

# ISOBUS UT

## ISOBUS Universal Terminal

### Operating Manual



### Versions

OPUSA6EN2UTSD000 / OPUSA6EN2UTMD000 / OPUSA6EN2UTLD000  
OPUSA6SN2UTSD000 / OPUSA6SN2UTMD000 / OPUSA6SN2UTLD000

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Operating Manual ISO-UT  
Order number: OPUSBA00ISO

Topcon Electronics GmbH & Co. KG  
Industriestraße 7, 65366 Geisenheim, +49 6722/4026-0

Supplements or a special operator manual may be required for customer-specific devices.

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All previous versions are rendered obsolete with publication of this manual.

All information contained herein is subject to correction, manufacturer is not liable for any errors in this material.

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# 1 Preliminary Notes

This document is valid for the following OPUS A6 Generation 2 versions:

- OPUSA6EN2UTSD000 / OPUSA6EN2UTMD000 / OPUSA6EN2UTLD000
- OPUSA6SN2UTSD000 / OPUSA6SN2UTMD000 / OPUSA6SN2UTLD000

This document is directed to qualified personnel and contains all the important information for the correct use of the ISOBUS UT on OPUS A6 Generation 2.

Please read this document before the first use and keep it during the operation.

To provide a better overview this operating manual cannot present all details of handling the ISOBUS UT in all conceivable application cases. Neither can all conceivable methods of setting up, operating and servicing the device be discussed in this manual. In case more information or support is required please contact manufacturer technical support department.

## 2 General Information

Topcon Electronics GmbH & Co. KG provides ISO-UT version 5.

OPUS displays with ISOBUS are available with different UT licenses. The license type (small, medium or large) describes the UT modules available and is visible as a part of the display order number.

## OPUS A6 ECO Generation 2 Dual Core ISOBUS



Order number	Description
OPUSA6EN2UTSD000	UT <b>Small</b> : ISO-UT + File Server
OPUSA6EN2UTMD000	UT <b>Medium</b> : ISO-UT + File Server + TC Bas + TC Geo
OPUSA6EN2UTLD000	UT <b>Large</b> : ISO-UT + File Server + TC Bas + TC Geo + Section Control

## OPUS A6 STANDARD Generation 2 Dual Core ISOBUS



Order number	Description
OPUSA6SN2UTSD000	UT <b>Small</b> : ISO-UT + File Server
OPUSA6SN2UTMD000	UT <b>Medium</b> : ISO-UT + File Server + TC Bas + TC Geo
OPUSA6SN2UTLD000	UT <b>Large</b> : ISO-UT + File Server + TC Bas + TC Geo + Section Control

### 3 Development Setup

#### 3.1. Delivered Parts

To support ISO-UT for the OPUS A6 Generation 2 terminals various hardware is provided by Topcon Electronics GmbH & Co. KG.

**Topcon Developer Kit for ISO-UT**  
**Part Number: OPEP00A6ISO**

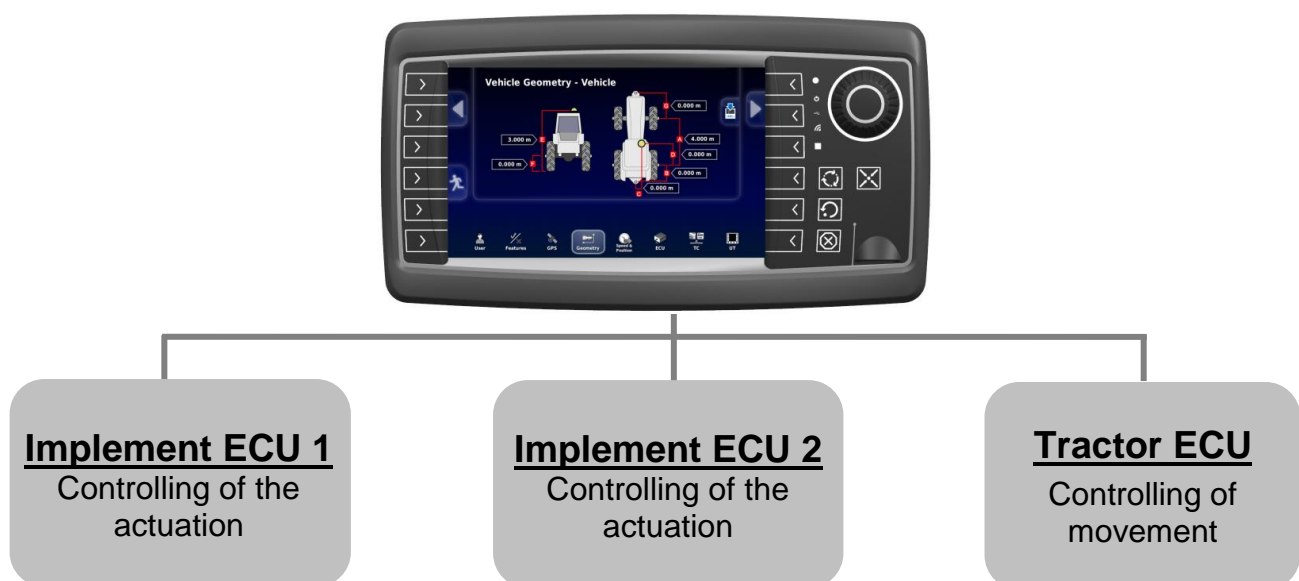
Description	Order Number	Qty
Main connecting cable	OPKAA3CAN15	1
CD with ISO-UT software: <ul style="list-style-type: none"><li>- Projektor Tool Demo Version</li><li>- Display Settings Project</li><li>- Documentation</li></ul>		1
12 months technical support		1

**Accessories not part of the Developer kit:**

Description	Order Number	Qty
Video Cable OPUS A6	OPKAA6VID010	1

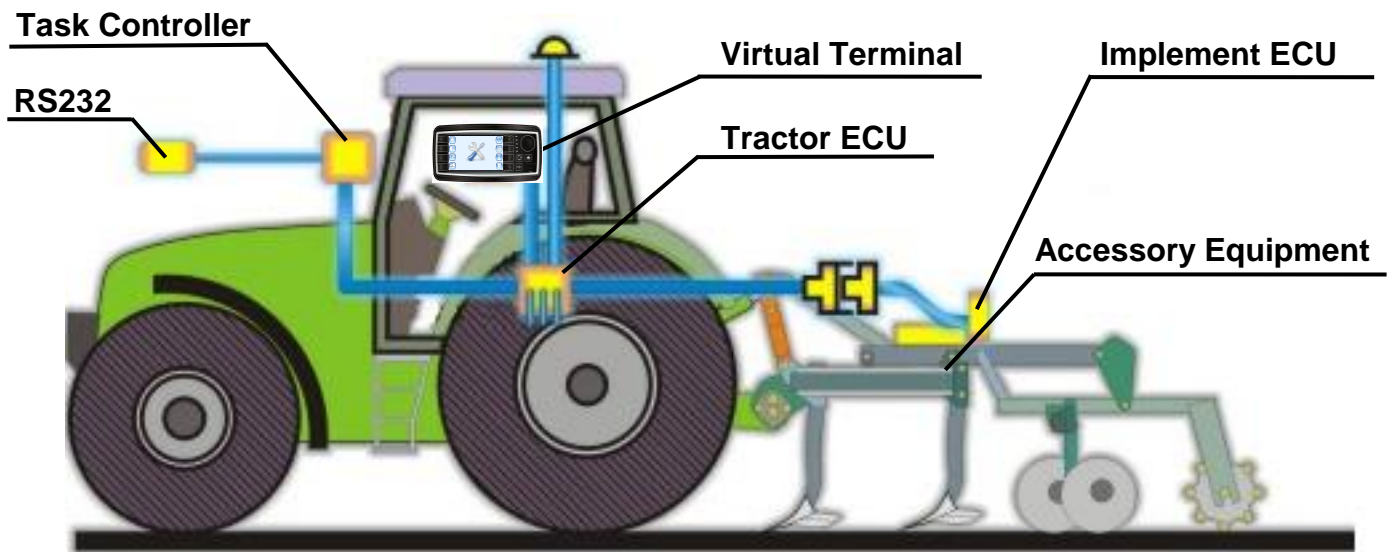
#### 3.2. Examples of Use

The following components may be used in the laboratory setup:



Picture 3.1.1 Laboratory Setup

The following components may be used on the machine:



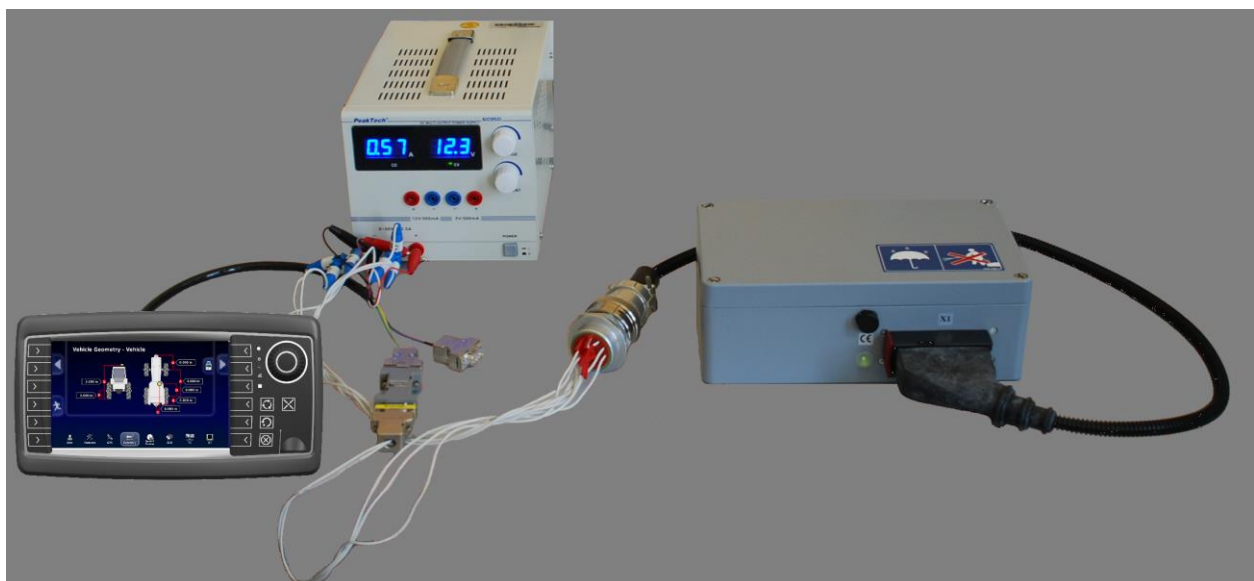
Picture 3.2.2 Setup in the machine

### 3.3. Connection Overview

For correct connection of the OPUS terminal together with the implement ECU the following parts are required:

- OPUS with ISO-UT software
- OPUS main connector
- Power supply
- Implement ECU (or simulator)
- Connector to implement ECU

The basic connection is shown on picture 3.3.1



Picture 3.3.1 Basic Connection



### **3.3.1. OPUS with ISO-UT software**

For ISO-UT only OPUS displays with the specific ISO software can be used. The software is already installed on the units when delivered.

### **3.3.2. OPUS main connector**

#### **Power Supply**

OPUS displays with ISOBUS are designed for 12 V and 24 V battery systems. The operating voltage range is 9...36 VDC, overvoltage resistance 48V for 2 minutes, inverse polarity protection up to -48 VDC.

Please note that ISOBUS systems are running on 12 V supply typically.

CarGND (pin no. 4 on main connector) must be connected to the chassis by a conductor as short as possible. Even if there is no conductive chassis available (e.g. in E-vehicles) the pin should be connected to the negative pole of the battery. Otherwise there will be no protection against over voltage, short cut or ESD.

Using OPUS displays with ISOBUS, clamp 15 (ignition) and 30 (permanent power supply) of the main connector should be separated. Correct power down is mandatory for the trouble-free use.

For more information about power management on OPUS units please refer to the "C/C++ Developer Guide". The power state sent by tractor ECU is currently ignored by ISO-UT software.

#### **CAN Bus Connection**

Connection to the implement ECU should be done using one of the CAN interfaces of the main connector. CAN bus should have an active termination on the customer side due to the ISO 11783-2.

By default, CAN2 is reserved for ISO-UT. This can be changed within the configuration file on the unit or in UT settings in dealer mode.

Communication with implement ECU works via CAN bus with a data rate of 250kBit/s and 29 bit identifiers since ISOBUS is based on J1939.

## **3.4. Update of ISO-UT Software**

The complete update image of the OPUS ISO-UT display includes updates of the following software:

- BSP (operating system)
- Application software (ISO-UT, Projektor Client, Universal Downloader)

The OPUS update can only be done using a FAT32 formatted USB stick with the content delivered on the "CD with ISO-UT release" or can be downloaded from the Topcon Electronics customer portal.

For customer portal access please contact [OPUS-SUPPORT@topcon.com](mailto:OPUS-SUPPORT@topcon.com)

The files should be placed in the root directory of the empty USB stick. The USB stick needs to be plugged in the OPUS started in service mode. To start the unit in service mode please put the "Serv\_En" pin to 12 V DC or press the two upper left soft keys during start-up until the service screen will be displayed on the OPUS.

The progress of the update will be displayed on the OPUS.

**PLEASE DO NOT INTERRUPT SOFTWARE UPDATE!**  
**The software update ends with an automatic restart of the OPUS.**

## 4 Console controls and buttons

The controls and buttons on the front of the OPUS A6 Generation 2 console perform the following:



Turn the dial to scroll through options. Use the push button at the front to select the highlighted option.



Cycles through the available apps. This may also be done by swiping up or down on the screen with two fingers.



Back or escape button from the current selection.

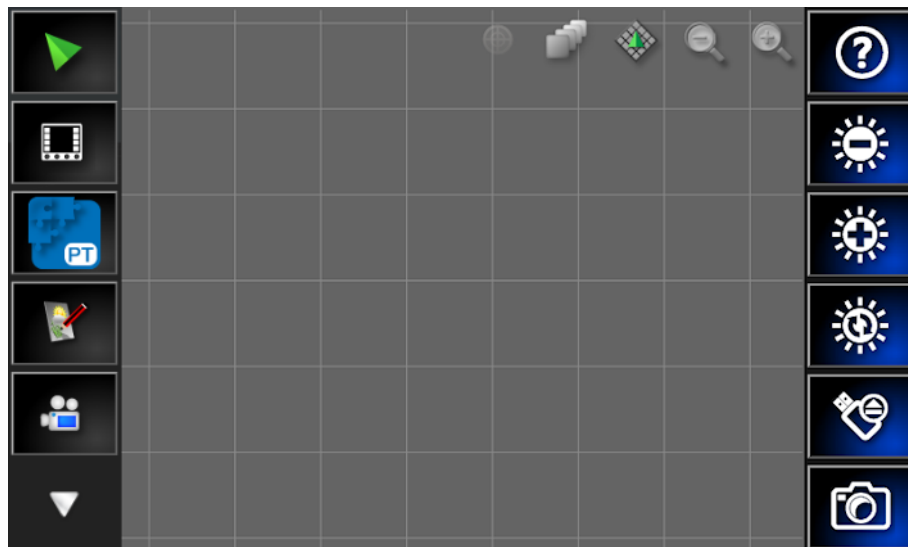


ISOBUS shortcut button (ISB): Deactivates functions that were activated by an ISOBUS control. Pressing the button again will not restart the functions.



Displays the navigation bar on the left and the console toolbar on the right. These may also be displayed by swiping left or right with two fingers.

Guidance controls are displayed at the top of the screen.



### 4.1. Using the navigation bar

Display the navigation bar on the left of the screen could be done by swiping right with two fingers or by pressing the arrow button if not visible



The displayed navigation bar contains entries depending on the enable features.

### **Task Controller map screen**



Display the map screen. See Using the map screen, page 30.

### **Universal Terminal**



This option allows the operator to interact with an ISOBUS ECU. See Using the Universal Terminal, page 28.

### **PClient**



This option allows the operator to switch to the additionally implemented application done using the Topcon Projektor Tool – the user friendly powerful tool to easily create the user interface for your system. See Projektor Tool and PClient, page 35.

### **Record Job Details**



The console can record details of the job and store and export these.

### **Camera display**



Displays up to two connected cameras live. See Camera, page 34.

### **Scroll navigation bar**



Scroll navigation bar in case more as 6 options available.

### **Setup**



Provides options to configure system settings. See System setup, page 14.

### **System information**



Displays software and system information summaries.

**Note:** Swiping up or down with two fingers will scroll through the apps.

## 4.2. Using the console toolbar

Display the console toolbar on the right of the screen could be done by swiping left with two fingers or by pressing the arrow button if not visible



### Help



The **Help hint** feature displays the names of the user interface elements on the screen.

Pressing the help hint button displays question marks on the screen next to the icons. Select the screen element showing a question mark to view the hint text.

Press this button again in order return to normal operation of the input elements.

### Brightness control



**Brightness control** adjusts the brightness of the display. Use plus or minus to adjust display.

### Day/night mode



Day/night mode **changes the brightness of the display.**

Settings are **Day, Night and Auto**. Auto mode sets the brightness automatically, depending on light conditions.

### USB eject



The USB port is on the front of the console (or on the harness). This can be used to import data to and export data from the console. Before removing the USB, always disconnect first by pressing the **USB eject** button. A message displays that it is safe to remove the USB.

### Screenshots



Use the **screenshot** button to take screenshots (which are stored on the USB). Ensure a USB is plugged in before taking screenshots. Press the USB eject button before unplugging the USB.

**Note:** Swiping up or down with two fingers will scroll through the apps.

## 5 System setup

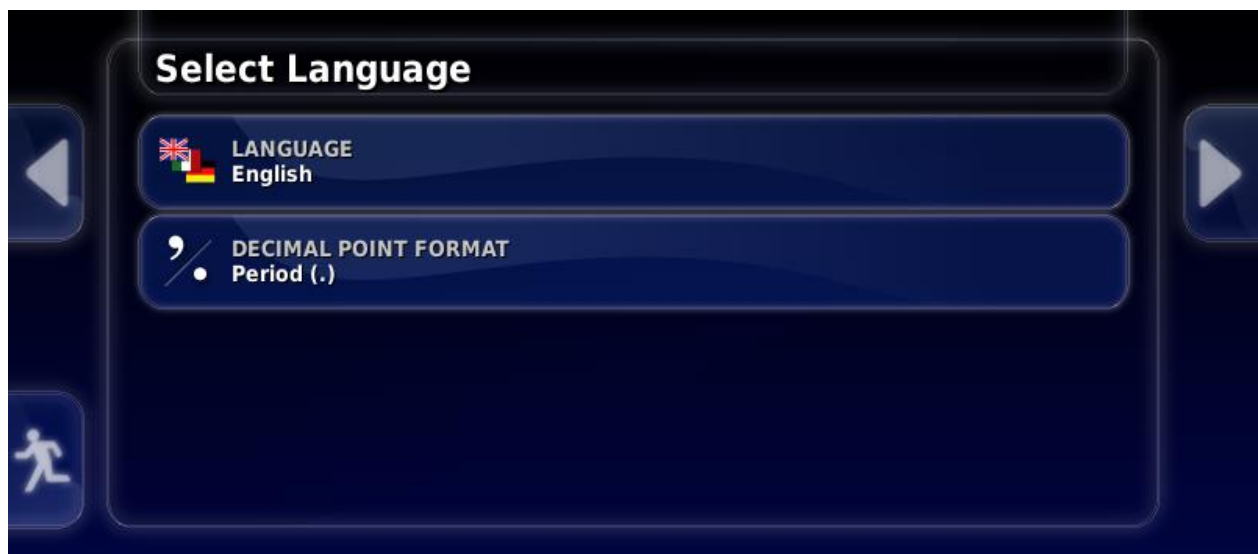
To open the Setup screen:

1. Press the arrow button on the front of the console , or swipe right with two fingers from the left side of the screen to display the navigation bar.
2. Select the spanner button .

The Setup screen provides the following menu items:



Arrow button on the right side of the screen (**Next**) could be used to view all the settings required in correct order. With arrow button on the left side of the screen (**Back**) step back in the workflow is possible.



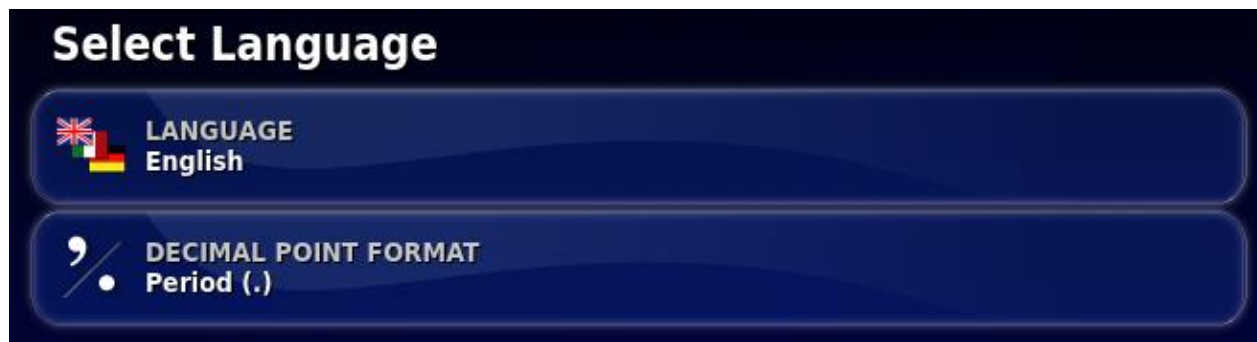
### 5.1. User setup

#### 5.1.1. Setting up the language

The language displayed on the console may be changed if required and decimal separators may be represented by a period or a comma.

To set the language or decimal point format:

Select **User**  / **Language** .



The following options are available:

### Language

There is a choice of languages available.

Use the scroll bar to see more languages. Confirm the selection. The console will restart when you click away from the selection.

### Decimal point format

A decimal point may be represented by a period (.) or a comma (,).

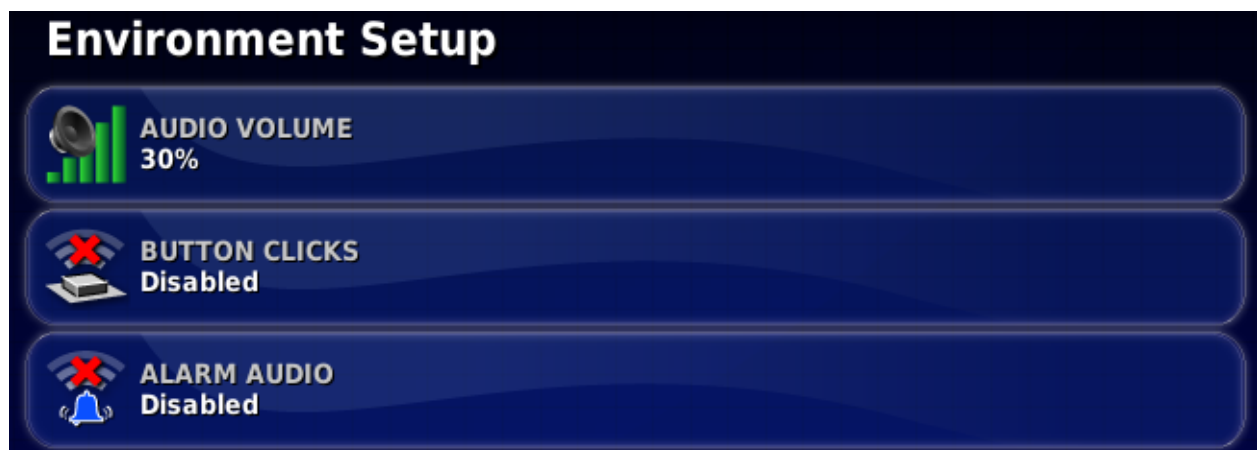
**Note:** After change of language or format the display will restart automatically.

### 5.1.2. Setting up environment

Sets up console interactions.

To set up the environment:

Select **User**  / **Environment** .



### Audio volume

Sets the volume of console sounds.

## Button clicks

Enable or disable sounds when making a selection on the console.

## Alarm audio


Enables sounds when an alarm is triggered.

### 5.1.3. Setting up the time/date


**Note:** Time and date settings as well as connecting a GPS receiver (if available) only affect the time and date values shown in the user interface. The system time (shown e.g. in PClient) stays unchanged. If GPS attached, the date values will be imported from the ZDA message of NMEA 0183 automatically.


To set time and date information:


Select **User**  / **Time/Date** .




**Time/Date Setup**

 **DATE FORMAT**  
11 Apr, 2017

 **TIME FORMAT**  
12-hour (2:30pm)

 **SET CURRENT DATE**  
11/4/2017

 **SET CURRENT TIME**  
3:08 am

The following options are available:

#### Date format

Select the required format for displaying the date.

#### Time format

- Twelve-hour time (2:30pm)
- Twenty-four-hour time (14:30)

#### Set current date

Enter the current date.



### Set current time

Current time (does not change automatically for daylight saving).

Note that +/- will change time incrementally.

#### 5.1.4. Setting up units

The unit's options set the displayed units of measurement (metric or imperial), units for area and volume.

To set unit information:

Select **User**  / **Units**  .



The following options are available:

#### Units

- Metric
- Imperial (US)
- Imperial (UK)

The United States (US) and United Kingdom (UK) imperial options are provided because gallons, fluid ounces and bushels have different measurements in the US and the UK.

**Note:** Changing this setting will not override the selection of individual units (Area, Volume) that have been changed.

### Short distance units

- Meters
- Inches
- Feet
- Default: Selects the default setting appropriate for the selected **Units**

### Area units

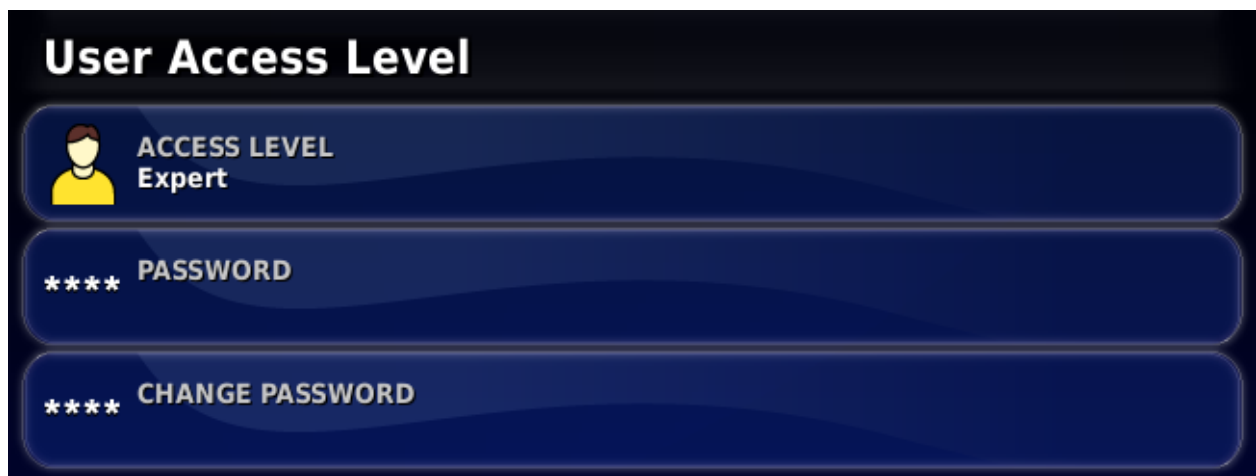
- ha (hectare)
- ac (acre)
- Default: Selects the default setting appropriate for the selected **Units**

### Dry product volume units


- |                |               |
|----------------|---------------|
| • Litres       | • Gallons     |
| • Kilograms    | • Pounds      |
| • Cubic meters | • Cubic feet  |
| • US bushels   | • Cubic yards |
| • UK bushels   | • Tonnes      |

#### 5.1.5. Access Level

Access level options define how many option will be displayed depending on customer login.



**User Access Level**

 **ACCESS LEVEL**  
Expert

\*\*\*\* **PASSWORD**

\*\*\*\* **CHANGE PASSWORD**

Available options are:

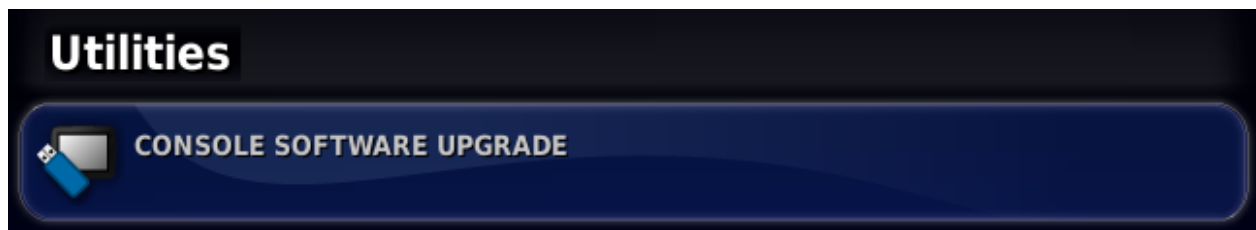
- Easy
- Standard
- Expert (default)

**Expert** option is mandatory password protected.

**Easy** and **Standard** option can be password protected using **Change Password** option.

### 5.1.6. Utilities

This feature is enabled first if the valid USB is mounted.



Pressing the key, mounted USB will be checked for software update files. If such files are recognized on USB the update will be proceed.

## 5.2. Features setup

Please note that features are not available in all variants of OPUS devices.


### 5.2.1. Setting up the licenses


Here the software registration could be done.

- **Export** license data to create a license request file on the mounted USB. This contains the unique display ID required for the identification.
- Send the resulting file to [OPUS-SUPPORT@topcon.com](mailto:OPUS-SUPPORT@topcon.com) together with according order confirmation and get the license file back.
- **Import** the license.

**Note:** This license is hardware dependent and is only valid for one specific display.

## Licenses


**EXPORT LICENSE DATA**  
 Click to export for C8-FF-FF-FF


**IMPORT LICENSE DATA**  
 Click to import

Feature	Status	Expiry
Auto Section Control	Licensed	Unlimited
Cameras	Licensed	Unlimited


Licensing may be also done manually by entering the license number or importing the license data file.


### 5.2.2. Setting up the console


Configure console features to be shown in

Select **Features**  / **Console** .

## Console Features


**UNIVERSAL TERMINAL**  
 Enabled


**FILE SERVER**  
 Enabled

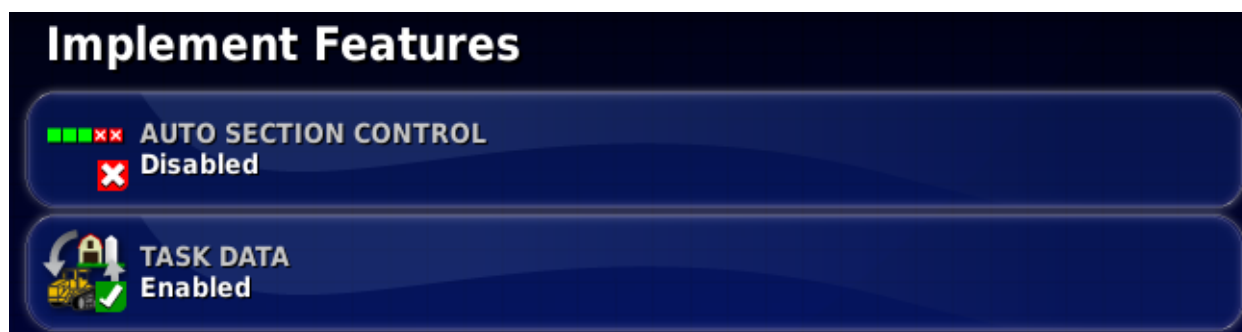

**CAMERAS**  
 Enabled

- **Universal terminal:** Enables the ISOBUS Universal Terminal server that allows interaction with ISOBUS compliant ECUs with UT client. See Universal Terminal, page 28.
- **File server:** Can store files for an ISOBUS ECU if the ECU has file server capability. It allows implement and other profiles to be moved between ECUs. Files can be exported and imported using the USB.
- **Cameras:** Optional function that allows operator to monitor connected analog cameras on the console.

### 5.2.3. Setting up the implement

Set up the features for the attached implement.

Select **Features**  / **Implement** .



- **Auto section control:** Permits the system to turn sections on for new areas to be covered and off for areas that have already been covered. Only visible if Task Data enabled. See **Auto section control**, page 33.
- **Task data:** Task Data allows import/export and editing of ISOBUS Taskdata XML files. Task Data mode allows you to select, configure and run a task from the imported task data. Shapefiles can be imported to automatically control the ECU. Enabling this feature will disable some field and job menu items during operations that are not relevant when using task data. The Task Data Menu icon replaces the Job Menu icon on the Operation screen. See **Task Data**, page 31.

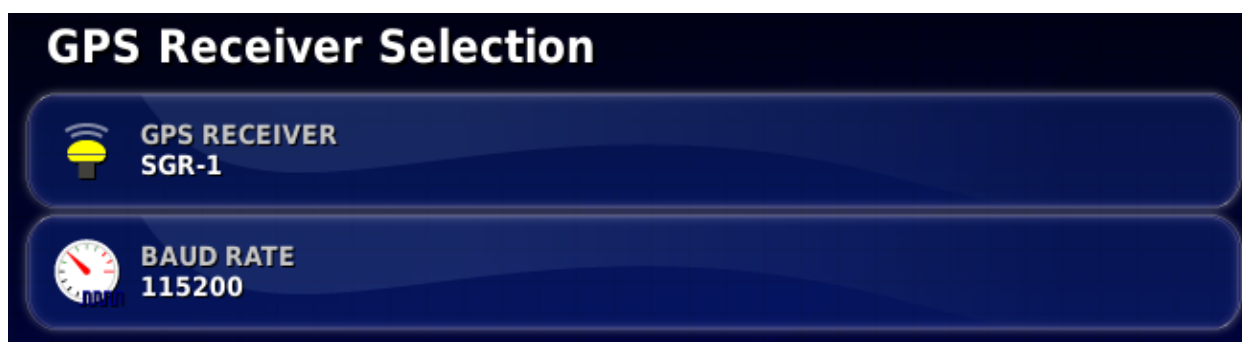
**Please note that these features are not available in all variants of these devices,** see General Information, page 6.

### 5.3. GPS receiver setup

Sets up GPS receiver capabilities.

To set up the GPS receiver:

Select **GPS**  / **Receiver** .



## GPS receiver

Select the GPS receiver type from the selection list:

- **SGR-1:** Compact rooftop Topcon GPS receiver.
- **NMEA Source:** Commercial third-party GPS receiver that uses standard NMEA 0183 messages for communicating data over a serial port connection. Update rate of at least 5 Hz required.

Required are:

- GGA 5 Hz
- VTG 5 Hz
- ZDA 0,1 Hz
- **NMEA 2000:** A standard used over the CAN bus. Many ISO compliant GPS receivers communicate their data in this format.

If **SGR-1** selected additional option **Correction** will be displayed for **GPS**. Here the Correction Source can be selected. Following values are available:

- **Autonomous:** combines GPS and GLONAS without any correction worldwide
- **WAAS:** Wide Area Augmentation System – DGPS that supports North-American area (GPS only)
- **EGNOS:** European Geostationary Navigation Overlay Service – DGPS that supports Europa area (GPS only)
- **MSAS:** Multi-functional Transport Satellite Augmentation System – DGPS that supports Japan (GPS only)
- **OmniSTAR VBS:** worldwide commercial DGPS (GPS only)

## Baud rate

The data transmission rate for NMEA 0183 on serial port. GPS receiver baud rate can be changed from the default value. This setting should normally not be altered. If the setting does need to be changed, refer to the manual supplied with the GPS receiver.

## 5.4. Geometry setup

Only available for Front-Wheel-Steer tractors on this display.

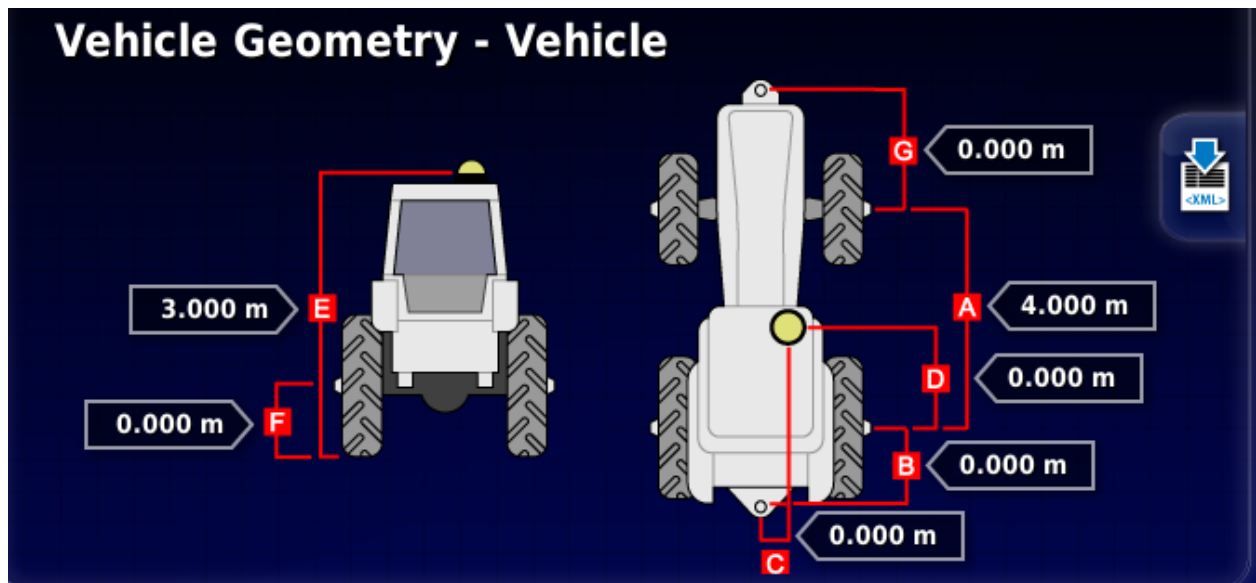
Sets the vehicle measurements so that Task Controller can work accurately.

**Note:** Measure the vehicle dimensions as accurately as possible.

**Note:** The XML button on the right synchronizes (write) the vehicle geometry with the task data.

To set the vehicle geometry:

1. Select **Geometry**



2. Select a vehicle dimension. The name of the dimension appears in the title bar. Dimensions requested vary according to the type of vehicle that is connected.

3. Adjust dimensions where needed and confirm.

The following lists key measurements commonly used in the system:

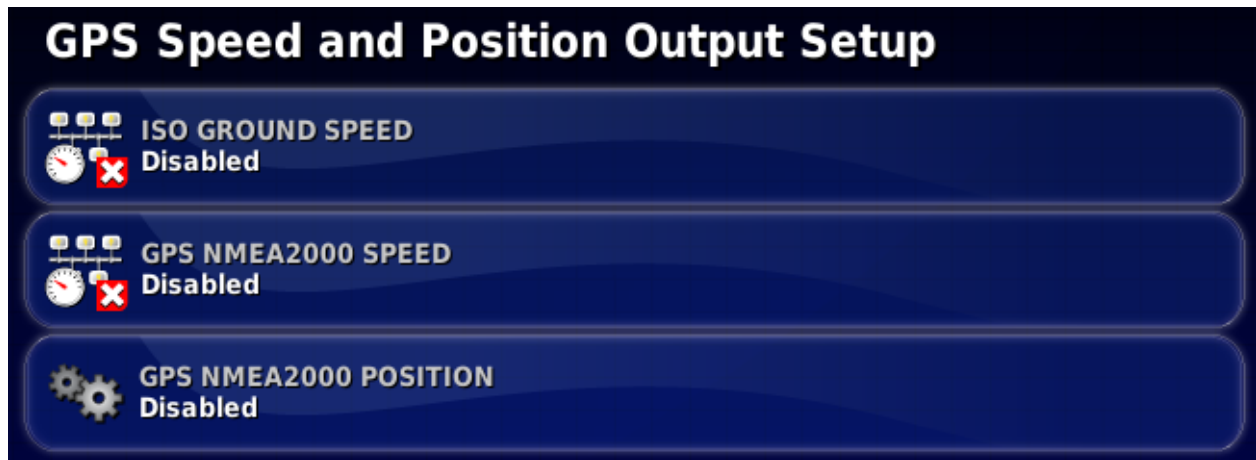
- **Wheelbase:** The distance from the centre of the front axle to the centre of the rear axle.
- **Implement Tow Point:** The distance from the centre of the rear axle to the tow point.
- **GPS Steer:** The offset left or right from the middle of the axles to the GPS receiver. This is a positive number if the receiver is to the right of the middle of the axle and negative if the receiver is to the left.
- **GPS Antenna:** The horizontal distance of the receiver from the centre of the rear axle. The number is positive when the receiver is in front of the rear axle and negative if it is behind the rear axle.
- **GPS Height:** The height of the top of the GPS receiver above the ground.
- **Axle Height:** The height of the axle above ground.
- **Front Hitch:** The distance from the centre of the front axle to the front hitch position.
- **Track Spacing:** This only applies to tracked vehicles and is the distance between the tracks.
- **Articulation Point:** This only applies to articulated vehicles and is the distance from the rear axle to the articulation (pivot) point of the vehicle.

**Note:** Not all settings are mandatory, but depend on vehicle type.

## 5.5. Speed and position setup

Sends vehicle speed information to the ISOBUS implement for performing rate control or other functions.

1. Select **Speed & Position**



Outputs selected data to the ECU.

**Note:** The GPS NMEA2000 setting specifies that the virtual TECU should emulate NMEA 2000 COG/SOG messages (129026) on the CAN bus. It has no effect on the NMEA 2000 output sent from the receiver.

If a TECU already sends ISO ground speed, the output is stopped.

2. Select the required output/s.

## 5.6. ECU setup


To set up the ECU:


Select **ECU**






## ECU Setup (ISOBUS) - TC Test

 **IMPLEMENT CONTROL**  
Section Control and Rate Control

 **IMPLEMENT FUNCTION**  
Sprayer

 **REFRESH ECU SETTINGS**  
Click to retrieve current settings from ECU

ECU	Name	Firmware Version
1		


- **Implement control:** Select between section control, rate control or both.
- **Implement function:** Select the implement function: spreader, sprayer or planter.
- **Refresh ECU settings:** Synchronizes information between the ISOBUS ECU and the console.


## 5.7. Task controller setup


To set up the task controller:

Select TC .

## Task Controller Setup

 **TC VERSION**  
3

 **TC NUMBER**  
1

 **CLEAR POOL CACHE**  
Click to clear ECU cache

- **TC version:** Sets the task controller version. This should be left at the highest version, unless TC issues are encountered.
- **TC number:** Sets the task controller instance number for the console. If there are multiple TCs on the bus, use this setting to assign a unique number to this TC to avoid conflicts. The TC with number 1 will be the default TC, range is 1 to 31.

- **Clear pool cache:** Clears the contents of the TC pool cache. Should only be used if a TC error is displayed.

## 5.8. Universal terminal setup

To set up the universal terminal:

Select **UT** .



- **Universal terminal:** Controls whether the UT server is actively receiving connections from other devices.  
This may be useful if there are multiple UTs on the bus and multiple UTs claim to be the primary UT (in which case the UT will go offline automatically and require the **UT Number** to be changed before it will go online again), or to temporarily deactivate the UT on the console.
- **UT version** shows the supported UT version. By default, VT 5.
- **UT number:** Sets the UT number for the console. If there are multiple UTs on the bus, use this setting to assign a unique number to this UT to avoid conflicts. The UT with number 1 will be the default UT. If the UT client doesn't appear on the correct UT you may need to reconfigure its UT number appropriately. If there is a conflict, the following message will appear:  
'The UT Number of this UT conflicts with another UT on the bus, and this UT has been disabled. Please make sure that this UT has a unique UT Number.'  
Please note that the device needs to have UT number 1 to work with auxiliary controls.
- **Auxiliary control setup:** The auxiliary controls allow for external ISO compatible devices and the console to provide a set of functions that can be assigned to

inputs on ISO compatible joysticks or other input devices. See Auxiliary control setup, page 28.

- **Clear pool cache:** Clears the contents of the UT pool cache. Should only be used if a UT error is displayed.
- **Soft keys per column:** Sets the number of available soft keys on the UT interface.
- **Soft key location:** Sets the location of the soft keys on the UT interface and the number of columns (1 or 2).

**Note:** Soft key settings are only available on displays without mechanical buttons.

## 6 Universal Terminal

### 6.1. Using the universal terminal

The Universal Terminal (UT) screen allows the operator to interact with an ISOBUS ECU.

The UT is similar to the idea of a web browser. It has no context about what is running on it. User interfaces are loaded from the connected clients.

There is no practical limit to how many implements or clients can be accommodated by the UT. Functionality is limited to the implement and controller design.

See Universal terminal setup, page 14.

The A6e has on-screen buttons to navigate the UT controls. The A6s uses the console buttons.



Opens the Aux-N Assignment window (if using an A6s, see Auxiliary control setup, page 28).



Cycles through the connected UT Working Sets.



Moves to the previous input or button. The A6s uses the dial knob.



Moves to the next input or button. The A6s uses the dial knob.



Escapes out of an editing operation or acknowledges a UT alarm if present.



Activates the highlighted input or button. The A6s uses the push button on the front of the dial.

Screens displayed will vary according to the ISOBUS equipment.



### 6.2. Auxiliary control setup

The AUX controls allow for external ISO compatible devices to provide a set of functions that can be assigned to inputs on ISO compatible joysticks or other input devices.

**Note:** only AUX-N is supported.

#### Open Aux control setup


### If using an A6e:




1. Select **Universal Terminal**  (UT number = 1) from the Navigation bar.
2. Select the auxiliary control setup button  to display the functions that can be assigned to an input.

### If using an A6s:

1. Select Auxiliary Control Setup from the Universal Terminal Setup screen. See Universal terminal setup, page 14.

### Assign AUX controls

**Note:** If more than one device is providing functions, the functions that are displayed can be filtered by selecting the filter by device button .

1. Scroll down the list to select the function to be assigned to an input and select the associated assignment button . The Select Input screen displays.
2. To assign the function, press the input button on the device (for example, external joystick) that will be used to perform the function, or press the manual assignment button  to select the input from a list.
3. To un-assign a function, open the select input screen and select the clear assignment button .

Once all the desired functions have been assigned and the AUX-N Setup screen has been closed, the assigned functions can be activated by pressing the assigned inputs. Please be aware that some functions will require the device or console to be in a ready state before the function can be activated.


## 7 Task Controller Map Screen

These controls are displayed at the top of the map screen.




### Map panning


The screen content moves around when the user slides a finger across the screen.




Touching the map panning icon  re-centers the map to the current location of the vehicle.

### Select visible map layers


Select  to choose whether flag points and/or grid lines will appear on the screen.

### Toggle map view mode

Select  to toggle views of the map (North Up, Overhead or Perspective).

- In North Up View  the top of the screen represents North.
- In Overhead View  the top of the screen represents the vehicle's current direction.
- Perspective View  places the map into virtual perspective with a virtual horizon.

### Map zoom

Select  to zoom in or out if needed. Press and hold to zoom quickly.

## 8 Task Data

### 8.1. Task data bar

The task data bar is displayed on the right side of the Task Controller map screen.

#### Select task



Selects an existing task. Files can be filtered by task status and connected devices if required.

#### Create new task



A new task may only be created if no current task is running. Once a task is created, it becomes the current task.

#### Start and stop task



Tasks may be manually started or stopped.

#### Clear task data



This action will delete task data.

#### Configure VRC for this task



The ISO Task Controller Control Setup enables variable or fixed rate control configuration (or review of the existing configuration).

Each row in the table represents a variable or fixed prescription for a control target on the implement. The names and number of control targets that can be selected depends on the ISOBUS implement (see documentation supplied with the ISOBUS implement for more information).

#### Show task totals



The types of task totals stored is dictated by the connected ECU. A task must have been started at least once for any totals to be displayed.

## Set the time type



When the task is running, the user can choose what type of time is currently being recorded.

The following options are available:

- Preliminary
- Preparation
- Effective
- Ineffective
- Repair
- Clearing

The default time type is Effective. If a task is started or restarted the default type is used.

## Export task report to USB




Exports a task data report to USB in PDF or CSV format.

## Import task data from USB



Used to import task data files from a USB.



The toggle button  may be used to automatically search the top-level TASKDATA directory (if it exists), on the USB and list taskdata.xml files that are found. If this method is not successful, the USB may be browsed manually to select the required file.

1. Browse, choose the required .xml file and confirm.

**Note:** Once a file is selected, it is possible to change the **Import Mode** to import all data, or import coding data only. Importing coding data only will import data such as customers, farms, fields, workers, products and implements, but will not import any tasks that may be present in the task data.

## Export task data to USB



Exports the task data with collected task records.


By default, task data is exported as ISO XML (CSV and Shapefiles may be selected as additional formats).

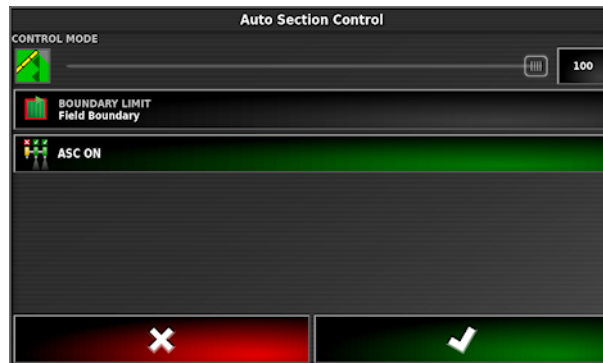


1. Select any additional export formats (CSV and/or Shapefiles).
2. Select the required export mode:
  - **Delete all task data after export:** All task data is deleted from the console.
  - **Keep only coding data after export:** Tasks are deleted from the console but data such as customers, farms, fields, workers, products and implements is retained.

Note that both options will export task data.
3. Confirm export.

### Auto section control

 Permits the system to turn sections on for new areas to be covered and off for areas that have already been covered.



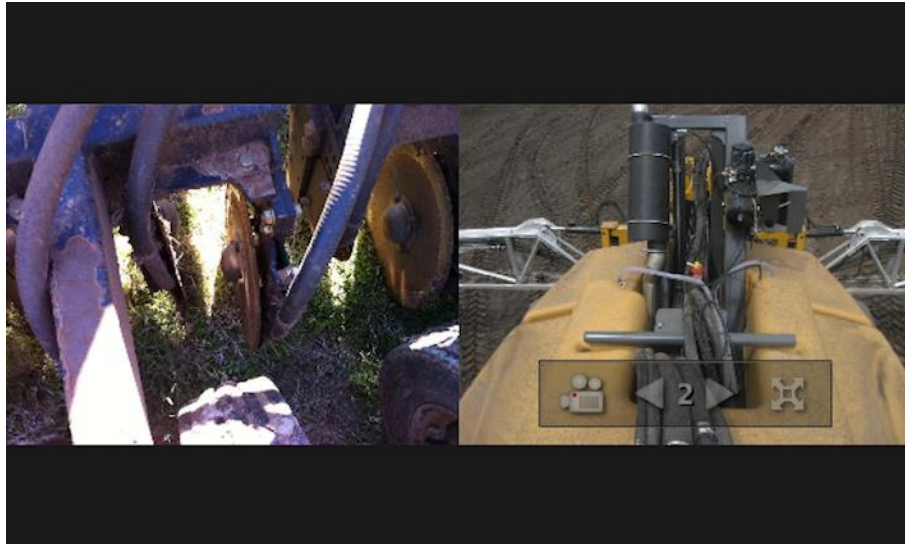
**Control mode:** Use the slider or number keypad to set to avoid overlap (0) or avoid gaps (100). If avoid overlap is chosen, there may be some spaces where product is not applied. If avoid gaps is chosen, some overlap of application is likely near boundaries. The default (50) is a compromise.

**Boundary limit:** Sets which type of boundary limit will turn off spraying when using auto section control.


## 9 Camera

The camera monitor allows users to display and monitor cameras that are connected via the analog ports on the rear of the console. Up to three cameras may be connected, but only two may be viewed live at a time.

**Note:** it is not possible to view cameras 1 and 3 at the same time.



The camera panel can show one or two camera views.

1. To select the required camera, use the arrows to scroll through the available cameras.
2. Select  to choose a camera.

## 10 Topcon Projektor Tool and PClient

Topcon Projektor Tool is a user friendly, powerful proprietary tool to create a customer specific application (project) with corporate design and function, able to communicate via CAN bus. The project can be created on PC and transmit to OPUS display using USB easily.

Customer project run independent to UT, Task Data and cameras, executed by PClient (Projektor Client).

To create a project Topcon Projektor Tool should be installed and licensed. For more information please contact Topcon technical support department:

[OPUS-SUPPORT@topcon.com](mailto:OPUS-SUPPORT@topcon.com)

### 10.1. Activate / Deactivate Projektor Tool

By default, PClient is enabled on the console via the registration code for 'external application'.

Even when registered there is an option to deactivate it again via a specific "update package" on a USB thumb drive. This package toggles the 'active'/'inactive' state with every reboot - so don't forget to remove the USB stick directly during the boot process.

**Note:** This activation update package can be obtained by contacting technical support.

### 10.2. Default Project

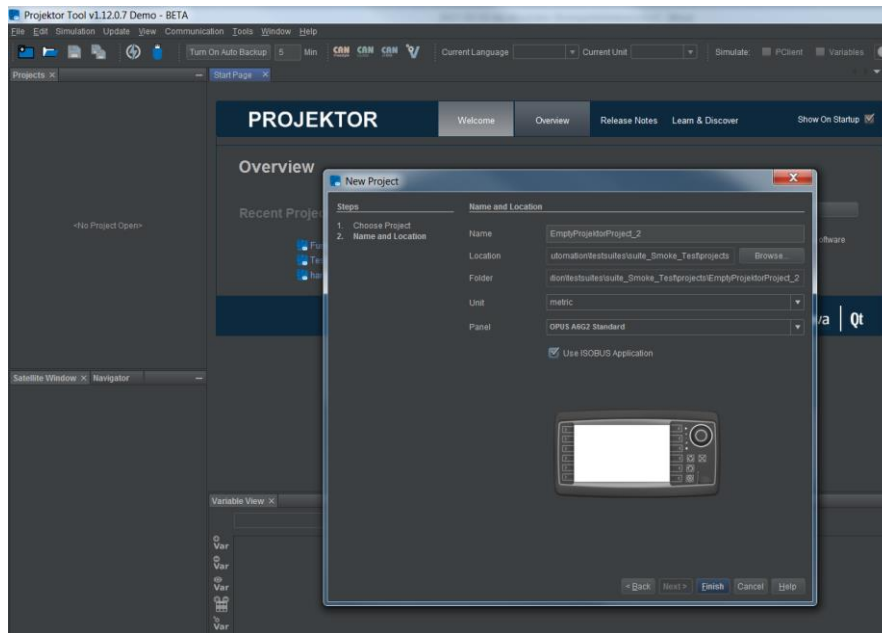
Until replaced by your own project PClient shows a sample project consisting of current RTC time and CAN bus state and statistics for both CAN busses.

A password protected second page allows configuration of console's 'low power' and 'sleep' time.

### 10.3. Create a project to run on OPUS display

To create a project, please install the latest version of the projector toolchain on a Windows PC.

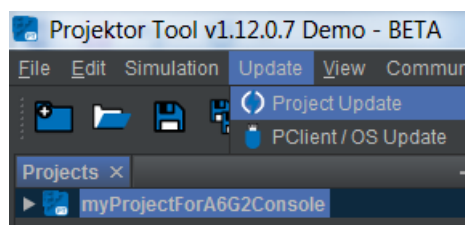
**Note:** To create a project running on the console correctly, it is important to select the correct panel - currently ISOBUS is only supported for OPUS A6G2 Standard/Eco and to select the option "**Use ISOBUS Application**" as displayed on the next screenshot:



**Note:** On the user manual of the projektor tool, follow the start tutorial and watch the online video tutorials for familiarizing with the projektor tool and all its features.

#### 10.4. Upgrade your new project on the console.

Once the project is created and saved, you can download it into the console using the updater application. On the projektor tool designer, select the menu [Update} → [Project Update].



Follow the instructions of the user manual for updating the console with your project.

#### 10.5. Upgrade your new project on the console.

Once the PClient application is activated, you can select it using the side bar menu on the left side and pressing on the menu item under the according icon or by swiping the screen with 2 fingers from top to bottom up to the application will be displayed.

The icon for the Projektor Tool project is customisable and could be setup in the properties of the customer project.