




**2018
Products
& Systems**

MARPORT





















































New!	MARPORT PSY SYSTEM	12-13	New!	MARPORT HDTE EXPLORER	14-15	New!	MARPORT DE EXPLORER	16-17	New!	MARPORT SE EXPLORER	18-19	New!	MARPORT CE EXPLORER	20-21
New!	MARPORT BE EXPLORER	22-23	New!	MARPORT SPE EXPLORER	24-25	MARPORT NFS SENSOR	26-27	MARPORT TD SENSOR	28-29	MARPORT RS SENSOR	30-31			
MARPORT TE EXPLORER	32-33	MARPORT SS SENSOR	34-35	MARPORT <small>MINI</small> SS SENSOR	36-37	MARPORT DS SOUNDER	38-39	MARPORT TSS SENSOR	40-41					
MARPORT GRD SENSOR	42-43	MARPORT M3 SYSTEM	44-45	MARPORT M4 SYSTEM	46-47	MARPORT M5 SYSTEM	48-49	MARPORT M6 SYSTEM	50-51					
MARPORT SCALA	52-53	Hydrophones & Accessories	54	Thru-hull Penetrations	55	Chargers & Adaptors	56	Terms & Conditions / Limited Warranty	58-59					

A black and white photograph of a fisherman on a large fishing vessel. The fisherman is wearing a white helmet with a logo, a white long-sleeved shirt, and a white apron. He is holding a yellow device, possibly a sensor or a control unit, and is working on a large metal structure, likely part of the vessel's equipment. The background shows the ship's hull and various mechanical components.

**Marport designs and
manufactures catch control
and net monitoring sensors,
echo sounders, current
profilers and sonar for
the world's fishing fleet**

**Our solutions improve
operational efficiency,
reduce waste and increase
catch quality**

New Sensor solutions

	Bottom Trawl	Pelagic Trawl	Purse Seining	Twin Rig	Triple Rig	Single Dredge	Double Dredge	Triple Dredge
 Positioning System (pp. 12-13)								
 High Definition Trawl Explorer (pp. 14-15)								
 Dredge Explorer (pp. 16-17)								
 Seine Explorer (pp. 18-19)								
 Catch Explorer (pp. 20-21)								
 Bottom Explorer (pp. 22-23)								
 Speed Explorer (pp. 24-25)								

Sensor solutions

	Bottom Trawl	Pelagic Trawl	Purse Seining	Twin Rig	Triple Rig	Single Dredge	Double Dredge	Triple Dredge
 Net Fill Sensor (pp. 26–27)								
 Temp/Depth Sensor (pp. 28–29)								
 Rip Sensor (pp. 30–31)								
 Trawl Explorer (pp. 32–33)								
 MFX Spread Sensor (pp. 34–35)								
 Mini Multifunction Spread Sensor (pp. 36–37)								
 Door Sounder (pp. 38–39)								
 Trawl Speed Sensor (pp. 40–41)								
 Grid Sensor (pp. 42–43)								



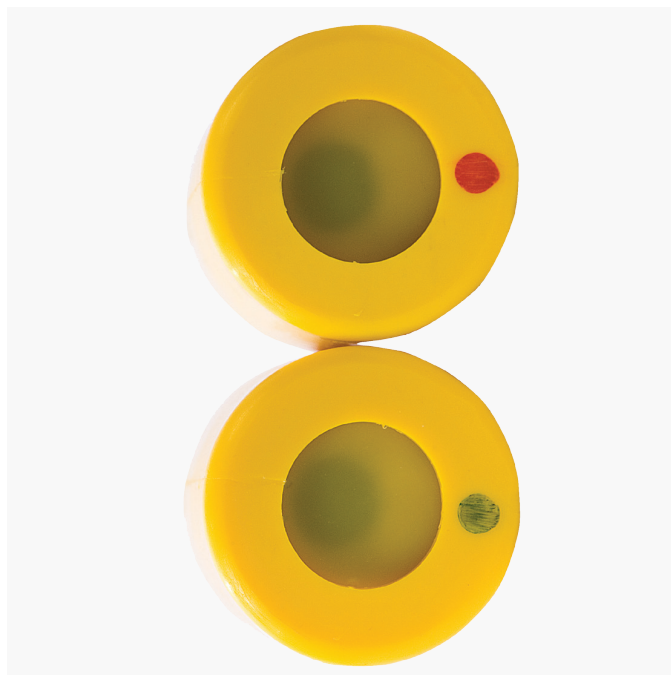


Products & Specifications

New!



— **PSY is the preferred system for vessels without precise wire management systems on board**



12

Marport's PSY positioning system offers two routes to pinpointing the position of a trawler's gear, providing the option of placing the doors instead of the catching vessel on a plotter screen, which provides the skipper new opportunities to focus on the gear itself.

There are two options to achieve this. Using the pinger approach to poll sensors on the doors for range and bearing data, coordinates are calculated to establish the gear's position.

This is the preferred system for vessels without precise wire management systems on board.

Trawlers fitted with more sophisticated winch systems that incorporate accurate wire measurement can opt for the wire length approach, which calculates range based on the length of warp behind the towing blocks and the bearing from the constant stream of data that the door sensors transmit to the wheelhouse.

Each option has its advantages, with the wire length approach offering a higher level of precision as well as a more rapid update, while the pinger system is more suited to older or less sophisticated fishing vessels

Product list

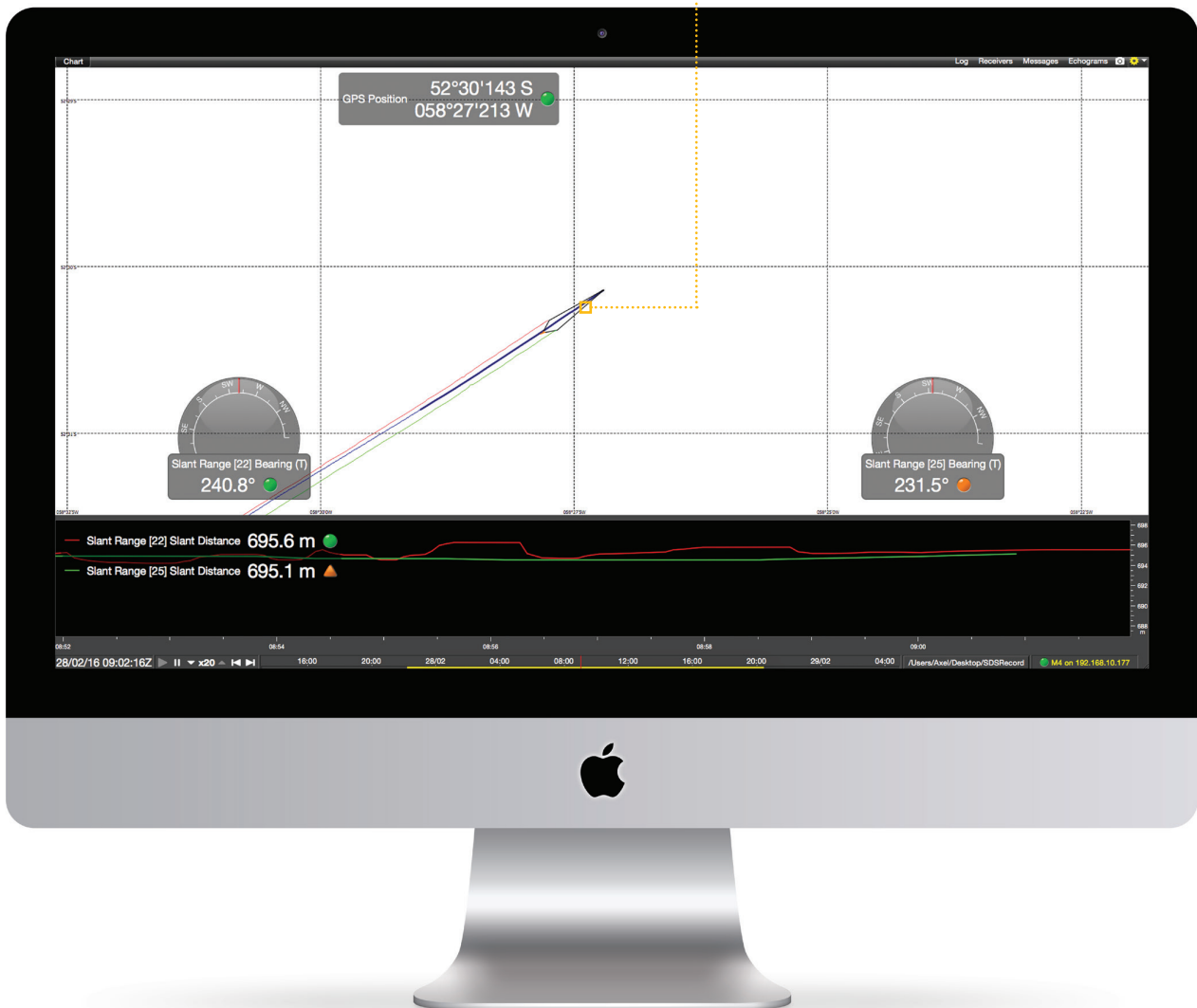
Product number	Description
BPO-0-00	Bearing Angle Position Option Options that can be added to: SS-X-XX/TE-XX-X Slant range taken from wire counters
PS-100-W	A1 Postion Pinger Small
PS-150-W	A1 Postion Pinger XL

Being able to place the trawl door sensors directly on the plotter offers the skipper numerous advantages, not least in being able to manoeuvre the gear with more security in a tight space while keeping the doors a safe distance from obstructions or canyon walls when chasing marks over difficult terrain.

The Marport PSY is fully capable of interfacing with other systems to display the position of the trawl gear on chart plotters.

In action

Location of each door are displayed on chart plotter.



New!



— This is a piece of trawl equipment that has outstanding versatility



Marport's High-Definition Trawl Explorer is the skipper's eyes under the sea. Mounted on either the head-line to provide a view of fish passing under it and back into the belly, or on the tunnel to show fish making their way down to the codend, the HDTE employs CHIRP technology to relay a detailed echogram image via a wireless link direct to the wheelhouse. It offers higher

resolution than any other comparable product, with individual fish down to 2.5cm discernible on the real-time echogram.

A unique feature offered only by Marport is a retrieval function, allowing a high-grade recording from the Trawl Explorer to be uploaded to the wheelhouse via a wireless link once the gear is on the deck, providing the opportunity to examine key points of the last tow.

Technical Specifications

Uplink Frequency	30 to 60 kHz
Uplink Beamwidth	70°
Range to Vessel	2500 m
Depth range	1600 m
Pitch & Roll (Angle)	±90°
Pitch & Roll (Accuracy)	0.1°
Depth Resolution	0.1m with 0.1% accuracy
Update Rate	1–5 sec.
Sounder Range (programmable)	5–40 m
Sounder Broadband Frequency	120 to 210 kHz

Temp Measurement Range	–5°C to +25°C
Temp Accuracy	±0.1°C
Battery Type	Lithium-Ion
Typical Battery Life	15 hours*
Charging Time	Standard: 8–12 hours** Fast Charge: 4 hours
Weight in Air	5.0 kg
Weight In Water	0.9 kg
Warranty	2 years (Sensor & Battery)†

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.

**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.

† Marport Standard Marine Limited Warranty

Product list

Product number	Description
TE-155-W-HD	High Definition Trawl Explorer w/ P&R, Temp, Depth and VBAT

Echograms are calibrated, so they appear identical across HDTE units and this is a feature that no other manufacturer has been able to make available.

The HDTE has a 3Hz horizontal resolution and target strength can be calibrated from recordings, building on experience and past data to refine the information presented in the wheelhouse.

This is a piece of trawl equipment that has outstanding versatility, capable of looking both upwards and downwards – or both – and offering a choice of three program-mable operational modes, in addition to pitch & roll status, temperature and depth data, and batter status, all with a rapid update rate.

In action

Vertical resolution
less than 2.5 cm

Horizontal
resolution 3hz

Fully calibrated
target strength

15



New!



— The Dredge Explorer is designed specifically for fisheries using clam or scallop dredges



The Dredge Explorer is a new application for a fishing gear sensor that draws on much of the technology and expertise Marport has in developing systems for trawl gears. Designed specifically for fisheries using clam or scallop dredges, the Dredge Explorer provides the skipper with a range of information on the gear's position and performance that was previously unavailable.

The Dredge Explorer sensor is located on top of the dredge and relays pitch and roll information in real time. The pitch angle tells the skipper if the dredge is lying at the optimal angle, or if it is positioned in such a way that the ideal harvesting angle is not being achieved. Based on this, the skipper can opt to adjust towing speed or warp length to align the gear properly.

Technical Specifications

Uplink Frequency	30 to 60 kHz	Temp Measurement Range	-5°C to +25°C
Uplink Beamwidth	70°	Temp Accuracy	±0.1°C
Range to Vessel	2500 m	Battery Type	Lithium-Ion
Depth range	1600 m	Typical Battery Life	Up to 30 hours*
Pitch & Roll (Angle)	±90°	Charging Time	Standard: 8-12 hours** Fast Charge: 4 hours
Pitch & Roll (Accuracy)	0.1°	Weight in Air	5.0 kg
Depth Resolution	0.1 m with 0.1% accuracy	Weight In Water	0.9 kg
Update Rate	1-5 sec.	Warranty	2 years (Sensor & Battery) †
Sounder Range (programmable)	5-160 m		
Sounder Broadband Frequency	120-210 kHz		

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.
**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.
† Marport Standard Marine Limited Warranty

Product list

Product number	Description
DE-150-W	A1 BE150 Bottom Explorer w/Depth, Temp, P&R and VBAT

In the other axis, the roll angle provides an immediate alert if the dredge rolls over while towing.

A depth function relays the dredge's height over the seabed, with a real-time echogram. This tells the skipper instantly if the gear leaves the ground, providing an opportunity

to adjust the speed or warp to get the dredge back to its optimal fishing position without losing fishing time.

The dredge explorer is installed on the dredge and can provide the operator with information that will increase efficiency.

In action

True bottom contact from the dredge

Pitch & Roll update every 1s



New!



— The Seine Explorer relays data back to the wheelhouse as a purse seine is shot away and throughout the fishing operation.



Mounted on the lead line of a purse seine in a robust protective steel case, the Seine Explorer relays data back to the wheelhouse as a purse seine is shot away and throughout the fishing operation. It has been designed to incorporate omnidirectional uplink technology that ensures no loss of

signal throughout the fishing operation, starting the moment the purse seine is shot away.

The skipper is shown an echogram of the shot as it takes place, displaying the distance to the seabed and

Technical Specifications

Uplink Frequency	30 to 60 kHz	Temp Measurement Range	-5°C to +25°C
Uplink Beamwidth	70°	Temp Accuracy	±0.1°C
Range to Vessel	2500 m	Battery Type	Lithium-Ion
Depth range	1600 m	Typical Battery Life	Up to 35 hours*
Pitch & Roll (Angle)	±90°	Charging Time	Standard: 8–12 hours** Fast Charge: 4 hours
Pitch & Roll (Accuracy)	0.1°	Weight in Air	12.15 kg
Depth Resolution	0.1m with 0.1% accuracy	Weight In Water	0.9 kg
Update Rate	1– 5 sec.	Warranty	2 years (Sensor & Battery)†
DEPTH range	1600 m		
Sounder Range (programmable)	5–160 m		
Sounder Broadband Frequency	120–210 kHz		

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.
**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.
† Marport Standard Marine Limited Warranty

Product list

Product number	Description
SE-50-W	A1 SE050 Omni Seine Depth Sensor
SE-100-W	A1 SE100 Omni Seine Sounder w/Height and Depth
SE-150-W	A1 SE150 Omni Seine Explorer w/ Temp, Depth and VBAT

a Scanmar-compatible digital read-out of the depth of water above and below the leadline.

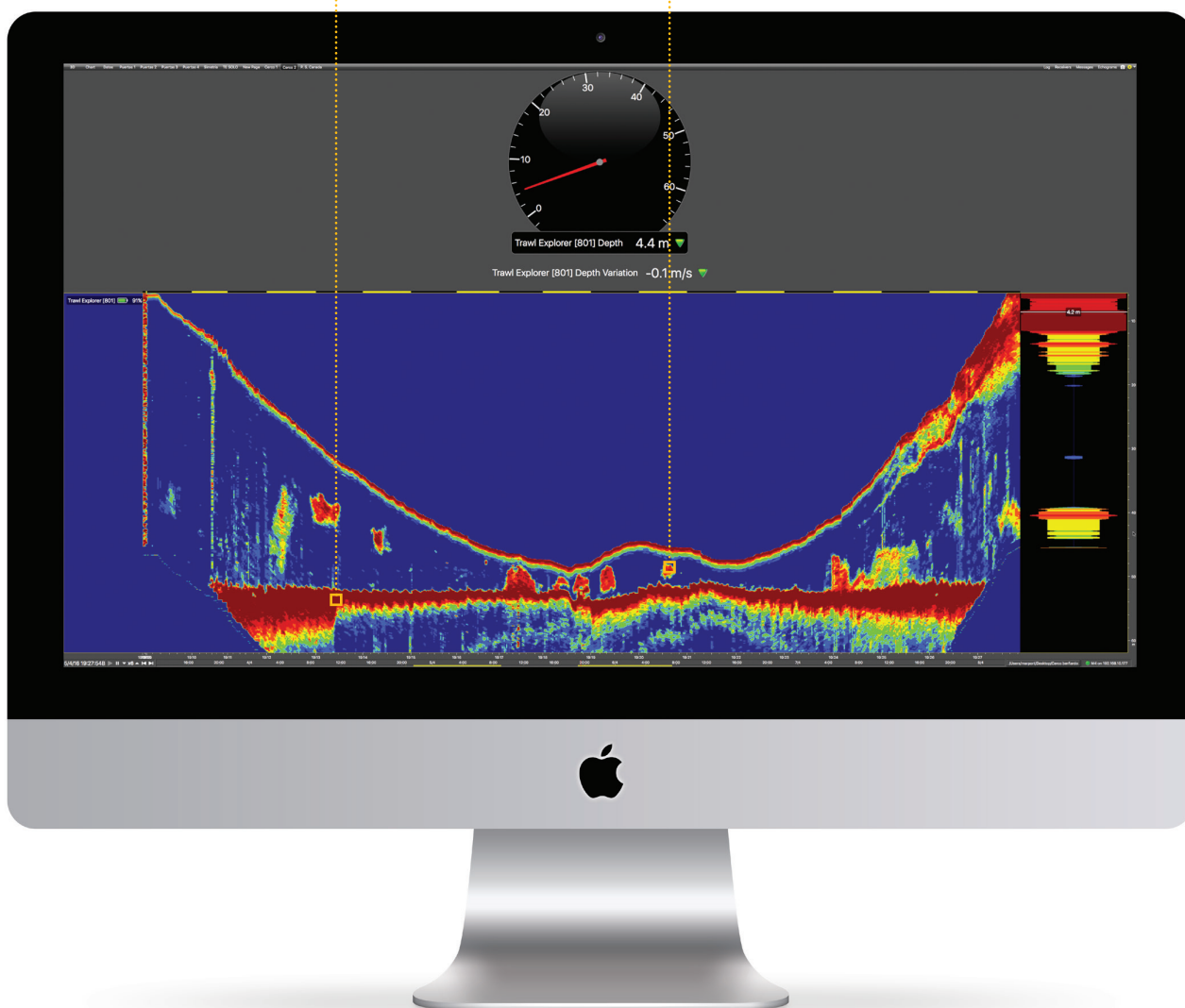
For purse seining in shallow water, Marport's Seine Explorer is an essential tool that ensures the gear

can be kept safely clear of ground obstructions so gear damage can be avoided, and in both deep and shallow water the upward-seeking option that provides distance to the surface gives the skipper an accurate indication of the sinking speed of the leadline.

In action

Bottom is shown as the seine lays

Fish schools can be seen if the seine is pulled in to fast



New!



— The Catch Explorer provides a series of updates on the fish as they pass into the codend from the trawl mouth and through the belly.



This downward-looking sensor is fitted on the top sheet of a codend or tunnel to all the skipper to monitor the contents of the codend in real time as the gear is fishing, providing a series of updates on the fish as they pass into the codend from the trawl mouth and through the belly.

This gives a rolling echogram image of the volume of catch in addition to the data supplied by the usual codend sensors that are triggered as a certain amount has been caught. The Catch Explorer also features depth, temperature and pitch & roll data.

Technical Specifications

Uplink Frequency	30 to 60 kHz
Uplink Beamwidth	70°
Range to Vessel	2500 m
Depth range	1600 m
Pitch & Roll (Angle)	±90°
Pitch & Roll (Accuracy)	0.1°
Depth Resolution	0.1m with 0.1% accuracy
Update Rate	1– 5 sec.
Sounder range (programmable)	5–160 m
Sounder Broadband Frequency	360 to 400 kHz

Temp Measurement Range	-5°C to +25°C
Temp Accuracy	±0.1°C
Battery Type	Lithium-Ion
Typical Battery Life	Up to 30 hours*
Charging Time	Standard: 8–12 hours** Fast Charge: 4 hours
Weight in Air	5.0 kg
Weight In Water	0.9 kg
Warranty	2 years (Sensor & Battery)†

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.

**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.

† Marport Standard Marine Limited Warranty

Product list

Product number	Description
CE-100-W	A1 CE100 Catch Eye Echo Only
CE-150-W	A1 CE150 Catch Explorer w/ Depth, Temp P&R, VBAT

In action

Full echo view of
the coded

Echogram gets denser
as the codend fills up
and expands



21

New!



— The Bottom Explorer minimises lost fishing opportunities and ensures that the trawl is actively on the ground



Fixed to a trawl's footrope, the Bottom Explorer provides a constant confirmation that the gear is in contact with the seabed, or an indication that the trawl has risen off the ground, giving the skipper the opportunity to respond by

adjusting towing speed or warp length to place the gear back where it belongs. This minimises lost fishing opportunities and ensures that the trawl is actively on the ground.

Technical Specifications

Uplink Frequency	30 to 60 kHz
Uplink Beamwidth	70°
Range to Vessel	2500 m
Depth range	1600 m
Pitch & Roll (Angle)	±90°
Pitch & Roll (Accuracy)	0.1°
Depth Resolution	0.1m with 0.1% accuracy
Update Rate	1–5 sec.
Sounder range (programmable)	5–160 m
Sounder Broadband Frequency	360 to 400 kHz

Temp Measurement Range	–5°C to +25°C
Temp Accuracy	±0.1°C
Battery Type	Lithium-Ion
Typical Battery Life	Up to 30 hours*
Charging Time	Standard: 8–12 hours** Fast Charge: 4 hours
Weight in Air	5.0 kg
Weight In Water	0.9 kg
Warranty	2 years (Sensor & Battery)†

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.

**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.

† Marport Standard Marine Limited Warranty

Product list

Product number	Description
BE-100-W	A1 BE100 Bottom Eye Echo Only
BE-150-W	A1 BE150 Bottom Explorer w/ Depth, Temp P&R, VBAT

Depth, temperature and pitch & roll data are also part of the package that sends ground contact data with a 3hz update rate three times per second to the wheelhouse display.

Unlike systems on the market that use a mechanical arrangement to sense ground contact, Marport have opted for an acoustic approach for greater reliability.

In action

True bottom contact with a full echo view from the footrope

Clear indication when the footrope lifts off bottom



23

New!



— The Speed Explorer
Combines the functions
of a trawl eye headline
sounder with a trawl
speed sensor



This new addition to the Marport range combines a huge amount of functionality in a single headline-mounted package. The new Speed Explorer unit combines the functions of a trawl eye headline sounder with

a trawl speed sensor to give a comprehensive data output direct to the skipper.

As well as the depth, temperature and pitch & roll data that has become

Technical Specifications

Uplink Frequency	30 to 60 kHz	Temp Accuracy	±0.1°C
Uplink Beamwidth	70°	Across Speed	0 – 6 knots
Range to Vessel	2500 m	Along Speed	±0.01 knots
Depth range	1600 m	Speed Resolution	0.1 knots
Pitch & Roll (Angle)	±90°	Battery Type	Lithium-Ion
Pitch & Roll (Accuracy)	0.1°	Typical Battery Life	Up to 48 hours*
Depth Resolution	0.1m with 0.1% accuracy	Charging Time	Standard: 8 –12 hours** Fast Charge: 4 hours
Update Rate	1– 5 sec.	Weight in Air	12.8 kg
Temp Measurement Range	-5°C to +25°C	Weight In Water	2.1 kg
Sounder Range (programmable)	5–160 m	Warranty	2 years (Sensor & Battery)†
Sounder Broadband Frequency	120–210 kHz		

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.

**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.

† Marport Standard Marine Limited Warranty

Product list

Product number	Description
SPE-155-W	A1 Trawl Speed/Trawl Explorer Dual function unit w/ Up/Down Echo, Along and Across Speed Depth, Temperature and Pitch And Roll
TSS-1-MT	A1 TS Mounting Kit – Plate and Clamps
TSS-2-MT	A1 TS Mounting Axle
TSS-3-MT	Trawl Speed/Explorer Shield

a standard option with every virtually Marport sensor, the Speed Explorer offers an echogram, boosted from 1hz to 3hz to provide three updates per second.

The data feeds providing information on water flow along the direction of

the tow and across it are also up-graded in this unit to send an update every three seconds instead of every twenty seconds, giving the skipper an integrated overview of the trawl's opening, the flow and the effects of the currents around it.

In action

Faster update echogram gives an excellent view from the headrope

Along and across speed is updated every 1s





— Would you shoot your gear without knowing when the trawl was starting to fill?



Would you shoot your gear without knowing when the trawl was starting to fill? Catch sensors have become key items of equipment, providing not just information on how fast the

codend is filling up, but also giving vital indications on whether or not the gear is skewed, helping you avoid those lost tows.

26

Technical Specifications

Uplink Frequency	30 to 60 kHz	Temp Measurement Range	-5°C to +25°C
Uplink Beamwidth	70°	Temp Accuracy	±0.1°C
Range to Vessel	2500 m	Battery Type	Lithium-Ion
Depth range	1600 m	Typical Battery Life	Up to 500 hours*
Pitch & Roll (Angle)	±90°	Charging Time	Standard: 8–12 hours** Fast Charge: 4 hours
Pitch & Roll (Accuracy)	0.1°	Weight in Air	5.0 kg
Depth Resolution	0.1m with 0.1% accuracy	Weight In Water	0.9 kg
Update Rate	DEPTH: 3–8 sec. /TEMP: 3–16 sec.	Warranty	2 years (Sensor & Battery)†
DEPTH range	300/600/1200/1800 m		

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.
**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.
† Marport Standard Marine Limited Warranty

Product list

Product number	Description
NFS-4-00	A1 Catch Sensor 70 khz (Simrad FS/Wesmar compatible)
NFS-5-00	A1 Catch Sensor 40 kHz (Marport/Scanmar compatible)
NFS-6-00	A1 Hybrid Catch Sensor 40/70 kHz Dual Frequency
NFS-7-00	A1 Catch Sensor PI
NFS-8-00	A1 Hybrid Catch Sensor 40/40PI kHz
DOO-0-00	Depth Option
RPO-0-00	Pitch & Roll Option
TOO-0-00	Temp. Option
CSO-0-00	Catch Explorer Option

On top of all that, each catch sensor transmits a precise temperature reading to the wheelhouse. Marport's catch sensors are among the most sophisticated on the market today, offering advanced single, dual or simultaneous operation to provide a reliable signal and to ensure uninterrupted communication with the gear.

We provide high sensitivity and rapid response times, plus updates at 20 second intervals, along with a typical battery life of between 380 and 540** hours, extendable by enabling low power functions.

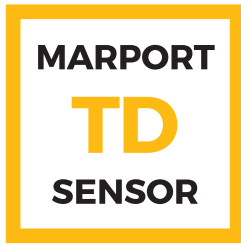
Our catch sensors are programmable on board and can be used as direct replacements for 40kHz (Simrad® and Scanmar®) and 70kHz (Simrad® and Wesmar®) sensors.

In action

Catch sensors can be updated with Pitch&Roll, Depth and Temperature

Catch sensor gauges can be placed anywhere needed





— A depth sensor does just what it says on the label, and these do so much more



A depth sensor does just what it says on the label, and these do so much more. It's primary function is to measure the depth of the gear relative to the surface, while also being able to relay information about the

speed of the gear through the water as the gear is lifted or allowed to sink. Combined with the sensor's temperature function, this provides a range of data that gives the skipper the information needed to maintain

Technical Specifications

Uplink Frequency	30 to 60 kHz	Temp Measurement Range	-5°C to +25°C
Uplink Beamwidth	70°	Temp Accuracy	±0.1°C
Range to Vessel	2500 m	Battery Type	Lithium-Ion
Depth range	1600 m	Typical Battery Life	Up to 500 hours*
Pitch & Roll (Angle)	±90°	Charging Time	Standard: 8–12 hours** Fast Charge: 4 hours
Pitch & Roll (Accuracy)	0.1°	Weight in Air	5.0 kg
Depth Resolution	0.1m with 0.1% accuracy	Weight In Water	0.9 kg
Update Rate	DEPTH: 3–8 sec. /TEMP: 3–16 sec.	Warranty	2 years (Sensor & Battery) †
DEPTH range	300/600/1200/1800 m		

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.

**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.

† Marport Standard Marine Limited Warranty

Product list

Product number	Description
TD-5-00	A1 Temperature Sensor ±0.1°
TD-6-00	A1 Depth Sensor 0.1% accuracy
TD-7-00	A1 Temp/Depth Sensor 0.1% accuracy combination
TD-8-00	A1 Temp. ±0.1° Simrad PI Compatible
TD-9-00	A1 Depth 0.1% FS Simrad PI
TD-10-00	A1 Temp/Depth Sensor, Simrad PI Compatible
RPO-0-00	Pitch & Roll Option
CSO-0-00	Catch Explorer Option

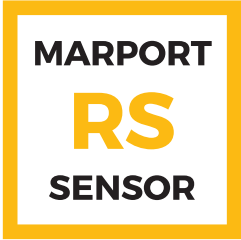
the gear depth at its optimum level for the preferred conditions for particular species. We see the depth/temperature sensor as a time-saving tool that cuts down on time wasted with the gear at the wrong location.

It has a typical battery life of between 450 and 540 hours that can be extended depending on the power settings used.

In action

Depth and temperature information can be displayed as text, gauges or line graph





— This is our early warning system



This is our early warning system. The Rip Sensor is designed to be fixed to a trawl's belly or tunnel, where it sends an indication of any damage to the gear that could be letting fish escape.

The Rip Sensor operates on a 40kHz frequency, updates every 20 to 30 seconds, works all the way down to 1800 metres and has a typical battery life of 500 hours.

Technical Specifications

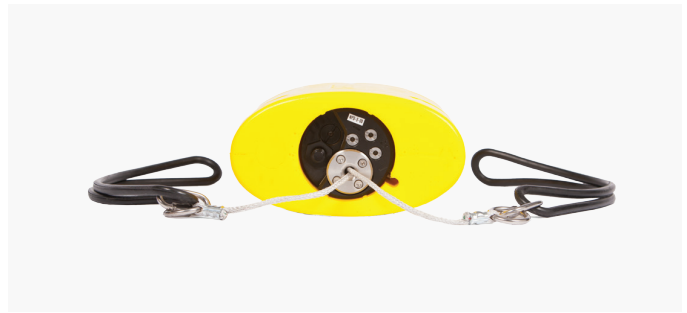
Uplink Frequency	30 to 60 kHz	Temp Measurement Range	-5°C to +25°C
Uplink Beamwidth	70°	Temp Accuracy	±0.1°C
Range to Vessel	2500 m	Battery Type	Lithium-Ion
Depth range	1600 m	Typical Battery Life	Up to 500 hours*
Pitch & Roll (Angle)	±90°	Charging Time	Standard: 8-12 hours** Fast Charge: 4 hours
Pitch & Roll (Accuracy)	0.1°	Weight in Air	5.0 kg
Depth Resolution	0.1m with 0.1% accuracy	Weight In Water	0.9 kg
Update Rate	DEPTH: 3-8 sec. /TEMP: 3-16 sec.	Warranty	2 years (Sensor & Battery) †
DEPTH range	300/600/1200/1800 m		

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.
**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.
† Marport Standard Marine Limited Warranty

Product list

Product number	Description
RS-1-00	A1 Rip Sensor
RS-1-MTB	A1 Rip Sensor Cage
RPO-0-00	Pitch & Roll Option
DOO-0-00	Depth Option
TOO-0-00	Temp. Option
CSO-0-00	Catch Explorer Option

As well as giving early warning of gear damage and loss of catch, the rip sensor also has a host of optional extra features, allowing it to transmit pitch and roll, depth and water temperature data to the wheelhouse.



In action

Rip sensor is displayed in ON when the trawl is OK, as soon as the if the trawl rips the gauge turns OFF.





— Marport’s Trawl Explorer is your eye on the fishing gear.



Marport’s Trawl Explorer is your eye on the fishing gear, a sounder with a heavyweight suite of capabilities placed on your trawl’s headline sending a wealth of information to the wheelhouse. This starts with an echogram of the trawl opening and fish passing into the gear, as well as

depth, temperature and distance to the seabed or footrope, plus a visual representation of the footrope to seabed clearance if the gear is towed off the bottom.

Technical Specifications

Uplink Frequency	30 to 60 kHz	Temp Measurement Range	-5°C to +25°C
Uplink Beamwidth	70°	Temp Accuracy	±0.1°C
Range to Vessel	2500 m	Battery Type	Lithium-Ion
Depth range	1600 m	Typical Battery Life	Up to 500 hours*
Pitch & Roll (Angle)	±90°	Charging Time	Standard: 8–12 hours** Fast Charge: 4 hours
Pitch & Roll (Accuracy)	0.1°	Weight in Air	16 kg
Depth Resolution	0.1m with 0.1% accuracy	Weight In Water	4.1 kg
Update Rate	DEPTH: 3–8 sec. /TEMP: 3–16 sec.	Warranty	2 years (Sensor & Battery)†
DEPTH range	300/600/1200/1800 m		

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.
**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.
† Marport Standard Marine Limited Warranty

Product list

Product number	Description
TE-075-W	A1 TE075 DSO echo w/P&R Temp., Depth and VBAT
TE-155-W	A1 TE155 UDS echo w/P&R Temp., Depth and VBAT

The Trawl Explorer has a host of features for a variety of operating modes, and is a dual frequency unit. This allows the beamwidth to be selected from wide to narrow along with the most suitable of several sounding modes to suit the conditions.

Additional options are for a pitch and roll function to provide a realistic pre-sentation of the gear's behaviour while trawling, and the Trawl Explorer can be fully programmed on board. Fully comparable with Furuno's CN-24 series displays, it can be a direct replacement for a CN-24 head-line sounder.

In action

Clear echo view from the headrope or tunnel

Pitch&Roll built in

Depth&Temperature included





— Gives the skipper the full picture of each trawl door's performance



Marport's MFX Door Sensors use a master and slave configuration, communicating via a transverse wireless link on 110 or 144kHz. The master sensor interrogates the slave on the opposite trawl door, relaying data from both sensors to the catching vessel via a wireless uplink broadband transducer. As well as the

door spread, this arrangement gives the skipper the full picture of each trawl door's performance, including pitch and roll function in two axes to indicate the inward/outward heel of each door as well as the forward/aft tilt, plus depth and water temperature.

Technical Specifications

Uplink Frequency	30 to 60 kHz
Uplink Beamwidth	70°
Range to Vessel	2500 m
Depth range	1600 m
Pitch & Roll (Angle)	±90°
Pitch & Roll (Accuracy)	0.1°
Depth Resolution	0.1m with 0.1% accuracy
Update Rate	DEPTH: 3 – 8 sec. /TEMP: 3 – 16 sec.
DEPTH range	300/600/1200/1800 m

Temp Measurement Range	-5°C to +25°C
Temp Accuracy	±0.1°C
Battery Type	Lithium-Ion
Typical Battery Life	Up to 200 hours Master*
Charging Time	Standard: 8 – 12 hours** Fast Charge: 4 hours
Weight in Air	5.0 kg
Weight In Water	0.9 kg
Warranty	2 years (Sensor & Battery) †

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.

**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.

† Marport Standard Marine Limited Warranty

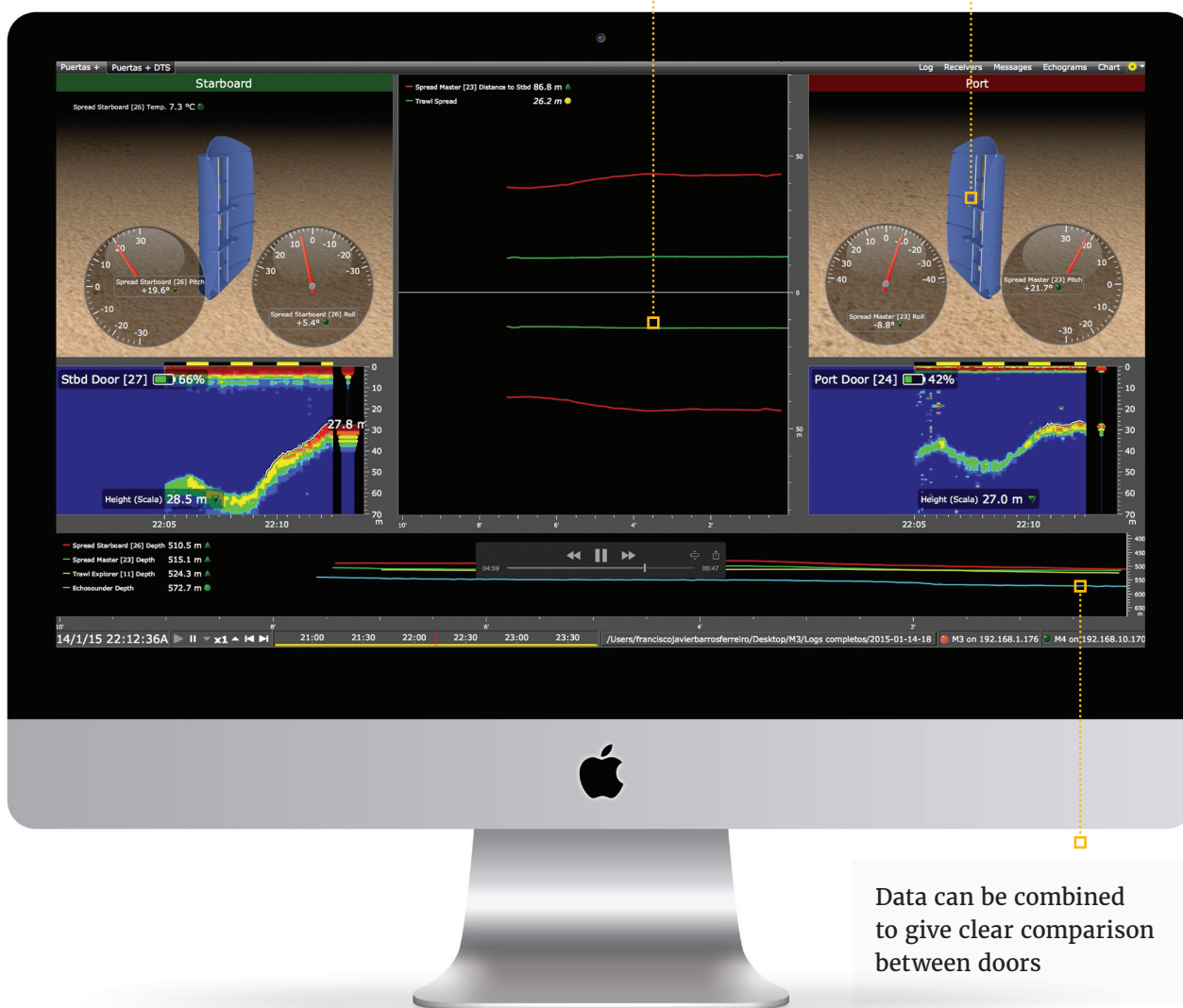
Product list

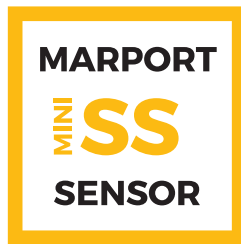
Product number	Description
SS-15-00	A1 Master (Door) Sensor 144
SS-16-00	A1 Slave (Door) Sensor 144
SSC-17-00	A1 Clump (Door) Sensor 144
SSC-18-00	A1 Dual Axis Clump (Door) Sensor 144
SS-18-00	A1 Master (Door) Sensor 110
SS-19-00	A1 Slave (Door) Sensor 110
SSC-20-00	A1 Clump (Door) Sensor 110
SS-1-15	Steel XL DoorSensor Pocket

Marport's sensors are leaders in their field, capable of running and displaying all functions at any one time. Trawl door sensors are crucial to maintaining stable gear geometry, optimising catching capacity while also minimising the wasted time and energy that are by-products of having skewed gear, and contributing to keeping gear damage to a minimum. Data updates are as frequent as every three seconds, highlighting the importance of reliable trawl door data, providing immediate warning if the door cross over each other or if one door falls flat during a tow.

As well as information on door performance itself, data from the door sensors can often be an indicator of a problem elsewhere in the gear, such as a collapsed trawl, and our sensors are designed for all types of trawling that use doors. MFX door sensor battery life is between 90 and 200 hours for the master sensor and is as high as 300 hours for the slave unit, based on a standard charging time of 8 to 12 hours.

In action





— **Marport's multi-function XL-DD 'Small Frame' trawl door sensors have all the functionality of larger sensors**



Designed to meet the needs of smaller trawlers towing semi-pelagic gear or flying their doors off the bottom, and using gear on which space is at a premium, Marport's multi-function XL-DD 'Small Frame' trawl door sensors have all the functionality of larger sensors, operating with a master and slave arrangement. The master sensor sends both sets of data to the catching vessel's wheel-house, with update rates of as fast

as every three seconds, providing the skipper with door spread, inward/outward heel, forward/aft tilt, depth and temperature data.

The master and slave sensors communicate via a 110 or 144 kHz wireless link, with the option of a 30.8kHz frequency used in special applications in gear and fisheries research.

Technical Specifications

Uplink Frequency	30 to 60 kHz
Uplink Beamwidth	70°
Range to Vessel	2500 m
Depth range	1600 m
Pitch & Roll (Angle)	±90°
Pitch & Roll (Accuracy)	0.1°
Depth Resolution	0.1m with 0.1% accuracy
Update Rate	DEPTH: 3 – 8 sec. /TEMP: 3 –16 sec.
DEPTH range	300/600/1200/1800 m

Temp Measurement Range	-5°C to +25°C
Temp Accuracy	±0.1°C
Battery Type	Lithium-Ion
Typical Battery Life	Up to 100 hours Master*
Charging Time	Standard: 8 –12 hours** Fast Charge: 4 hours
Weight in Air	5.0 kg
Weight In Water	0.9 kg
Warranty	2 years (Sensor & Battery)†

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.

**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.

† Marport Standard Marine Limited Warranty

Product list

Product number	Description
SS-08-00	A1 XL-DD Door Sensor
SS-09-00	A1 XL-DD Door Sensor
SS-1-08	Steel SE DoorSensor Pocket (P)
SS-1-09	Steel SE DoorSensor Pocket (S)

MFX trawl door sensors are essential for keeping the gear correctly aligned, particularly working semi-pelagic or pelagic gear in which precision is critical to controlling the fishing gear and optimising fishing opportunities, ensuring that the gear geometry is maintained and providing early warning if there is a problem with the trawl, which in turn allows

skipper to compensate or haul and fix the problem without wasting time and fuel

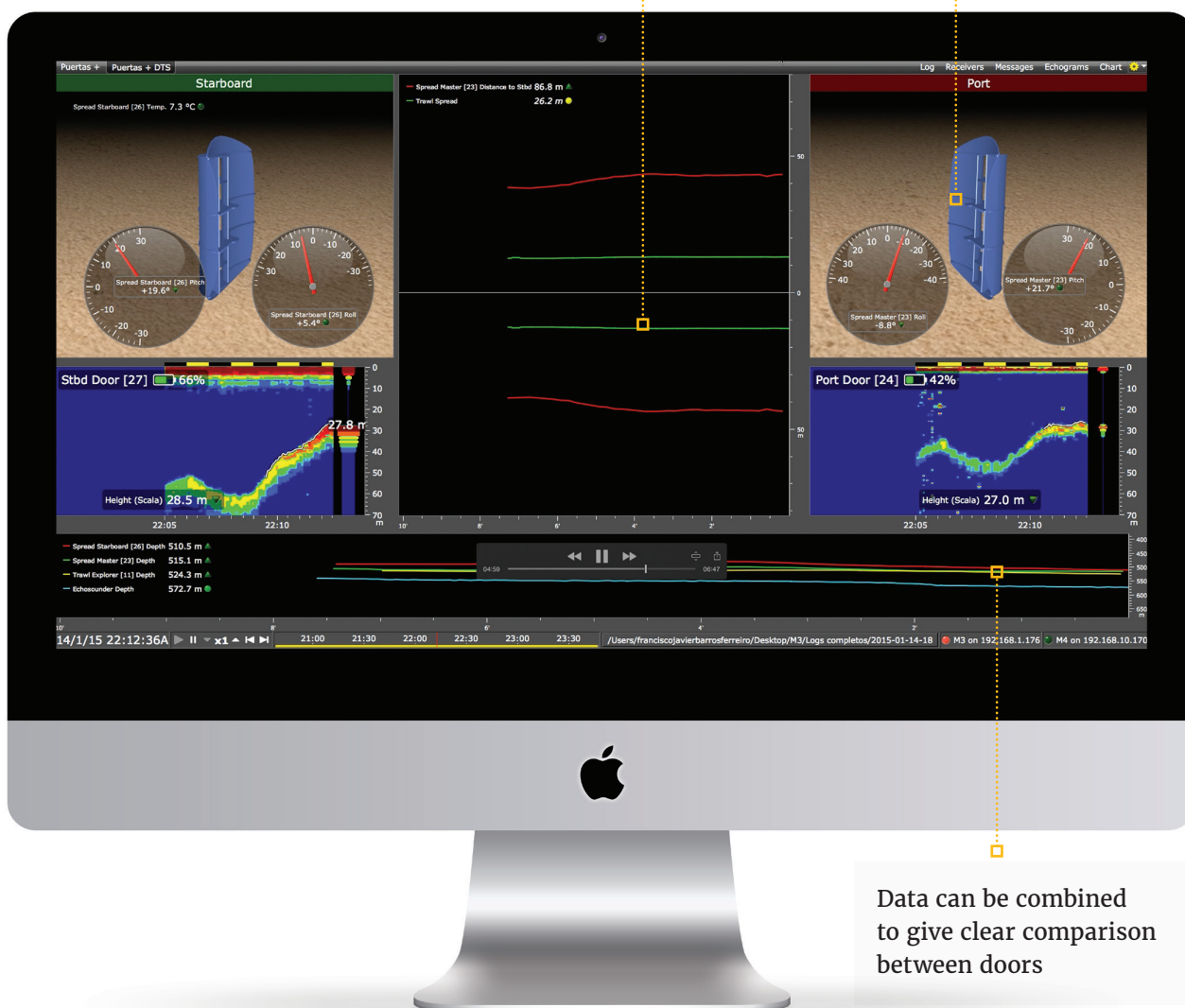
Battery life is typically around 90 hours, based on a standard charging time of 8 to 12 hours, although endurance can be extended by using power-saving settings.

In action

Distance between doors displayed as text or line graphs

Pitch and Roll displayed as 3d doors give clear indication at a glance

37



Data can be combined to give clear comparison between doors



— The Door Sounder provides rapid, accurate information



This lightweight trawl door sounder has been developed specifically for trawlers towing demersal trawls spread with a pair of pelagic doors flown off the seabed.

This DS-XXX-W sounder is there to provide rapid, accurate information, allowing the skipper to be sure of the clearance between the door shoes and the seabed and to maintain a steady distance.

This sounder is multi-function, single-frequency that includes depth, height and temperature indicators as standard. In addition to its prime function of checking the seabed distance, it functions as a down sounder to show fishing passing underneath towards the trawl, complementing codend sensors and codend sounders.

Technical Specifications

Uplink Frequency	30–60 kHz
Uplink Beamwidth	70° (–3dB)
Range to Vessel	2500 m
Working depth	1600 m
Pitch & Roll (Angle)	±90°
Optional Pitch & Roll Resolution	0.1 m
Sounder range (programmable)	5–160 m
Sounder Broadband Frequency	Broadband, 120–210 kHz
	Standard Configuration 165 kHz

Update rate	3–8 sec.
Battery Type	Lithium-Ion
Typical Battery Life	Up to 60 hours*
Charging Time	Standard: 8–12 hours** Fast Charge: 3.5 hours
Weight in Air	3.9 kg
Weight In Water	0.8 kg
Warranty	2 years (Sensor & Battery)†

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.
**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.
† Marport Standard Marine Limited Warranty

Product list

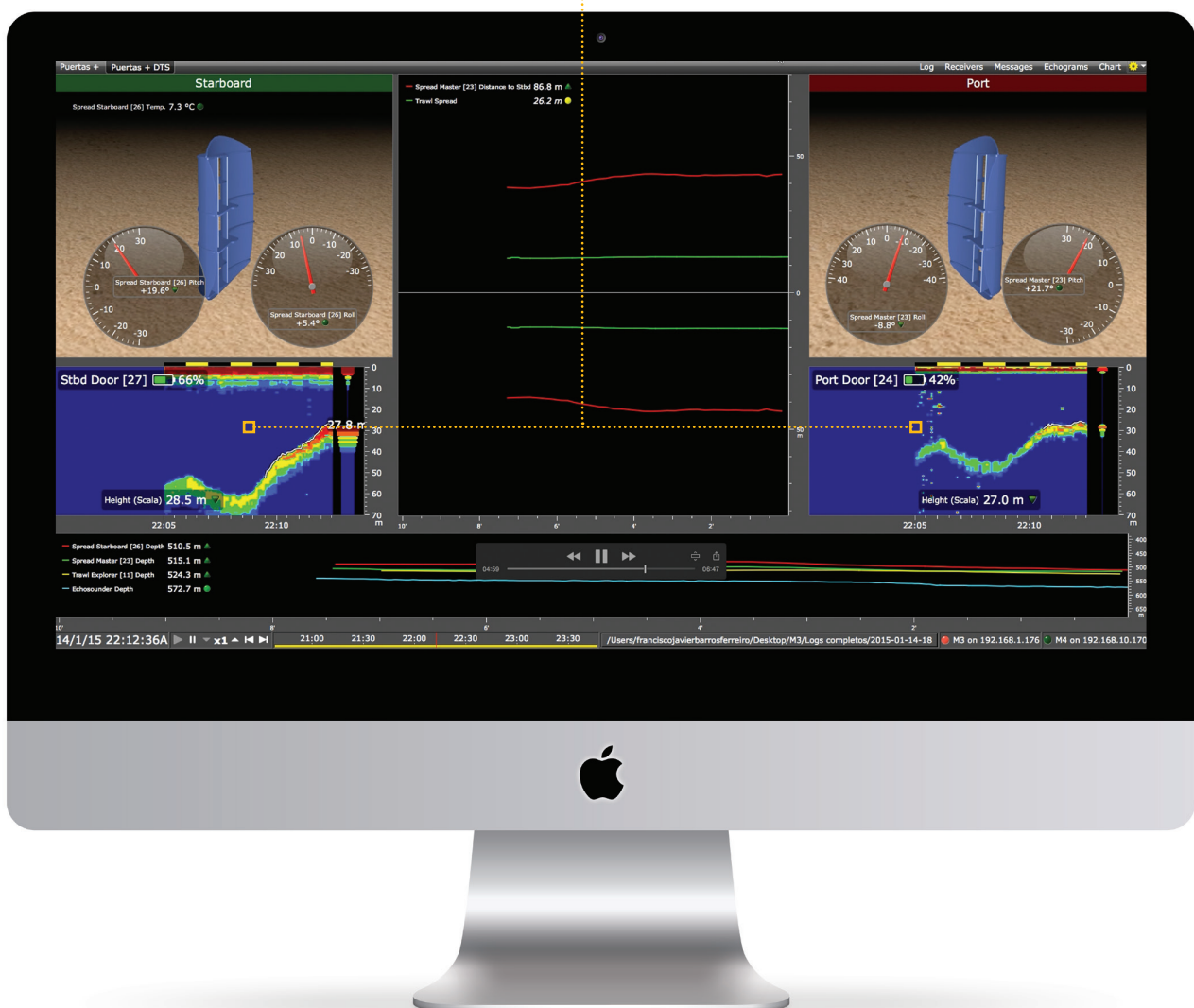
Product number	Description
DS-070-W	A1 DS075W w/DSO echo. only
DS-155-W	A1 DS155W w/UDS echo. only
TEO-0-00	Trawl Explorer Option

This makes it possible to estimate volumes of fish as they appear at the front of the gear. It has a full echogram presentation in addition to simple digital clearance readout, with all functions accessible simultaneously.

Offered in high resolution narrow band with rapid updates, it has a battery life that typically reaches 60 hours with the standard 8-12 hour charge, while a 3.5 fast charge option is also available and low power settings can be selected to prolong battery life.

In action

Distance to bottom
displayed as a real
echogram





— **The Trawl Speed & Grid sensor is designed to give a trawler's skipper realistic information on how a grid is performing**



With a great many fisheries now subject to requirements to use selectivity devices, Marport's latest Trawl Speed & Grid sensor is designed to give a trawler's skipper realistic information on how a grid is performing, ensuring that a tow isn't lost due to some minor malfunction that could easily have been avoided with the right information available.

The Trawl Speed & Grid sensor is capable of measuring water flow in two axes, providing flow data as well as cross-current data, allowing corrections to be made to compensate for cross-currents when towing uphill or with mismatched warp lengths that can skew trawl geometry.

Technical Specifications

Uplink Frequency	30 to 60 kHz	Temp Measurement Range	-5°C to +25°C
Uplink Beamwidth	70°	Temp Accuracy	±0.1°C
Range to Vessel	2500 m	Battery Type	Lithium-Ion
Depth range	1600 m	Typical Battery Life	Up to 200 hours*
Pitch & Roll (Angle)	±90°	Charging Time	Standard: 8–12 hours** Fast Charge: 4 hours
Pitch & Roll (Accuracy)	0.1°	Weight in Air	5.0 kg
Depth Resolution	0.1m with 0.1% accuracy	Weight In Water	0.9 kg
Update Rate	DEPTH: 3–8 sec. /TEMP: 3–16 sec.	Warranty	2 years (Sensor & Battery)†
DEPTH range	300/600/1200/1800 m		

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.

**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.

† Marport Standard Marine Limited Warranty

Product list

Product number	Description
TSS-0-00	A1 TS and Symmetry Sensor w/P&R
TSS-1-MT	A1 TS Mounting Kit – Plate and Clamps
TSS-2-MT	A1 TS Mounting Axle
TSS-3-MT	Trawl Speed/Explorer Shield

Speeds of up to six knots can be monitored effectively and cross-currents of up to three knots are within the sensor's capabilities.

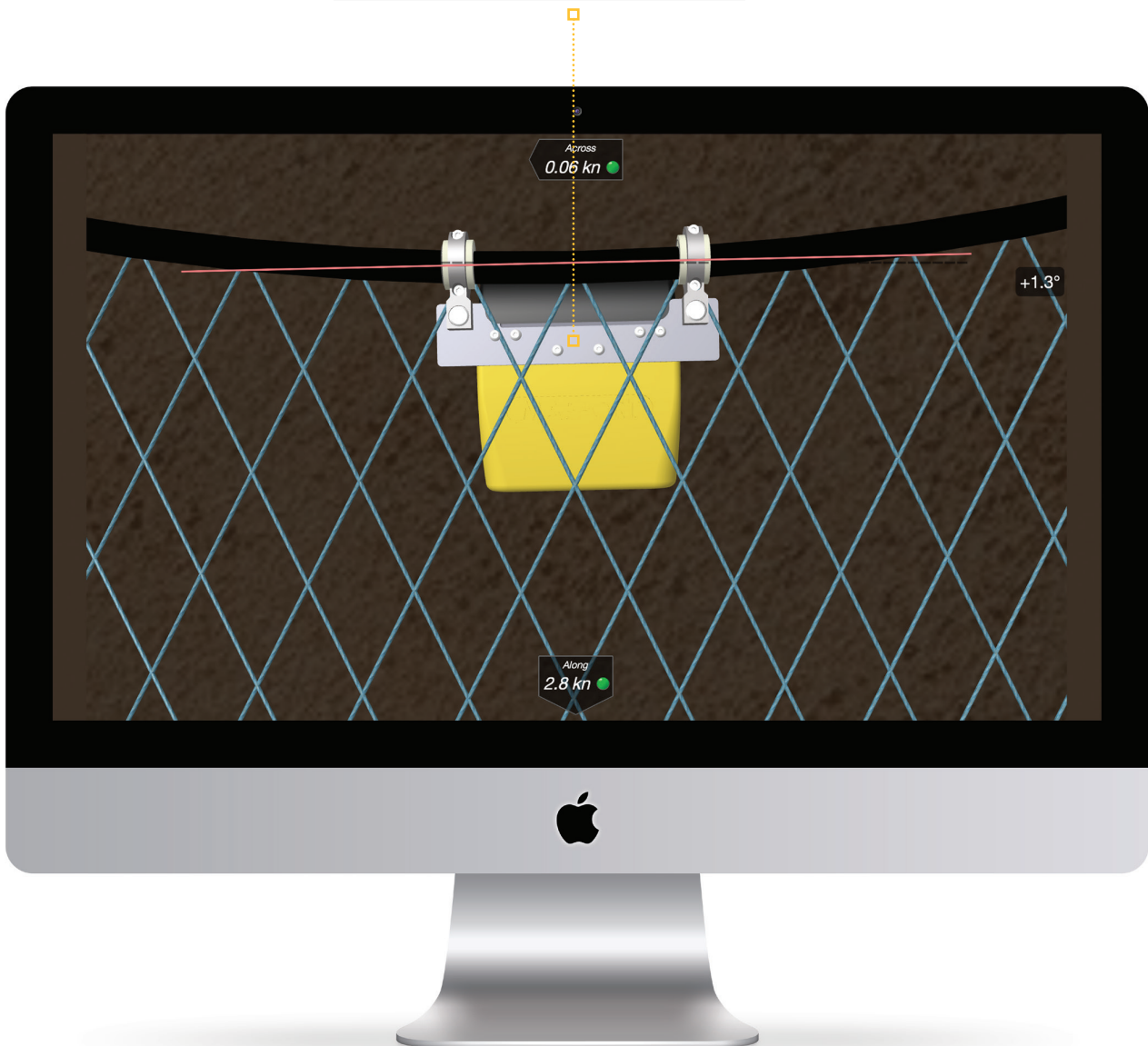
The sensor's fundamental functions in monitoring water flow through and across a trawl's tunnel are complemented by its advanced angle sensor, ensuring that the critical grid angle is

maintained throughout the tow, and providing early warning of a grid becoming blocked and the target species deflected from reaching the codend. Updates for both flow and angle data are rapid.

As much as 90 hours of operation can be obtained from a single charge, with a fast charge option available when a quick turnaround is needed.

In action

Flow is displayed accurately with 3d model instantly showing symmetry status at a glance





— **Selecting out the unwanted catch while the target species makes its way down to the codend**



Sorting grids have been with us since the nineties when they were first introduced to filter out fish from shrimp catches and their use has been extended to numerous other fisheries. The sorting grid is a critical point in a trawl, where a bottleneck can be formed if the grid becomes blocked so that nothing makes its way to the codend, or if the angle alters, the grid may be no longer effective.

The efficiency of the fishing gear as a whole can pivot on the effectiveness of the grid, and a blocked or under-performing grid can be a skipper's nightmare. In many fisheries the use of a grid is mandatory and they are generally subject to tight regulation.

Technical Specifications

Uplink Frequency	30 to 60 kHz
Uplink Beamwidth	70°
Range to Vessel	2500 m
Depth range	1600 m
Pitch & Roll (Angle)	±90°
Along Speed	±0.01 knots
Depth Resolution	0.1m with 0.1% accuracy

Battery Type	Lithium-Ion
Typical Battery Life	Up to 200 hours*
Charging Time	Standard: 8–12 hours** Fast Charge: 4 hours
Weight in Air	5.0 kg
Weight In Water	0.9 kg
Warranty	2 years (Sensor & Battery)†

*Reference Only. Depends on functions enabled. Battery life may be extended using low power settings.

**Based on average charging time. Refer to the Battery Chargers Quick Reference Guide for further information.

† Marport Standard Marine Limited Warranty

Product list

Product number	Description
GRD-0-00	A1 Grid Sensor w/ flow speed w/P&R
GRD-2-MT	A1 Grid Sensor mounting Kit

Marport's Grid Sensor is designed to give the skipper peace of mind that the grid is doing its job – selecting out the unwanted catch while the target species makes its way down to the codend. The Grid Sensor has the dual function of reporting the angle of the grid to the wheelhouse, alerting the officer on watch if the angle

changes, while also monitoring the flow of water passing through the grid. This provides a warning that the grid is becoming blocked, impeding the passage of target species, and providing an opportunity to haul the gear and fix the problem before any significant catches are lost.

In action

Flow & Angle information displayed as either text or line graph.





— M3 is designed specifically to meet the requirements of smaller vessels

Marport has a range of receivers and the M3 is designed specifically to meet the requirements of smaller vessels. The M3 still incorporates the full range of functions, with twelve sensor channels enabling simultaneous reception from standard trawl sensors and with capacity to combine this with high-resolution reception from one of Marport's Trawl Explorer unit, including narrow band reception, all of which can be configured to provide a customised net monitoring configuration to suit a trawler's gear.

Although this is the most compact of the Marport receiver range, it uses the most sophisticated digital signal processing available, combined with the smartest software we can design to make possible multi-channel operation without any compromise between transmission range and signal detection.

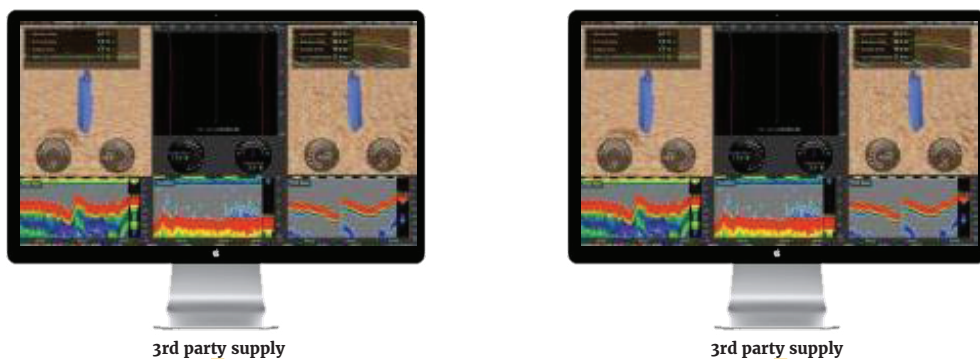
Technical Specifications

Frequency Range	30–60 kHz
Active Bandwidth	24 kHz
Number Rx/Tx channels	3
Hydrophones	3
Bearing to sensor measurement	Yes
Distance to sensor measurement	Yes
Number of Channels/Sensors /Options	12
Sensors	Options
NFS-X-XX (1)	RPO-0-00(2)
RS-X-XX(1)	D00-0-00(1)
SS-X-XX (1)	T00-0-00(1)
TD-X-XX(1/2)	DD0-0-00(1)
TSS-X-XX(2)	H00-0-00(1)
GRD-X-XX(1)	

Number of Sounders/ Eyes/Explorer	1
Explorer	Options
DS-X-XX(1)	CSO-0-00(1)
SPE-X-XX(1)	
TE-XXX-XX(1)	
CE-XXX-X(1)	
SE-XXX-X(1)	

Product list

Product	Description
M3REC	Marport M3 Receiver
PC-0-03	Marport Mac Mini w/accessories and Scala Basic





— Our heavyweight acoustic receiver, combining the latest digital signal processing with the smartest software

The M4 is our heavyweight acoustic receiver, combining the latest digital signal processing with the smartest software. This means that true multi-function channel operation is available and there is no compromise between transmission range and signal detection.

We have designed the M4's multi-functional capacity to accommodate a series of full-function channels allowing simultaneous use of standard sensors, net sounders – including narrow band – and high resolution net sounders, all of these available over an extended

frequency range and with selectable configurations for ultramodern net monitoring systems.

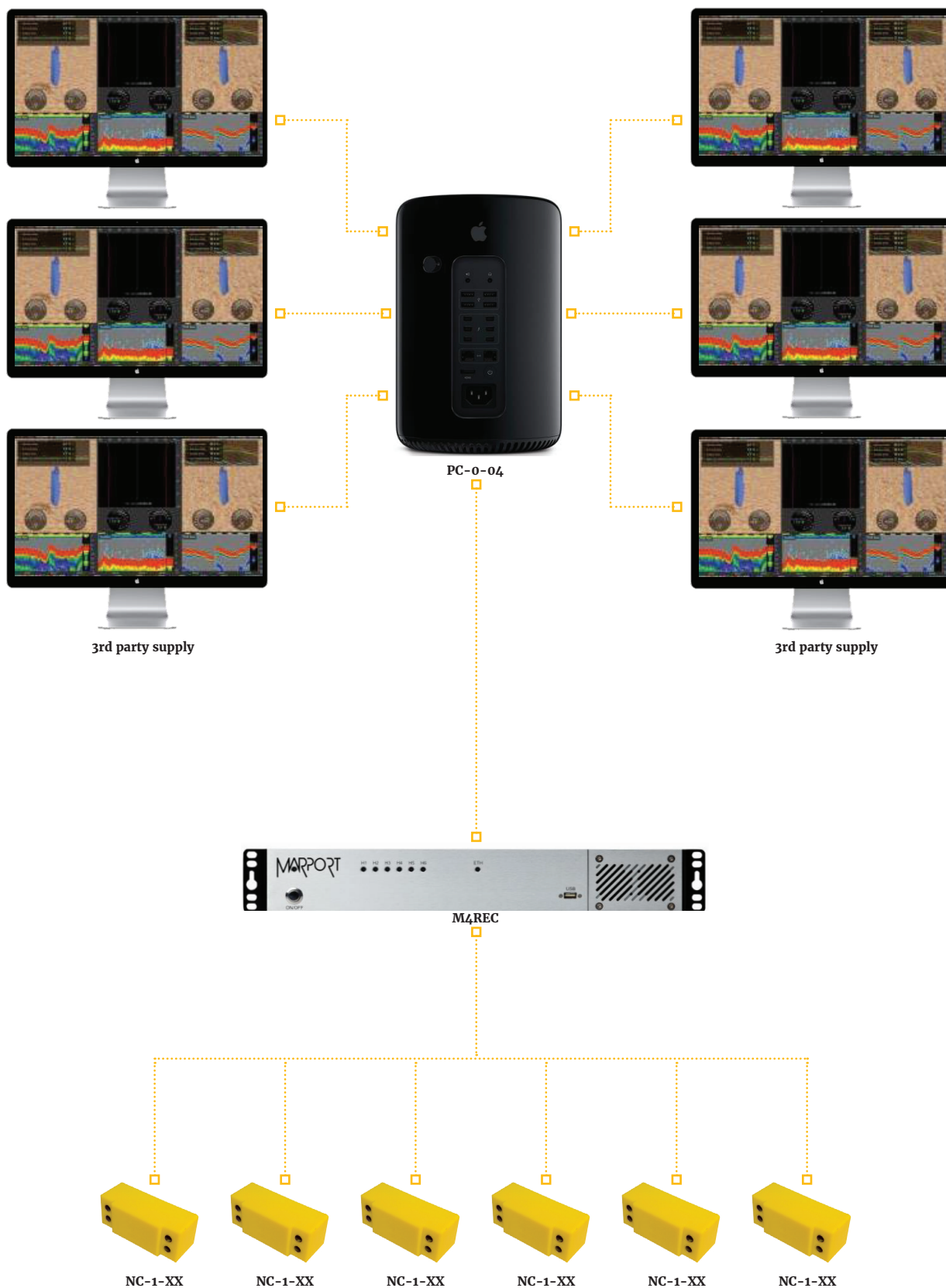
The M4 incorporates a host of features that are ready to be implemented, including sensor cross-referencing for positioning and distance, and sensor remote control. The M4 receiver is built to be configured and upgraded using standard software tools and operated with Windows® XP /Vista /7 Professional, Firefox® Web Browser and Java™ Runtime Environment (JRE).

Technical Specifications

Frequency Range	30–60 kHz	Number of Sounders/ Eyes/Explorer	10
Active Bandwidth	24 kHz		
Number Rx/Tx channels	3	Explorer	Options
Hydrophones	3	DS-X-XX(1)	CSO-0-00(1)
Bearing to sensor measurement	Yes	SPE-X-XX(1)	
Distance to sensor measurement	Yes	TE-XXX-XX(1)	
Number of Channels/Sensors /Options	100	CE-XXX-X(1)	
		SE-XXX-X(1)	
Sensors	Options		
NFS-X-XX (1)	RPO-0-00(2)		
RS-X-XX(1)	DOO-0-00(1)		
SS-X-XX (1)	T00-0-00(1)		
TD-X-XX(1/2)	DDO-0-00(1)		
TSS-X-XX(2)	H00-0-00(1)		
GRD-X-XX(1)			

Product list

Product number	Description
M4REC	Marport M4 Receiver
PC-0-04	Marport Mac Pro + Scala Full





— Multi-channel operation, eliminating any compromises between transmission range and signal detection

Marport's M5 receiver is designed as a highly sophisticated multi-function acoustic receiver, developed to suit the requirements of medium-sized vessels, accommodating a series of 24 full-function channels to allow simultaneous use of standard sensors, net sounders – including narrow band – and high resolution gear-mounted net sounders, all of which can be configured to suit the most advanced net monitoring system.

The M5 incorporates leading edge digital signal processing that we have combined with the smartest software available to make possible multi-channel operation, eliminating any compromises between transmission range and signal detection.

Technical Specifications

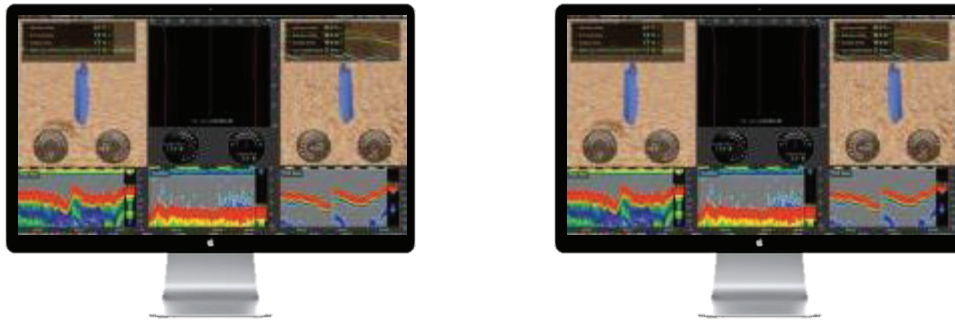
Frequency Range	30–60 kHz
Active Bandwidth	24 kHz
Number Rx/Tx channels	3
Hydrophones	3
Bearing to sensor measurement	Yes
Distance to sensor measurement	Yes
Number of Channels/Sensors /Options	24

Sensors	Options
NFS-X-XX (1)	RPO-0-00(2)
RS-X-XX(1)	D00-0-00(1)
SS-X-XX (1)	T00-0-00(1)
TD-X-XX(1/2)	DD0-0-00(1)
TSS-X-XX(2)	H00-0-00(1)
GRD-X-XX(1)	

Number of Sounders/ Eyes/Explorer	4
Explorer	Options
DS-X-XX(1)	CS0-0-00(1)
SPE-X-XX(1)	
TE-XXX-XX(1)	
CE-XXX-X(1)	
SE-XXX-X(1)	

Product list

Product	Description
M5REC	Marport M5 Receiver
PC-0-03	Marport Mac Mini w/accessories and Scala Basic



PC-0-03



M5REC



NC-1-XX



NC-1-XX



— Combines the latest digital signal processing with the most up-to-date developments in smart software.

The M6 is the latest addition to Marport's acoustic receiver range, incorporating the functions of the M4 system and adding to them as it combines the latest digital signal processing with the most up-to-date developments in smart software. This means true multi-function channel operation, with a hundred sensor channels to guarantee all the coverage even the most comprehensive sensor array could demand, with full signal detection at the extremities of transmission range.

We have designed the M6's multi-functional capacity to accommodate a series of full-function channels

allowing simultaneous use of standard sensors, net sounders – including narrow band – and four high-capacity channels for gear-mounted sounders to provide the bandwidth needed for pin-sharp echogram data to make its way to the catching vessel's wheelhouse. All of these capabilities are available over an extended frequency range and with selectable configurations for ultramodern net monitoring systems.

The M6 incorporates a host of features that are ready to be implemented, including sensor cross-referencing for positioning and distance, and sensor remote control.

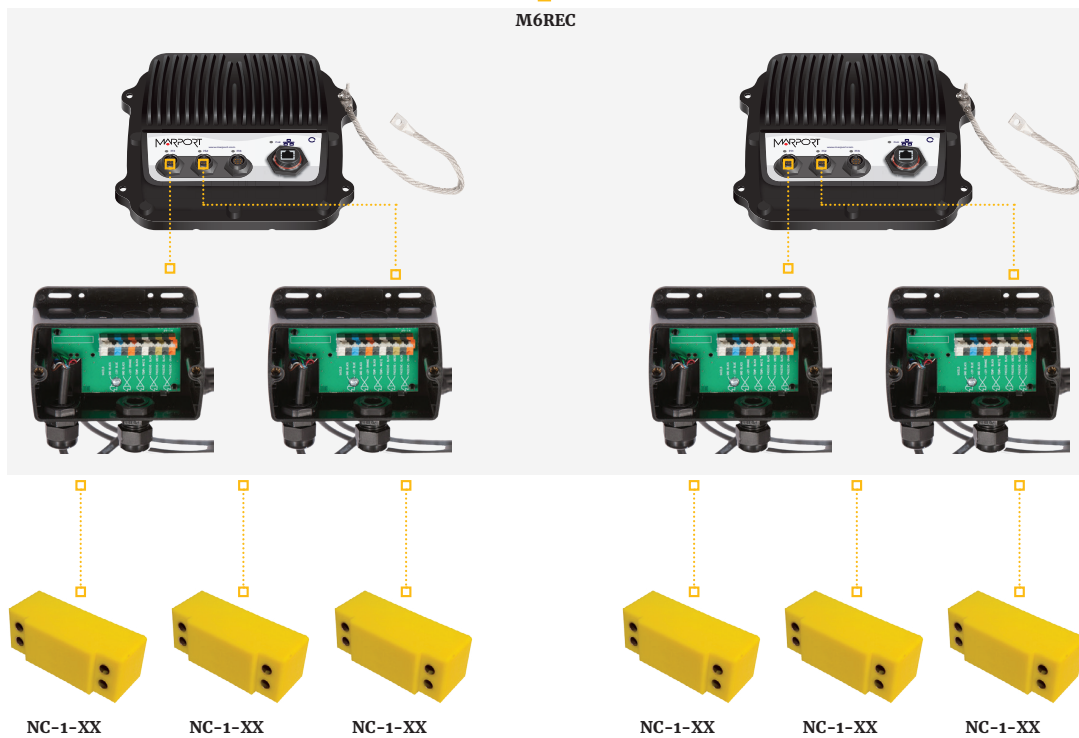
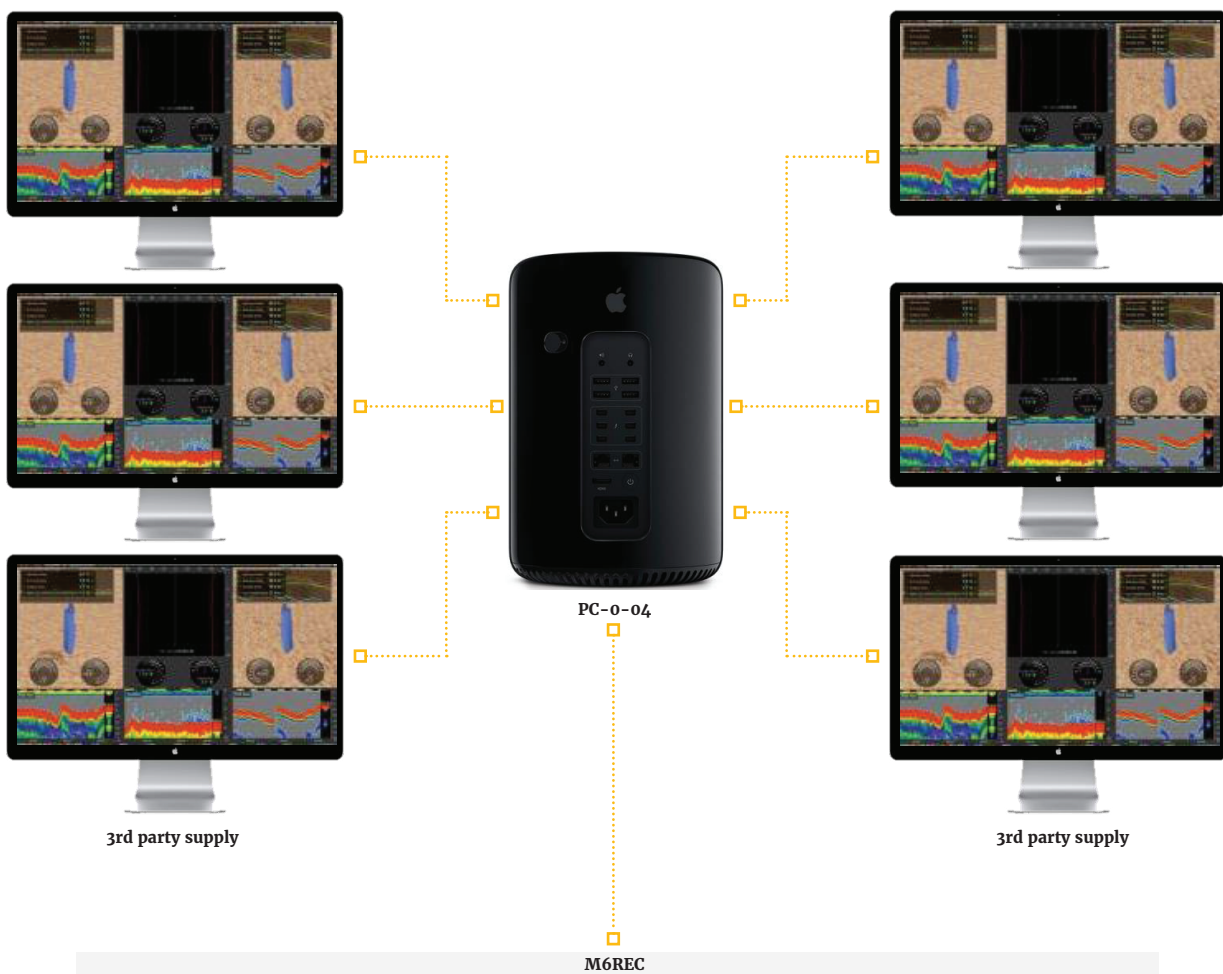
Technical Specifications

Frequency Range	30–60 kHz
Active Bandwidth	24 kHz
Number Rx/Tx channels	3
Hydrophones	3
Bearing to sensor measurement	Yes
Distance to sensor measurement	Yes
Number of Channels/Sensors /Options	100
Sensors	Options
NFS-X-XX (1)	RPO-0-00(2)
RS-X-XX(1)	D00-0-00(1)
SS-X-XX (1)	T00-0-00(1)
TD-X-XX(1/2)	DD0-0-00(1)
TSS-X-XX(2)	H00-0-00(1)
GRD-X-XX(1)	

Number of Sounders/ Eyes/Explorer	10
Explorer	Options
DS-X-XX(1)	CSO-0-00(1)
SPE-X-XX(1)	
TE-XXX-XX(1)	
CE-XXX-X(1)	
SE-XXX-X(1)	

Product list

Product number	Description
M6REC	Marport M4 Receiver
PC-0-04	Marport Mac Pro + Scala Full



MARPORT

SCALA

— **Scala offers up to four simultaneous echogram presentations on a single display page and playing back historical data is easily accessible, as are advance displays of 3D presentations in real time.**

52

This is Marport's Advanced Trawl Monitoring System, designed with software that allows direct presentation page configuration with straightforward drag and drop, giving the user options to customise presentation to suit conditions at the time, or depending on the gear and sensor data type available.

Scala software is easily configurable and is organised by choosing existing gauges, histograms or 3D views, or by creating your own layout with any number of sensors displayable on the screen. This has the capability of comparing data from equivalent sensors using existing multiple historical line graphs.

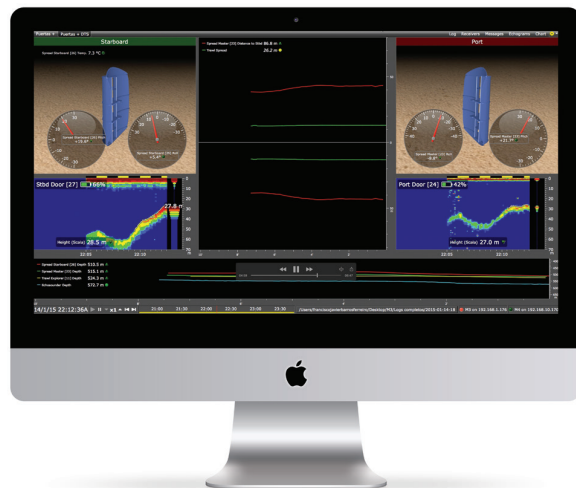
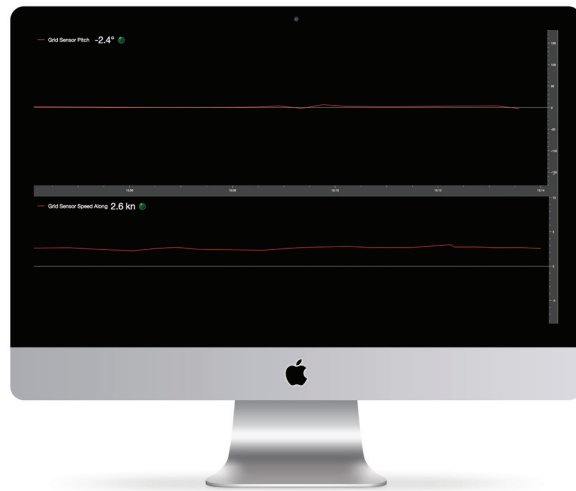
A key feature of Scala is that it is designed to meet tomorrow's requirements, already prepared for future expansion, ready to

incorporate 3D simulation with bathymetry using a simple GPS data connection, and also has a range of standard data inputs and outputs, including full recording capability.

Scala offers up to four simultaneous echogram presentations on a single display page and playing back historical data is easily accessible, as are advance displays of 3D presentations in real time. This monitoring system offers unparalleled flexibility, complete with drag & drop possibilities in its layout, and with every window, graph and graph adjustable to suit the user's needs as they change. In addition, Scala is platform-independent, and is available for smartphones and tablet computers.

Product list

Product number	Description
46-102-01	Marport Scala Basic
46-102-02	Marport Scala Full



Hydrophones & Accessories



Marport's NHT Hydrophones are the crucial conduits that detect the signals from gear-mounted sensors. For full coverage under all conditions, we recommend that port and starboard hydrophones are used to ensure uninterrupted reception. We offer both towed paravane hydrophone and hull-mounted versions for trawl and seine use.

Our hydrophones are designed with dimensions to make them direct replacements for standard industry units, and we offer a comprehensive range of hydrophone types and configurations with passive and active options to meet virtually any requirement the fishing industry can throw at us.

Product list

Product number	Description
NC-1-04	NHT Active Hydro. 35°x55° w\ 25m cable
NC-1-05	NHT Passive BB Hydro. 35°x55° w\ 25m cable
NC-1-06	NHT Active BB Hydro. 35°x55° w\ 25m cable
PA-1-01	Paravane assembly
PA-1-02	Paravane assembly w/ NHT active Hydrophone
PA-1-01-50	Paravane assembly w/ NHT active Hydrophone w/ 50m cable
PA-1-01-75	Paravane assembly w/ NHT active Hydrophone w/ 75m cable
NC-2-TEMP	NMEA Junction box with interconnect cable
NC-1-01	40 kHz Single Frequency Pre-Amp Junction Box
NC-1-02	30-60 kHz Wideband Pre-Amp Junction Box

Thru-Hull Penetrations



Product list

Product number	Description
TH-1-01	Steel Thru-Hull Penetration Passive/Active
TH-1-03	Thru - Hull Doble/ TriplePassive Active

Chargers & Adaptors

Marport Basic Charger

Marport’s Basic Standard Charger is an easy to use, lightweight, compact charger with its status indicated by a glowing light.

The standard charger is shipped with newly purchased sensors, and is capable of detecting instantly basic and/or fast charge sensor configurations. It includes UK, European, Australian and North American connectors, as well as replacement square pins for a Marport sensor’s three-pronged connector.



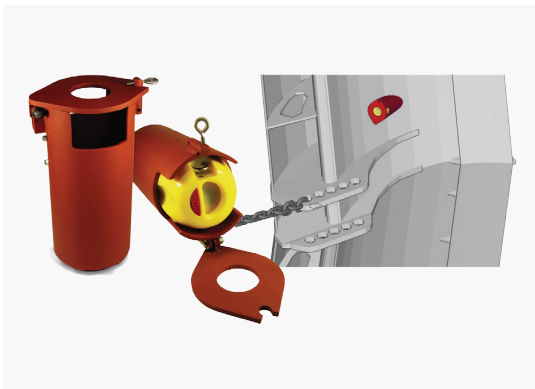
Marport Multi-charger

Marport’s heavy-duty multiple sensor charger is designed for simultaneous charging of up to four sensors with individual charging status indicator “glow” plugs. It has dual features for the standard basic (8 to 12 hour) charging cycle, and the fast charge configuration that allows a 70% charge in 1 hour and full charge in 3.5 hours. 110 /220 Vac.



MFx Door Pocket Adapters

Marport’s Door Pocket Adapters are heavy-duty pockets for installation/welding into existing Trawl Doors to provide alignment during trawling operations. These are designed for MFx standard size and DD-XL small frame sensors supplied with standard hardware.



Product list

Product number	Description
BC-LIION-03	Marport Basic II Fast Charger 110/220
BC-LIION-03	Marport Medusa II Fast Multicharger(4)