

Field management Unit 2 – User manual

FIELD MANAGEMENT UNIT 2 (FMU2) USER MANUAL



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1 INTRODUCTION

Field Monitoring Units 2 (FMU2's) have an operating frequency of 433.92 MHz. There are two encryption methods for the FMU2 firmware, one for Premier Geografix Ltd (PGL) Personal Identity Devices (PIDs) and Site Monitoring Units (SMUs) and the other for iSecuretrac PIDs and SMUs. The firmware version number provides the differentiation.

- PGL version numbers are 1.nn
- iSecuretrac version numbers are 2.nn.

(See Section 2.9 for an explanation).

There are firmware variants for the United Kingdom, Italy, Australia (other than Wooraloo), Wooraloo and Austria. The Italian variant can be in English or Italian. (See Section 2.9 for an explanation).

The FMU2's are configured either for use by Field Monitoring Officers (FMOs) or for test Engineers. (See Section 2.9 for an explanation).

PGL Personal Tracking Devices (PTDs) and Repeaters can only be configured using a FMU2, not by a Psion Workabout FMU.

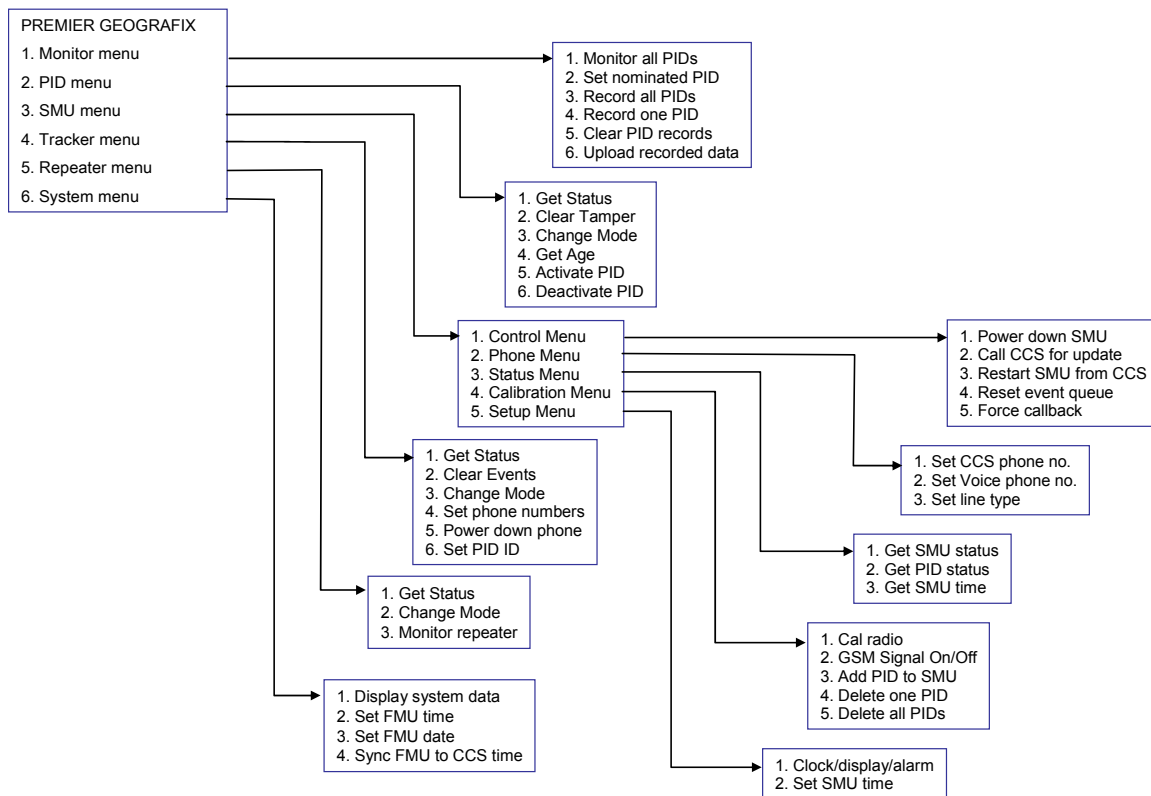


Figure 1 FMU2 Field Monitoring Officer's Menu Structure

1.1 FMU2 Top View



Figure 2 Top View

1.2 FMU2 Bottom View

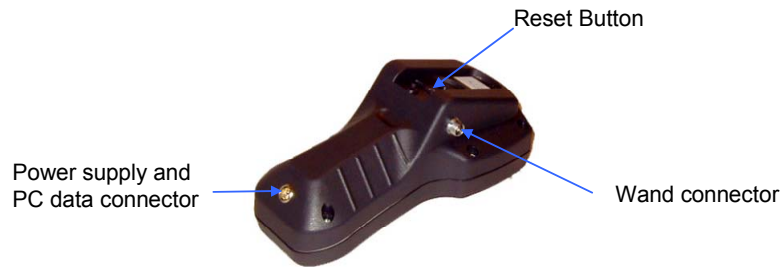


Figure 3 Bottom View

1.3 FMU2 End View



Figure 4 End View

FCC Compliance

WARNING: Changes or modifications to the transmitter not expressly approved by the manufacturer could void the user's authority to operate this RF device.

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


1.4 FMU2 Keypad


The FMU2 functions and operations are called and controlled from the keypad.


To switch the unit on press the I/O key and if required enter the password number.


Menu items are selected by pressing the appropriate key.

The 'Esc' key is used to abandon an operation or to 'escape' to the next menu up.

The red  key is the panic button and performs the same function as the panic button on a MOT. To operate the panic function the button must be held down until the red LED has come on.

Pressing the contrast/backlight key  will increase the display contrast. If the screen is too dark, press this key repeatedly until the display goes blank and keep pressing repeatedly until the required contrast is obtained.

Pressing the  key followed by the contrast/backlight key will turn the display backlight on. Pressing this key sequence again will turn the backlight off. If the backlight is left on, it will automatically switch itself off after 10 minutes.

The  key on its own is the backspace key for all menus.

The I/O key will switch the unit off if the power supply is not connected. If the power supply is connected, the unit will charge the main internal battery.

Communication to a SMU or GSMU is via the Infrared (IR) window on the end of the unit in exactly the same way as the Psion Workabout based FMU.

Communication to a PID can be via the IR window or via an IR wand



Figure 5 Keypad

2 MENUS

2.1 Password Menu

When this screen is displayed, key in the password and press the Enter key.
As the password is entered, stars appear on the screen.

Following successful entry of the password, the main menu will be displayed.

If more than 30 minutes has elapsed since it was last entered, when the main menu is re-accessed, it will need to be re-entered.

PREMIER GEOGRAFIX
Enter password

2.2 Main Menu

Pressing a key from 1 to 6 will activate the appropriate menu or function, e.g. pressing key 2 will bring up the PID menu or pressing key 6 will bring up the FMU2 system menu.

PREMIER GEOGRAFIX

1. Monitor menu
2. PID menu
3. SMU menu
4. Tracker menu
5. Repeater menu
6. System menu

2.3 Monitor Menu

Pressing key to will put the FMU2 into monitor mode. All PIDs or an individual PID may be monitored and/or recorded. Recorded PID data may be uploaded to a PC.

MONITOR PIDS
Monitor all PIDs

1. Set nominated PID
2. Record all PIDs
3. Record one PID
4. Clear PID records
5. Upload recorded data

2.4 PID Menu

To use the FMU2 to configure a PID the IR window on the FMU2 must be aligned with the IR window on the PID or a wand must be used.

The functionality of this menu is the same as the Psion Workabout PID menu with the exception of items 5 and 6. Pressing key 5 will place a PID in Active mode, clear the PID tampers and display the PID status. Pressing key 6 will place the PID in Dormant mode and display the PID status.

PID MENU

1. Get Status
2. Clear Tamper
3. Change Mode
4. Get Age
5. Activate PID
6. Deactivate PID

2.5 SMU Menu

The functionality of this menu is the same as the Psion Workabout SMU menu

SMU MENU

1. Control Menu
2. Phone Menu
3. Status Menu
4. Calibration Menu
5. Setup Menu

2.6 SMU Sub Menus

2.6.1 SMU Control Menu

The functionality of this menu is the same as the Psion Workabout SMU control menu.

'Power down SMU' will only power down a SMU if the SMU mains supply is disconnected.

'Restart SMU from CCS' and 'Reset event queue' required confirmation from the keypad before the action is completed.

SMU CONTROL MENU

1. Power down SMU
2. Call CCS for update
3. Restart SMU from CCS
4. Reset event queue
5. Force call back

2.6.2 SMU Phone Menu

The functionality of this menu is the same as the Psion Workabout SMU phone menu.

Setting the CCS or voice number requires the number to be entered from the keypad. Pressing the ▲ key will delete the last digit entered. If the first key pressed is ▲ followed by 'Enter', the number entered will be blank. Setting line type to 'Shared' or 'Dedicated' and 'Tone' or 'Pulse' may be done by pressing key 3 and then toggling between the two options with keys 1 and 2.

SMU PHONE MENU

1. Set CCS phone no.
2. Set Voice phone no.
3. Set line type

2.6.3 SMU Status Menu

The functionality of this menu is the same as the Psion Workabout SMU status menu.

SMU STATUS MENU

1. Get SMU status
2. Get PID status
3. Get SMU time

2.6.4 SMU Calibration Menu

The functionality of this menu is the same as the Psion Workabout SMU calibration menu. 'GSM Signal On/Off' displays the mobile phone network signal strength for GSMU's only. Items 4 and 5 in this menu require confirmation from the keypad before the action is completed.

SMU CALIBRATION MENU

1. Cal radio
2. GSM Signal On/Off
3. Add PID to SMU
4. Delete one PID
5. Delete all PIDs

2.6.5 SMU Setup Menu

The functionality of this menu is similar to the Psion Workabout SMU Setup Menu. Note that the FMU2 time should be set to GMT – see Section 2.9 – before setting the SMU time.

SMU SETUP MENU

1. Clock/display/alarm
2. Set SMU time

Pressing key 1 typically displays this dialogue box.

Pressing key 1 again displays a new screen which requests a new brightness level to be entered from the keypad. Type in the new brightness level and press the Enter key.

Pressing key 2 will toggle the alarm from Off to On and back again.

Simarlarly pressing key 3 will toggle the clock display from 12 hour format to 24 hour and back again.

When the SMU configuration is as required press the Enter key to set the SMU configuration.

SMU CONFIGURATION

- | | |
|------------|------|
| Brightness | 25 |
| Alarm | Off |
| Clock | 12hr |
1. Set brightness
 2. Toggle alarm
 3. Toggle clock.

2.7 Tracker Menu

This menu is used to configure the Personal Tracking Device (PTD). Note that the PTD power supply/charger unit must be connected to the PTD before using the FMU2 in this mode.

Pressing key 1 will read the PTD status which will look similar to this.

The ID displayed is the PID ID that the PTD is monitoring.

The Status is the PTD status and it should display three short bars as shown. If a 'B', 'C' or 'L' (for Battery low, Case open and Light detected respectively) is displayed instead of one of the bars the PTD should be replaced.

The Mode is the mode of the PTD.

The Version is the firmware version of the PTD.

Pressing key 2 will clear any stored events in the PTD.

Key 3 is used to place the PTD into Dormant or Active mode.

Key 4 is used to

read and set the CCS data number,

read and set the Monitoring Centre voice number

read the PTD version data.

Key 5 is used to power down the PTD. This action requires confirmation. Following confirmation the charger should be disconnected from the PTD and after about 30 seconds, the PTD should power down.

Key 6 is used to enter the ID of the PID to be monitored.

TRACKER MENU

1. Get Status
2. Clear Events
3. Change Mode
4. Set phone numbers
5. Power down phone
6. Set PID ID

TRACKER STATUS

ID	: 82666
Status	: - - -
Mode	: Dormant
Version	: 1.19

2.8 Repeater Menu

This menu is used to configure the RF Repeater.

REPEATER MENU

1. Get Status
2. Change Mode
3. Monitor repeater

Pressing key 1 will read the Repeater status. The ID is the ID of the Repeater. The Status should be followed by 11 short bars. If any of the following appear in place of the bars - P,M,C,L,B,R1,R2,A1,A2,J1,J2, they have the following meaning:-

P	Mains power disconnected
M	The unit has been or is moving
C	The case has been tampered
L	Light ingress to the case
B	The battery charge is low
R1	Radio 1 failure
R2	Radio 2 failure
A1	Antenna 1 tamper
A2	Antenna 2 tamper
J1	Radio 1 jammed
J2	Radio 2 jammed

REPEATER STATUS

ID	: 1002
Status	: - - - - -
	- - - -
Mode	: Active
Version	: 1.09
Battery	: 11.3V

Pressing key 2 displays the Repeater mode change menu.

REPEATER MODE CHANGE

Currently Active

1. Dormant
2. Active
3. Test Mode
4. Power down

Pressing key 3 will monitor repeaters

2.9 System Menu

Pressing key 5 on the main menu displays the FMU2 System Menu

Pressing key 1 displays the FMU2 system data and includes the firmware version, time, date, the FMU2 ID (which should match the number engraved on the back of the case), the supply voltage, the battery voltage and battery temperature.

1. Firmware will show either OFF for FMOs or ENG for Engineers and UK, IT, AU or WO

UK = United Kingdom

IT = Italy

AU = Australia (except Wooraloo)

WO = Wooraloo

AT = Austria

Firmware version number will be either 1.nn for PGL PIDs and SMUs or 2.nn for iSecuretrac PIDs and SMUs.

2. Time (GMT) Always Greenwich Mean Time irrespective of the current time zone.
3. Date
4. FMU ID serial number, also labelled on the case. If the number is incorrect on the screen display, the probable cause is failure of the internal non-rechargeable Lithium battery. The unit must be returned to PGL for servicing.
5. Vsupply, when on charge >9volts
6. Vbattery approximately 6 volts
7. Batt Temp <50 degrees. If >50 degrees there is an auto-charging shutoff to prevent further temperature rise.

Keys 2 and 3 allow setting of the FMU2 real time clock and this should be set to GMT.

Key 4 allows synchronisation of the FMU2 time to CCS time. It should only be used if the SMU or GSMU is known to have called the CCS.

SYSTEM MENU

1. Display system data
2. Set FMU time
3. Set FMU date
4. Sync FMU to CCS time

SYSTEM DATA

Firmware	OFF UK 1.09
Time(GMT)	15:39
Date	04:05:2005
FMU ID	1022
Vsupply	0.01
Vbattery	6.13
Batt Temp	20.04

3 MISCELLANEOUS

3.1 Internal Battery Charging.

The internal battery may be recharged from the external mains adaptor. To charge the battery, connect the external mains adaptor. The display should show a message indicating that the charger has been connected. If the 'Off' button is pressed, the screen should display a message indicating that the battery is being charged.

NOTE. When the FMU2 is switched off there remains a small current drain on the battery which will flatten the battery over a period of 2 or 3 days - therefore the FMU2 should be connected to the charger when not in use.

There is a low battery indicator in the top right hand corner of the main menu. Following first display of the symbol only 2 minutes usage of the FMU2 can be expected prior to low battery shut down.

3.2 Wand

A wand may be used with the FMU2 in exactly the same way as with the Psion Workabout based FMU.

3.3 Uploading Monitor Data to a PC

Recorded monitored PID data will be stored in the unit until all PID records are cleared using Monitor Menu item 5 – Clear PID records.

Recorder PID data may be uploaded to a PC, (9600 baud, 1 start bit, 1 stop bit, no parity, no handshaking) by using monitor menu item 6 – Upload recorded data.

3.4 External Radio Antenna


An external radio antenna may be used with the FMU2 in exactly the same way as with the Psion Workabout based FMU.

3.5 Reset Switch

There is a reset switch on the back of the unit. It may be accessed through a small hole in the centre of the FCC label. In the event that the FMU2 fails to respond to any key presses, press the reset switch with a small pointed object e.g. a ballpoint pen tip. If the unit is still inoperative, return it to PGL for repair.

3.6 MOT Function

The FMU2 has MOT functionality. The FMU2 will transmit MOT message per two minute while switched on and will continue to transmit once every two minute for one hour after being switched off.

The red  button is the panic button and if pressed for 2 seconds will send a panic message to an SMU.

Federal Communication Commission Interference Statement

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 of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.