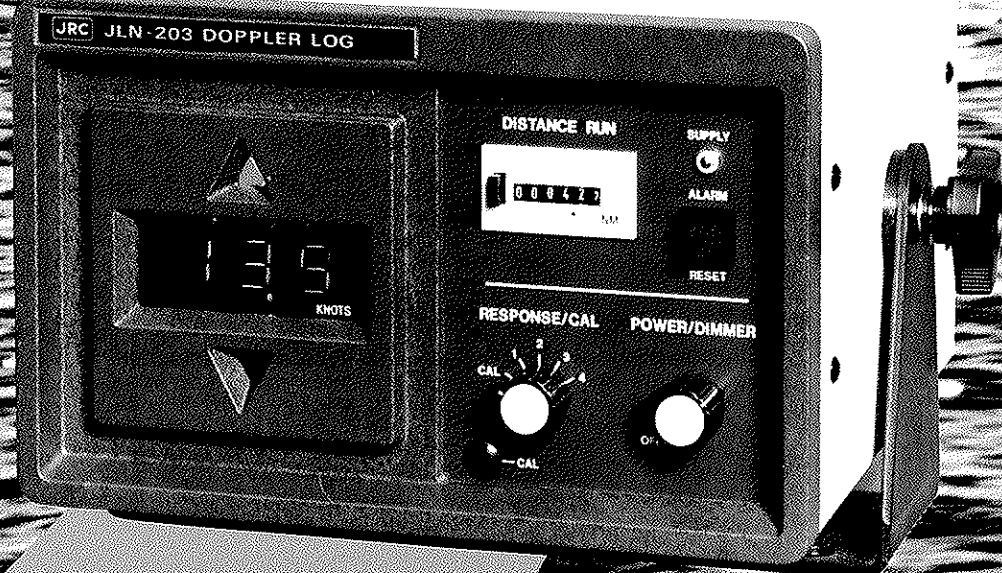


# JLN-203

## JRC DOPPLER LOG

JRC

*Japan Radio Co., Ltd.*





**MAIN ELECTRONICS  
NJC-203**

Today, marine navigation requires the highest degree of safety and accuracy that has ever been called for. Speed logs employing sonar technique and advanced electronics are widely used as ship's speed sensors.

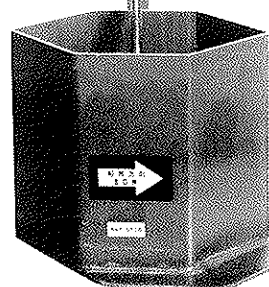
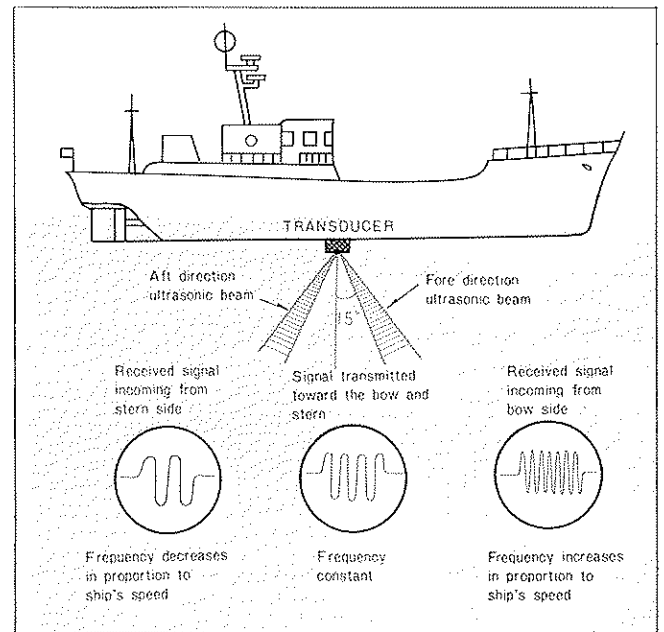
The JRC Model JLN-203 Doppler Log is designed for wide-range use from small fishing boats to large ships, employing a compact transducer unit to facilitate installation.

Using the versatile data output, the JLN-203 can be interfaced with true motion radars and Transit satellite navigators.

**Widely used as speed sensors  
and interfaced with true motion  
radars and Transit satellite  
navigators.**

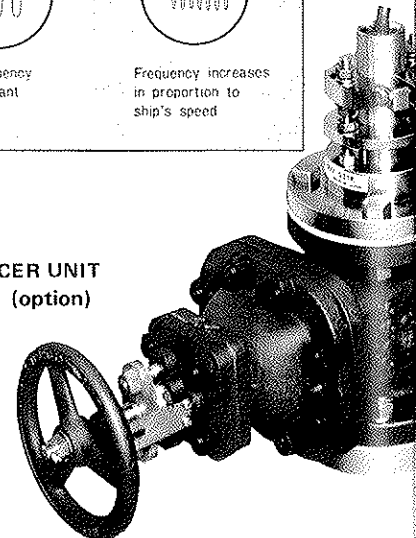
*What is a Doppler Log?*

In the doppler log system, the transducer unit installed through hull bottom transmits two simultaneous ultrasonic signals 15 degrees from the vertical as shown below. The signals are reflected from the scattering layer. The frequency of the reflected signals shows a doppler shift which is proportional to the ship's speed. The doppler shift is detected to obtain the true ship speed.



**TRANSDUCER UNIT  
NKF-585E (standard)**

**TRANSDUCER UNIT  
NKF-531E (option)**



## FEATURES

### 1 Ship's Speed Through The Water

Using a high-accuracy pulse doppler system and high-frequency ultrasonic signals, signals reflected from approximately 1.8 to 3m underwater below the hull bottom are tracked to detect their doppler frequency shifts, ensuring highly accurate measurement of own ship's speed through the water without being effected by following waves.

### 2 Free Of Errors Due To Hull Motions

An ultrasonic beam pair is transmitted aslant underwater in the fore and aft directions and the difference between the doppler shifts of both received signals is determined, so errors due to the hull motions such as rolling and pitching can be removed, ensuring high accuracy of speed measurement even in roughest sea conditions.

### 3 Reliable Compact Transducer

The transducer unit is of molded rubber and has a compact and lightweight construction, ensuring ease of installation. Moreover, the unit has been designed to minimize the effects of aeration, ensuring stable, accurate operation. There is also no troublesomeness of putting the detector into and out of water when the ship leaves and enters the port.

### 4 Easy Speed Calibration

A calibration switch and control are provided in the front panel allowing easy velocity adjustment. Moreover, a response time setting control is also provided, ensuring stable indication of the speed of the ship, whether small or large.

### 5 Simple Operation

Once the power is turned on, a three-digit readout indicates speed at a glance.

### 6 High Reliability

JRC's many years of experience and the latest electronic technology for marine navigation have been combined to realize a solid-state, modular design of doppler log, ensuring high reliability, long service life and ease of maintenance.

## COMPOSITION

Component	Model	Quantity	Remarks
Main Electronics	NJC-203	1	
Transducer Unit	NKF-585E	1	With 25m cable
Spares	6ZXBS00176	1 set	Standard
Accessories	HS16P-2	1	Connector
	HS16P-4	1	Connector
	HS21P-8	1	Connector
Instruction Manual		1 copy	English

## SPECIFICATIONS

Detection:	Dual-beam pulse doppler system
Operation depthrange:	More than 3m underwater below the hull bottom
Speed measuring range:	0 to 30 knots through the water
Speed indication:	Bright three-digit incandescent readout XX.X knots.
Fore and aft indication:	Arrow lamps — Fore; green Aft; red
Measuring accuracy:	±0.1 knot or ±1.0%, whichever is larger
Distance run indication:	Six-digit electromagnetic counter with manual reset XXXX.XX NM
Sound velocity correction:	Automatic correction by thermistor in transducer unit
Distance run data output:	200 pulses/NM -contact signal 100 or 400 pulses/NM - optional
Speed data output:	16-bit serial BCD code with TTL buffer
Operating frequency:	2MHz
Speed adjust range:	-25% to +50%
Magnetic compass safety distance:	1.5m
Operating temperature:	Main electronics -15° to 55°C Transducer -10° to 70°C Junction Box -15° to 70°C
Power supply:	100/110/115/220V AC tap-changeable 50/60Hz, single-phase, approx. 80VA
Test signal generator:	Included
Response time control circuit:	Included

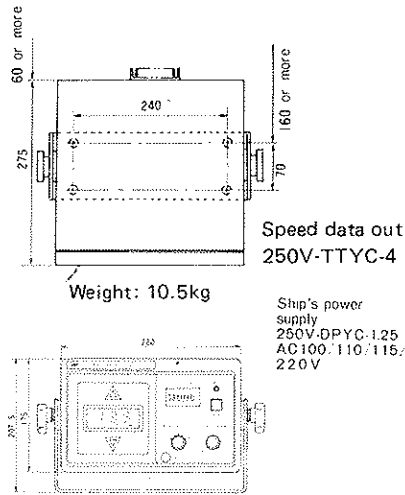
## OPTIONS

Component	Model	Remarks
Remote Display Unit	NWW-5	Digital speed display
* Note	NWW-16	Digital speed display with distance run
Transducer Unit	NKF-530E	Compact flat type
	NKF-531E	With 2.5-inch gate valve
Junction Box	NOD-382B	
Transducer Extension Cable	M-933	26.2mm dia.

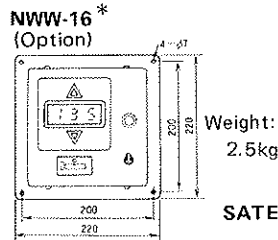
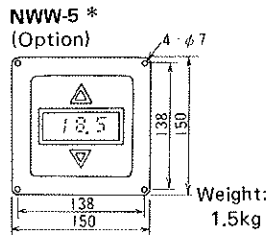
\*Note : Choose one of two units.

# DIMENSIONS (mm) & WEIGHT

## MAIN ELECTRONICS NJC-203



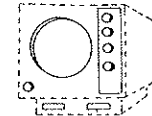
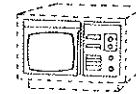
## REMOTE DISPLAY UNIT



\* Free selection of one of  
NWW-5/16 units.

## SATELLITE NAVIGATOR

## MARINE RADAR

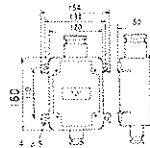
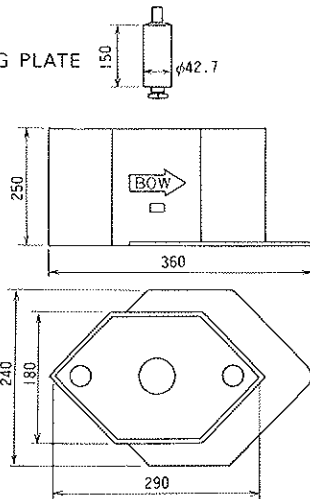


Distance run data (200 P/nm)  
250V-DPYC-1.25

## JUNCTION BOX NQD-382B (Option)

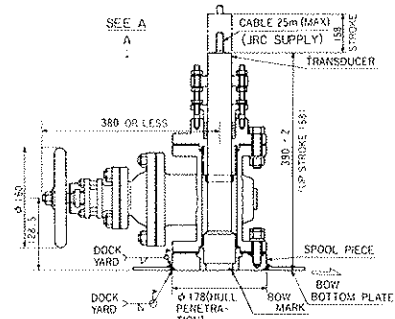
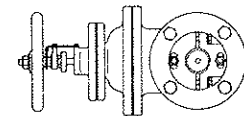
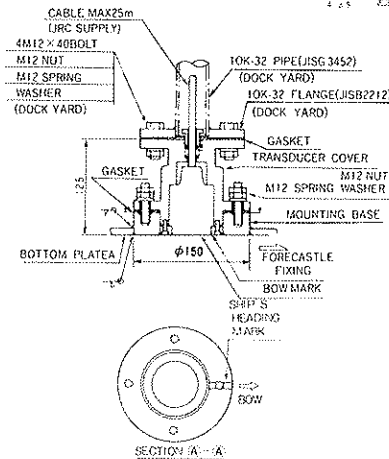
25m-long cable attached to  
Transducer Unit

## STUFFING PLATE



## JUNCTION BOX NQD-382B (Option)

Weight: 1kg

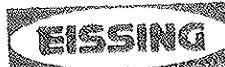


▲ TRANSDUCER UNIT NKF-585E (Standard)  
Weight: 18kg

▲ TRANSDUCER UNIT NKF-530E (Option)  
Weight: 13kg

▲ TRANSDUCER UNIT NKF-531E (Option)  
Weight: 48kg

For further information, contact:



Technologisch  
aktiv.

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FM 30249



16EM