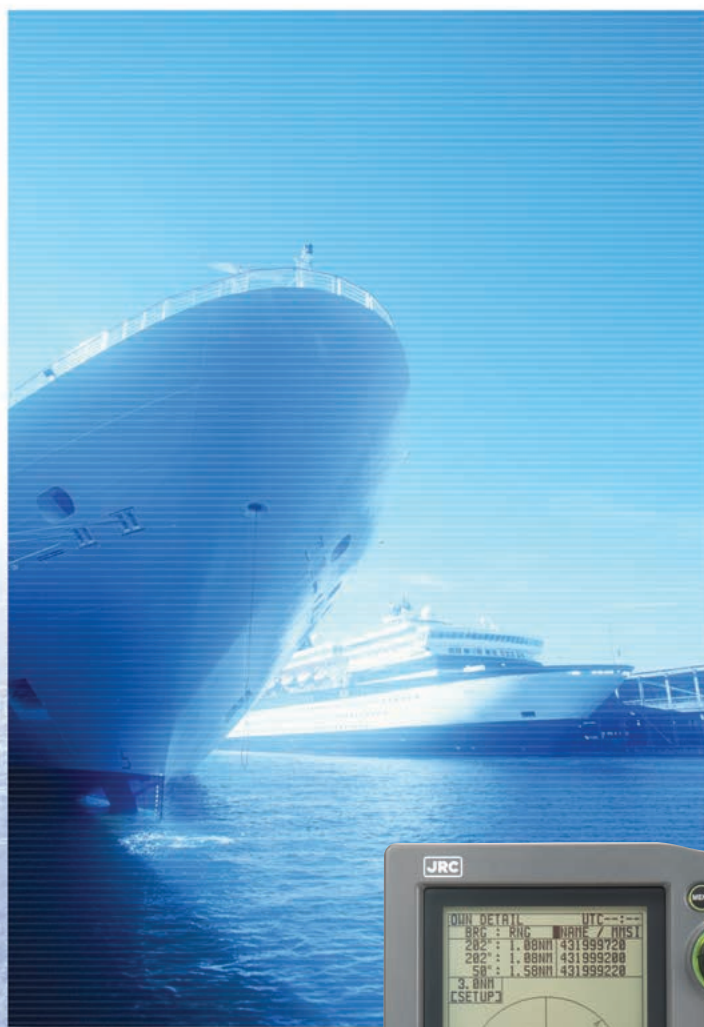


JRC

Automatic Identification System

AIS
JHS-182



JRC

Japan Radio Co., Ltd.

Automatic Identification System

The Universal AIS is a new system developed for safer ship voyages. Beginning July 1, 2002, it was mandated to install this equipment on ships by SOLAS* Chapter V enforced from 1 July 2002.

The AIS system sends out own ship's information such as the ship's name, position, course, and speed to the other ship stations, as well as the coastal AIS stations, on VHF radio channels using TDMA protocol. The equipment also has a dedicated display unit to show the received information of other ships.

JRC's AIS, JHS-182, is aimed for easier installation, inheriting the novel integrated antenna-transponder design from JRC's legacy experience and unique technology, yet incorporating a smaller and lighter design.

* SOLAS : International Convention for the Safety Of Life At Sea

FEATURES

Smallest AIS Transponder

JRC's unique compact antenna transponder design consists of the VHF antenna, GPS antenna, VHF transceiver and data processor. The new JHS-182 is downsized using high LSI technologies.

Large screen allows comfortable visibility

The JHS-182 has a 5.7-inch LCD screen display, which presents the information given from the target ship list and plotting viewer with clear visibility.

Stress free operation

The AIS has become an important piece of navigation equipment to assure safe navigation. Comfortable navigation watch using AIS will be brought by use of simple joystick and jog dial operation, and provided with real-time information.

Easy and simple installation

The JHS-182 consists of three components: transponder, display and a connection box. The components are lighter and more compact. Interconnection between the transponder and the junction box is completed with one coax cable.

Compliance

IMO Resolution MSC74(69) Annex 3, IEC61993-2, ITU-R M.1371-1, IEC60945 and other relevant regulations.

INFO PROVIDED BY CLASS-A AIS

Static Info

MMSI No./IMO No/
Call Sign/Ship's Name/
Ship's Type/
Length/Beam

(MMSI : Maritime Mobile Service Identity)

Dynamic Info

Ship's position/UTC/
Course Speed/Ship's
heading/Rate of turn/
Navigation status

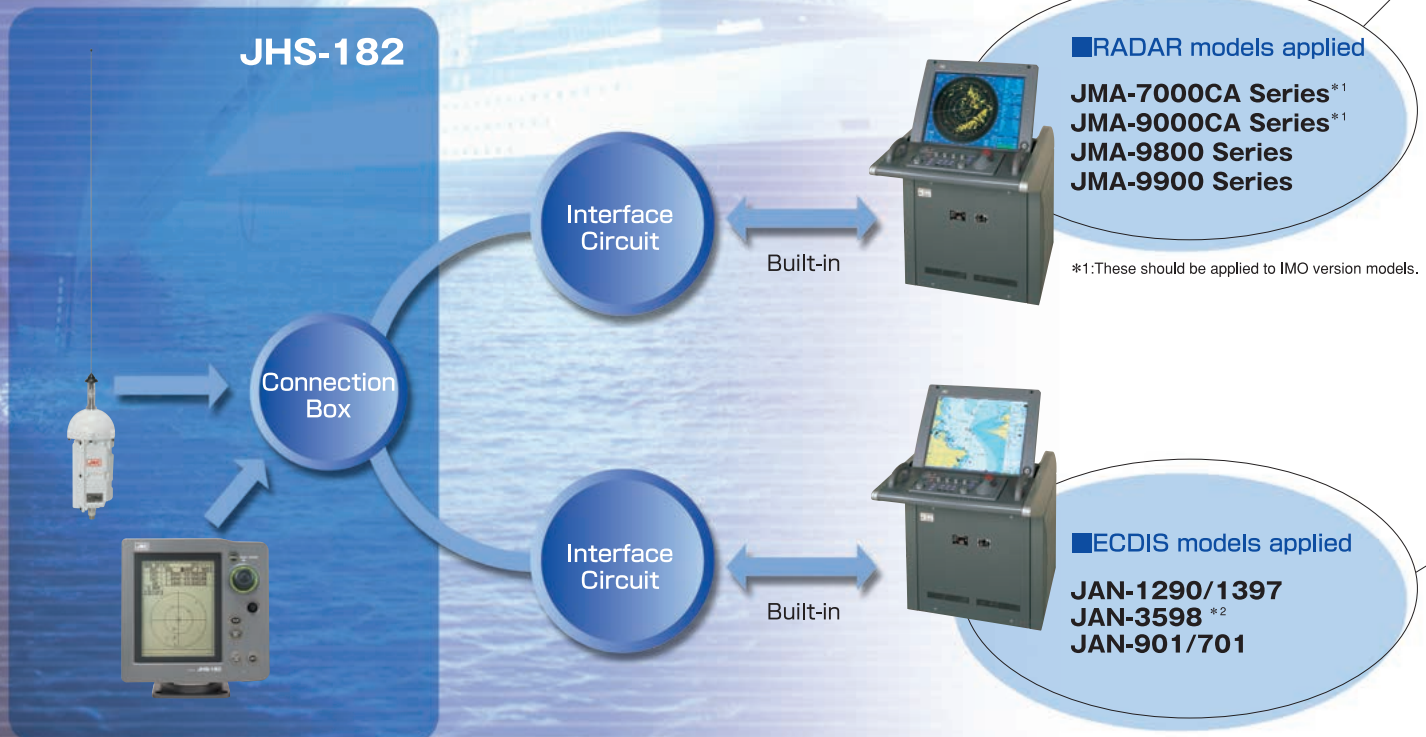
Info related with Navigation

Draught/
Cargo type/
Destination/
Estimated Time Arrival

Messages

Broadcasting
message/
Addressed message

RADAR / ECDIS interfacing with JHS-182



*² : The AIS targets should be indicated by JRC's original symbol.

JHS-182 can provide AIS data using IEC61162 (NMEA0183) sentence. Thus if other manufacturers equipment or application software using a PC has the function capable of receiving the AIS data, JHS-182 would be useful in providing this AIS information.

APPLICABILITY

● Integration with navigation equipment

As an important piece of navigation equipment onboard, the AIS assists collision avoidance and maneuvering by referring other ship's information. Combination of the other ship's information from the AIS with geographical information shown on radar or ECDIS provides for pertinent information for tactical decision-making or prompt contact with other ships.

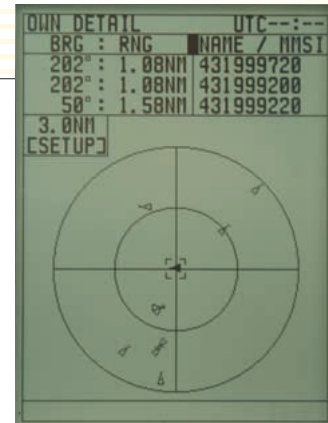
● Remote diagnostic system available for JRC's product line

The Remote Diagnostic System (RDS) is a unique function that is capable for remotely monitoring and analyzing the JRC equipment. The JHS-182 also has this function. When connected to RDS server and Inmarsat, this assists prompt action and service for any problems that may occur in the AIS system.

Text Display (Target Ship List)

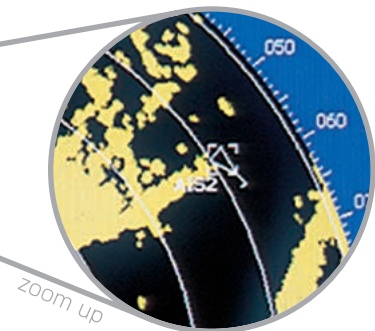
| SORT:NORTH/RANGE UTC--:-- | | |
|---------------------------|--------|-------------|
| BRG | RNG | NAME / MMSI |
| 202° | 1.08NM | 431999720 |
| 50° | 1.58NM | 431999220 |
| 331° | 1.71NM | 431999210 |
| 192° | 1.93NM | 431999730 |
| 191° | 2.04NM | 431999530 |
| 211° | 2.34NM | 431999190 |
| 188° | 2.70NM | 431999740 |
| 45° | 2.86NM | 431999230 |
| 187° | 3.03NM | 431999540 |
| 214° | 3.62NM | 431999180 |
| 179° | 4.00NM | 431999750 |
| 185° | 4.02NM | 431999550 |
| 43° | 4.14NM | 431999240 |
| N 35° 28.0014 SOG 1.0KT | | |
| E 139° 20.5007 COG 27.0° | | |
| TOTAL: 75 CURSOR: 1 | | |

Graphic Display



RADAR

Ship information



AIS Target on RADAR / ECDIS

The AIS is a important key device used to indicate AIS target symbol and information on RADAR / ECDIS screen.

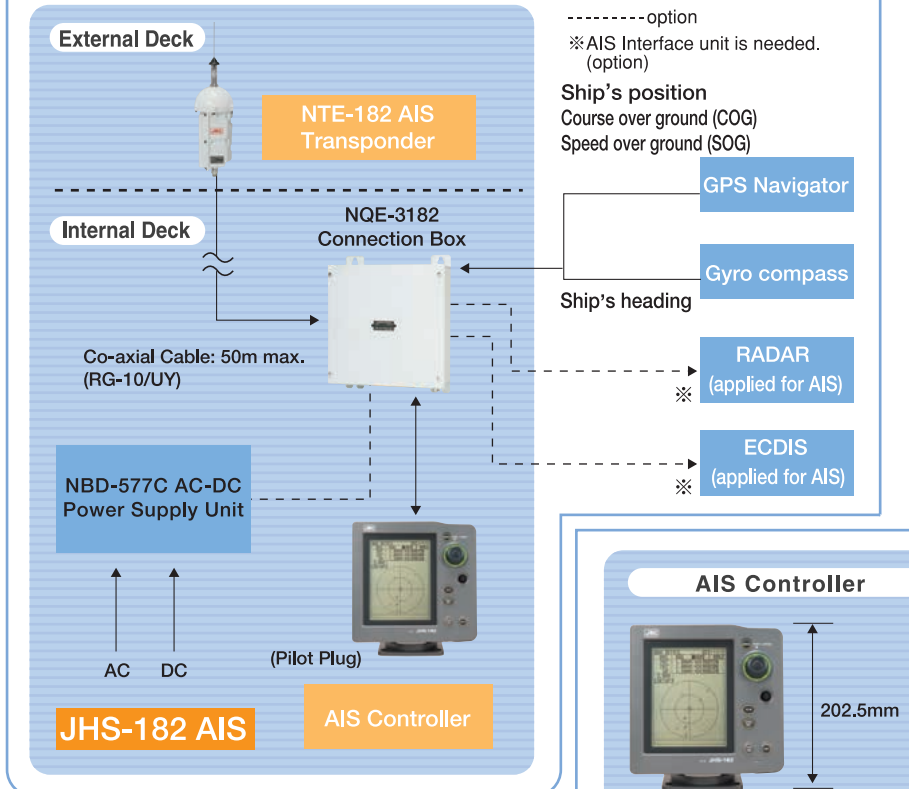
- AIS target and also ARPA target are shown on same screen of RADAR / ECDIS. Comparison between these targets is useful to know maneuvering condition against other ships.
- AIS target is shown as vector symbol formed by course and speed, which is referred with the received information real-timely from other ships. AIS target is more accurate information than ARPA, therefore AIS information is suitable for collision avoidance.
- AIS symbol is kept showing on the screen without any influence happened by characteristics of radar, unless the other ships are out of VHF range. That is why the AIS target is never shielded by reflection of ground, rain or cloud, and eliminated by adjustment of anti-sea-clutter or anti-rain-clutter.
- Indication of AIS target symbol is switch-able.

ECDIS

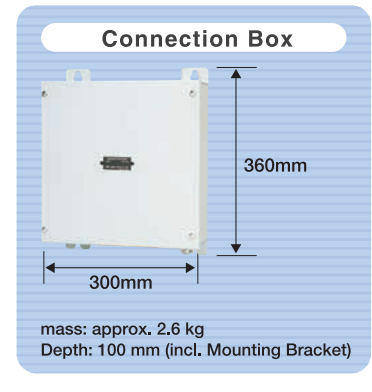
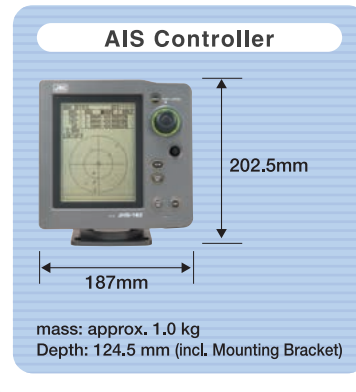
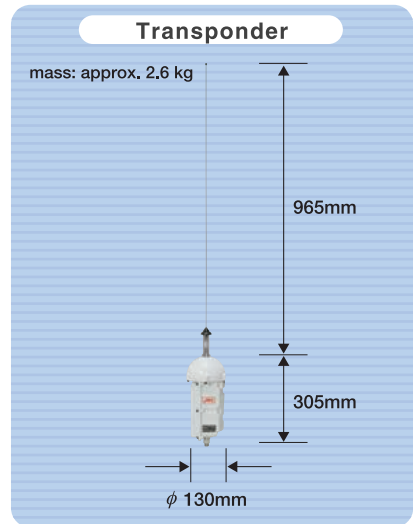
Ship information



BLOCK DIAGRAM



DIMENSION



SPECIFICATIONS

AIS Transponder: NTE-182

| | |
|-----------------------|--|
| Frequency range | : 156.025MHz~162.025MHz (Default channels AIS1:161.975MHz AIS2:162.025MHz) |
| Type of emission | : G1D (F1D), G2B (F2B) |
| Type of modulation | : GMSK, FSK |
| Output power | : 12.5W / 2W |
| Power supply | : DC24V (-10%, +30%) |
| Power consumption | : 4.5A max: (when transmitting), 1.5A max: (when receiving) |
| Operation Temperature | : -25°C ~ +55°C (IEC 60945) |

AIS Controller (NCM-779)

| | |
|----------------------------|------------------------------------|
| ■ Operation panel | |
| Type of display | : 5.7-inch FSTN LCD, 320×240 pixel |
| Back-light | : LCD / Keyboard |
| ■ Environment condition | |
| Operation Temperature | : -15°C ~ +55°C (IEC 60945) |
| Power supply | : DC24V -10% ~ +30% (IEC 60945) |
| ■ External interface Ports | |
| Connection Box In/Out | : IEC 61162-2 1-port |
| Pilot-plug | : IEC 61162-2 1-port |

Connection Box (NQE-3182)

| | |
|--------------------------------------|---------------------------------|
| ■ Environment condition | |
| Operation Temperature | : -15°C ~ +55°C (IEC 60945) |
| Power supply | : DC24V -10% ~ +30% (IEC 60945) |
| ■ External interface Ports | |
| Sensor In | : IEC 61162-1 4-port |
| | : IEC 61162-2 3-port |
| Gyro-compass data (NSK) In | : Current-loop 1-port |
| DNSS differential correction data In | : ITU-R M.823-2 1-port |
| Optional display In/Out | : IEC 61162-2 2-port |
| Auxiliary Out | : IEC 61162-2 2-port |
| Alarm Out | : Relay contact 1-port |

Standard Components

AIS Transponder [NTE-182]
 Connection Box [NQE-3182]
 AIS Controller [NCM-779]
 Controller Cable [7ZCJD0214A]
 Spare parts [7ZXJD0049]
 Instruction Manual [7ZPJ0229]

Optional Components

AC-DC Power Supply Unit [NBD-577C]
 Junction Box [NQD-4382]
 Junction Unit [CQD-5182]
 NSK Unit [CMJ-3182]
 NCM-779 Console Mounting Kits [NCE-5779]
 Power Supply for Personal Pilot Unit [NBG-380]
 Pilot-plug Cable [CFQ-6961]
 Pilot-Plug Box [NQE-3150]
 NQE-3150 Console Mounting Kits [MPBX40498]
 [] Type / Parts Cod

• The appearance and specifications may be subject to change without notice.

⚠ Cautions for Safety

- Read the Instruction Manual before your use for safety in operation.
- Do not install this equipment in a place with water, wetness, vapor, dust and oily smoke. Otherwise, a fire, electric shock or failure may result.
- For the installation work for this equipment, request to JRC agents or dealers. The installation work done by any non-specialist personnel may result in an electric shock or failure.

For further information, contact:



Since 1915

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