

JRC MARINE RADAR

JMA-7000 Series

Latest radar signal processing provides accurate navigational data and displays.



JRC *Japan Radio Co., Ltd.*

JMA-7000 21" Radar Series

JRC is renowned for bringing customers high performance and reliability through consistently high-grade technology. JRC now presents the JMA-7000 series. This series is a newly developed X/S-band, 2/3-unit, 25/30 kW radar system that conforms to IMO (International Maritime Organization) specifications. The JMA-7000 series has been developed specifically with high performance and ease-of-use in mind.

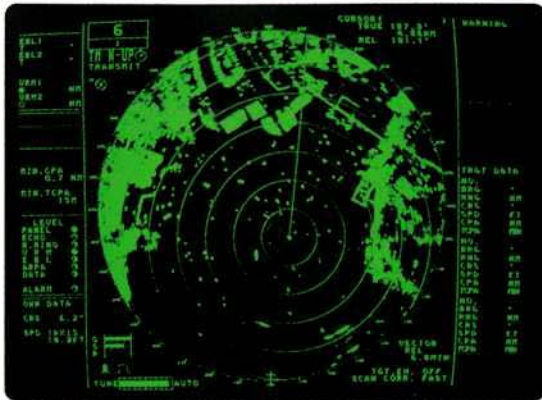
Images displayed on the 21" display are enhanced by a high-sensitivity, high-resolution raster scanning system and state-of-the-art radar signal processing technology. This not only makes images sharper and easier-to-view, but also improves the capability to distinguish between sea surface reflection and target objects even in close to medium distances.

FEATURES

- 21" high-resolution raster scanning system achieves a large, clear and easy-to-view display.

Non-interlaced, high-resolution (1000 vertical lines) raster scanning is used to display images on the high-brightness 21" flat display. This means that you are assured of high-resolution images even at close distances.

The size of displayed characters has been made larger for easier viewing. This means that two or more personnel can observe the screen at the same time without the need of a hood even during daylight hours. This facilitates ship operations while monitoring the screen, improving operating efficiency.



- Up-to-date signal processing technology enables target detection.

A wide dynamic range transceiver and the latest signal processing technology suppresses sea or rain clutter. Images are displayed in 16 gradations so that target objects are detected more reliably. Automation of STC and FTC also facilitates operations.

- Easy operation

Knobs and buttons for carrying out major operations have been limited to simplify the operation panel, and less often used controls are provided in menus.

Operations using simple, color-coded buttons and EBL (elec-tronic bearingline) with large knobs are very simple. This means that you can respond quickly in emergencies. Moreover, tuning and suppression of sea/rain clutter have been automated to facilitate operation. When the radar system is being operated by two or more personnel, individual operator's preferences can be stored and called up (built-in personal code function).

- Extensive range of functions

WAKES (ship track display)
NAV line display (*)
TM (true motion display)
Head-up/north-up/course-up display
Own ship's track display (*)

Plot function

Guard ring function

* When navigation system is connected.

- Lighter equipment and lower power consumption

Equipment has been designed so that wind force can utilize the S-band antenna radiant section (patent pending). This reduces the amount of motor output consumption by half. Equipment has also been made lighter (in-house comparison).

- Easy connection with external equipment

An interface for connecting navigation systems (e.g.GPS,NS, loran), sub-display units and radar buoys is built-in as part of the standard specification.

- Inter switch built into display unit (option)

Separate units are no longer required, reducing installation space. Also, radar switching operations have been facilitated as they are now carried out on the display unit.

- Performance monitor (option)

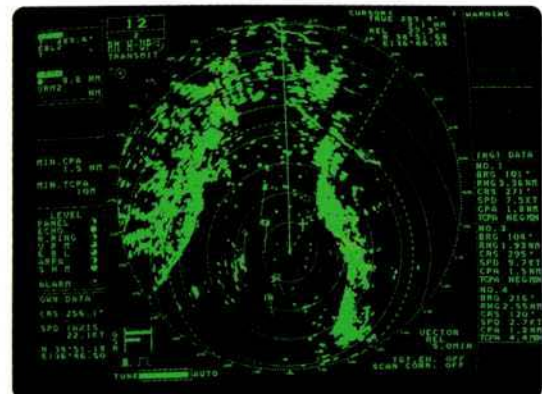
Radar performance (e.g. in transmitter output or reception sensitivity) can be monitored on the display.

- Acquisition and tracking of 40 targets

Up to 40 targets can be automatically or manually selected, and automatically tracked. The tracking range can be set up to 32 miles for monitoring wide areas. Also, tracking performance has been improved by a newly developed tracking algorithm.

- Extensive range of display modes

This radar system supports true or relative motion display in the image display mode, and true or relative vectors can be displayed in each of the head-up/north-up/course-up display modes.



- Visual and audible notification of dangerous situation

Safe ships (○) and dangerous ships (△) are displayed on screen in response to preferred safety limits (Min. CPA/TCPA) set by the user. Also, if there is the danger of a collision, a warning buzzer will sound to inform personnel of the danger.

- Display of other ship's and own ship's data

True bearing, distance, true course, speed, CAP,TCPA for up to three targets, and course and speed data for your own ship are displayed simultaneously, so that you can easily check other ships's and your own ship's conditions.

- Trial operation functions (own ship's speed, course change, etc.)

Changes in your own ship's speed and course can be simulated even in the true or relative vector modes. Simple operation displays the simulation results on screen, ensuring safe ship operation.

- Built-in monitoring of collision avoidance system and self-diagnostic program

All system functions are monitored at all times. If there functions are impaired, this is indicated on screen by a flashing display and a warning sound. System functions can also be tested easily during regular operation.



SPECIFICATIONS

Model	Specifications	Scanner unit	Transmitter/Receiver	Display	Power Supply
JMA-7252-6	X band 6-feet 25kW 21°	NKE-1052-62F Beam width: H1.2°, V25° Transmission frequency: 9410MHz Rotation speed: 26rpm(60Hz), 21rpm(50Hz) Weight: 48kg Dimensions: 1890(W)×581(H)×520(D)mm	(Transceiver is built into antenna owing to 2-unit system.) Pulse width: 0.07, 0.10, 0.15, 0.2, 0.3, 0.6, 1.2 μs	NCD-3570 21" raster scan 1024-line high-resolution B/W CRT Range scale: 0.25 to 120mm TM/RM North-up/head-up/course-up Own ship's track display (when navigation system is connected) Weight: 90kg Dimensions: 535(W)×1215(H)×720(D) ARPA specifications (OPTION) Conforming to IMO A823(19) Acquisition: Automatic/manual Number of targets: 40 max. Tracking range: 32nm Target data read: 3targets simultaneously	200/220V AC, 50/60 Hz, 3-phase, 600VA However, 100/110V AC, 50/60 Hz, 1-phase also is possible, In this case, the following antenna models are used. NKE -1052-61 NKE -1052-91 NKE -1059-71 NKE -1059-91
JMA-7252-9	X band 9-feet 25kW 21°	NKE-1052-92F Beam width: H0.8°, V25° Transmission frequency: 9410MHz Rotation speed: 26rpm(60Hz), 21rpm(50Hz) Weight: 53kg Dimensions: 2830(W)×581(H)×520(D)mm			
JMA-7253-7	X band 7-feet 25kW 21°	NKE-1059-72F Beam width: H1.0°, V25° Rotation speed: 26rpm(60Hz), 21rpm(50Hz) Weight: 43kg Dimensions: 2280(W)×581(H)×520(D)mm	NTG-3027 Transmission frequency: 9410MHz Output: 25kW Pulse width: 0.07, 0.10, 0.15, 0.2, 0.3, 0.6, 1.2 μs Weight: 19kg Dimensions: 460(W)×461(H)×227(D)mm		
JMA-7253-9	X band 9-feet 25kW 21°	NKE-1059-92F Beam width: H0.8°, V25° Rotation speed: 26rpm(60Hz), 21rpm(50Hz) Weight: 45.5kg Dimensions: 2830(W)×581(H)×520(D)mm			
JMA-7303	S band 12-feet 30kW 21°	NKE-1079-2F Beam width: H1.9°, V30° Rotation speed: 26rpm(60Hz), 21rpm(50Hz) Weight: 145kg Dimensions: 3916(W)×850(H)×460(D)mm	NTG-3037 Transmission frequency: 3050MHz Output: 30kW Pulse width: 0.07, 0.10, 0.15, 0.2, 0.3, 0.6, 1.2 μs Weight: 37kg Dimensions: 615(W)×615(H)×365(D)mm		200/220V AC, 50/60Hz, 3-phase, 800VA However, 100/110V AC, 50/60 Hz, 1-phase also is possible, In this case, the following antenna model is used. NKE -1079-1

External Input Signals

Ship's speed signal (log): pulsed (100,200,400,800 P/nm), sync (90,180,360 x/nm), NMEA0183(2-axis operation possible)

Gyro signal: stepped (360, 180, 90p), sync (90x, 180x, 360x)

Navigation unit, own ship's position

(JRC/NEMA0183: GLL, RMA, RMC, GGA)

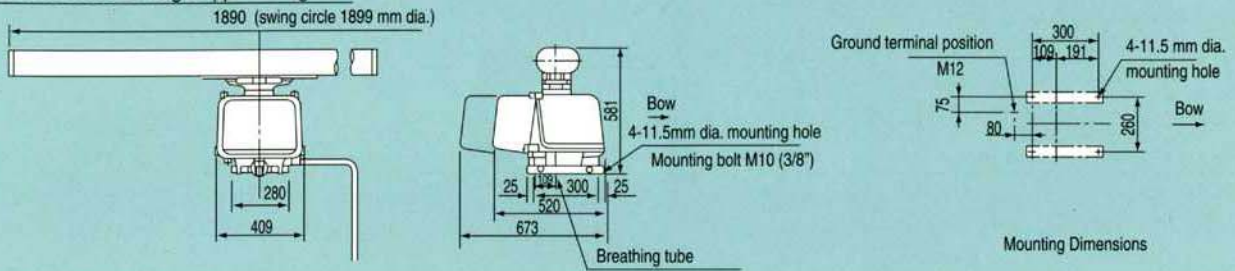
Option

- Inter switch (max.3 connectable)
NQE-3015J
- Performance monitor
NJU-63 for s band radar
NJU-64 for x band radar
- ARPA

SYSTEM DIAGRAMS

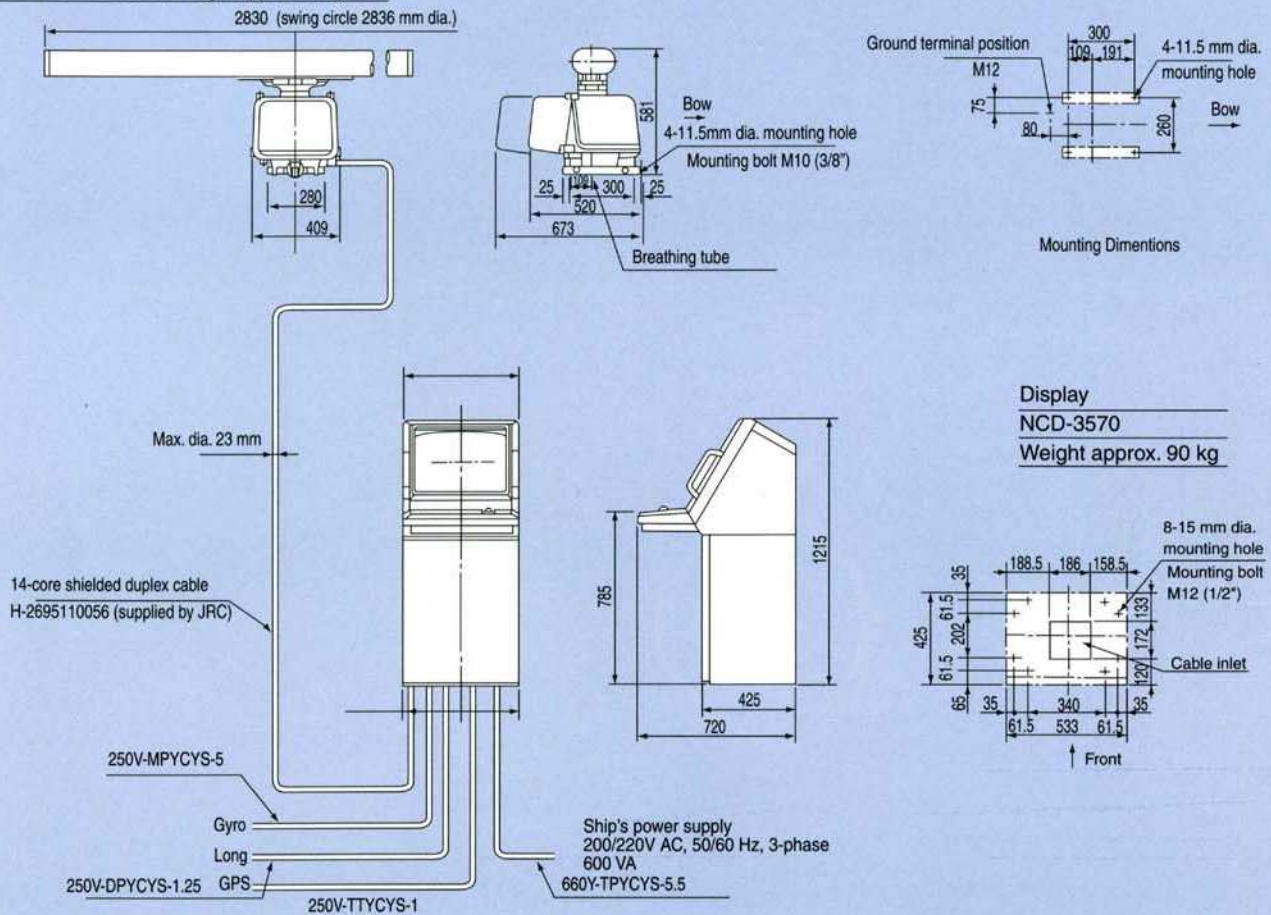
●JMA-7252-6

Scanner unit NKE-1052-6 weight approx. 48kg



●JMA-7252-9

Scanner unit NKE-1052-9 weight approx. 53kg



Scanner unit



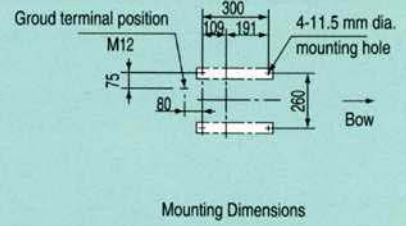
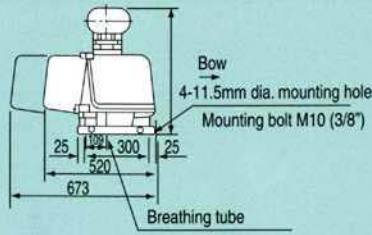
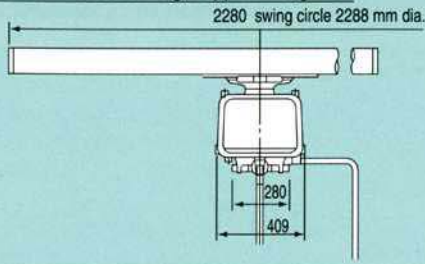
NKE-1052-6 (6-foot type)



NKE-1052-9 (9-foot type)

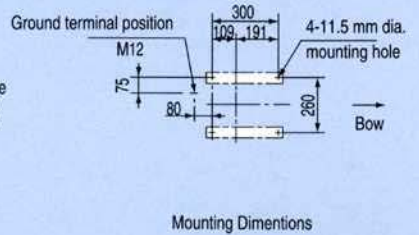
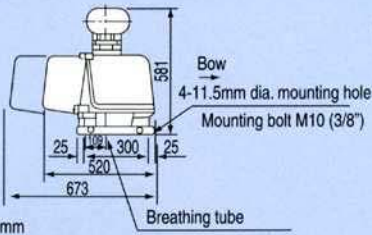
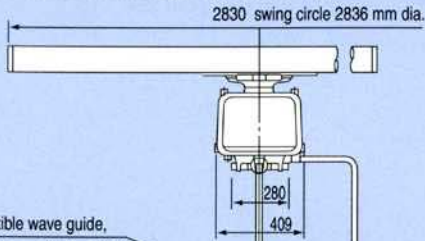
●JMA-7253-7

Scanner unit NKE-1059-7 weight approx. 43kg



●JMA-7253-9

Scanner unit NKE-1059-9 weight approx. 45.5kg



Flexible wave guide,
FR-9(supplied by JRC)

4-15 mm dia. mounting hole
Mounting bolt M12 (1/2")

14-core shielded duplex cable
H-2695110056
(supplied by JRC)

Max. dia. 23 mm

250V-MPYCYS-5

Gyro

Long

250V-DPYCYS-1.25

GPS

250V-TTYCYS-1

Max. dia. 23mm
14-core shielded duplex cable
H-2695110056 (supplied by JRC)

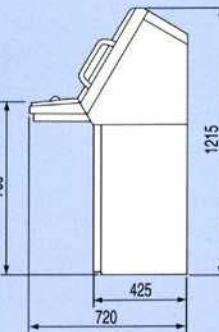
227
120.7

Cable insertion inlet
Use either cable inlet

535

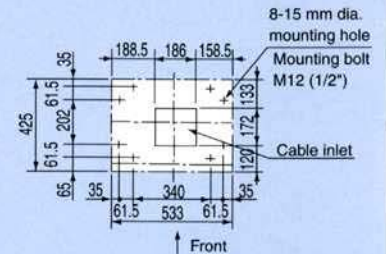
533

Ship's power supply
200/220V AC, 50/60 Hz, 3-phase
600 VA
660Y-TPYCYS-5.5



Transmitter/Receiver
NTG-3027
Weight approx. 19 kg

Display unit
NCD-3570
Weight approx. 90 kg



Scanner unit

Transmitter/Receiver



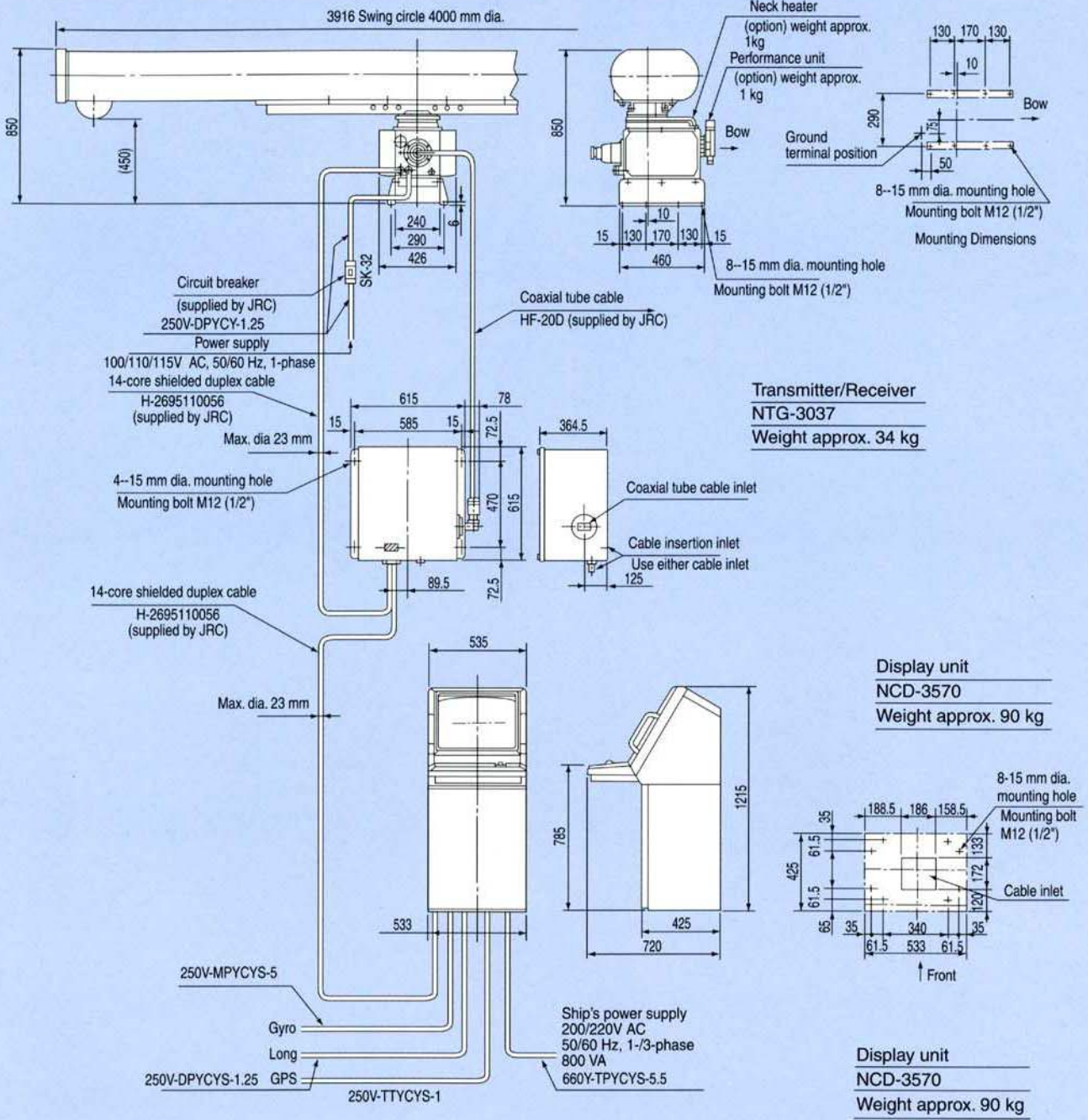
NKE-1059-7 (7-foot type)

NKE-1059-9 (9-foot type)

NTG-3027

● **JMA-7303**

Scanner unit NKE-1079 weight approx. 145kg (excluding options)



Scanner unit



NKE-1079 (12-foot type)

Transmitter/Receiver



NTG-3037

For further information, contact:



Since 1915

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ISO9001, ISO14001 Certified