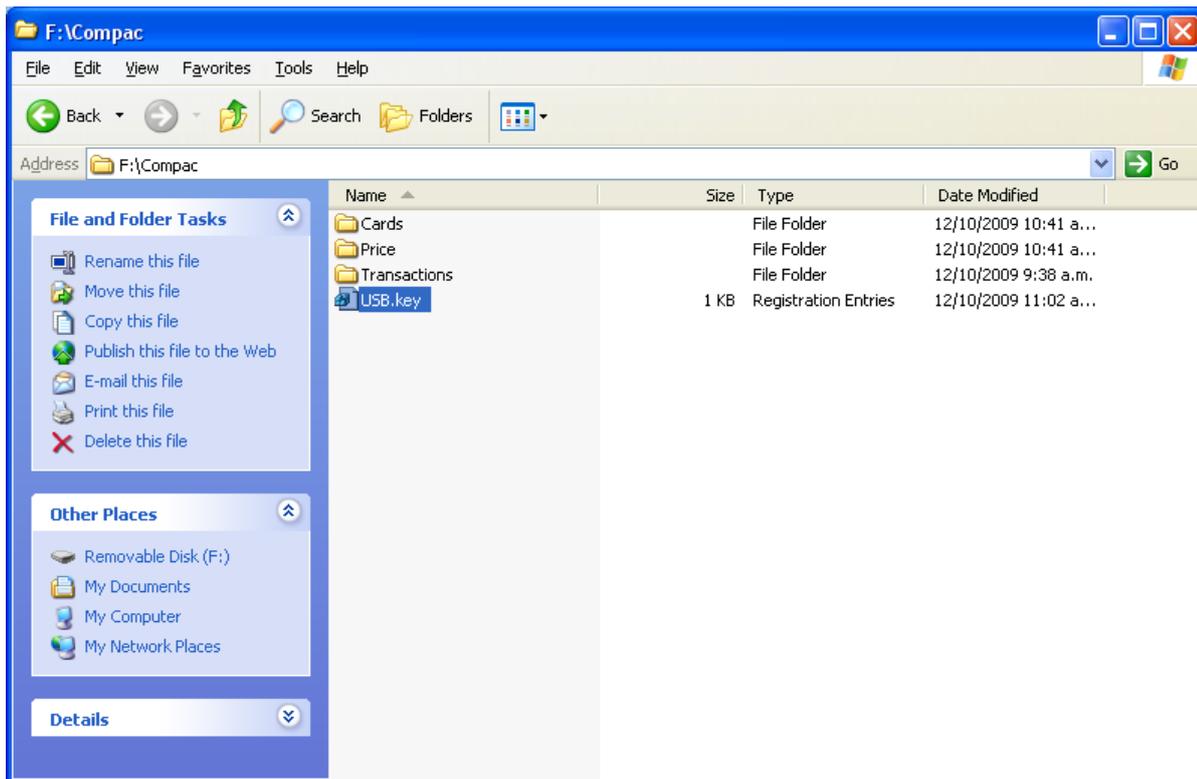
The Compac USB Module comes with a USB stick that has already been programmed for the customer with a unique file number. The number is located in the Compac folder and will allow the USB module to recognise the USB stick.

NOTE *Each module must have its own key. You cannot have one USB key that covers multiple units.*

You should always keep a secure copy of this file as if you lose your Compac USB stick the USB Module will not recognise any other USB stick unless it contains the unique "USB.key" file in the Compac folder.

It is also good practice to keep a secure copy of the Cards folder and Price folder if you are setting up the price through the USB.

The USB Module will display a "Non-Secure USB" error message if the USB Stick does not have the "USB.key" file or the file is not under the Compac folder.



For instructions on handling these files refer to: Working With USB Module Files (see page 49)

Uploading and Downloading Files

To use the USB Module lift the plastic cover of the module. The screen should display: "COMPAC USB module press any key".



Plug your USB stick into the USB slot and push any of the keys. It will then display "Searching USB...".



If the USB stick does not contain the Compac USB security code the display will read "Non Secure USB". You will have to load the "USB Key" file onto the key before it will work.

If the USB stick has the security code and it has found the data on the USB stick, it will display “Select [UP/DN] Do All? [OK]” Refer to the screen Do All. Use the up ↑ and down ↓ buttons to go through the menu on the USB Module.

NOTE If the USB Module can't find the USB stick, pull it out and push it in again.



1) Do All

“Do All” uploads the cards files and price files from the USB stick to the module and downloads transactions and buffers from the module to the USB stick. Push the green ✓ button to start the operation. The unit will read “Please wait...” while it’s uploading transaction and buffer files and downloading cards and price files. Be patient.

If you do not want to use this function, use the up or down keys to scroll through the other options.

NOTE Getting the buffer itself could take up to 5 minutes depend on how many transactions are in the unit.

NOTE It is very important that you DO NOT unplug the USB stick before the USB module says “Complete Remove USB”.



2) Set Price

Push down button to move to the next option “Set Price”. Push the green ✓ button to send the price file to the module. The unit will read “Please wait...” Once the file has been uploaded to the unit it will say “Complete Remove USB”. You can now either unplug the USB stick or wait a few seconds for the screen to return to the menu to continue uploading or downloading more files.



3) Send Cards

The next option is “Send Cards”. Push the green ✓ button to upload the card files to the module. The unit will read “Please wait...” Wait for the USB Module to say “Complete Remove USB”. You can now either unplug the USB stick or wait a few seconds for the screen to return to the menu to continue uploading or downloading more files.



4) Get Buffer

Move down to the next option "Get Buffer". Use this option if you want to download all the transactions from the module. This would include the old transactions that have been downloaded from the module before. This operation could take up to 5 minutes depending on how long the unit has been trading and how many transactions are held in the memory of the equipment. Push the ✓ button. The unit will read "Please wait..." Wait for the USB Module to say "Complete Remove USB". You can now either unplug the USB stick or wait a few seconds for the screen to return to the menu to continue uploading or downloading more files.



5) Get Transactions

The last option is "Get Trans"(actions). Push the green ✓ button to download transaction file from the module to the USB stick. The unit will read "Please wait..." Wait for the USB Module to say "Complete Remove USB". You can now either unplug the USB stick or wait a few seconds for the screen to return to the menu to continue uploading or downloading more files.

NOTE Every time you download transactions from the equipment, it tags them so they will not be downloaded again using this function. It also marks them as re-writable so as the transactions fill up the memory, it will overwrite the old transactions. Depending on functions, the equipment can store up to 5,000 transactions.



Working with USB Module Files

You can access the files on your USB key by plugging it into the USB port of your computer and clicking on the Compac file.

You will see the following folders:

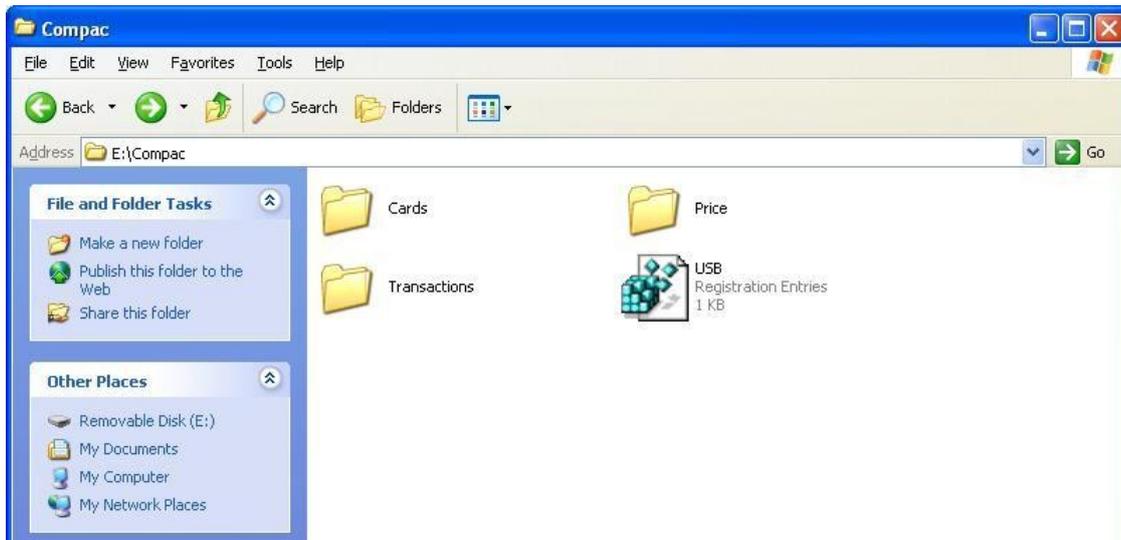


Figure 3: USB key folders

Click on the Cards, Price or Transactions files to view, change or retrieve information.

NOTE Only transaction information is uploaded from the module. Card and pricing information is stored on the key and downloaded to the module when requested.

1) Cards

Opening the Cards folder will show the Excel spreadsheet file for the cards called cards.csv.

	A	B	C	D	E	F	G	H
1	CARD_NUM	VALID						
2	1000	TRUE						
3	1001	TRUE						
4	1003	TRUE						
5	1004	TRUE						
6	6001316	TRUE						
7	6001317	TRUE						
8	6001318	TRUE						
9	6001319	TRUE						

Figure 4: Cards spreadsheet

Adding a Card

To add a card, enter the new card number in column A and the word TRUE in column B. Save the changes. Next time the USB key is inserted in the module and the Send Cards function selected, the new card number(s) will be installed.

Deleting a Card

Change the appropriate field in column B to FALSE. Save the changes. Next time the USB key is inserted in the module and the Send Cards function selected, the card(s) will be deleted.

NOTE *The module will upload card information from the USB key and overwrite card information stored in the USB Module. The module cannot download card information to the USB key.*

NOTE *It is not recommended to delete cards by deleting the card information.*

PIN Numbers

If you wish to use PIN numbers for added card security, you can add a new column titled SELECT_PIN. (Depending on the set-up you ordered, this may already be entered.) When a PIN number is added in this column, the user will be prompted to enter their PIN number. If a cell in this column is left blank, a PIN will not be asked for.

PIN numbers are 4 digits as standard.

	A	B	C	D	E	F	G	H
1	CARD_NUM	VALID	SELECT_PIN					
2	2900001	TRUE	1234					
3	2900002	TRUE	5678					
4	2900003	TRUE	3456					
5	2900004	TRUE	6543					
6	2900005	TRUE						
7	2900006	TRUE	7890					
8	2900007	TRUE						

User ID

The unit can be set up to manage user ID numbers. It requires a change to the configuration code of the unit and a new file called cardusers.csv added to the Cards folder of the USB key.

When set up, the unit will prompt for a user ID number and then a PIN number (if the card is set-up with a PIN).

Users are not linked to a particular card.

As PIN numbers are assigned to the card, all users will have to enter the same PIN number.

To assist with administration, you can set up a column linking names to ID numbers but this information will not be transferred to any reports.

NOTE *It is not recommended to delete user IDs by deleting the information. Use the word FALSE in the VALID column to remove the user ID from the unit.*

	A	B	C	D	E	F	G	H
1	USER_ID	VALID						
2	1234	TRUE						
3	1235	TRUE						
4	1236	TRUE						
5	1237	TRUE						
6	1238	FALSE						
7	1239	TRUE						

File Format

If the any of the above files are lost then a new file can be recreated by duplicating the headers in row 1 (case sensitive). Enter the card fields and save as a .csv file.

2) Price

Clicking on the Price file will show the pricing spreadsheet. Click on the icon to display the pricing information.

	A	B	C	D	E	F	G
1	PRODUCT_CODE	PRODUCT_PRICE	PRODUCT_NAME				
2	3	0.999	DIESEL				
3							
4							

Figure 5: Pricing Spreadsheet

Changing Price

To change pricing, change the figure(s) in column B to the new value. (\$ per litre) Next time the USB key is inserted in the module and the Set Price function selected, the new price(s) will be installed.

NOTE *The module will upload pricing information from the USB key and overwrite the information stored in the USB Module. The module cannot download pricing information to the USB key.*

File Format

If the price file is lost then a new file can be recreated by duplicating the headers in row 1 (case sensitive). Enter the pricing information and save as a .csv file.

3) Transactions

The Transactions folder has the downloaded transactions from the USB module. Click on the file you wish to view.

To help you find the correct file the transaction files are named using the following format: Transactions_Day (DD) Month (MM) Year (YYYY) Time (Hours Minutes Seconds).TRA

Example: Transactions_30112009140653.TRA was created on the 30th November 2009 at 2.06 and 53 seconds PM.

	A	B	C	D	E	F	G	H	I	J	K
1	Reference	Amount	Quantity	Hose	Product	Pump	CardNumber	LocalDateTime	Odometer	Tag	UserID
2	0	0.5	0.5	1	3	1	1354272	12/09/2002 6:14			
3	1	0.48	0.48	1	3	1	1354272	12/09/2002 6:15			
4	2	9.23	9.23	1	3	1	1354272	12/09/2002 6:17			
5	3	8.93	8.93	1	3	1	1354272	12/09/2002 6:20			
6	4	4.88	4.88	1	3	1	15954272	12/09/2002 6:26			
7	5	16.34	16.34	1	3	1	1354455	12/09/2002 6:27			
8	6	17.62	17.62	1	3	1	1354455	12/09/2002 6:28			
9	7	18.22	18.22	1	3	1	1354455	12/09/2002 6:28			
10	8	19.23	19.23	1	3	1	1354455	12/09/2002 6:29			
11	9	3.21	3.21	1	3	1	1354272	12/09/2002 6:30			
12	10	2.09	2.09	1	3	1	1354272	12/09/2002 6:30			
13	11	1.23	1.23	1	3	1	1354272	12/09/2002 6:30			
14	12	0.84	0.84	1	3	1	1354272	12/09/2002 6:36			
15	13	4.22	4.22	1	3	1	1354272	12/09/2002 6:36			
16	14	1.27	1.27	1	3	1	1354272	12/09/2002 6:39	258963		
17	15	2.05	2.05	1	3	1	1354272	12/09/2002 6:39		258	
18	16	1.24	1.24	1	3	1	1354272	12/09/2002 6:40		6	
19	17	4.46	4.46	1	3	1	1354272	12/09/2002 6:40		9	
20	18	6.08	6.08	1	3	1	1354455	12/09/2002 6:40		25	
21	19	7.35	7.35	1	3	1	1354455	12/09/2002 6:41		8	
22	20	2.09	2.09	1	3	1	1354455	12/09/2002 6:41		25	
23	21	1.42	1.42	1	3	1	1354455	12/09/2002 6:42		2	
24	22	3.03	3.03	1	3	1	1354455	12/09/2002 6:43		2	

Figure 6: Transactions file

File Format

The files shown are as follows:

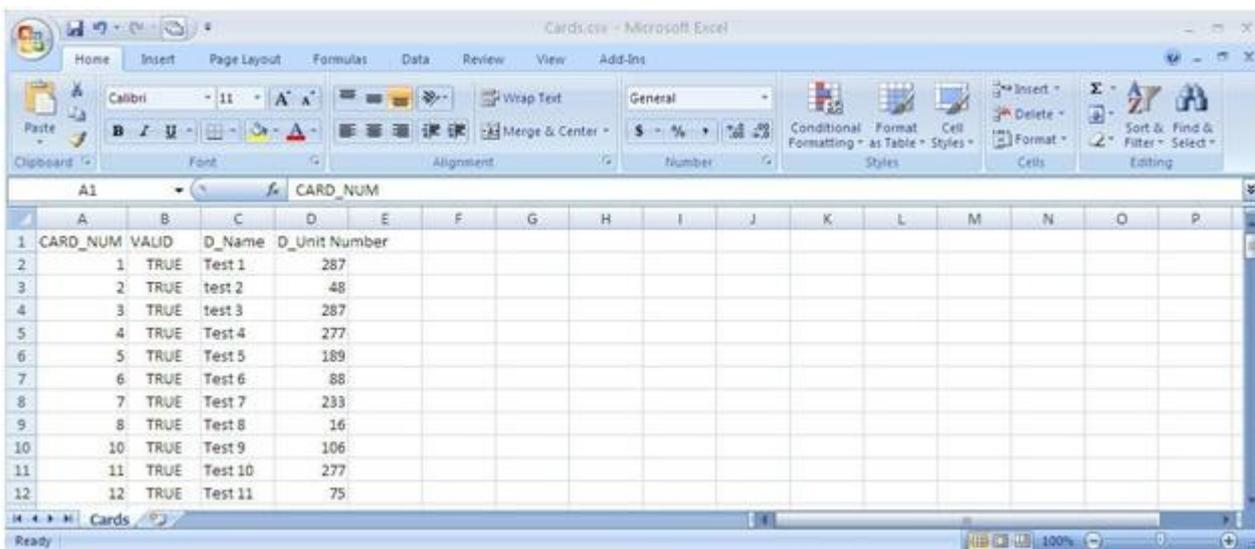
- Reference - Every transaction is given a consecutive number from initialisation of the USB module
- Amount - The value of the transaction in local currency
- Quantity - The amount of fuel dispensed in litres
- Hose - The hose number used
- Product - The product code number
- Pump - The pump number
- Card Number - The number of the card used for the transaction
- Local Date Time - The date (DD/MM/YYYY) and time (24 hour clock) of the transaction
- Odometer - The odometer reading if entered
- Tag - Information is shown here if the unit uses mapped cards
- User ID - The ID number of the user if the unit is set up to prompt for a number

Customising Your Transaction Reports

If you want to include more card information on your Transaction reports we have developed an automated process to include card information in your transaction file. This software requires an update to existing USB keys that do not have it. The new software is called USBTransJoin.exe and as its name suggests, it joins the card information on the USB key to the transaction records

Software installation and setup instructions

1. Copy the USBTransJoin.exe file onto the Compac USB key and put it in the "Compac" Folder
2. In the "Cards" folder you will have a file called cards.csv . The two standard columns in this file are "CARD_NUM" and "VALID"
3. To include information from this file into your transaction records you will need to create new columns that start with the prefix "D_". For example, if you wanted to include the name and unit number of the vehicle using cards you would add in two columns titles "D_Name" and "D_Unit Number". See the screen shot below showing this example.
4. There is no limitation to the number of extra columns you add to the card file however the "CARD_NUM" and "VALID" column must not have their column names altered or other columns added to the left hand side of them.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	CARD_NUM	VALID	D_Name	D_Unit Number												
2	1	TRUE	Test 1	287												
3	2	TRUE	test 2	48												
4	3	TRUE	test 3	287												
5	4	TRUE	Test 4	277												
6	5	TRUE	Test 5	189												
7	6	TRUE	Test 6	88												
8	7	TRUE	Test 7	233												
9	8	TRUE	Test 8	16												
10	10	TRUE	Test 9	106												
11	11	TRUE	Test 10	277												
12	12	TRUE	Test 11	75												

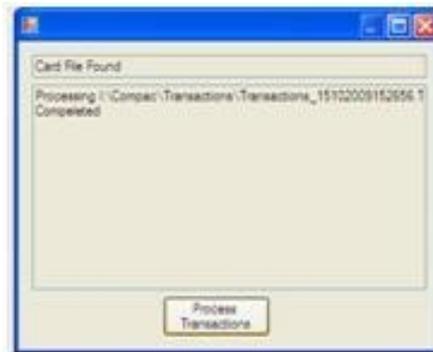
How to use the software

Run the USBTransJoin.exe software by double clicking on it. A dialog box with appear with the message

“ Card file found”



Click on the “Process Transactions” button to merge the card information with the transaction information. A conformation message will appear showing the file path of the file created.



Browse to the transactions folder on the USB key, a new folder will have been created titled “PostProcess”. Inside this folder will be a CSV file with the merged transaction and card information. Any of the card information fields with the “D_” suffix will appear on the right side directly after all the normal fields that are in a transaction file. If you do not have any information allocated to that card the headers will be in this file but there will not be any information against that card. In this example below card number 51 had the name “Test 39” and Unit number “188” assigned against it.

A screenshot of Microsoft Excel displaying a CSV file named "Transactions_15102009152656.TRA.CSV". The spreadsheet has columns for Reference, Amount, Quantity, Hose, Product, Pump, CardNumber, LocalDateTime, UtcDateTime, Odometer, Tag, UserID, Name, and Unit Number. The data row shows a transaction with CardNumber 51, Name "Test 39", and Unit Number 188.

Reference	Amount	Quantity	Hose	Product	Pump	CardNumber	LocalDateTime	UtcDateTime	Odometer	Tag	UserID	Name	Unit Number
1	3.29	3.3	1	3	1	51	15/10/2009 15:26	15/10/2009 4:26	158	4660	Test 39	188	

Comms Options

The unit can support two protocols at once out of the following:

- Compac/PEC
- Gilbarco
- Email

For Email and Gilbarco comms, interface boards are required

These can be connected to either Port 4 (TTL) or Port 5 (RS232) although if only one interface board is used, it is normally connected to Port 4 (TTL)

If BOTH Email and Gilbarco comms are required, then Compac comms are unavailable.

Comms Channels

The Communicator has two comms channels (Compac or Gilbarco and Email). Usually Compac pump comms are assigned to channel 1 and the other comms assigned to channel 2.

Channel 1 can be either Current loop or RS232 (to either an Email or Gilbarco I/F board)

Channel 2 is TTL (to either an Email or Gilbarco I/F board)

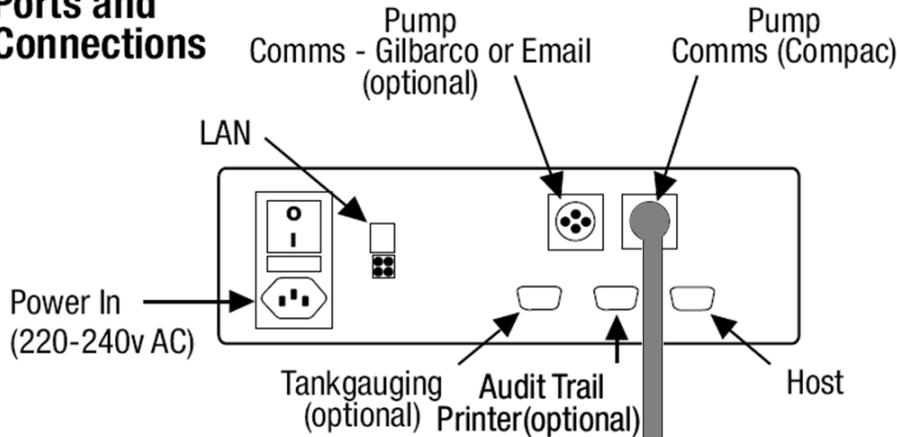
This table shows which combinations of protocols are used on the two channels

Channel 1 (Current Loop)	Channel 2 (Current Loop)	Channel 1 RS232 (Port 5)	Channel 2 TTL (Port 4)	Dip-Switch 1	Dip-Switch 2	Dip-Switch 6	Dip-Switch 7
Compac/PEC				ON	OFF	OFF	OFF
Compac/PEC	Compac/PEC			ON	OFF	ON	ON
Compac/PEC			Gilbarco	ON	OFF	OFF	OFF
Compac/PEC			Email	ON	OFF	OFF	OFF
		Email	Gilbarco	OFF	ON	OFF	OFF
		Gilbarco	Email	OFF	ON	OFF	OFF

Compac Comms and Wiring Layout

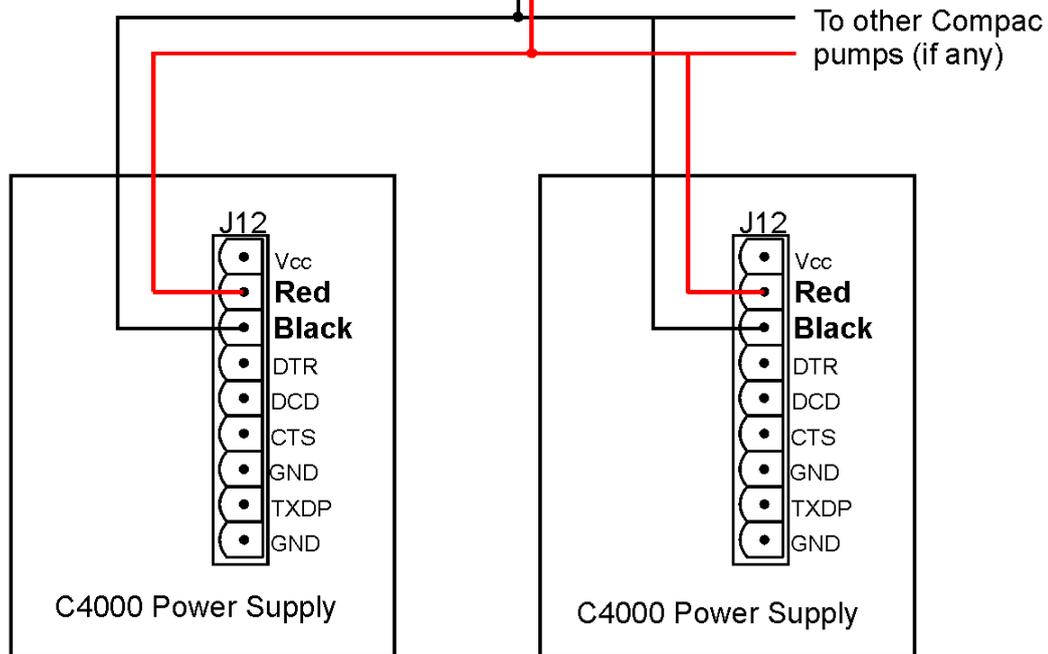
Bottom Panel of the Communicator:

Ports and Connections



Connect C4000 Dispensers in PARALLEL to the two core cable plugged into the socket marked " PUMP COMMS " on the rear panel of the Communicator

Communicator is supplied with a two metre long 2 core cable
 Note cable cores may be either Black / Red or Blue / White
 Black = Blue Red = White



Comms connections between Communicator (or Commander) and C4000 Pumps and Dispensers
 "COMPAC" comms only

Note COMMS dipswitches (SW3 located next to J12) settings for Compac comms only are

- 1 - ON
- 2 - OFF
- 3 - ON
- 4 - OFF

Comms Dip-switches

The comms dip-switch is an 8 way switch but normally only numbers 1 and 2 are used. These two switches direct Channel 1 comms to either Current Loop or RS232 (Port 5).

Only one of these switches must be on. The factory default setting is 1 ON 2-8 OFF.

Where more than 16 pumps are controlled, the Current Loop Channel 2 can be added by using Dip switches 6 and 7.

Second Current Loop Comms Channel

There are two current loop comms channels (for Compac Pumps) on the Com FMS board. If a fault occurs on Current Loop Channel 1 and Current Loop Channel 2 is not being used then the channels can be switched over.

To connect Compac pumps to the second current loop comms channel

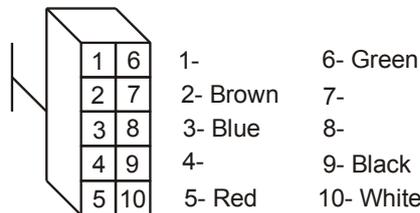
1. Change the comms channel in the pump setup to Channel 2. Refer to Pumps (see page 36)
2. Move the wires on the 2 core comms cable on the "Current Loop" plug to the second position in from each end. Refer Comm FMS Board Replacement for detail.
3. Change the dipswitches to the following settings:

1	X
2	X
3	X
4	X
5	X
6	ON
7	ON
8	X

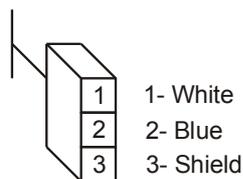
Email Comms

Status of LEDs on Communicator board when connected to Port #4

	Red Rx	Green Tx
Email board unplugged from Communicator board	Off	Flashes rapidly
Email board plugged in but pump not connected	Flashes	Flashes in time with Rx
Email board plugged in but pump set up for Compac comms	Off	Flashes rapidly
Email board plugged in but pump set up for wrong channel	Off	Off
Email board plugged in but pump ID incorrect	Flashes	Flashes in time with Rx
Email board plugged in and operating correctly	Flashes very rapidly and is much brighter than Tx almost looks like its stuck on	Flashes very rapidly



Cable between Port #4 and J4 on Email board
Note the connections are the same both ends



J1 Comms plug on Email board

Dip Switch SW1

The Yellow, Orange Red and Brown switches should be closest to the centre of the board

i.e. A,B,C & D visible

NOTE Only issue C Communicator boards support Email protocol

NOTE Multi hose Email pumps are not supported.

NOTE The Shield and Blue wires should not be swapped over. If they are the system may appear to work but cause intermittent comms problems.

NOTE Take great care line up the locking tabs on the green plugs correctly as reversal of these will damage the Email board.

Gilbarco Comms

Status of the Red and Green LEDs on Port #4

Red LED	Green LED	
Flashes rapidly and unevenly	Flashes rapidly and unevenly	Pump communicating normally
OFF	Flashes rapidly	Comms channel set up for Channel 2 but Gilbarco board not connected
ON	OFF	Gilbarco board connected but Comms channel not set up for Channel 2
ON	Flashes rapidly (dimly)	Gilbarco board connected, Comms channel set up for Channel 2 but no pump connected
Flashes slowly (and dimly)	Flashes slowly (and dimly) (simultaneously with Red LED)	Comms channel set up for Channel 2 but short on Gilbarco pump comms or pump comms wires reversed.
Flashes rapidly and unevenly	Flashes rapidly and unevenly	Pump appears to be communicating but does not work when nozzle is lifted - Pump is set up as a Hi-line instead of an Electroline

A DC voltage of approx 2 to 5V can be measured across the Gilbarco comms to establish whether a pump is connected.

Modems

Dynamlink (Hayes type)

Connects to Port #1 RS232 on the rear panel of the Communicator.

There is no special setup required for the Dynamlink Modem.

GSM Modem (Wavecom)

Connection

There is a ribbon cable that goes between the Port #1 RS232 D connector and Port #1 on the Communicator board.

Cut the 'Ring Indicator' wire (connects to pin 9 on the D connector) This is the 3rd wire in from the locking tab end of the red plug.

There is cable supplied with the Cell modem with a 15 pin high density d-connector one end.

Plug this end into the Cell modem and the other (9 pin) end into to Port #1 RS232 socket on the rear panel of the board.

Setup

No special software setup is required for the Cell Modem as the Communicator recognises the modem when it initialises it.

NOTE *The SIM card must be setup by the phone provider as Data enabled (a different phone number will be issued)*

The diagnostic LED stays ON for 20-30 seconds at power-up while it registers on the network. It will then flash slowly when in its idle state. During a comms session it flashes faster.

The baud rate in Netbase must be set to 9600

The Boot ROM software version in the Communicator must be BFA01052 or later

Lantronix

If you have given Compac the IP address that you want to use, the unit will have been set up by the factory. If you haven't told Compac the IP address it will be 10.0.0.122 by default.

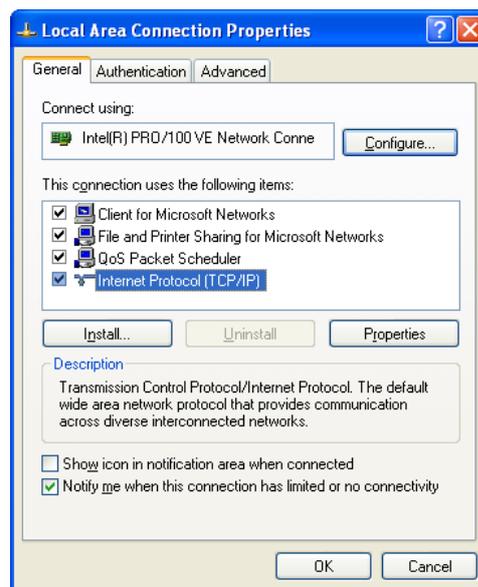
Lantronix Setup

Step 1

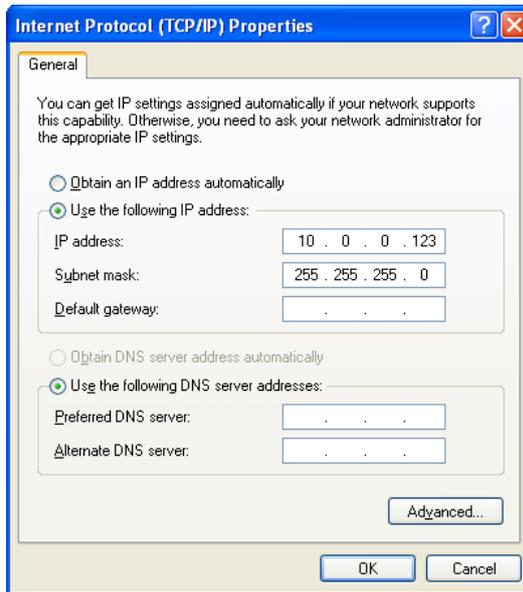
Connect the Lantronix port on the communicator to your computer network.

Step 2

Change the IP address of your computer to be on the same network as the Lantronix unit. This means going Start/Control Panel/Network Connections, this will bring up the network connections. Right click on the connection that you will be using and then click on properties.



Then double click on Internet Protocol (TCP/IP)



Select “Use the following IP address”, for the IP address enter 10.0.0.123 subnet mask 255.255.255.0 this will put your computer on the same network as the Lantronix unit.

Step 3



In your web browser type the IP address of the Lantronix unit, in our case type <http://10.0.0.122> (<http://10.0.0.122>) this will login into the Lantronix unit. You will be prompted for username and a password, the default username is “admin” with no password.

Once you are logged into the Lantronix unit click on “network” in the menu. What you need to do is assign an IP address that will be on the same network as the network that you are connecting the communicator to. Warning when you are setting the IP address on the Lantronix unit it cannot conflict with any IP address on your network. If you have a DHCP server you will have to reserve an IP address for the Lantronix unit.

IP Configuration

Obtain IP address automatically

Auto Configuration Methods

BOOTP: Enable Disable

DHCP: Enable Disable

AutoIP: Enable Disable

DHCP Host Name:

Use the following IP configuration:

IP Address:

Subnet Mask:

Default Gateway:

Under IP configuration select “Use the following IP configuration”, this is where you can set the IP address of the Lantronix, do not use the “Obtain IP address automatically”. Remember that if you are running a DHCP server you must reserve the IP address of the Lantronix so that the server does not assign it to another computer.

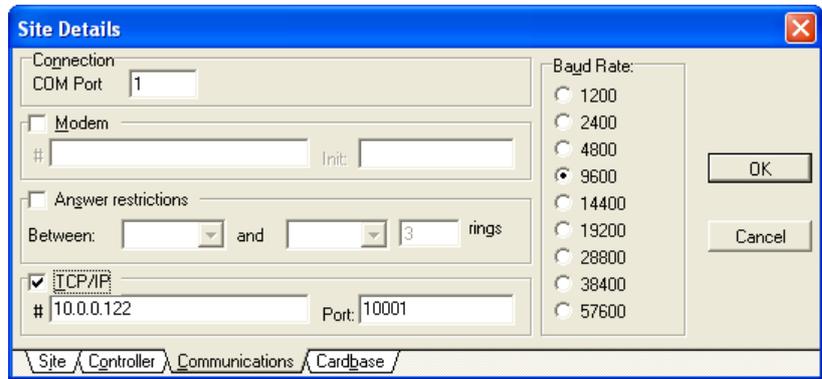
Step 4

The communicator is now ready to be connected to the network. Once it is connected to the network the Netbase will be able to connect to the communicator. Before you can do this you need to make sure that the Netbase has been setup for the communicator.

Make sure that the settings in the Communicator are the same as the settings in the Netbase.

In this case

- Passcode – 000000
- Site Number– 000001
- Config A (Parameter 1) = 202
- Config B (Parameter 2) = 0



In the Communications tab make sure that the settings are as follows.

- The TCP/IP box should be ticked
- The IP address (this is the IP address that you entered in step 3) for the Lantronix unit is to be entered in the box labelled "#".
- The box labelled port contains the port that the Lantronix unit communicates on, this is always "10001" but this can be changed.
- The baud rate must be always set to 9600.

At this stage the communicator should be setup correctly and ready to communicate with the Netbase. To test the connection try doing a "Get date time" procedure.

Diagnostic LEDs

There are a number of diagnostic LEDs on the Com FMS board to assist in the diagnosis of comm's problems

LED name on board	Location	Colour	Operation
POWER	Near Dipswitches	Green	ON to indicate Power Supply working
W/DOG	Near Dipswitches	Red	<ol style="list-style-type: none"> 1. Watchdog 2. Indicates software has stopped running (may have restarted) 3. IC fitted incorrectly or leg broken/bent
TX/1	Adjacent Port #1 TTL plug	Green	Transmit data to Modem or Direct host
RX/1	" " " "	Red	Receive data from Modem or Direct host
DCD/1	" " " "	Green	Handshaking line to Modem
TX/2	Adjacent Port #2 TTL plug	Green	To Audit Trail Printer
RX/2	" " " "	Red	
CTS/2	" " " "	Yellow	ON when Audit Trail Printer connected
TX/3	Adjacent Port #3 TTL plug	Green	Used for Receipt Printer and Commander
RX/3	" " " "	Red	
TX/4	Adjacent Port #4 TTL plug	Green	Only used when Gilbarco or Email pumps
RX/4	" " " "	Red	Running on comms channel 2

Diagnostic LEDs in a system with Compac comms only

In a typical system (with Compac pumps only) this is how the diagnostic LEDs will appear.

Com FMS Board

LED	Comms working correctly	Comms wiring reversed	Short on comms
To Pumps / 5	Flashes	Flashes	Flashes (very fast)
From Pumps / 5	Flashes	Flashes	Flashes (very fast)
Comm Short / 5	OFF	ON	Flashes (very fast)
TX / 5	Flashes	Flashes	Flashes
RX / 5	Flashes (faster than TX / 5)	Stuck ON	Stuck ON
WDOG	OFF	OFF	OFF
POWER	ON	ON	ON

C4000 Board

LED	Comms working correctly	Comms wiring reversed	Short on comms
D6	Flashes	Stuck ON	OFF
D7	Flashes	OFF	OFF

Troubleshooting

Symptom	Problem	Solution
One pump drags the comms down on the other pumps	An unused hose has been allocated to a group	Check group allocations for that pump
“Receipt unavailable” displayed keeps trying to initialise GPRS modem	Cardreader not plugged in when unit was powered up	Plug cardreader in and re-power
“Receipt unavailable” displayed	Paper not through far enough to be detected by paper out sensor	Press paper feed button momentarily
Cardreader does nothing when card swiped	Cardreader was plugged in after the unit was powered up Cardreader unplugged	Re-power the unit Plug cardreader in

Spare Parts List

The following parts list may contain components that are not specific to your particular unit. To ensure you get the correct parts, always quote serial number of the unit when ordering.

Electronic Components

Part Number	Description
FD-BS-2P-ISO-SW	Mains Switch
FD-BF-FILTER-3A	Mains Filter
BA-FAN-40-12VDC	40mm 12V DC Fan
BA-PWR-DO12V5V	Dual Output Power Supply
F-C4PWR-FUSEKIT	0.5MM Amp Fuse 20MM
F-CP-COM-FMS	Comm FMS Board - Tested
FD-AM-BT-BUP-3V6	Comm FMS Backup Battery 3.6V,1.9AH
FD-BA-CE-BOXP	Compac Box for CompacOnline Units
F-RSM-MXBOX	Compac Box for Roseman Equipped Units
F-BA-EMB-PC2IWE	Fit PC option
F-AD-4MEG-NVRAMN	Flash Memory (DS1250Y)
FO-BRD-0003	Embedded LAN Interface
F-FAS-DCA-PINPAD	LCD 20X4 EXT/TEMP Backlit
F-CP-COMEX-CI118	RS232 Comm Port Expansion PCB CI118
F-CP-COMM-DPIA	Commander RS232 PORT I/F
F-AD-27C512-A	EPROM 8 X 64K 28 PIN DIP
F-CP-PINPADT	PIN Pad Capacitance Type PCB CI 119
FD-P-GASKET-PINP	PIN Pad Gasket

USB Parts

Part Number	Description
F-BA-USBKEY	USB memory stick 2Gb
FD-BA-CE-BOXPUSB	CE box programmed for USB applications
FD-BA-USBINT	USB interface cable. Does not include cables.

Installation Checklist

Version 1.0.1.

Covers Compac DCA, Comfutra, Card King and Controller units.

Site number and name:	
Date:	
Installer name and phone number:	
Terminal ID number:	

When a new unit is being installed use the following checklist to make sure the unit is fully operational. Check each box or write N/A where not applicable. Refer to the relevant installation manual for procedures.

Mechanical Checks

Yes No

Check unit is undamaged and has not been tampered with.	<input type="checkbox"/>	<input type="checkbox"/>
Is the unit in a sheltered position and facing away from the prevailing wind and rain?	<input type="checkbox"/>	<input type="checkbox"/>
Check all panels are securely fastened using tamper-proof fastenings where supplied.	<input type="checkbox"/>	<input type="checkbox"/>
Check that all cable entries to unit are through glands.	<input type="checkbox"/>	<input type="checkbox"/>

Power on Checks

Yes No

Check that the CE board, FMS board, pinpad, printer, cardreader, router and modem all power up.	<input type="checkbox"/>	<input type="checkbox"/>
Check pumps are re-priced to the current fuel price.	<input type="checkbox"/>	<input type="checkbox"/>
Check that different fuels are correctly priced on all hoses.	<input type="checkbox"/>	<input type="checkbox"/>

Transaction Checks

Yes No

Complete transaction using white card/CWID/HID/Pin authorisation methods	<input type="checkbox"/>	<input type="checkbox"/>
Complete transaction using credit card (credit card DCA only).	<input type="checkbox"/>	<input type="checkbox"/>
Check that all hoses can be selected and authorised by the unit.	<input type="checkbox"/>	<input type="checkbox"/>
Check all hoses stop on or before the pre-authorised value (credit card DCA only).	<input type="checkbox"/>	<input type="checkbox"/>

Receipt Checks (where fitted)

Yes No

Check that the correct \$, L and fuel grade are printed on the receipt.	<input type="checkbox"/>	<input type="checkbox"/>
Check the date, time and header information is correct.	<input type="checkbox"/>	<input type="checkbox"/>

USB Module Checks (where fitted)

Yes No

Check the supplied USB key is recognised by the unit.	<input type="checkbox"/>	<input type="checkbox"/>
Select "Set Price" and check that the unit price is correctly updated on all hoses.	<input type="checkbox"/>	<input type="checkbox"/>
Select "Get Transactions" and check that transactions are uploaded to the USB key.	<input type="checkbox"/>	<input type="checkbox"/>

Installation Checklist

CompacOnline Checks (when connected)

Yes No

Check the site appears on CompacOnline.	<input type="checkbox"/>	<input type="checkbox"/>
Check that transactions have been recorded on CompacOnline.	<input type="checkbox"/>	<input type="checkbox"/>
Change price on line and check that the price is uploaded to all units.	<input type="checkbox"/>	<input type="checkbox"/>

Tank Gauging Checks (where fitted)

Yes No

Check that tanks are set up in CompacOnline and that correct levels are being reported.	<input type="checkbox"/>	<input type="checkbox"/>
Check that the correct products are assigned to the correct tanks.	<input type="checkbox"/>	<input type="checkbox"/>

Customer Training

Yes No

Check site attendants understand refuelling procedures.	<input type="checkbox"/>	<input type="checkbox"/>
Check that site administrators understand how to obtain transactions and administer cards.	<input type="checkbox"/>	<input type="checkbox"/>

Final Checks

Yes No

Ensure all cables are plugged back in after remote accessing.	<input type="checkbox"/>	<input type="checkbox"/>
Tidy up all rubbish and clean the exterior of the unit before leaving.	<input type="checkbox"/>	<input type="checkbox"/>

If one or more of these tests fail, contact the Compac help desk or your service centre so the problem can be logged and parts issued if required.

Notes

<p>To validate warranty and receive future help desk assistance please fax both sides of this form to: +64 9 579 0635 or post to: Compac Industries Ltd, PO Box 12 417 Penrose, Auckland 1642, New Zealand.</p>	<p>Report any damage immediately to Compac Industries on: +64 9 579 2094. Any site safety issues should be reported immediately to the site manager.</p>
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