



NO.0098



**HIGHLANDER**

# **RADAR**

*Fully Automatic Working Radar  
Auxiliary Collision Avoidance Radar*

HLD-RADAR 900/900C



Complies with the following regulations:  
IEC 60945(2002)incl.Corrigendum 1 (2008)  
IEC 61162-1(2016) IEC 61162-2(1998)  
IEC 61162-450(2018)  
IEC 62288(2014)  
IEC 62923-1(2018) IEC 62923-2(2018)  
IEC 62388(2013)

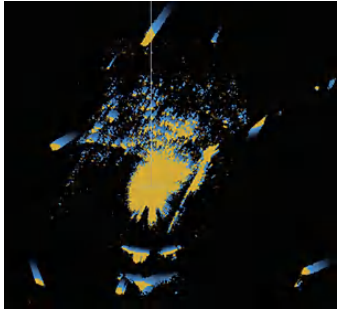
### 【Automatic Tune】

Dynamic Automatic Tuning ensures that the radar functions at its optimal level in target detections.

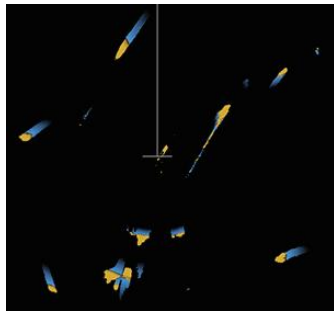
### 【Automatic Clutter Suppression】

Automatic Sea & Rain Clutter Suppression allows the radar performance to automatically adapt to different sea states, vessel types and installation limitations.

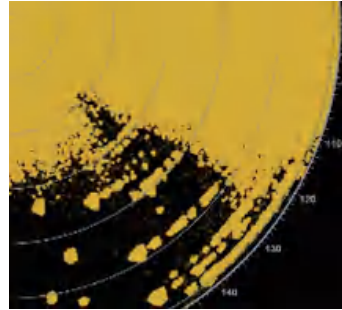
▶ Before sea clutter suppression:



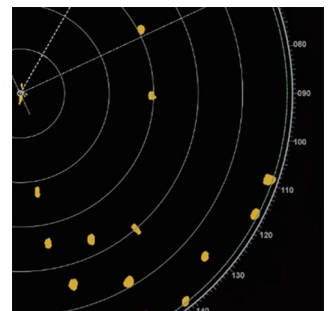
▶ After sea clutter suppression:



▶ Before rain clutter suppression:



▶ After rain clutter suppression:



### 【Automatic Target Acquisition】

Radar targets are automatically acquired when ever they are within the defined zone. Up to 10,000 targets are automatically tracked.

### 【Automatic Collision Avoidance Alarm】

Collision Avoidance Alarm is automatically triggered whenever dangerous targets are detected via preset collision avoidance CPA/TCPA parameters.

### 【Automatically assist in collision avoidance decision-making suggestions】

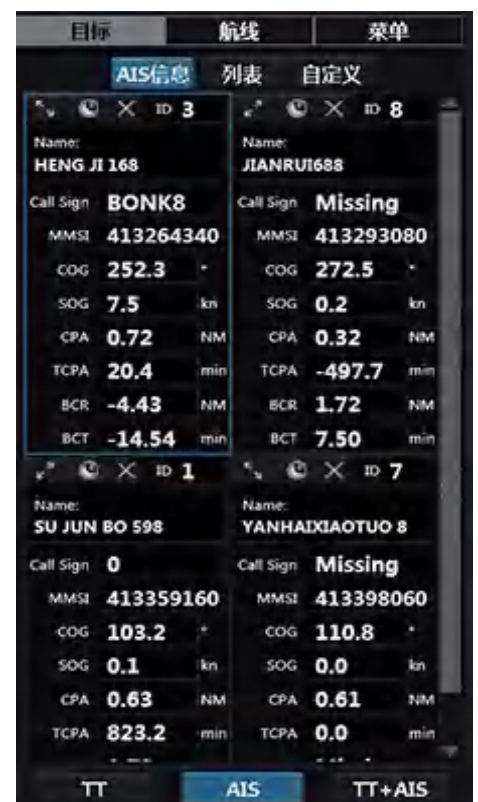
The automatic assisted collision avoidance system uses the static and dynamic data of the local ship and the target ship provided by the magnetron radar, combined with the continuous calculation of the collision avoidance algorithm, to provide reasonable collision avoidance suggestions for the crew. Crews can quickly evaluate and take corresponding actions based on algorithm suggestions to improve decision-making efficiency and navigation safety.

### 【Target Fusion】

Target Fusion prevents confusion of radar targets and AIS targets while optimizing radar display.

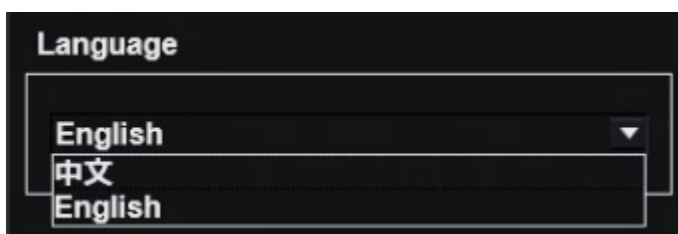


### 【Multiple AIS Information Displays】



### 【Menu Language】

Selectable between English & Chinese.



### [AIS Target correlated with Radar Target]

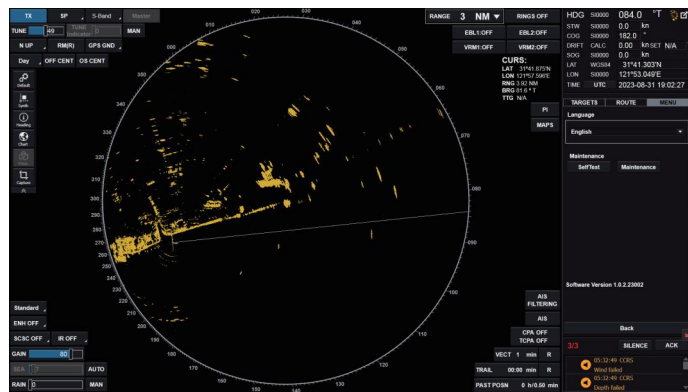


### [Radar Target correlated with AIS Target]

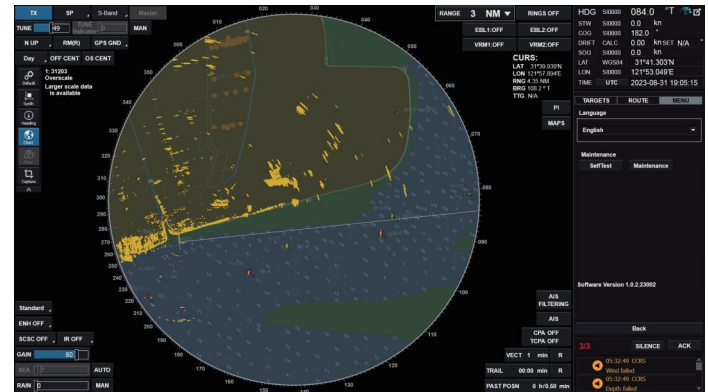


### [Multi-Function Display]

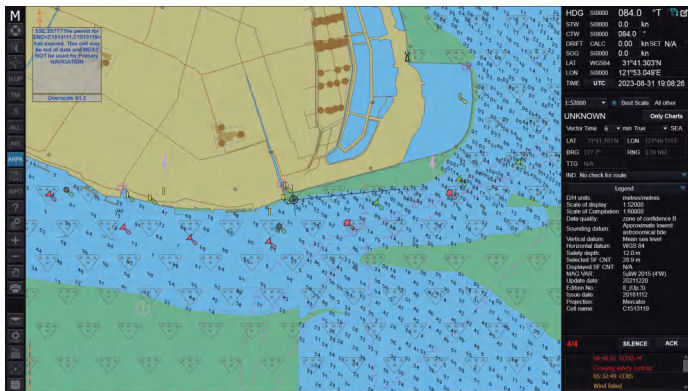
Multi-function workstation providing selection of many modes: ARPA Radar, Chart Radar, ECDIS, Conning Display of Alert Management.



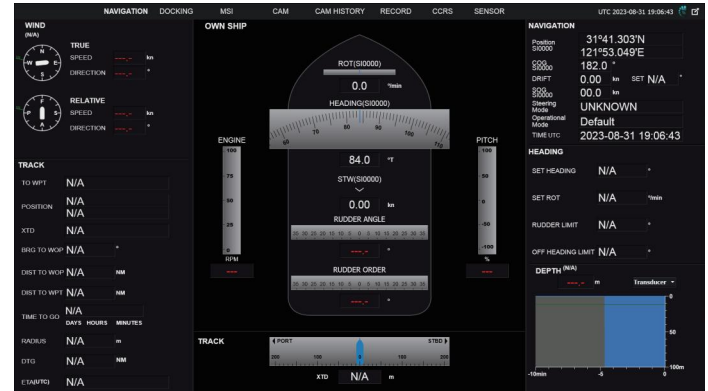
[Radar]



[Chart Radar]



[ECDIS]



[Conning]

### [HLD-RADAR 900 Series Configuration]

#### (X-BAND)

Antenna	HLD-AT104/106/108
Transceiver Unit	HLD-TU110/125
Display unit	HLD-DU162/163/164/165 HLD-DU133/134/135/138
Human Interface Unit	HLD-IU600
Main Control Unit	HLD-MCU770
Power Conversion Unit	HLD-PCU600
Optional	
ECDIS key	HLD-LIC900
Console	
Tabletop stand	
De-icing device	

#### (S-BAND)

Antenna	HLD-AT112
Transceiver Unit	HLD-TU130
Display unit	HLD-DU162/163/164/165 HLD-DU133/134/135/138
Human Interface Unit	HLD-IU600
Main Control Unit	HLD-MCU770
Power Conversion Unit	HLD-PCU600
Optional	
ECDIS key	HLD-LIC900
Console	
Tabletop stand	
De-icing device	

\*The specific configuration is subject to the type approval certificate.

HLD-RADAR 900/900C



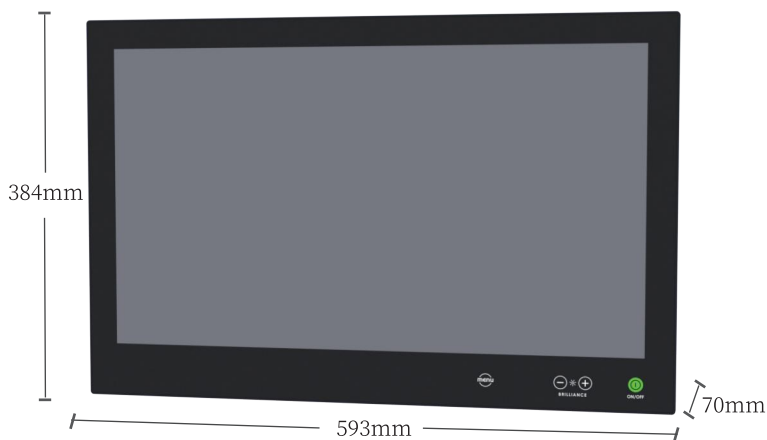
**[Dimensional Drawing]**



**【Power Unit HLD-PCU600 4kg】**



**【Human-machine Interaction Unit HLD-IU600 3kg】**



**【Display Unit 24" HLD-DU134 11kg】**



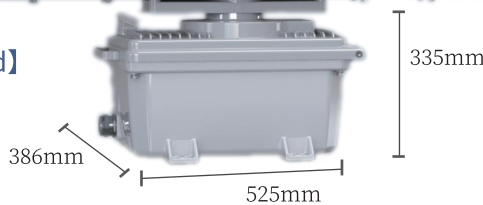
**【Main Control Unit HLD-MCU770 6kg】**

Name	Specification	Length (mm)	Height (mm)	Depth (mm)	Weight (kg)	Specification	Length (mm)	Height (mm)	Depth (mm)	Weight (kg)
Display Unit 19"	HLD-DU162	429	382	69	7	HLD-DU133	429	382	75	8
Display Unit 24"	HLD-DU163	605	397	69	10	HLD-DU134	593	384	70	11
Display Unit 26"	HLD-DU164	621	435	91	16	HLD-DU135	621	435	99	17
Display Unit 27"	HLD-DU165	650	420	70	11	HLD-DU138	650	420	70	11

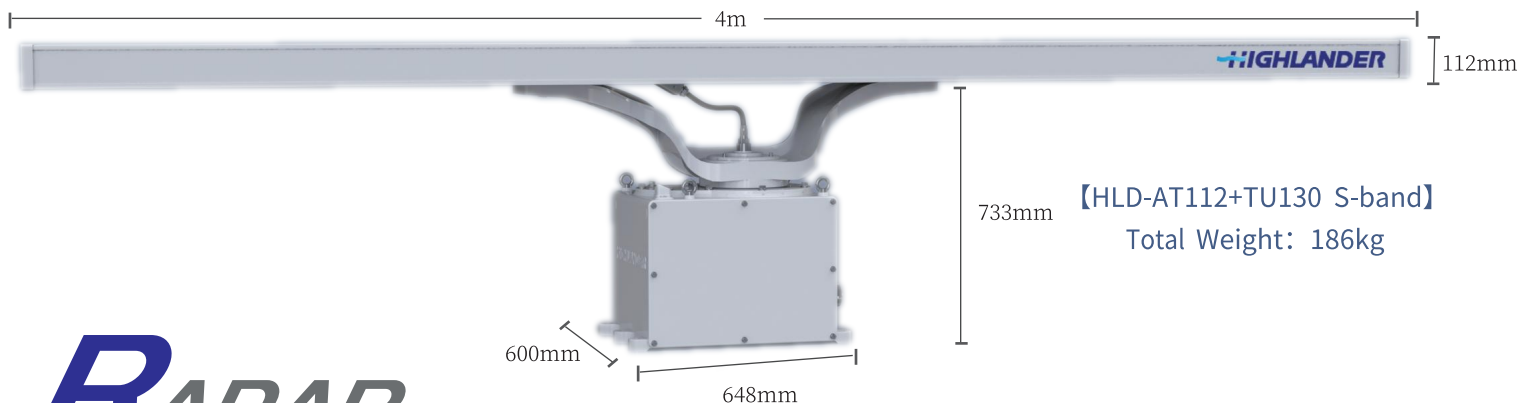


**【HLD-AT108+TU110/125 X-band】**

Total Weight: 41kg



Name	Specification	Length (m)	Weight (kg)
4ft Antenna	HLD-AT104	1.3	5
6ft Antenna	HLD-AT106	2.1	7
8ft Antenna	HLD-AT108	2.54	9
12ft Antenna	HLD-AT112	4	66



**【HLD-AT112+TU130 S-band】**

Total Weight: 186kg



## 【Technical Specifications】

Frequency Band		X-Band			S-Band
		HLD-AT104	HLD-AT106	HLD-AT108	HLD-AT112
Antenna Length		4ft	6ft	8ft	12ft
Peak Transmission Power		10kw/25kw			30kw
Beam Width	Horizontal	2.0°	1.3°	1.0°	2.0°
	Vertical	24°			27°
Operating Frequency		9410±30MHz			3050±15MHz
Antenna Rotational Speed		24rpm/40rpm			24rpm/40rpm
Pulse Width & Reptition Frequency	Short	0.05µs/1800Hz or 3000Hz			
	Medium	0.25µs/1800Hz			
	Long	0.75µs/785Hz			
	Ultra long	1.2µs/500Hz			
Intermediate Frequency		60MHz			
Performance Monitor		System standard part			
Anti Clutter	Sea	Manual/Automatic			
	Rain	Manual/Automatic			
Gain Control		Manual			
Display Resolution (19"/24"/26"/27")		1280*1024	1920*1080	1920*1200	1920*1080
Display Mode	Motion	TM, RM			
	Heading	H Up,N Up,C Up,T Up			
Display Range		0.125-96nm			
ARPA Targets		Up to 100			
Auto Acquisition of Targets		Provided, 2x Automatic Acquisition zone			
AIS Targets		Up to 100			
Association of AIS-ARPA Targets		Provided			
Trail Manoeuvre		Provided			
Chart Radar		Optional			



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