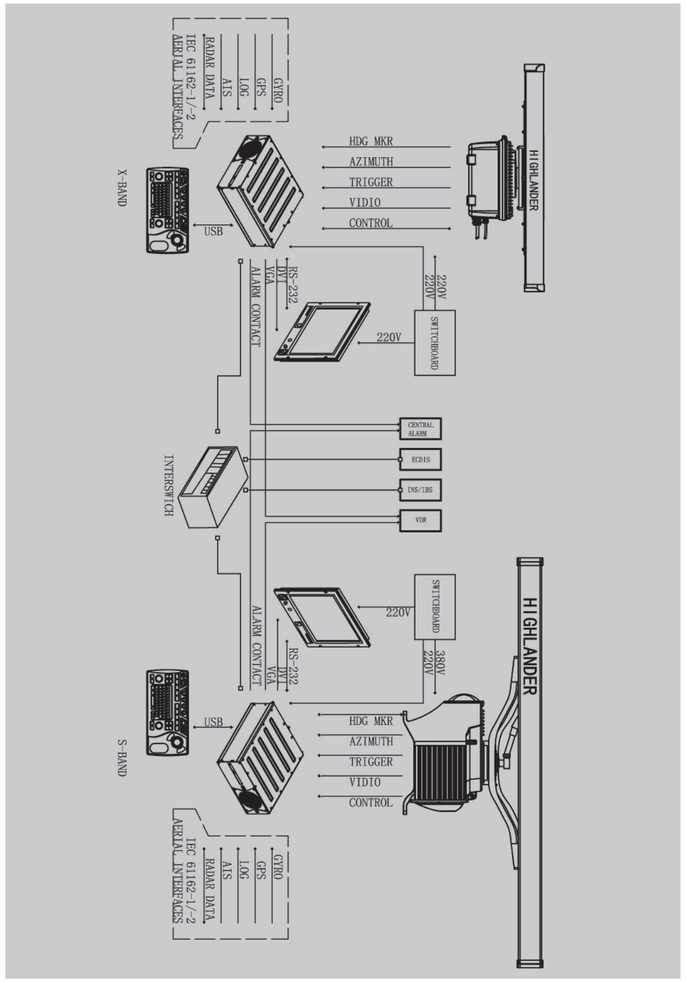
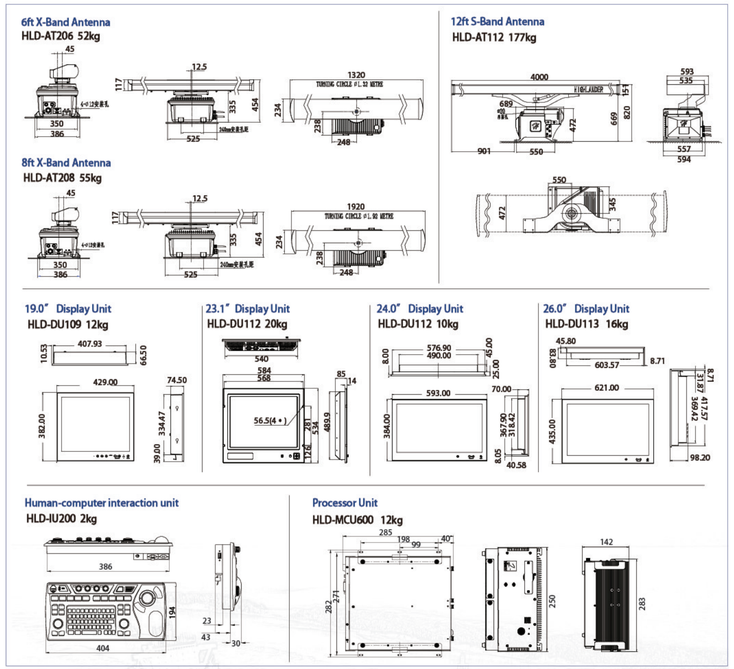


Typical System Connection Diagram(X-Band+S-Band)

【Dimensional Drawing】



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China Classification Society (CCS) type approval
EU MED B + D Type Approval

RADAR

ARPA RADAR X-BAND AND S-BAND

HLD-RADAR900/900C

Beijing Highlander Digital Technology Co., Ltd.

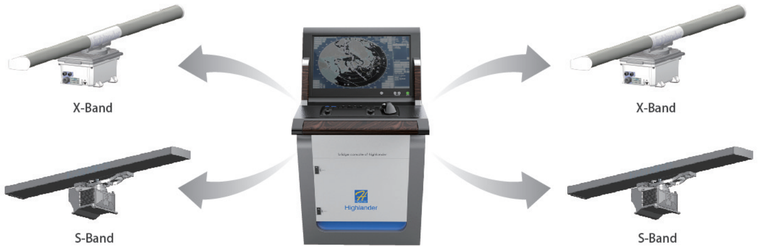
RADAR

Radar is one of the important Navigation equipments. It transmits electromagnetic waves, then receives the bounced back waves from target. Though calculation of the time and bearing of the return waves from target and combination the result with the data from other navigation equipments and sensors, Radar can display a clear image like "electromagnetic eye" or CCTV to Navigator for Navigation assistance and Collision avoidance. It will improve the safety of navigation by assisting in the efficient navigation of ships and protection of the environment by satisfying the following functional requirements:

- In coastal navigation and harbor approaches, by giving a clear indication of land and other fixed hazards;
- As a means to provide an enhanced traffic image and improved situation awareness;
- In a ship-to-ship mode for aiding collision avoidance of both detected and reported hazards;
- In the detection of small floating and fixed hazards, for collision avoidance and the safety of own ship;
- In the detection of floating and fixed aids to navigation.
- Adaptive clutter suppression function, meet the requirements of the use of various sea condition and weather
- Automatic tracking plot, automatic warning targets at a high speed.

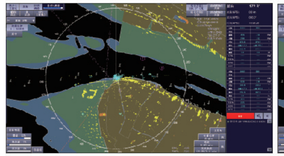
HLD - RADAR 900/900 c series products,meet IMO/SOLAS and the latest IEC 62388-2013 standard.

【Features】

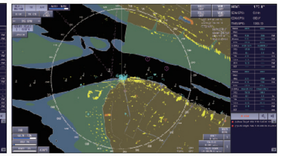


Up to 4 antenna can be connected with interswitch capability

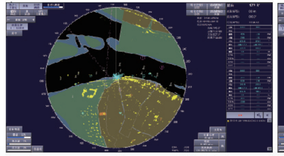
- Tracks 100 life Radar Targets & 100 life AIS targets
- Background tracking of 1000 radar targets and1000 sleeping AIS targets
- Upgradable to Chartradar
- English / Chinese language Operation Menu



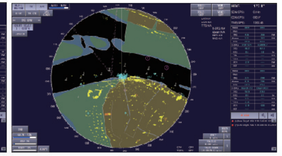
Chinese language Operation Menu(Square screen)



English language Operation Menu (Square screen)



Chinese language Operation Menu(Circular screen)



English language Operation Menu (Circular screen)

【Technical Specifications】

System Specifications

Frequency Band Antenna Length		X-Band 6ft/8ft	S-Band 12 ft
Peak Transmission Power		10kW, 25kW	30kW
Beam Width	Horizontal	1.3° /1.0°	2.0 °
	Vertical	24°	27 °
Operating Frequency		9410±30 MHz	3050±10MHz
Pulse Width & Reptition Frequency	Short	0.05 μs/1800 Hz/3000Hz	
	Medium	0.25 μs/1800 Hz	
	Long		
	Ultra long	1.2 μs/500HZ	
Intermediate Frequency		60MHz	
Performance Monitor		Adaptive	
Anti Clutter	Sea	Manual/Automatic/Adaptive	
	Rain	Manual/Automatic	
Gain Control		Automatic/Manual	
Display Resolution	19.0″	1280*1024 (Not for CAT1)	
	23.1″	1600*1200	
	24.0″	1920*1080	
	26.0″	1920*1200	
Display Mode	Motion	TM, RM	
	Heading	H Up, N Up, C Up	
Display Range		0.125-108nm	
ARPATargets	Acquired	Up to 100	
	Background	Up to 3000	
Auto Acquisition of Targets		2x Guard Zones 2x Automatic Capture	
AISTargets	Active	Up to 100	
	Total	Up to 1000	
Association of AIS-ARPA Targets		Provided	
Collission Warning	CPA	Standard/Selectable by operator	
	TCPA	Standard/Selectable by operator	
Navigation Tools	VRM	2x	
	EBL	2x	
	PIL	4x	
Trail Manoeuver		Provided	
X-Band and S-Band Interswitch		Provided	
Chart Radar		Option	

IEC 62388 (2013)
Table 1 – Performance requirements for categories of ship/craft for SOLAS V

	Category of ship/craft		
	CAT 3	CAT 2	CAT 1
Size of ship/craft	<500 gt	500 gt to <10 000 gt HSC<10 000 gt	All ships/craft ⩾ 10 000 gt
Minimum operational display area diameter	180 mm	250 mm	320 mm
Minimum display area	195 mm x 195 mm	270 mm x 270 mm	340 mm x 340 mm
Auto acquisition of targets	—	—	Yes
Minimum acquired radar target capacity	20	30	40
Minimum activated AIS target capacity	20	30	40
Minimum activated AIS target capacity	100	150	200
Trial manoeuvre	—	—	YES

Component Specifications

Parts		Size/mm (LxWxH)	Weight/Kg	Environment temperature/C°	Power supply	Power
Monitor		390x345x133	12	-15 C° ～+55 C°	110/220V AC	⩽120W
Monitor	19.0″	483x444x82	12	-15 C° ～+55 C°	110/220V AC	⩽100W
	23.1″	584x534x85	20			⩽120W
	24.0″	593x384x70	10			⩽140W
	26.0″	621x435x98	16			⩽200W
Keyboard and Trackball		388x188x51	2	-15 C° ～+55 C°	—	—
Antenna and Transceiver Unit	X-Band 6ftAntenna and Transceiver Unit	1914x586x440	52	-25 C° ～+55 C	110/220V AC	⩽250VA
	X-Band 8ftAntenna and Transceiver Unit	2550x586x440	55			⩽370VA
	S-Band 12ftAntenna and Transceiver Unit	3700x718x800	177			⩽120VA

【Configuration】

HLD-RADAR 900 (X-Band) Typical Configuration

Standard

• Antenna	HLD-AT206
• Transceiver Unit	HLD-TU125
• Monitor	HLD-DU112
• Keyboard and Trackball	HLD-IU600
• Monitor	HLD-MCU600
• Radar Card	HLD-PCR100
• Serial Expansion Board	HLD-SIC118

Optional

• Antenna	HLD-AT208
• Transceiver Unit	HLD-TU110
• Monitor	HLD-DU109
	HLD-DU133
	HLD-DU134
• Keyboard and Trackball	HLD-IU800
• Ethernet Switch	HLD-EDS508A
• Manitor	HLD-MCU200

HLD-RADAR 900 (S-Band) Typical Configuration

Standard

• Antenna	HLD-AT112
• Transceiver Unit	HLD-TU130
• Monitor	HLD-DU111
• Keyboard and Trackball	HLD-IU600
• Monitor	HLD-MCU600
• Radar Card	HLD-PCR100
• Serial Expansion Board	HLD-SIC118

Optional

• Monitor	HLD-DU109
	HLD-DU110
	HLD-DU112
• Ethernet Switch	HLD-EDS508A
• Scanner Control Unit	HLD-SCU100
• Keyboard and Trackball	HLD-IU800