RDS 200
Drill Control System

RDS Part No.:	S/DC/500-10-XXX
Document Issue:	1.2
Software Issue:	GW107-001rev04

Electromagnetic Compatibility (EMC)

This product complies with Council Directive 2004/108/EEC when installed and used in accordance with the relevant instructions.

IMPORTANT! READ THIS BEFORE USING THE RDS 200 SYSTEM

The RDS 200 installation is a part of the Precision Farming System ("the System"). It is very important that you follow the described calibration procedures before operating the RDS 200 instrument. Calibration and operation of the RDS 200 must be in accordance with these instructions. Use of the System is subject to the following disclaimer;

1. So far as is legally permissible RDS Technology ("RDS"), or its distributors, shall not be liable, whatever the cause, for any increased costs, loss of profits, business, contracts, income, or anticipate savings or for any special, indirect or inconsequential damage whatsoever (death or personal injury excluded).
2. The capabilities and functions of the Precision Farming System ("the System") are limited as set out in the specification of the System, details of which are contained in the Help files and product literature and which must be read before using the System.
3. Without prejudice to the generality of the above it is hereby acknowledged that the System is not designed nor intended to a) originate variable treatment plans or b) achieve or avoid any application rate outside application parameters, which in both cases shall be the responsibility of the operator.
4. The standard terms and conditions of RDS (except clause 7), a copy of which is available on request, apply to the supply and operation of this System.

Service and Technical Support

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Our policy is one of continuous improvement and the information in this document is subject to change without notice. Check that the software reference matches that displayed by the instrument.

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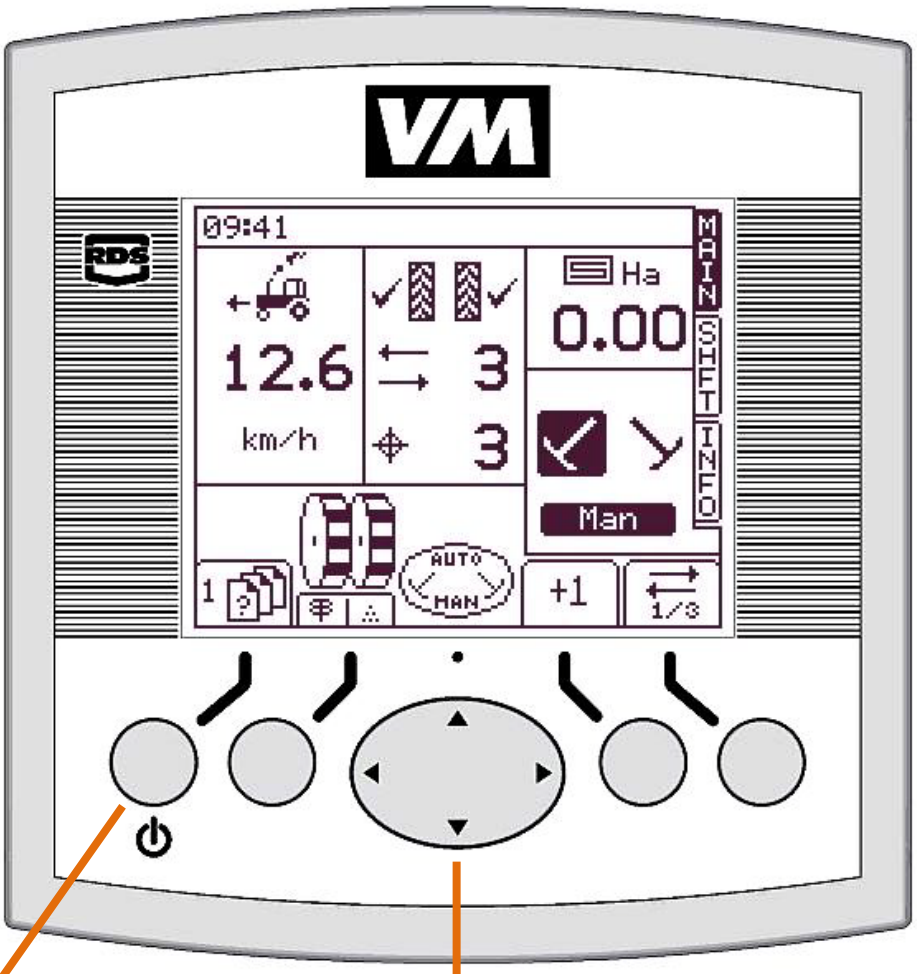
1. Operation

1.1 Instrument

The instrument has the main function buttons along the bottom of the screen. It also has a mufti-directional keypad in the centre, which is used for scrolling and selecting items within a menu.



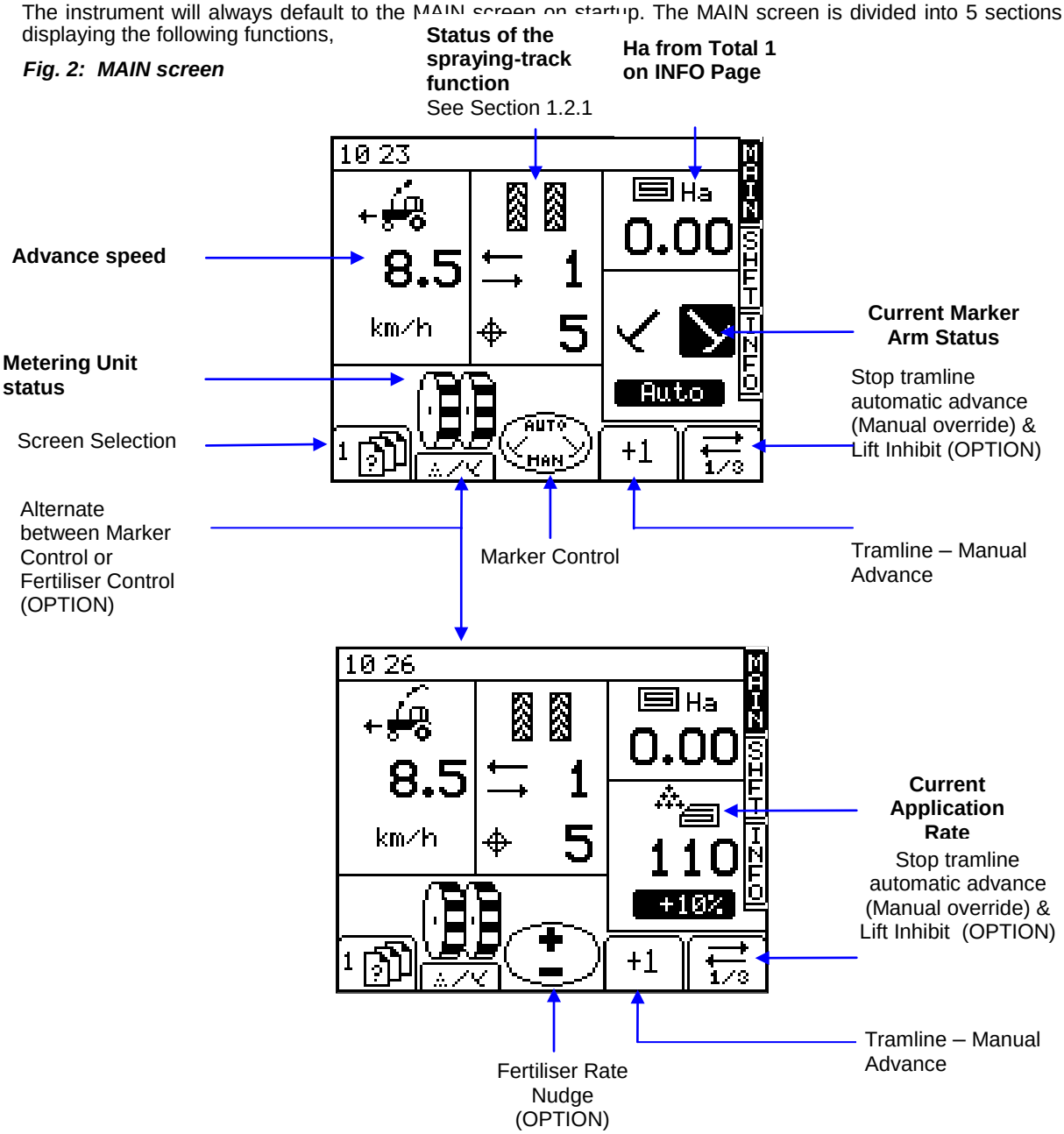
Power Button/Menu Select
Push and hold this button for 3 seconds to power the instrument down. Press once to scroll to the next page.

Directional Keypad
Keypad contains 4 buttons, Up, Down, Left & Right. These are used for selecting menu items or as identified on the screen.

1.2 MAIN screen

The instrument will always default to the MAIN screen on startup. The MAIN screen is divided into 5 sections displaying the following functions,

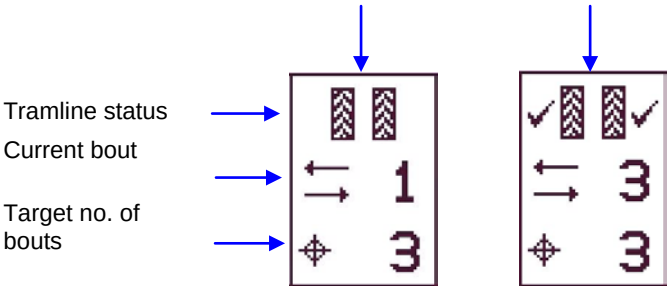
Fig. 2: MAIN screen



1.2.1 Tramlining status/functions

The MAIN screen shows the current status of tramlining.

Tramline status - Off On



1.2.2 Advancing the bout number

On starting up the instrument the tramline sequence always starts at '1'.

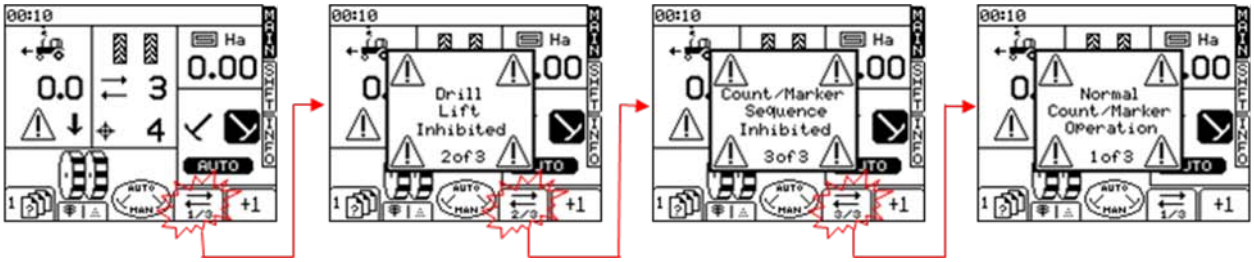
If necessary, press the +1 key to select the correct current bout number, e.g. if entering work on a bout other than bout 1 of the tramline sequence.

1.2.3 Holding the bout number

Press the key to hold the current bout number (e.g. to prevent the bout no. advancing if it is necessary to take the drill out of work, or depending on the drill setup - lift a marker, to negotiate a field feature).

This icon indicates that the bout no. is held. Press the key to resume normal bout advance.

If the 'Lift Inhibit' function is enabled then this will function in a slightly different manner (OPTION)



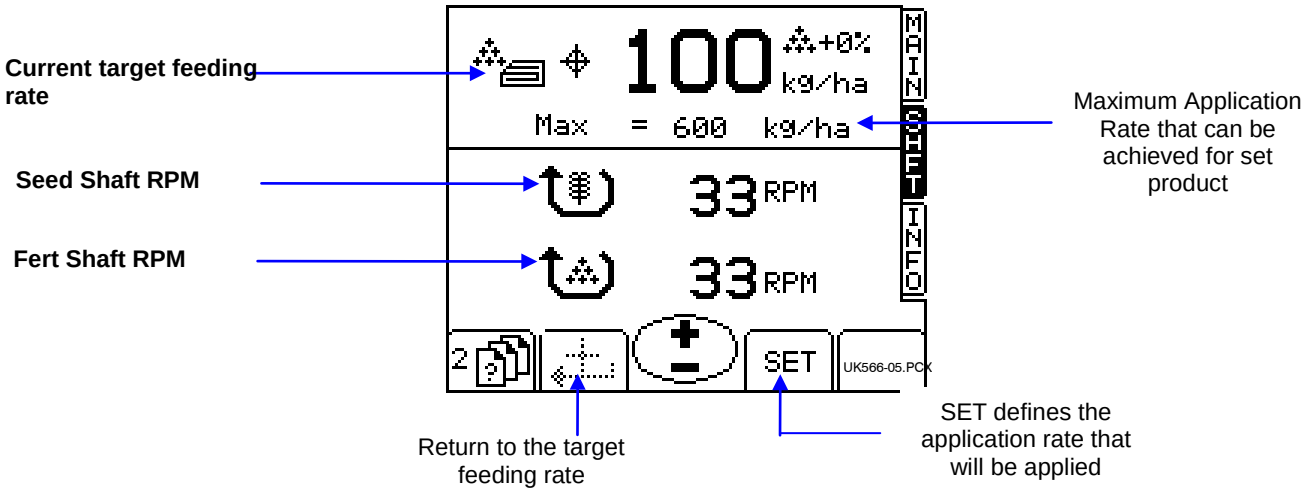
This enables the marker arms to be folded in to avoid an obstacle without the system counting on for the next tramline bout. This button can then be pressed again to return to the usual sequence counting operation.

NOTE: The tramlining sequence is set up via the SETUP page (ref. section 2.5).

1.3 RATE screen

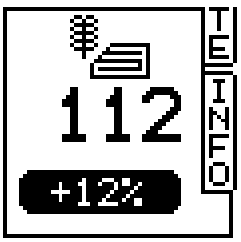
This screen allows the application rate of fertiliser to be adjusted. (OPTION)

Fig. 6: RATE screen



1.3.1 Setting /overriding the target rate

To set the target rate, simply enter the value and press the ENTER key to confirm.



The application rate on the MAIN screen is the same as that shown on the RATE screen above. If the value set in the RATE view has been manually adjusted over or

below the target seeding rate, the figure on the display will be flashing (1 second on, 0.5 seconds off).

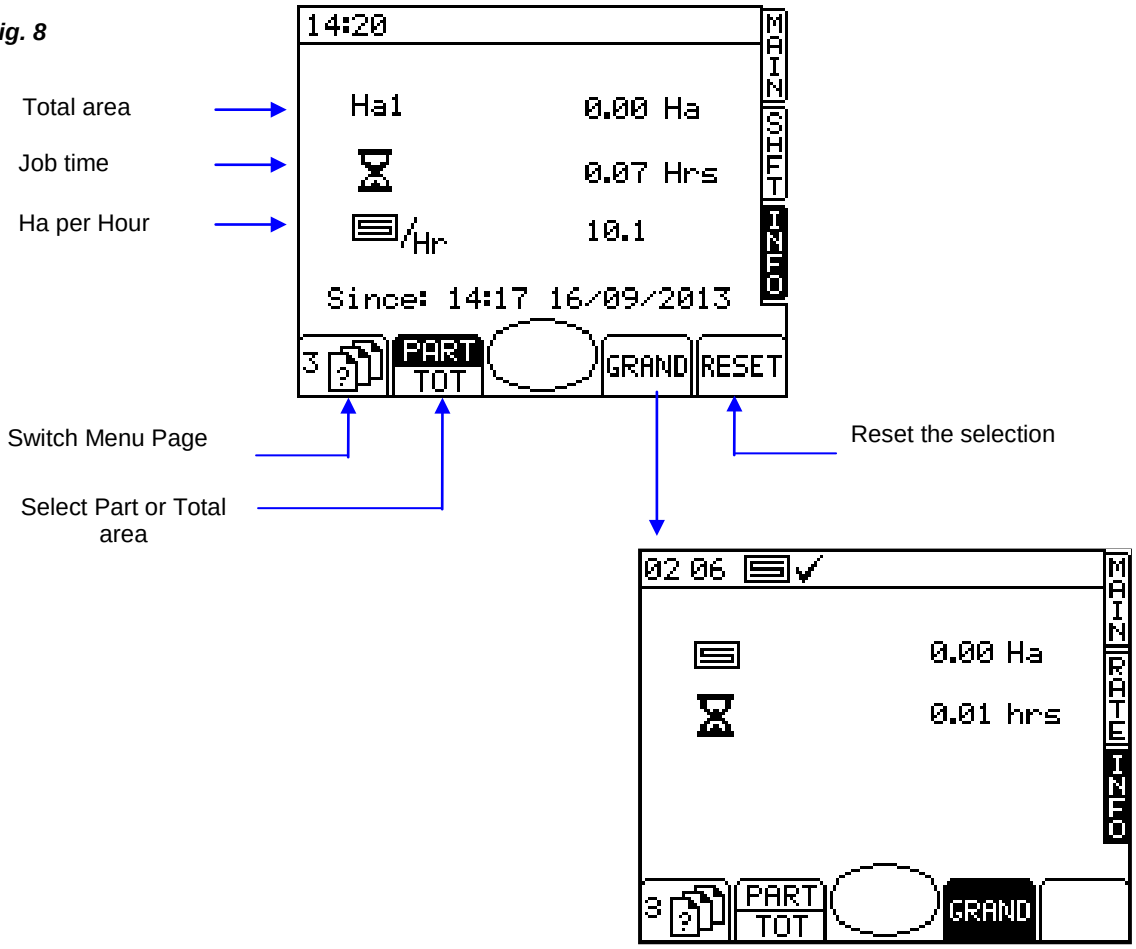
To override the target rate, use the keys. The % step is configured from the SETUP menu.

To return to the target rate, press the key.

NOTE! Above a forward speed threshold of 2km/h and when the implement is switched into work, the rate can also be conveniently "nudged" up or down by the preset % step, via the centre button on the MAIN screen display.

1.4 INFO view

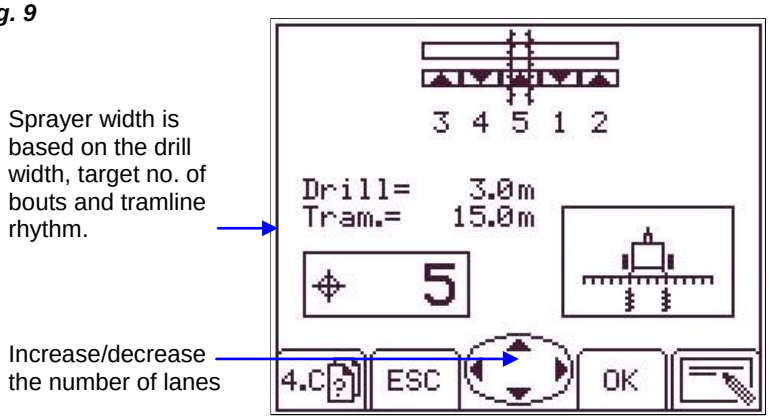
Fig. 8



1.5 Tramlining

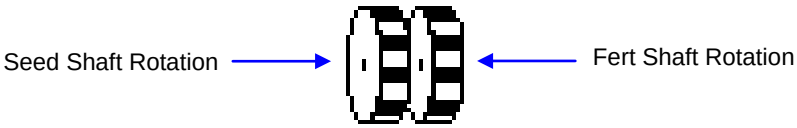
To set the desired tramline rhythm, select the SETUP screen and press the key. 

Fig. 9



1.6 Metering Roll Status

The Seed and Fertiliser metering unit shafts are visible on screen and rotate when they are receiving pulses. When on a Tramline Bout the Metering Rolls will not be rotating.



If the pulses are being received when they should not be then the system will alarm.

1.7 Calibration of the remote control for fertiliser (OPTION)

1.7.1 Initial product calibration

Set up the drill in the usual way for a bucket test.

a. From the SETUP screen, select 1. PRODUCT CALIBRATION

Confirm the area, that you will be using for the calibration test, by depressing OK.

Rotate the metering unit until a beep is heard or the screen displays 0.000Ha, this will then have allowed the actuator to move to the correct position.

Rotate the calibration test cam until a long beep is heard to signify that the required area has been reached. Weigh the fertiliser that has been dispensed in to the metering tray and enter this on to the weight entry page.

This test can then be repeated to ensure accuracy.

Fig. 12

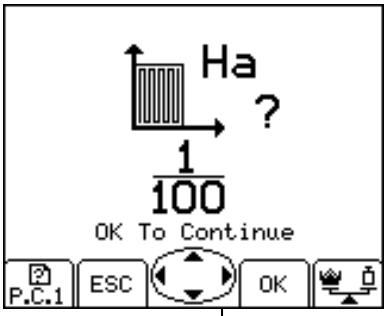


Fig. 13

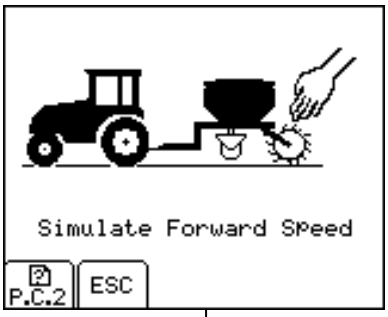


Fig. 14

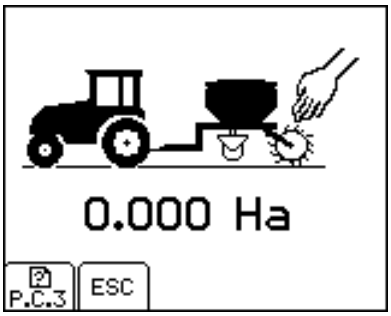
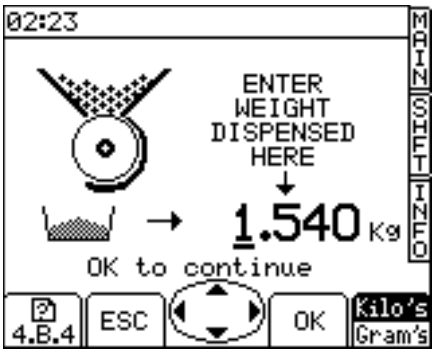
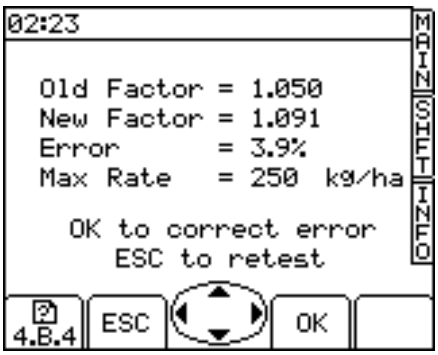


Fig. 15



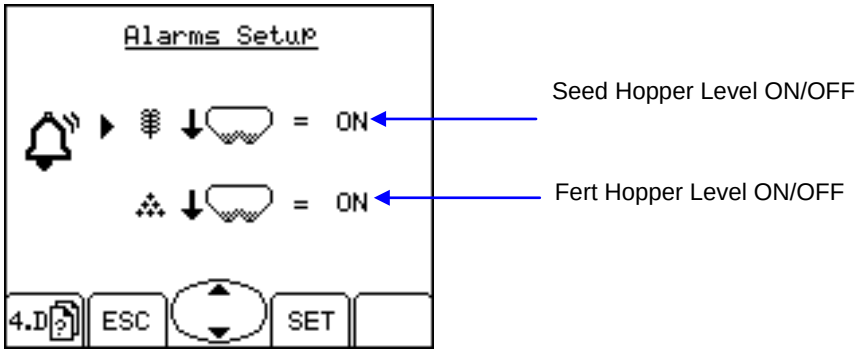
3. Press ENTER again to confirm and store the new calibration factor, or press ESC to return to the SETUP menu screen.



1.8 Alarm settings

To view the alarm settings (fig. 19), from the SETUP menu, press the key.

Fig. 19



To activate/deactivate the alarms, use the arrow keys and press the OK key.

1.9 Setting the feeding rate step in % for the remote control for fertiliser

From the SETUP screen, select '1 User Setup' then '2. Customise'.

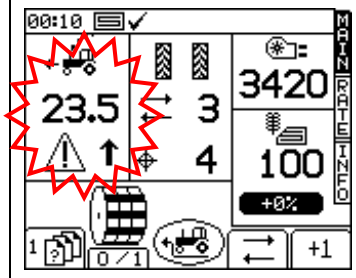
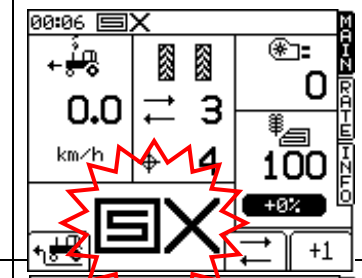
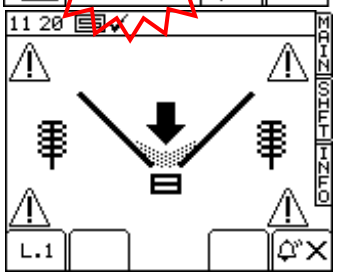
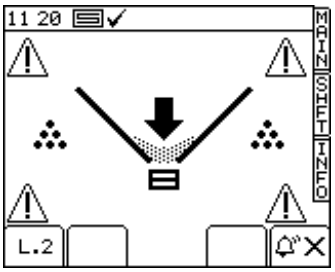
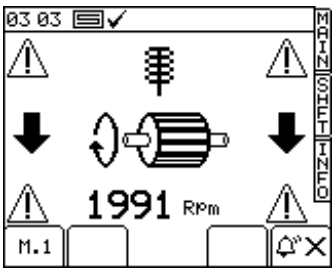
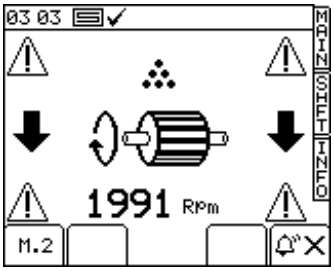
Fig. 23

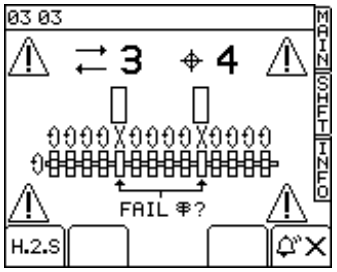
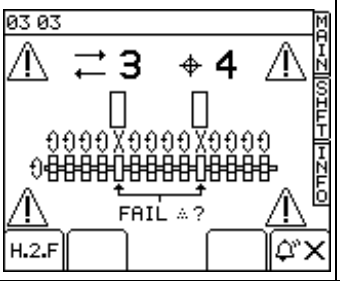
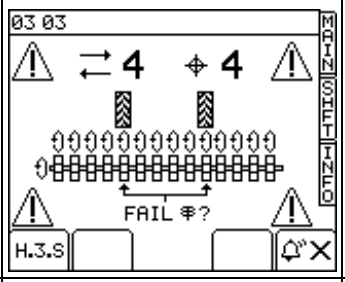
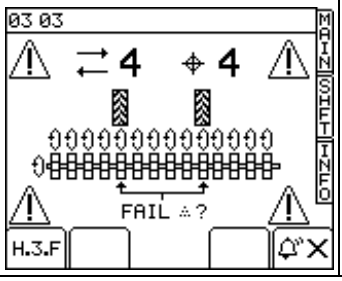
Use the UP/DOWN arrow keys to select the parameter.

Use the LEFT/RIGHT arrow key to select the units (kg/ha or seeds/m2).

Use either the LEFT/RIGHT arrow keys to adjust the rate, or simply enter the desired figure using the keypad and press ENTER to confirm.

2 Alarm Codes

Code	Reason	Display	Checklist
-	**High forward speed** Forward speed exceeds the maximum calculated and displayed on the RATE screen		• Check the Target application rate is as required. • Check that the Calibration factor realistic. • Adjust metering unit and recalibrate, which will increase kg/rev factor and therefore increase maximum achievable forward speed.
-	**Area cut-out** Flashes up for 1 second every 3 seconds when system is 'out of work'		• Check the drill is still lifted. • Operating logic not set correctly. • Check the wiring between sensor and connection box is correct. • Check the wiring between connection box and CAN module is correct.
L.1	**Hopper Seed level is low**		• Seed level is low. • Check the level sensor is functioning correctly. • Check the wiring between sensor and connection box is correct.
L.2	**Hopper Fert level is low**		• Hopper Fert level is low • Check the level sensor is functioning correctly. • Check the wiring between sensor and connection box is correct.
M.1	**Seed Shaft speed low/high**		• Seed shaft is at incorrect speed
M.2	**Fert Shaft speed low/high**		• Fert shaft is at incorrect speed

Code	Reason	Display	Checklist
H.2.S	**Tramline Seed Clutch Fail**		• Seed shaft pulses are not being received while not on a tramline bout. • Check the shaft is rotating • Check the sensor • Check the wiring
H.2.S	**Tramline Fert Clutch Fail**		• Fert shaft pulses are not being received while not on a tramline bout. • Check the shaft is rotating • Check the sensor • Check the wiring
H.3.S	**Tramline Seed Clutch Fail**		• Seed shaft pulses are being received while on a tramline bout. • Check the shaft is not rotating • Check the sensor • Check the wiring
H.3.F	**Tramline Fert Clutch Fail**		• Fert shaft pulses are being received while on a tramline bout. • Check the shaft is not rotating • Check the sensor • Check the wiring