JMA-5372-SA
Solid State Radar

RMS

Complies to IMO CAT-2 for vessels below 10,000 GT.

– the JMA-5372-SA target detection transcends conventional S-band pulse radar systems

19-inch high brightness display (option)
No magnetron ensures low maintenance cost
Superior clutter processing
Constaview™ and TEF™ as standard
No tuning and pre-heating required

JRC Japan Radio Co., Ltd.

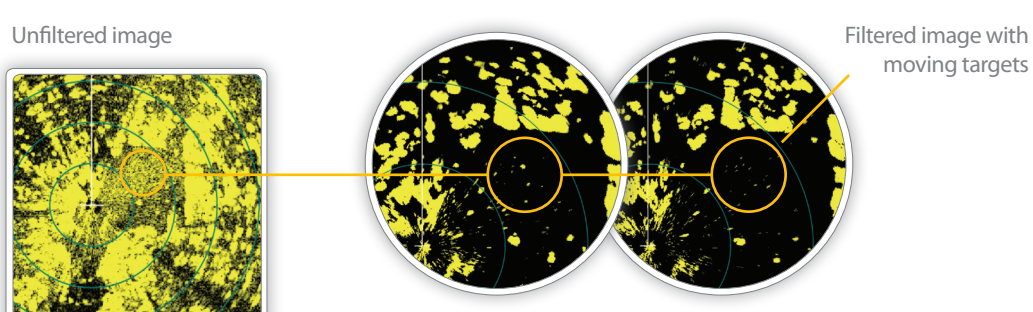
since 1915

Features

A new generation marine scanner that displays targets with high accuracy while transmitting at just 1/100th of the power of a conventional radar.

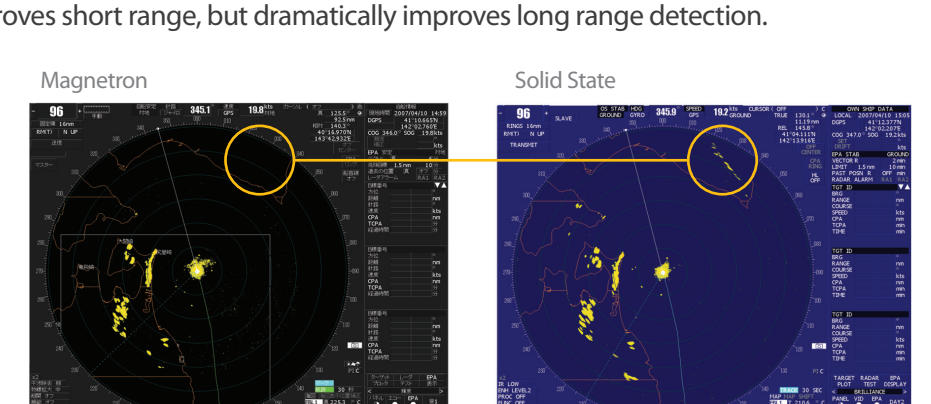
Target detection

The solid state radar will easily detect moving targets in clutter compared to conventional systems. With a comprehensive Doppler filter at the heart of the solid state radar, moving targets are not only detected in clutter, but also clearly displayed on the screen.



Long range detection

Advanced pulse compression with the 250W solid state transceiver not only improves short range, but dramatically improves long range detection.



Applications

This highly compact and flexible installation 'black box' version of JRC S-Band digital (solid state) radar is suited for vessels with a need of superior clean target detection and for owners with a wish of lower lifetime maintenance cost. The later is achieved as there is no magnetron who need to be replaced during normal maintenance work.

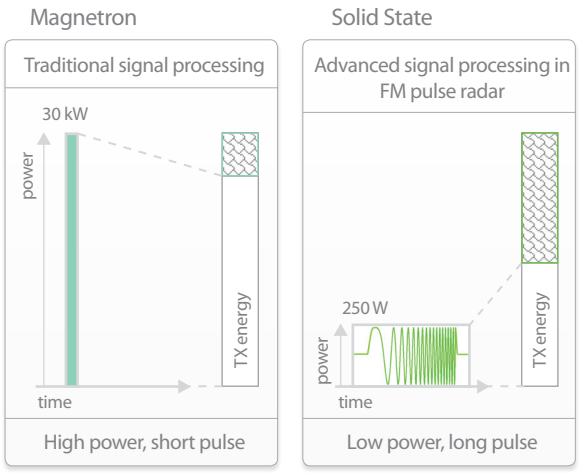
Operation

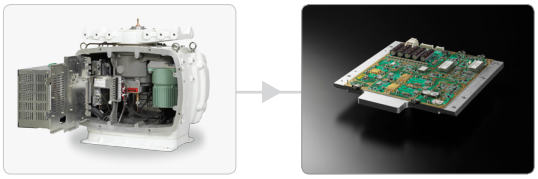
Signal processing

JRC's new solid state architecture integrates an advanced signal processsing technology that detects and displays information at a new level.

The transmission capacity is only 250W compared to the traditional radar that uses a 30.000W peak. The advanced pulse compression significantly improves the long and short distance detection of targets while using only 1/100th of the transmission capacity of a conventional radar.

The new technology has come through exposure tests to extreme temperatures, humidity and vibrations very well.





Pedestal Transceiver

Low maintenance transceiver

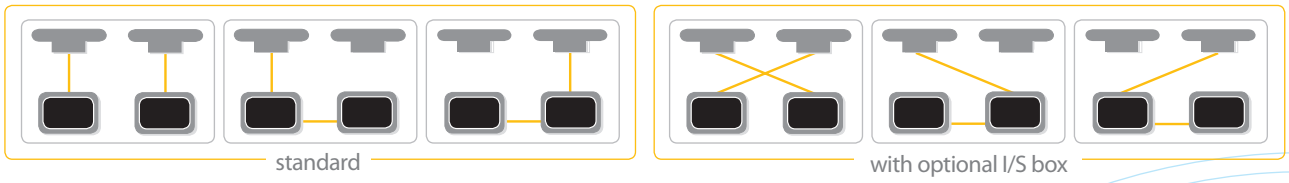
The radar integrates a digital transceiver instead of a life limited (analog) magnetron, providing higher reliability and performance and will keep maintenance costs to a minimum. Today, cost of a digital radar is higher, but realistically, probably not by more than one or two replacement magnetrons. This means that the cost of purchase is normally recovered within a few years.

No tuning and pre-heating

Being magnetron free also means a significant reduction in maintenance while at the same time offering instantaneous operation (transmission) from start up, with no pre-heating or tuning required.

Interswitching

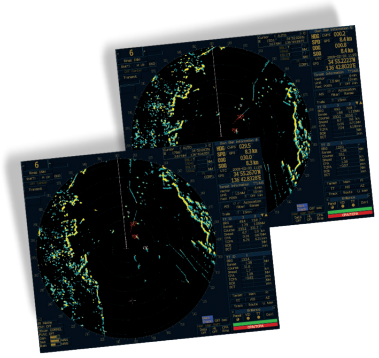
Optional interswitching (up to 8 displays) is possible with the JRC JMA-5372-SA



Remote Maintenance System (RMS)

JRC has the ability to cost-effectively monitor performance and functionality of the JMA-5372-SA while at sea, significantly reducing downtime and maintenance cost. To establish RMS connection at sea maintenance server (JRC VDR) and satellite communications (JRC FB) are required onboard. More info jrceurope.com/rms

Flexibility

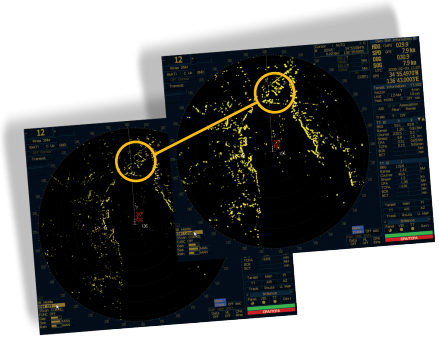


Constaview™

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. Sophisticated processing results in a proportional enhancement where relative enhancement of small targets is greater than larger targets.



Upgrade kit

Newly available is a Solid State S-band upgrade path for JMA-5300Mk2 radar, by replacing the scanner unit onboard the vessel. The radar operation remains the same, so officers can continue to trust on JRC's high performance and reliability and easily perform the tasks associated with the company's other in-house developed technologies, Constaview™ and TEF™.

In the box upgrade kit

- Scanner (incl performance monitor)
- Power Control Unit (PCU)
- PCU to processor cable (20m)
- Manual + Labels

In the box standard

- Display[1]
- Scanner (incl performance monitor)
- Processor
- Power Control Unit (PCU)
- Cables
- Keyboard
- Spare parts
- Manual

Cables

- Scanner to PCU (40m)
- PCU to processor (20m)
- Processor to keyboard (5m)
- Processor to display[1] (5m)

Options

• 19-inch display	NWZ-173
• Table mount bracket display	MPBC42446
• ATA unit[2] (30 targets)	NCA-877A
• ARPA unit[2] (100 targets)	NCA-877WA
• AIS interface unit[2]	NQA-2103
• Gyro interface unit[2]	NCT-59A
• Power supply[3]	NBA-5111
• Plotting function board	NDB-34A
• Interswitch unit (up to 4 radars)	NQE-3141-4A
• Interswitch unit (up to 8 radars)	NQE-3141-8A

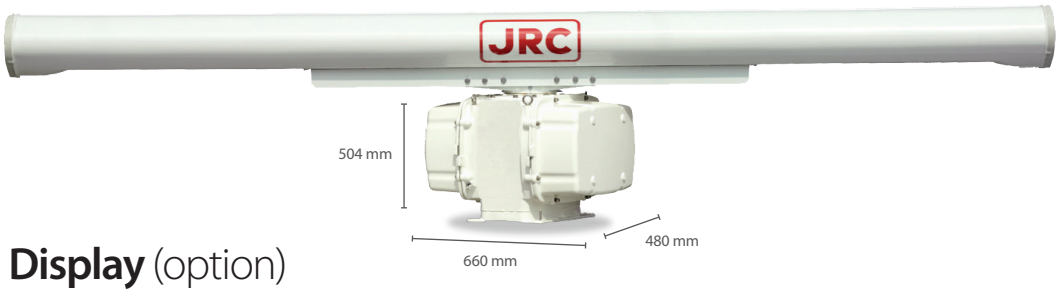
1. Optional in black box configuration
2. ATA or ARPA, AIS and gyro must be fitted on ships compliant to IMO regulations
3. AC power is required for antenna scanner motor

Weight and dimensions

Scanner

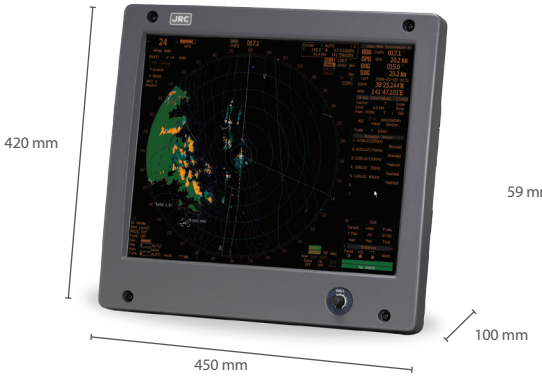
NKE-1532PM Weight 170 kg

Swing circle 4000 mm



Display (option)

NWZ-173 Weight 7,7 kg



Keyboard

NCE-5217 Weight 1.3 kg

Processor

NDC-1551 Weight 6 kg

Power control unit

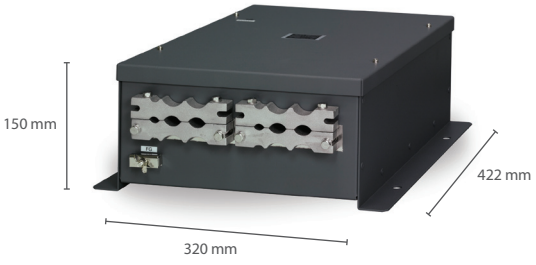
NQE-3167 Weight 12 kg

Power supply (option)

NBA-5111 Weight 15 kg

Interswitch (option)

NQE-3141-4A Weight 6 kg



Specifications

	JMA-5372-SA
IMO approved	✓
Type	S-band (2-unit type)
Performance monitor	Integrated
Antenna length	12ft (3.92m)
Output power	250W
Transmitting frequency	3040 MHz (P0N), 3060 MHz ±4 MHz (Q0N)
Beam width	Horizontal 1.9°, Vertical 25°
Rotation speed	24 rpm
Pulse width	0.07 µs - 18.3 µs
Duplexer	Circulator + diode limiter
Range scale	0.125, 0.25, 0.5, 0.75, 1.5, 3, 6, 12, 24, 48, 96 NM
Motor	Brushless
Signal processing	Pulse compression
Doppler processing	32 filters
Display	250mm PPI, 19-inch LCD (1280 by 1024 pixels)
Bearing indication	North-up, Course-up, Head-up
Presentation mode	RM display with true trail, RM display with relative trail, TM display
EBL	2 (EBL1/EBL2) center/independent 000.0° to 359.9°, numerical indication in 4 digits
VRM	2 (VRM1/VRM2) 0.000 to 100.0 NM, numerical indication in 4 digits
Trail indication	3 stages: short/middle/long (eg. short: off/0.25/0.5/1/3/6/10/15-min)
Navigation markers	2,000 points (20,000 points with NBD-34A option)
Off center	Within 66% of radius, except 96 NM
Target Tracking (TT)	0, 30, 100 (depends on TT board[1])
AIS targets	300 (sleeping + activated), 100 (activated)[2]
Power supply voltage	Display: 24V DC[3] (-10%+50%) Scanner: 100-115V/220-240V AC (+/-10%)
Power consumption	Processor: 240W + Scanner: 600VA (typical) 1600VA (at max wind)
Ambient conditions	Temperature: -25 to 55°C (scanner) -15 to 55°C (others) Relative humidity: 0% to 93% non-condensing

1. NCA-877A: 30 targets, NCA-877WA: 100 targets
2. NQA-2103 required
3. AC power supply optional (NBA-5111)

JRC offices around the world

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