3rd Generation Devices

WAF - Gas Station roof

3GCA - Gas Station office

RS 485
200m

RF

RF

EM

Installation and Programming Guide

ROSEMAN
Fueling Simplicity

TABLE OF CONTENTS

The FCC Wants You to Know

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

a) Reorient or relocate the receiving antenna.

b) Increase the separation between the equipment and receiver.

c) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

d) Consult the dealer or an experienced radio/TV technician.

FCC Warning

Modifications not expressly approved by the manufacturer could void the user authority to operate the equipment under FCC Rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Overview

The 3rd Generation devices comprise wireless Vehicle identification and station identification devices as follows:

- Vehicle Identification devices includes:
    - SVID Wireless (Small Vehicle Identification Device)
    - Wireless Odometer Reader-VIB
- Station devices includes:
    - Wireless Nozzle Reader (WNR)
    - WAF (Wireless Automated Fueling)

SVID (Small Vehicle Identification Device)

The SVID is a unique vehicle identification device used for automatic fueling.

The SVID is programmed with a unique **iron number** that can't be changed.

The are two types of devices:

- SVID with internal antenna
- SVID with external antenna

SVID with external antenna   SVID with internal antenna

SVID Installation and programming

The installation is easy and simple and doesn't require any wiring work.

SVID Location criteria

The location of the SVID will be determined according to the device type:

- **SVID with internal antenna** will be located as near as possible to the fueling tank.
- **SVID with external antenna** will be located in the vehicle trunk behind the fueling tank.

SVID Installation with internal antenna
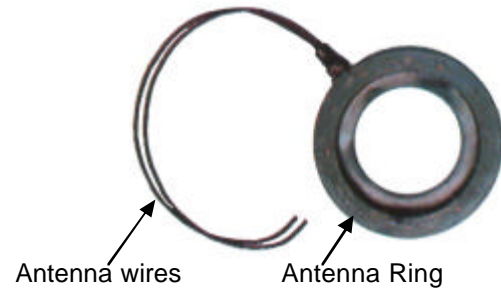
Remove the sticker underneath the device

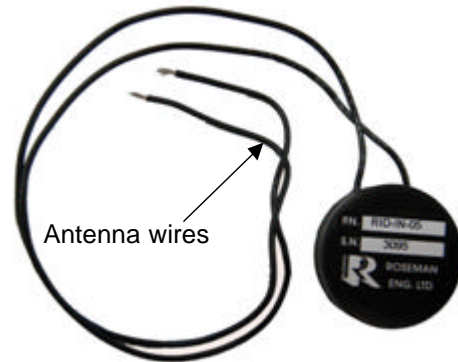Stick the device in the fueling tank compartment near the fueling tank

SVID Installation with external antenna

1. Install the antenna ring on the fuel tank inlet. Select a ring according to the vehicle type.

Antenna wires   Antenna Ring

2. Install the SVID vehicle trunk behind the fueling tank the fuel inlet.

Antenna wires

Vehicle trunk   **Fueling compartment**

SVID

3. Connect the SVID antenna wres with Antenna ring wires using two suitable connectors.

Antenna wires   Antenna Ring

Fuel inlet
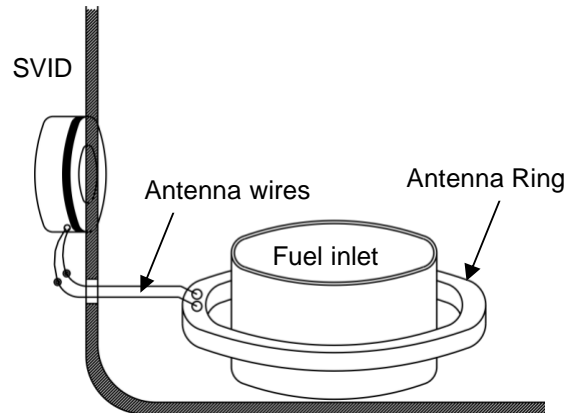
SVID Activation

1. Turn ON the programmer by pressing the:

   On / Off

2. Eight options will be displayed :

   Please Note the display will change every 2 seconds

   ```
   SEL:        PROGRAM -1
   CAL-2       RCVR-3   ?
   ```

   ```
   4-PROG PAZOMAT
   6-ERASE      5-UPLOAD
   ```

3. To activate press [1] followed by [YES ENTER]

   ```
   IDBOX- 0      DIARY - 1
   INTERO – 2            ?
   ```

4. Press [ABC 2] followed by [YES ENTER]
   The Programmer will now attempt to read data from the SVID unit. After establishing communication with SVID unit the following message will appear

   ```
   IDBOX CABLE
   SEL ?
   ```

5. Press [NO Clear]

   ```
   PUT THE KEYBOX
   CLOSE TO ANTENNA
   ```

6. Hold the key box close to the SVID or antenna ring .After establishing communication with SVID the following message will appear:

   ```
   WIRELESS IDBOX
   PLEASE WAIT
   ```

7. Incase of error the following message will appear, accompanied by an intermittent beep:

   ```
   PROBLEM
   ```

8. If the programming is successful the following message will appear accompanied by a sustained beep:
9. The programmer will turn off itself automatically.

   ```
   ***  OK  ***
   ```

Receiving Data from the Device

1. Turn ON the programmer by pressing the:

> *On / Off*

2. Eight options will be displayed :

> SEL: PROGRAM -1
>
> CAL-2   RCVR-3   ?

Please Note the display will change every 2 seconds

> 4-PROG PAZOMAT
>
> 6-ERASE   5-UPLOAD

3. To receive data press [ABC 2] followed by [YES ENTER]

> 7-CHANGE FUEL
>
> 8-GENERAL

4. Press [NO CLEAR]

> PUT THE KEYBOX
>
> CLOSE TO ANTENNA

5. Hold the keybox close to the SVID.The follwing meassage will appear.

> IRON NO:XXXXXXXX
>
> 102   BATTERY: X.X (Volts)

Wireless Odometer Reader

The Wireless Odometer Reader enables online wireless capture of odometer or engine hour readings from vehicles equipped with the Small Vehicle Identification Device (SVID). This data capture occurs when the nozzle inserted into the vehicle fuel inlet. The wireless nozzle reader that installed on the nozzle will interrogate the SVID and will send the odometer reading and engine hour's data to the 3GCA through the Wireless Automated Fueling (WAF) unit installed in the Gas Station. The vehicles data transmitted to any FMS application such as RFC 3000 or other system.

Wireless Odometer Reader Installation instructions

1. Install the device near a power source and the odometer of the vehicle.

   - The device cable includes 3 wires:
   - Red (+)
   - Black (-)
   - Green – odometer speed pulse

   Connect the wires to a power source secured by 3Amp fuse.

2. Connect the green wire to the vehicle odometer speed pulse.

Wireles Odometer Reader programming

1. Turn ON the programmer by pressing the:

   On / Off

2. Eight options will be displayed :

SEL:	PROGRAM -1
CAL-2	RCVR-3 ?

   Please Note the display will change every 2 seconds

4-PROG PAZOMAT	
6-ERASE	5-UPLOAD

3. To calibrate press ABC 2 followed by YES ENTER

PUT THE KEYBOX	
CLOSE TO ANTENNA	

4. The Programmer will now attempt to read data from the SVID unit. After establishing communication with SVID unit the following message will appear

WIRELESS IDBOX	
PLEASE WAIT	

5. Enter last reading followed by YES ENTER

LAST ?	XXXXXXX
XXXXXX.X	XXXXXX

6. Incase of entry error, press NO Clear the following message will appear, accompanied by an intermittent beep:

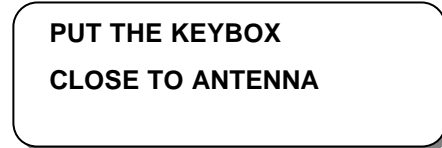 | ERROR IN DATA | |
   |---|---|
   | NEW TOO SMALL | |

7. Enter odometer reading (7 digits) followed by YES ENTER

ENTER	ODOMETER:
	??????.??

![ROSEMAN Fueling Simplicity logo]

8. Enter the odometer reading as it exists on the vehicle dashboard or hubometer. (MAKE SURE THE SAME ODOMETER SOURCE IS USED AS WHEN INITIALLY PROGRAMMED, followed by
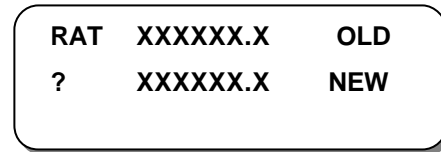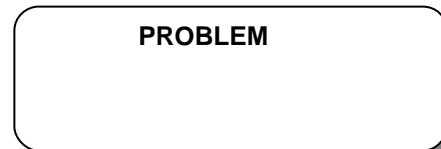
YES
ENTER

```
RAT    XXXXXX.X        OLD
?      XXXXXX.X        NEW
```

9. Hold the key box close to the SVID or antenna ring.

```
PUT THE KEYBOX
CLOSE TO ANTENNA
```

10. After establishing communication with SVID the following message will appear:

```
WIRELESS IDBOX
PLEASE WAIT
```
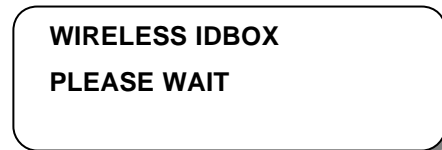
11. Incase of error the following message will appear, accompanied by an intermittent beep:

```
PROBLEM
```

12. If the programming is successful the following message will appear accompanied by a sustained beep:

```
***  OK  ***
```

13. The programmer will turn off itself automatically.

Universal Wireless Nozzle Reader Installation and Setting

The UWNR (Universal wireless nozzle reader) is an active stand-alone device mounted on the nozzle. The WNR can read all the vehicle identification devices including the SVID. When a nozzle is inserted into a vehicle fuelling tank it reads the vehicle identification device data and transmits an RF on signal to the WAF unit to start the fueling process and at the end of the fueling it transmits an RF off signal to stop the fueling. During the fueling the WNR sends refresh signal to the WAF unit that the fueling is still in process until it completes.

Wireless Nozzle Reader Set 2.4Ghz

RID – UNVRSL – 25
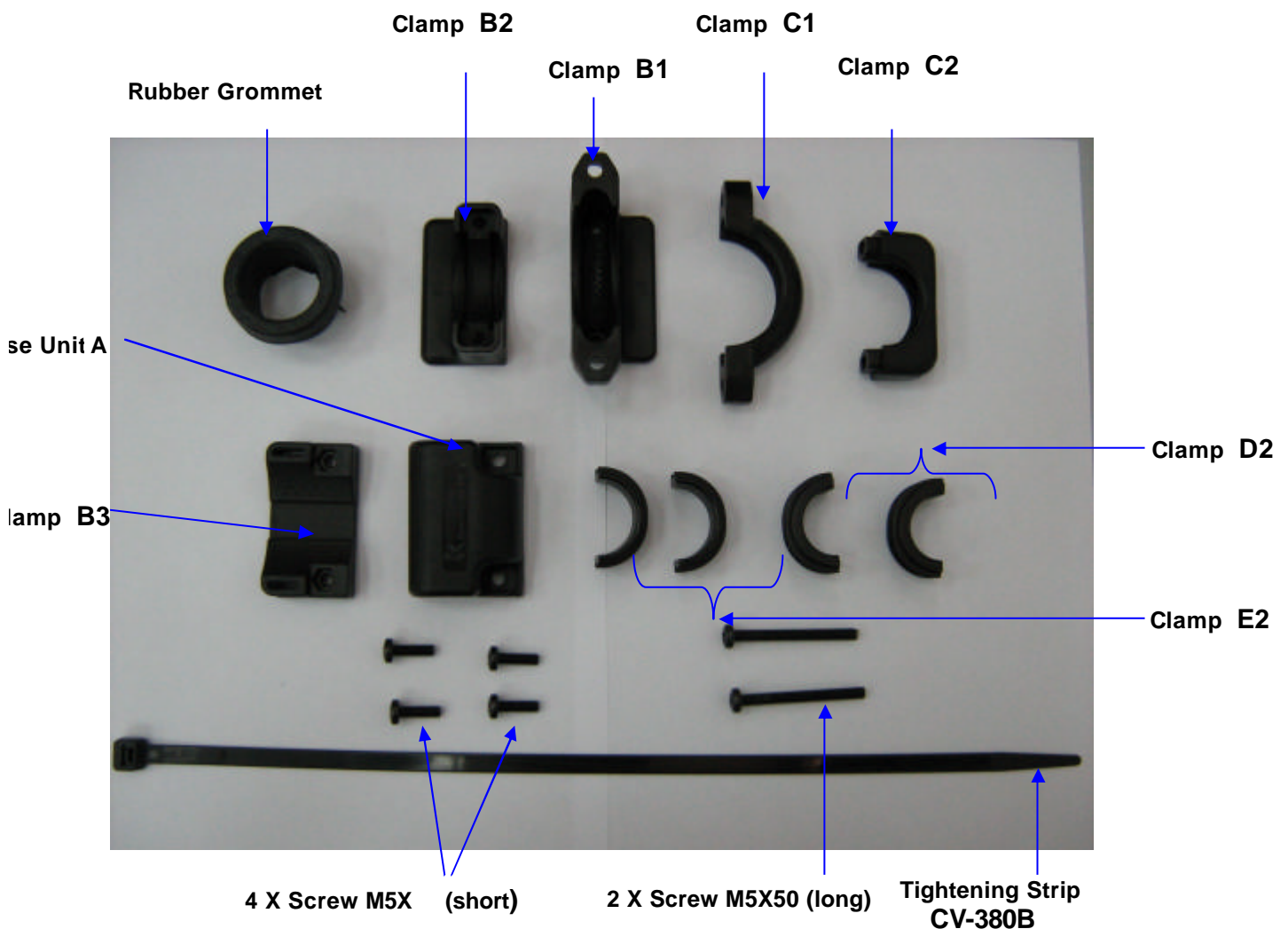
Example: Installation Procedure for Healy 600

Step 1:
 Prepare the parts for installation

Step 2:
Install the rubber grommet on the nozzle pipe.

Step :
Insert the rubber grommet into the nozzle neck.

Step 4:
Install clamp D2 into clamp C2.

Step 5:
Install clamp assembly (C2+D2) on the rubber grommet.
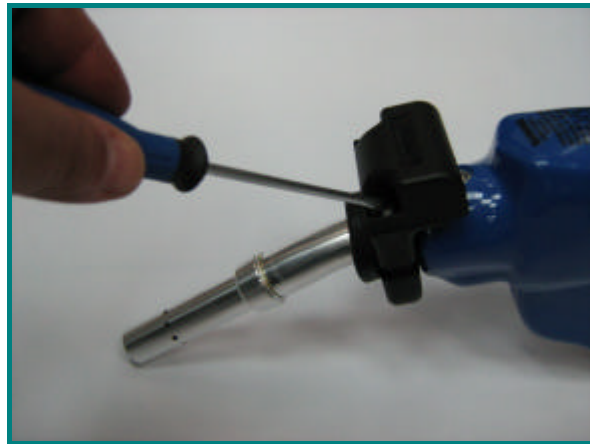
Step 6:
Install clamp D2 into clamp B2.

Step 7:
Attach the sub assembly (C2+D2) to (B2+D2) sub assembly on the rubber grommet from the opposite side while the two screw holes are aligned on both sub assemblies.

Step 8:
The two assembly part are attached insert two screws M5X16 (short)

Step 8:
Install the two screws M5X16 (short) using a Philips screw driver.

Step 10:
Completion of Installation front view.

Step 11:
Completion of Installation side view.

Setting of the Pump# & Nozzle# on Vsu application of the station computer

Start the VSU application Vsu ver. 01.17 will appear on the screen

- Click on Set tab Button Pumps and Nozzles list Table will appear on the screen
- Fill in the iron number (6 digits) the appropriate field the selected PUMP# and Nozzle #.
- Click ok to apply
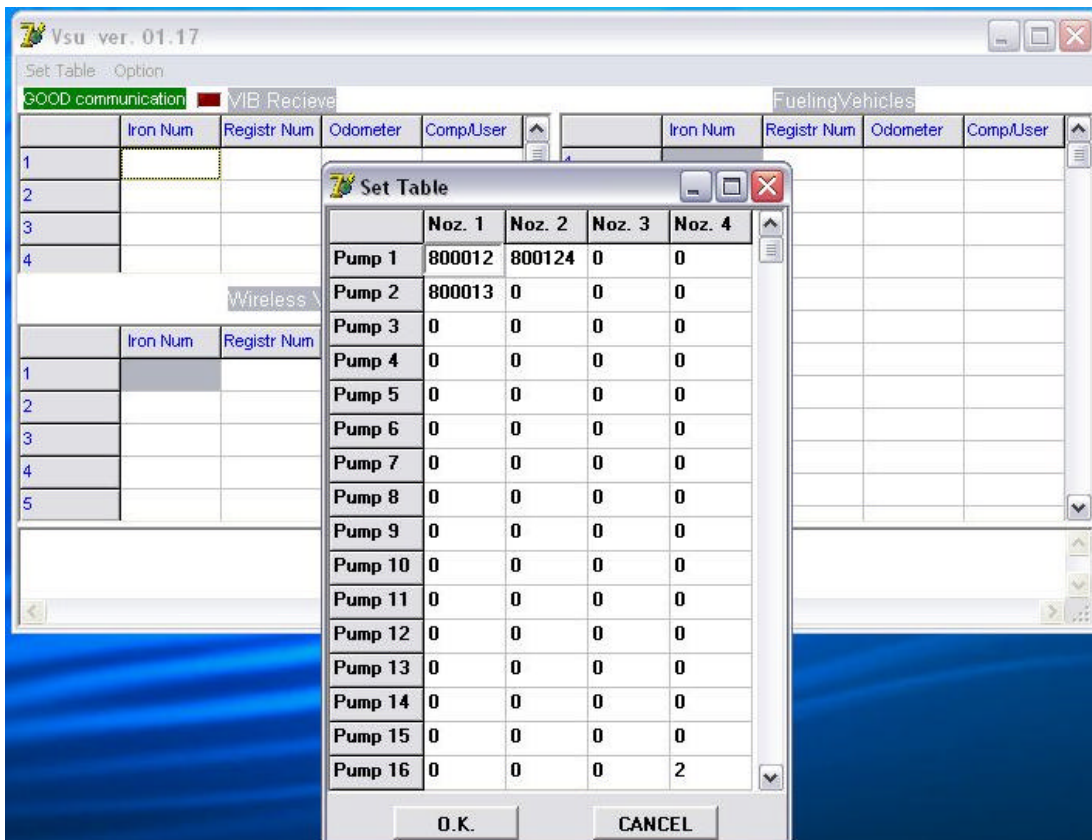
2.4Ghz WAF kit Installation

WAF (Wireless Automated Fueling) System enables wireless data transmitting WNR and the WAF unit. . Every time the nozzle inserted in to the fuel tank inlet the vehicle identified automatically at the entry to the fuelling island, vehicle usage data transmitted via the RF Antenna to the ICU.

The WAF unit is located on the Gas Station site, gate or centrally at the parking area. The pertinent vehicle data is transmitted to the station PC that has the proprietary of 3GCA application and then it will transmitted to the FMS or other application client server in REALTIME via TCP/IP protocol.

Location criteria

- Prepare the parts for installation, place the device on a high place free of obstructions recommended on gas station roof.
- The location should be in the center of the fueling island control unit in effective range of 20-25 m.
- Rotate the device arm towards the pumps for proper communication.
- There is an option to install two units in case of two WAF units in parallel to send data to the 3GCA unit.

WAF installed on gas station roof

![ROSEMAN Fueling Simplicity logo]

Installation Procedure

1. Prepare the parts for installation.

2. insert the Net cable connector into the WAF hosing opening as shown.

3. Install the WAF unit on the bracket by two screws, nuts and washers by using a suitable wrench.
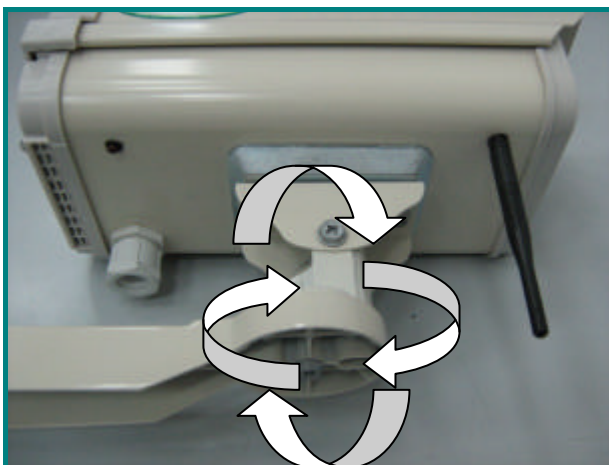
4. Install the WAF unit in to the housing by two screws using a philips screw driver
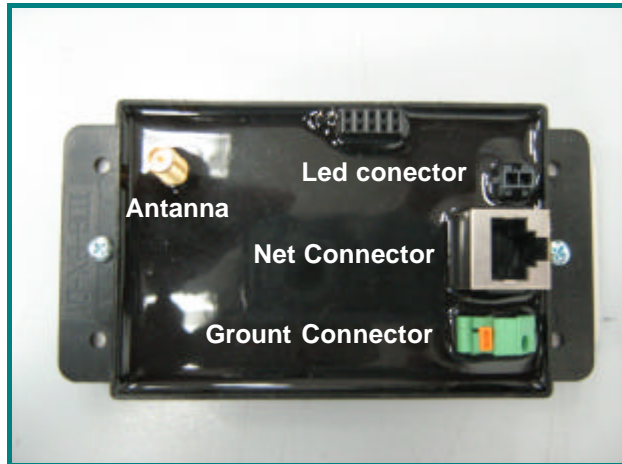
5. Connect the NET cable fron the 3GCA ubit and the antenna cable to the unit.

   Connect the dround cable to the ground connector.
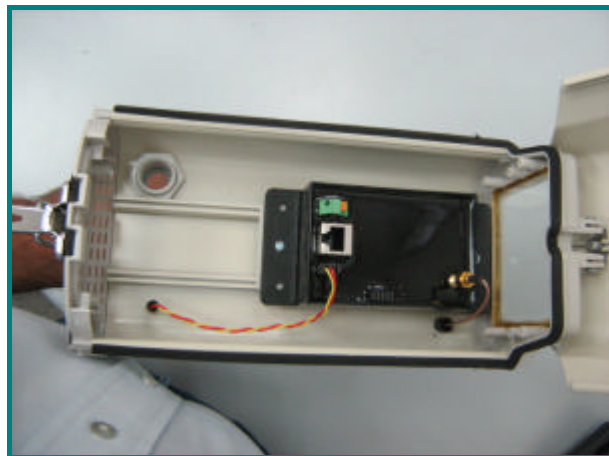
6. Check that the WAF unit arms are rotating smmootly in all the directions.

7. End of installation.

![Roseman - Fueling Simplicity logo]

Gas Station installation

Front

Port 1, 2 LEDS   LAN-Port 3 to PC   Power LED

Rear
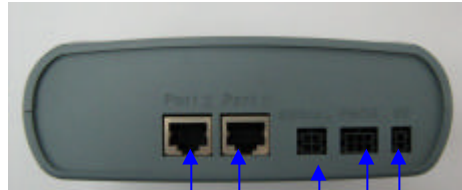
Port 2   Port 1   Power 5V
2 X RS485 to WAF
                         Serial RS232/RS485
                 Prog.

3GCA Communication Adapter

The 3G Communication Adapter (3GCA) is vehicle detection and data collection unit that works in conjunction with the WAF unit and enables to identify automatically the wireless devices on the gas station.

The 3GCA have three serial ports: two for WAF unit and one to station PC. It can work with two WAF units at the same time.

The two RS 485 isolated serial ports (Port 1 & Port 2); designed to receives the wireless nozzle reader (WNR) data on the fuel pump dispenser and the odometer reader data from the vehicle via the WAF units that located in a high place at the gas station area.

The 3GCA hardware may have two models, one-model functions as an adapter from RS485 to TCP/IP with 3GCA software running on the station PC, and the other model functions as a standalone data collector for other applications.
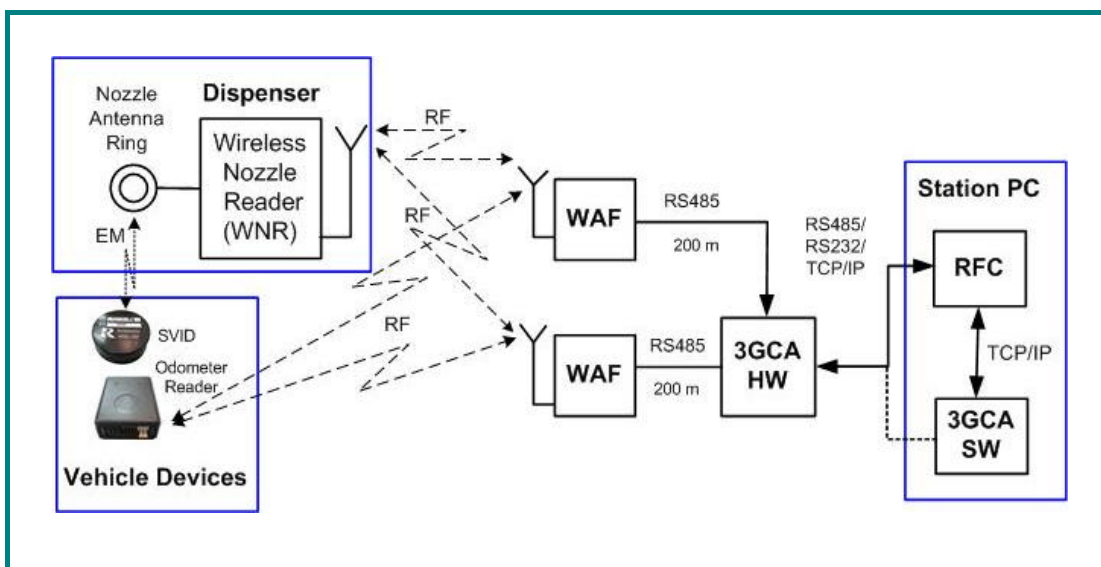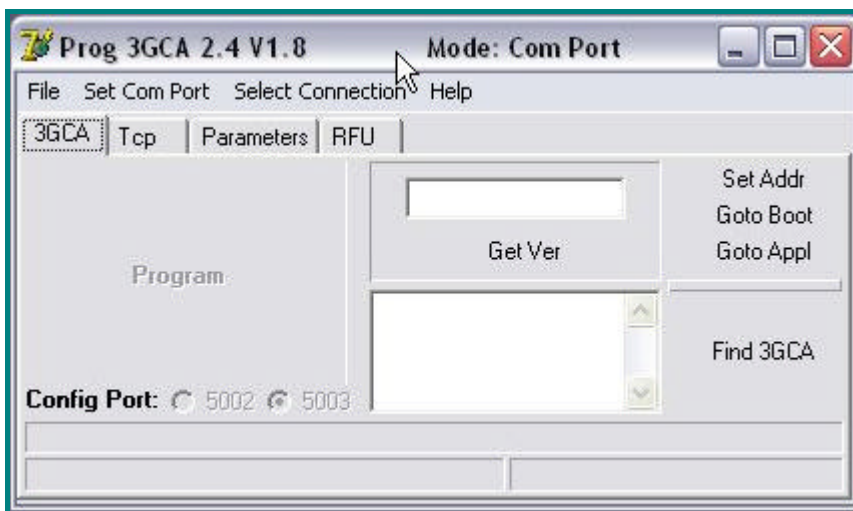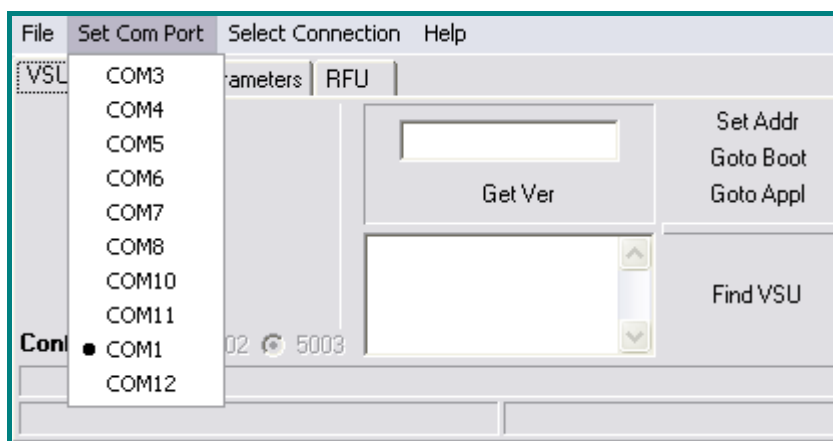
3GCA PROG /SETTING

Connect the hardware as described on the above diagram.
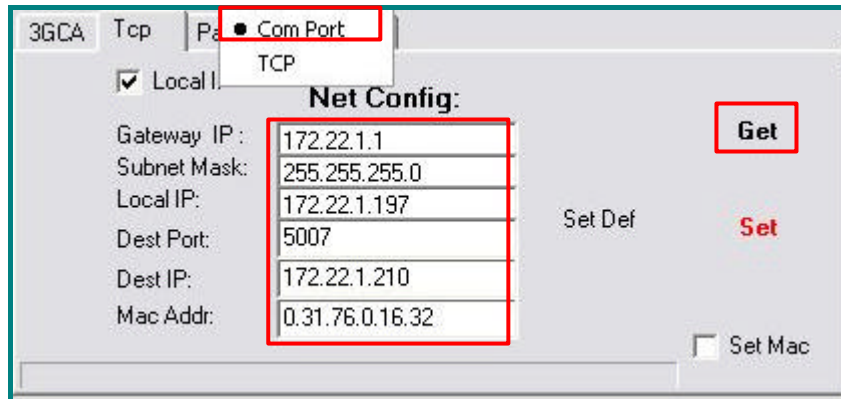
Configuration process
1. Connect serial Net cable from the PC to the 3GCA LAN port3.
2. Start the application "**Prog3GCA2.4.exe**" Main screen will appear.

3. Select "Set Com Port"

4. "select connection type", select Com Port
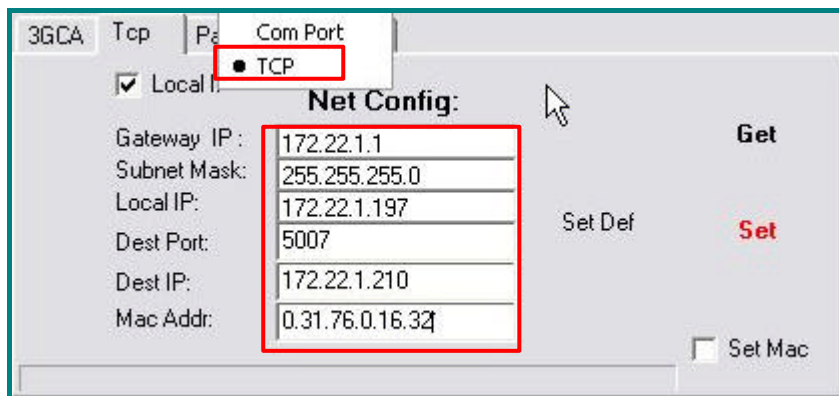
5. Press **Get** button "**Net Config**" will display the 3GCA TCP/IP setting.
   - Gateway IP: Use default
   - Subnet Mask: Class C (As your local Network)
   - Local IP: 3GCA Hardware IP.
   - Dest Port: Default 5007 (same As vsu.ini)
   - Dest IP: Server IP (Where VSU software running from)
   - Mac Addr: 3GCA hardware Mac Address. (Do Not Change)
   - Configure 3GCA TCP/IP Setting

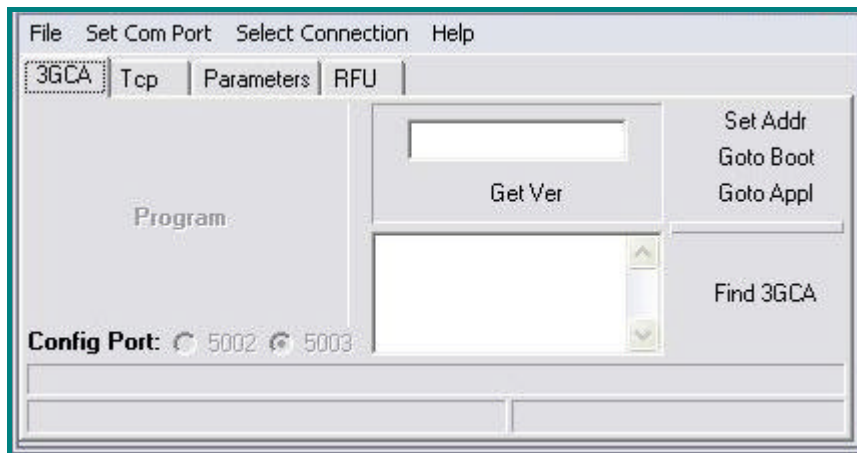6. "**Select connection type**", select **TCP**

7. For Test configuration Press Get button to receive IP setting.
8. 3GCA Tab will display:
   - 3GCA Version (Press Get Ver.)
   - 3GCA IP (Press Find VSU)
   - To Program VSU Version, Press File > Open > select the File and Press Program Button. (Will be Enable)

9. Select and press **RFU** Tab the following screen will appear:

   - RFU Hardware Ver. (Press Get Ver.)
   - To Program RFU Version, Press File > Open > select the File and Press **Prog RFU**. (Will be Enable).
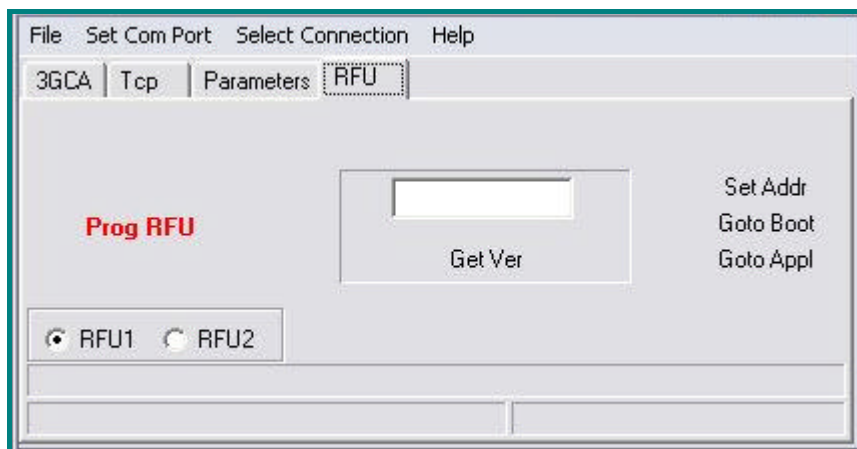
10. Now the 3GCA / RFU ready to use.

11. Edit the Vsu.ini

[general]
Chk_Port=1
tcpip_port=3006   // Customer Server Interface Port
write_log=3
max_coms=2
keep_seconds=30
Com_rf1=1   // Com Port
com_rf2=8
com_rf1_baudrate=28800
com_rf2_baudrate=28000
max_veh=4
debug=y
rfc3000=n
language=2
2400_MHz =y
 Rfu24_ServerPort=5007 // Dest Port: Default 5007
Rfu24_Interface=tcp   // Tcp-TCP/IP; Com–Cop Port.