# „HIS-700R“

Operation/Mounting manual

HAIYANG OLIX.
103-903 Bucheon Technopark 364
Samcheongdong Ojeonggu Bucheon Gyeongi, Korea
Tel. :+82 32 327 4712
Fax: +82 32 327 4713
www.haiyang.co.kr

# Content

# 1. ENGLISCH

## 1.1. Safety information

Software License Agreement
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PLEASE READ THIS AGREEMENT CAREFULLY.

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Limited Warranty
This HAIYANG product is warranted to be free from defects in materials or workmanship for 12month from the date of purchase. Within this period, HIAYANG will at its sole Option repair or replace

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HAIYANG retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

Warnings and Precautions
If you choose to use the HIS-700R in a boat, it is the sole responsibility of the owner/operator of the HIS-700R to secure the HIS-700R so that it will not cause damage or personal injury in the event of an accident.

If you choose to use the HIS-700R in boat, it is the sole responsibility of the operator of the boat to operate the boat in a safe manner, maintain full surveillance of all boating conditions at all times, and never become distracted by the HIS-700R to the exclusion of safe operating practices.

**SOME VESSELS DO NOT CARRY AIS.**
**IT IS IMPORTANT AT ALL TIME TO KEEP A PROPER LOOKOUT.**
**NEITHER THE “HIS-700R” is NOT A SUBSTITUTE FOR GOOD SEAMANSHHIP.**

## 1.2. HIS-700R

Thank you to buy an HIS-700R from the company HAIYANG. It is the latest and the best available unit in the market. The core features are:
2 channel AIS receiver with newest µP technology
Highest sensitivity (-112dBm) at optimised selectivity
Integrated multiplexer upconverting from 4,8kB to 38,4kB
Enlarged DC power input from 9-28VDC

## 1.3. Use of HIS-700R

It is very simple to use.
After mounting and connecting to the chartplotter or the PC is nothing more to do with the unit.

The Green LED is on, if correct connected to the board power
The Channel A LED is flickering, each time there is an AIS signal received on channel A
The Channel B LED is flickering, each time there is an AIS signal received on channel B

## 1.4. Package contains

The package contains:
The cable to connect to the PC or chartplotter
Adapter plug to use the HIS-700R with the PC (SUB-D 9)
2 stainless steel screws to mount the HIS-700R.

## 1.5. Mounting of the HIS-700R

The HIS-700R is equipped with a enhanced driver circuit. Therefore it is possible to have the HIS-700R mounted in a distance up to 10m from the Chartplotter.
The HIS-700R should not be mounted close to other units transmitting and receiving radio signals.

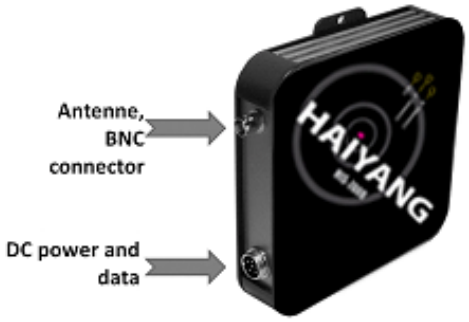
The HIS-700R is mounted with 2 screws under deck. Please leave some space of about 125mm below the unit so that the cables entering the unit do have enough space

If you use an own AIS antenna, please assure that the antenna is at least 1m in distance mounted to the VHF antenna, otherwise part of the transmission power of the VHF is entering the HIS-700R and disturbs the excellent performance.

The HIS-700R is connected to the antenna and to the PC or the chartplotter

### 1.5.1 Connecting of the HIS-700R

The HIS-700R is connected to its ownVHF antenna to the VHF antenna of the VHF Radio) and to the chartplotter or PC.


List Cable connection:

| HIS-700R, Cable colour | Function |
|---|---|
| Red | Power supply, positive DC +9 ... +28V |
| Black | Power supply, negative (and signal ground) |
| White | NMEA-out (+), AIS-Data , |
| Green | NMEA-out (-), AIS-Data |
| | |
| Yellow | Additonal NMEA-in (+), e.g. GPS-data (optional) |
| Brown | Additonal NMEA-in (-), e.g. GPS-data (optional) |

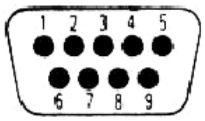
### 1.5.2 Connection and settings of the Chartplotter

The only thing you have to do is:
to connect the white (out +) cable to your input (+) of the NMEA port
to connect the green (out – ) cable to your input (-) of the NMEA port

Please find details of the settings in your Chartplotter manual. Every chartplotter is a little bit different.
Nevertheless the main settings of your input NMEA channel should be:
Select the right input channel at your Chartplotter. (Some do have up to 3 and more input channels)
Set transmission data rate to 38400
Set the input channel of the chartplotter to the following bit configuration: 8/N/1

### 1.5.3 Settings of the Chartplotter/PC

The only thing you have to do is:
to connect the white (NMEA out +) cable to PIN 2 of the SUB-D9 connector (enclosed in the package).
to connect the green (NMEA out – ) cable to PIN 5 of the SUB-D9 connector (enclosed in the package).




**Viewed looking in to pins of plug**

Plug the cable to the serial port of your computer.
If your computer does not have a serial port anymore, which is often the case with new computers, you can use also a serial<->USB adapter.
But if you use such an adapter please do first install the adapter. Please assure that the adapter is not yet connected to the HIS-700R. In some cases this could lead to misinstallation of the adapter and a final reliable use of the HIS-700R is not possible.

Select the right input port at your PC
Set transmission data rate to 38400
Set the input port to the following bit configuration: 8/N/1

## 1.6. Technical data/Specification

Receiver
•2 channel AIS receiver for AIS Signals on the frequencies 161.975 and 162.025 MHz
•Channel spacing: 25kHz
•Sensitivity: -112dBm
•Data rate: 9600Bps
•Antenna impedance: 50Ohm
Electrical performance:
•Power supply: 9V up to 28VDC @< 100mA
•Antenna connector: BNC
•Cable for power supply and data: 6 pole plug, included
Output:
•Default Baud rate: 38,4kB
(4,8kB can be set by Dealer on request or the ambitioned sailor itself)
•Format: NMEA 0183
•NMEA Telegramme: VDM
Dimensions (overall):
•Length: 150mm, Width: 150mm, Height: 30mm
•Weight: app. 500gr.

## 1.7. External NMEA, e.g. GPS – pass through HIS-700R

External NMEA data, e.g. of an external GPS, can be passed through to the HIS-700R. This input is optodecoupled. The yellow and the brown cable are used for this feature. The yellow cable is the positive input for the additional NMEA data (NMEA +). The brown cable is the negative input for the additional NMEA data (NMEA -). Please be sure that all external data need to be at a data rate of 4k8. All data is speeded up to 38k4 and are

outputted via the NMEA (+/-) data lines (white/green) multiplexed with the received AIS telegrams.

## 1.8. Change of Baud rate

The change of the baudrate, if necessary, is easy to be done.
The default value is a transfer rate of 38400 Baud.

To change to 4800 you have to follow the following procedure:

1) Switch off the HIS-700R, disconnect it from the lines
2) Connect the NMEA cables in the following way:
3) White and Yellow
4) Green and Brown
5) Leave these cable connections like described under 2.
6) Switch on the HIS-700R, this means connect it to the lines.
7) The “on” LED will appear
8) The “channel B” LED will appear for a new programmed datarate of 4800Baud
9) Disconnect the NMEA cable connection
10) Now the new datarate is programmed
11) Then “channel B” will shortly disappear and turn on again for app. 1 sec.

If you want to set back to 38400 Baud the procedure is the same like step 1-7 and 9.
Step 8 and 10 will be different:
8) The “channel A” LED will appear for a new programmed datarate of 38400 Baud
10) Then “channel A” LED will shortly disappear and turn on again for app. 1 sec

## 1.9. Contact

Servicel/Technical Advice:
Your local saler or contact the manufactorer directly over the homepage:
www.haiyang.co.kr

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## 1.10. What to do if not working properly?

| Pos | Problem | Reason | Solution |
|---|---|---|---|
| 1 | "ON" LED not lit | Board power | Please check the board power connection |
| 2 | Not either Channel A or Channel B LED flickering | No signals around | Are you in an area with enough AIS traffic? |
| 3 | | Antenna connection bad | Check your connectors and your antenna cable. Please be very carefully with the soldering of sockets and plugs. Bad work will cause a loss of sensitivity. |
| 4 | No AIS Targets on the screen | Not well connected to the PC or the chartplotter | This can be checked with a PC and the "Hyperterminal software" of Windows. You find the Hyperterminal SW under /Programms/Accesories/ Communication/. Connect the easyAIS by means of the cable and the SUB D9 plug, which is also enclosed to the serial port of the PC. |

| | | | |
|---|---|---|---|
| | | | Please configure the port and the cable as discribed under topic. "Configuration for PC". Each time when the HIS-700R is first connected to the lines, it is sending a message. If you see the message, the connection works well. |
| 5 | | Antenna connection bad | See under 3) |