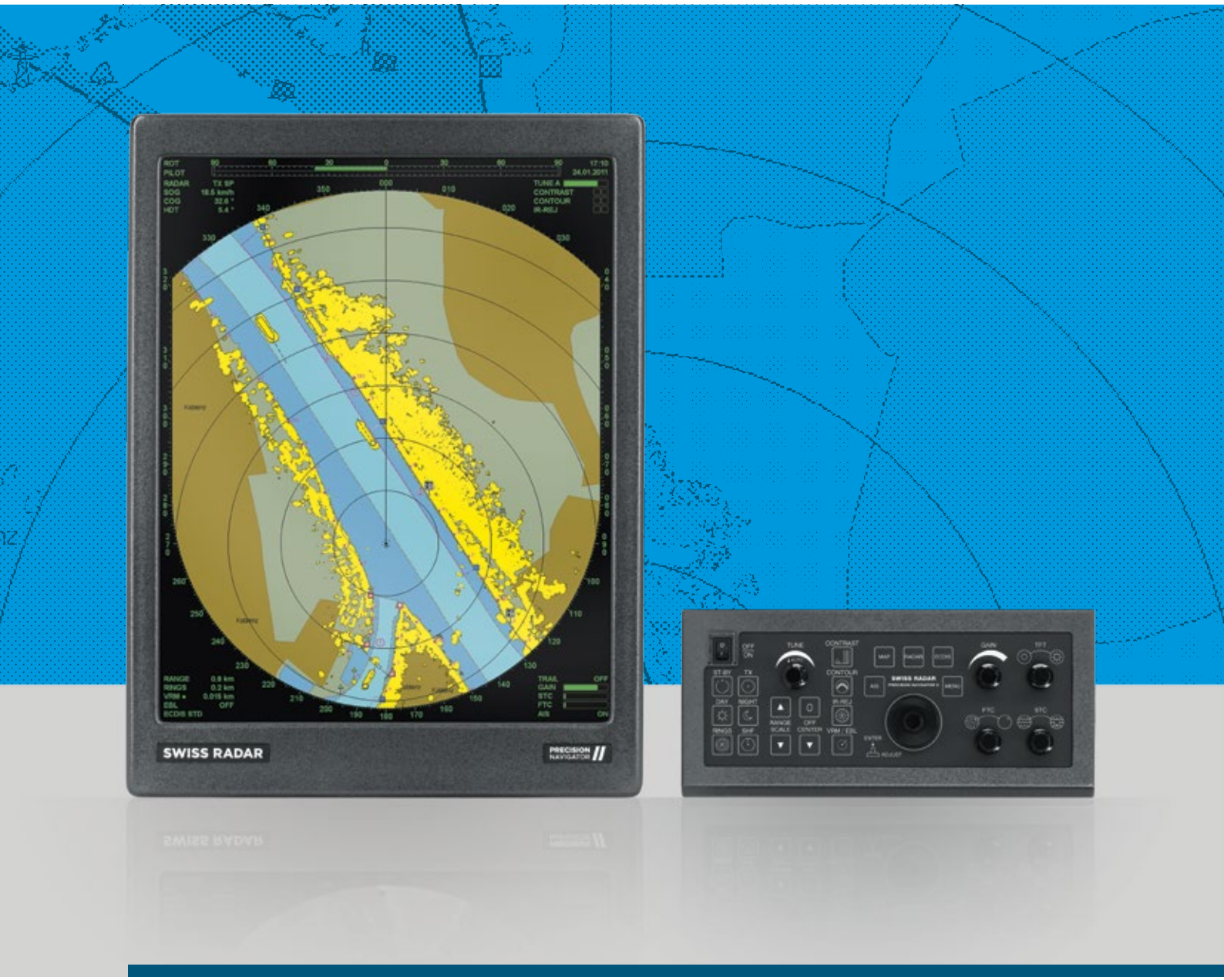
PRECISION NAVIGATOR //

SWISS RADAR

PROFESSIONAL
NAVIGATION.



Precision Navigator II

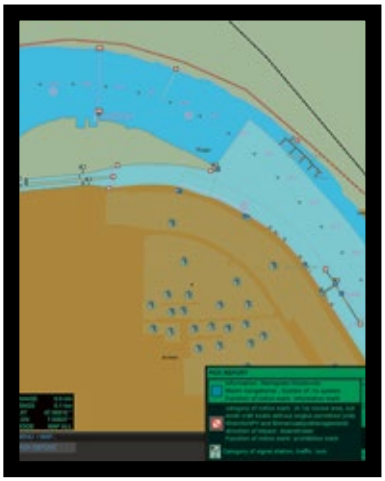
The professional river radar with integrated ECDIS map view and inland AIS

The latest development from **SWISS RADAR** sets new standards: for the first time, **radar**, **Inland AIS** and **ECDIS card** are combined in one compact unit. **The Precision Navigator II**, the multifunctional navigation system that leaves nothing to be desired.

One device – multiple options.

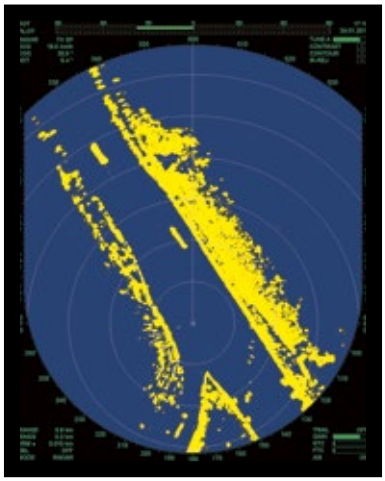
The Precision Navigator II provides three directly selectable operating modes: MAP, RADAR and ECDIS mode. In all three modes, AIS objects can be faded in and out just by pressing a button.

MAP



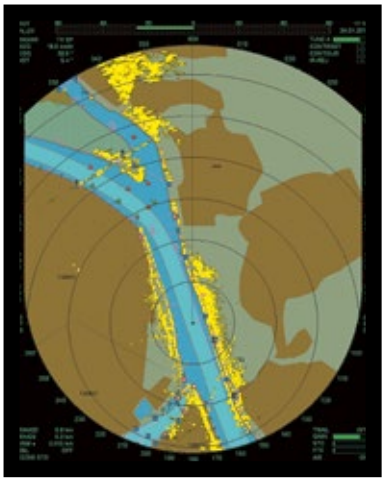
In **MAP mode**, the entire display area is used for showing the map.

RADAR



In **RADAR mode**, the pure radar image is displayed.

ECDIS



In **ECDIS mode**, radar and ECDIS are shown overlaid.

Other benefits at a glance:

SyncPlot technology

In ECDIS mode, the map and the radar echoes are shown overlaid. SWISS RADAR has developed a unique image loading technology: SyncPlot technology. Radar echoes and the stored map are updated simultaneously in real time. The result is an ideal correspondence of the radar echoes on the map at any time and uninterrupted and smooth image loading.

Screenshot

All versions of the Precision Navigator II can save screenshots. The pictures can be easily exported to a USB stick and displayed on any PC.

Blackbox Recording

In the event of an accident or other special events, you are very well protected with the Precision Navigator II: When the unit is switched on, all visual information is recorded as a video file all the time. These records can be viewed directly on the device or exported via a USB stick. The default recording period is 24 hours, this may be increased if so desired. The video files are Windows-compatible.

Inland AIS – perfectly integrated

Your AIS system is perfectly integrated in the Precision Navigator II. AIS objects can be displayed in RADAR, MAP and ECDIS mode. All approved AIS devices are supported. In addition to the different display options, you can also view the detailed AIS information of the other vessels. But SWISS RADAR goes one step further: Your own AIS data can be edited directly with the Precision Navigator II. You use the alphanumeric keyboard (supplied) for this purpose. Information such as destination, estimated time of arrival, or your other AIS information can be adapted quickly and easily. Refer to the specifications to see which AIS devices are supported by this easy-to-use control system.

Intuitive Operation

The compact control unit allows direct access to all the device's functions. Important functions such as range selection, hiding of the AIS objects or switching between RADAR, MAP and ECDIS mode can be controlled directly just by pressing a button. Advanced functions are available via a clearly arranged menu. The newly developed control concept allows accurate and fast control, even in difficult situations. To enter text, for example, when editing your own AIS data, the alphanumeric keyboard (supplied) can be used.

Brilliant flat screen

The high-contrast, compact 19" TFT monitor offers very high visibility, even in strong ambient light. At the touch of a button, five different colour combinations can be chosen for day and night. The brightness of the monitor can be easily controlled via a rotary knob on the keyboard.

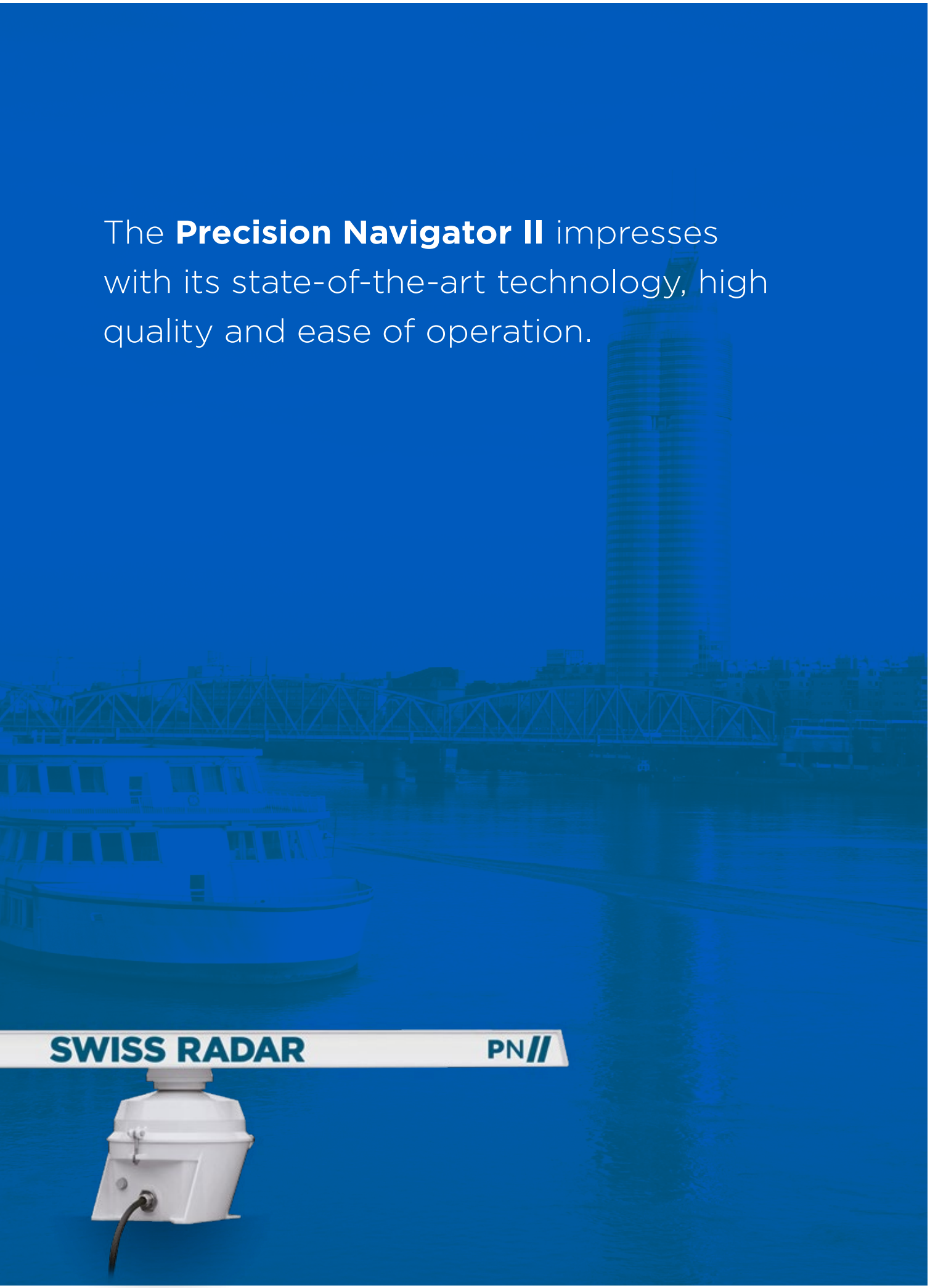
Stay one step ahead with Swiss quality

All SWISS RADAR brand devices are developed and produced in the heart of Switzerland. The manufacturer, JFS Electronic Sturtzel Co. AG, based in Hünenberg, has more than 45 years of experience in building radar systems.

The Precision Navigator II is the first device to be tested and approved in accordance with the ZKR specifications, which applies to the very latest category 4 equipment.

SWISS RADAR is constantly improving the Precision Navigator II by adding new features and capabilities. Of course, devices that have already been installed can benefit too.

The **Precision Navigator II** impresses with its state-of-the-art technology, high quality and ease of operation.



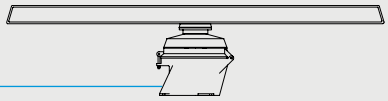
Three modular versions – upgradeable at any time.

The Precision Navigator II is available in three attractive versions: BASIC, STANDARD, and ECDIS. Thanks to the modular structure, it can be easily upgraded to a higher version at any time.

Precision Navigator II version	BASIC	STANDARD	ECDIS
RADAR mode	•	•	•
Automatic tuning of the receiver (AUTO TUNE)	•	•	•
Decentration of the radar image by up to 50%	•	•	•
Five colour combinations each for day and night	•	•	•
Monitor brightness control by rotary knob on control panel	•	•	•
Display of navigation linesn	•	•	•
Digital radar filtering functions with direct access	•	•	•
Surveying function, variable range marker, and bearing line	•	•	•
Depiction of your own ship and barges	•	•	•
Two device configurations for different antenna positions	•	•	•
Alphanumeric keyboard for text entry	(•)	•	•
Export of the device configuration to a USB stick	•	•	•
Screenshot by pressing a button, export via USB stick	•	•	•
Three analog inputs	•	•	•
Six NMEA interfaces	—	•	•
Inland AIS interface (input and output)	—	•	•
Display of Inland AIS objects	—	•	•
Direct fading in and out of AIS objects by pressing a button	—	•	•
You can directly edit your own AIS data	—	•	•
Transmission and reception of AIS messages	—	•	•
Requesting of AIS information (TARGET LIST)	—	•	•
Blackbox Recording Standard recording duration 24 hours	—	(•)	(•)
ECDIS Modus Overlay of radar and ECDIS maps	—	—	•
Image loading in ECDIS mode with SynchPlot technology	—	—	•
Displays the current radio channels / river kilometres	—	—	•
MAP Modus Map display for journey planning	—	—	•
Map information can be requested (PICK REPORT)	—	—	•
Objects and notes can be entered on the map	—	—	•
Second VGA connection for secondary monitors	(•)	(•)	(•)

— NOT AVAILABLE IN THIS VERSION
• INCLUDED IN SYSTEM
(•) OPTION

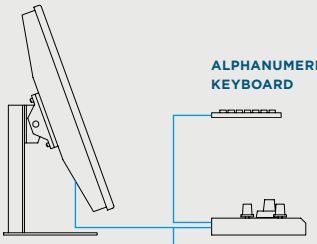
Technical Specifications



ANTENNA UNIT WITH AR 6' ANTENNA
Turning circle 1800 mm, height 505 mm,
total weight 42 kg

ANTENNA UNIT WITH AR 7' ANTENNA
Turning circle 2100 mm, height 505 mm,
total weight 44 kg

ANTENNA UNIT WITH AR 9' ANTENNA
Turning circle 2700 mm, height 505 mm,
total weight 50 kg



ALPHANUMERIC KEYBOARD

19" TFT MONITOR
W 345 x H 457 x D 68
(dimensions in mm)
weight: 6.8 kg

BEDIENEINHEIT
W 324 x H 148 x D 56
(dimensions in mm)
weight: 1.3 kg

CONVERTER
W 150 x H 220 x D 73
(dimensions in mm)
Weight: 3.5 kg

COMPUTER UNIT
W 305 x H 127 x D 44
(dimensions in mm)
Weight: 8 kg

Antenna	AR 6	AR 7	AR 9
Turning circle	6 ft. (1800 mm)	7 ft. (2100 mm)	9 ft. (2700 mm)
Horiz. angle of aperture	1.2°	1.05°	0.8°
Vert. angle of aperture	20°		
Speed of rotation	28 times per min.		

Range	0.2	0.3	0.4	0.5	0.8	1.2	1.6	2	4	8	16	32	64	km
Ring spacing	0.05	0.05	0.1	0.1	0.2	0.2	0.4	0.4	1	2	4	8	16	km
Pulse repetition frequency (PRF)	3000							2000			1000			Hz
Pulse duration	0.05							0.15			0.6			us
Mean transmission power	0.6							1.2			2.4			W

Connection values	Direct current	AC	
Voltage	24	230	
Tolerance	+25 / - 20	+5 / -5	%
Frequency	DC	50	Hz
Power consumption	275	270	VA

TRANSMITTER / RECEIVER

X band (3 cm)	9410 MHz ± 30 MHz
Peak pulse power	4 kW
Intermediate frequency receiver	60 MHz

MONITOR

TFT flat screen	19''
Screen resolution	1024 x 1280 pixels

GENERAL FUNCTIONS

Modes of operation	RADAR, ECDIS and MAP mode
Separate adjustment for	Tune, Gain, STC, FTC, monitor brightness
Auto-Tune function	Active by default, deactivatable
Colour combinations	5x day / 5x night
Decentering	5-stage
Variable range marker (VRM)	0 to 130 km
Electronic Bearing Line (EBL)	0 to 360°, resolution 0.1°
Persistence mode	Adjustable from 1 to 40 revolutions
Turn indicator scale	5 sensitivity ranges
Autopilot scale	5 sensitivity ranges
Measurement function	Distance, bearing, speed
Navigation lines	2
Display of radio channels	
Display of river kilometres	

DIGITAL FILTER FUNCTIONS

Contrast	2-stage
contour	2-stage
Clutter	2-stage
Int. Rejection	2-stage

RECORDING FUNCTIONS

Screenshot	Internal memory for 1000 photos, photo viewer function Export via USB stick, Windows compatible file format
Blackbox Recording	Internal memory for 24 hours (extendable), video display function Export via USB stick, Windows compatible file format. Recording permanently active

AIS FUNCTIONS

Display of AIS objects	In RADAR, ECDIS and MAP mode All approved AIS devices are supported
Display AIS object list	Detailed information
Comfort controls	Direct editing of your own AIS data
AIS messages	Transmission and reception
Fully supported devices	Saab R4, ComNav Voyager X3, Oceansat, L-3 Protec W Furuno FA 150, SRT Poseidon, Transas AIS-M3

INTERFACES

NMEA inputs	4x IEC 61161-1 ports and 2x IEC 61162-2 ports
AIS input	1x IEC 61161-2 port
AIS output	1x IEC 61161-2 port
Analog interfaces	3 ports (turn indicator, autopilot, rudder), ±20mV/degree

OPERATING CONDITIONS:

Permissible mean ambient temperature		
In use	Display system Antenna unit	0°C to +40°C -20°C to +55°C
Out of service	-35°C to +70°C	

PROTECTIVE PROVISIONS

Antenna unit:	IP 56
Display system:	IP 20

APPROVAL

ZKR R-4-018
EU e-01-018

CE

SWISS RADAR

For more information, visit:
www.swissradar.com

JFS Electronic Sturtzel + Co. AG
Rothusstrasse 9
CH-6331 Hünenberg

Telehone +41 41 790 16 16
Telefax +41 41 790 56 16

jfs-electronic@swissradar.com
www.swissradar.com