INSTALLATION MANUAL

Voyage Data Recorder (VDR) / NVR-9000

&

Simplified Voyage Data Recorder (S-VDR) / NVR-9000S

NVR-9000 & NVR-9000S IM.E 20250618-14

NOTICE

Ensuring the vessel's safety is the navigation officer's obligatory responsibility.

Using the equipment does not relieve the user from taking any safety precautions or checks, whether it is compulsory or otherwise following international and national rules.

SAFETY INSTRUCTIONS

NOTICE	This notice indicates an unsafe operation that, if not avoided, could result in property damage or equipment malfunction.

WARNING
 High Voltages are located over many areas in the systems!
Caution during operations: Never touch or have any body contact with active electrical circuits!
All relevant safety regulations and safety standards must be closely observed.

CAUTION
Maintenance and repairs must only be carried out by trained and qualified personnel with knowledge of electrical devices.
Observe handling regulations! Removal or inserting a subgroup or printed wiring board with live voltage can lead to severe damage.
Never insert fuses with values other than those stipulated!

Observe the following compass safe distance to prevent deviation of magnetic compass:

No.	Component Name	Part No.	Standard compass	Steering compass
1	Data Acquisition Unit (DAU)	NVR9001	2.00m	1.20m
2	Data Extension Unit (DEU)	NVR9002	1.45m	0.95m
3	Remote Alarm U nit (RAU)	NVR9003	0.35m	0.20m
4	Video Interface Unit (VIU)	NVR9004	0.95m	0.55m
5	Fixed Protective Capsule (FPC)	NFP-2000C	1.00m	0.55m
6	Float-Free Capsule (FFC)	NEB-2000C-VDR	0.90m	0.45m

MODIFY RECORD

No.	Modify by	Date	Paragraph	Version	Reason
1	Q/A	2015/11/27		01	First edition
2	Q/A	2016/01/06	ANNEX	02	Diagram revised
3	Q/A	2016/05/03	4.VDRConfig	03	Software upgrade
4	Q/A	2016/07/24	Junction Box and Remote Alarm Unit	04	Product improvement
5	Q/A	2017/03/07		05	General modification
6	Q/A	2018/06/06		06	Cover modification
7	Q/A	2018/12/27		07	General modification
8	Q/A	2021/07/30		08	General modification
9	Q/A	2021/09/17		09	General modification
10	Q/A	2021/09/27		10	BAM description
11	Q/A	2022/07/27		11	General modification
12	Q/A	2023/03/31	2.3.2, 2.4.2, ANNEX B	12	Diagram revised
13	Q/A	2025/05/22	All	13	Some modification
14	Q/A	2025/06/18	2, 3, 4, ANNEX B	14	General modification

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1. OVERVIEW

1.1 Outline

Voyage Data Recorder (VDR) is designed to record and store in a secure and retrievable form, information concerning the ship's position, movement, physical status, and control command for the period leading up to and following an incident. It enables the accident investigators to review procedures and instructions at the moments leading to an incident and helps to identify the cause of the accident. The data recorded by the VDR can be used for vessel management, such as equipment health management and ship position management.

The NVR-9000 is flexible enough to form a VDR or S-VDR and is easy to install and maintain. The product is designed to meet the following regulations and standards：

1. MSC.494 (104): Amendments to the Performance Standards for Shipborne Voyage Data Recorders (VDRs) (RESOLUTION MSC.333 (90))
2. MSC493 (104): Amendments to the Performance Standards for Shipborne Simplified Voyage Data Recorders(S-VDRs) (RESOLUTION MSC.163 (78), AS AMENDED)
3. MSC.333 (90): ADOPTION OF REVISED PERFORMANCE STANDARDS FOR SHIPBORNE VOYAGE DATA RECORDS (VDRs)
4. MSC 214 (81): ADOPTION OF AMENDMENTS TO THE PERFORMANCE STANDARD FOR SHIPBORNE VOYAGE DATA RECORDER (VDRS) (RESOLUTION A.861 (20)) AND PERFORMANCE STANDARD FOR SHIPBORNE SIMPLIFIED VOYAGE DATA RECORDER (S-VDRS) (RESOLUTION MSC.163 (78))
5. IEC 61996-1 (2021): Maritime Navigation and Radiocommunication Equipment and Systems -Shipborne Voyage Data Recorder (VDR) - Part 1: Performance Requirements, Methods of Testing and Required Test Results
6. IEC 61996-2 {Ed.2.0} 2007: Maritime Navigation and Radiocommunication Equipment and Systems-Shipborne Voyage Data Recorder (VDR) - Part 2: Simplified Voyage Data Recorder (S-VDR) - Performance Requirements, Methods of Testing and Required Test Results
7. IEC 60945 {Ed.4.0} 2002: Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results
8. IEC 62923-1 (2018): Maritime navigation and radiocommunication equipment and systems - Bridge alert management - Part 1: Operational and performance requirements, methods of testing and required test results.
9. IEC 62923-2 (2018): Maritime navigation and radiocommunication equipment and systems-Bridge alert management - Part 2: Alert and cluster identifiers and other additional features.

10. IEC 61162-1 (2016): Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners
11. IEC 61162-2 (1998): Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 2: Single talker and multiple listeners, high-speed transmission
12. IEC 61162-450 (2018): Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 450: Multiple talkers and multiple listeners - Ethernet interconnection

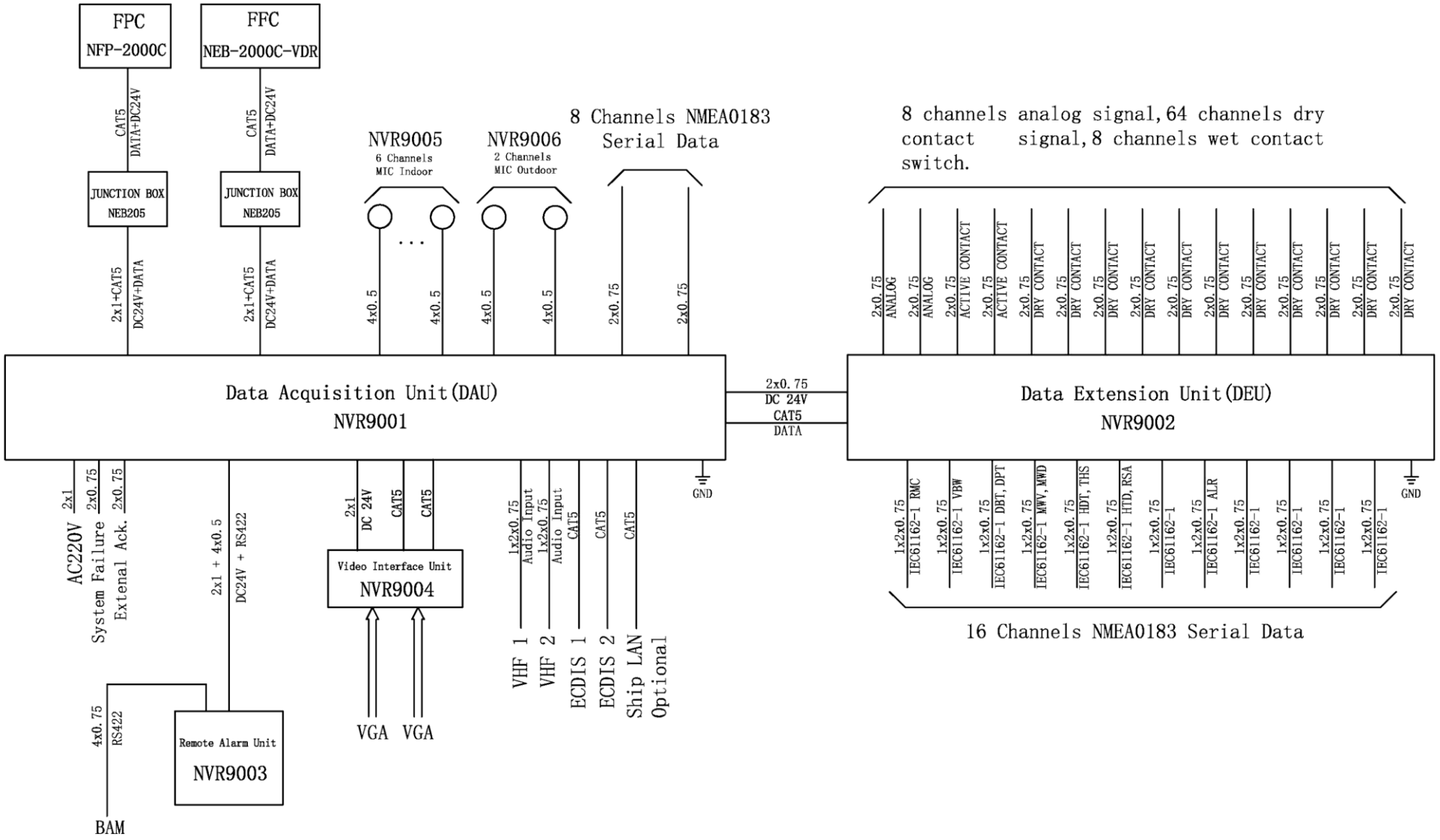
1.2 System Configuration

NVR-9000/NVR-9000S comprises of 9 components as follows:

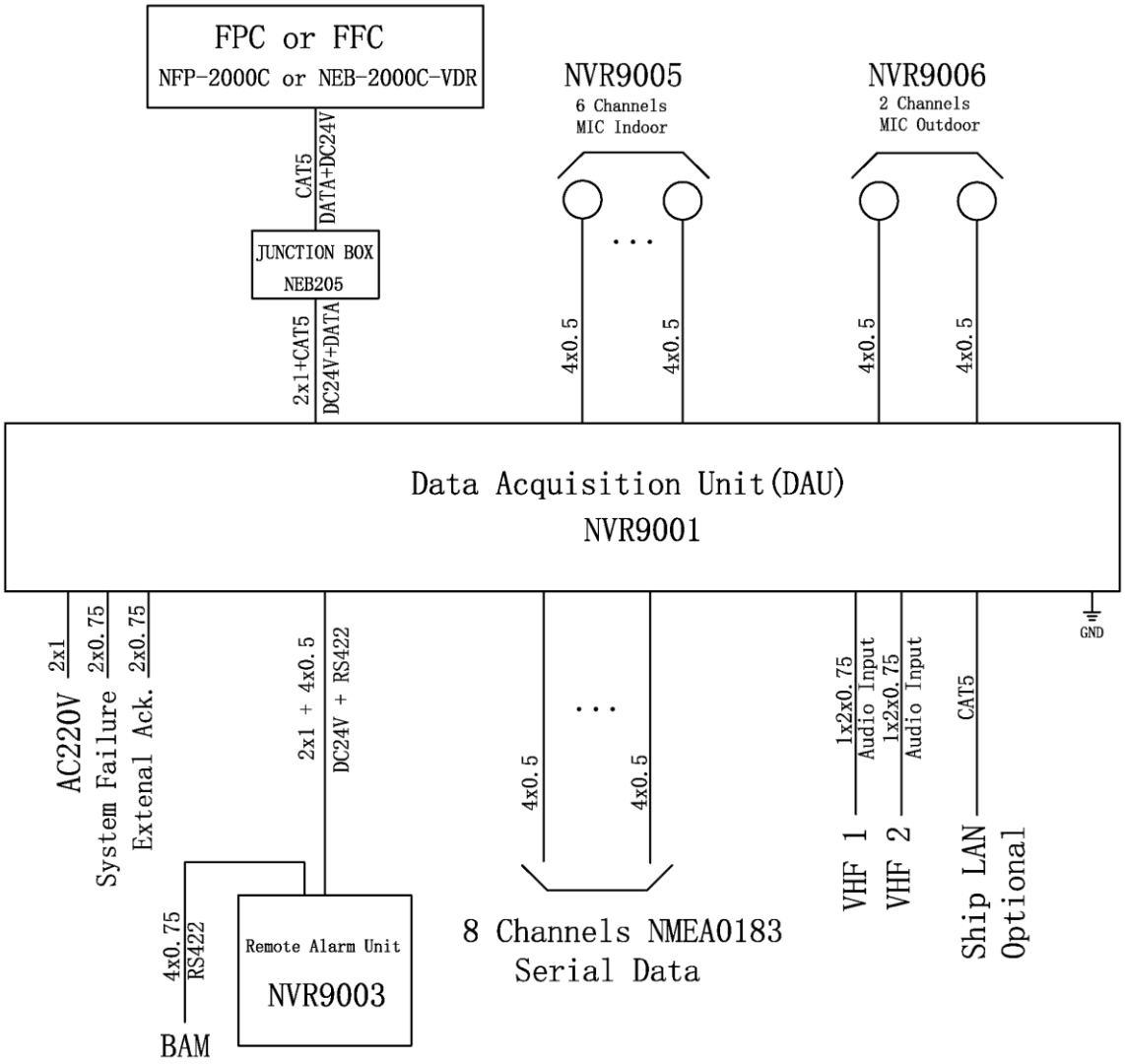
No.	Component Name	Part Type	NVR-9000 VDR	NVR-9000S S-VDR	Environmental Category
1	Data Acquisition Unit (DAU)	NVR9001	X	X	Protected
2	Data Extension Unit (DEU)	NVR9002	X	O	Protected
3	Remote Alarm Unit (RAU)	NVR9003	X	X	Protected
4	Video Interface Unit (VIU)	NVR9004	O	O	Protected
5	Indoor Microphone Unit (IMU)	NVR9005	X	X	Protected
6	Outdoor Microphone Unit (OMU)	NVR9006	X	X	Exposed
7	Fixed Protective Capsule (FPC)	NFP-2000C	X	X	Exposed
8	Float-Free Capsule (FFC)	NEB-2000C-VDR	X		Exposed
9	Junction Box for Capsule (JBC)	NEB205	X	X	Exposed

X: standard O: optional

NOTE: *For* NVR-9000S *S-VDR, either FPC or FFC may be selected.*



NVR-9000 VDR SYSTEM CONFIGURATION

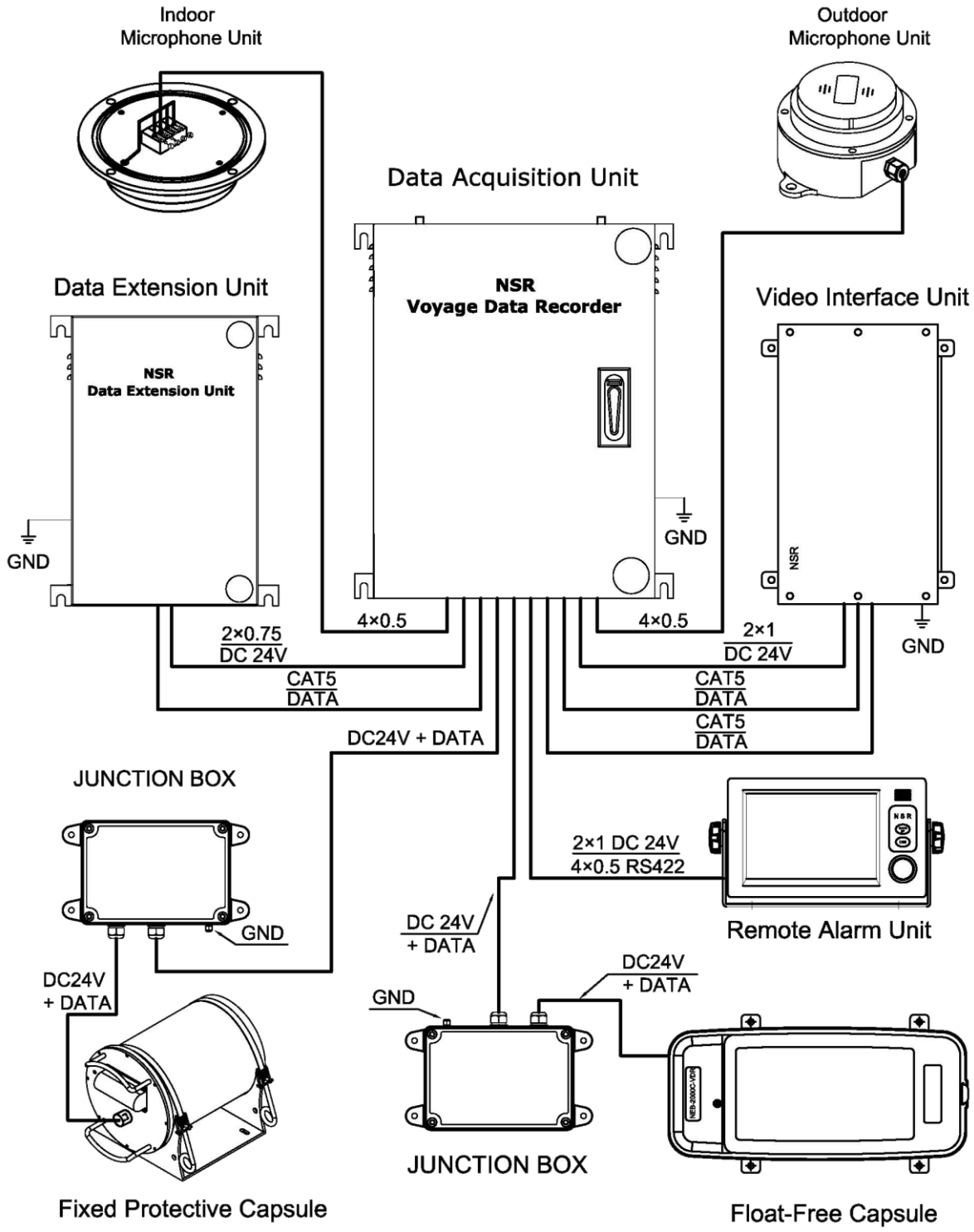


NVR-9000S S-VDR SYSTEM CONFIGURATION (standard)

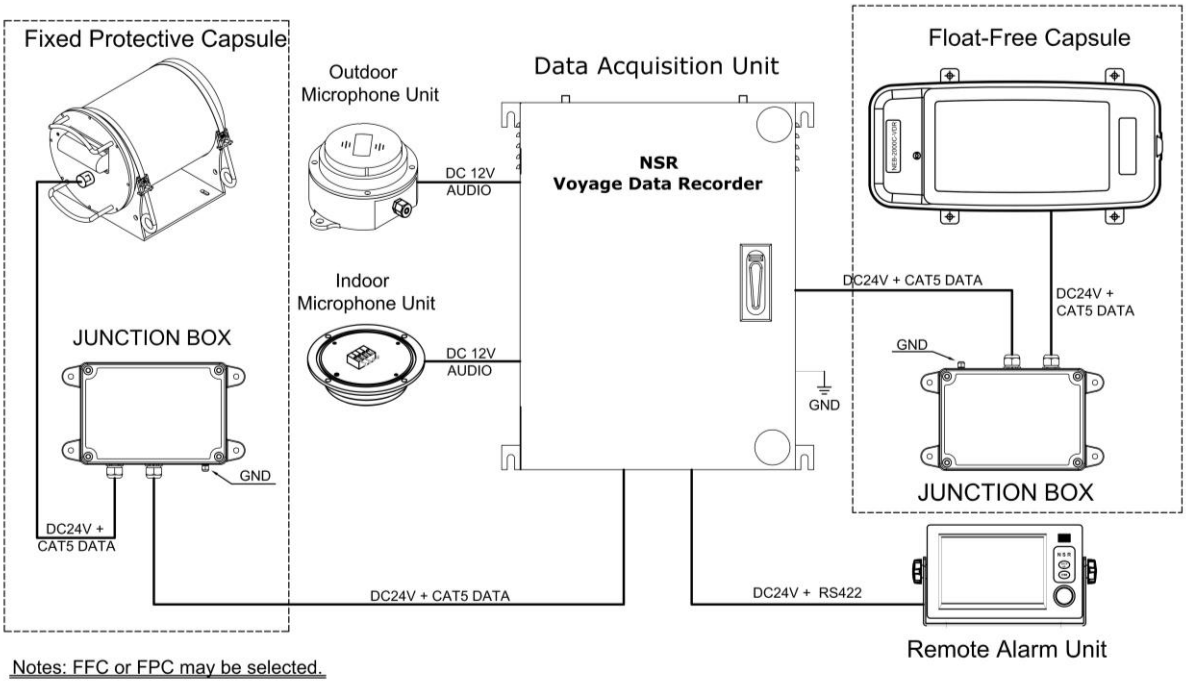
1.3 Recommended specifications for replay PC

- CPU: Pentium 350 MHz (or equivalent) or higher
- RAM: Minimum 1GB
- HDD: Minimum 250 GB
- Operating system: 32 bit Windows®7, Windows®8*, Windows Vista®, Windows® XP Professional SP2. English or Chinese OS only. *32 or 64-bit.
- CD-ROM drive (internal or external)
- LAN port
- DirectX®9.0c or higher
- .NET

2. MOUNTING & WIRING



NVR-9000 VDR SYSTEM DIAGRAM



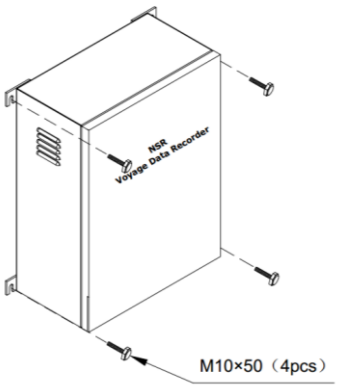
NVR-9000S S-VDR SYSTEM DIAGRAM (standard)

2.1 Data Acquisition Unit (DAU) NVR9001

2.1.1 Consideration

- Locate the unit away from heat sources.
- Select a location where the shock and vibration are minimal.
- Locate the unit away from places subject to water splash and rain.
- Ensure the maintenance space indicated in the outline drawing is provided for maintenance and checking purposes.
- A magnetic compass will be affected if the unit is placed too close to it. Observe the compass safe distances at the front of this manual to prevent interference with a magnetic compass.
- Choose a mounting location considering the cable lengths required to connect to this unit. The cables connected to the units, as shown below, should not exceed 50 meters.
  - Indoor Microphone Unit (IMU)
  - Outdoor Microphone Unit (OMU)
  - Fixed Protective Capsule (FPC)
  - Float-Free Capsule (FFC)
  - Data Extension Unit (DEU)
  - Remote Alarm Unit (RAU)
  - Video Interface Unit (VIU)
- Select a flat surface for the location. If the surface is uneven, insert several washers between the unit and the mounting location as needed.
- Select a location sturdy enough to support the unit's weight.
- The cable entrance of the unit should face downward.

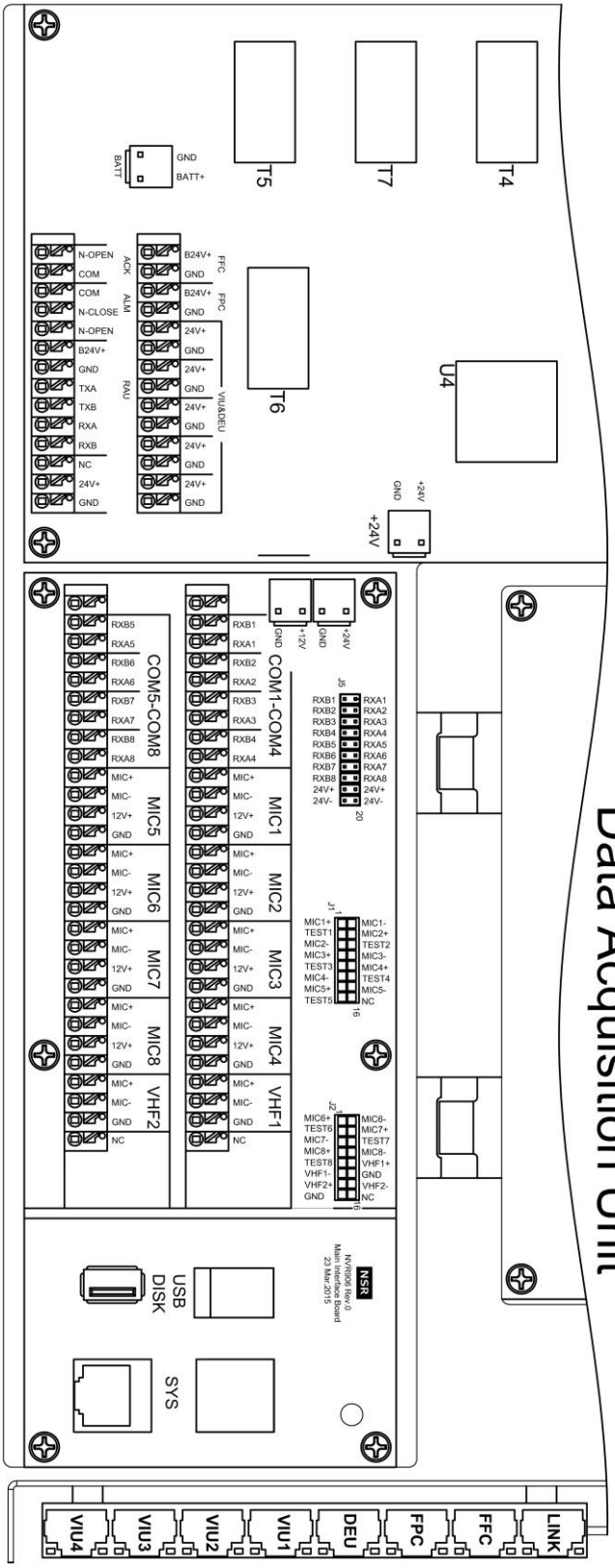
2.1.2 Mounting



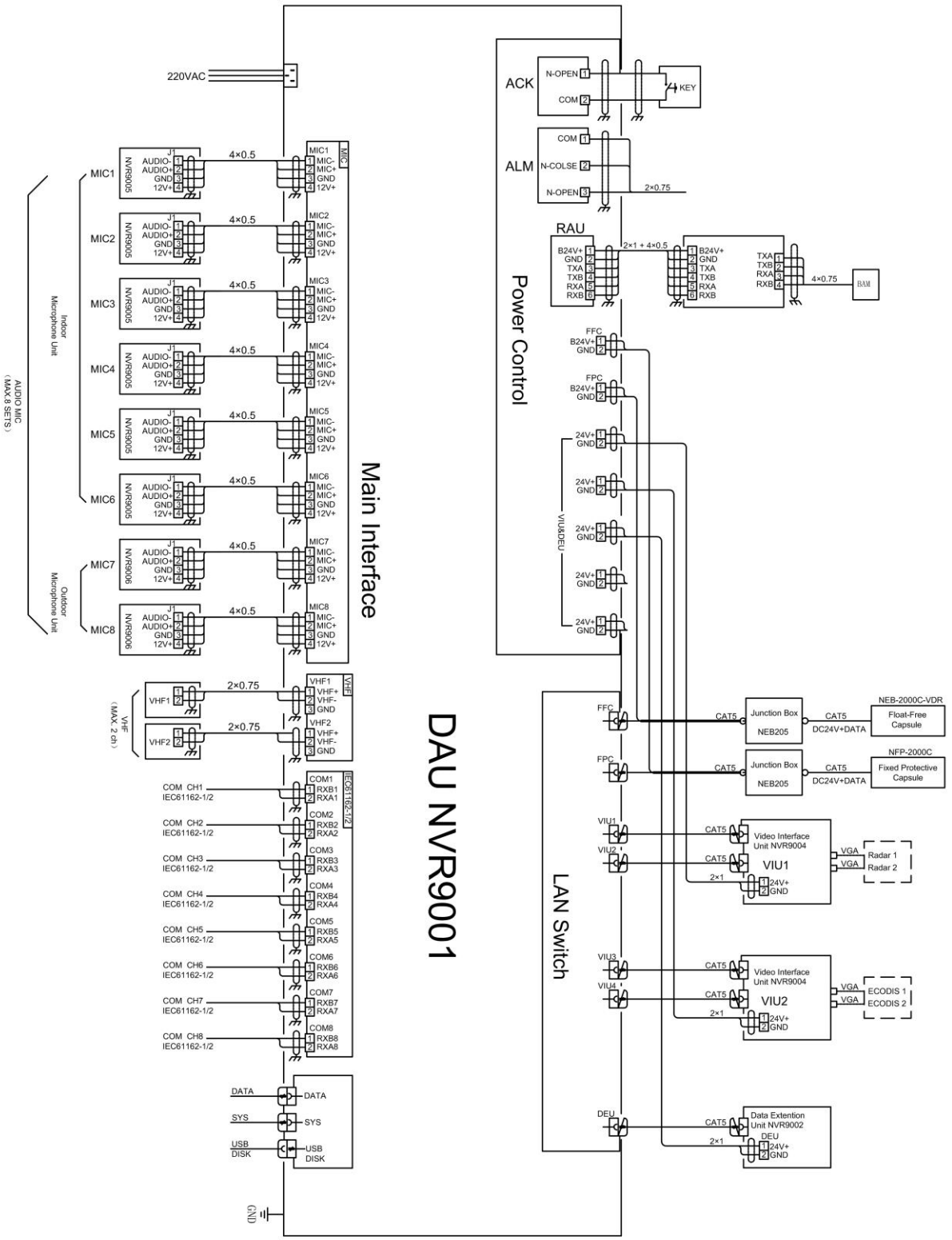
Install the Data Acquisition Unit (DAU) on a bulkhead.

Fasten the unit with four M10 bolts or φ10 coach bolts (local supply).

2.1.3 Connecting



2.1.4 Wiring

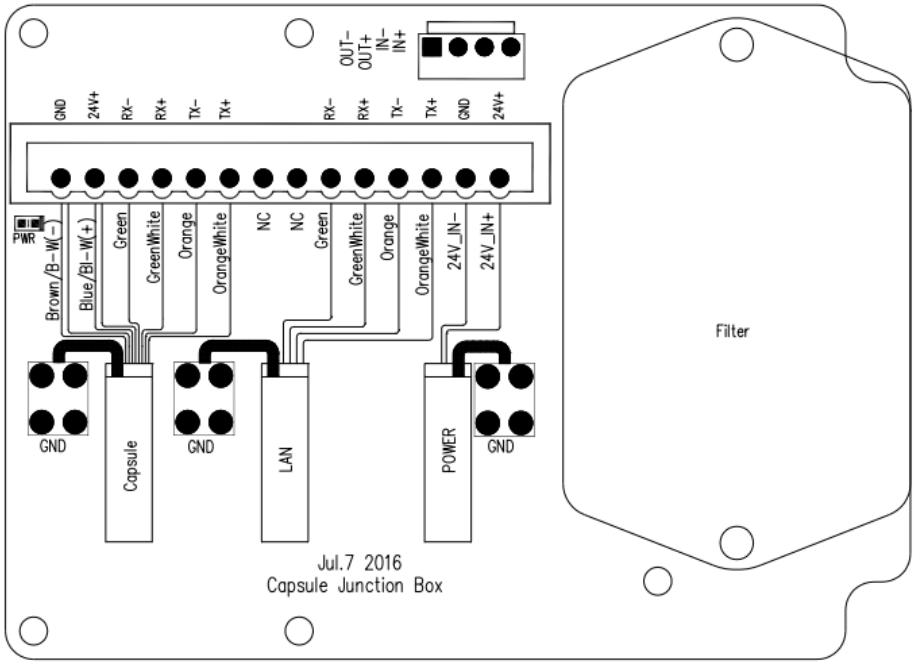

220VAC
DAU NVR9001
Main Interface
Power Control
LAN Switch
ACK
N-OPEN
COM
KEY
ALM
COM
N-COLSE
N-OPEN
2×0.75
RAU
2×1 + 4×0.5
4×0.5
BAM
FFC
FPC
24V+
GND
VIU&DEU
MIC1
MIC2
MIC3
MIC4
MIC5
MIC6
MIC7
MIC8
NVR9005
NVR9006
AUDIO-
AUDIO+
GND
12V+
MIC-
MIC+
Indoor Microphone Unit
Outdoor Microphone Unit
AUDIO MIC (MAX.8 SETS)
VHF1
VHF2
VHF+
VHF-
VHF (MAX.2 ch)
COM CH1 IEC61162-1/2
COM CH2 IEC61162-1/2
COM CH3 IEC61162-1/2
COM CH4 IEC61162-1/2
COM CH5 IEC61162-1/2
COM CH6 IEC61162-1/2
COM CH7 IEC61162-1/2
COM CH8 IEC61162-1/2
COM1
COM2
COM3
COM4
COM5
COM6
COM7
COM8
RXB1
RXA1
RXB2
RXA2
RXB3
RXA3
RXB4
RXA4
RXB5
RXA5
RXB6
RXA6
RXB7
RXA7
RXB8
RXA8
DATA
SYS
USB DISK
GND
CAT5
Junction Box NEB205
DC24V+DATA
NEB-2000C-VDR
Float-Free Capsule
NFP-2000C
Fixed Protective Capsule
VIU1
VIU2
Video Interface Unit NVR9004
VGA
Radar 1
Radar 2
ECODIS 1
ECODIS 2
DEU
Data Extention Unit NVR9002

2.2 Junction Box NEB205

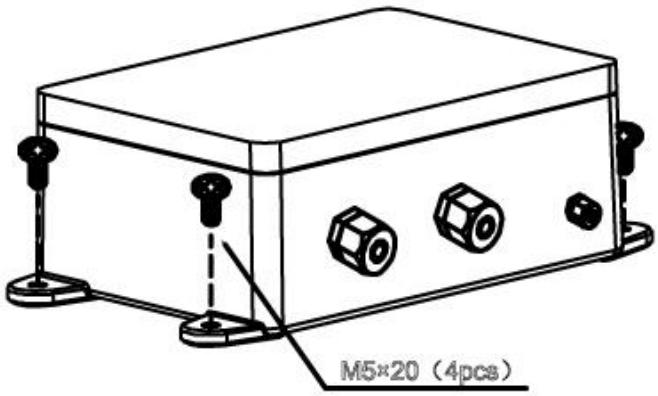
2.2.1 Consideration

- Locate the unit away from heat sources.
- Select a location where the shock and vibration are minimal.
- Select the location that makes the Junction Box serviceable.

2.2.2 Connecting



2.2.3 Mounting



To connect the Float-Free Capsule (FFC) and Fixed Protective Capsule (FPC), use the Junction Box NEB205.

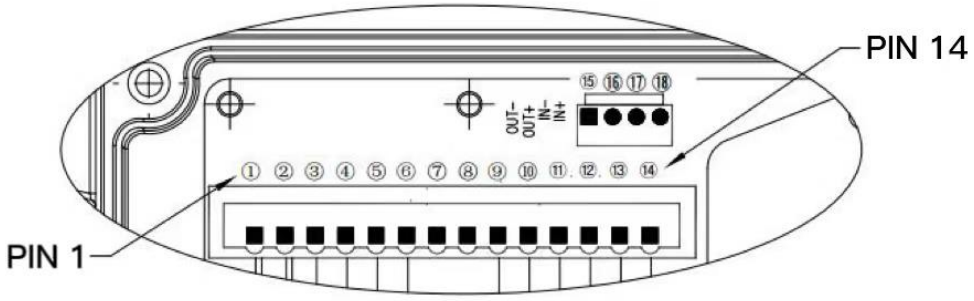
1. Remove four bolts to remove the cover.

2. Unfasten the cable glands, then pass each cable through the cable entrance.
3. Fabricate the cables.
4. Make wirings in the Junction Box.
5. Fasten the cable glands to fix the cable.

NOTE: *Fasten the cable glands by hand. Do not use a wrench to prevent the gland from being damaged.*

6. Close the cover.
7. Fasten four bolts to fix the cover.

2.2.4 Wiring



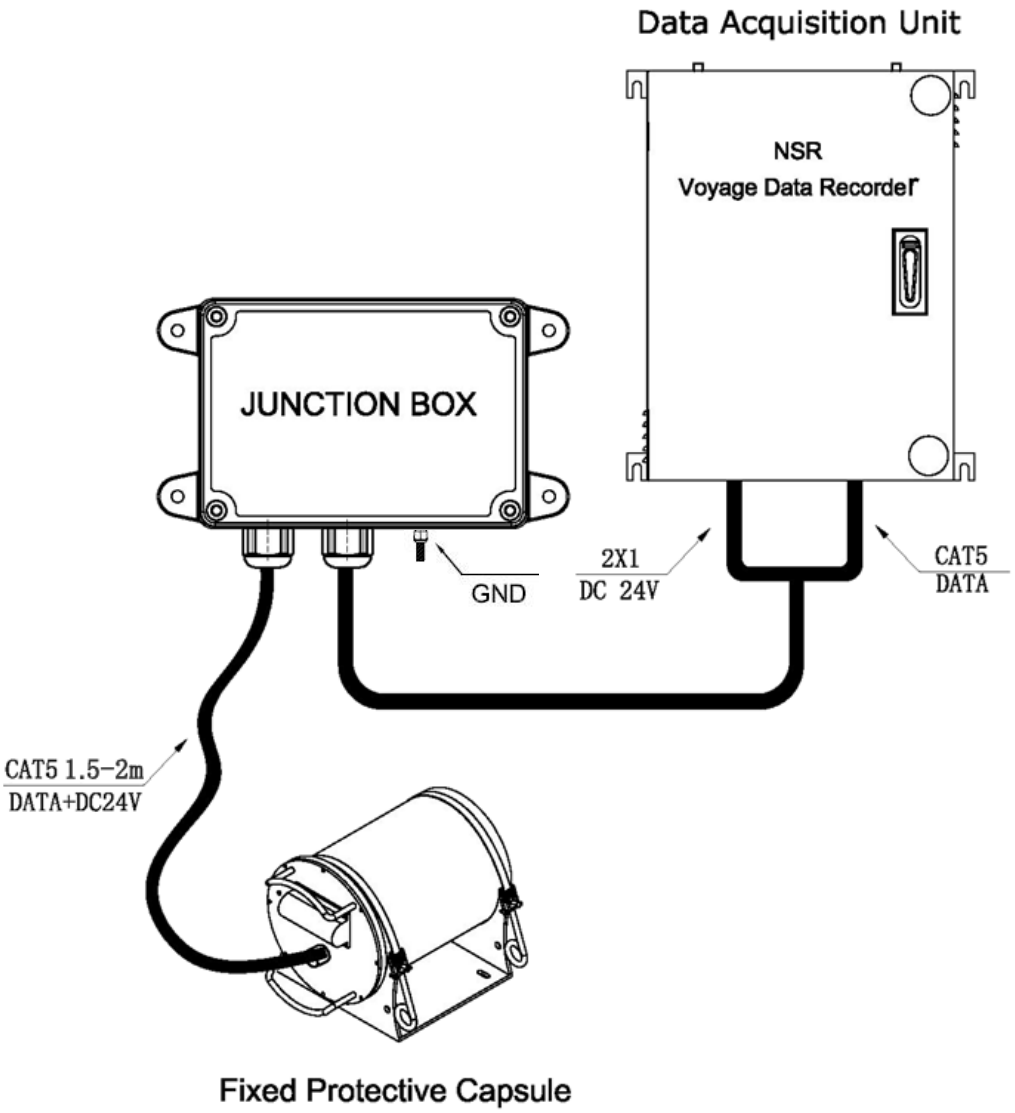
Pin No.	Signal	To/From	Remark
1	GND	FPC/FFC	Brown/Brown White (-)
2	24V+	FPC/FFC	Blue/Blue White (+)
3	RX-	FPC/FFC	Green
4	RX+	FPC/FFC	Green White
5	TX-	FPC/FFC	Orange
6	TX+	FPC/FFC	Orange White
7			NC
8			NC
9	RX-	DAU	Green
10	RX+	DAU	Green White
11	TX-	DAU	Orange
12	TX+	DAU	Orange White
13	GND	DAU	24V_IN-
14	24V+	DAU	24V_IN+

2.3 Fixed Protective Capsule (FPC) NFP-2000C

2.3.1 Consideration

- Keep away from fuel or other potential fire sources;
- Keep away from probable sources of the mechanical damage;
- Operational environment for continued serviceability;
- Accessibility for routine maintenance.

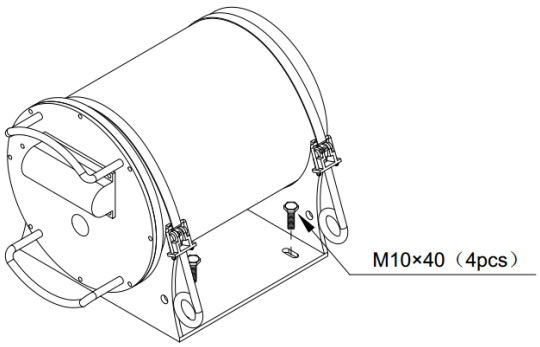
2.3.2 Connecting



2.3.3 Mounting

To install the Fixed Protective Capsule (FPC), follow the below steps:

1. Verify that the FPC mounting base lines up with the hull mounting holes.
2. Fix the FPC mounting bracket with four hex bolts and nuts.



Please refer to the drawings in Annex C for details.

2.3.4 Wiring

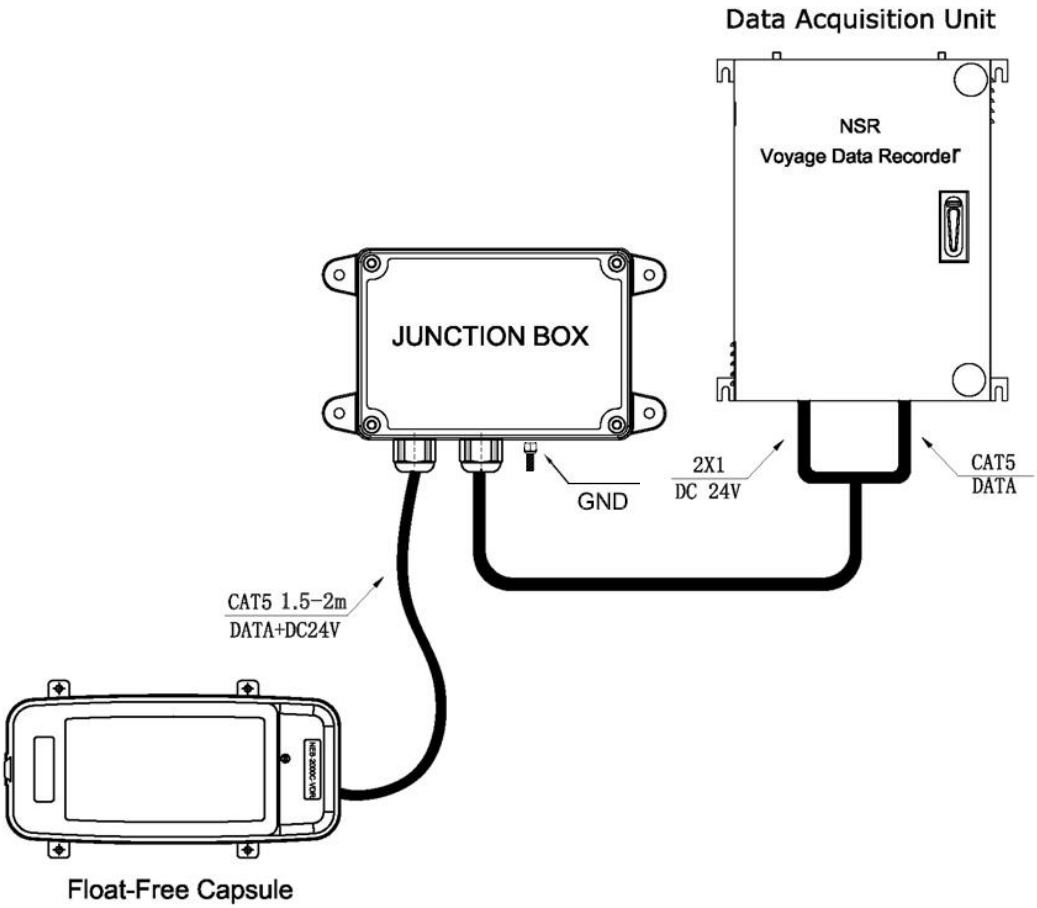
1. Refer to the Junction Box (NEB205) and connect to the Fixed Protective Capsule (FPC) with the cable.
2. Connect to the Data Acquisition Unit (DAU) with a power/data cable.

2.4 Float-Free Capsule (FFC) NEB-2000C-VDR

2.4.1 Consideration

- The FFC should be float-free and avoid being caught in railings, superstructures, etc., if the ship sinks.
- The FFC should be located where it can be easily released manually and transported to a lifeboat by one person. Therefore, it should not be placed on a radar mast or in any other location accessible only by a vertical ladder.
- The FFC is equipped with a buoyant lanyard, suitable for use as a tether to life craft or similar. The buoyant lanyard should be arranged to prevent it from being trapped in the ship's structure.
- The FFC should be marked with the ship's name, MMSI number, 15 Hex ID, and battery expiry date before installation.
- Select a mounting location that considers the required cable lengths for connection to this unit. The cable between the FFC and the Junction Box should not exceed 1.5 meters.
- Minimize the risk of obstruction after release.

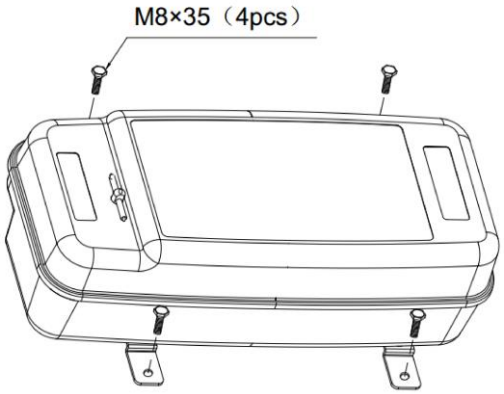
2.4.2 Connecting



2.4.3 Mounting

To install the Float-Free Capsule (FFC), follow the steps below:

1. Verify that the FFC mounting base lines up with the hull mounting holes.
2. Fix the FFC mounting bracket with four hex bolts and nuts.



Please refer to the drawings in Annex C for details.

2.4.4 Wiring

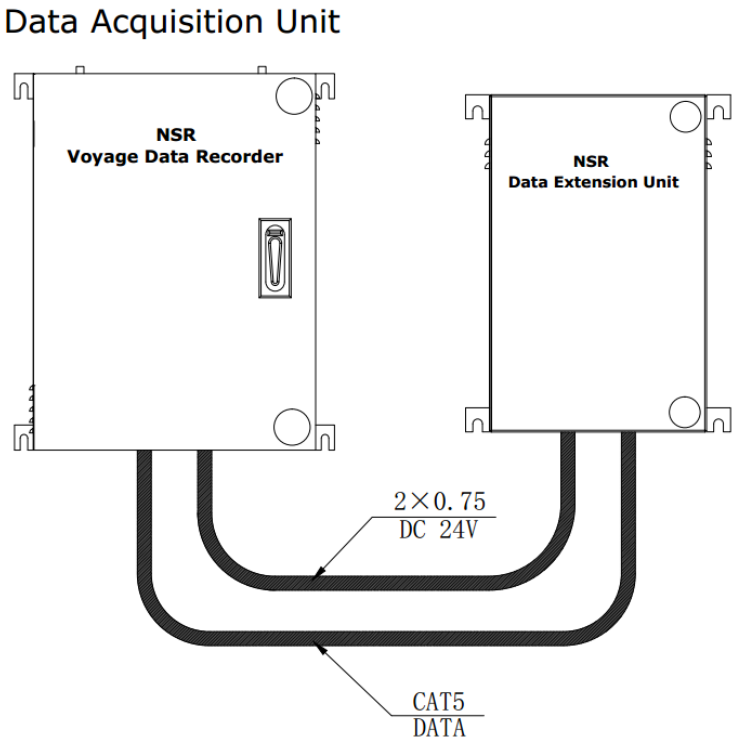
1. Refer to the Junction Box (NEB205) and connect to the Float-Free Capsule (FFC) with the cable.
2. Connect to the Data Acquisition Unit (DAU) with a power/data cable.

2.5 Data Extension Unit (DEU) NVR9002

2.5.1 Consideration

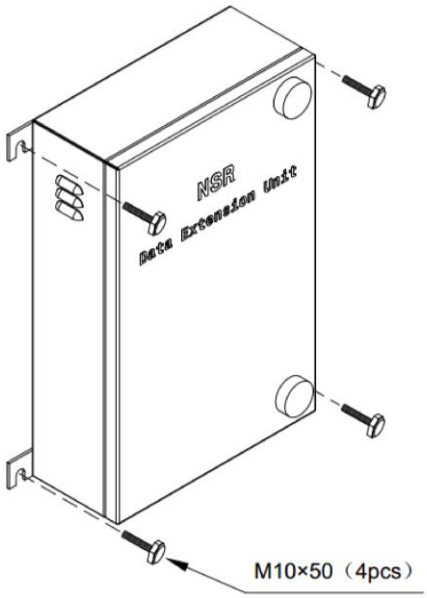
- Locate the unit away from heat sources.
- Select a location where the shock and vibration are minimal.
- Locate the unit away from places subject to water splash and rain.
- Provide the maintenance space shown in the outline drawing for maintenance and inspection purposes.
- A magnetic compass will be affected if the unit is placed too close to it. Observe the compass safe distances at the front of this manual to prevent interference with a magnetic compass.
- Select a location that is sturdy enough to support the unit's weight.
- The cable entrance of the unit should face downward.

2.5.2 Connecting



2.5.3 Mounting

To install the Data Extension Unit (DEU), follow the below steps:



1) Install the Data Extension Unit (DEU) on a bulkhead.

2) Fasten the unit with four M10 bolts or φ10 coach bolts (local supply).

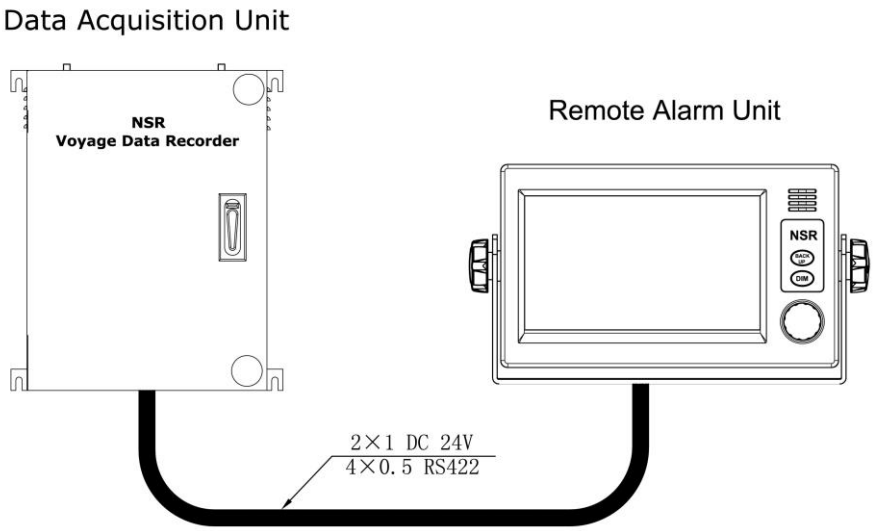
3) Connect to the Data Acquisition Unit (DAU) with a power and data cable.

2.6 Remote Alarm Unit (RAU) NVR9003

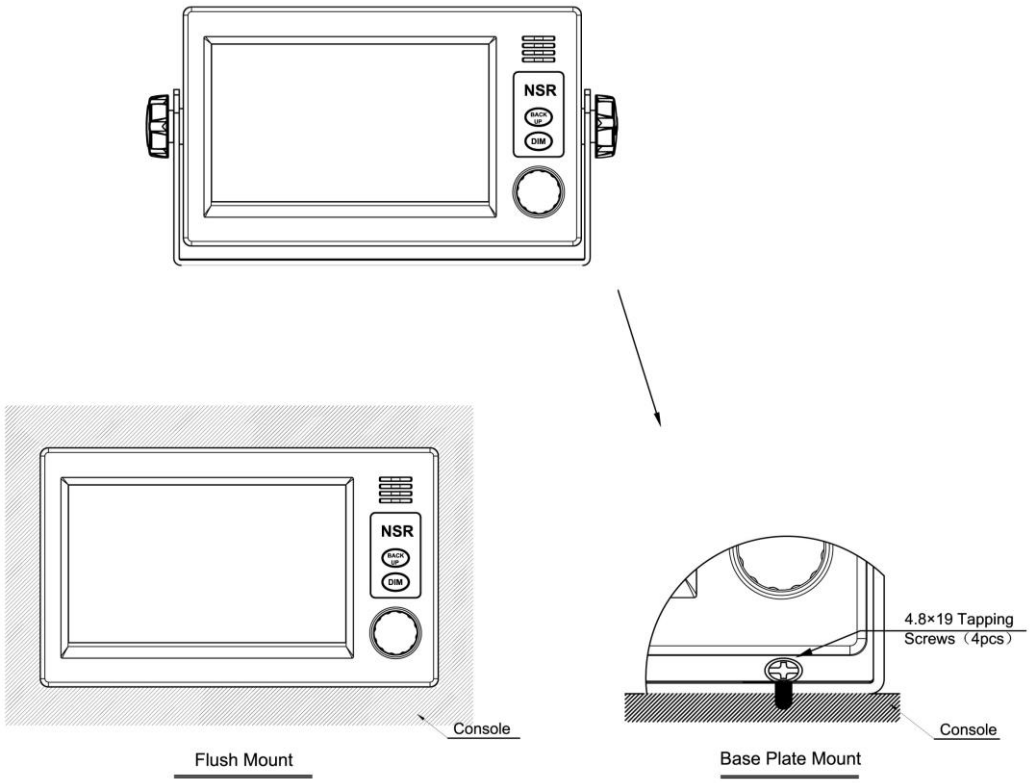
2.6.1 Consideration

- Locate the unit away from heat sources.
- Select a location where the shock and vibration are minimal.
- Locate the unit away from places subject to water splash and rain.
- Ensure the maintenance space indicated in the outline drawing is provided for maintenance and checking purposes.
- A magnetic compass will be affected if the unit is placed too close to it. Observe the compass safe distances at the front of this manual to prevent interference with a magnetic compass.
- Select a mounting location that considers the required cable lengths for connection to this unit. The cables connecting the units, as shown below, should not exceed 50 meters.
- Select a location where the surface is flat.

2.6.2 Connecting



2.6.3 Mounting



- **Mounting (table-mounted)**

To install the Remote Alarm Unit (RAU), follow the steps below:

1. Select a flat surface and put the mounting bracket on the flat surface.

2. Fasten the mounting bracket with four M4 bolts and coach bolts (locally supplied).

3. Connect to the Data Acquisition Unit (DAU) with the cable.

- **Mounting (flush-mounted)**

Refer to the drawing in Annex C.

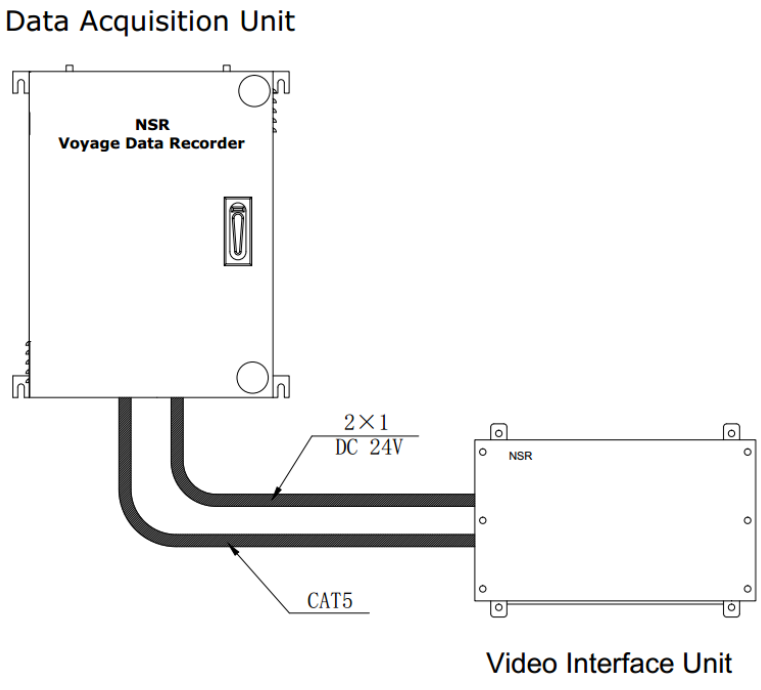
2.7 Video Interface Unit (VIU) NVR9004

2.7.1 Consideration

- Locate the unit away from heat sources.
- Select a location where the shock and vibration are minimal.
- Locate the unit away from places subject to water splash and rain.
- Make the Video Interface Unit (VIU) serviceable.
- A magnetic compass will be affected if the unit is placed too close to it. Observe the compass safe distances at the front of this manual to prevent interference with a magnetic compass.
- Choose a mounting location that considers the cable lengths required to connect to this unit. The cables connecting this unit, as shown below, should not exceed 50 meters.

NOTE: For network images, VIU can be omitted, and the senders can be directly connected to the VDR switch.

2.7.2 Connecting

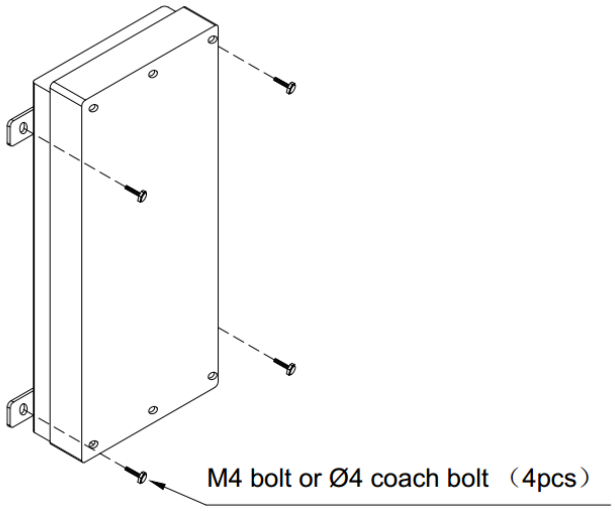


2.7.3 Mounting

To install the Video Interface Unit (VIU), follow the steps below:

1) Fasten the unit with four M4 bolts or φ4 coach bolts.

2) Connect to the Data Acquisition Unit (DAU) with a power and data cable.

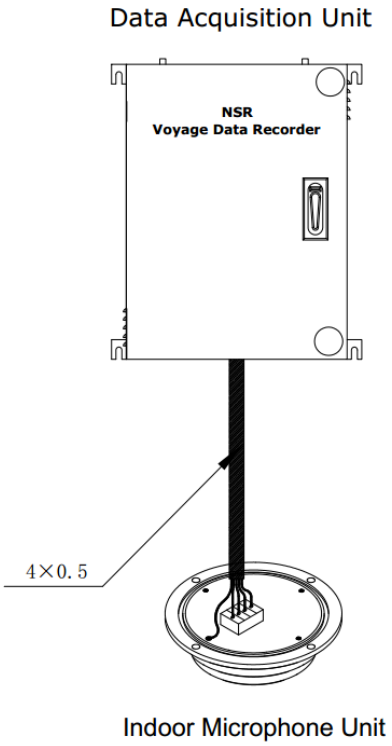


2.8 Indoor Microphone Unit (IMU) NVR9005

2.8.1 Consideration

- Locate the unit away from heat sources.
- Select a location where the shock and vibration are minimal.
- Locate the unit away from places subject to water splash and rain.
- Locate it away from noise sources, such as fans, motors, and loudspeakers (1m or more from the air duct).
- Fix the cable to the bulkhead or overhead with a cable clamp, etc., to keep noise to a minimum.
- Microphones are mounted in the places below to pick up voice communications.
  - Centerline conning
  - Bridge wings (if steering gear is installed)
  - Main radar
  - Chart table
  - Helm stand
  - Radio room

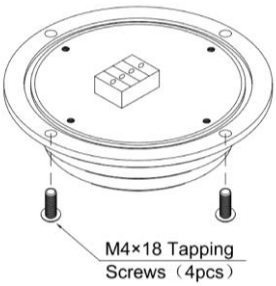
2.8.2 Connecting



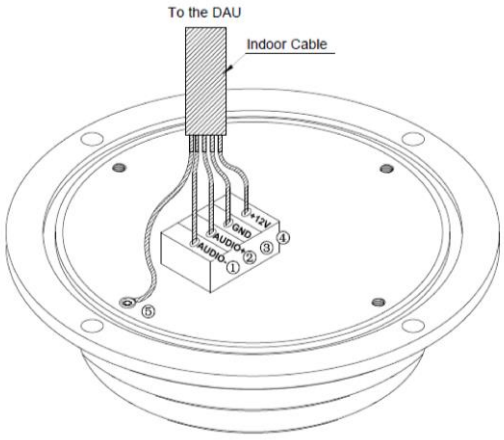
2.8.3 Mounting

The microphone is designed to be flush-mounted. To install the Indoor Microphone Unit (IMU), follow the steps below:

1. Connect to the Data Acquisition Unit (DAU) with the cable.
2. Fasten the cover with four M4 screws.



2.8.4 Wiring



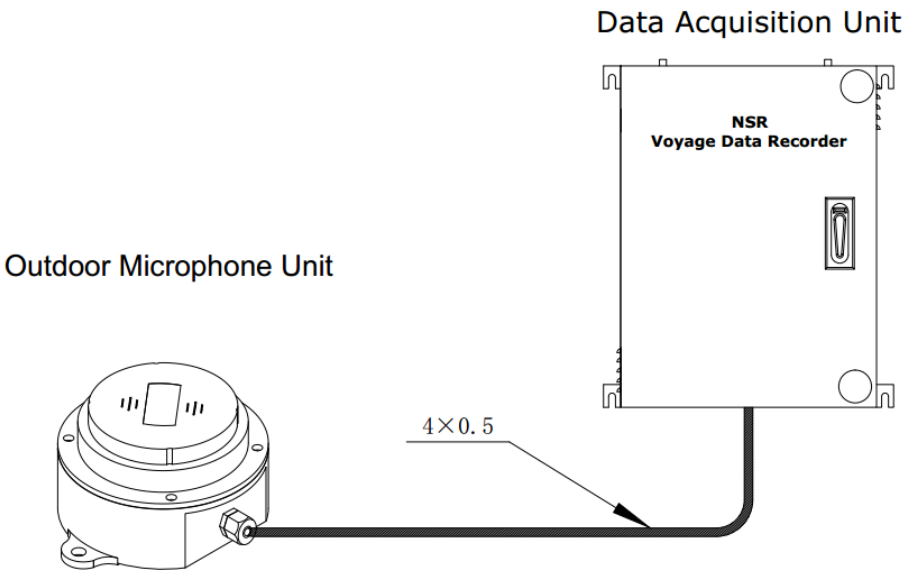
Pin No.	Signal
1	MIC_AUDIO-
2	MIC_AUDIO+
3	GND
4	+12V
5	GND

2.9 Outdoor Microphone Unit (OMU) NVR9006

2.9.1 Consideration

- Locate the unit away from heat sources.
- Select a location where the shock and vibration are minimal.
- Locate it away from noise sources, such as fans, motors, and loudspeakers (1m or more from the air duct).
- Fasten the cable to the bulkhead or overhead with a cable clamp, etc. to keep noise to a minimum.

2.9.2 Connecting

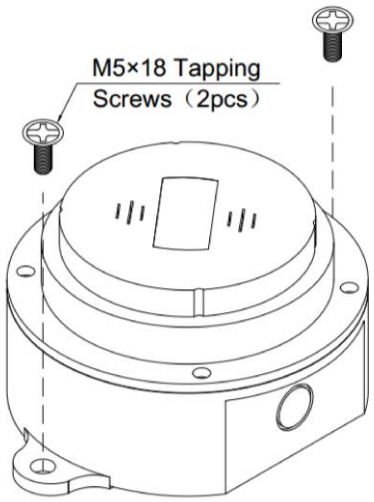


2.9.3 Mounting

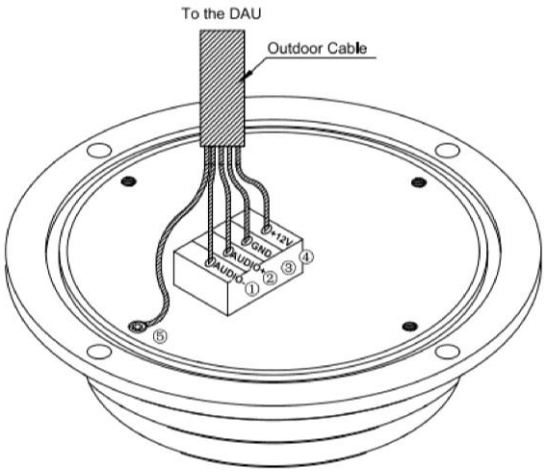
To install the Outdoor Microphone Unit (OMU), follow the steps below:

1) Connect to the Data Acquisition Unit (DAU) with the cable.

2) Fasten the unit with four M4 screws.



2.9.4 Wiring



Pin No.	Signal
1	MIC_AUDIO-
2	MIC_AUDIO+
3	GND
4	+12V
5	GND

2.10 List of consumable parts

The following are consumable parts in the NVR-9000 VDR system.

Location	Part Name	Part Type	Shelf Life (year)	Service Life (year)
NVR9001 DAU	Backup battery	NBT900	1	4
NFP-2000C FPC	Acoustic beacon	BC90	1	3
NEB-2000C-VDR FFC	FFC battery	NBT400	1	5
	FFC container kit	NCC-100	1	2

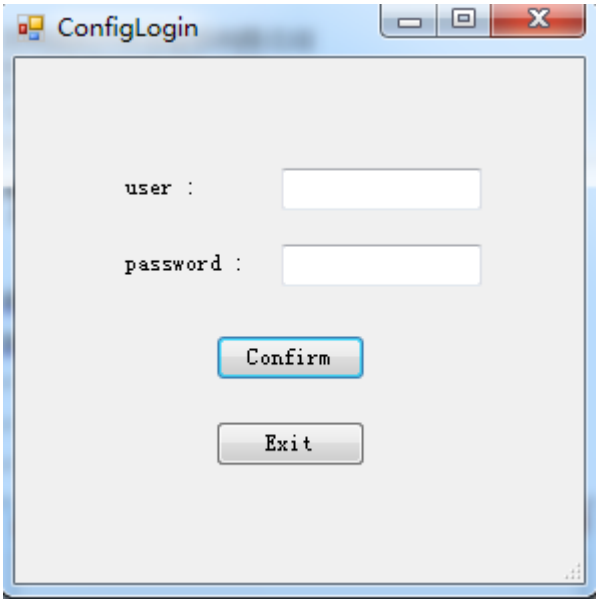
Shelf life is the maximum stock time at the distributor's or/and dealer's warehouse. It's also the time from the shipping date from NSR to the installation date on a vessel.
Service life is the maximum lifetime the product can be labeled for.

⚠WARNING

Batteries should have two terminals insulated before disposal because the remaining power could cause severe harm to humans. Local regulations should be followed to protect the environment when batteries are disposed of.

3. VDR CONFIGURATION

3.1 Login VDR Config



user: NSR

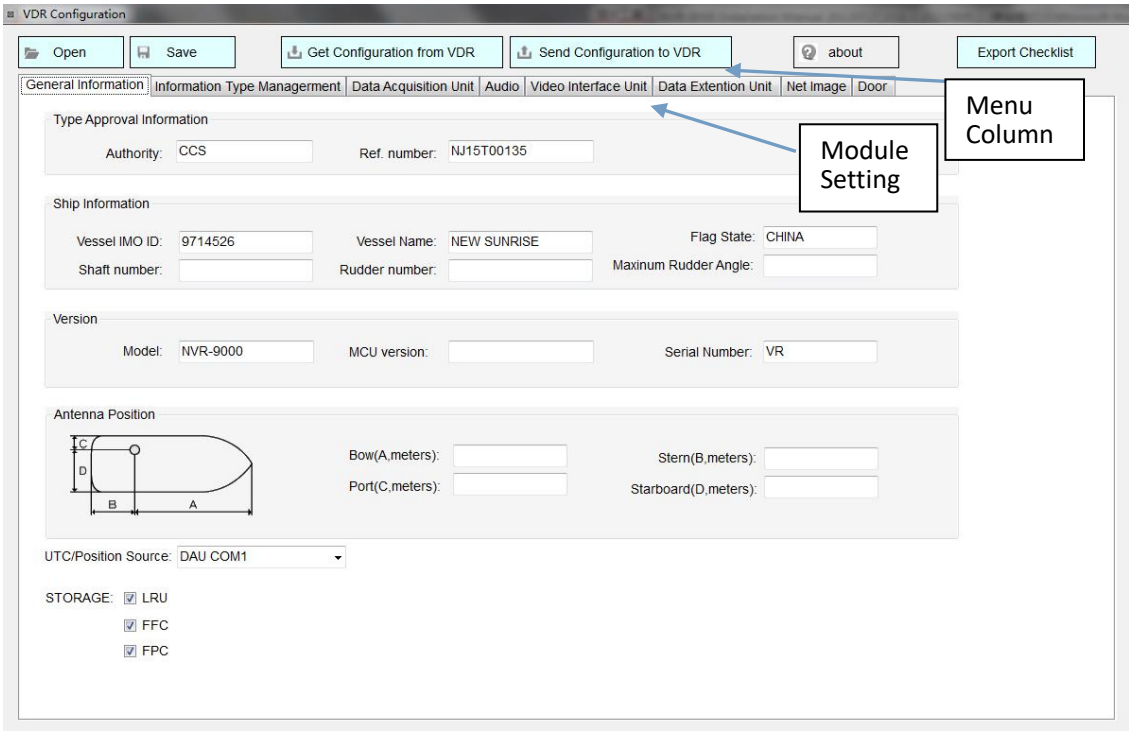
password: 123

Confirm: Enter the user and password, and confirm to enter the VDRConfig.

Exit: Exit the VDRConfig.

3.2 VDRConfig Display Interface

After installation of the VDR Configuration software, click on the "VDRConfig.exe" file inside the VDRConfig software.



3.3 Ship and Device Information

Menu Column

- **Open:** Open an existing XML configure file.
- **Save:** Save the configuration file.
- **Get Configuration from VDR:** Get the current config file from VDR equipment.
- **Send Configuration to VDR:** Send the current config file to VDR equipment.
- **Export Checklist:** Export a checklist for VDR/S-VDR.

Module Setting

- General Information
- Information Type Management
- Data Acquisition Unit
- Audio
- Video Interface Unit
- Data Extension Unit
- Net Image
- Door

General Information mainly includes:

- Type Approval Information
  - Authority
  - Ref. number
- Ship Information
  - Vessel ID
  - Vessel Name
  - Flag State
  - Shaft number
  - Rudder number
  - Maximum Rudder Angle
- Version
  - Model
  - MCU version
  - Serial Number
- Antenna Position
  - Bow(A, meters)
  - Stern(B, meters)
  - Port(C, meters)
  - Starboard(D, meters)

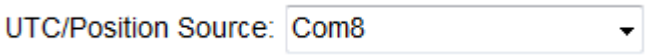
3.4 Interface Setting

Each button functions as follows:

-  : Add a module or channel
-  : Delete a module or channel(one by one)
-  : Drop-down list

3.4.1 UTC Source/Position Setting

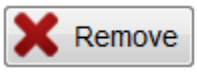
UTC Source/Position Setting: Select COM to ensure UTC. The location of UTC sources, usually linked to a GPS device, during operation, VDR will take advantage of this time for the system. Click  , and 72 serial channels can be selected.



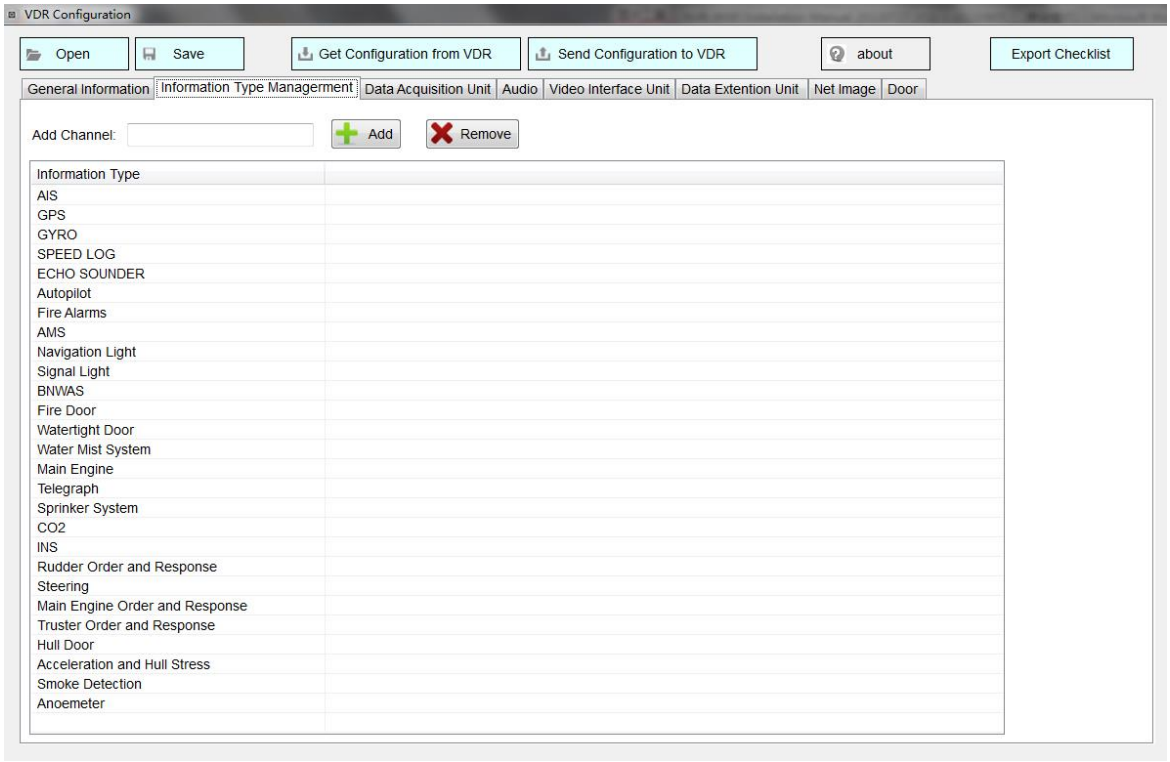
VDR	UTC/Position Source
DAU COM1~COM8	COM1~COM8
DEU1 COM1~COM16	COM9~COM24
DEU2 COM1~COM16	COM25~COM40
DEU3 COM1~COM16	COM41~COM56
DEU4 COM1~COM16	COM57~COM72

3.4.2 Information Type Management

We will use the name in the information list when configuring the serial port to receive the type of information and show the playback information. The existing definition of information is not allowed to change freely. If you can't find the type you wish to record in the list, you can input your type of information at the top of the text input box. Click the 

button to add it to the information list. If the system lacks the required information for recording, you can click on the appropriate 

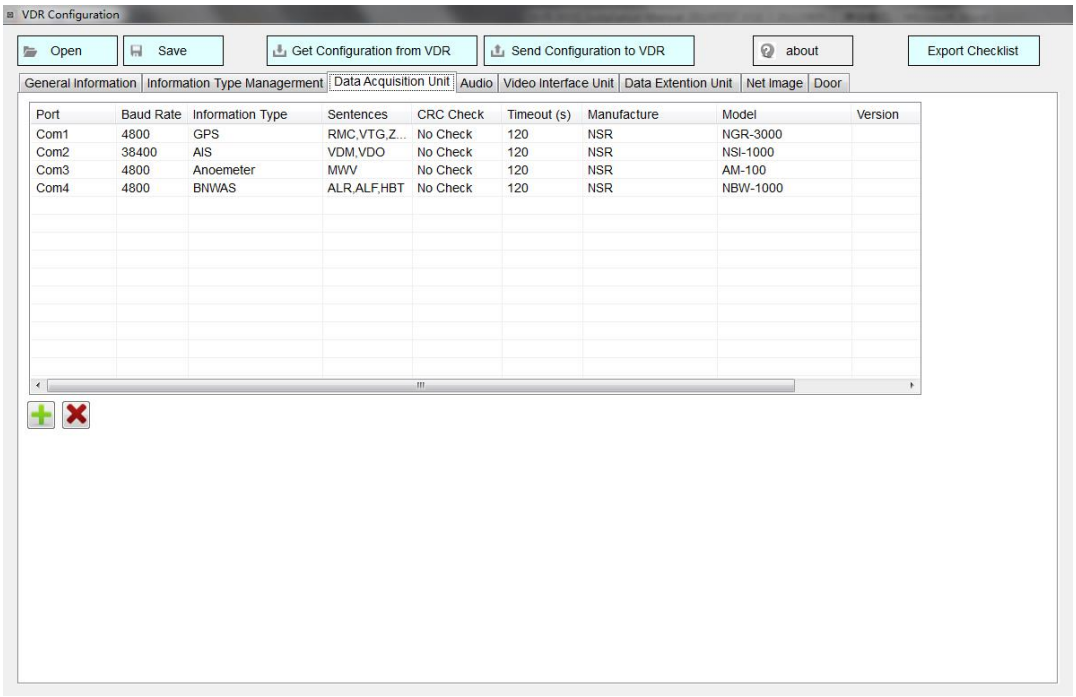
button next to the item to delete it.



3.4.3 Data Acquisition Unit

In the Data Acquisition Unit, you can add or delete a Serial Port item with the icon  or  at the bottom of the unit.

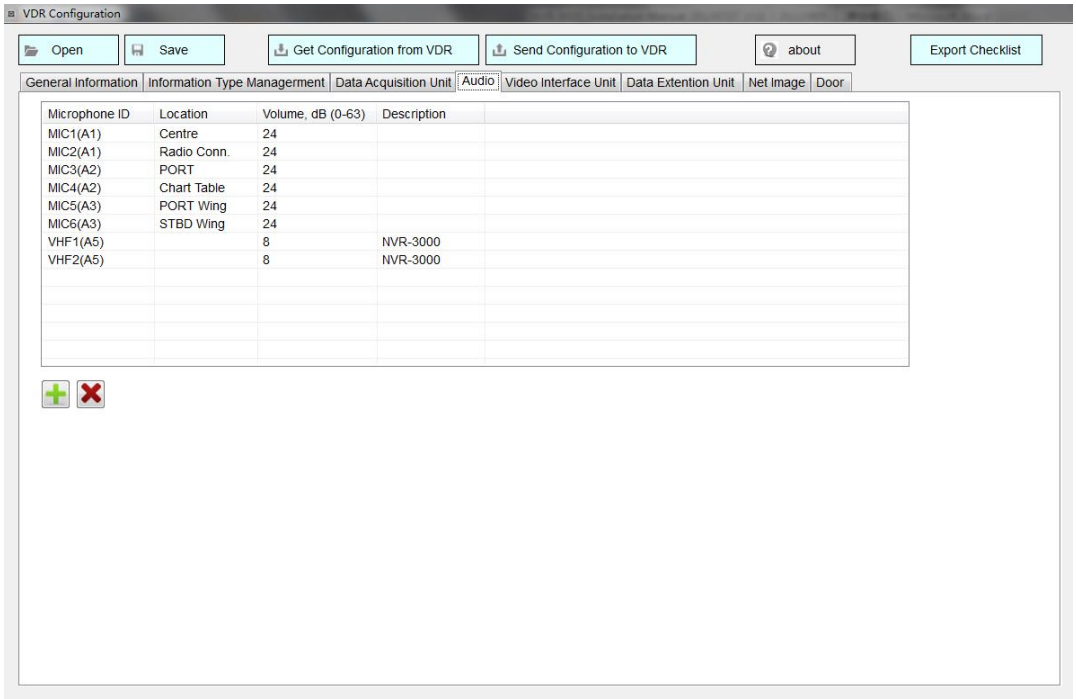
- **Port:** Select a serial channel. DAU has 8 serial ports to be selected, COM1 ~ COM8.
- **Baud Rate:** Baud rate selection: 4800, 9600, 19200, 38400.
- **Information Type:** Select the type of recording information in the information list. Ensure that you choose the correct type to ensure normal playback.
- **Sentences:** This is only for prompting, which is not associated with the data record, playback, and alarm. Even if it is not filled, it will not affect the corresponding playback record.
- **CRC check:** Choose whether CRC is used. There are two options: CRC Check or No Check. If the CRC Check is chosen, the alarm of serial data loss will be produced when the CRC check fails.
- **Time Out:** Receive timeout setting. When the set time is exceeded and the information has not been received, the alarm of the corresponding channel will be triggered.
- **Manufacture:** Equipment manufacturer. It is not associated with data recording, playback, or alarm.
- **Model:** Equipment Type. It is not associated with data recording, playback, or alarm.
- **Version:** Equipment Version Number. It is not associated with data recording, playback, or alarm.



3.4.4 Audio

Audio Recording in DAU:

- **Microphone ID:** Select the microphone ID number or VHF ID number. Microphone ID channels M1~M8. VHF ID channels V1, V2.
- **Position:** The installation location of the Microphone or VHF. It is not associated with data recording, playback, or alarm.
- **Volume, dB:** The gain of the audio channel signal ranges up to 63 dB. A value of 16 dB is generally recommended, but it may be adjusted accordingly. If the sound is too low, you can increase this value. If the sound is too loud, you can reduce the value.

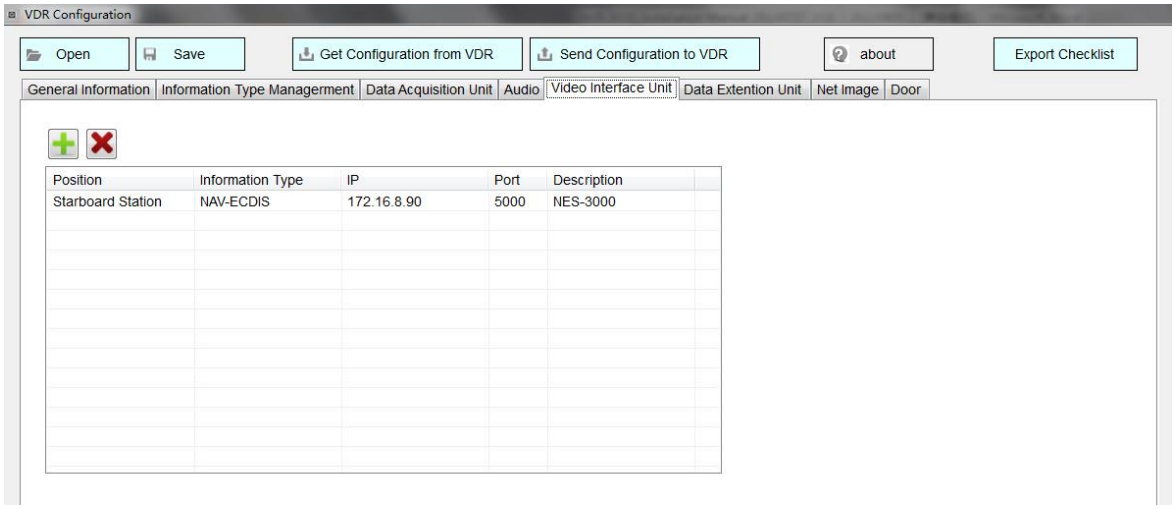


3.4.5 Video Interface Unit

Configure the Video Interface Unit, which is used to connect external VGA input to DAU.

- **Position:** The installation location of the video source. It is not associated with data recording, playback, or alarm.
- **Information Type:** Device information. It is not associated with data playback.
  - X-BAND: X-band radar
  - S-BAND: S-band radar
  - NAV-ECDIS: Navigation ECDIS
  - BAK-ECDIS: Backup ECDIS
- **IP:** 172.16.8.90, 172.16.8.91, 172.16.8.92, 172.16.8.93.
- **Port:** 5000.

NOTE: If only two channels are used, the IP addresses will be 172.16.8.90 and 172.16.8.91.

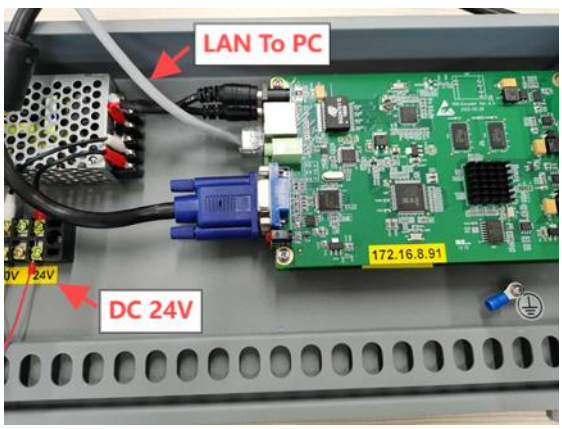


Refer to the following procedures to set VIU IP address.

3.4.5.1 Change VIU IP address

3.4.5.1.1 Connection

- Connect the PC to the VIU PCB via an Ethernet cable;
- There are four IP addresses for VIU as below:
  VIU1: 172.16.8.90
  VIU2: 172.16.8.91
  VIU3: 172.16.8.92
  VIU4: 172.16.8.93
- Connect power DC 24V to VIU (shown at right).



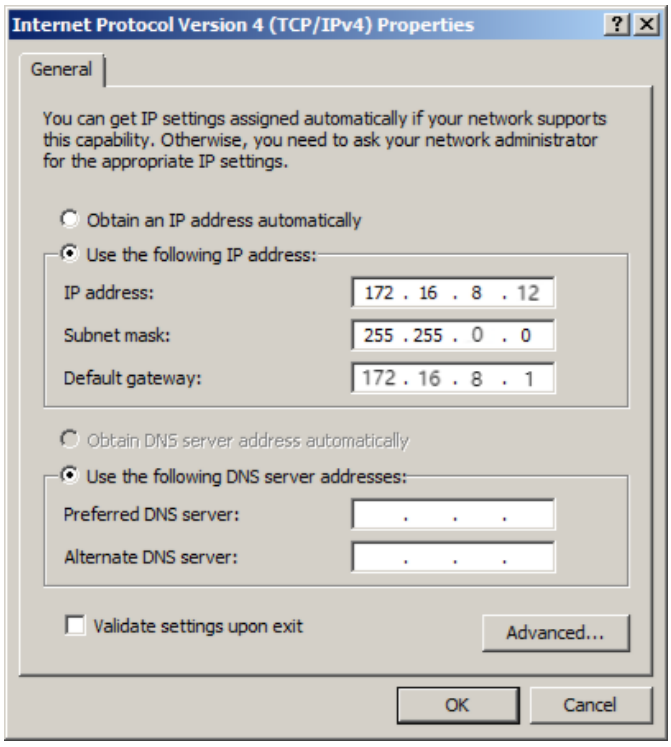
3.4.5.1.2 Configuration

3.4.5.1.2.1 Set the PC IP address

IP: 172.16.8.12

Mask: 255.255.0.0

Gateway: 172.16.8.1



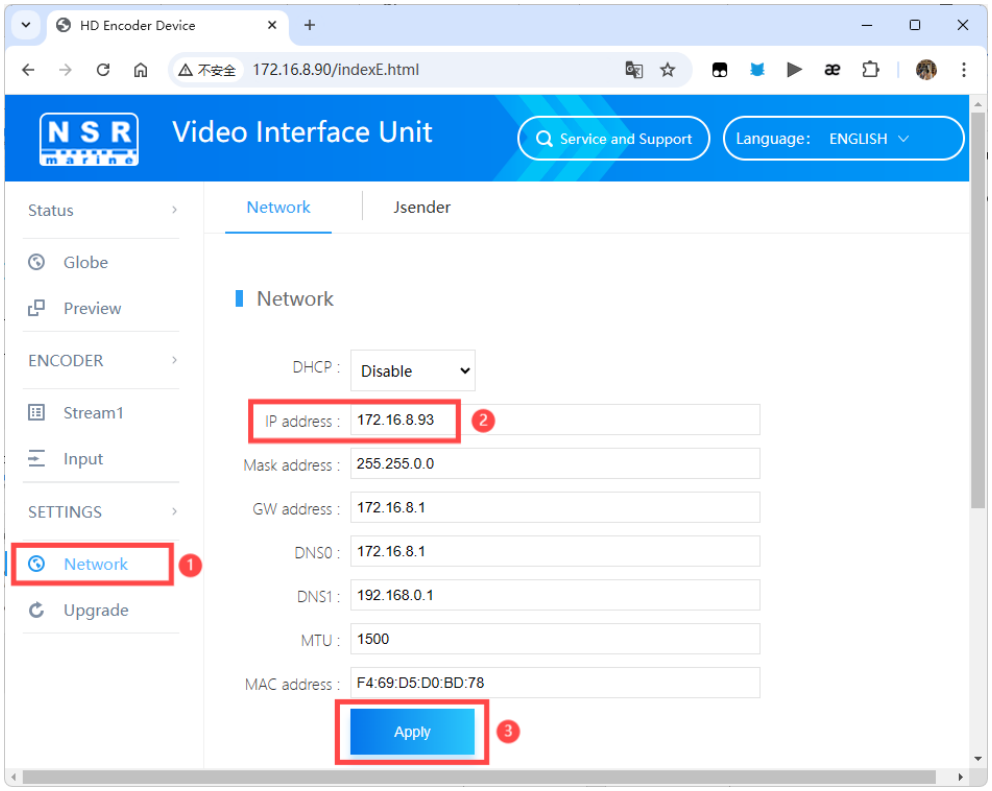
3.4.5.1.2.2 Set VIU IP address

For example, change the VIU1 IP to the VIU4 IP.

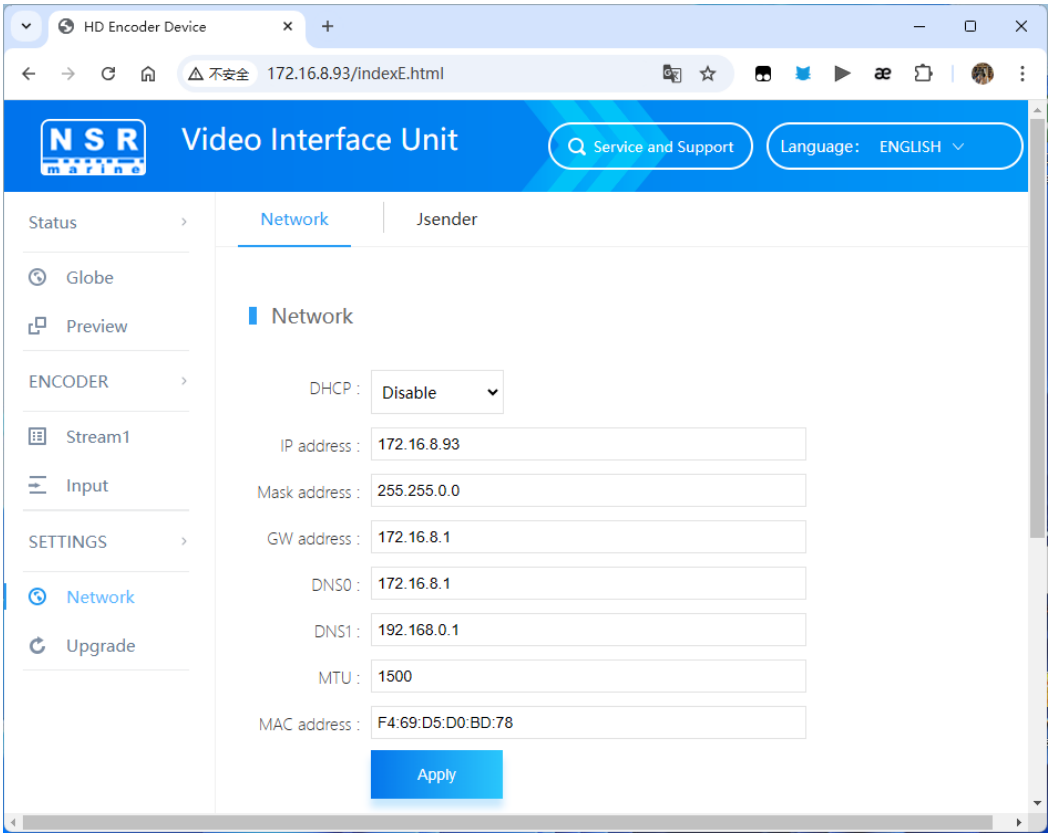
Open a browser and enter the original IP address 172.16.8.90, USER: admin, PWD: admin.

Language options can be switched in the upper right corner of the page.

Fill in the new IP address on the network setting page. Then “Apply”.

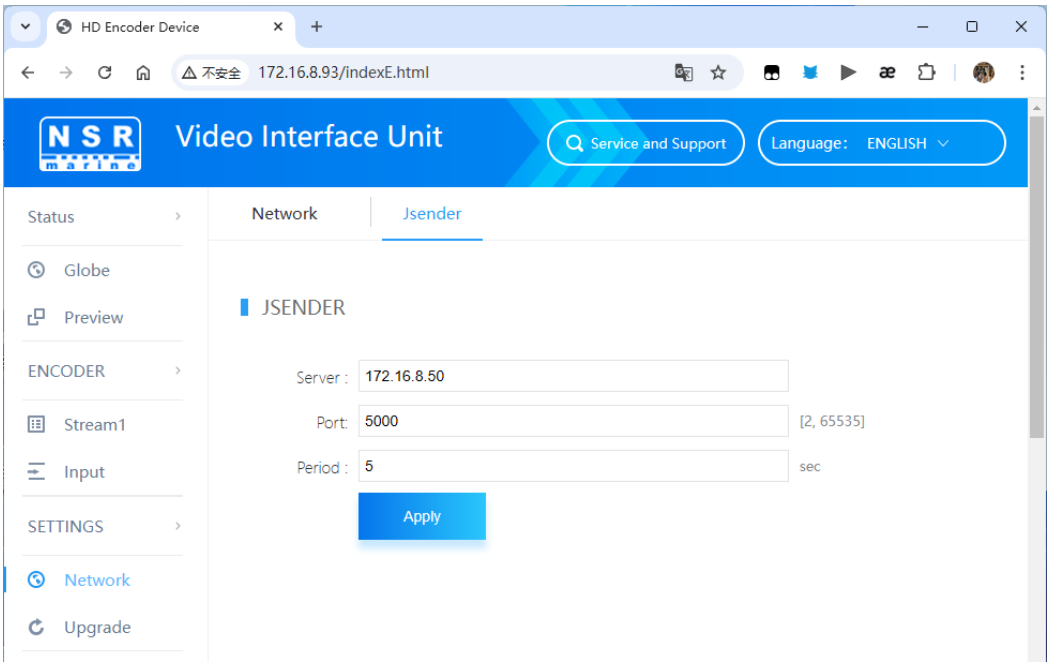


Re-power the VIU and check the new IP address in the browser.

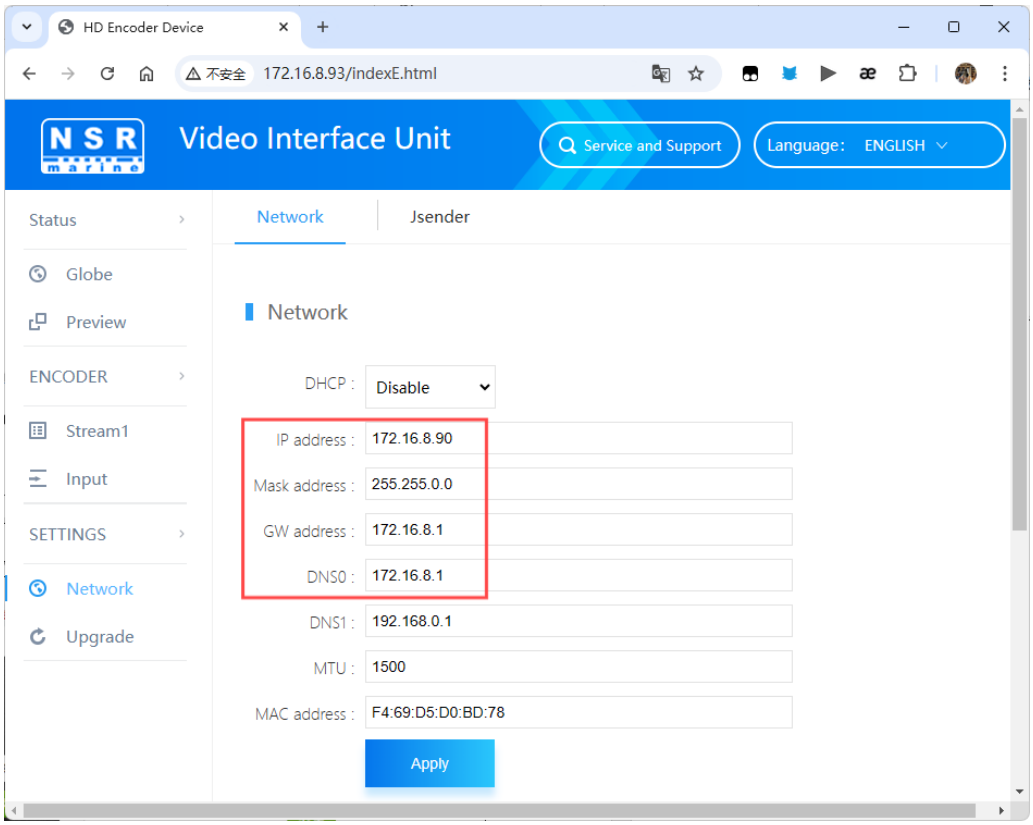


3.4.5.2 VIU restoration

1) After the reset, VIU IP address has been changed to 172.16.8.93.
2) The PC's IP address changed to 172.16.8.12.
3) The browser enters 172.16.8.93, user name: admin password: admin.
4) Modify the server settings as follows, then click "Apply".



5) Modify the network settings as follows:
IP: 172.16.8.90, Mask: 255.255.0.0, DNS:172.16.8.1. then click "Apply".



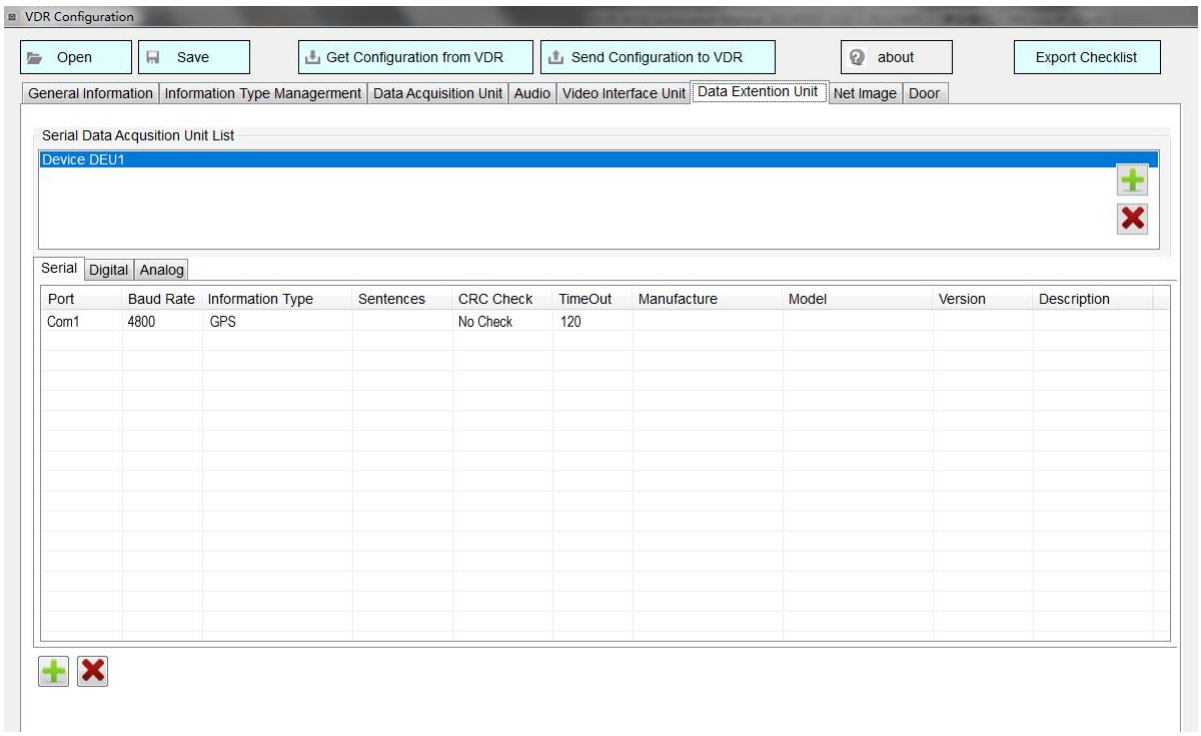
3.4.6 Data Extension Unit

Data Extension Unit: Device DEU1~Device DEU4. Each device consists of Serial, Digital, and Analog.

- **Serial Tab**

There are 16 serial ports, including information on Baud Rate, Information Type, Sentences, CRC Check, Time Out, Manufacture, Model, and Version.

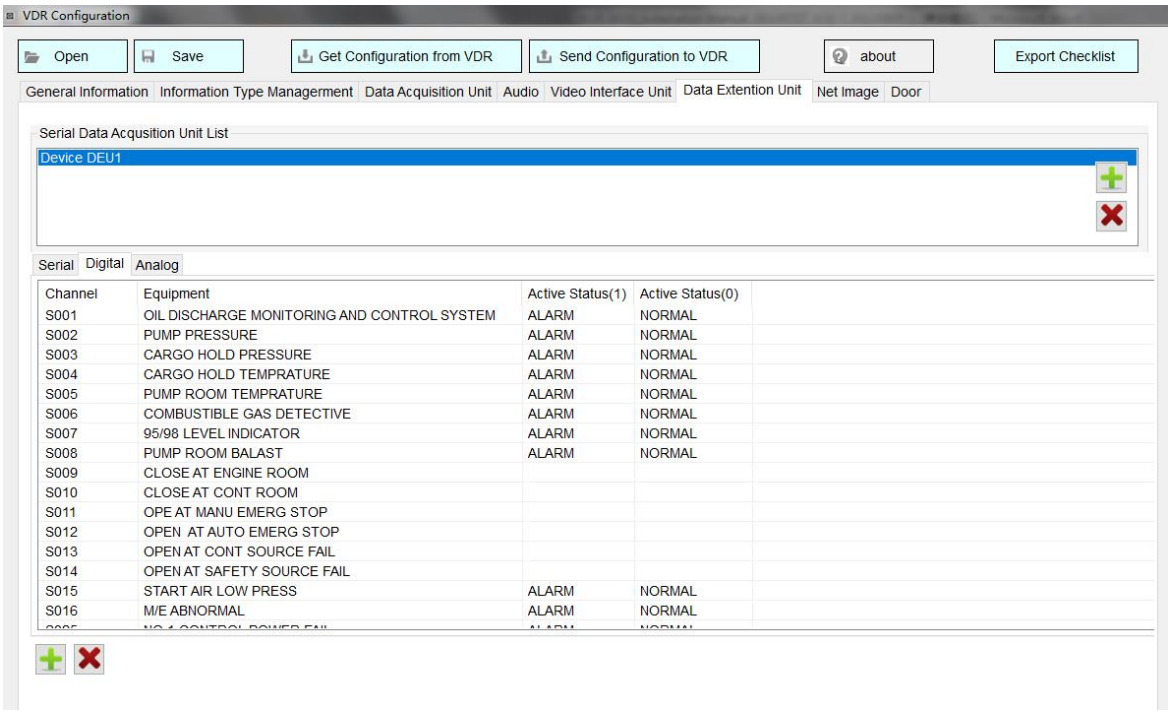
- **Port:** Serial channel. Each DEU has 16 serial ports to be selected, COM1 ~ COM16. (The port in use cannot be selected.)
- **Baud Rate:** Baud rate selection: 4800, 9600, 19200, 38400.
- **Information Type**: Select the type of recording information in the information list and ensure that you choose the correct type to ensure normal playback.
- **Sentences:** This is not associated with the data record, playback, and alarm. Even if it is not filled, it will not affect the corresponding playback record.
- **CRC Check:** Choose whether CRC is to be used. There are two options: CRC Check or No Check. If the CRC Check is chosen, the alarm of serial data loss will be produced when the CRC check fails.
- **Time Out:** Receive timeout setting. When the set time is exceeded and the information has not been received, the alarm of the corresponding channel will be triggered.
- **Manufacture:** Equipment manufacturers. It is not associated with data recording, playback, or alarm.
- **Model:** Equipment Type. It is not associated with data recording, playback, or alarm.
- **Version:** Equipment Version Number. It is not associated with data recording, playback, or alarm.



- **Digital Tab**

This module supports up to 64 contact signals (8 can be set up for wet contact signals), including information on Channel, Description, Equipment, Active Status (1), and Active Status (0).

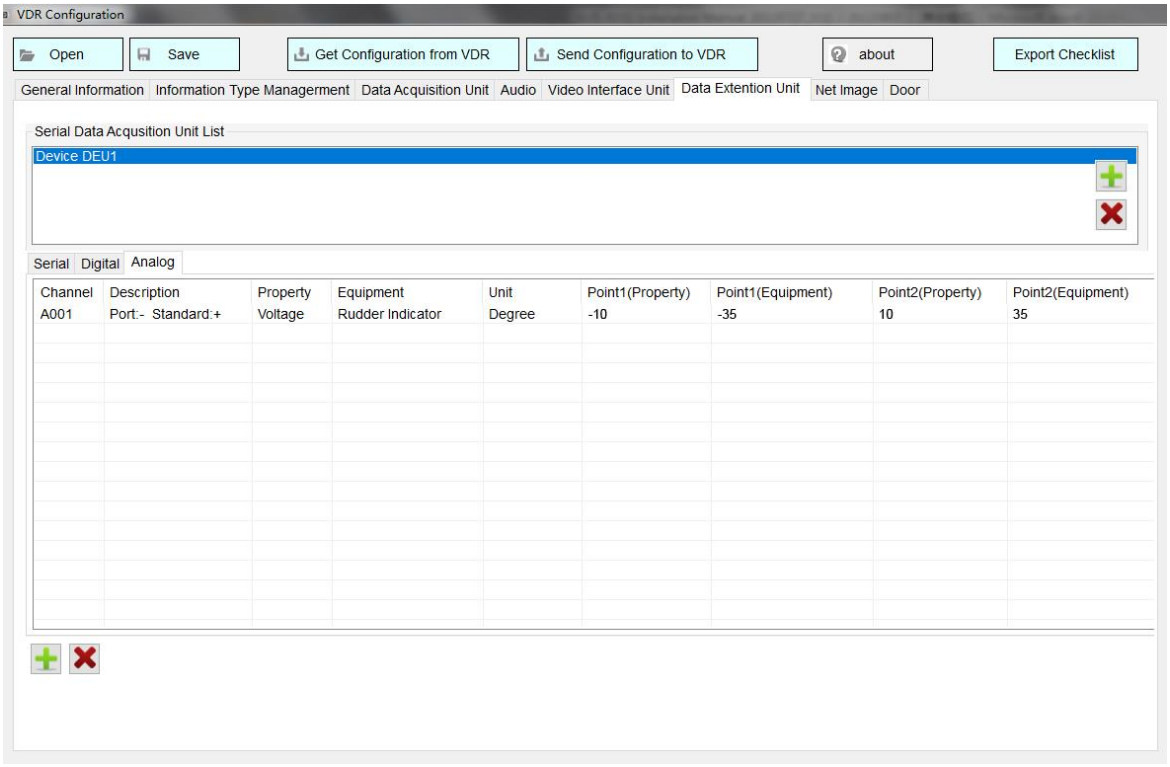
- **Channel:** Select the right channel, S001~S064.
- **Description:** The details of collected information.
- **Equipment:** Connected device.
- **Active Status (1)/(0):** In the configuration software, Run and Stop are represented by 0 and 1 in the switch volume channel S001. "1" and "0" represent the states. It can be customized according to the specific circumstances.



- **Analog Tab**

Up to 8 analog signals can be acquired.

- **Channel:** Select the right channel, A001~A008. (The channel in use can not be selected.)
- **Description:** The details of collected information.
- **Property:** Choose the current or voltage in the property.
- **Unit:** Actual unit of value. Such as degree (°).
- **Equipment:** Connected device.
- **Point1 (Property), Point1 (Equipment), Point2 (Property), Point2 (Equipment):** The purpose of analog calibration is to convert the analog value of the actual input to the physical value to be displayed.



3.4.7 Network Image

This part is used to receive files that meet the IEC61162-450 protocol. The file formats below are supported:

• "RaUdP": binary image files;

• "RrUdP": re-transmittable binary image files;

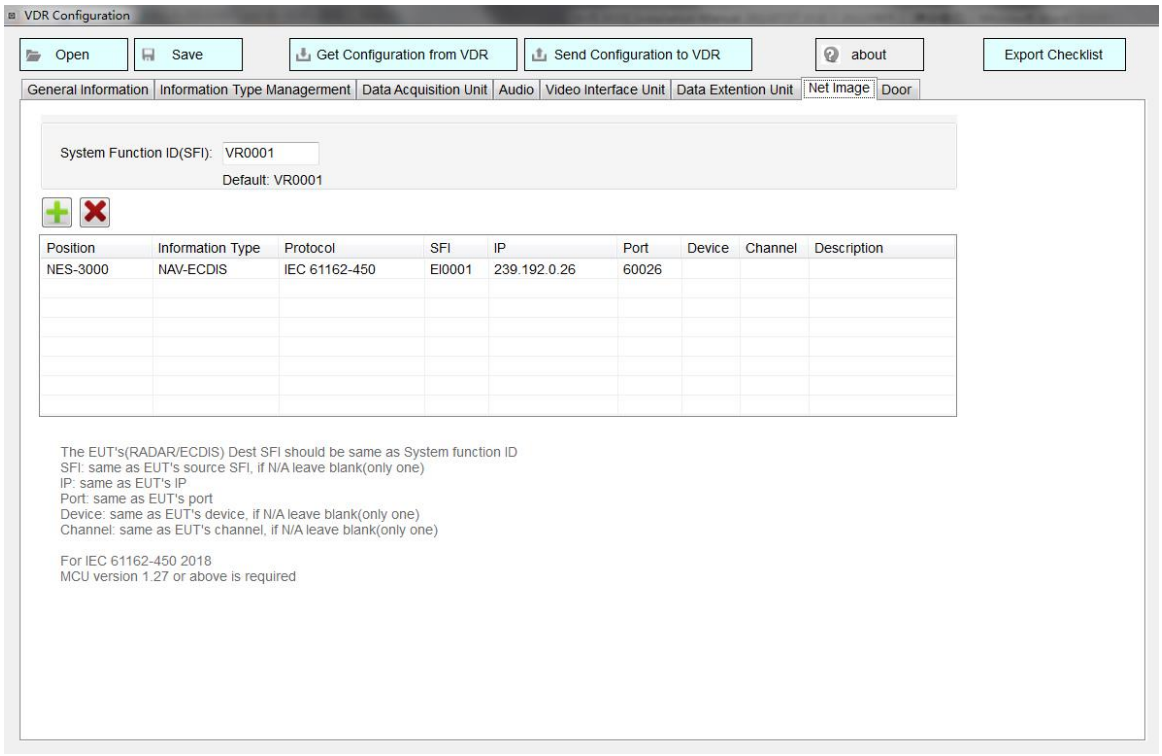
• "RrTcP": binary files.

Supported IGMP protocols: IGMPv1, IGMPv2

Via the NET interface, VDR could receive files from equipment like radar and ECDIS. The output files from the radar and ECDIS shall meet the IEC61162-450 protocol and be in one of the above file formats.

VDR supports up to 4 channels of network images to be accessed simultaneously. For detailed descriptions

of Network Image and configurations of various manufacturers, please refer to the service manual, Appendix B.



- **System Function ID (SFI): VDR SFI** is set to VR0001 by default. If the SFI is already in use, increase the number.
- **Position:** The installation location of the video source. It is not associated with data recording, playback, or alarm.
- **Information Type:** Device information. It is not associated with data playback.
  - X-BAND: X-band radar
  - S-BAND: S-band radar
  - NAV-ECDIS: Navigation ECDIS
  - BAK-ECDIS: Backup ECDIS
- **Protocol:** Three protocols:
  - IEC 61162-450: RaUdP and RrUdP
  - IEC 61162-450 TCP: RrTcP
  - Other network functions (ONF) are not supported.
- **SFI:** If you use the communication protocol IEC 61162-450, the format of the source ID is ccxxxx (cc0000~cc9999). Specific values are defined in the relevant manual of the corresponding device.
- **IP&Port:** Set up according to the sender's IP, generally according to the following table.
- **Device:** Same as sender's device no. If N/A, leave blank .
- **Channel:** Same as sender's channel no. If N/A, leave blank.

Category	Multicast address	Destination port
IEC 61162-450 (RaUdP – Simple binary file transfer service with UDP Multicast)	239.192.0.21 to 239.192.0.25	60021 to 60025
IEC 61162-450 (RrUdP – Re-transmittable binary file transfer service with UDP Multicast)	239.192.0.26 to 239.192.0.30	60026 to 60030
Address 239.192.0.25, port 60025 is the default for ECDIS route transfer (see IEC 61174). Address 239.192.0.26, port 60026 is the default for VDR image transfer (see IEC 61996-1). Address 239.192.0.30, port 60030 is the default for ECDIS re-transmittable data blocks for route transfer (see IEC 61174).		
IEC 61162-450 TCP (RrTcP)	172.16.8.130 to 172.16.8.180	7097
For RrTcP, the Sender's destination IP should be set to 172.16.8.50, port: 7097		

The maximum data rate	Speed(Datagrams/s)
a) the maximum number of datagrams per second received, intended for, and processed by the equipment,	1000
b) the maximum number of datagrams per second received by, but not intended for, the equipment	6000
c) the maximum number of datagrams per second received by, but not intended for, the equipment at 50 % of the maximum load for item a).	3000
NOTE 1: "Received by" means datagrams that are received on all transmission groups that the equipment listens to. NOTE 2: "Intended for" are datagrams that are processed by the equipment as part of its specified function.	

Error logging:

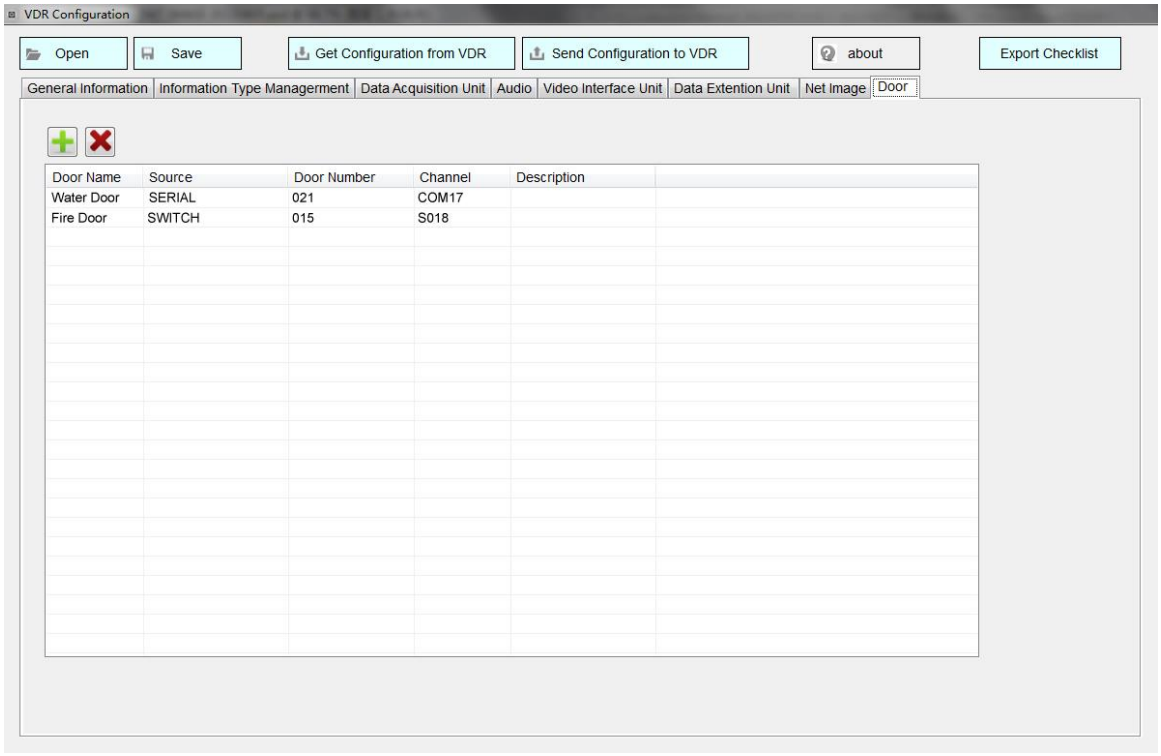
If an error is detected during reception, the error counter will be logged. You can download by playback software to review the log file.

3.4.8 Door

The status of all kinds of doors, such as watertight and fire doors, should be displayed intuitively. The configuration information is only for door playback.

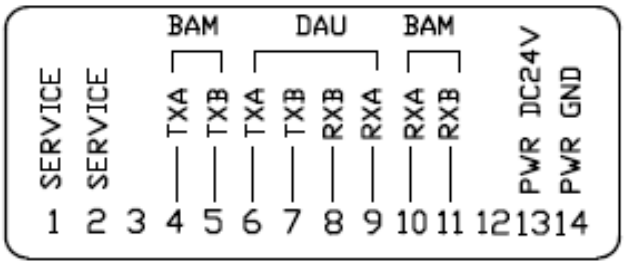
- **Door Name:** Name of the door
- **Source:** Source of the door
  - SERIAL: COM1~COM72
  - SWITH CH: S001~S256
- **Door Number:** The number of the doors. The door number is consistent with the serial number definition.
- **Channel:** For the serial option, select a port from COM1 to COM72. For the switch option, select a switch from S001 to S256.

VDR	**VDRConfig -** Door Serial Source Channel
DAU COM1~COM8	COM1~COM8
DEU1 COM1~COM16	COM9~COM24
DEU2 COM1~COM16	COM25~COM40
DEU3 COM1~COM16	COM41~COM56
DEU4 COM1~COM16	COM57~COM72



3.4.9 Alert Interface

There is one alert interface (IEC 61162-1/IEC 61162-2) for BAM on RAU. All alerts that could be generated are listed in Annex A.



Interface

VDR	CAM	Type	Sentence
BAM RXA/RXB	TXA/TXB	IEC 61162-1/IEC 61162-2	ACN
BAM TXA/TXB	RXA/RXB	IEC 61162-1/IEC 61162-2	ALF, ALC, HBT

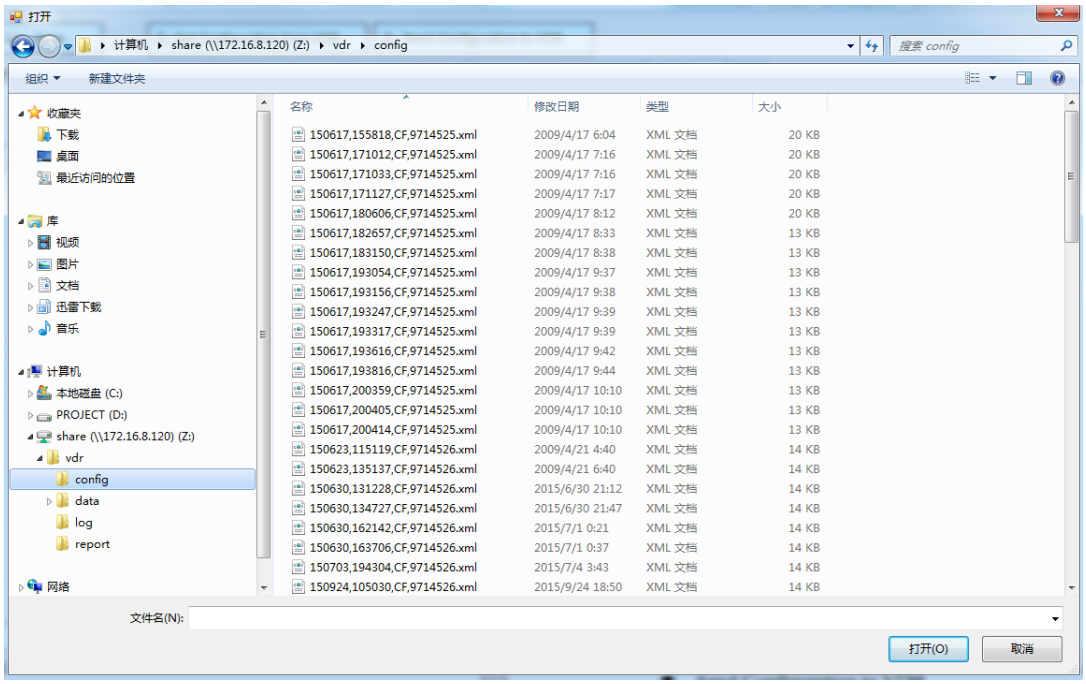
The baud rate can be changed in [SYSTEM SETTING] -> [BAM PORT].

3.5 Menu Column

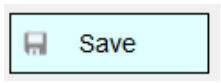
- **Open**

Button: 

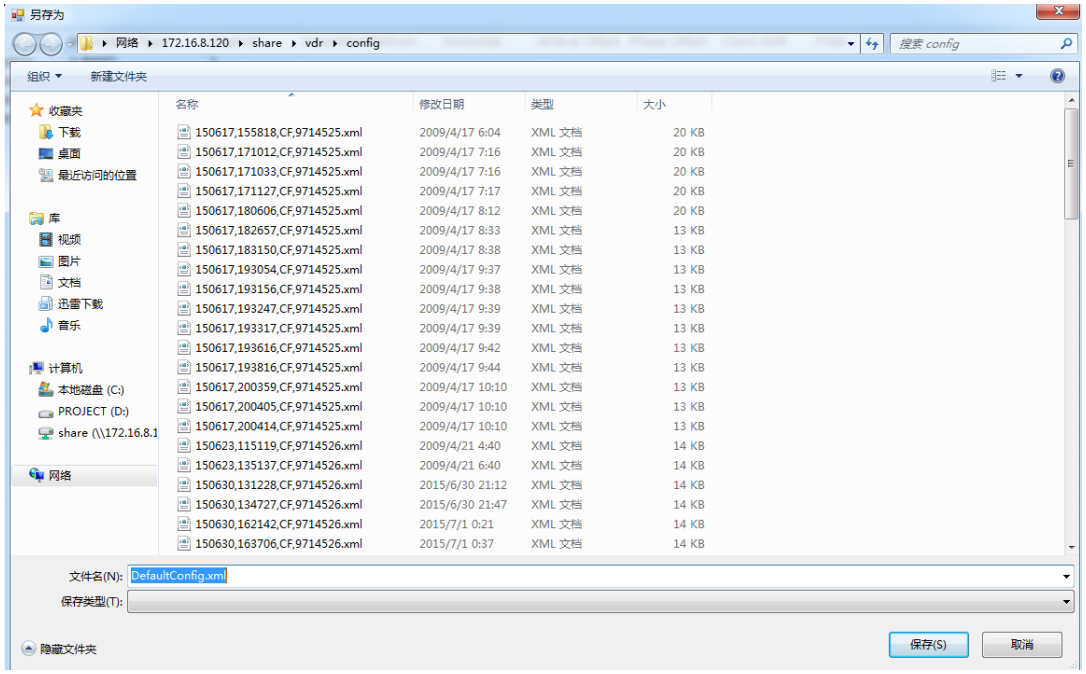
Open the XML file either on the local PC or from the one saved in the LRU (FFC/FPC).



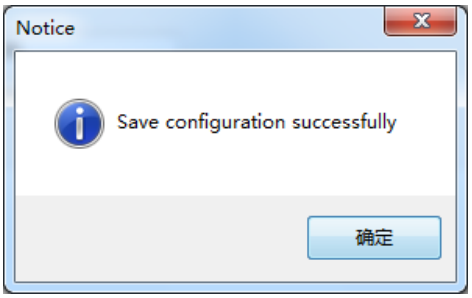
- **Save**

Button: 

After setting the configuration in the config software, you can save the configuration as an XML file on the local PC or LRU (FFC/FPC).



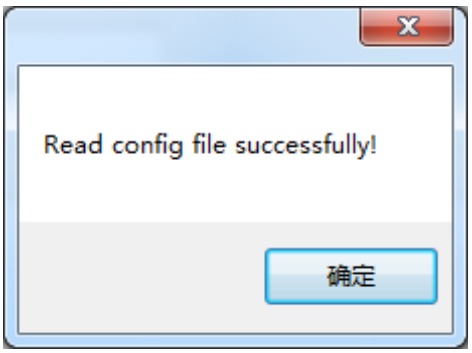
Get the configuration from the VDR equipment successfully, then a correct dialog will appear.



- **Get Configuration from VDR**

Button: 

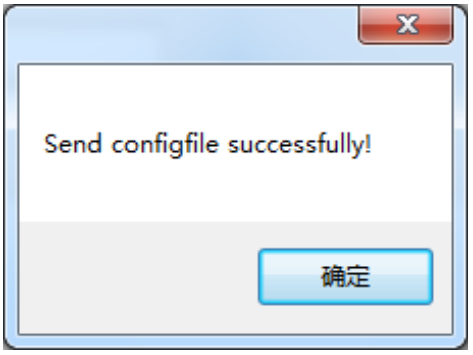
Get the configuration from the VDR equipment successfully, then a correct dialog will appear.



- **Send Configuration to VDR**

Button 

Send the configuration to the VDR equipment successfully, and then a correct dialog will appear.



4. VDR PLAYER SOFTWARE

4.1 Run the Player Software

Set the IP address in the network configuration on computer as follows:

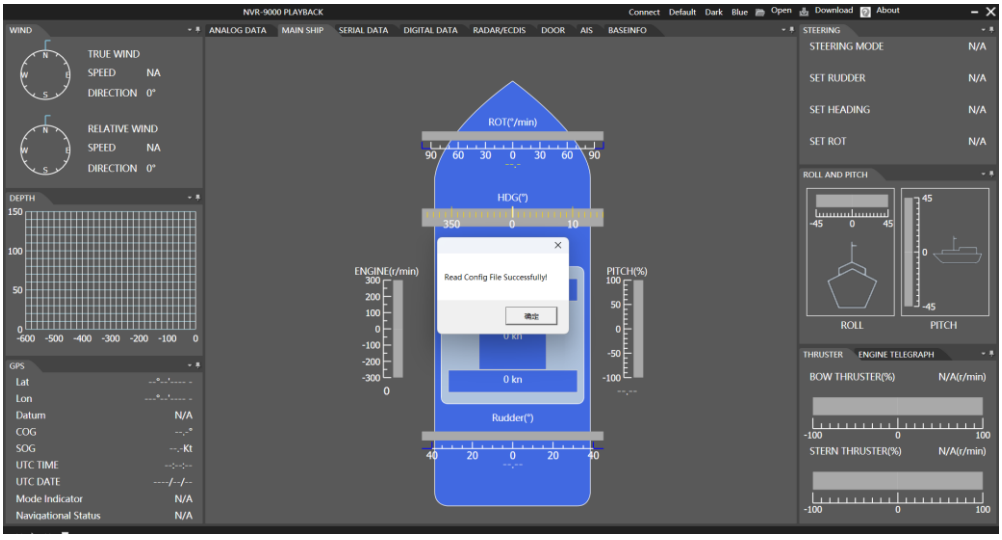
IP Address: 172.16.8.175

Subnet Mask: 255.255.0.0

Gateway: 172.16.8.1

Click the “VDRPlayer.exe” to run the playback software.

Then, the main frame will show up as follows, click “Connect”:



[Connect], [Open] and [Download] menu are located on the top right corner of the page.

Connect: Connect the VDR.

Download: Download the data to the desired directory.

Open: Open the data in the selected directory.

4.2 Play Live Data

4.2.1 Play MIC and VHF

Click the audio button  .

If successfully opened, the audio button will change to  .

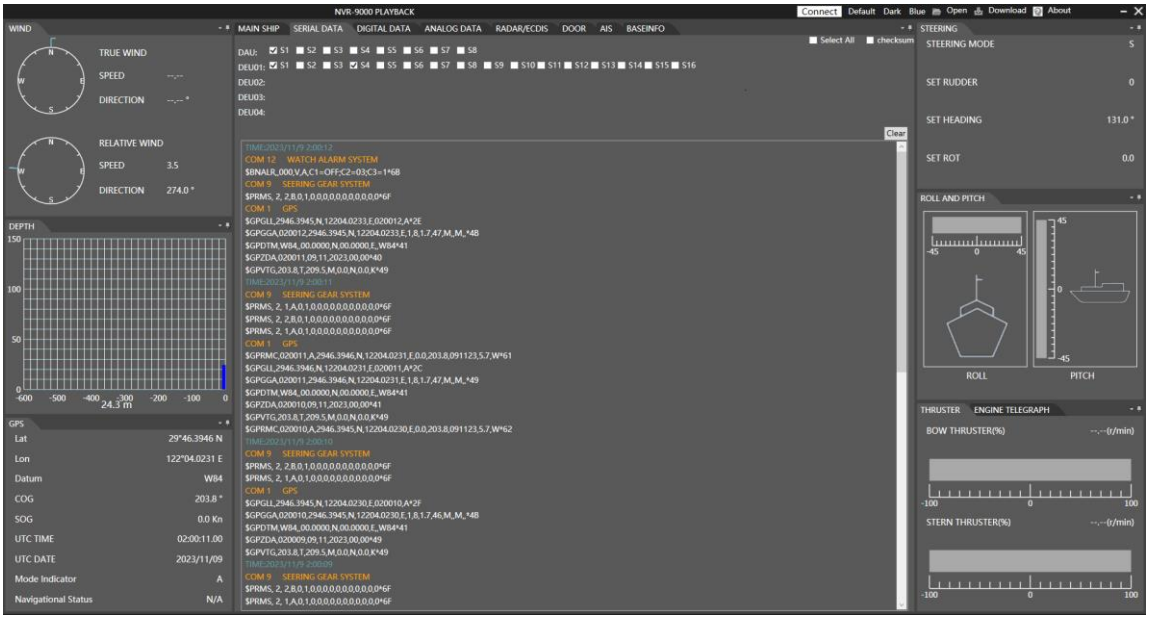
Click the relative button from A1 to A5 (VHF) to change the microphone channel.

Channel	Port
A1	MIC1+MIC2
A2	MIC3+MIC4
A3	MIC5+MIC6
A4	MIC7+MIC8
A5(VHF)	VHF1+VHF2

4.2.2 Play Serial Data

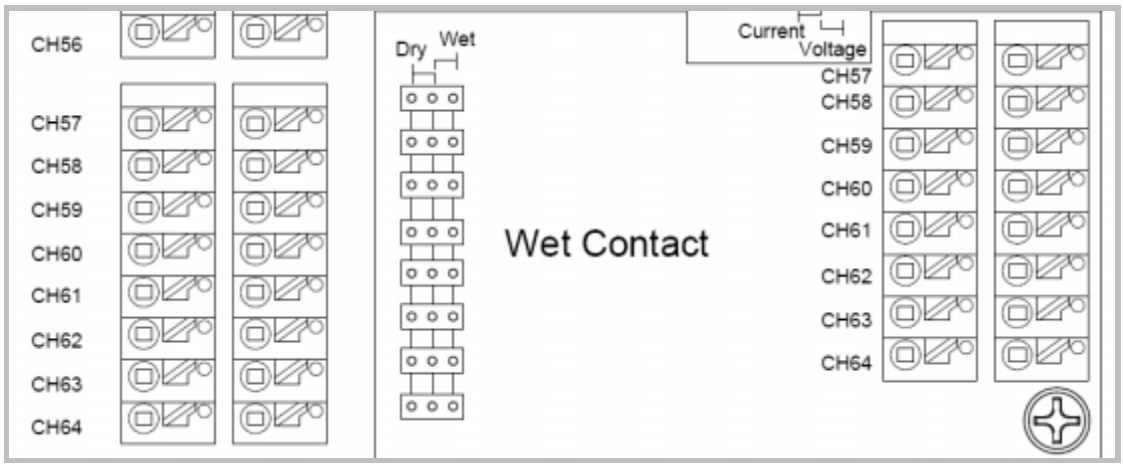
Serial Data interface page displays status of the serial channel according to the IEC61162 format in compliance with IMO requirements. Click on the desired channel to display its status.

VDR	VDR Player
DAU COM1~COM8	S1~S8
DEU1 COM9~COM24	S1~S16
DEU2 COM25~COM40	S1~S16
DEU3 COM41~COM56	S1~S16
DEU4 COM57~COM72	S1~S16



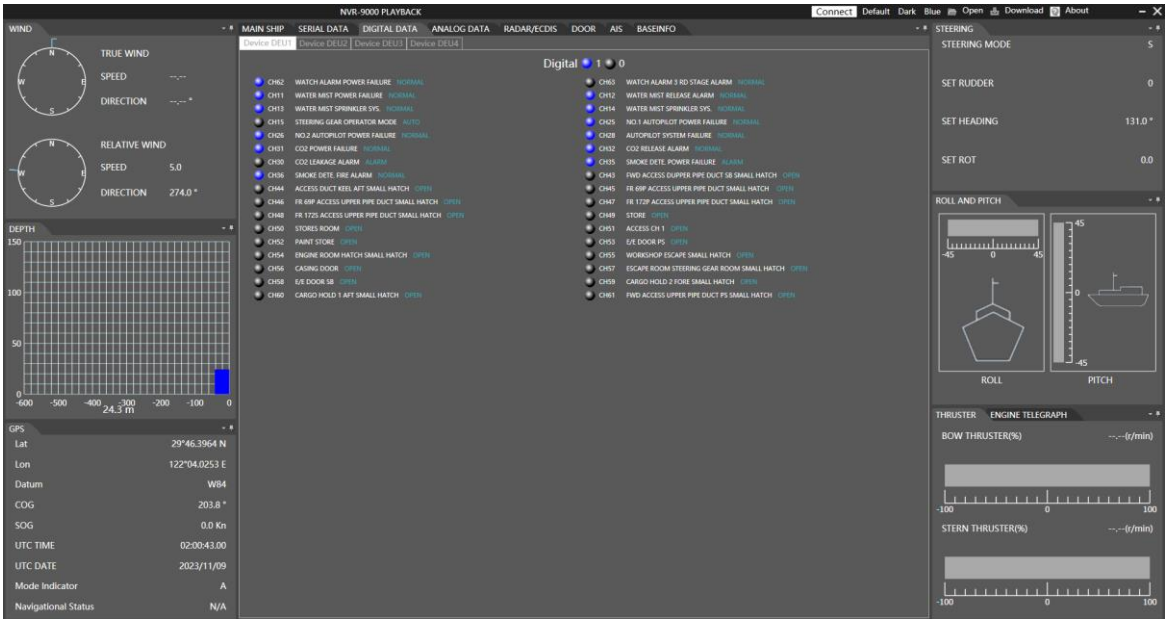
4.2.3 Play Digital Data

The Digital Data records the change of the state, and indicate the meaning of the status with 0 and 1. Switch "1" represents the input of the closed state (dry contact) and a high level (wet contact), in which case the LED on the board next to the switch interface is lit. Switch "0" represents the open circuit state (dry contact) and a low level (wet contact), at which time the LED on the board next to the switch interface board is off.



The CH57-CH64 switch can be configured as dry or wet contacts, via the jumpers on the circuit board. "1" and "0" represents the state.

In the VDR Player:

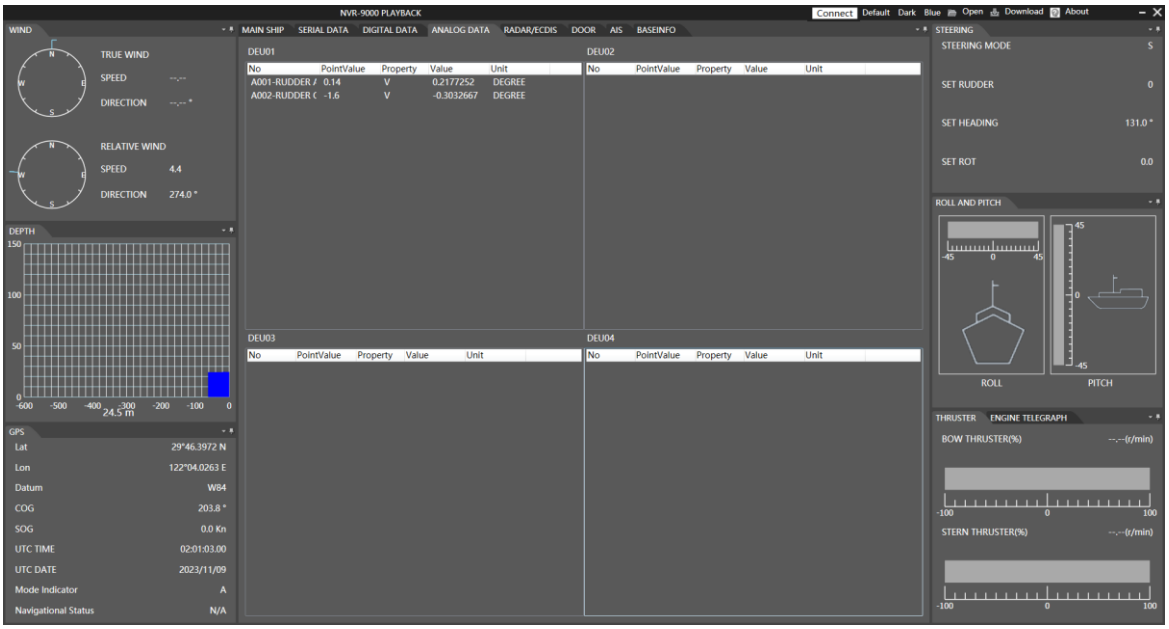


4.2.4 Play Analog Data

Analog Data displays the status of the analog signals. Analog Data includes Point Value, Property (Voltage and current), Value and Unit.

The analog inputs are selected by jumper caps for either Current or Voltage.

In VDR playback software as shown:

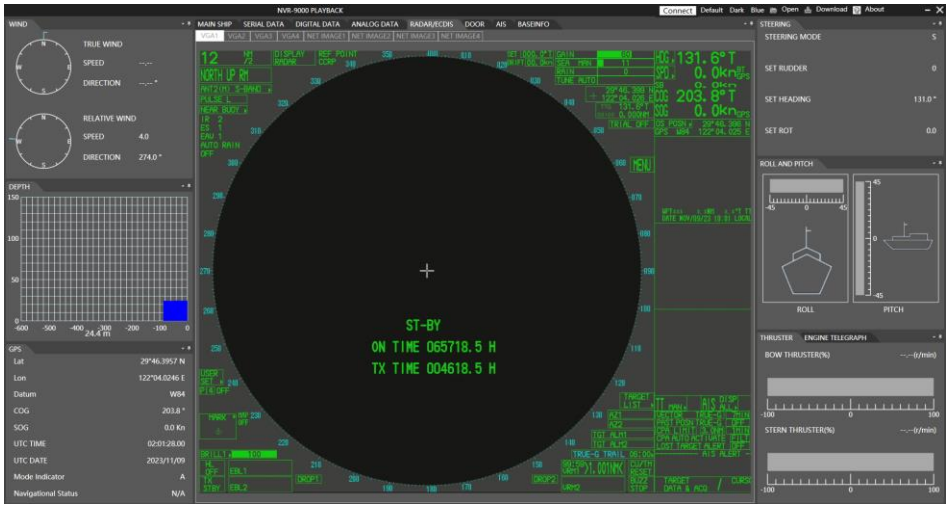


4.2.5 Play Radar/ECDIS Image

Radar/ECDIS is connected through VGA/NET.

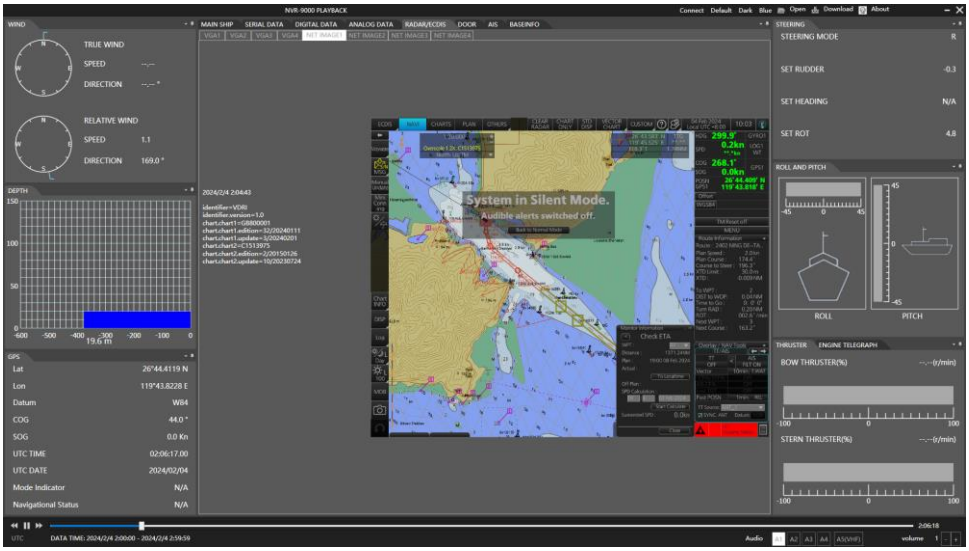
- **VGA Image**

  The VGA page displays the recorded image captured by VGA (VIU) during the period of playback. VGA image from 4 different equipment can be selected for playback. Only 1 VGA image is displayed at a time.



- **NET Image**

  For NET image, it needs to be checked after download. Net image from 4 different equipment can be selected for playback. Only 1 Net image is displayed at one time.



ANNEX A ALERT LIST

Alert Identifier	Ins	Alert Title	Alert Description	Prio	Cat	Reason
3009	2	RAU LOST	Check RAU	C	B	DAU lost connection with RAU
3009	3	DAU LOST	Check DAU	C	B	RAU lost connection with DAU
3023	4	AC POWER LOST	Check AC power and switch	C	B	AC 110V/220V Lost
3023	5	BAT LOST	Check battery	C	B	Battery Voltage Lost
3023	6	BAT LOW	Check battery	C	B	Battery Voltage Low
3009	7	UTC LOST	Check GPS	C	B	UTC Source Lost
3009	8	USB RW FAIL	Check USB disk	C	B	USB Disk Read and Write Fail
3009	9	LOG W FAIL	Check MCU	C	B	MCU Write Log File Fail
3009	10	CONFIG R FAIL	Check MCU	C	B	MCU Write Config File Fail
3009	11	FPC LAN LOST	Check FPC LAN cable	C	B	FPC Lan Connection Lost
3009	12	FFC LAN LOST	Check FFC LAN cable	C	B	FFC Lan Connection Lost
3009	13	LRU LAN LOST	Check LRU LAN cable	C	B	LRU Lan Connection Lost
3009	14	FPC LOST	Check FPC	C	B	SSD of FPC Not Detected
3009	15	FPC LOW CAPACITY	Check FPC	C	B	Low SSD Capacity of FPC
3009	16	FFC LOST	Check FFC	C	B	SSD of FFC Not Detected
3009	17	FFC LOW CAPACITY	Check FFC	C	B	Low SSD Capacity of FFC
3009	18	LRU LOST	Check LRU	C	B	SSD of LRU Not Detected
3009	19	LRU LOW CAPACITY	Check LRU	C	B	Low SSD Capacity of LRU
3009	20	DAU COM LAN	Check NVR909 in DAU	C	B	Lost connection with NVR901
3009	21	DEU1 LOST	Check DEU1 and LAN cable	C	B	DEU1 Lan Connection Lost
3009	22	DEU2 LOST	Check DEU2 and LAN cable	C	B	DEU2 Lan Connection Lost
3009	23	DEU3 LOST	Check DEU3 and LAN cable	C	B	DEU3 Lan Connection Lost
3009	24	DEU4 LOST	Check DEU4 and LAN cable	C	B	DEU4 Lan Connection Lost
3009	25	VIU1 LAN LOST	VIU1 LAN LOST AT [Information type]	C	B	VIU1 Lan Connection Lost
3009	26	VIU2 LAN LOST	VIU2 LAN LOST AT [Information type]	C	B	VIU2 Lan Connection Lost
3009	27	VIU3 LAN LOST	VIU3 LAN LOST AT [Information type]	C	B	VIU3 Lan Connection Lost
3009	28	VIU4 LAN LOST	VIU4 LAN LOST AT [Information type]	C	B	VIU4 Lan Connection Lost
3003	29	VIU1 SAMPLE FAIL	VIU1 SAMPLE FAIL AT [Information type]	C	B	VIU1 Sample Image Fail
3003	30	VIU2 SAMPLE FAIL	VIU2 SAMPLE FAIL AT [Information type]	C	B	VIU2 Sample Image Fail
3003	31	VIU3 SAMPLE FAIL	VIU3 SAMPLE FAIL AT [Information type]	C	B	VIU3 Sample Image Fail
3003	32	VIU4 SAMPLE FAIL	VIU4 SAMPLE FAIL AT [Information type]	C	B	VIU4 Sample Image Fail
3003	33	DAU COM	Check DAU COM	C	B	DAU Com Port Connection Fail
3003	34	DEU1 COM	Check DEU1 COM	C	B	DEU1 Com Port Connection Fail
3003	35	DEU2 COM	Check DEU2 COM	C	B	DEU2 Com Port Connection Fail
3003	36	DEU3 COM	Check DEU3 COM	C	B	DEU3 Com Port Connection Fail
3003	37	DEU4 COM	Check DEU4 COM	C	B	DEU4 Com Port Connection Fail

Alert Identifier	Ins	Alert Title	Alert Description	Prio	Cat	Reason
3003	38	MIC FAIL	Check MIC	C	B	Microphone Fail
3009	39	ACU LOST	Check ACU in DAU	C	B	ACU Connection Lost
3009	40	ASU1 LOST	Check ASU1 in DAU	C	B	ASU1 Connection Lost
3009	41	ASU2 LOST	Check ASU2 in DAU	C	B	ASU2 Connection Lost
3009	42	ASU3 LOST	Check ASU3 in DAU	C	B	ASU3 Connection Lost
3003	43	NET IMAGE1 LOST	NET IMAGE 1 LOST AT [Information type]	C	B	Device on NET IMAGE1 is lost
3003	44	NET IMAGE2 LOST	NET IMAGE 2 LOST AT [Information type]	C	B	Device on NET IMAGE2 is lost
3003	45	NET IMAGE3 LOST	NET IMAGE 3 LOST AT [Information type]	C	B	Device on NET IMAGE3 is lost
3003	46	NET IMAGE4 LOST	NET IMAGE 4 LOST AT [Information type]	C	B	Device on NET IMAGE4 is lost
3003	47	MIC1 LOST	MIC1 FAIL AT [Location]	C	B	MIC1 LOST
3003	48	MIC2 LOST	MIC2 FAIL AT [Location]	C	B	MIC2 LOST
3003	49	MIC3 LOST	MIC3 FAIL AT [Location]	C	B	MIC3 LOST
3003	50	MIC4 LOST	MIC4 FAIL AT [Location]	C	B	MIC4 LOST
3003	51	MIC5 LOST	MIC5 FAIL AT [Location]	C	B	MIC5 LOST
3003	52	MIC6 LOST	MIC6 FAIL AT [Location]	C	B	MIC6 LOST
3003	53	MIC7 LOST	MIC7 FAIL AT [Location]	C	B	MIC7 LOST
3003	54	MIC8 LOST	MIC8 FAIL AT [Location]	C	B	MIC8 LOST
3003	55	DAU COM1 LOST	DAU COM1 [Information type] LOST	C	B	Device on DAU COM1 LOST
3003	56	DAU COM2 LOST	DAU COM2 [Information type] LOST	C	B	Device on DAU COM2 LOST
3003	57	DAU COM3 LOST	DAU COM3 [Information type] LOST	C	B	Device on DAU COM3 LOST
3003	58	DAU COM4 LOST	DAU COM4 [Information type] LOST	C	B	Device on DAU COM4 LOST
3003	59	DAU COM5 LOST	DAU COM5 [Information type] LOST	C	B	Device on DAU COM5 LOST
3003	60	DAU COM6 LOST	DAU COM6 [Information type] LOST	C	B	Device on DAU COM6 LOST
3003	61	DAU COM7 LOST	DAU COM7 [Information type] LOST	C	B	Device on DAU COM7 LOST
3003	62	DAU COM8 LOST	DAU COM8 [Information type] LOST	C	B	Device on DAU COM8 LOST
3003	63	DEU1 COM1 LOST	DEU1 COM01 [Information type] LOST	C	B	Device on DEU1 COM1 LOST
3003	64	DEU1 COM2 LOST	DEU1 COM02 [Information type] LOST	C	B	Device on DEU1 COM2 LOST
3003	65	DEU1 COM3 LOST	DEU1 COM03 [Information type] LOST	C	B	Device on DEU1 COM3 LOST
3003	66	DEU1 COM4 LOST	DEU1 COM04 [Information type] LOST	C	B	Device on DEU1 COM4 LOST
3003	67	DEU1 COM5 LOST	DEU1 COM05 [Information type] LOST	C	B	Device on DEU1 COM5 LOST
3003	68	DEU1 COM6 LOST	DEU1 COM06 [Information type] LOST	C	B	Device on DEU1 COM6 LOST
3003	69	DEU1 COM7 LOST	DEU1 COM07 [Information type] LOST	C	B	Device on DEU1 COM7 LOST
3003	70	DEU1 COM8 LOST	DEU1 COM08 [Information type] LOST	C	B	Device on DEU1 COM8 LOST
3003	71	DEU1 COM9 LOST	DEU1 COM09 [Information type] LOST	C	B	Device on DEU1 COM9 LOST
3003	72	DEU1 COM10 LOST	DEU1 COM10 [Information type] LOST	C	B	Device on DEU1 COM10 LOST
3003	73	DEU1 COM11 LOST	DEU1 COM11 [Information type] LOST	C	B	Device on DEU1 COM11 LOST
3003	74	DEU1 COM12 LOST	DEU1 COM12 [Information type] LOST	C	B	Device on DEU1 COM12 LOST
3003	75	DEU1 COM13 LOST	DEU1 COM13 [Information type] LOST	C	B	Device on DEU1 COM13 LOST
3003	76	DEU1 COM14 LOST	DEU1 COM14 [Information type] LOST	C	B	Device on DEU1 COM14 LOST
3003	77	DEU1 COM15 LOST	DEU1 COM15 [Information type] LOST	C	B	Device on DEU1 COM15 LOST
3003	78	DEU1 COM16 LOST	DEU1 COM16 [Information type] LOST	C	B	Device on DEU1 COM16 LOST
3003	79	DEU2 COM1 LOST	DEU2 COM01 [Information type] LOST	C	B	Device on DEU2 COM1 LOST

Alert Identifier	Ins	Alert Title	Alert Description	Prio	Cat	Reason
3003	80	DEU2 COM2 LOST	DEU2 COM02 [Information type] LOST	C	B	Device on DEU2 COM2 LOST
3003	81	DEU2 COM3 LOST	DEU2 COM03 [Information type] LOST	C	B	Device on DEU2 COM3 LOST
3003	82	DEU2 COM4 LOST	DEU2 COM04 [Information type] LOST	C	B	Device on DEU2 COM4 LOST
3003	83	DEU2 COM5 LOST	DEU2 COM05 [Information type] LOST	C	B	Device on DEU2 COM5 LOST
3003	84	DEU2 COM6 LOST	DEU2 COM06 [Information type] LOST	C	B	Device on DEU2 COM6 LOST
3003	85	DEU2 COM7 LOST	DEU2 COM07 [Information type] LOST	C	B	Device on DEU2 COM7 LOST
3003	86	DEU2 COM8 LOST	DEU2 COM08 [Information type] LOST	C	B	Device on DEU2 COM8 LOST
3003	87	DEU2 COM9 LOST	DEU2 COM09 [Information type] LOST	C	B	Device on DEU2 COM9 LOST
3003	88	DEU2 COM10 LOST	DEU2 COM10 [Information type] LOST	C	B	Device on DEU2 COM10 LOST
3003	89	DEU2 COM11 LOST	DEU2 COM11 [Information type] LOST	C	B	Device on DEU2 COM11 LOST
3003	90	DEU2 COM12 LOST	DEU2 COM12 [Information type] LOST	C	B	Device on DEU2 COM12 LOST
3003	91	DEU2 COM13 LOST	DEU2 COM13 [Information type] LOST	C	B	Device on DEU2 COM13 LOST
3003	92	DEU2 COM14 LOST	DEU2 COM14 [Information type] LOST	C	B	Device on DEU2 COM14 LOST
3003	93	DEU2 COM15 LOST	DEU2 COM15 [Information type] LOST	C	B	Device on DEU2 COM15 LOST
3003	94	DEU2 COM16 LOST	DEU2 COM16 [Information type] LOST	C	B	Device on DEU2 COM16 LOST
3003	95	DEU3 COM1 LOST	DEU3 COM01 [Information type] LOST	C	B	Device on DEU3 COM1 LOST
3003	96	DEU3 COM2 LOST	DEU3 COM02 [Information type] LOST	C	B	Device on DEU3 COM2 LOST
3003	97	DEU3 COM3 LOST	DEU3 COM03 [Information type] LOST	C	B	Device on DEU3 COM3 LOST
3003	98	DEU3 COM4 LOST	DEU3 COM04 [Information type] LOST	C	B	Device on DEU3 COM4 LOST
3003	99	DEU3 COM5 LOST	DEU3 COM05 [Information type] LOST	C	B	Device on DEU3 COM5 LOST
3003	100	DEU3 COM6 LOST	DEU3 COM06 [Information type] LOST	C	B	Device on DEU3 COM6 LOST
3003	101	DEU3 COM7 LOST	DEU3 COM07 [Information type] LOST	C	B	Device on DEU3 COM7 LOST
3003	102	DEU3 COM8 LOST	DEU3 COM08 [Information type] LOST	C	B	Device on DEU3 COM8 LOST
3003	103	DEU3 COM9 LOST	DEU3 COM09 [Information type] LOST	C	B	Device on DEU3 COM9 LOST
3003	104	DEU3 COM10 LOST	DEU3 COM10 [Information type] LOST	C	B	Device on DEU3 COM10 LOST
3003	105	DEU3 COM11 LOST	DEU3 COM11 [Information type] LOST	C	B	Device on DEU3 COM11 LOST
3003	106	DEU3 COM12 LOST	DEU3 COM12 [Information type] LOST	C	B	Device on DEU3 COM12 LOST
3003	107	DEU3 COM13 LOST	DEU3 COM13 [Information type] LOST	C	B	Device on DEU3 COM13 LOST
3003	108	DEU3 COM14 LOST	DEU3 COM14 [Information type] LOST	C	B	Device on DEU3 COM14 LOST
3003	109	DEU3 COM15 LOST	DEU3 COM15 [Information type] LOST	C	B	Device on DEU3 COM15 LOST
3003	110	DEU3 COM16 LOST	DEU3 COM16 [Information type] LOST	C	B	Device on DEU3 COM16 LOST
3003	111	DEU4 COM1 LOST	DEU4 COM01 [Information type] LOST	C	B	Device on DEU4 COM1 LOST
3003	112	DEU4 COM2 LOST	DEU4 COM02 [Information type] LOST	C	B	Device on DEU4 COM2 LOST
3003	113	DEU4 COM3 LOST	DEU4 COM03 [Information type] LOST	C	B	Device on DEU4 COM3 LOST
3003	114	DEU4 COM4 LOST	DEU4 COM04 [Information type] LOST	C	B	Device on DEU4 COM4 LOST
3003	115	DEU4 COM5 LOST	DEU4 COM05 [Information type] LOST	C	B	Device on DEU4 COM5 LOST
3003	116	DEU4 COM6 LOST	DEU4 COM06 [Information type] LOST	C	B	Device on DEU4 COM6 LOST
3003	117	DEU4 COM7 LOST	DEU4 COM07 [Information type] LOST	C	B	Device on DEU4 COM7 LOST
3003	118	DEU4 COM8 LOST	DEU4 COM08 [Information type] LOST	C	B	Device on DEU4 COM8 LOST
3003	119	DEU4 COM9 LOST	DEU4 COM09 [Information type] LOST	C	B	Device on DEU4 COM9 LOST
3003	120	DEU4 COM10 LOST	DEU4 COM10 [Information type] LOST	C	B	Device on DEU4 COM10 LOST
3003	121	DEU4 COM11 LOST	DEU4 COM11 [Information type] LOST	C	B	Device on DEU4 COM11 LOST

Alert Identifier	Ins	Alert Title	Alert Description	Prio	Cat	Reason
3003	122	DEU4 COM12 LOST	DEU4 COM12 [Information type] LOST	C	B	Device on DEU4 COM12 LOST
3003	123	DEU4 COM13 LOST	DEU4 COM13 [Information type] LOST	C	B	Device on DEU4 COM13 LOST
3003	124	DEU4 COM14 LOST	DEU4 COM14 [Information type] LOST	C	B	Device on DEU4 COM14 LOST
3003	125	DEU4 COM15 LOST	DEU4 COM15 [Information type] LOST	C	B	Device on DEU4 COM15 LOST
3003	126	DEU4 COM16 LOST	DEU4 COM16 [Information type] LOST	C	B	Device on DEU4 COM16 LOST

Ins: an instance of an alert;

Prio: Alert priority: E - Emergency Alarm
A - Alarm
W - Warning
C - Caution

Cat: Alert category,

NOTE:

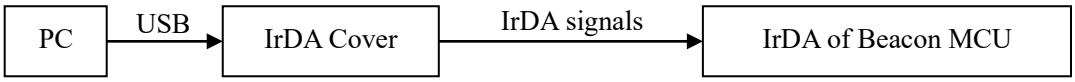
All alerts are Caution, and responsibility is not allowed to be transferred.

All alerts are Caution, with no escalation properties.

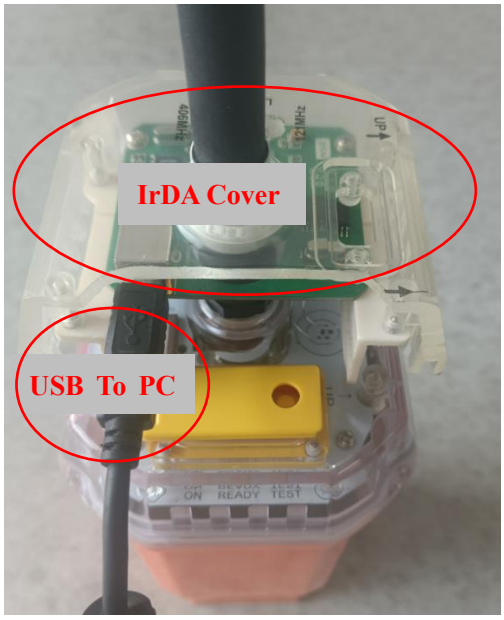
[Information type] is displayed according to the configuration. [Location] is also.

ANNEX B CODING OF THE FLOAT-FREE CAPSULE

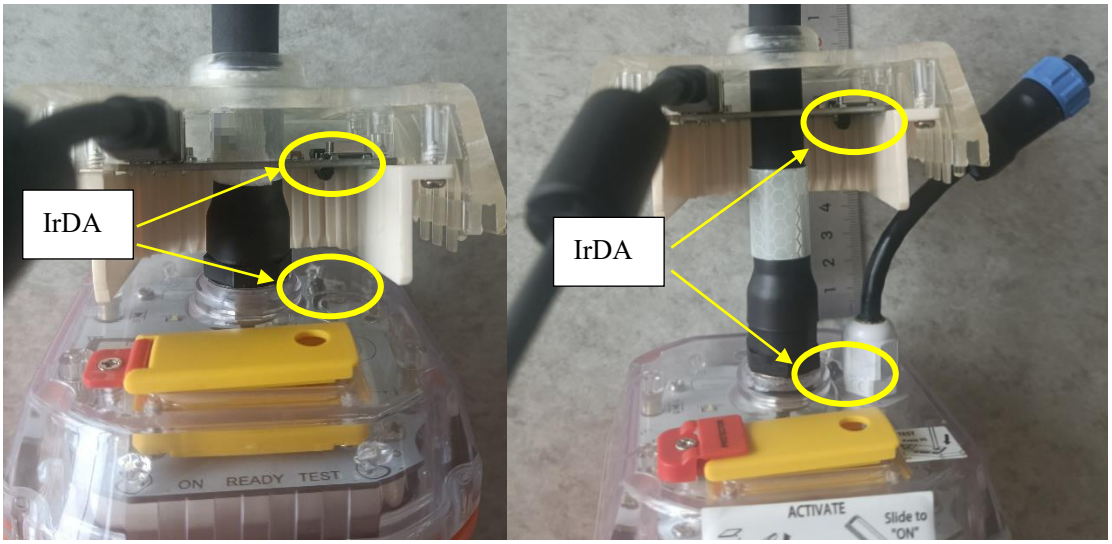
B.1 IrDA and Cable



① Put the IrDA cover on the top of EPIRB/FFC.

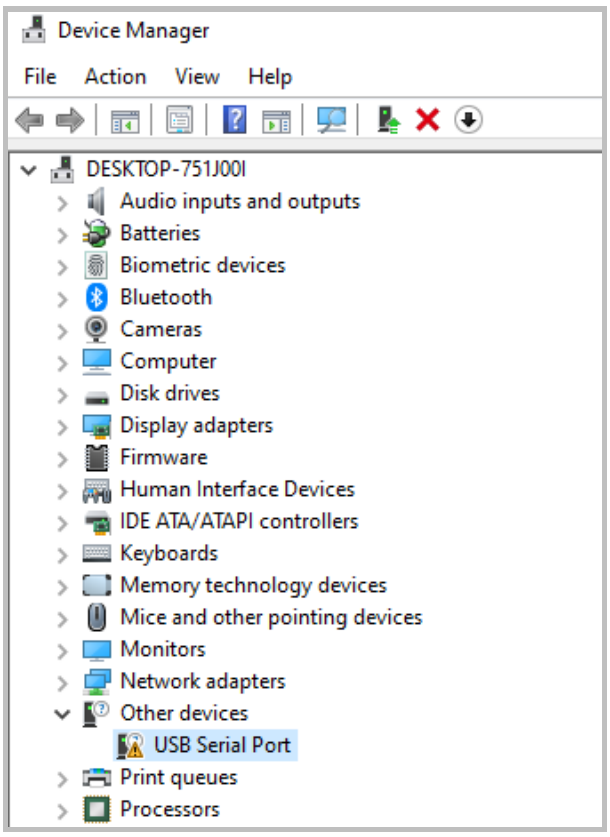


② The IrDA should be face-to-face.

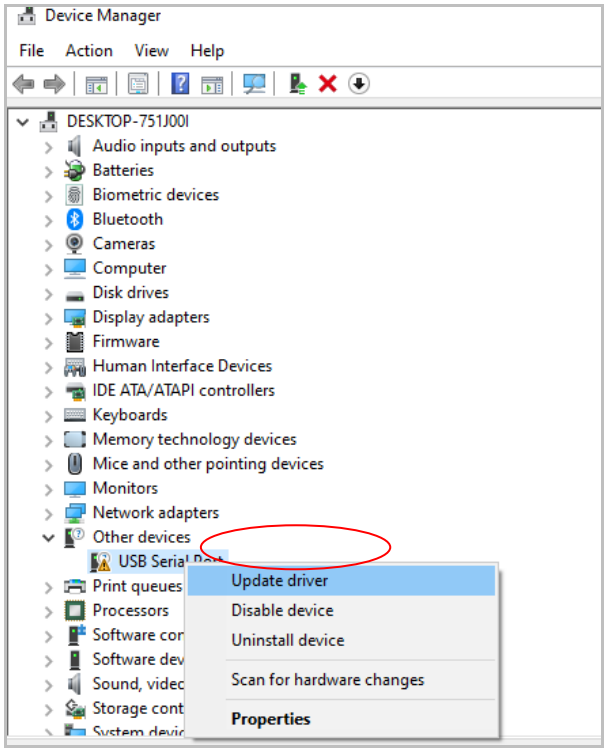


B.2 USB Serial Port Driver

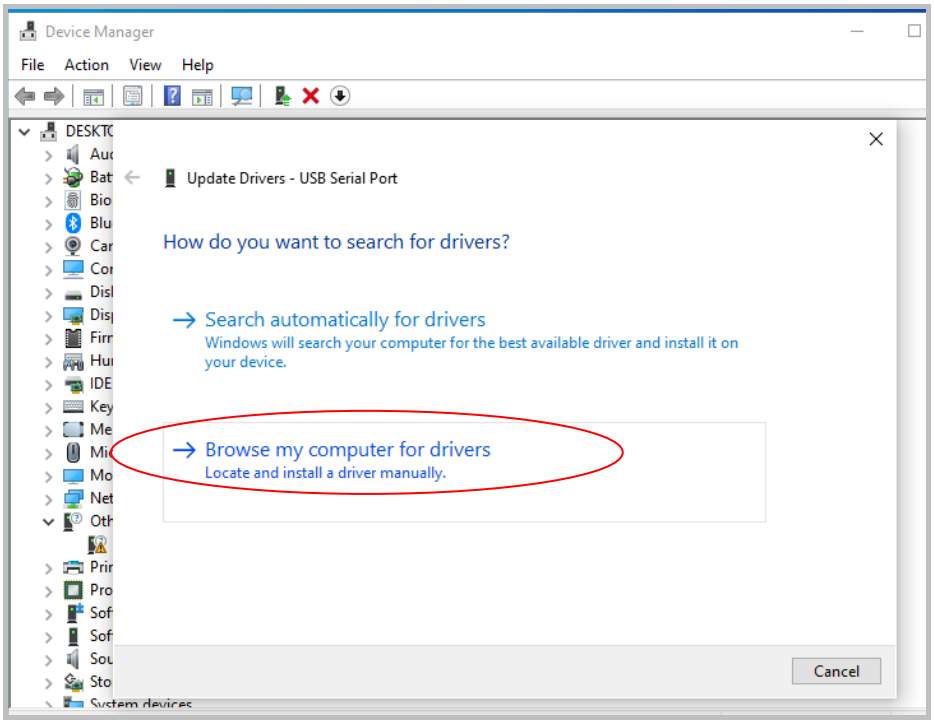
Windows 10 English Version (Select "⊞", search for "Device Manager".)



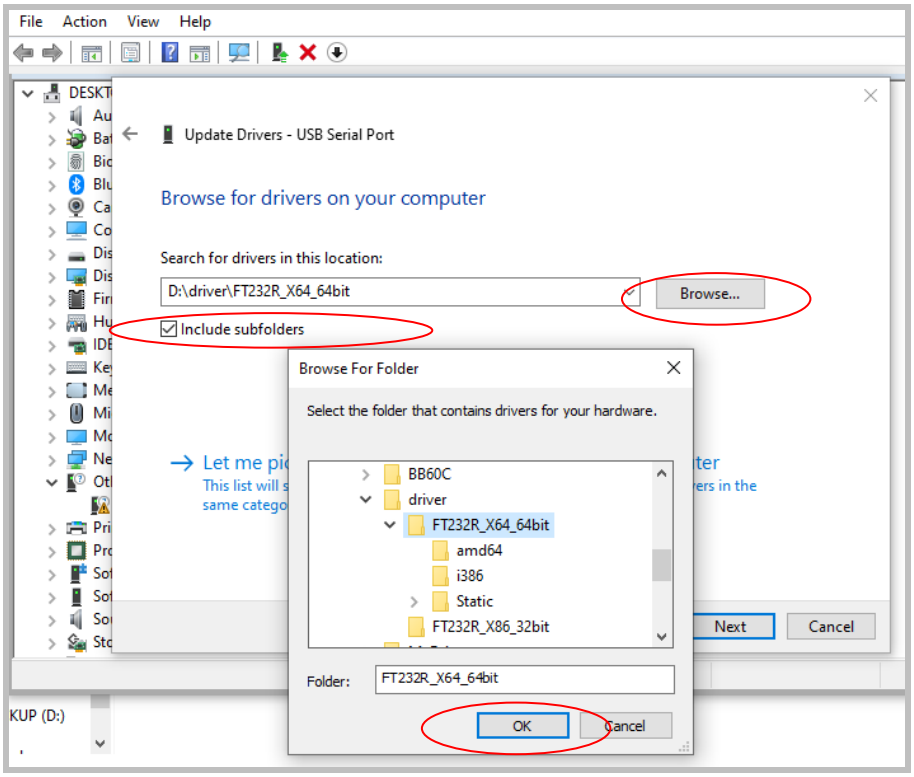
If the driver is not installed, "USB Serial Port" with caution will be in "Other devices" list.



Right-click on it to open the pop-up menu, and select "Update driver".



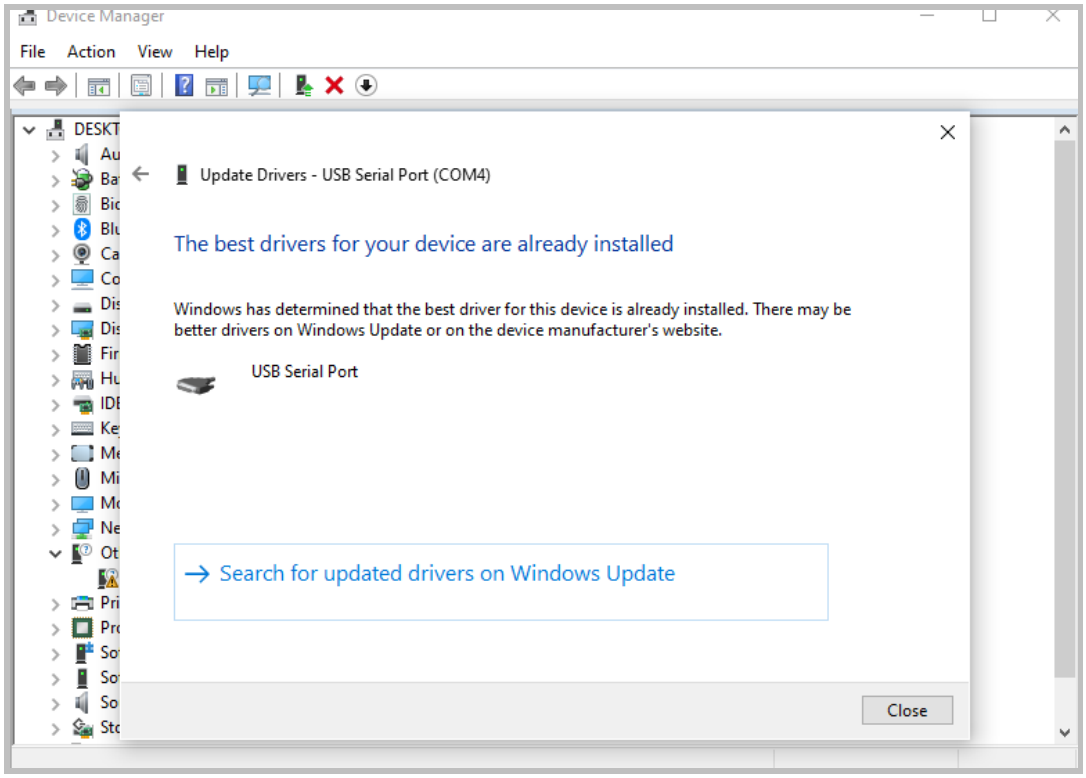
Select “Browse my computer for drivers”.



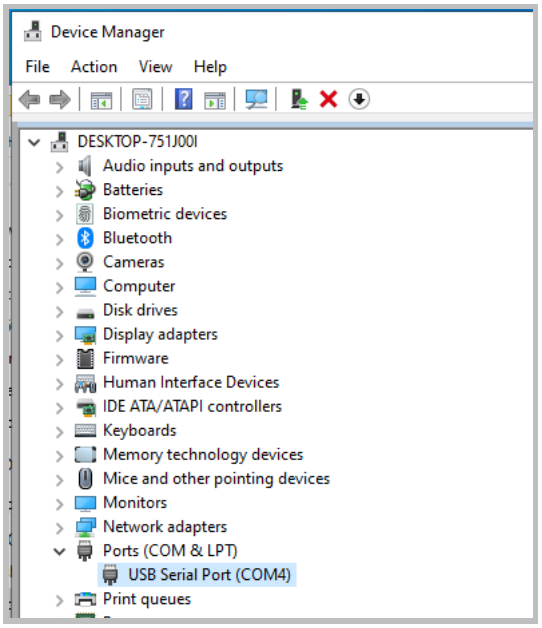
Choose the USB-Serial driver’s folder. Select “Include this location in the search” and then “Browse”. Select the folder of the driver “ft232usbdriver2.0”. Then click “OK”.

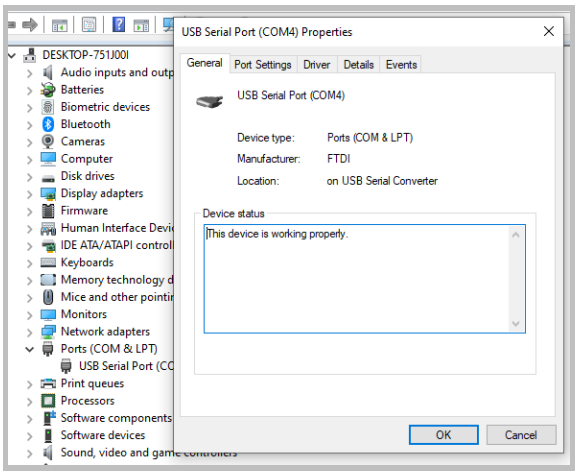
If OS is 64-bit, please select X64 version.

If OS is 32-bit, please select X86 version.



Drivers are installed successfully.





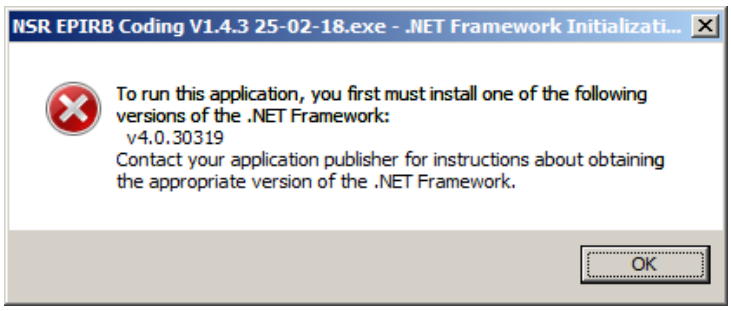
USB Serial Port (for example, COM4) can be found in the device manager.

B.3 Software Operation

Run the NSR EPIRB coding software.

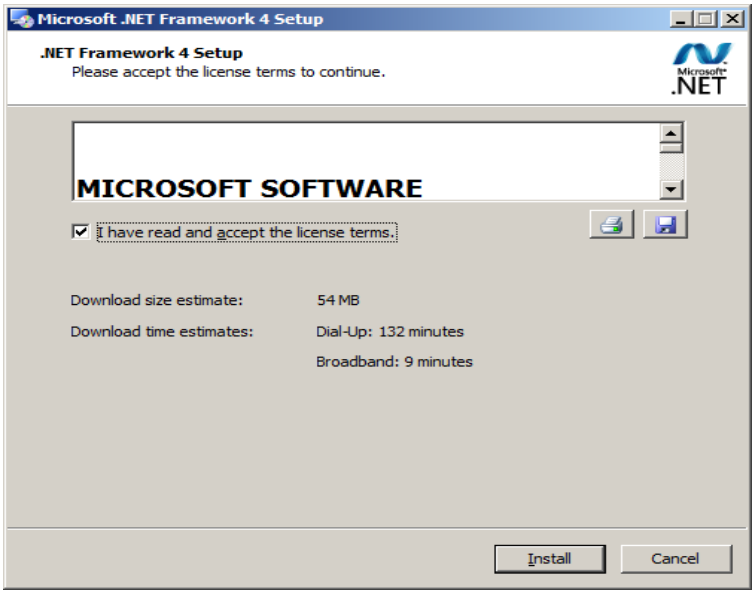
NOTE:

If your computer is Win7, the software may not open as follows:



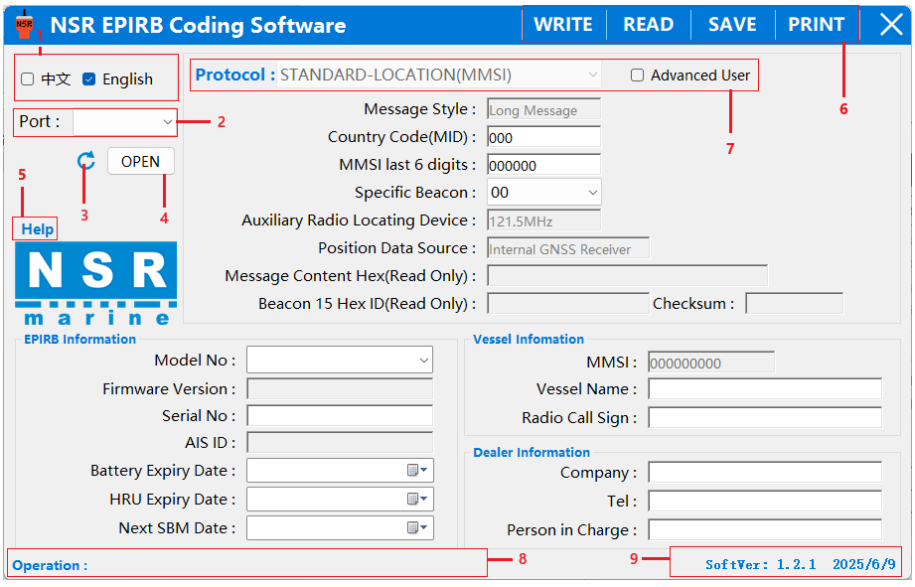
Use the following program to upgrade the .NET Framework version of your computer to use this program properly.

dotNetFx40_Full_setup.exe

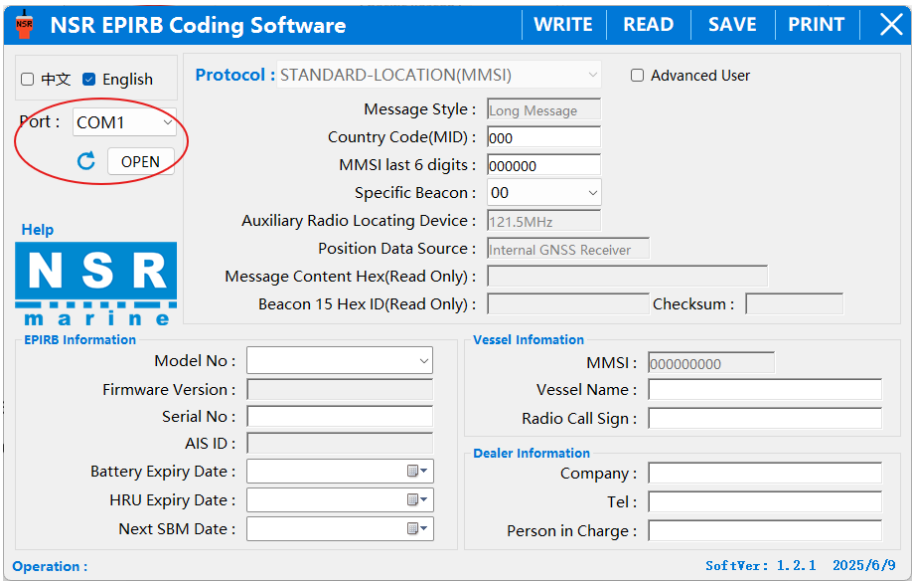


At the end of the installation, you can open and run the software directly.

Basic operation

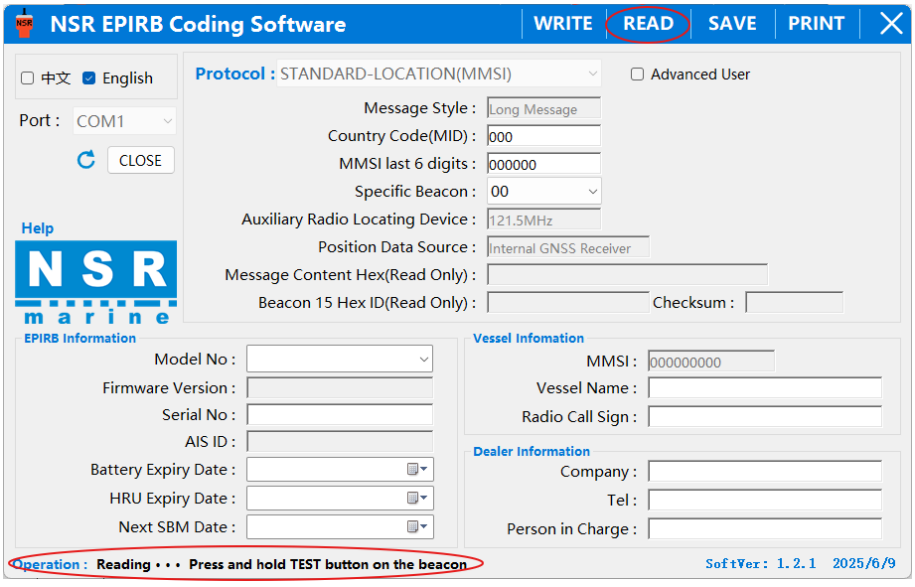


1) Select Language.
2) Select the serial port.
3) Refresh the current serial port list.
4) Open/Close the serial port.
5) Simple manual.
6) Software Function Buttons.
7) Select the protocol.
8) Display current operation information.
9) Software version information.

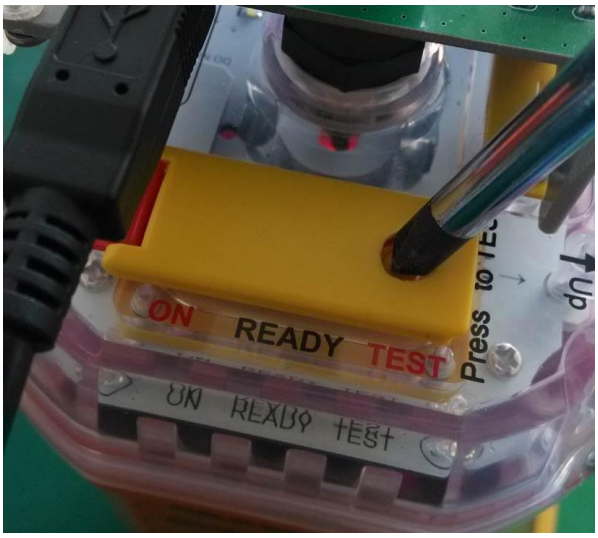


Select the USB serial port and open it, the software will not work until the serial port is opened.

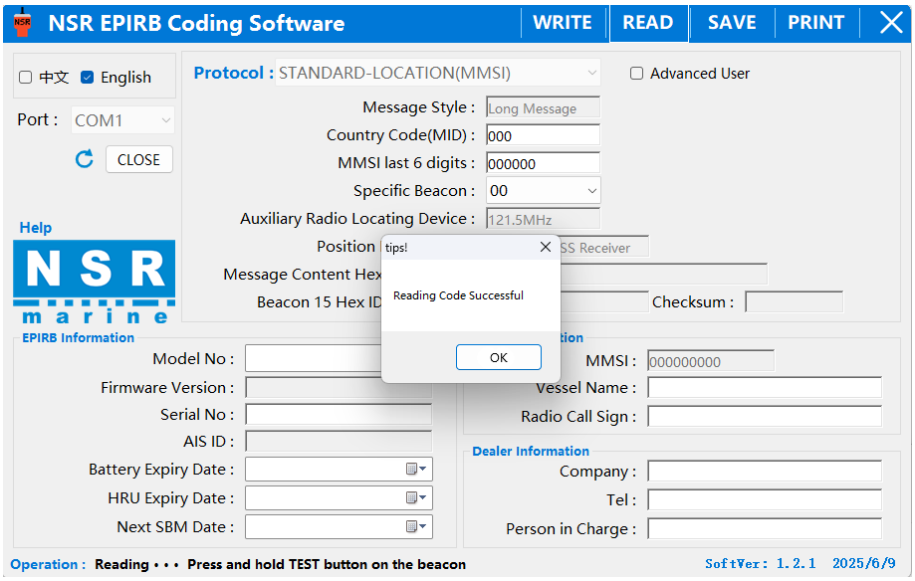
B.3.1 Read Data

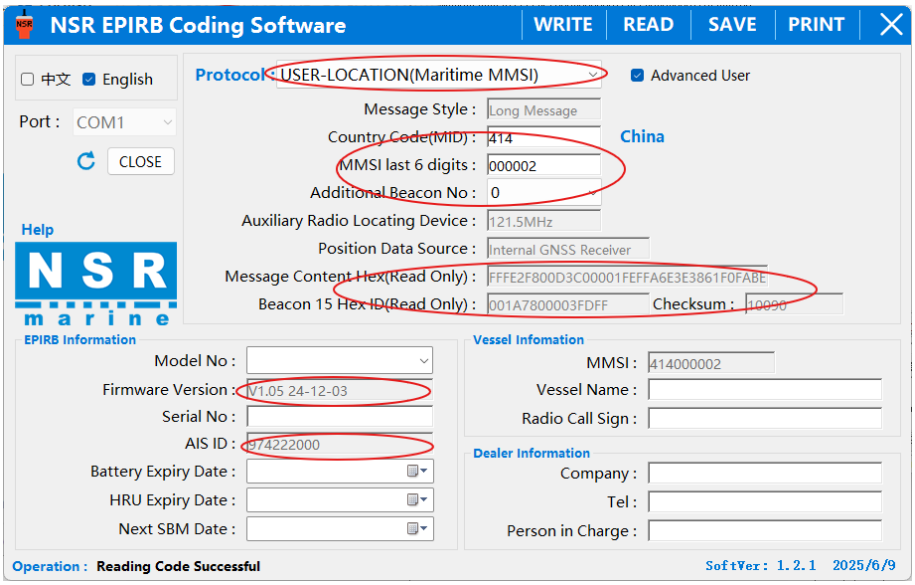


Click READ.



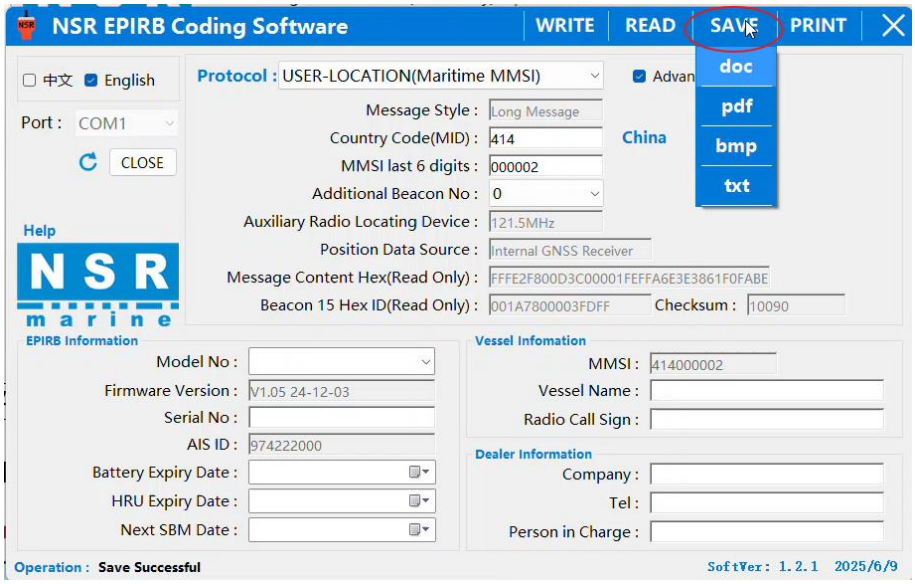
Then press the “TEST” button with a tool for 5 seconds.





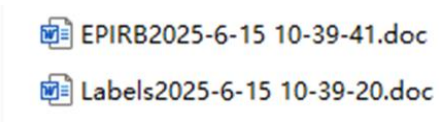
A window shows “Reading code successful”. After clicking OK, all the coded data are displayed on the menu. Confirm that “Message Content Hex”, “Beacon 15 Hex ID”, “Model NO” and “S/W Version” etc. have been read from the beacon.

B.3.2 Save Data

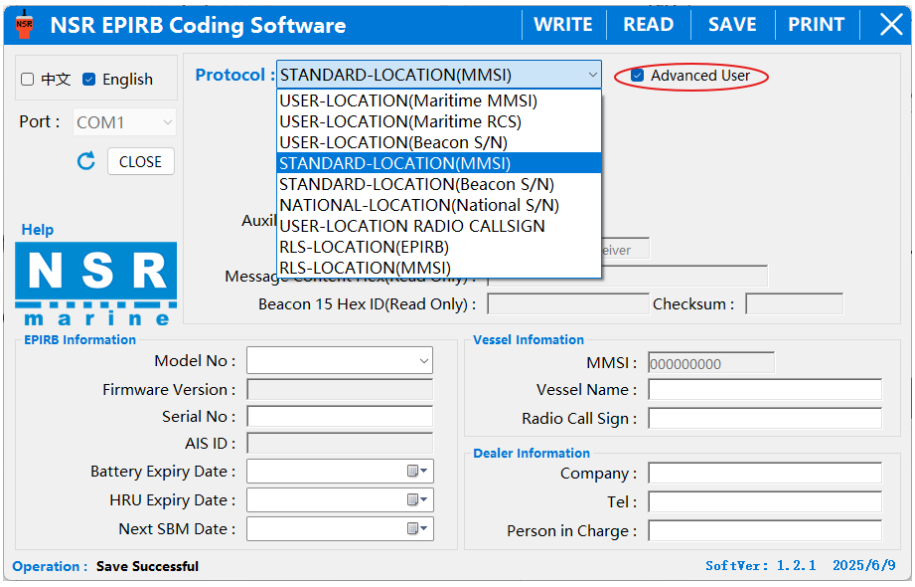


Click SAVE, and select the format in which the coding report will be saved.
The EPIRB (FPC) Information Report will be saved in the folder “Report”.

If “doc”, “pdf”, “bmp” formats are selected, an additional label file will be saved. For example,

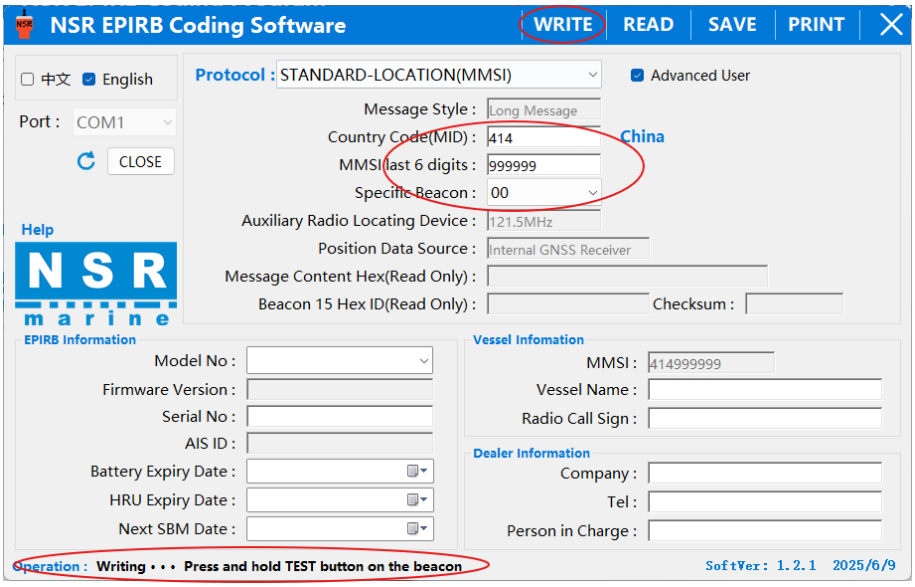


B.3.3 Write Data



Select the Protocol. The default protocol is “STANDARD-LOCATION(MMSI)”.

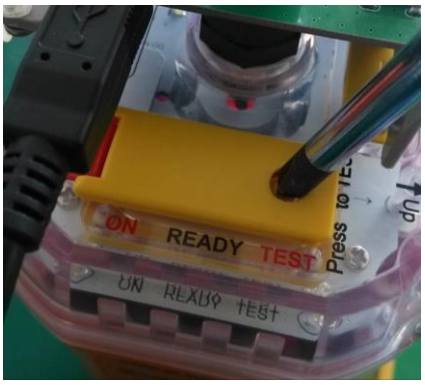
Tick “Advanced User”, then you can choose other protocols from the list.



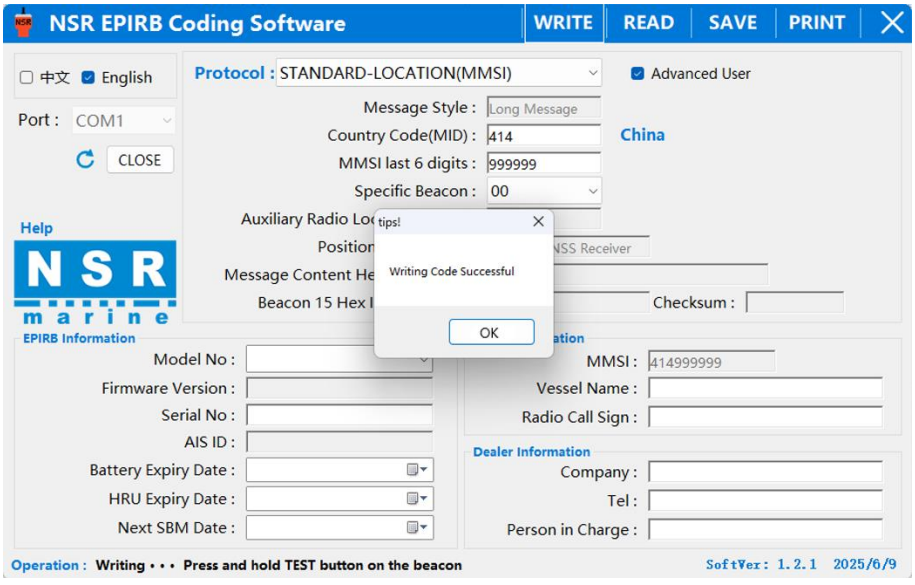
After filling in the MID and other information, click WRITE.

NOTE:

If there is only one EPIRB or FFC, please select “0” at “Additional Beacon No”. If there is more than one EPIRB, select the number of additional EPIRB.

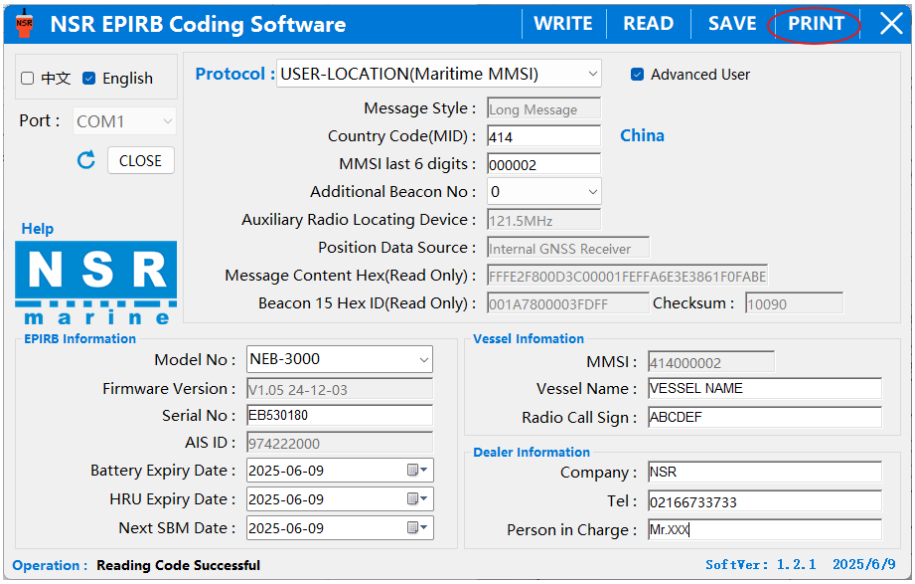


Then press the “TEST” button with a tool for 5 seconds.

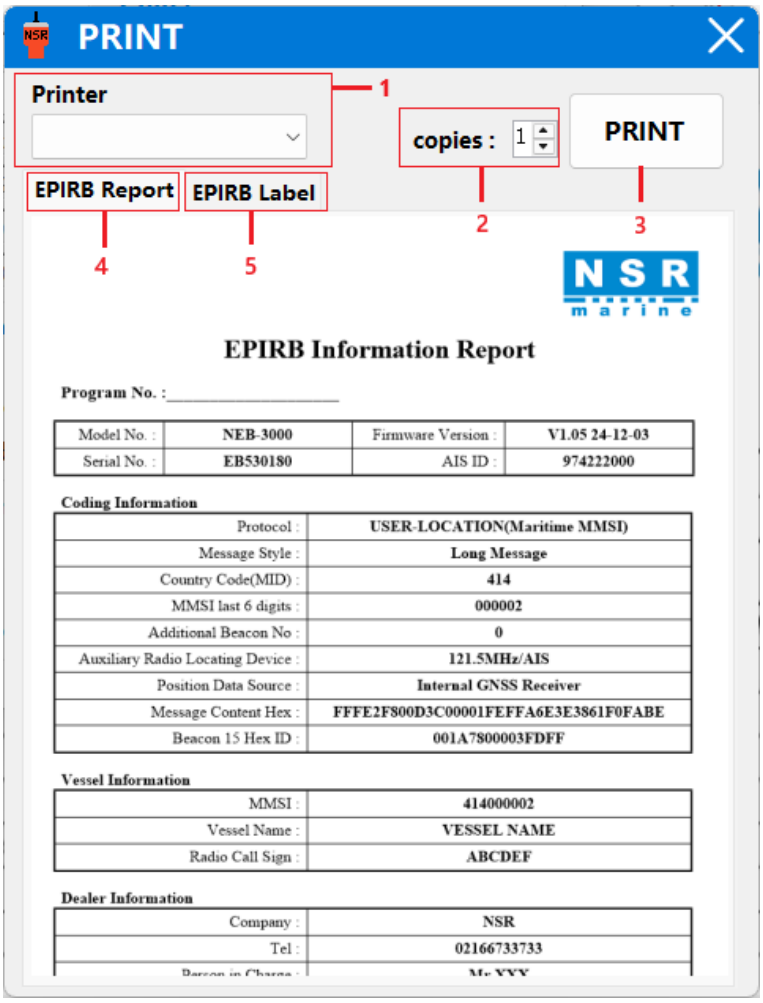


A window shows “Writing code successful”.

B.3.4 Print Data



Click PRINT, the following window appears:

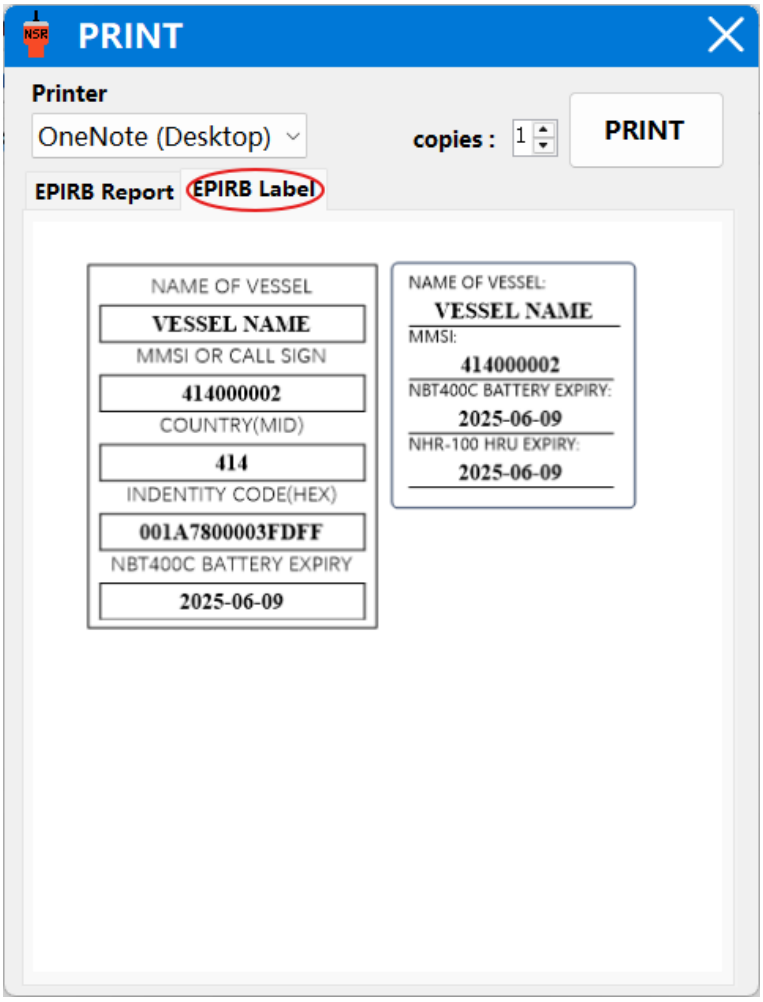


1) Select a printer from the drop-down list.
2) Select the number of copies to print.
3) Print Button.
4) Preview EPIRB Information Report.

5) Preview EPIRB Label Report.

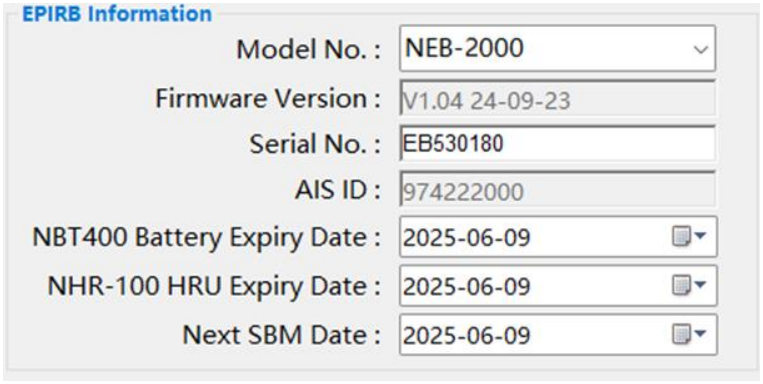
① Click the Print button to print only the currently previewed EPIRB report file.

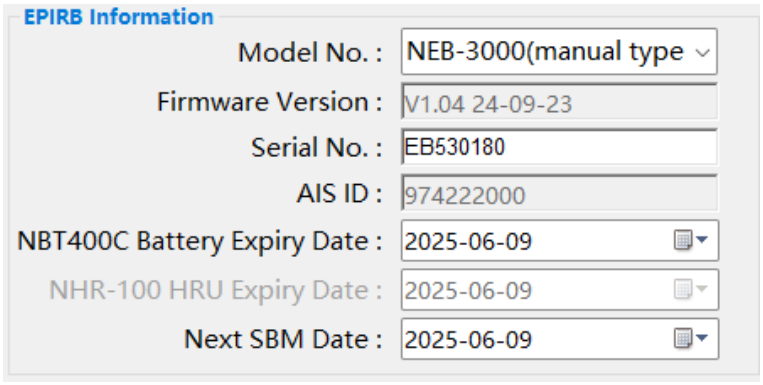
② Click EPIRB Label button, a preview of the marker label information will be displayed.

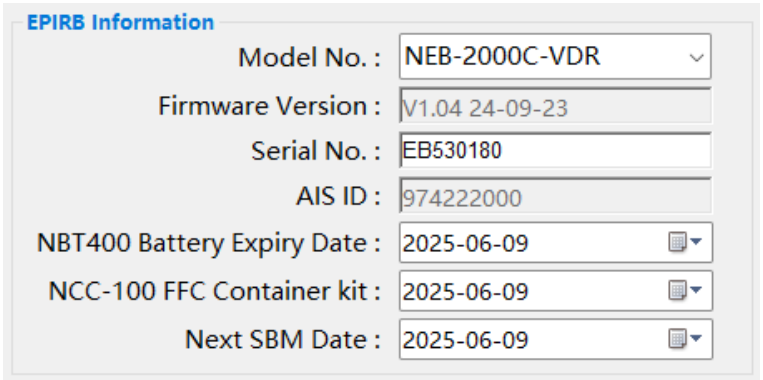


The label will be posted on:

B.3.5 Additional





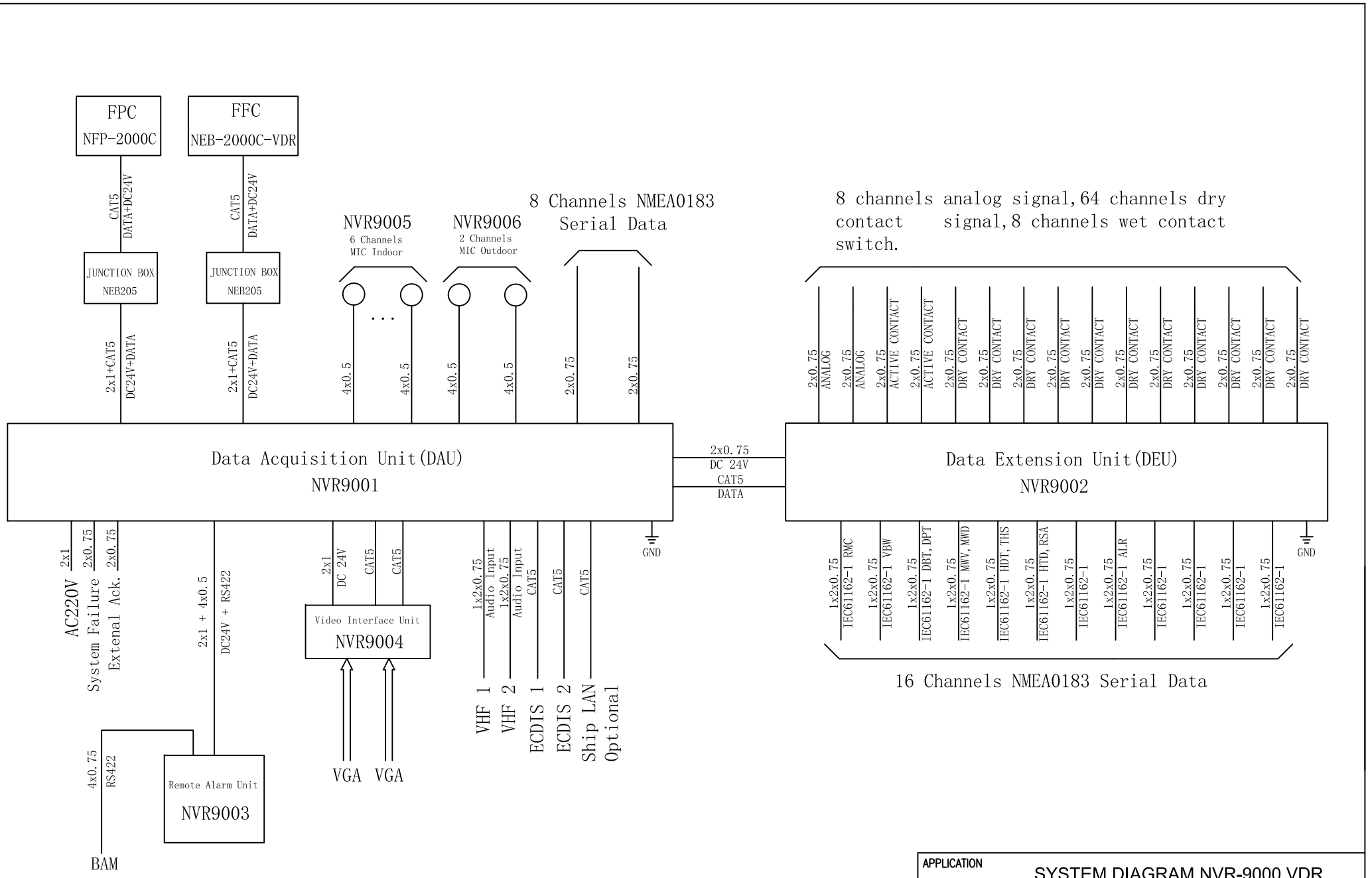


Different models of EPIRB/FFC require different Expiry Dates, so please confirm your EPIRB Model before completing the form.

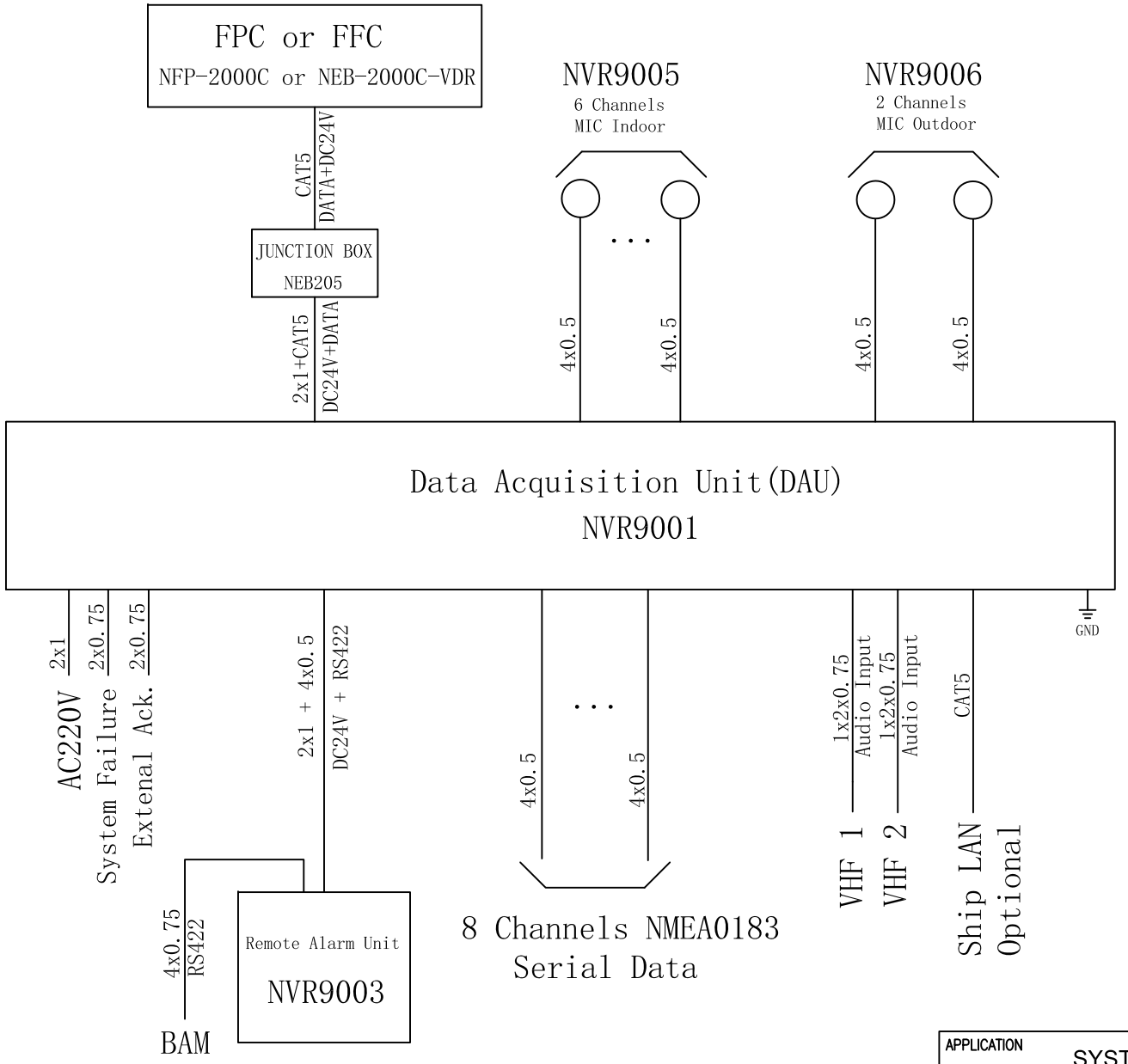
ANNEX C DRAWINGS

Drawing No.	Description
NVR9000-ID-001	SYSTEM DIAGRAM NVR-9000 VDR
NVR9000-ID-002	SYSTEM DIAGRAM NVR-9000S SVDR
NVR9000-ID-003	NVR-9000 VDR SYSTEM DIAGRAM
NVR9000-ID-004	NVR-9000S SVDR SYSTEM DIAGRAM
NVR9000-ID-005	WIRING DIAGRAM VDR & SVDR DAU
NVR9000-ID-006	WIRING DIAGRAM VDR-NVR9002 DEU
NVR9000-ID-007	DAU and DEU Connection
NVR9000-ID-008	DAU and RAU Connection
NVR9000-ID-009	DAU and VIU Connection
NVR9000-ID-010	DAU and FPC Connection
NVR9000-ID-012	DAU and IMU Connection
NVR9000-ID-013	WIRING DIAGRAM NVR9005 IMU
NVR9000-ID-014	DAU and OMU Connection
NVR9000-ID-015	WIRING DIAGRAM NVR9006 OMU
NVR9000-ID-016	DAU and VHF Connection
NVR9000-ID-017	DAU and ACK & ALARM Connection
NVR9000-ID-018	DAU INTERFACE LAYOUT DRAWING
NVR9000-ID-019	DAU INTERFACE BOARD DRAWING
NVR9000-ID-020	DEU INTERFACE LAYOUT DRAWING
NVR9000-ID-021	DEU INTERFACE BOARD DRAWING
NVR9000-ID-022	RAU INTERFACE DEFINITION DRAWING
NVR9000-ID-023	VIU INTERFACE LAYOUT DRAWING
NVR9000-ID-024	JUNCTION BOX INTERFACE BOARD DRAWING
NVR9000-ID-025	VDR (SVDR) DAU SIZE DRAWING
NVR9000-ID-026	VDR (SVDR) DAU MOUNTING DRAWING
NVR9000-ID-027	VDR DEU SIZE DRAWING
NVR9000-ID-028	VDR DEU MOUNTING DRAWING

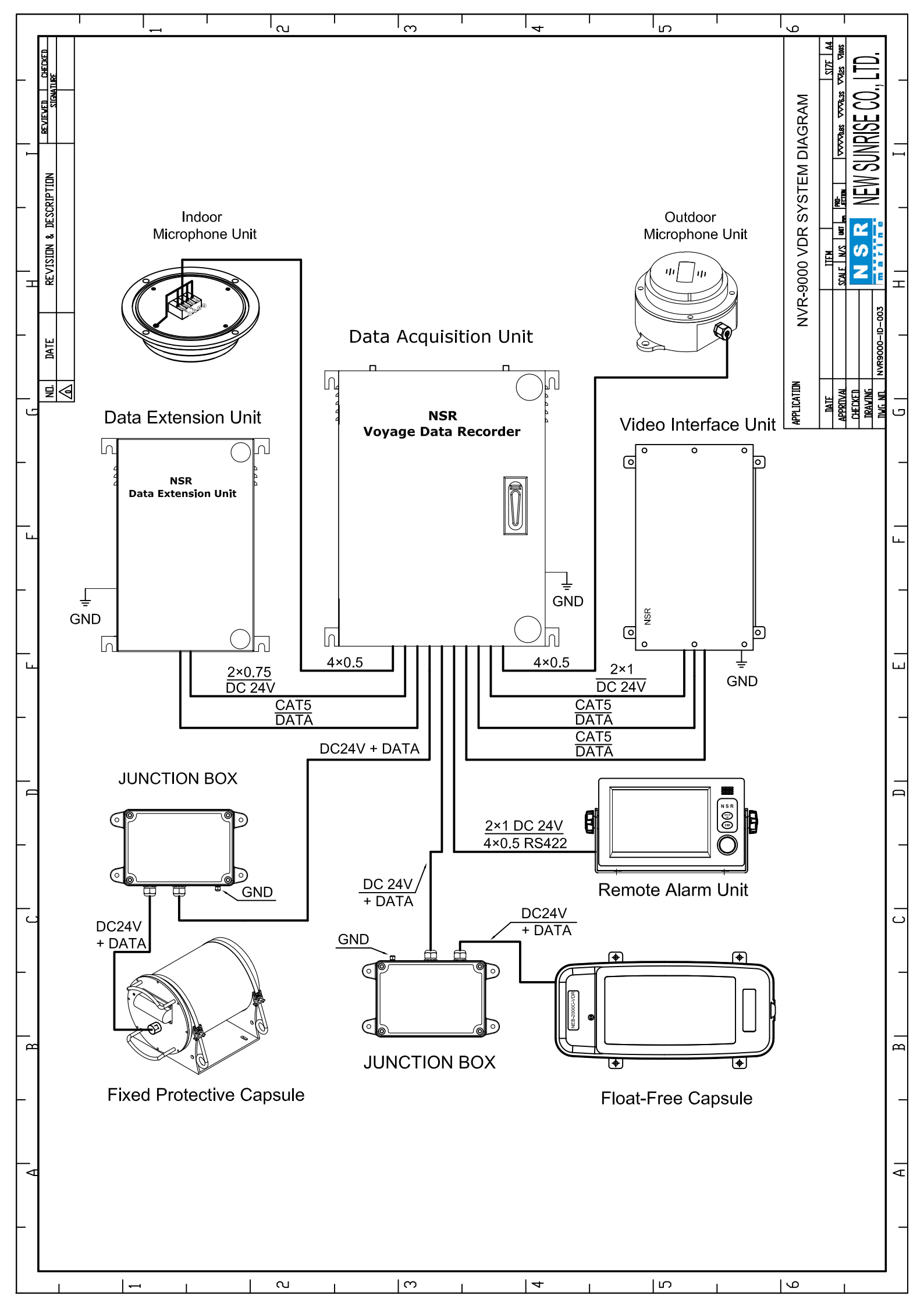
Drawing No.	Description
NVR9000-ID-029	VDR (SVDR) RAU SIZE DRAWING
NVR9000-ID-030	VDR (SVDR) RAU MOUNTING DRAWING (TABLE TYPE)
NVR9000-ID-031	VDR (SVDR) RAU MOUNTING DRAWING (FLUSH TYPE)
NVR9000-ID-032	NVR9004 VDR VIU SIZE DRAWING
NVR9000-ID-033	VDR VIU MOUNTING DRAWING
NVR9000-ID-034	VDR (SVDR) FFC SIZE DRAWING
NVR9000-ID-035	VDR (SVDR) FFC DIMENSION DRAWING
NVR9000-ID-036	VDR (SVDR) FFC MOUNTING BASE-A DRAWING
NVR9000-ID-037	VDR (SVDR) FFC MOUNTING DRAWING-A
NVR9000-ID-038	VDR (SVDR) FFC MOUNTING BASE-B DRAWING
NVR9000-ID-039	VDR (SVDR) FFC MOUNTING DRAWING-B
NVR9000-ID-040	VDR (SVDR) FPC SIZE DRAWING
NVR9000-ID-041	VDR (SVDR) FFC MOUNTING BASE-A DRAWING
NVR9000-ID-042	VDR (SVDR) FPC MOUNTING DRAWING-A
NVR9000-ID-043	VDR (SVDR) FPC MOUNTING BASE-B DRAWING
NVR9000-ID-044	VDR (SVDR) FPC MOUNTING DRAWING-B
NVR9000-ID-045	VDR (SVDR) IMU SIZE DRAWING
NVR9000-ID-046	VDR (SVDR) IMU MOUNTING DRAWING
NVR9000-ID-047	VDR (SVDR) OMU SIZE DRAWING
NVR9000-ID-048	VDR (SVDR) OMU MOUNTING DRAWING

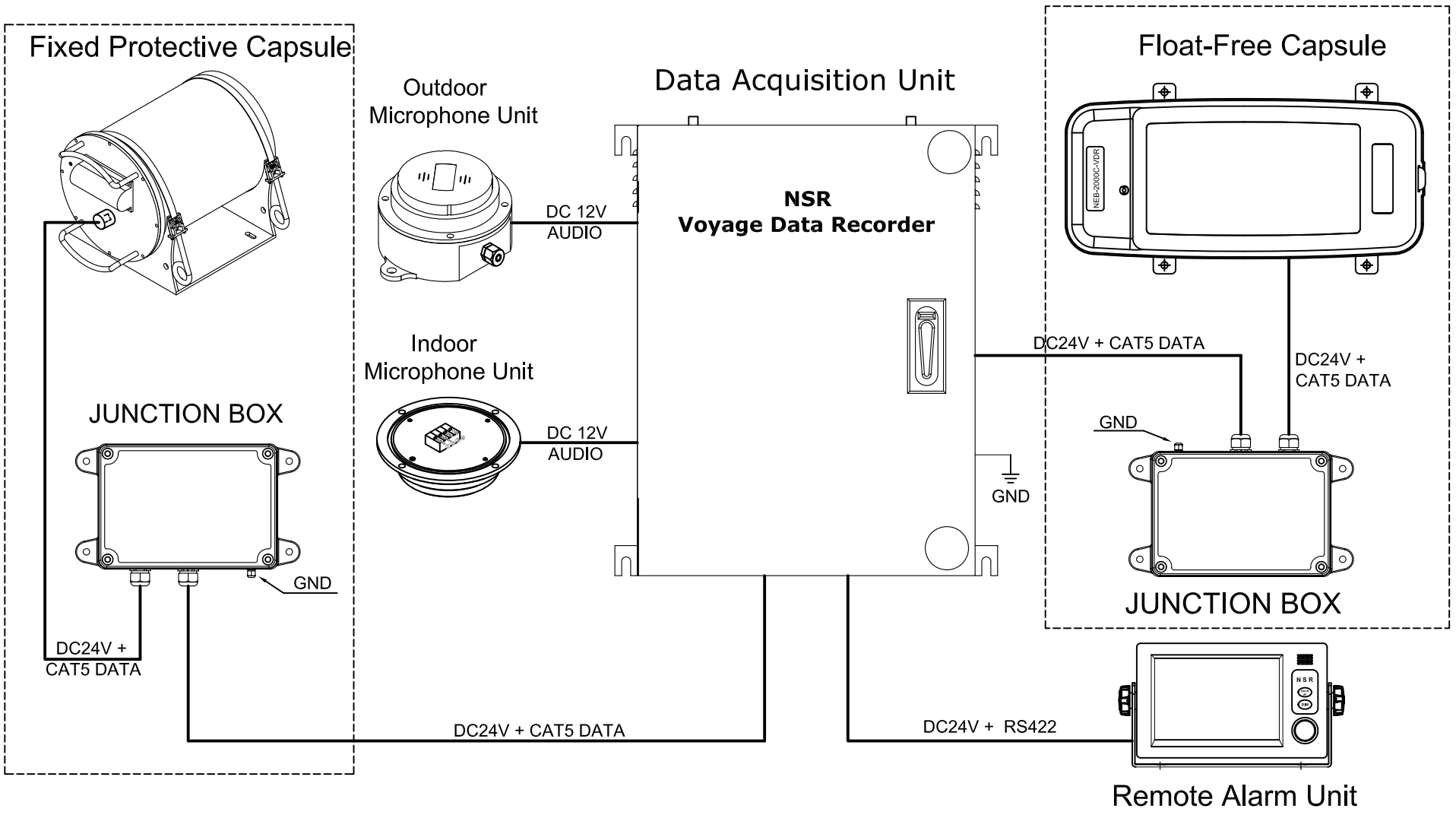


APPLICATION	SYSTEM DIAGRAM NVR-9000 VDR		
DATE		ITEM	NVR-9000 VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-001		



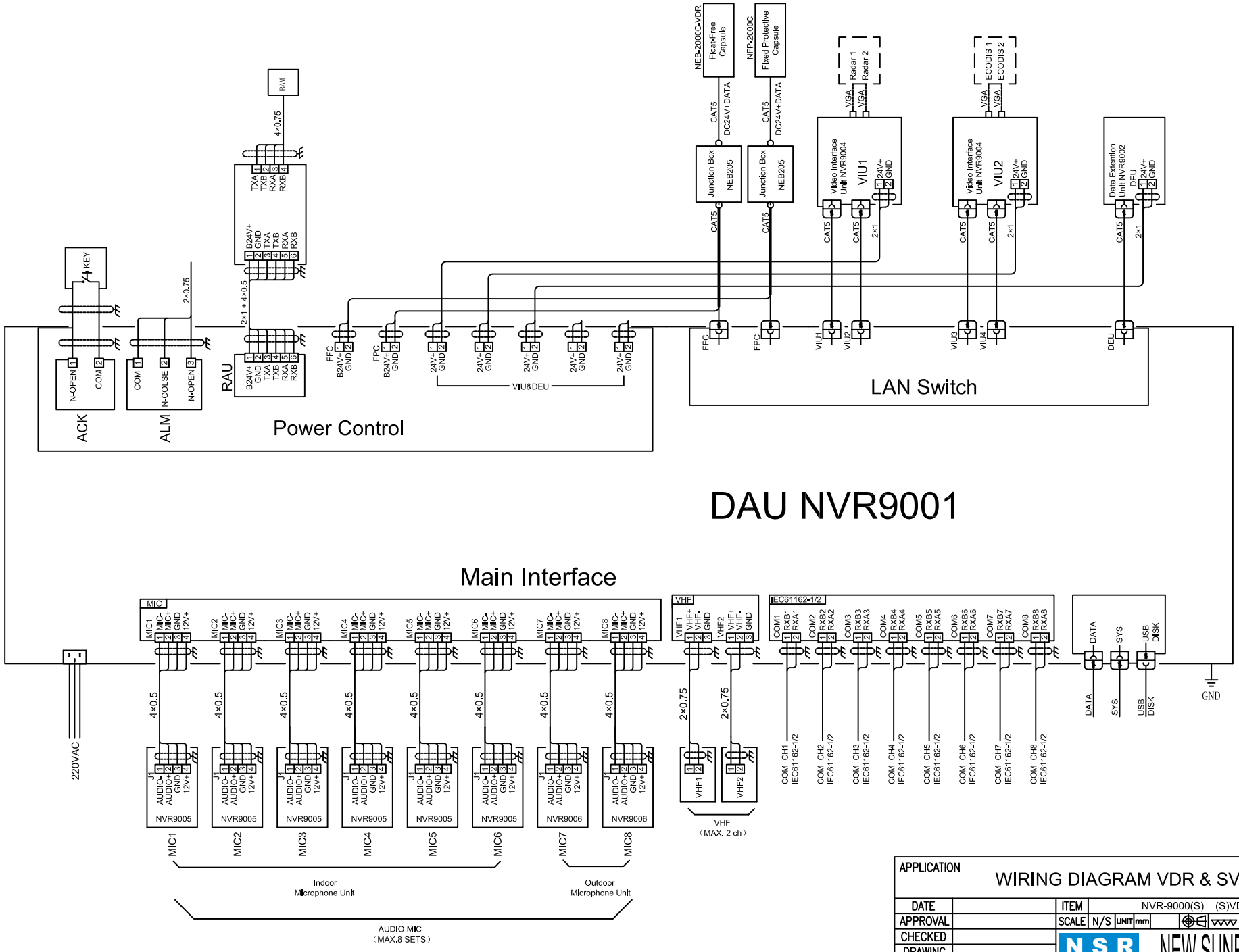
APPLICATION	SYSTEM DIAGRAM NVR-9000S SVDR			
DATE		ITEM	NVR-9000S SVDR	SIZE A4
APPROVAL		SCALE	N/S UNIT mm	
CHECKED		NSR marine	NEW SUNRISE CO., LTD.	
DRAWING				
DWG NO.	NVR9000-ID-002			


Indoor
Microphone Unit
Outdoor
Microphone Unit
Data Acquisition Unit
NSR
Voyage Data Recorder
Data Extension Unit
NSR
Data Extension Unit
Video Interface Unit
NSR
GND
GND
GND
4×0.5
4×0.5
2×0.75
DC 24V
2×1
DC 24V
CAT5
DATA
CAT5
DATA
CAT5
DATA
DC24V + DATA
JUNCTION BOX
GND
2×1 DC 24V
4×0.5 RS422
Remote Alarm Unit
DC 24V
+ DATA
DC24V
+ DATA
DC24V
+ DATA
GND
JUNCTION BOX
Fixed Protective Capsule
Float-Free Capsule
NVR-9000 VDR SYSTEM DIAGRAM
NEW SUNRISE CO., LTD.
NSR marine
APPLICATION
DATE
APPROVAL
CHECKED
DRAWING
DWG NO.
NVR9000-ID-003
SCALE
ITEM
REVISION & DESCRIPTION
DATE
NO.
REVIEWED
CHECKED
SIGNATURE

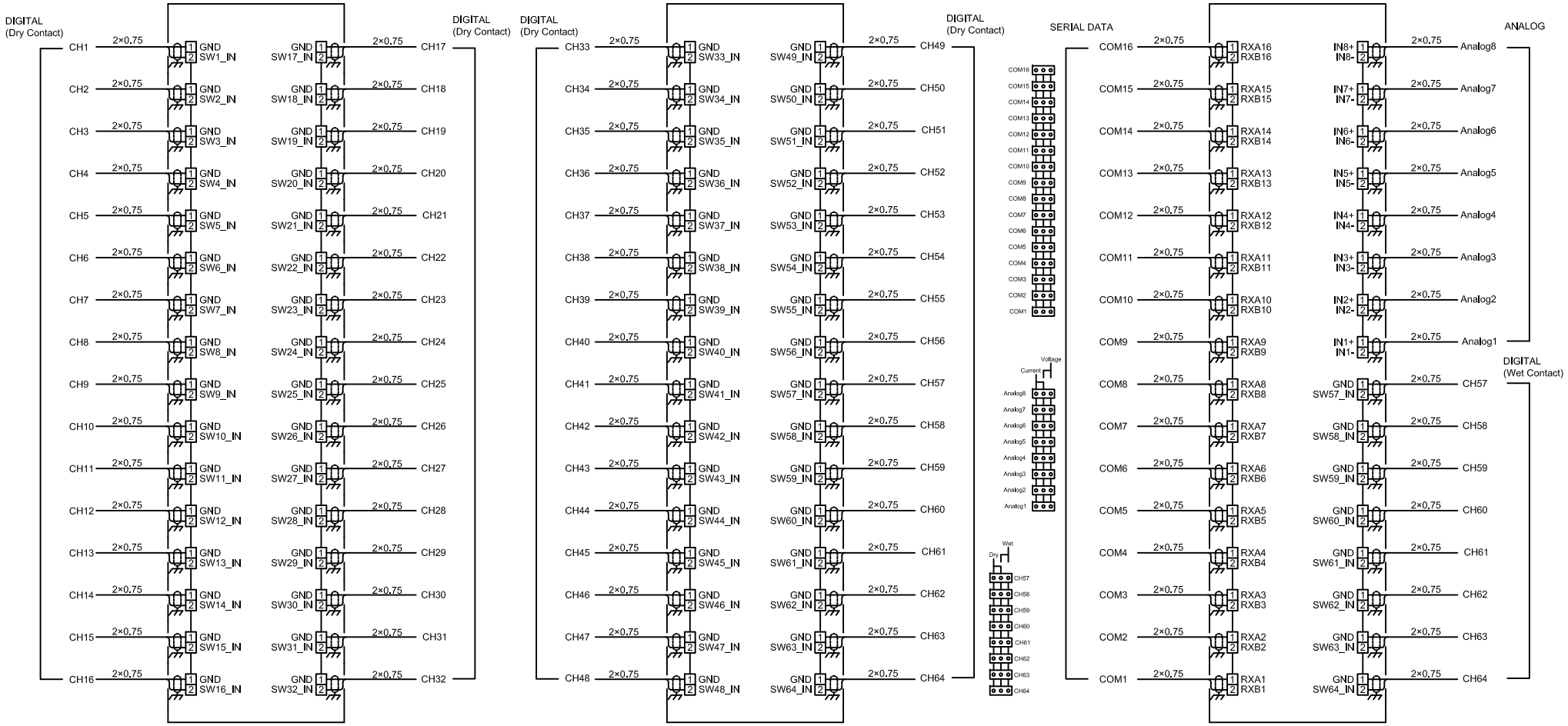


Notes: FFC or FPC may be selected.

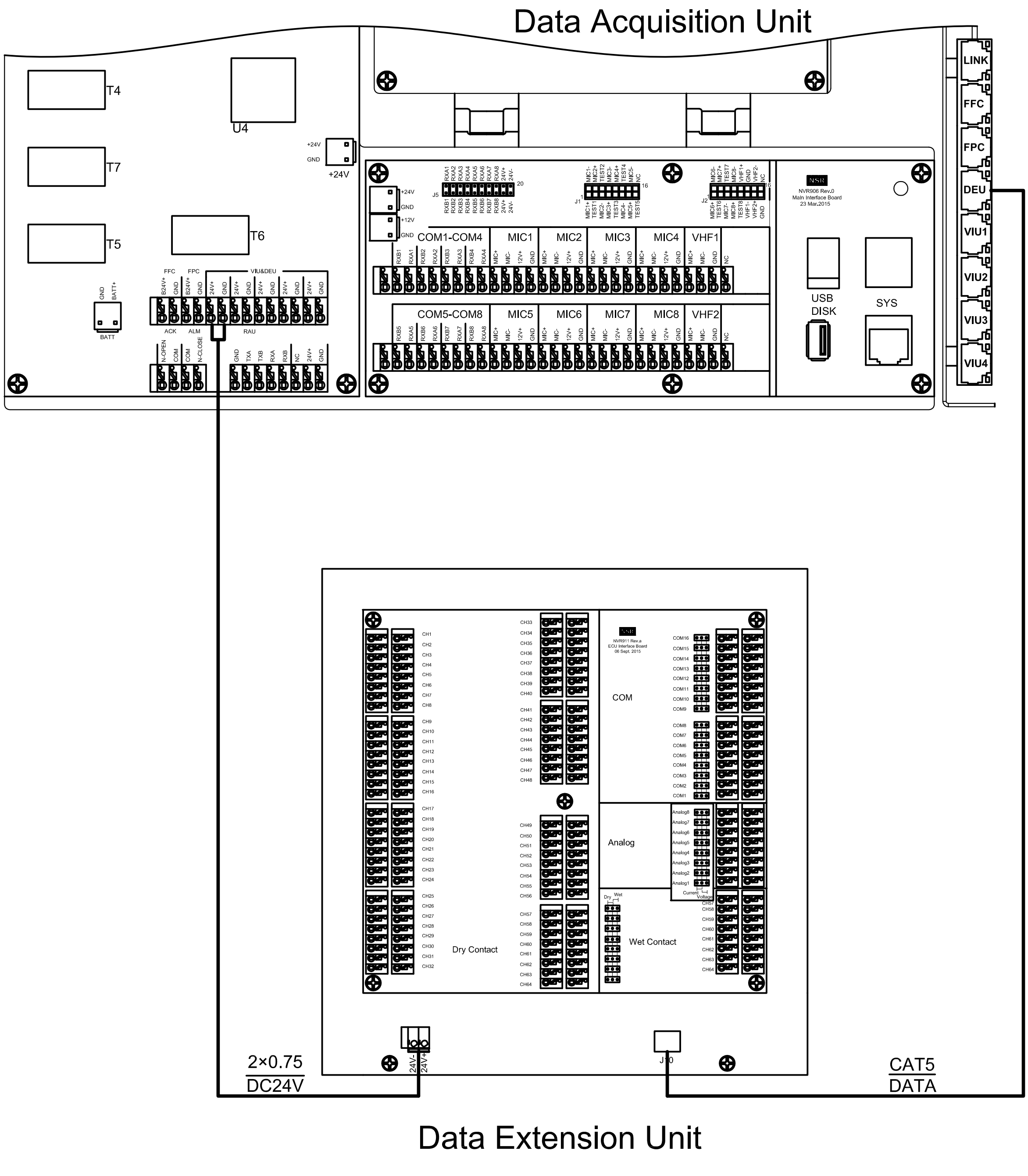
APPLICATION	NVR-9000S SVDR SYSTEM DIAGRAM				
DATE		ITEM	NVR-9000S	SVDR	SIZE A4
APPROVAL		SCALE	N/S UNIT mm		
CHECKED		NSR marine	NEW SUNRISE CO., LTD.		
DRAWING					
DWG NO.	NVR9000-ID-004				



APPLICATION	WIRING DIAGRAM VDR & SVDR DAU		
DATE		ITEM	NVR-9000(S) (S)VDR — SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-005		



APPLICATION	WIRING DIAGRAM VDR-NVR9002 DEU				
DATE		ITEM	NVR-9000 VDR	SIZE	A4
APPROVAL		SCALE	N/S UNIT mm		
CHECKED		NSR marine	NEW SUNRISE CO., LTD.		
DRAWING					
DWG NO.	NVR9000-ID-006				



NO. | DATE | REVISION & DESCRIPTION | REVIEWED | CHECKED | SIGNATURE

APPLICATION

DAU and DEU Connection

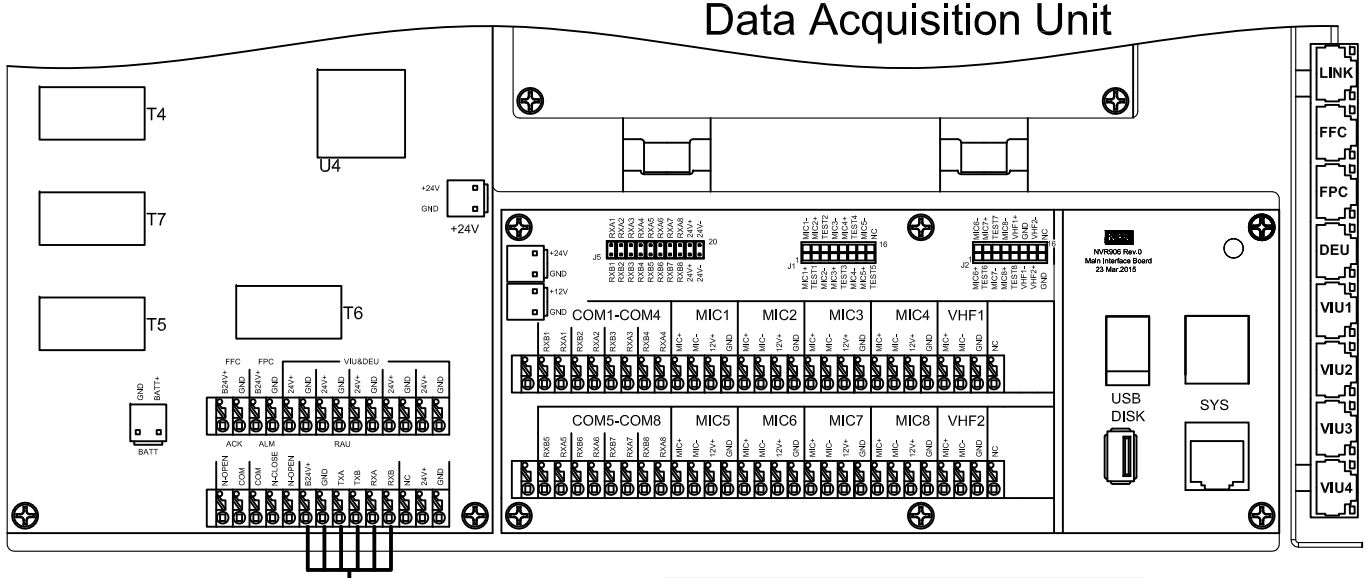
SCALE N/S | ITEM | UNIT | PROJECTION | SIZE A4

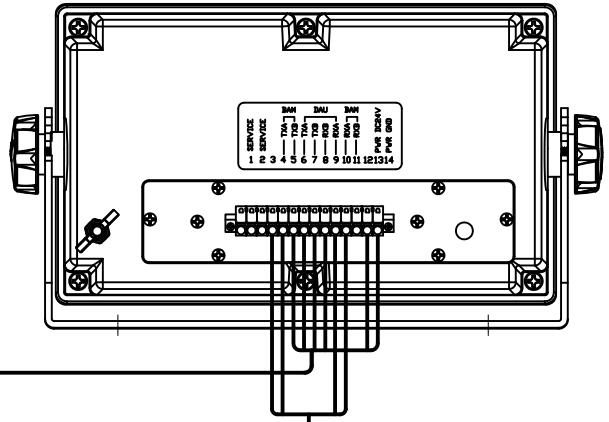
DATE | APPROVAL | CHECKED | DRAWING | DWG NO. NVR9000-ID-007

NSR marine

NEW SUNRISE CO., LTD.

NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	





2×1 DC 24V
4×0.5 RS422

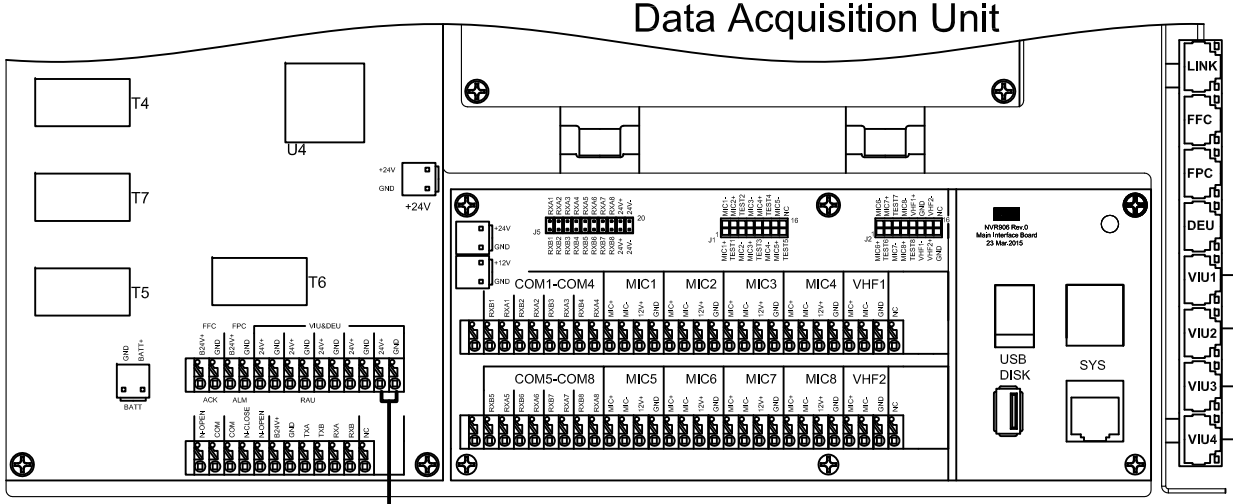
4×0.75
RS422

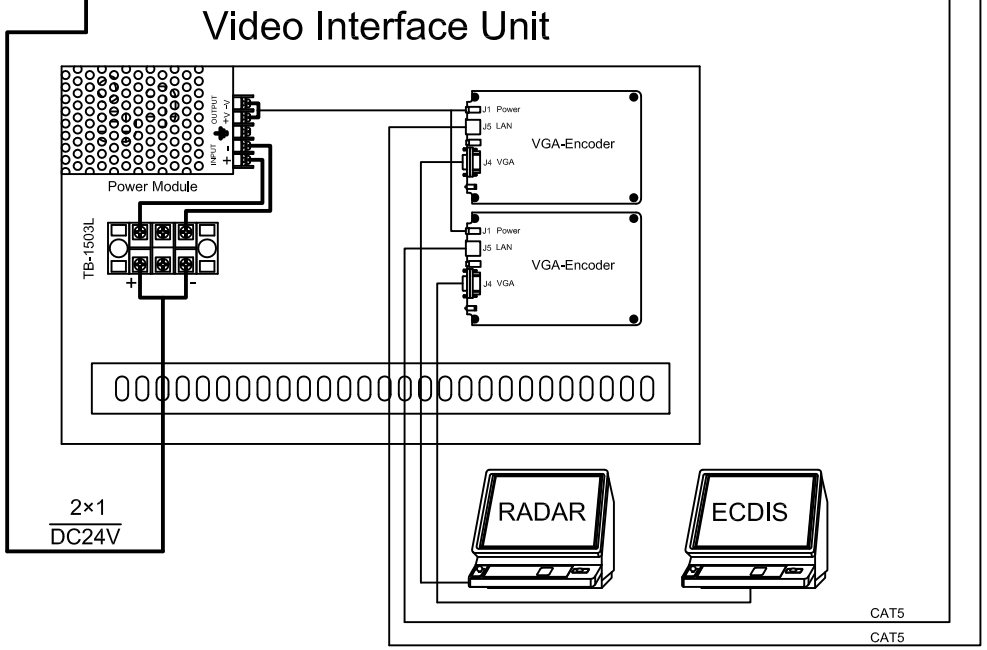
BAM

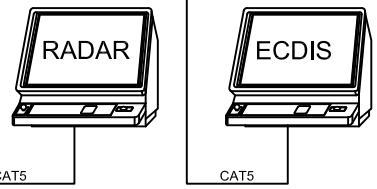
Remote Alarm Unit

APPLICATION	DAU and RAU Connection		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT PROJECTION	▽▽▽1.6S ▽▽6.3S ▽12S ▽100S
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-008		

NO.	DATE	REVISION & DESCRIPTION	REVIEWED / CHECKED SIGNATURE
0			



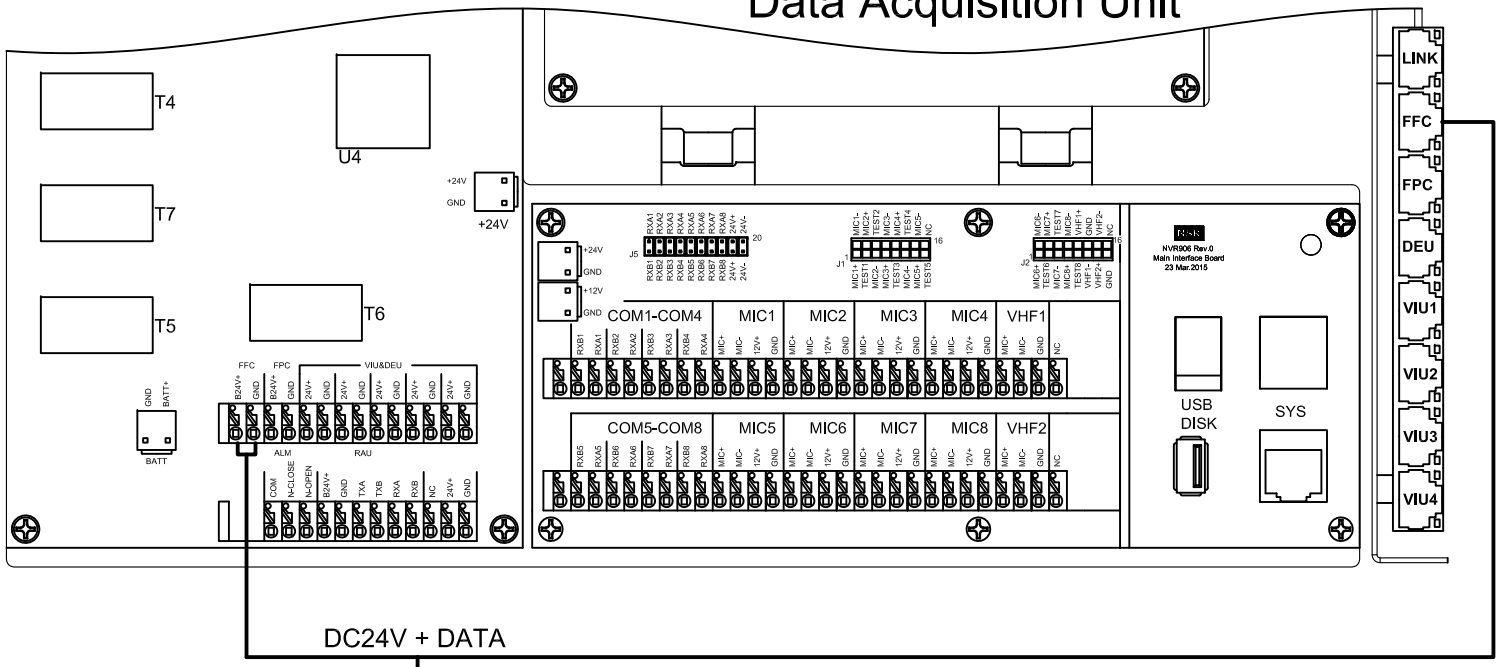




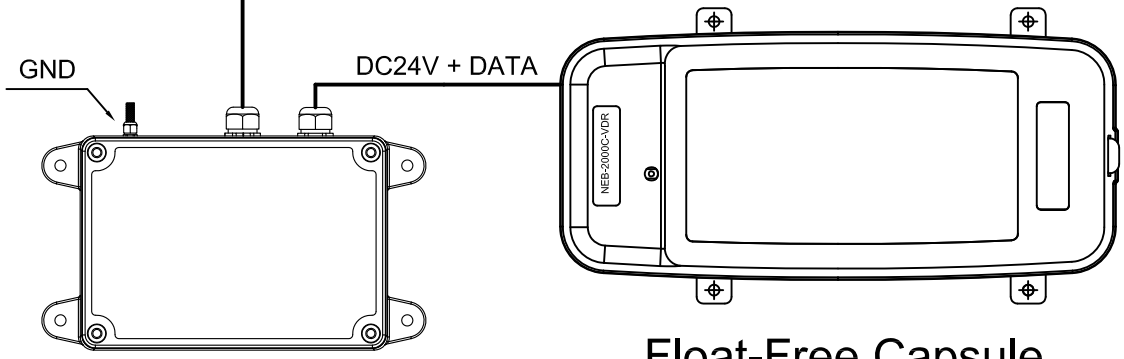
APPLICATION	DAU and VIU Connection		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT PROJECTION	▽▽▽0.8S ▽▽6.3S ▽12S ▽100S
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-009		

NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	

Data Acquisition Unit



DC24V + DATA

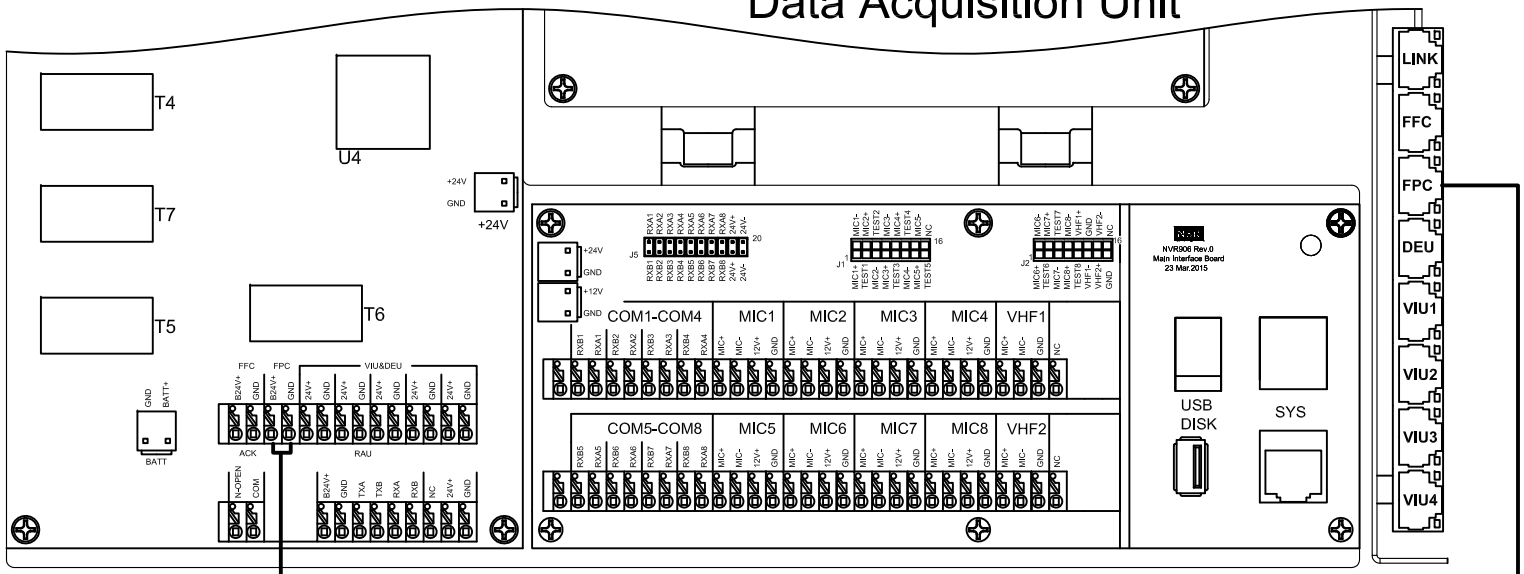


Float-Free Capsule

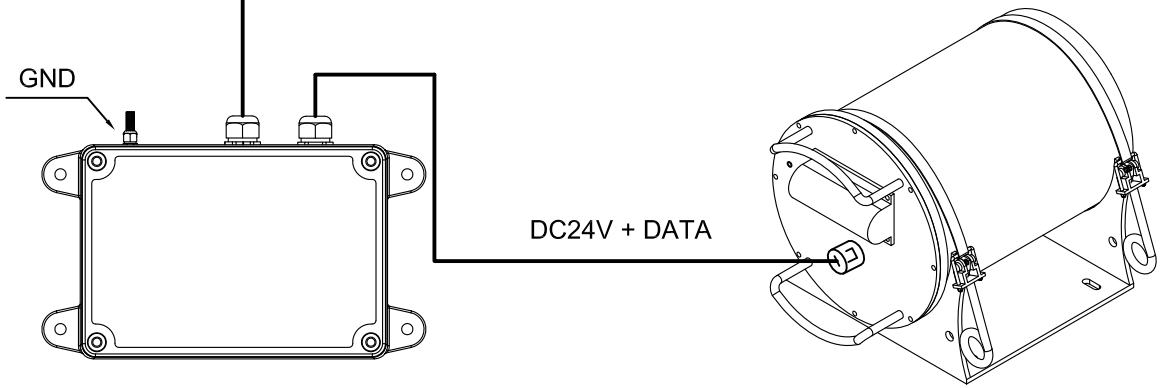
APPLICATION	DAU and FFC Connection		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT	PROJECTION
CHECKED			
DRAWING		NSR marine	NEW SUNRISE CO., LTD.
DWG NO.	NVR9000-ID-010		

NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	

Data Acquisition Unit



DC24V + DATA

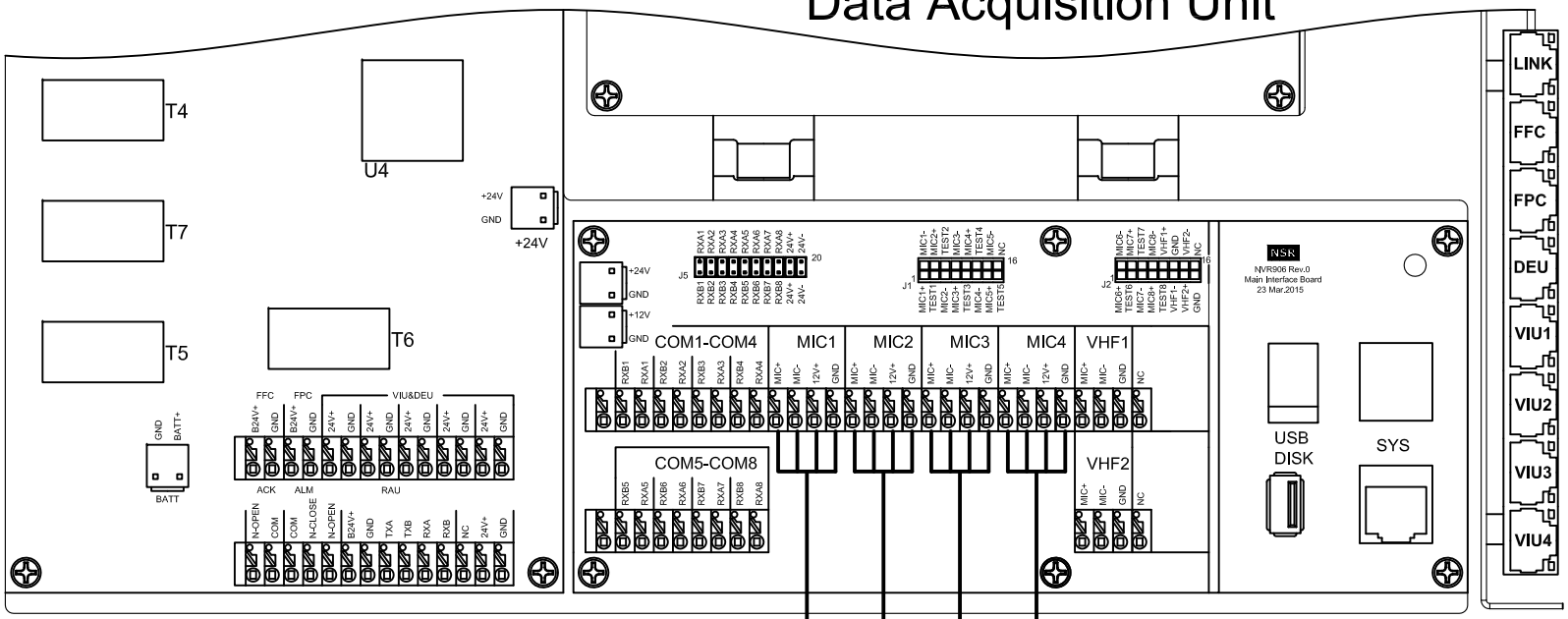


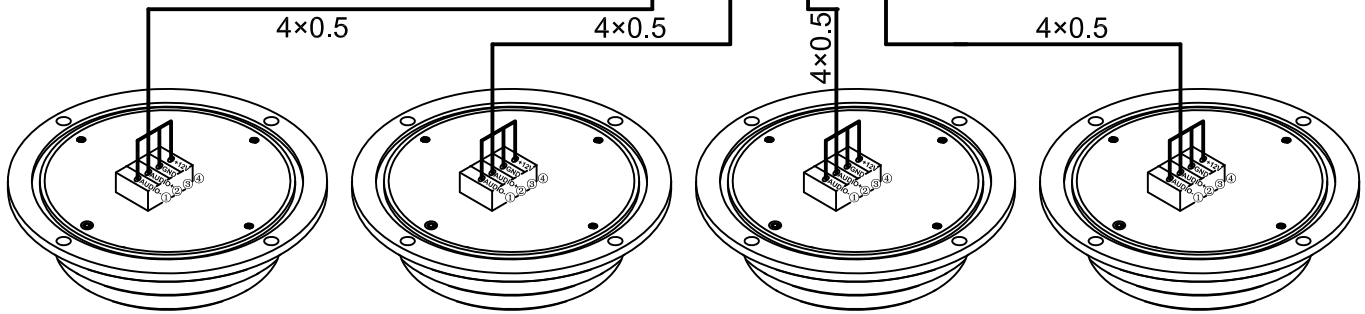
Fixed Protective Capsule

APPLICATION	DAU and FPC Connection		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT	PRO-JECTION
CHECKED			
DRAWING		NSR marine	NEW SUNRISE CO., LTD.
DWG NO.	NVR9000-ID-011		

NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	

Data Acquisition Unit

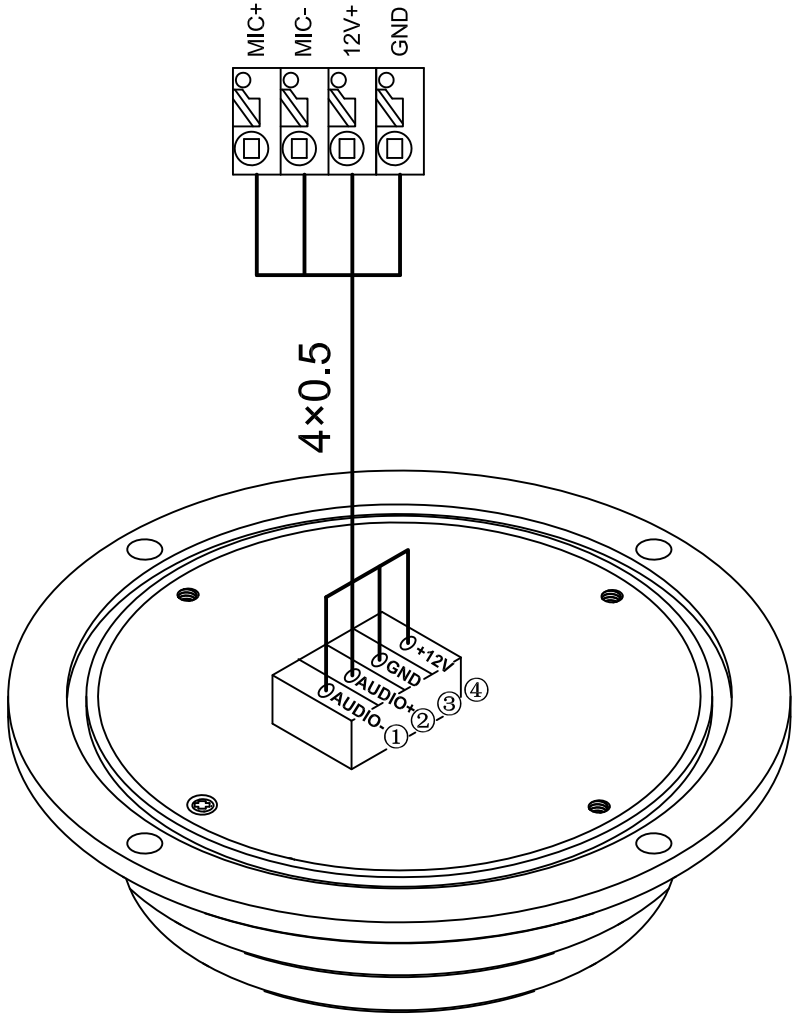




Indoor Microphone Unit

APPLICATION	DAU and IMU Connection		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT	PRO-JECTION
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-012		

MIC



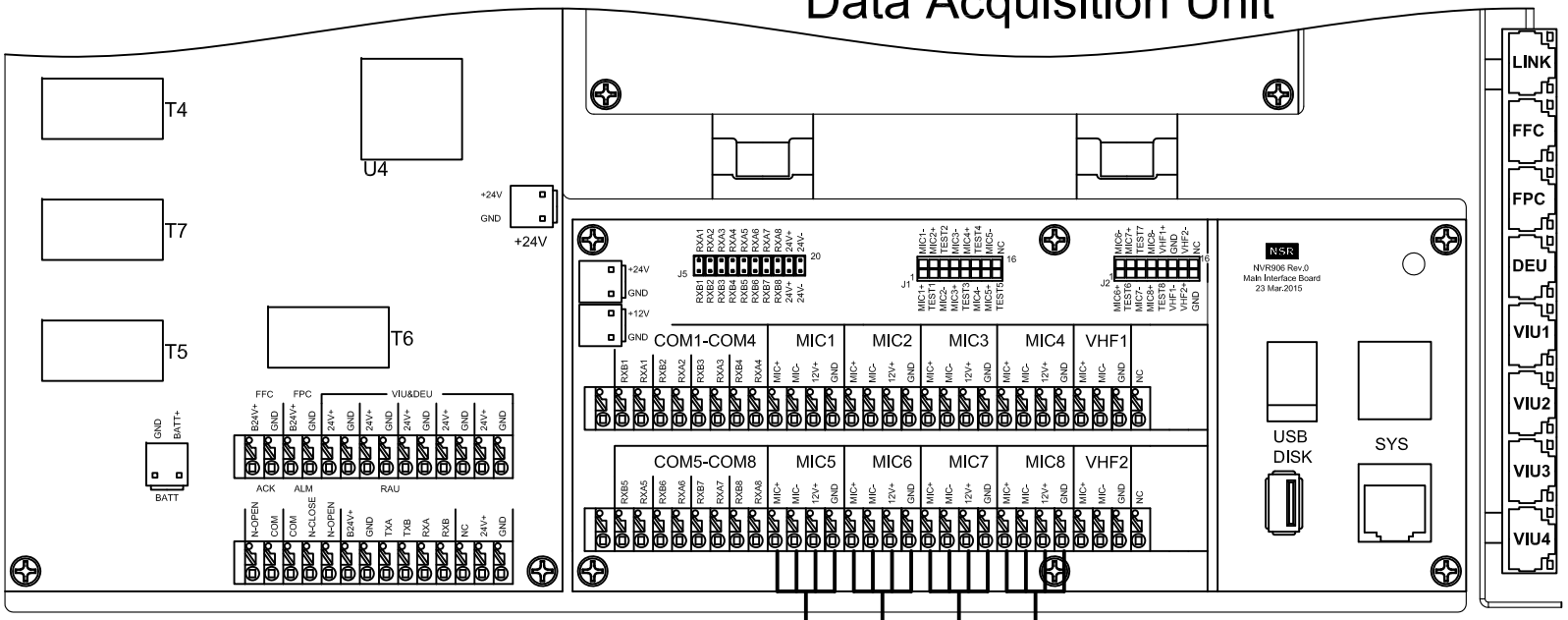
Indoor Microphone Unit

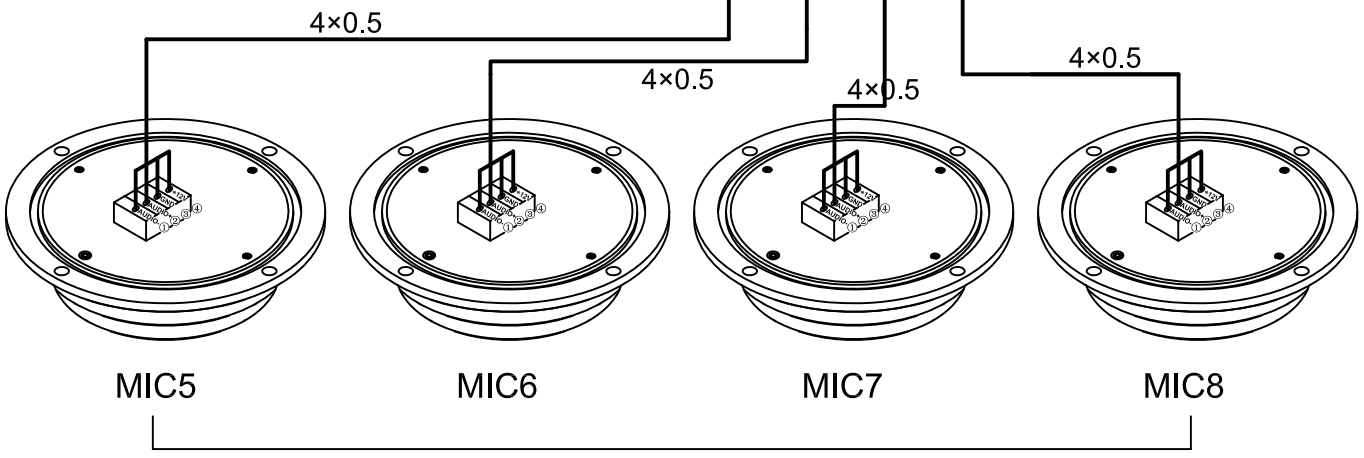
APPLICATION	WIRING DIAGRAM NVR9005 IMU
DATE	
APPROVAL	
CHECKED	
DRAWING	
DWG NO.	NVR9000-ID-013
ITEM	
SCALE	N/S
UNIT	
SIZE	A4

NSR marine NEW SUNRISE CO., LTD.

NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	

Data Acquisition Unit

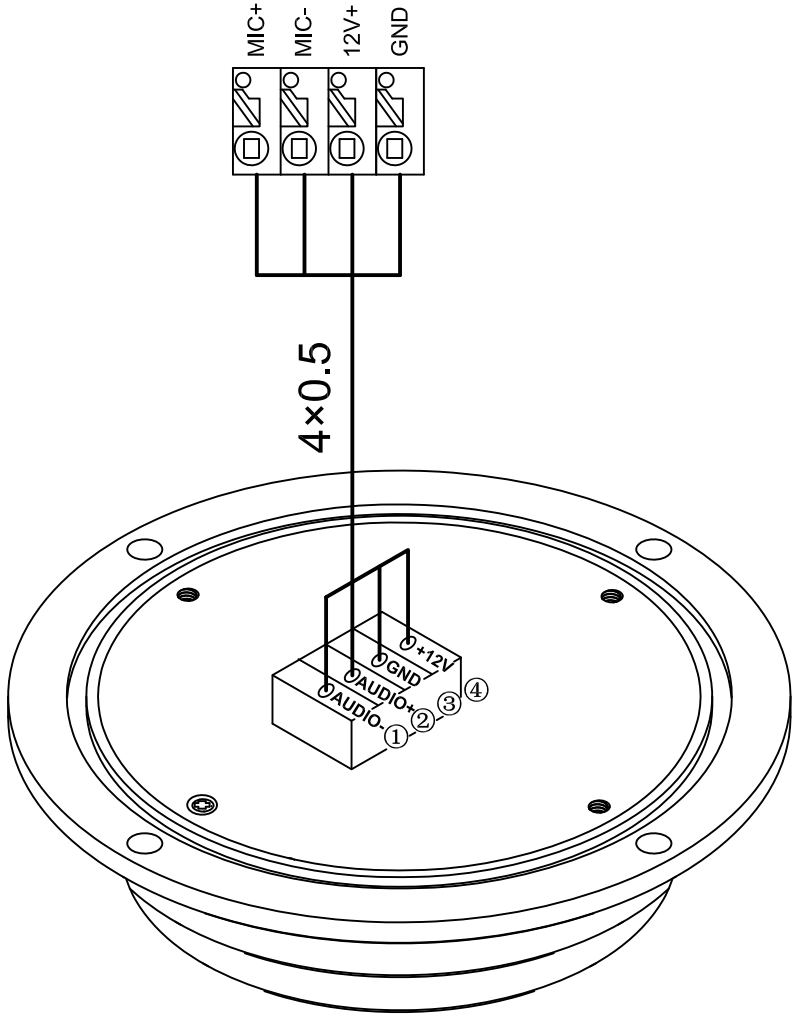




Outdoor Microphone Unit

APPLICATION	DAU and OMU Connection		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT PRO-JECTION	▽▽▽0.8S ▽▽6.3S ▽▽12S ▽100S
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-014		

MIC

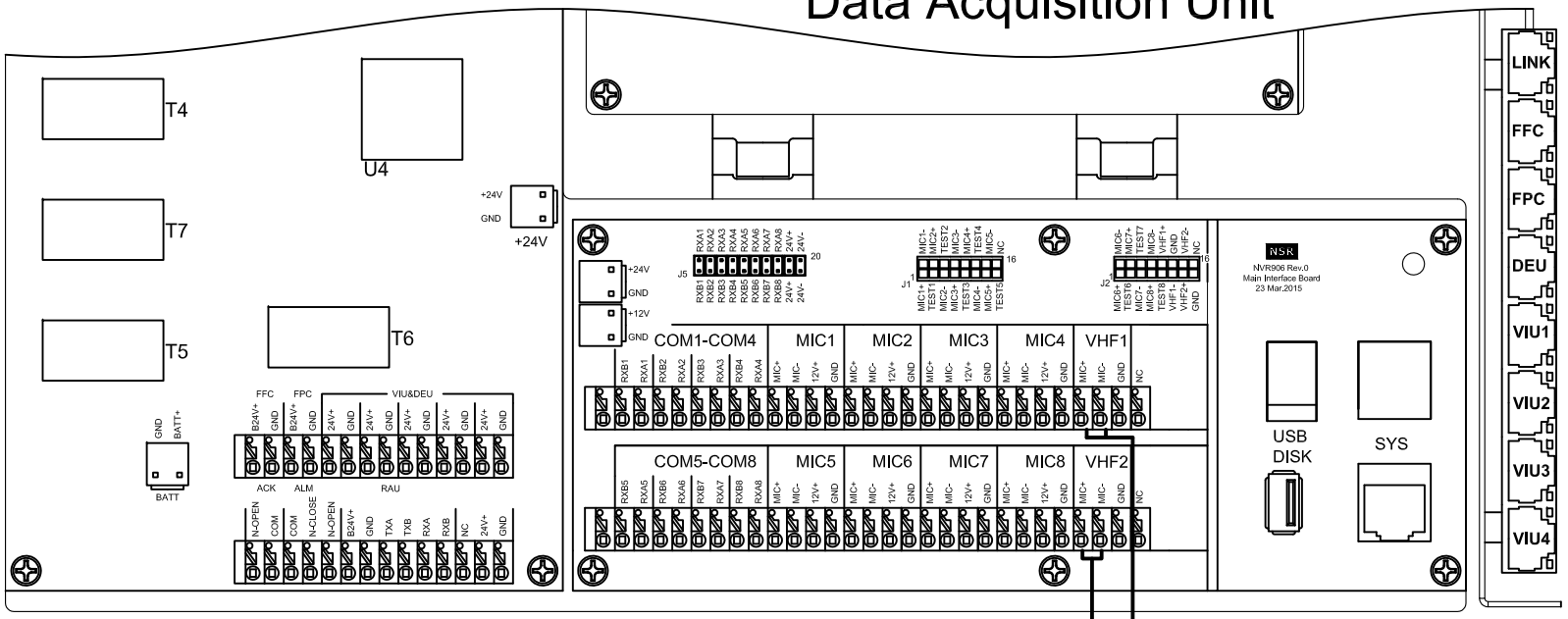


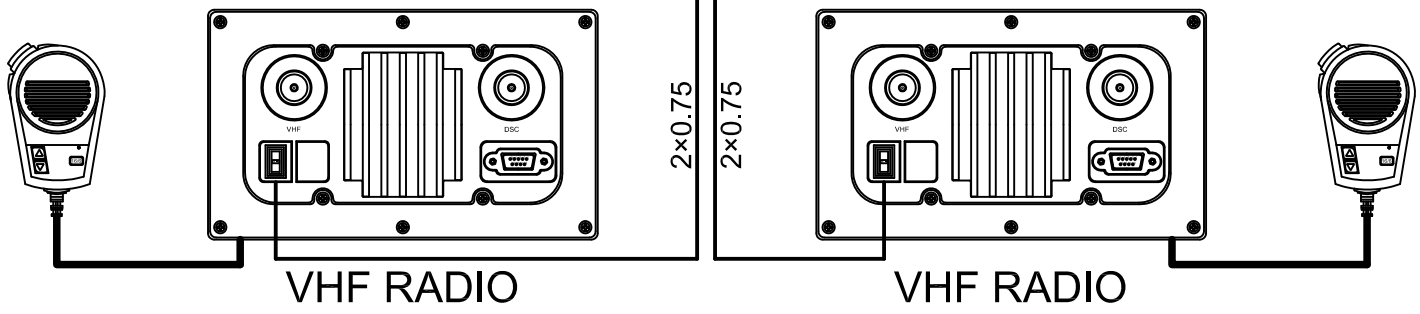
Outdoor Microphone Unit

APPLICATION	WIRING DIAGRAM NVR9006 OMU		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT	
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-015		

NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	

Data Acquisition Unit

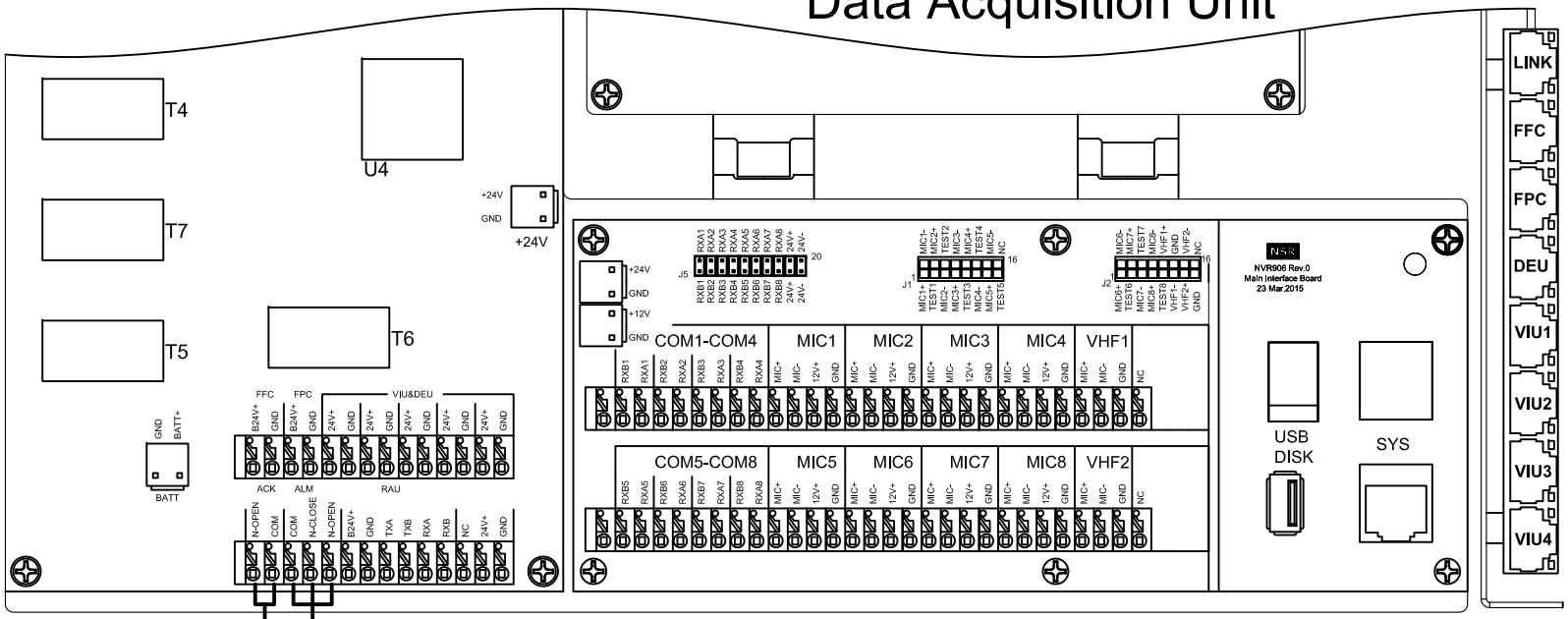




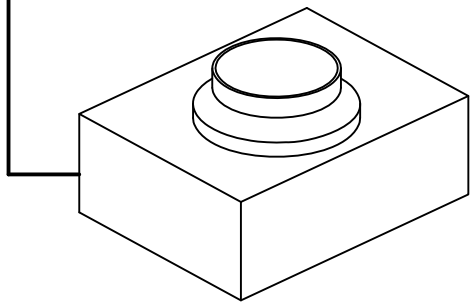
APPLICATION	DAU and VHF Connection		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT	PROJECTION
CHECKED			
DRAWING		NSR marine	NEW SUNRISE CO., LTD.
DWG NO.	NVR9000-ID-016		

NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	

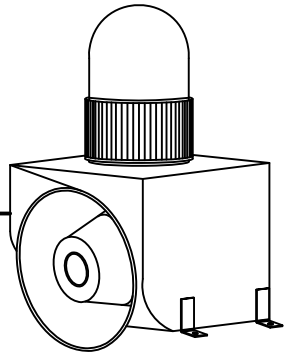
Data Acquisition Unit



2×0.75



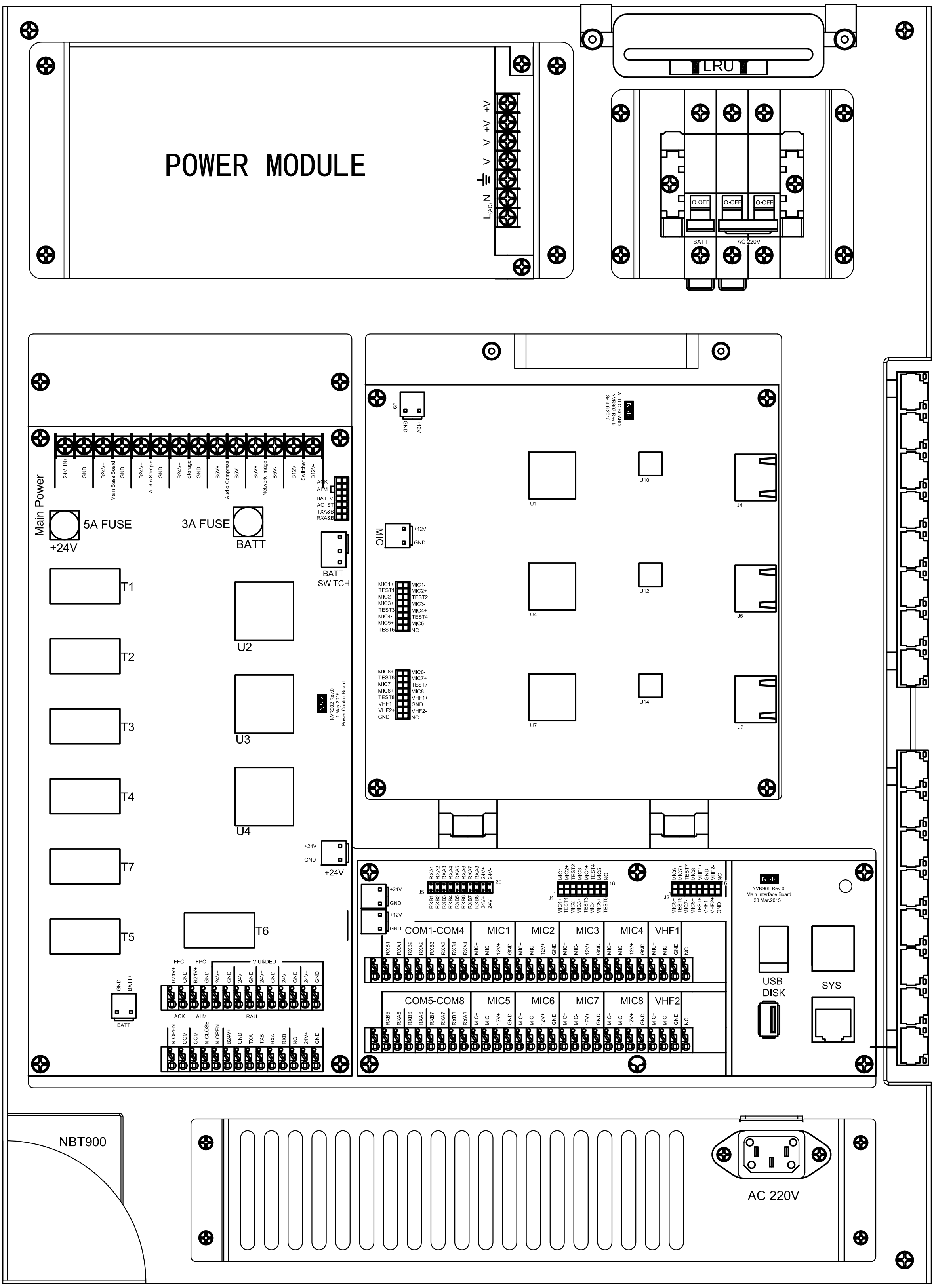
Acknowledge



Alarm

APPLICATION	DAU and ACK & ALARM Connection
DATE	
APPROVAL	
CHECKED	
DRAWING	
DWG NO.	NVR9000-ID-017
ITEM	
SIZE	A4
SCALE	N/S
UNIT	
PROJECTION	
▽▽▽0.8S ▽▽6.3S ▽12S ▽100S	

NSR marine NEW SUNRISE CO., LTD.



DAU INTERFACE LAYOUT DRAWING

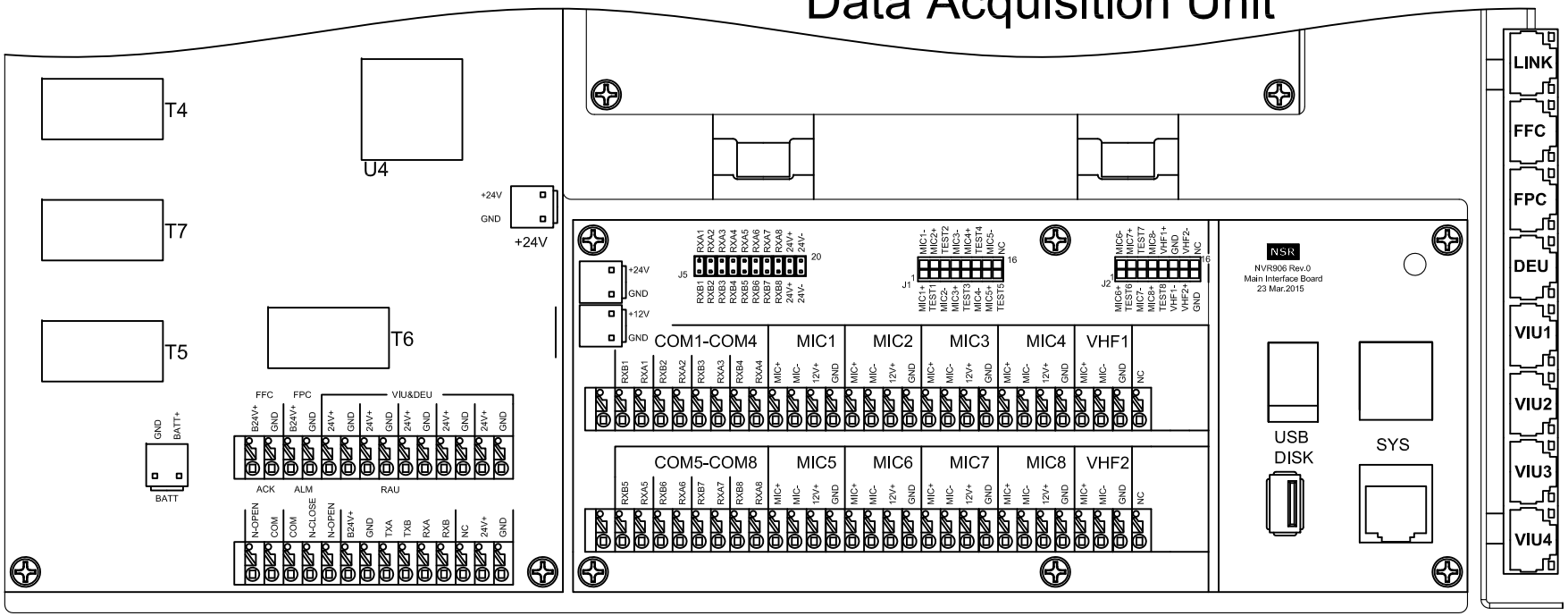
NEW SUNRISE CO., LTD.

SIZE	A4
SCALE	N/S
APPLICATION	
DATE	
APPROVAL	
CHECKED	
DRAWING	
DWG NO.	NVR9000-ID-018

NO.	DATE	REVISION & DESCRIPTION	REVIEWED SIGNATURE	CHECKED

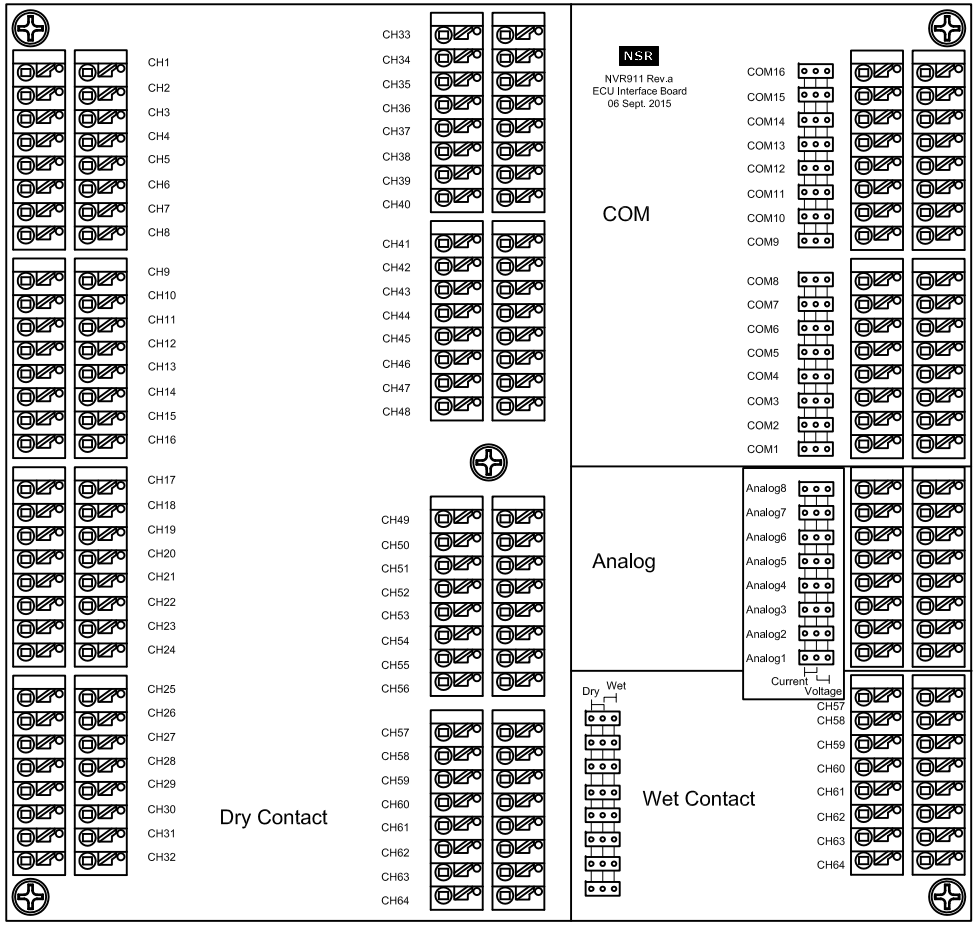
NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	

Data Acquisition Unit



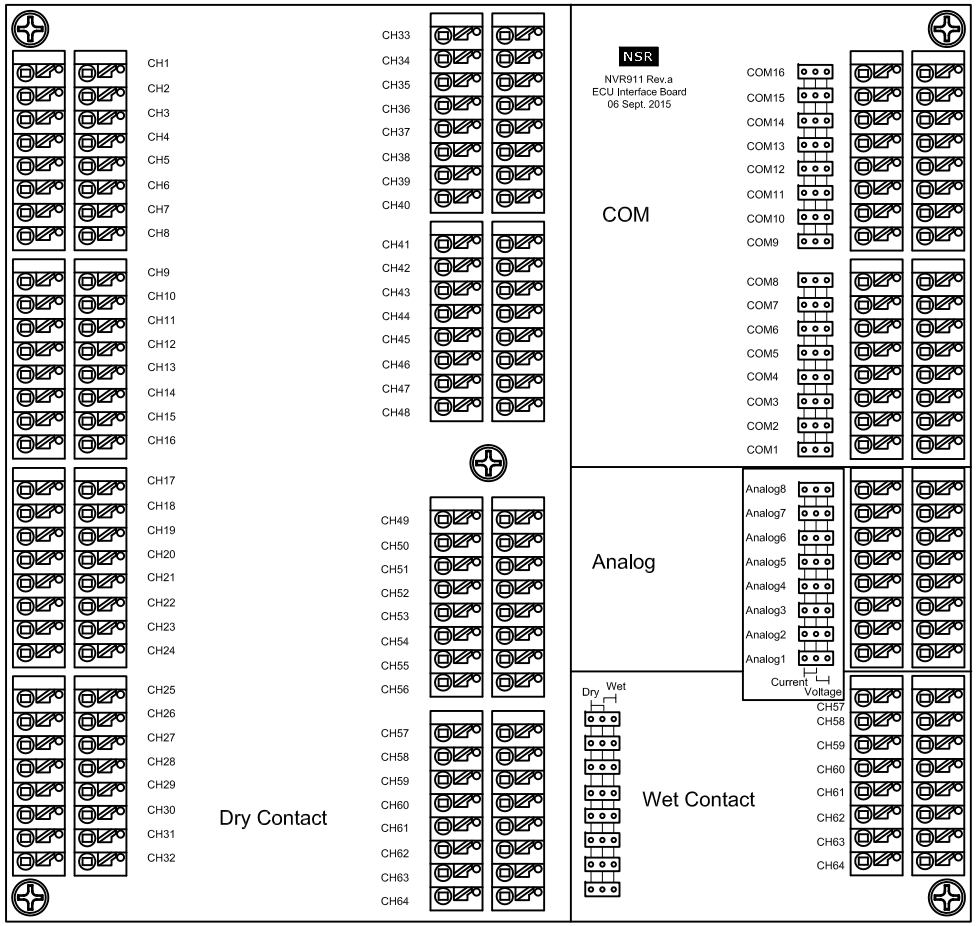
APPLICATION	DAU INTERFACE BOARD DRAWING		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT	PROJECTION
CHECKED			
DRAWING		NSR marine	NEW SUNRISE CO., LTD.
DWG NO.	NVR9000-ID-019		

NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	

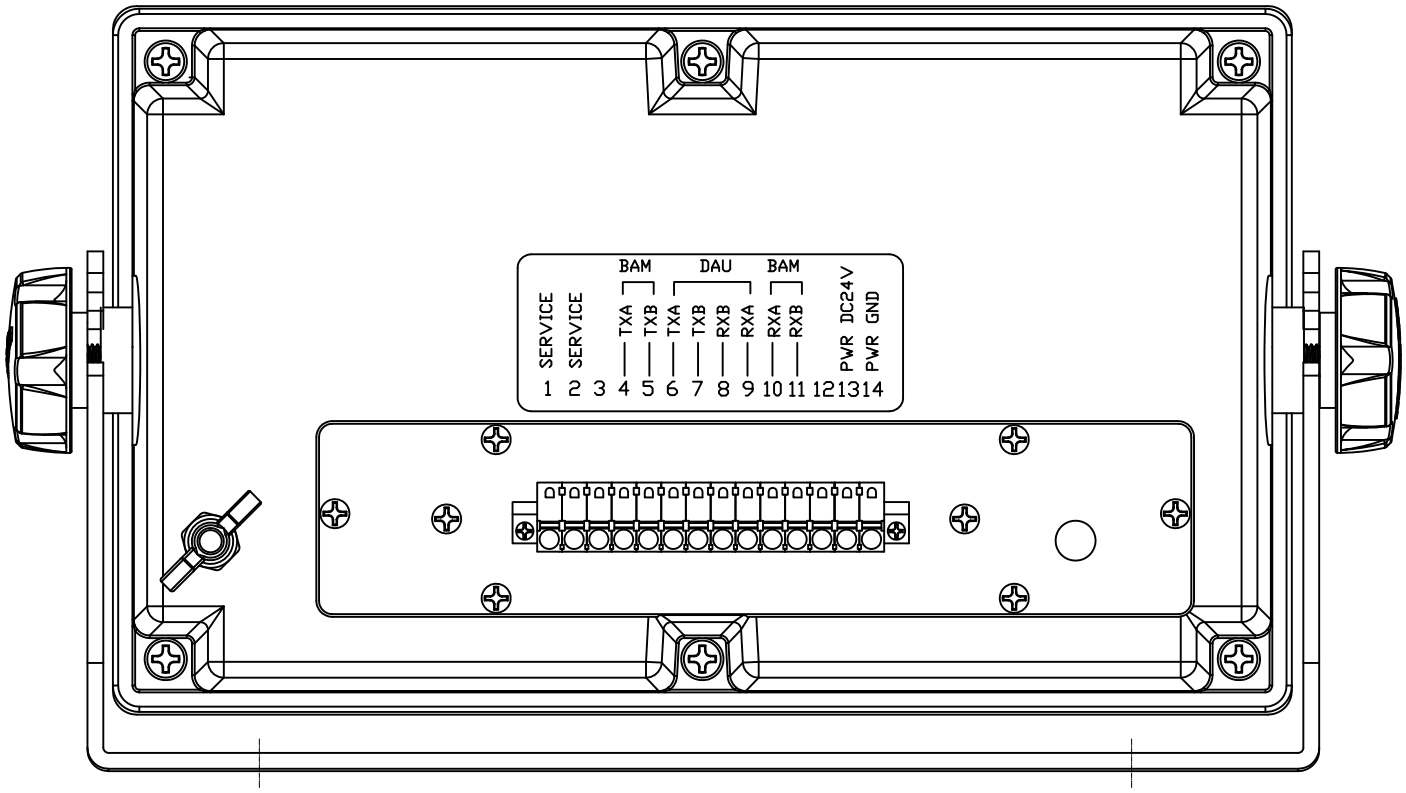


APPLICATION	DEU INTERFACE LAYOUT DRAWING		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT PROJECTION	▽▽▽▽0.8S ▽▽▽6.3S ▽▽12S ▽100S
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-020		

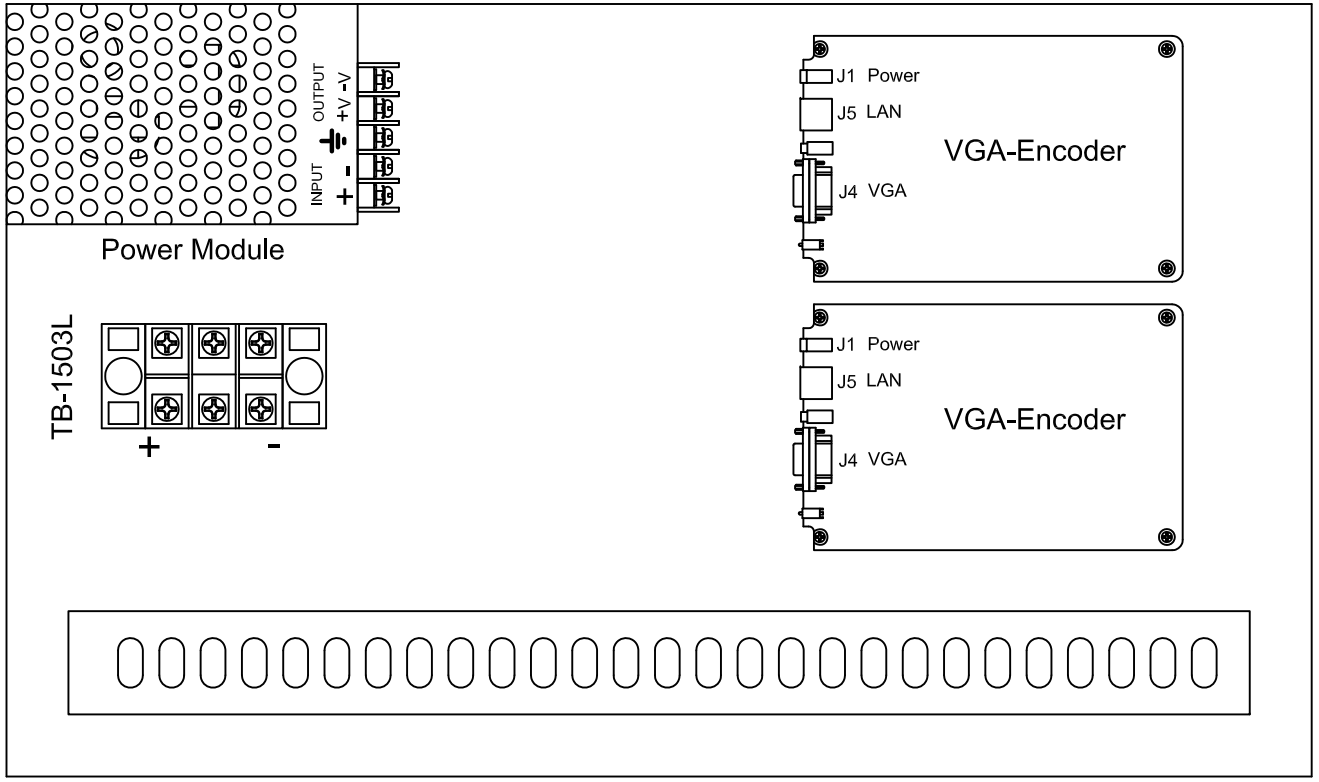
NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	



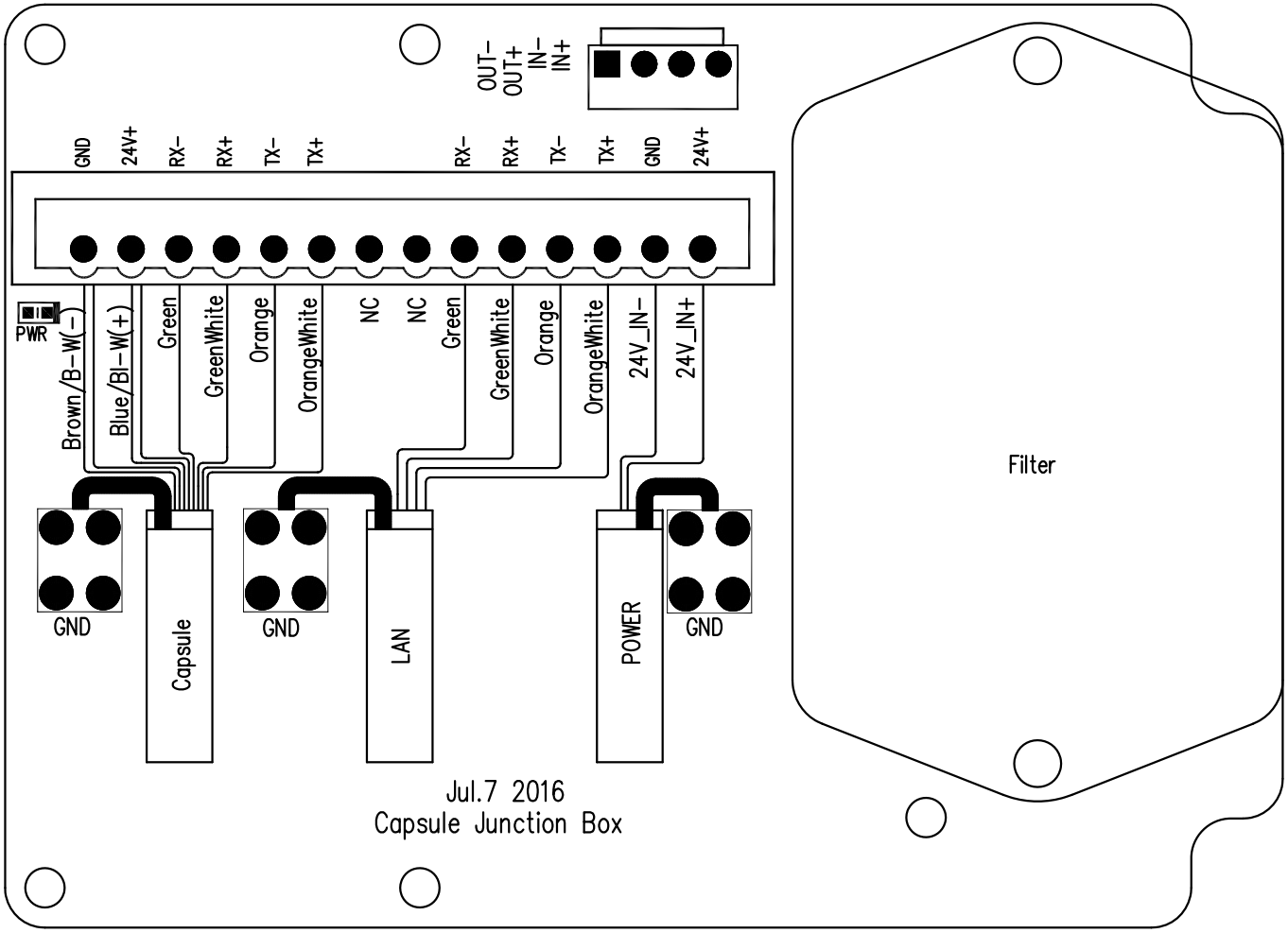
APPLICATION	DEU INTERFACE BOARD DRAWING		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT PROJECTION	▽▽▽▽0.8S ▽▽▽6.3S ▽▽12S ▽100S
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-021		



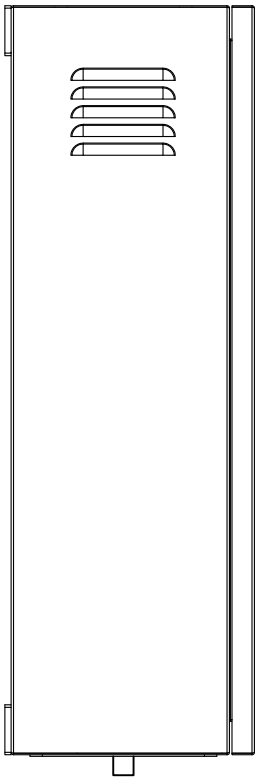
APPLICATION	RAU INTERFACE DEFINITION DRAWING				
DATE		ITEM	NVR-9000 VDR	SIZE	A4
APPROVAL		SCALE	N/S UNIT mm		
CHECKED		NSR marine	NEW SUNRISE CO., LTD.		
DRAWING					
DWG NO.	NVR9000-ID-022				

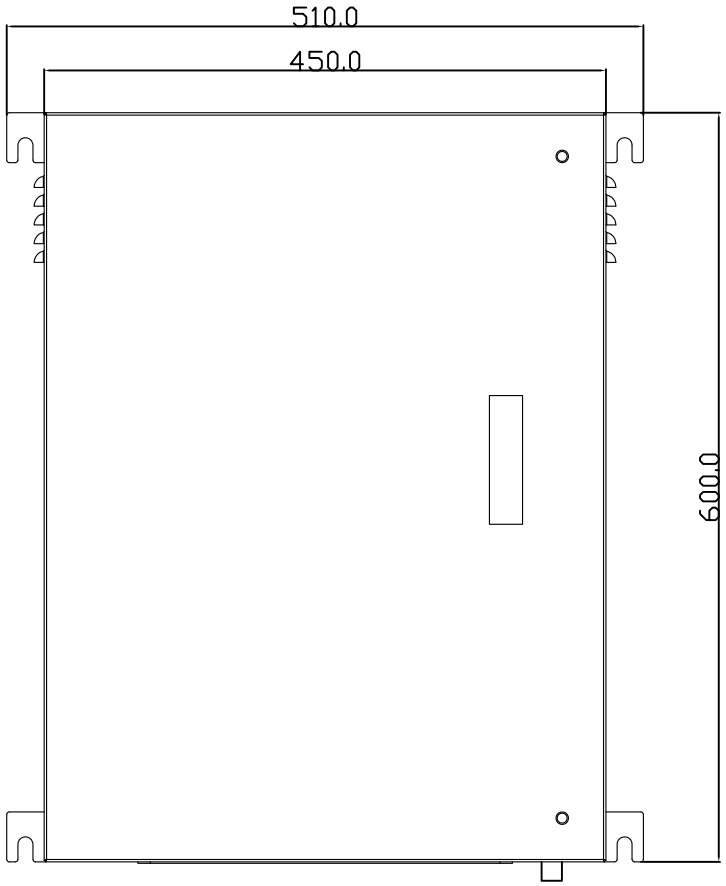


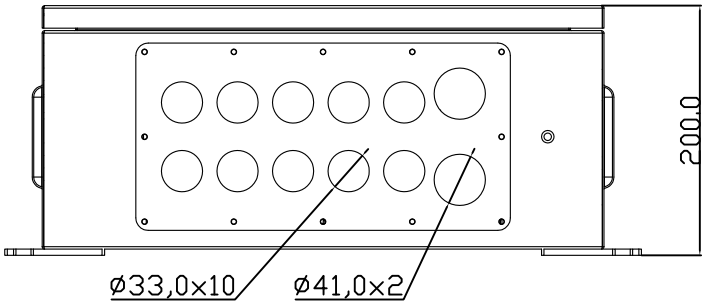
APPLICATION	VIU INTERFACE LAYOUT DRAWING			
DATE		ITEM	NVR-9000 VDR	SIZE A4
APPROVAL		SCALE	N/S UNIT mm	
CHECKED		NSR marine	NEW SUNRISE CO., LTD.	
DRAWING				
DWG NO.	NVR9000-ID-023			



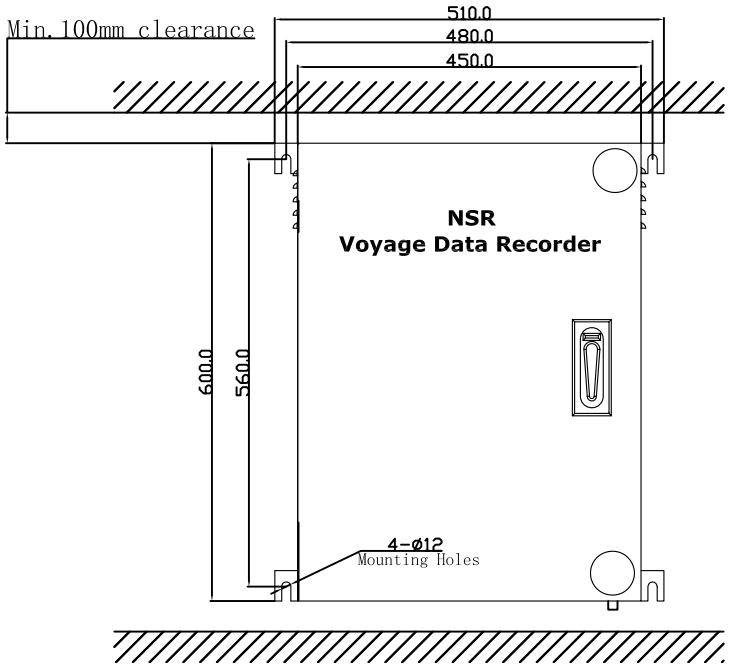
APPLICATION	JUNCTION BOX INTERFACE BOARD DRAWING		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT mm	
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000−ID−024		

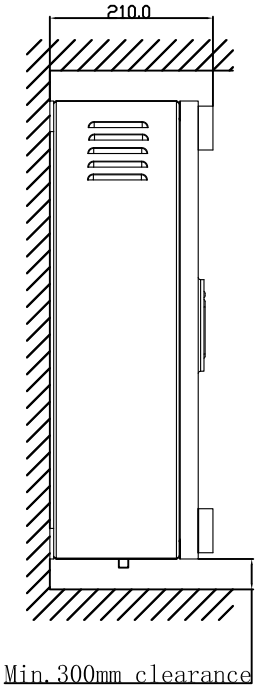


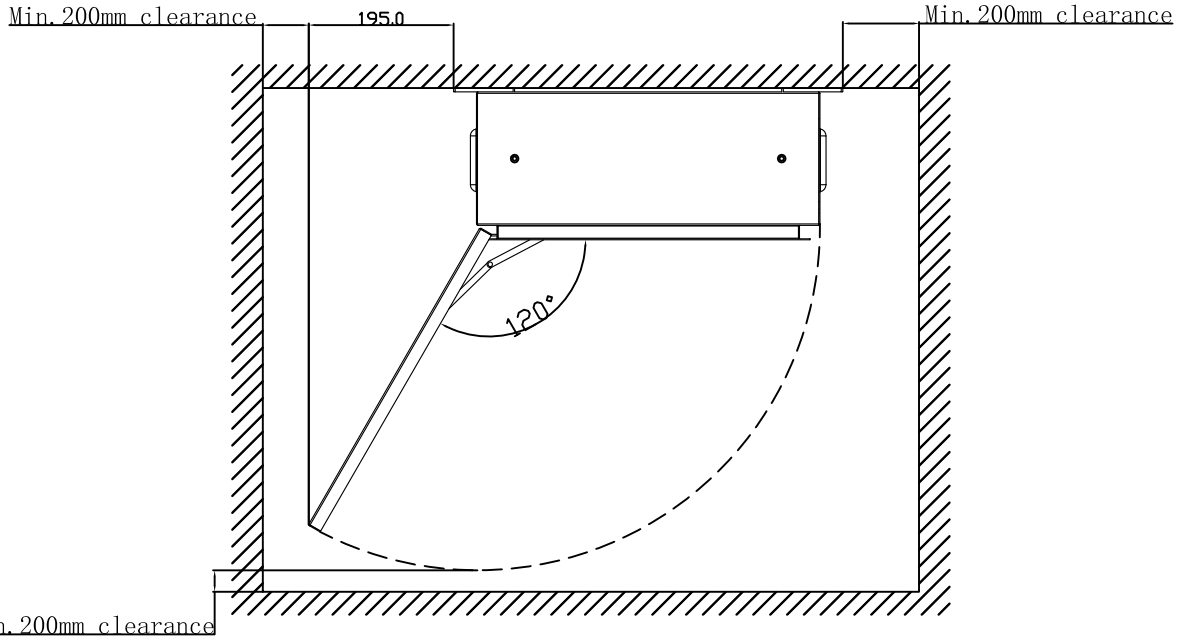




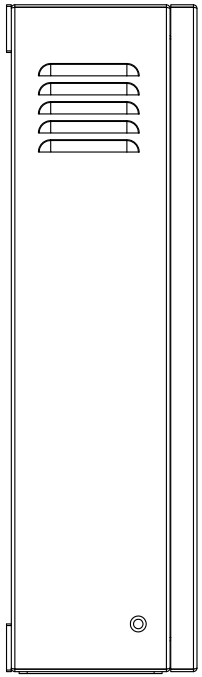
APPLICATION	VDR (SVDR) DAU SIZE DRAWING		
DATE		ITEM	NVR-9000(S) (S)VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-025		

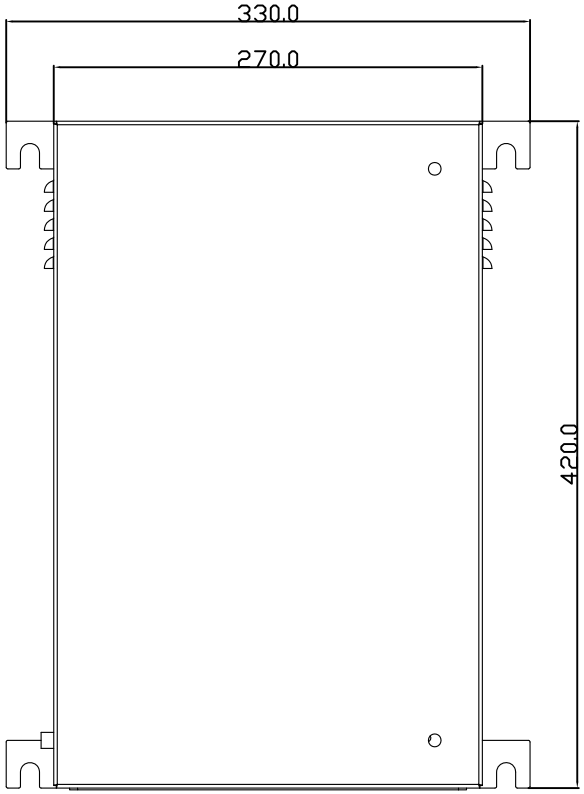


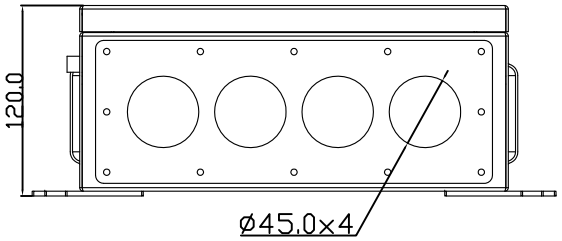




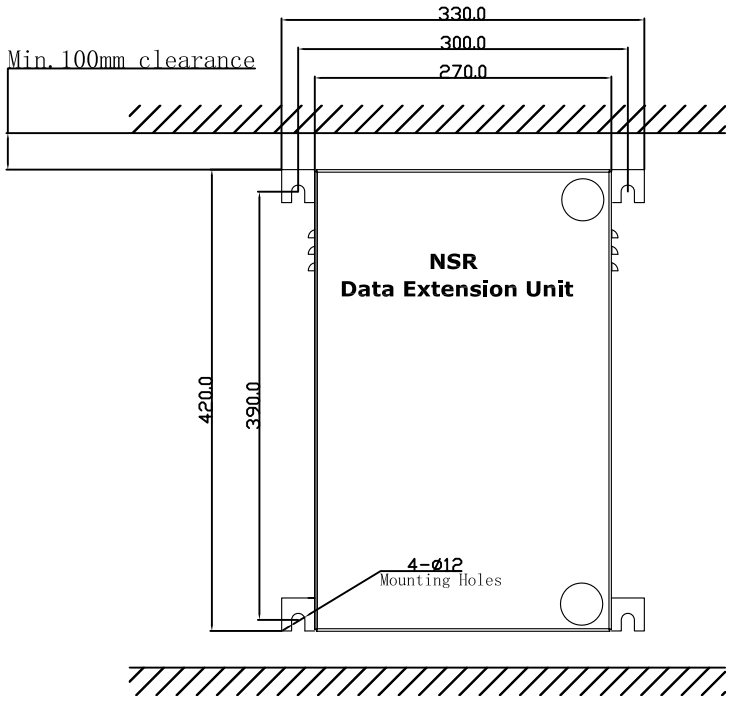
APPLICATION	VDR (SVDR) DAU MOUNTING DRAWING			
DATE		ITEM	NVR-9000(S) (S)VDR	SIZE A4
APPROVAL		SCALE	N/S UNIT mm	
CHECKED		NSR marine	NEW SUNRISE CO., LTD.	
DRAWING				
DWG NO.	NVR9000-ID-026			

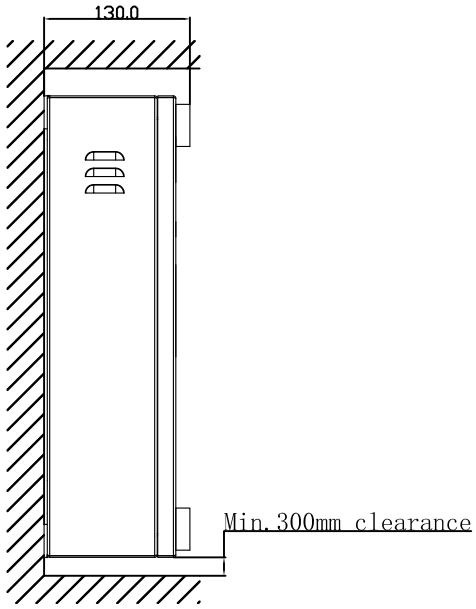


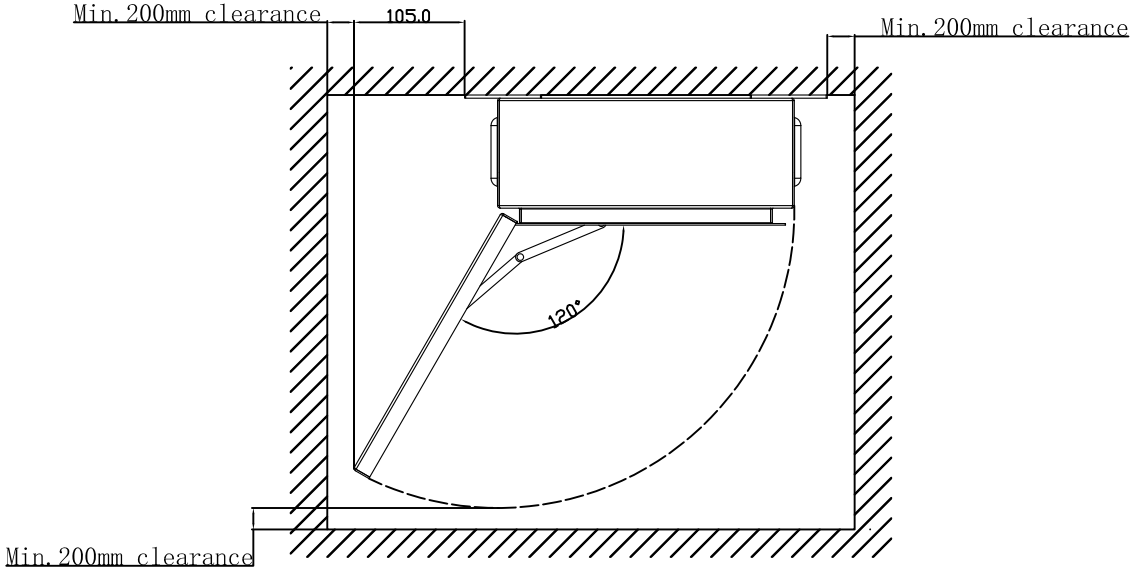




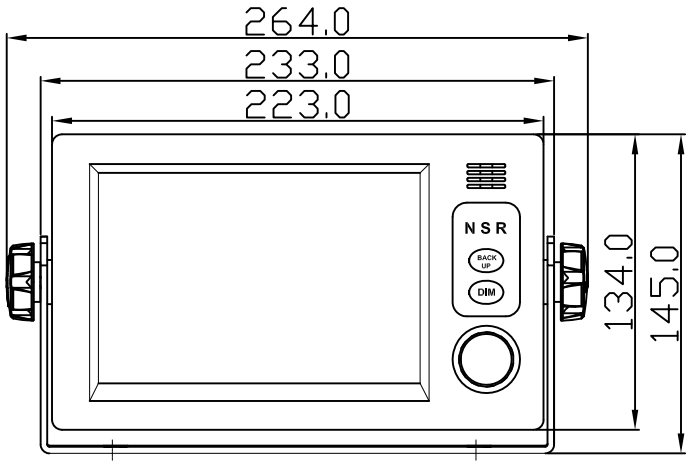
APPLICATION	VDR DEU SIZE DRAWING				
DATE		ITEM	NVR-9000 VDR	SIZE	A4
APPROVAL		SCALE	N/S UNIT mm		
CHECKED		NSR marine	NEW SUNRISE CO., LTD.		
DRAWING					
DWG NO.	NVR9000-ID-027				



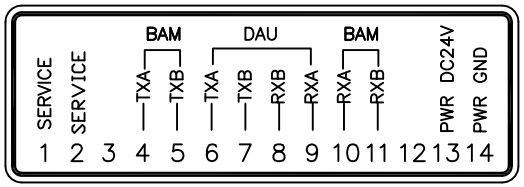


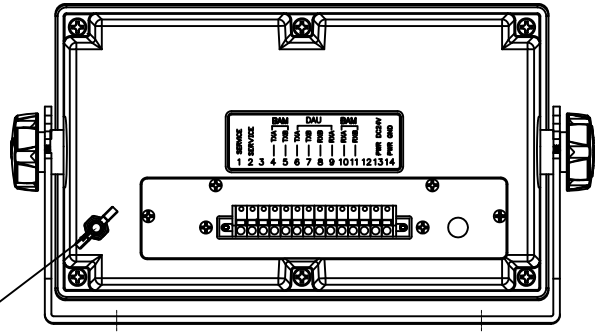


APPLICATION	VDR DEU MOUNTING DRAWING				
DATE		ITEM	NVR-9000 VDR	SIZE	A4
APPROVAL		SCALE	N/S UNIT mm		
CHECKED		NSR marine	NEW SUNRISE CO., LTD.		
DRAWING					
DWG NO.	NVR9000-ID-028				

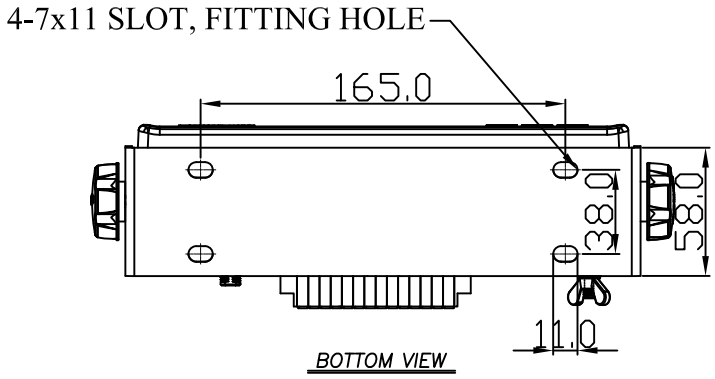


FRONT VIEW





REAR VIEW

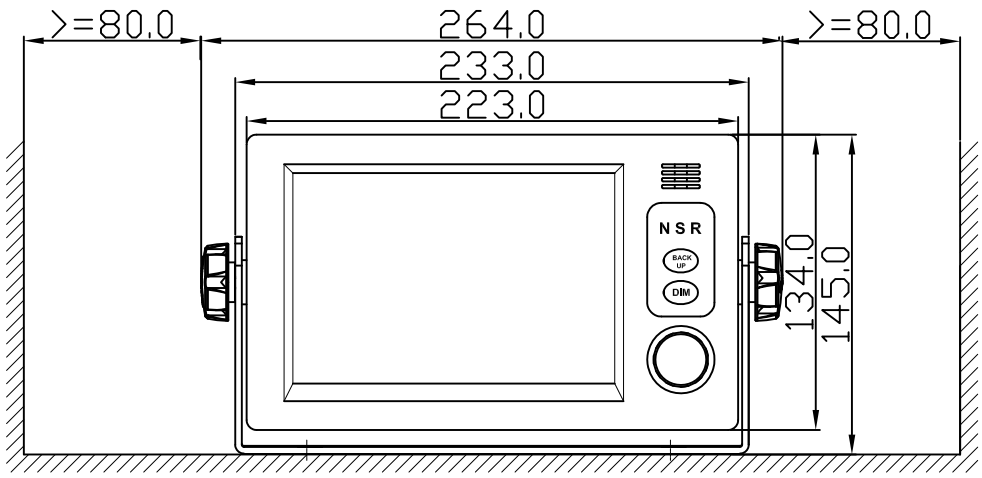


BOTTOM VIEW

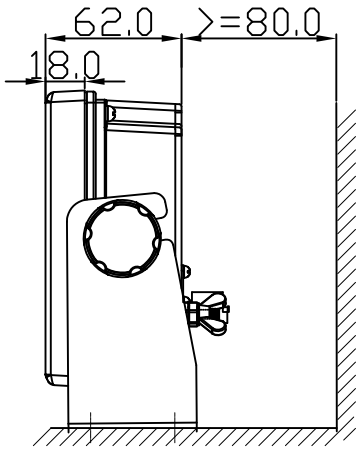
NOTE

1. FITTING HOLE SIZE= 165*38-7ø SLOT HOLE

APPLICATION	VDR (SVDR) RAU SIZE DRAWING				
DATE		ITEM	NVR-9000(S) (S)VDR	SIZE	A4
APPROVAL		SCALE	N/S UNIT mm		
CHECKED		NSR marine	NEW SUNRISE CO., LTD.		
DRAWING					
DWG NO.	NVR9000-ID-029				



FRONT VIEW



SIDE VIEW

NOTE

1. USE SELF-TAPPING SCREWS M5X20 FOR FIXING THE UNIT

2. 80MM IS MINIMUM SPACE FOR OPERATION AND CABLING.

APPLICATION	VDR(SVDR) RAU MOUNTING DRAWING (TABLE TYPE)		
DATE		ITEM	NVR-9000(S) (S)VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-030		

NO.	DATE	REVISION & DESCRIPTION	REVIEWED / CHECKED SIGNATURE
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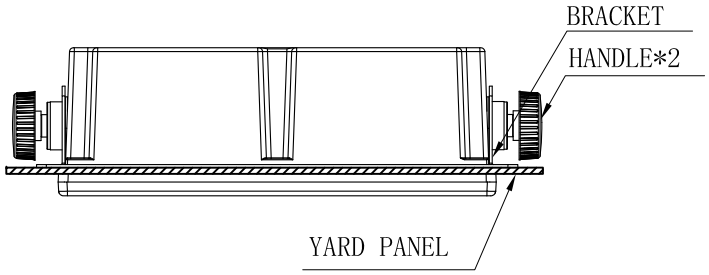
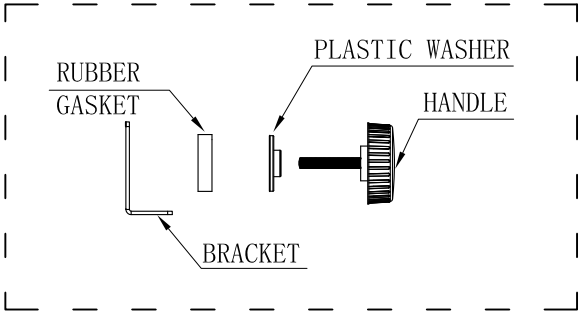
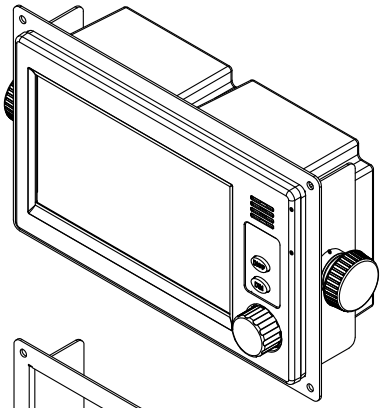
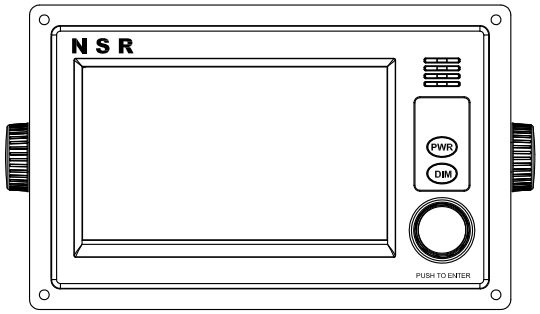
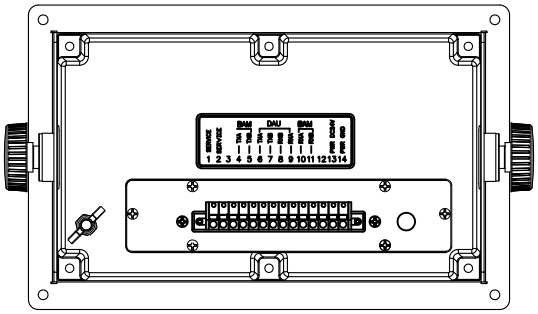
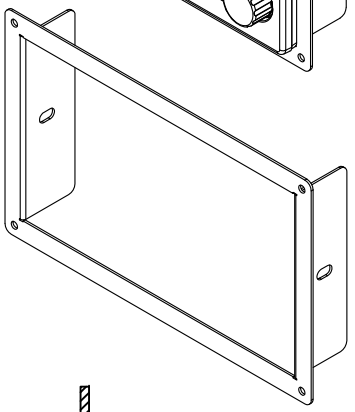


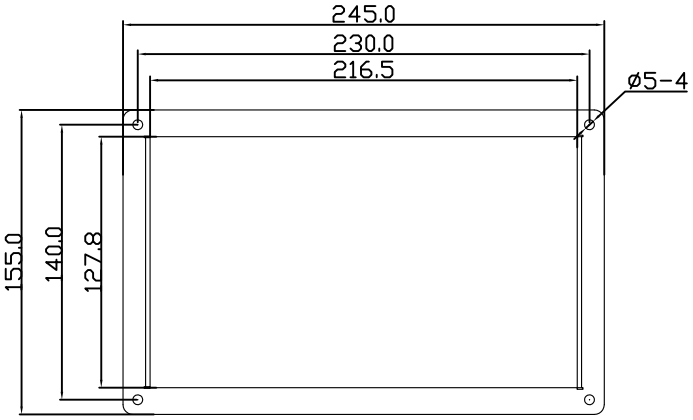




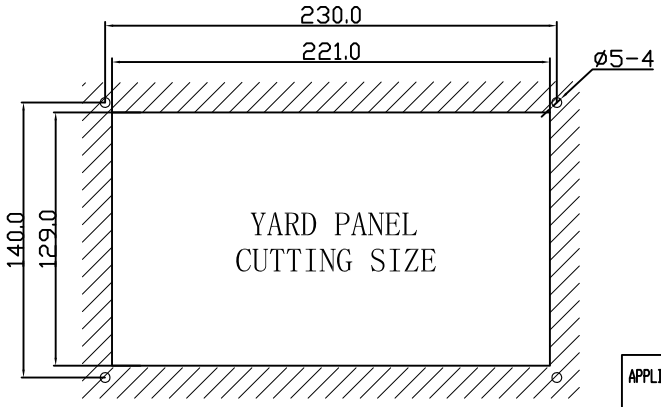


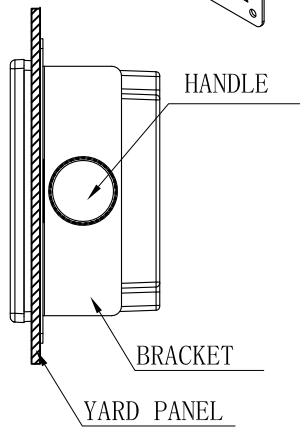






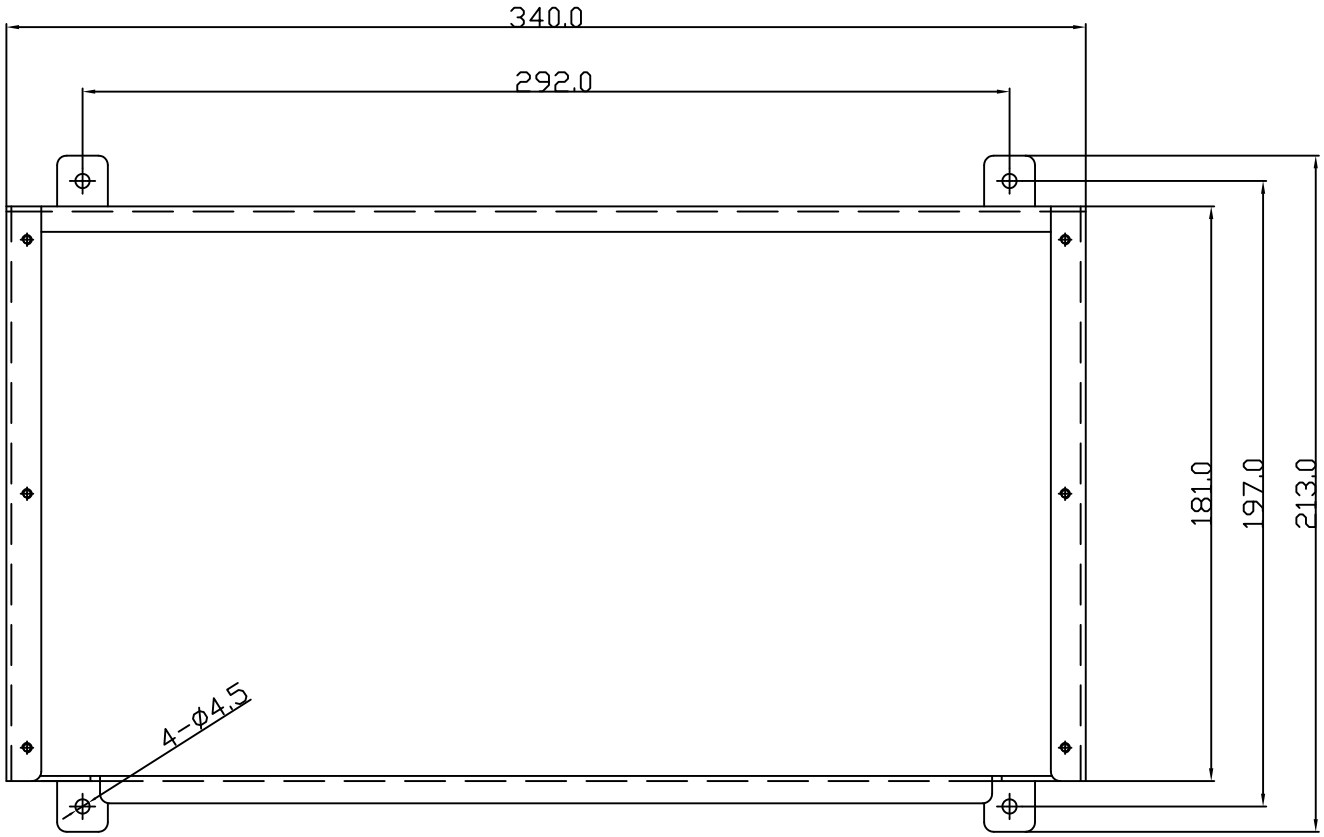
MOUNTING BRACKET SIZE

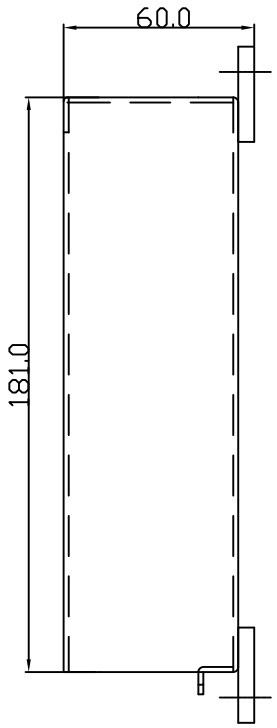




APPLICATION: VDR(SVDR) RAU MOUNTING DRAWING (FLUSH TYPE)

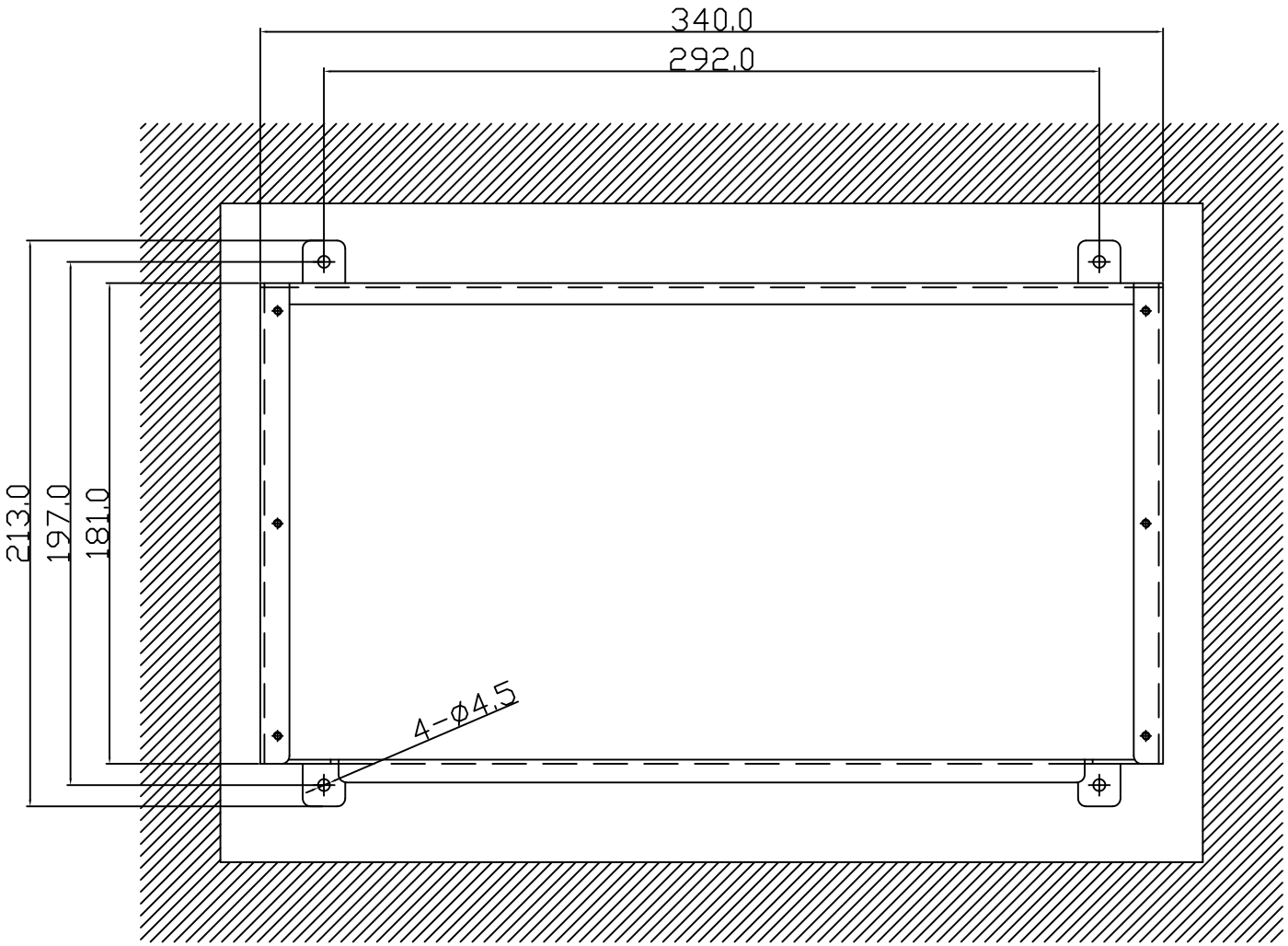
DATE		ITEM	NVR-9000(S) (S)VDR
APPROVAL		SCALE N/S	UNIT mm
CHECKED		PROJECTION	SIZE A4
DRAWING			▽▽▽▽0.8S ▽▽▽6.3S ▽▽12S ▽100S
DWG NO.	NVR9000-ID-031	NSR marine	NEW SUNRISE CO., LTD.

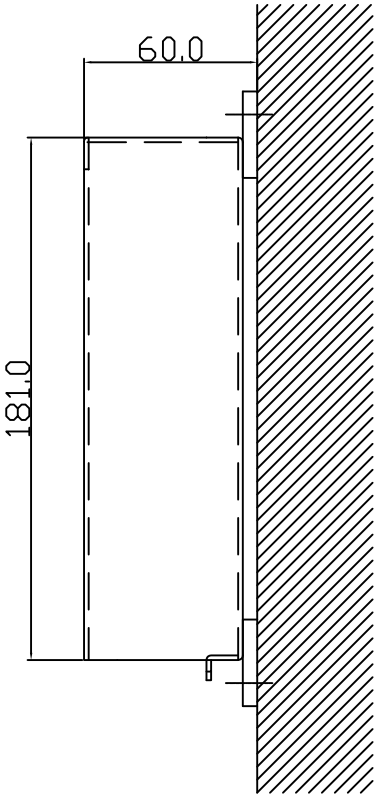




APPLICATION	NVR9004 VDR VIU SIZE DRAWING
DATE	
APPROVAL	
CHECKED	
DRAWING	
DWG NO.	NVR9000-ID-032
ITEM	NVR-9004 VDR
SIZE	A4
SCALE	N/S
UNIT	mm

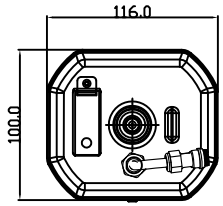
NSR marine NEW SUNRISE CO., LTD.

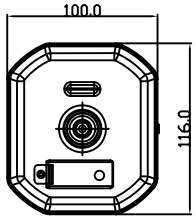


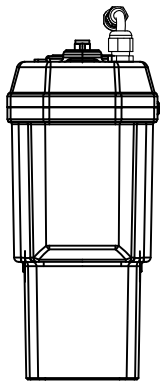


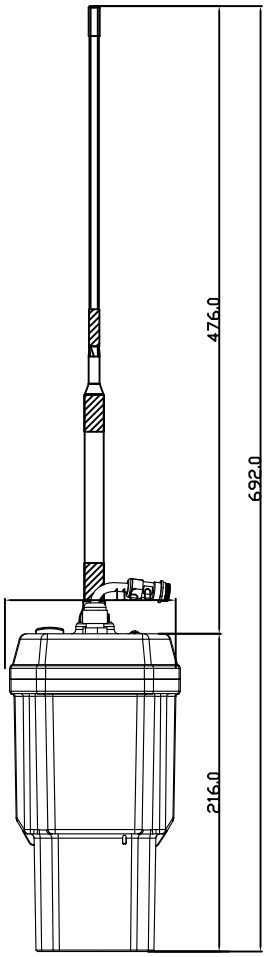
APPLICATION	VDR VIU MOUNTING DRAWING			
DATE		ITEM	NVR-9000 VDR	SIZE A4
APPROVAL		SCALE	N/S UNIT mm	
CHECKED		NSR marine	NEW SUNRISE CO., LTD.	
DRAWING				
DWG NO.	NVR9000-ID-033			

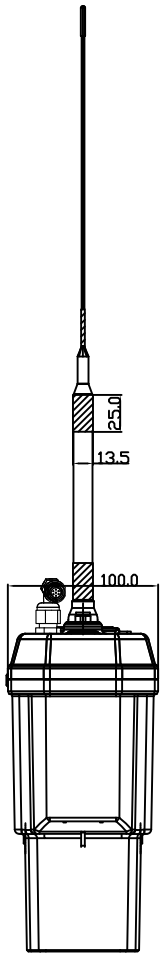
NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
0			SIGNATURE	



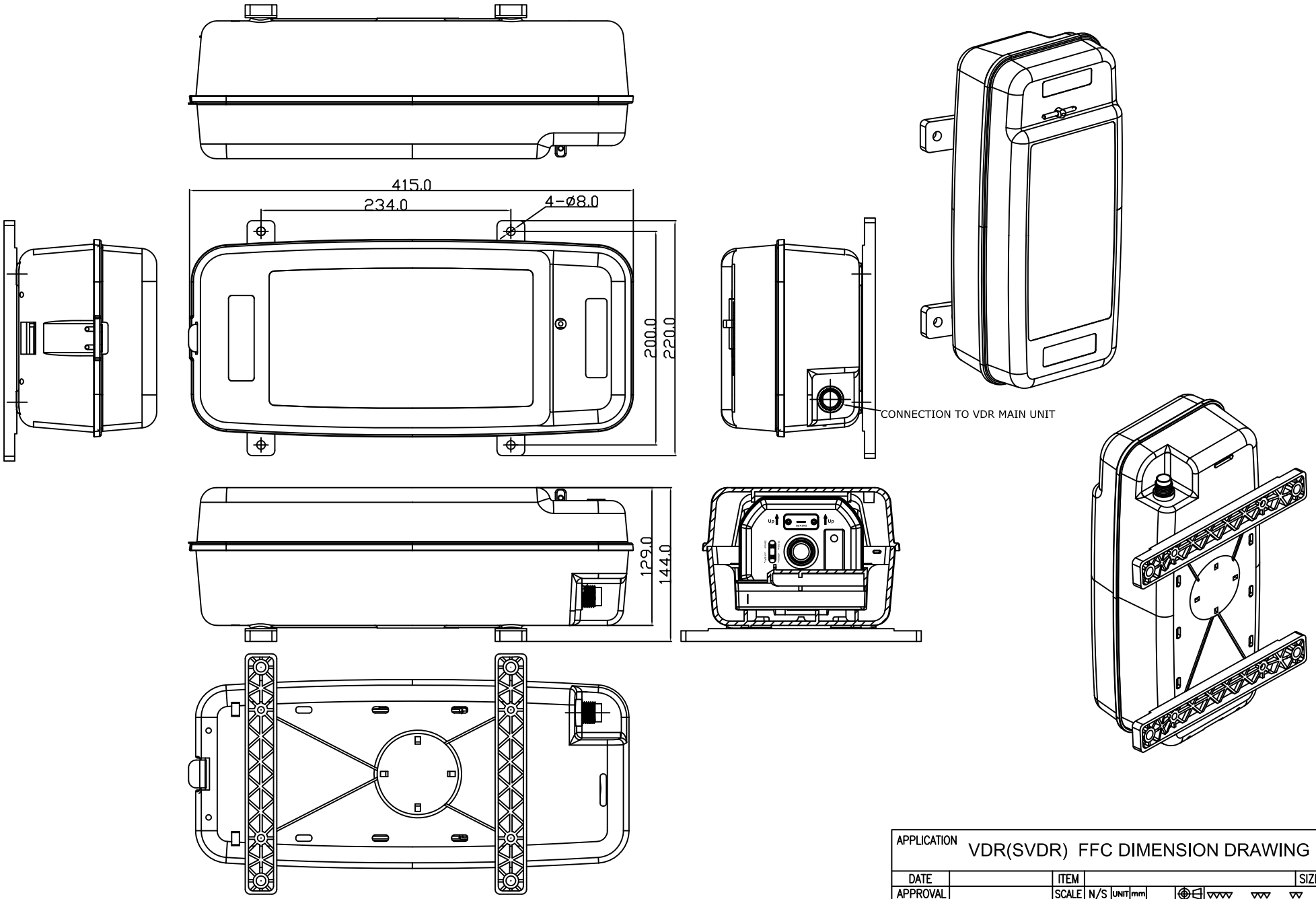




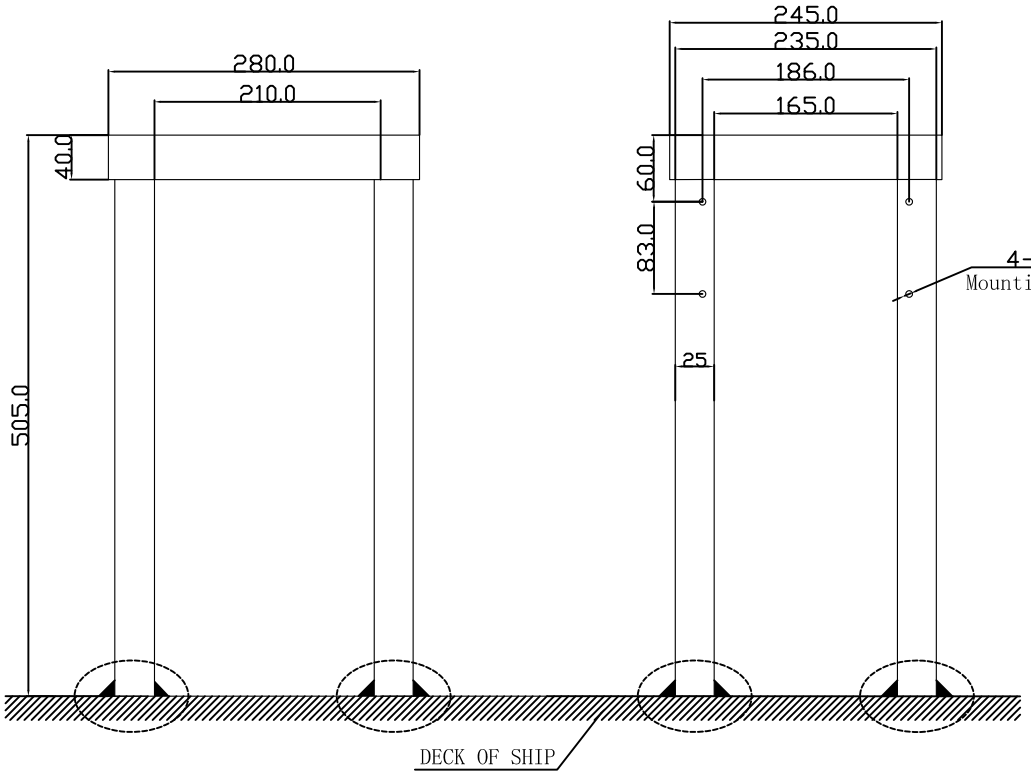


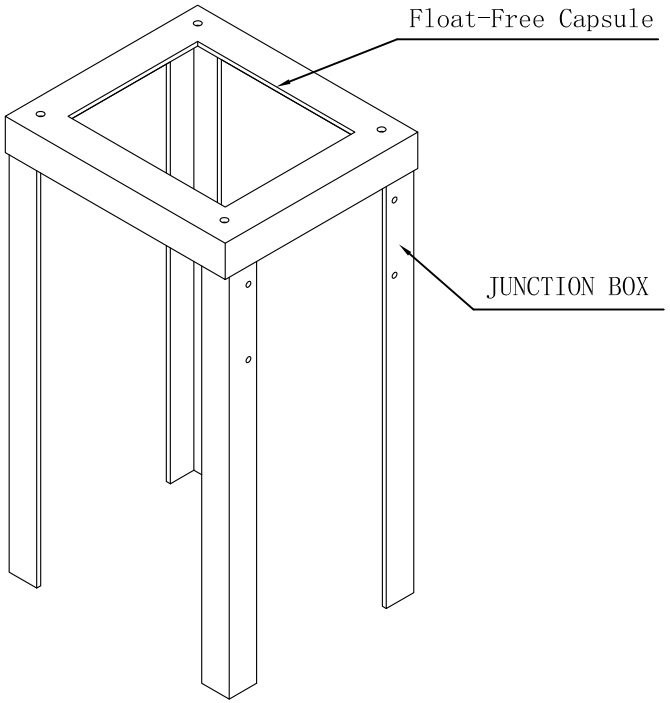


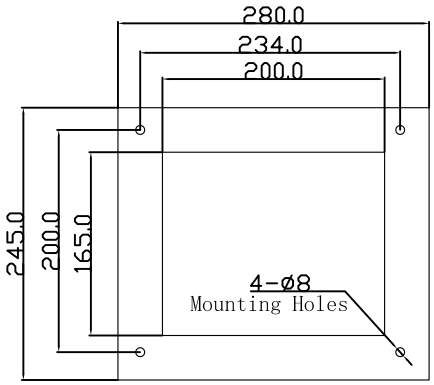
APPLICATION	VDR(SVDR) FFC SIZE DRAWING		
DATE		ITEM	NVR-9000(S) (S)VDR
APPROVAL		SCALE N/S	UNIT mm
CHECKED		PROJECTION	SIZE A4
DRAWING		NSR marine	NEW SUNRISE CO., LTD.
DWG NO.	NVR9000-ID-034		

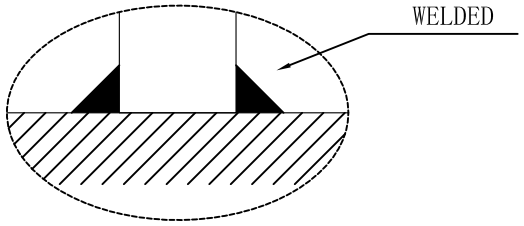


APPLICATION	VDR(SVDR) FFC DIMENSION DRAWING		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT mm	
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-035		



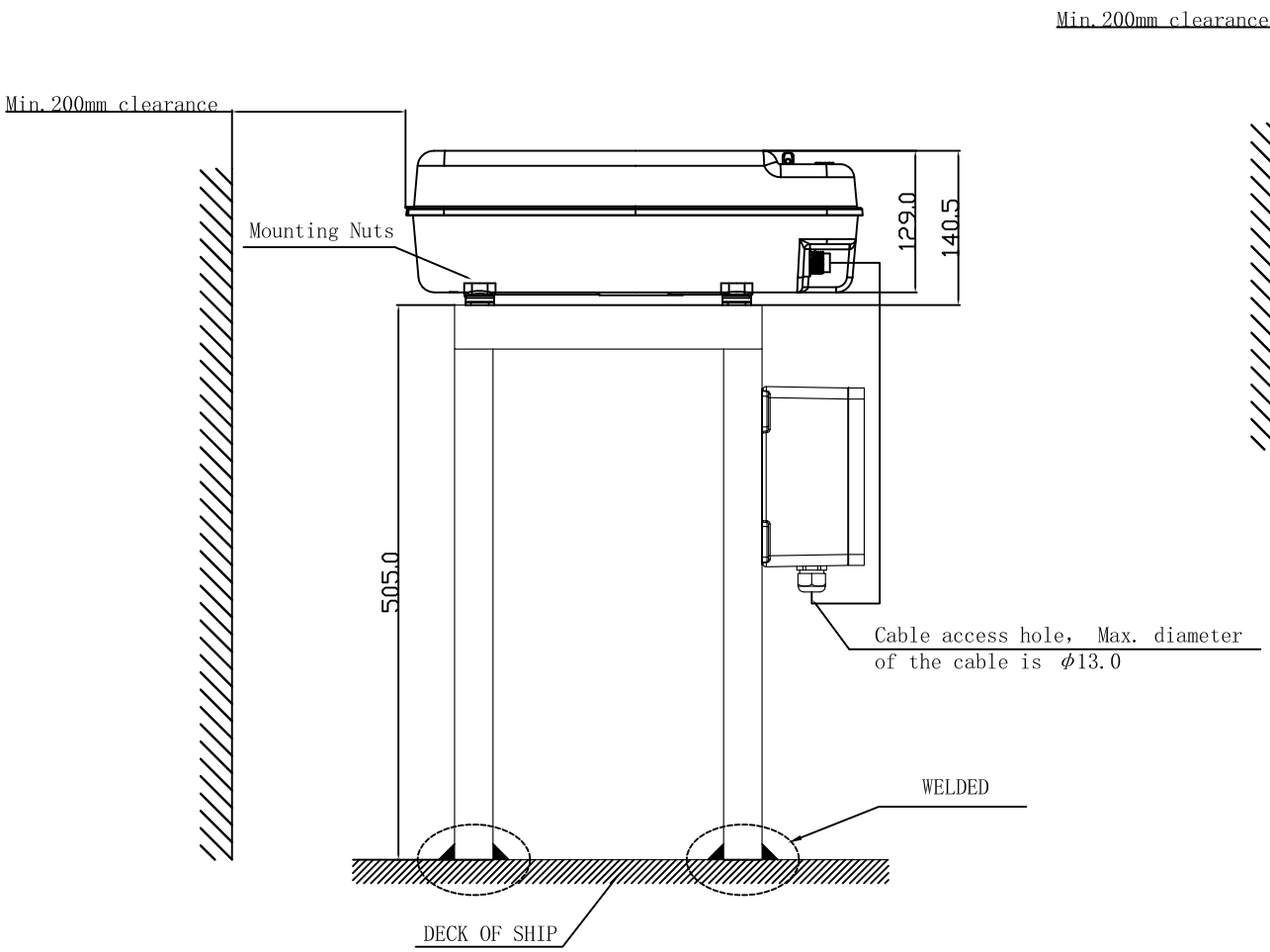


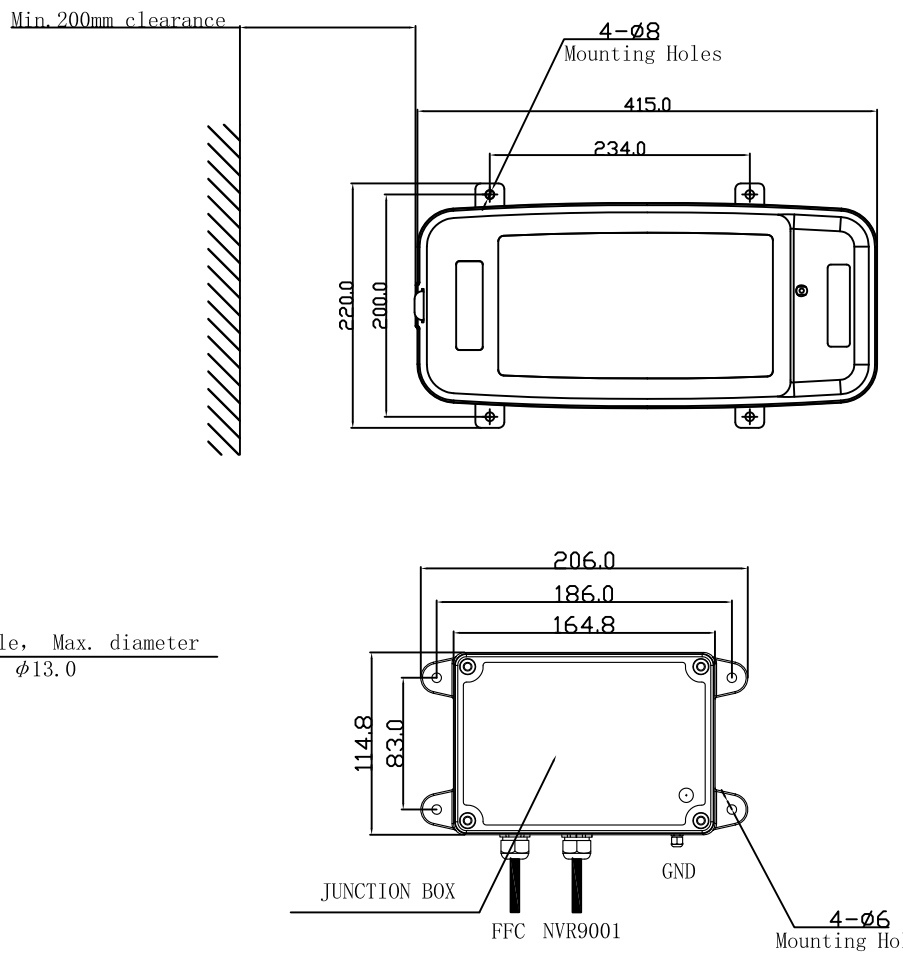




NOTE: Provided by the shipyard.

APPLICATION	VDR(SVDR) FFC MOUNTING BASE-A DRAWING		
DATE		ITEM	NVR-9000(S) (S)VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-036		

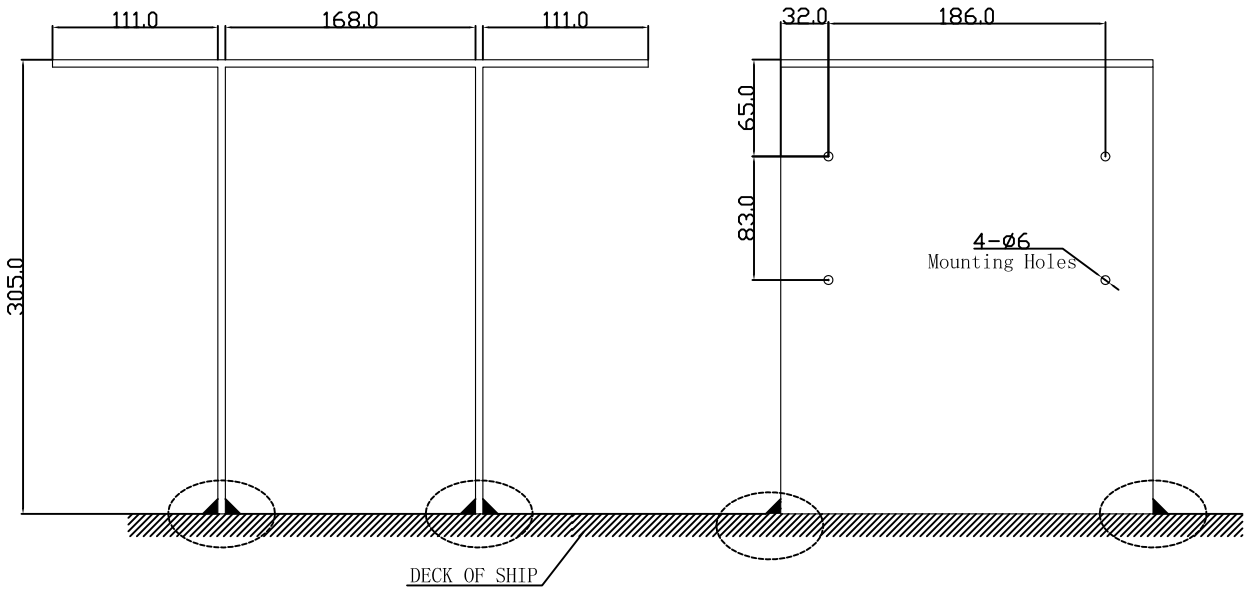




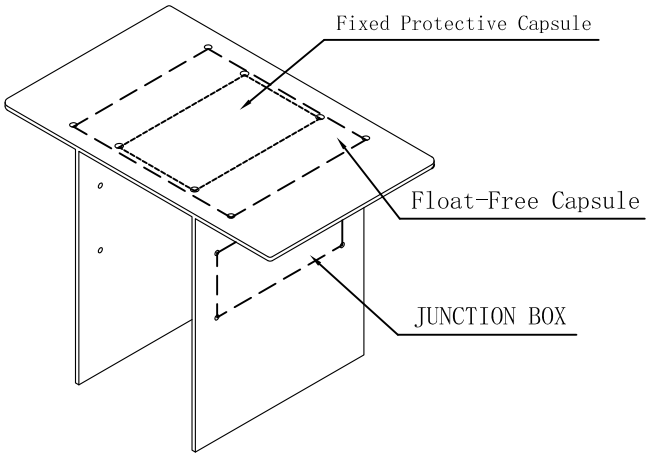
Important: no obstacle above EPIRB/FFC!

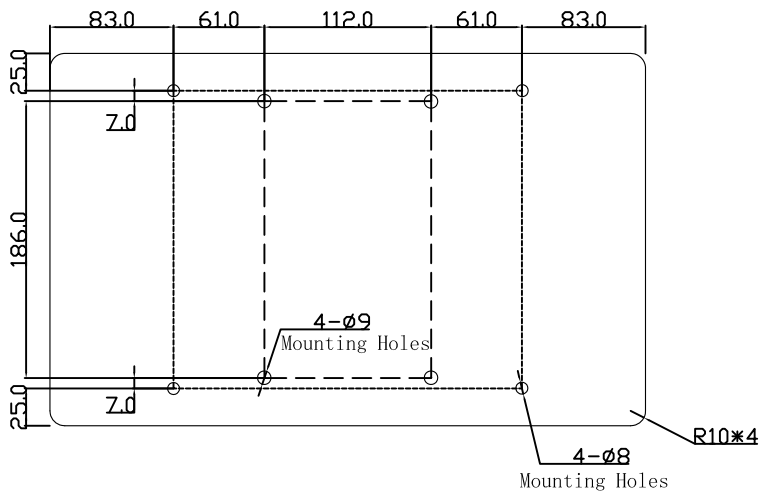
APPLICATION	VDR(SVDR) FFC MOUNTING DRAWING - A		
DATE		ITEM	NVR-9000(S) (S)VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-037		

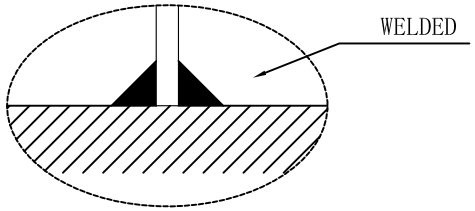
NO.	DATE	REVISION & DESCRIPTION	REVIEWED SIGNATURE	CHECKED
0				

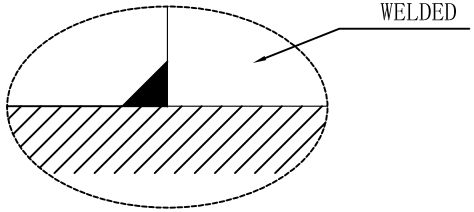


NOTES: 1、Suggest that the thickness of the steel plate : 5mm;
2、Provided by the shipyard.

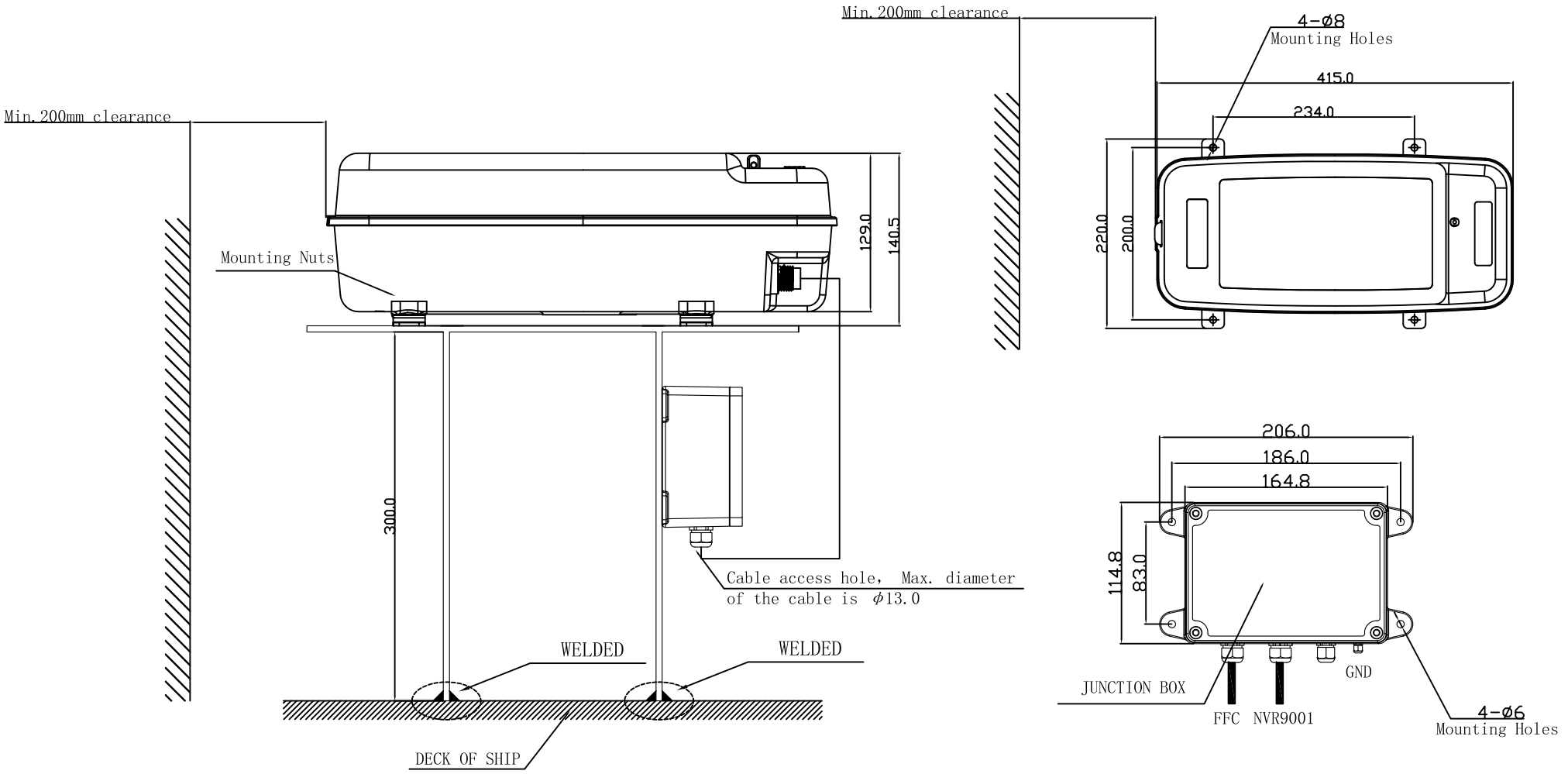






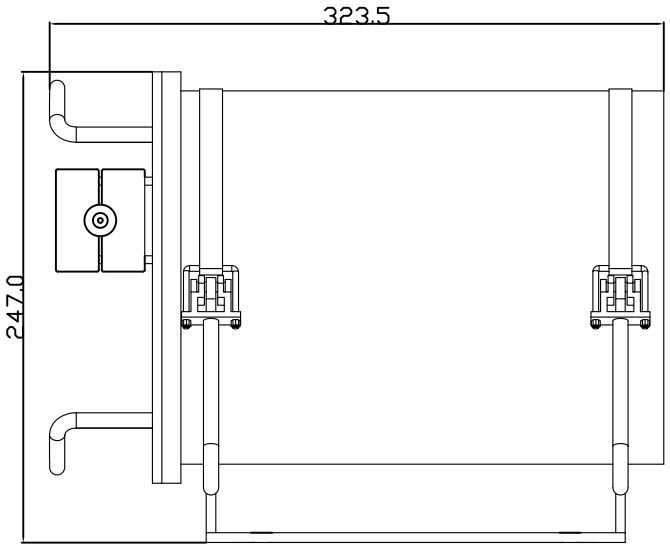


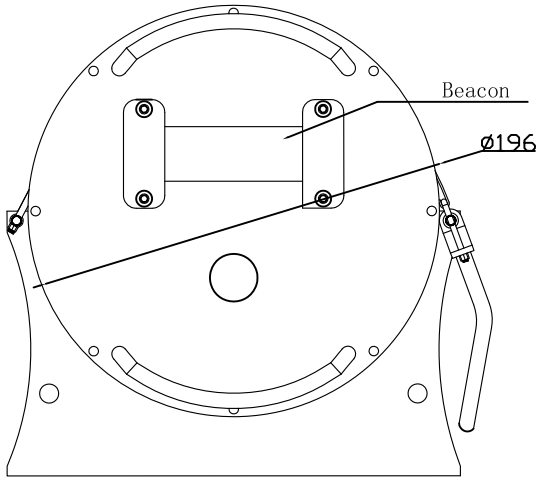
APPLICATION	VDR(SVDR) FFC MOUNTING BASE-B DRAWING		
DATE		ITEM	SIZE A4
APPROVAL		SCALE N/S UNIT PRO-JECTION	▽▽▽▽1.6S ▽▽6.3S ▽12S ▽100S
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-038		

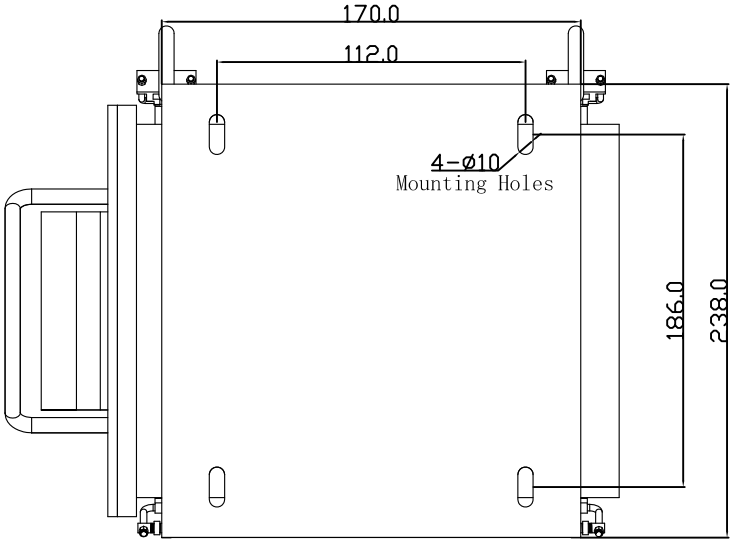


Important: no obstacle above EPIRB/FFC!

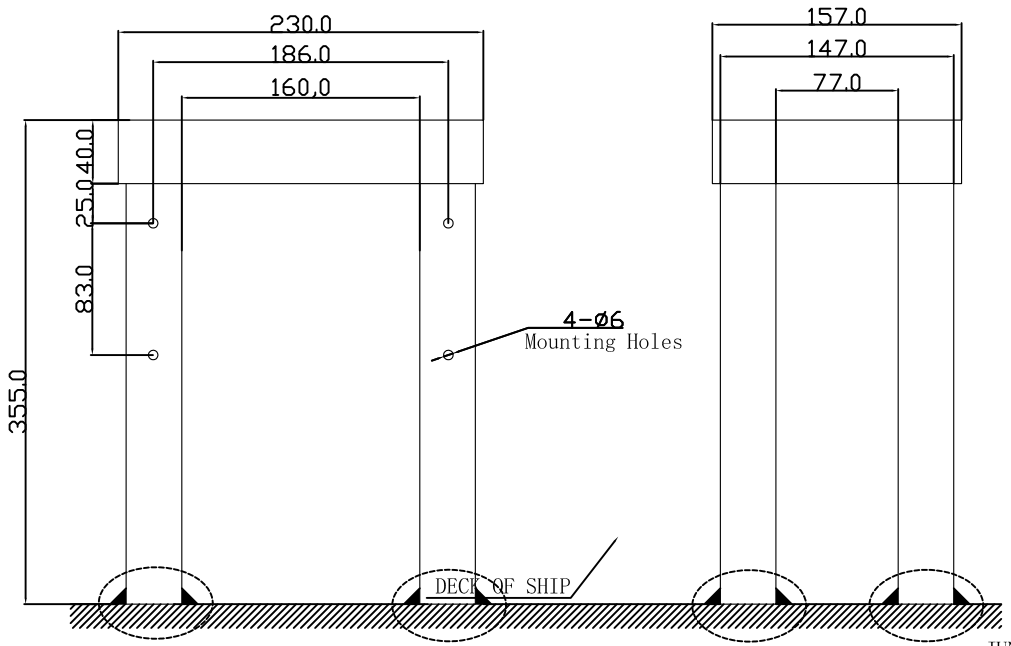
APPLICATION	VDR(SVDR) FFC MOUNTING DRAWING -B		
DATE		ITEM	NVR-9000(S) (S)VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-039		

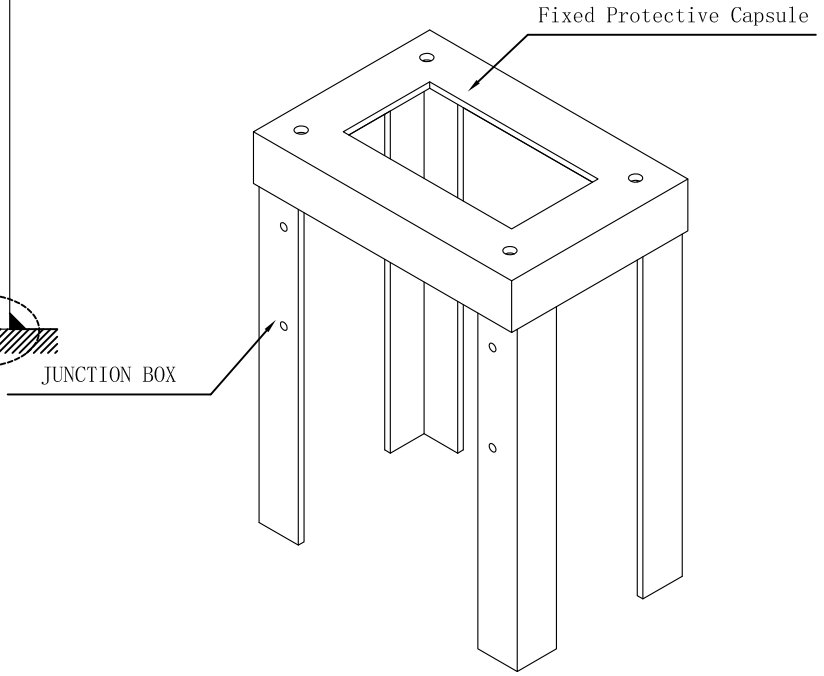


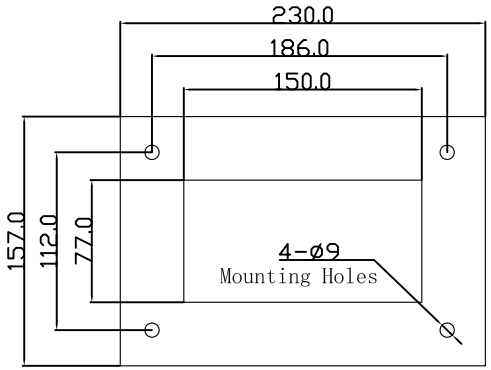


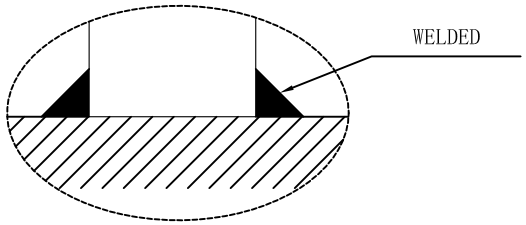


APPLICATION	VDR (SVDR) FPC SIZE DRAWING		
DATE		ITEM	NVR-9000(S) (S)VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-040		



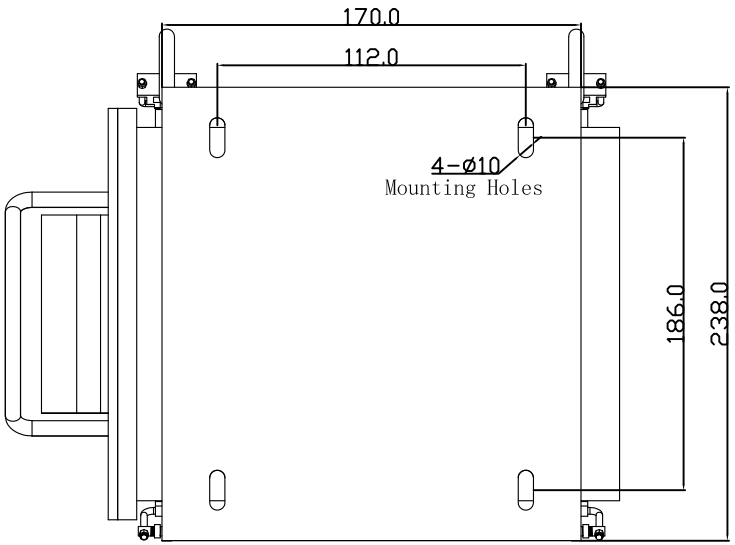


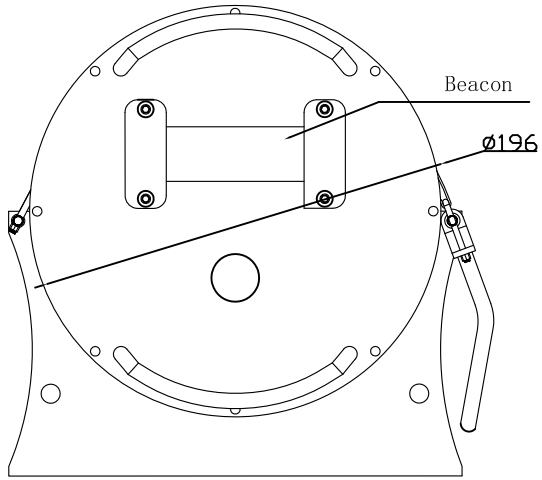


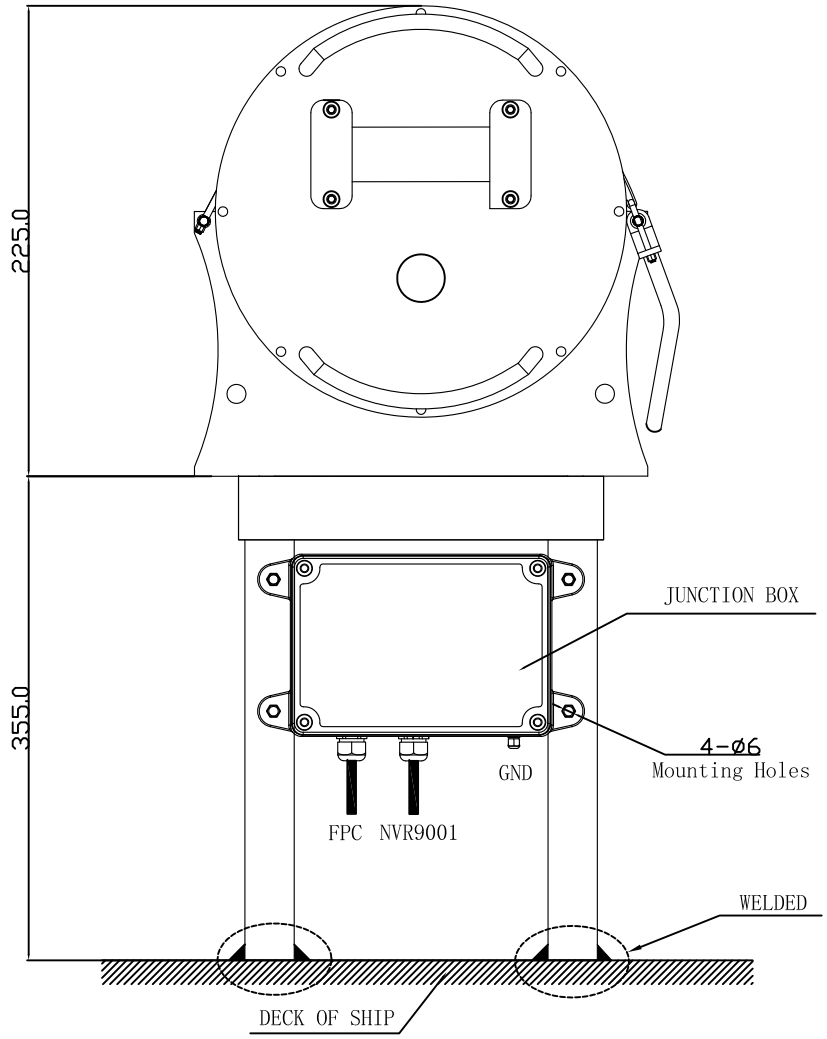


NOTE: Provided by the shipyard.

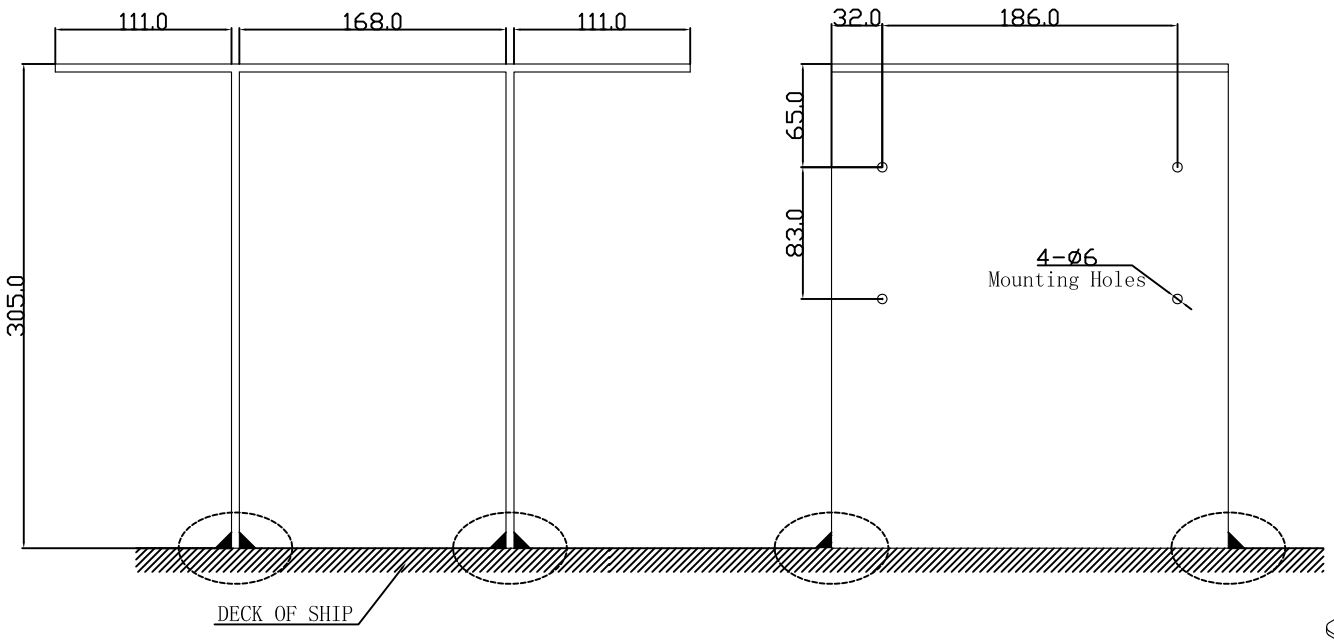
APPLICATION	VDR(SVDR) FFC MOUNTING BASE-A DRAWING		
DATE		ITEM	NVR-9000(S) (S)VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-041		



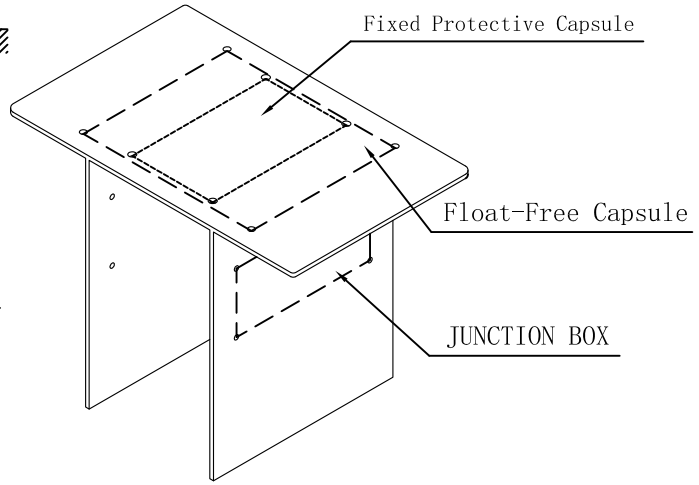


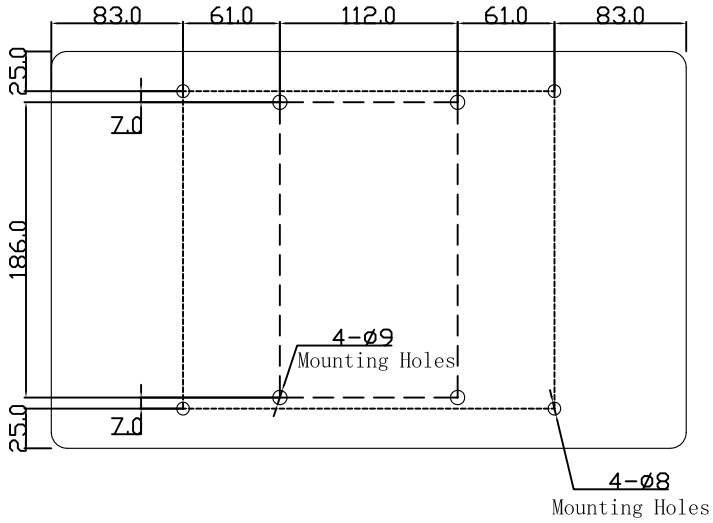


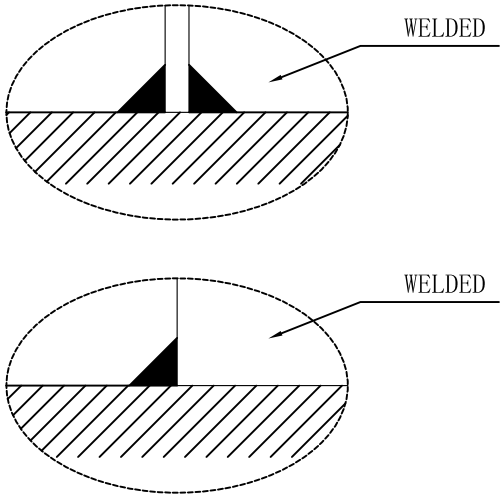
APPLICATION	VDR(SVDR) FPC MOUNTING DRAWING - A		
DATE		ITEM	NVR-9000(S) (S)VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-042		



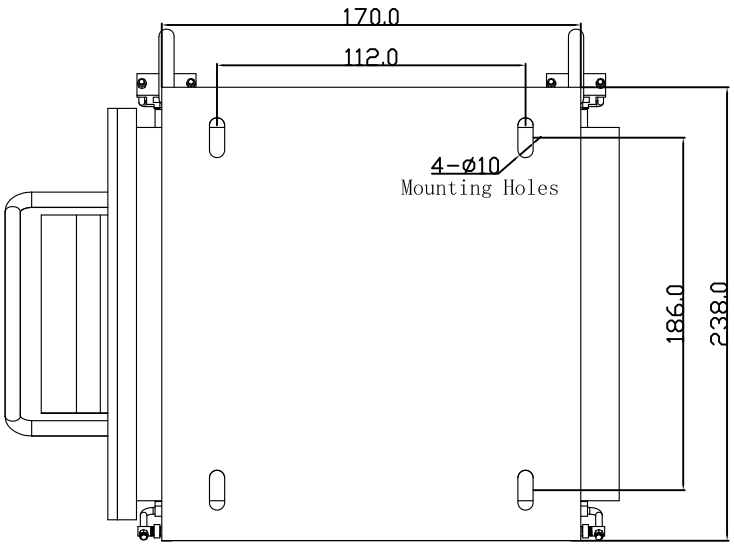
NOTES: 1、Suggest that the thickness of the steel plate : 5mm;
2、Provided by the shipyard.

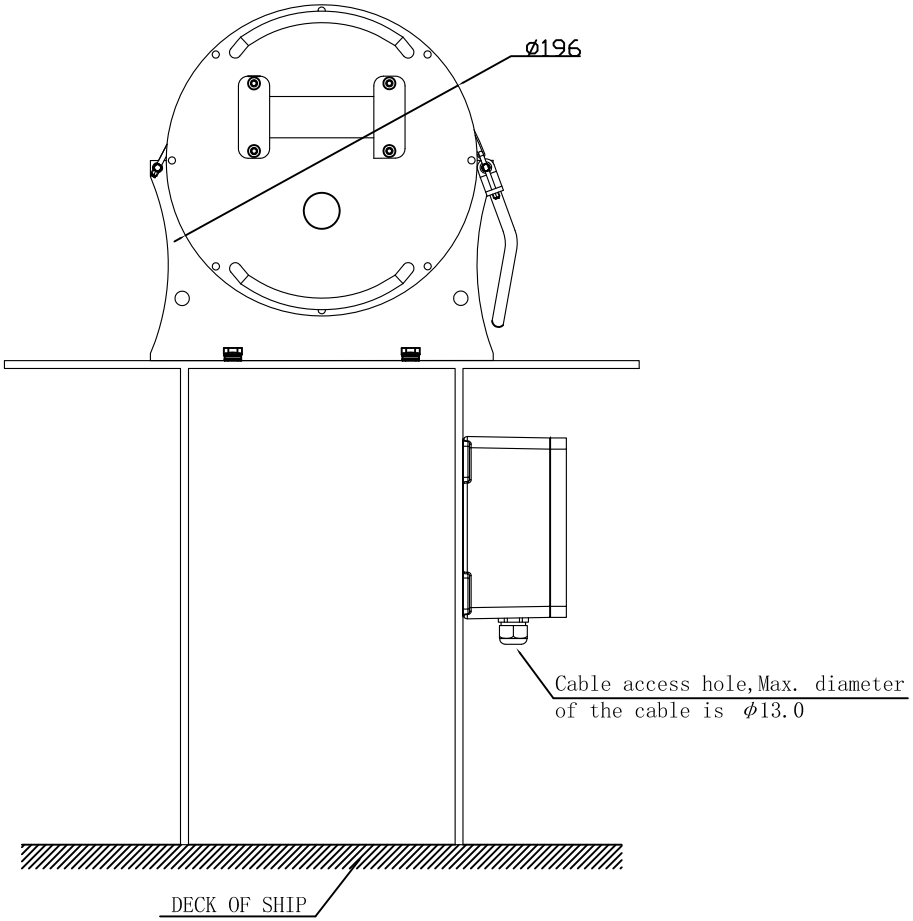


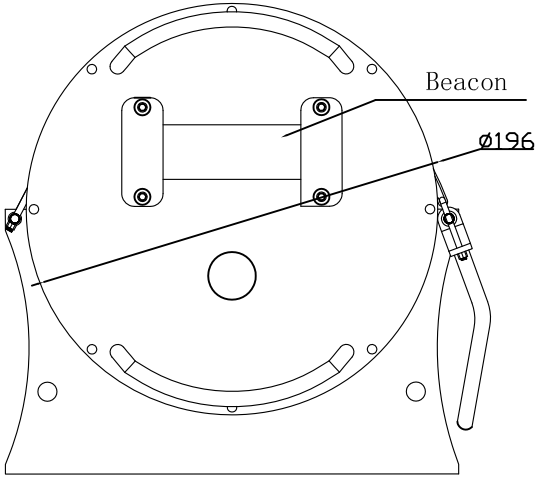




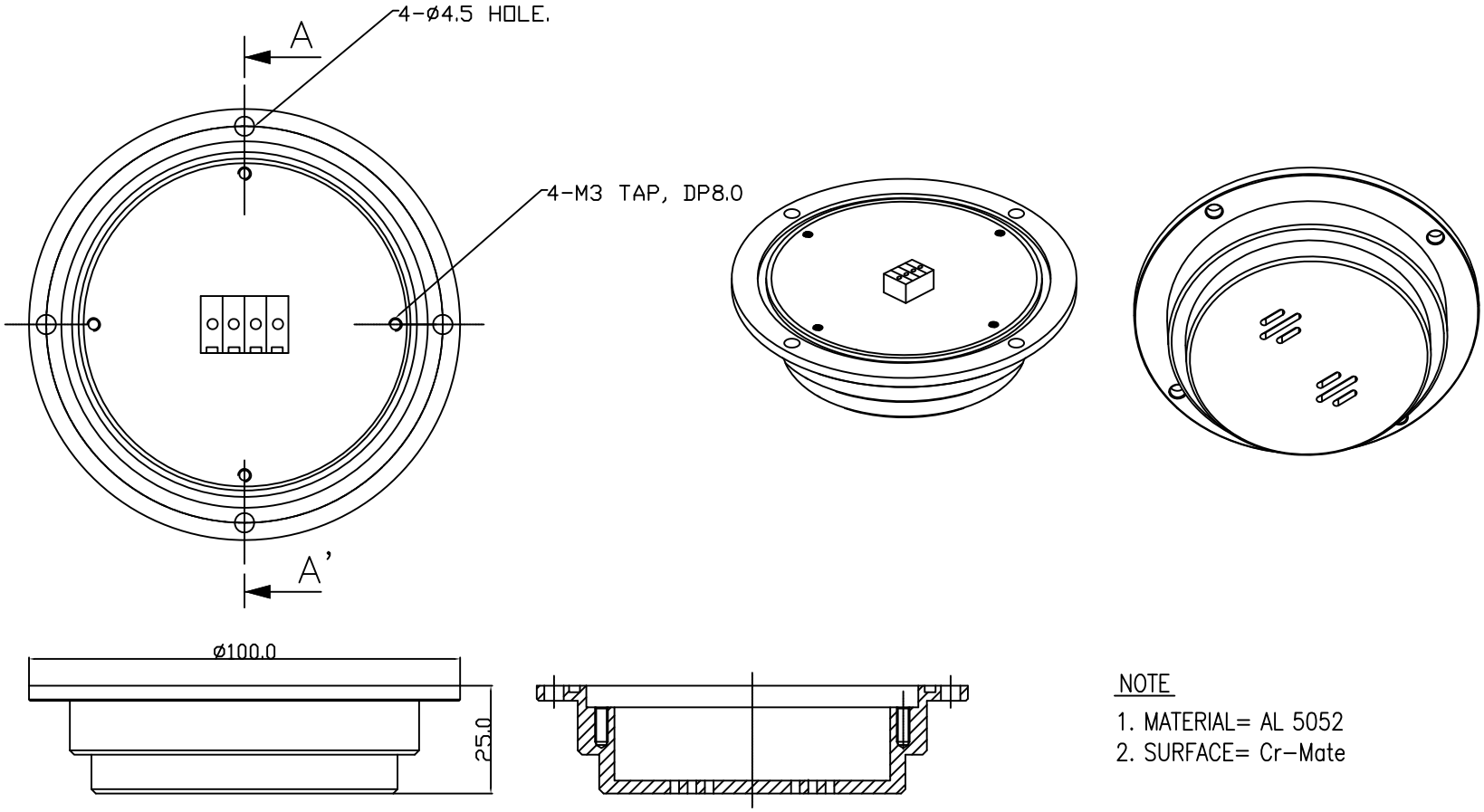
APPLICATION	VDR(SVDR) FPC MOUNTING BASE-B DRAWING			
DATE		ITEM	NVR-9000(S) (S)VDR	SIZE A4
APPROVAL		SCALE	N/S UNIT mm	
CHECKED		NSR marine	NEW SUNRISE CO., LTD.	
DRAWING				
DWG NO.	NVR9000-ID-043			







APPLICATION	VDR(SVDR) FPC MOUNTING DRAWING -B		
DATE		ITEM	NVR-9000(S) (S)VDR SIZE A4
APPROVAL		SCALE	N/S UNIT mm
CHECKED		NSR marine	NEW SUNRISE CO., LTD.
DRAWING			
DWG NO.	NVR9000-ID-044		

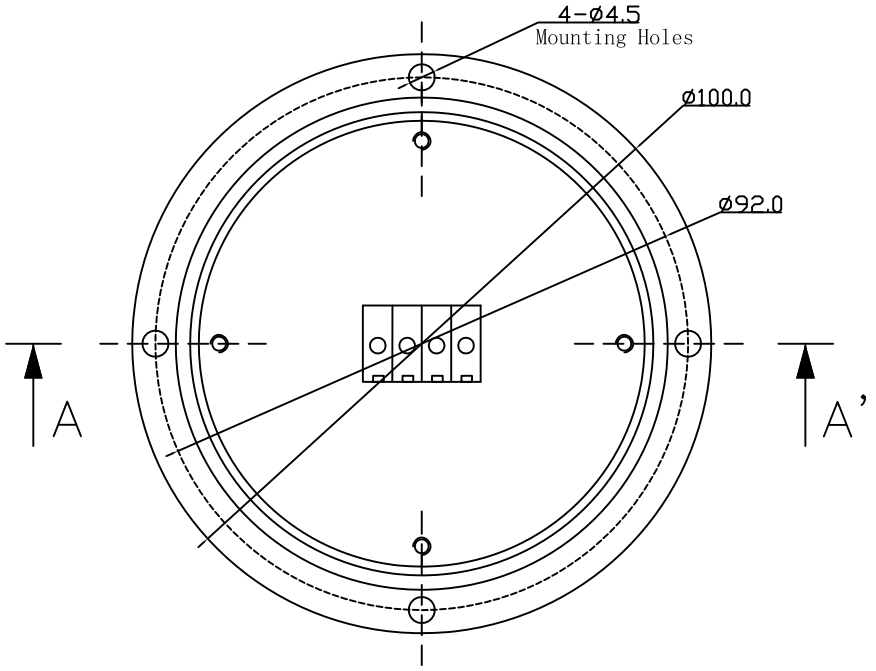


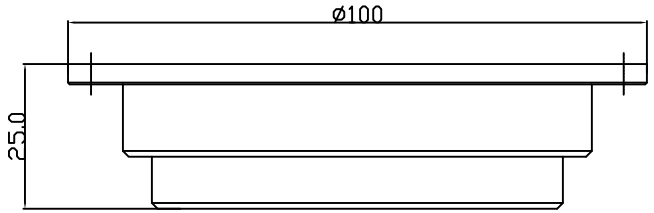
SECTION A–A'

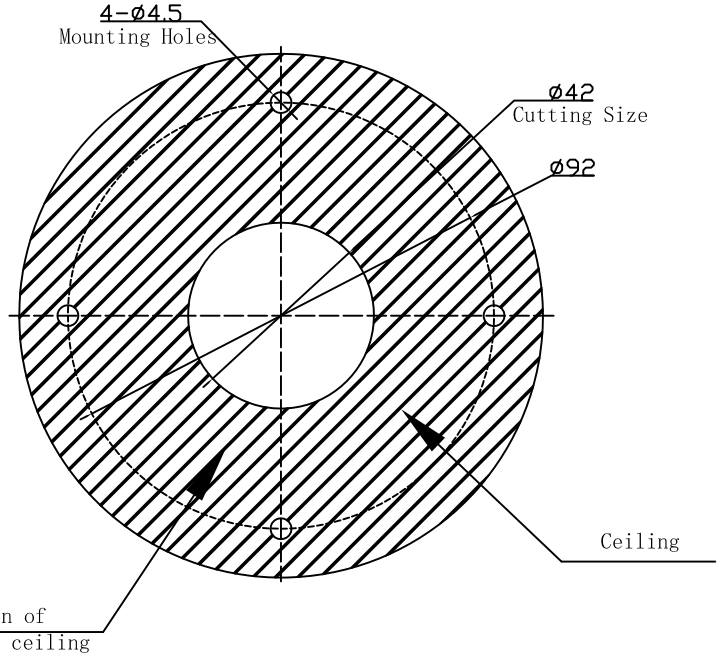
NOTE

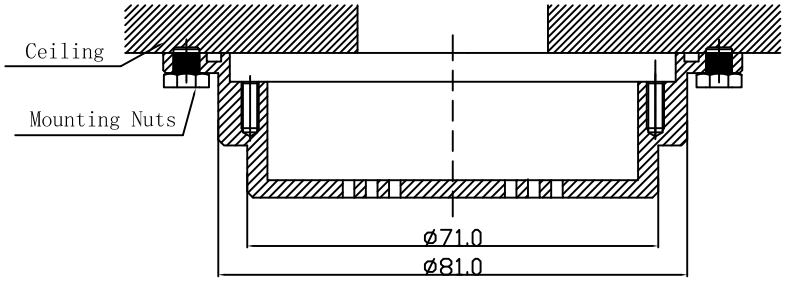
1. MATERIAL= AL 5052
2. SURFACE= Cr-Mate

APPLICATION	VDR(SVDR) IMU SIZE DRAWING				
DATE		ITEM	NVR-9000(S) (S)VDR	SIZE	A4
APPROVAL		SCALE	N/S UNIT mm		
CHECKED		NSR marine	NEW SUNRISE CO., LTD.		
DRAWING					
DWG NO.	NVR9000-ID-045				



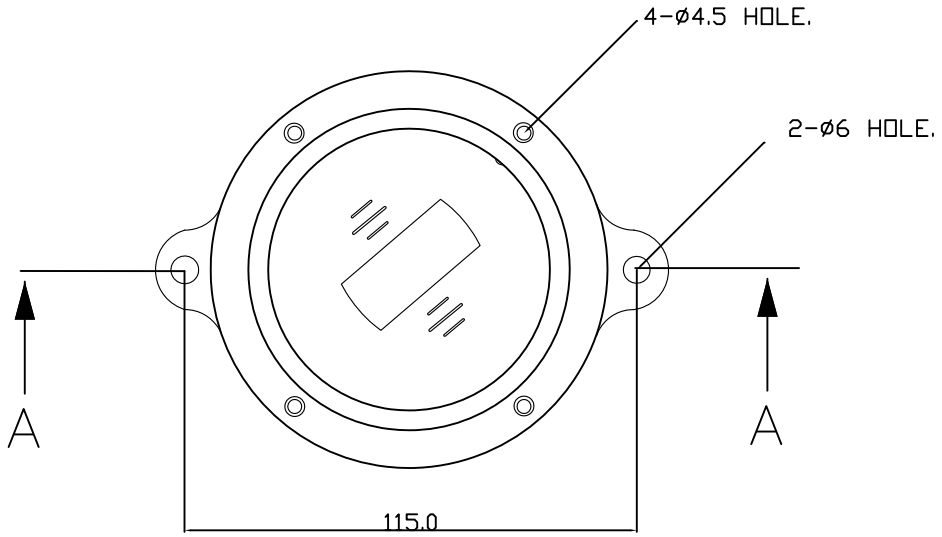


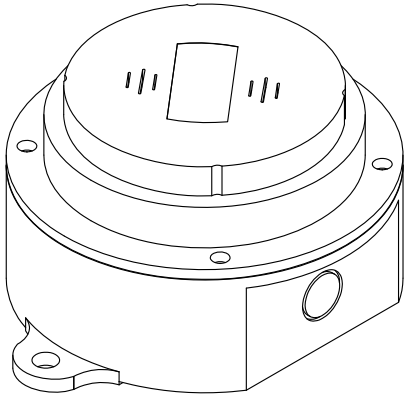


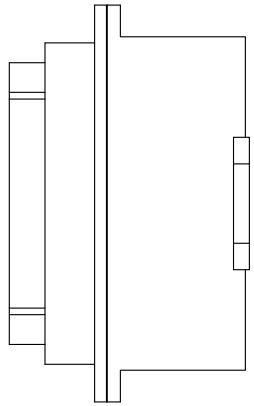


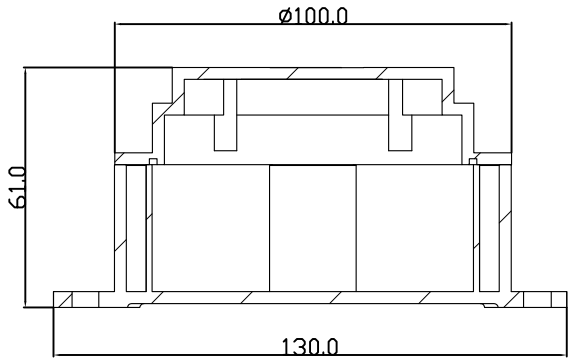
SECTION A-A'

APPLICATION	VDR(SVDR) IMU MOUNTING DRAWING				
DATE		ITEM	NVR-9000(S) (S)VDR	SIZE	A4
APPROVAL		SCALE	N/S UNIT mm		
CHECKED		NSR marine	NEW SUNRISE CO., LTD.		
DRAWING					
DWG NO.	NVR9000-ID-046				

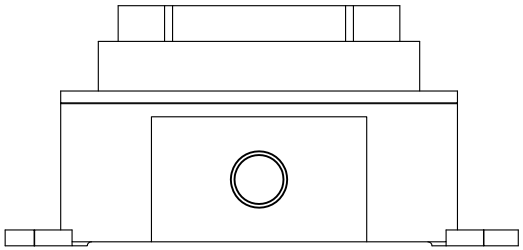




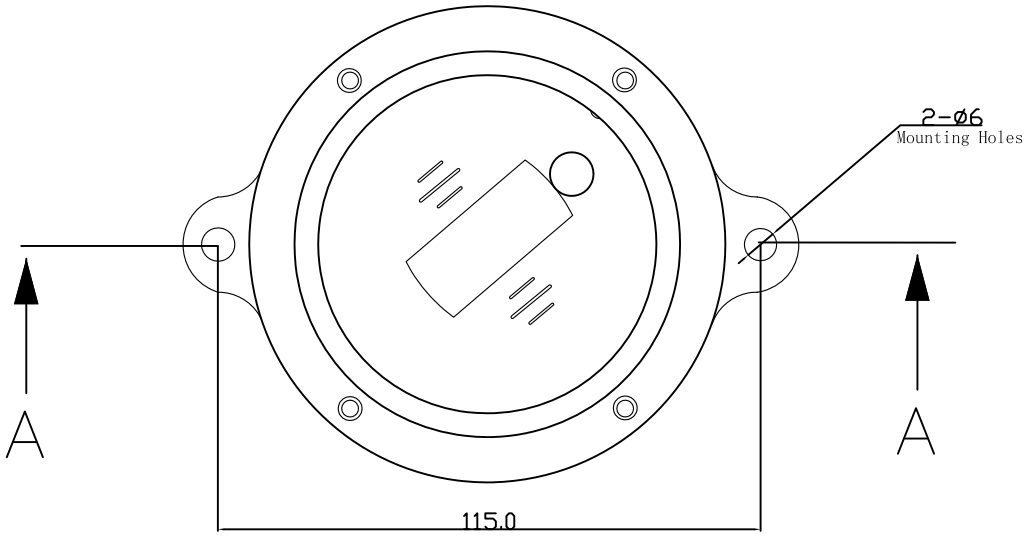


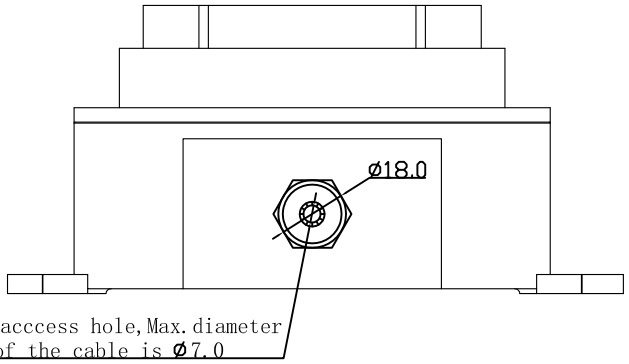


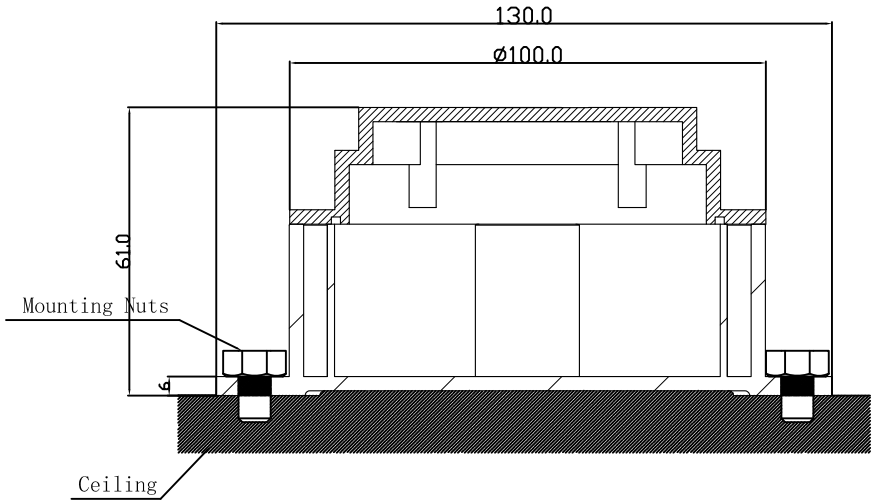
剖面 A-A



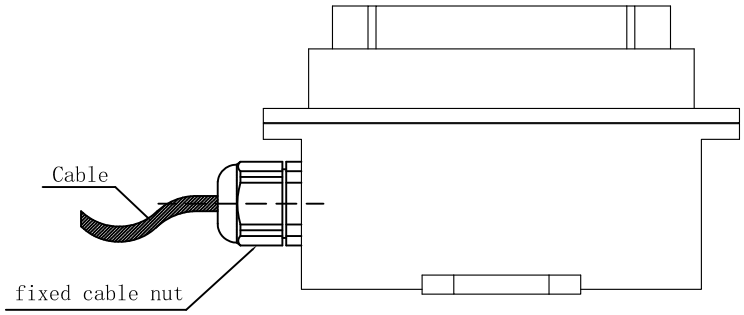
APPLICATION	VDR(SVDR) OMU SIZE DRAWING			
DATE		ITEM	NVR-9000(S) (S)VDR	SIZE A4
APPROVAL		SCALE	N/S UNIT mm	
CHECKED		NSR marine	NEW SUNRISE CO., LTD.	
DRAWING				
DWG NO.	NVR9000-ID-047			







Profile A-A



APPLICATION	VDR(SVDR) OMU MOUNTING DRAWING				
DATE		ITEM	NVR-9000(S) (S)VDR	SIZE	A4
APPROVAL		SCALE	N/S UNIT mm		
CHECKED		NSR marine	NEW SUNRISE CO., LTD.		
DRAWING					
DWG NO.	NVR9000-ID-048				

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June, 2025