JRC

Marine Electronics
## Product catalog

2013

About us

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Japan Radio Company (JRC) is a world leading marine electronics manufacturer specializing in commercial navigation and communications equipment. With headquarters in Tokyo, Japan, the company designs and manufactures commercial and international maritime industry compliant products, including radars, navigation aids and radio and satellite communications equipment.

Established in 1915, JRC is also one of the oldest marine electronics companies in the world and has a reputation for consistently delivering reliable and quality products that can support vessel and maritime operations in one of the harshest environments known to man. In addition, JRC is also a pioneer in the development of new technologies. From the first generation satellite communications terminals in the 1970s, to the Remote Maintenance System™, and solid state radar today.

With main branch offices in Amsterdam and Seattle, JRC is well positioned to provide sales and service support to its comprehensive global network of sales and service partners. Strategically located at all of the major ports and transit ways are major spare parts kits, allowing a 24/7 response and efficiency, for the minimum of vessel down time.

Corporate identity

The current JRC logo and corporate identity system is now more than 60 years old. The 'smart and simple' design will ensure that this timeless mark will endure well into the 21st century.

3
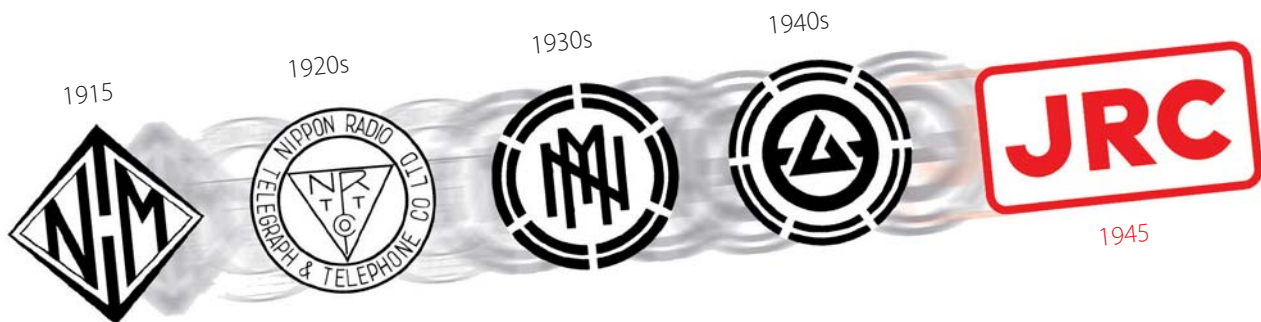
A greener JRC

A greener JRC

Global warming has pushed environmental conservation into the main stream. Environmental protection is important for the conservation of precious natural resources and the continued health of our planet. JRC recognizes its responsibility as a global corporation and is continually striving to reduce environmental impacts.

At JRC we design our products to be efficient both mechanically and electrically. Energy consumption is one of the most significant environmental impacts an electronic device produces over time. One of JRC's key goals is to create energy efficient products.

JRC places its eco symbol on products that comply with the in-house evaluation criteria established by it. This mark is placed on products that satisfy the clean criteria, and a four-digit number in the mark indicates the registered number of the Statement of Criteria. This symbol is a representation of the Himalayan cedars standing at the entrance of JRC Mitaka Plant.

Quality assurance

✓ **ISO9001**
✓ **ISO14001**

Quality assurance

In the electronics and telecommunications field high quality and reliability is required. JRC's quality assurance system controls are production processes, from initial planning, design and manufacturing to the final inspection and after sales services, ensuring products and services are of uniform and stable quality.

Samples of thorough in-house reliability testing and quality control

Thermal shock

Thermal shock is performed to determine the resistance of sudden changes in temperature.

X-ray fluorescence spectrometer

It identifies the elements from fluorescent x-ray spectrum, generated by irradiating of x-rays, mainly used as an analyzer to comply with RoHS.

Humidity chamber

A big environmental chamber used to test the effects of temperature ranging from -40° to 80°C and humidity from 10 to 95%.

Electromagnetic shield room

Electromagnetic interference (EMI) is the disturbance that affects an electrical circuit, allowing measurement of antenna patterns.

AIS

JHS-183

NEW

Option

Best choice for long range reception

The JHS-183 is an important piece of navigation equipment for collision avoidance and maneuvering, featuring an all new display and a transponder designed for long range reception.

Dual color LED backlight

The JHS-183 incorporates many display modes readily available on a highly visible 4.5-inch LCD display. Besides the display being fully dimmable and backlit keys, it features dual LED backlight (white and orange), making it easy to operate in various light conditions on the bridge.

Functions

- 4.5-inch high brightness display
- Dual color LED backlight
- Displaying up to 200 AIS targets
- Proven transponder design
- Advanced interfacing possible

Echo sounder

JFE-680

JFE-380

50kHz 200kHz

Enhanced depth data

The JRC echo sounder is available in two versions, 6.5-inch and 10.4-inch with integrated printer, both integrating enhanced depth data technology resulting in accurate and reliable read-out functionality.

Flexible installation

The echo sounder can be used with one or two transducers, 50kHz and 200kHz, allowing you to operate both frequencies independently or simultaneously. Or you can choose to have a separate bow-stern depth read-out. The location of the transducer depends on the type of vessel. Typically, the transducer is installed on the fore side of the vessel where there is less influence from air bubbles.

1,2,5

3,4,5
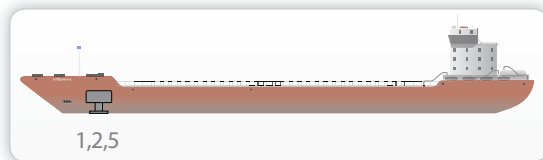
Single frequency
1   50kHz or
2   200kHz
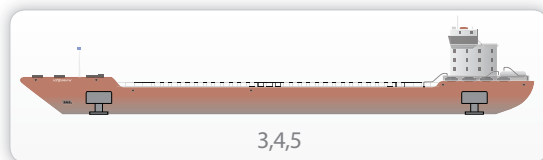
Fore/aft
3   50kHz + 50kHz or
4   200kHz + 200kHz

Dual frequency
5   50kHz + 200kHz

ECDIS

JAN-701B

JAN-901B

JAN-2000

Brings simplicity to the bridge

The multi-functional ECDIS provide continuous position and navigation safety information. Our advanced ergonomics and man-machine interface is designed to enhance the working environment.
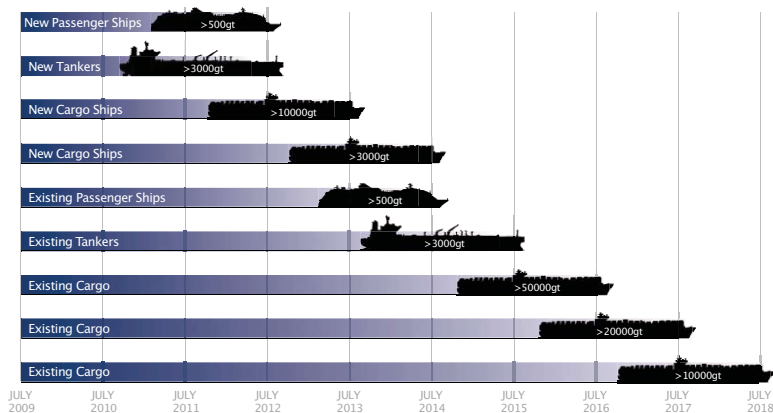
Functions

- 19-inch or 23-inch displays
- Real time radar[1] and AIS overlay
- Advanced route planning
- Data transfer via LAN
- High speed graphic processor

Configure

You have 4 system choices to select from, that are available in desktop or standalone versions, giving you greater flexibility for your preferred installation approach.

| ECDIS | ECDIS/radar overlay/conning |

| ECDIS/radar overlay | ECDIS/conning |

ECDIS carriage requirements

New Passenger Ships	>500gt
New Tankers	>3000gt
New Cargo Ships	>10000gt
New Cargo Ships	>3000gt
Existing Passenger Ships	>500gt
Existing Tankers	>3000gt
Existing Cargo	>50000gt
Existing Cargo	>20000gt
Existing Cargo	>10000gt

JULY 2009 · JULY 2010 · JULY 2011 · JULY 2012 · JULY 2013 · JULY 2014 · JULY 2015 · JULY 2016 · JULY 2017 · JULY 2018

Based on IMO Circular letter issued December 2008. Please check www.thefutureofnavigation.com for the latest updates and news.

1. Only available on the JAN-901B/701B

ECDIS

Type specific training

JRC is working globally with various dedicated training establishments and distributors that provide JRC Type Specific Training (TST). Today, over 3000 bridge officers passed the JRC TST course. On our website you find all approved ECDIS training locations.

Which ECDIS is best suitable?

Compare the JRC ECDIS and find out which one suits your vessel. Learn more on jrceurope.com/ecdis

	JAN-2000	JAN-701B	JAN-901B
IMO	V		
Type	Desktop (black box type)	Stand alone and desktop (black box type)	
Display	19-inch (1280 by 1024 pixels)		23-inch (1600 by 1200 pixels)
UPS	No	Yes, holds up to 90 seconds until OS closes automatically	
Harddisk	1x 160GB (single HD)	2x 160GB (dual HD)	
Silicon disk	1GB	2GB	
CD/DVD	Yes		
PSU	100-115V or 200-230V AC ±10%, 60/50 Hz ±5%		
Serial in	3 (optional up to 7)	11 (optional up to 26)	
Analog in	No	10 (optional)	

GPS compass

JLR-21/31
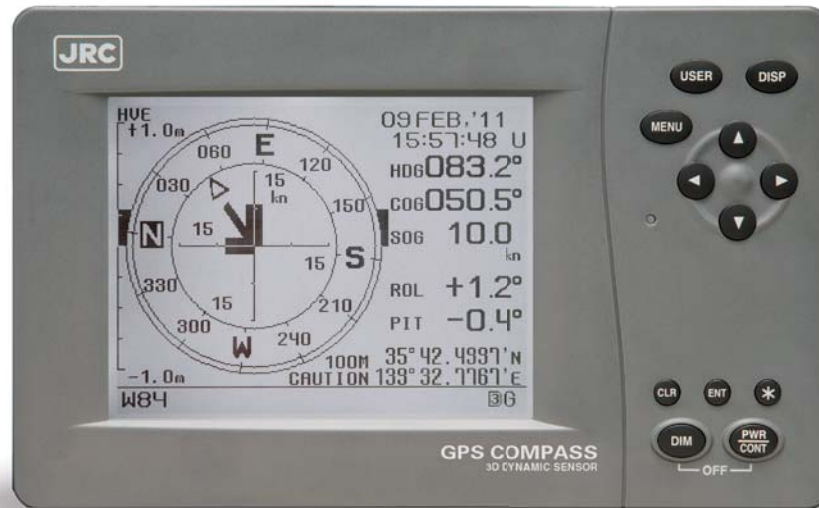
New level of performance and stability

The JLR-21/31 GPS compass is also known as a 3D Dynamic Sensor™, which besides giving heading information, is designed to provide highly accurate information of the ships movement in all axis.

Antenna design

The processor is built into the antenna. Eliminating alignment between antenna and processor found in separate systems, therefore contributing to an easy setup with less error and significantly reduced installation time.

NNN-21

NNN-31

GPS compass and IMO

JRC's JLR-21/31 has been approved as both a THD[1] and a GPS. The THD approval allows installation as primary heading device on vessels up to 500GT and for vessels over 500GT, two or more THD's could be installed depending upon flag/class agreement.

Sensor type

NNN-21 (0.5° rms)	JLR-21
NNN-31 (0.25° rms)	JLR-31

(D)GPS

JLR-7600/7900

NEW

JLR-7500/7800

Accurate positioning

The (D)GPS, available in 4 models, locates your position accurately, and gives you a wide range of possibilities - integrated with the latest technologies - enhancing your operational performance.

Sensor type

| JLR-4340 (GPS) | JLR-7500/7600 |
| JLR-4341 (D)GPS | JLR-7800/7900 |

At a glance differences

Model	JLR-7600/7900	JLR-7500/7800
Display	4.5-inch	5.7-inch
Model	NWZ-4610	NWZ-4740
Waypoints	1,000	10,000
Routes	20 (50wp/route)	100 (512wp/route)
LAN	No	Yes

JLR-4340

JLR-4341

Easy installation

Both displays are very compact and can be mounted virtually anywhere, allowing for a flexible installation approach in confined spaces. The base of the sensor is designed for an easy installation, either on a pole or on an extension mast. The base also includes a slot allowing for easy cable management, which reduces installation time.

MID

NWZ-4610

NEW

Multi Information Display (MID)

In line with the company's design philosophy, the 4.5-inch, low cost Multi Information Display features an aesthetic and harmonized design which is a natural additional to JRC's comprehensive product line.

Functions

- 4.5-inch high brightness display
- Dual color LED backlight
- 3 inputs/3 outputs
- Power distribution up to 3 displays
- Solid and backlighted keys

Data and dimmer share

The cost-effective approach allows full NMEA data share for up to 10 displays. The same applies for dimmer share. By changing the intensity on one of the units, it automatically shares the new display settings through all.

Samples which data can be repeated

(D)GPS | GPS compass (incl. ROT, heading, roll, pitch) | Echo sounder | Gyro | Engine | Weather | Etc

No flush mount kit

With JRC's new design approach, a flush mount kit is not required and screws are nicely concealed behind the front cover.

BNWAS

JCX-151

JCX-152

BNWAS

The Bridge Navigational Watch Alarm System (BNWAS) main purpose is to monitor the presence of watch officers and their alertness for early detection of unsafe sailing conditions.

Functions

- LED or 4.3-inch LCD touch display
- Compatible for RMS
- In/output to JRC's VDR and conning display
- Fully complies with IMO regulations
- Motion sensor available (option)

Manage other alarms

When any connected equipment alarm is activated, the BNWAS displays a list of alarm information automatically. When the officer fails to acknowledge within pre-set intervals, visual and audible alarms will be generated in the wheelhouse and other crew spaces as necessary.
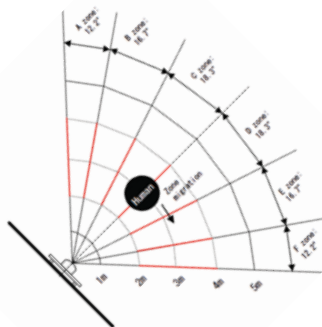
Motion sensor

An optional (infrared) motion sensor removes the need for the officer to manually press a button to stop the alarm. The sensor detects movement of the officer, which, once detected, will not allow the alarm to trigger.

Radar

JMA-3300

JMA-2300Mk2

JMA-5100

under review

Non-IMO radar

Having three different versions non-IMO radar available, from a simple and advanced all-in-one solution to a black box version configured radar, all incorporating digital signal processing for excellent target detection.

System-on-Chip

JRC engineers custom designed the System-on-Chip (SoC) inside the new JMA-2300Mk2 and JMA-3300 radar to be an extremely powerful tool. With such a small chip, weighing less than a sugar cube, performance remains at our high standards and at the same time very power efficient.

Amazingly sharp display (JMA-3300)

The tough glass bonded LCD is backlit by white LED's giving 1000cd/m2 of brightness, making the radar image amazingly sharp. Bonding is a process whereby the air gap between the front glass and LCD module is filled with a special compound, significantly enhancing sunlight reflection, night vision and overheating as well as a reduction of possible condensation. This is a feature not previously found on this class of radar.

Functions

- 10-inch mono and10.4-inch color display
- Available as all-in-one or black box
- Up to 10 target tracking (MARPA)
- AIS compatible (JMA-2300Mk2/3300)
- Newly designed multi-speed scanners

ECO logo only applies to JMA-3300.

Radar

JMA-900B

JMA-9100

JMA-5300Mk2

JMA-7100

JMA-5200Mk2

IMO (chart) radar

JRC's radar series continue the success of its predecessors, reaching a new level of performance, designed to seamlessly run radar images faster and more efficiently than ever before.

Functions

- 15, 19, 23-inch display
- Wide dynamic range receiver
- High speed versions available
- Black box and standalone version
- Brushless antenna motor for extended lifetime and reduced maintenance cost

Tornado™

Developed exclusively by JRC's engineers, the Tornado™ radar processor is found in the JMA-5200Mk2 through to the JMA-9100 series to easily perform the complex tasks associated with the company's other in-house developed technologies, Constaview™ and TEF™.

Constaview™

The second generation and patented Constaview™ is realized through the use of high-speed processors. All info gathered by the radar is processed within a few milliseconds before displayed, generating a smooth image rotation when sailing in Head-Up mode.

TEF™

Developed exclusively by JRC, Target Enhancement Function (TEF™), allows target enhancement relative to the target size. The smaller echoes are far more enlarged, giving a better on-screen separation and identification.

ECO logo applies to JMA-900B/9100/7100/5300Mk2.

Radar

JMA-9172-SA

JMA-5372-SA

NEW

RMS

eco
under review

Digital (solid state) S-band radar

Available as black box version and standalone, the digital S-band radar represents a new generation of marine radars, displaying targets with high accuracy while using a high-power digital transceiver.

Functions

- 19-inch and 23-inch display
- Target detection unlike anything before
- First class clutter processing
- Constaview™ and TEF™ as standard
- Free from tuning and pre-heating

Strong performance

The JRC digital radar has a transmit power of just 250W compared to the traditional magnetron based 30,000W. Advanced pulse compression with the 250W digital transceiver improves short and long range target detection while using only 1/100 of the power of a conventional radar.

Low maintenance transceiver

The radar integrates a highly reliable digital transceiver in place of a life limited (analog) magnetron. The digital radar provides higher reliability and performance and will keep maintenance costs to a minimum.

Transceiver features protected enclosure

JRC

Digital S-band scanner

Radar

Which radar is best suitable?

The radars developed by JRC play an integral part in the life of seafarers. JRC has a wide range of radars available giving you complete flexibility on the bridge.

JMA-	2300Mk2	3300	5100	5200Mk2	5300Mk2	5372-SA	7100	9100	9172-SA	900B
IMO	X			V						
GT	n/a			300-499	500-9,999			≥10,000		
Scanner	2,4 ft X-band	2,4,6 ft X-band		4,6,7,9 ft X-band	4,6,7,9 ft X-band 12 ft S-band	12 ft S-band	6,7,9 ft X-band 12 ft S-band		12 ft S-band	6,7,9 ft X-band 12 ft S-band
Power	4,6 kW	4,6,10 kW		6,10,25 kW	10,25,30 kW	250W	10,25,30 kW		250W	25,30 kW
Range[1]	48,72 nm	48,72 nm		96 nm						
HSC	Yes non-IMO	Yes non-IMO	No	Yes non-IMO	Yes X-band only	No	Yes X-band only		No	No
Display	10-inch CRT	10.4-inch LCD		15-inch LCD	19-inch LCD			23-inch LCD		
PPI	n/a			180 mm	250 mm			320 mm		
TT	10 MARPA		10 MARPA Option	30 ATA Option	30 or 100 ATA Option		100 ARPA			
AIS	Yes		No	Yes Option			Yes			
RMS	n/a			Yes						

Remote Maintenance System (RMS)

JRC's unique RMS allows remote monitoring of bridge equipment from ashore. Using a maintenance server and satellite communications, JRC can establish a highly secured connection to the vessel and cost-effectively and accurately determine the operating status of the JRC equipment while at sea.

1. 4 kW up to 48 nm, 6 kW up to 72 nm

Speed log

JLN-205Mk2

NEW

RMS

Stable speed data with reliable read-out

For vessels above 300GT, the new JLN-205Mk2 measures highly accurate speed through the water and for vessels above 50,000GT, the JLN-550 additionally measures speed over the ground using Doppler principles.

| 2MHz | | 2MHz | 240kHz |

JLN-205Mk2 functions

- 4.5-inch dual color LED backlight
- Compact transducer
- Various display modes
- Large characters for easy reading
- Highly reliable read-out

JLN-550 functions

- Large characters for easy reading
- All-in-one transducer
- Dual frequency mode
- 4 beam transmission
- Dual or triple axis

Transducers

The JLN-205 transducer is compact and constructed of light weight moulded rubber, to minimize the effects on aeration, which allows stable and accurate operation.

The JLN-550 all-in-one transducer allows for dual frequency transmission, where the lower frequency measures speed over the ground and the higher frequency calculates ships speed through the water.

Both speed logs can be offered with an optional gate valve transducer, which allows for long-term cost saving and easy maintenance as dry docking is not necessary. (Photo above is for the JLN-205Mk2.)

VDR

JCY-1800

Voyage Data Recorder

JRC's IMO compliant JCY-1800 VDR incorporates the latest advancements in technology utilizing an industry standard capsule that provides durability and improved safety at sea.

Functions

- Compact flashcard: no moving parts
- Easy IP based maintenance
- External recording on PC: 180GB for 60 days
- User-friendly real-time & playback software
- Remote Maintenance System

In-house technology

JRC uses in-house developed, reliable, marinised hardware, purposely designed for the VDR. The non PC-based equipment ensures spare part availability for many years.

Playback software

JRC includes intuitive playback-software that also incorporates real-time monitoring functionality on the user PC. The data acquired can be displayed in both graphical and numerical format. Standard CSV data conversion enables easy and efficient exchange of information to shore e.g. via email. In addition, the playback-software is an ideal tool for crew training. Its ease of use and the freedom to survey a range of scenarios enhances the user's navigation skills.

19

Inmarsat C

NEW

JUE-87 INMARSAT-C

Global data communication solution

The JUE-87 is a highly reliable mobile satellite message communication system, having the ability to handle commercial, operational and personal messages just as easily as distress and safety communications.

New antenna

A completely new design of antenna, compliant to RoHS, offering a new level of accuracy with a high performance Radio Frequency (RF) filter built in. It requires only a single coax cable between antenna and messaging unit.

Functions

- All-in-one 10.4-inch messaging unit
- Newly designed antenna with GPS inside
- Single coax installation
- LRIT standard, SSAS option
- RMS via LAN available

SSAS JUE-95SA

Along with two-way data/messaging communications, the JUE-95SA utilizes discreetly located security alarm buttons that can be activated covertly in case of piracy or terrorist attack.

VMS JUE-95VM

With the JUE-95VM, JRC has developed a mobile satellite communication system that allows quick and easy world wide tracking of a vessel's precise location.

LRIT JUE-95LT

The JUE-95LT is a stand alone system that will easily and accurately transmit vessel identification, position, date and time as required by the IMO's LRIT convention.

Inmarsat FB

JUE-501

NEW

JUE-251

NEW

FB250 JUE-251

RMS

eco
under review

A whole new set of functions and features

The JUE-251 and JUE-501 continue the success of their predecessors, featuring a reliable industry standard interface, advanced network router and easy to install capability that puts high-speed connectively right at your fingertips.

Advanced web interface

The JUE-251/501 Inmarsat FleetBroadband comes with an advanced web interface, built in as standard. This dedicated (Windows based) user interface brings together all operations. Think of it as the hub of your system - view everything and fully manage all operations with a few clicks. Below are just a few of the many features available:

1 by 1 NAT	Diagnostics	MAC filter	Remote activate	Usage restriction
Always active	DMZ host	Multi voice	Routing table	User control
Auto disconnect	Dynamic DHCP	PBX	SIM configure	VLAN
Blockage indication	Export	Phonebook	SMS	VPN (IPsec)
Call log	Import	Port forward	Static DHCP	WAN filter
Dashboard	IP masquerade	PPPoE	Supplementary	WAN profile
Data connection	LAN group	Proxy DNS	System log	WAN selector

MF/HF, VHF radio equipment

JSS-2150/2250/2500

JHS-770S/780D

NEW

Class A communications

The MF/HF and VHF radio equipment feature an intuitive user interface, latest cutting-edge technology and advanced modular design that allows for ease of installation and effective communications.

150W   250W   500W

MF/HF functions

- 3.8-inch display
- Standard 6 channel DSC built-in
- Ready for NBDP (telex) connection
- Digital audio and integrated speaker
- Easy operation with JOG dial

MF/HF with telex

The JSS-2150/2250/2500 radio equipment can be upgraded to telex communication, just by adding a 10.4-inch high visibility LCD display (with built-in processor), keyboard, printer, software and necessary cables.

VHF functions

- 3.8-inch display
- Direct call by AIS™
- Intercom and loudhailer function
- 120 seconds digital recording
- Easy operation with JOG dial

Direct call by AIS™

With this innovative feature, when connecting your AIS to the VHF, it allows you to quickly navigate through a list of targets. Bearing, range and MMSI info of target vessels are sorted from the shortest range upwards. You can now easily select the vessel you wish to get in contact with, and send a DSC message immediately.

Navtex, UHF/VHF handheld

NCR-333
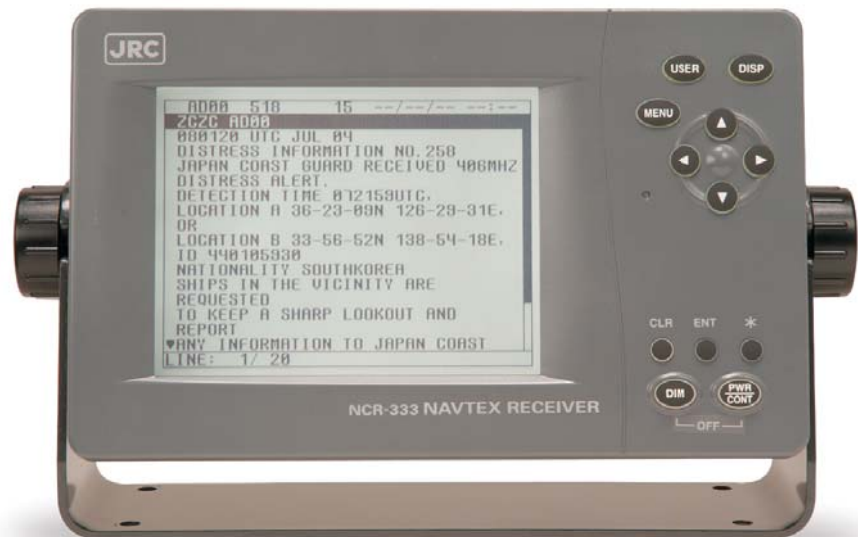
Paperless navtex

The high performance NCR-333 navtex employs a highly visible LCD display to deliver automated navigational and meteorological warnings and forecasts as well as urgent marine safety information.

JHS-430

UHF handheld

The JHS-430 is a 2 watt UHF radio designed for onboard ship-to-ship or ship-to-shore communications. The JHS-430's ergonomic and intrinsically safe design allows for ease of use during load/unloading, rescue operations, mooring and daily ship operations.

JHS-7

VHF handheld

The JHS-7 is a handheld portable VHF radiotelephone for on-scene, life-saving two-way communication between ships. It comes standard with 13 single-frequency voice channels, including channel 16, and uses only .25 to 1 watt of transmitting power.

Weatherfax

JAX-9B

JAX-91

Weatherfax

The JAX-9B is a very compact and lightweight solution and the JAX-91 shares the same performance and stability as it predecessor, both incorporating new features and functions for flexible operation.

JAX-9B functions

- 10-inch effective recording width
- Multiple recording modes available
- View image instantly with PC output option
- Automatic frequency selection
- Easy operation and highly reliable read-out

JAX-91 functions

- 15-inch effective recording width
- Multiple recording modes available
- Solid state printing
- Automatic frequency selection
- Easy operation and highly reliable read-out
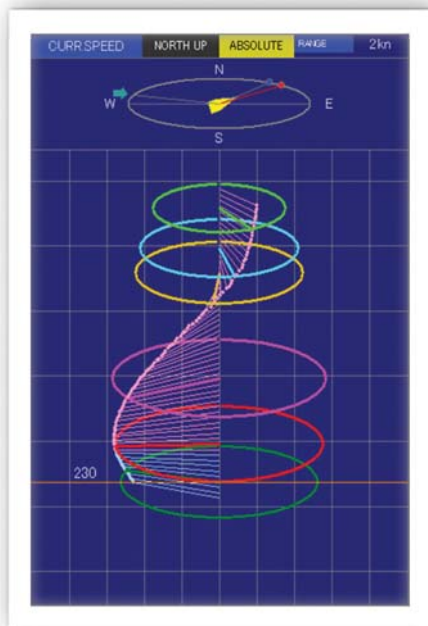
Doppler current meter

eco
under review

240kHz

New space saving design

The JLN-652 Doppler current meter continues the tradition of enhanced acquisition of speed and tidal current data with a new transducer and the integration of an extensive range of functions and features.

Functions

- 15-inch display
- Up to 50 independent measuring layers
- Four beam transducer for optimal performance
- Automatic bottom current tracking
- Dedicated keyboard

Unique twist mode

You can view the current direction and speed in up to 50 independently measured layers with the twist mode. With this advanced feature, an operator is able to anticipate current speed and direction, enhancing the timing on when to deploy the nets in the water. Naturally, the twist display mode is accompanied with a wide range of information, such as current speed range, depth range, temperature and so on.

Searchlight sonar

JFP-180

Shows fish and bottom structure clearly

The JFP-180 compactly (black box) designed searchlight sonar integrates multiple display modes, which will allow you to control your presentation at your own convenience.

180kHz

Simple operation

The new searchlight sonar allows you to carry out all operations simply by using the keyboard. The layout has a full complement of keys, including direct tilting, hoist control, and special one-touch menu keys to access different scanning modes on screen. This makes it easy to navigate through all common used tasks. The logic of the controls and excellent on-screen menus will greatly shorten most users' learning period.

Functions

- 10.4-inch or 15-inch display
- Continues searching when adjusting tilt angle
- Intuitive menu structure
- Multiple display modes available
- Dedicated keyboard

26

# Echo sounder/fish finder

NEW

50kHz | 200kHz

The new FF70

The JFC-7050 echo sounder/fish finder incorporates a high brightness 7-inch display and simple operation, allowing for flexibility and highly accurate and reliable read-out functionality.

Functions

- 7-inch high brightness display
- Simple operation
- Dual frequency 50/200kHz
- Fast processing
- Multiple display modes and alarms
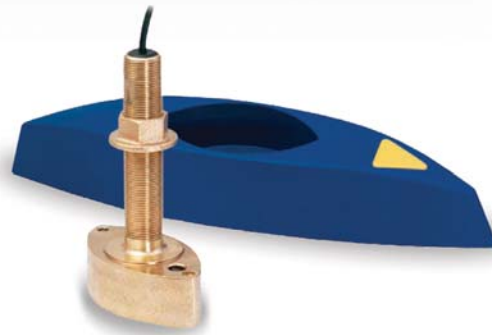
A-scope

By selecting the A-scope presentation mode, you will receive a detailed and real time representation of fish and bottom features passing through the beam of the transducer.

JRC

Designed for life at sea

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