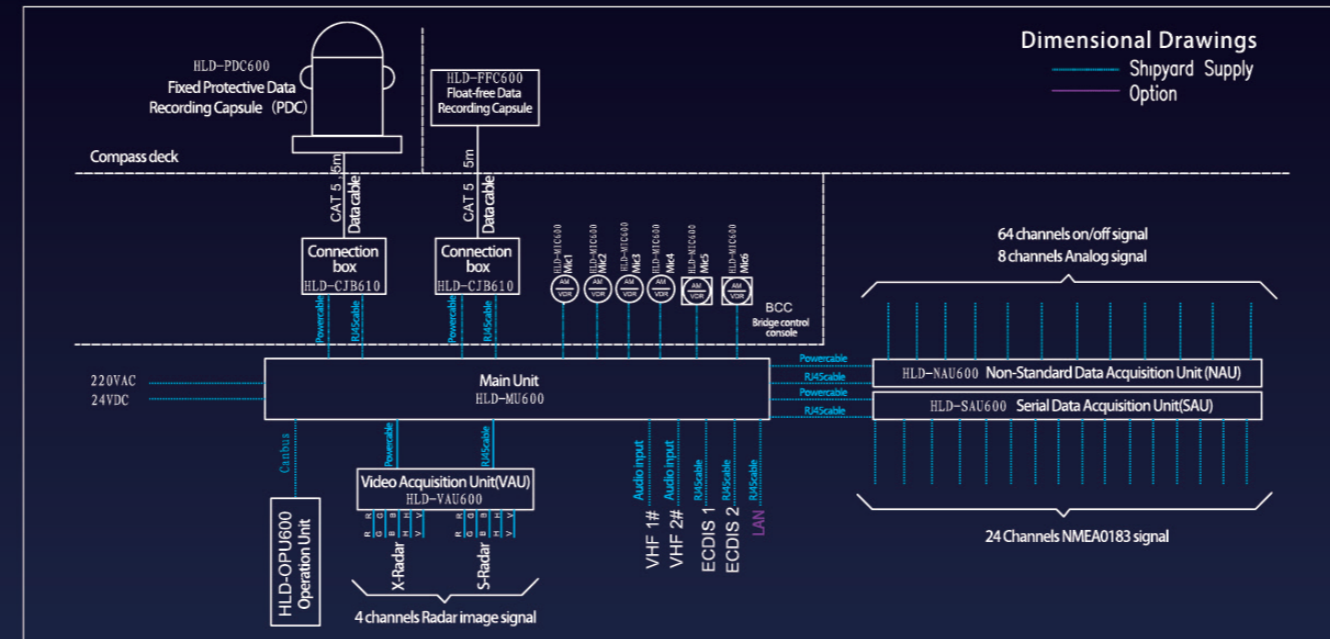


FBB/VSAT/WIFI/3G/4G



SYSTEM ARCHITECTURE



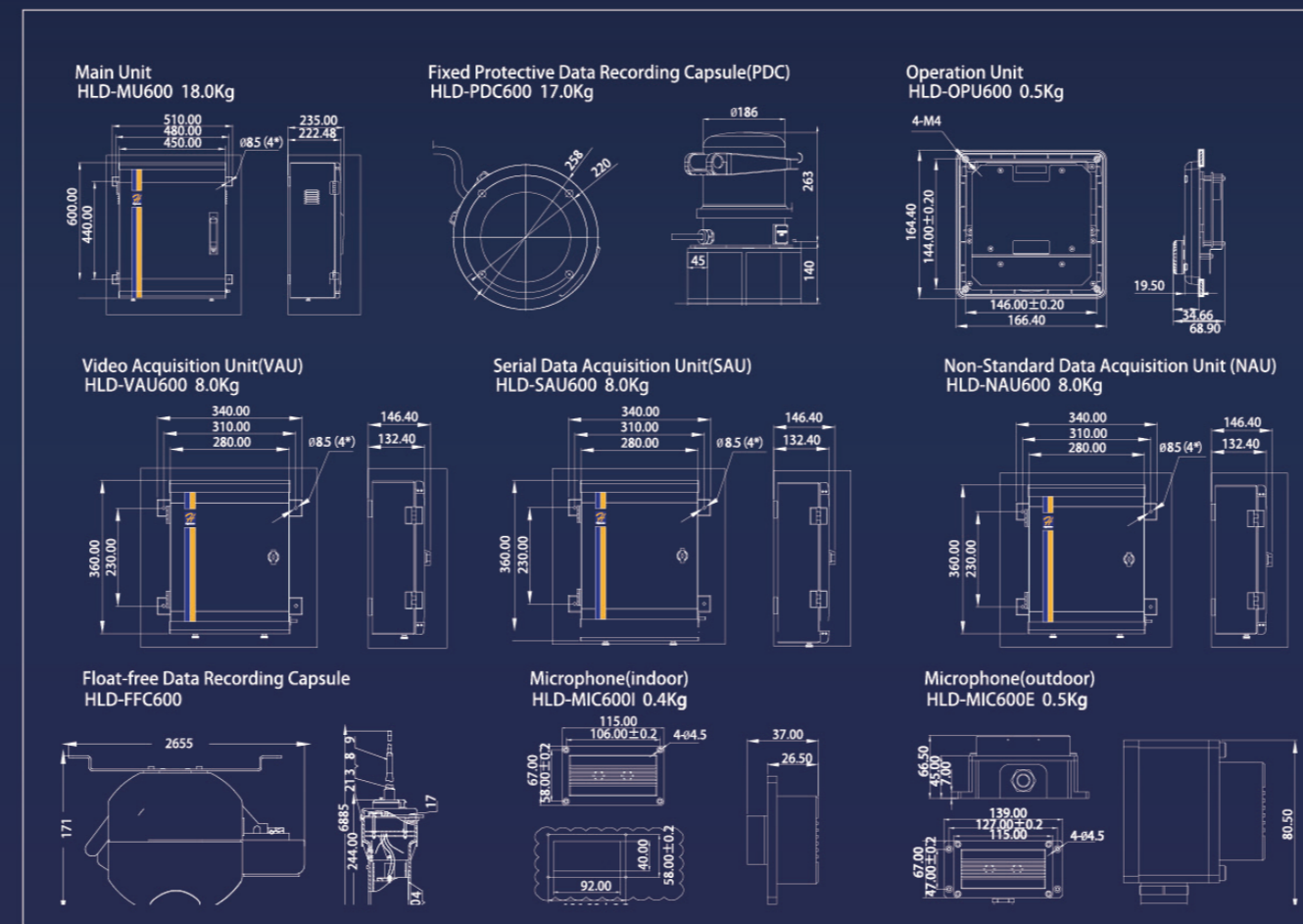
# VDR<sup>+</sup>

## HLD-VDR600/SVDR600 VOYAGE DATA RECORDER

CCS type approval  
(EC) MED (B+D) type approval  
RS type approval

- Remote diagnosis
- Remote maintenance
- Download & replay

DIMENSIONAL DRAWINGS

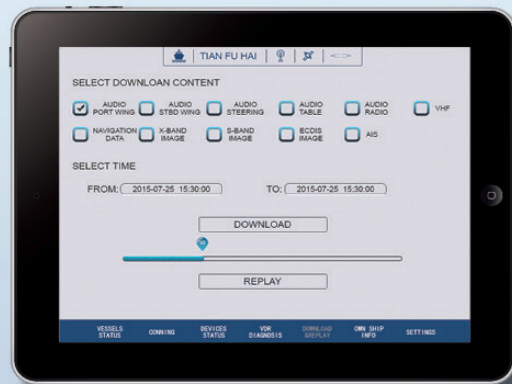


Beijing Highlander Digital Technology Co., Ltd.

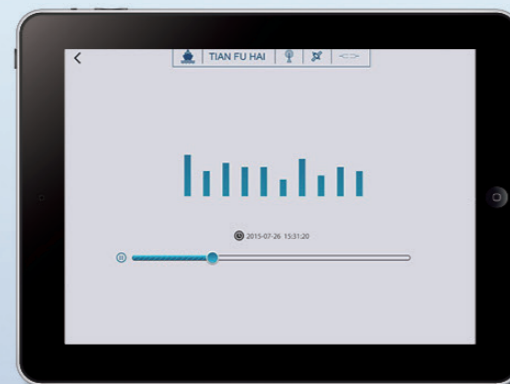
Add: C1902, SP Tower, Tsinghua Science Park, Haidian District, Beijing, China  
Tel: +86 10 82158018 Fax: +86 10 82150083 100084  
Sales hotline: +86 021 55955330 www.highlander.com.cn

**24 Hours Hotline**  
Tel: 400 088 3335  
Fax: +86 10 82150083  
E-mail: service@highlander.com.cn

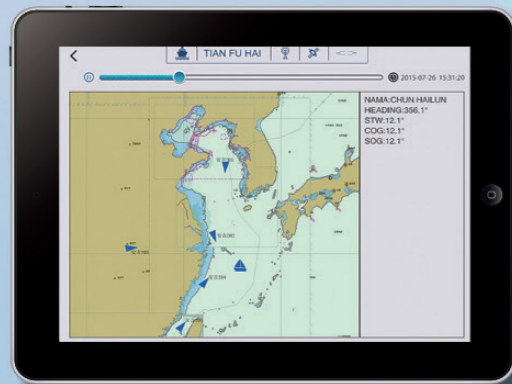
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Download and playback



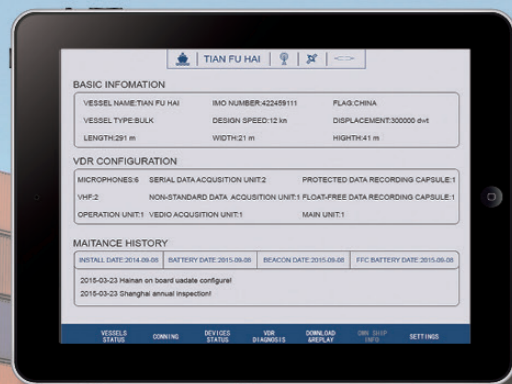
Audio download and playback



AIS download and playback



Conning download and playback



Information of the ship



Video download and playback



### PRODUCT OVERVIEW

- HLD-VDR 600 / SVDR600 are Highlander's best and most stable voyage data recorder to date. It is the fruition of nearly two decades of endeavor in the challenging field of maritime black boxes and embodies the wealth of experience gained from VDRs fitted in thousands of seagoing vessels around the World.
- HLD-VDR 600 / SVDR600 fully meets the requirements of IMO A.861(20), MSC.333(90), MSC.163(78), IEC 61996-1 Ed.2, IEC91996-2 and IEC 60945 and carries MED, CCS and other certifications.
- The new "Hi-Cloud" remote connection facility is the way to harness the HLD-VDR 600 / SVDR600's full potential. Comprehensive ship's data is easily and economically made available to shoreside users for optimization of fleet management with existing IT infrastructure with both fixed and mobile devices. "Hi-Cloud" is also a handy tool for servicing bridge electronic equipment, providing accurate information about the functionality of all of many sensors and devices that are recorded by the VDR.

### PRODUCT FEATURES

- STABLE AND RELIABLE:** The operating system is embedded, software applications are tried and true, bug-free.
- EASY TO INSTALL:** Distributed architecture provides for convenience in situating the single elements close to recorded sensors and devices.
- SMALL AND COMPACT:** easily fits into even the most cramped wheelhouse environs.
- FLEXIBLE:** Independent image, serial data, non-standard data acquisition modules, flexible configuration depend on demand, flexibly according to demand ,that can reduce the cost effectively
- ADAPTABLE:** Can be configured with several data acquisition modules with a number of accessible signals to meet the recording demands of various ships
- STATE-OF-THE-ART:** support video image via Ethernet for Radar, ECDIS and others.
- SECURE:** The data stored in the HLD-VDR 600 is tamper-proof. It is not possible to alter or delete it.
- POWERFUL:** Via "Hi-Cloud" connectivity, VDR data is accessed remotely on common fixed and mobile devices in order to achieve smart fleet management and check-up and troubleshooting of shipboard systems. Data is compress-packaged for low-cost transmission over satellite networks.

### TECHNICAL SPECIFICATIONS

#### Main Unit(MU)

- Power input: AC110/220V, 50-60Hz; DC 24V
- Consumption: < 70W
- Reserve battery: 7AH for not less than 2hours usgae
- Inputs:Audio: 5x audio channels  
8x Microphones input  
2x VHF audio input
- Ethernet: 10x Ethernet channels(100MBS) for ECDIS, RADAR, etc.
- Integral Long Term Recording Storage Medium
- Dimensions (LxWxH): 600x450x235mm
- Weight: 18kg
- Installation: Wall or bulkhead mounting
- IPProtection: IP22
- Working temperature: -25°C ~ 55°C

#### Operation Unit (OPU)

- Display: High definition touch screen LCD, (800x480 Pixel)
- Human-Machine Interface: User friendly interface, displays all the warnings and alarms
- Data Back Up function
- Dimension(LxWxH): 166.4x164.4x70mm
- Weight: 0.5kg
- Installation: Flush mounting
- IP Protection: IP22
- Working temperature: -25°C ~ 55°C

#### Long- term Data Recording Unit

- Integrated in the Main Unit
- Memory capacity: 512GB
- Operating system: Linux OS
- Recording Speed: 100MBPS
- Working temperature: -25°C ~ 55°C

#### Fixed Protective Data RecordingCapsule

- Recording time: not less than 48h
- Memory Capacity: 32GB
- Operation System: Linux OS
- Standards: IEC61996-2 (2013)
- Dimension (DxH): Φ180x240(mm);
- Weight: 17kg
- IP Protection: IP 66
- Working temperature: -25°C ~ 70°C

#### Float-free Data Recording Capsule

- Recording time: not less than 48h
- Memory Capacity: 32GB
- Operation System: Linux OS
- Standards: IMO A.662(16), IEC61996-2 (2013),
- Release mechanism: Auto-release when 4m underwater.
- COSPAS-SARSATEPIRB: Complies with IMO Res A.810(19);

### CONFIGURATION

#### Standard configuration

- Main Unit HLD-MU600
- Operation Unit HLD-OPU600
- Fixed Protective Data Recording Capsule(PDC) HLD-PDC600
- Float-free Data Recording Capsule(FFC) HLD-FFC600
- Storage unit adapter box HLD-CJB600
- Video Acquisition Unit(VAU) HLD-VAU600
- Serial Data Acquisition Unit(SAU) HLD-SAU600

#### Video Acquisition Unit

- Number of Video Channels: 4x video channels for VGA inputsHigh definition up to 1920x1200pixels
- Installation of unit can be located near to image source.
- Dimension: 360x260x150mm
- Weight: 8kg
- IP Protection: IP22
- Working temperature: -25°C ~ 55°C

#### Serial Data Acquisition Unit

- 24xIEC61162serial data input
- Selectable Baud rate
- Dimension (LxWxH): 360x260x150mm
- Weight: 8kg
- IP Protection: IP22
- Working temperature: -25°C ~ 55°C

#### Non-Standard Data Acquisition Unit

- 8xAnalogue Voltage or Current Inputs
- 64xON/OFF potential free contacts
- 8xON/OFF configurable active or passive contacts
- Dimension: 360x260x150mm
- Weight: 8kg
- IP Protection: IP22
- Working temperature: -25°C ~ 55°C

#### Assembly Microphone(AM)

- Frequency Range: 100Hz-12kHz
- Installation: Flush mounting (Indoor) or Wall Mounting (Outdoor)
- IP Protection: IP22 for indoor units and IP56 for outdoor units
- Integratedbuilt-in self-test function
- High clarity and quality sensor
- Dimension(LxWxH): 115x67x33.7 mm (indoor)  
139x81x 64 mm (outdoor)
- Weight:0.4 kg (Indoor);  
0.5 kg (Outdoor)
- Working temperature: -25°C ~ 55°C

- IEC61097-2; IEC61096-7andITU-RM.633-3:2004 regulations.
- Watertight: up to 10M underwater
- Drop height: 20 meters
- IP Protection: IP56
- Working temperature: -25°C ~ 70°C

- Non-Standard Data Acquisition Unit (NAU) HLD-NAU600
- Microphone(Indoor) HLD-MIC600
- Microphone(Outdoor) HLD-MIC610
- Playback software

#### Optional

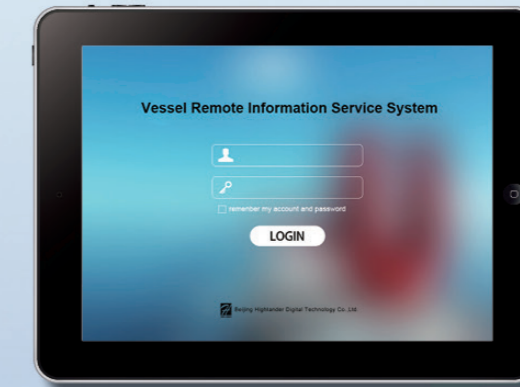
- VMS

### HI-CLOUD VESSEL REMOTE INFORMATION SERVICE SYSTEM

HIGHLANDER "Hi-Cloud" vessel remote information service system collect ship informations viacan VDR, such as Navigation data, Engine data, Cargo information, Video etc. and send these ship information to the Cloud server on land via satellite or 3G/4G. the system also sent the ocean weather and current information to the server .

The system is a interaged ship information service platform, which save, devide, analysis and merge all kind of information in the Cloud server. Shio manager can use an iPad to monitor his fleet, as ship's moving statement, weather, ship's equipment are shown on the iPad.

Ship manager can remote diagnose equipment, download and replay the ship's data on the iPad, so that owner can monitor his fleet and make better decision to improve ship's safety and the performance.



Login



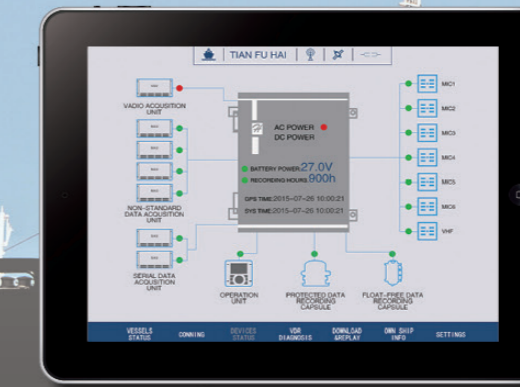
Vessel dynamics



Conning



Equipment diagnosis



Internally-connected equipment state



Externally-connected equipment state

