

PUBLIC



KONGSBERG

# ***Simrad TV80***

## ***Fishing Gear Monitoring Software***

### ***Software Release Note***

#### ***Release 24.6.x***

This document describes the changes introduced with the new software version.

- **Product:** TV80
- **Software version:** 24.6.x
- **Upgrade from version:** 23.11.x

This software controls all functionality in the TV80 system. This includes transmission and reception, interfaces with external peripherals and sensors, and all user interface.

Additional end-user documents related to the TV80 system can be found on our website. This includes publications that are translated into other languages. Selected publications are also provided in IETM (*Interactive Electronic Technical Manual*) formats.

- <https://www.kongsberg.com/tv80>

**SIMRAD**  
By KONGSBERG

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# Software changes

This software update solves a number of software bugs that have been reported by our users, or detected during our own product testing. New functionality is also introduced. The following specific changes have been made.

## Software license

New functionality in the TV80 gear monitoring software is only available with the following licensing options:

- Full Trawl and Purse Seine
- Full Trawl and Purse Seine with Positioning License

The TV80 system needs a software license to receive data from gear monitoring sensors. There are different types of licenses available depending on your working scenario or specific operational needs. Each software license “unlocks” a set of functionalities.

Important \_\_\_\_\_

## **Before updating, you must request a license.**

Do not upgrade to version 24.6.x unless you have read the relevant sections in this release note. See:

- [Software license, page 14](#)
- [Updating TV80 to version 24.6.x on Windows 10, page 17](#)

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## **New functionality**

- The TV80 software now supports two transducers connected to the TP90 transceiver. By means of the TP90 transceiver installed with two transducers, the TV80 software can provide information about the relative position of the TP PxPos sensors placed on the trawl, even when the trawl is located further to the right or to the left of the vessel. The settings of the TP90 transceiver are defined by means of the **Trawl Positioning Configurator** dialog box.

Note

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*The TP90 transceiver has 2 interfaces for connecting 2 transducers. When in the **Trawl Positioning Configurator** dialog box only a single transducer is configured, the TP90 only receives data from the left interface, which must correspond to the port-most transducer.*

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To use the TP90 transceiver on your TV80, you must first install the **TpTransceiver** software. The software installation file can be downloaded from our website. For more information, contact one of our dealers or agents, or Kongsberg Discovery.

Caution

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*In the TV80 software version 24.6.x, Trawl Positioning with TP90 transceiver and TP PxPos sensors incorporates filtering of positioning measurements. However, data may still include sporadic inaccuracies, errors or outliers that do not correspond to the exact measurements. Exercise caution when using individual values and consider the context and larger trends in the data before drawing conclusions.*

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- The TV80 software now supports switching trawl positioning interrogation *On / Off*. By means of the **Trawl Positioning Configurator** dialog box or directly on the **Operation** menu, you can set the TP90 to silent mode or to be reactive to Trawl Positioning interrogation.

Note

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*The first time that the TP90 transceiver is installed by selecting **Add LAN Port** in the **Installation** dialog box, interrogation is by default *Off*. For the Trawl Positioning interrogation to start, set the Trawl Positioning interrogation to *On*.*

*When the Trawl Positioning interrogation is *Off*, a yellow triangle on the TP90 icon reflects that no interrogation transmissions are issued from the TP90 transceiver and that no response from the TP PxPos sensors will be received.*

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- The TV80 software now supports two transducers connected to the TP90 transceiver. The settings of the number of transducers configured are defined by means of the **Transducer** page in the **Trawl Positioning Configurator** dialog box. The **Transducer** page allows you to specify whether the installation is a single transducer installation or a dual transducer installation. Multiple configurations can be created, depending on what transducer layout is currently active on the vessel. The current active transducer configuration can be selected directly on the **Operation** menu. The **Transducer** page allows you to specify the rotation angles of each TP transducer configured. It consists of three text fields to specify the rotation angle on each of the three rotation axes, for each of the transducers, and a 3D view to inspect the position of the transducer(s).
- The TV80 software now supports two transducers connected to the TP90 transceiver. The online help for 23.11 that explains the **Transducer** page, **Transducer Diagnostic** dialog box and **Transceiver Diagnostic** dialog box is still valid, but in 24.6 each of these pages shows information for each of the transducer(s) connected.

- The **UDP Configuration** dialog box allows you to set up the IP address and ports to receive data from an external device. A new checkbox **Relay data only** has been included when used for Gyro input for Trawl Positioning. When selected, TV80 does not process any of the data received, but instead the Trawl Positioning library uses it exclusively. This means none of the data that arrives on this interface will be available as display data in TV80.

**Note** \_\_\_\_\_

*The **Relay Data Only** option is only needed if the rate of the Gyro updates are really high and you want to reduce the load on TV80. We recommend leaving this checkbox unselected if the data source sends data at rates below 15 times per seconds.*

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- The TV80 software now include a new gridline on the built-in frequency spectrum indicating the location of the Trawl Positioning frequency band.
- The TV80 now supports NMEA sentence  
`@IITPT,xxxx,M,y,P,zzzz.z,M<cr><lf>` Trawl Position True vessel.
- The quality of the acoustic communication supports configuring the new PX miniCatch sensor with *Depth Activation* mode. This mode is not available in all PX miniCatch and only if the PX miniCatch has a Depth/Temperature lid. When it is available, the TV80 gives you the possibility of setting the PX miniCatch not to transmit until it reaches 5 meters depth.
- Past interval names were *Slow*, *Normal* and *Fast*. In the new TV80, a slider is used to set reporting interval. Moving the slider to the left most position will correspond to past interval naming *Fast*. The interval shown as seconds can now be used to calculate past interval *Normal*. This is done by multiplying with 2x. Past interval *Slow* correspond to 3x the interval for fast.
- The new PX miniCatch sensor can now be configured with *Extended Deployment* mode. This mode gives you longer battery life without the normal trade-off of longer update interval. By means of *Extended Deployment* mode, you get information with fast reporting interval when Catch is triggered, or when no Catch is triggered, with less often updates.

**Note** \_\_\_\_\_

*In the **SR Receiver Filtering** dialog box, the **Catch / Bottom Filter** parameter is by default set to *Weak* mode. For the PX miniCatch sensor, we recommend that you set the **Catch / Bottom Filter** parameter to *Off* mode, especially when *Extended Deployment* mode is selected. This will cause the TV80 system to indicate everytime the PX miniCatch sensor is triggered. In the **Operation** menu, select the **SR Receiver Filtering** button. The **SR Receiver Filtering** dialog box opens. Locate the **Catch / Bottom Filter** parameter and select *Off* in the drop-down menu.*

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- The TV80 software now supports Quality measurement from those PX Flow sensors with this functionality.

## Improvements

- The behaviour of the **On Gear** check box, used to enable or disable the relevant sensor from the presentation, has been changed when a sensor is configured with a communication channel that conflicts with another sensor in the **Sensor list**. In previous versions, the new sensor added would be enabled and the other sensor in the list with conflicting communication channel would be disabled. This has changed. Now the new sensor added will be the one disabled and with **On Gear** check box unchecked. The **On Gear** check box is located at the right of the table on the **Sensor list** page.
- A new text has been placed below the slider introduced in 23.11 to set the update rate when adding a PX sensor. This new text shows the expected additional battery life the PX sensor will get by moving the slider away from fastest update rate.

### Note

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*The information is not shown if the PX sensor is configured as a "remote" sensor because battery saving in "remote" sensors is insignificant.*

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- The TV80 offers a spectrum analyser that shows the signals from each hydrophone and transducer. This has now been updated with description of the location of the Trawl Position frequency band. The **Spectrum** dialog box is only available if an SR type receiver unit has been added to your TV80. Use the **Spectrum** icon under the **Hydrophone** icon to access the **Spectrum** dialog box or open the **Spectrum** dialog box directly from the **Setup** menu.
- When you configure a TrawlEye sensor with the TrawlEye Differential Geometry measurement option, the echogram view of the data received from the TrawlEye sensor has been improved.
- Through LAN or COM port, the TV80 system can communicate with ES80 Echosounder using the Simrad PSIMP datagram format. The PSIM datagram behavior is controlled by the file `pi50_out.xml` found in the `C:\ProgramData\Simrad\TV80\config\users` folder, below the gear used. Modifying this file, allows for individual PSIM NMEA datagram to be enabled/disabled.

### Caution

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*Exercise caution when changing the content of `pi50_out.xml` file used by TV80. Only change it when TV80 is closed. If TV80 does not start after having changed `pi50_out.xml`, delete the file and let TV80 create a new one automatically.*

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- Through LAN or COM port, the TV80 system can communicate with Simrad Sonar using the Simrad PSIMTV80 datagram format. The PSIMTV80 datagram behavior is controlled by the `filter_psimtv80.xml` found in the `c:\ProgramData\Simrad\TV80\config\users` folder, below the gear used. Modifying this file, allows for individual PSIMTV80 NMEA datagram to be enabled/disabled.

**Caution**

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*Exercise caution when changing the content of `filter_psimtv80.xml` file used by TV80. Only change it when TV80 is closed. If TV80 does not start after having changed `filter_psimtv80.xml`, delete the file and let TV80 create a new one automatically.*

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**Bug fixes**

- In the previous version, when a PX MultiCatch was used as a sensor towards a PI receiver and a PX miniCatch towards a SR receiver but with PI in parallel, the measurements received from the PX MultiCatch were not correctly interpreted by the TV80 system. This has been solved.
- The **Sensor List** page did not show details like Temperature and Battery on PX sensor configured on purse seine gear. This has now been changed. The **Sensor List** page is located in the **Installation** dialog box. The **Installation** dialog box is located on the **Setup** menu.
- Before this version, TV80 did not warn if a PX sensor physically connected to your computer was different from the one in the **Sensor List** being modified using **Modify Sensor**. Now TV80 shows a warning.
- Through LAN or COM port, the TV80 system can communicate with ES80 Echosounder using the Simrad PSIMP datagram format. Before this version the sensor number was changing when TV80 was restarted. In the new version this has been solved.

# Known issues

The following issues are already known for the TV80 software.

## Sensors and TV80 bugs

- If you have a Trawl Positioning system setup with TP90 unit added but without any PI or SR Receiver units, then an incorrect Warning is shown when adding TP PxPos Sensors. The Warning indicates that a SR15, SR70, PI50 or PI60 must be added before adding new sensors. This Warning can be ignored. It has no influence on the adding of TP PxPos Sensors.
- When no TP PxPos sensor has been added on the **Sensor list** page, Trawl Positioning is not interrogating as there are no sensors to interrogate. However, in 24.6 the yellow triangle on the TP90 icon that should reflect that no interrogation transmissions is issued from the TP90 Transceiver is not shown.
- Units are missing on the Transducer Diagnostic dialog box.
- The **SR Receiver Filtering** dialog box allows you to set up the receiver parameters in the SR type receiver units. In 24.6, **Noise level** refers to the common or general noise level picked up by the hydrophone but a better name for this parameter is **Detection Threshold**. When set to *High* the detection threshold is decreased with ~3dB. We recommend always selecting *Low* in environment with a lot of interference such as Sonars pinging.
- When you configure a TrawlEye sensor in the centre trawl of a triple trawl system, you have the option of configuring the TrawlEye Differential Geometry measurement. However, the TrawlEye Differential Geometry measurement is not supported in the centre trawl.
- When changing from one hydrophone to another, the old echo data will not show the correct time on the X-axis of the echogram. However, the new data is correctly synchronised with the time shown on the X-axis.
- The TV80 software does not support GGA NMEA sentence with Time, position, and fix related data for use with Trawl Positioning with TP90 transceiver and TP PxPos sensors. Only GLL NMEA sentence for Position data: position fix, time of position fix, and status is supported.
- If you have a triple trawl system setup installed in your TV80, it is not possible to downgrade from version 24.6.x to version 23.11.x. If you want to perform a downgrade to another TV80 version, contact Kongsberg Discovery's customer support.

- If you have a TP90 transceiver installed in your TV80 version 24.6.x, you will receive an error message if you perform a downgrade to an older version. Acknowledge the error to complete the downgrade. This action will uninstall the TP90 transceiver from your TV80, as it is not compatible with versions older than 24.6.x.

**Note**

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*Downgrade from 24.6.x to previous versions will not delete 24.6.x TP configuration files. If the TV80 is subsequently updated to 24.6.x again, the old configuration file will be used rather than updating the 23.11.x version.*

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- The TV80 software does not allow using the TP90 transceiver and the ITI receiver at the same time. If your vessel has an ITI system, you must turn your ITI receiver off to use the TV80 software with a TP90 transceiver.

**Caution**

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*Using ITI without TV80 in parallel with TP90 eith TV80 will only work if the ITI system is used with an ITI TrawlEye. Other sensors must not be used on ITI in parallel with TP90.*

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- To add a TP PxPos sensor to TV80 in *Offline* mode, you must add it as an ITI sensor:
  - 1 Install the relevant transceiver (TP90 or ITI receiver).
  - 2 Select **Add Sensor** and choose **PxPos/ITI**.
  - 3 Choose the relevant sensor type and save the chosen settings.
  - 4 Before deploying your TP PxPos sensor at sea, use the **PX Configurator** software to configure it. Choose the same sensor type and settings as in the TV80 *Offline* mode.
- In PI NMEA sentences (PSIMP), the TV80 sensor number allows numbers greater than 30, whereas 30 is the maximum number for the channel (1-30). This will create problems when using it together with the ES80 system, which uses the same number for the sensor and channel.
- The configuration of TrawlEye's Learn Mode is not officially supported in TV80 version 24.6.x.
- ITI sentences are only transmitted when you are in the main TV80 software presentation. This means that when ITI NMEA is exported to the plotter while in the **Configuration** dialog box, the plotter will not be updated.
- The dialog box for manually adding PI sensors is not available for the triple trawl system. To manually add PI sensors to a triple trawl system, select **PX Sensor** and then **PX MultiSensor** in the **Select Sensor to add** dialog box. Then, select the relevant measurements under the PI50/PI60 drop-down list, select the location of the sensor on the trawl and select the **Save and close** button.
- The end-user documentation and online help for the TV80 system is not updated.

- The TV80 software is not validated for the Windows® 11 operating system. When using the TV80 software on Windows 11, the program might unexpectedly close when programming sensors. If this happens, contact support.
- If you have a PX MultiSensor Mk2 (with MCU sw 1.00 or older) placed on the clump in a twin gear, and you use PI50 or PI60 Receiver Units, the first geometry measurement may not work.

See: [Fixing the geometry remote functions of a PX MultiSensor Mk2 when located on the clump, page 20](#)

- When configuring a sensor to receive both Geometry Diff. and Height measurements in a PI50 or PI60 Receiver Unit, only the first measurement will work. This is because Geometry Diff. / Height combination is not implemented on the PI50 or 60 Receiver Units.

See: [Fixing the Geometry Diff./Height measurement readings for a PI50 or PI60 Receiver Unit, page 20](#)

# Do I need to upgrade?

New functionality is provided and will add value to your installation.

We recommend that all users that need the new functionality update their software

# Software license

The TV80 system needs a software license to receive data from gear monitoring sensors. Without a valid license, your TV80 system will not show real time data from the gear monitoring sensors.

## Important

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If you are updating from version 1.4.3 or older, make sure that you have a valid software license before updating your TV80 software. If you are updating from version 21.11, make sure that your software license is valid for the features you want to access.

A valid Hardware ID number is mandatory to obtain a software license. See the relevant procedures to obtain a Hardware ID number.

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In order to obtain a software license you must contact one of our dealers or distributors. You can also use the request form on our website, or contact our support department directly.

- [purchase.order@simrad.com](mailto:purchase.order@simrad.com)

Observe the dedicated procedures for obtaining and installing the software licence(s).

## Note

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*The licensing system may experience trouble or stop working if you add additional LAN ports to your computer. Additional LAN ports will be created when you connect external devices such as mobile phones or LAN port adapters to your computer to gain Internet access.*

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# Software installation

When a new software version is released for the TV80 system it must be installed on your computer.

A dedicated wizard is used to install the software. You need administrative privileges on your computer to do the software installation. Installation of additional operating system components may be required. These are installed automatically. Observe the information offered in the wizard.

Before you can install the new software version, you must remove the old version. Use the operating system functionality to remove the old software version.

Registered dealers and distributors can download the new software version from our website.

# End-user documentation

The end-user documentation for the TV80 system has been updated with this software release.

The TV80 *Reference Manual* is included with the TV80 software as context sensitive on-line help.

Additional end-user documents related to the TV80 system can be found on our website. This includes publications that are translated into other languages. Selected publications are also provided in IETM (*Interactive Electronic Technical Manual*) formats.

- <https://www.kongsberg.com/tv80>

# Operating procedures

## Updating TV80 to version 24.6.x on Windows 10

The **TV80 Software License** application is provided to obtain the Hardware ID and insert the Software license information before you update to version 24.6.x. This is important if you update from version 1.4.3 or older to version 24.6.x.

### Note

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*If you upgrade your software without a valid software license, you must add your SR Receiver and define its settings again.*

*Do not uninstall your previous version of the TV80 program if your current version is 1.3.2 or older. This will delete your sensor configuration and layouts. In this case, you must either install 24.6.x without uninstalling your previous version or update to 1.4.2 before updating to 24.6.x.*

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Make sure that you have administrative rights on the computer. You need this to install the software.

### Procedure

- 1 Download the dedicated **TV80 Software License** application.
- 2 Double-click the setup executable file to start the installation.
- 3 The application runs as a wizard.  
Follow the instructions provided by the wizard.
- 4 Send your **Hardware ID** number to one of our dealers or distributors.  
Your dealer will need the following information from you to place the order:
  - Vessel name and call sign
  - Vessel type (trawler, purse seiner, etc.)

- Vessel owner's name, address and contact information
  - The relevant name of the **Software upgrade** you want to install.
- 5 Once you receive your license string, paste it in the relevant field.
  - 6 Close the **TV80 Software License** application.

### Result

You can now download and install the TV80 24.6.x.

## Installing the TV80 for the first time

The software license is linked to the physical computer.

### Prerequisites

This procedure assumes that the TV80 operational software has been successfully installed on the computer.

### Context

You cannot move the TV80 system software from one computer to another unless you also request and install a new license. Without a license, you can only use the TV80 system as a replayer.

In order to obtain a software license you must contact one of our dealers or distributors. You can also use the request form on our website, or contact our support department directly.

If this is the first time you install the TV80 software, use the TV80 setup executable file to start the installation. The TV80 **Software License** dialog box provides the information required to read the hardware ID and request a license. You must not use the TV80 **Software License** application before executing the setup file.

### Note

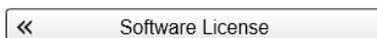
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*Once you receive your software license string, do not lose it. We suggest that you copy the information into a text file (for example Notepad), and add relevant information. Place the text file on the computer desktop, and make sure that backup copies are made.*

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### Procedure

- 1 Select the **Setup** icon to open the menu.
- 2 Select the **Software License** button to open the dialog box.



- 3 Use the **Copy** button to help you copying some information you need to request a new license or an upgrade of the current active license.

- 4 Send the information to one of our dealers or distributors.

Your dealer will need the following information from you to place the order:

- Hardware ID
- Vessel name and call sign
- Vessel type (trawler, purse seiner, etc.)
- Vessel owner's name, address and contact information
- The relevant name of the **Software upgrade** you want to install.

You can also use the request form on our website, or contact our support department directly. You can use the following e-mail address:

- [purchase.order@simrad.com](mailto:purchase.order@simrad.com)

Once the software license string(s) have been returned to you (most likely by e-mail), you can install the licenses into the software.

- 5 Select the **Setup** tab to open the menu.
- 6 Select the **Software License** button to open the dialog box.
- 7 Select **Type License String**, and type the license string into the dialog box.  
If you do not have a computer keyboard connected to your TV80 system, select the **Keyboard** button to open an on-screen keyboard. If you have received the license string on an electronic format (e-mail or text file), you can copy the string from the source document and paste it into the **Type License String** dialog box.
- 8 Select **OK** to save the license string and close the **Type License String** dialog box.
- 9 Verify that the license string is placed in the **Currently active licenses** list.
- 10 Select **OK** to close the dialog box.

## Updating the ".NET Framework" system file

If the TV80 software installation fails to install the dotNET Framework file, perform a manual update.

### Procedure

- 1 Download the dotNET Framework 4.8 file from the Microsoft website. [Click here to start the download.](#)  
If the computer you are using does not have Internet access, download the file to an external storage device using a computer connected to the Internet. Then, move the file to the computer where you want to install TV80.
- 2 Start the installation of the dotNet Framework 4.8 file.  
The installation process may take some time before finishing.
- 3 Start the TV80 software installation (TV80 setup.exe).

## Fixing the geometry remote functions of a PX MultiSensor Mk2 when located on the clump

The geometry remote function selected first in the list of remote functions will not work when configuring a PX MultiSensor Mk2 (MCU software version 1.00 or older) if located on the clump in a twin trawl gear and a PI50 or PI60 Receiver Unit is selected. The same bug is applied when setting up the PX MultiSensor Mk2 (MCU software version 1.00 or older) as a geometry remote of a PX TrawlEye.

### Prerequisites

To fix this, you need to have a SR15 or SR70 Receiver unit installed and selected in the **PX MultiSensor Configurator** dialog box. If you do not have a SR15 or SR70 Receiver unit installed, we recommend you to follow this procedure.

### Procedure

- 1 In the **Installation** dialog box select **Add LAN Port**.
- 2 Select **SR70 (Replayer)**.
- 3 In the **Sensors list** select the relevant sensor and select **Modify sensor** to open the **Select Sensors** dialog box.
- 4 Select **SR70 (Replayer)** from **Select Receiver** and define the relevant parameters.
- 5 Select **Save and Close** to save your choices and close the dialog box.

## Fixing the Geometry Diff./Height measurement readings for a PI50 or PI60 Receiver Unit

When you configure a sensor to receive both Geometry differential and Height measurements on a PI50 or PI60 Receiver Unit, only the first measurement will work. This means that if for example you select Height as measurement number one and Geometry differential as number 2, only the Height values will be received.

### Procedure

- 1 Connect the relevant PX sensor to your computer by means of the Configurator cable.
- 2 In the **Installation** dialog box select **Add New Sensor Yes Connect**.
- 3 Select Geometry Diff. and Height as the two measurements.
- 4 Set up the **Update interval** to Normal.
- 5 Write down the relevant settings to use them later and close the dialog box.

- 6 In the sensor list, select the sensor and select **Remove sensor** at the bottom to delete it.
- 7 In the **Installation** dialog box select **Add New Sensor No PX Sensor PX MultiSensor**.
- 8 In the **Select sensors** dialog box, select **Geometry Diff.** from the left column and add it by selecting the right arrow.
- 9 Select its location on the trawl.
- 10 Set up the **Update interval** to normal.
- 11 Define the same **Communication channel** you did when performing the configuration with the cable.
- 12 In the **Select sensors** dialog box, select **Height** from the left column and add it by selecting the right arrow.
- 13 Select its location on the trawl.
- 14 Set up the **Update interval** to normal.
- 15 Define the same **Communication channel** you did when performing the configuration with the cable.
- 16 Select **Save and Close** to save your choices and close the dialog box.

## Setting up the TP90 Positioning Transceiver on an Ethernet (LAN) Port

Before a TP90 transceiver can be put to use, you must set it up for operation. To use a TP90 transceiver, you need a computer approved for trawl positioning and the latest version of the TV80 software with a position software license.

### Prerequisites

The transceiver must be connected to the computer using an Ethernet line. A dedicated power cable is used to connect the DC power from the power supply unit to the transceiver.

### Procedure

- 1 Turn on the computer.
- 2 Open the **Network Connections** dialog box.
- 3 Define the IP address on the Ethernet adapter.

**IP Address:** 157.237.14.20 (Static)

**Subnet mask:** 255.255.255.0

- 4 Install the TV80 software.

Registered dealers and distributors can download the new software version from our website. For more information, contact one of our dealers or agents, or Kongsberg Discovery.

- 5 Install the TpTransceiver software.

You can download the software installation file from Simrad website. For more information, contact one of our dealers or agents, or Kongsberg Discovery. To install the TpTransceiver software, your computer must have been approved for use with TP90 by Kongsberg Discovery.

- 6 Install the software license.

The **Software License** dialog box can be opened from the **Setup** menu.

- 7 Set up the transceiver.

- a On the **Setup** menu, select **Installation**.

- b Select **Add LAN Port** to open the **Select Input (LAN)** dialog box.

- c Select TP90. The transceiver will be automatically assigned an IP address.

- 8 Define the transceiver configuration settings and the transducer(s) orientation by means of the **Trawl Positioning Configurator** dialog box.

Use the transducer or the transceiver icons of the TP90 block diagram on the **I/O Setup** group to open the **Trawl Positioning Configurator** dialog box.

- 9 Inspect the quality of the transducer connection to the transceiver.

- 10 Select **Add LAN Port** to open the **Select Input (LAN)** dialog box.

- 11 Select Gyro.

To use the Trawl Positioning functionality, you must receive heading information from a gyro. This allows the system to get a valid HDT NMEA sentence and calculate true bearing. Course Over Ground (COG) and True Bearing information from a GPS is not valid for this purpose.

- 12 Select **Add LAN Port** to open the **Select Input (LAN)** dialog box.

- 13 Select GPS.

This is where the GPS NMEA information arrives.

- 14 Select the gear you wish to use.

The **Select Gear** page is located at the left of the **Installation** dialog box.

- 15 Select one or more gear monitoring sensors, and place them on the chosen gear.

To open the **Add New Sensor** dialog box, select **Add New Sensor** at the bottom of the **Sensor list** page in the **Installation** dialog box.

- 16 Define the relevant sensor view according to your needs and sensors configuration.

To configure your TP PxPos sensor, follow the relevant procedure.

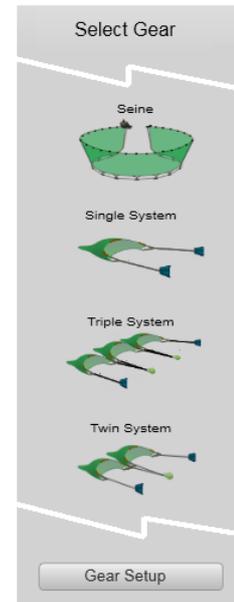
- 17 Select **Add LAN Port** to open the **Select Input (LAN)** dialog box.

- 18 Select NMEA Output.

- 19 Click on the Ethernet icon in the NMEA Output block diagram.

This will open the **NMEA Output Configuration** dialog box.

- 20 On **Format** dropdown menu, select ITI and **Ok**.



## Result

The transceiver receives trawl positioning information from the TP PxPos sensors and sends information in ITI NMEA format. You can check the entering measurements by clicking on the TP90 icon information circle in the TP90 block diagram under **I/O Setup** group. The TV80 system includes numerical gauges to show calculated information such as slant range, relative bearing, absolute bearing, horizontal range and position.

## Important

To be able to receive transmissions from TP PxPos sensors, the sensors must be in the water and pointing towards the transducer. The TP PxPos sensors will only transmit when interrogated. If you want to stop the interrogation from the transceiver, set all sensors to *Off gear* mode.

## Configuring a TP PxPos sensor for a TP90 transceiver

When you want to put a new TP PxPos gear monitoring sensor to use, you need to add it to the system. TP PxPos sensors must be configured before you can use them.

### Prerequisites

In order to read the data from a TP PxPos sensor, you must first connect a TP90 transceiver to the computer. This procedure assumes that a TP90 transceiver has been connected to the computer and that all relevant communication parameters have been defined. Without a valid license, your TV80 system will not show real time data from the gear monitoring sensors.

If you want to add a new sensor to your system and you need to modify its configuration, the sensor must be connected to the computer with a dedicated cable.

### Context

The **Add New Sensor** dialog box starts a "wizard" that permits you to select the specific gear monitoring sensor you want to put to use. If relevant, the "wizard" provides the necessary configuration functionality.

### Note

---

*The TV80 program only allows you to configure PX and TP PxPos sensors. If you wish to use older sensors, these must be configured using their dedicated applications before you add them.*

*If your new sensor has already been configured, you do not need to repeat the configuration process to use it.*

---

The number of sensors you can add depends on your hardware configuration.

### Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.



- Observe that the **Installation** dialog box opens.
- 3 Observe the **Select Gear** page at the left of the **Installation** dialog box  
Select a gear icon according to your working environment.
  - 4 At the bottom of the **Sensor list** page, select **Add New Sensor**.  
The **Add New Sensor** dialog box opens. In the first dialog box, the following options are provided.
  - 5 Select **Yes** if you have a new sensor that needs to be configured before use.

- a In the very first **PX Sensor Configurator** dialog box, select communication port and sensor type, then select **Connect**.
  - b In the relevant configuration dialog box, select the operational parameters to suit your preferences and fishing gear setup.
    - 1 On the gear illustration, select the location of your sensor.
    - 2 Choose the measurements you want your sensor to read and define the relevant parameters accordingly.
    - 3 Choose the communication channel.
    - 4 Select the update interval.
    - 5 Select the relevant value for output power.
    - 6 If applicable, select **Calibrate Sensor** or **Unlock Measurements** to open the proper dialog boxes.
  - c Select **Program Sensor** to transfer the chosen parameters to the sensor.
  - d Disconnect the sensor from the interface cable and the computer.
  - e Select **Close** to close the dialog box.
- 6 Select **No** if one of the following conditions is met:
- The sensor is mounted on the fishing gear.
  - The sensor is not a PX family sensor.
  - The sensor data is received using a third wire cable on a FS system.
- a Observe that the **Select Sensors** dialog box opens.
  - b On the gear illustration, select the location of your sensor.
  - c Define the sensor parameters.
    - 1 Choose the measurements you want your sensor to read and define the relevant parameters accordingly.
    - 2 Choose the communication channel.
    - 3 Select the update interval.
  - d Select **Close** to save the chosen settings and close the dialog box.
- 7 Repeat these steps for the next sensor.

## Result

The new sensor appears on the **Sensor List** page.

The **Sensor List** page presents a table with all the gear monitoring sensors that have been added to the system. You can see if they are currently in use or disabled. You can also see relevant information about the sensors, such as type, receiver in use, communication channel, and where they are placed on the fishing gear.

## Choosing a TP PxPos / ITI sensor as a position reference sensor for GLL sentences

The TP PxPos and ITI sensors can use GLL sentences to communicate their position. By default, the position reference system in a GLL sentence is a Height sensor. However, you can choose another TP PxPos / ITI sensors as the position reference sensor.

### Prerequisites

You must previously install the latest version of the TV80 software.

### Context

The phrase *position reference sensor* identifies the sensor that is used for generating the sentence `$IIIGLL, ddm, hhh, N, dddmm. hhh, W, hhmmss. ss, A*hh<cr><lf>`. The system can only recognise one position reference sensor. Make sure that the rest of the sensors are not set as position reference systems.

### Procedure

- 1 Open the Windows File Explorer on your computer.
- 2 Access `C:\ProgramData\Simrad\TV80\config`.
- 3 Open the `ITI_out.xml` file using a text editor compatible with XML files. You do not need administrative rights to edit this file. If you cannot modify this file, contact Kongsberg Discovery support.
- 4 Observe the sentence name `<var name="PSIMH1" send="y" sensor_reference="y" />`. It identifies the Height sensor, which is set as a position reference system.
- 5 Change the line to `<var name="PSIMH1" send="y" sensor_reference="n" />`.

The letter "y" means "Yes", while the letter "n" means "No".

- 6 Locate the sensor you want to set as the position reference sensor.

Each sentence represents a sensor:

- PSIMH1: Height 1
- PSIMH2: Height 2
- PSIMS1: Spread 1
- PSIMS2: Spread 2
- PSIMDE: Depth
- PSIMTM: Temperature

- 7 Change `sensor_reference="n"` to `sensor_reference="y"` on the relevant sensor sentence.

The system can only recognise one position reference sensor. Only one sensor should be `sensor_reference="y"`. The rest of the TP PxPos sensors should be `sensor_reference="n"`. If more than one sensor is `sensor_reference="y"`

the system TV80 will take the last one as a reference sensor. If there is no sensor set to `sensor_reference="y"`, no IIGLL sentence will be transmitted.

- 8 Save the changes and close the file.

### Result

The selected sensor is set as the position reference sensor.

## Determining the Detection Threshold for the TP90 transceiver

The **TP90 Diagnostics** dialog box offers a graphical representation of the data sent and received by the transceiver.

### Context

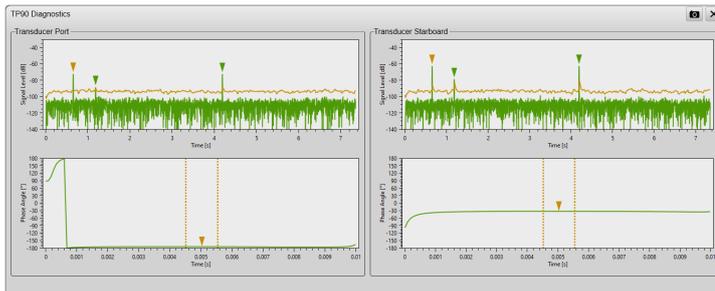
The Detection Threshold identifies the lowest signal level the transceiver can detect above the estimated noise level. This value is expressed in decibels.

### Procedure

- 1 Make sure that the interrogation from the transceiver is started by setting the relevant sensors from the **Sensor List** to **On gear** mode.  
The **Sensor List** page is located in the **Installation** dialog box. Observe the **On Gear** check box at the right of the list. Check **On Gear** to enable or disable the relevant sensor from the presentation.
- 2 Make sure that the relevant sensors are off and not deployed.
- 3 Open the **TP90 Diagnostics** dialog box.  
This page is located in the **Installation** dialog box. To open, select it on the **Setup** menu. Use the transceiver icon of the TP90 block diagram on the **I/O Setup** group to open the **Transceiver** page. The **Diagnostics** button opens the **TP90 Diagnostics** dialog box.
- 4 On the first chart, verify that there are no orange markers.  
The orange marker identifies the pulse the transceiver has determined to be the sensor's reply pulse. The reply pulse is the pulse used to calculate range and bearing to the sensor.  
If there are orange markers, it means that the transceiver has detected a false sensor's reply. To solve this, slightly increase the **Detection Threshold** parameter on the **Transceiver** page until there are few or no orange markers identified.
- 5 Deploy the sensors into the water.
- 6 On the first chart, verify that there are orange markers.  
This means that the transceiver has determined the sensors' reply pulses.

- 7 If not all sensors' reply pulses are identified, slightly decrease the **Detection Threshold** parameter on the **Transceiver** page.
- 8 If the correct **Detection Threshold** is difficult to find, revert to the default values and repeat the procedure.

The **Detection Threshold** is shown as slight orange line and is drawn above the estimated noise flow (not shown at the graph) at a distance corresponding to the configured **Detection Threshold dB**. Sensors' reply pulses above the orange detection threshold line are interpreted as valid TP transmissions.



**Note**

*Deploying the fishing gear can cause the receiving conditions to change due to the increased acoustic noise caused by other equipment. These conditions may require you to increase the **Detection Threshold** value again, even if you had decreased it in step 7. If you find anomalies in the chart, repeat the procedure **increasing** the **Detection Threshold** value.*

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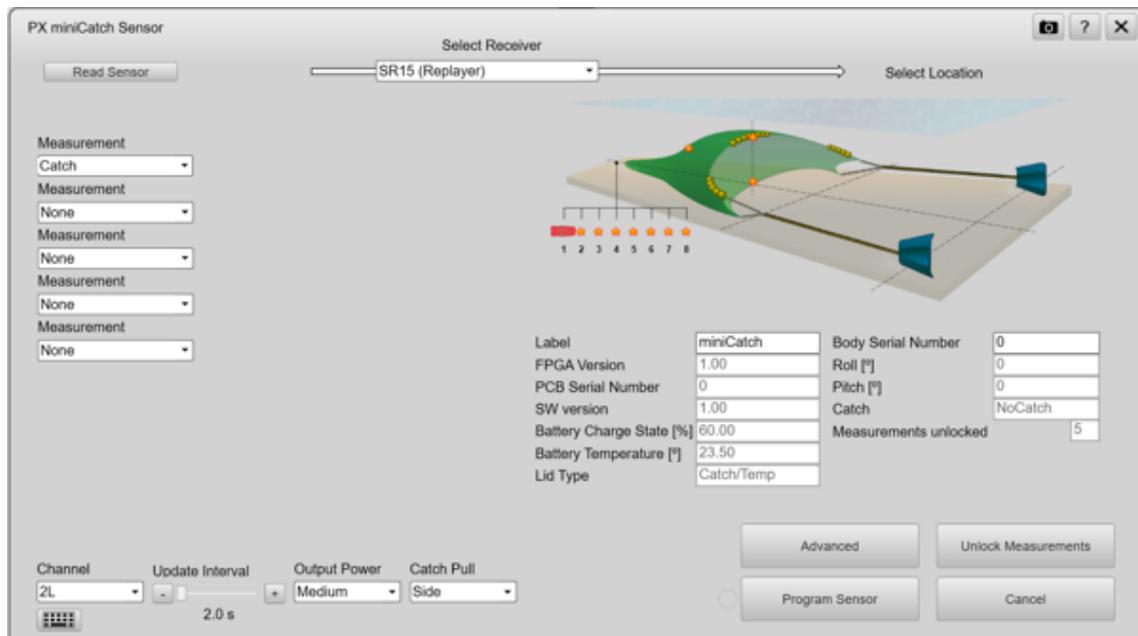
## Configuring the PX miniCatch as a PX Catch sensor with a SR receiver

PX miniCatch sensor can be used both with SR and PI receivers.

### Prerequisites

This procedure assumes that an SR receiver is connected to and configured in your TV80 system.

## Context



## Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.  
Observe that the **Installation** dialog box opens.
- 3 At the bottom of the **Sensor list** page, select **Add New Sensor**.  
The **Add New Sensor** dialog box opens.
- 4 Select **Yes**.
- 5 In the first **PX Sensor Configurator** dialog box, select the relevant communication port and the PX miniCatch sensor type.  
The **PX miniCatch Configurator** dialog box opens.
- 6 In the **Select Receiver** section, select the relevant SR receiver.
- 7 In the gear illustration, select the location of the sensor.
- 8 Choose the measurements you want the sensor to make and define the relevant parameters.
- 9 Choose the relevant **Catch Pull** you want to use.  
The sensor lid is detected automatically. This limits the available choices in the drop-down list.
- 10 Select the communication **Channel**.
- 11 Select **Program Sensor** to transfer the chosen parameters to the sensor.
- 12 In the **Sensor list** page, verify if the sensor appears with the correct parameters.

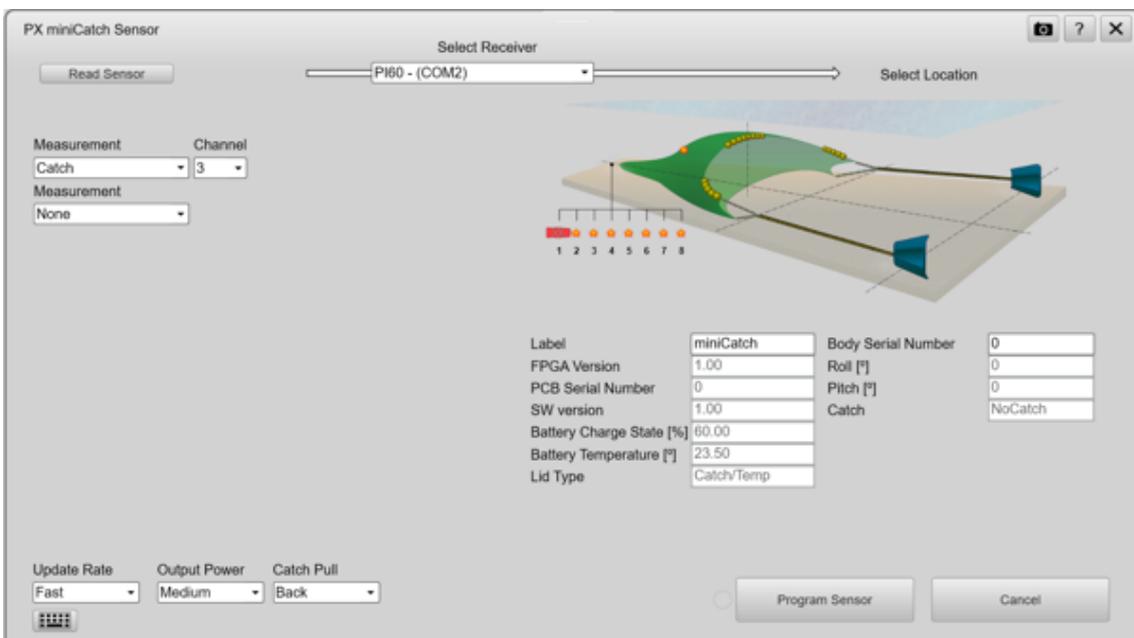
## Configuring the PX miniCatch as a PI Catch sensor with a PI receiver

PX miniCatch sensor can be used both with SR and PI receivers.

### Prerequisites

This procedure assumes that a PI receiver is connected to and configured in your TV80 system.

### Context



### Note

*PI Catch and PX Catch are operated in parallel. If the times of transmission of PI Catch and PX Catch collide, only PX Catch will be transmitted.*

---

### Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.  
Observe that the **Installation** dialog box opens.
- 3 At the bottom of the **Sensor list** page, select **Add New Sensor**.  
The **Add New Sensor** dialog box opens.
- 4 Select **Yes**.

- 5 In the first **PX Sensor Configurator** dialog box, select the relevant communication port and the PX miniCatch sensor type.  
The **PX miniCatch Configurator** dialog box opens.
- 6 In the **Select Receiver** section, select the relevant PI receiver.
- 7 In the gear illustration, select the location of the sensor.
- 8 Choose the measurements you want the sensor to make and define the relevant parameters.
- 9 Choose the relevant **Catch Pull** you want to use.  
The sensor lid is detected automatically. This limits the available choices in the drop-down list.
- 10 Select the communication **Channel**.
- 11 Select **Program Sensor** to transfer the chosen parameters to the sensor.
- 12 In the **Sensor list** page, verify if the sensor appears with the correct parameters.

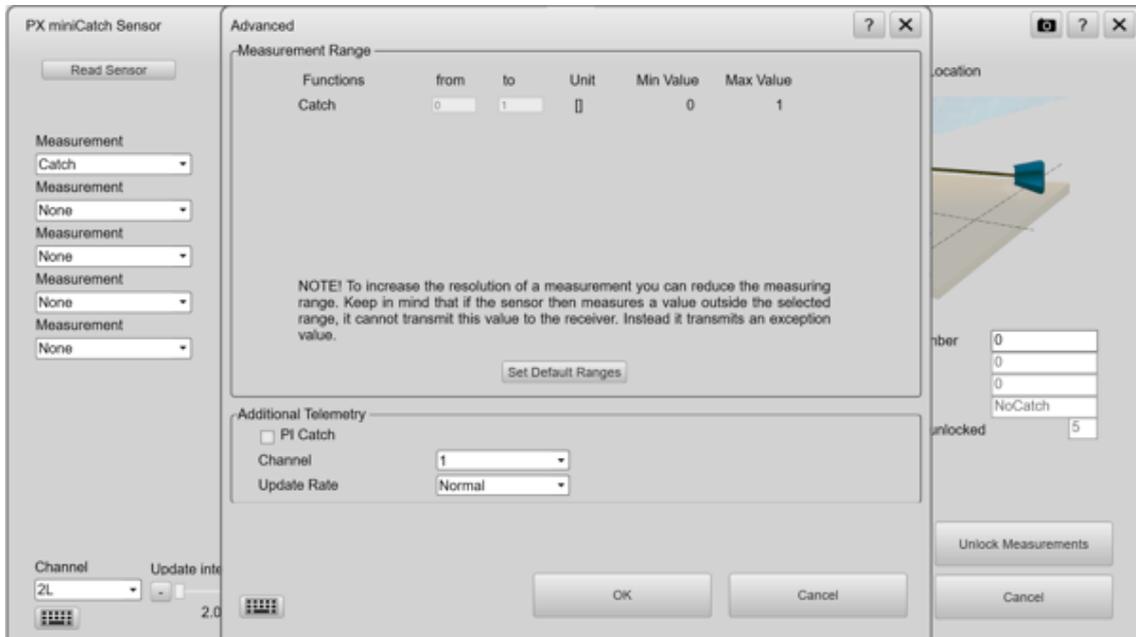
## Configuring the PX miniCatch as a PX Catch sensor with a PI Catch measurement in parallel

PX miniCatch sensor can be used both with SR and PI receivers.

### Prerequisites

This procedure assumes that an SR receiver is connected to and configured in your TV80 system.

## Context



## Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.  
Observe that the **Installation** dialog box opens.
- 3 At the bottom of the **Sensor list** page, select **Add New Sensor**.  
The **Add New Sensor** dialog box opens.
- 4 Select **Yes**.
- 5 In the first **PX Sensor Configurator** dialog box, select the relevant communication port and the PX miniCatch sensor type.  
The **PX miniCatch Configurator** dialog box opens.
- 6 In the **Select Receiver** section, select the relevant SR receiver.
- 7 In the gear illustration, select the location of the sensor.
- 8 Choose the measurements you want the sensor to make and define the relevant parameters.
- 9 Choose the relevant **Catch Pull** you want to use.  
The sensor lid is detected automatically. This limits the available choices in the drop-down list.
- 10 Select the communication **Channel**.
- 11 Select the **Advanced** button.  
The **Advanced** dialog box opens.

- 12 In the **Additional Telemetry** section, select the **PI Catch** check box and select the relevant channel and update rate.  
This will allow the PI Catch measurement to be used in parallel to the Catch measurement.
- 13 Select **OK**.
- 14 Select **Program Sensor** to transfer the chosen parameters to the sensor.
- 15 In the **Sensor list** page, verify if the sensor appears with the correct parameters.

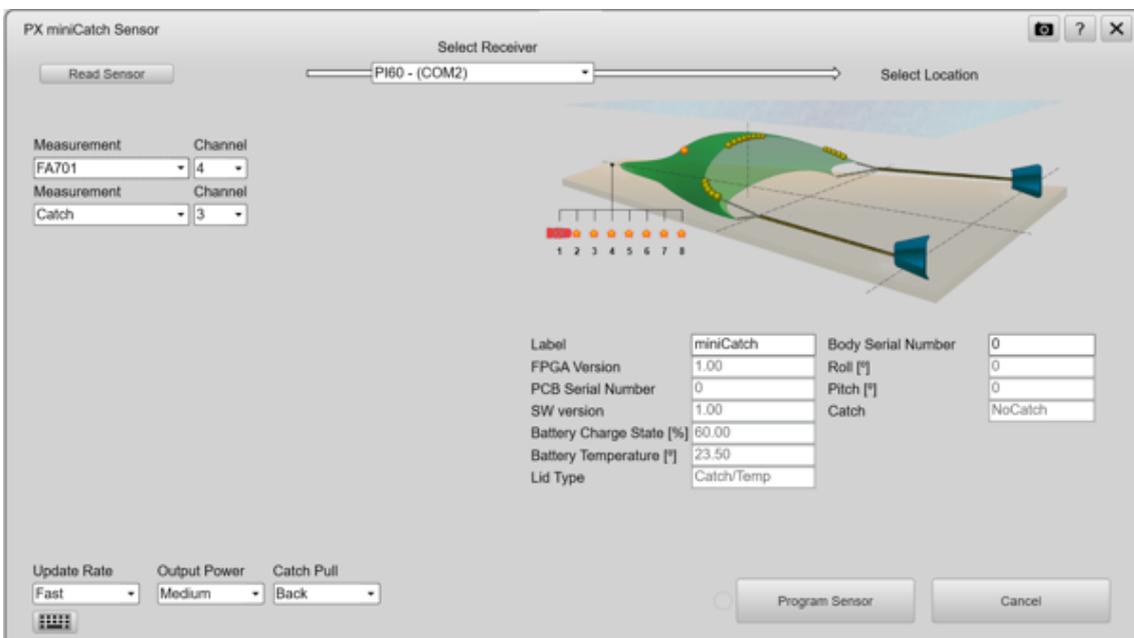
## Configuring the PX miniCatch as a PI Catch sensor with an FA701 measurement

PX miniCatch sensor can be used both with SR and PI receivers.

### Prerequisites

This procedure assumes that a PI receiver is connected to and configured in your TV80 system.

### Context



### Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.  
Observe that the **Installation** dialog box opens.

- 3 At the bottom of the **Sensor list** page, select **Add New Sensor**.  
The **Add New Sensor** dialog box opens.
- 4 Select **Yes**.
- 5 In the first **PX Sensor Configurator** dialog box, select the relevant communication port and the PX miniCatch sensor type.  
The **PX miniCatch Configurator** dialog box opens.
- 6 In the **Select Receiver** section, select the relevant PI receiver.
- 7 In the gear illustration, select the location of the sensor.  
The PX miniCatch must be located on the cod end for you to choose the FA701 measurement.
- 8 Choose the measurements you want the sensor to make and define the relevant parameters.  
Select the FA701 measurement in one of the measurement fields.
- 9 Choose the relevant **Catch Pull** you want to use.  
The sensor lid is detected automatically. This limits the available choices in the drop-down list.
- 10 Select the communication **Channel**.
- 11 Select **Program Sensor** to transfer the chosen parameters to the sensor.
- 12 In the **Sensor list** page, verify if the sensor appears with the correct parameters.

# Updated functions and dialog boxes

This new software version has resulted in changes to some of the functions and dialog boxes in the TV80 user interface.

## Topics

[PX miniCatch configuration dialog box, page 35](#)

[PxPos dialog box, page 37](#)

[Trawl Positioning Configurator dialog box, page 40](#)

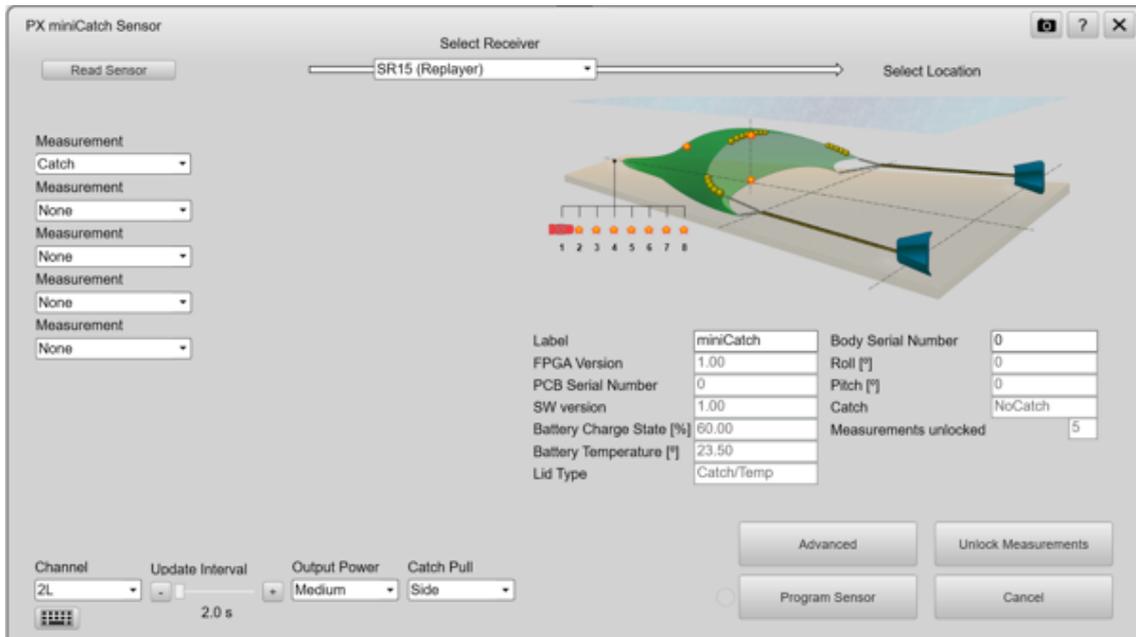
[TP90 Configurator dialog box, page 48](#)

## PX miniCatch configuration dialog box

The different **PX Configurator** dialog boxes allow you to set up which measurements the relevant PX family sensor shall make and which communication channels it shall use for those measurements. The purpose of the **PX Configurator** dialog box is to be able to set up any PX family sensors so that several sensors can operate together on different communication channels.

### How to open

The relevant configuration dialog box is opened from the **Add New Sensor** dialog box. To open the **Add New Sensor** dialog box, select **Add New Sensor** at the bottom of the **Sensor list** page in the **Installation** dialog box. The **Sensor List** page is located in the **Installation** dialog box. The **Installation** dialog box is located on the **Setup** menu.



## Description

Gear monitoring sensors are delivered from Kongsberg Discovery readily set up with common default settings. In some cases, you may find that the default parameters do not suit your operational needs. Each individual sensor can be configured to specify its communication channel, which measurements to make and some other relevant operating parameters.

This dialog box presents a number of parameters that are common to all **Configuration** dialog boxes and some that are specific to the type of sensor connected.

The details provided here are specific to configure this sensor.

## Details

### Catch Pull

The PX miniCatch sensor includes side-pull catch triggering wires, and an optional back-pull (Catch / Temperature lid). If your sensor has a Catch / Temperature lid, you can use both pulls separately or together. The drop-down list offers three choices: **Side**, **Back** and **Both**.

- Select **Side**:
  - When you are using a PX miniCatch sensor with a blind lid or a Depth / Temperature lid. The default delivery for these lids includes side-pull accessories. The TV80 software automatically configures the PX miniCatch sensor for **Side** catch pull.
  - When you are using a PX miniCatch sensor with a Catch /Temperature lid. The default delivery for this lid includes back-pull accessories. However, you can also use this lid on the side pull. To do it, configure the PX

miniCatch sensor to discard the interface on the back-pull lid and select **Side** on the TV80 drop-down menu.

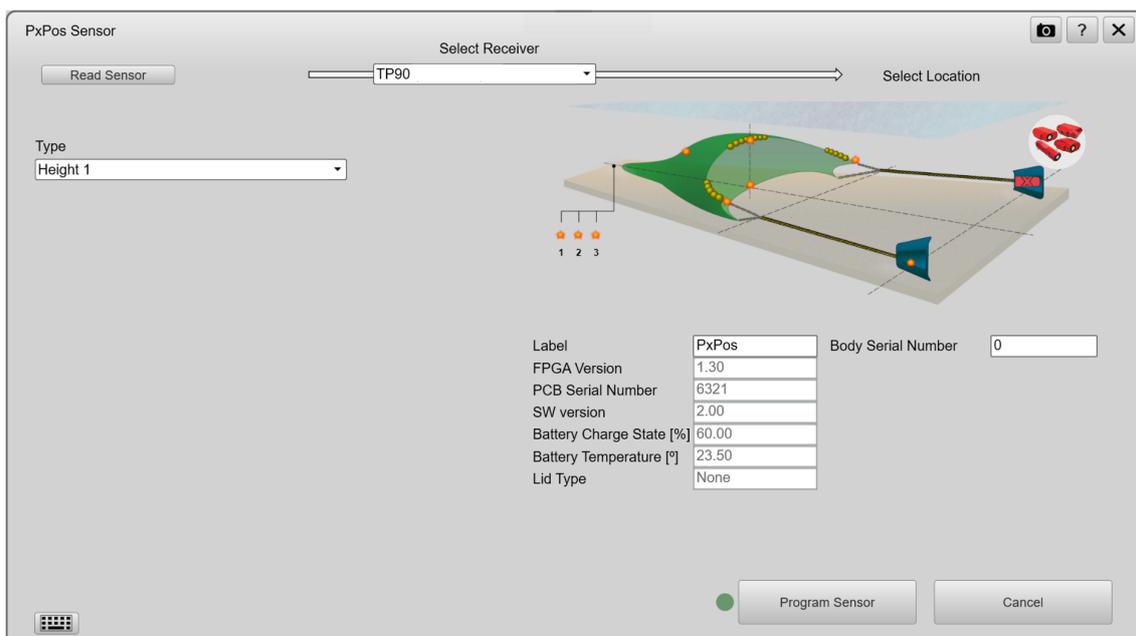
- **Select Back:**
  - When you are using a PX miniCatch sensor with a Catch /Temperature lid. The default delivery for this lid includes back-pull accessories. To only use the back-pull option, configure the PX miniCatch sensor to discard the interface on the side-pull lid and select **Back** on the TV80 drop-down menu.
- **Select Both:**
  - When you are using a PX miniCatch sensor with a Catch /Temperature lid. The default delivery for this lid includes back-pull accessories. However, you can use both pulls together if you have purchased and installed an additional catch feeler strap on the sensor side pull. Configure the PX miniCatch sensor to include both side and pull and choose **Both** on the TV80 drop-down menu.

## PxPos dialog box

You can read the configuration the TP PxPos sensor has with its relevant configuration dialog box. You can specify its communication channel, which measurements to make and some other relevant operating parameters.

### How to open

The **PxPos** dialog box opens automatically when connecting a TP PxPos sensor.



Note

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*The image above may not show real values. It has only been included for illustration purposes.*

---

## Description

The **PxPos** dialog box allows you to set up the TP PxPos sensor and to read its measurements. The TP PxPos and PX sensors do not use the same frequency when they communicate with the vessel. The TP PxPos sensor can act as a replacement for Simrad ITI sensors. Thus, you need an ITI transceiver for using the sensor onboard your vessel.

Note

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*The TP PxPos Spread and the ITI Spread sensors do not work in the same frequency. For setting up your TP PxPos sensor as an ITI Spread, you must replace your ITI Distance / Spread and your ITI Remote sensors with a TP PxPos sensor.*

---

## Details

### Read Sensor

You may prefer to check first the existing configuration of the selected sensor. Select **Read Sensor** so that the sensor can “send” its information to the computer. Prior to read the sensor’s data, the communication between the computer and the sensor must have been established.

### Select Gear

Depending on the fishing scenario, you may prefer to use one or another gear setup, with the sensors placed in a different position or with different readings. You can configure your catch monitoring sensor to fit into different fisheries and types of gears. When you select the type of gear you are going to work with, the illustration changes accordingly.

### Select Location

The gear illustration will show an orange dot indicating where the selected sensor can be placed. Click in the illustration to specify where the current sensor shall be located. The gear illustration will show an icon in the shape of a sensor indicating where the sensor is located. The selection you make here may affect the measurements offered by the sensor.

### Screen Capture

Select **Screen Capture** to make a copy of the entire display presentation. Each screen capture you make is saved in .jpg format on the computer hard disk.

### Type

You can select the type of measurements you want the sensor to measure. The sensor location on the gear and the lid type limit this choice.

If your sensor has no lid, you can still get information about bearing and distance by selecting *Remote False D/T* type. By choosing this type you allow the sensor to return 0 values to the ITI transceiver, which will make it possible to determine the horizontal bearing and slant range of the sensor. This functionality requires that your receiver is configured to receive depth and temperature data, and that there are no other TP PxPos sensors providing Depth measurement.

## **Details**

### **Program Sensor**

Once you have defined the settings and measurements, select **Program Sensor** to apply them to the sensor you are configuring.

### **Non editable information about the sensor**

Every sensor has some unique settings. The information “read” from the sensor is shown in grey colour and cannot be edited.

#### **FPGA Version**

The field-programmable gate array (FPGA) version is unique for every sensor. This number identifies the sensor and its electronics.

#### **PCB Serial Number**

The printed circuit board serial number is unique for every sensor. This number identifies the sensor and its electronics. The serial number facilitates identification for later reparations. If you want to unlock more measurements of your sensor, you need the PCB serial number.

#### **Software Version**

This number shows the current software version of the selected sensor.

#### **Battery charge state**

When working with wireless sensors, it is vital to know the current level of battery.

#### **Battery temperature**

In order to check the performance of the sensor or any potential problem, the temperature of the battery will help diagnostics.

#### **Lid Type**

The lid type in TP PxPos sensors determines the choice of the sensor type. Having a sensor lid increases the number of sensor types you can choose from.

## Trawl Positioning Configurator dialog box

The **Trawl Positioning Configurator** dialog box controls the settings of the TP90 transceiver and the ITI transducer. Additionally, you can see information about the transceiver and control the data recording function.

### Prerequisites

The **Trawl Positioning Configurator** dialog box is only available when you have a TP90 transceiver installed on your TV80 system.

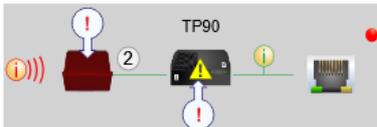
### Note

*An alarm indicator will appear on the TV80 topbar if there is a problem or a potential problem with the transceiver or its transducer(s).*

---

### How to open

This page is located in the **Installation** dialog box. To open, select it on the **Setup** menu. Use the transducer or the transceiver icons of the TP90 block diagram on the **I/O Setup** group to open the **Trawl Positioning Configurator** dialog box.



### Description

This dialog box contains a number of pages selected from the menu on the left side.

#### Transducer page

The **Transducer** page allows you to specify the rotation angles of the ITI transducer. It consists of three text fields to specify the rotation angle on each of the three rotation axes, and a 3D view to inspect the position of the transducer.

#### Transceiver page

The **Transceiver** page gives you information about the TP90 transceiver and allows you to modify the transceiver settings to fit your preferences and / or the environmental and installation conditions. It also includes the **Diagnostics** button, which opens a dialog box that allows you to learn about the signals sent and received by the TP90 transceiver.

#### Recording page

By means of the **Recording** page, you can turn on / off the transceiver data recording functionality. You can also specify the file path where you want to save the resulting recording files. The **Recording** function is only useful for technical support issues and when you are asked to provide recording files for documentation

purposes. Do not use this functionality unless you are instructed to do so by Kongsberg Discovery.

**Buttons**

**OK**

Select **OK** to apply the current settings and close the dialog box.

**Cancel**

Select **Cancel** to close the dialog box without applying any changes made since **Apply** or **OK** was last used.

**Apply**

Select **Apply** to apply the current settings without closing the dialog box.

## Transceiver page

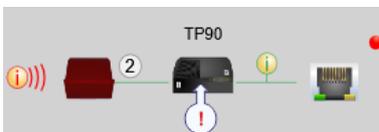
The **Transceiver** page gives you information about the TP90 transceiver and allows you to modify the transceiver settings to fit your preferences and / or the environmental and installation conditions.

### Prerequisites

This page is only available when a TP90 transceiver is installed on your TV80 system.

### How to open

This page is located in the **Installation** dialog box. To open, select it on the **Setup** menu. Use the transceiver icon of the TP90 block diagram on the **I/O Setup** group to open the **Transceiver** page.

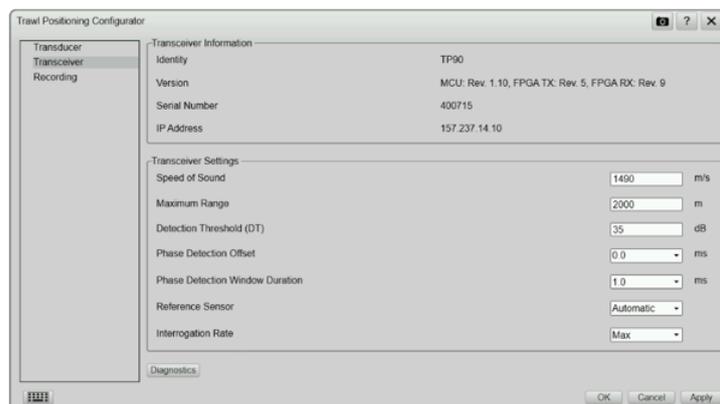


### Description

The **Transceiver** page contains a series of modifiable and non-modifiable settings to configure your TP90 transceiver for the TV80 system. The settings are divided into several setting groups.

#### Note

*These are recommended values. Do not change these values unless you are instructed to do so by Kongsberg Discovery. Incorrect changes to these values can cause the system not to work properly. Reset the recommended values if the system stops working.*



### Transceiver Information

The **Transceiver Information** group shows you the technical parameters for the transceiver. The information provided under **Transceiver Information** is not required for operational use.

### Identity

This is the name you have given the transceiver. You can modify this setting by means of the **TP90 Configurator** dialog box.

### **Version**

This is the software version currently running on the transceiver. This field is not modifiable.

### **Serial number**

This is the serial number of the transceiver. This field is not modifiable.

### **IP Address**

This is the transceiver's current IP Address. This field is not modifiable.

## **Transceiver settings**

### **Speed of sound**

The sound speed in seawater is not a constant value. Type in the text field to modify the setting. Type in the text field to modify the setting. The sound speed is expressed in metres per second. The default value is 1490 m/s.

### **Maximum Range**

The Maximum Range value refers to the maximum horizontal distance which the transceiver can receive signals from and send them to. Type in the text field to modify the setting. This value is expressed in metres. The default value is 2000 m.

### **Detection Threshold**

The Detection Threshold identifies the lowest signal level the transceiver can detect above the estimated noise level. Type in the text field to modify the setting. This value is expressed in decibels. The default value is 10 dB.

### **Phase Detection Offset**

The Phase Detection Offset identifies the centre of the phase measurement window in reference to the selected sampling instance for the transceiver. This value is expressed in milliseconds. The default value is 0.0 ms.

### **Phase Detection Window Duration**

The Phase Detection Window Duration identifies the time interval where the phase measurement is performed. This value is expressed in milliseconds. The default value is 1 ms.

### **Reference Sensor**

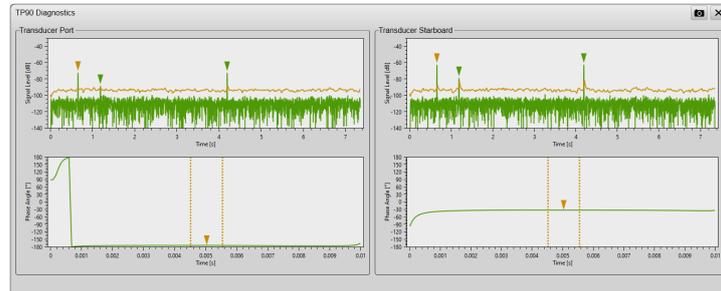
This function is not used. Refer to: [Choosing a TP PxPos / ITI sensor as a position reference sensor for GLL sentences, page 26](#)

### **Interrogation Rate**

The Interrogation Rate command controls the interrogation rates of the sensors. The default value is Max(imum).

## Diagnostics

The **Diagnostics** button opens the **TP90 Diagnostics** dialog box. The **TP90 Diagnostics** dialog box offers a graphical representation of the data sent and received by the transceiver. In a dual transducer installation, the plots show diagnostics information for both the port and the starboard transducers. The port transducer information is represented on the left and the starboard transducer information on the right.



- The first graph shows the received signal and the pulse detection threshold as a function of time. The orange marker identifies the pulse the transceiver has determined to be the sensor's reply pulse. The reply pulse is the pulse used to calculate range and bearing to the sensor. The green markers show which pulses the receiver has determined to be the consecutive measurement pulses sent by the sensor.

This graph can be used for:

- Checking if the transceiver can detect the sensor(s).
- Visualising the signal to noise ratio.
- Selecting a good value for the detection threshold setting.

[Determining the Detection Threshold for the TP90 transceiver, page 27](#)

- The second graph shows the measured phase difference between the two elements of the transducer. The phase difference is used to calculate the bearing to the sensor. The graph also includes some data before and after the pulse used for the phase measurement. The phase detection window is represented by the space between the two dotted orange lines. Although we do not recommend that you change this setting, certain situation may require it. To change it, modify the **Phase Detection Offset** parameter in the **Trawl Positioning Configurator** dialog box. This parameter is under the **Transceiver Settings** group.

The orange marker shows the location of the peak of the sensor's reply pulse. This is considered the ideal position of the phase detection window.

### Note

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*The TP90 Diagnostics plots only show data when there is at least one TP PxPos sensor configured in the TV80 software and listed in the **Sensor List**.*

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## Transducer page

To use the TP90 transceiver with the TV80 system, you need at least one ITI transducer. The **Transducer** page allows you to specify the rotation angles of the ITI transducer.

### Prerequisites

The **Transducer** page is only available when you have a TP90 transceiver installed on your TV80 system.

### How to open

This page is located in the **Installation** dialog box. To open, select it on the **Setup** menu. Use the transducer icon of the TP90 block diagram on the **I/O Setup** to open the **Transducer** page.



### Description

Use the **Transducer** page to control the ITI transducer parameters. The **Transducer** page consists on two groups and an additional **Diagnostics** button.

### Transducer

The **Transducer** group allows you to modify the rotation angles of the sensor.

#### Rotation Around X

**Rotation Around X** represents the rotation angle of the transducer in a fore-and-aft direction.

#### Rotation Around Y

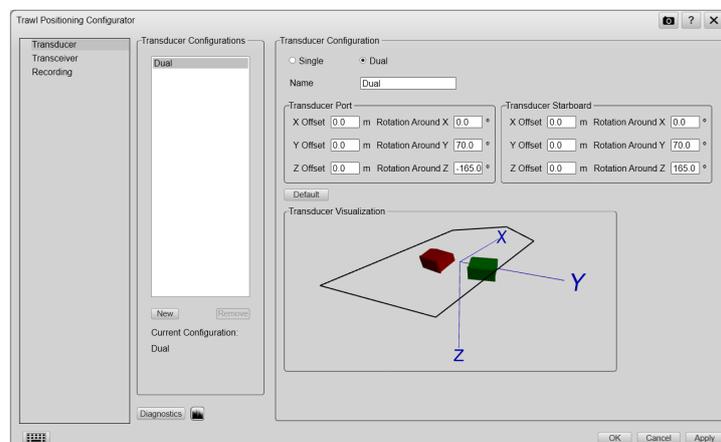
**Rotation Around Y** represents the rotation angle of the transducer in an athwartship direction.

#### Rotation Around Z

**Rotation Around Z** represents the rotation angle of the transducer in a vertical direction.

#### Default

The **Default** button sets the setting to its default values.



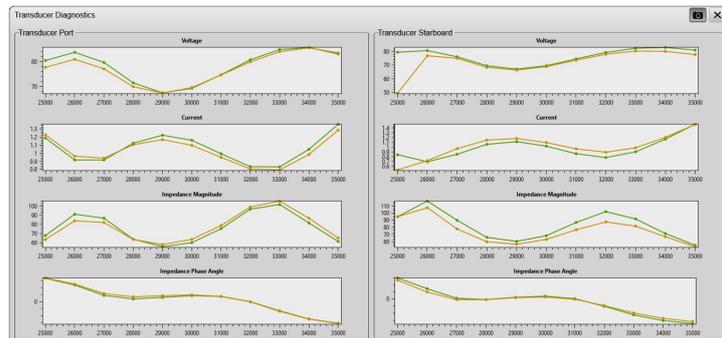
### 3D View

The purpose of the **3D View** group is to visually inspect the rotation angles of the transducer. Use the mouse to control the 3D presentation.

- Spin the scroll wheel on the mouse to zoom in and out.
- Press and hold the right mouse button, then move the mouse to pan on the view.
- Press and hold the left mouse button, then move the mouse to change the camera angle.

### Diagnostics

The **Diagnostics** button opens the **Transducer Diagnostics** dialog box. The **Transducer Diagnostics** dialog box shows the electrical characteristics of the transducer(s). Use the graphs on the dialog box to check for open or short circuiting of any of the transducer elements. Voltage



and current are measured for a number of different frequencies. At each frequency, the impedance of the transducer is calculated from the voltage and current measurements.

Verifying the functionality is the best way to check that the installation is correct, as there is no perfect chart. However, **Current** values below 0.1 or **Impedance** values close to 1000 or higher are likely indicators that the installation is incorrect and must be rewired.

## Recording page

By means of the **Recording** page, you can turn on / off the transceiver data recording functionality. The **Recording** function is only useful for technical support issues and when you are asked to provide recording files for documentation purposes. Do not use this functionality unless you are instructed to do so by Kongsberg Discovery.

### How to open

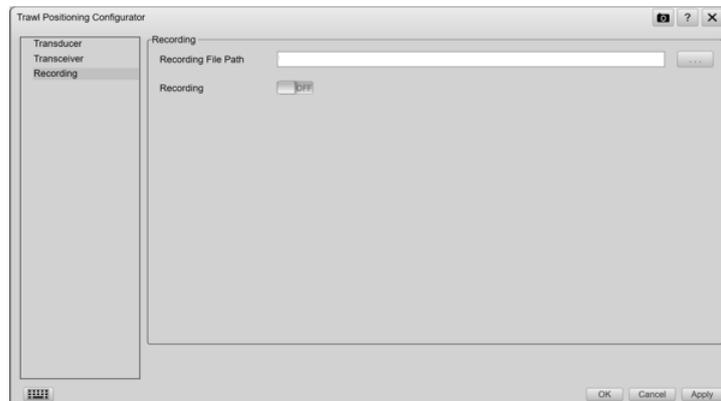
This page is located in the **Installation** dialog box. To open, select it on the **Setup** menu. Use the transducer or the transceiver icons of the TP90 block diagram on the **I/O Setup** group to open the **Trawl Positioning Configurator** dialog box. Then select the **Recording** page on the left side of the dialog box.

### Description

The purpose of the **Recording** page is to turn on and off the TP90 data recording functionality. You can also specify the file path where you want to save the recorded data files.

### Recording File Path

Paste the path of the folder where you want to save the recorded data, or use the three dots button to open the Windows File Explorer and choose your preferred location.



### Recording

This is an "on/off" function. Select *ON* to enable the transceiver recording functionality and *OFF* to disable it.

### Note

*Do not use this functionality unless you are instructed to do so by Kongsberg Discovery.*

## TP90 Configurator dialog box

The **TP90 Configurator** dialog box allows you to change the visible name of the TP90 transceiver. You can also use this dialog box to remove the TP90 transceiver from the system.

### Prerequisites

The **TP90 Configurator** dialog box is only available when you have a TP90 transceiver installed on your TV80 system.

### How to open

This page is located in the **Installation** dialog box. To open, select it on the **Setup** menu. Use the Ethernet icon of the TP90 block diagram on the **I/O Setup** to open the **TP90 Configurator** dialog box

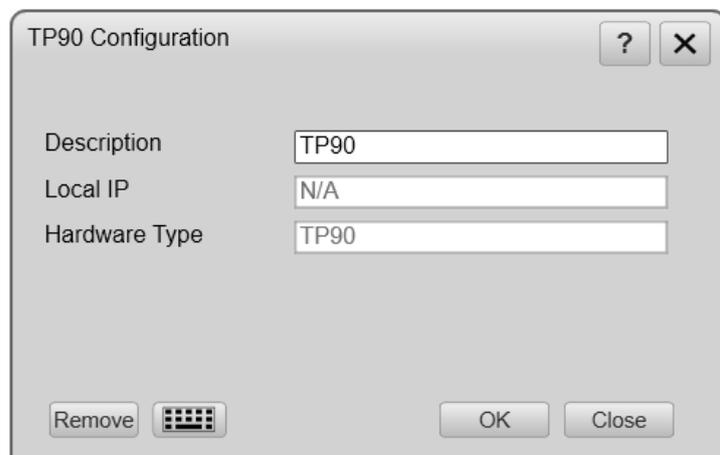


### Description

This dialog box offers the following options:

#### Description

The **Description** text field allows you to change the name of the transceiver in the user interface. You can change this field using an external keyboard or the screen keyboard provided in this dialog box.



#### Local IP Address

The **Local IP** text field identifies the Local IP Address of the transceiver, which is automatically assigned to it. This field is not modifiable.

#### Hardware Type

The **Hardware Type** text field identifies the type of transceiver regardless of the name chosen by the user. This field is not modifiable.

#### Remove

Select to remove the specified receiver from the system. You will not be asked for confirmation.

**OK**

Select **OK** to apply the current settings and close the dialog box.

**Close**

Select **Close** to close the dialog box without applying any changes made since **Apply** or **OK** was last used.

# Minimum computer requirements

Unless specifically ordered from Kongsberg Discovery, the TV80 system is not provided with a computer. A suitable computer must be purchased locally. However, Full Trawl and Purse Seine with Positioning license has special computer requirements.

If you purchase a computer locally, make sure that the chosen model meets the functional and technical requirements.

It is important that the chosen computer model is relatively new with sufficient processing power, a high performance graphics adapter, and a high speed Ethernet adapter. The computer must be able to facilitate the various interface requirements made by the TV80 system, and you may need to add extra Ethernet and/or serial adapters.

## Note

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*The computer design and construction must allow for maritime use. Easy access to connectors, parts and cables must be provided. Make sure that the installation method allows for the physical vibration, movements and forces normally experienced on a vessel.*

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A laptop computer may be used as long as it meets the functional and technical requirements.

The minimum technical requirements are:

- Memory: minimum 4 GB
- Hard disk: Minimum capacity 40 GB

If you wish to record large amounts of data, make sure that you have enough space on your hard disk. Unless your computer is equipped with a very large disk, we recommend that you save the data to an external storage device.

- **Graphics adapter**
  - Minimum workable resolution (pixels): 1366 x 768
  - Recommended minimum resolution (pixels): 1920 x 1080
- **Ethernet adapter**

To communicate with a SR Family Receiver Unit, an Ethernet interface is required. If you wish to connect the computer to the ship's network, you need two Ethernet adapters.

- **Serial adapters**

The number of serial lines depends on your interface requirements. To communicate with a PI Family Receiver Unit, one serial line interface is required.

- **Operating system**

The TV80 software has been designed for Microsoft® Windows® 10. Older operating systems are not supported.

### **Full Trawl and Purse Seine License with Positioning License**

Full Trawl and Purse Seine with Positioning license has special computer requirements. To use the trawl positioning functionality with the TP90 transceiver and the TP PxPos sensors in your TV80 software, you must use a computer approved to be powerful enough by Kongsberg Discovery. Contact Kongsberg Discovery before purchasing a computer locally.

The TV80 system has been approved for the following computer models:

- NISE3900E i7-8700T
- NISE3900E i7-9700TE



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