No. MDE-4819

Revision A2

OrPT Gasboy's Payment Terminal

INSTALLATION, SETUP AND OPERATION MANUAL FOR HOME-BASE STATIONS

This document is based on Orpak's Payment Terminal (OrPT) installation manual for

For home base stations P/N 817422510

SAFETY CONSIDERATIONS

Read all warning notes and instructions carefully. They are included to help you installing the Product safely in the highly flammable environment of the fuel station. Disregarding these warning notes and instructions could result in serious injury or property damage. It is the installer responsibility to install, operate and maintain the equipment according to the instructions given in this manual, and to conform to all applicable codes, regulations and safety measures. Failure to do so could void all warranties associated with this equipment.

Remember that the fuel station environment is highly flammable and combustible. Therefore, make sure that actual installation is performed by experienced personnel, licensed to perform work in fuel station and at a flammable environment, according to the local regulations and relevant standards.

WARNING - EXPLOSION HAZARD

Use separate conduit for the intrinsically safe. Do not run any other wires or cables through this conduit, because this could create an explosion hazard.
Use standard test equipment only in the non- hazardous area of the fuel station, and approved test equipment for the hazardous areas.
In the installation and maintenance of the Product, comply with all applicable requirements of the National Fire Protection Association NFPA-30 "Flammable and Combustible Liquids Code", NFPA-30A "Automotive and Marine Service Station Code", NFPA-70 "National Electric Code", federal, state and local codes and any other applicable safety codes and regulations.
Do not perform metal work in a hazardous area. Sparks generated by drilling, tapping and other metal work operations could ignite fuel vapors and flammable liquids, resulting in death, serious personal injury, property loss and damage to you and other persons.

CAUTION - SHOCK HAZARD

Dangerous AC voltages that could cause death or serious personal injury are used to power the Product. Always disconnect power before starting any work. The Product has more than one power supply connection points. Disconnect all power before servicing.

WARNING – PASSING VEHICLES

When working in any open area of fuel station, beware of passing vehicles that could hit you. Block off the work area to protect yourself and other persons. Use safety cones or other signaling devices.

WARNING

Components substitutions could impair intrinsic safety.
Attaching unauthorized components or equipment will void your warranties.

CAUTION

Do not attempt to make any repair on the printed circuit boards residing in the Product, as this will void all warranties related to this equipment.

PROPRIETY NOTICE

DISCLAIMER

This document is provided for reference only. Although every effort has been made to ensure correctness, ORPAK SYSTEMS does not guarantee that there are no errors or omissions in this document.

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SECTION 1
GENERAL DESCRIPTION

1-1. *INTRODUCTION*

This manual provides a general and detailed description of the Gasboy's outdoor Payment Terminal (hereafter referred to as OrPT) as part of Gasboy's home-base solutions (Islander PLUS, ICR PLUS, etc.). The OrPT consists of an integrated component in the Gasboy pedestal and is usually supplied with the unit already installed in the pedestal (see Figure 1-1).

Its ergonomic design, as well as its user-friendly operating program, enables fast and accurate service for the customer in the gas station.

This manual includes an overview of the Payment Terminal, a functional description of the device and its main components, its operating and setup instructions, and provides installation and maintenance instructions for the device.

This manual is aimed for home-base customers using any of the Gasboy pedestal solutions that include the Payment Terminal, i.e. gas station managers, system technicians and any other authorized person.

1-2. *SYSTEM OVERVIEW*

The OrPT is connected to OrCU / SiteOmat, Gasboy's station controller for home-base stations. The station controller (sometimes referred as FCC – Forecourt Controller) manages the Payment Terminal and controls the transaction / fueling authorization process.

1-3. *OrPT OVERVIEW*

The OrPT (see Figure 1-1) represents a new generation of terminals designed to address new applications at the forecourt. This versatile payment terminal provides several services besides its core function of payment and fueling authorization.

The OrPT is encased in a sealed housing designed to sustain the harsh environment of a gas station. Its modular design enables adding features as requested, and can be upgraded as new capabilities are developed.

Figure 1-1. OrPT in Orpak Islander PLUS Pedestal – General View

To perform as a payment terminal, the Payment Terminal is equipped with a graphic LCD and Keyboard on its front panel. A magnetic card reader and contactless MiFare card reader are also included. These payment means enable the Payment Terminal to accept all common fueling authorization methods in home-base stations such as fueling cards, contact-less tags and others.

Beside the card / tag readers, the front panel includes functional keys and a display panel. The context sensitive keys and the messages on the panel enable the user interaction with the module, and navigation between applications.

The Payment Terminal interfaces with the Station Controller on two types of communication:

- RS-485
- TCP/IP over Ethernet

The OrPT is designed for fast and easy installation. Its compact size enables easy and fast installation in the pedestal (Islander Plus, ICR Plus, etc.).

1-3.1. *Features*

The main features of the OrPT are listed below.

Front Panel	Contactless Tag Reader (ISO-14443)
	Swipe Magnetic Card Reader
	64*240 Graphical LCD panel with backlight
	16 Keys Keyboard
	Green & Red LED Indicators
Communication	RS-485 Communication Link (Orpak Protocol)
	Ethernet Communication Link (TCP/IP)
	RS-232 Port
	Built-in Web Server for Remote Setup and Maintenance from any PC with Browser

1-3.2. *Part Numbers*

The Payment Terminal P/N for home base configurations is: M09680B038.

1-4. *MANUAL STRUCTURE*

This manual comprises of the following sections:

Section 1: General Description

This section provides a general overview of the Outdoor Payment Terminal (OrPT).

Section 2: OrPT Panel Description

This section provides a detailed description of the OrPT, its capabilities, configurations and connectivity. This section also provides installation instructions of the OrPT Panel in the OrPT box.

Section 3: Setup Preparations

This section includes the preparations needed to enter the setup of the OrPT: unit setup sequence, preliminary setup procedures and configuring the LAN card in the laptop/PC for working with the station network

Section 4: Comprehensive OrPT Setup

This section includes the comprehensive OrPT setup procedure, detailing operations such as setting the Ethernet, setting system parameters, saving OrPT setup, monitoring device activity and uploading device software

Section 5: OrPT Operating Instructions

This section provides a general description of the modes of operation of the OrPT: Launch, login and implementation of the applications.

Section 6: Troubleshooting and Maintenance

This section provides the instructions for the troubleshooting and maintenance of the OrPT box in the Forecourt.

Section 7: Glossary

This section includes a glossary of terms used for the OrPT description.

1-5. *USING THIS MANUAL*

This manual includes comments planted along the text, in order to draw the reader's attention to important issues. The comments are accompanied by symbols for ease of reference. The following comment types are used:

WARNING

An operating procedure, practice or similar, if not correctly followed, could result in injury or loss of life.

CAUTION

An operating procedure, practice, or similar, if not strictly observed, could result in damage to, or destruction of equipment.

TIP

A useful guidance, whose purpose is to use the system more effectively

NOTE

A relevant comment, which is important to emphasize.

INSIGHT

Theoretical or functional information regarding the system, which has to do with the discussed issue.

1-6. *REFERENCES*

For additional and complementary information regarding the Gasboy's home-base solutions, please refer to the following manual:

- Islander Plus Installation Manual, Document No. MDE - 4811.

SECTION 2
OrPT PANEL DESCRIPTION

2-1. *GENERAL*

This section provides information on the functional modes of the OrPT, its different models and technical characteristics, as well as installation instruction for mounting the OrPT panel inside the Orpak pedestal.

2-2. *MAIN COMPONENTS*

The OrPT panel includes card / tag readers, a graphical LCD panel for data and message display, a rugged keyboard, two LED indicators and a buzzer.

The rear panel includes connectors for communication and power supply. A grounding connection is located at the rear panel.

The front panel components are shown in Figure 2-1 and listed in Table 2-1.

Figure 2-1. OrPT Front Panel Components

Table 2-1. OrPT Front Panel Main Components

No.	*Item*	*Description*	*Functional Description*
1	Display	Graphical LCD Panel 64*240 pixels	Display messages (4 x 20)
2	LED	Red light indicator	Indicates errors or problem during operation
3	Contactless Reader	Contactless card / tag reader	Reads MiFare and other contactless cards / tags as well as attendant authorizer tag
4	LED	Green light indicator	Indicates positive reading of the tag/card
5	Keyboard	16, rugged, metal keys in a self-enclosed panel	See paragraph 5-2 for a functional description.
6	Magnetic Card Reader	Magnetic Card Reader: Track 1, 2 and 3	Enable accepting magnetic cards (fuel cards, credit cards) as a means of payment

2-3. *METHODS OF FUELING AUTHORIZATION*

The OrPT can accept several means of transaction authorization methods:

- *Magnetic cards*: Transaction is registered after refueling.
- *Mifare tag*: A tag that stores a personal identification number for each tag. This tag is intended for clients with a local account.

2-4. *OrPT CONNECTIVITY OPTIONS*

The available connectivity options for the OrPT are described below.

2-4.1. *RS-485 Connectivity*

RS-485 is usually not used when OrPT is installed inside the Orpak home-base pedestals like Islander Plus and ICR Plus.

The OrPT is assigned, as any other device, a unique address on the link. The Site Controller polls each device in a sequential order for data and status record.

The Station Controller transmits the associated applications to the OrPT over the RS-485 link. This results in relatively high data traffic. Consequently, it is not recommended to connect more than two OrPT modules on the link.

Allocation of an RS-485 address to the OrPT is performed during setup at the power-up stage (for specific instructions, please refer to *Sections 3 & 4*).

NOTE

When using RS-485 communication it is recommended splitting it into several RS-485 links, with a single OrPT per link.

NOTE

The advanced tools for remote setup and maintenance are not available for the RS-485 Link. These tools require TCP/IP link.

2-4.2. *Ethernet Connectivity*

The OrPT includes an Ethernet port that provides link to standard TCP/IP over Ethernet. The OrPT, as any other module, is assigned with a unique IP address in the network. By using Web technology, the OrPT enables setup, monitoring and maintenance either locally by any PC with a browser, or remotely. In addition, the Ethernet link enables a large number of OrPTs linked to the Station Controller just as Ethernet enables the link to the Web (see Figure 2-3).
The Ethernet connection wiring requires shielded CAT-5 cabling. Off-the-shelf Ethernet Hubs (or Switches) are required for the LAN configuration and splitting the transmission with the other devices in the Forecourt.

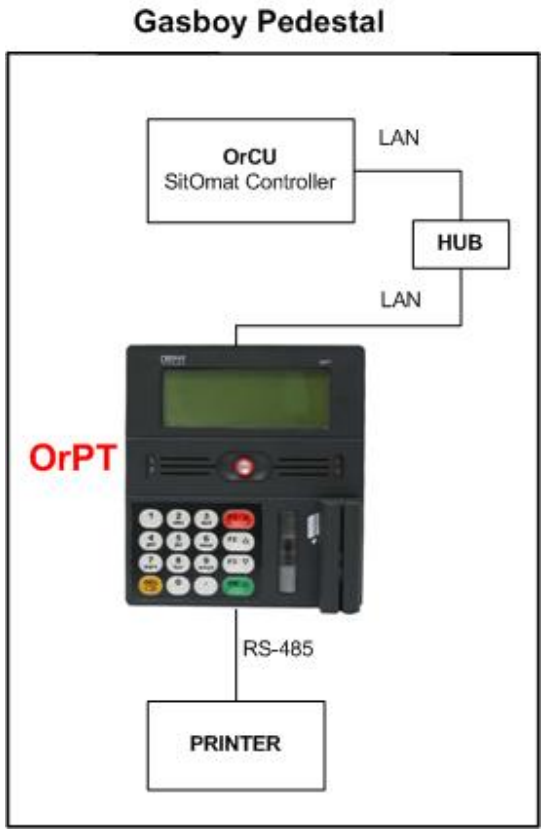


Figure 2-2. OrPT Interfaces inside the Islander Plus

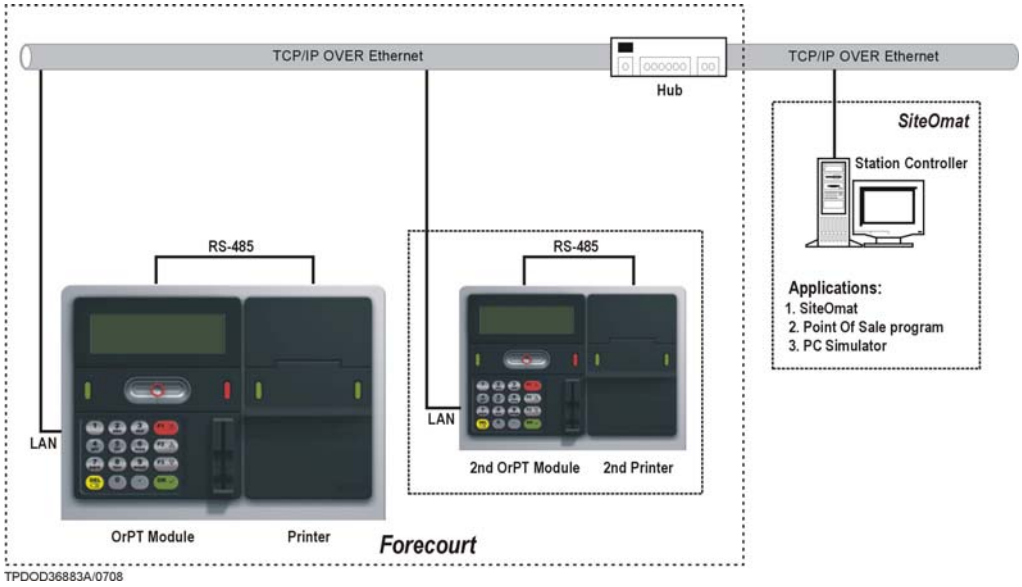


Figure 2-3. General Ethernet Communication Configuration for OrPT (when not Part of Gasboy Pedestal)

Figure 2-4 provides an inside view of the OrPT inside an Islander Plus Pedestal.

Figure 2-4. OrPT inside Islander Plus Pedestal (inside view)

2-5. *CONNECTORS*

The OrPT connectors are usually located at the bottom of the module (see Figure 2-5). The connectors are suitable to the OrPT model, in accordance with its type of communication link. The OrPT module also requires connection to ground for surge protection.

CAUTION

When installing the OrPT, make sure to connect the OrPT to a grounding point.

Three connectors are available:

- Ethernet connector, type RJ-45 10 Mbps
- RS-485 & Power connector (usually not used when installed in Islander Plus/ICR Plus)
- RS-232 connector (for debugging and maintenance use)

These connectors provide the OrPT both (RS-485 and Ethernet) communication links and power supply input (15V-24V DC). In the Islander Plus & ICR Plus power input is 24V DC

The power is supplied from an external power supply module (for example, in the OrPT box).

In addition, the OrPT includes a connection point for grounding the module for surge protection.

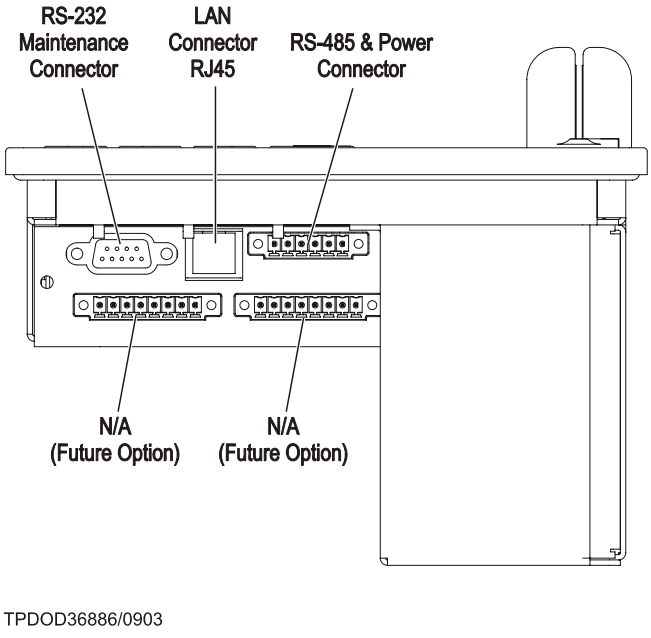


Figure 2-5. OrPT Connectors Panel (for Wired Connectivity)

2-5.1. *Connectors Pin-Out Description*

Use required mating connectors included in the OrPT kit according to the selected configuration. The following connectors are located at the OrPT connector panel.

a. **J2:** Power & RS-485, Connector
Type: Phoenix MC 1.5/6-GF-3.81 or compatible
Function: 1. RS-485 serial communication
2. 15-24 Vdc power supply to the unit.

Table 2-2. J2 - Power & RS-485 Connector

Pin No.	*Functionality*
1	VIN- (DC Power Supply GND)
2	VIN+ (DC PLUS Voltage)
3	SIGNAL GND (*)
4	EARTH (RS-485 Cable Shield)
5	RS-485 -Data
6	RS-485 +Data

(*) Connection to an external grounding.

NOTE

To connect to RS-485 lines, use UL approved Shielded Twisted Pair cable designated for RS-485 communication.

b. **J3:** LAN Connector
Type: RJ-45 8 pins connector, 10 BASE T
Function: In Ethernet connectivity, routes TCP/IP comm. to/from system controller.

Table 2-3. J3 – LAN Connector

Pin No.	*Functionality*
1	OUTPUT +DATA
2	OUTPUT -DATA
3	INPUT +DATA
4	NOT USED
5	NOT USED
6	INPUT -DATA
7	NOT USED
8	NOT USED

c. **J20:** RS-232 connector
Connector Type: D-Type 9 pins female
Function: for monitoring and diagnostic use

Table 2-4. J20 – RS-232 Connector (Half-Duplex, Rx, Tx)

Pin No.	*Functionality*
1	CD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

2-5.2. *Voltage Protection*

The OrPT housing requires a grounding attachment. The OrPT is connected to the OrPT box chassis for protection against high voltage transient and lightning.

Furthermore, two types of protections are included in the OrPT module:

- Isolation of 1.5 KVDC to protect against galvanic connection between the host side and the OrPT side
- In RS-485 communication, the OrPT side is protected against high voltage transient and lightning by using Spark Gaps and transorbs. This allows the use of long communication cables.

2-6. *INDICATORS*

- The OrPT module includes two LED indicators, green and red, located on its front panel, and a buzzer. The OrPT indicators provide visual and audio display.

2-7. *HOUSING*

2-7.1. *General*

The OrPT module enclosure is made of a plastic-molded front panel, and an aluminum rear casing. The enclosure is weather-proof in order to sustain the harsh environment of a gas station. The front panel of the OrPT is made of rugged plastic. The devices in its front panel are sealed and not removable to prevent humidity and dust penetration. The OrPT module is provided with a holder including wing screws that attach it to the OrPT box.

2-7.2. *Dimensions*

The overall dimensions are: H x W x D - 7.77 x 7 x 3.2" See Figure 2-6.

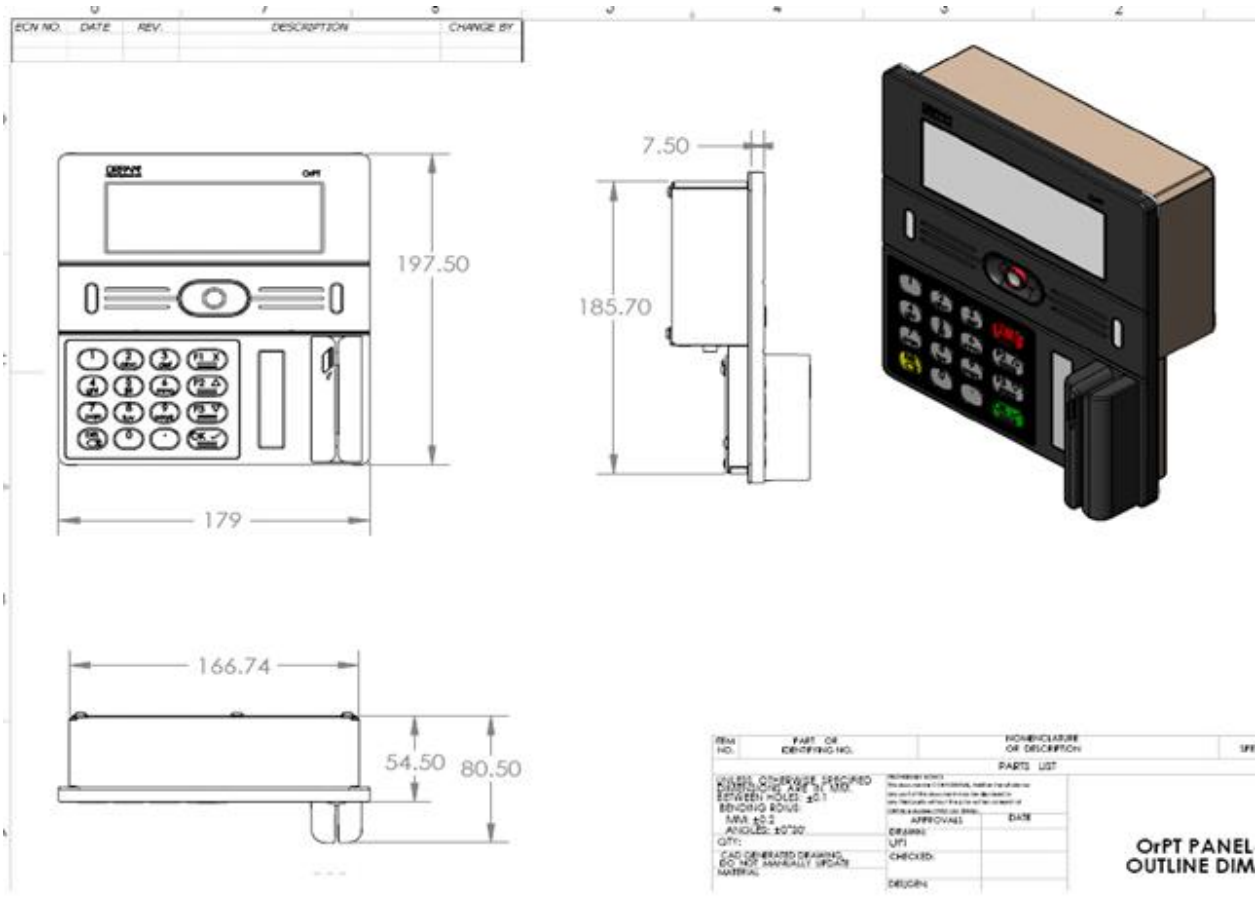


Figure 2-6. OrPT Dimensions

2-8. *SPECIFICATIONS*

The following physical, electrical and environmental specifications are applicable to the OrPT:

Supply Voltage:	15 – 24 VDC
Power Consumption:	8 Watts Typical
	18 W with LCD heater on
Operating Temperature:	-40°C to +45°C (pedestal limitation)
Storage Temperature:	-40°C to +70 °C
Degree of protection (dust and rain):	IP54
Humidity:	80% Non-condensing
Communication Interface:	RS-485 – 9600 bps Half-Duplex
	Ethernet RJ-45 10 Mbps

2-9. *COMMUNICATION STANDARDS*

The OrPT communicates, in its different models, over the following standards:

- RS-485 link
- TCP/IP over Ethernet

2-10. *OrPT PANEL INSTALLATION IN GASBOY'S PEDESTALS*

OrPT is installed inside the Gasboy pedestals Islander Plus, ICR Plus and other home-base solutions. The following procedure pertains to installation in Islander Plus pedestals.

2-10.1. *Precautions and Safety Notes*

Prior to actual installation activities, carefully observe the precautions and safety notes below.

WARNING

Before installing or servicing equipment, carefully observe the warnings and precautions in the beginning of this manual.

- Remember that the fuel station environment is highly flammable and combustible. Therefore, make sure that actual installation is performed by experienced personnel, licensed to perform work in fuel stations and capable of implementing all applicable requirements of the National Fire Protection Association NFPA-30 “Flammable and Combustible Liquids Code”, NFPA-30A “Automotive and Marine Service Station Code”, NFPA-70A “National Electric Code”, federal, state and local codes and any other applicable safety codes and regulations.
- Remember that high quality installation will ensure correct system operation and user safety:
  - Use only threaded, rigid, metal conduits.
  - Unit power should be supplied from a dedicated circuit breaker. No other equipment should be powered from this circuit breaker.
  - System power may come from more than one source. Disconnect all power sources before attempting to work on the system.
- Install the OrPT only in non-hazardous locations.
- Do not connect power to the OrPT until installation is completed and inspected.
- When working in any open area of fuel station, beware of passing vehicles that could hit you. Block off the work area to protect yourself and other persons. Use safety cones or other signaling devices.

2-10.2. *Installation Requirements*

- Install the OrPT at the non-hazardous area.

  When the OrPT is installed in Islander Plus pedestal, it is inherently considered a non-hazardous area if the Islander Plus had been installed according to safety requirements (refer to Gasboy's Document No. MDE - 4811)

- Installation must be conducted by a technician authorized to work in a flammable gas station environment in accordance with the local requirements and regulations.
- Certify that the required installation preparations have been made:
  - Power supply to the OrPT
  - Installation location

2-10.3. *Installation Kit*

The items in the installation kit for an OrPT are listed in Table 2-5.

Table 2-5. OrPT Installation Kit

P/N	*Description*	*Function*	*Qty.*
814942700	CLAMP HOUSING, OrPT PANEL	Mounting	1
815200104	SCREW WING M4x10, BOSSARD	Mounting	2

2-10.4. *Installation Procedure*

The OrPT is provided with its holder attached to it.

Perform the following procedure to install the OrPT unit onto the Islander Plus:

a. Disconnect all power sources in installation area, including power source to Gasboy pedestal.

WARNING

Conform to all safety regulations regarding working in gas stations.

b. The OrPT is fed by 24Vdc. Use a stabilized power directly from the Orpak pedestal.

c. Connect all cable plugs to their mating connectors on the OrPT connectors panel, in accordance with paragraph 2-5 on page 12.

d. Insert the OrPT into the rectangular aperture in the Gasboy pedestal.

e. Using the clamp housing included in the installation kit, secure the OrPT panel to the pedestal.

f. Verify that the OrPT is mounted firmly on the panel and that no water can penetrate into the Islander Plus / ICR Plus pedestal. Make sure that the sealing rubber on the edges is in place.

g. Perform post-installation checks specified in paragraph 2-10.5.

To install the OrPT in Gasboy pedestal, perform the following steps:

- Step 1: insert the OrPT in the rectangular cavity at the Gasboy pedestal (see Figure 2-7).

Figure 2-7. OrPT in Rectangular Cavity

- Step 2: firmly position the OrPT to fit tightly on the pedestal panel (see Figure 2-8).

Figure 2-8. OrPT Positioning on Pedestal Panel

- Step 3: place the clamp housing at the back of the OrPT and tighten the screws (see Figure 2-9).

Figure 2-9. Final OrPT Installation

h. Installation to optional HID device:

Home Base pedestals can be supplied with an optional HID card reader for payment with contactless cards. The HID reader is installed behind the decorative black cover of the front panel of the OrIC.

The OrPT is connected to the HID via the designated connector in the OrPT as shown in Figure 2-10 (for OrPT versions 5.24.03 and up only). The HID Unit and the connector are depicted in Figure 2-11.

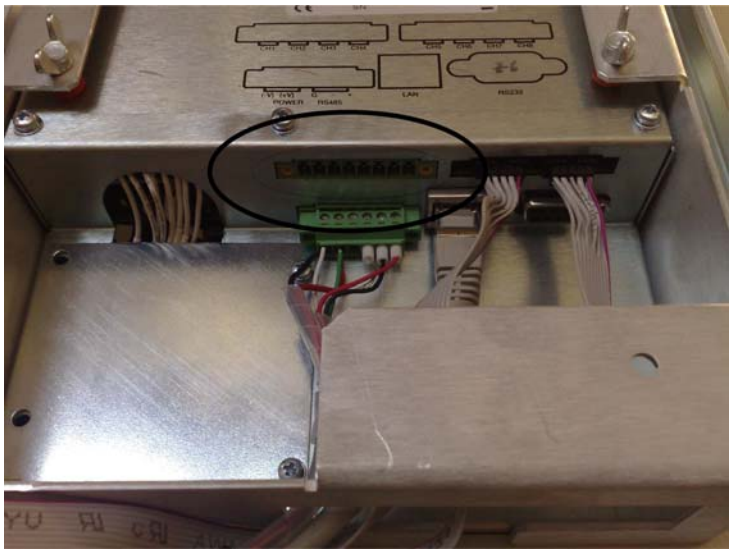


Figure 2-10. HID Connector Location on OrPT

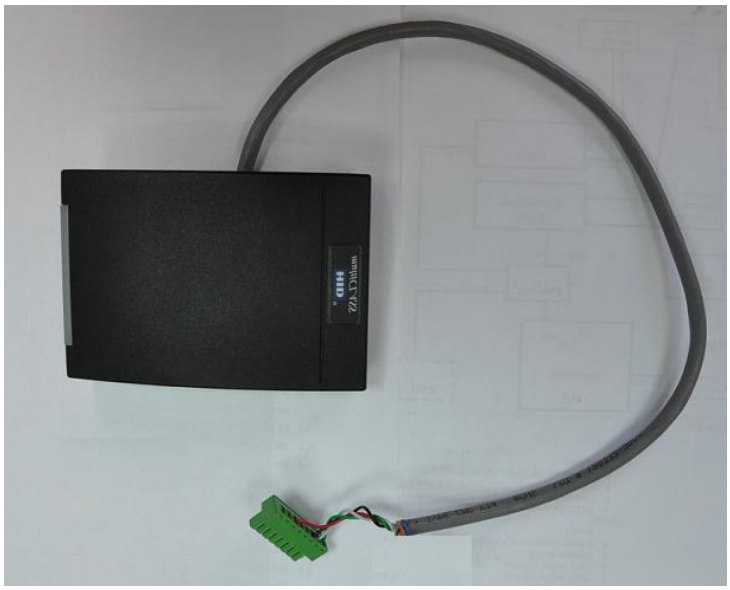


Figure 2-11. HID Unit and Connector

2-10.5. *Post-Installation Checks*

Perform this inspection before power is connected. Conduct at least the following checks:

a. Check that the OrPT is securely placed in its socket in the pedestal.

b. Check proper mechanical installation of the OrPT.

c. Check that cables to the OrPT are secured and concealed. Fasten connections if necessary.

d. Check that cables to the OrPT run away from any moving parts.

Only after all the checks above are successful, connect power to the unit, and proceed with setup of the unit (in the next chapter).

SECTION 3
SETUP PREPARATIONS

3-1. *GENERAL*

This section includes the preparations needed to enter the setup of the OrPT: unit setup sequence, preliminary setup procedures and configuring the LAN port in the laptop/PC for working with the station network.

3-2. *SETUP SEQUENCE*

Each of the units mentioned in this manual incorporate an internal web server and a setup web application, which enables configuring the unit. All the units, excluding the Ethernet Interface, are factory set with a default IP address of **192.168.1.211**. The IP address range spans up to address **192.168.1.230** for use if additional OrPT units are installed.

3-3. *SETUP PLANNING*

Prior to actually setting up the units, the setup must be carefully planned and documented. Before arriving to the site, make sure you have the setup settings listed, with emphasis on the following issues:

a. **LAN Network**: configure the OrPT to be part of the existing station network.

b. **RS-485 & IP Addresses**: the RS-485 and IP addresses (Ethernet configuration) of all units must be determined and listed in advance, to avoid network collisions and other network problems.

c. **Subnet Mask**: determine a subnet mask for the IP addresses, which will be assigned to all network devices.

d. **Default Gateway** – determine a default gateway which will be assigned to all network devices. In case a router is used, the default gateway should be the router IP address.

3-4. *PRELIMINARY PROCEDURES*

3-4.1. *General*

The preliminary procedures consist of setting the required equipment and the OrPT devices ready for configuration.

3-4.2. *Required Equipment*

The required equipment for the setup and configuration consists of:

- Laptop/PC with the proper communication capability:
    - Ethernet connectivity: TCP/IP over Ethernet
- Power supply: 15 – 24 VDC / 1 A for the setup device.

Figure 3-1 provides a functional diagram of the Ethernet link setup, respectively, for configuration. This diagram relate to connection to OrPT through a switch. Initial setup, as mentioned above, must be done for each unit separately. If using a twist cable, the switch can be avoided

Figure 3-1. Ethernet Link for Setup

NOTE

Setup for a single unit could be done using a twisted Ethernet cable between the laptop and the unit.

In case the installation is performed in the Islander plus, connection should be to the Islander Plus Ethernet 5-port switch.

3-4.3. *Device Requirement*

Preliminary requirement from the device to be configured:

- It must be provided with its operating software embedded in the module
- Setup procedures must be done to each unit separately.

3-4.4. *Preliminary Setup Procedures*

Perform the following preliminary procedures before starting the setup:

a. Verify that the device has the proper connectivity: TCP/IP over Ethernet.

b. Verify that your laptop is equipped with an Ethernet port and that Microsoft Internet Explorer 6 or above installed on the laptop.

c. Verify that the device is operating.

The OrPT web site may be browsed from the office in the local gas station (directly connected to the network switch) with an Internet browser.

Hooking up to the station network is possible in Ethernet connection using a laptop with an Ethernet card. As the devices communicate using TCP/IP Ethernet, the card must be configured according to the settings of the station Network.

3-5. *CONFIGURING THE LAPTOP'S NETWORK PROPERTIES*

In order to access the OrPT setup, the technician should arrive to the gas station with a laptop equipped with LAN port, which enables logging into the Setup web site.

NOTE

The accompanied screenshots of the LAN setup may vary to some extent, depending upon the operating system and the card model.

To configure the Network LAN port, follow these instructions:

a. Go to Start→Settings→Network Connections

b. Enter the Properties window of the LAN port (see Figure 3-2).

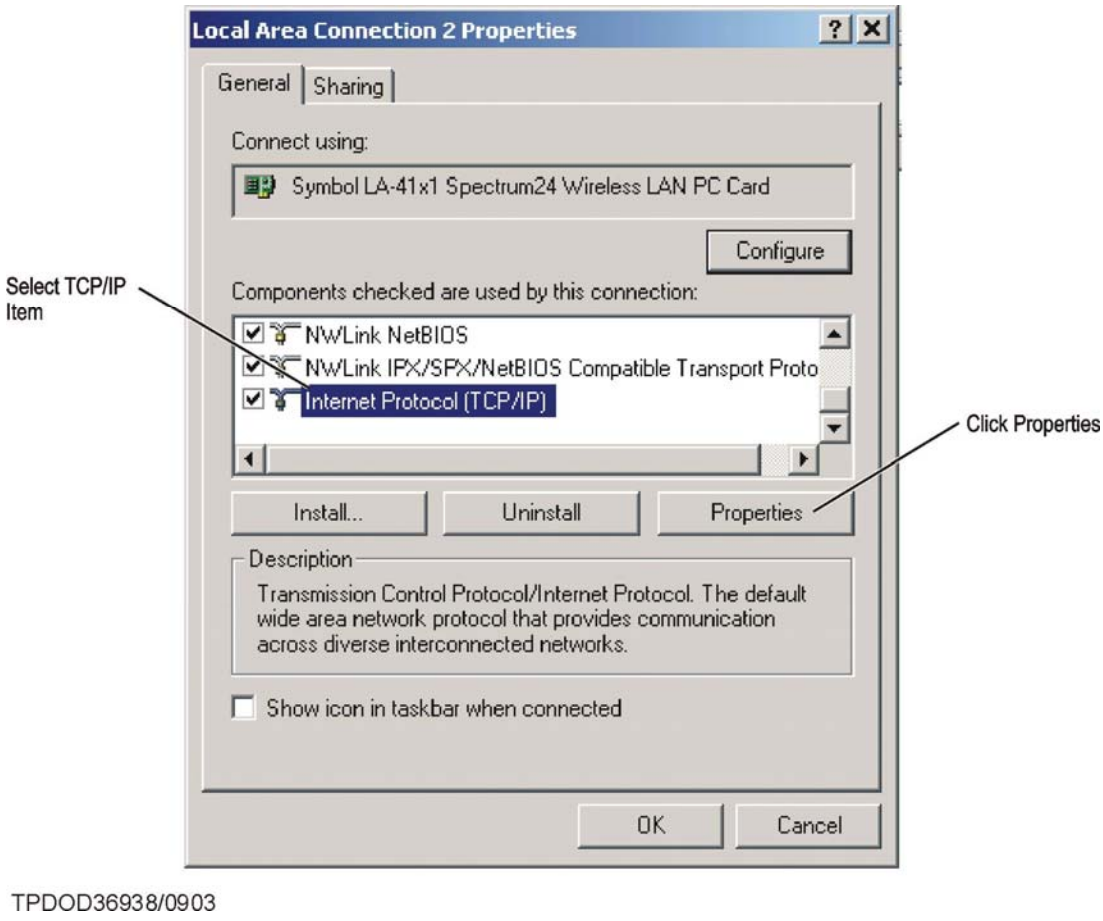


Figure 3-2. LAN Properties

c. From the components list, select the TCP/IP item and click **Properties**.

d. Fill in the TCP/IP properties, seen in Figure 3-3, according to Table 3-1.

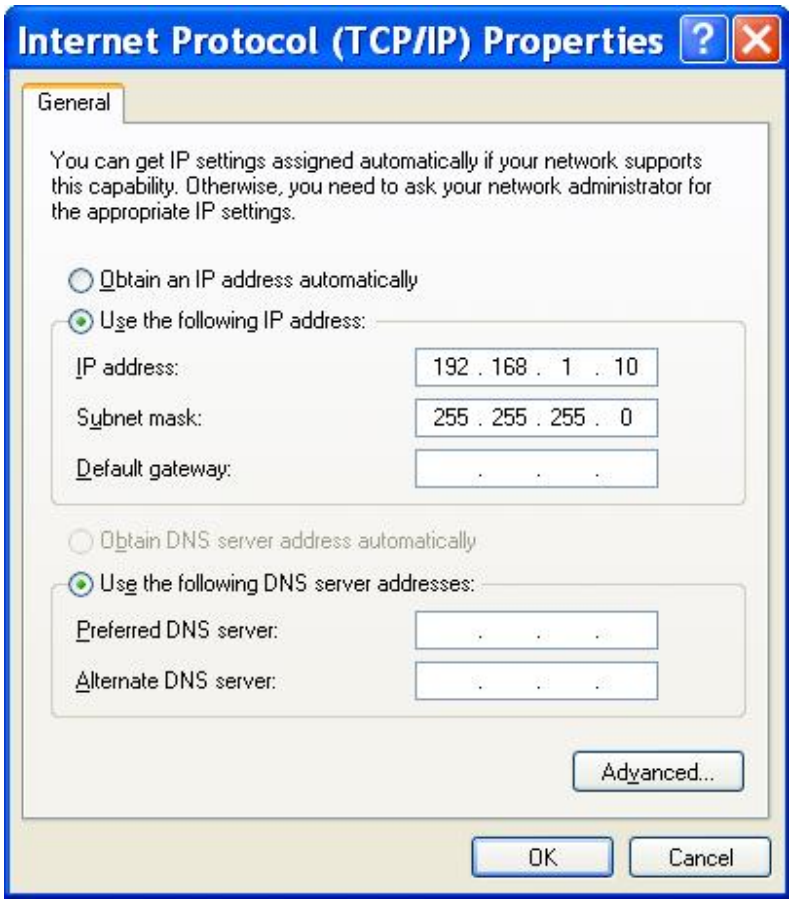


Figure 3-3. TCP/IP Properties

Table 3-1. TCP/IP Properties

No.	***Parameter Name***	***Required Value***	***Default Value***
1	Obtain an IP address automatically	No (unchecked)	Yes
2	Use the following IP address	Yes (checked)	No
3	IP Address	IP address of the laptop, which will be used for communicating with the OrPT. Note: the first IP segment must be identical to the rest of the network devices.	Blank
4	Subnet mask	255.255.255.0	Blank
5	Default gateway	Leave blank	Blank
6	Obtain DNS server address automatically	No (unchecked)	Yes
7	Use the following DNS server	Yes (checked)	No

Table 3-1. TCP/IP Properties

No.	*Parameter Name*	*Required Value*	*Default Value*
	addresses		
8	Preferred DNS server address	Leave blank	Blank
9	Alternate DNS server address	Leave blank	Blank

e. Click **OK** to save the settings and close the TCP/IP properties window.

f. Your laptop is now ready to hook up to the station network. Refer to Section 4 for specific setup instructions.

3-6. *LOGIN*

The Setup of the device can be accessed via the Ethernet port of the device, using a twisted Ethernet cable between the computer and the device or ordinary LAN cable through the switch.

Once your Ethernet adapter is configured (depending upon system configuration), and the unit to be set up is connected to a power source, log in to its setup web site as follows:

a. Launch the Internet browser.

b. Enter the IP address of the unit as provided by Gasboy as follows (see Figure 3-4):

http://192.168.1.211 (Ethernet Connection)

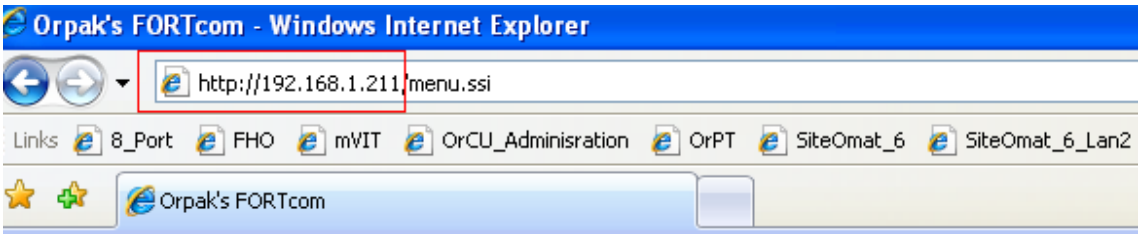


Figure 3-4. Entering the Unit's Web Site

Once a link is established, the OrPT web site window is displayed, as seen in Figure 3-5.

3-7. *ORPT WEB SITE*

The OrPT Web Site (see Figure 3-5) provides information about:

FORTcom type, Ethernet IP, Ethernet MAC, RS-485 Address, Version, Xilinx Version AND Boot loader Version.

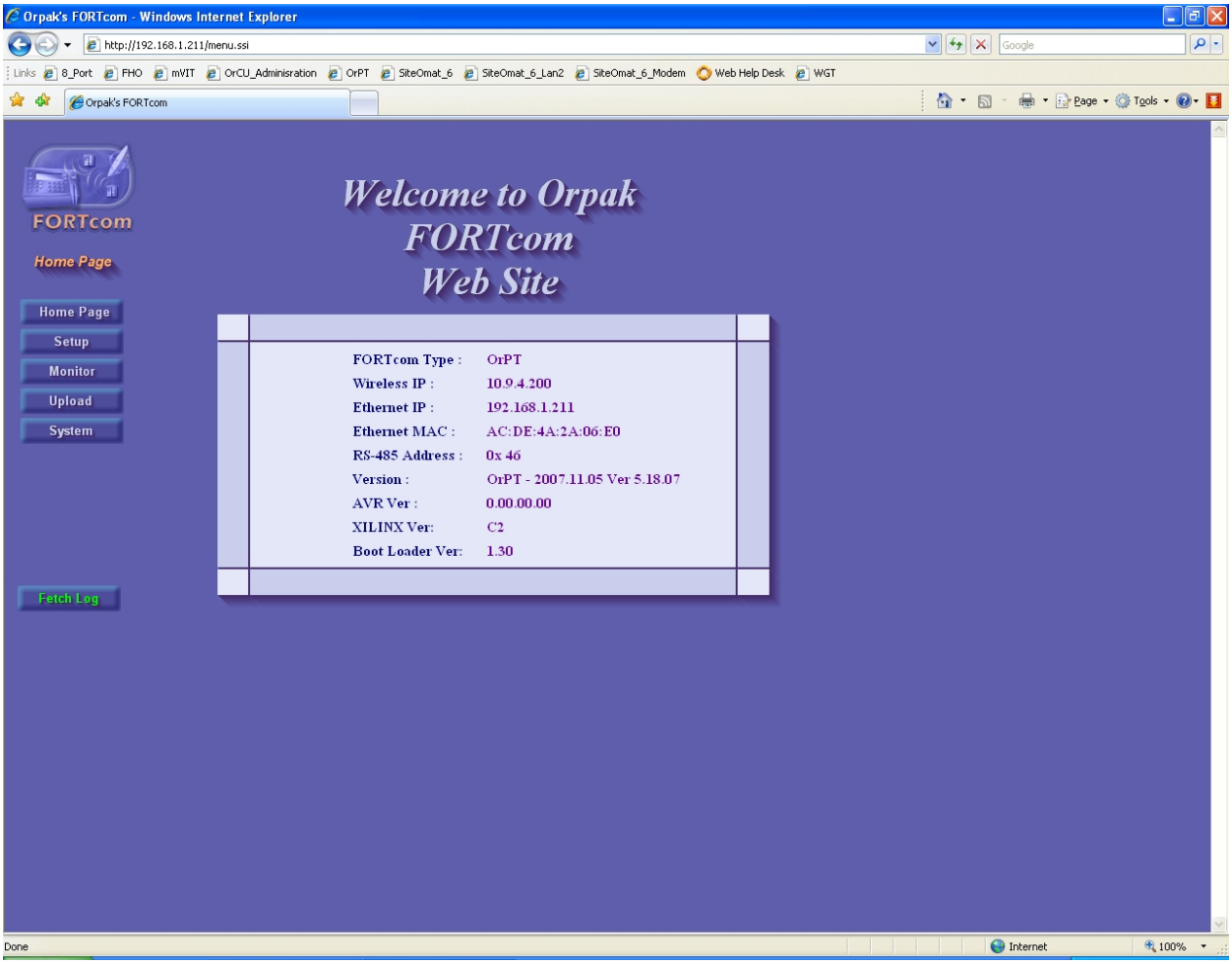


Figure 3-5. OrPT Web Site Window

NOTE

Clicking a navigation button on the left-hand side of the window for the first time brings up a box for entering a username and password. The technician should know the username and password in advance.

3-7.1. *OrPT Web Site Description*

The OrPT Web Site data fields are listed in Table 3-2, along with their description.

Table 3-2. OrPT Web Site Data Fields

No.	*Field Name*	*Description*
1	FORTcom Type: OrCU	Provides the name of the device for configuration.
2.	WL IP	N/A
3	Ethernet IP	Provides the IP address of the device for Ethernet connection
4	Ethernet MAC	
5	RS-485 Address	
6	Version	Provides the device's software version and date. e.g.: OrPT - 2007.11.05 Ver 5.18.07
7	AVR Ver:	
8	XILINX Ver:	
9	Boot Loader Ver:	

CAUTION

Verify that the version of the software in the Web site is compatible with the version of the software of the device to be configured. Failure to do so may result in damage to the device during configuration.

Figure 3-6. OrPT Web Site Window – Main Areas and Components

The Navigation Bar on the left-hand side of the window appears throughout the OrPT Web application, and includes buttons that lead to the Home Page, to the Setup window and to monitor the device activity.

The objective of each button in the left-hand side Navigation Bar is as follows:

Home Page	Presents the opening window of Orpak Website.
Setup	Displays the OrPT Setup window, to configure the OrPT.
Monitor	Opens the monitoring window for all device activity in the station, for maintenance and troubleshooting purposes.
Upload	Uploads software for OrPT.
System	Opens the system definitions of OrPT.

To display the OrPT Setup window, press the System button.

3-8. *NAVIGATING TROUGH THE FORTCOM SETUP WINDOW*

The OrPT Setup window (see Figure 3-7) is the primary window for setup and configuration.

Once you finalize your data entry, click the **Submit** button to enter the input data. The next step is to proceed with the setup of the device by requested the appropriate application window.

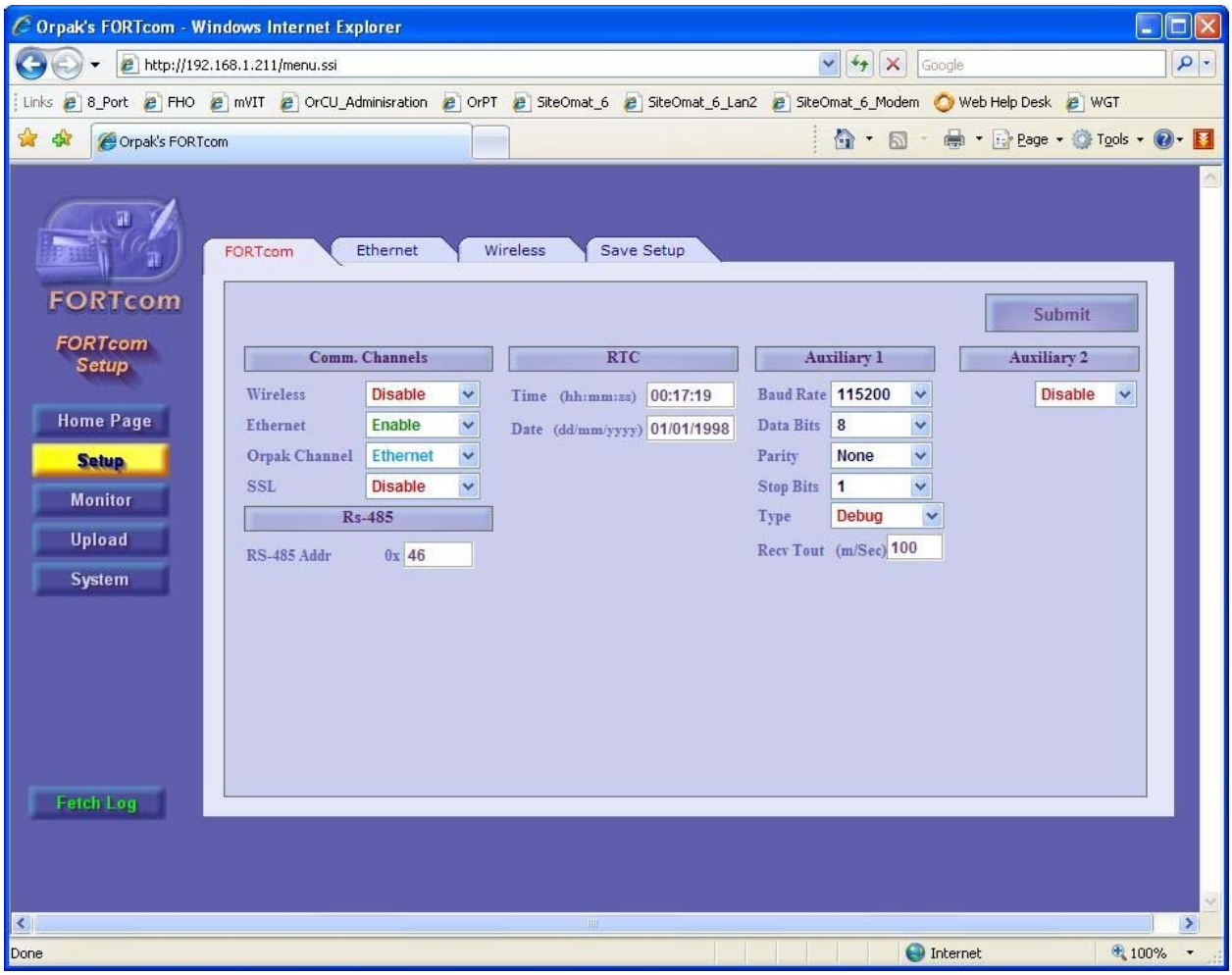


Figure 3-7. OrPT Setup Window

3-8.1. *OrPT Setup Elements*

The tabs on the top navigation bar of the window appear throughout the OrPT Setup window. Clicking those leads to the next applicable window required for the setup and configuration of the device.

SECTION 4
COMPREHENSIVE ORPT SETUP

4-1. *OrPT SETUP PROCEDURES*

Follow the procedures below to set up the OrPT.

4-1.1. *Setting FORTcom*

The FORTcom Setup screen is the start window for the setup procedures of OrPT.

To configure an OrPT device in the FORTcom Setup window, perform the following procedures:

a. Log into the unit's web site using the web browser in your laptop, as instructed in SECTION 3 of this manual.

b. Open the FORTcom Setup window (see Figure 4-1) by clicking the **FORTcom Setup** button in the Navigation Bar.

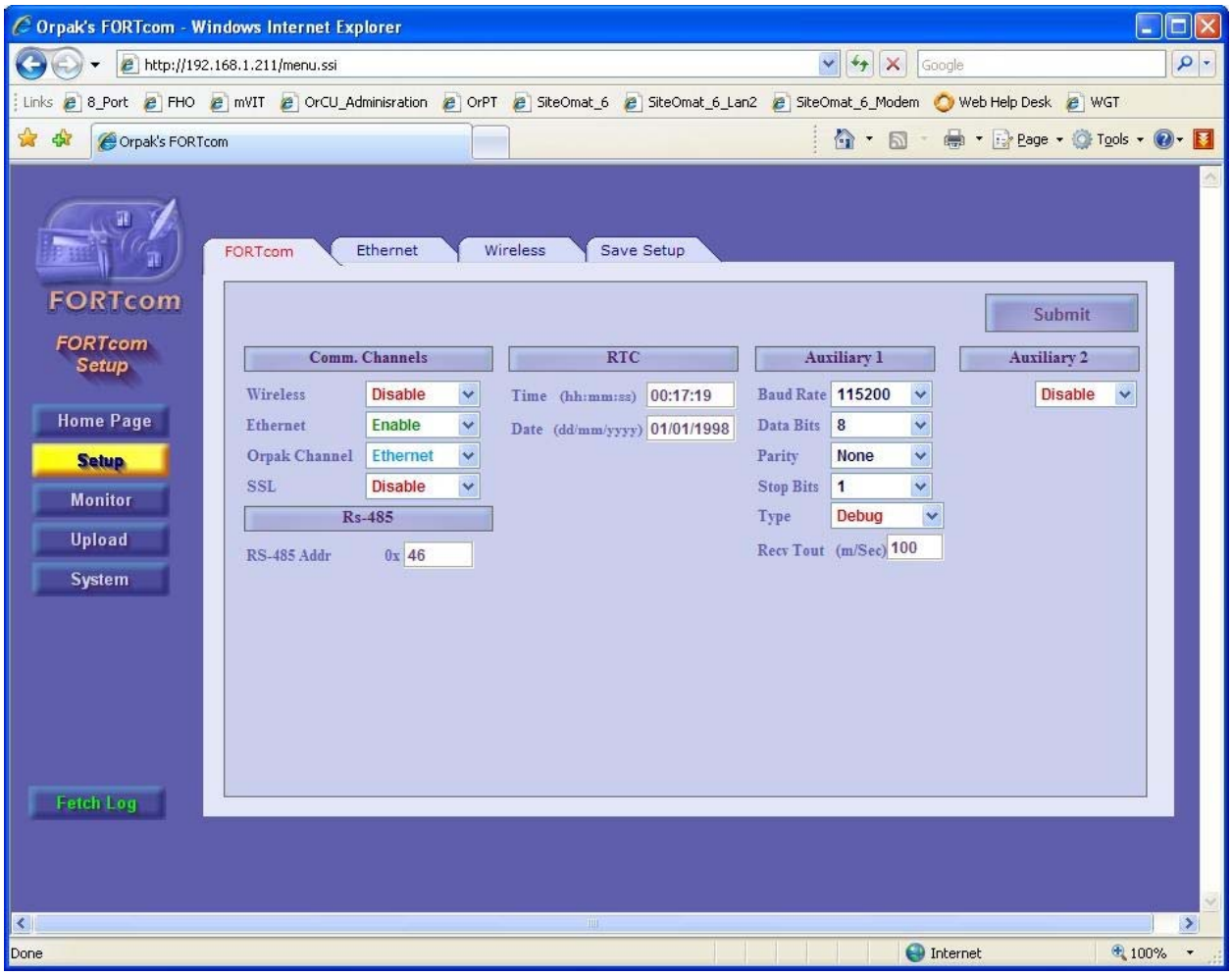


Figure 4-1. OrPT Setup Window

c. Set the parameters in the window as follows:

Comm. Channels

Parameter Name	*Required Value*	*Remark*
Wireless	Determine whether the wireless capability of the device is used.	Select in **Disable** combo box
Ethernet	Determine whether the Ethernet connectivity of the device is used.	Select in **Enable** combo box
Orpak Channel	Choose the communication means between the device and the controller.	Select in **Ethernet** combo box
SSL	Protocol that enables secure transmission of information over the WWW.	Select in **Disable** combo box

RS-485 Addr

Parameter Name	*Required Value*	*Remark*
RS-485 Address	Enter the RS-485 address of the OrPT in the RS-485 link in **Hex** value.	Default is **46**

Auxiliary 1 – N/A

Auxiliary 2 – N/A

d. Click the **Submit** button to save changes temporarily (saving the information permanently is done in the end).

4-1.2. *Setting the Ethernet*

The Ethernet Setup window sets up the network parameters of the device, to enable Ethernet communication with the rest of the SiteOmat network.

To set up the Ethernet parameters, follow the steps below:

a. Click the Ethernet tab to display the Ethernet parameters, if not already shown.

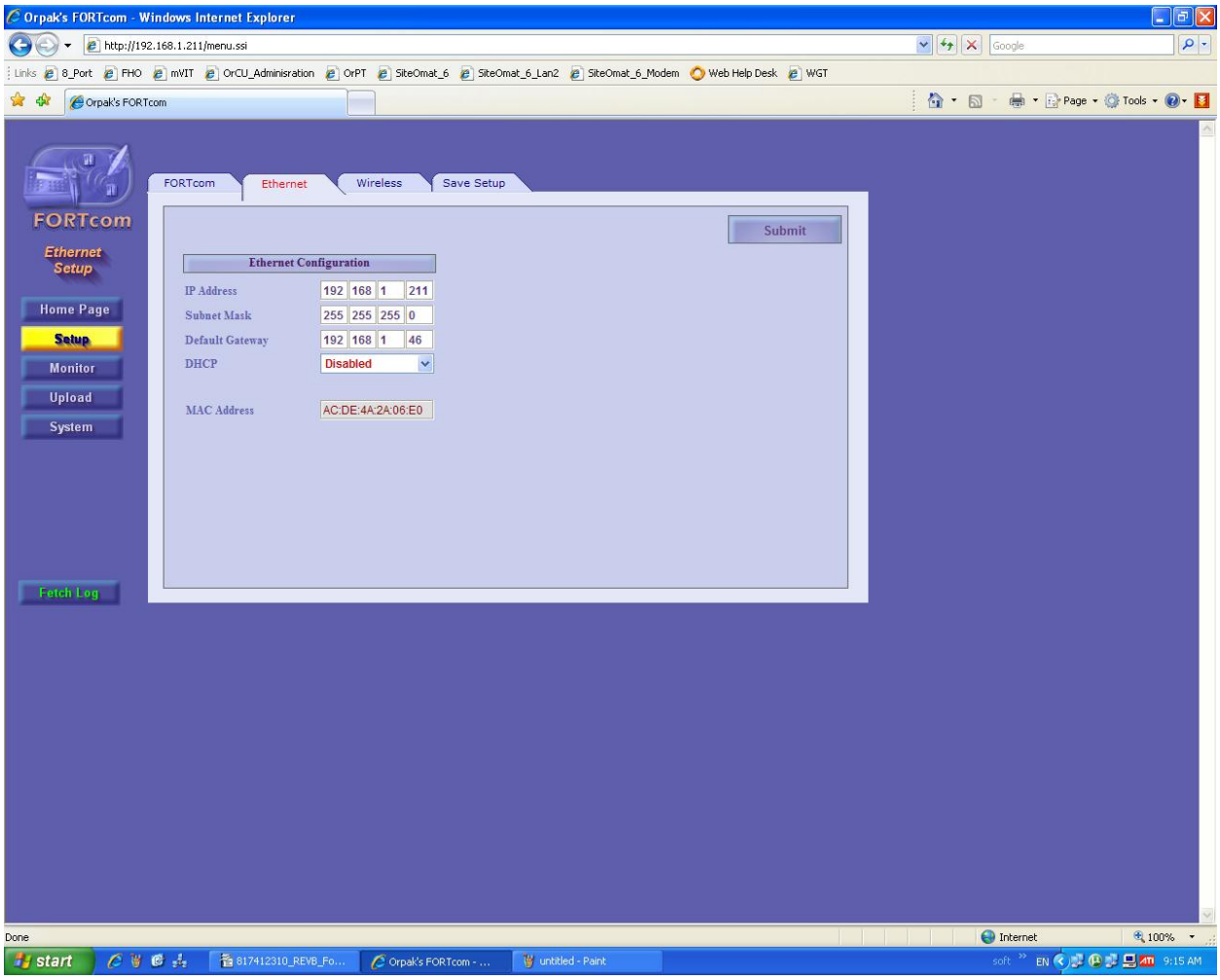


Figure 4-2. Ethernet Setup Window

b. Set the window parameters as follows:

Parameter Name	*Required Value*	*Remark*
IP Address	Enter the IP address of the device being configured. Each device has a unique IP address.	Orpak default is 192.168.1.211
Subnet Mask	Enter a subnet mask for the IP addresses.	Default: 255.255.255.0
Default Gateway	Enter the IP address of the Default Gateway through which the device transfers the data to the Station Controller. This IP number is entered as default by the LAN. However, its identity should be verified against the IP number provided from the Station Controller.	
DHCP	The DHCP feature allocates IP addresses to the devices dynamically.	Default: **Disabled**
MAC Address	A unique name identifying the device	Do not change the name, as this could result in network problems!

c. Click the Submit button to enter the selected data in the configuration of the device.

d. Click the next tab in the top Navigation Bar for the next step in the setup procedure.

4-1.3. *Setting the System Parameters*

The System Parameters window enables defining the system parameters for recovery. This window defines the timeout when the device can independently attempt to connect to the LAN after voltage failure (WD Communications) or when the communication has been severed (TCP Timeout).

To set the System Parameters, perform the following procedures:

a. Access the System Parameters window, seen in Figure 4-3, by clicking the **System** tab in the Navigation Buttons.

b. Click on **System** tab in the Navigator Bar.

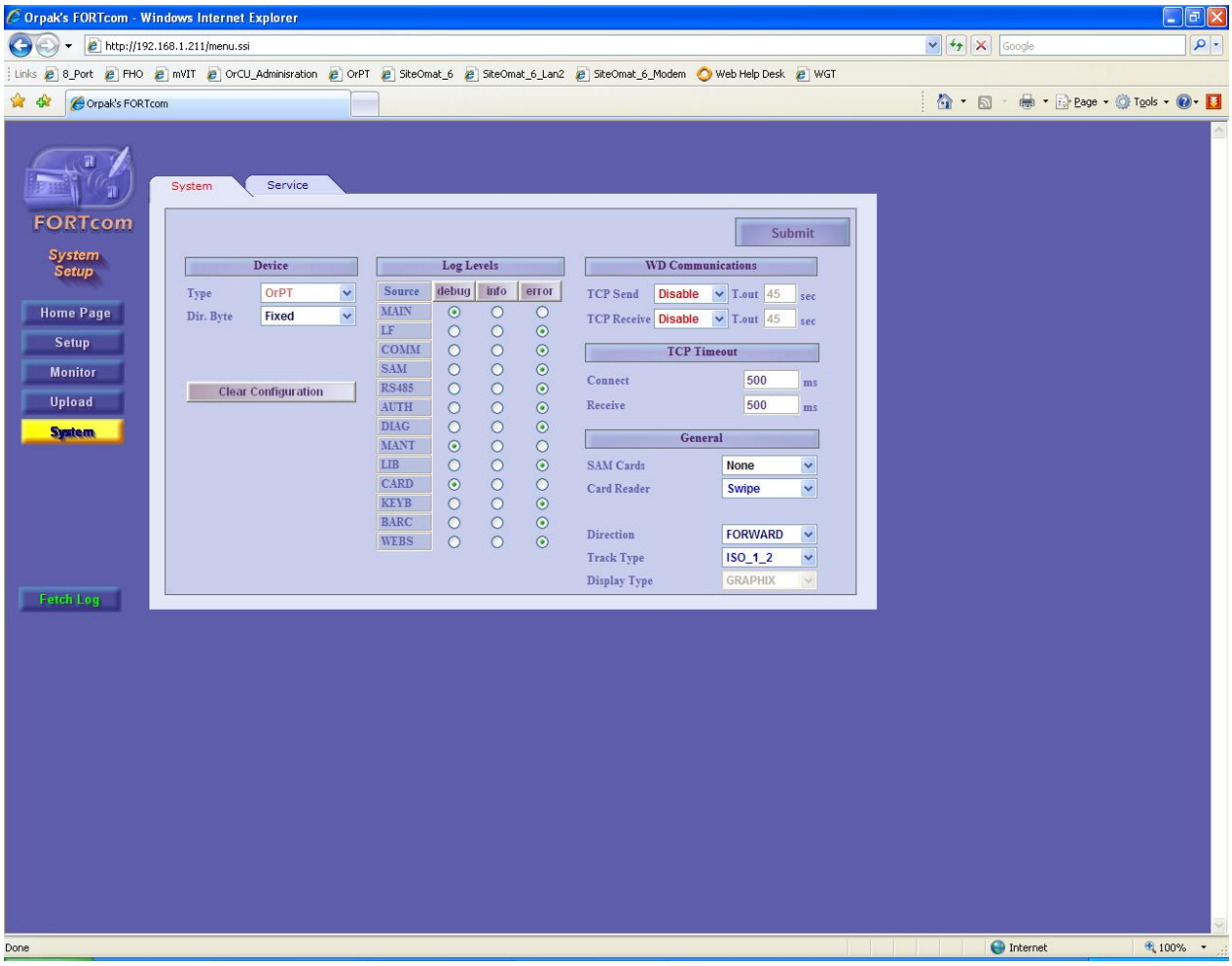


Figure 4-3. System Parameters Window

c. Fill the window parameters as follows:

Device

Parameter Name	*Required Value*	*Remark*
Type	Type of device	Select in combo box **OrPT**
Dir. Byte		Select in combo box **Fixed**

WD Communications

Parameter Name	*Required Value*	*Remark*
TCP Send	Allow (Enabled) or prevent (Disabled) the device from checking the TCP/IP link in the Transmission mode after power failure.	Default: Enabled
TCP Send Timeout	If TCP Send is enabled, determine the Timeout (in Seconds) before attempting to communicate.	Default: 45
TCP Receive	Allow (Enabled) or prevent (Disabled) the device from checking the TCP/IP link in the Reception mode after power failure.	Default: Enabled
TCP Receive Timeout	If TCP Receive is enabled, determine the Timeout (in Seconds) before attempting to communicate.	Default: 45

General

Parameter Name	*Required Value*	*Remark*
SAM Cards	Indicates the number of SAM cards installed in the device.	
Card Reader	Indicates the type of card reader: insert or swipe.	
Direction	Direction of reading card reader.	
Track Type	Type of track on the card.	
Display Type		

Log

Parameter Name	*Required Value*	*Remark*
Level	Select the maintenance level of information in the log file: • Debug for debugging by system designer, at high level of maintenance. • Info for all data recorded during setup process. • Error for log files of malfunctions and errors.	Default: Error

d. Click the **Submit** button to enter the selected system recovery attempt parameters in the configuration of the device.

e. Click on **Service** tab in the top Navigator Bar

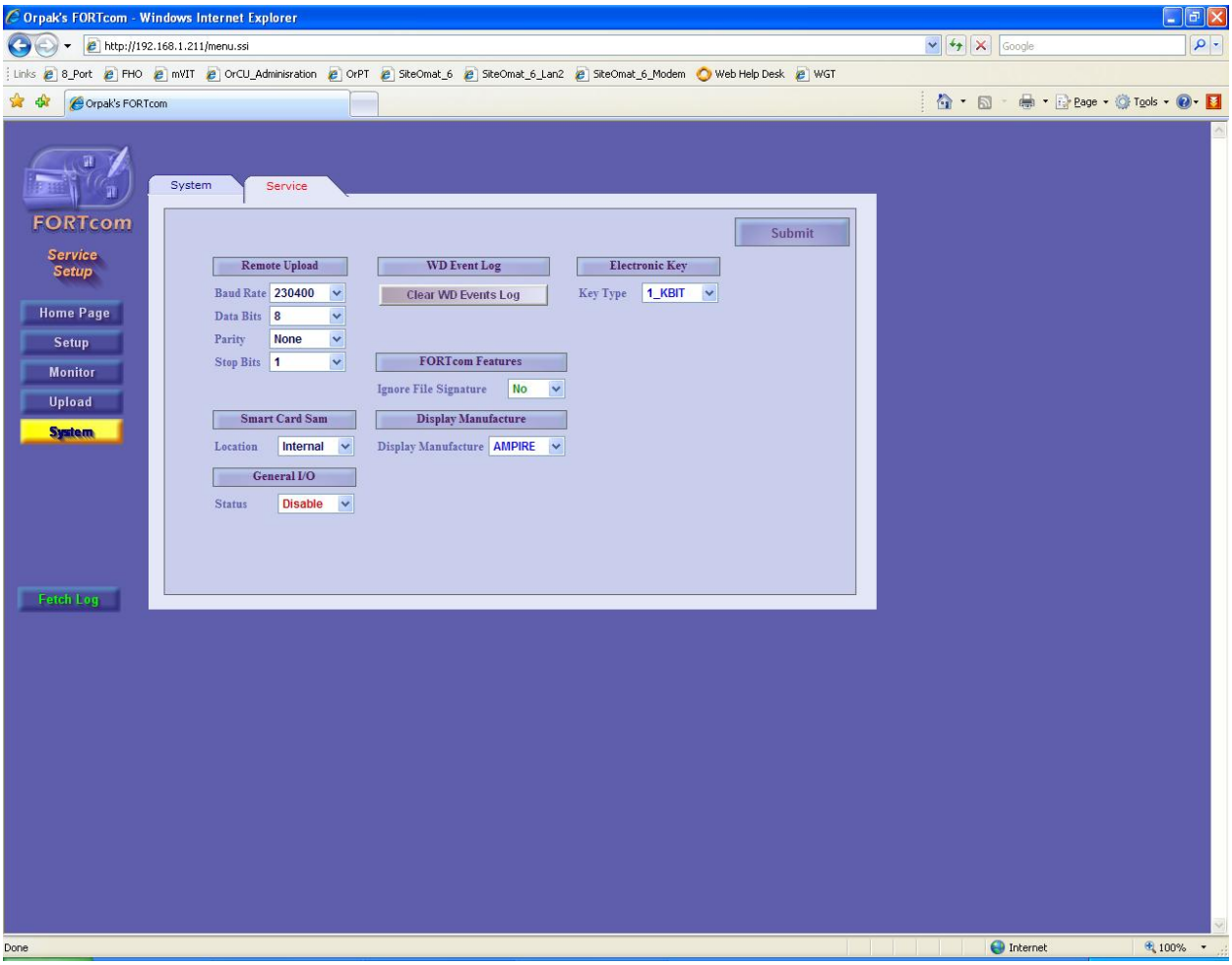


Figure 4-4. Service Parameters Window

Remote upload – N/A

WD Event Log – N/A

Electronic Key – N/A

FORTcom Features – N/A

Display Manufacture – N/A

Smart Card Sam

Parameter Name	*Required Value*	*Remark*
Type	Type of device	Select in combo box **OrPT**

General I/O

Parameter Name	*Required Value*	*Remark*
Type	Type of device	Select in combo box **OrPT**

f. Click the **Submit** button to enter the selected system recovery attempt parameters in the configuration of the device.

g. Click the **Save Setup** tab in the top Navigation Bar for the final step in the setup procedure. The Save Setup window is displayed

4-1.4. *Saving the OrPT Setup*

Up until now, all the changes you have made to the device's settings were saving temporarily on the RAM. The Save Setup window is used for permanently saving the changes you have made in the device's Flash memory.

To Save the Setup parameters, perform the following procedures (see Figure 4-5 to Figure 4-7):

a. Access the Save Setup window by clicking the **Save Setup** tab in the top Navigation Bar.

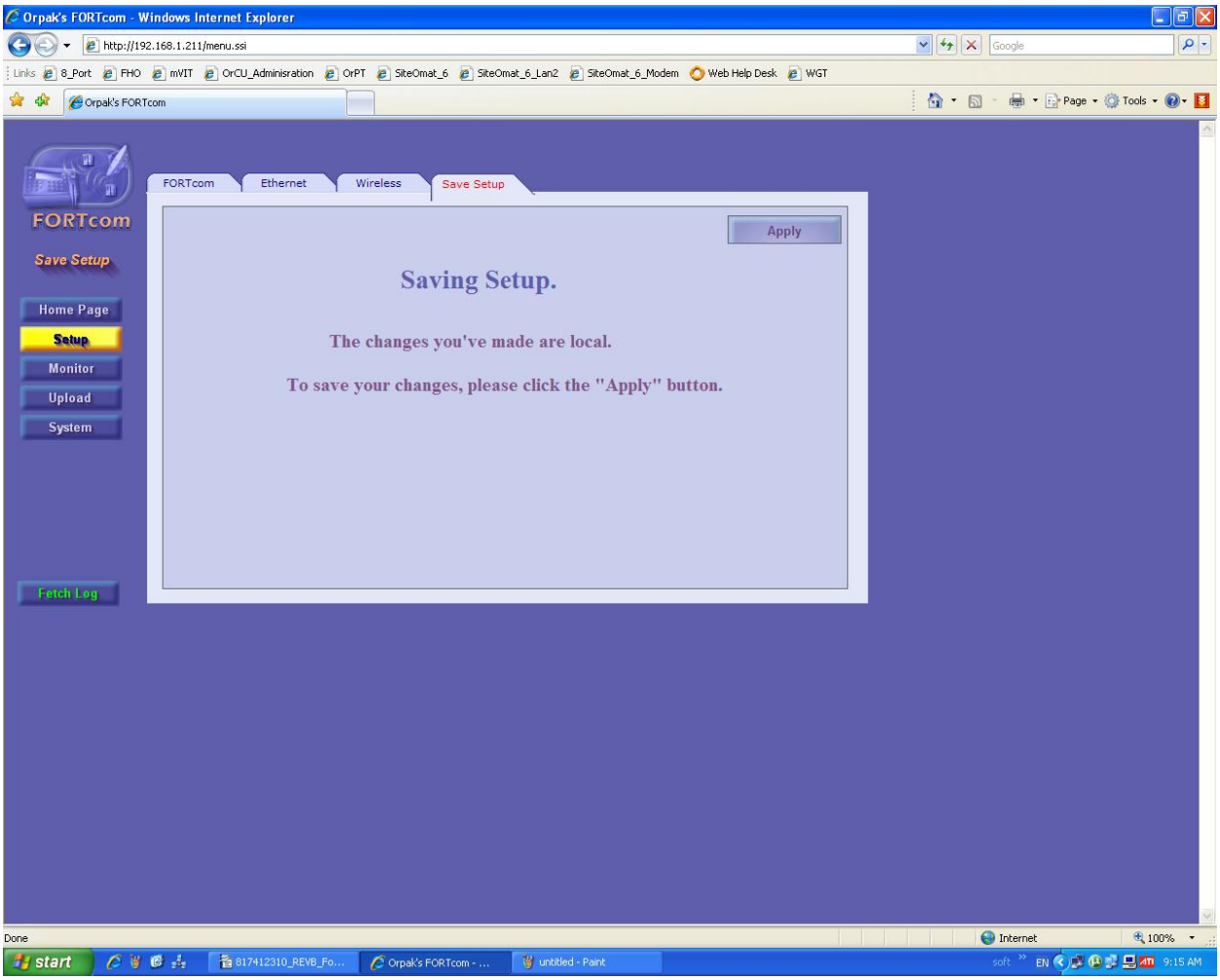


Figure 4-5. Save Setup Window – Step 1

b. To save the setup data you defined in the previous procedures, click the **Apply** button.

c. The configuration program displays a pop-out window that requires approval to save the data in the Flash memory chip. Click **OK**.

d. Once the Flash memory has successfully stored the setup and configuration data, a pop-up window requires restarting the system. This procedure is recommended. Click **OK**.

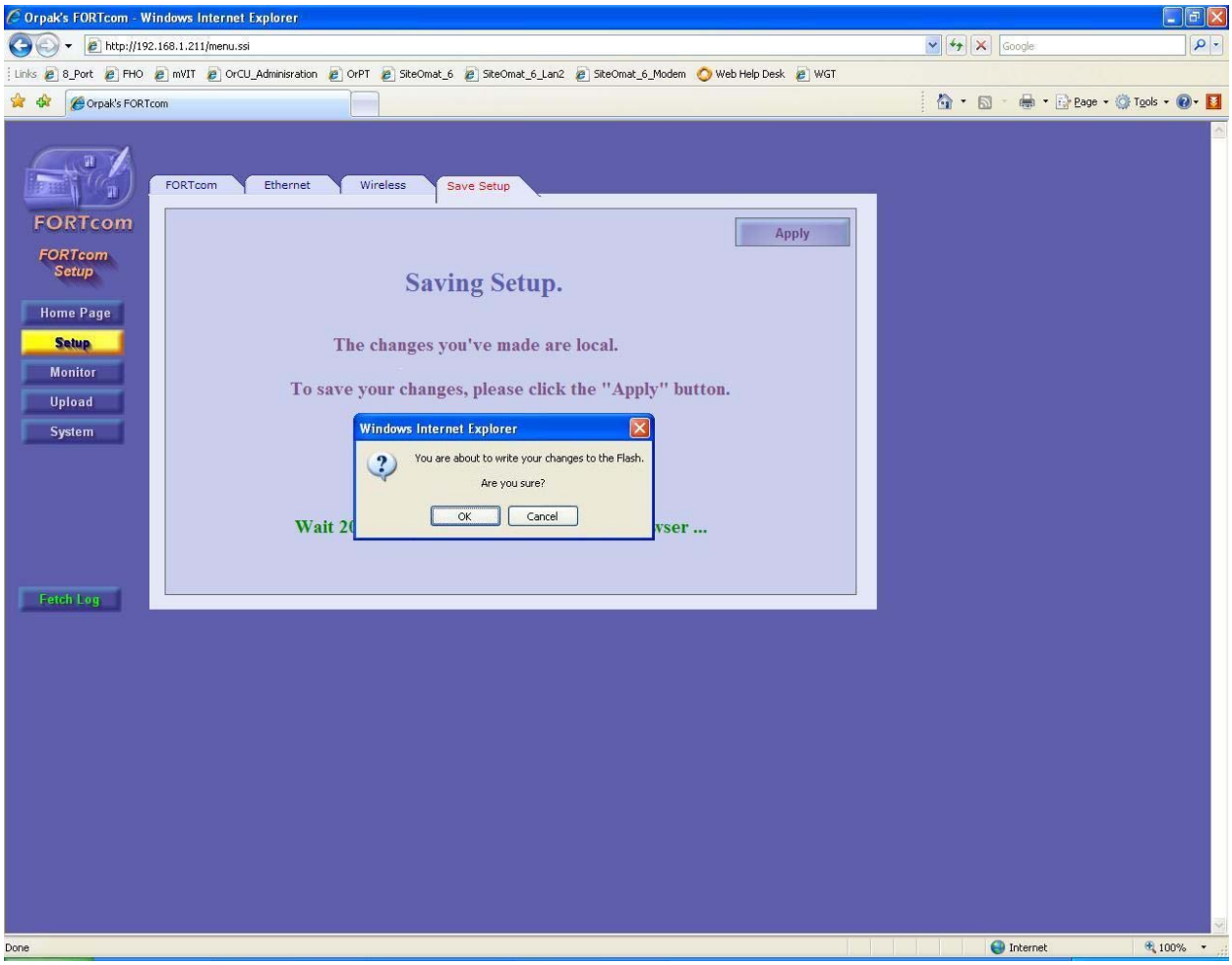


Figure 4-6. Save Setup Window – Step 2

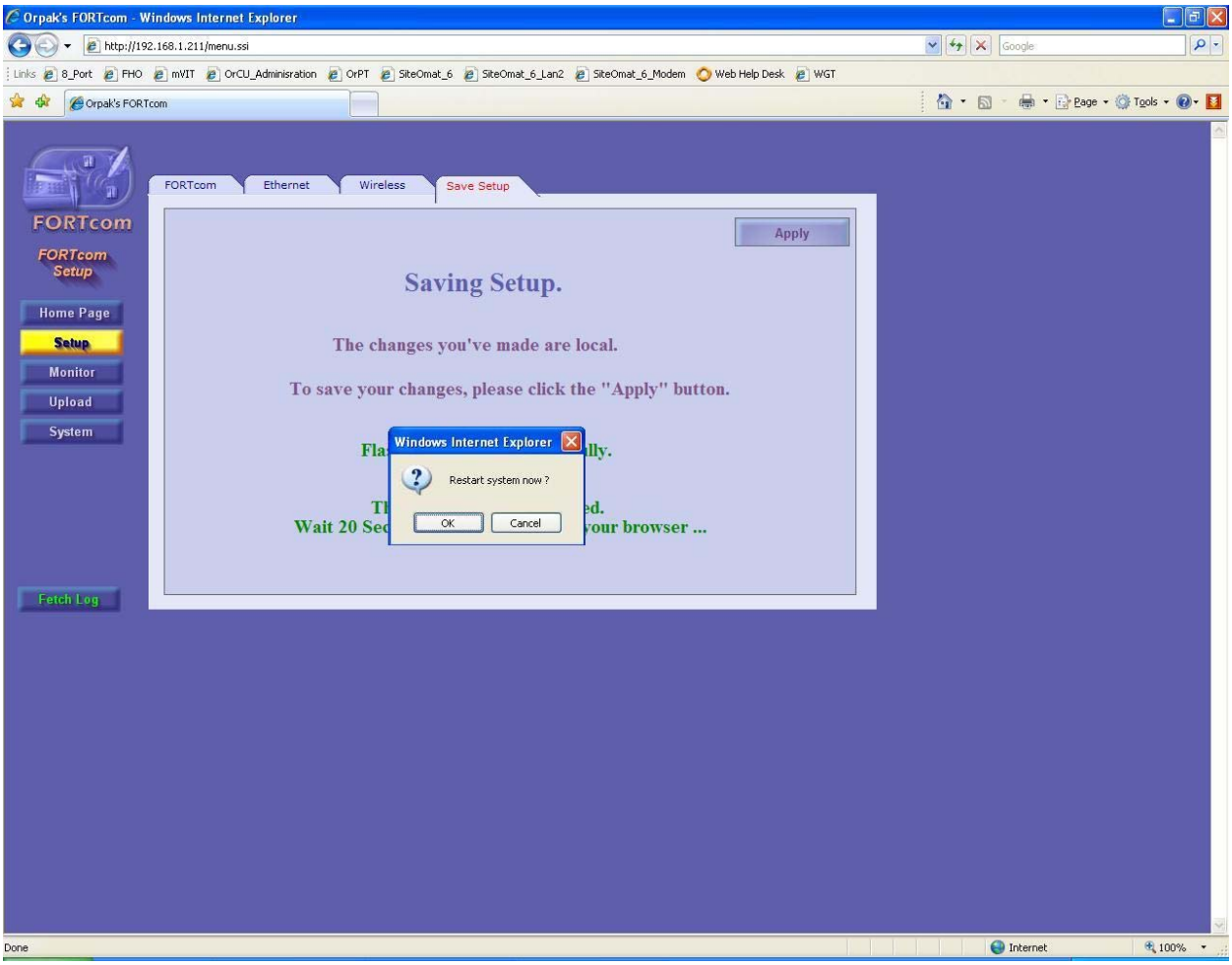


Figure 4-7. Save Setup Window – Step 3

4-2. *MONITORING DEVICE ACTIVITY*

The setup web site of the station units allows you to monitor the activity of the unit, and ascertain proper operation, or alternately, use this feature for troubleshooting. Naturally, this feature should be used after the entire system is installed and operating.

To monitor the unit, follow the instructions below:

a. Enter the unit's web site from a computer connected to the station network, as instructed in Section 2 of this manual.

b. Click the **Monitor** button in the navigation bar on the left-hand side of the window.

c. The monitoring window appears.

d. Check the 'Fetch!' checkbox, located in the navigation bar.

e. Once the 'Fetch!' checkbox is checked the unit starts streaming status messages to the monitoring window every few seconds.

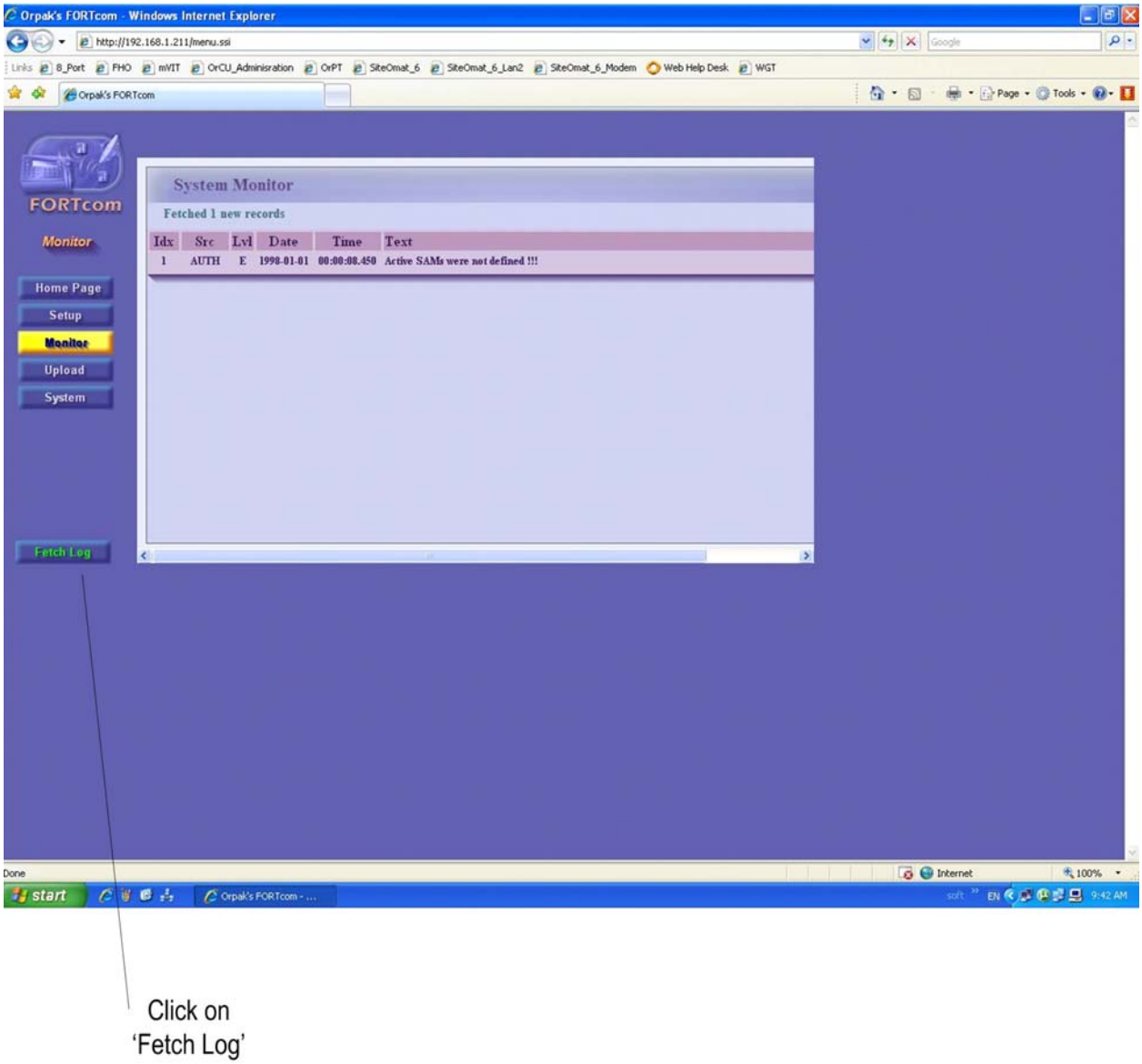


Figure 4-8. Monitoring Device Activity

f. After finishing monitoring the device activity, you can save the log into a file for further reference, by clicking the 'STOP!' tab.

TIP

The web site will keep updating the device log as long as the 'Fetch Log' tab is clicked, even if the monitoring window is not displayed.

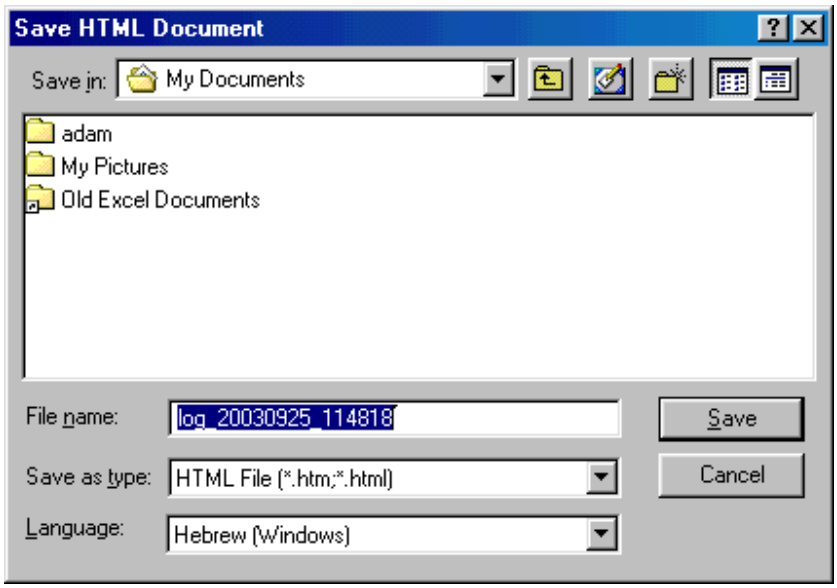


Figure 4-9. Saving the Device Log into a File

4-3. *UPLOADING DEVICE SOFTWARE*

The internal software of the station devices can be updated, by uploading the software files to the flash disk of the devices. This feature is enabled by logging onto the device setup web site, and using the Upload option.

Prior to actually uploading the software, you must configure your Internet browser to allow such action to take place. Follow these instructions (for Microsoft Internet Explorer):

a. Select the '**Internet Options**…' menu item from the Tools pull-down menu.

b. Switch to the **Security** tab.

c. Click the '**Custom Level**…' button.

d. In the Security Settings window (see Figure 4-10), set the following ActiveX parameters as follows:

- Download signed ActiveX controls: **Prompt**
- Download unsigned ActiveX controls: **Prompt**
- Initialize and script ActiveX controls not marked as safe: **Prompt**

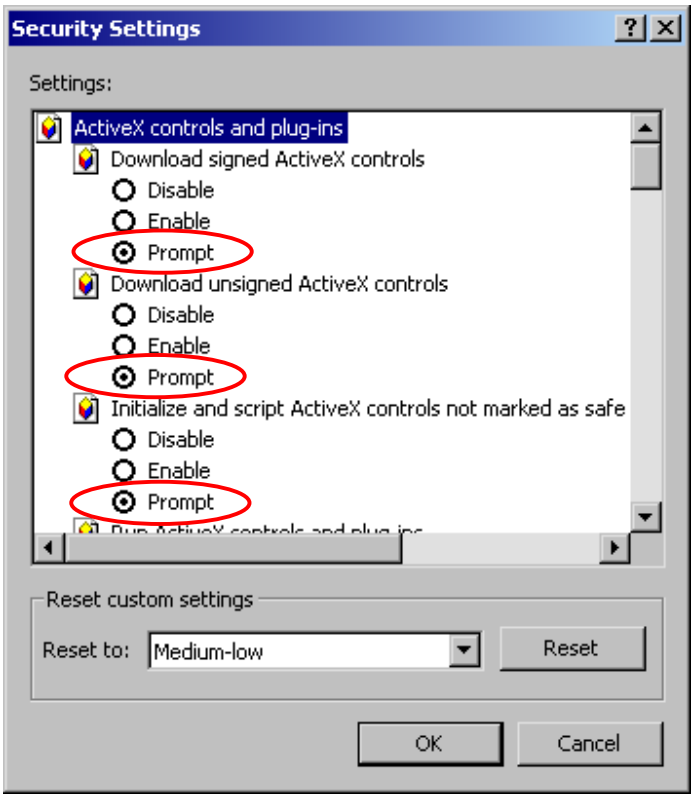


Figure 4-10. Security Settings

e. Click **OK**.

Once your Internet browser is properly configured, proceed to uploading the device software as follows:

a. Log into the device web site, as instructed in Section 2 of this manual.

b. Click the Upload button on the left-hand side of the window.

c. The Upload window appears, as seen in Figure 4-11.

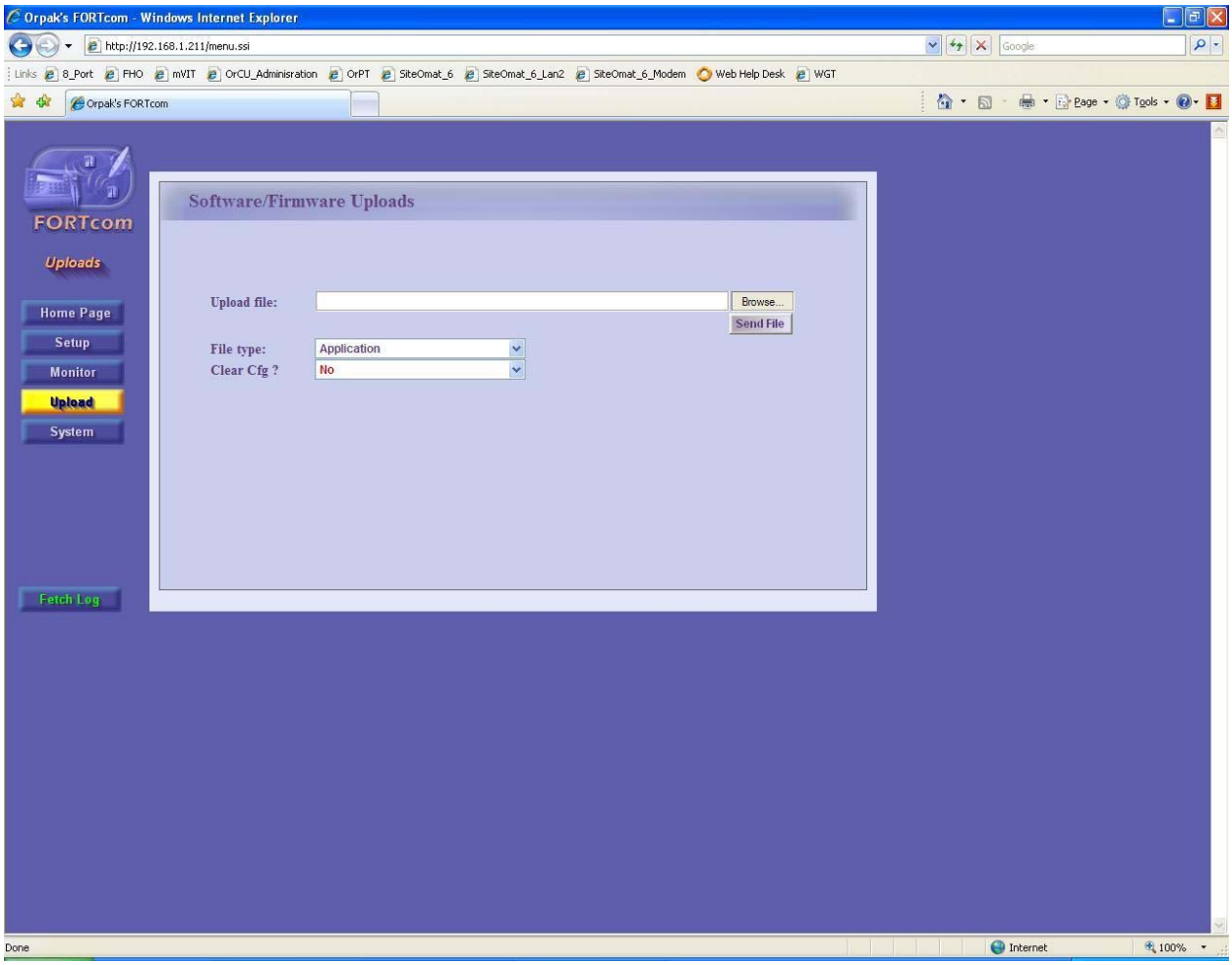


Figure 4-11. Upload Device Software

d. Click the '**Browse…**' button and select the file to be uploaded to the device.

e. The Internet Browser pops up an alert regarding the usage of ActiveX control on the page (see Figure 4-12). Click **Yes** to allow the activity and proceed with the process.

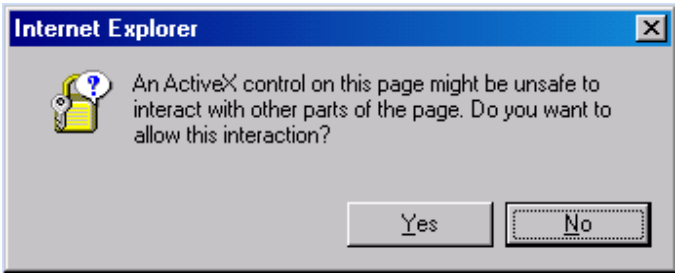


Figure 4-12. Active X Warning – Click Yes to Proceed

f. Specify the type of the file, its ordinal number out of all the files being uploaded to the device, and whether this is the last file to upload. The device needs this information to install the files.

g. Click the **Send File** button.

h. The following message appears: 'Restart system now?' (see Figure 4-13).

Figure 4-13. Restart System Message

i. The software is loaded into the device only after system restart.

SECTION 5
OrPT OPERATING INSTRUCTIONS

5-1. *GENERAL*

This section provides information on the operation of the OrPT module. It includes general description of the modes of operation of the OrPT module, general information regarding the OrPT functional screens, its components and functionality. Also included are operating instructions for the OrPT, namely launch, login and implementation of the applications.

NOTE

The OrPT uses a simple generic protocol to enable easy integration to third party devices. The protocol provides the basic control of the OrPT functions by a station controller or a Point-of-Sale (POS) application.

The logic behind the OrPT scenarios is always on the station controller side, while the OrPT itself provides the user interface. Consequently, the examples in this section may vary, depending upon the specific controller application.

5-2. *ORPT PANEL - FUNCTIONAL CAPABILITIES*

5-2.1. *General*

The OrPT primary function is to accept several fueling authorization means. OrPT is a component of Gasboy's home-base solutions like the Islander Plus and ICR Plus.

User interaction (attendant or driver) is performed on the front panel by activating its input devices (card reader, key input and more) and/or clicking on the 16-key metal keyboard in response to messages on the display panel.

While keys have different functionality in different contexts, the panel has a functional communality to ease the user interaction. Similarly, the OrPT displays general purpose messages that are independent of the current application. These messages include definition at start-up and general messages for troubleshooting.

5-2.2. *OrPT Function Keys*

The OrPT front panel includes a 16-key metal keyboard that consists of ten numeral keys, a decimal point key and five function keys as shown in Figure 5-1 and described in Table 4-1 below.

Figure 5-1. OrPT Front Panel – Function Keys

Table 5-1. OrPT Front Panel – Function Keys

No.	*Nomenclature*	*Function*
1	1, 2, …..0 / .	Alphanumeric keys, enable data input through the keyboard. Alphabetic or numeric input depends on the current input mode.
2	F1 X (Cancel)	Generally, cancels the input entered by the user (before OK was pressed).
3	F2 ▲	In general purpose, serves as Up or "Return To Previous Task (Screen, Data Input or other)".
4	F3 ▼	In general purpose, serves as Down or "Move To Next Task (Screen, or other)".
5	OK ✓	Approval for performance of task in current application, or Save current data input, or more.
6	DEL	Cancellation (DELETE) of the current action, and return to idle state.

5-3. *ORPT START-UP PROCEDURES*

5-3.1. *General*

At start-up, the OrPT presents a series of screens that identify the module. These screens also enable to input a new RS-485 address to provide the OrPT with its unique identification in the forecourt.

5-3.2. *OrPT at Start-Up*

When power is provided to the OrPT, for the first time after installation, at maintenance or after turn-off, the following "Starting Up" screen is displayed on the front panel.

This screen provides in the first row, in parenthesis, the current address (Hex number) of the OrPT in the forecourt network.

The start-up screen, see Figure 5-2, also provides the current version of the OrPT software in the third row.

Figure 5-2. OrPT Start-Up Screen

After several seconds, the "SYSTEM" screen is displayed. This screen shows at first the "STARTING UP" message, see Figure 5-2. A second later, the 485 indication - the OrPT is connected to an RS-485 link - is shown. You are now enabled to perform a new definition of the RS-485 address. This screen lasts 30 seconds. To define the RS-485 address:

1. Press the OK key in the OrPT keyboard. The Password screen is displayed.
2. Proceed as described below.

5-3.3. *OrPT Address Definition*

The OrPT address definition requires authorizing the procedure by entering the password, as shown in Figure 5-3. The password can include up to six digits.

NOTE

You do not have to explicitly specify the RS-485 address on each startup. If a new password is not entered after several seconds, the OrPT uses the previous address, stored in its memory, and proceeds with the startup process.

To insert your password:

1. Press the keyboard numeral keys to enter your password

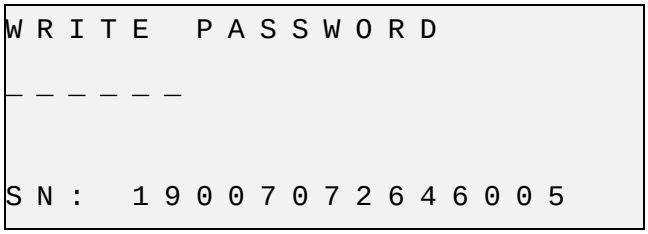


Figure 5-3. Password Screen

2. Press OK key. The Write Address screen is displayed, see Figure 5-4.

To enter an RS-485 address for the OrPT:

1. Enter the new RS-485 address, which should match the address specified in the Station Controller setup. The address shall be entered in a decimal number, up to three digits, not in a Hex number.

NOTE

The RS-485 link refers to the OrPT by its Hex address. However, at definition, the decimal value shall be entered.

2. Press the keyboard numeral keys to enter the address.

```
W R I T E   A D R . 4 8 5

_ _ _


S N :   1 9 0 0 7 0 7 2 6 4 6 0 0 5
```

Figure 5-4. RS-485 Address Input Screen

3. Press OK key. The current application screen, as defined by the Station Controller in the SiteOmat is displayed, see example below.

5-3.4. *OrPT Functional Screen - Example*

Figure 5-5 shows a typical example of a functional screen in the OrPT front panel. This particular screen enables to determine the amount of fuel to be supplied to a driver that has presented his contact-less key to the tag reader in the OrPT front panel. The following procedure is an example of an interactive procedure between the driver and the OrPT.

NOTE

This scenario depends on the definitions made in the System Controller, and may consequently vary from one application to another.

```
W e l c o m e

- - >   P r e s e n t   T a g

- - >   S w i p e   C a r d

F 2 - R C P T
```

Figure 5-5. Fuel Limit Input Screen

5-4. *OrPT ACTIVITIES (TYPICAL EXAMPLE)*

5-4.1. *General*

The OrPT panel remains in idle state after setup. User interaction with the input devices starts some action in accordance with the activated device.

This paragraph includes only the common activities available on the OrPT. The functional configuration is determined individually at the Station Controller to suit the OrPT operation to the required application. Therefore, the following activities may be subject to slight changes.

5-4.2. *Activities Launch*

Table 5-2 describes the general actions whenever an input device is activated in the OrPT panel. These responses are common. However, they may have been defined differently by the Station Controller.

Table 5-2. OrPT Main Activities Launch

Input Device	*Action*	*Common Response by OrPT*
Magnetic Reader Card (Credit card, Fuel card, Smart card)	Slide the card on the card reader	Starts a pre-pay or self –service activity, in accordance with the menu defined for this activity.
Contact-less Key	Approach it to the key reader in the panel	If the key is authorized, this action activates a menu associated with the loyalty program of the key holder

5-4.3. *Activities*

A description of some most common activities is provided in this paragraph to familiarize you with the functional capabilities of the OrPT.

- The following messages are examples. The messages text is determined in the Station Controller at the Setup phase of the SiteOmat. Therefore there may be some differences in the context.

NOTE

For a list of all messages displayed in the OrPT front panel, refer to the Islander Plus Installation Manual, Document No. MDE-4811

5-4.3.1. Transaction Scenario

The operational messages for paying by credit card, either pre-paid or self-service require the following procedures.

The OrPT is in idle state, and the “Welcome" message is displayed.

Step 1: Welcome

```
Welcome
- - >  Present  Tag
- - >  Swipe  Card
F2 - RCPT
```

Step 2: Enter the pump identification number from the keyboard alphanumeric keys

```
Enter  Pump  Num:
                    _ _


CNCL          ENTR
```

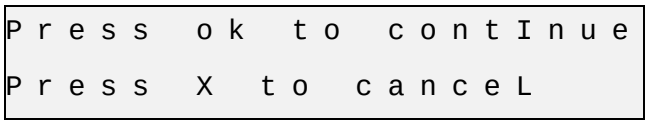
Step 3: Press the OK key

Step 4: If the pump number is correct, pump will start

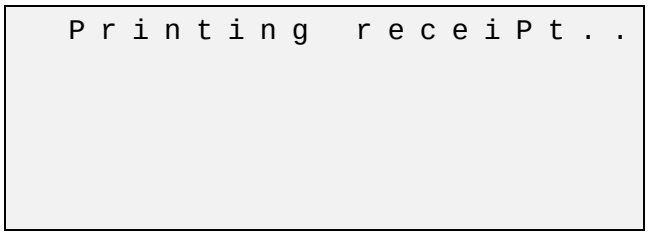
```
    Please  refuel...
```

Step 5: The print receipt, press F2 key. The following message will appear

```
To  get  receipt
Enter  pump  :
```



Step 6: Enter pump number and press the OK key, to obtain the receipt printout .



5-4.3.2. Management Activities

These activities are reserved for the station manager or the shift supervisor. They are usually activated by an authorization key

These activities include:

- Equipment (pump) enabling,
- Personnel (attendant) authorization,
- Shift report
- And more.

NOTE

For a list of all activities and related messages, refer to the following document:

SiteOmat System Controller – Technician's Manual

SECTION 6
TROUBLESHOOTING AND MAINTENANCE

6-1. *GENERAL*

This section provides troubleshooting and maintenance instructions for the OrPT.

6-2. *DIAGNOSTICS MESSAGES*

6-2.1. *General*

The OrPT includes a built-in test that provides messages on the operational status and the module status.

The diagnostics messages are of two types:

- Operational
- Module and associated modules status

6-2.2. *Error Operational Messages*

The Operational messages concern errors in data input in the OrPT, usually occurring during the payment procedures.

The following messages are examples. The messages text is determined in the Station Controller at the Setup phase of the SiteOmat. Therefore there may be some difference in context.

Example 1: Wrong input of pump number

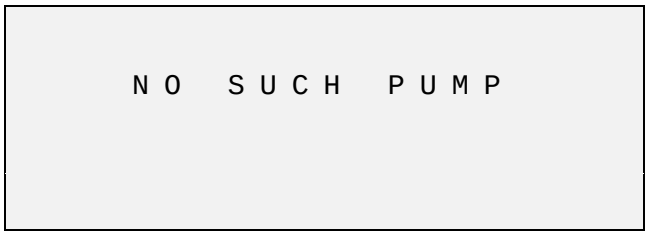
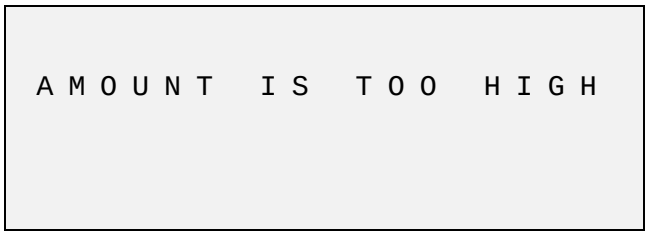


Figure 6-1. Wrong Pump Message

Corrective Action: Type on OrPT keyboard the correct pump number

Example 2: Rejected card – two possible messages can be displayed



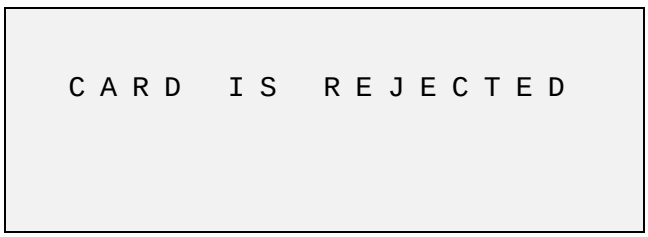


Figure 6-2. Wrong Credit Card Message

Corrective Action: Swipe another card from the client

6-2.3. *Module and Associated Modules Status Messages*

The OrPT and associated modules status messages concern errors in the OrPT operation and the modules linked to it such as the outdoor printer.

The following messages are examples. The messages text is determined in the Station Controller at the Setup phase of the SiteOmat. Therefore, there may be some difference in context.

Example 1: No communication

Figure 6-3. No Communication Message

Corrective Action: Check communication connections, check µVIT LEDs status, and check link status.

Example 2: No printout

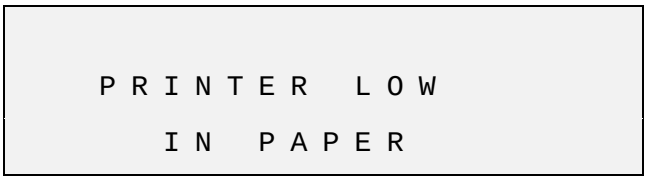


Figure 6-4. No Paper in Printer Message

Corrective Action: Check paper in printer, check printer LEDs

Example 3: Pump failure

Figure 6-5. Pump Fail Message

Corrective Action: Check pump, it might be used.

6-3. *MONITORING*

6-3.1. *General*

The FORTcom web site includes a Monitor button for the display of events in the system. The Monitor feature enables to view all the events, transactions and data transfer, between the devices in the Forecourt.

This feature provides the technician with a useful tool for troubleshooting and maintenance procedures.

NOTE

A description Monitor feature is provided in Chapter 4.2

6-4. *CLEANING*

6-4.1. *General*

The OrPT itself as a standalone unit, and the OrPT Box should be cleaned periodically at short intervals, due to the harsh environment of the forecourt where they operate.

6-4.2. *Cleaning*

The following instructions are valid for the OrPT front panel, the printer and the OrPT Box.

- Clean the OrPT front panel and other devices with a damp cloth only.

WARNING

DO NOT use any solvents such as thinner or benzene to clean the OrPT front panel.

6-4.3. *Magnetic Card Reader – Cleaning Instructions*

The Card Reader shall be cleaned periodically, preferably once every two (2) weeks, in order to ensure proper operation. The cleaning purpose is to remove any dust or foreign body that may harm the reader and consequently prevent the completion of a sale.

Proceed as follows:

- Remove the cleaning card from its packing
- Insert the cleaning card all the way in the Reader, and then pull it out slowly.
- Perform the previous procedures several times, until the card gets dry
- Insert any magnetic card, and verify that its stored data is read by the Magnetic Card Reader.

SECTION 7
GLOSSARY

MPI	Mechanical Pump Interface
OPT	Outdoor Payment Terminal
OrCU	Gasboy embedded Controller Unit
Islander Plus	Gasboy Island Controller (in which the OrPT is installed)
ICR Plus	Gasboy Island Terminal
OrPT	Gasboy Payment Terminal (display, Keyboard, key reader, magnetic card reader, LED's, buzzer; install in fueling area)
POS	Point Of Sale
SAM	Security Application Module (security card in the VIT/UPI/µVIT)
SiteOmat	Gasboy's station controller software
TTCU	Tanker Truck Controller Unit (fueling controller installed on tanker truck)
µVIT	Micro Vehicle Information Transceiver
VIT	Vehicle Information Transceiver
VIU	Vehicle Identification Unit (VIU3/35/45)
WGT	Wireless Gateway

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.