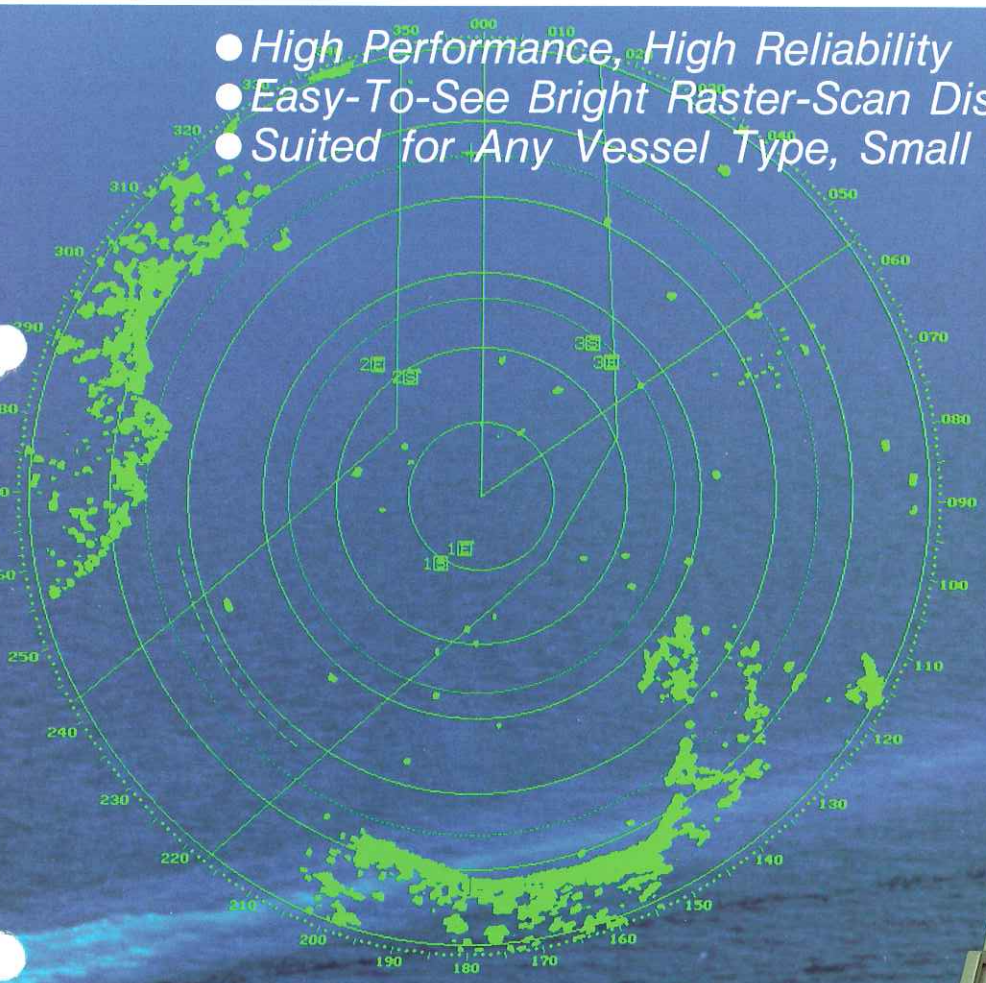
X-Band Two-Unit Systems

JRC LARGE MARINE RADAR

JMA-6252

3cm, 6/9ft, 25kW, 21-in, 120nm

- *High Performance, High Reliability*
- *Easy-To-See Bright Raster-Scan Display*
- *Suited for Any Vessel Type, Small or Large*



JRC Japan Radio Co., Ltd.

The JMA-6252 is a two-unit radar system offering accurate navigational information and displays on short to long ranges, and incorporating various new features such as increased navigational data inputs, high-definition, high-resolution raster-scan sisplay, newest radar signal processing, and ship's trail display.

JMA-6252-6	X-band two-unit 25kW radar with 6-foot scanner unit
JMA-6252-9	X-band two-unit 25kW radar with 9-foot scanner unit

FEATURES

● High-Resolution Raster-Scan CRT Display

The 21-inch high-resolution raster-scan flat CRT screen provides bright easy-to-see displays, ensuring ease and efficiency of ship operation.

● Newest Radar Signal Processing

The adoption of a microwave IC(MIC) frontend and the most advanced video signal processing technology permits the radar to clearly detect even weak signals from targets on long ranges.

● Ship's Trail Display

A moving target's trail can be displayed on the video screen, its direction and length presenting the target's course and speed. This function is helpful in ship operation and collision avoidance.

● Simple Operation

The operating panel is designed for ease of operation by using electronic touchkeys in different colors and a trackball, enabling the operator to take fast actions in case of emergency.

● Various Radar Video Modes

Radar video is presented in True/Relative Motion mode and bearing presentation is available in North-Up, Head-Up and Course-Up modes.

● Self-Testing Facilities

The operational status of the entire system is steadily monitored by a system monitor to make it to demonstrate 100% of the functions. If a function deteriorates, a visual blinking alarm appears on the CRT screen with an audible alarm. System function tests can easily be made during normal operation.

● Useful Navline Display

Navlines can be displayed on the radar video and stored in memory as course or exclusion lines for effective use for coastal navigation. Navlines are useful to monitor own ship's position relative to a planned route on the display

● Speedy Cursor Movement by Trackball

The cursor position can be moved easily with the trackball, ensuring speedy bearing and distance measurements.

● Electronic Cursor (EBL)

The Electronic Bearing Line can be presented in the CENTER mode in which it originates from the radar video center (own ship's position) and in the INDEPENDENT mode in which it originates from the cursor mark of the trackball. Used with the VRM (variable range mark), the bearing and distance between two points can be measured easily.

● Electronic Parallel Cursors

Electronic parallel lines can be presented on a radar video, ensuring effective use in observing the positions of other ships relative to own ship.

● Danger Alarms by Guard Rings

Guard ring can be freely set and displayed on the video screen; the variable is presettable by the track ball. Audible and visual alarms are given when a target is on this ring, alerting to a collision risk, stranding, or watchkeeping.

● Off-Centering

The radar video can be freely off-centered up to approximately 65% of its radius, presenting more information on own ship's surroundings fore and aft.

● X2 Enlarge

The radar video can be enlarged up double so that very small targets can be expanded so as to be easier to see.

● Digital Display of True Bearing

The built-in NSK (north stabilizing kit) of electronic type, but using no repeater motor, makes the radar compatible with any type of gyro compass by simple swith operation. Own ship's true bearing is digitally displayed on the screen at all times, contributing to efficient ship operation.

● Own Ship's Track (Only when navigation unit is uned)

own ship's track can be displayed on the radar video by connection an optional add–on terminal board.

● True Motion

The JMA-6000 series is provided with a true motion, permitting the operator to monitor the true motions of other ships at a glance as if they were moving on the sea.

● SHM and Bearing Adjustment from Keyboard

Installation alignments including antenna bearing and ship's heading marker adjustments are available from the keyboard on the display unit.

● Separable Display Unit

The display unit can be separated into three sub-units, the display, the operating panel and the radar processor, ensuring their space-saving installations even on small boats.

● Options

1. Performance Monitor (NJU-14)

Radar performance degradation can be monitored on the screen as it is needed.

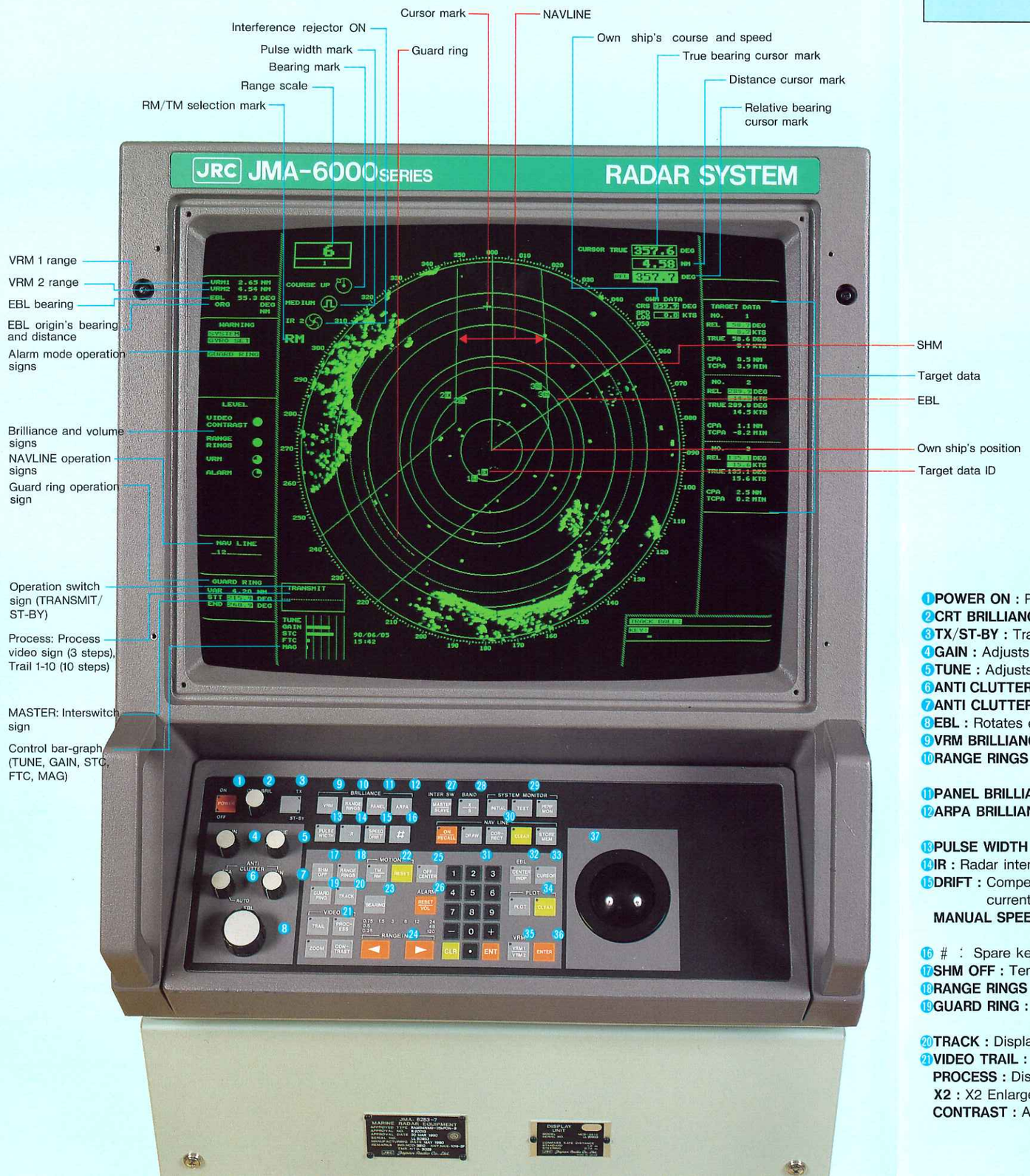
2. External Signal Interface (MDYW03509)

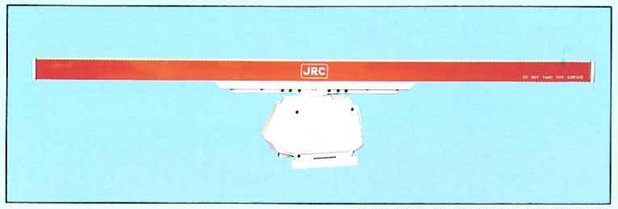
The interface allows the system to connect to navigation equipment (GPS, NS or Loran navigator), a radar adaptor or a radar buoy.

3. Inter-Switch

The inter-switch permits two radar systems to switch over between the scanner units and the display units.

DISPLAY & CONTROL PANELS

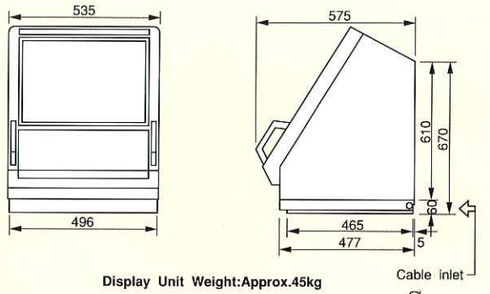




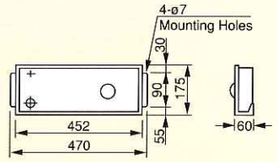
NKE-1024-9 SCANNER UNIT (9 FEET)

NKE-1024-6 SCANNER UNIT (6 FEET)

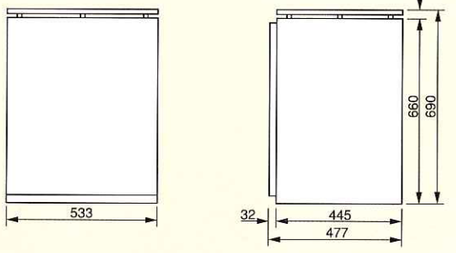
Separated Diagram



Display Unit Weight:Approx.45kg



Operating Panel Weight:Approx.3kg



Processor Unit Weight:Approx.56kg

1. **POWER ON :** Power-On switch
2. **CRT BRILLIANCE :** Adjusts CRT brilliance
3. **TX/ST-BY :** Transmission start switch
4. **GAIN :** Adjusts receiver sensitivity
5. **TUNE :** Adjusts tuning control
6. **ANTI CLUTTER SEA :** Sea clutter suppression on short ranges
7. **ANTI CLUTTER RAIN :** Rain clutter suppression
8. **EBL :** Rotates electronic bearing line
9. **VRM BRILLIANCE :** Adjusts VRM brilliance
10. **RANGE RINGS BRILLIANCE :** Adjusts brilliance of fixed range markers
11. **PANEL BRILLIANCE :** Adjusts brightness for control panel
12. **ARPA BRILLIANCE :** Adjusts brilliance of ARPA marks (vectors, symbols, etc.)
13. **PULSE WIDTH :** Switchover of pulse width
14. **IR :** Radar interference rejection
15. **DRIFT :** Compensation for own ship's speed error due to current set and drift
    MANUAL SPEED : Manusl entry of own ship's speed from LOG
16. # : Spare key
17. **SHM OFF :** Temporary erasure of ship heading marker
18. **RANGE RINGS :** Display of fixed range markers
19. **GUARD RING :** Display of alarm zone against other ship's intrusion
20. **TRACK :** Display of own ship's track
21. **VIDEO TRAIL :** Display of ship trails' video
    PROCESS : Display of "Processed" video
    X2 : X2 Enlarge
    CONTRAST : Adjusts video contrast
22. **MOTION**
    TM RM : Switchover of TM and RM modes
    RESET : Manual reset to TM mode
23. **BEARING :** Selects NORTH-UP/HEAD-UP/COURSE-UP mode
24. **RANGE :**Selects range scale
25. **OFF CENTER :** Off-centered video in RM mode
26. **ALARM RESET VOL :** Alarm tone silencer and volume control
27. **INTER SW :** Interswitches radar installations
28. **BAND :** Spare key
29. **SYSTEM MONITOR**
    INITIAL : Initializes data entry
    TEST : Checks operational status of display unit
    PERF MON : Monitors performance of transmitter/receiver and scanner
30. **NAVLINE**
    ON/RECALL : Displays and recalls NAVLINE from memory
    DRAW : Draws navlines
    CORRECT : Corrects drawn navlines
    CLEAR : Clears navlines
    STORE MEM : Stores navlines in memory
31. **DATA ENTRY :** Data entry keys
32. **EBL**
    CENTER : Displays EBL originating from own ship's position
    INDP : Displays EBL originating from trackball cursor mark
33. **CURSOR :** Display of parallel bearing line cursors
34. **PLOT :** Displays plot mark
    CLEAR : Clears plot mark
35. **VRM :** Displays VRM No.1 and No.2
36. **ENT :** Entry of data at cursor mark position
37. **Trackball :** Moves cursor mark

SPECIFICATIONS

Scanner Unit

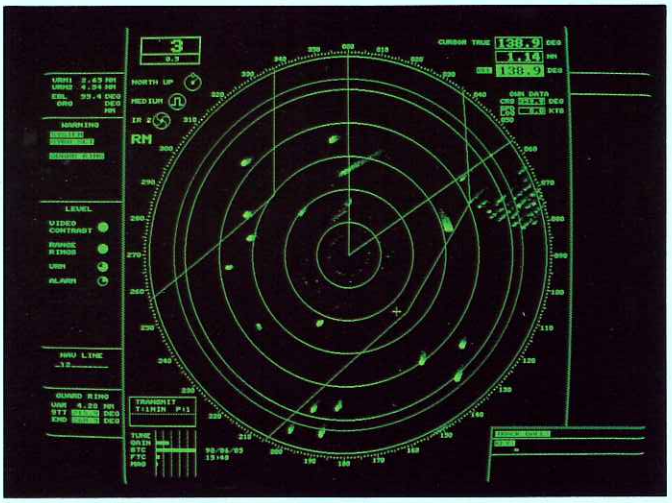
Model	NKE-1024-6	NKE-1024-9
Scanner length	6 feet	9 feet
Polarization	Horizontal	
Beamwidth		
Horizontal	1.2°	0.8°
Vertical	25°	25°
Sidelobes		
within ±10°	−26 dB	
Out side ±10°	−30 dB	
Rotation speed (60 Hz)	22 rpm	
Winds (relative)	51.5m/s	
Transmit frequency	9410±30MHz	
Peak power	25 kw	
Pulsewidth (ranqe)	0.08 μs (0.25−1.5 nm) 0.08,0.25,0.75 μs (3 nm) 0.25,0.75,1.0 μs (3,6,12 nm) 1.0 μs (24,48,120 nm)	
Receiver	Log amplifier with MIC	
Receiving bandwidth	20/3 MHz	
Power supply	100/115/120V or 200/220 VAC, 50/60 Hz approx.950 VA	

Display Unit NCD-3510

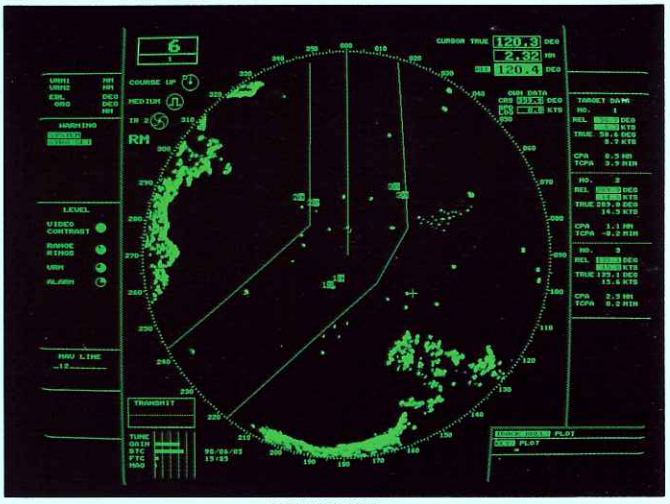
CRT type	21-inch high-resolution, raster-scan, mono-chrome CRT, with effective diameter of 250mm									
Range scale (nm)	0.25	0.5	0.75	1.5	3	6	12	24	48	120
Range rings (nm)	0.05	0.1	0.25	0.25	0.5	1	2	4	8	20
VRM	Two VRMs, 0-120 nm, 4-digit display									
Off-centering	Up to 65% of video circle radius (except 120nm)									
Electronic cursor	EBLs (CENTER/INDP/PARALLEL mode)									
Radar interference rejector	Provided									
Pulsewidth switch	Three steps (3, 6 and 12 nm)									
NAVLINE display	Available									
Alarm function	Provided									
True motion	Provided (up to 24 nm)									
Plotting function	Electronic, up to 20 marks									
Ship trail display	Available									
STC (sea clutter)	Automatic/manual									
FTC (rain clutter)	Available									
X2 enlarge	Provided									
Own Ship's track	Available (with optional interface for external signal)									
Other ship's data computation function	Provided									

Specifications subgect to change without notice.

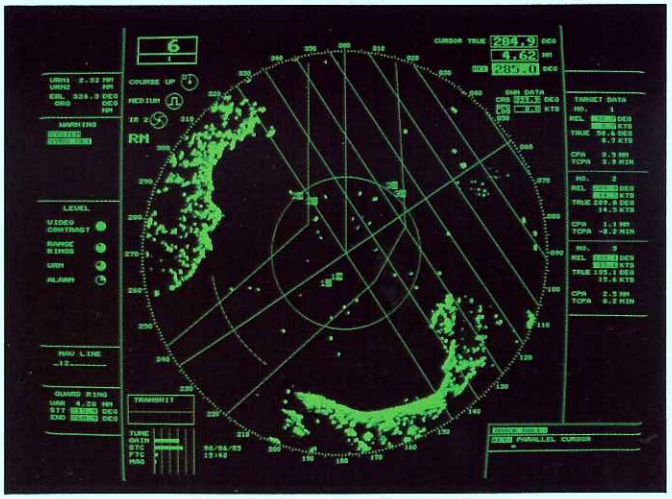
DISPLAY(EXAMPLE)



TRAIL



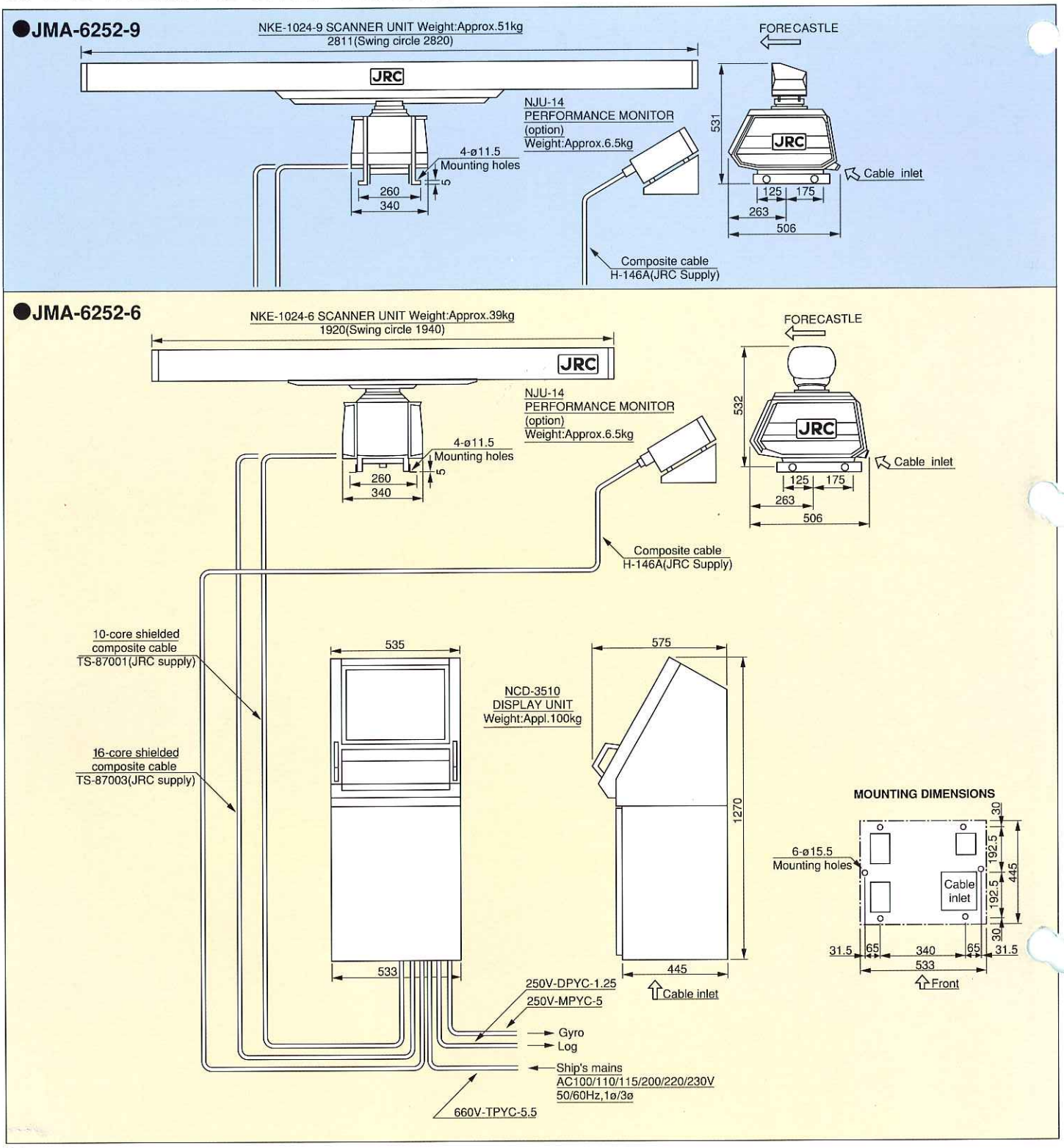
NAVLINE



PARALLEL CURSOR

×2 ENLARGING

SYSTEM CONFIGURATION



Notes

1. Do not lay the radar cables, especially the scanner-display cable in parallel to the cable of any radio equipment, in order to avoid radar interference on the radio equipment.
2. Consult us about installation of the perfomance monitor.

For further information, contact:

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