

# JMA-5300Mk2 R-Series Inland Edition Radar



*– JRC's innovative JMA-5300Mk2 R-Series inland edition radar series: inland navigation has a new standard*

Optimized signal processing for river use

Constaview™ digital signal processing

TEF™ multi-level target enhancement

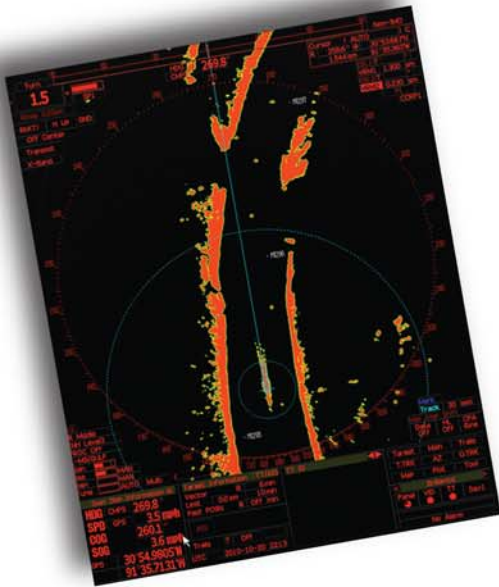
High speed version available

Brushless antenna motors for extended lifetime

# JMA-5300Mk2 R-Series – performance features

## Unique features

- JRC's new JMA-5300Mk2 R-Series integrates the latest leading technologies with a set of new features specifically designed for inland waterways.

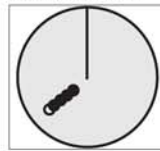


## Constaview™

The second generation and patented Constaview™ is realised through the use of three high-speed processors (in-house Tornado™ technology). All info gathered by the radar is fully processed within a few milliseconds before displayed, generating a smooth image rotation when sailing in Head-Up mode. When changing to North-Up, the new radar image is displayed without any delay caused by the scanner rotation.

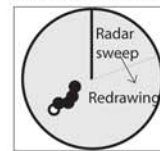
### Real time Head-Up mode

#### Constaview™



True Trails  
Constaview™ refreshes the image every 16mS.  
Despite heading changes trails are always true.

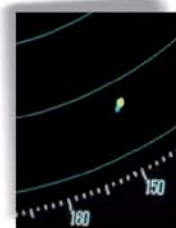
#### Conventional



Relative Trails  
Traditional technology relies on several sweeps of the scanner to redraw the image. Trails are presented as relative.

## Select a trail length

Other ship's movement and speed can be monitored from length and direction of their trails, primary serving for collision avoidance. The JMA-5300Mk2 integrates four different trail length modes, that will show a ship's course instantly, a unique operational feature that allows for more flexibility. Example real-time processing:



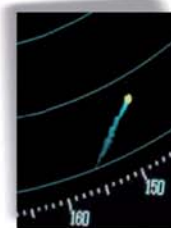
• 1 min.



• 3 min.



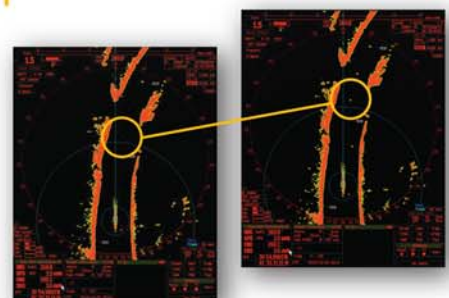
• 6 min.



• 15 min.

## Target Enhancement Function™

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



# JMA-5300Mk2 R-Series

– developed for maximum ease of use

## New keyboard design

With its new case design, the keyboard of the JMA-5300Mk2 R-Series allows you to carry out all radar operations simply by using the keyboard or on-screen by use of the trackball.



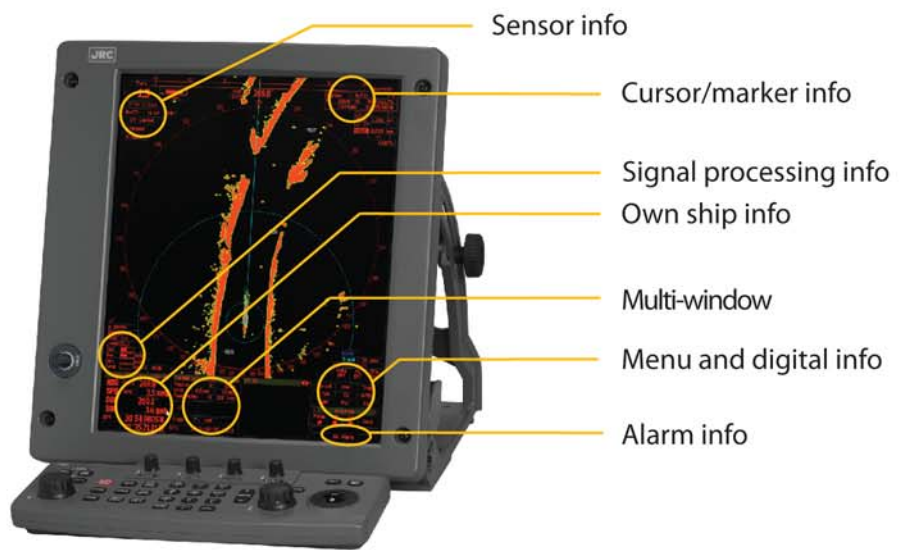
The responsive feel keys allow logical and precise operation and integrates function keys for one-touch access to EBL, VRM, GAIN, SEA and RAIN. This makes it easy to navigate through all common used tasks.

## Clear on-screen info

The JMA-5300Mk2 R-Series make your radar images more brilliant than ever.

Designed with the operator in mind, a clear interpretation of the radar image is always possible due to simple operation and uncluttered display.

You can also select day and night background modes and adjust the brilliance at your own convenience.

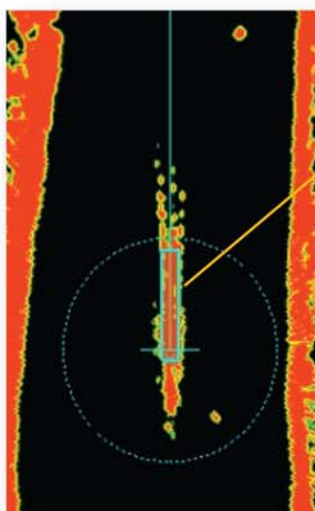


## Barge Icon

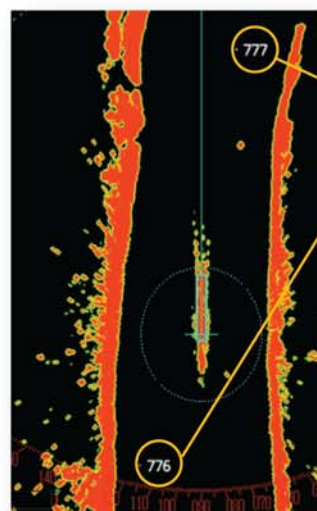
The length and breadth of the total barge size can be displayed as a simple rectangle on the radar screen.

## Mile Marker Display

The mile marker information (river ID and mile number) can be displayed on the radar screen.



Barge icon



Mile markers

# JMA-5300Mk2 R-Series

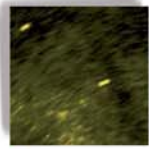
## – system flexibility

### Flexible black box configuration

The processor unit is the heart of the JMA-5300Mk2 R-Series, and shares the same simple configuration as its predecessor, contributing to an enhanced system configuration. Optional TT (Target Tracking) module and AIS interface can be built in.



• Saturation of noises on receiver



• Wide dynamic range

### Wide dynamic range receiver

The new JMA-5300Mk2 R-Series integrates a wide dynamic range receiver that, compared to conventional models, significantly improves the differentiation of noise and targets under sea clutter.

### More powerful than ever

The JMA-5300Mk2 R-Series incorporates three Tornado™ processors, which are exclusively developed and designed by JRC, bringing a new level of performance and reliability to radar operation. The new Tornado™ processors equal the power of twelve conventional processors.

### Designed for inland use

This inland edition of the JMA-5300Mk2 radar is a result of listening carefully to river boat captains and owners, and developed specifically for the US river boat.

Our engineers went onboard river vessels to optimize the signal processing, resulting in preset functions for the Ohio and Mississippi rivers.

The JMA-5300Mk2 R-Series radar is based on real world experience, developed in the USA for US river fleets.



### Interswitching

Optional interswitching up to 8 displays possible.



### What's standard in the box?

	Which cables?	Std.	Max.
1. Display	Display to processor <sup>1</sup>	5 m	5 m
2. Scanner	Keyboard to processor	5 m	25 m
3. Keyboard	Scanner to display (10/25kW)	30 m	65 m
4. Processor	Power cable for processor	5 m	5 m
5. Cables	Power cable for display	5 m	5 m
6. Spare parts			
7. Manual (English)			

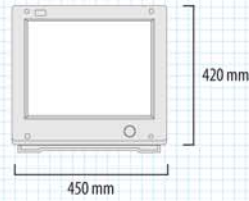
<sup>1</sup>not included in black box configuration

# JMA-5300Mk2 R-Series

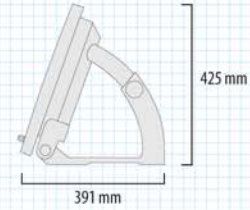
## – dimensions and weights

### Dimension drawings - Display (option)

**NWZ-173** Weight 12,1 kg

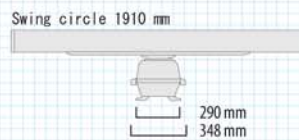


**cutout for panel mount**  
height 319,6 mm, width 416 mm, depth 80 mm

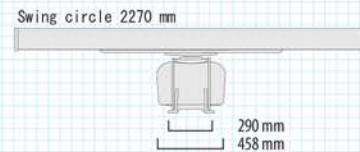


### Dimension drawings - Scanners<sup>1</sup>

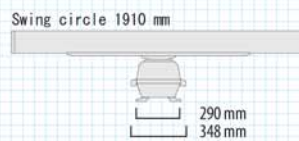
**NKE-2103-6** Weight 40 kg



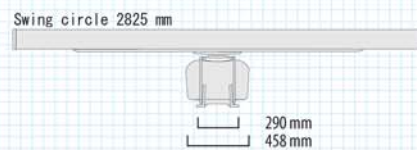
**NKE-2254-7** Weight 58 kg



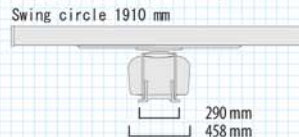
**NKE-2103-6HS** Weight 40 kg



**NKE-2254-9** Weight 60 kg



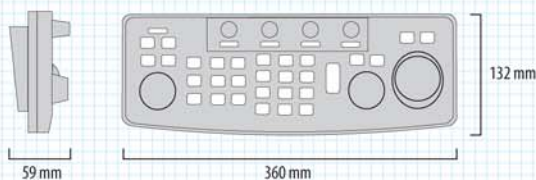
**NKE-2254-6HS** Weight 55 kg



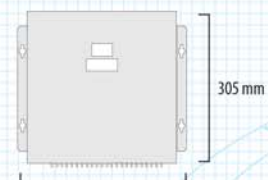
<sup>1</sup>all scanners have a brushless motor and comply with 40dB/dec Spurious particulars

### Dimension drawings - Keyboard, Processor

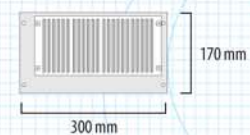
**NCE-5171** Weight 1,3 kg



**NDC-1417** Weight 6 kg



**cutout for panel mount** height 105 mm, width 340 mm, depth 20 mm



# JMA-5300Mk2 R-Series

## – specifications

Model	JMA-5312-6R	JMA-5312-6HSR	JMA-5322-7R	JMA-5322-9R	JMA-5322-6HSR
Display	colour raster scan PPI				
Range scale	0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM				
Scanners					
Model	NKE-2103-6	NKE-2103-6HS	NKE-2254-7	NKE-2254-9	NKE-2254-6HS
Antenna length	6ft.	6ft.	7ft.	9ft.	6ft
Transmitting power	10kW		25kW		
Transmitting frequency	9410MHz ± 30mHz				
Beam width 3db	Hor. 1.2°, Ver. 20°	Hor. 1.2°, Ver. 20°	Hor. 1.0°, Ver. 20°	Hor. 0.8°, Ver. 20°	Hor. 1.2°, Ver. 20°
Rotation speed	27rpm	48rpm	24rpm		48rpm
Pulse width (receive freq.)	0.08µs/2250Hz, 0.25µs/1700Hz, 0.5µs/1200Hz, 0.8µs/750Hz, 1.0µs/650Hz		0.07µs/2250Hz, 0.2µs/2250Hz, 0.3µs/1900Hz, 0.4µs/1400Hz, 0.8µs/750Hz, 1.0µs/650Hz, 1.2µs/510Hz		
Duplexer	circular + diode limiter				
Tuning	automatic / manual				
Ambient condition	temperature: -25°C +55°C, relative humidity: 93% @40°C				
Processor					
Model	NDC-1417				
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° - 359.9°, digital display				
VRM	2 (VRM1/VRM2), 0.000 - 100.2nm, digital display				
Trail indication	4 stages: short, middle, long, super long (e.g. short: off/0.25/0.5/1/3/6/10/15-min and continuous)				
Display					
Model	NWZ-173				
LCD	1280x1024dot (SXGA)				
Effective diameter	≥ 250mm				
Connection cable	5m (processor-monitor)				
Keyboard					
Model	NCE-5171				
Connection cable	5m (processor-keyboard)				
Installation cable	CFQ-6912-30 standard L= 30m (optional up to 65m)				
Power supply (voltage)	DC 21.6 - 31.2V				
Power consumption (at max wind load)	620W		700W		
Ambient condition	temperature: -15°C +55°C, relative humidity: 93% @40°C (processor, display, keyboard)				
Optional items					
Gyro interface unit	NCT-59A built-in NDC-1417				
ATA unit (30 targets)	NCA-877A built-in NDC-1417				
ARPA unit (100 targets)	NCA-877WA built-in NDC-1417				
Performance monitor	NJU-85				
Interswitch box	NQE-3141-4A (up to 4 radars), NQE-3141-8A (up to 8 radars)				
AIS interface unit	NQA-2103 built-in NDC-1417				
Plotting function board	NDB-34A built-in NDC-1417				
AC rectifier	NBA-5111 - AC 100/110/120/220/230/240V				

All specifications are subject to change without notification.

For further information please contact:



**Japan Radio Co., Ltd.**

JRC America  
 1011 SW Klickitat Way Bldg. B Suite 201  
 Seattle, Washington 98134 USA  
 Telephone: +1 206 654 5644  
 Fax: +1 206 654 7030  
 E-mail: Sales@jrcamerica.com  
 Web: www.jrcamerica.com