



AMAPAD

This operating manual is valid from software version: 3.23

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About this operating manual



CMS-T-00000344-A.1

1

Meaning of the operating manual

CMS-T-00000180-B.1

The operating manual is an important document and a part of the electronic product.

1. Before starting work, read and observe the respective sections of the operating manual.
2. Keep the operating manual in a safe place.
3. Keep the operating manual available.
4. Hand over the operating manual to the next user.

2

Other applicable documents

CMS-T-00000346-A.1

- Operating manual for the GPS receiver
- Operating manual for the implement software

3

Utilised depiction

CMS-T-00000347-A.1

3.1 Notes

CMS-T-00000348-A.1



NOTE

Practical tips and instructions help to make optimal use of all the implement functions.

3.2 Instructions

CMS-T-00000473-A.1

Numbered instructions

CMS-T-005217-A.1

Actions that have to be performed in a chronological sequence are represented as numbered instructions. Always observe the sequence of the instructions. The reaction to the respective action is marked with an arrow.

1. Action 1

➡ Implement reaction to Action 1

2. Action 2

Instructions with alternative action

CMS-T-00000110-A.1

Alternative instructions are introduced with the word "or".
Example:

1. Action

or

Alternative action

2. Action

Instructions with only one action

CMS-T-005211-B.1

Instructions with only one action are not numbered, but rather shown with a tilted arrow.

- ▶ Action

Instructions without sequence

CMS-T-005214-B.1

Instructions that do not require a specific sequence are shown as a list with tilted arrows.

- ▶ Action

- ▶ Action

- ▶ Action

3.3 Lists

CMS-T-00000350-A.1

Lists are used, for example, to show different selection options. Entries in lists are introduced with points.

Example:

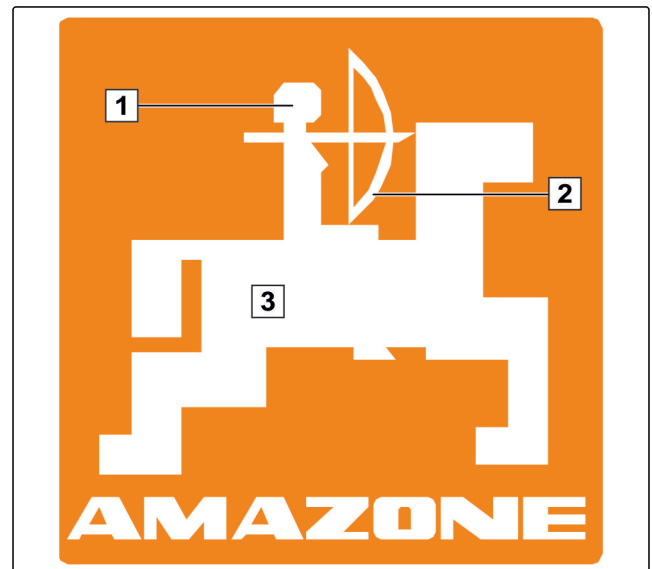
- Entry 1
- Entry 2
- Entry 3

3.4 Item numbers

CMS-T-00000351-A.1

Item numbers in the text or in the legend refer to item numbers in figures located beside or above the text. The item numbers in the figures can be connected with item lines.

- 1** Item 1
- 2** Item 2
- 3** Item 3



3.5 Software texts

CMS-T-00000474-A.1

Texts from the software interface, are indicated with straight quotation marks.

Example: *"Setup menu"*

3.6 Orientation paths

CMS-T-00000352-A.1

Orientation paths contain the names of the menus through which the user must navigate to reach the desired menu.

Example: *"Setup" > "Diagnosis" > "Software versions"*

4**Your opinion is important**

CMS-T-00000353-A.1

Dear reader, our operating manuals are updated regularly. Your suggestions for improvement help us to create ever more user-friendly operating manuals. Please send us your suggestions by post, fax or email:

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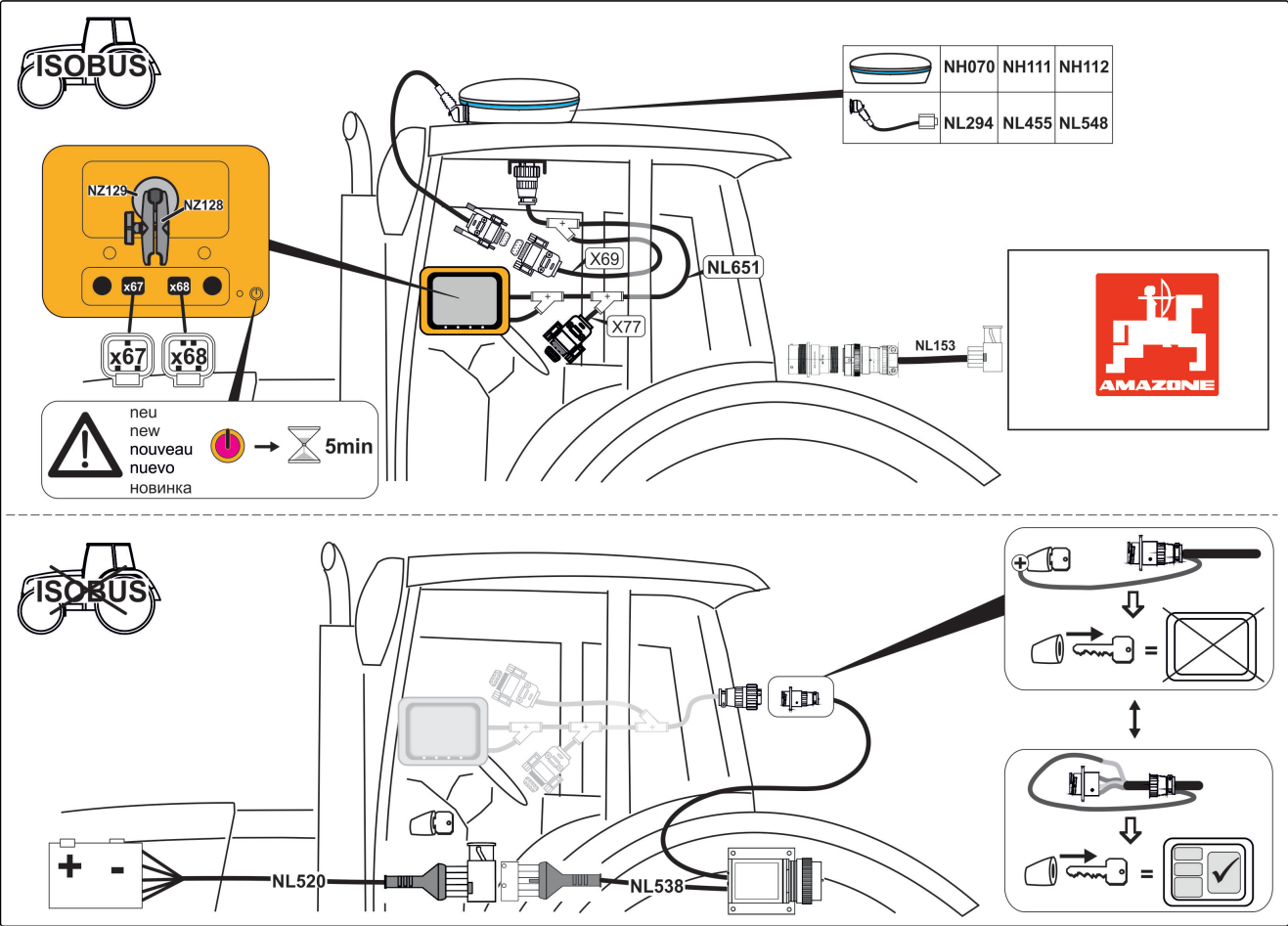
Fax: +49 (0) 5405 501-234

Email: td@amazone.de

Assembly instructions

B

CMS-T-001829-A.1



AmaPad at a glance



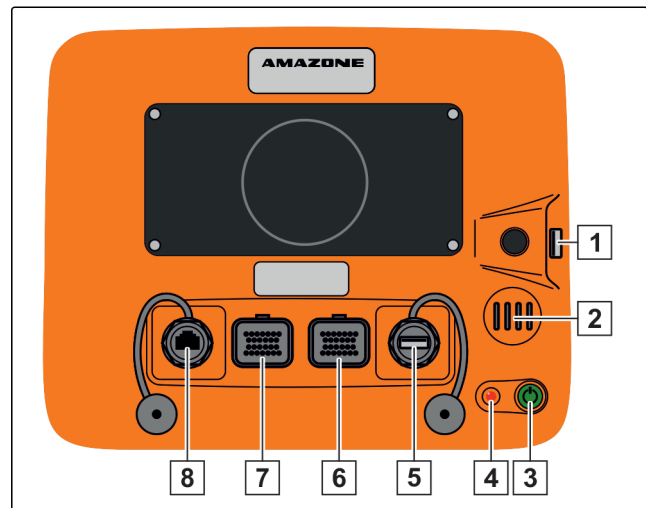
CMS-T-00000471-A.1

1

Connections and buttons

CMS-T-000181-B.1

- 1 USB port, on the side of the AmaPad
- 2 Speakers
- 3 On/Off button
- 4 Reset button
- 5 USB port
- 6 Serial port 2, by default for the GPS output
- 7 Serial port 1, by default for GPS receiver and power supply
- 8 Network connection

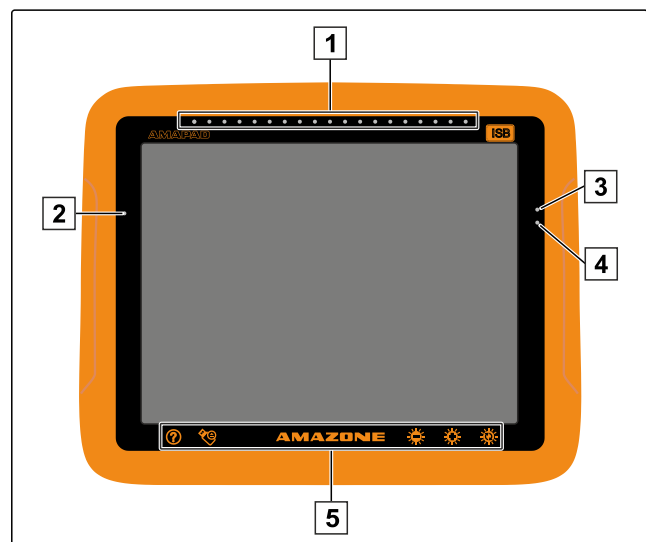


2

Basic buttons and LEDs

CMS-T-000123-A.1

- 1 Lightbar
- 2 Light sensor
- 3 Battery status
- 4 Power supply
- 5 Basic buttons



Basic operation



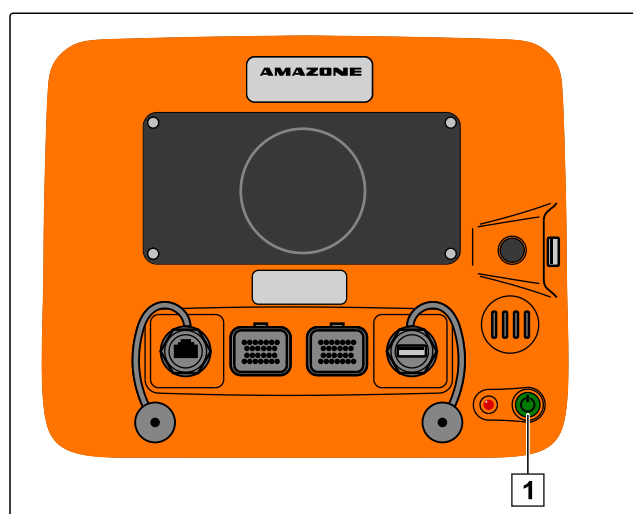
CMS-T-00000019-A.1

1

Switching on the AmaPad

CMS-T-000837-B.1

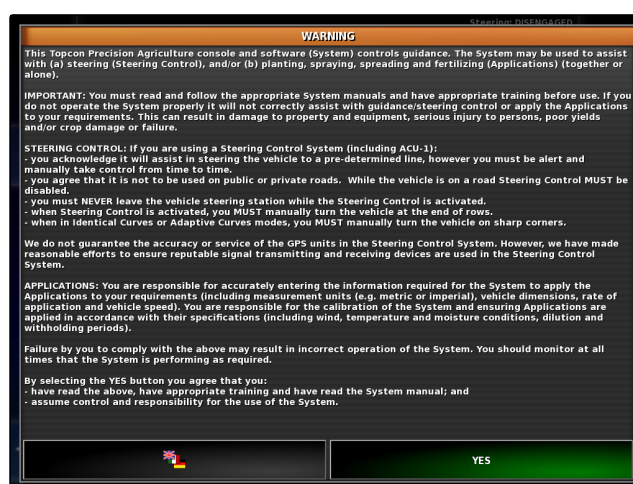
1. Press and hold the green On/Off button **1** on the back of the AMAPAD until the light bar lights up.



➔ The AMAPAD is started.

The language for the warning message and the user interface can be changed directly after starting the AMAPAD.

2. Open the language list with
3. Select the desired language from the list.
4. Confirm with



➔ A confirmation for restarting is shown.

5. Confirm restart with

After the AMAPAD has been started, a warning message containing the terms of use appears. The terms of use must be confirmed before the AMAPAD can be used.

6. Read the terms of use.
7. Confirm the terms of use with "YES".

**NOTE**

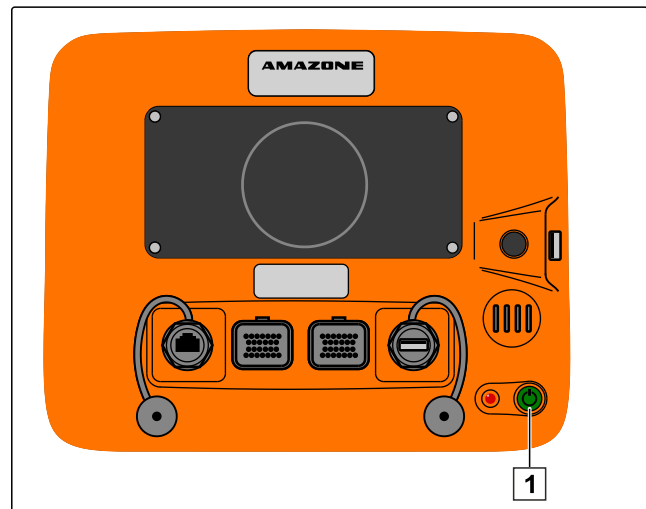
For the following languages, the terms of use must be moved up using the scroll bar before the terms of use can be confirmed:

- Greek
- Lithuanian
- Russian
- Italian


2**Switching off the AmaPad**

CMS-T-000721-B.1

1. Briefly press the green On/Off button **1** on the back of the AmaPad.



➔ A confirmation prompt appears on the display.

2. Confirm with .

➔ The AmaPad is switched off.

3

Resetting the AmaPad

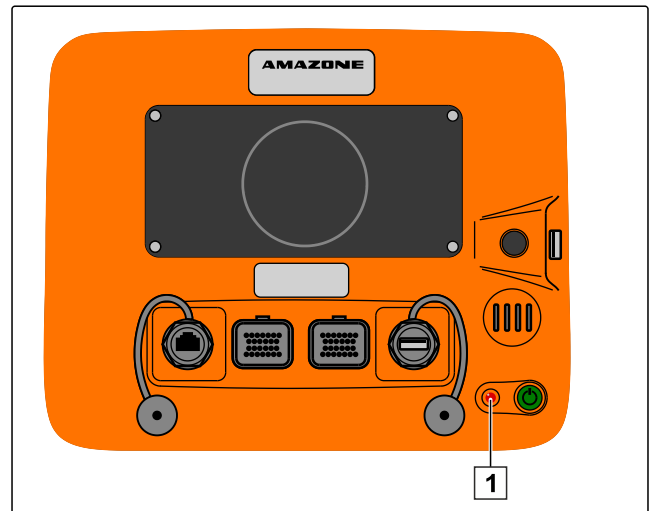
CMS-T-000207-B.1



NOTE

When the AmaPad is reset, all data that is not saved will be lost. Only reset the AmaPad if it crashed or cannot be switched off normally.

- Press the red Reset button **1** on the back of the AmaPad.



➔ The AmaPad is reset and switched off.

4

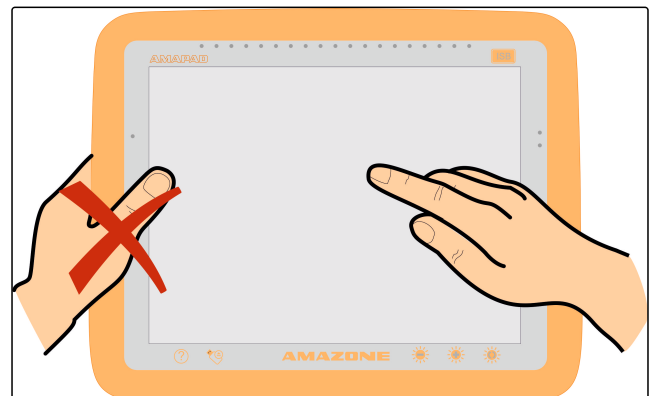
Using the touchscreen

CMS-T-001797-B.1

When operating the touchscreen, please observe the following:

The touchscreen covers all areas within the orange-coloured housing.

- During operation, do not rest your hand on the touchscreen, otherwise the AmaPad will not respond.




5

Using the basic buttons

CMS-T-00000379-A.1





Calling up help

CMS-T-000738-A.1

1. Call up the help function with .
- ➔ Question marks appear beside the buttons on the user interface.
2. Select the question mark.
- ➔ The designation for the corresponding button is shown.

Removing the USB flash drive safely

CMS-T-000734-A.1

1. Safely remove the USB flash drive with .
2. *If a message appears saying that the USB flash drive cannot be removed yet,*
 acknowledge the message with  and then tap on  again.
 or
If a message appears saying that the USB flash drive can be safely removed,
 acknowledge the message with .
3. Remove the USB flash drive.

Using the multi-function button



CMS-T-00000036-B.1

The multi-function button is used to execute 2 functions:

- Take screenshot
 - Use the global start screens
1. *Take screenshots,*
see page 211
 2. *Use the global start screens,*
see page

Setting the brightness


CMS-T-00000005-A.1

- Set the desired brightness level with  or .

Selecting the brightness mode

CMS-T-000736-B.1

The display of the AmaPad has 3 brightness modes:

- Day mode: Brightness is set to 80 %.
 - Night mode: Brightness is set to 20 %.
 - Automatic: Brightness is automatically adjusted to the light conditions.
- Switch through the modes with  until the desired mode is set.


6

Switching between the main menus

CMS-T-00000023-A.1

Switching to the operating menu

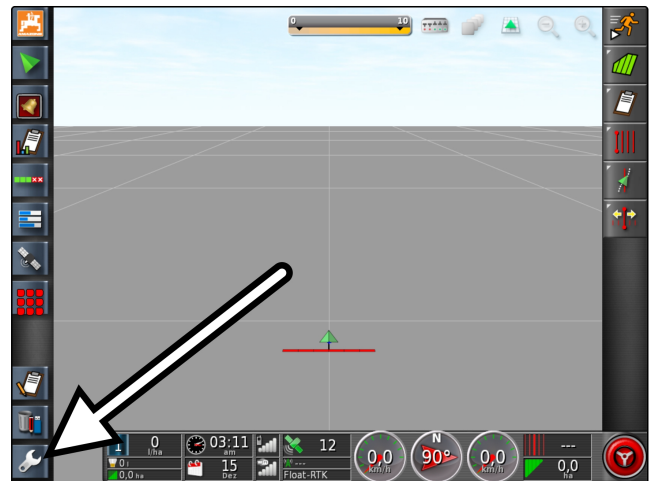
CMS-T-001416-A.1

- In the setup menu, switch to the operating menu with .



Switching to the setup menu

- In the operating menu, switch to the setup menu with



User interface at a glance



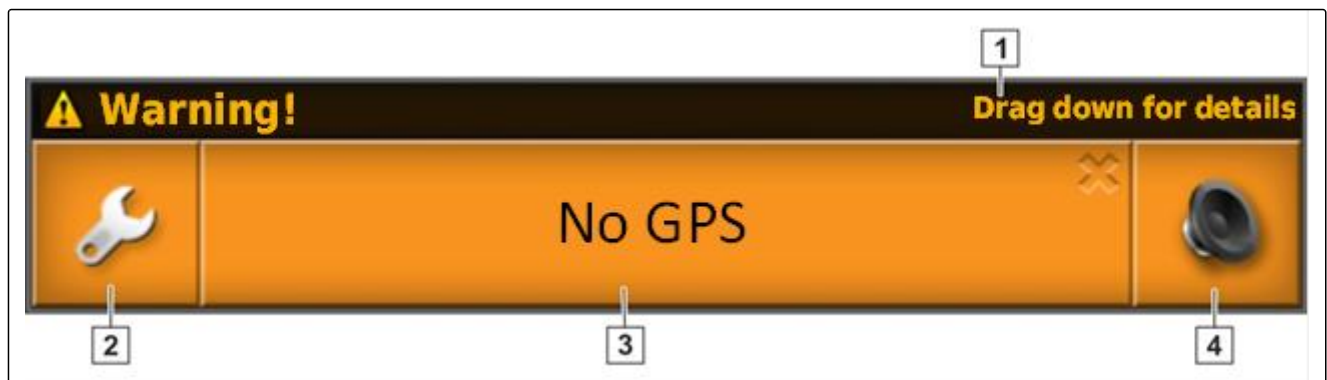
CMS-T-0000020-B.1

1

General warning messages

CMS-T-000586-B.1

Warning messages are issued for different events. The functions of a warning message will be explained in the following. For a detailed description of the different warning messages, see page 212.



- 1** When this line is shown, other details regarding the warning message can be called up. To do so, swipe straight down with your finger from the middle of the warning message.
- 2** This button opens the "Configuring general alarms" menu; see page 65.
- 3** The cause for the alarm message is written on this button. This button can also be used to acknowledge the alarm message.
- 4** The alarm tone can be switched off with this button.

2

Warning messages from the Universal Terminal

CMS-T-000972-A.1

The user interface of the implement is shown on the Universal Terminal. When the implement issues an error, a warning message is also shown outside of the Universal Terminal.

- 1 Warning messages that are issued by the implement.
- 2 Switch to the Universal Terminal.
- 3 Close the warning message. Warning message for AMAZONE implements is acknowledged in the ECU.
- 4 Acknowledge the warning message. Warning message is acknowledged in the ECU.



3

General control elements

CMS-T-00000024-A.1

3.1 Selection list

One or multiple entries can be selected from selections lists. The selected entries are highlighted in white. A message box appears if too many entries are selected.


CMS-T-000596-A.1




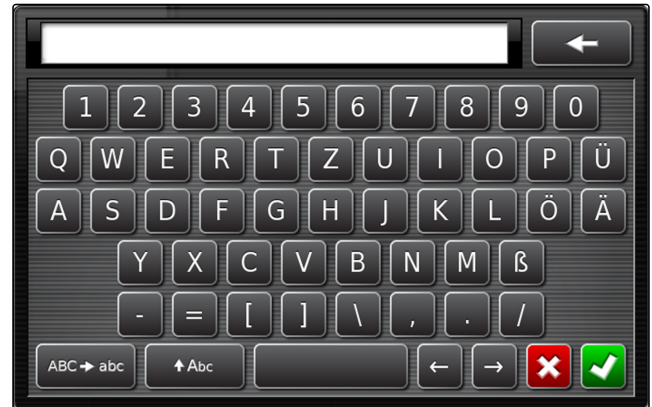
3.2 Key pad and number pad


CMS-T-000594-B.1

If letters or numbers must be entered, a key pad or number pad appears on the display. The key pad is automatically adapted to the set language.

Confirm entries with .

Cancel entries with .



Increase numerical value with .

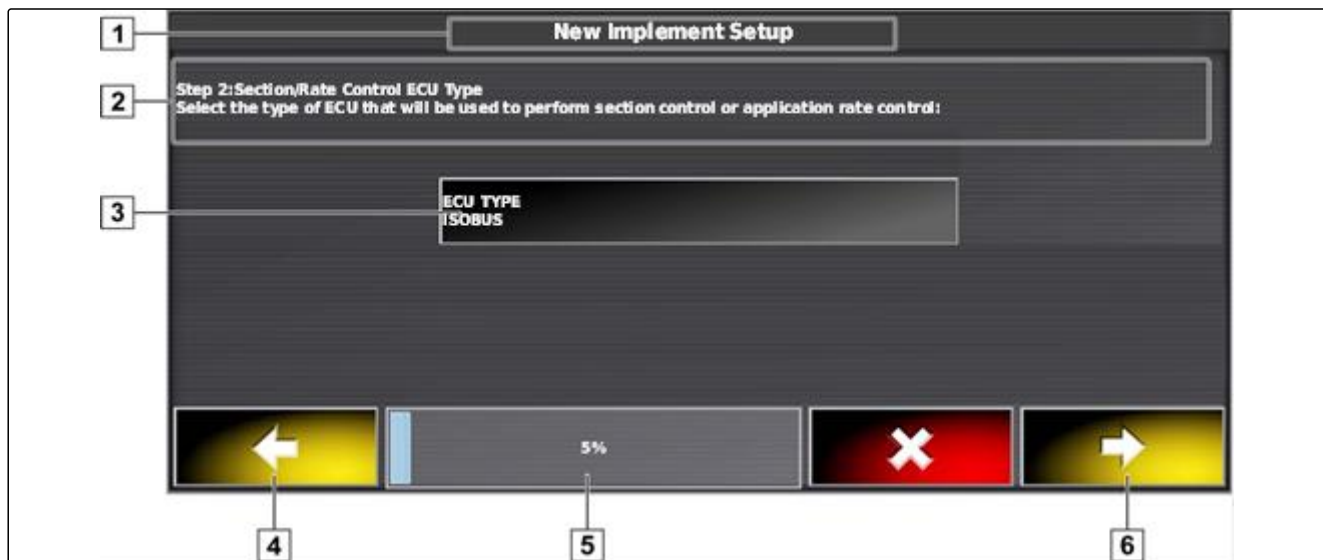
Decrease numerical value with .



3.3 Assistant

CMS-T-000590-B.1

Assistants guide the user through complex system settings. The system settings are divided into individual work steps. The work steps explain which information is required. The user can enter the corresponding information using the buttons.



1 Name of the system setting

2 Work step

3 Button for the entry

4 Back

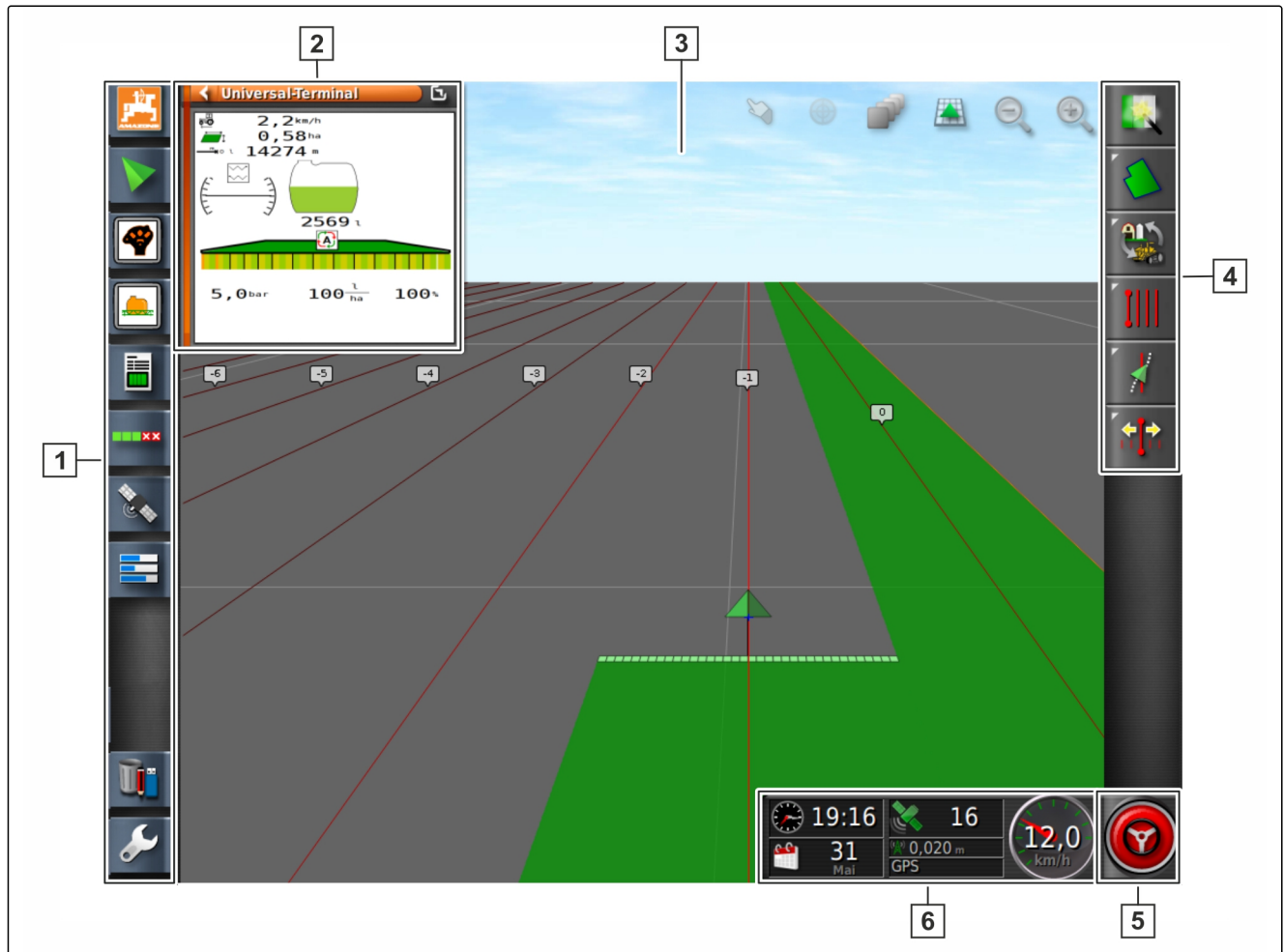
5 Progress in percent

6 Continue

4

Operating menu at a glance

CMS-T-00000437-A.1





1 Function menu

2 Miniature view

3 Map view

4 Job menu

5 Automatic reverse detection  or automatic steering 

6 Dashboard

All of the AmaPad's functions can be controlled using the operating menu:

- Access to the implement controls with the Universal Terminal
- Part-width section control
- Job management
- Track guidance
- Automatic steering








5

Buttons in the operating menu

CMS-T-00000025-B.1











5.1 Buttons in the job menu

CMS-T-00000576-A.1

Button	Function	More information		Button	Function	More information
	Open the field menu	see page			Open the automatic steering menu	see page 160
	Open the job data menu	see page 109			Open the GPS nudge menu	see page 153
	Open the track line menu	see page			Activate quick start	see page 107
	Open the job assistant	see page 109				








5.2 Buttons in the field menu

CMS-T-00000577-A.1

Button	Function	More information		Button	Function	More information
	Create a new field	see page			Configure the boundary offset	see page
	Setting flag point	see page 136			Delete all boundary lines	see page
	Record boundary line	see page			Create boundary line with shape file	see page
	Terminate recording of the boundary line	see page			Create the boundary line from the coverage	see page
	Interrupt the boundary line recording	see page 126			Configure headlands	see page 132















5.3 Buttons in the job data menu

CMS-T-003901-B.1

Button	Function	More information		Button	Function	More information
	Delete coverage	see page			Use rate control	see page 185
	Open the data exchange menu	see page			Start a job	see page 110
	Create a new job	see page			Interrupt a job	see page
	Select a job	see page				




5.4 Buttons in the track line menu

CMS-T-003893-B.1

Button	Function	More information		Button	Function	More information
	Edit A-B line	see page			Create new A-B line	see page 143
	Edit circular track line	see page			Create new circular track line	see page
	Edit curved track line	see page			Create new curved track line	see page 145
	Activate adaptive curved track line	see page			Interrupt recording of the curved track line	see page 145
	Load track line	see page			Set starting point for AB line	see page 143
	Set starting point for curved track line	see page 145			Create A-B line manually	see page
	Set end point for curved track line	see page 145			Set end point for A-B line	see page 143







5.5 Buttons in the steering options menu

CMS-T-003891-B.1

Button	Function	More information		Button	Function	More information
	Call up automatic steering status	see page 161			Calibrate steering	see page 160
	Coordinate the automatic steering	see page 163				






5.6 Buttons in the GPS nudge menu

CMS-T-003899-B.1

Button	Function	More information		Button	Function	More information
	Open nudge options for track lines	see page 156			Nudge the closest track line to the vehicle position	see page 157
	Nudge the track lines to the right	see page 156			Save the nudged track lines	see page 158
	Nudge the track line to the left	see page 156			Open the GPS drift options	see page 153











5.7 Buttons in the map view

CMS-T-006654-B.1

Button	Function	More information		Button	Function	More information
	Indicates whether the selection mode is enabled				Change perspective	see page 102
	Focus on vehicle symbol	see page 102			Enlarge or reduce map	see page 102
	Select map layers	see page 103				








5.8 Buttons in the function menu

CMS-T-00000573-A.1

Button	Function	More information		Button	Function	More information
	Call up software version	see page 216			Call up GPS information	see page 158
	Call up map view	see page			Call up system diagnosis	see page 216
	Open Universal Terminal	see page 167			Edit job data	see page
	Call up job information	see page			Manage inventory data	see page 206
	Configure automatic part-width section control	see page 176			Call up setup menu	see page 16






5.9 Buttons on the Universal Terminal

CMS-T-007005-B.1

Button	Function	More information		Button	Function
	Quick start	see page 109			Nudge the selection upwards
	Call up AUX-N setup	see page 169			Nudge the selection downwards
	Switch between the connected devices.				Cancel
					Confirm

5.10 Other buttons

CMS-T-007006-B.1

Button	Function	More information		Button	Function	
	Switch automatic part-width section control on or off	see page 176			Switch automatic steering on or off	see page 165
	Use global start screen	see page			Select the track line pattern	see page
	Switch main switch on or off	Cannot be used on ISOBUS implements				

6

Function menu at a glance

CMS-T-00000439-A.1

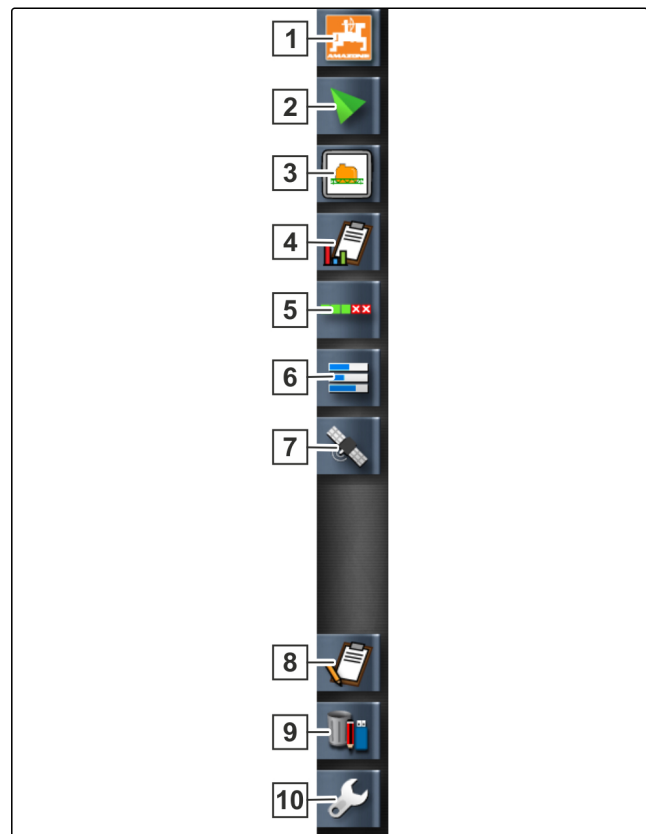
The function menu is used to call up information and to control the various functions of the AmaPad and the connected implement.



NOTE

Different buttons can be shown in the function menu, depending on the connected implement and the settings in the setup menu.

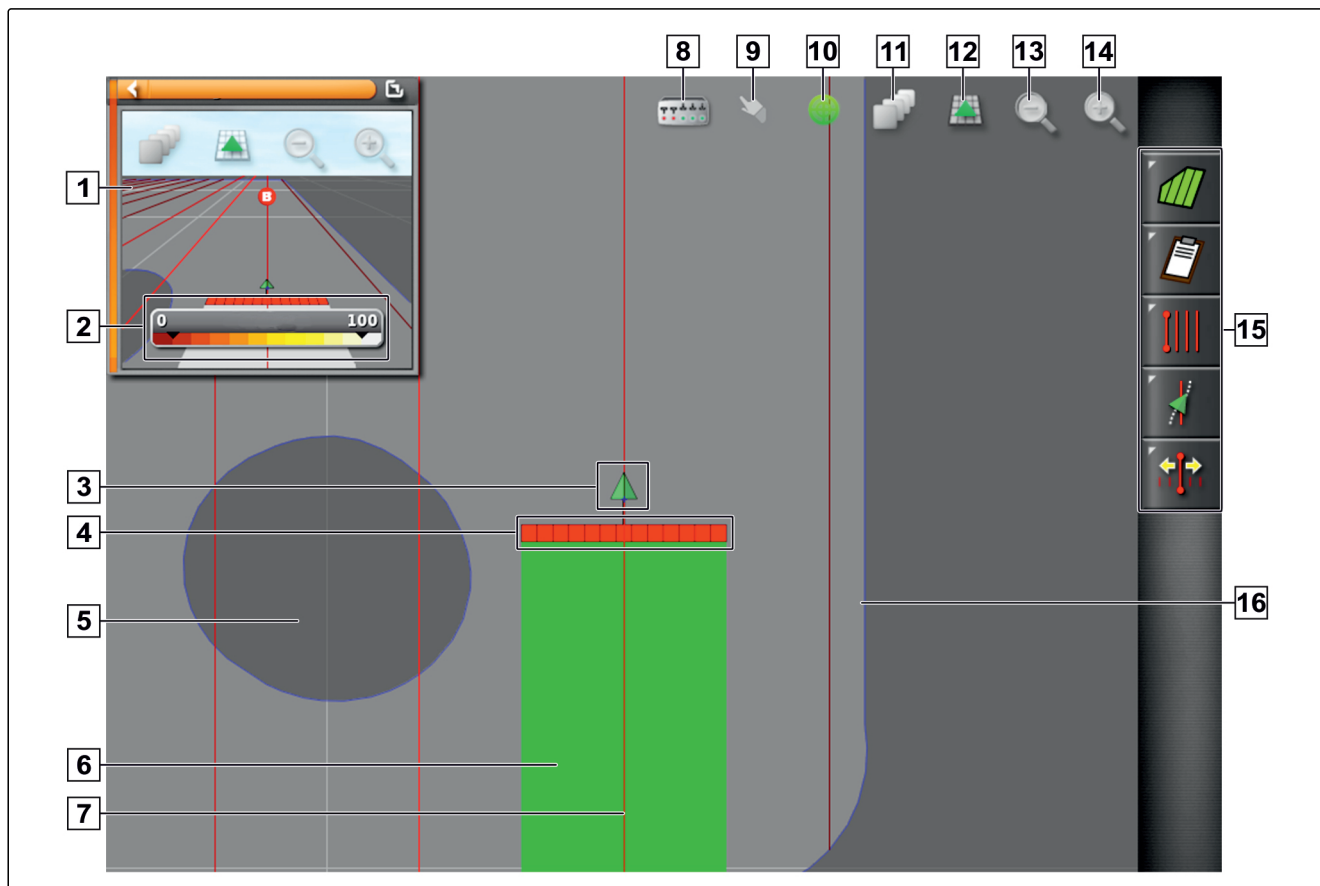
- 1 Miniature view of the system information
- 2 Miniature view of the map view
- 3 Miniature view of the universal terminal. The symbol on this button varies depending on the connected input device.
- 4 Job information
- 5 Automatic part-width section control
- 6 System diagnosis
- 7 GPS information
- 8 Master data
- 9 Inventory manager
- 9 Setup menu



7

Map view at a glance

CMS-T-00000442-A.1



- | | |
|--|------------------------------------|
| 1 Miniature view of the map view | 9 Confirm selection |
| 2 Configure coverage map | 10 Vehicle focus |
| 3 Vehicle symbol | 11 Configure map layers |
| 4 Implement symbol | 12 changing the perspective |
| 5 Exclusion area (dark grey) | 13 Reduce map section |
| 6 Worked area (coverage), (green) | 14 Enlarge map section |
| 7 Track line (red) | 15 Job menu |
| 8 Display virtual section switch | 16 Boundary line (blue) |

In the map view, all of the data that is required for working a field is created and saved through the job menu. A symbol for the vehicle and a symbol for the connected implement are shown on the map in the map view.

A boundary line can be created to define the field size and use automatic part-width section control. The boundary line is marked on the map with a blue line.

Exclusion areas within a field where the application should be stopped can be marked with a boundary line. Exclusion areas are shaded in dark grey.

To ensure uniform application, track lines can be created to support the driver in following the track. Track lines are also required for automatic steering. Track lines are shown in red on the map.

8

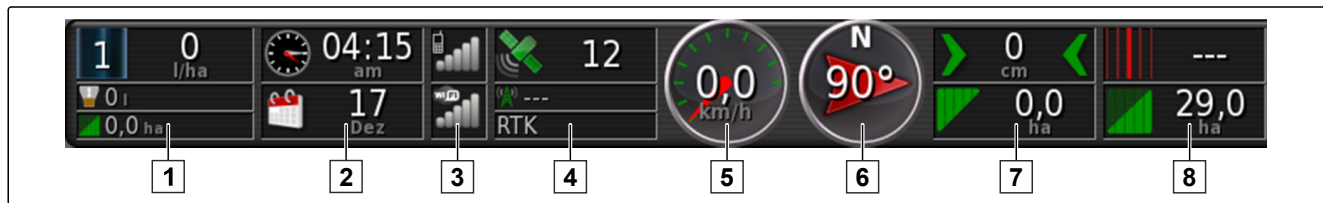
Dashboard at a glance

CMS-T-00000443-A.1



NOTE

The following figures show all of the available elements for the dashboard. When the AmaPad is started for the first time, not all of the elements are enabled.



Data fields on the dashboard

- | | |
|--|--|
| 1 Implement data. The displayed data varies depending on the connected implement. | 5 Speed |
| 2 Date and time | 6 Direction of travel |
| 3 GPRS signal strength and WLAN signal strength | 7 Track deviation and worked area |
| 4 GPS data | 8 Track number and remaining area |

GPS data on the dashboard

- 1** Satellite symbol and number of satellites:

Grey: No signal

Red: Low accuracy

Yellow: Medium accuracy

Green: High accuracy

- 2** Correction symbol and accuracy in metres:

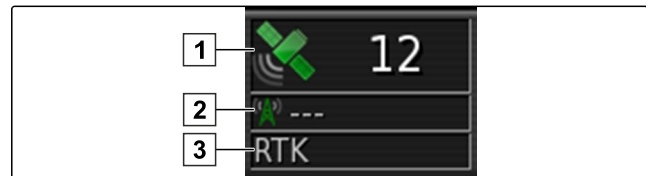
Grey: No correction signal

Red: Low accuracy

Yellow: Medium precision but too low for automatic steering

Green: Correction source converged, high accuracy

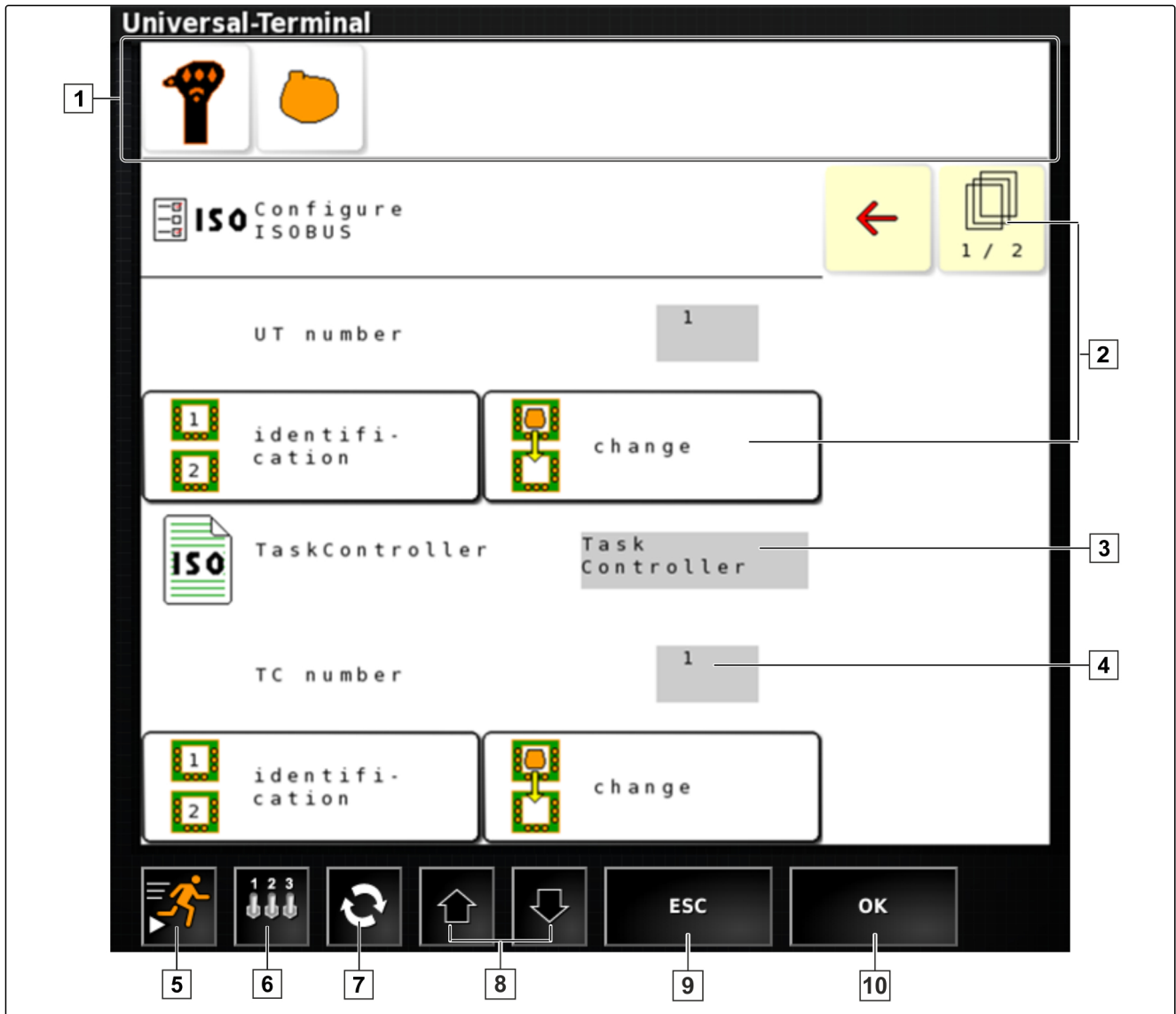
- 3** Used correction source



9

Universal Terminal at a glance

CMS-T-00000459-A.1



- 1** Implement selection: In this menu bar, the connected implements and input devices can be selected.
- 2** Buttons on the user interface of the ECU (implement control): These buttons can be operated using the touchscreen.
- 3** Selection: These buttons open a selection list.
- 4** Input lines: Input lines open the number pad or the key pad to enter characters.
- 5** Quick start
- 6** With this button, the menu for the configuration of the AUX-N input is opened. For example, for a multi-function stick or the additional buttons on the AmaPad.
- 7** Switch between the connected implements.
- 8** Switch between the buttons of the user interface.
- 10** Cancel or one menu back.
- 11** Confirm selection, entry or message.

Configuring the AmaPad



CMS-T-00000022-B.1

1

Using the setup menu

CMS-T-000422-B.1



1 First menu level

2 Second menu level

3 Third menu level

4 Last menu level

5 Enter settings

6 Previous menu

7 Next menu

8 Selected menu

9 Exit the setup menu

In these operating instructions, the paths to the settings are displayed as shown opposite.



1. Under **1**, tap on the desired menu item.

➔ The second menu level is opened **2**.

2. Under **2**, tap on the desired menu item.

➔ The third menu level **3** is opened or the last menu level **4** is opened.

3. To enter the settings, tap on the **5** button.

2

Entering the user settings

CMS-T-00000026-A.1

2.1 Entering the region settings

CMS-T-00000380-A.1

2.1.1 Entering the language settings

CMS-T-00000381-A.1

Changing the language

CMS-T-000526-A.1


1. In the setup menu, tap on "User" > "Region" > "Language".



2. Open the language list with "Language".



3. Select the desired language from the selection list.

4. Confirm with .

5. Exit the setup menu with .

6. Confirm restart with .

Defining the format for the decimal separator

CMS-T-000170-A.1


1. In the setup menu, tap on "User" > "Region" > "Language".




2. Tap on "Format for the decimal separator".



3. Select the desired format.

4. Confirm with .

5. Exit the setup menu with .

6. Confirm restart with .

2.2 Configuring the lightbar

CMS-T-00000382-A.1

Enabling the lightbar

CMS-T-000856-B.1

The lightbar is located at the upper edge of the touchscreen. During operation, the lightbar shows how far the vehicle has deviated from the defined track line.

The lightbar can be enabled and disabled. The other settings are only available when the lightbar has been enabled.

1. In the setup menu, tap on "User" > "Lightbar".



2. Tap on "Lightbar".



3. Select "Enabled".

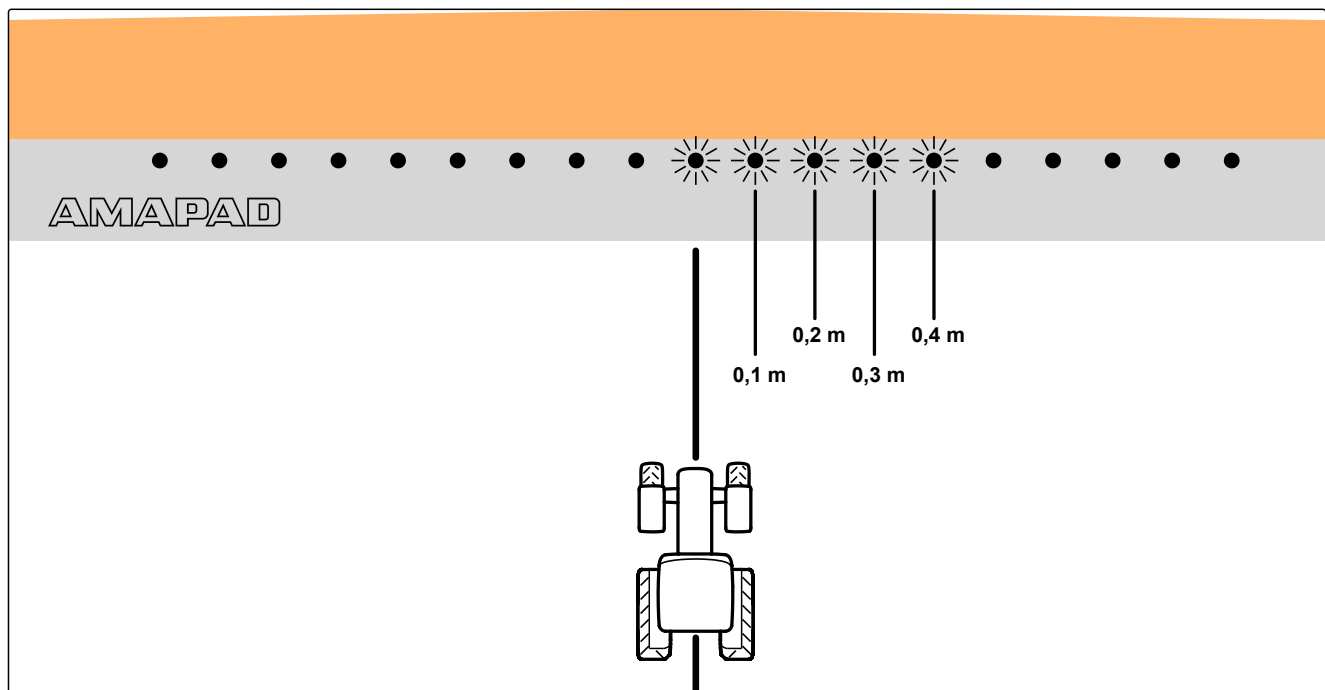
NOTE

The lightbar only works if there is a GPS signal. The lit blue LED in the middle of the lightbar indicates that the lightbar is ready for operation.

Defining the LED spacing

CMS-T-000852-A.1

The spacing between the LEDs specifies how far the vehicle can deviate from the defined track line before the next LED lights up on the lightbar.



Example for the setting 0.1 m

1. In the setup menu, tap on "User" > "Lightbar".




2. Tap on "LED spacing".



Setting range: 0.001 m to 2 m

3. Enter the distance.

4. Confirm with .

Defining the LED mode

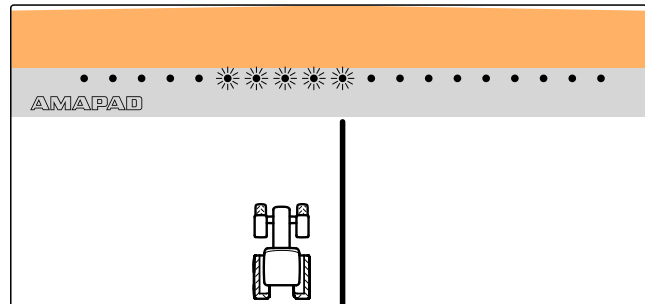
CMS-T-000848-A.1

The LED mode is used to define the side of the lightbar on which the LEDs start lighting up when the vehicle deviates from the track line.

Possible settings:

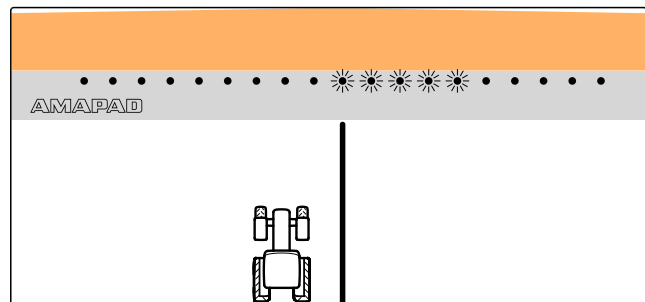
Driving away

The LEDs on the lightbar start lighting up on the side towards which the vehicle is moving.



Driving to

The LEDs on the lightbar start lighting up on the side from which the vehicle is moving away.




1. In the setup menu, tap on "User" > "Lightbar".



2. Tap on "LED mode".



3. Select mode.

4. Confirm with .

2.3 Configuring the environment

CMS-T-00000383-A.1

Adjusting the volume

CMS-T-000994-B.1

NOTE



The tones on the AmaPad are switched off when the volume is set to 0 %. The alarm tone for the warning messages from the Universal Terminal cannot be switched off.

1. In the setup menu, tap on "User" > "Environment".



2. Tap on "Volume".



3. Adjust the volume with  and .

Setting the button tones

CMS-T-001009-A.1

1. In the setup menu, tap on *"User"* > *"Environment"*.



2. Tap on *"Button clicks"*.



3. Enable the function

or

disable.

Setting the audio alarm

CMS-T-000990-B.1

The AmaPad can issue various alarms. Here, you can set whether a signal tone is issued.

1. In the setup menu, tap on *"User"* > *"Environment"*.



2. Tap on *"Audio alarm"*.



3. Enable the function

or

disable.

Recalibrating the touchscreen

CMS-T-000253-B.1



NOTE

This function is only available for AmaPads with the model number NI129. The model number is written on the rear side of the AmaPad **1**.

The touchscreen can be calibrated if it is not working properly.



1. In the setup menu, tap on *"User"* > *"Environment"*.



2. Tap on *"Recalibrate touchscreen"*.



3. Confirm restart with

➔ The AmaPad switches to calibration mode.

4. Touch the touchscreen at any spot.
5. Tap precisely on the red cross.
6. Confirm the calibration with *"Commit Calibration"*

or

Wait until the calibration can be repeated.

7. Select high sensitivity for the touchscreen (*"HIGH"*).
8. Check the sensitivity with *"TEST"*.
9. Adjust the sensitivity

or

Confirm the settings with *"APPLY"*.

10. Terminate the calibration with *"Close"*.

➔ The AmaPad will be rebooted.

Touchscreen sensitivity

CMS-T-000259-B.1

NOTE

This function is only available for AmaPads with the model number NI129. The model number is written on the rear side of the AmaPad **1**.

The touchscreen sensitivity can be changed. The lower the set sensitivity, the harder you have to tap on the touchscreen to operate the AmaPad.



1. In the setup menu, tap on *"User"* > *"Environment"*.



2. Tap on *"Touchscreen sensitivity"*.



➔ The AmaPad has to be restarted.

3. Confirm restart with .

➔ The AmaPad switches to calibration mode.

4. Select high sensitivity for the touchscreen: *"HIGH"*.

5. Check the sensitivity with *"TEST"*.

6. Adjust the sensitivity

or

Confirm the settings with *"APPLY"*.

7. Terminate the calibration with *"Close"*.

➔ The AmaPad will be rebooted.

Configuring the multi-function button

CMS-T-000134-A.1

Here, the function of the multi-function button 1 can be defined.



1. In the setup menu, tap on "User" > "Environment".



2. Tap on "Multi-function button mode".



Possible settings:

- Save screenshot: The multi-function button is used to take a screenshot. For more information, see page 211.
- Save/load global start screen: The multi-function button is used to manage the global start screens. For more information, see page . The "Global start screen mode" button has been added.

Defining the global start screen mode

CMS-T-001049-B.1

With this setting, the selection mode for the global start screens can be selected.



1. In the setup menu, tap on "User" > "Environment".



2. Tap on "Global start screen mode".



Possible settings:

- Select: The basic button  is used to open the "Manage global start screens" menu.
- Switching: The basic button  is used to switch between the global start screens

NOTE

For more information on the global start screens, see page .

System 150 file transfer

CMS-T-001025-B.1

With the System 150 file transfer, inventory data can be imported and exported in a special format.



NOTE

This function is not available.

- For more information, please contact AMAZONE.

Configuring the status window for the automatic steering

CMS-T-001005-A.1

The function of the automatic steering button can be configured.


1. In the setup menu, tap on "User" > "Environment".



2. Tap on "Automatic steering status window".



Possible settings:

- Disabled: The window for the steering status can only be called up through the job menu.
- Opens automatically: If the automatic steering cannot be started, the window for the steering status will be shown. The window remains open until it is closed with .
- Open and close automatically: If the automatic steering cannot be started, the window for the steering status will be shown. The window remains open until all of the conditions for starting the automatic steering system are fulfilled.

Size of the buttons on the toolbar

CMS-T-001017-A.1

The size of the buttons in the function menu and in the job menu can be adjusted.

1. In the setup menu, tap on "User" > "Environment".



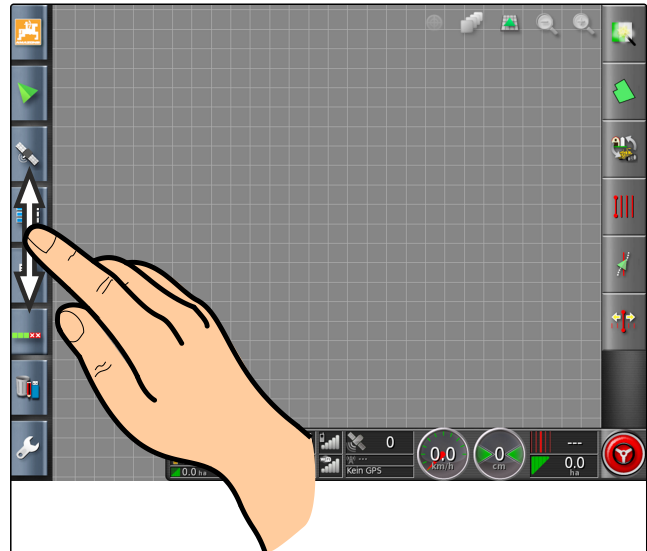
2. Tap on "Toolbar button size".



3. Select the desired size.

**NOTE**

When large buttons are selected, the function bar and the job menu must be moved by swiping to be able to use all of the buttons.



2.4 Configuring the map

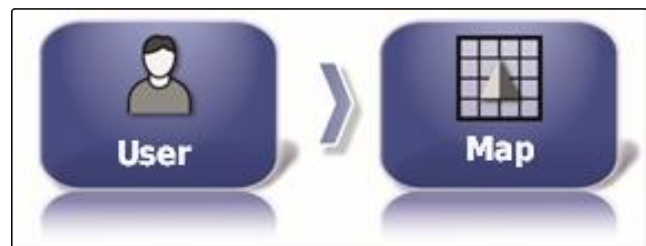
CMS-T-00000027-A.1

Defining the point of focus

CMS-T-000986-A.1

With the point of focus, you can define whether the vehicle symbol or the implement symbol should be centred on the map.

1. In the setup menu, tap on *"User"* > *"Map"*.



2. Tap on *"Point of focus"*.



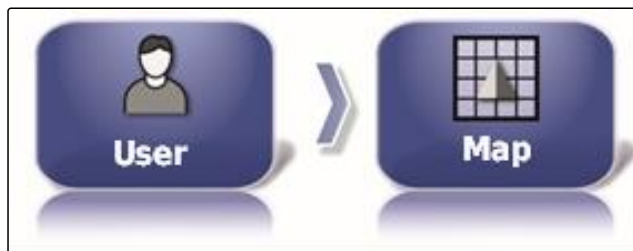
3. Select the symbol.

Enabling map panning

CMS-T-001021-A.1

With this setting, you can define whether the map can be panned in the map view.


1. In the setup menu, tap on "User" > "Map".



2. Tap on "Map panning".



Possible settings:

- Enabled: The map can be moved in the map view. The symbol for the vehicle focus will be shown on the map: 
- Disabled: The map cannot be moved in the map view. The symbol for the vehicle focus is not shown.

Map focus auto-shift

CMS-T-001013-A.1

When miniature views are opened in the operating menu, the vehicle symbol can be covered by the miniature views on the map. With the map focus, you can define whether the map should be automatically shifted when miniature views are opened.

1. In the setup menu, tap on "User" > "Map".



2. Tap on "Map focus auto-shift".



Possible settings:

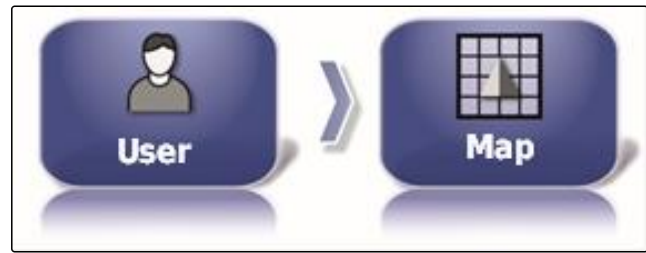
- Enabled: The map is shifted. The vehicle symbol is centred in the middle of the map.
- Disabled: The map is fixed. The vehicle symbol can be covered by miniature views

Highlighting loaded coverage

CMS-T-001029-A.1

With this setting, you can define how the worked area is shown in the map view.

1. In the setup menu, tap on "User" > "Map".



2. Select "Highlight loaded coverage".



Possible settings:

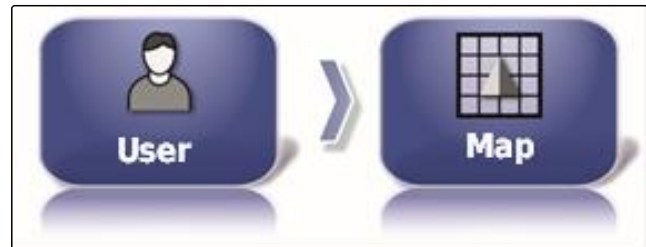
- Enabled: Already worked areas of a job are shown in yellow. New worked areas are shown in green.
- Disabled: Already worked areas of a job are shown in green. New worked areas are also shown in green.

Pausing boundary recording with master

CMS-T-001045-B.1

Manual boundary line recording can be interrupted during application by switching off all of the part-width sections. This has the advantage that the boundary line recording does not have to be interrupted separately when manoeuvring on the field.


1. In the setup menu, tap on "User" > "Map".



2. Select "Pause boundary recording with master".



Possible settings:

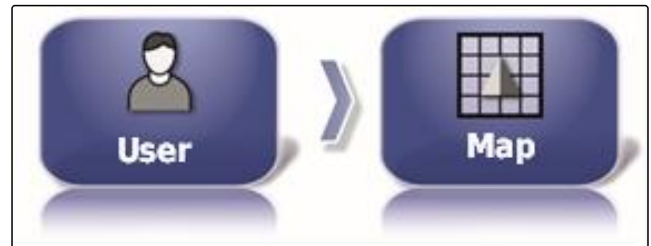
- Enabled: The boundary line recording is interrupted when all of the part-width sections are switched off on the Universal Terminal.
- Disabled: The boundary line recording can only be interrupted using the  button in the in field menu.

Defining the visual reference line length

CMS-T-001033-A.1

A line can be shown on the map in front of the vehicle symbol, which assists the driver with manual track guidance.

1. In the setup menu, tap on *"User" > "Map"*.



2. Tap on *"Visual reference line length"*.



Possible settings:

- Value between 0 m and 20 m

2.5 Changing the user access level

CMS-T-001041-B.1

To disable certain menus on the AmaPad user interface, different user authorisation levels can be enabled.


1. In the setup menu, tap on *"User" > "Access level"*.



2. Tap on *"Access level"*.



3. Select the access level.

4. Confirm with .



NOTE

The user access levels can be adjusted in the *"User controls"* menu, see page 46.

2.6 Defining the user controls

With the user controls, the user interface of the AmaPad can be set up for the different user authorisation levels. Individual menus can be hidden, so that these menus can no longer be used by certain users.

3 different user access levels are available.

- Easy
- Standard
- Expert



NOTE

The user access level can be changed in the "Access level" menu.





REQUIREMENTS

- ✓ User access level has been set to "Expert"

1. Select "Setup menu" > "User" > "User controls".



2. To enable or disable the menus for the individual user access levels,

select the  or  buttons in the corresponding column.

3. To see a preview of the configured user interface, select "Preview" in the corresponding column.

Control	Easy	Standard	Expert
Miniview: System Information	✓	✓	✓
Miniview: GPS	✗	✓	✓
Miniview: Diagnostics	✗	✗	✓
FullView: Diagnostics	✓	✗	✗
Miniview: Jobs	✓	✓	✓
Miniview: ASC	✓	✓	✓
Miniview: Implement Controller	✓	✓	✓
Miniview: Switchbox	✗	✓	✓
Miniview: Universal Terminal	✓	✓	✓
<div>Reset</div> <div>Preview</div> <div>Preview</div>			

➔ The button is then labelled with "Exit preview".

4. To exit the preview of the configured user interface, select "Exit preview".
5. To reset all of the settings, select "Reset".



NOTE

The settings can be reset as follows:

- To the factory settings
- To the version before the AmaPad was switched on last

3

Entering the system settings

CMS-T-00000028-B.1

3.1 Configuring the functions

CMS-T-00000384-B.1

3.1.1 Configuring the functions of the console

CMS-T-00000385-A.1

Enabling the cameras

CMS-T-001153-B.1

With the camera function, images from a connected digital camera can be transmitted to the AmaPad.



NOTE

A license and additional hardware must be purchased for this function.

- For more information, please contact AMAZONE.



Enabling the wireless network

CMS-T-001275-B.1

A wireless network connection for remote support can be set up with the AmaPad.



NOTE

The wireless network is only used by trained personnel to perform maintenance work on the AmaPad through the Internet.

- For more information, please contact AMAZONE.



Enabling remote support

CMS-T-001213-B.1

With this function, the AmaPad can be remote-controlled through the Internet.



NOTE

The remote support is only used by trained personnel to perform maintenance work on the AmaPad through the Internet.

- For more information, please contact AMAZONE.



Enabling cloud-based services

CMS-T-003865-B.1

With cloud-based services, data can be imported onto the AmaPad using WiFi.



NOTE

A license must be purchased for this function.

- For more information, please contact AMAZONE..

3.1.2 Configuring the track guidance system functions

CMS-T-00000386-B.1

Enabling automatic steering

CMS-T-001237-B.1

This function enables or disables the automatic steering system.



NOTE

This function is only available if one of the following GPS receivers has been selected.

- AGI-3
- AGI-4



1. In the Setup menu, tap on "System" > "Functions" > "Map view".



2. Tap on "Automatic steering".



Possible settings:

- Enabled: Automatic steering can be used. In the operating menu, the button for enabling automatic steering appears: . In the job menu, the button for the steering options menu is shown: .
- Disabled: Automatic steering cannot be used.

Enabling reverse detection

CMS-T-001145-B.1

This function enables or disables the automatic reverse detection.



NOTE

This function is only available if one of the following GPS receivers has been selected.

- AGI-1
- AGI-2
- SGR-1
- Other

1. In the Setup menu, tap on "System" > "Functions" > "Map view".



2. Tap on "Reverse detection".



Possible settings:

- Enabled: Reverse driving of the vehicle is automatically detected and the vehicle symbol moves backwards on the map. In the operating menu, the button for automatic reverse detection appears:
- Disabled: Reverse driving of the vehicle is not detected. When the vehicle drives in reverse, the vehicle symbol is turned on the map.

Enabling controlled traffic

CMS-T-001205-B.1

Additional track patterns can be activated with this function.



NOTE

A license must be purchased for this function.



- For more information, please contact AMAZONE.

Enabling help for job processing

CMS-T-001187-C.1

The job helper mode assists the user in executing functions.

1. In the Setup menu, tap on "System" > "Functions" > "Map view".



2. Tap on "Help with job processing".



Possible settings:

- Disabled
- Job assistant: the menu point "Job assistant" is added in the job menu. For more information, see page 107.
- Quick start: In the "Functions" menu and in the job menu, the menu item "Quick start" will be added. Work procedures can be automated with the quick start function. For more information, see page 51.

Enabling track line patterns

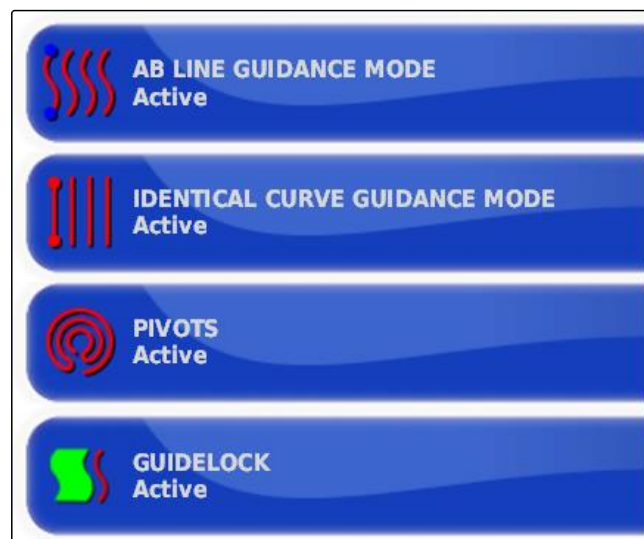
CMS-T-003485-B.1

The track line patterns can be enabled or disabled. When the track line patterns are disabled, the track line pattern can no longer be selected in the operating menu.

1. In the Setup menu, tap on "System" > "Functions" > "Map view".



2. Select the desired track line pattern.
3. Enable or disable track line patterns.



3.1.3 Configuring the implement functions

CMS-T-00000387-A.1

Enabling water conservation

CMS-T-001265-B.1



NOTE

A license must be purchased for this function.

- For more information, please contact AMAZONE.



Locking the setup menu

CMS-T-002410-A.1

When this function is enabled, access to the setup menu is locked as long as a job is started.

1. Select "Setup menu" > "System" > "Functions" > "Implement".



2. Select "Lock setup menu when job started".



3. Enable the function

or

disable.

3.1.4 Configuring the quick start

CMS-T-00000388-B.1

Enabling options

CMS-T-00000389-B.1

The quick start enables the automation of work procedures. In the "Options" list, the work procedures can be selected. The selected work procedure can then be enabled or disabled. Several work procedures can be adjusted.

When the quick start button has been selected in the job menu, all of the activated work procedures will be executed successively.

**NOTE**

For more information on using the quick start, see page 109.

**REQUIREMENTS**

- ✓ Quick start is enabled; see page 49

1. In the setup menu, tap on "System" > "Functions" > "Quick start".



2. Tap on the desired options in the list.



3. Enable the options under "Option status".



For some of the options, other settings can be entered. In these cases, additional buttons are shown under the "Option status" button.

4. *If other settings are required,* tap on the displayed buttons and enter the settings.

Options	Working procedures	Additional settings	Prerequisites
Stop active job	The active job and the application will be stopped.		None
Export job report for the previous job.	Exports the job report for all saved jobs.		<ul style="list-style-type: none"> The current job is stopped. USB flash drive is connected.
Delete active job	Deletes the recorded coverage of the current job and the generated job statistics.	<p>"Confirm before deleting":</p> <ul style="list-style-type: none"> When this setting is enabled, a prompt to confirm will be shown <p>"Delete options":</p> <ul style="list-style-type: none"> Selection of the data that should be deleted. 	The current job is stopped.
Add new field	Opens the menu where a new field can be created.	<p>"Create name for field":</p> <ul style="list-style-type: none"> "Standard": The new field is given the date and the time of creation as a name. "User-defined": Another setting will be shown. A user-defined name can be given. "Prompt": When the field is created, a text box is opened in which the name must be entered. 	None
Change job	Changes the current job.	see page 54	The current job is stopped.
Assign rate control	Opens the menu where the rate control can be assigned to an implement.	see page 185	<ul style="list-style-type: none"> Implement is selected. Job is selected.
Start active job	Starts the current job.		Job is selected.
Adjust the boundary line offset	Opens the menu where the boundary offset can be adjusted.		None
Record boundary line	Starts recording of the boundary line.		None
Set GPS drift correction	Opens the GPS drift options		None
Create flag point	Opens the menu where a flag point can be created.		None
Set track line pattern	Sets the selected track pattern.	<p>"Track line pattern":</p> <ul style="list-style-type: none"> Track lines will be created with the set track line pattern. 	None

Options	Working procedures	Additional settings	Prerequisites
Change track line	Start the recording of the selected track line or opens the menu where track lines can be loaded.	<p>"Measure":</p> <ul style="list-style-type: none"> • Select track line: The menu for selecting a track line will be opened • Create track line: The menu for creating a track line will be opened <p>"Create name for track line":</p> <ul style="list-style-type: none"> • "Standard": The new job is given the date and the time of creation as a name. • "User-defined": Another setting will be shown. A user-defined name can be given. • "Prompt": When the job is created, a text box is opened in which the name must be entered. 	Under "Adjust track guidance mode" , A-B line, identical curves or circular track is selected.
Hide on success	The quick-start info will be automatically closed when the work procedure has been successfully completed.	<p>"Measure":</p> <ul style="list-style-type: none"> • Select track line: The menu for selecting a track line will be opened • Create track line: The menu for creating a track line will be opened <p>"Create name for track line":</p> <ul style="list-style-type: none"> • "Standard": The new job is given the date and the time of creation as a name. • "User-defined": Another setting will be shown. A user-defined name can be given. • "Prompt": When the job is created, a text box is opened in which the name must be entered. 	None

Configuring the "Change job" option

CMS-T-006668-A.1

1. Enable the option with **"Option status"**.



Under **"Measures"**, the following settings are possible:

- **"Select job"**: The menu for selecting a job will be opened.
 - **"No job"**: The current job will be deleted. Possible to work without a job.
 - **"Create job"**: A new job will be created. Additional settings are required.
2. Select the desired setting under **"Measure"**.
 3. If **"Create job"** was selected under **"Measure"**, continue with the following points.
 4. Under **"Create name for job"**, select how the name should be created for the new job.



Possible settings:

- **"Standard"**: The new job is given the date and the time of creation as a name.
 - **"User-defined"**: Another setting will be shown. A user-defined name can be given.
 - **"Prompt"**: When the job is created, a text box is opened in which the name must be entered.
5. If a field should be selected or created for the new job, enable the **"Open selected field menu"** setting.
 6. If the new job should be created without previously editing the job data, enable the **"Accept without showing the editing menu"** setting.



3.2 Configuring the GPS

CMS-T-00000390-A.1

3.2.1 Configuring the GPS receiver

CMS-T-00000391-A.1

Selecting the GPS receiver

CMS-T-001241-B.1

The AmaPad can process GPS signals from an external receiver. To do so, the connected GPS receiver must be selected.

i NOTE

The AmaPad can only process GPS signals from an external GPS receiver if the GPS receiver is capable of emitting the signals in the required format.

Required GPS signals:

- GGA (at least 5 Hz)
- VTG (at least 1 Hz)
- ZDA (at least 1 Hz)

To obtain more information on the configuration of the GPS receiver, contact the manufacturer.

1. In the setup menu, tap on *"System"* > *"GPS"* > *"Receiver"*.



2. Tap on *"GPS receiver"*.



3. Select the connected GPS receiver from the list.

i NOTE

Recommended setting:

- For AMAZONE Pantera with automatic steering system: *"AGI-4"*
- For other AMAZONE GPS receivers: *"NMEA source"*
- When the GPS signal is sent via CAN bus, e.g. from the tractor: NMEA 2000

Updating the firmware

CMS-T-000462-B.1

The firmware for the connected GPS receiver can be updated. The update is loaded onto the terminal together with the update for the AmaPad software using the USB flash drive.



NOTE

Firmware upgrades can only be performed on the following GPS receivers:

- SGR-1
- AGI-3
- AGI-4

1. In the setup menu, tap on "System" > "GPS" > "Receiver".



2. Tap on "Firmware upgrade".



3. Confirm the update.

➔ A warning is shown saying that the AmaPad must not be switched off.

4. Acknowledge the warning.

➔ The firmware upgrade starts.

➔ The AmaPad will be restarted after the firmware upgrade.

Using the ignition line

CMS-T-001253-B.1



NOTE

This function is only available for the following GPS receivers:

AGI-4

1. In the setup menu, tap on "System" > "GPS" > "Receiver".



2. Tap on "Use ignition line".



Possible settings:

- Enabled: When the vehicle is switched off, the GPS receiver power supply comes from the vehicle battery.
- Disabled: When the vehicle is switched off, the GPS receiver power supply is interrupted.

**NOTE**

Recommended setting:

Deactivated

Setting the battery runtime

CMS-T-001261-B.1

The battery runtime shows how long the GPS receiver remains active after the vehicle has been switched off.

**NOTE**

This function is only available for the following GPS receivers:

AGI-4

1. In the setup menu, tap on *"System"* > *"GPS"* > *"Receiver"*.



2. Tap on *"Battery runtime"*.

**Loading OAF files**

CMS-T-000380-B.1

An OAF file allows the functions of the GPS receiver to be activated.

**REQUIREMENTS**

- ✓ One of the following GPS receivers has been selected:
 - AGI-3
 - AGI-4

1. In the setup menu, tap on "System" > "GPS" > "Receiver".



2. Tap on "Load OAF file".



3. Follow the instructions on the screen.

Set the baud rate

CMS-T-001177-B.1

The baud rate refers to the transmission speed of the GPS receiver.

1. In the setup menu, tap on "System" > "GPS" > "Receiver".



2. Tap on "Baud rate".



3. Select the recommended baud rate.



NOTE

Recommended baud rates:

- For AMAZONE GPS receiver: 19200
- For AGI-4: 115200

More information can be found in the GPS receiver operating manual.

3.2.2 Configuring the correction signal

CMS-T-00000393-A.1

Selecting correction source

CMS-T-001257-B.1

Correction signals increase the precision of the GPS signal.

NOTE

The following correction sources are supported:

- Autonomous: With this setting, the GPS signal will not be corrected. The signal can only be received from more GPS satellites. Moreover, Glonass can be enabled.
- WAAS: The GPS receiver uses the Wide Area Augmentation System. Only suitable for North America. Precision: Under one metre.
- EGNOS: The GPS receiver uses the European Geostationary Navigation Overlay Service. Only suitable for Europe. Precision: Under one metre.
- MSAS: The GPS receiver uses the Multi-functional Satellite Augmentation System. Only suitable for Eastern Asia. Precision: Under one metre.
- OmniSTAR: Paid correction source. A license is required to use this correction source. The OAF license file can be ordered from AMAZONE.
- TopNET Global D: Paid correction source. A license is required to use this correction source. The OAF license file can be ordered from AMAZONE.

Additional hardware is required to use the paid RTK correction source. The hardware can be purchased through a Topcon dealer.

1. In the setup menu, tap on "System" > "GPS" > "Correction".



2. Tap on "Correction source".



3. Choose the correction source from the selection list.
4. Configure the selected correction source.

WAAS configuration

CMS-T-00000569-A.1

For the WAAS correction source, the available satellites must be activated.

NOTE

The available satellites are published on the Internet. Each satellite can be identified with the PRN number.

1. In the setup menu, tap on "System" > "GPS" > "Correction".



2. Tap on the desired satellite.



3. Activate

or

(or) deactivate the satellite.

EGNOS configuration

CMS-T-00000570-A.1

For the EGNOS correction source, the available satellites must be activated.

NOTE

The available satellites are published on the Internet. Each satellite can be identified with the PRN number.

1. In the setup menu, tap on "System" > "GPS" > "Correction".



2. Tap on the desired satellite.



3. Activate

or

(or) deactivate the satellite.

MSAS configuration

CMS-T-00000571-A.1

For the MSAS correction source, the available satellites must be activated.

NOTE

The available satellites are published on the Internet. Each satellite can be identified with the PRN number.

1. In the setup menu, tap on "System" > "GPS" > "Correction".



2. Tap on the desired satellite.



3. Activate

or

(or) deactivate the satellite.

OmniSTAR configuration

CMS-T-00000572-A.1

The correct region must be set to use the OmniSTAR correction sources.



NOTE

The region must be set for all OmniSTAR correction sources.


1. In the setup menu, tap on "System" > "GPS" > "Correction".



2. Tap on "Region".



3. Select the desired region from the list.

4. Confirm with .

Enabling GLONASS

CMS-T-003488-B.1

GLONASS is the Russian satellite navigation system. If not enough satellites are available for a GPS signal, the AmaPad can fall back on the GLONASS satellites.



NOTE

When GLONASS is enabled, signals from GPS satellites are no longer received, even if sufficient GPS satellites are available again.

GLONASS can be enabled for the following correction sources

- Autonomous
- Automatic
- OmniSTAR XP
- OmniSTAR HP
- OmniSTAR G2
- RTK

1. In the setup menu, tap on "System" > "GPS" > "Correction".



2. Tap on "GLONASS".



3. Enable the function

or

disable.

Enabling Trupass

CMS-T-003491-B.1

Trupass™ improves the precision of the track lines.

1. In the setup menu, tap on "System" > "GPS" > "Correction".



2. Tap on "Trupass™".



3. Enable the function

or

disable.

Enabling the fallback system

CMS-T-003494-B.1

When the GPS signal is too imprecise, the automatic steering system cannot be started. The fallback system allows the AmaPad to fall back on the GPS signal with the next lowest precision to still be able to start the automatic steering system.

1. In the setup menu, tap on *"System"* > *"GPS"* > *"Correction"*.



2. Tap on *"Fallback"*.



3. Enable the function

or

disable.

3.2.3 Configuring the GPS output

CMS-T-001245-A.1

With the GPS output, data such as the speed, direction of travel and position can be transmitted to other devices.

i NOTE

The configuration of the GPS output depends on the connected auxiliary devices. More information is available in the operating manual for the auxiliary device.

3.3 Configuring the serial ports

CMS-T-00000392-A.1

3.3.1 Defining the COM port for the GPS receiver

CMS-T-001149-A.1

Selection of the COM port for the GPS receiver.

1. In the setup menu, tap on *"System"* > *"GPS"* > *"Output"*.



2. Select "GPS receiver COM".



3. Select the COM port.

NOTE

Setting for supplied AMAZONE wiring harness:

1

Defining the COM port for the GPS output

CMS-T-001193-A.1

Selection of the COM port for the GPS output.

1. In the setup menu, tap on "System" > "GPS" > "Output".



2. Select "GPS output COM".



3. Select the COM port.

NOTE

Setting for supplied AMAZONE wiring harness:

2

3.4 Setting the alarms

CMS-T-00000394-A.1

3.4.1 Configuring general alarms

CMS-T-000324-B.1

1. In the Setup menu, tap on "System" > "Alarms" > "General".



2. Select the alarm from the alarm list.

Alarm Name
All General Alarms
✓ End Of Row
✓ Steering Disengage (Visual)
✓ Steering Engage (Visual)
✓ Steering Unable To Engage
✓ GPS Receiver Firmware Mismatch
✓ ASC10 ECU Firmware Mismatch
✓ UT High Priority
✓ UT Medium Priority
✓ UT Low Priority
✓ Fallback

3. Tap on "Alarm state".



4. Enable the alarm

or

disable.

i NOTE

Disabled alarms are not displayed. There is no notification in case of malfunction.

i NOTE

Only the visual display can be disabled for the alarms for switching the automatic steering on and off. A warning tone is always issued when the automatic steering is switched on or off.

Configuring the end of row alarm

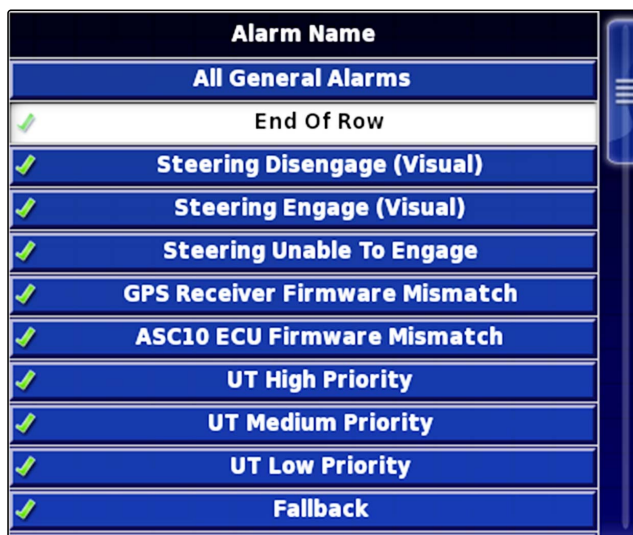
CMS-T-001183-B.1

When the vehicle approaches the boundary line, an alarm can be issued at a certain distance from the boundary.

1. In the Setup menu, tap on "System" > "Alarms" > "General".



2. In the alarm list, select "End of row".



3. Tap on "Alarm state".



4. Enable the alarm.

5. Tap on "First distance".



6. Enter the distance from the boundary line at which the first alarm should be issued.

7. Tap on "Second distance".



8. Enter the distance from the boundary line at which the second alarm should be issued.

9. Tap on "Look ahead distance".



10. Enter the additional distance from the first and second distances at which the alarm should be triggered.

3.5 Configuring the flag points

In this menu, the pre-settings for the flag points can be entered. Flag points can be used to mark hazard points.

CMS-T-000341-A.1

Furthermore, the flag points also serve as a reference for manual GPS correction.

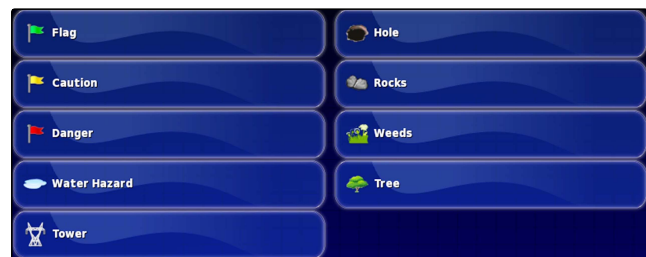
✓ REQUIREMENTS

- ✓ User access level has been set to "Standard" or "Expert", see page 45

1. In the setup menu, tap on "System" > "Flag points".




2. Select one of the flag points.



3. Select the symbol.

4. Tap on "Flag point name".

5. Enter the name.

6. Confirm with .

3.6 Configuring the ISOBUS

CMS-T-00000031-A.1

3.6.1 Configuring the Universal Terminal

CMS-T-00000395-A.1

Enabling the Universal Terminal

1. In the setup menu, tap on "System" > "ISOBUS"> "UT".



2. Select "Universal Terminal".



Possible settings:

- Offline: The connection to the Universal Terminal is interrupted.
- Online: The connection to the Universal Terminal is being established.

Defining the UT number

CMS-T-001221-B.1

If several terminals are connected to an ECU, the Universal Terminal is clearly identified by the UT number.



NOTE

Terminals must be assigned through the Universal Terminal. If only one terminal is connected, this terminal is automatically assigned.



NOTE

There should not be multiple terminals with the same UT number connected to the ISOBUS. If other terminals with the same UT number are connected to the ECU, the AmaPad automatically switches the "Universal Terminal" setting to "offline".

1. In the setup menu, tap on "System" > "ISOBUS"> "UT".



2. Tap on "UT number".



Possible settings:

- Number between 1 and 32

Deleting the pool cache of the Universal Terminal

CMS-T-00000014-A.1


If there are display errors on the Universal Terminal, the pool cache of the Universal Terminal can be deleted.

1. In the setup menu, tap on "System" > "ISOBUS"> "UT".



2. Tap on *"Delete pool cache"*.



3. Confirm with .

4. Restart the AmaPad.

Defining the soft keys per column

CMS-T-001233-A.1

Setting for how many soft keys are displayed in each column on the Universal Terminal.

1. In the setup menu, tap on *"System"* > *"ISOBUS"* > *"UT"*.



2. Tap on *"Soft keys per column"*.



3. Select the number.

NOTE

Recommended setting:

6

Defining the location of the soft keys

CMS-T-001165-A.1

Location of the soft keys on the Universal Terminal.

1. In the setup menu, tap on *"System"* > *"ISOBUS"* > *"UT"*.



2. Tap on *"Soft key location"*.



3. Select the location.

NOTE

Recommended setting:

On the right (two columns)

3.6.2 Configuring the Task Controller

CMS-T-00000396-A.1

Defining the TC version

CMS-T-006672-B.1

The TC version is the software version for the ECU. The different TC versions support different forms of documentation for job data.

NOTE

The AmaPad normally automatically detects the TC version.

To define the TC version, the following applies:

- AMAZONE implements: TC version 3
- For Peer Control: TC version 4

1. Select "Setup menu" > "System" > "ISOBUS" > "TC".



2. Tap on "TC version".



3. Select the TC version.

Defining the TC number

CMS-T-003859-B.1

If several terminals are connected to an implement, the AmaPad can be uniquely identified by the TC number. Each terminal needs a different TC number to avoid conflicts.

1. Select "Setup menu" > "System" > "ISOBUS" > "TC".



2. Tap on "TC number".



3. Enter the TC number.

Defining the control mode for manual part-width section control

CMS-T-006670-A.1

If automatic part-width section control is disabled, the part-width sections can still be controlled manually. This setting defines whether the part-width section can be controlled using the virtual part-width section switch.

1. Select "Setup menu" > "System" > "ISOBUS" > "TC".



2. Tap on "Manual control mode for part-width section control".



Possible settings:

- ECU-controlled: if automatic part-width section control is disabled, the part-width sections can no longer be controlled using the virtual part-width section switch.
- Console-controlled: if automatic part-width section control is disabled, the part-width sections can still be controlled using the virtual part-width section switch.

3. Select the control mode.

Deleting the pool cache of the Task Controller

CMS-T-00000015-A.1


If there are errors in the display or transmission of the implement configuration, the pool cache of the Task Controller can be deleted.

1. In the Setup menu, tap on "System" > "ISOBUS" > "TC".



2. Tap on "Delete pool cache".



3. Confirm with .
4. Restart the AmaPad.

USB preparation for the upgrade

CMS-T-000231-B.1

The AmaPad software can be updated using a USB flash drive.



NOTE

This function should be performed by trained personnel.



- Please contact AMAZONE customer service.

4

Configuring a vehicle

CMS-T-00000397-A.1

4.1 Creating a new vehicle

CMS-T-00000398-A.1

4.1.1 Selecting a vehicle from the database

CMS-T-000268-B.1

The AmaPad has a database with vehicles. The desired vehicle can be selected from this database.

NOTE

If the desired vehicle is not in the database, a custom vehicle can be created; see page 74.

1. In the setup menu, tap on "Vehicle" > "New".

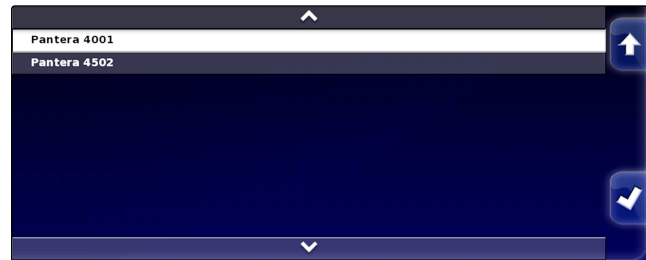



2. Select the desired manufacturer from the manufacturer list.



➔ A list with vehicle models will be shown.

3. Select the desired vehicle model.



4. Confirm the selection of the model with .

➔ For some vehicle models, the AmaPad must be restarted.

5. Confirm restart with .

➔ The vehicle geometry menu will be shown. To define the vehicle geometry, see page 75.

NOTE

For the AMAZONE Pantera self-propelled sprayer, the implement must be configured at this point; see page 86, "Create new implement", Step 7.

4.1.2 Creating a custom vehicle

CMS-T-000272-B.1

If the desired vehicle is not in the database, a custom vehicle can be created.

1. In the setup menu, tap on "Vehicle" > "New".



2. Select "Other" in the manufacturer list.
3. Select the steering controller of the vehicle.
4. Confirm the selection of the steering controller with



5. Select the vehicle type.

➔ For some vehicle models, the AmaPad must be restarted.

6. Confirm restart with



7. Tap on "Vehicle name".



NOTE

Sensible vehicle names should be assigned to make it easier to manage the vehicles.

8. Enter the vehicle name.

9. Confirm the entry with



➔ The vehicle geometry menu will be shown. To define the vehicle geometry, see page 75.

4.1.3 Defining the vehicle geometry

CMS-T-000276-B.1



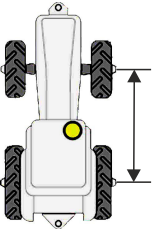
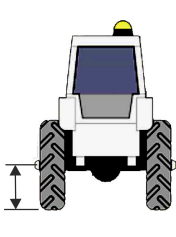
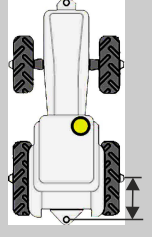
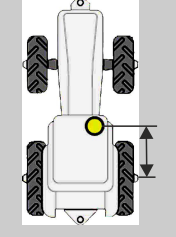
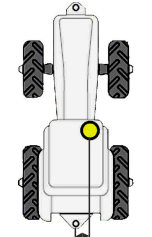
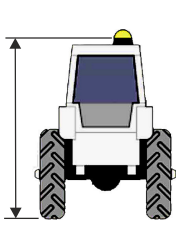
NOTE

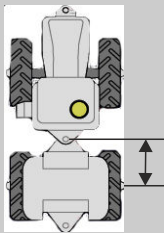
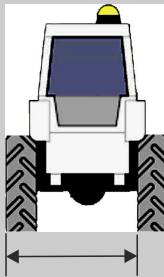
The vehicle geometry is required for precise functioning of the track guidance system. Measure the vehicle precisely. The tolerance is of 5 cm.



NOTE

The adjustable geometry values depend on the vehicle selection. The name of the selected geometry value is shown in the title bar of the menu. The following list contains all of the geometry values.

Geometry value	Description	Figure		Geometry value	Description	Figure
Axle distance	Distance from the centre of the front axle to the centre of the rear axle.			Axle height	Distance from the axle to the ground.	
Implement force transmission point	Distance from the centre of the rear axle to the pulling point.			GPS antenna	<p>Forward offset of the GPS receiver to the rear axle</p> <p>Positive value: Receiver is installed in front of the rear axle.</p> <p>Negative value: Receiver is installed behind the rear axle.</p>	
GPS steering	<p>Right offset of the GPS receiver to the centre of the axle</p> <p>Positive value: Receiver is installed to the right of the centre of the axle.</p> <p>Negative value: Receiver is installed to the left of the centre of the axle.</p>			GPS height	Distance from the ground to the upper side of the GPS receiver	

Geometry value	Description	Figure		Geometry value	Description	Figure
Pivot point	Only for articulated vehicles. Distance between the rear axle and the pivot point.			Track spacing	Only for caterpillar tractors. Distance between the left edge of the left caterpillar track and the left edge of the right caterpillar track.	

1. In the setup menu, tap on "Vehicle" > "Geometry".

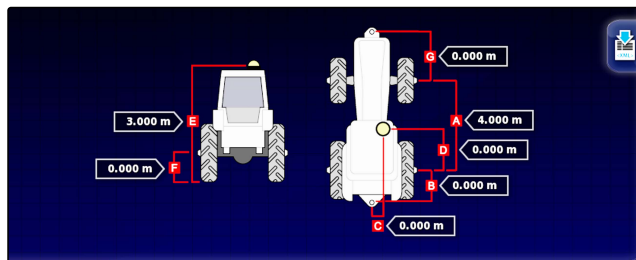


2. Check the name of the selected vehicle.

3. *If the wrong vehicle has been selected, see page 77.*


4. To change a geometry value:

Select **0.000 m**.



- ➔ The name of the selected geometry value is shown on the title bar.

5. Enter the value.

6. Confirm with .

4.2 Selecting a vehicle


CMS-T-000476-B.1

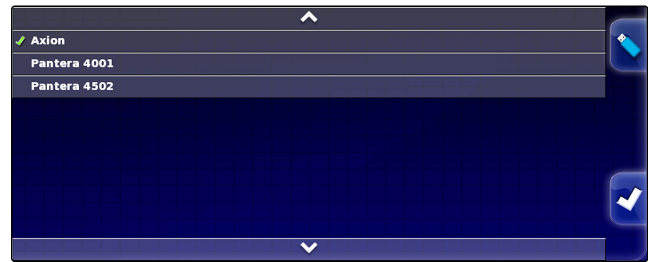
In this menu, configured vehicles can be selected. In addition, vehicle data can be imported from a USB stick and copies of the vehicle data can be made. In this way, the vehicle data can be imported onto other terminals.

1. In the setup menu, tap on "Vehicle" > "Select".



2. Select a vehicle from the list.

3. Confirm selection with .



➔ A restart must be performed for some vehicles.

4. Confirm restart with .

➔ The "Vehicle geometry" menu will be shown.

5. To change the vehicle geometry, see page 77.

4.3 Importing vehicle data

CMS-T-000472-B.1


Vehicle data that was saved to a USB flash drive using the inventory manager can be imported again.

NOTE

For more information on the inventory manager, see page 206.

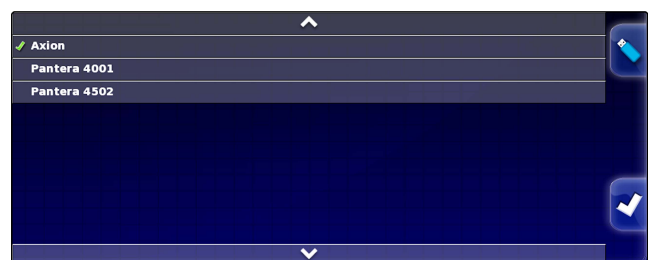
1. In the setup menu, tap on "Vehicle" > "Select".



2. Tap on .

3. Select a vehicle from the list.

4. Confirm selection with .



➔ A restart must be performed for some vehicles.


5. Confirm restart with .

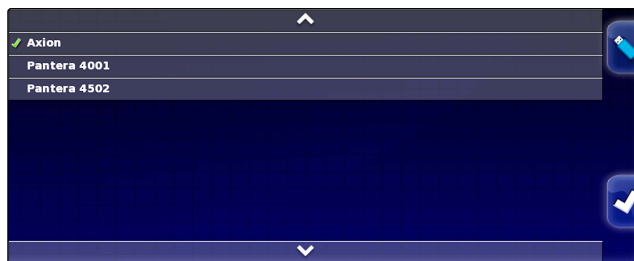
➔ The "Vehicle geometry" menu will be shown.

4.4 Copying vehicle data




CMS-T-000468-A.1

Vehicle data can be copied to create vehicles that only differ slightly.

1. In the setup menu, tap on "Vehicle" > "Select".
2. Select a vehicle from the list.
3. Confirm selection with .



➔ A restart must be performed for some vehicles.

4. Confirm restart with .
5. Tap on .
6. Select the "Vehicle name".
7. Enter the vehicle name for the copy.
8. Confirm the entry with .

➔ For some vehicles, a restart will be performed.

4.5 Adding vehicle geometry data to the job data

CMS-T-000239-A.1

Vehicle geometry data can be added to the job data to be able to manage them with a Farm Management Information System.



NOTE

When exporting the job data, the vehicle data is also automatically exported. For information on exporting job data, see page .




REQUIREMENTS

- ✓ User access level has been set to "Standard" or "Expert"; see page 45

1. In the setup menu, tap on "Vehicle" > "Geometry".



2. Select .

3. Confirm with .

4.6 Configuring the steering controller

CMS-T-00000400-A.1

4.6.1 Selecting the controller

CMS-T-001289-B.1

With this setting, the steering controller of the vehicle on which the AmaPad is installed is selected.

NOTE

The steering control settings are not assigned to the selected vehicle. If a different vehicle is selected, the steering control must be adjusted.



REQUIREMENTS

- ✓ User access level has been set to "Standard" or "Expert"; see page 45
- ✓ Automatic steering is enabled; see page 48

1. In the setup menu, tap on "Vehicle" > "Steering".



2. Tap on "Controller".



Possible settings:

- Automatic detection: Only for steering controllers that are not included in the selection list.
- AES-25

- Fendt FSC
- Case 8800
- Lexion (USA)



NOTE

The "Auto detect" setting does not revoke the selection of the proper steering controller.

Selecting the CAN bus

CMS-T-001322-B.1

The steering control can take place through different CAN buses.



NOTE

The steering control settings are not assigned to the selected vehicle. If a different vehicle is selected, the steering control must be adjusted.



REQUIREMENTS

- ✓ User access level has been set to "Standard" or "Expert"; see page 45
- ✓ Automatic steering is enabled; see page 48

1. In the setup menu, tap on "Vehicle" > "Steering".



2. Tap on "CAN bus".



Possible settings:

- CAN 1: ISOBUS
- CAN 2: Primary communication bus for the steering system



NOTE

The CAN bus that should be used is written on the GPS receiver.

- CAN bus for AGI-3 and AGI-4: CAN 2

Switching on the automatic steering

CMS-T-001285-B.1

NOTE

The steering control settings are not assigned to the selected vehicle. If a different vehicle is selected, the steering control must be adjusted.

REQUIREMENTS

- ✓ User access level has been set to "Standard" or "Expert", see page 45
- ✓ Automatic steering is enabled; see page 48



1. In the setup menu, tap on "Vehicle" > "Steering".



2. Tap on "Steering engage".



Possible settings:

- Virtual: Automatic steering can only be switched on using the  button in the operating menu.
- Virtual and external console input: Automatic steering can be switched on using the  button in the operating menu and using an external switch.

Enabling the direct spool

CMS-T-001326-B.1

NOTE

The steering control settings are not assigned to the selected vehicle. If a different vehicle is selected, the steering control must be adjusted.

REQUIREMENTS

- ✓ User access level has been set to "Standard" or "Expert", see page 45
- ✓ Automatic steering is enabled; see page 48

1. In the setup menu, tap on "Vehicle" > "Steering".



2. Tap on "Direct spool".



Possible settings:

- Disabled: The steering controller works with a steering angle sensor.
- Enabled: The steering controller works without a steering angle sensor.

5

Configuring an implement

CMS-T-00000399-C.1

5.1 Using the implement detection assistant

CMS-T-002255-B.1

The AmaPad automatically detects connected ISOBUS implements and opens an assistant. This assistant can be used to create an implement profile.



NOTE

The AmaPad only automatically detects ISOBUS implements.

When the AmaPad is started, the implement detection assistant is shown in the Operating menu.



NOTE

The AmaPad requires up to 2 minutes to detect the implement.



REQUIREMENTS

- ✓ Implement is properly connected; see page 9

1. If a profile should be created for the implement, confirm with "Yes".

i NOTE

Other options:

- "No": An implement profile will not be created. The AmaPad saves this selection and no longer opens the assistant for this implement.
- "Cancel": An implement profile will not be created. The AmaPad will reopen the assistant when the implement is connected again.



2. Select the implement type.


i NOTE

Implement types from left to right and from top to bottom:

- Rigid
- Towed
- Front-mounted
- With two pivot points
- Self-propelled




3. *If the implement type "Self-propelled" was selected, select a vehicle type from the list.*

4. Continue with .




5. *If the name for the implement should be changed, select "Profile name" and enter the name.*

6. Continue with .



➔ The implement profile has been created.

7. Confirm with .

i NOTE

Please observe the instructions on the display.

8. *If the implement should be loaded,*
confirm with .

5.2 Creating a new work implement

CMS-T-000313-B.1

i NOTE

This operating manual only describes implements with ISOBUS. For more information, please contact AMAZONE.



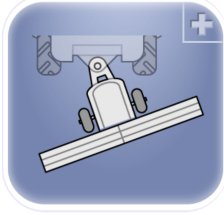
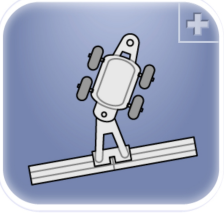
✓ REQUIREMENTS

- ✓ Implement is properly connected

1. In the setup menu, tap on "Implement" > "New" > "Custom".




➔ Four implement types are displayed.

Implement type	Button		Implement type	Button
Rigid			Front-mounted implement	
Towed			2 pivot points	


2. Select the desired implement type.

➔ The AmaPad has to be restarted after the implement has been created.

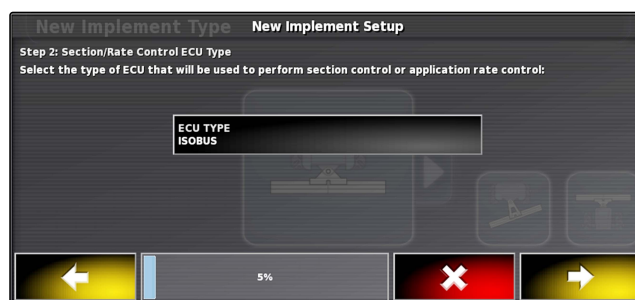
3. Confirm restart with .
4. Tap on *"Implement name"*.

NOTE

Sensible implement names should be assigned to make it easier to manage the implements.

5. Enter the name.
 6. Confirm the entry with .
- ➔ The implement setup assistant will be shown.

7. In Step 1, select *"Part-width section control and rate control"* under *"Implement control"*.
8. In Step 2, select *"ISOBUS"* under *"ECU type"*.
9. In Step 3, select the type of the connected implement under *"Implement function"*.
10. In Step 4, select the connected implement from the list under *"ECU assignment"*.



TROUBLESHOOTING

The connected implement is not shown?

The AmaPad did not recognise the connected implement.

1. Check the connections.
2. Repeat the process, see page 86.

5.3 Selecting the implement


CMS-T-000491-B.1

In this menu, configured implements can be selected. In addition, implement data can be imported from a USB stick and copies of the implement data can be made.

1. In the setup menu, tap on *"Implement"* > *"Select"*.



2. Select implement from the list.

3. Confirm selection with .

➔ A restart must be performed for some implements.

4. Confirm restart with .

5.4 Importing implement data

CMS-T-000487-B.1


Implement data can be saved to a USB flash drive and imported onto the AmaPad.

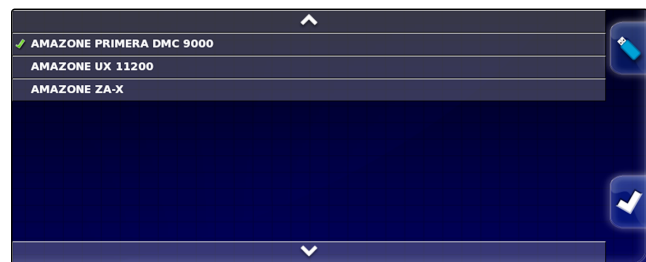
1. In the setup menu, tap on "Implement" > "Select".



2. Insert the USB flash drive with the implement data into the AmaPad.

3. select .

4. Confirm selection with .



➔ A restart must be performed for some implements.

5. Confirm restart with .

5.5 Copying implement data


CMS-T-000483-A.1

If similar implements will be connected, implement data can be copied and then edited.

1. In the setup menu, tap on "Implement" > "Select".



2. Select implement from the list.

3. Confirm selection with .




➔ A restart must be performed for some implements.

4. Confirm restart with .

5. Select .

6. Select the "Implement name".

7. Enter an implement name for the copy.

8. Confirm the entry with .

➔ For some implements, a restart will be performed.

5.6 ECU configuration

CMS-T-00000401-A.1

Selecting the implement control

1. In the setup menu, tap on "Implement" > "ECU".



CMS-T-000882-A.1

2. Tap on "Implement control".



Possible settings:

- Only section control
- Section control with rate control
- Only rate control

Selecting the implement function

CMS-T-000899-A.1

1. In the setup menu, tap on *"Implement"* > *"ECU"*.



2. Tap on *"Implement function"*.



Possible settings:

- Sprayer
- Spreader
- Precision airplanter

Refreshing the ECU settings

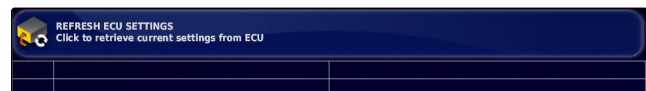
CMS-T-000878-B.1


The geometry data can be transmitted from the ECU of the selected implement to the AmaPad. If the geometry data of the implement has been changed using the Universal Terminal, this function must be used.

1. In the setup menu, tap on *"Implement"* > *"ECU"*.



2. Tap on *"Refresh ECU settings"*.



3. Confirm with .



NOTE

The data transmission takes up to 60 seconds.

5.7 Overlap, setting

CMS-T-001094-A.1

Overlap can be used to influence the track line spacing for track guidance. When the vehicle is following the track lines, the implement protrudes into the already worked area by the defined value.



NOTE

This setting does not affect the overlap of the automatic part-width section control.

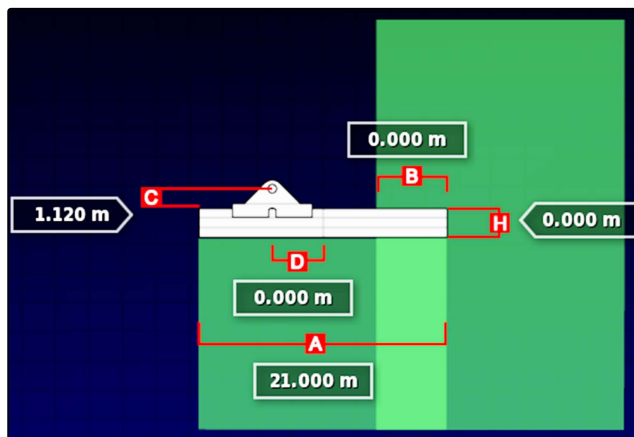
1. In the setup menu, tap on "Implement" > "Geometry".



2. Select geometry value "B".

3. Enter the value.

4. Confirm with



5.8 Configuring the part-width section control

CMS-T-00000402-A.1

5.8.1 Configuring part-width section control for field sprayers

CMS-T-00000403-A.1

Configuring the part-width sections

In this menu, the part-width sections can be configured.



NOTE

For ISOBUS implements, the configuration of the part-width sections is performed only through the Universal Terminal.

- For information on the configuration of part-width sections for non-ISOBUS implements, please contact AMAZONE.



CMS-T-001357-B.1

Configuring the tact

In this menu, the on/off point delays for switching the individual part-width sections are set. The part-width sections can also all be set together to the same on/off point delay on the "All" line.

CMS-T-000923-B.1



NOTE

For ISOBUS implements, the configuration of the on/off point delays is performed only through the Universal Terminal.

- For information on the configuration of on/off point delays for non-ISOBUS implements, please contact AMAZONE.

Configuring the virtual section switch

CMS-T-000894-A.1

The virtual section switches can be included on the function bar in the operating menu and in the job view.


1. In the setup menu, tap on "Implement" > "Section control" > "Section switch".



2. Tap on "Type".



3. Choose "Virtual" in the selection list.

4. Confirm with .

5. Tap on "Switches".



6. Enter the desired number.

NOTE

A maximum of 16 section switches can be activated.

7. In the "Switch" table, assign each section to a switch.



NOTE

Multiple part-width sections can be actuated with the same section switch. To do so, the part-width sections must be assigned to the same section switch.

Section	Switch
1	1
2	2
3	3
4	4
5	5
6	6

5.8.2 Configuring section control for fertiliser spreaders

CMS-T-00000404-A.1

Configuring the tact

In this menu, the on/off point delays for switching the individual part-width sections are set.



NOTE

For ISOBUS implements, the configuration of the on/off point delays is performed only through the Universal Terminal.

- For information on the configuration of on/off point delays for non-ISOBUS implements, please contact AMAZONE.

CMS-T-000907-B.1



Enabling virtual section switches



NOTE

This function is not available for fertiliser spreaders.

CMS-T-000932-A.1



5.8.3 Configuring section control for seed drills

CMS-T-00000405-A.1

Configuring the part-width sections

In this menu, the part-width sections can be configured.



NOTE

For ISOBUS implements, the configuration of the part-width sections is performed only through the Universal Terminal.

CMS-T-000890-B.1



- For information on the configuration of part-width sections for non-ISOBUS implements, please contact AMAZONE.

Configuring the tact

In this menu, the on/off point delays for switching the individual part-width sections are set. The part-width sections can also all be set together to the same on/off point delay on the "All" line.

CMS-T-001053-B.1



NOTE

For ISOBUS implements, the configuration of the on/off point delays is performed only through the Universal Terminal.

- For information on the configuration of on/off point delays for non-ISOBUS implements, please contact AMAZONE.

Configuring the virtual section switch


The virtual section switches can be included on the function bar in the operating menu and in the job view.

CMS-T-001342-A.1



1. Select "Setup menu" > "Implement" > "Section control" > "Section switch".
2. Tap on "Type".



3. Choose "Virtual" in the selection list.
4. Confirm with .
5. Tap on "Switches".



6. Enter the desired number.

NOTE

A maximum of 16 section switches can be activated.

- In the "Switch" table, assign each section to a switch.



NOTE

Multiple part-width sections can be actuated with the same section switch. To do so, the part-width sections must be assigned to the same section switch.

Section	Switch
1	1
2	2
3	3
4	4
5	5
6	6

5.9 Defining the lower limit for the working speed

CMS-T-001334-A.1

In this menu, the speed at which the implement starts the application can be defined.

- In the setup menu, tap on "Implement" > "Sprayer (spreader, precision airplanter)" > "ISOBUS settings".



- Tap on "Switch off at low speed".



- Enter the speed.



NOTE

This function is disabled when the speed is set to 0 km/h. The application will not be stopped when the vehicle comes to a standstill.

5.10 Configuring audio signals

CMS-T-001361-B.1

The AmaPad can issue acoustic signals for specific implement functions.

- Audio signal for main switch: when the audio signal is enabled, a tone is issued when the main switch is actuated.

- Audio signal for tank switch: when the audio signal is enabled, a tone is issued when the tank switch is actuated.
- Audio signal for part-width sections: when the audio signal is enabled, a tone is issued when the part-width sections are switched on or off.

**NOTE**

The following audio signals are not supported by ISOBUS implements:

- Audio signal for the tank switch
 - Audio signal for the main switch
1. In the setup menu, tap on *"Implement" > "Sprayer (Spreader, Planter) > "Audio"*.
 2. Tap on the button for the desired audio signal.



3. Enable the audio signal

or

disable.

5.11 Configuring the GPS speed simulation

CMS-T-000928-C.1

In this menu, it can be defined that the AmaPad should determine the speed using the GPS signal, and like the AmaPad, transmit the speed to the implement.

**NOTE**

The speed must only be transmitted to the implement when there is no speed source available to the Universal Terminal. In this case, both speed simulations can be enabled. One of the sources can then be selected through the Universal Terminal.

1. In the setup menu, tap on *"Implement" > "Speed"*.



When the ISO ground speed is enabled, the speed is transmitted to the implement through the ISOBUS protocol.

2. Tap on *"ISO ground speed"*.



3. Enable the speed simulation

or

disable.

When the GPS NMEA2000 speed is enabled, the speed is transmitted to the implement through the GPS NMEA2000 protocol.

NOTE

The GPS NMEA200 protocol can be enabled if the tractor sends a signal, but the GPS speed signal should still be used.

4. Tap on *"GPS NMEA2000 speed"*.



5. Enable the speed simulation

or

disable.

5.12 Enabling the GPS NMEA2000 position

CMS-T-00000013-A.1

When this function is enabled, the position is transmitted to the implement through the GPS NMEA2000 protocol.

NOTE

The GPS NMEA2000 protocol can be enabled to transmit the GPS signal through the CAN bus.

1. In the setup menu, tap on *"Implement" > "Speed"*.



2. Tap on *"GPS NMEA2000 position"*.



3. Enable the function

or

disable.

Using the operating menu



CMS-T-00000438-A.1

1

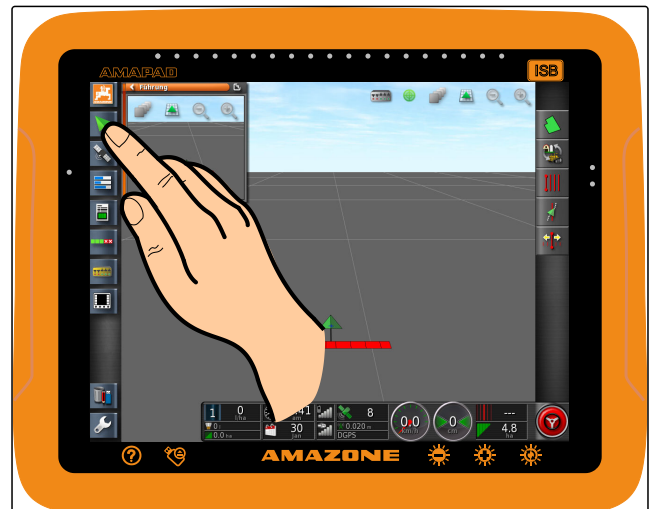
Using the function menu

CMS-T-00000440-A.1

1.1 Opening a miniature view

CMS-T-000742-A.1

- Open the miniature views with the buttons in the function menu.




1.2 Maximising the miniature view

CMS-T-000749-A.1



NOTE

Not all miniature views can be maximised. Miniature views that can be maximised have this button at the


top right corner: 



NOTE

The maximised miniature view cannot be minimised again. To close the maximised miniature view, a different miniature view must be maximised.

To maximise miniature views, there are 2 options:

- Tap on 

or

Swipe over the screen horizontally to the right on the miniature view.



1.3 Using the tabs in the miniature view

CMS-T-000631-B.1

Several miniature views contain tabs that can be individually opened.

- Open the tabs with the buttons **1**.




1.4 Closing a miniature view

CMS-T-000745-A.1

To close the miniature view, there are 3 options:

- Tap again on the button for the opened miniature view

or

Tap on  at the top left of the miniature view

or

Swipe horizontally from the miniature view towards the function menu.




2

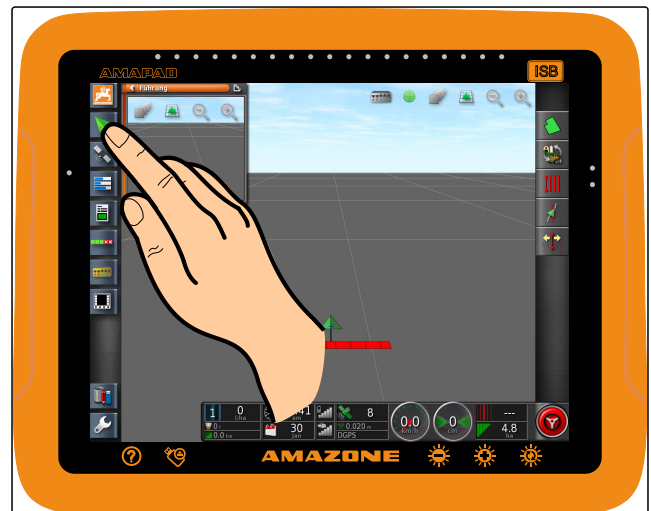
Using the map view

CMS-T-00000441-A.1

2.1 Calling up the map view

CMS-T-000634-A.1

1. In the function menu, open the miniature view of the map view with .





2. enlarge the miniature view.



2.2 Enlarging or reducing the map




CMS-T-000628-A.1

- In the map view, enlarge  or reduce  the map section.

2.3 changing the perspective

CMS-T-000638-A.1

3 perspectives are available. The button changes depending on the set perspective.

Button	Description
	The upper edge of the map remains oriented to the north.
	The map is oriented in the direction of travel and turns along with the vehicle.
	The map is oriented in the direction of travel. An artificial horizon is shown.

- *To change the perspective,*
tap on the button on the map until the desired perspective is set.

2.4 Panning the map

CMS-T-000651-A.1

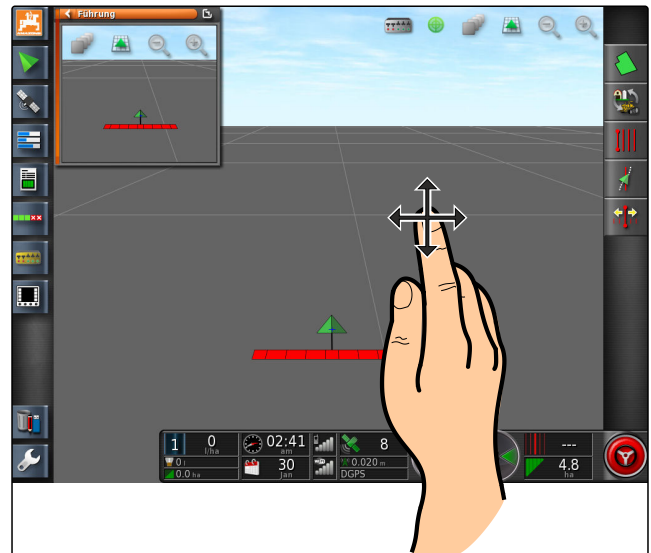
To obtain a better overview, the map can be panned with your finger.




REQUIREMENTS

- ✓ Map panning is enabled; see page 42

1. Swipe with your finger over the map.





- ➔ The symbol for vehicle focus turns green.
2. *When the vehicle symbol should be shown in the centre of the map again,*
focus on the vehicle symbol with .

2.5 Selecting map layers

CMS-T-000648-A.1

Map layers are elements that are shown on the map.

1. Open the "Map layers" menu with .
2. Select the desired elements from the list.
3. Confirm with .



➔ The selected elements will be shown on the map.


3

Configuring the dashboard

CMS-T-00000444-A.1

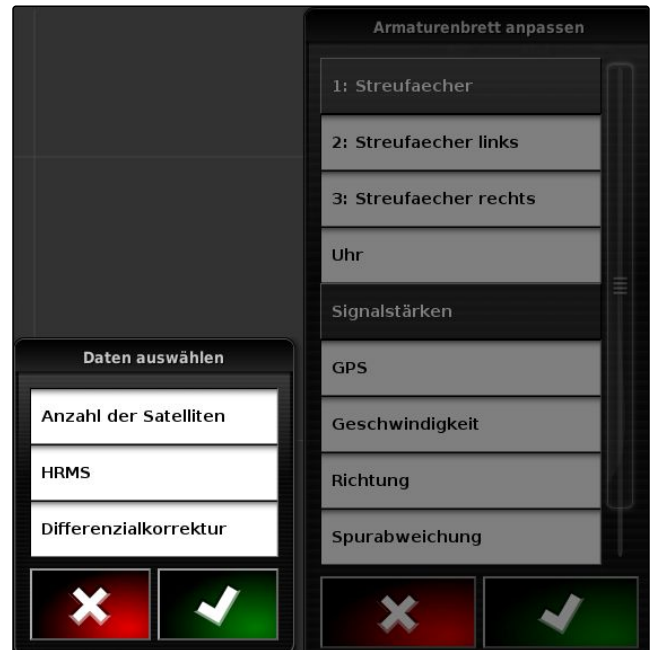
3.1 Adding data fields

CMS-T-005024-A.1

**REQUIREMENTS**


✓ Function is enabled in user controls; see page 46

1. Tap on any data field on the dashboard.



➔ The selection list for the data fields will be opened.

2. Select the desired data fields

3. Confirm with 



3.2 Editing data fields

CMS-T-005022-A.1

1. Tap on any data field on the dashboard.




- ➔ The selection list for the data fields will be opened.

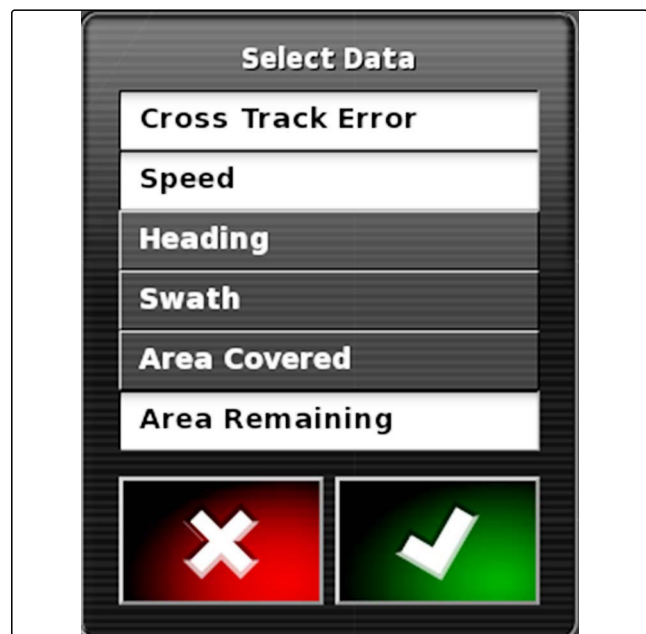
2. To edit an existing data field on the dashboard, tap on the desired data field on the dashboard.



- ➔ The selection list for the data will be opened.

3. Choose the desired data for the selected data field.

4. Confirm with .



Working without a job



CMS-T-006709-C.1

If the job data should not be recorded, work can be performed without using a job. To do so, the "Quick start" function is used to automatically create a job, and delete it again when the function is called up again.



REQUIREMENTS

- ✓ User access level has been set to "Standard" or "Expert"; see page 45


1. In the setup menu, tap on "System" > "Functions" > "Track guidance".



2. Tap on "Help with job processing".



3. Select "Quick start".

4. Confirm with .

5. In the setup menu, tap on "System" > "Functions" > "Quick start".



6. In the "Options" list, select the option "Change job".



7. Enable the option with "Option status".



8. Under "Measures", select "No job".



9. Enable the "Hide on success" option



10. Disable all of the other enabled options.

11. Select  in the job menu.

➔ A job will be automatically created. The job data will not be saved.

12. In the job menu, start the job with  and .

13. To work a different area,

select  again.

➔ All of the recorded data, such as field boundaries or obstacles, will be deleted and can be created for the new area.

Managing jobs

CMS-T-00000446-C.1

1

Using the job assistant

CMS-T-006658-C.1

The job assistant shows information on the menus in the map view. The information contains instructions on how to use the individual menus.



REQUIREMENTS

- ✓ The job assistant is enabled; see page 49

1. Select  in the job menu.

➔ The job assistant will be shown.

2. Select the desired menu in the job menu.

➔ The job assistant shown the information on the selected menu.

2

Using the quick start

CMS-T-006660-C.1

The quick start enables the automation of work procedures. In this way, repetitive settings do not need to be entered manually.



REQUIREMENTS

- ✓ Quick start is enabled; see page 49
- ✓ Quick start is configured; see page 51

▶ Select  in the job menu.

➔ The configured work procedure will be started.

3

Editing master data

CMS-T-006674-A.1

In the menus to select the master data, the master data can also be created, edited or deleted.

The master data includes the following data:

- Customer data
- Farm data
- Worker data
- Field data
- Product data
- Crop data
- Comment templates

► To edit master data,

Select .

or

To add new master data,

Select .

or

To delete master data,

Select .

Select: Customer

Customer 1	Summary
Customer 2	Customer
Customer 3	First Name
Customer 4	Street
	PO Box
	Postal Code
	City
	State
	Country
	Phone
	Mobile
	Fax Number
	Email



4

Starting a job


CMS-T-001561-C.1


When starting a job, the application will be started and the job data will be recorded.



REQUIREMENTS

- ✓ GPS receiver is connected
- ✓ GPS is configured; see page 55.
- ✓ Vehicle is configured; see page 73
- ✓ Implement is configured; see page 83
- ✓ Field is created; see page
- ✓ Job is created and the field is added to the job; see page

1. In the job menu, tap on .

2. Start the job with .


→ The  button changes into the  button.



TROUBLESHOOTING

The job cannot be started?

The conditions for starting the job have not be fulfilled. The "Start job status" window will be shown. A red status display means that these conditions have not been fulfilled.

- ▶ **Red status display for the "GPS received":**
Check whether the GPS receiver is properly connected and selected.
- ▶ **Red status display for "Job selected ":**
Select the job.
- ▶ **Red status display for " Console ready ":**
Call up further information with  and rectify the displayed errors.
- ▶ **Red status display for " Implement loaded ":**
Select the implement.
- ▶ **Red status display for " Vehicle loaded ":**
Select the vehicle.
- ▶ **Red status display for " ECU synchronised ":**
Reconnect the implement.





5



Interrupting a job

CMS-T-001442-B.1

When the job is interrupted, the application is stopped and job data is no longer recorded.

1. In the job menu, tap on .

2. Interrupt the job with .

➔ The  button changes into the  button.

6

Creating a new job

CMS-T-000353-B.1

To edit a field, a job is required. When starting a job, the application will be started and the job total values will be recorded.


The job total values include the following data:

- Distance in working position
- Time in working position
- Worked area
- Applied quantity



REQUIREMENTS

- ✓ When boundary lines or tracks lines should be created, a field must be created.

1. In the job menu, tap on .

2. Call up the "Create job" menu with .

3. Enter a name for the job under "Name".

NOTE

Sensible names should be assigned to make it easier to manage the jobs.

The automatically generated name consists of the following elements:


- The word "Job"
- Date of creation
- Time of creation

NOTE

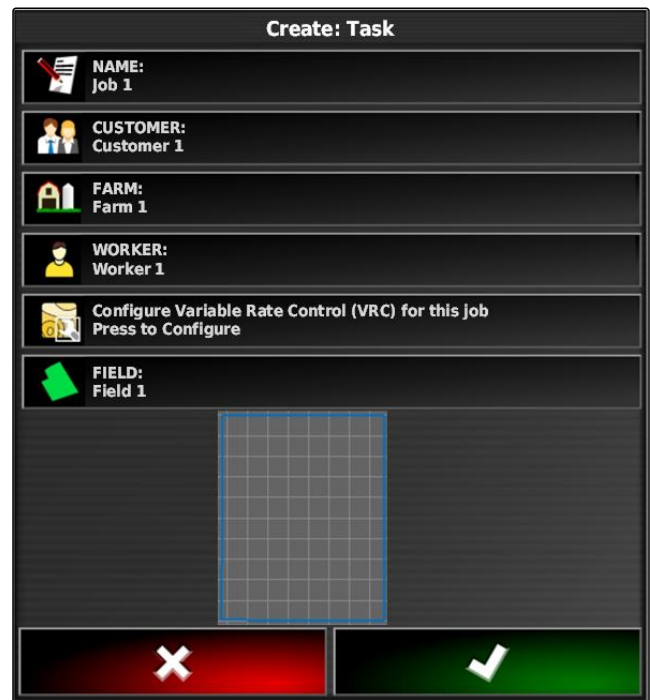
The following data belongs to the master data and is optional. To add the master data to the job, the master data can be selected from a list. If master data has not been created yet, see page 110.

4. Under "Customer", indicate for whom the job is being processed.
5. Under "Farm", indicate the farm for which the job is being processed.
6. Under "Worker", indicate who is processing the job.
7. Under "Field", select the field that will be worked.

➔ When a field has been selected, a preview of the field will be shown.

8. Confirm entries with .

9. If a rate control should be assigned to the job, see page 186.



7

Importing job data

CMS-T-000400-B.1




Job data can be created with a Farm Management Information System on a PC. This job data can then be imported as a job data file ("TASKDATA.XML") onto the AmaPad using a USB flash drive.

NOTE

Only one "TASKDATA.XML" file can be imported.
However, a "TASKDATA.XML" file can contain multiple job data.

NOTE

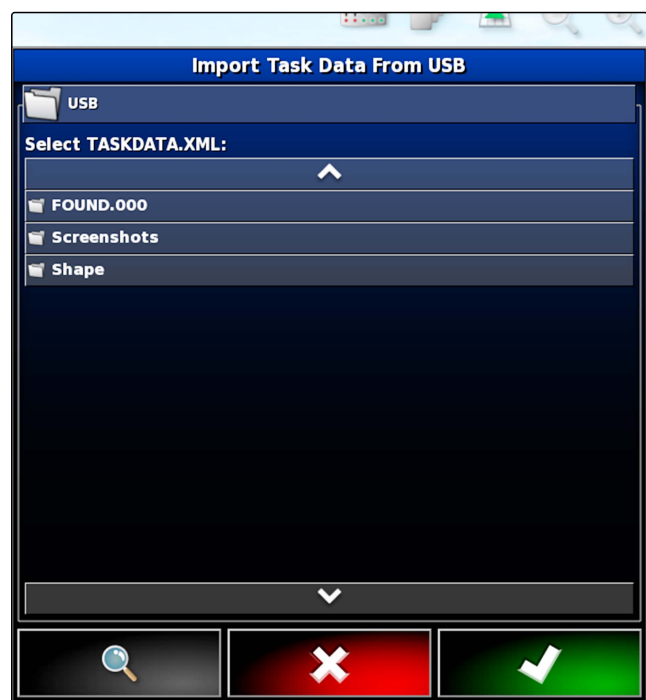
When the job data is imported, the existing jobs on the AmaPad will be deleted. To keep the existing jobs, they must be exported; see page .


1. Insert the USB flash drive with the "TASKDATA.XML" file into the AmaPad.
 2. In the job menu, tap on .
 3. Tap on .
 4. Tap on .
- ➔ The import menu will be opened and the content of the USB flash drive will be shown.
5. Select the folder containing the "TASKDATA.XML" files

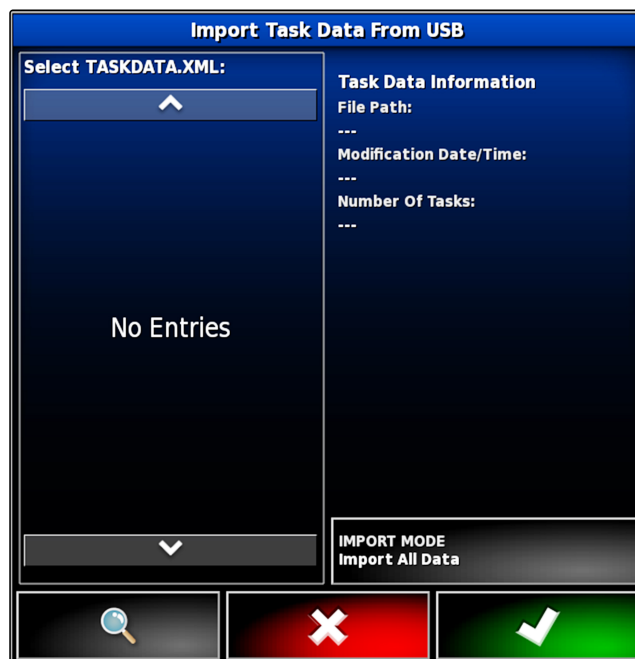
or

To show all "TASKDATA.XML" files on the USB flash drive,

tap on .



6. Select the desired "TASKDATA.XML" file.
7. Under "Import mode", select whether all of the data or only master data should be imported.
8. Confirm selection with .
9. *If job data is on the AmaPad:* confirm overwriting.



➔ The job data will be imported.

8

Exporting task data

CMS-T-000396-B.1

Job data can be exported with a USB flash drive to manage it with a Farm Management Information System on a PC.



NOTE


The job data includes the following data:


- Vehicle data
- Implement data
- Working times
- Worked area
- Total application rate
- Field data
- Master data


When job data is exported, it will be deleted on the AmaPad. The inventory data and master data will be copied.

A job data backup will be created in the inventory manager. If the job data have been lost, see page .

1. Insert the USB flash drive into the AmaPad.

2. In the job menu, tap on .

3. Tap on .

4. Tap on .

➔ The "Export job data" menu will be opened.




NOTE

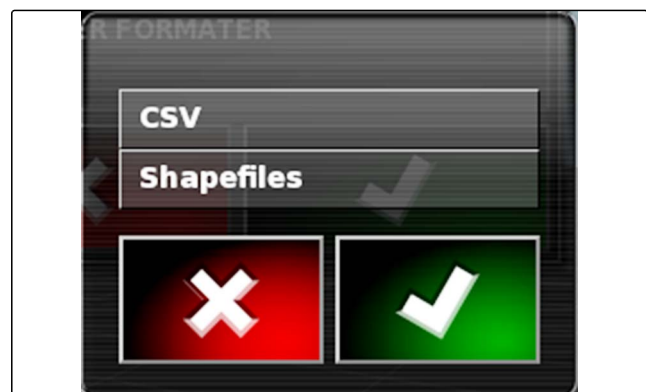
In addition to the ISO-XML format, the file formats CSV and shape file can be selected.

5. Tap on "Export formats".



6. *If other data formats are required, select the additional data formats.*

7. Confirm with .




➔ The job data will be exported.

9

Selecting a job

CMS-T-000406-B.1

This menu can be used to select created or imported jobs to start them.

1. In the job menu, tap on .

2. Open the "Select job" menu with .

Menu overview:

"Filter": Filter jobs; see page 117.

"Sorting": Sort jobs; see page 118.

The found jobs can be chosen from this selection list.

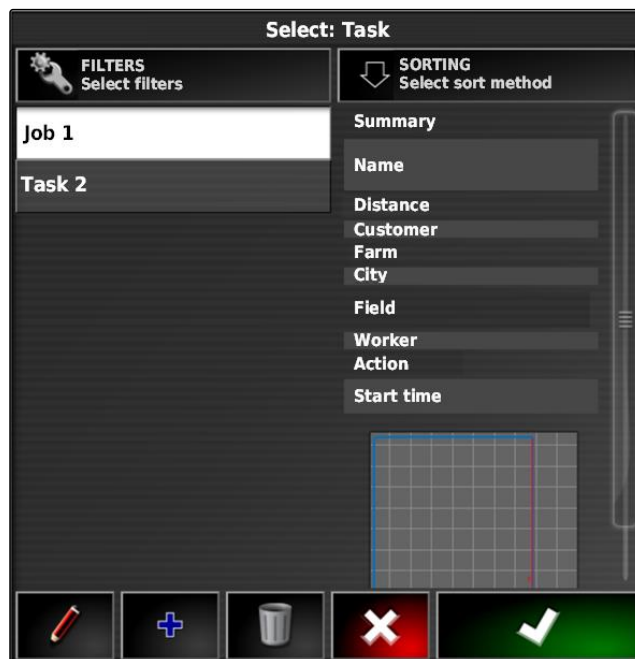
"Overview": The overview shows the information on the selected job. In the bottom area, the boundary lines for the selected job are shown. Blue lines for work areas, red lines for exclusion areas, a green triangle for the vehicle position.



: Edit job



: Add new job;



3. Choose a job from the selection list.

4. Confirm selection with



10

Filtering jobs

CMS-T-004590-A.1

The jobs can be filtered according to the master data. To do so, filters are added in the "Select jobs" menu. These filters can be individually edited.

1. Tap on "Filter".

2. Select a filter from the list.

3. Confirm selection with



➔ The selected filter will be shown.

4. Tap on the filter.

5. Select the desired master data.

6. Confirm selection with .

➔ The jobs will be filtered according to the selected master data.

11

Sorting jobs

CMS-T-004588-A.1

Found jobs can be sorted according to the following methods:

- Name: the jobs are sorted alphabetically
- Time: the jobs are sorted according to the starting time. The most recent starting time is listed first.
- Distance: the jobs are sorted according to the distance from the corresponding field to the vehicle position.
- Map: existing field in a radius are shown on a small map. To select a job, the corresponding field can be selected from the map.

1. Tap on "Sorting".

2. Select the sorting method.

3. Confirm selection with .



➔ The existing jobs will be sorted.

12

Deleting a job

CMS-T-000129-B.1

The worked area and the recorded total values for the current job can be deleted.



NOTE

The master data and inventory data will not be deleted.



To delete master data, see page .

To delete inventory data, use the inventory data manager; see page 206.



REQUIREMENTS

- ✓ Job is interrupted; see page 110

1. In the job menu, tap on .
2. Tap on .
3. Confirm deleting.

13

Editing job data




CMS-T-007035-B.1

The job data manager is used to manage job data and master data.




REQUIREMENTS


- ✓ "Manage job data" is enabled in the user controls; see page 46

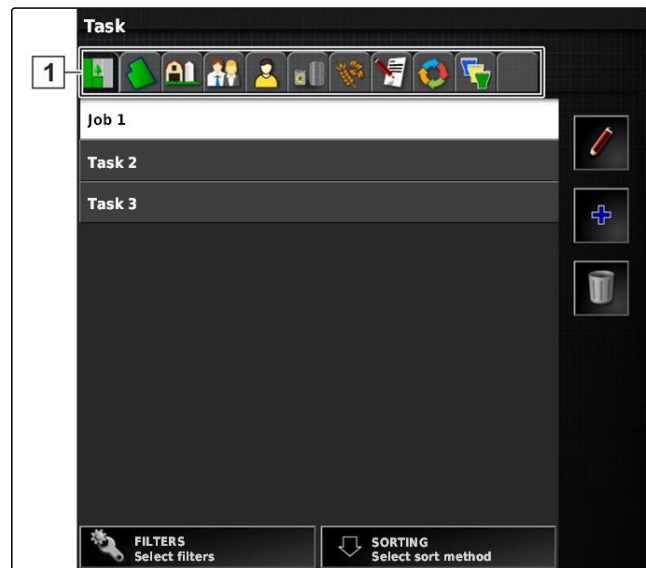
1. Select  in the function menu.
2. Using the **1**, call up the tab for the desired data.
3. *To sort or filter the master data,*
select .
4. *To edit master data,*
select 

or

To add new master data,
select 

or

To delete master data,
select .




14

Calling up job information

CMS-T-000760-B.1

The information on the current job can be called up in the function menu.

1. In the function menu, tap on .
- ➔ The miniature view of the job information will be shown.

- 1 Job settings
- 2 Job statistics
- 3 Job total values
- 4 Track guidance
- 5 Job status: Job started:  Job stopped: 



2. To obtain a general overview, enlarge the miniature view.

15

Define working time


CMS-T-000416-B.1


During the execution of a job, detailed information can be entered about the work. For example, the time for repairs or work preparation can be documented in the job statistics.



REQUIREMENTS

- ✓ Function is enabled in user controls; see page 46
- ✓ Job is interrupted; see page 110

1. In the job menu, tap on .

2. Open the "Set time type" menu with .

3. Select the work to be performed.
4. Start the job.



➔ The working time will be documented.



NOTE

The default setting for the type of work is *"Effective"*. When the job is interrupted, the type of work will be set back to the default setting.

Managing fields

J



CMS-T-00000447-A.1

1

Creating a new field

CMS-T-000499-B.1

A field is defined as an area that should be worked. A field must be created so that boundary lines and flag points can be created and saved.

1. In the job menu, tap on .
2. Call up the "New field" menu with .
3. Enter a name for the field under "Name".

NOTE


Enter a sensible name to make it easier to manage the fields later.


NOTE


The following data belongs to the master data and is optional. To add the field to the master data, the master data can be selected from a list. If master data has not been created yet, see page 110.


4. Enter the owner of the field, the owner of the farm or the employer under "Customer".
5. Enter the farm to which the field belongs under "Farm".
6. Enter the plants that are on the field under "Crop type".
7. When a crop type has been selected under "Crop type", enter the plant variety that is on the field under "Crop variety".


Create: Field



NAME:
Field 14.Jun, 2016 1645



CUSTOMER:
Customer 1


FARM:
Farm 1


CROP TYPE:
Crop Type 1


AREA:
10,000 ha





8. Enter the size of the field under "Area".

9. Confirm entries with .

2

Creating a boundary line

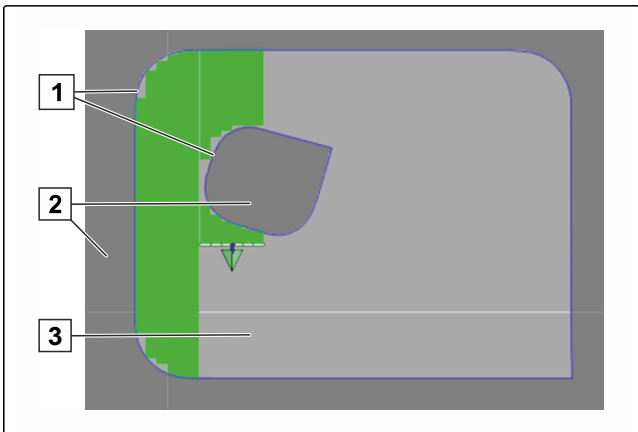
CMS-T-00000448-A.1

2.1 Creating the boundary line manually

CMS-T-000300-B.1

An area can be marked with a boundary line **1**. This area can be defined as an exclusion area **2** or a work area **3**. Using the recorded boundary line, the AmaPad calculates the size of the marked area. When the area has been defined as a work area, the AmaPad can calculate the size of the worked areas and remaining areas. When a boundary line has been created, the automatic part-width section control can stop the application when the implement exits the work area.

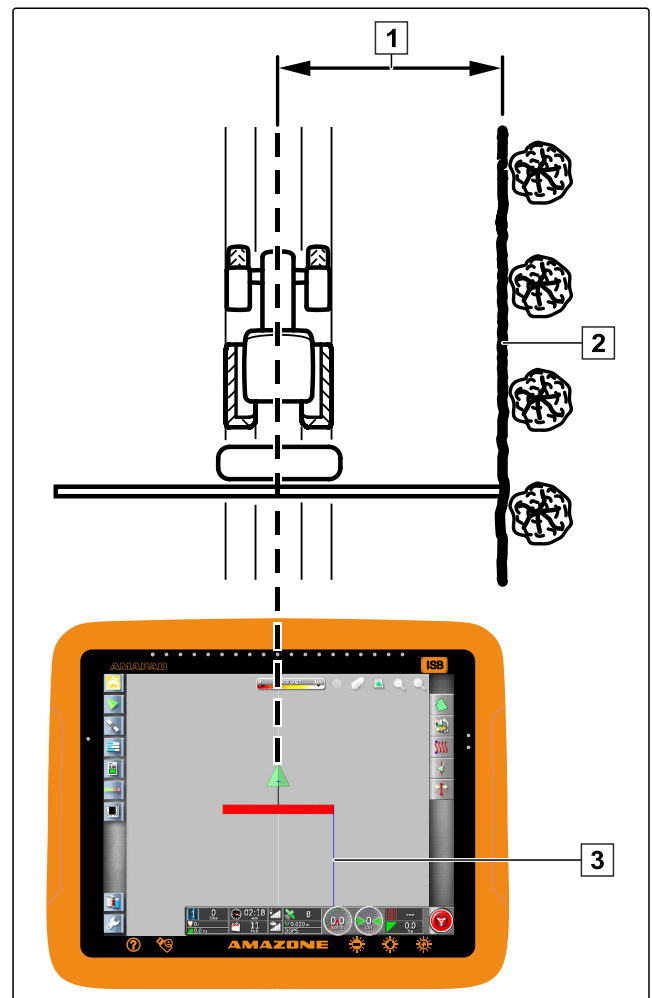
A boundary offset can be configured for the boundary line recording. The boundary offset describes the distance between the middle of the vehicle and the edge of the vehicle or implement. When a boundary offset has been specified, the boundary line can be recorded without having to actually drive at the edge of the boundary area.



NOTE

The boundary offset serves to precisely record the boundary line. Determine the exact boundary offset.

- 1 Boundary offset
- 2 Edge of the boundary area
- 3 Boundary line on the AmaPad



REQUIREMENTS

- ✓ Field is created; see page
- ✓ Job is created and the field is added to the job; see page
- ✓ Implement is selected; see page 87





NOTE

The implement does not need to be connected to the vehicle.

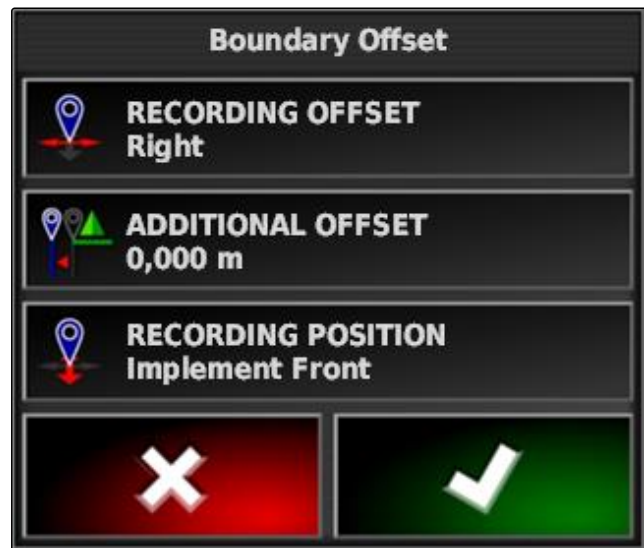




NOTE

The boundary line can also be recorded during application. To do so, the job must be started; see page 110.

1. In the job menu, tap on .
2. Call up the "Boundary offset" menu with .


3. Under "Offset for recording", enter the side of the implement on which the boundary line is being recorded.
4. To enlarge or reduce the boundary offset, enter a positive or negative value under "Additional offset".
5. Under "Recording position", enter the exact position at which the boundary line is being recorded.
6. To record the boundary offset in front of or behind the vehicle, enter a positive or negative value under "Additional front offset".



7. Confirm entries with .
8. Drive to the field edge.
9. Start the boundary line recording with .
10. Drive around the boundary area.

NOTE

If obstacles prevent driving at the edge of the boundary area or the vehicle must be turned, the boundary line recording can be interrupted. When the boundary line recording is continued, the resulting gap in the boundary line is automatically replaced by a straight line. To interrupt the boundary line recording, see page 126.


11. When the starting point has been reached, terminate the boundary line recording with .
- ➔ The boundary line will be saved and assigned to the selected field.
12. Edit the boundary line, see page .

2.2 Interrupting the boundary line recording

CMS-T-00000449-A.1

Interruption with the Pause button

CMS-T-000432-A.1

1. In the field menu, interrupt the boundary line recording with .

2. Resume the boundary line recording with .

Interruption with part-width section control

CMS-T-000426-A.1



REQUIREMENTS

- ✓ Function is enabled in the setup menu; see page 44
- ✓ Job is started; see page 110

1. Switch off all of the part-width sections.
- ➔ The boundary line recording is interrupted.
2. *To resume the boundary line recording:*
Switch on the part-width sections.

2.3 Creating boundary lines with a shape file

CMS-T-000375-B.1

Boundary lines that were previously created in a Farm Management Information System can be loaded as a shape file. The shape files can be imported to the AmaPad using a USB flash drive.





REQUIREMENTS


- ✓ Field is created; see page
- ✓ Job is created and the field is added to the job; see page




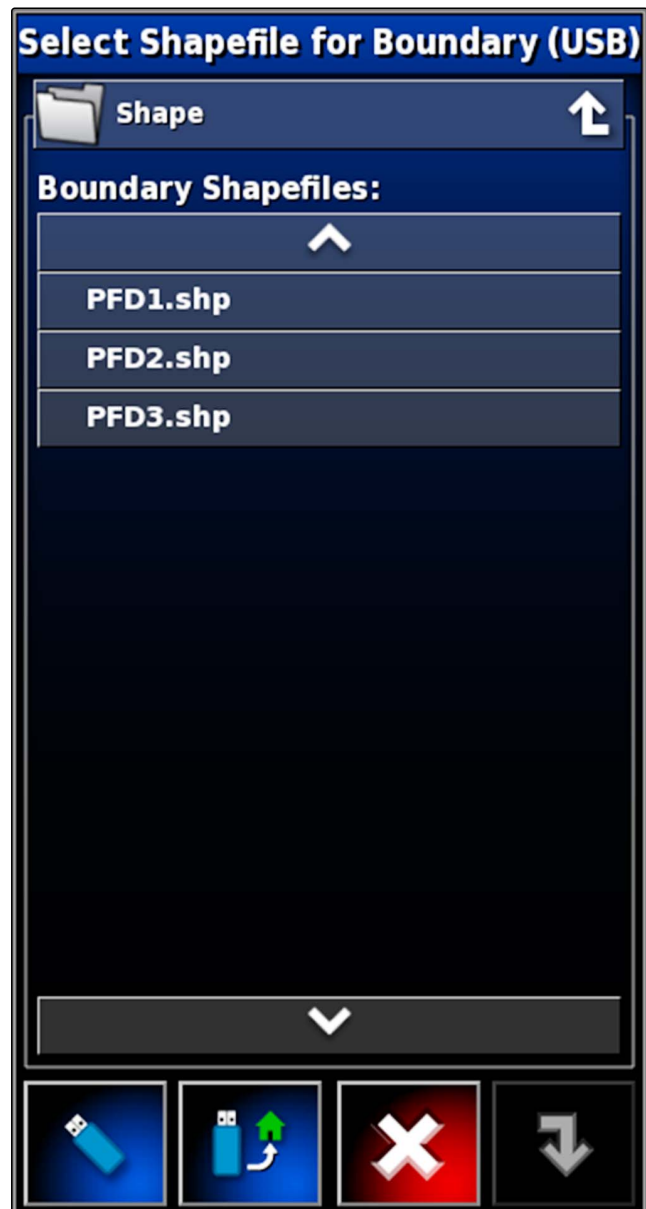
NOTE

If a shape file contains several boundary lines, all of the existing boundary lines are saved with this field.

1. Insert the USB flash drive with the shape file into the AmaPad.
2. In the job menu, tap on .
3. Tap on .

4. Tap on .


5. Tap on .



➔ The folders on the USB flash drive will be shown.

6. Select the folder containing the shape files.

7. Select the desired shape file.

8. Confirm with .

➔ If the vehicle is located near the boundary area, the boundary area will be shown on the map.

2.4 Creating the boundary line from the coverage

CMS-T-002602-B.1


The AmaPad can draw a boundary line around a worked area. This makes it possible e.g. to edit the edge of a field and to create the boundary line from the worked

area. In addition to boundary lines for fields, boundary lines can be created for exclusion areas.



REQUIREMENTS

- ✓ All boundary line saved with this field have been deleted; see page
- ✓ The edge of the desired boundary area has been worked

1. In the job menu, open the field menu with .

2. select .

➔ The "Boundary line from coverage - Settings" menu will be opened.

With the "Smoothing", the radius with which the edges of the boundary line are smoothed is set. If there are gaps in the worked area, the gaps can be closed with the "Smoothing" function. To do this, the gaps must be smaller than the value entered for smoothing.

3. Adjust the value for the smoothing using the slide bar

or

enter using the button.

With the "Minimum covered area" setting, the minimum size of the worked area to obtain a boundary line is defined.

4. Adjust the value for the minimum size of the worked area using the slide bar

or

enter using the button.

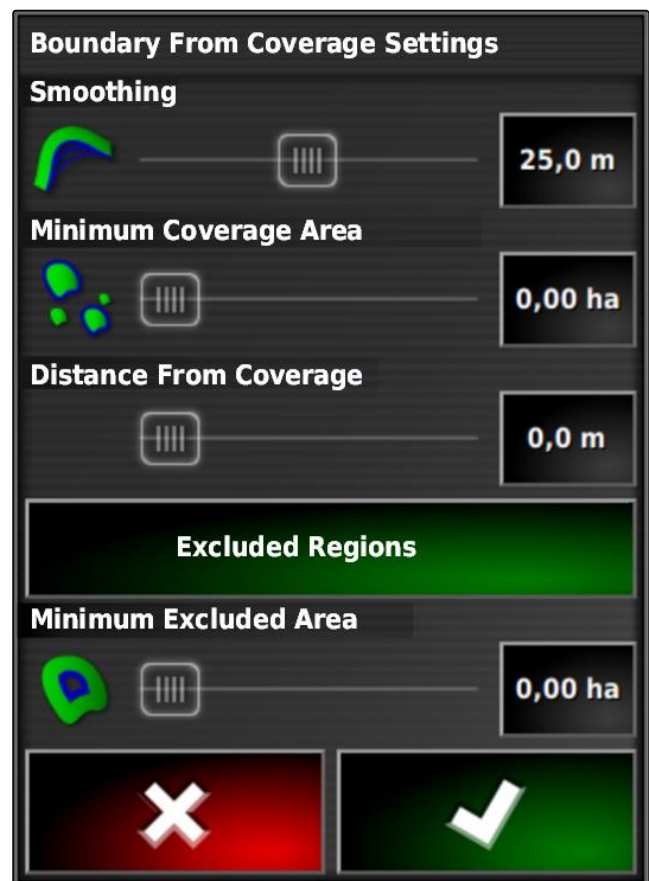
With the "Distance from coverage" setting, the distance from the boundary line to the worked area is defined.



5. Adjust the value for the boundary line distance using the slide bar


or

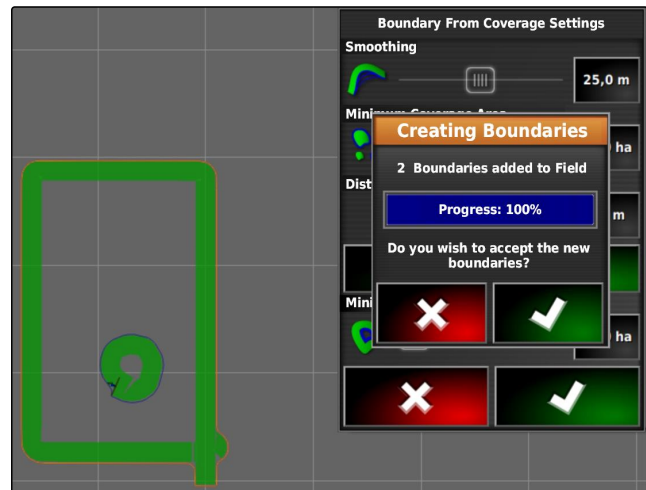
enter using the button.

6. If an exclusion area should be created, select the "Exclusion areas" button.



- ➔ The "Exclusion areas" button turns green.
- 7. With the "Minimum exclusion area" setting, the minimum size for exclusion areas is defined.
- 8. Confirm the settings with .
- ➔ The boundary lines will be created according to the settings.
- 9. Check on the map whether the boundary lines have been properly created.
- 10. *If the boundary lines were not properly created,*
cancel the procedure with  and adjust the settings.

or
If the boundary lines were properly created,
accept the boundary lines with .
- 11. *To edit boundary lines,*
see page .

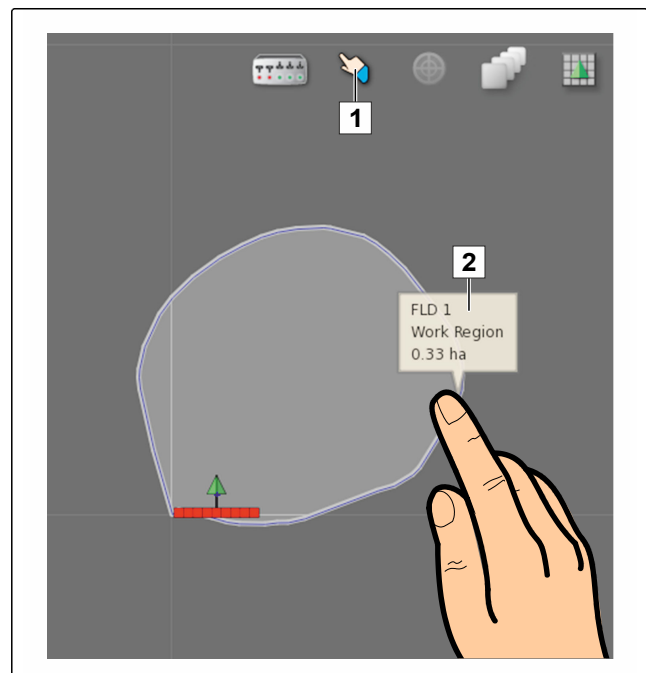


3

Editing the boundary line

CMS-T-001639-B.1

1. Place your finger on any point on the map.



- ➔ The selection confirmation **1** will be coloured after half a second.
2. Move your finger on a boundary line until the boundary line information **2** is shown.
3. Take your finger off the map.
4. Enter a name for the boundary line under "Name".

If the selected boundary line is located within a different boundary line, a headland can be drawn around the selected boundary line with the "Including the headlands" setting.

Possible settings:

- "Yes": A headland is drawn around the inner boundary line.
- "No": The inner boundary line has no headland.

The "Boundary area type" setting defines how the selected boundary line should be treated.

Possible settings:

- "Work area": the area within the boundary line can be worked.
- "Exclusion area": the area within the boundary line cannot be worked. The automatic part-width section control stops the spreading/application.
- "Disabled": the boundary line is not taken into account.



: Delete boundary area.

5. Confirm the settings with .

Edit Boundary



NAME
 Field Boundary 1



EXCLUSION HEADLAND
 No



REGION TYPE
 Work Region







4

Configuring the headlands

CMS-T-000411-C.1

The headland describes the area within the boundary line in which the vehicle is turned. The headland boundary is marked with an orange-coloured line on the AmaPad.

NOTE



The automatic part-width section control can be configured such that the sections are switched off inside the headlands; see page 176.

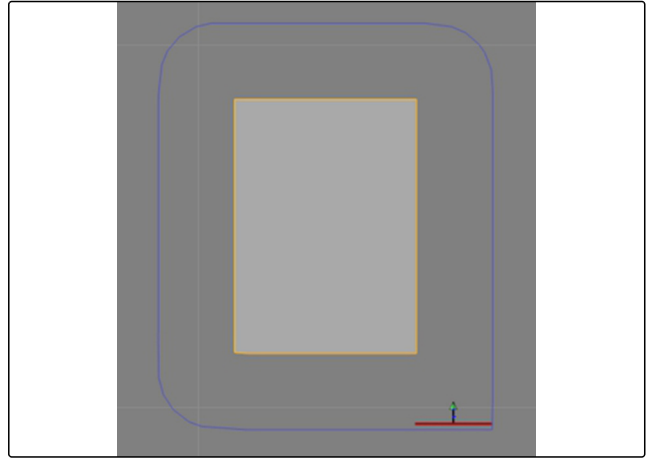
NOTE

If a boundary line is located within a different boundary line, an additional headland can be drawn around the inner boundary line.

REQUIREMENTS

- ✓ Boundary line is created; see page

1. In the job menu, tap on .
2. Call up the headland options with .



3. Enable the headlands under *"Headlands"*.
4. Under *"Headland width"*, enter the distance between the boundary line and the headland boundary.

Under the *"Headland offset"* setting, a negative and a positive value can be entered to nudge the headland boundary.

5. *If the headland boundary should be nudged*, enter the value for the offset under *"Headland offset"*.
6. Under *"Look ahead"*, enter the distance from the headland boundary at which the set actions should be performed.
7. *If actions should be triggered when the vehicle approaches the headland*, see page 133.

8. Confirm the settings with .

Headland Options


HEADLAND
Active

HEADLAND WIDTH (SWATHS)
1

HEADLAND OFFSET
0,0 m

LOOK AHEAD
10 m

Configure actions



5

Setting the headland action

CMS-T-00000450-A.1

Configuring the alarm

CMS-T-001458-B.1

When this headland action is enabled, the AmaPad issues an alarm when the vehicle approaches the headland.

1. In the "Headland options" menu, tap on "Configure actions".



Headland Options


HEADLAND
Active


HEADLAND WIDTH (SWATHS)
1

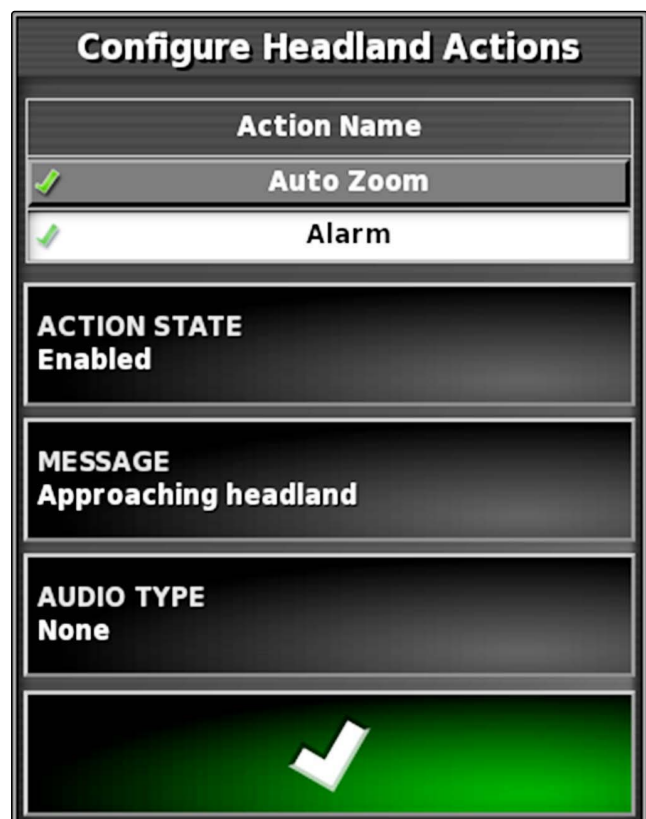
HEADLAND OFFSET
0,0 m

LOOK AHEAD
10 m

Configure actions





2. Under "Action name", select "Alarm".
3. Under "Action state", enable the action.
4. Under "Message", enter a text for the alarm message.
5. Under "Audio type", select whether an alarm tone should be issued.
6. Confirm the settings with .



Configure Headland Actions

Action Name


 **Auto Zoom**

 **Alarm**

ACTION STATE
Enabled

MESSAGE
Approaching headland

AUDIO TYPE
None




Configuring Auto Zoom

CMS-T-001464-B.1

When this headland action is enabled, the AmaPad zooms on the map when the vehicle approaches the headland.

1. In the "Headland options" menu, tap on "Configure actions".



2. Under "Action name", select "Auto Zoom".
3. Under "Action state", enable the action.
4. Under "Zoom level", set the extent to which the automatic zoom should enlarge the map.
5. Confirm the settings with .





6

Deleting all boundary lines

CMS-T-000711-B.1

With this function, all of the boundary lines that are assigned to the selected field will be deleted.

1. In the job menu, tap on .
2. Delete all of the boundary lines for the selected field with .
3. Confirm deleting.

7

Setting flag point

CMS-T-00000451-A.1

7.1 Setting flag points for hazards

CMS-T-000317-B.1

Flag points can be used to mark hazard points and obstacles on the field.



NOTE



Flag points can be adjusted in the setup menu, see page 67.

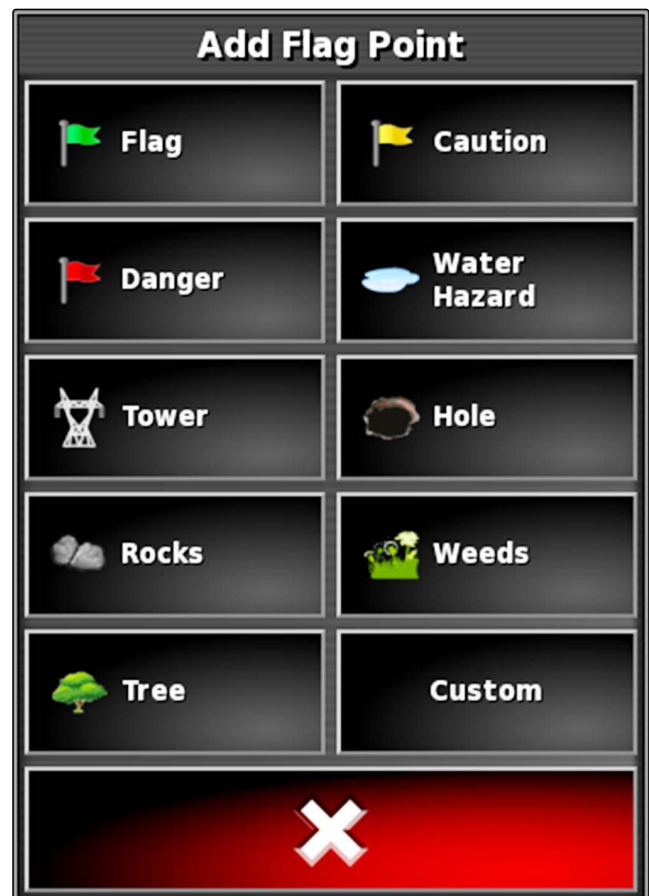
1. Drive to the hazard point.



NOTE

Flag points are always set at the position of the vehicle rear axle.

2. In the job menu, tap on .
3. Call up the "Add marker" menu with .
4. Select the desired flag point.



➔ The selected flag point has been set.

7.2 Setting custom markers


CMS-T-000391-A.1

1. Drive to the hazard point.

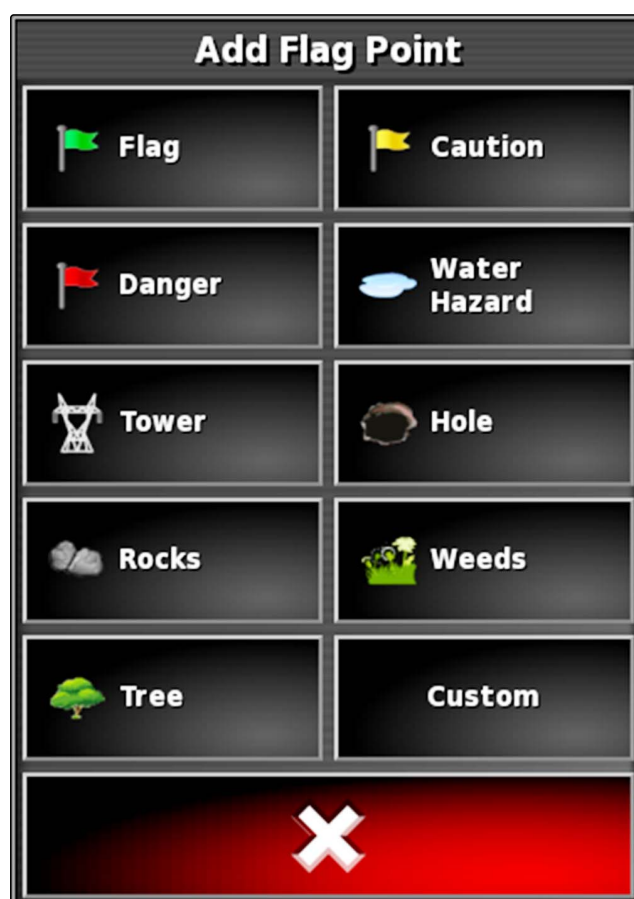
**NOTE**

Flag points are always set at the position of the vehicle rear axle.

2. In the job menu, tap on .

3. Call up the "Add marker" menu with .


4. Tap on "Custom".



5. Select the desired symbol.

6. Tap on "Flag point name".

7. Enter the name.

8. Confirm with .



➔ The flag point has been set.

7.3 Setting flag points for GPS drift correction

CMS-T-000387-A.1

With the GPS drift correction, deviations in the GPS signal can be corrected. A flag point can be used as a reference point in this case.



REQUIREMENTS



- ✓ GPS signal with the highest possible precision is available
- ✓ Vehicle geometry is defined; see page 75

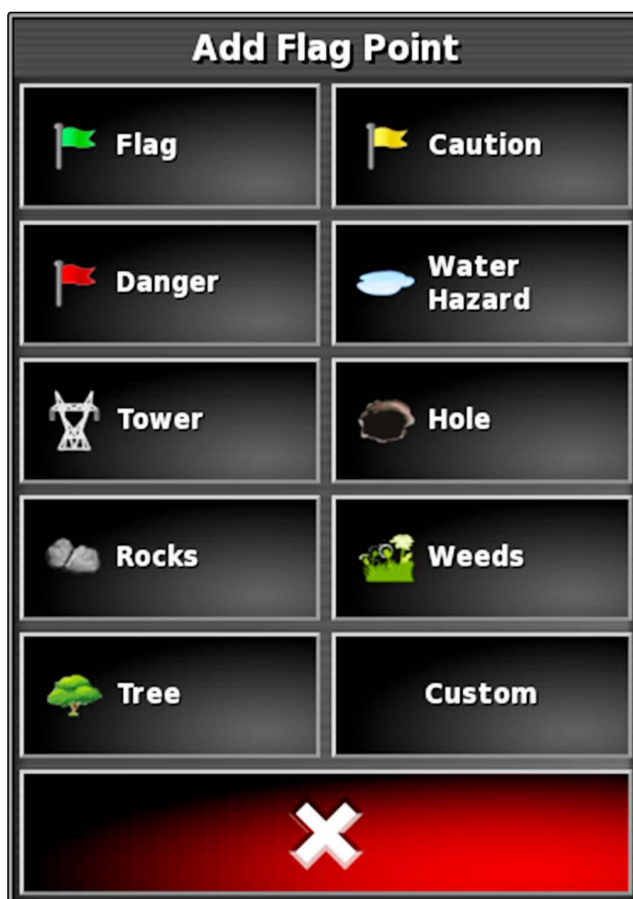
1. Drive to a distinctive position on the field that can serve as a reference point.



NOTE

Flag points are always set at the position of the vehicle rear axle.


2. In the job menu, tap on .
3. Call up the "Add marker" menu with .
4. Tap on "Custom".



5. Select the desired symbol.
6. Tap on "Flag point name".

NOTE

Enter a sensible name to clearly identify the flag point as a reference point.

7. Enter the name.
8. Select the desired symbol.
9. Confirm with .

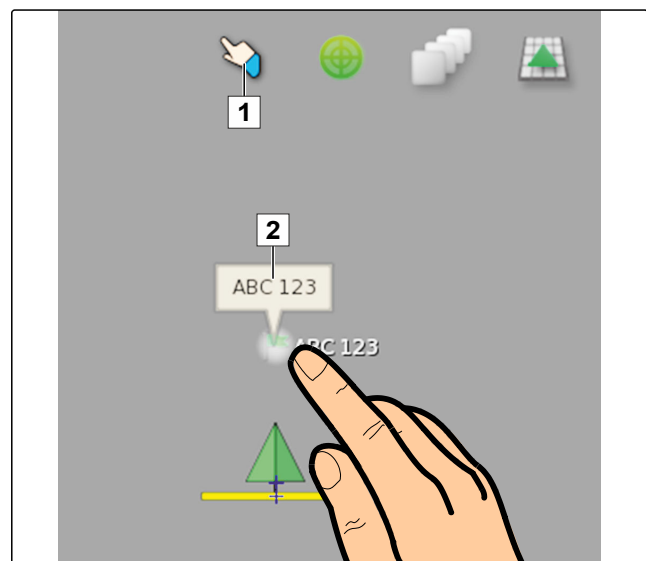


➔ The flag point has been set.

7.4 Editing flag points

1. Place your finger on any point on the map.

CMS-T-000384-A.1



- ➔ The selection confirmation **1** will be coloured after half a second.
2. Move your finger on a flag point until the flag point name **2** is shown.
 3. Take your finger off the map.
- ➔ The flag point options will be opened.

Possible settings:

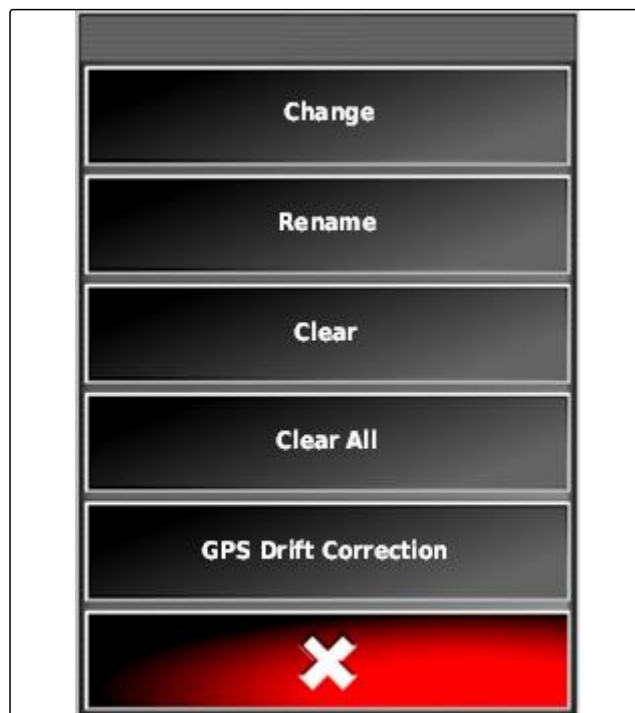
"Change": Change the symbol for the flag point.

"Rename": Rename the flag point.

"Delete": Delete the flag point.

"Clear all": Delete all of the flag points for the current job.

"GPS drift correction": Perform GPS drift correction. The vehicle symbol will be moved to the position of the selected flag point; see page 154



Using track lines



CMS-T-00000452-A.1

1

Selecting the track line pattern





CMS-T-003889-B.1








Track lines show the driver which track he needs to follow to work the field uniformly. Track lines are also required for automatic steering control. The spacing of the track lines corresponds to the set working width.



NOTE

Depending on the previously set track line pattern, the following symbols can be shown on the button for opening the track line menu:

-  for straight A-B lines
-  for circular track lines
-  for curved track lines
-  for adaptive curve track lines

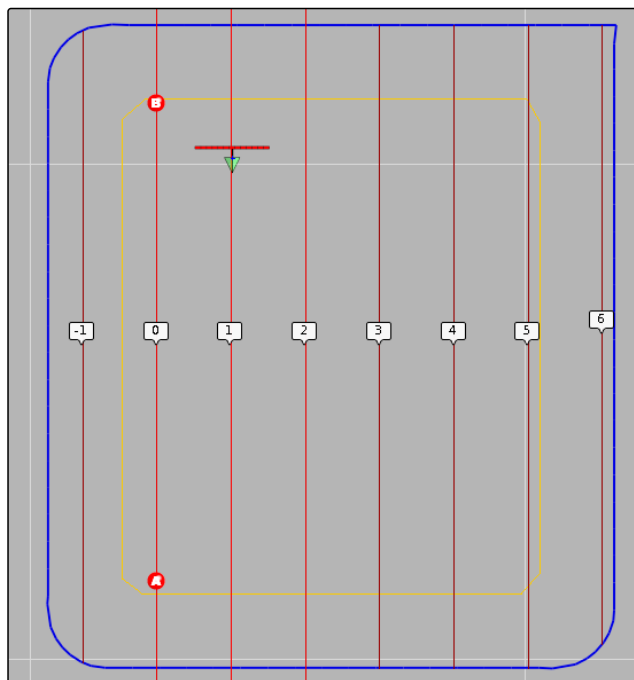
1. In the job menu, open the track line menu with , ,  or .
 2. To select a track line pattern, tap on , , or  again in the track line menu.
 3. Select the desired track line pattern.
- ➔ The symbol for the selected track line pattern is shown on the button for the track line menu.

2

Creating a straight A-B line

CMS-T-000439-B.1

Straight A-B lines are suitable for fields that are mainly worked on straight tracks.







REQUIREMENTS


- ✓ Field is created; see page
- ✓ Track line pattern for A-B lines is selected; see page




NOTE

Without a boundary line, only the middle track line and the track lines left and right of the vehicle symbol are shown. To have the track lines displayed for the entire field, a boundary line must be created; see page 124.

1. In the job menu, tap on .
2. Open the "New track" menu with .
3. Enter the name for the track line.
4. Confirm the entry with .
5. Confirm with .
6. Drive to the position on the field where the A-B line should begin.

7. Define the starting point of the A-B line with .

8. Drive to the end of the row.

9. Set the end point of the A-B line with .

➔ The AmaPad will automatically add the other track lines.

3

Creating the A-B line manually

CMS-T-000445-B.1

The coordinates of the starting point and end point of the A-B line can be entered manually. The coordinates can come from a Farm Management Information System or from a leading vehicle.




REQUIREMENTS

- ✓ Field is created; see page
- ✓ Track line pattern for A-B lines is selected; see page

1. In the job menu, tap on .


2. Open the "New track" menu with .

3. Enter the track name.

4. Confirm with .

➔ The symbol for setting the starting point is shown:



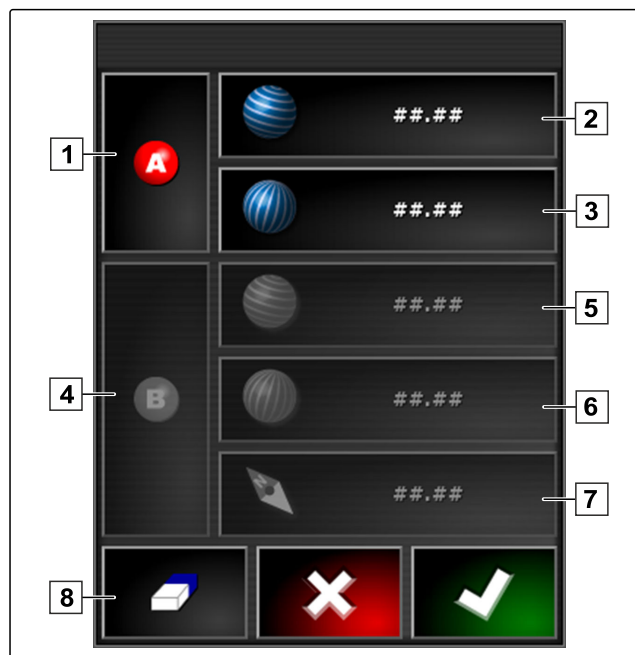
5. Open the track line menu with .

6. Open the menu for entering the coordinates with




Possible settings:

- 1 Set start point: Defines the starting point of the A-B line using the current vehicle position.
- 2 Latitude of the starting point for the A-B line.
- 3 Longitude of the starting point for the A-B line.
- 4 Set end point: Defines the end point of the A-B line using the current vehicle position.
- 5 Latitude of the end point for the A-B line.
- 6 Longitude of the end point for the A-B line.
- 7 Direction of the track line: Instead of the coordinates of the end point for the A-B line, the direction of the track line from the starting point can be entered in degrees.
- 8 Delete entries.



7. Enter coordinates.

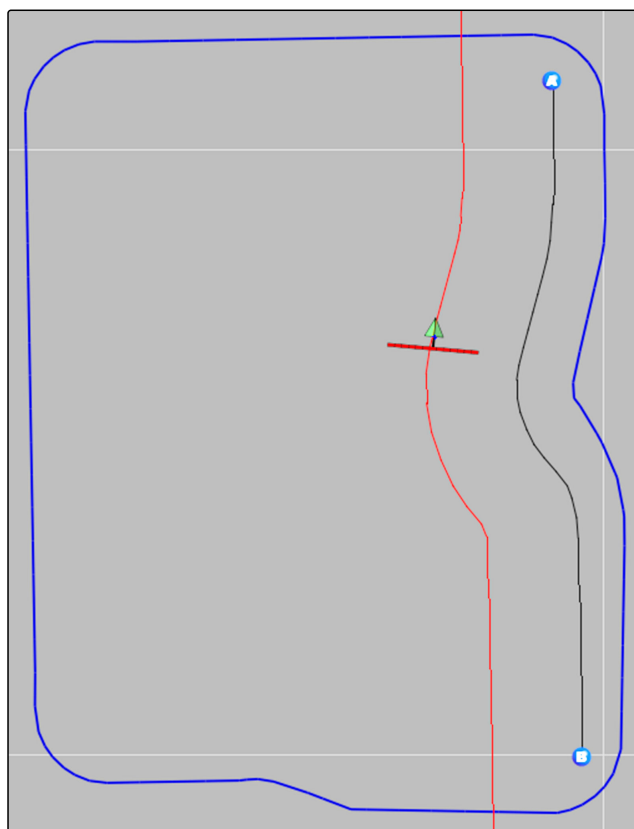
8. Confirm with .

4

Creating curved track lines

CMS-T-000449-A.1






Curved track lines are suitable for fields that are not rectangular. Curved track lines can be recorded e.g. along an irregular field edge. The field edge then serves as a template for the curved track line.





REQUIREMENTS

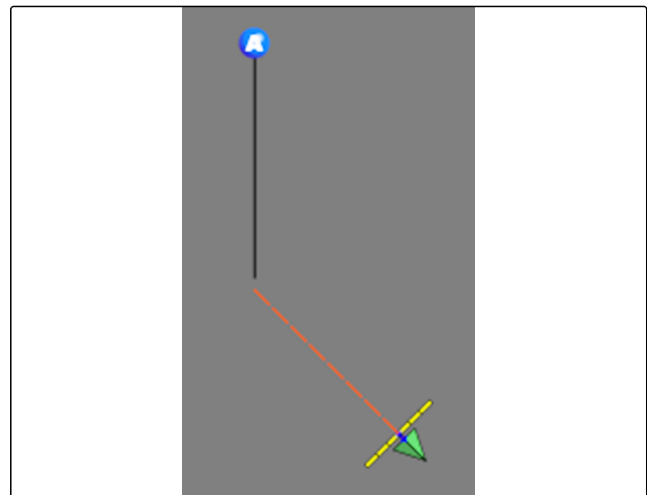
- ✓ Field is created; see page
- ✓ Track line pattern for curved track lines is selected; see page



1. Select .
 2. Call up the "New track" menu with .
 3. Enter the track name.
 4. Confirm with .
 5. Drive to the position on the field where the curved track line should begin.
 6. Set the starting point of the curved track line with .
- ➔ The recording of the curved track line will be marked with a black line.
7. *To interrupt the track line recording,*
tap on .
- ➔ A red dashed line appears between the end of the recorded track line and the vehicle symbol.



NOTE

When the track line recording is resumed, the gap between the end of the recorded track line and the vehicle symbol will be replaced by a straight line.



8. *To resume the track line recording,*
tap on .
- ➔ The red dashed line will be replaced by a black line.
9. Drive to the end of the row.
 10. Set the end point of the curved track line with .



NOTE

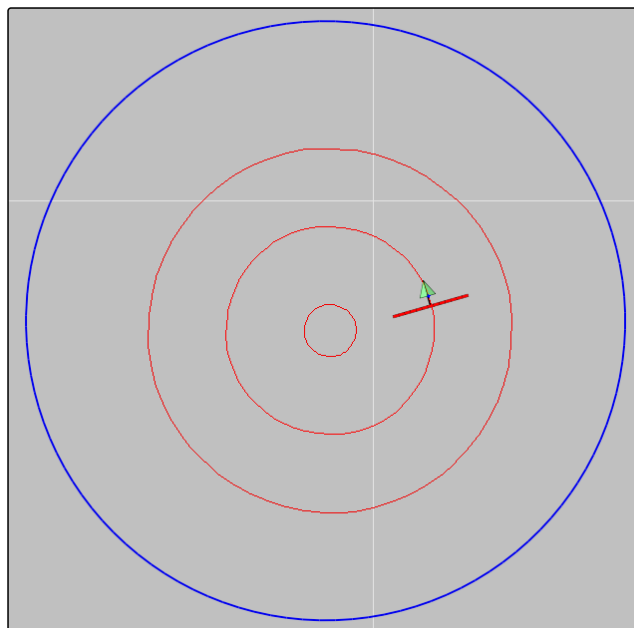
Initially, only the recorded curved track line is shown.
The corresponding curved track line will only be shown when the vehicle changes to the next row.

5

Creating circular track lines




CMS-T-000621-B.1

Circular track lines are suitable for special forms of management, where the fields are worked in a circular pattern around the centre of the field.



REQUIREMENTS


- ✓ Field is created; see page
- ✓ Track line pattern for circular track lines is selected; see page

1. In the job menu, tap on .
2. Call up the "New track" menu with .
3. Enter the track name.
4. Confirm with .
5. Drive to the centre of the field.



NOTE

The circular track line will be created around the centre of the field. Ensure that there is enough space available to drive around the centre of the field.

6. Start recording the circular track line with .
- ➔ A scale is shown for the precision of the recorded circular track line.
7. Drive in circles around the centre of the field.
- ➔ When the AmaPad has detected the radius of the circle, circular track lines will be created.

NOTE

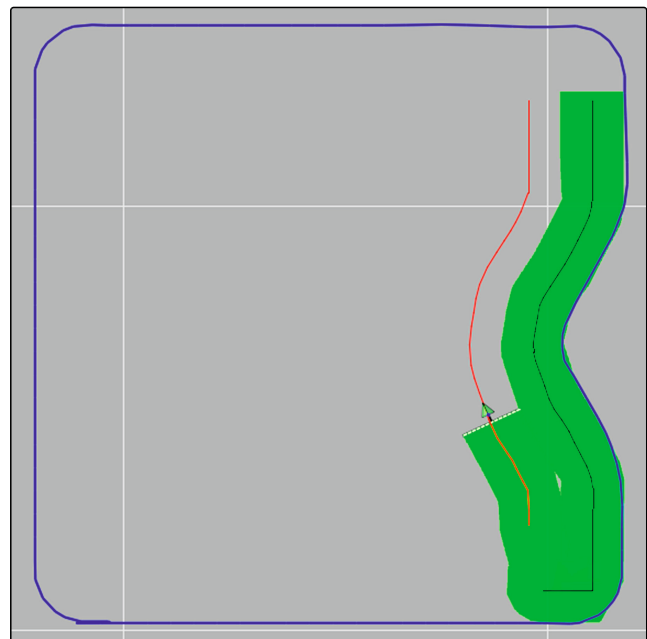
Only the middle circular track line and the circular track lines right and left of the vehicle are shown. The next circular track lines will only be shown when the vehicle changes to the next row.

6

Creating adaptive track lines


CMS-T-000618-A.1

The adaptive curved track line follows the edge of the previously worked area. This takes account of unexpected deviations while working, e.g. due to obstacles.



REQUIREMENTS

- ✓ Field is created; see page
- ✓ Track line pattern for adaptive track lines is selected; see page

1. In the job menu, tap on .
2. Start the job.
3. Work the row.

➔ The adaptive curved track line will be recorded.



NOTE

The adaptive curved track line will only be shown when the vehicle changes to the next row.

7

Re-using track lines

CMS-T-000769-B.1

Created track lines can be re-used for different jobs.



NOTE

Adaptive curved track lines cannot be re-used.



REQUIREMENTS

- ✓ Field is created; see page
- ✓ The track line pattern to be re-used is selected; see page

1. Depending on the selected track line pattern, tap on



, or in the job menu.

2. Call up the menu for selecting the track line with




3. If the track line should be imported from a USB flash drive, select the **5** button.

4. Select the customer **1**.

5. Select the farm **2**.

6. Select the field **3**.

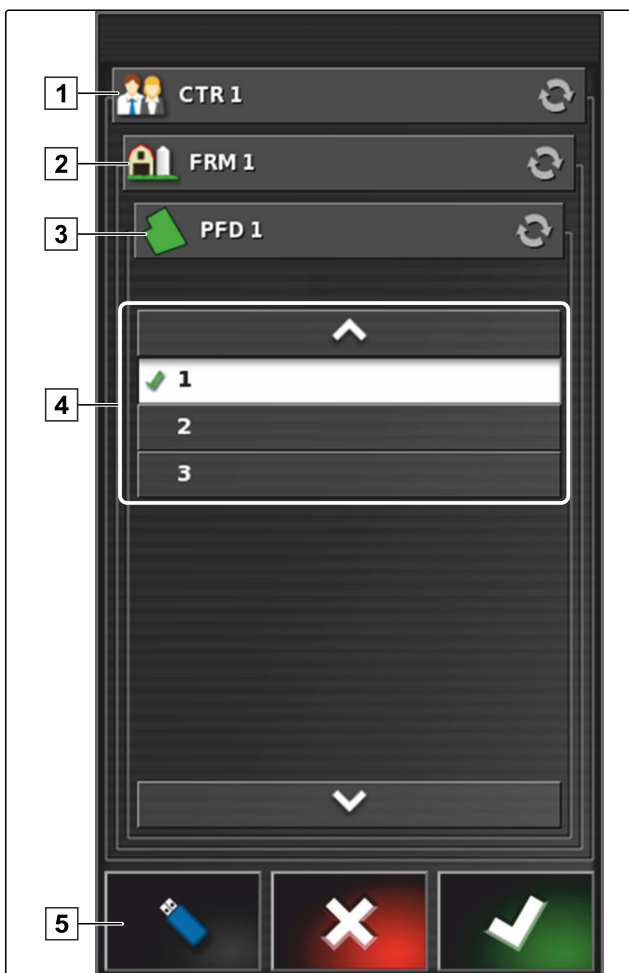
7. Select the track line **4**.

8. Confirm with .



NOTE

If a correction source with low precision has been selected, a precision warning will be shown. A correction source with low precision cannot guarantee that the created track lines can be precisely followed.



8

Following track lines

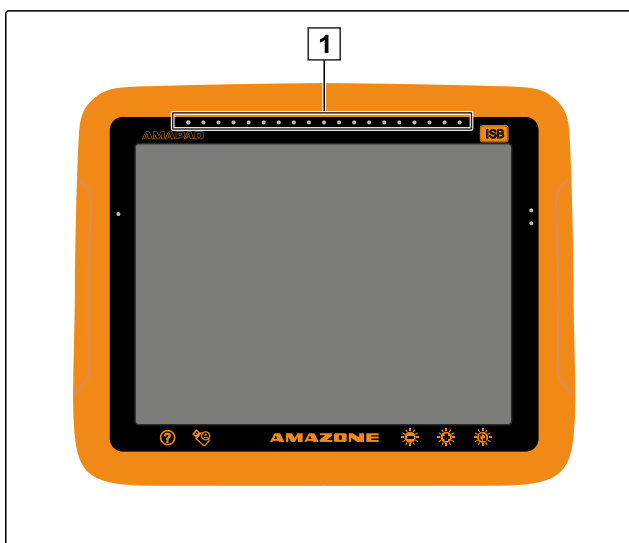
CMS-T-00000453-A.1

8.1 Checking the track deviation with lightbars

CMS-T-001520-B.1

The lightbar is located at the upper edge of the touchscreen **1**. During operation, the lightbar shows how far the vehicle has deviated from the defined track line.

The vehicle is on the right track when only the blue LED in the middle of the light bar is lit. When the vehicle deviates from the track line, the LEDs of the lightbar on the sides of the blue LED light up. The side on which the LEDs of the lightbar begin to light up depends on the basic settings.

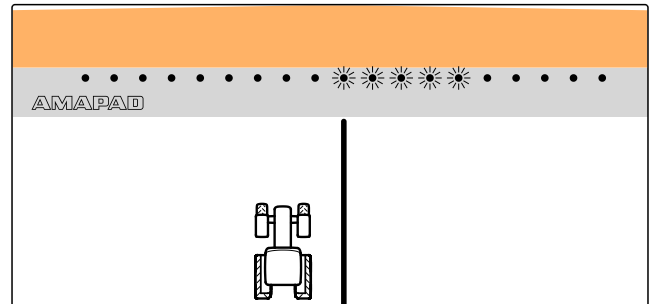




REQUIREMENTS

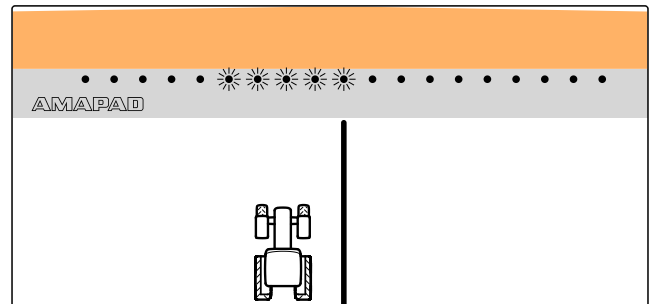
- ✓ The lightbar is enabled; see page 32
- ✓ LED mode is selected; see page 34

- *When the LED mode "Driving to" has been selected,*
steer the vehicle towards the side on which the LEDs are lit on the lightbar.



or

- When the LED mode "Driving away" has been selected,*
steer the vehicle away from the side on which the LEDs are lit on the lightbar.

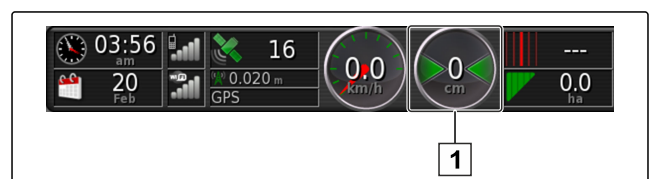


8.2 Checking the track deviation with the dashboard

CMS-T-001524-B.1

The dashboard is located at the bottom edge of the operating menu. In the track deviation data field **1**, the deviation of the vehicle from the track line is shown.

The vehicle is on the right track when 2 green arrows are shown beside the zero. Depending on the basic setting, a red arrow is shown beside the track deviation when the vehicle deviates from the track line.



REQUIREMENTS

- ✓ Display for the track deviation is enabled on the dashboard; see page 104
- ✓ LED mode is selected; see page 34



NOTE

The lightbar can remain disabled for the track deviation display on the dashboard.

1. *When the LED mode "Driving to" has been selected,*
steer the vehicle towards the side on which the red arrow appears.
2. *When the LED mode "Driving away" has been selected,*
steer the vehicle away from the side on which the red arrow appears.

9

Correcting the track lines

CMS-T-00000246-C.1

The course of the track lines can be corrected to compensate for deviations. The deviations of the track lines are caused by GPS drift. When the displayed track lines no longer match the real tracks on the field, the displayed track lines can be manually nudged on the AmaPad.

- To correct the track lines, see page 156.

Correcting the GPS reception



CMS-T-00000454-A.1

1

Performing the GPS drift correction

CMS-T-00000455-A.1

1.1 Correcting the GPS drift with the GPS drift options


CMS-T-000655-B.1

GPS drift is defined as the deviations of the GPS signal that result from the use of correction sources with low precision. GPS drift can be recognised when the vehicle symbol on the AmaPad no longer corresponds to the actual position of the vehicle.



NOTE

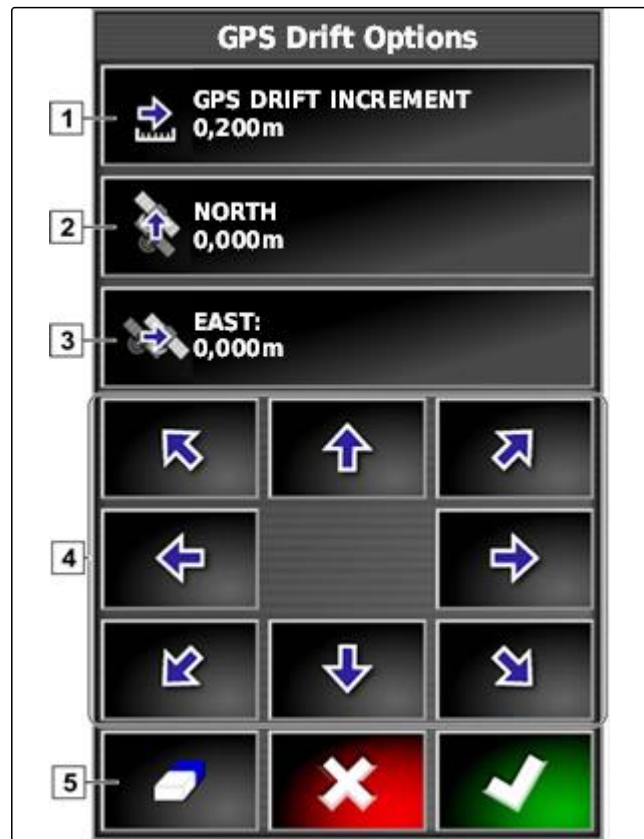
To detect the GPS drift, a real and a virtual reference point are required. The real reference point can be a position on the field that is easy to see, e.g. the entrance to a field or wheel tracks on an already worked area. The virtual reference point on the AmaPad can be the boundary line, a flag point or the worked area.

1. In the job menu, tap on .


2. Call up the GPS drift options with .

Possible settings:

- 1 Enter the length of the individual correction increments.
- 2 Display for the length of the correction that was already performed. Positive value for a correction increment towards the north. Negative value for a correction increment towards the south.
- 3 Display for the length of the correction that was already performed. Positive value for a correction increment towards the east. Negative value for a correction increment towards the west.
- 4 Direction arrow for individual correction increments. Enter the length for the correction increment 1.
- 5 Undo all of the corrections.



3. Make corrections until the position of the vehicle symbol corresponds to the real position of the vehicle.

4. Confirm with .

1.2 Correcting the GPS drift with a flag point

CMS-T-000663-B.1

GPS drift is defined as the deviations of the GPS signal that result from the use of correction sources with low precision. GPS drift can be recognised when the vehicle symbol on the AmaPad no longer corresponds to the actual position of the vehicle.

NOTE

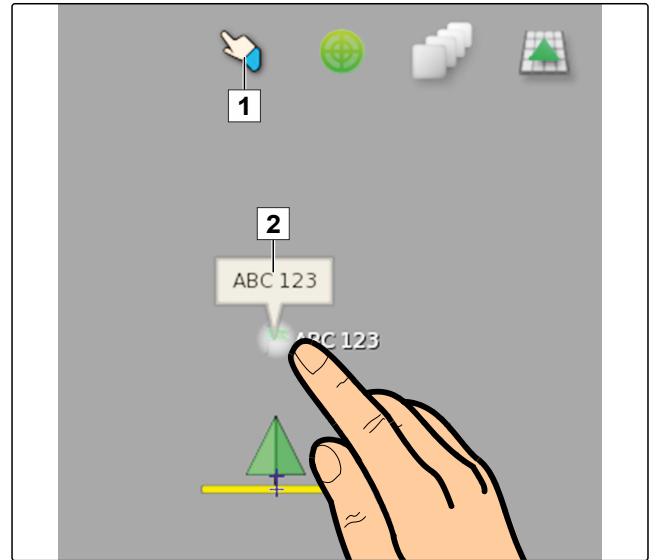
To detect the GPS drift, a real and a virtual reference point are required. The real reference point can be a position on the field that is easy to see, e.g. the entrance to a field or wheel tracks on an already worked area. A flag point can be used as a virtual reference point onto which the vehicle symbol is nudged.



REQUIREMENTS

- ✓ Flag point is set as a reference point; see page 139

1. Place your finger on any point on the map.



- ➔ The selection confirmation **1** will be coloured after half a second.

2. Move your finger on a flag point until the flag point name **2** is shown.

3. Take your finger off the map.

- ➔ The flag point options will be opened.

4. Tap on "GPS drift correction".



- ➔ The vehicle symbol will be moved to the position of the selected flag point.

2



Correcting the track lines

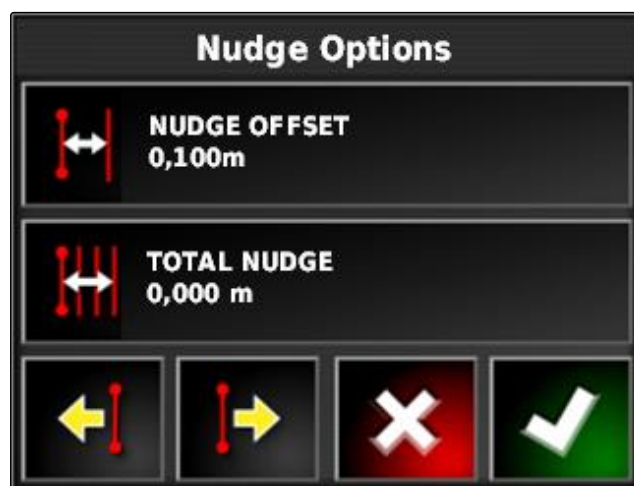
CMS-T-00000456-A.1



2.1 Nudge the track lines in increments

CMS-T-000780-B.1

The course of the track lines can be corrected to compensate for deviations that are caused by GPS drift. When the displayed track lines no longer match the real tracks on the field, the displayed track lines can be manually nudged on the AmaPad.

1. In the job menu, tap on .
2. Call up the nudge options with .
3. Tap on "Nudge offset".
4. Enter the length by which the track line should be nudged with each correction increment.





5. When the track lines should be nudged to the left, tap on .
- or
- When the track lines should be nudged to the right, tap on .
6. Tap on the button until the track lines on the AmaPad match with the real tracks on the field.

2.2 Nudging the track lines by a specified length

CMS-T-000786-B.1

The course of the track lines can be corrected to compensate for deviations that are caused by GPS drift. When the displayed track lines no longer match the real tracks on the field, the displayed track lines can be manually nudged by a specified length on the AmaPad.

1. In the job menu, tap on .
2. Call up the nudge options with .
3. Tap on "Total nudge".

NOTE

On the "Total nudge" button, the length by which the track lines were nudged is shown. Other nudges must be added or subtracted.

4. When the track lines should be nudged to the right, enter a positive value.

or

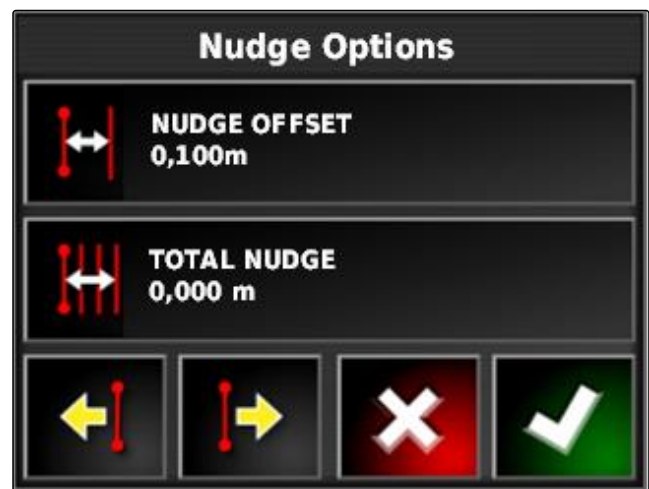
When the track lines should be nudged to the left, enter a negative value.

or

If all of the nudges should be reversed, enter "0".

5. Confirm with .



➔ The track lines will be nudged by the specified value.



2.3 Nudging the track line to the vehicle position

CMS-T-000783-B.1

The course of the track lines can be corrected to compensate for deviations that are caused by GPS drift. When the displayed track lines no longer match the real tracks on the field, the displayed track lines can be manually nudged to the vehicle position on the AmaPad.

1. In the job menu, tap on .
2. Nudge the closest track line to the vehicle position with .

3





Saving the corrected track lines

CMS-T-000793-B.1



NOTE

The corrected track lines must be saved under a new name. The previously created track lines are maintained.

1. In the job menu, tap on .
2. Call up the "Save shifted track line" menu with .
3. Tap on "Track line name".
4. Enter the name for the track line.
5. Confirm the entry with .
6. Confirm with .




- ➔ The corrected track lines will be saved and assigned to the current field.

4

Calling up GPS information

CMS-T-000608-A.1

GPS information can be called up in the function menu.

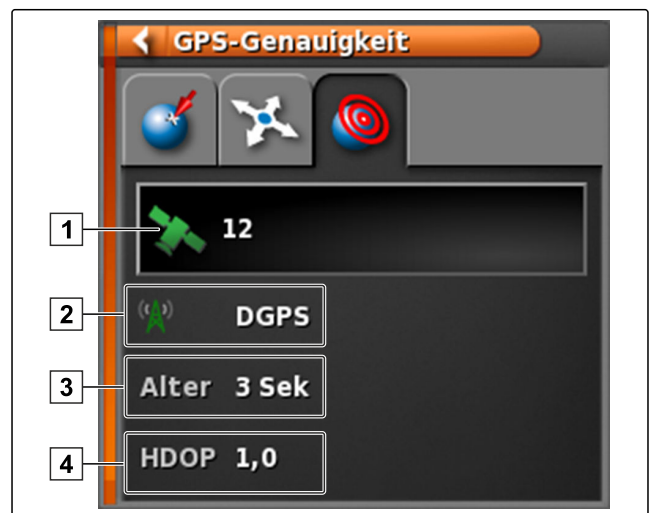
- In the function menu, call up the miniature view of the GPS information with .

- 1 GPS position
- 2 Vehicle orientation
- 3 GPS precision



GPS precision

- 1 Number of satellites, call up satellite information
- 2 Used correction signal
- 3 Age of the correction signal in seconds
- 4 Horizontal position deviation: Value smaller than 1: high precision, value greater than 4: low precision



Using automatic steering



CMS-T-00000457-A.1

1

Steering calibration

CMS-T-000668-B.1

Using the GPS data, the AmaPad can control the steering of the vehicle and keep it on a created track line. The steering must be calibrated for the automatic steering to function properly.



NOTE

In this operating manual, only the steering calibration for the AMAZONE Pantera self-propelled sprayer will be described. For information on other vehicles, please contact AMAZONE.



IMPORTANT

Risk of implement damage!



The required driving manoeuvre can cause damage to the coupled implement or the sprayer boom.

- Uncouple the implement and fold the sprayer boom before you begin with the compass calibration.



NOTE

Compass calibration involves driving in a circle and driving straight ahead for 100 m.

1. Ensure that you have sufficient space for the compass calibration.
2. In the job menu, tap on .
3. Open the "Steering calibration" menu with .

4. Tap on "Compass".



➔ Compass calibration will be started.

5. Follow the instructions on the screen.



NOTE

The wheel angle sensor must not be calibrated for the AMAZONE Pantera self-propelled sprayer. For information on other vehicles, please contact AMAZONE.

The calibration angle must only be calibrated if "RTK" has been defined as the correction source, see page 59. "RTK" is a paid correction source and is not described in this operating manual. For more information on paid correction sources, please contact AMAZONE.

2


Calling up the steering status


CMS-T-000704-B.1

The steering status provides an overview of the conditions that must be fulfilled to be able to use automatic steering.





REQUIREMENTS

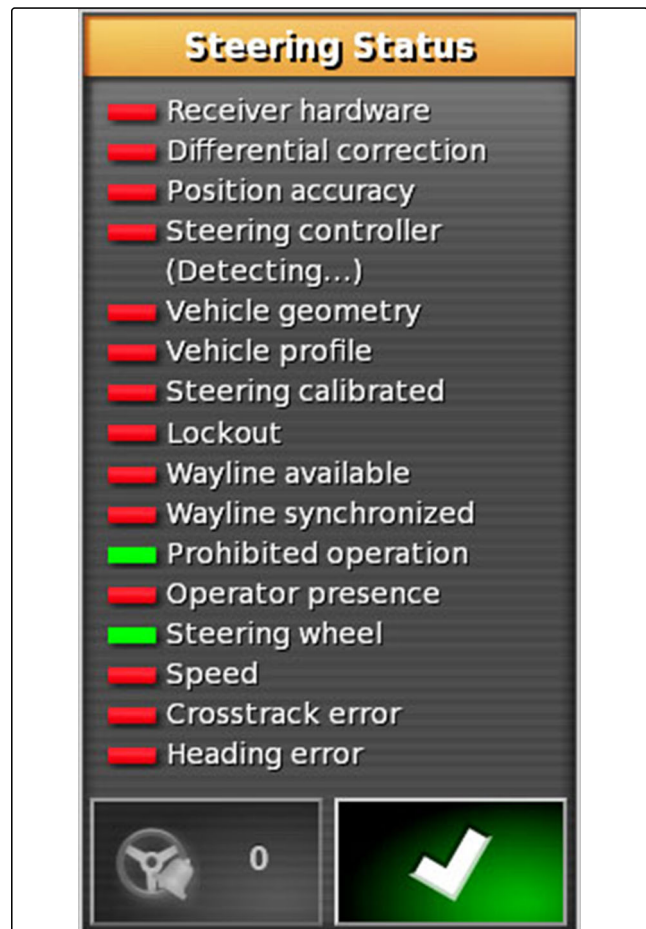
- ✓ The vehicle is at a standstill
- ✓ Automatic steering status window is enabled; see page 40
- ✓ Button for starting the automatic steering is red:
 
- ✓ Vehicle with automatic steering is configured; see page 80
- ✓ Suitable GPS receiver is configured (AGI-3 or AGI-4); see page 55
- ✓ Automatic steering is enabled; see page 82

► In the operating menu, tap on 

or

In the job menu, tap on  and .

➔ The "Steering status" will be opened.




Red status display for:	Measure
Receiver hardware	Check whether the GPS receiver is properly connected, fastened and switched on.
Differential correction	Check whether the correction source was properly configured, see page 59.
Position accuracy	<p>Check the GPS data, see page 27:</p> <ul style="list-style-type: none"> • The correction source must converge • Satellite data must have high precision • At least 4 satellites must be available • The correction source must match with the settings If the correction source is wrong: select the correct correction source, see page 59. <p>If trees, high-voltage lines or similar interfere with the reception, drive the vehicle into an open area.</p>
Steering control	<p>Check whether the steering controller is properly connected and switched on.</p> <p>Check whether the correct steering controller is selected in the setup menu, see page 80.</p>
Vehicle geometry	Check whether the vehicle geometry data is correctly entered, see page 75 or select the vehicle again, see page 77.
Vehicle profile	<p>Check whether the vehicle geometry data is correctly entered, see page 75.</p> <p>Check whether the right vehicle is selected, see page 77.</p>
Steering calibrated	Calibrate steering, see page 160.
Locking mechanism	Unlock the steering control on the vehicle.
Track line available	<p>Check whether a track line is selected, see page .</p> <p>Drive closer to the track line.</p>
Track line synchronised	<p>Check the connection to the GPS receiver.</p> <p>Load the track line again and wait until the track line is synchronised.</p>
Prohibited operation	Terminate all operations that are being executed on the AmaPad.
Operator presence	Sit on the driver's seat.
Steering wheel	Let go of the steering wheel.
Speed	Drive between 1 and 25 km/h.
Track deviation	Drive closer to the track line.
Heading error	<p>Calibrate the compass, see page 160.</p> <p>Drive onto the track line.</p>

3

Coordinating the automatic steering

CMS-T-000604-A.1

1. In the job menu, tap on .

2. Call up the "Steering coordination" menu with .



IMPORTANT

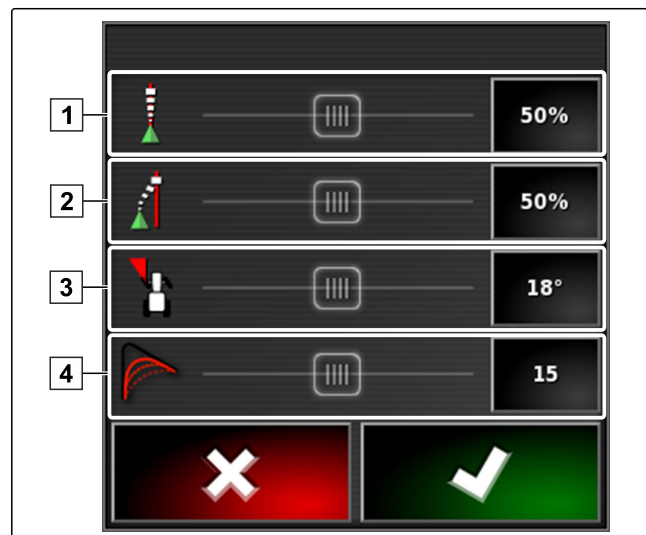
Risk of implement damage!


Because of the high setting values, the automatic steering reacts aggressively. This can cause damage to the coupled implement or the sprayer boom.

- Start by setting values for less aggressive steering reaction.
- Check the steering reaction.
- Increase the values in small steps.

Possible settings:

- 1** Track precision: The track precision defines how aggressively the automatic steering follows the track line.
- 2** Approach precision: The approach precision defines how aggressively the automatic steering steers towards the track line.
- 3** Maximum steering angle: The maximum steering angle defines how far the automatic steering can turn the steering.
- 4** Smoothing radius for curved track lines: The smoothing radius for curved track lines defines how precisely the automatic steering follows the curved track lines. With a low value, the curved track lines are followed more precisely and the curves remain sharp. With a high value, the curved track lines are followed less precisely and the curves are rounded.



3. Confirm the settings with .

4


Switching on the automatic steering

CMS-T-001557-B.1



REQUIREMENTS

- ✓ Vehicle with automatic steering is configured, see page 73
- ✓ Suitable GPS receiver is configured (AGI-3 or AGI-4), see page 55
- ✓ Automatic steering is enabled, see page 82
- ✓ Steering is calibrated, see page 160.
- ✓ All of the conditions for the steering status are fulfilled, see page 161
- ✓ Automatic steering coordinated, see page 163
- ✓ The vehicle is positioned on a track line

► In the operating menu, tap on .

➔ An alarm is issued.

➔ The automatic steering has been started.

➔ Button for starting the automatic steering turns

green: 



NOTE

If the vehicle does not exhibit the desired driving reaction, the automatic steering can be coordinated again, see page 163.

5

Delayed automatic steering switch-on

CMS-T-000562-A.1


The automatic steering can be switched on with a delay to be able to accelerate the vehicle. When the required speed has been reached, the automatic steering is automatically switched on.



REQUIREMENTS

- ✓ Vehicle speed below 2 km/h

1. Tap on  twice quickly.

➔  flashes yellow-white.

2. Accelerate the vehicle.

- ➔ When the vehicle has reached the required speed, the automatic steering will be switched on.

6

Switching off the automatic steering

CMS-T-000700-A.1




NOTE

When all of the conditions for the steering status have not been fulfilled, the automatic steering will be switched off. For an overview of the conditions, see page 161.

There are 2 options for switching of the automatic steering:

- Turn the steering wheel by a few degrees

or

In the operating menu, tap on .

- ➔ An alarm is issued.
- ➔ The automatic steering is switched off.

Using the Universal Terminal

N

CMS-T-00000458-A.1


1

Opening the Universal Terminal

CMS-T-00000556-A.1

The Universal Terminal can be used to access the implement ECU. The user interface of the implement control is shown on the AmaPad and can be operated there.


The miniature view for the Universal Terminal can be found on function bar in the operating menu.

1. In the function menu, tap on .



NOTE

There may also be a symbol for the connected implement or the connected input device on the button in the function menu. Example with fertiliser

spreader: 

- ➔ The miniature view for the Universal Terminal will be opened.

2. Enlarge the miniature view.



NOTE

To configure the Universal Terminal, see page 68.



2

Enlarging the section in the miniature view

CMS-T-000815-A.1

The display of the Universal Terminal within the miniature view can be enlarged.

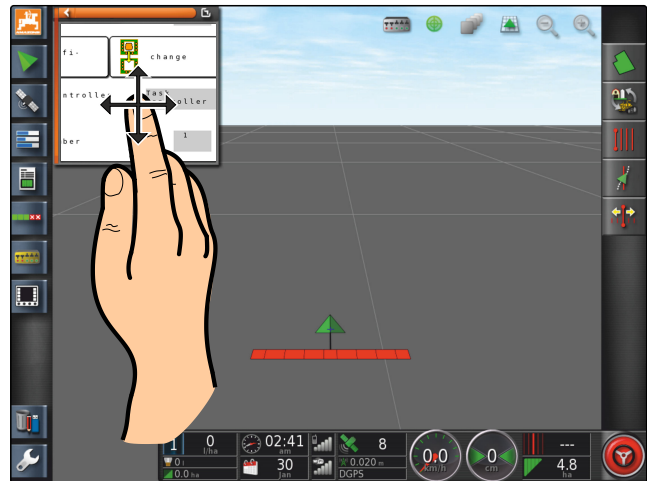
1. Double-tap on the miniature view.

➔ The selected area will be enlarged

2. *To move the section,*
swipe with your finger over the miniature view.

**NOTE**

The Universal Terminal cannot be operated using the miniature view.



3

Using automatic AUX-N assignments

CMS-T-004499-B.1

When an implement or an external input device is connected to the AmaPad, the implement or the external input device automatically sends an AUX-N assignment for specific functions to the AmaPad.

**NOTE**

The provided AUX-N assignments must be confirmed every time the AmaPad is started.

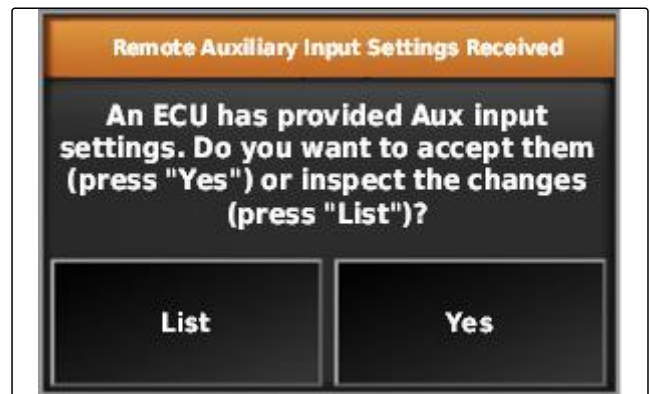
**NOTE**

It can take up to 2 minutes for the implement or the external input device to send the AUX-N assignments.

When the AmaPad has been started and an implement or external input device is connected, a message is shown with the provided AUX-N assignments.

The following selection options are available:

- Accept the provided AUX-N assignments with "Yes"
- Change provided AUX-N assignments



1. *If the provided AUX-N assignments should be changed,*
tap on "List".

➔ The list of the provided AUX-N assignments is opened on the Universal Terminal.



2. *To change the AUX-N assignments,*
see page 169 .

3. *To delete all AUX-N assignments,*
tap on .

4





Managing AUX-N functions

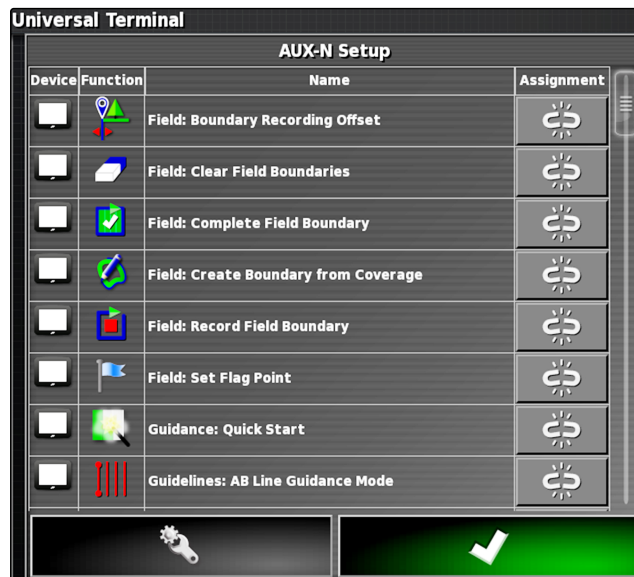
CMS-T-00000460-A.1

4.1 Opening the AUX-N assignments

CMS-T-00000461-A.1

The functions of the AmaPad and the connected implement can be executed using quick access buttons and using external input devices. For example, if an AmaPilot⁺ is connected, the functions can be assigned with the buttons on the AmaPilot⁺.

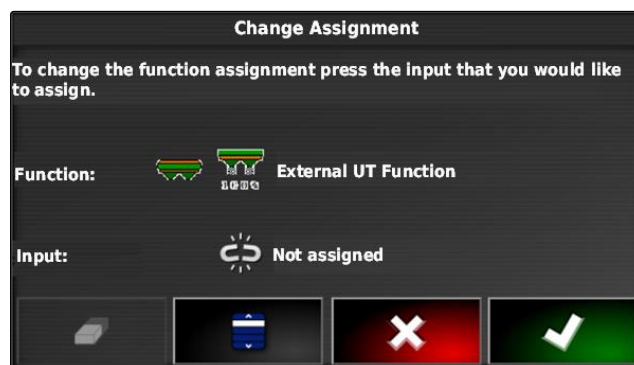
1. Select  on the Universal Terminal.
➔ The list of available functions will be displayed.
2. To filter the functions according to the implements, select .
select .
3. To assign a function, select .



➔ The "Change assignment" menu will be opened.

The following options are available for the assignment:

- Assignment for external input device; see page 170
- Assignment for miniature view; see page 171
- Assignment for button on the dashboard; see page
- Assignment through selection list; see page 171
- Delete assignment; see page 172



Assignment for external input device

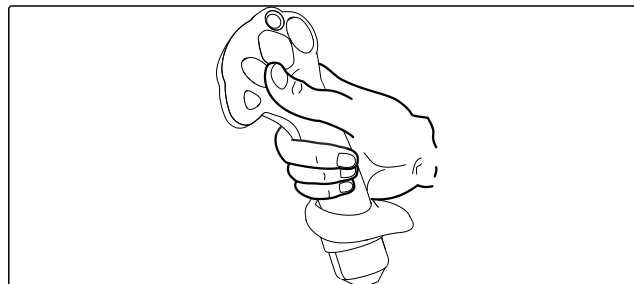
CMS-T-002579-A.1




REQUIREMENTS

- ✓ External input device is connected
- ✓ External input device is loaded on the Universal Terminal

1. Press button on an external input device, e.g. + on the AmaPilot.



➔ The selected button will be assigned to the function.

2. Confirm assignments with .

Assignment for miniature view

CMS-T-002466-B.1



NOTE

The miniature view for the AUX input is only shown when an assignment is edited or assignments are already available.

- Select the desired button in the miniature view.



- ➔ The function is assigned to the selected button.

Assignment using selection list

CMS-T-002575-A.1

1. To open a list with the input options,

Select .

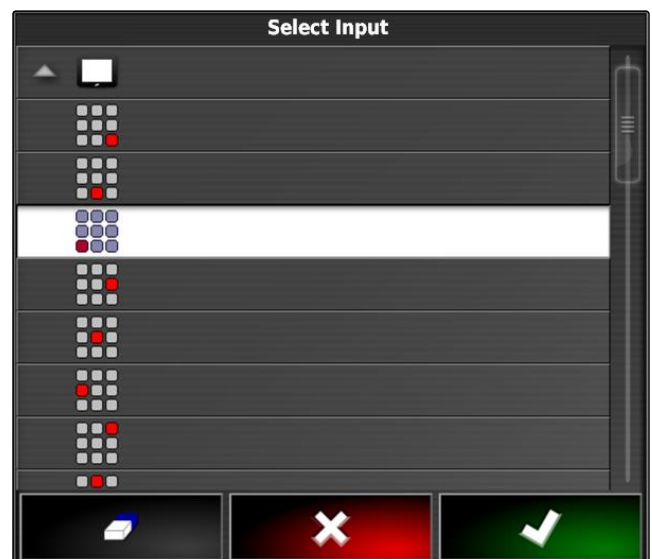
- ➔ The "Select input device" menu will be opened.

2. Select the input device from the list.
3. Select the button or the key for the assignment

or

Delete assignment with .

4. Confirm assignments with .




Deleting an assignment

CMS-T-002577-A.1

1. *To delete the assignment,*

Select  .

2. Confirm with .

Using automatic reverse drive detection



CMS-T-000153-A.1

The automatic reverse drive detection determines whether the vehicle is driving in reverse. When reverse driving is detected, the vehicle symbol also moves backwards on the map. Without automatic detection of reverse driving, the vehicle symbol turns around when driving in reverse.



NOTE

Automatic detection of reverse driving must be enabled in the setup menu; see page 48.

1. Drive the vehicle in reverse.

➔ The button for automatic detection of reverse driving

turns yellow: 

2. *When the direction of movement of the vehicle symbol does not concur with the direction of movement of the vehicle,*

tap on .

Using part-width section control



CMS-T-00000462-A.1

1

Using manual part-width section control

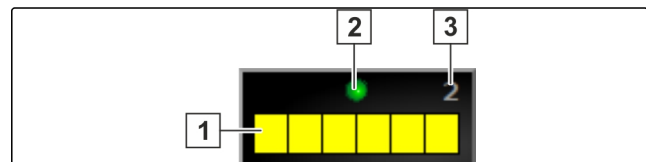
CMS-T-001507-B.1

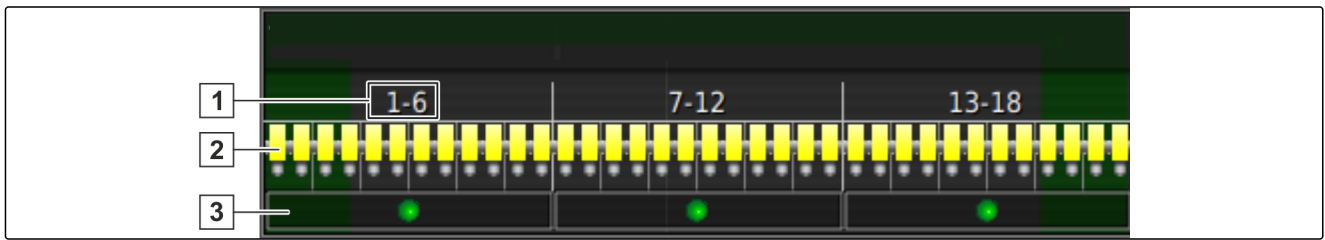
Virtual section switches can be enabled for sprayers and seed drills. The virtual section switches can be used to switch individual part-width sections on and off.

The miniature view for manual part-width section control can be found on function bar in the operating menu. Alternatively, virtual section switches can be called up on the map in the map view.

Part-width section switch in the miniature view

- 1** Part-width section status: Red: Section is switched off, Yellow: Section is switched on and the application is stopped (generally by the automatic part-width section control). Green: Section is switched on and the application is started. Orange: Section is switched on and the application is stopped or the section is switched off and the application is started (generally by the switching delay)
- 2** Status of the section switch: Green: Section switch is on, Red: Section switch is off
- 3** Switch number






Part-width section switch in the map view

- | | |
|---|---|
| <p>1 Part-width section numbers</p> <p>2 Part-width section status: Red: Section is switched off, Yellow: Section is switched on and the application is stopped (generally by the automatic part-width section control). Green: Section is switched on and the application is started. Orange: Section is switched on and the application is stopped or the section is switched off and the application is started (generally by the switching delay)</p> | <p>3 Status of the section switch: Green: Section switch is on, Red: Section switch is off</p> |
|---|---|




REQUIREMENTS

- ✓ Virtual section switch is enabled and configured; see page 91
- ✓ Job is started; see page 110
- ✓ Automatic part-width section control is switched on; see page 176

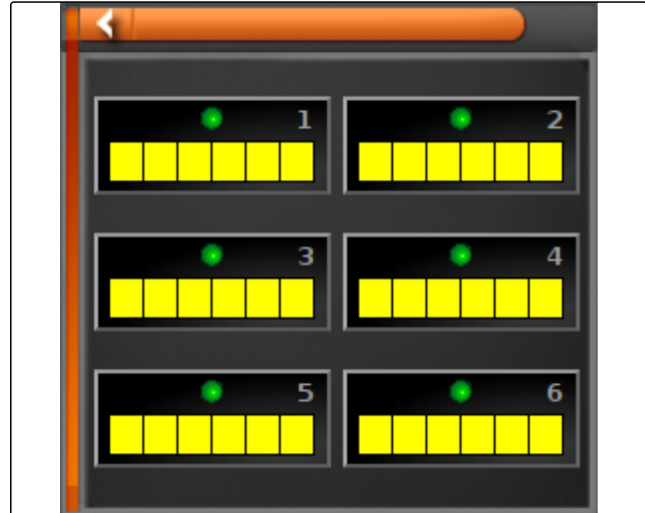
1. On the function bar, tap on .

or

In the map view, tap on .

➔ Manual part-width section control will be opened.

2. To switch the desired part-width section on or off:
Tap on the corresponding section switch.



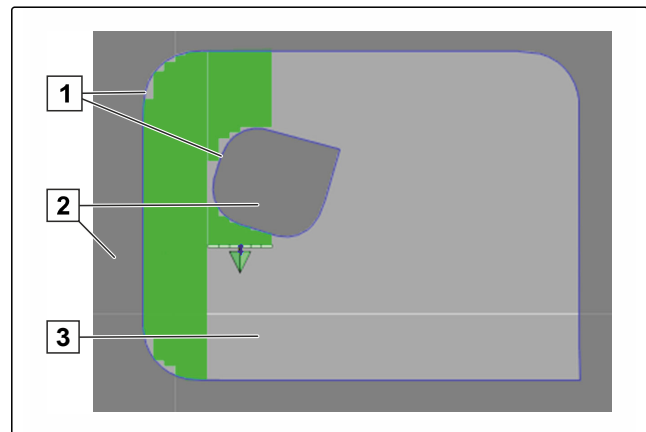
2

Using automatic part-width section control

CMS-T-001490-B.1


With automatic part-width section control, the implement sections are automatically switched off when the implement crosses a specific boundary or a worked area.

- 1 Boundary lines
- 2 Non-workable areas are shown in dark grey, e.g. exclusion areas
- 3 Workable areas are shown in light grey



REQUIREMENTS

- ✓ Part-width section control is configured; see page 91
- ✓ Automatic part-width section control is enabled on the Universal Terminal; see operating manual for the implement control

1. In the function menu, tap on .

- ➔ Miniature view for the automatic part-width section control will be opened.

Possible settings:

"Control mode": Control mode is used to configure the overlap of the part-width sections.

"Boundary limit": The boundary limit is used to define the areas in which the part-width section are switched off.

"ASC ON": This button is used to switch the automatic part-width section control on or off.



2. To configure the control mode, see page 177.
3. To define the boundary limit, see page 182.
4. To switch the automatic part-width section on or off, tap on "ASC".

3

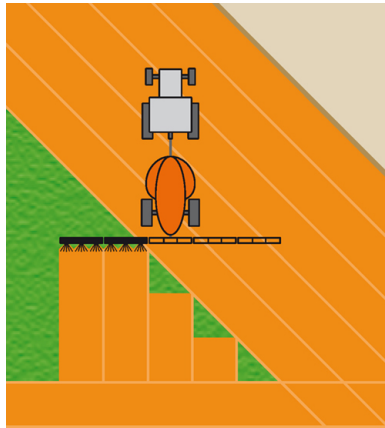
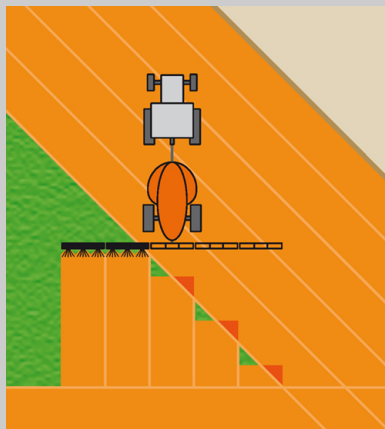
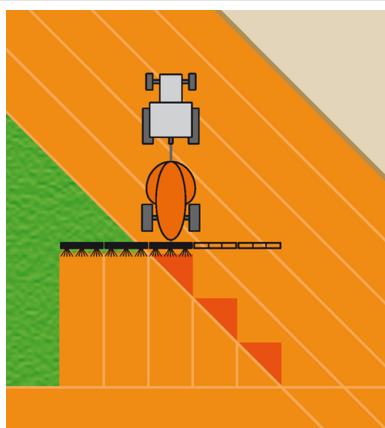
Configuring the control mode


CMS-T-00000463-A.1

Configuring the inner sections control mode

CMS-T-003904-B.1

The inner sections control mode describes the overlap of the inner part-width sections. The overlap defines how far the part-width sections can protrude into the already worked areas before the sections are switched off.

Example settings	Explanation	Figure
0 %	The part-width sections are switched off before any overlap occurs.	
50%	The part-width sections are switched off when they half protrude into the worked area.	
100%	The part-width sections are switched when they fully protrude into the worked area.	

1. In the function menu, tap on .

➔ Miniature view for the automatic part-width section control will be opened.

2. Tap on "Control mode".




➔ The "ASC control mode" menu will be opened.

3. Under "Inner sections control mode", set the percent value using the slide bar

or

Enter the percent value.

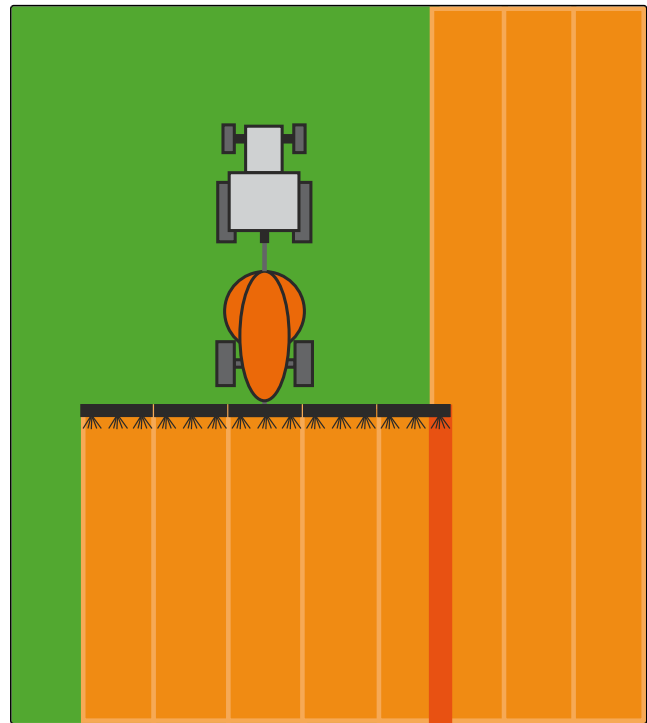
4. Confirm the settings with .




3.1 Configuring the outer sections control mode

CMS-T-003907-B.1

The outer sections control mode describes the overlap of the two outer part-width sections. The overlap defines how far the part-width sections can protrude into the already worked areas before the sections are switched off. Overlap prevents that the outer part-width sections are constantly switched on and off when they touch on worked areas during parallel driving.




1. In the function menu, tap on  .
 ➔ Miniature view for the automatic part-width section control will be opened.
2. Tap on "Control mode".



- ➔ The "ASC control mode" menu will be opened.

- Under "Outer sections control mode", set the percent value using the slide bar.

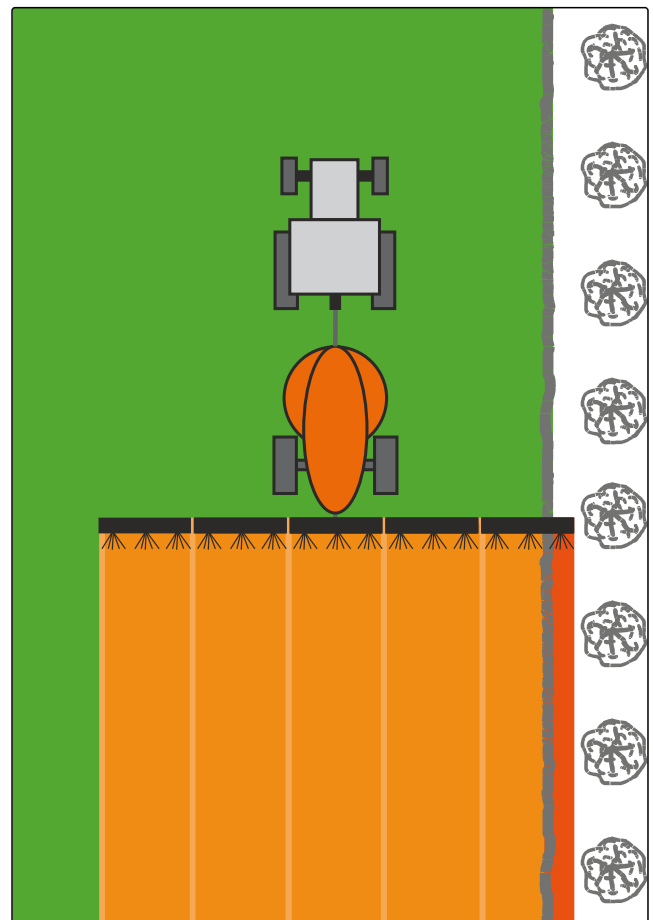
- Confirm the settings with .




3.2 Defining the overlap tolerance at the boundary line

CMS-T-005171-B.1


The overlap tolerance at the boundary line defines how far the outer sections can protrude over a boundary line before they are switched off. Overlap tolerance at the boundary line prevents the outer sections from being constantly switched on and off when driving along and touching a boundary line.



- In the function menu, tap on .

- ➔ Miniature view for the automatic part-width section control will be opened.
2. Tap on "Control mode".



- ➔ The "ASC control mode" menu will be opened.
3. Under "Overlap tolerance at boundary line", enter the desired overlap tolerance with the slider bar.
4. Confirm the settings with .

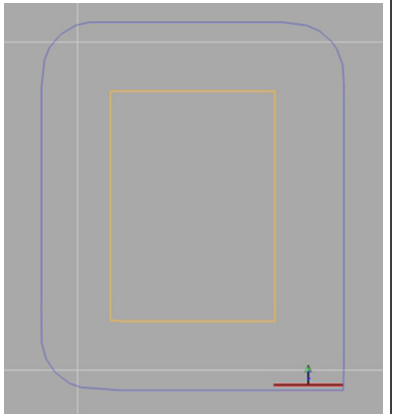
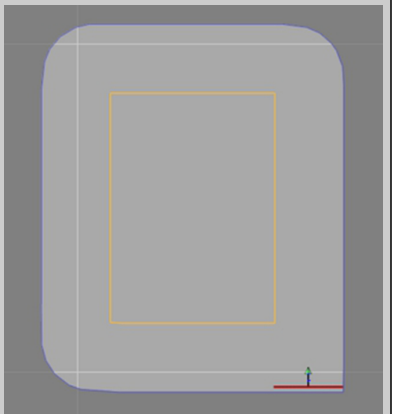
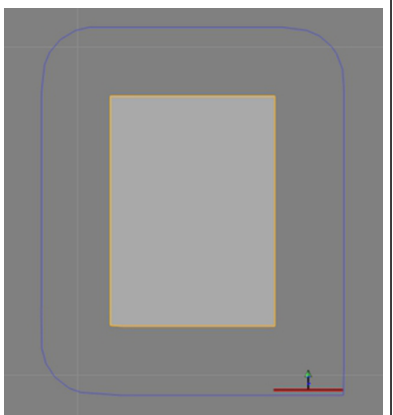
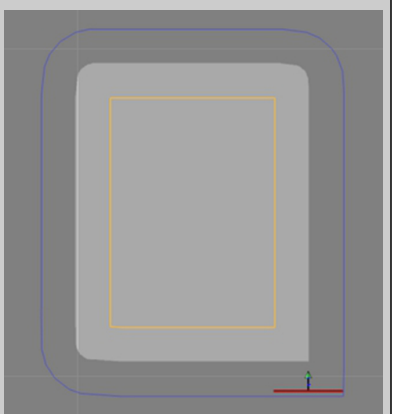



4

Defining the boundary limit

CMS-T-000680-B.1

The boundary limit is used to define the areas in which the part-width section are automatically switched off. The possible settings are listed in the following table. The figures show the display in the map view on the AmaPad. The part-width sections remain switched on in the light grey areas, and are switched off in the dark grey areas.

Boundary limit	Explanation	Figure
Unlimited	<p>Only for sprayers and seed drills</p> <p>The part-width sections remain switched on in all areas outside of the worked area.</p>	
Boundary line	<p>In areas outside of the boundary line, the part-width sections will be switched off.</p>	
Headlands	<p>Inside the headlands and outside of the boundary line, the part-width sections will be switched off.</p>	
Safety zone	<p>Only for fertiliser spreaders.</p> <p>A safety zone is defined inside the boundary line. The width of the safety zone is half the working width. Inside the safety zone and outside of the boundary line, the part-width sections will be switched off.</p>	

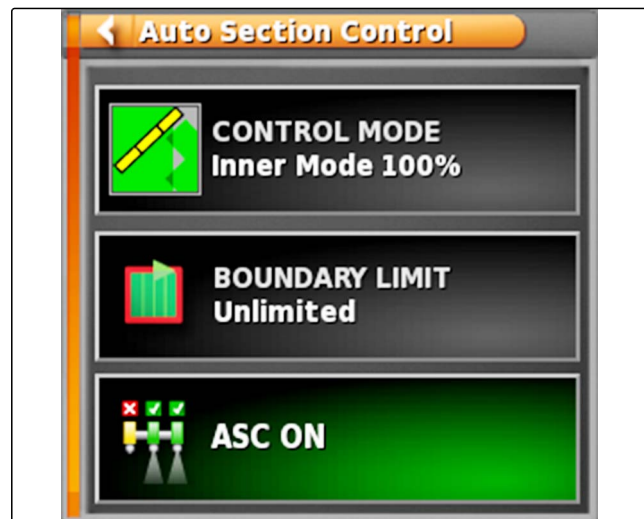
1. In the function menu, tap on .

➔ Miniature view for the automatic part-width section control will be opened.

2. Tap on "*Boundary limit*".

3. Select the boundary limit.

4. Confirm selection with .



Using rate control



CMS-T-00000464-B.1

1

Using a job with application map

CMS-T-000569-C.1

In a Farm Management Information System, jobs can be created containing application maps for the application rates or other site-specific settings. The jobs are processed and documented with the AmaPad.





REQUIREMENTS

- ✓ Job with application map is imported; see page
- ✓ Job with application map is selected; see page
- ✓ Job with application map is started; see page 110



NOTE

If the job data and the application map match with the connected implement, the application map is loaded automatically and the job can be processed.

1. *If the application map is not displayed,* perform the following steps.
2. In the job menu, tap on .
3. Call up the "Rate control assignment" menu with .

In the "Signal source" column, "TASKDATA" will be shown. This entry means that the application map from the selected job will be loaded.

4. Check the values in the table.




TROUBLESHOOTING

Are the values in the table incorrect?

Units in the job data do not match the implement.


1. Connect the correct implement.
 2. Checking the implement configuration; see page 83
 3. Revise the job data.
5. To document the quantities of the used products or to configure fallback values:
see page .

6. Confirm with .

➔ The application map will be loaded.

Configure Variable Rate Control (VRC) for this job

	Control Target	Source	Unit	Product	
1	Control Target 1	TASKDATA:0	l/ha		 
2	Control Target 2	Fixed: 100	%		 







NOTE

For the application map to be properly displayed, the following conditions must be fulfilled:

- The "Application map" must be selected as the "Coverage map"; see page 199.
- The controllable implement element must be selected as the VRC map; see page
- The coverage scale must be configured; see page

2

Adding an application map to a job

CMS-T-000573-B.1

Application maps in shape format containing application maps for application rates or other site-specific settings can be added to a created job. The application maps can come from a service provider, an app or an FMIS, and can be used for controlled spreading/application or other site-specific settings.



REQUIREMENTS

- ✓ The USB flash drive with the application maps in shape format is inserted into the AmaPad.



NOTE

Application maps must be created with the WGS-84 coordinate system.

Application maps consist of 3 files. All 3 files must be saved in the same folder on the USB flash drive:


- Geometry data file, file format: .shp
- Factual data file, file format: .dbf
- Attribute data file, file format: .shx

- ✓ Job is selected; see page



NOTE

If an application map has already be loaded for the job, a different job must be selected or created.

1. In the job menu, tap on .
2. Call up the "Rate control assignment" menu with



NOTE

The application rate can be controlled as a percent value or using the units. The type of control can be read in the "Unit" column.

3. On the line with the desired unit, tap on the button in the "Signal source" column.


Configure Variable Rate Control (VRC) for this job					
	Control Target	Source	Unit	Product	
1	Control Target 1	Fixed: 100	l/ha		 
2	Control Target 2	Fixed: 100	%		 

+
X
✓

- ➔ A selection list for the signal sources will be opened.

Possible selection:


- *"Use shape file directly"*: The application map in the shape file will not be saved in the job data.
 - *"Convert shape file into ISO format"*: The application map will be saved in the job data and can be exported together with the job.
4. Select *"Convert shape file into ISO format"* or *"Use shape file directly"*.

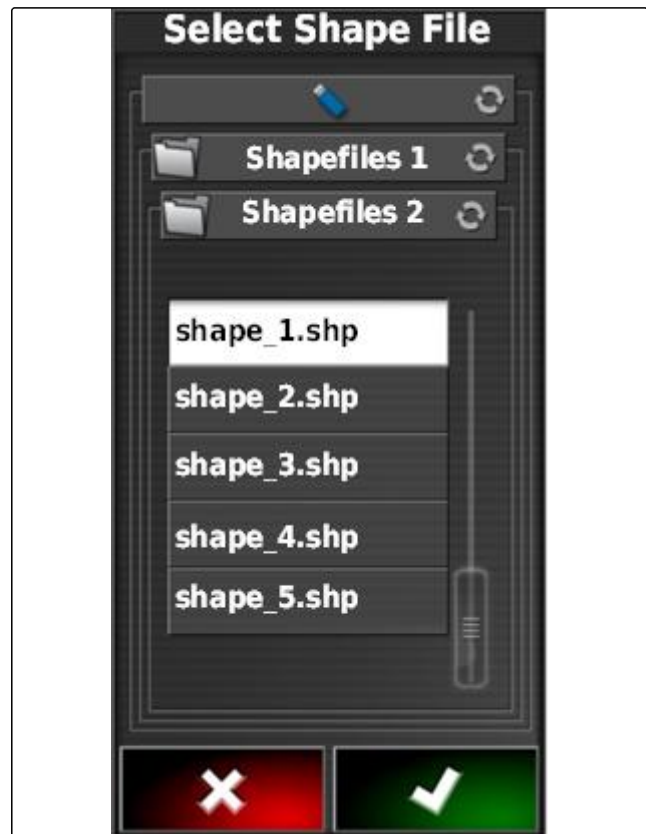
5. Confirm with .



- ➔ The folder overview for the USB flash drive will be opened.

6. Select application map (shape file).


7. Confirm with .




- ➔ The contents of the shape file will be shown.

Different application maps with different application rates can be saved in a shape file. The different application maps are called "Attributes".

8. Select the desired attribute with the arrows.

9. Confirm with .

Configure Variable Rate Control (VRC) for this job



Information

Attribute:

Shape File:

Min Rate:

Max Rate:

➔ The settings for variable rate control will be shown.


10. When the application map contains areas for which no application rate is defined, enter the value for a fixed application rate under "Setpoint".

11. Under "Out of field value", enter the value for the rate that should be applied when the implement crosses the boundary line.

12. Under "Position lost value", enter the value for the rate that should be applied when the GPS signal is interrupted.

13. When all of the application rates should be reduced or increased, enter the factor with which the application rate should be multiplied under "Scale for shape import".

14. To document the quantities of the used products or to configure fallback values: see page .

15. Confirm with .

Control Target 1

FIXED VALUE 100 kg/ha	OUT OF FIELD VALUE 100,0 kg/ha
POSITION LOST VALUE 100,0 kg/ha	SCALE FOR SHAPE IMPORT 1,000000%

Product Applied List

Product	Amount	Units	
Product 1	1000000.00 (100)	kg (%)	
			

➔ The application map will be loaded.

**NOTE**



For the application map to be properly displayed, the following conditions must be fulfilled:

- The "Application map" must be selected as the "Coverage map"; see page 199.
- The controllable implement element must be selected as the VRC map; see page
- The coverage scale must be configured; see page

3**Defining a fixed setpoint for rate control**

CMS-T-006706-B.1

A fixed setpoint can be defined for the application rate. This setpoint is transmitted to the implement and the implement is controlled accordingly.

1. In the job menu, tap on .
2. Call up the "Rate control assignment" menu with .
3. Tap on the "Signal source" button in the column.


Configure Variable Rate Control (VRC) for this job					
	Control Target	Source	Unit	Product	
1	Control Target 1	Fixed: 100	l/ha		 
2	Control Target 2	Fixed: 100	%		 





➔ A selection list for the signal sources will be opened.

4. Select "Setpoint".


5. Confirm with .



➔ The settings for variable rate control will be shown.

6. Enter the desired setpoint for the application rate under "Setpoint".

7. To document the quantities of the used products: see page .

8. Confirm with .



4

Configuring peer control for rate control



CMS-T-006703-B.1

The application rates can be measured and calculated by a sensor that is also installed on the vehicle and transmits geo-specific application rates or other site-specific settings to the implement.



NOTE


Peer control must be reconfigured each time the job is changed.

1. In the job menu, tap on .
2. Call up the *"Rate control assignment"* menu with .
3. Tap on the *"Signal source"* button in the column.



➔ A selection list for the signal sources will be opened.


4. Select *"Peer control"*.

5. Confirm with .



➔ The *"Select control source"* menu will be opened.

6. Select the sensor.

7. Confirm with .




➔ The settings for variable rate control will be shown.

8. Under "*Setpoint*", enter the value for the rate that should be applied when the sensor does not transmit any data.

9. Under "*Out of field value*", enter the value for the rate that should be applied when the implement crosses the boundary line.

10. Under "*Position lost value*", enter the value for the rate that should be applied when the GPS signal is interrupted.

11. *To document the quantities of the used products:* see page .

12. Confirm with .



Control Target 1			
FIXED VALUE 100 kg/ha		OUT OF FIELD VALUE 100,0 kg/ha	
POSITION LOST VALUE 100,0 kg/ha			
Product Applied List			
Product	Amount	Units	
Product 1	0.00		
			

➔ The application map will be loaded.



NOTE

For the application map to be properly displayed, the following conditions must be fulfilled:

- The "Application map" must be selected as the "Coverage map"; see page 199.
- The controllable implement element must be selected as the VRC map; see page
- The coverage scale must be configured; see page

5


Configuring rate control

CMS-T-00000472-A.1

5.1 Editing the fallback value

CMS-T-007008-A.1

For certain situations, fallback values can be edited for the application rate. The fallback values that can be edited depend on the signal source used.

1. For the desired rate control, tap on .

Configure Variable Rate Control (VRC) for this job

	Control Target	Source	Unit	Product		
1	Control Target 1	Fixed: 100	l/ha			
2	Control Target 2	Fixed: 100	%			



- **"Setpoint"**: The setpoint is used when the application rate should only be controlled using a fixed setpoint or when the values for the application rates are missing in application maps.
 - **"Out of field value"**: When the implement exits the field, this value is transmitted as the application rate.
 - **"Position lost value"**: When the GPS signal is lost, this value is transmitted as the application rate.
2. Adjust the fallback value using the corresponding button.

Control Target 1

FIXED VALUE
100 kg/ha

OUT OF FIELD VALUE
100,0 kg/ha

POSITION LOST VALUE
100,0 kg/ha

Product Applied List

Product	Amount	Units	
Product 1	0.00		
			+

✗

✓

5.2 Documenting the product information

CMS-T-007003-B.1

The products used and the corresponding product quantities can be included in the job documentation. To do so, a list of products can be created when configuring rate control. Product information can also come from a Farm Management Information System and can be adjusted before starting work.



NOTE

The specification of the product quantity only serves for documentation purposes and does not affect the application rate.

1. Tap on the button in the *"Product"* column.

Control Target 1

FIXED VALUE
100 kg/ha

OUT OF FIELD VALUE
100,0 kg/ha

POSITION LOST VALUE
100,0 kg/ha

SCALE FOR SHAPE IMPORT
1,000000%

Product Applied List

Product	Amount	Units	
Product 1	1000000.00 (100)	kg (%)	
			+

✗


✓

➔ The "Select product" menu will be opened.

2. Select the product from the list

or

*To create a product,
see page .*

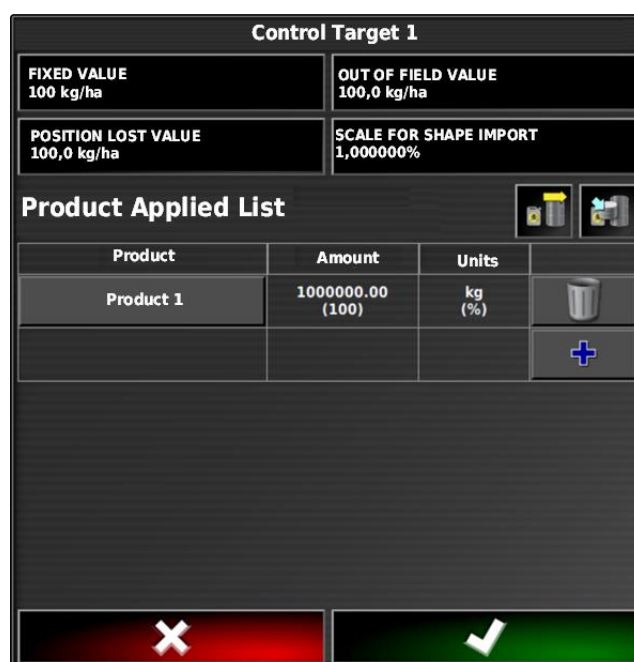
3. Confirm with .



4. *To add another product and therefore create a mixture,*


select .

5. *To save the created mixture,*
see page



5.3 Creating a product

CMS-T-007031-A.1

1. In the "Select product" menu, select .

NOTE

Products belong to the master data. For more information on editing the master data, see page 110




2. Enter a name for the product under "Name".
3. Select or create a product group under "Products".
4. Select the unit type under "Units of measure".
5. Select the unit in which the product will be spread/applied under "Measured value display".

NOTE

The "Units of measure" and "Measured value display" fields must be filled in.

6. Under "Type", select "Individual product".

7. Confirm with .



5.4 Saving a mixture

CMS-T-007029-A.1














If several products were included in the list of used products, these products can be saved together as a mixture.


1. Select .

Control Target 1

FIXED VALUE 100 kg/ha	OUT OF FIELD VALUE 100,0 kg/ha
POSITION LOST VALUE 100,0 kg/ha	SCALE FOR SHAPE IMPORT 1,000000%

Product Applied List

Product	Amount	Units	
Product 1	1000000.00 (100)	kg (%)	
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			


 

2. Enter a name for the mixture under "Name".
3. Select or create a product group under "Products".
4. Select the unit in which the product will be spread/ applied under "Measured value display".
5. Select the unit type under "Units of measure".

NOTE

The "Units of measure" and "Measured value display" fields must be filled in.

6. Under "Type", select "Temporary mixture".
7. To adjust the products in the mixture, select "Mixture components".

8. Confirm with .

Create: Product

Name:
Product 1


Products:
None

Value presentation:
kg

Units:
None

Type:
Temporary Mixture

Mix Quantity:
1,000 l


Mix Components

5.5 Adding a mixture

Created mixtures can be added to the list of used products.

CMS-T-007014-A.1

1. Select .

Control Target 1

FIXED VALUE 100 kg/ha	OUT OF FIELD VALUE 100,0 kg/ha
POSITION LOST VALUE 100,0 kg/ha	SCALE FOR SHAPE IMPORT 1,000000%

Product Applied List


Product	Amount	Units	
Product 1	1000000.00 (100)	kg (%)	
			




2. Select a mixture from the list.

NOTE

Mixtures belong to the master data. For more information on editing the master data, see page 110

3. Confirm with .

Select: Product

 **FILTERS**
Select filters

Product 1

Product 2

Product 3







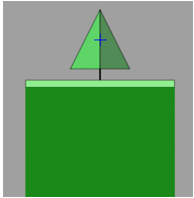
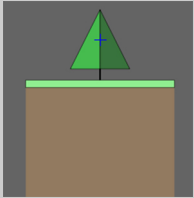
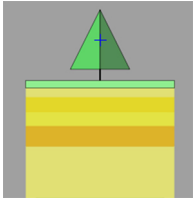
6


Selecting the coverage map

CMS-T-000559-B.1

The coverage map shows the worked areas, which can be marked on the map with different colours.

The following settings are available:

Coverage map	Description	Figure
Cover	Default setting. The worked area is shown in green.	
GPS quality	Depending on the GPS quality, the worked area is shown in an orange tone. For this setting, a scale is shown on the map.	
Application map or name of the implement control target	For this setting, variable rate control (VRC) must be configured; see page . The coverage is then shown in different colours depending on the previously defined values. The implement control target is used as the name for this coverage map. For this setting, a scale is shown on the map.	

1. Open the "Map layers" menu with .
2. Under "Coverage map", select the desired coverage map with the arrows

or

To call up a selection list,
tap on the button between the arrows.

3. Confirm selection with .




➔ The selected coverage map will be shown.

7

Selecting the VRC map

CMS-T-000820-A.1

The VRC map shows the previously defined rate that should be applied on the field.

1. Open the "Map layers" menu with .
2. Under "VRC map", select the controllable element of the implement with the arrows

or

To call up a selection list,
tap on the button between the arrows.

3. Confirm selection with .



➔ The selected VRC map will be shown.

8

Configuring the coverage scale

CMS-T-00000465-A.1

8.1 Configuring the coverage scale manually

CMS-T-00000466-A.1

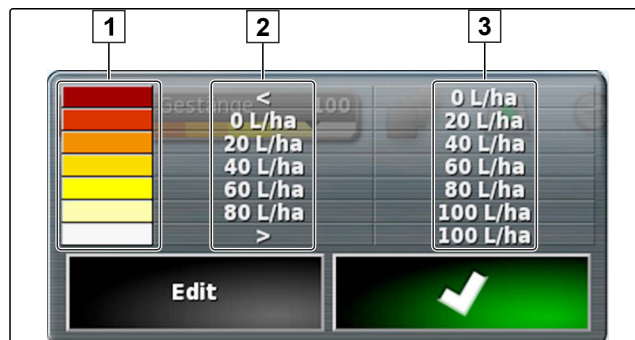
The following settings can be made for the coverage scale:

- Configuring the application rate ranges that should be shown on the map
- Defining the number of application rate ranges
- Defining the colours for the application rate ranges
- Defining the transparency of the displayed coverage

1. Open the overview for the coverage scale with

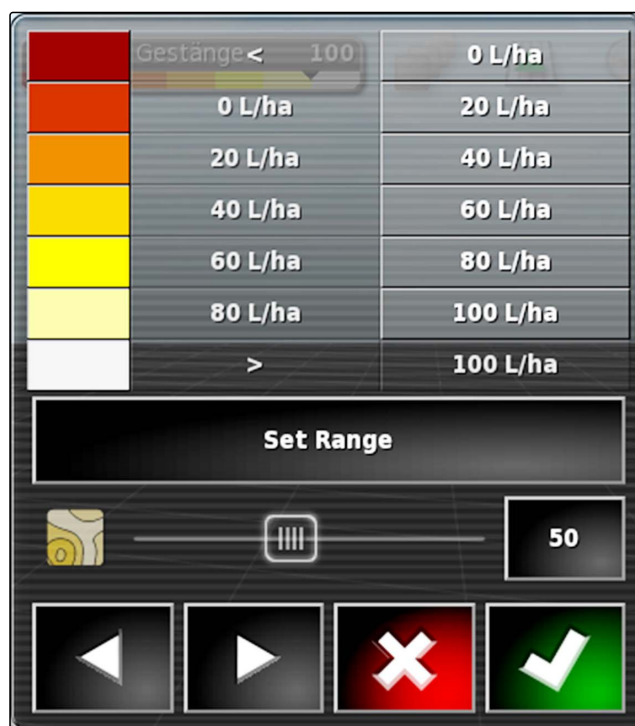


- 1 Colour for the application rate
- 2 Minimum value at which the application rate is shown in the corresponding colour.
- 3 Maximum value at which the application rate is shown in the corresponding colour.




2. Open the settings for the coverage scale with "Edit".

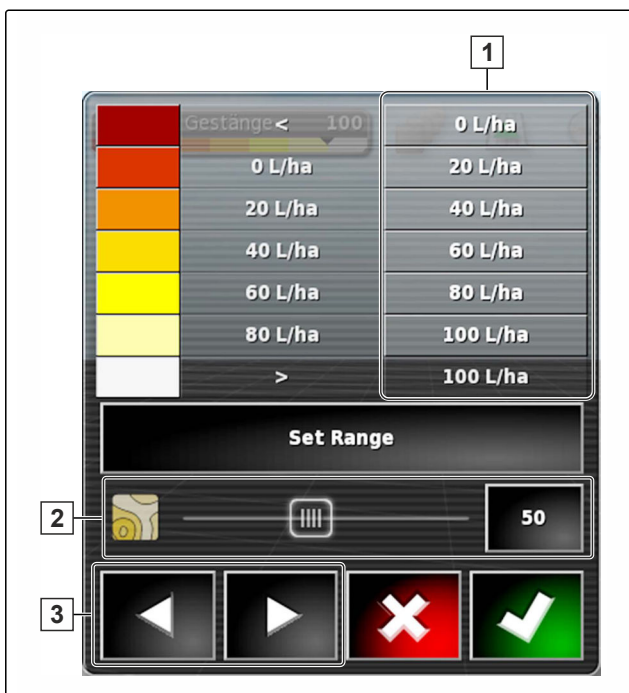
3. Tap on "Set range".



4. Select "Minimum value" to define the lowest scale value.
5. Select "Maximum value" to define the highest scale value.
6. Select "Number of ranges" to define the number of displayed colour ranges.
7. Confirm entries with



8. Under **1**, define the maximum value at which the application rate is shown in the corresponding colours.
9. Under **2**, set the transparency of the coverage.
10. Under **3**, select the colours for the coverage.
11. Confirm the settings with .



8.2 Defining the application rate ranges based on the application rate

CMS-T-001631-A.1

The minimum and maximum values of the application rate scale can be defined based on the already applied quantity.

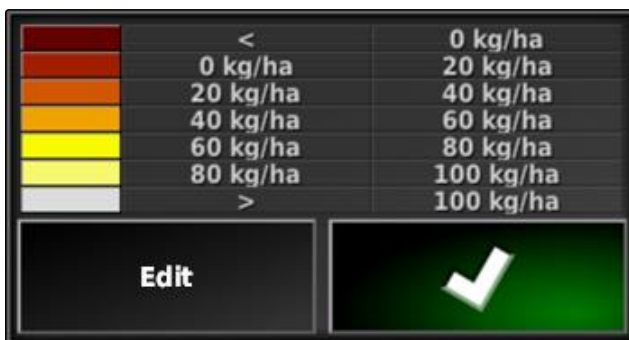
REQUIREMENTS

- ✓ A portion of the field must already be worked.

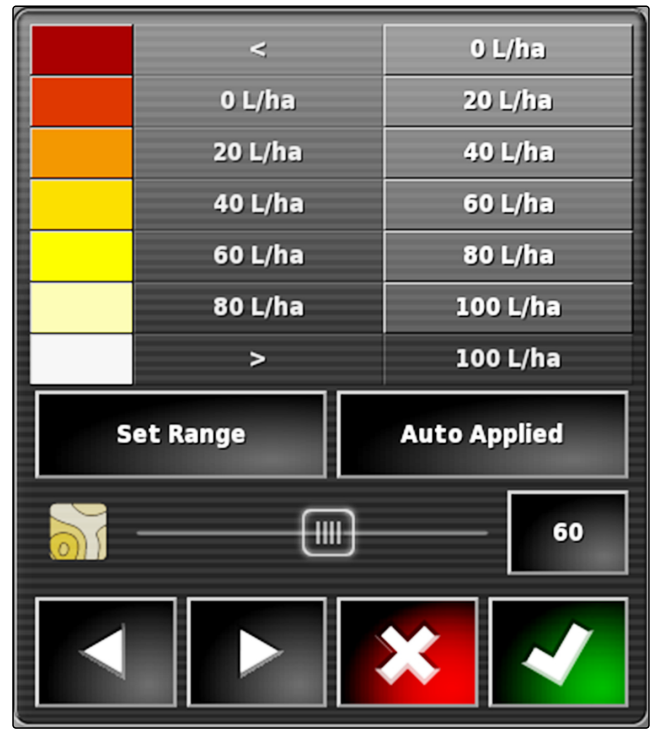
1. Open the overview for the coverage scale with



2. Open the settings for the coverage scale with "Edit".



3. Adjust the scale ranges to the already applied rate with *"Auto applied"*.



Managing inventory data



CMS-T-00000467-A.1


1

Using the inventory manager

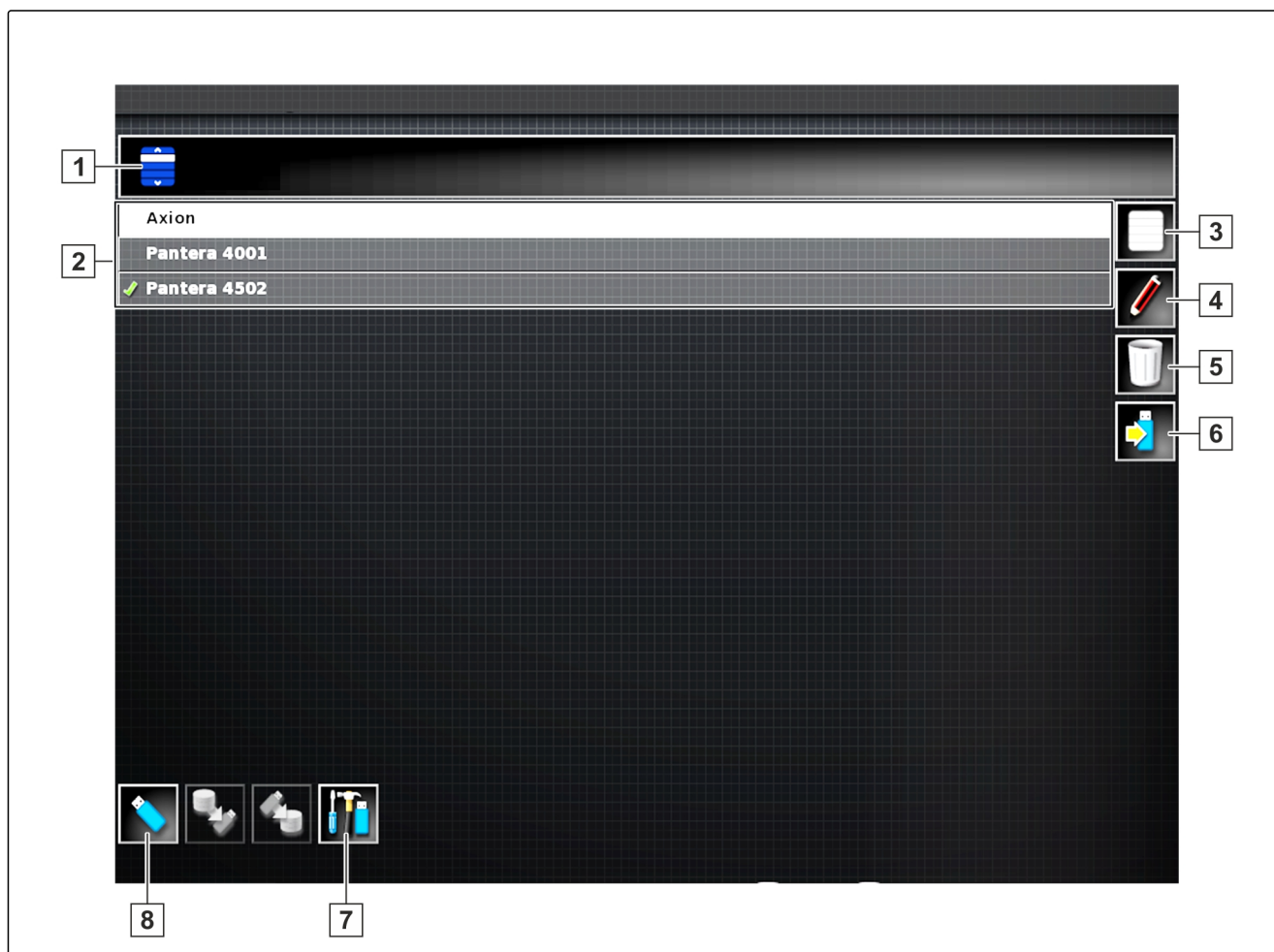
CMS-T-001472-A.1

In the inventory manager, the created inventory data can be managed.

The button for the inventory manager can be found on function bar in the operating menu.

► In the function menu, tap on .

➔ The inventory manager will be opened.



Overview of the inventory manager

- | | |
|--|---|
| <p>1 Select category: Opens the selection list for the inventory data categories.</p> <p>2 Inventory data: Existing inventory data in the selected category.</p> <p>3 Select all of the displayed inventory data.</p> <p>4 Rename selected inventory data.</p> | <p>5 Delete selected inventory data.</p> <p>6 Export selected inventory data to the USB flash drive.</p> <p>7 Export diagnosis protocol to the USB flash drive. Diagnosis protocols are used by trained personnel for troubleshooting.</p> <p>8 Show inventory data on the USB flash drive. When the inventory data on the USB stick is shown, the background colour is blue.</p> |
|--|---|

2


Exporting job data backups

CMS-T-007033-B.1

When job data is exported to a USB flash drive, a job data backup is saved on the AmaPad at the same time. If the exported job data is lost, these job data backups can be exported again.

**REQUIREMENTS**

- ✓ Exporting job data; see page
- ✓ USB flash drive is inserted

1. In the inventory manager, select "*Job data backup*" under "*Category*".
2. select .

Using the global start screens



CMS-T-00000594-A.1

1

Saving the global start screen

CMS-T-000755-B.1

The multi-function button is used to save the display of the operating menu, to be able to call up the display again later. This makes the operation easier because the configured elements no longer need to be individually called up when the elements have been removed.



REQUIREMENTS

- ✓ Function is enabled in the setup menu; see page 39


1. Configure the elements in the operating menu as desired.
2. Press and hold the multi-function button for 2 seconds.
3. Tap on "Save start screen".
4. Enter the name.

➔ The global start screen is saved.

2

Managing global start screens

CMS-T-000757-B.1

1. Press and hold the multi-function button for 2 seconds.
2. On the desired start screen, tap on .
3. Enable the selected start screen

or

disable

or

delete.

**NOTE**

Disabled start screens cannot be selected.

3**Selecting global start screens**

CMS-T-000753-B.1

**NOTE**

The selection procedure can be configured in the setup menu; see page 39.

Depending on the setting in the setup menu:

- Tap on the multi-function button until the desired start screen appears

or

Select the desired start screen from the menu.

Taking screenshots



CMS-T-000802-B.1

The multi-function button can be used to take a picture of the current user interface and save it to a USB flash drive.



REQUIREMENTS

- ✓ Function is enabled in the setup menu; see page 39

1. Insert the USB flash drive into the AmaPad.
2. Tap on the multi-function button 1.



- ➔ The background of the user interface will briefly turn grey.
- ➔ The screenshot will be saved to the USB flash drive in the "Screenshots" folder.

Troubleshooting



CMS-T-00000470-B.1

1

Assigning error codes

CMS-T-00000468-B.1

Error messages have an error code. Using the error code, causes and measures can be found to fix the error.

- Read the measure for the error code from the table.

Error code	Error	Measure
U1052	Wrong firmware for the steering sub system.	Update the firmware; see page 56.
U1054	Steering sub system in error mode.	Switch the steering controller off and back on again.
U1055	The steering controller requires a reset.	Switch off the steering controller and the vehicle. Wait for 20 seconds. Switch the steering controller and the vehicle back on.
U1056	The steering controller is incorrectly configured.	Recalibrate the wheel angle sensor; see page 160
U1061	Parameter settings for the vehicle not found in the steering sub system.	Select the correct vehicle again; see page 77
U106 2	The alignment angle must be calibrated.	Calibrate the alignment angle; see page 160
U1065	The steering angle sensor must be calibrated.	Check the vehicle geometry; recalibrate the wheel angle sensor; see page 160.
U106 6	The compass must be calibrated.	Calibrate the compass; see page 160
U1067	New vehicle or new steering controller detected.	Recalibrate the compass; see page 160.

Error code	Error	Measure
U1068	The vehicle profile does not match with the settings of the steering sub system.	Check whether the steering sub system is switched on. Select the vehicle again; see page 77. Select the steering controller again; see page 80.
U1069	The steering angle sensor of the steering sub system is not configured.	Contact the dealer.
U1071	Average power output of the AES-25 exceeds the power limit.	Check whether the load on the AES-25 motor is too high (steering column stiff, bushes or bearings worn). Contact the dealer.
U1072	Temperature of the AES-25 exceeds the temperature limit.	Switch off the AES-25 and let it cool down. If the problem persists, contact the dealer.
U1074	The AES-25 steering controller was not initialised.	Turn the steering wheel manually by one-quarter turn.
U1075 - U1078	Reception interferences or sending interferences of the CAN signal.	Check all connectors and connections. Switch the connection box off and back on again. If the problem persists, contact the dealer.
U1079	The steering angle sensor is not connected.	Check the connections. If necessary, replace the faulty sensor. If the problem persists, contact the dealer.
U1080	Short-circuit on the steering angle sensor.	Contact the dealer. The sensor may have to be replaced.
U1082	CompactFlash file system has less than 1 % available memory.	Check the memory usage in the miniature view; see page 216. If necessary, delete or export data from the inventory manager; see page 206.
U3001	Data transfer failed.	Try to import or export again.
U4001	Error with the initialisation of the track line.	Create track line again; see page .
U4006	No valid system calibration available.	Calibrate steering; see page 160.

Error code	Error	Measure
U5001	Steering sub system was not detected.	<p>Check whether the steering sub system is switched on.</p> <p>Check whether the lock switch for road transport is disabled.</p> <p>Check whether the correct steering controller is selected; see page 80.</p>
U5002	Implement and track line are not defined.	<p>Select the correct implement again, see page 87.</p> <p>Check whether the correct field was added to the job.</p> <p>Select the correct job again; see page .</p> <p>Create new track line; see page</p>
U5003	Steering control could not be switched on because of the steering control lock.	Disable the lock switch for road transport.
U5004	No implement defined.	Select the correct implement; see page 87:
U5007	Row spacing (working width minus overlap of the implement) is too small.	Reduce the degree of overlap for automatic part-width section control; see page 176:
U6904	Only one steering controller, but vehicle type is articulated.	Check the vehicle configuration; see page 73.
U6905	Unknown implement type.	Check the vehicle configuration; see page 73.
U8505	No factory calibration.	Calibrate steering; see page 160.
TC8	Inertial sensor and modem are not supplied with 12 V voltage.	Check all connectors and connections.

2

Evaluating the LED display

CMS-T-00000469-A.1

The LED on the front of the AmaPad shows the battery status and power supply. The meanings of the different colour combinations are explained in the following table.

- 1 Battery status
- 2 Power supply



► Read the battery status and power supply using the LEDs from the table.

LED for battery status 1	LED for power supply 2	Explanation
Lit green	Lit green	Normal status, battery charged, power supply ok.
Lit green	Lit yellow	Battery charged, power supply weak.
Lit green	Lit red	Battery is not being charged, weak or no power supply.
Lit yellow	Lit red	Battery almost empty, weak or no power supply.
Lit red	Lit red	Battery empty, weak or no power supply.
Flashes red	Off	Energy management firmware not installed.
Flashes green/blue	Lit green	Battery is being charged, power supply ok.
Flashes green/blue	Lit yellow	Battery is being charged, power supply weak.
Flashes green/blue	Lit red	Battery is being charged, power supply very weak.
Flashes yellow/blue	Lit green	Battery almost empty and is being charged, power supply ok.
Flashes yellow/blue	Lit yellow	Battery almost empty and is being charged, power supply weak.
Flashes yellow/blue	Lit red	Battery almost empty and is being charged, power supply very weak.
Flashes red/blue	Lit green	Battery empty and is being charged, power supply ok.
Flashes red/blue	Lit yellow	Battery empty and is being charged, power supply weak.


LED for battery status 1	LED for power supply 2	Explanation
Flashes red/blue	Lit red	Battery empty and is being charged, power supply very weak.

3

Calling up the system diagnosis

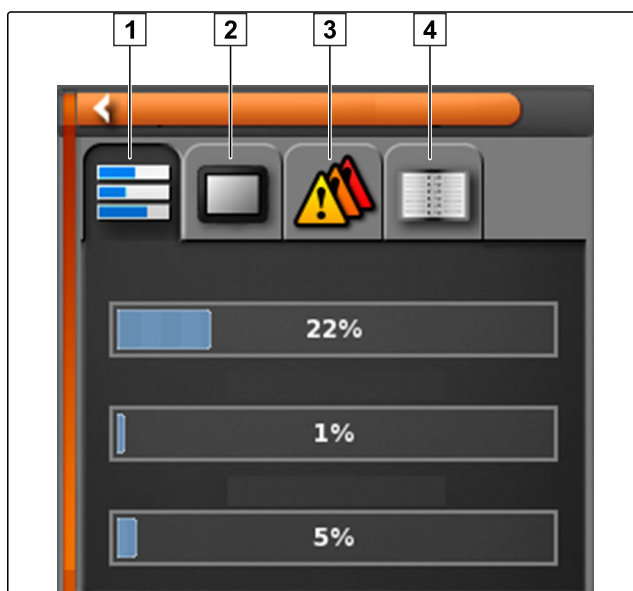
CMS-T-000844-B.1

In the function menu, there is a miniature view that provides information on the system properties of the AmaPad.

► In the function menu, tap on .

➔ The miniature view will be opened.

- 1** Memory usage
- 2** Console diagnosis
- 3** Fault codes
- 4** Protocol: In this tab, the "Configuration file" button can be used to load a configuration file from a USB flash drive.




4

Determining the software version

CMS-T-003910-A.1

In the function menu, there is a miniature view that provides information on the installed software version.

► In the function menu, tap on .

➔ The miniature view with the software information will be opened.

GLOSSARY

A

Application map

Application maps contain data that can be used to control an element of an implement. This data includes application rates or working depths.

Attribute

A shape file contains different values saved in columns of a table. These table columns are called attributes and can be individually selected. For example, different application rates for a product can be saved in a shape file.

Alignment angle

Describes the position of the receiver during installation.

AUX

AUX stands for "Auxiliary" and refers to an additional input device, e.g. a multi-function stick.

B

Baud rate

Data transfer rate, measured in bits per second.

Boundary line

Virtual line on the map on the AmaPad. Boundary lines are used to mark an area, which can then be defined as a work area or an exclusion area.

C

Correction source

Correction sources are the different systems used to improve and correct the GPS signal.

Control parameter

The control target refers to the controllable element of the implement. On a field sprayer, the spray pressure controller can be defined as a controllable element, which then regulates the application rate.

E

ECU

ECU refers to the implement control that is installed in the implement. The implement control can be accessed using control panels to operate the implement.

EGNOS

European Geostationary Navigation Overlay Service. European system for satellite navigation correction.

F

Farm Management Information System

A Farm Management Information System, or FMIS for short, is a program for managing agricultural operations. Such programs can be used to manage jobs and master data.

Firmware

A computer program that is permanently embedded in a device.

G

GPS drift

GPS drift is defined as the deviations of the GPS signal that result from the use of correction sources with low precision. GPS drift can be recognised when the vehicle symbol on the AmaPad no longer corresponds to the actual position of the vehicle.

GLONASS

Russian global navigation satellite system

H

HDOP

(Horizontal Dilution of Precision) Measurement for the precision of the horizontal position data (longitude and latitude) that is sent by the satellites.

I

Inventory data

Inventory data is managed in the inventory data manager.

The inventory data includes the following data:

- Vehicle data
- Implement data
- Track lines
- Water conservation projects
- Geo-ID files
- Job data backups

M

MSAS

Multifunctional Satellite Augmentation. Japanese system for satellite navigation correction.

Master data

The master data includes the following data:

- Customer data
- Farm data
- Worker data
- Field data
- Product data
- Crop data
- Comment templates
- Measures

R

RTK

Paid system for the correction of satellite data.

S

shape file

The shape file saves geometry information and attribute information in a data set. The geometry information forms shapes that can be used as boundary lines. The attribute information is required for the applications, e.g. to control the application rate. The shape file is in ".shp" format.

T

TASK.XML

The TASK.XML is a file that contains data on the jobs.

U

Universal Terminal

The Universal Terminal can be used to display the user interface of the ECU on the AmaPad.

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