

bf1systems Ltd

TPMS – Mini Analyser

Quick Start Guide

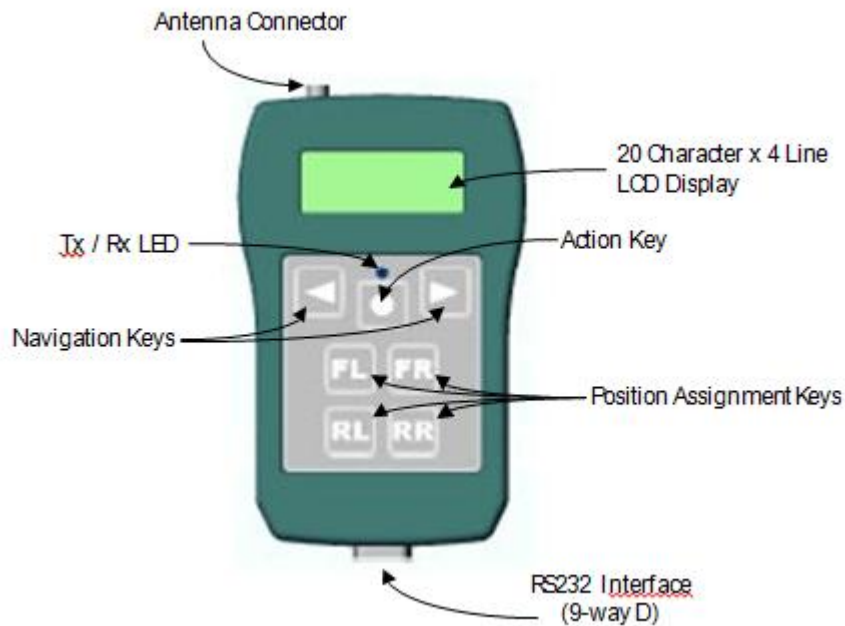


F1-100-1451-001 – 433MHz

F1-100-1451-002 – 315MHz

Version – 3.08

# 1 Analyser Overview – Button Functionality





## 1.1 Action Key

The Action Key is used to select menu options and to scroll through selection items. The Mini Analyser is also powered on and off using the Action Key.





With the unit powered off, pressing and holding the Action Key will cause the unit to turn on. Depending upon configuration settings the unit will display either the last page used or the main menu.

The unit can be powered off from any screen by pressing and holding the Action Key.

## 1.2 Navigation Keys

The Navigation Keys   are used for moving between screen display pages, and also for the selection of fields within pages having multiple selectable items.

## 1.3 Position Assignment Keys

The position assignment keys     are used to allocate sensors to given wheel positions as required for the generation of wheel position and set data. Pressing a position assignment key immediately after the reception of a LF triggered datagram will allocate the responding sensor to the selected position within the internally generated position (.pos) file. If a full set of wheel sensors is learned consecutively then the user is prompted to assign the sensors as a wheel set. Position files generated within the Mini Analyser can be uploaded to a PC and then transferred to the TPMS ECU.

## 1.4 Shortcuts

A number of keypad shortcuts are available to activate commonly used functions. These shortcuts operate from any Mini Analyser display page.

## 1.5 Backlight

Simultaneously pressing the Navigation Keys   toggles the display back light on and off.

## 1.6 Setup Menu

Simultaneously pressing the Left Navigation Key and the Action Key   causes the analyser to enter the Setup Menu.

## 1.7 Clear Set / Clear Positions

Simultaneously pressing the Position Assignment Keys will **FL FR** cause the Mini Analyser to clear any partially learned set data held in temporary store. A splash screen is displayed to indicate the action has taken place.

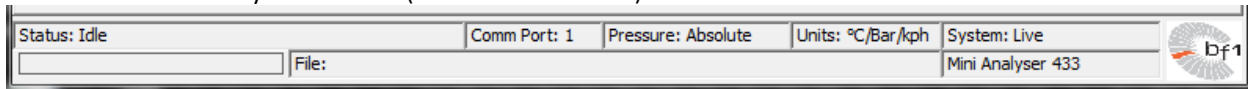
Simultaneously pressing the Position Assignment Keys **RL RR** will cause the Mini Analyser to clear all position and set data held within the unit. A splash screen is displayed to indicate the action has taken place.

## 2 Permit List Upload

Before the Mini Analyser can be used it is a requirement that a permit list be loaded into the unit. bf1systems provide a permit list whenever new wheel electronics are supplied. A permit list is transferred to the Mini Analyser using the PC DigiTyre utility in the same manner for sending permit lists to the TPMS ECU on the car.

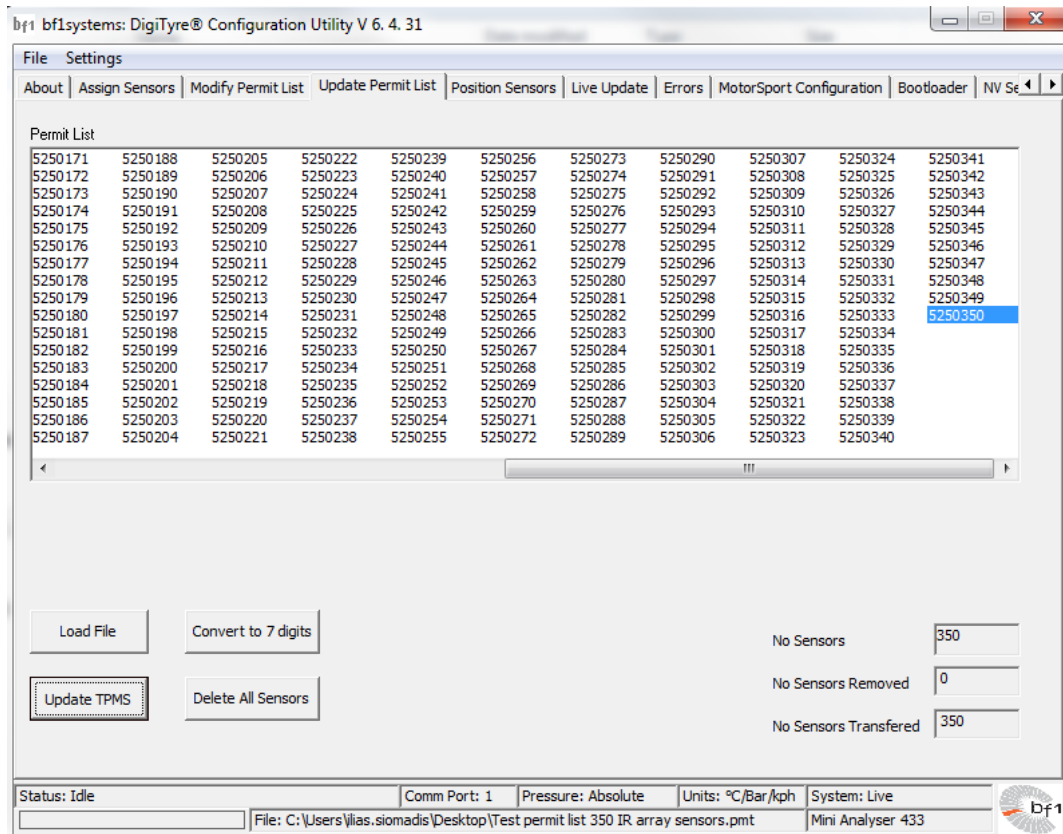
To connect the Mini Analyser to the PC software (DigiTyre Utility) follow the steps below:

- Physically, connect the unit to the PC via an RS-232 cable
- Power it on using the Action Key (see 2.3.1)
- Run the DigiTyre utility. The Mini Analyser should be automatically connected via Comm Port 1. Also the software notifies the user that the System is “Live” (see screenshot below).



The Mini Analyser will only recognise and display sensors contained within the loaded permit list. The use of permit lists prevents other system owners interrogating sensors not belonging to them.

To load a permit list into the Mini Analyser, it should be connected to the PC. Using the < Update Permit List> page of the DigiTyre utility the permit file (.pmt) is written to the analyser using the < Update TPMS> button at the bottom of the page.



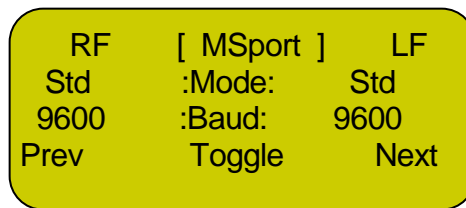
Where ever possible bf1systems load a customer’s latest permit list prior to delivering a new Mini Analyser.

### 3 Setup Channel Config

The channel config options page allows the user to configure the Mini Analyser for different generations of bf1systems wheel sensors. Changing this option affects the display pages of the < RF Receive> functions. Pressing the < Ok> button at the < Setup Channel Config> page will enter the < Channel Config> options page.



Pressing the < Down> button whilst in the < Setup Channel Config> page will move to the < Setup Units> page. Pressing the < Up> button whilst in the < Setup Channel Config> page will move to the < Setup Contrast> page.



Pressing the < Toggle> button cycles between the different types of wheels sensors that bf1systems manufacture.

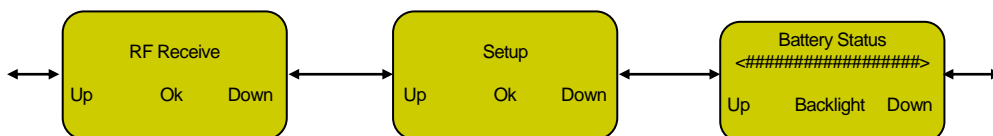
- Roche – Pharmaceutical application
- IR – Single point IRTPTMS sensor
- 5PIXEL – 5 points IRTPTMS sensor
- 5ChWTS – 5channel rim temperature sensor
- MSport – TPMS sensor
- Auto – Not efficient due to the number of LF commands/RF data to encode/decode

Note: For V8 Supercars, “MSport” should be selected.

Once the required value has been set, holding down the Left Navigation Key returns to the < Setup Channel Config> page.

### 4 RF Receive Menu – LF Setup

Depending on what state the Mini Analyser starts up in, press and hold the left hand arrow to return to the top level menu, when you will see one of the screens shown below.



Press and release the left hand arrow until the <RF Receive> screen is selected, then press and release the centre button to enter the RF Receive sub-menu. The first page you will enter onto is the individual sensor display.

The individual sensor display provides information regarding a single sensor. The Mini Analyser can be configured to display data selectively based on the reported sensor mode, or to display data from any sensor that is received. This display page also provides a facility to transmit selected LF codes and the means of allocating position and set data.

```

4005294      BatOk  110
0.073bar     STAT   51h
G1 19C      0   A R H M L
Up           Tx:All  Down

```

- 4005294 - ID of received sensor
- BatOk 110 - Sensor battery lifetime countdown (it starts at 120 and counts down with each internal process)
- 0.073bar - Uncompensated sensor pressure, bar/psi, gauge/abs set via <Setup Units> (see 2.7.1)
- STAT 51h - Sensor operating mode
- G1, G2, G3 - Sensor generation
- 19C - Sensor temperature reading, C/F selected via <Setup Units> (see 2.7.1)
- 0 - Sensor CRC
- ARHML - Sensor mode flags
  - A – Auto transmit (no LF)
  - R – Roll switch active (moving)
  - H – Hardware error
  - M – Measurement error
  - L – LF triggered transmission

Pressing and releasing the centre key will cause the Mini Analyser to transmit the configured LF code. The LF settings are configured via the <LF Setup> page. To enter the <LF Setup> page, hold down the right hand arrow.

The <LF Setup> page is used to configure the LF transmission of the Mini Analyser.

```

[ Trig : Always (3)      ]
  LF Trig
  Gate Timeout:Off
Prev      Toggle      Next

```

The <LF Setup> page should be set up as shown above. Once this is done, press and hold the left hand arrow key to return to the <RF Receive> page.

With the <RF Receive> page selected, place the Mini Analyser within 30cm of a TPMS wheel sensor and press and release the centre button to LF Trigger a wheel sensor and have the data from that wheel sensor displayed on the Mini Analyser's screen like the one below.

```

5250125      BatOk  110
T3= 45.5C    AMB= 22.1C
5PX
Up           Tx:All  Down

```

- 5250125 - ID of received sensor
- BatOk 110 - Sensor battery lifetime countdown (it starts at 120 and counts down with each internal process)
- T3= 45.5C - IR Tyre Temperature (single for the IR sensor or PIXEL3 for the 5PX). Rim temperature at point 3 when the 5ChWTS sensor is being used.
- AMB=22.1C - Ambient temperature of the IR element. C/F selected via <Setup Units> (see 2.7.1)
- 5PX - Sensor generation

Pressing the < Up > or < Down > buttons navigate through to other <RF Receive> sub-menus to check other data transmitted from the triggered sensor.