

5. Option Unit

5.1 Installation of Interswitch Unit

5.1.1 End processing of Interswitch cable(2695111153)

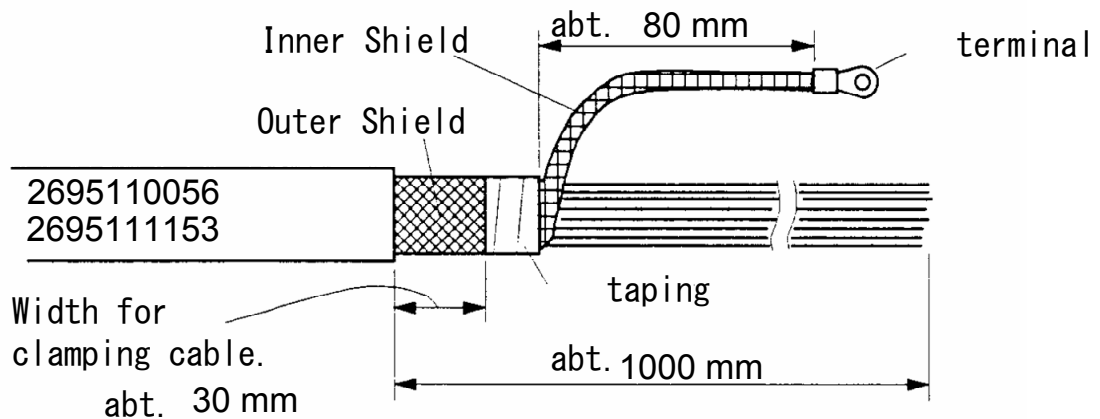


Fig 5-1: Equipment cable end processing

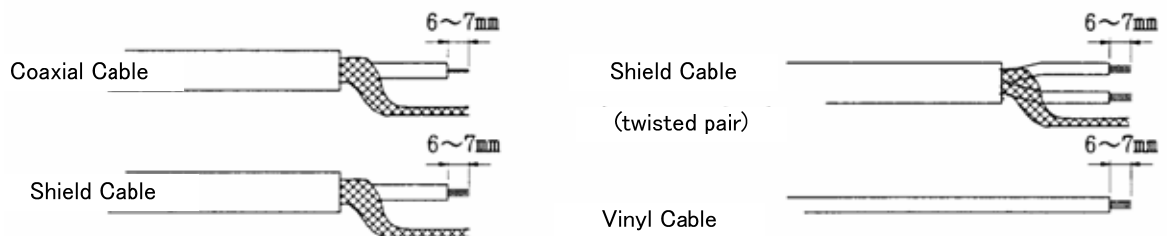


Fig 5-2: End processing of each cable core

5.1.2 Connection of equipment cable

There is two type Interswitch(NQE-3141); NQE-3141-4A(4ch) and NQE-3141-8A(8ch).

Connection Procedure

- 1) Ground the earth plate to the hull ground.
- 2) Connect the Interswitch(NQE-3141) to the Radar I/F Circuit(CQD-2273) with the 2695111153 cable. Refer to **Fig 5-5: NQE-3141-4A Inter-board connection diagram.**

-When connect to the JAN-901/901M/701 and third-party ECDIS.

Connect the input terminal : VD, TRG, BP, BZ(JAN-901/901M/701 and third-party ECDIS) and output terminal : VDOUT, TRGOUT, BPOUT, BZOUT(NQE-3141).

- When connect to the JMA-9100/7100,JMA-5300MK2, JMA-900B.

Connect the VD, TRG, BP, BZ, PWR terminal on JMA-9100/7100,JMA-5300MK2, JMA-900B and VD, TRG, BP, BZ, PWR terminal on the NQE-3141.

- 3) Refer to **End processing of Interswitch cable(2695111153)** for the end of processing of Interswitch cable. When connect to the Radar I/F Circuit(CQD-2273) in the Junction box(NQE-1143), fix the cable by the metal parts that surrounded by a dotted line. Refer to the below detailed fixed position. And connect the shield of the cable to the thumbscrew or hex spacer surrounded by the circle. (Recommended crimp terminal is V5.5)

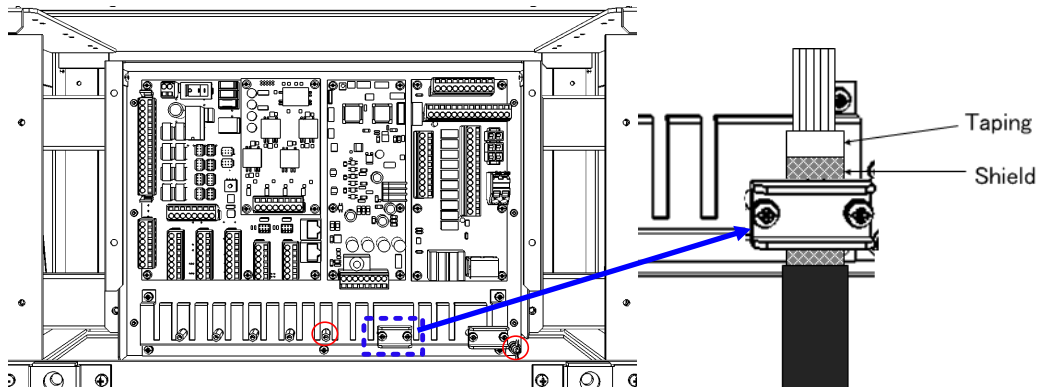



Fig 5-3 Way of fixing and grounding(2695111153)

When connect to the interswitch unit, fix the shield portion of the cable by the metal parts that surrounded by the dotted line.



Fig 5-4 Cable inlet of the NQE-3141-8A

 So that the braided shield is not shorted to the power supply terminal block, please insulate the cable and fix with cable tie. Please put the Extra length of the cable to the bottom of the display unit so that the not shorted to the UPS or SENSOR LAN switch unit.

- 4) After the installation is finished, refer to the **5.1.6 Confirmation after installation** and check the operation.

5.1.3 NQE-3141-4A Inter-board connection diagram

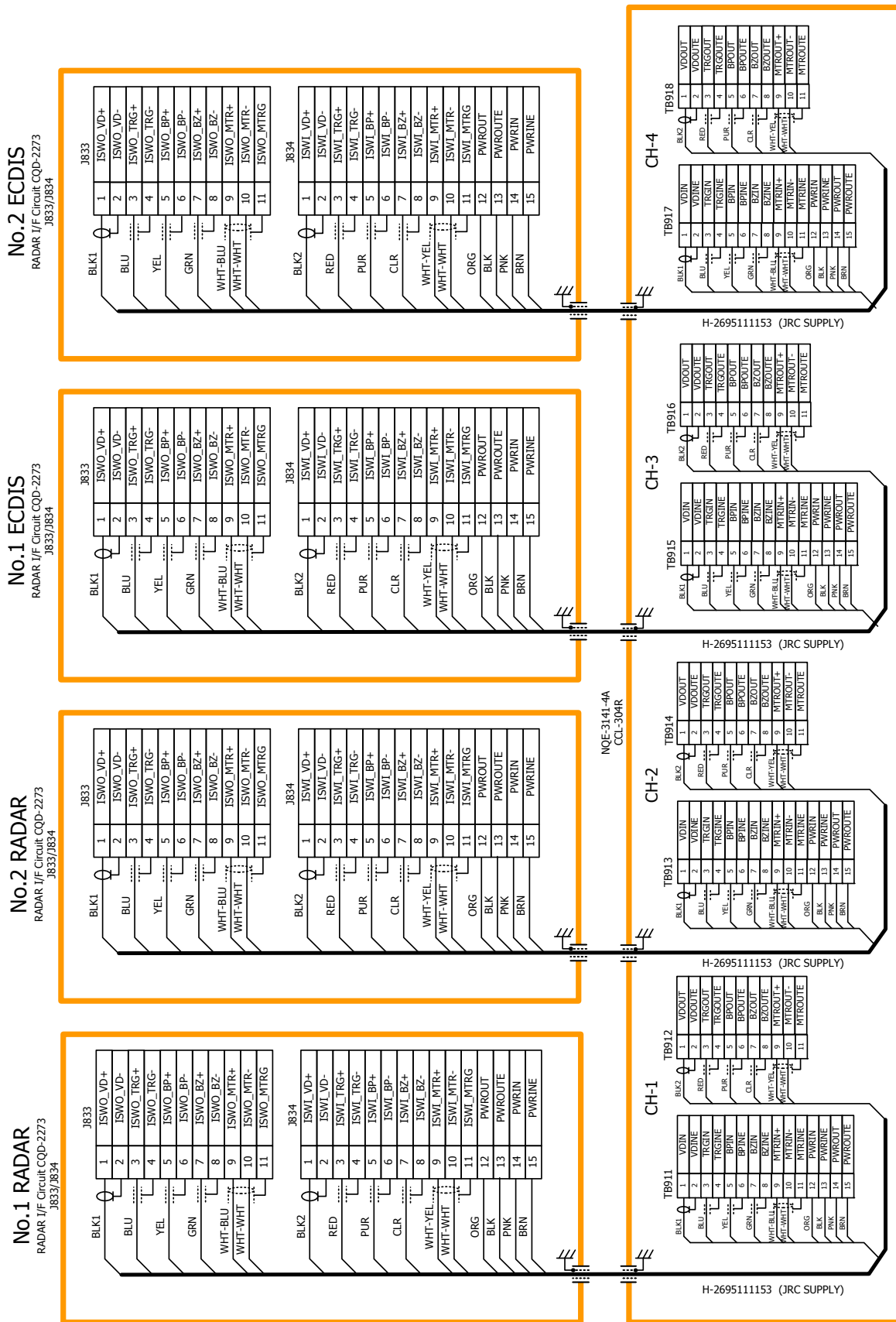
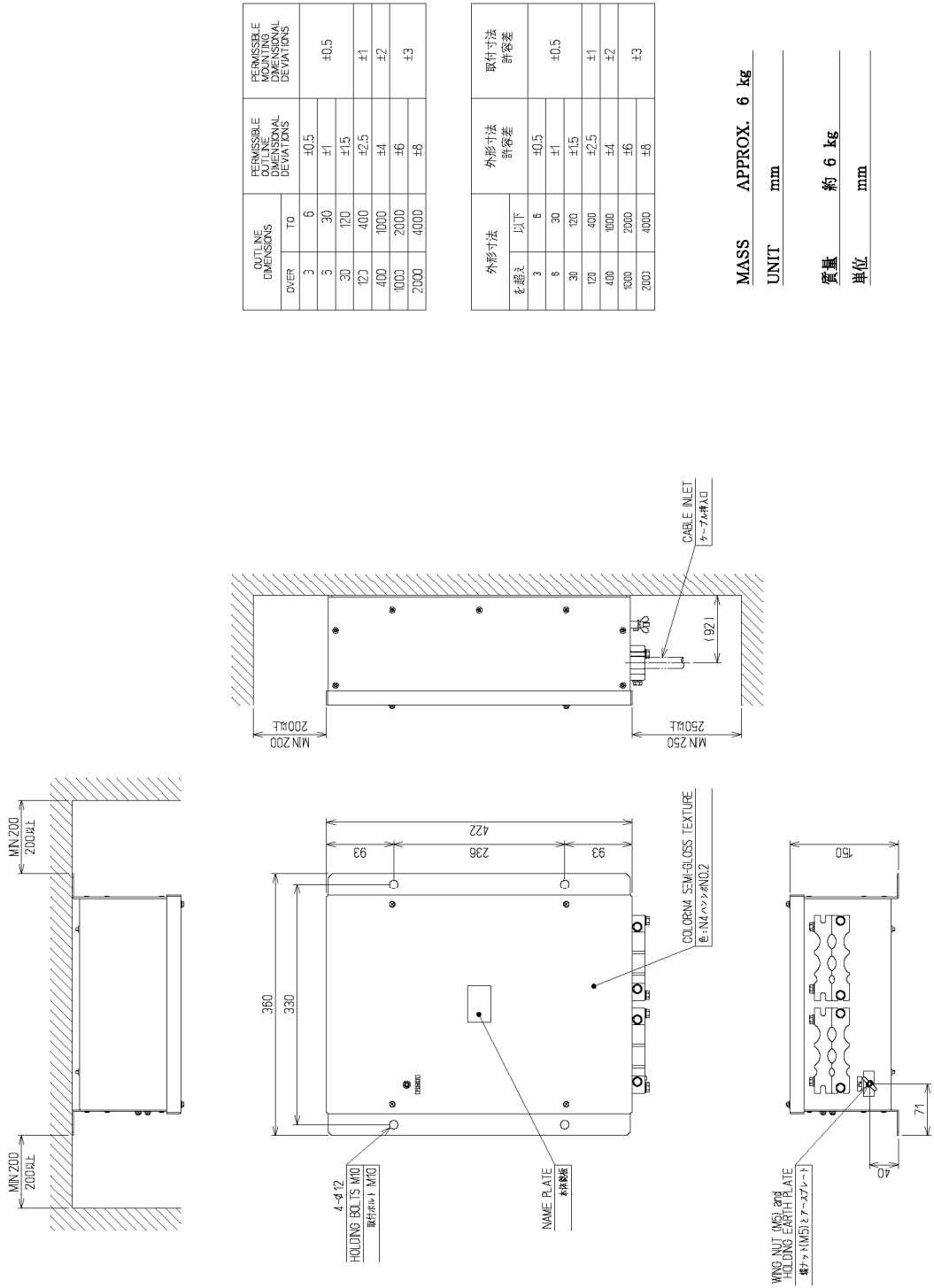


Fig 5-5: NQE-3141-4A Inter-board connection diagram

5.1.4 Installation of interswitch unit



OUTLINE DIMENSIONS		PERMISSIBLE OUTLINE DEVIATIONS	PERMISSIBLE MOUNTING POSITIONAL DEVIATIONS
OVER	TO		
3	6	±0.5	±0.5
5	30	±1	
30	120	±1.5	±1
120	400	±2.5	
400	1000	±4	±2
1000	2000	±6	
2000	4000	±8	±3

外形寸法		外形寸法許容差	取付寸法許容差
寸法	以下		
3	6	±0.5	±0.5
5	30	±1	
30	120	±1.5	±1
120	400	±2.5	
400	1000	±4	±2
1000	2000	±6	
2000	4000	±8	±3

MASS APPROX. 6 kg

UNIT mm

質量 約 6 kg

単位 mm

INTERSWITCH UNIT OUTLINE DRAWING

NQE-3141-4A

SCNQE5084

Fig 5-6: Outline Drawing of NQE-3141-4A Interswitch Unit (4ch)

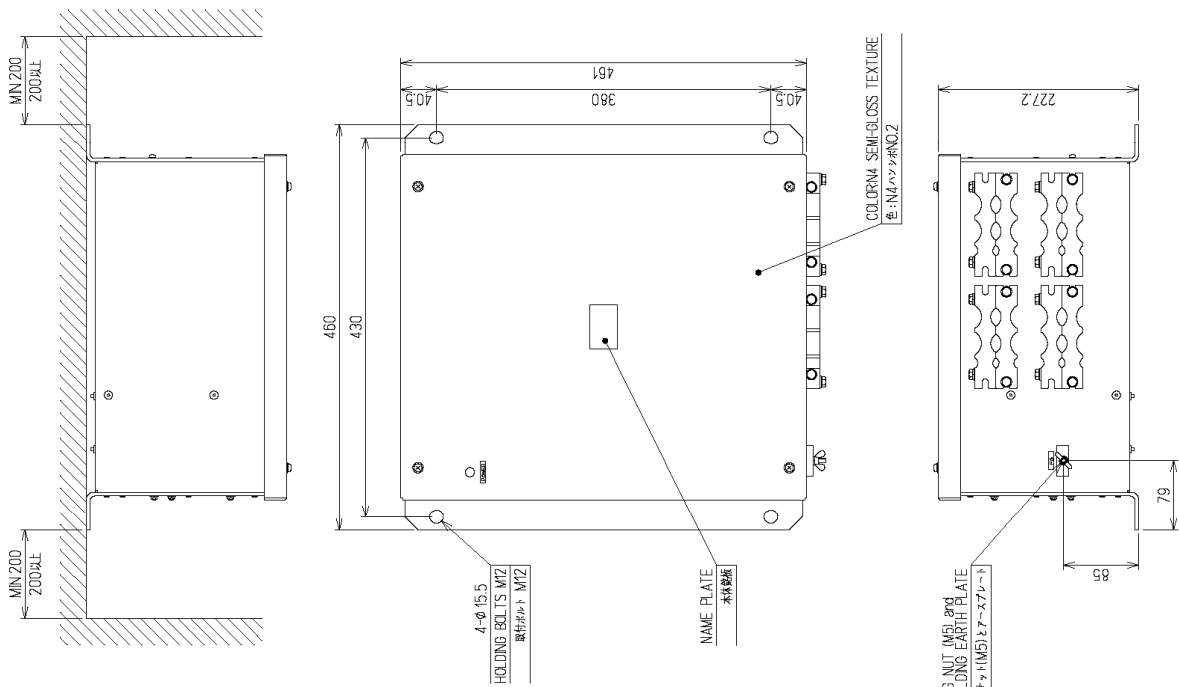


Fig 5-7: Outline Drawing of NQE-3141-8A Interswitch Unit (8ch)

OUTLINE DIMENSIONS		PERMISSIBLE DIMENSIONAL DEVIATIONS	PERMISSIBLE DIMENSIONAL DEVIATIONS
OVER	TO		
3	6	±0.5	
5	30	±1	±0.5
30	120	±1.5	
120	400	±2.5	±1
400	1000	±4	±2
1000	2000	±6	
2000	4000	±8	±3

外形寸法		外形寸法 許容差	取付寸法 許容差
寸法	以下		
3	6	±0.5	
6	30	±1	±0.5
30	120	±1.5	
120	400	±2.5	±1
400	1000	±4	±2
1000	2000	±6	
2000	4000	±8	±3

MASS APPROX. 12 kg
 UNIT mm
 質量 約 12 kg
 単位 mm

INTERSWITCH UNIT OUTLINE DRAWING

SCNQE5085

NQE-3141-8A

5.1.5 Settings of Interswitch

Since settings have been normally made upon shipment from factory, it is advised to only confirm the settings.

a. Settings of NQE-3141-4A

Set dip switches SW11, SW12, and SW13 as shown below.

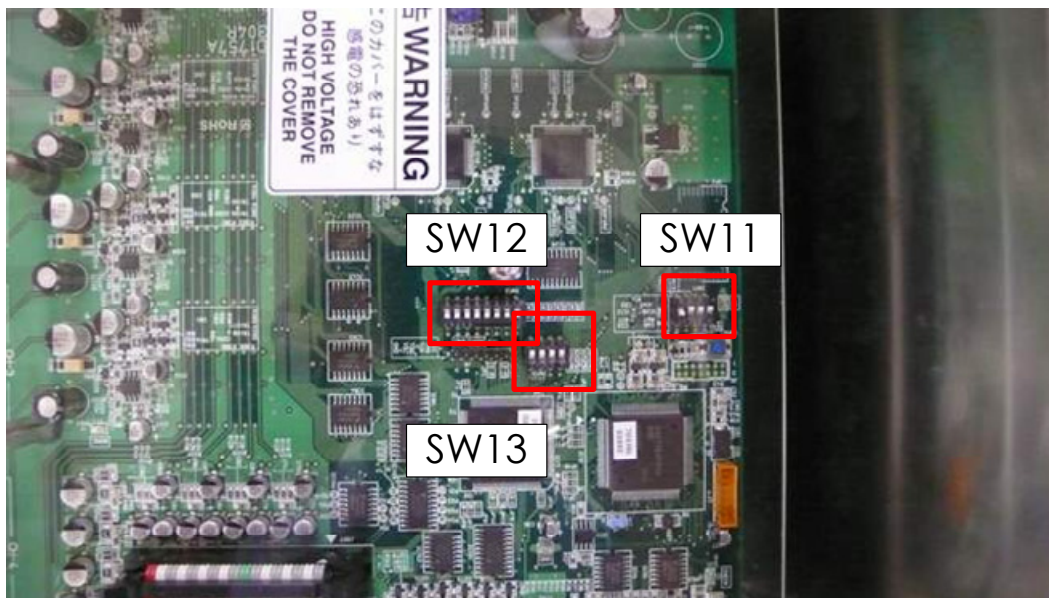


Fig 5-8: CML-304R DIP Switch

- 1) SW11 setting (expansion mode, master/slave setting)



Set all OFF.

2) SW12 setting (radar connection setting)



Radar Connection Setting

1	ON	No. 1 display unit connected
	OFF	No. 1 display unit NOT connected
2	ON	No. 1 antenna connected
	OFF	No. 1 antenna NOT connected
3	ON	No. 2 display unit connected
	OFF	No. 2 display unit NOT connected
4	ON	No. 2 antenna connected
	OFF	No. 2 antenna NOT connected
5	ON	No. 3 display unit connected
	OFF	No. 3 display unit NOT connected
6	ON	No. 3 antenna connected
	OFF	No. 3 antenna NOT connected
7	ON	No. 4 display unit connected
	OFF	No. 4 display unit NOT connected
8	ON	No. 4 antenna connected
	OFF	No. 4 antenna NOT connected

3) SW13 (unused)



Set all OFF.

b. Settings of NQE-3141-8A

The internal structure of NQE-3141-8A includes two units of CCL-304R in the two-storied structure.

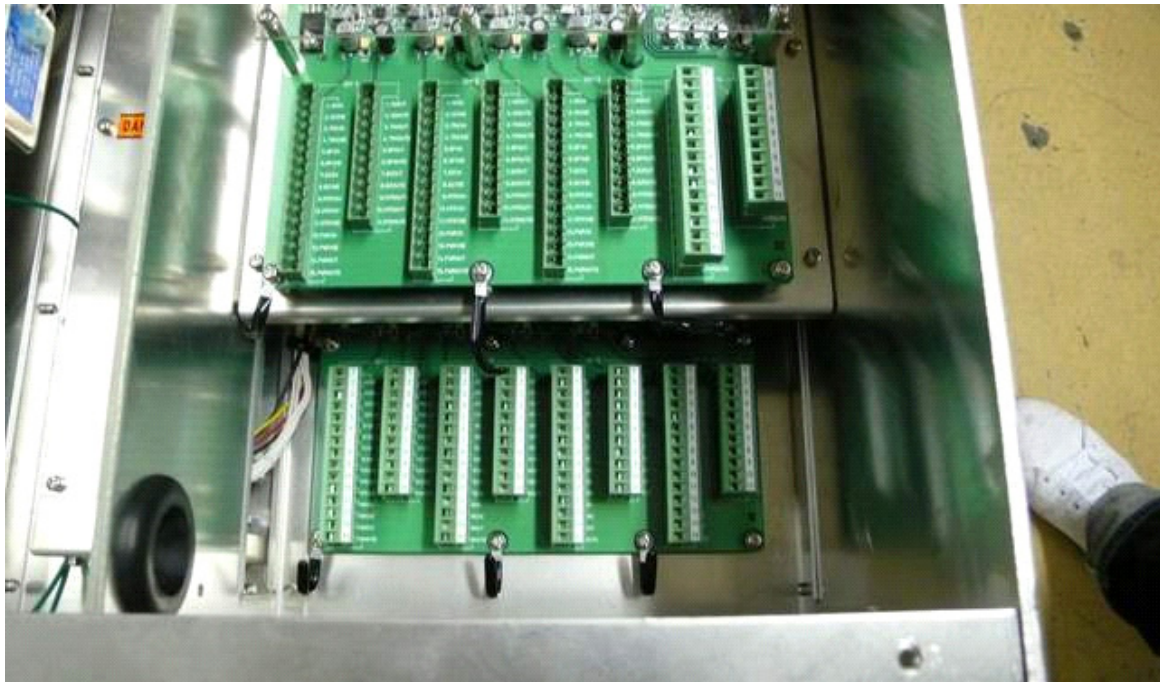


Fig 5-9: NQE-3141-8A internal structure

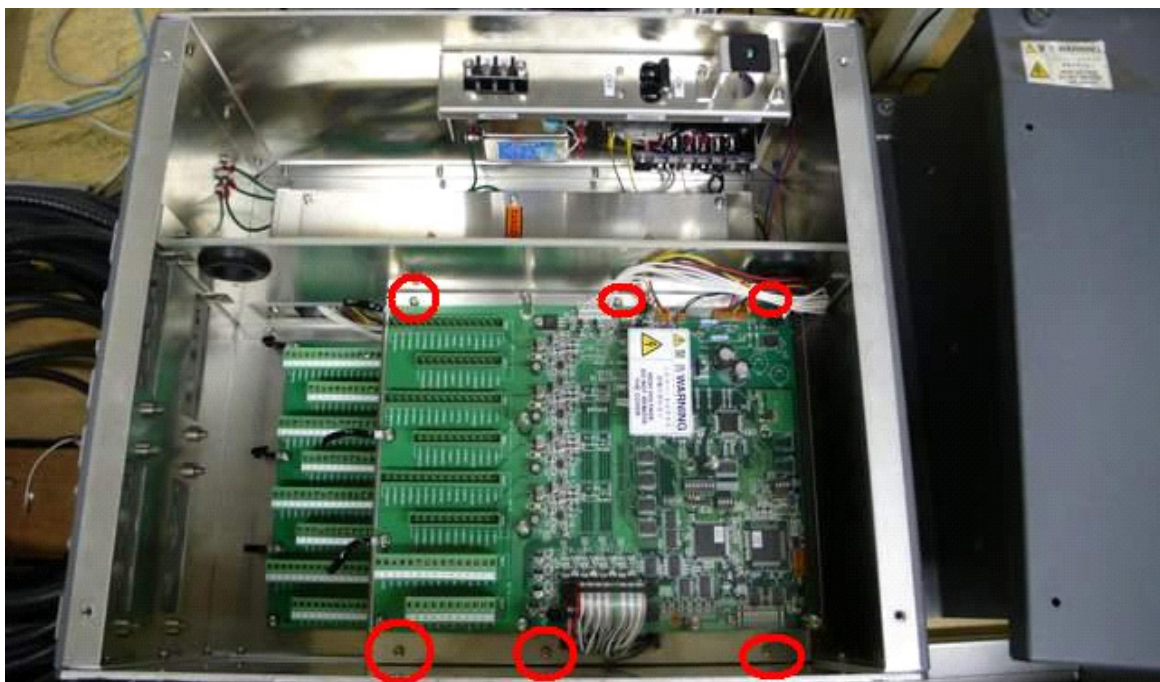


Fig 5-10: Access to Lower Board of NQE-3141-8A

- Although dip switches settings are basically the same as the settings shown in Access, it is necessary to make settings for each of the two SW12.
- It is necessary to remove six screws marked in the above drawing in order to access the first story portion.
- With regard to SW12 board located at the upper position, make settings for CH1 to CH4.
- With regard to SW12 board located at the lower position, make settings for CH5 to CH8.
- CH1 to CH4 displayed on the terminal block mean CH5 to CH8.
- Settings have been made for SW11 and SW13 upon shipment. Do not change those settings.

Factory default setting (bit1-bit2-bit3-bit4)

SW11-upper OFF-OFF-OFF-ON

SW11-lower OFF-OFF-ON-ON

SW13-both OFF-OFF-OFF-OFF

- Settings of upper CCL-304R, SW12 (radar connection setting)



1	ON	No. 1 display unit connected
	OFF	No. 1 display unit NOT connected
2	ON	No. 1 antenna connected
	OFF	No. 1 antenna NOT connected
3	ON	No. 2 display unit connected
	OFF	No. 2 display unit NOT connected
4	ON	No. 2 antenna connected
	OFF	No. 2 antenna NOT connected
5	ON	No. 3 display unit connected
	OFF	No. 3 display unit NOT connected
6	ON	No. 3 antenna connected
	OFF	No. 3 antenna NOT connected
7	ON	No. 4 display unit connected
	OFF	No. 4 display unit NOT connected
8	ON	No. 4 antenna connected
	OFF	No. 4 antenna NOT connected

- Setting of lower CCL-304R, SW12 (radar connection setting)



1	ON	No. 5 display unit connected
	OFF	No. 5 display unit NOT connected
2	ON	No. 5 antenna connected
	OFF	No. 5 antenna NOT connected
3	ON	No. 6 display unit connected
	OFF	No. 6 display unit NOT connected
4	ON	No. 6 antenna connected
	OFF	No. 6 antenna NOT connected
5	ON	No. 7 display unit connected
	OFF	No. 7 display unit NOT connected
6	ON	No. 7 antenna connected
	OFF	No. 7 antenna NOT connected
7	ON	No. 8 display unit connected
	OFF	No. 8 display unit NOT connected
8	ON	No. 8 antenna connected
	OFF	No. 8 antenna NOT connected

5.1.6 Confirmation after installation

- 1) After having checked connections, turn on the switchboard breaker.
- 2) Turn on the power to the radar display unit, and make sure that the interswitch button is displayed on the screen and pressing the button will switch antennas.
- 3) When a system consists of two devices, make sure that both left and right radars conform to the screen indication.
- 4) When a system consists of three devices, make sure that the CH number and the display unit position are arranged as intended.

5.2 Installation of Power Control Unit

Power control unit NQE-3167 is used when an antenna and a transmitter-receiver are installed at a location away from the bridge, such as a foremast.

In the case of a two-unit type antenna, the maximum length of the cable that connects between the display unit and the antenna is 65 meters. In the case of a three-unit type antenna, the maximum length of the cable that connects between the display unit and the transmitter-receiver is 35 meters.

By using NQE-3167 power control unit, the maximum length of the cable that connects between the display unit and the antenna (transmitter-receiver) can be extended up to 465 meters.

Maximum length of the cable connecting between the antenna and the transmitter-receiver	30m
Maximum length of the cable connecting between the transmitter-receiver and the PCU (NQE-3167)	35m
Maximum length of the cable connecting between the display unit and the PCU (NQE-3167)	400m

5.2.1 Connection with NKE-2103 type and NKE-2254-6HS type scanner units

Use 19-core composite cable CFQ-6912-** for the installation of those types of antennas (Asterisks ** use the cable length, and the available cable length is 5, 10, 20, 30, 40, 50, and 65)

The display-unit side end of this cable is a metal shell round connector. (See 2.1.1CFQ-6912-**) Connect that cable to J2 of the power control unit.

If the metal shell round connector is cut, connect the cable to TB3 located in the power control unit. For procedures for processing the cable end, see Section **2.1.4 Cable end processing method**.

With regard to six devices, such as MOTOR+ (2P), MOTOR-(2P), 1A (+48V), and 2A (48VG), two AWG16 cables must be connected to one terminal block. As necessary, use a bar-mould crimp-type terminal or the like. (See **Fig 5-11: Connection of CFQ-6912**)

The connection between scanner unit and AC/DC converter NBA-5135 is not necessary. Instead, power control unit NQE-3167 supplies DC power.

POWER CONTROL UNIT NQE-3167

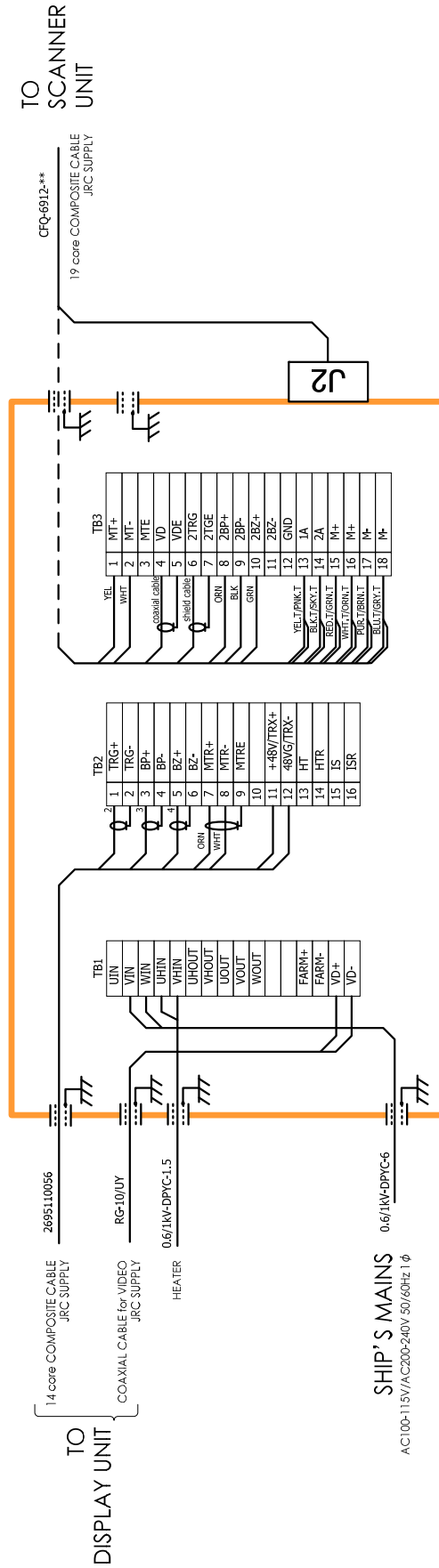


Fig 5-11: Connection of CFQ-6912

5.2.2 Connections to NKE-1125, NTG-3225, NKE-1130, NTG-3230, NKE-1632 and NKE-2632

Use 14-core composite cable 2695110056 for the installation of those types of antennas.

For the procedures for processing the cable end, see Fig 5-12: Equipment cable end processing.

For the wiring procedures, see 5.2.7 Inter –board connection diagram of power control unit.

5.2.3 End processing of 2695110056 cable

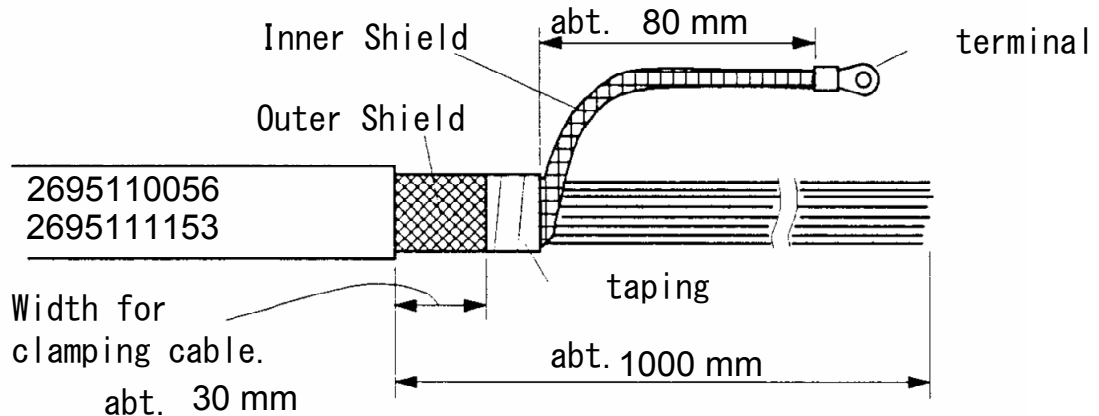


Fig 5-12: Equipment cable end processing

5.2.4 End processing of each cable core

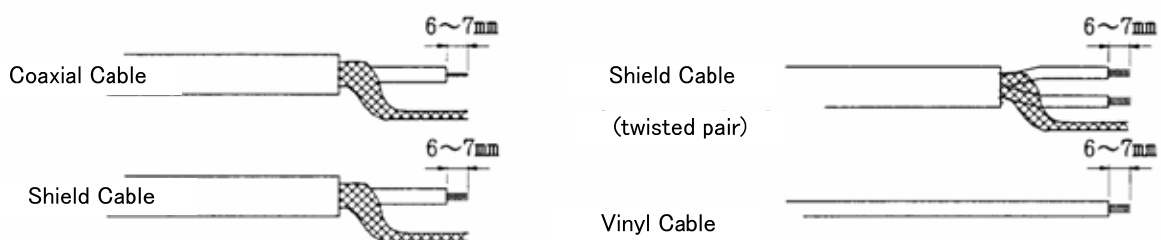


Fig 5-13: End processing of each cable core

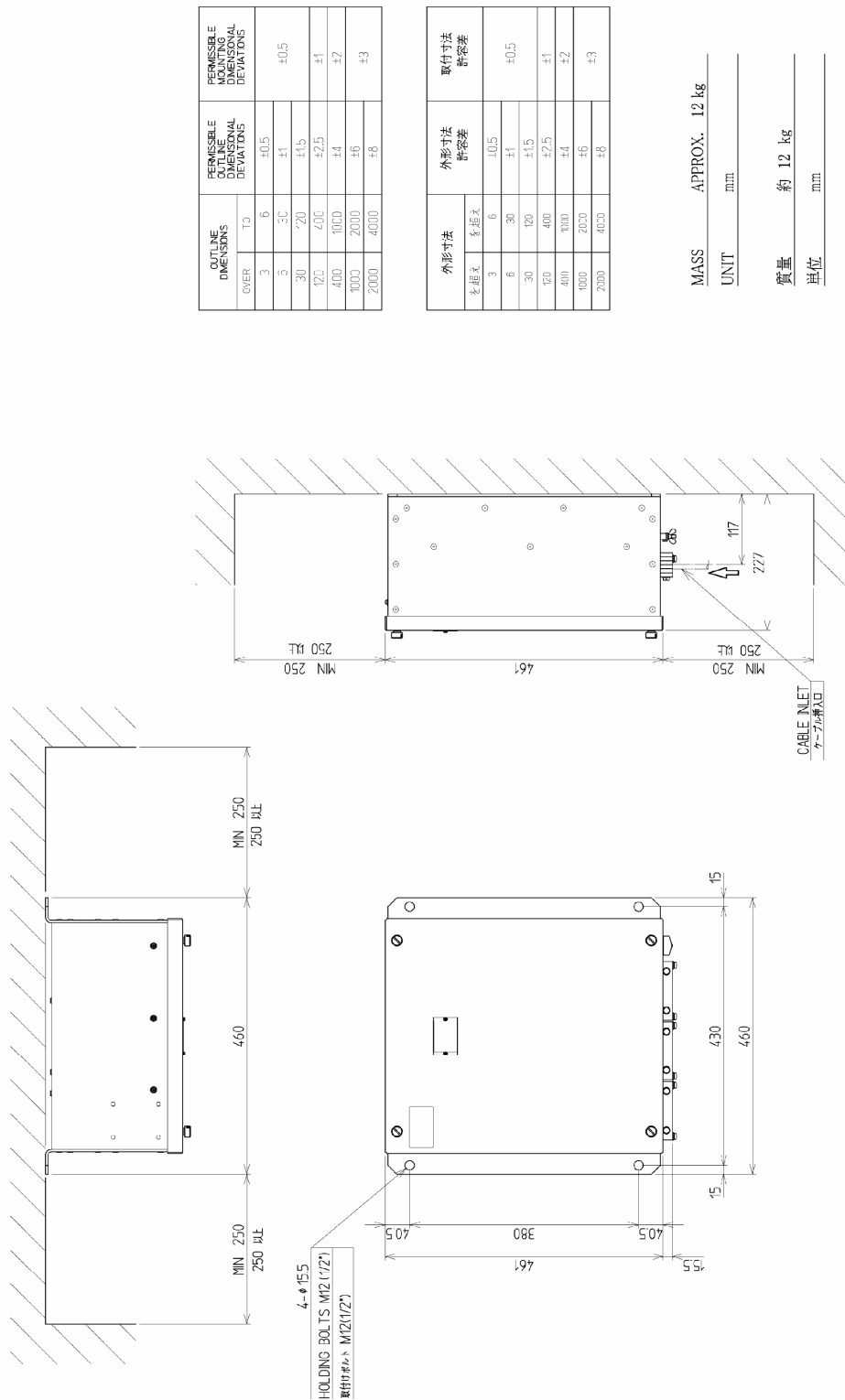
5.2.5 Connection to display unit

Use 14-core composite cable 2695110056 and coaxial cable RG-10/UJ to connect power control unit NQE-3167 to each display unit.

Among the two cables, use coaxial cable RG-10/UJ to connect the radar video signal.

For the procedures for processing the cable end and the wiring procedures, see Fig 5-12: Equipment cable end processing. For the wiring procedures, see 5.2.7 Inter –board connection diagram of power control unit.

5.2.6 Outline Drawing of NQE-3167 Power Control Unit



NQE-3167

POWER CONTROL UNIT OUTLINE DRAWING

SCNQE5080

Fig 5-14: Outline Drawing of NQE-3167 Power Control Unit

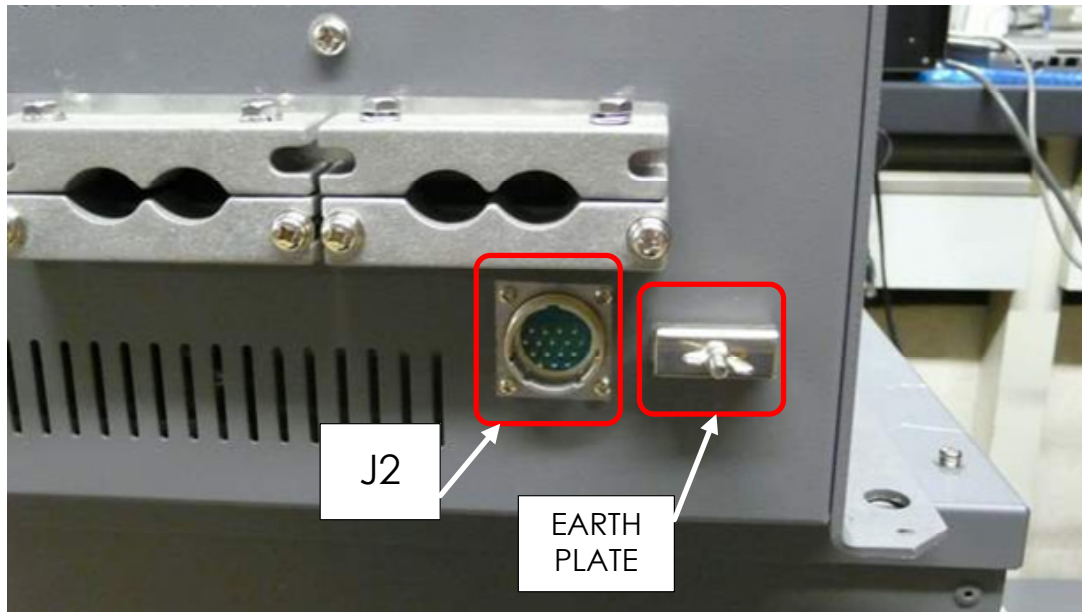


Fig 5-15: NQE-3167 cable entrance

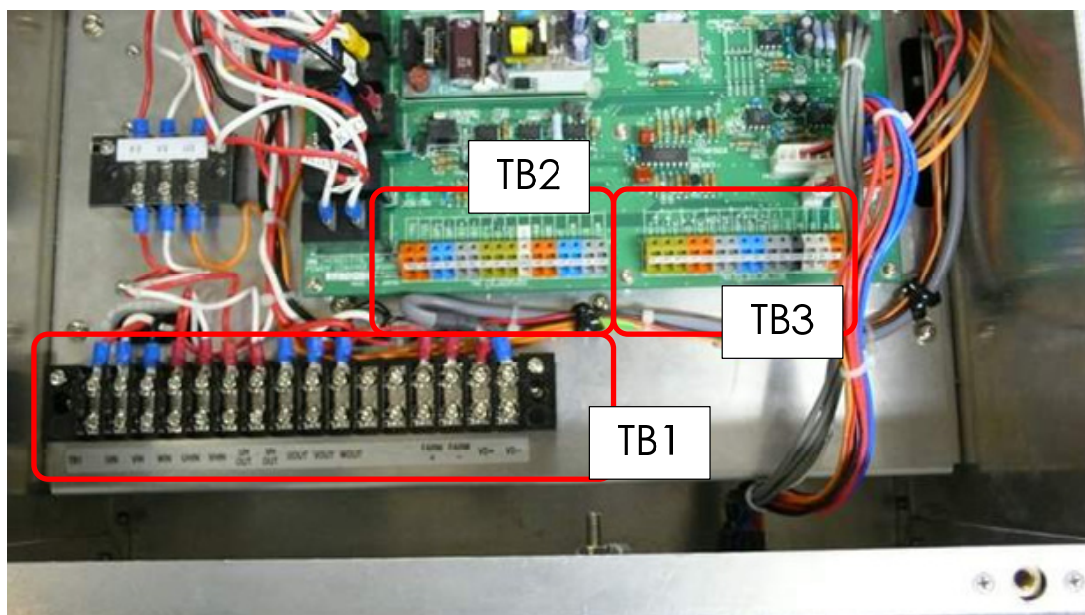
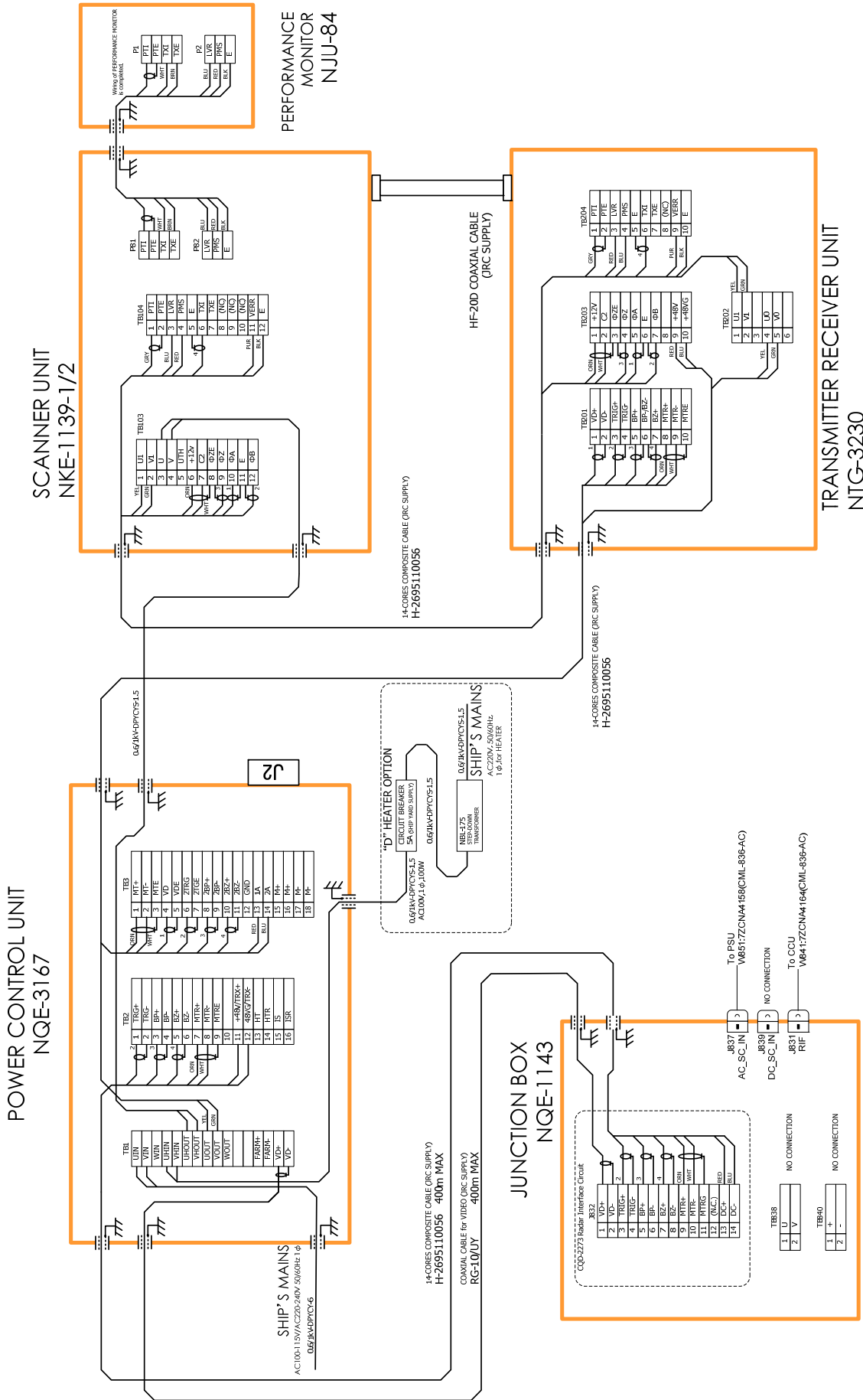


Fig 5-16: NQE-3167 terminal block

⚠ Securely ground the included earth plate to the hull's earth.

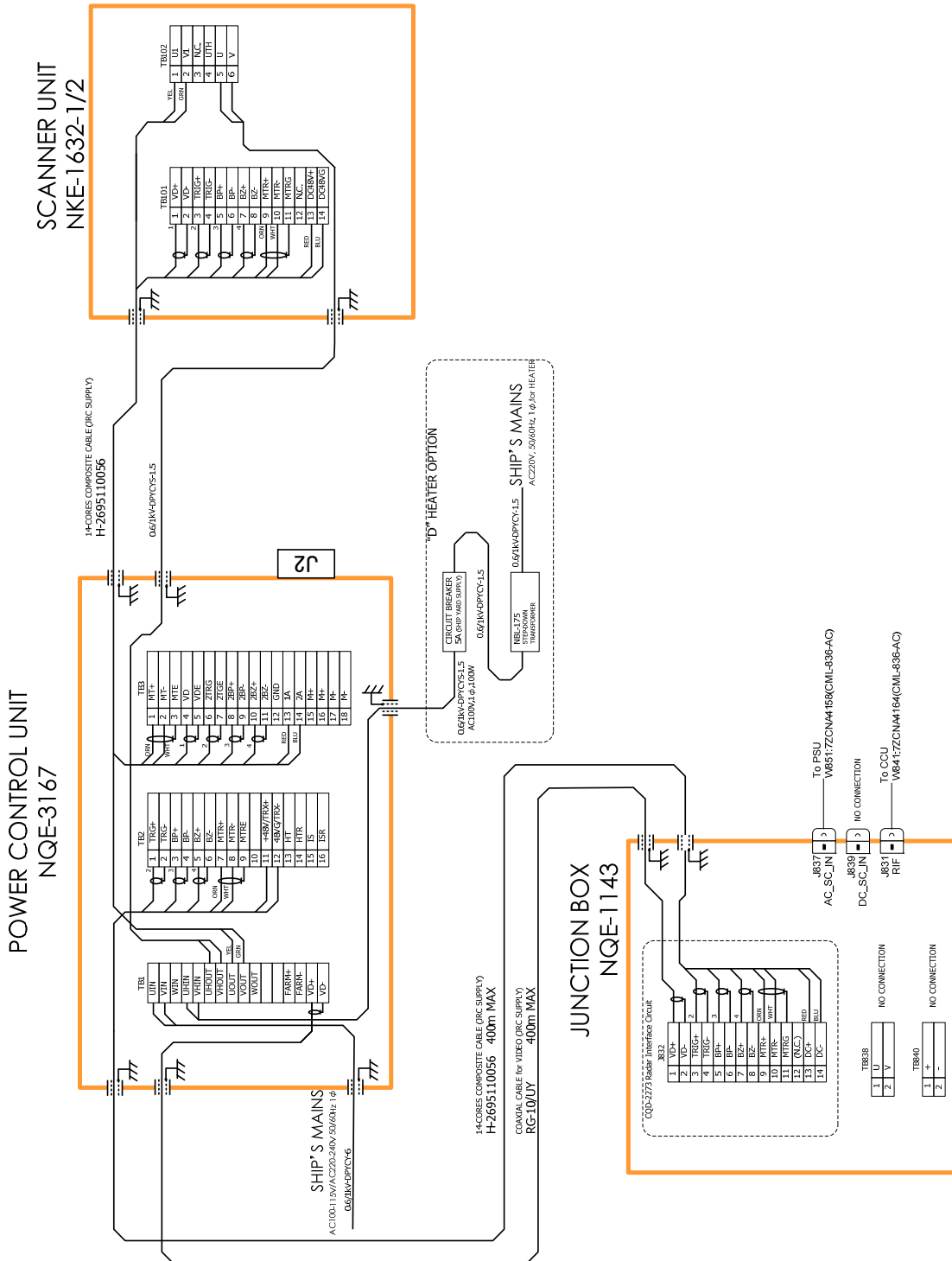
5.2.7 Inter-board connection diagram of power control unit

5.2.7.1 Inter-board connection diagram of JMR-9230-S3, JMR-7230-S3



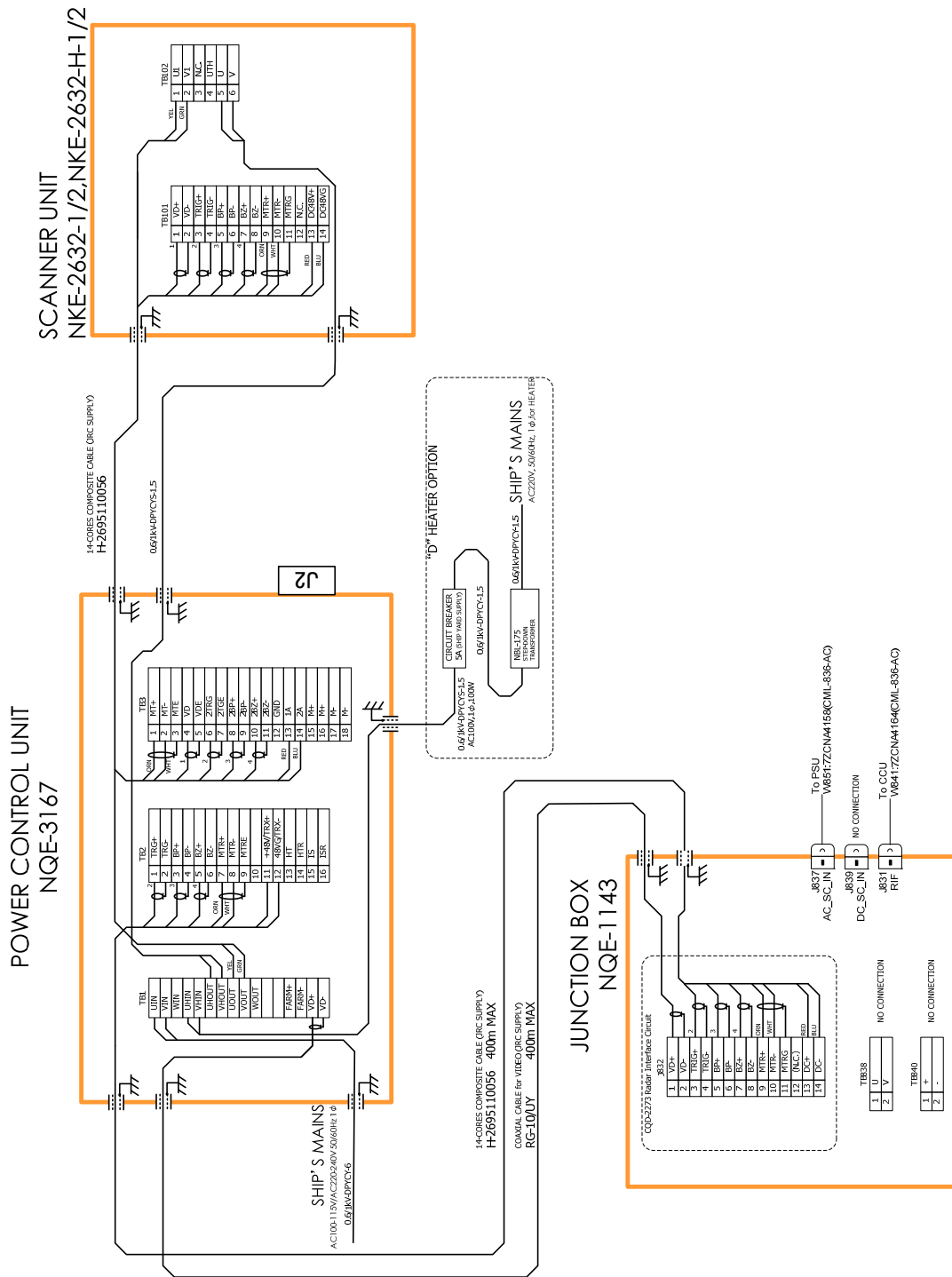
(S-BAND 30kW RADAR)
JMR-9230-S3, JMR-7230-S3レーダー パワーコントロールユニット間 盤間接続図
INTERCONNECTION DIAGRAM OF BETWEEN RADAR TYPE JMR-9230-S3, JMR-7230-S3
and NQE-3167 POWER CONTROL UNIT

5.2.7.3 Inter-board connection diagram of JMR-9272-S, JMR-7272-S



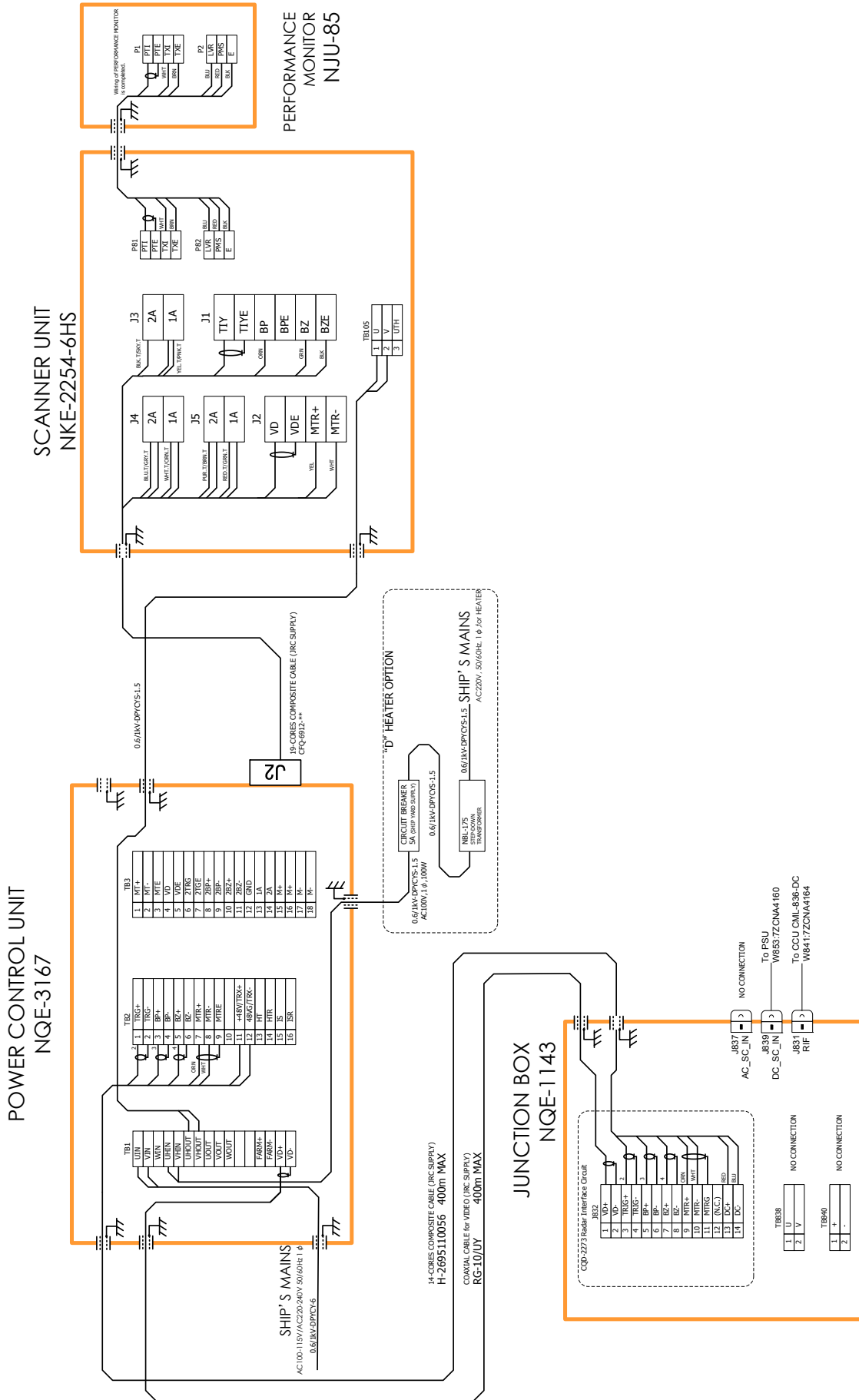
(S-BAND 250kW Solid State RADAR)
 JMR-9272-S, JMR-7272-Sレーダー パワーコントロールユニット間 盤間接続図
 INTERCONNECTION DIAGRAM OF BETWEEN RADAR TYPE JMR-9272-S, JMR-7272-S
 and NQE-3167 POWER CONTROL UNIT

5.2.7.4 Inter-board connection diagram of JMR-9282-S/SH, JMR-7282-S/SH



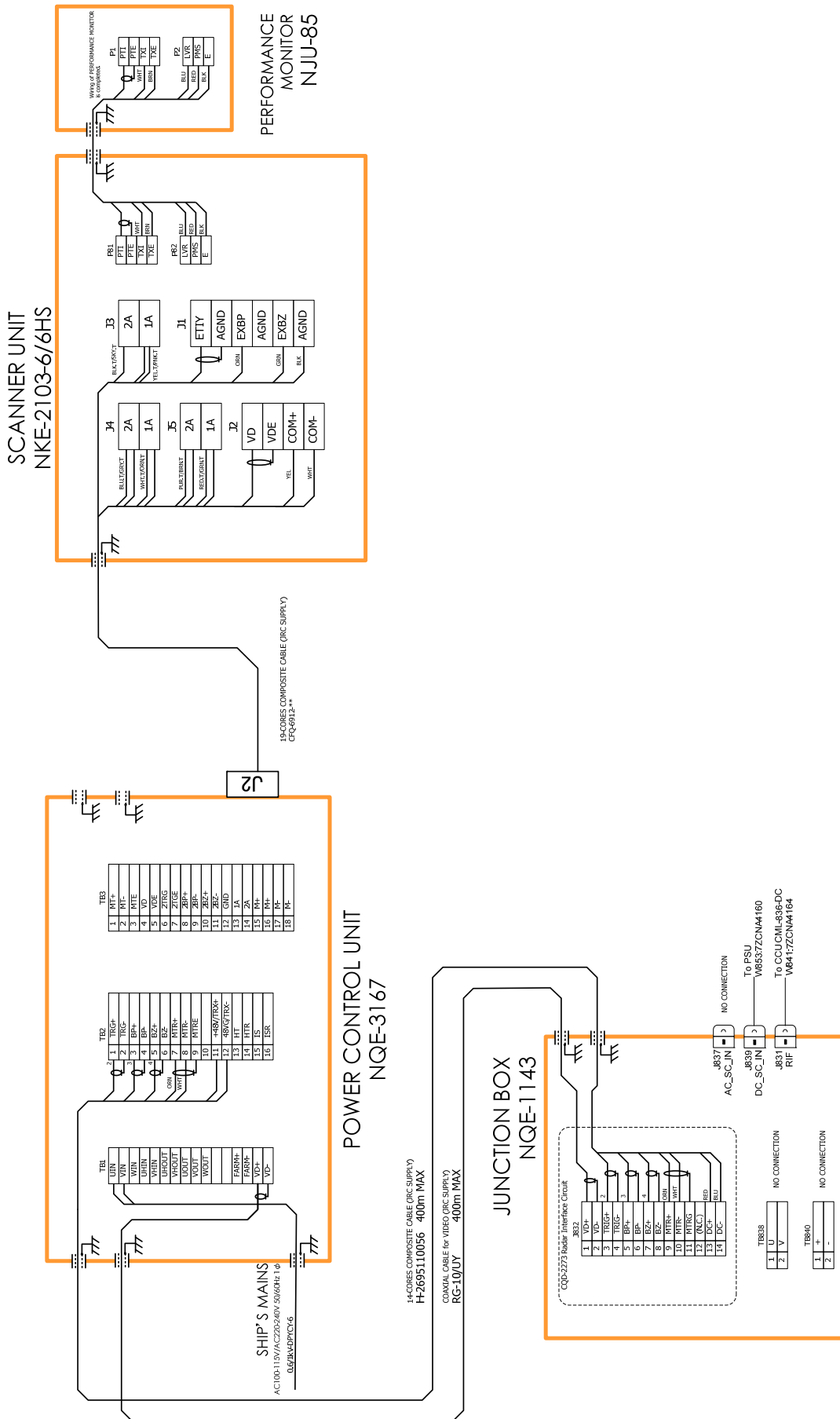
(S-BAND 250kW Solid State RADAR)
 JMR-9282-S/SH, JMR-7282-S/SHレーダー/パワーコントロールユニット間 盤間接続図
 INTERCONNECTION DIAGRAM OF BETWEEN RADAR TYPE JMR-9282-S/SH, JMR-7282-S/SH
 and NQE-3167 POWER CONTROL UNIT

5.2.7.7 Inter-board connection diagram of JMR-9225-6XH, JMR-7225-6XH



(X-BAND 25kW RADAR)
 JMR-9225-6XH, JMR-7225-6XH レーダー パワーコントロールユニット間 盤間接続図
 INTERCONNECTION DIAGRAM OF BETWEEN RADAR TYPE JMR-9225-6XH/JMR-7225-6XH
 and NQE-3167 POWER CONTROL UNIT

5.2.7.8 Inter-board connection diagram of JMR-9210-6X/6XH, JMR-7210-6X/6XH



(X-BAND 10KW RADAR)
 JMR-9210-6X/6XH, JMR-7210-6X/6XHレーダー パワーコントロールユニット間 盤間接続図
 INTERCONNECTION DIAGRAM OF BETWEEN RADAR TYPE JMR-9210-6X/6XH, JMR-7210-6X/6XH and NQE-3167 POWER CONTROL UNIT

5.3 Connection of VDR

5.3.1 Connection with LAN (IEC61162-450)

When the VDR have LAN port, use connection with the LAN (IEC61162-450). There is the LAN port J4122 which is located in central control unit (NDC-1590). See the drawing below.

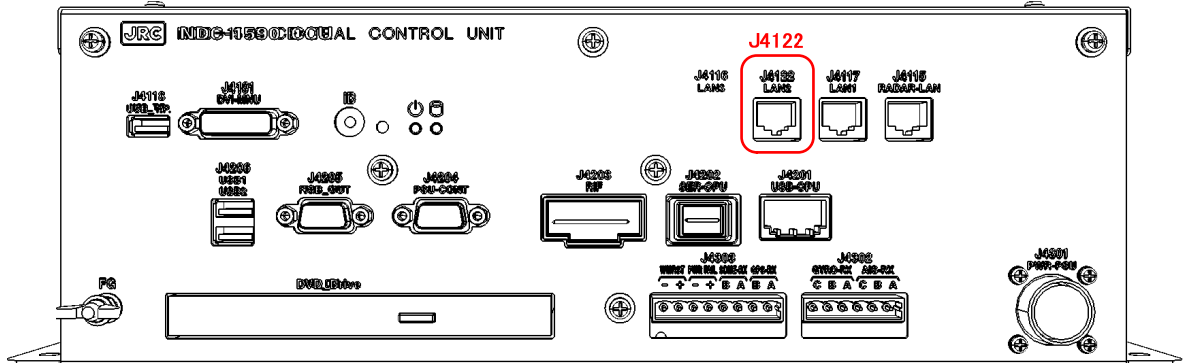


Fig 5-17 VDR connection connector LAN(IEC61162-450)

After the connection, please set the display unit refers to the **4.15 Setting of VDR**.

5.3.2 Connection with Analog RGB

When the VDR does not have LAN port, use connection with Analog RGB.

Analog RGB signal for VDR is output from J4205 which is located in the central control unit (NDC-1590). See the drawing below.

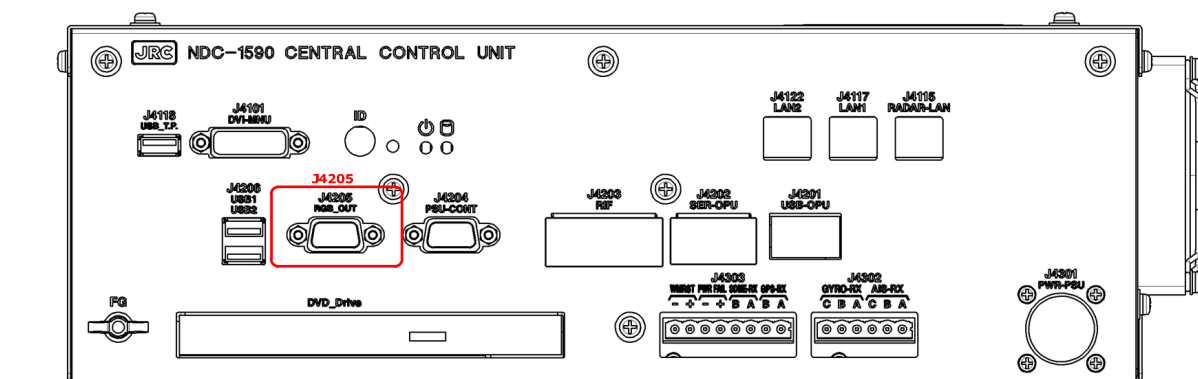


Fig 5-18: VDR connection connector Analog RGB

5.3.2.1 VDR I/F kit

The VDR I/F kit is used to connection with analog RGB.

VDR I/F kit CQD-1891 includes:

DSUB15P - BNC cable (KB5BNC2K, 2 meters)	1 pcs
BNC to BNC adapter (BNC-A-JJ)	5 pcs
BNC connector (3CV-P2) 5 piece	5 pcs

Use 3C-2V coaxial cable for connection.

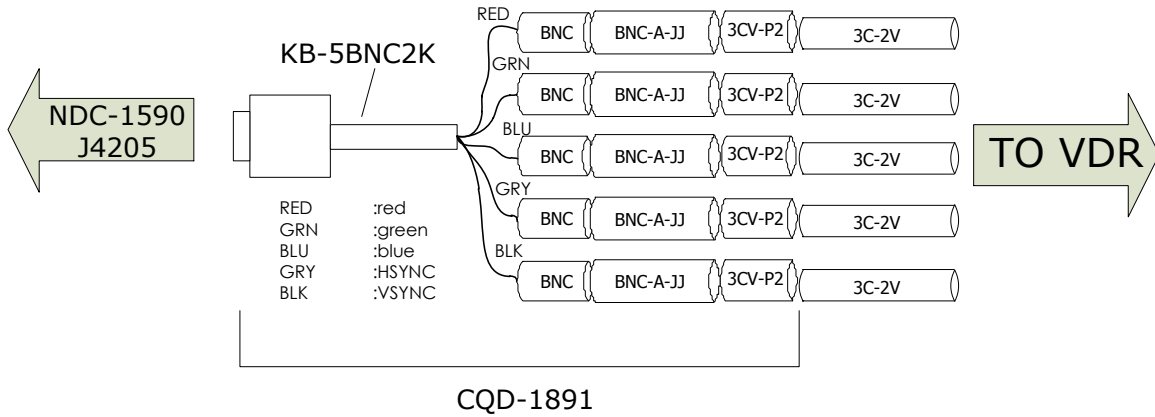


Fig 5-19: CQD-1891 VDR I/F Kit

5.4 Printer

Set the printer according to the following procedures.

 CAUTION	
	When there is no keyboard operating unit, prepare the keyboard of a USB interface. There is a procedure that cannot be set for the keyboard not to exist.

5.4.1 Printer Composition

Externals of the printer are as follows.



●Necessary for setting

No	名称	備考
1	Start Poster	
2	AC Adaptor	
3	CD for Printer Driver	
4	Two sided of automatic operation print accessories	
5	Ink	
6	Printer Head	
7	Print Paper	
8	USB Keyboard	When NCE-5625 Keyboard Operation Unit is not equipped.

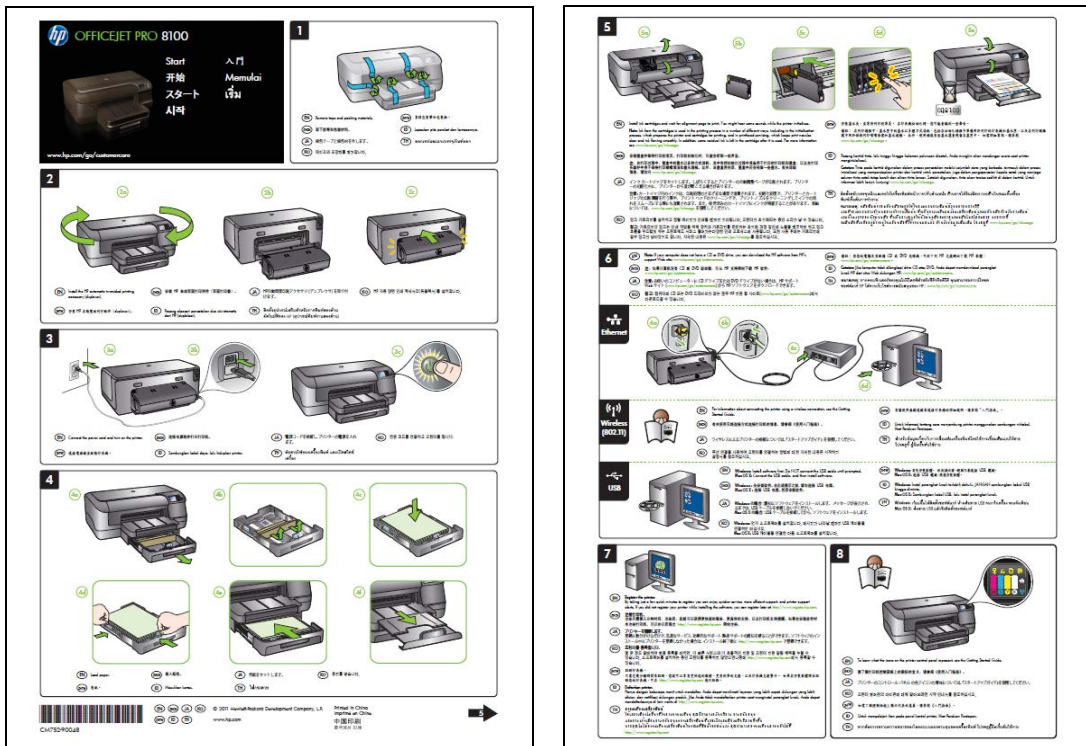
●Not necessary for setting

No	名称	備考
<input type="checkbox"/>	LAN Cable	It doesn't use. Use the specified LAN cable.
<input type="checkbox"/>	USB Cable	It doesn't use.
<input type="checkbox"/>	Warranty Card	Please keep it with the ship importantly.
<input type="checkbox"/>	Directions of print paper	Please keep it with the ship importantly.
<input type="checkbox"/>	Support documentation	Please keep it with the ship importantly.

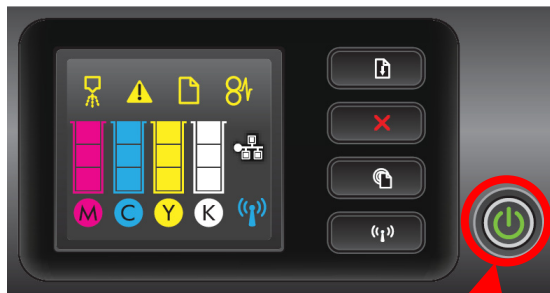
5.4.2 Printer Assembly

Assemble a printer according to the following procedures.

① Set up the printer according to attached “Start” poster.



② Set some papers and push the power button.



Power button

5.4.3 Setting Printer

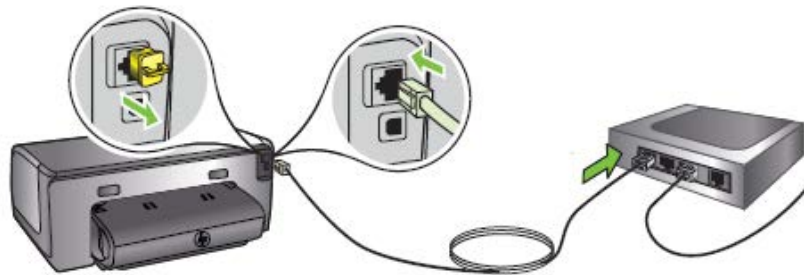
The setting method of the printer is described.
Set the printer according to the following procedures.

5.4.3.1 Connecting Power Cable and Printer LAN Cable

Connect power cable and printer LAN cable with the printer and main hub unit respectively. Connecting location is described to "Start" poster.



Connecting location of power cable



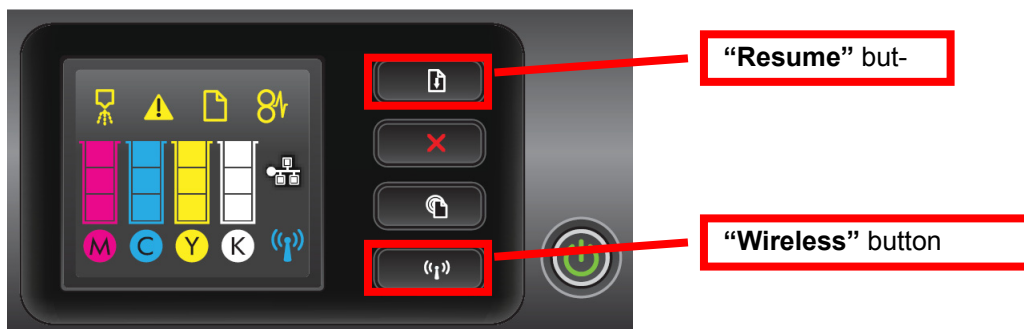
Connecting location of LAN cable

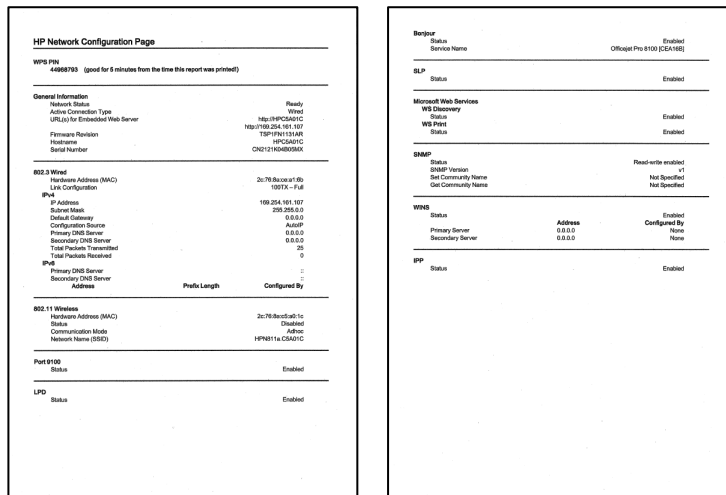
5.4.3.2 Confirming Printer IP Address

Confirm IP address of the printer according to the following procedures.

1. Power on Printer and ECDIS.
2. Keep pressing "Resume" button and "Wireless" button (see below diagram) at the same time.

Confirm that 2 pieces of paper " HP Network Configuration Page" are printed.





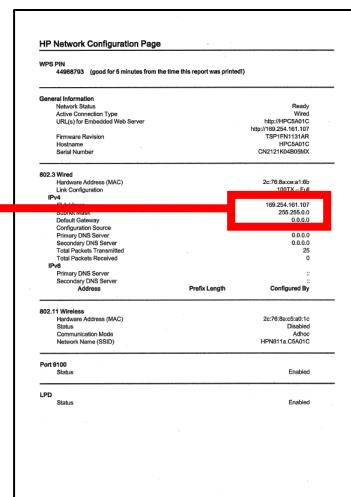
3. Confirm default "IP Address" and "Subnet Mask" on the "HP Network Configuration Page".

ex)

169.254.161.107
255.255.0.0

IP Address Subnet Mask

Default "IP Address" and "Subnet Mask"



5.4.3.3 Setting Printer IP Address

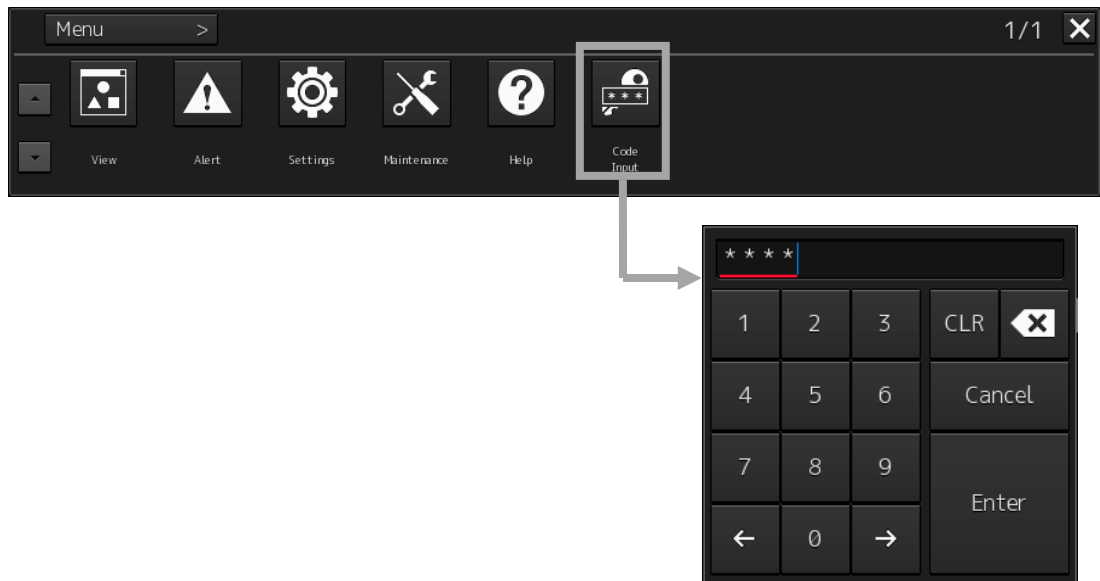
Set up the IP address of the printer according to the following procedures.

1. Power on this equipment.
2. After the default task starts, click the [Menu] button of the "Left Tool Bar".

The "Menu" dialog is displayed.

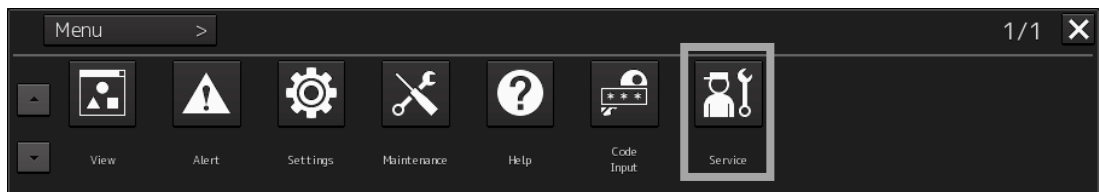
3. Click [Code Input] button.

The “Password” dialog is displayed.



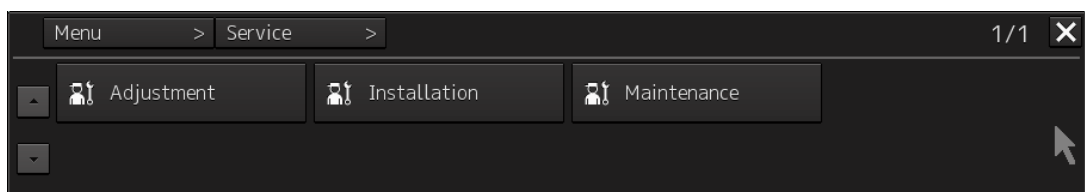
4. After the password "0009" is input with the software keyboard, click the [Enter] button.

The [service] button is added to the menu. Once the [Service] button is added, it will be displayed until the task menu is finished.



5. Click the [Service] button of the “Menu” dialog.

The sub menu of [Service] is displayed.

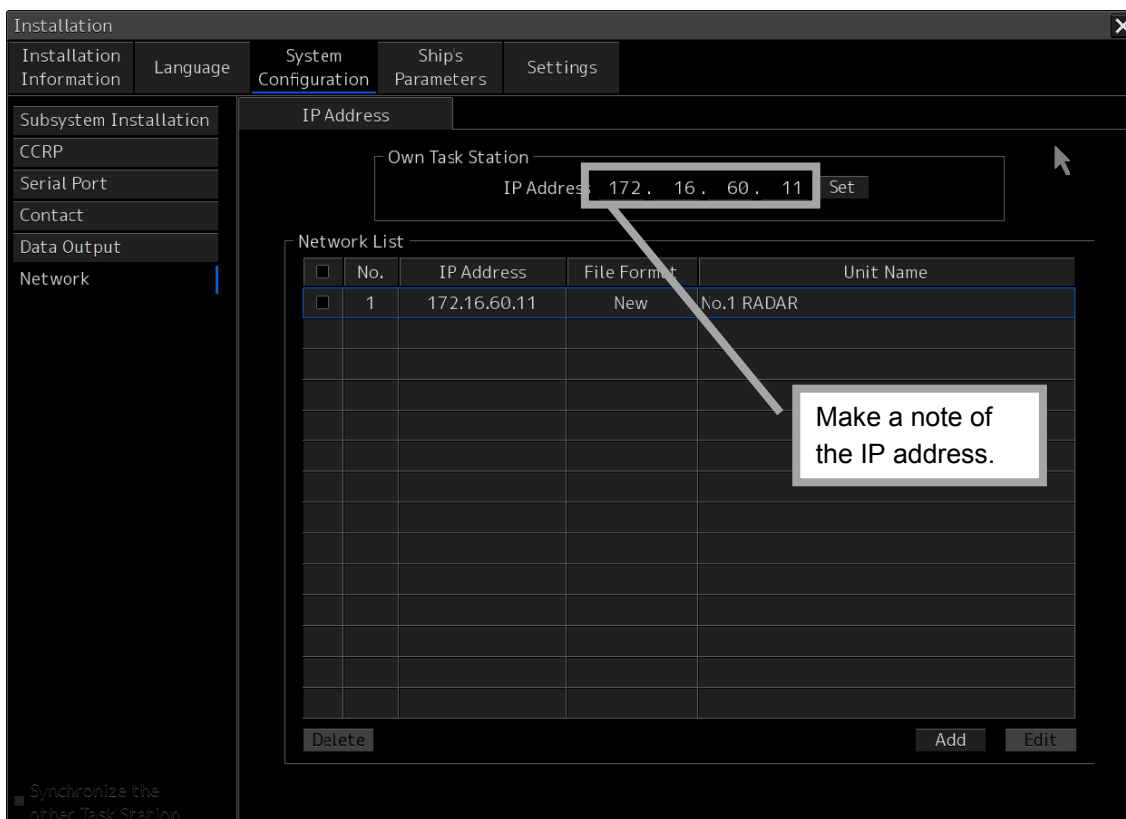


6. Click the [Installation] button.

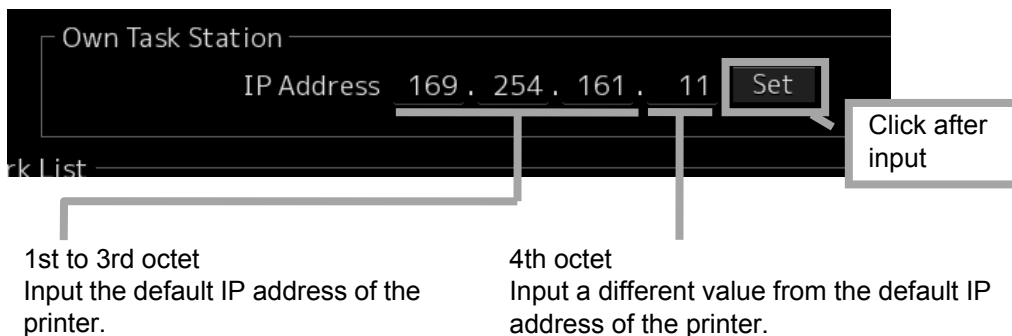
The “Installation” dialog is displayed.

7. **[System Configuration]** is chosen by the first classification pane, and **[Network]** is chosen by the second classification pane.

The “**Network**” dialog is displayed on the edit pane. Make a note of the present IP address.



8. According to the following explanation, input the IP address of "Own Task Station" and click the **[Set]** button.

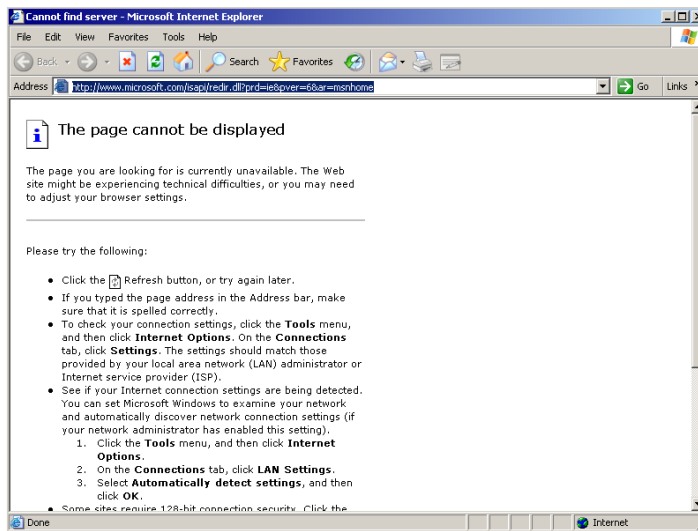


9. Click the **[Code Input]** button of the “Menu” dialog. And after the password "9999" is input with the software keyboard, click the **[Enter]** button.

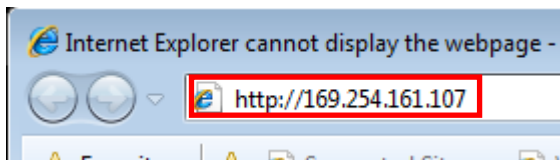
The task is finished and it returns to the task menu screen.

10. Input the password "0913" into the "Code input" box of the task menu screen.

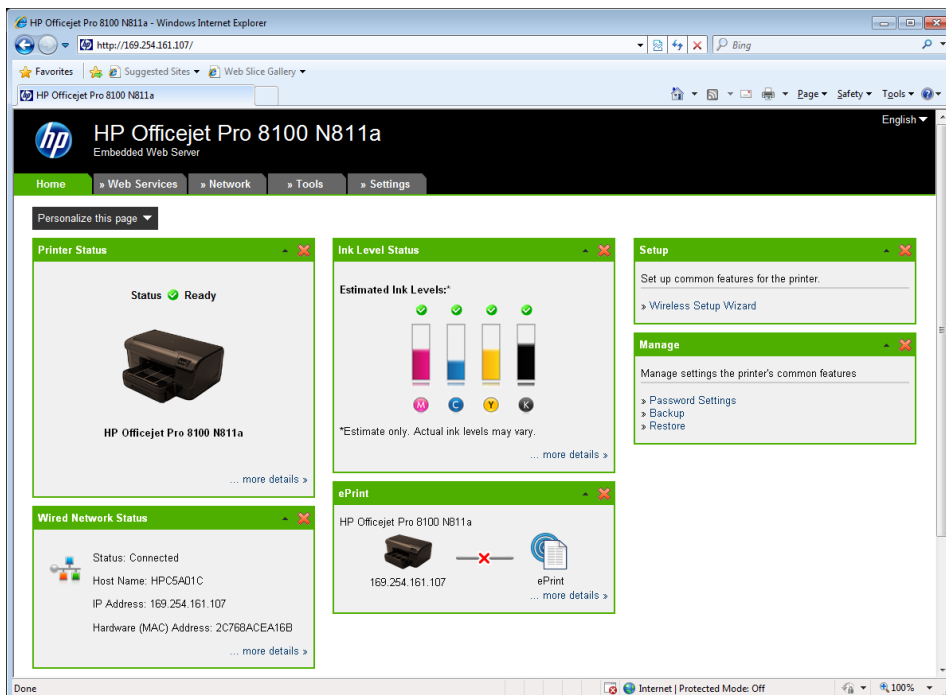
The "Internet Explorer" is displayed.



11. Input [http://IP address of printer] into the address bar.

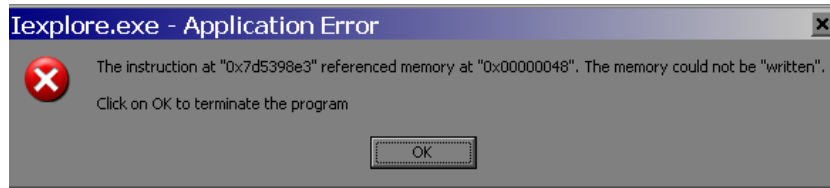


"HP Officejet Pro 8100 N811a" page is displayed.

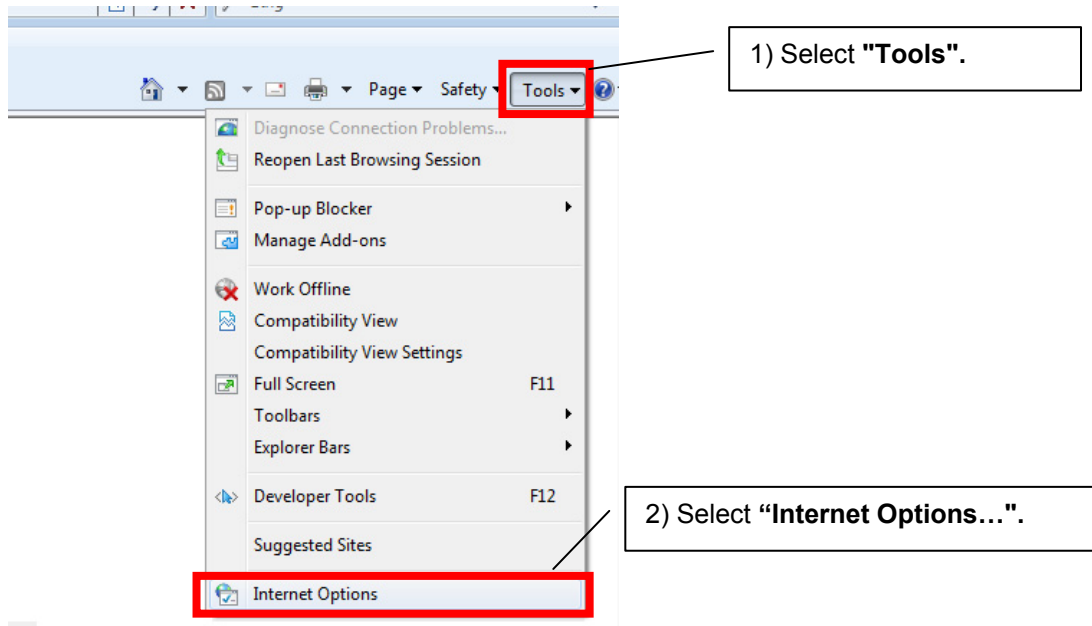


Note:

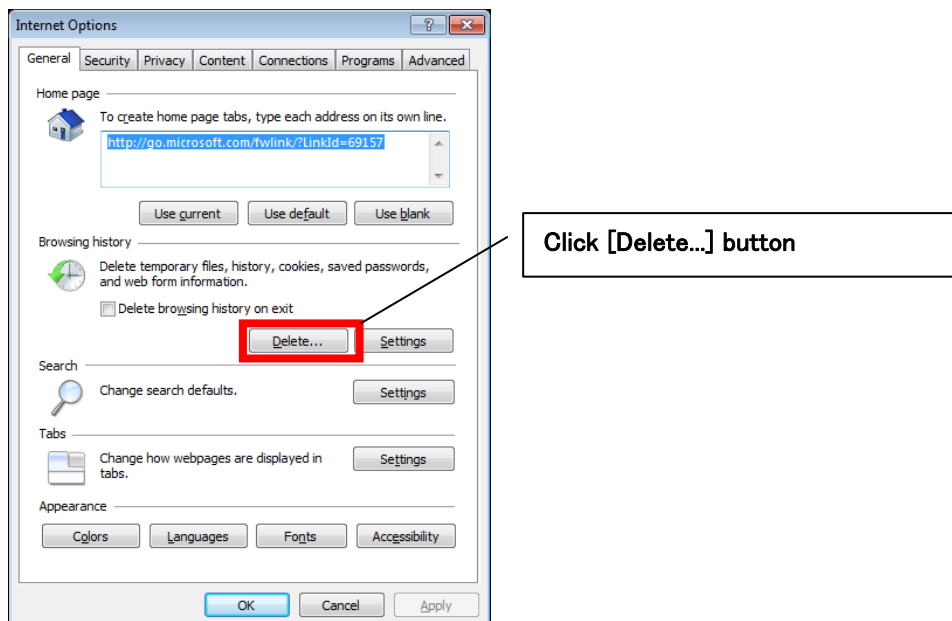
When following error is displayed, delete "Temporary Internet files" as follows.



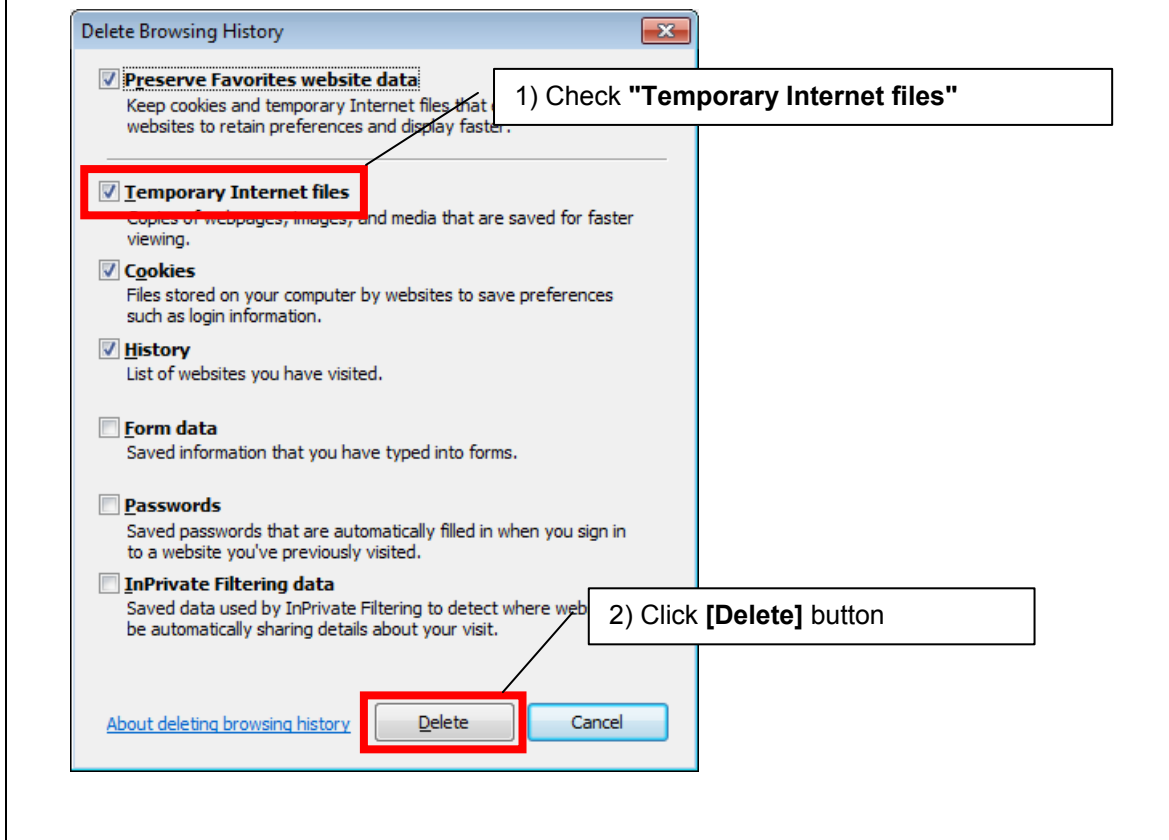
1) Start Internet explorer again. Select "Tools" - "Internet Options..."



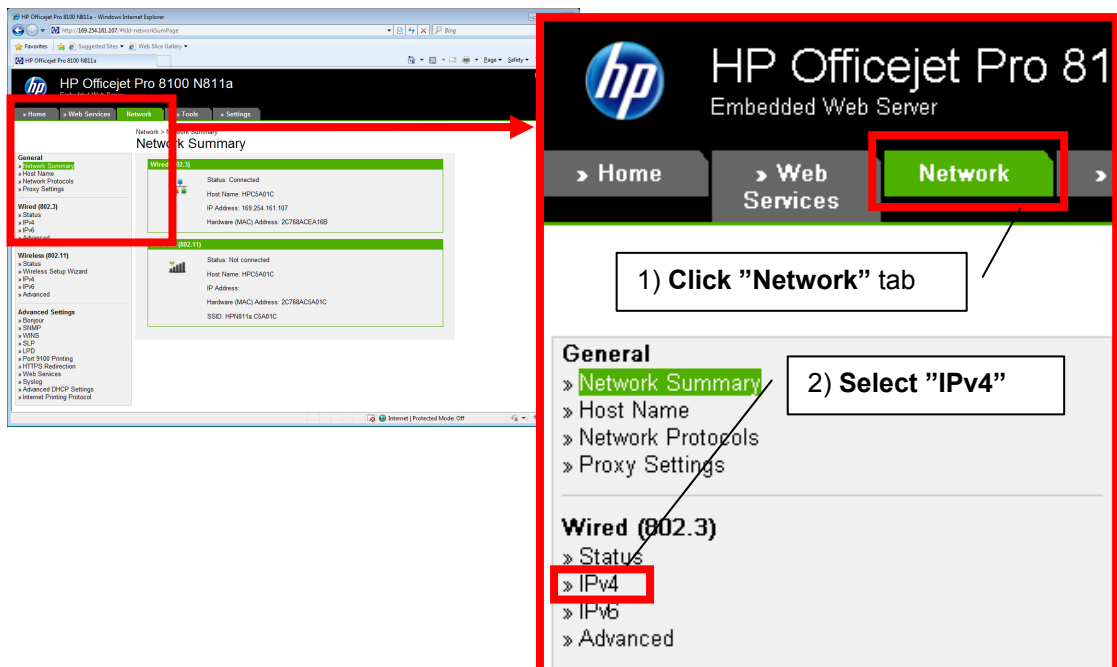
2) "Internet Options" dialog is displayed. Click [Delete...] button.



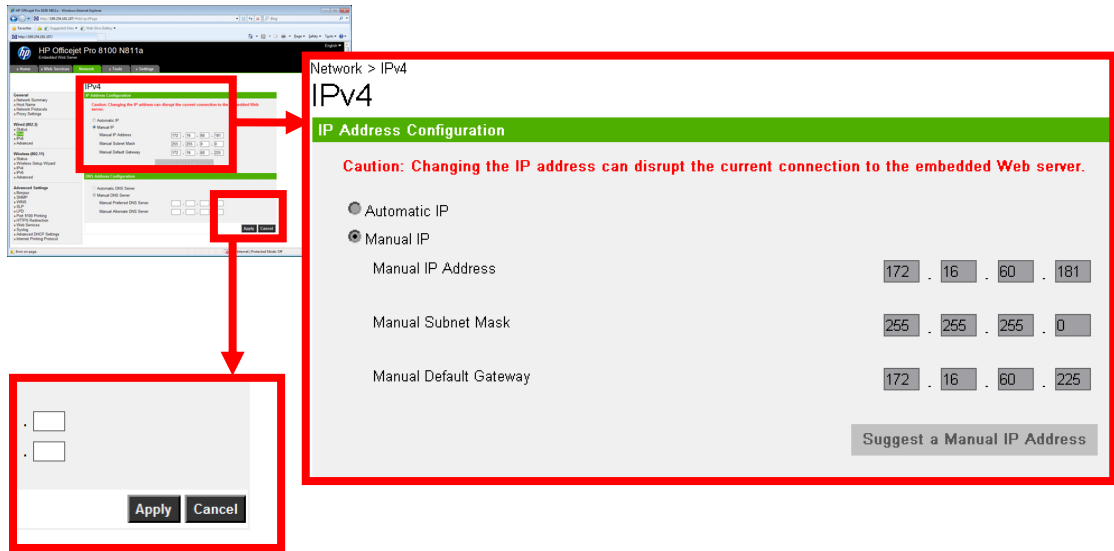
- 3) “Delete Browsing History” dialog is displayed. Check “Temporary Internet Files” and click [Delete] button.



12. Click [Network] and select "IPv4" of "Wired (802.3)".

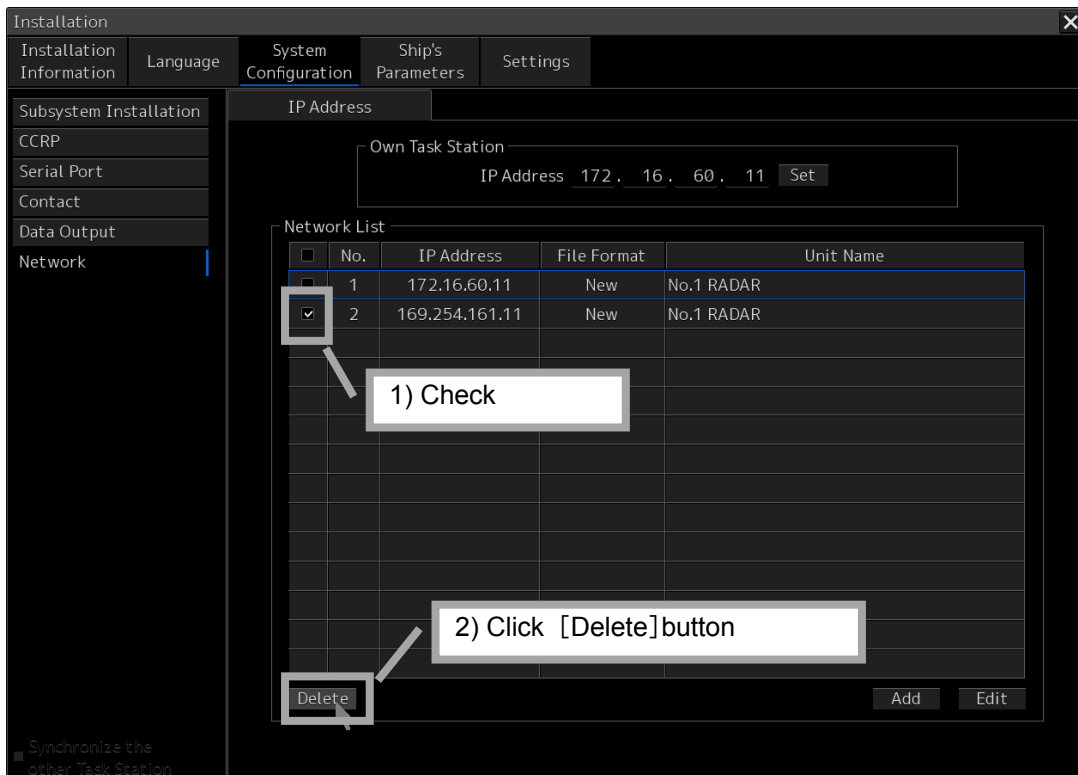


13. Enter “Manual IP Address”, “Manual Subnet Mask” and “Manual Default Gateway” according to bellow diagram. After enter the value, click **Apply** button.



	No.1 Printer	No.2 Printer
IP Address	172.16.60.181	172.16.60.182
Subnet Mask	255.255.0.0	255.255.0.0
Default Gateway	172.16.60.225	172.16.60.225

14. After setup, close the "Internet Explorer" and start a task.
15. Return the IP address of this equipment to the original value according to the procedure of 8.
16. The IP address assigned for the printer setup is added to Network List of the Network dialog. Check the line of relevance and click the [Delete] button.



5.4.4 Equipment setup

The existence of a printer is set up by equipment setup of a subsystem.

Change the equipment setup of the subsystem in the “**Subsystem Installation**” dialog.

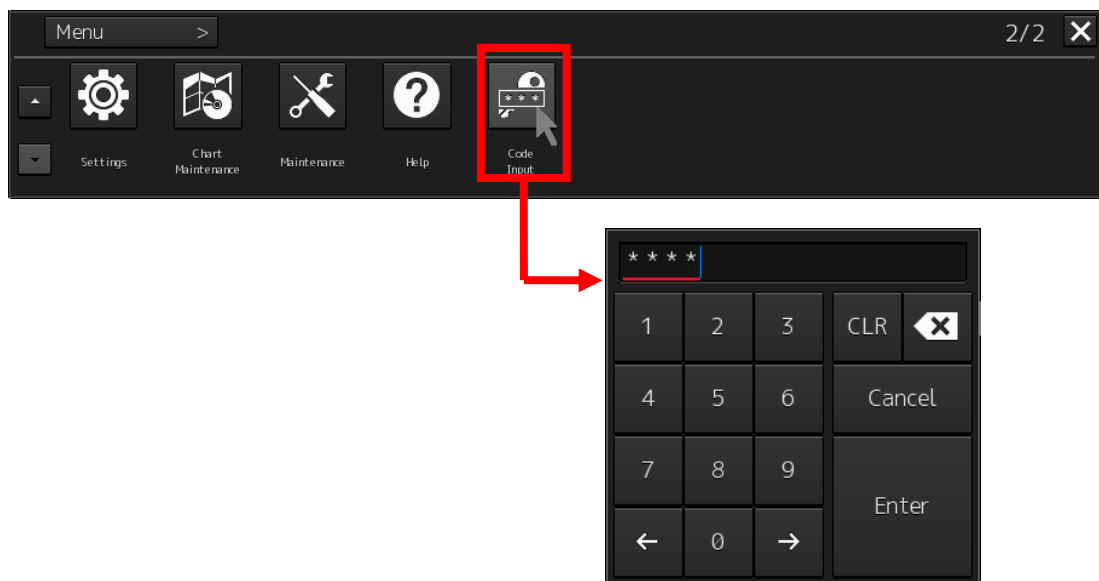
Note:
Refer to 4.4 "Subsystem Installation".

1. Click the [Menu] button of the “Left Tool Bar”.

The “Menu” dialog is displayed.

2. Click [Code Input] button.

The “Password” dialog is displayed.

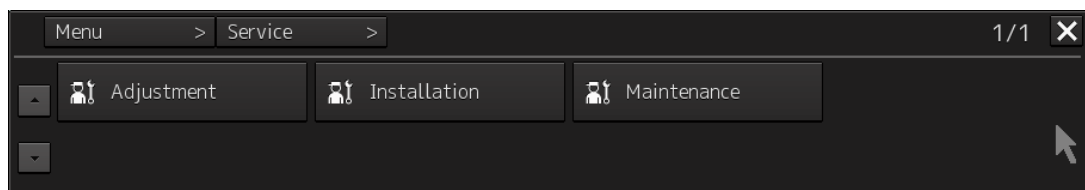


3. After the password "0009" is input with the software keyboard, click the [Enter] button.

The [service] button is added to the menu. Once the [Service] button is added, it will be displayed until the task menu is finished.

4. Click the [Service] button of the “Menu” dialog.

The sub menu of [Service] is displayed.

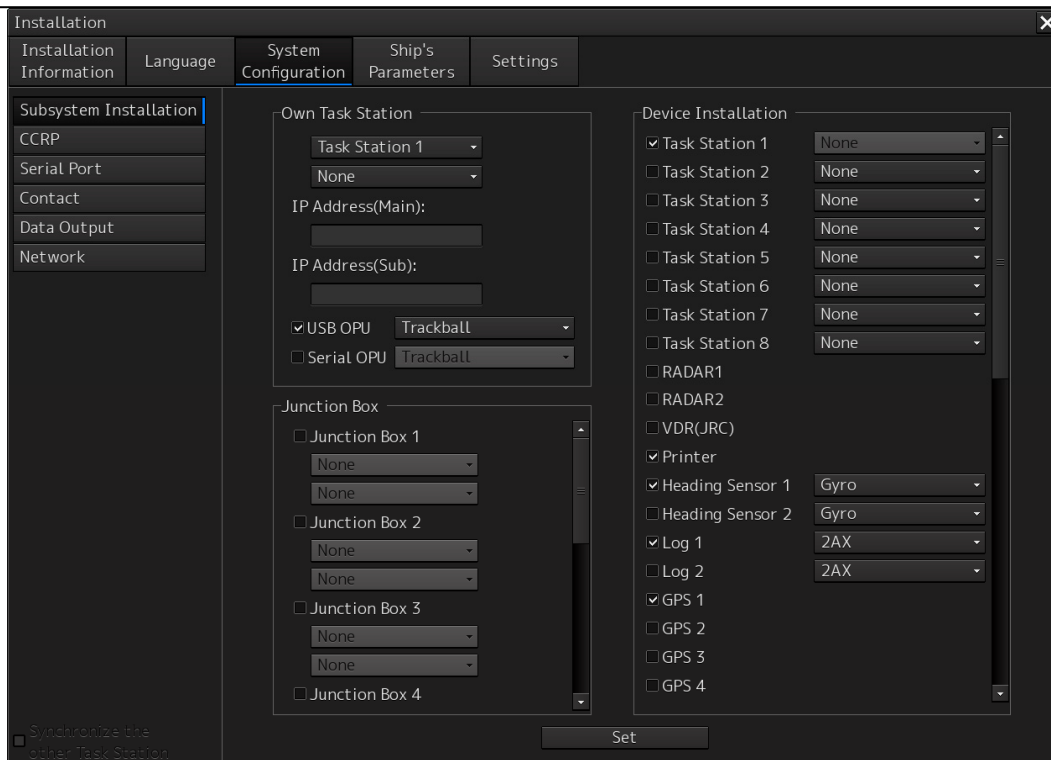


5. Click the [Installation] button.

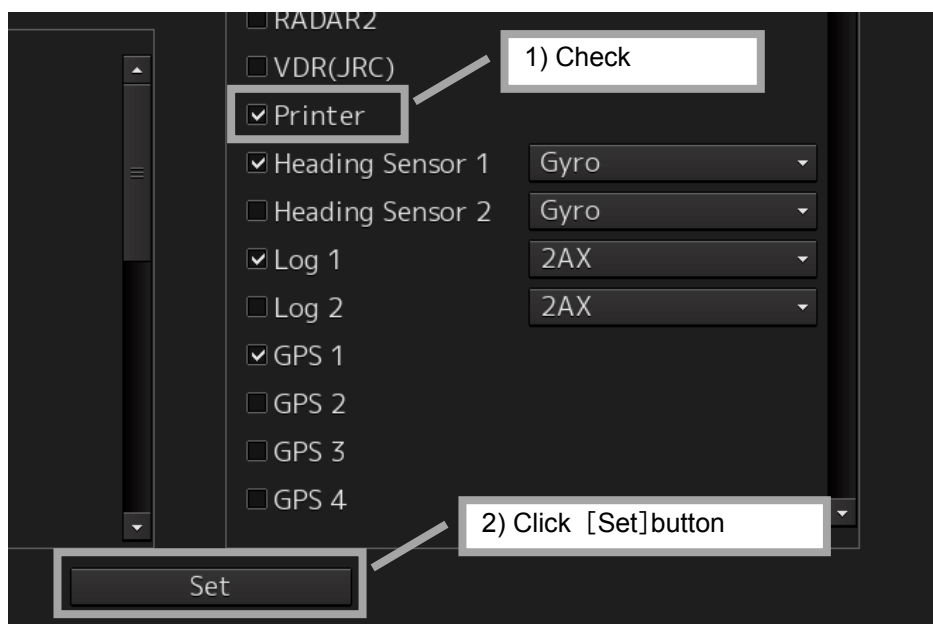
The “Installation” dialog is displayed.

6. [System Configuration] is chosen by the first classification pane, and [Subsystem Installation] is chosen by the second classification pane.

The “Subsystem Installation” dialog is displayed on the edit pane.



7. Check [Printer] in "Device Installation" and click the [Set] button.



5.4.5 Confirming Printing Operation

Confirm the printer prints normally on the sheet according to the following procedures.

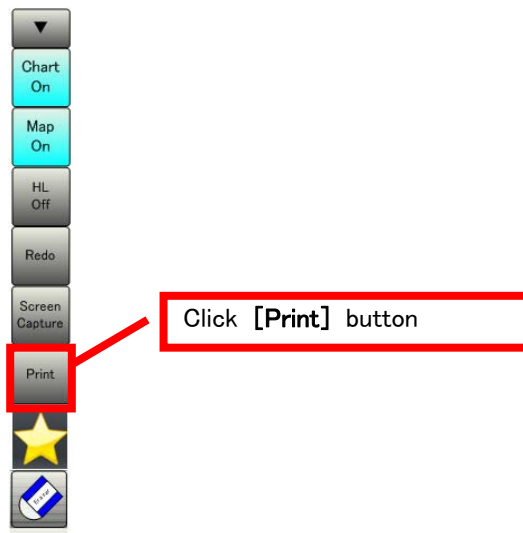


CAUTION



Since there is no print function in "Conning Display", it cannot confirm in "Conning Display".

1. Click the [Print] button of "Left Tool Bar".



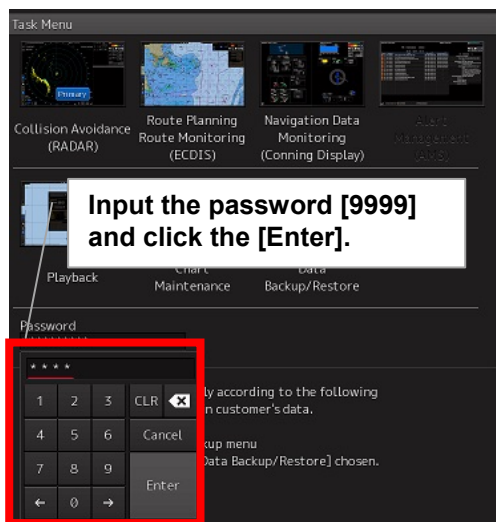
2. Confirm a screen image on display is printed.

When the image cannot be printed

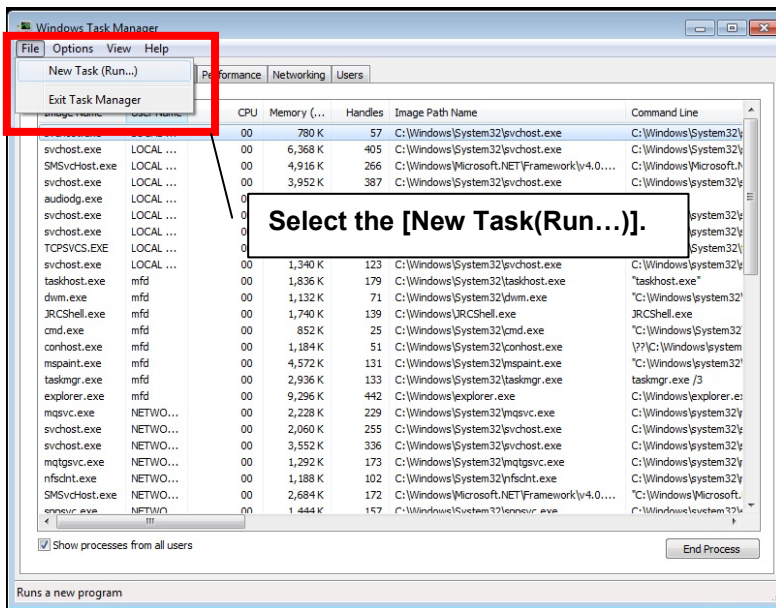
Set the printer port refer to the following steps.

In this step, you need the keyboard. When there is no keyboard operating unit, prepare the keyboard of a USB interface.

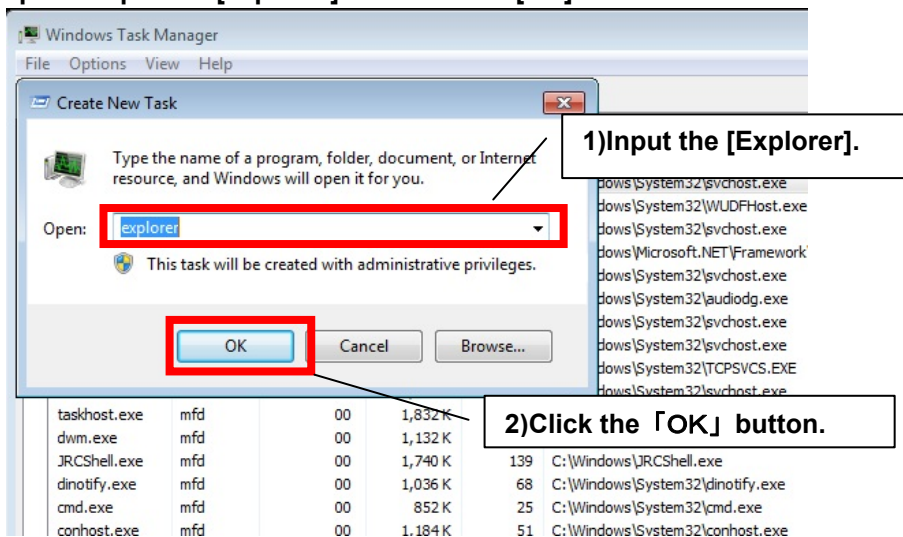
1. Input the password [9999], and click the [Enter]. Task manager will open.



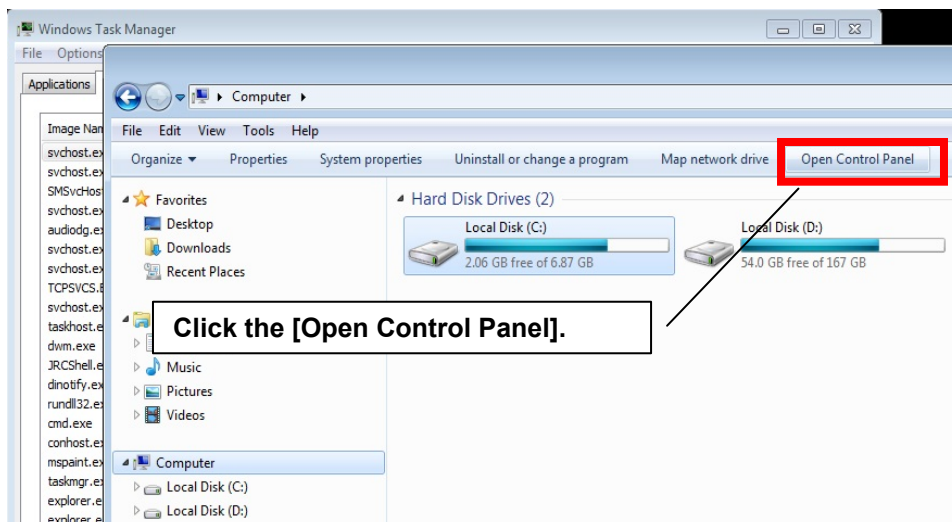
2. Select the [File]-[New Task(Run...)].



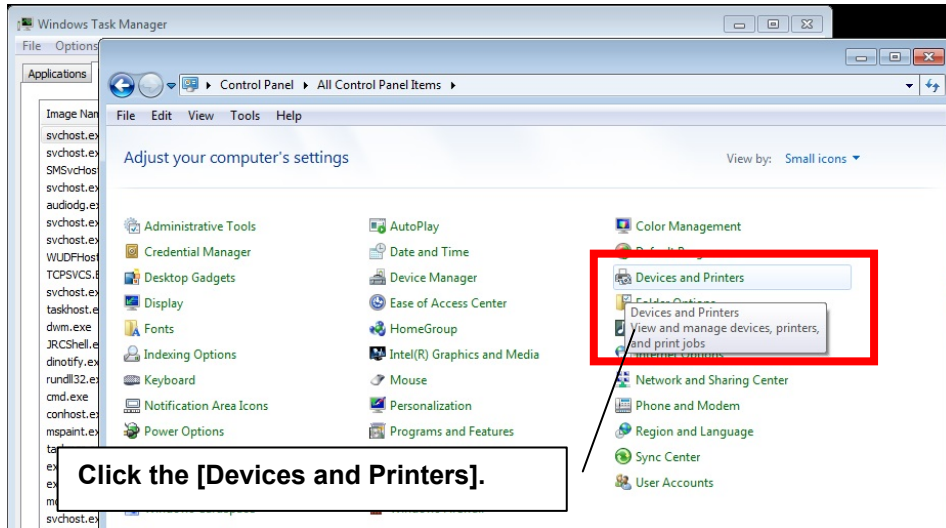
3. Following dialog opens. Input the [explorer] and click the [OK] button.



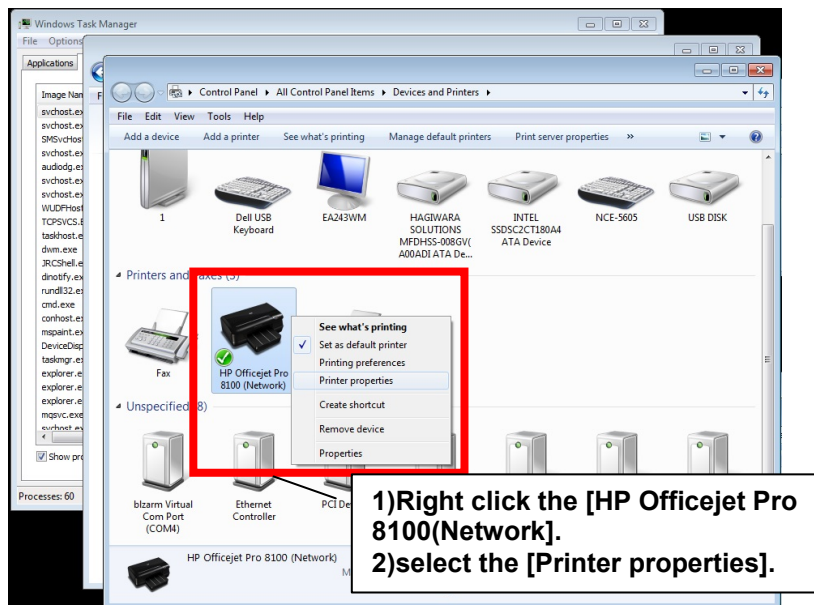
4. Click the [Open Control Panel] from the open explorer.



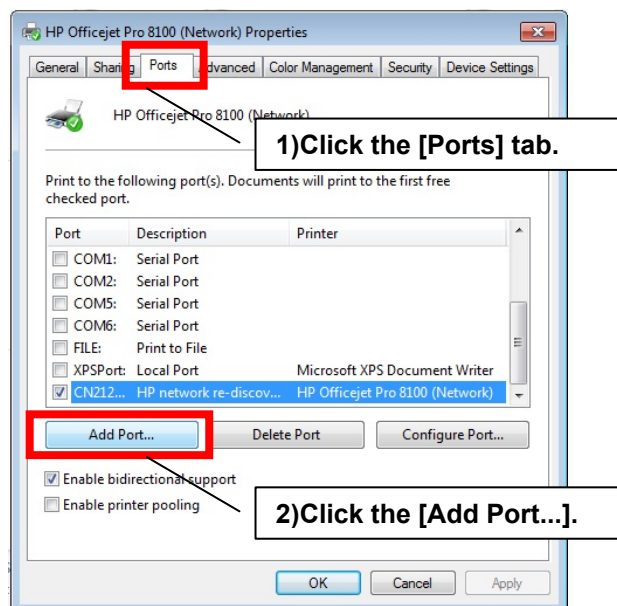
5. Click the [Devices and Printers] from [Control Panel].



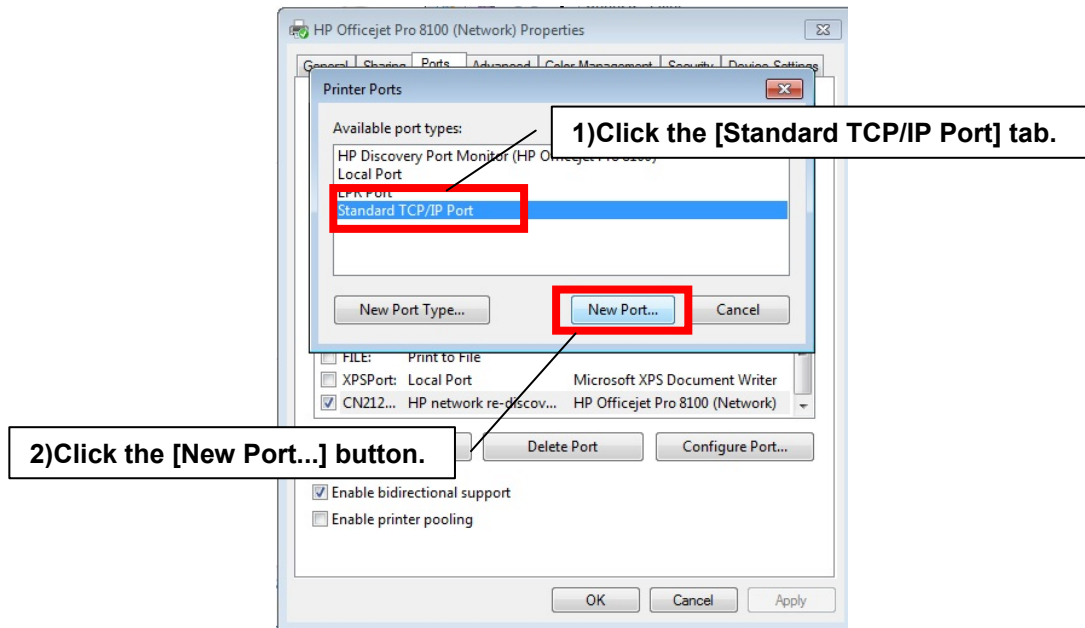
6. Right-click the [HP Officejet Pro 8100(Network)] and select the [Printer properties].



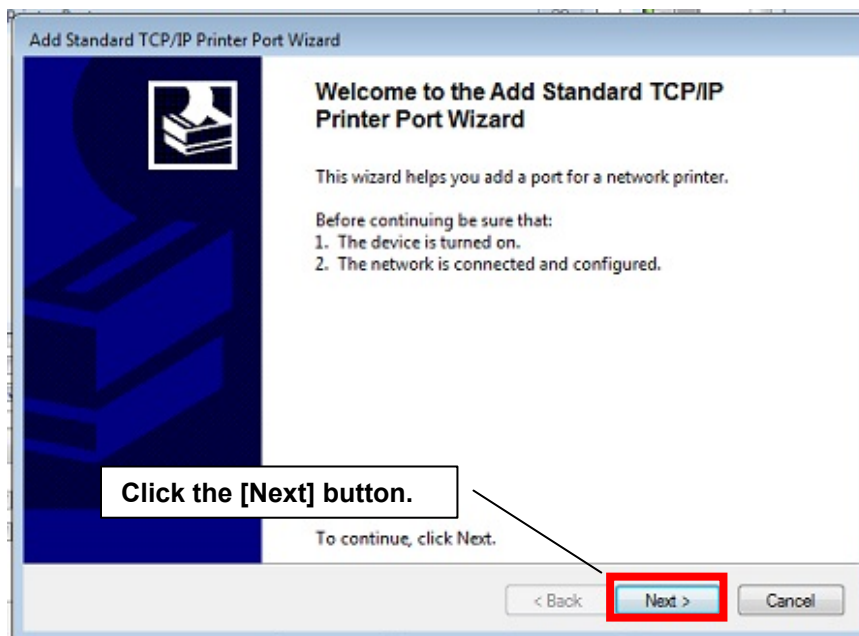
7. Click the [Add Port] button from [Ports] tab.



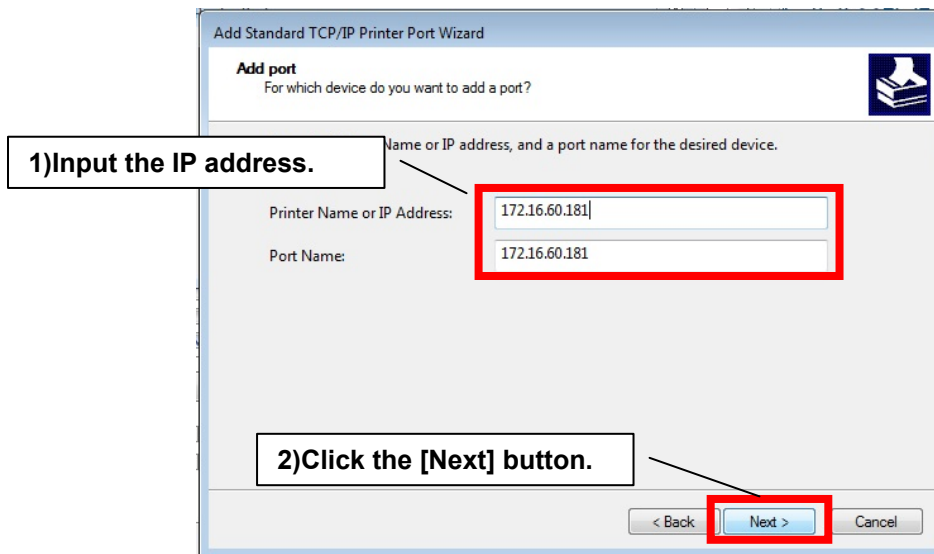
8. Select the [Standard TCP/IP Port] and click the [New Port...] button.



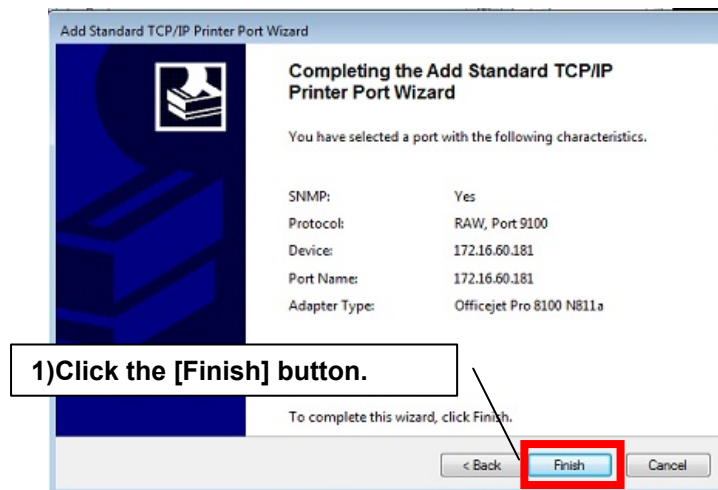
9. Following dialog opens. Check the printer is connected to the network and turned on. After checking, click the [Next] button.



10. Input the No.1 Printer IP address-[172.16.60.181] and click the [Next] button.
When set the No.2 Printer, input the IP address [172.16.60.182].



11. Click the [Finish] button.



Setting of the printer port is end. Restart the display unit, and confirm a screen image on display is printed. Refer to the **5.4.5 Confirming Printing Operation**.

12. Set the other display unit about the printer port By the same procedure(When the image cannot print 1-11).

Setting of the printer port is end above.