

# PI32 Quick reference guide

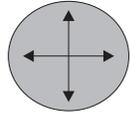
## Keypad buttons

**MENU** - turns the menu on and off. Press to hide the displayed menu without making a selection.



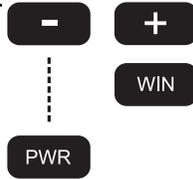
**ENT** - turns the cursor on and off, opens parameters for the insertion and confirms data. Select setup directly from the chosen display.

**Minus (-) Plus (+)** - selects available values, scales and ranges.



**Multi-direction button** - controls the cursor's location in activated menus and displays, moves the VRM.

**PWR** - turns on the unit, press until the display is visible. Adjusts LCD brightness, contrast, display colour and keypad illumination. Press twice to turn off the unit.

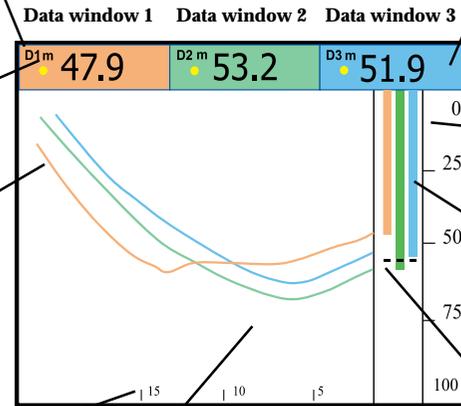


**WIN** - changes between one of the four selected windows. Press when the desired window is displayed to select. Press and hold for more than two seconds to actuate automatic window rotation, press again to return to normal operation.

Refer to the PI30 Instruction manual for more information concerning echo sounder and navigation keypad functions.

## Graphic display, purse seine

**D1 to D3** - identifies which sensor corresponds to the data window (background colour) and subsequent bar and line graph information.



**m** - indicates that sensor depth is shown in meters or the sinkrate is in m/min.

**Line graph** - provides a depth and sink-rate profile for the net. Line thickness is selected in the Graphic setup.

**Time scale** - is selected in Graphic setup.

**Sensor information** - illustrated here with data from three depth sensors. Bottom sensors can also be used for pursing close to the bottom.

**Depth scale** - can be decreased or increased using the respective - or + buttons on the keypad.

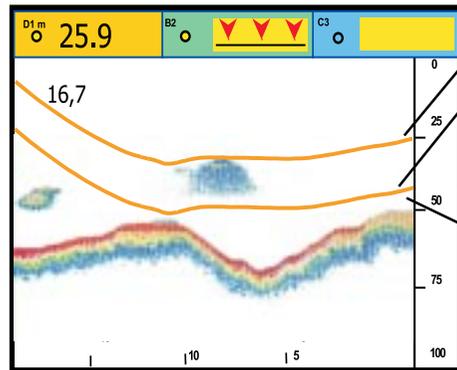
**Bar graph** - displays a side view of the net's depth.

**Alarm limits** - both the upper and lower limits are displayed.

An echogram may be superimposed on the Graphic display when an echo sounder transducer is installed.

## Graphic display, pelagic trawl

A complete view of the fishing operation with pelagic or semi-pelagic trawling is provided by a depth sensor attached to the headrope, a bottom sensor to the footrope and a catch sensor to the cod end. The echogram shows the relative positions of the trawl, fish and bottom using an optional echo sounder transducer.



**Graphic setup** - choose the setup by pressing ENT in graphic display:

- Remove depth bar graph.
- Show echogram if an optional echo sounder transducer is installed.
- Head/footrope sensor  $\bar{n}$  choose the depth sensor that is attached to the head/footrope.
- Trawl opening mode information:
  - Manual: a fixed user input value.
  - Auto: actual value from sensors.
  - ON/OFF: shows numerical value.
- Manual trawl marker, ON only in the manual mode, otherwise OFF.

**Alarm  $\bar{n}$**  choose the clearing *pre-alarm*, min. or max. value from the Alarm & calibration setup menu. If the footrope marker comes *closer* or *farther* away than the chosen minimum and maximum values with regard to the bottom, the alarm can be activated. Adjust the trawl until the point is *passed*.

**Bottom sensor  $\bar{n}$**  shows no bottom contact graphically represented by the red, downward pointing arrows not being in contact with the horizontal line. Upon bottom contact, the arrows will touch the horizontal line and change colour from red to black. Bottom sensor measurement range is adjusted as needed.

**Bottom / catch sensor alarm  $\bar{n}$**  change of status for the bottom / catch sensor can be indicated with an alarm. This is selected from the Setup Alarm & calibration menu.

## Numeric display

**D=depth, B=bottom, C=catch**, adjacent numbers correspond to the data window.

**m** - indicates that the depth is shown in meters.

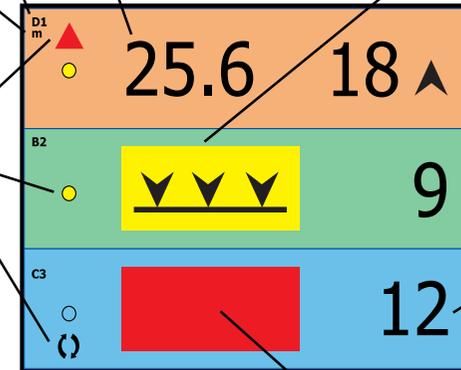
**Graphic alarm** - the arrows' direction indicates if the net depth should be increased or decreased with regard to the selected alarm limits. Graphic alarms may be accompanied with audible alarms.

**Yellow pulse lamp** - blinks each time a signal is received from the respective sensor.

**Interference signal** - interference from nearby vessel(s) operating on the same channel or with similar hydroacoustic equipment. Contact your Simrad dealer to select a different frequency should this problem persist (see MP filter on side two).

**Surface temperature  $\bar{n}$**  when an echo sounder transducer with a temperature sensor is installed, the ambient surface temperature is shown with large numbers together with the temperature vs time in a separate display (not shown here). Input is achieved using Surface temperature setup and Sensor alarm & calibration. If a temperature sensor is not available, \*.\* is displayed.

**Sensor depth** - is rounded to the nearest meter for depths over 100 m, otherwise it is displayed to one decimal place. Maximum depth is 290 or 580 meters.



**Bottom sensor  $\bar{n}$**  black arrows indicate bottom contact. Should the footrope lose physical contact with the bottom, the black arrows will separate from the horizontal line and change colour to red.

**Rise/sink rate** - is displayed in the selected units per minute. Values near 0 indicate that the net has stopped sinking.

**Data window 1**

**Data window 2**

**Data window 3**

**Timer  $\bar{n}$**  displays how many minutes have elapsed since the footrope lost contact with the bottom or how long a catch sensor has been activated. This timer is reset in the numerical display setup.

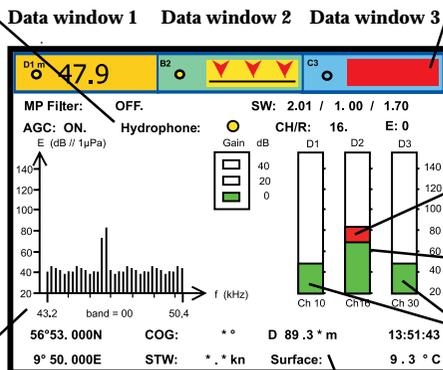
**Catch sensor  $\bar{n}$**  represents the quantity of fish presently in the cod end. A yellow rectangle indicates that the sensor has not been activated (no fish caught). When the rectangle becomes red, accompanied by a peeping tone, the sensor has been activated. Bottom and catch alarms are chosen from Setup, sensor alarm and calibration.

## Status display

### Hydrophone cable information:

- Black = break
- Red = short circuit
- Yellow = OK

The Status display shows sensor data, signal thresholds and background noise levels providing an overview of present hydro-acoustical conditions and the margin for reliable signal detection. Other information displayed includes cable status, program version, and echo sounder / position information if the necessary equipment is connected.



### Data window information:

- Sensor depth
- Sensor identification
- Units of depth
- Pulse lamp condition

SW - software version

E - error message

CH/R - channel number of the last received sensor.

The red field shows the signal level that is over the detection threshold, DT.

The green field over the noise reference level shows the detection threshold, DT.

Average noise reference levels. Signal to noise ratio - level difference between red area in the ibari for the channel and the average level in the frequency spectrum.

**Frequency spectrum** - for frequencies on the 00 - 15 band. Select the desired band by pressing the respective - or + buttons on the keypad (wait for the unit to update the display). The graph represents background noise and signal strength of the frequency band selected.

Information from an interfaced GPS or integrated echo sounder if the unit is connected to a transducer.

## Installation / Configuration / Receiver parameters

Defines sensors 1 to 3 and keeps track of their attachment locations to the net.

Select the channel shown on the sensors labels and/or the visual LED identification signal displayed when turned on. Note the sensor configuration for later reference. Trawling: lower sensor channel numbers provide greater range.

**AGC** - recommended to be ON. Under favorable noise conditions manual gain adjustment may provide increased range.

**MP filter** - reduces excessive echo return or interference from other hydro-acoustic equipment operating on the configured channel where the sensor *is not in use*.

**Max shooting speed** - compensation for doppler shift when shooting the net. Maximum speed may be limited by channel separation, effective only when the vessel is in motion. A low value will provide a narrower bandwidth which is advantageous under high noise conditions.

### Sensor configuration:

Sensor 1: DEPTH 300m - channel: 10  
 Sensor 2: BOTTOM NORMAL - channel: 16  
 Sensor 3: CATCH SLOW - channel: 26

### Status & receiver:

Hydr. audio: OFF, Volum: 9  
 AGC: ON, Manual gain: 0 dB  
 MP filter: OFF, MPF level: 42 dB  
 Max. Speed while shooting: 5 kn  
 Detection level (DT): 8 dB  
 Sensor filter: OFF  
 Catch / Bottom sensor filter: OFF  
 Time: 12:11:50 Date: 9-9-2001

The PI30 must receive at least four pings when first powered up to display data. Should one or two pings be missing, the predicted value will be displayed in grey. If the signal is lost, \*\* is displayed.

**MPF level** - is activated when the MP Filter is ON. Reduce the MPF level value in small steps to increase the filter's effectiveness. Avoid reducing the level so low that the sensors signals are also blocked.

**Detection threshold** - increases the DT if false signals are detected on a channel where a sensor is in use. A high DT indicates that only the strongest signals will be received. A low DT may provide a longer range under favorable conditions.

### Sensor filter:

- OFF = no effect (fastest update of data).
- Light = average of the last four pings.
- Heavy = average of the last eight pings.

## Sensor maintenance, programming and calibration

**Maintenance** - sensors are activated when they come into contact with seawater by the electrical connection created between the saltwater detector and the charging/fastening lug. Rinse sensors with freshwater to avoid leaving a saltwater film on their exteriors. Such a film can also complete the circuit inadvertently activating a sensor and depleting its battery when stowed.

**Programming** - of sensors is accomplished using a PC connected to their charging/fastening lugs. To program a sensor both the software, Simrad number: 889-24037 and a special cable number: 380-204728 are required. The dealer is normally responsible for programming the various channel selections and other functions.

**Calibration** - is performed on board the vessel to set the sensors reference levels to one meter as follows: Suspend the sensors over the side of the vessel individually or together at a depth of one meter, the draft plus one meter or the reference level that is to be defined as one meter. Once the sensors depth readings have stabilised, set the Calibration parameter to YES. Sensor calibration takes one minute and the data will be temporarily displayed as grey during this time. Once the process is complete, the data will again be displayed in black with updated offset values and a depth of one meter. Note: Sensors not submerged in saltwater will not be calibrated.

### Alarm setup:

Depth 1: min: 0 m OFF max: 300 mm OFF  
 S.Temp: min: 0.0°C OFF max: 35.0°C OFF  
 Shear alarm: 2.0°C OFF  
 Catch sensor alarm: ON  
 Bottom sensor alarm: LIFT-OFF OFF  
 Clearance pre warning, min: 0 m OFF  
 Clearance pre warning, max: 300 m OFF  
**Depth sensor:**  
 Calibration: NO  
 Offset: D1: 0.0 m D2: 0.0 m D3: 0.0 m

**Other depths** - if the sensor is programmed to start at a depth of 2 m, it should be suspended at 3 m during the calibration procedure. Calibrate the sensor as described and note the offset values. Reduce the offset values by 2 m after calibration.

Configure sensors with several channel intervals to avoid interference from strong signals.

## Charging and testing

A fully depleted sensor must be charged for at least 16 hours to restore its battery to full capacity. Optimal charging temperature is from +10°C to 25°C. Never charge sensors at temperatures below freezing.

**Warning! The use of chargers not specified by Simrad may lead to personal injury and/or material damage.**

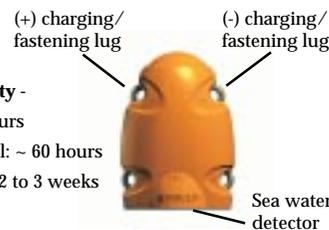
### Battery capacity -

- Depth: ~30 hours
- Bottom normal: ~ 60 hours
- Catch slow: ~ 2 to 3 weeks

**Charging** - connect the red and black alligator clamps to the i+i and i-i fastening lugs respectively. Check that the charging lamp on the charger is illuminated and that the sensor being charged blinks every four seconds. If it does not blink (indicating charging mode), the battery will not be fully charged. **Note: Never charge a sensor with wet rope or chain/wire in contact with the fastening lugs as the resulting electrolysis will quickly destroy the lugs and the sensor will not be charged.**

Sensor 1, 2 or 3

Channel 1 to 30



**Testing** - touch the sea water detector (serial no below 300: touch the cover) and a fastening lug at the same time. This will cause the sensor to switch ON and identify the channel it transmits on with a series of blinks (see the Instruction manual) and begin sending data if it is not programmed differently.

i If the sensor does not blink when switched ON, it indicates a depleted battery and should be charged for a few minutes and tested again. If it blinks and begins to send data, it should be charged for at least 16 hours.

i If the sensor continues to just blink when switched ON it indicates a close to empty battery. Charge the sensor for 10 minutes and test. If it resume normal operation, charge for ~ 16 hours.

i If the sensor repeats the start up blinking sequence with a four seconds interval, it indicates fault with the depth cover. Contact your nearest Simrad dealer.