JUE-95SA

INMARSAT mini-C
MOBILE EARTH STATION
SHIP SECURITY ALERT SYSTEM

INSTRUCTION MANUAL

JRC Japan Radio Co., Ltd.

PREFACE

Thank you for purchase of the JRC Inmarsat mini-C, Mobile Earth Station, JUE-95SA.

- Please read this manual carefully and carry out proper operation.

- Please keep this manual importantly to refer when it is necessary.

Please use it when questions and troubles are caused in operation, by any chance.

ATTENTIONS BEFORE USING

- JRC cannot accept responsibility for any loss due to incorrect operation, malfunction, and other causes except product guarantee condition and liability by law.

- There is possibility that some functions of the terminal may not operate correctly depend on the hardware and software version of equipment connected to the terminal. Please confirm your equipment version before connection with the dealer or agent you purchased, or JRC branches.

- Your communication data are transmitted via Inmarsat system and other global communications system, so unusually some errors may occur in communication theory same as the landlines.
  You are recommended to backup for your important data.

- Usually, digital scrambling of Inmarsat system protects your communication data privacy. However you are recommended to understand that your communication data might be intercepted by special technology and unauthorized access in the communication theory.

- Specifications of JUE-95SA and its accessories may change without notice for improvement.

About safety symbols

This manual and the terminal are indicated the following safety symbols for your correct operation to prevent your and somebody's injury or damage to the product and assets.

The symbols and descriptions are as follows.

You should understand well them before reading this manual and operating the terminal.

⚠ **DANGER**	This symbol denotes high risk of causing death or serious injury.
⚠ **WARNING**	This symbol denotes that improper handling poses a risk of causing death or serious injury.
⚠ **CAUTION**	This symbol denotes that improper handling poses a risk of causing injury or damage to the product and/or assets.

Examples of symbols

The △ symbol denotes DANGER, WARNING or CAUTION.
The inside illustration of the △symbol denotes meaning of the DANGER, WARNING or CAUTION more concretely. (This example warns of possible electrical shock.)

The ⃠ symbol denotes prohibited action.
The inside illustration of the ⃠symbol denotes the specific prohibited action more concretely (this example indicated disassembly is prohibited).

The ● symbol denotes obligatory operation or instruction.
The inside illustration of the ● symbol denotes obligatory operation or instruction more concretely(this example indicates unplugging is the obligatory instruction).

ABOUT WORNING LABELS

Below mentioned warning labels are put on JUE-95SA.

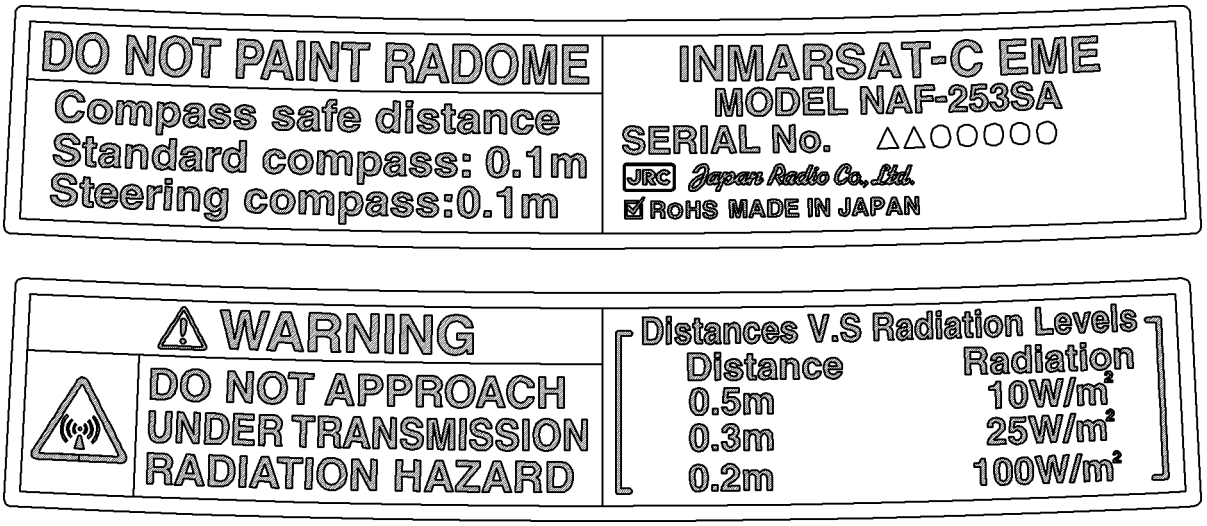
Do not take off, destroy, or modify these labels.

Labels put on EME (NAF-742SA)

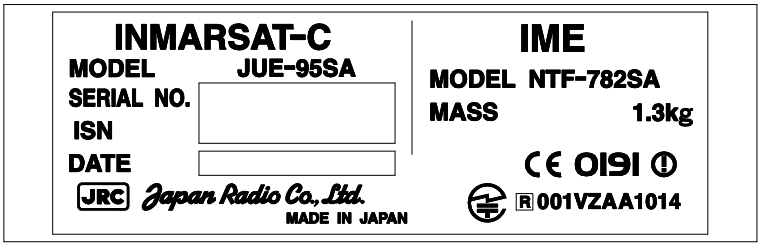
DO NOT PAINT RADOME	INMARSAT-C EME
Compass safe distance Standard compass: 0.1m Steering compass : 0.1m	MODEL NAF-742SA SERIAL NO. JRC Japan Radio Co.,Ltd. MADE IN JAPAN

⚠ WARNING	Distances V.S Radiation Levels
DO NOT APPROACH UNDER TRANSMISSION RADIATION HAZARD	Distance / Radiation 0.5m / 10W / m^2 0.3m / 25W / m^2 0.2m / 100W / m^2

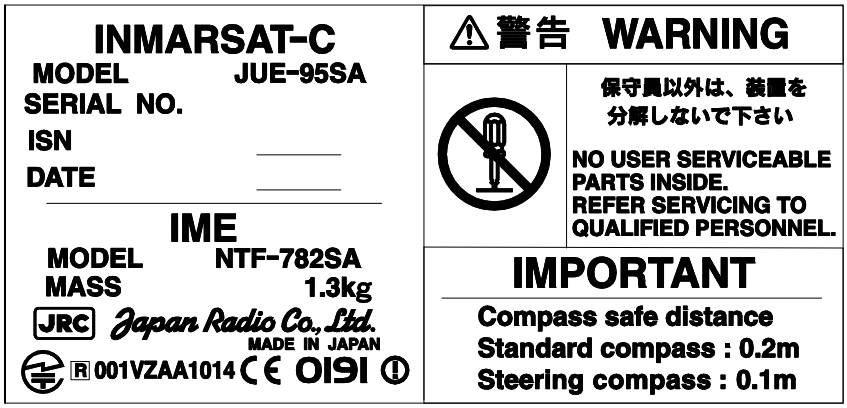
Labels put on EME (NAF-253SA)



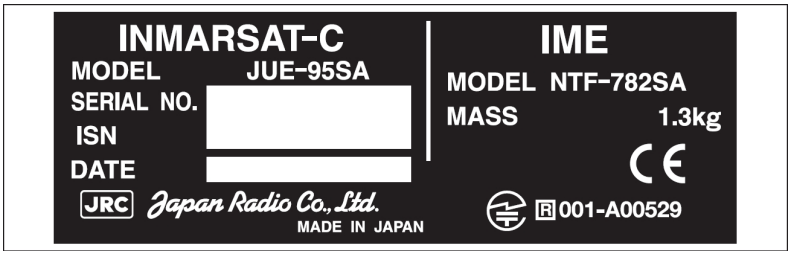
Labels put on Console ＜Type1＞(EME: NAF-742SA)



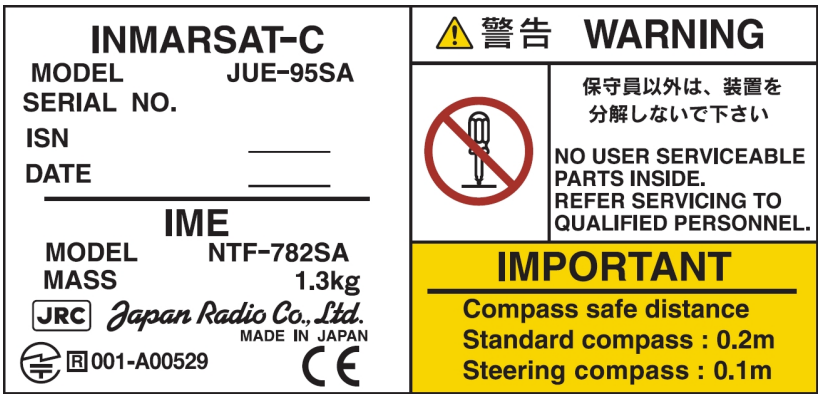
Label on IME ＜Type2＞ (EME: NAF-742SA)



Label put on Console ＜Type1＞(EME: NAF-253SA)



Label on IME ＜Type2＞ (EME: NAF-253SA)



NOTES

CE 0191 — Attestation number which means safe, high-quality product and suits EU instruction (Free circulation was permitted in the EU signatory).

R 001VZAA1011 — Technological, standard agreement proof and attestation number issued by Telecom Engineering Center Foundation in Japan.

CAUTIONS DURING OPERATION

⚠DANGER

Do not touch any internal parts with your hands or tools to avoid danger of electronic shock.

The lithium battery is built into JUE-95SA (EME). Do not short-circuited of the terminal, do not give the high impact, and wet it to water. There is danger of exploding.

WARNING DURING OPERATION

⚠WARNING

Do not bring JUE-95SA (EME) close to the fire, or put it in the fire. It causes the explosion, generation of heat, and the ignition of a built-in lithium battery.

Do not approach the JUE-95SA (EME) while transmitting. It transmits microwave, and strong microwave might be cause injury.

If a foreign substances, such as metal fragment, water, liquid and etc., are get into your JUE-95SA, turn off the power, and contact the agent you purchased or JRC branches. Continuous operation may cause fire, electrical shock or malfunction.

Ask maintenance and the adjustment of JUE-85 internal equipment to our sales department or nearest branch office.

Do not turn on the terminal under the primary power except the specific voltage (mentioned below). The primary power except the specific voltage may cause fire, electrical shock or malfunction. AC100V/220V(±10%) DC 24V (+30%, -20%).

Do not check or repair the internal equipment of JUE-95SA by yourself.
Any electrical work by any person other than our specialized maintenance persons may cause fire or abnormal operation of this equipment or electrical shock. This equipment meets the technical standard of the Ministry of Internal affairs and Communications (MIC).

Do not adjust the internal circuit or exchange the parts, because the internal circuit is adjusted strictly. When an abnormal operation is found, please contact to the dealer of agent you purchased, or JRC branches.

Do not take apart, and do not remodel the equipment. It causes a fire, the electric shock, and the breakdown.

CAUTIONS DURING OPERATION

⚠CAUTION

Before operating JUE-95SA, read this operation manual carefully.
Inappropriate procedure may cause incorrect operation or malfunction.

＜EME＞

Do not give mechanical shock and force, because all units of EME are precision instrument.
Unwanted shock and force may cause malfunction.

Do not paint radome.　Painting of radome may cause decrease of the communication quality.

Ask our agency or office to abandon JUE-95SA (EME).　When the lithium battery is short-circuited, receives the impact or it gets wet because of water, it causes generation of heat, the explosion, and the ignition if this is not defended.

ABBREVIATIONS

DTE	Data Terminal Equipment
EGC	Enhanced Group Call
EME	Externally Mounted Equipment
Ex. PSU	Externally Power supply Unit
FFA	Forum Fisheries Agency
IME	Internally Mounted Equipment
IMO	International Maritime Organization
INMARSAT	INMARSAT Ltd.
ISPS	International Ship and Port Facility Security
JB	Junction Box
MES	Mobile Earth station
PSU	Power Supply Unit
SOLAS	Safety of Life at Sea
SSAS	Ship Security Aleart System
VMS	Vessel Monitoring System

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CHAPTER 1. GENERAL

1.1 Function of Ship Security Alert System

Installing the Function of Ship SSAS (Security Alert System) was obligated to the freighter of Passenger Boat and the gross tonnage 500 tons or more that engaged it in the international voyage, by the ISPS code of SOLAS the agreement Chapter XI-1/XI-2, ship, and harbor equipment (ISPS code).

JUE-95SA can fill the demanded function of the SSAS of the below mentioned documents.

(1) SOLAS Chap.XI-2 Regulation 2&6

(2) ISPS Code Part A, 9.4.18

(3) IMO MSC Resolution 136(76)/147(77)

(4) IMO MSC/Circ.1072/1073

CHAPTER 2. Configuration

2.1 Cable connection and example of setting

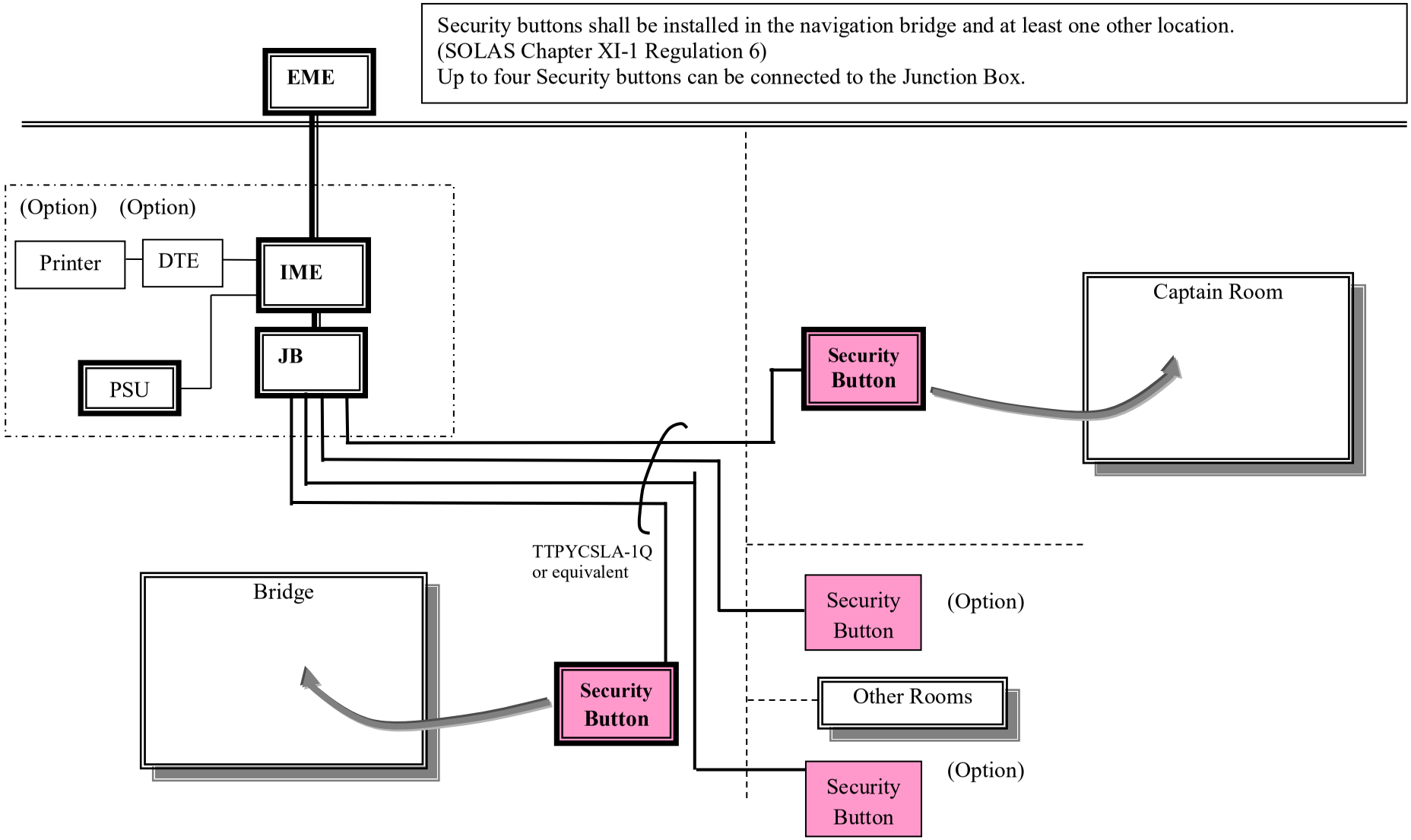


Fig. 2.1 JUE-95SA Installation wiring diagram

2.2 JUE-95SA Components list

Table 2.2 JUE-95SA Components list

	Equipment	Type	Q'ty
JUE-95SA (Standard Components)	EME (Externally Mounted Equipment)	NAF-742SA/NAF-253SA	1
	IME (Internally Mounted Equipment)	NTF-782SA	1
	Security Button	NQE-3154	2
	EXT.PSU（Externally Power Supply Unit）	NBD-577C	1
	EME-IME Coaxial Cable	CFQ-5924A	1
	Power Supply Cable	7ZCSC0202*	1
	Supplied parts for EME installation	MPXP33401*	1
	Supplied parts for IME installation (Including JB)	MPXP33616*	1
	Spare parts for Installation by JRC (for IME)	7ZXSC8501*	1
	JUE-95SA Instruction Manual	7ZPSC0193	1
	JUE-95SA Operation Guide	7ZPSC0211	1
	SSAS Setup Tool (CD-ROM)	7YZSC0048*	1
(Optional Components)	Security Button	NQE-3154	Max.2
	DTE (Data Terminal Equipment)	NDZ-127C1/NDZ-227	1
	Keyboard	NDF-368/NDF-369	1
	Printer	NKG-900/NKG-800	1
	DTE Signal Cable (1.5m)	7ZCSC0203*	1
	DTE Power Cable (2m)	7ZCSC0204*	1
	Printer Signal Cable (1.5m)	7ZCSC0322* (for NKG-900)	1
	Printer Power Cable (2m)	7ZCSC0321* (for NKG-900)	1
	Printer Signal Cable (1.5m)	7ZCSC0205* (for NKG-800)	1
	Printer Power Cable (2m)	7ZCSC0206* (for NKG-800)	1
	IME-SB Cable (required when optional seccurity button is installed)	7ZCSC0246*	1
	Earth Bolt (for EME)	MTL318538A	1
	JUE-85 Operation Manual	7ZPSC0189	1

"Supplied parts for EME installation" will be supplied when NAF-742SA is supplied as EME.

"*" means revision, such as A,B and so on.

2.3 JUE-95SA Standard components appearance

2.3.1 EME (NAF-742SA/NAF-253SA)

The EME is installed above deck for receiving signals from satellites.

The EME is covered with a radome.

Fig.2.3.1a EME (NAF-742SA)

Fig.2.3.1b EME (NAF-253SA)

2.3.2 IME (NTF-782SA)

The IME is installed below deck.

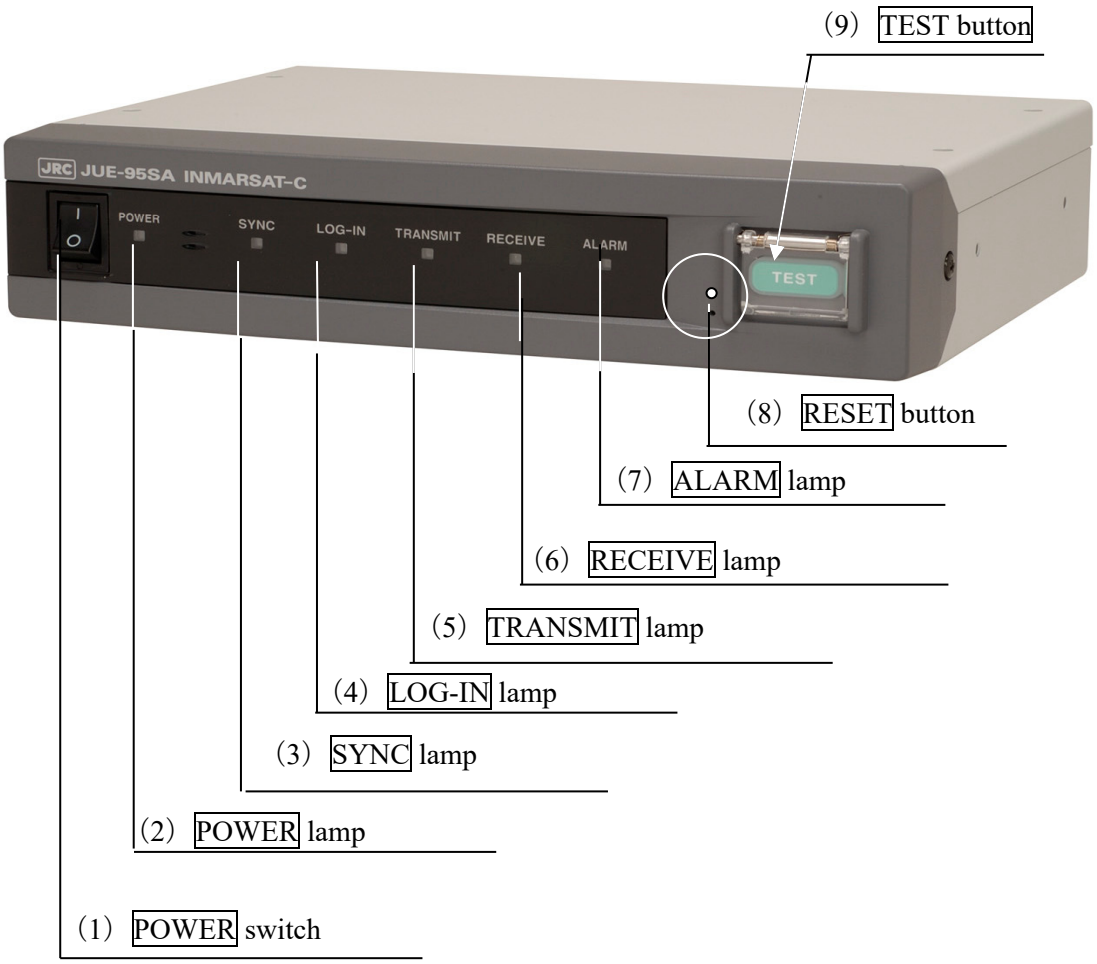


Fig.2.3.2a IME Front view

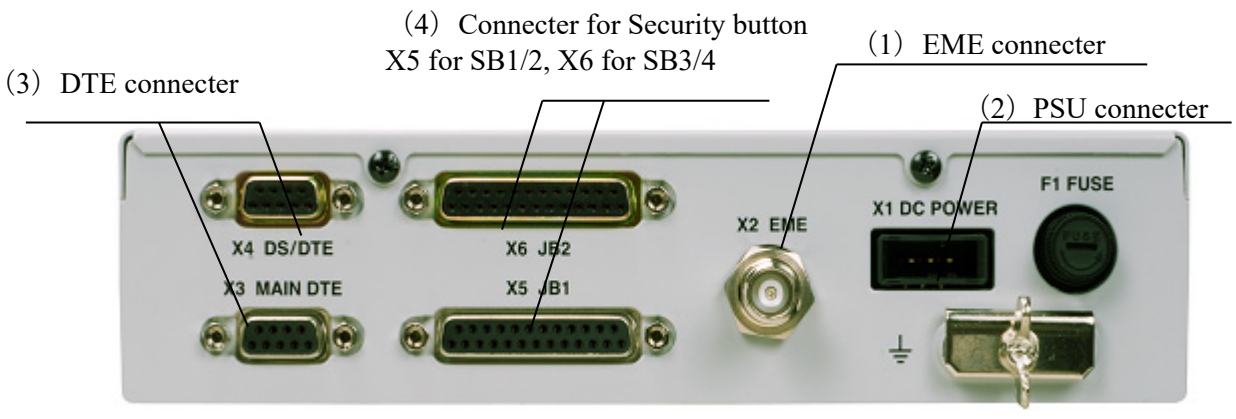


Fig.2.3.2b IME Rear view

2.3.3 JB (MPBC40613)

It can be mounted to bottom part of IME.

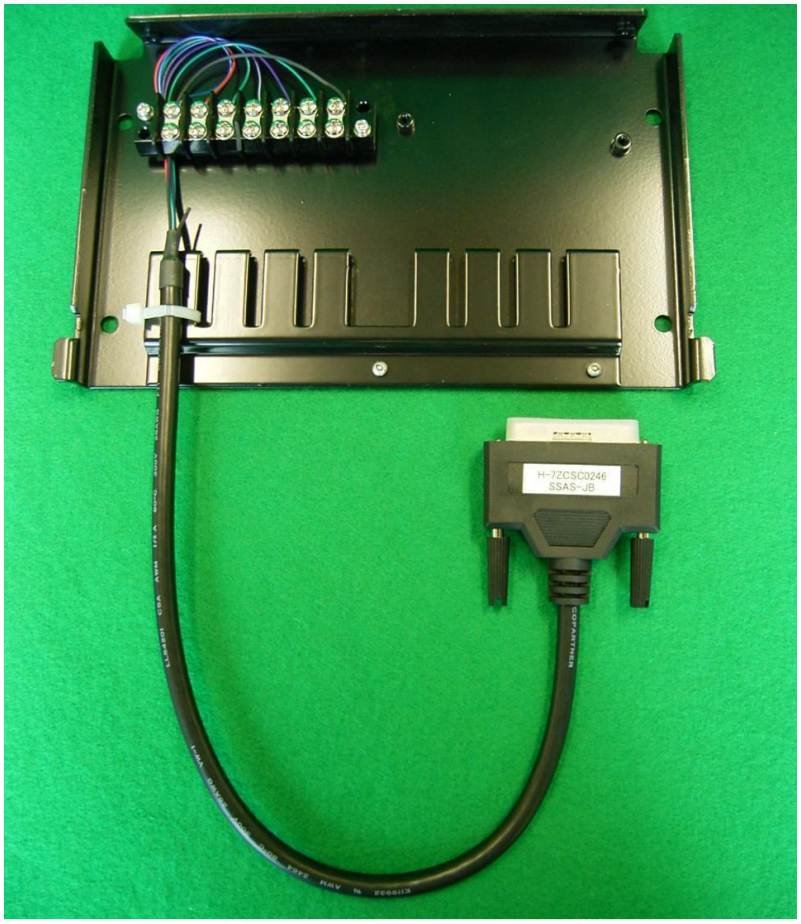


Fig. 2.3.3 JB

2.3.4 Security Button (NQE-3154)

Fig. 2.3.4 Security Button

2.3.5 EXT PSU (NBD-577C)

Fig.2.3.5 EXT PSU

2.3.6 Coaxial cable (CFQ-5924A3, or CFQ-5924A15)

It connects EME and IME.

Fig.2.3.6 Coaxial Cable

2.4 Optional components appearance

2.4.1 DTE (Display: NDZ-127C1, Keyboard: NDF-368)

Fig.2.4.1 DTE (NDZ-127C1)

2.4.2 DTE (Display: NDZ-227, Keyboard: NDF-369)

Fig.2.4.2 DTE (NDZ-227) and Keyboard(NDF-369)

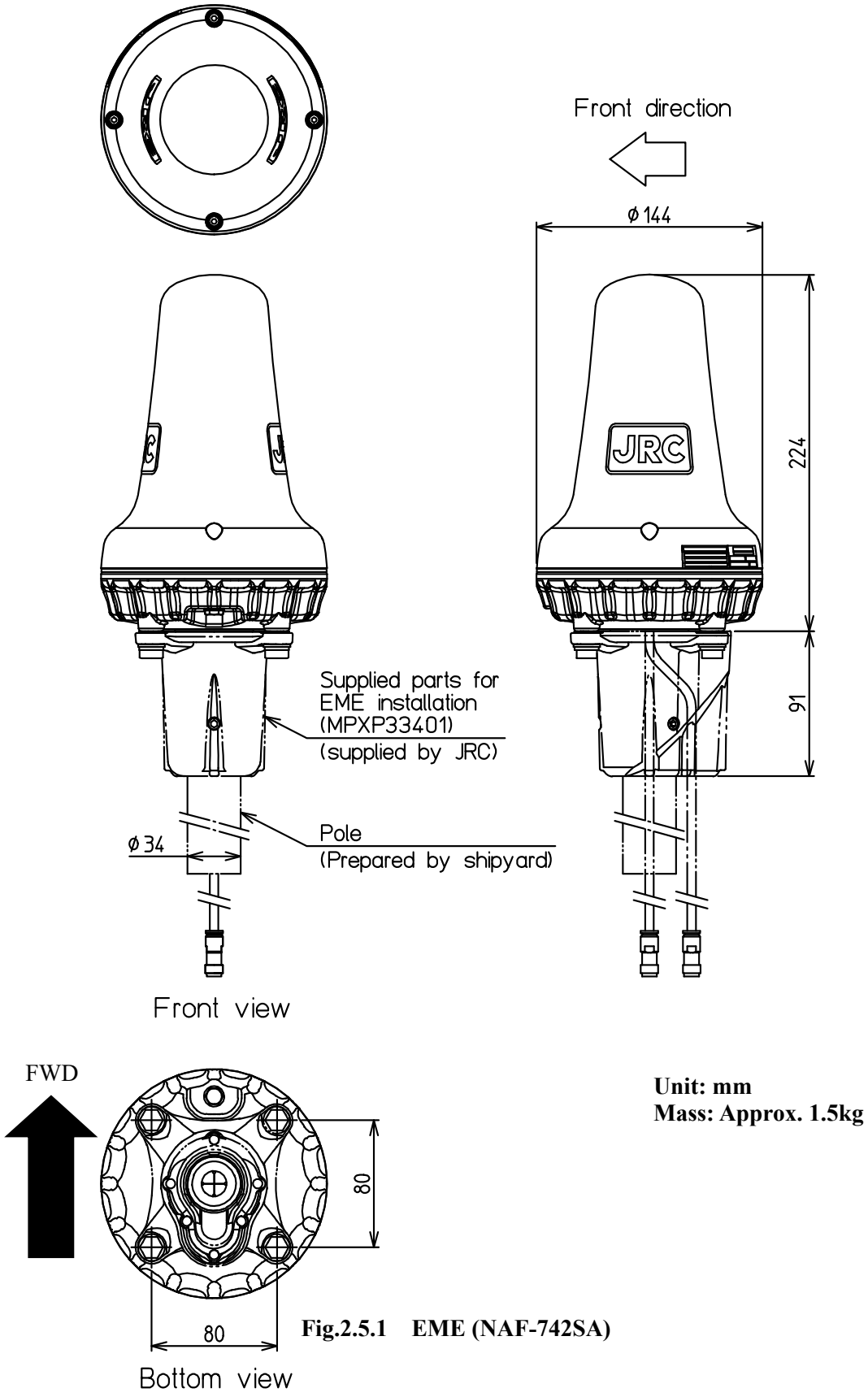
2.4.3 Printer (NKG-900/NKG-800)

Fig.2.4.3a Pinter (NKG-900)

Fig.2.4.3b Pinter (NKG-800)

2.5 Configuration (JUE-95SA Standard components)

2.5.1 EME (NAF-742SA)



Unit: mm
Mass: Approx. 1.5kg

Fig.2.5.1 EME (NAF-742SA)

2.5.2 EME (NAF-253SA)

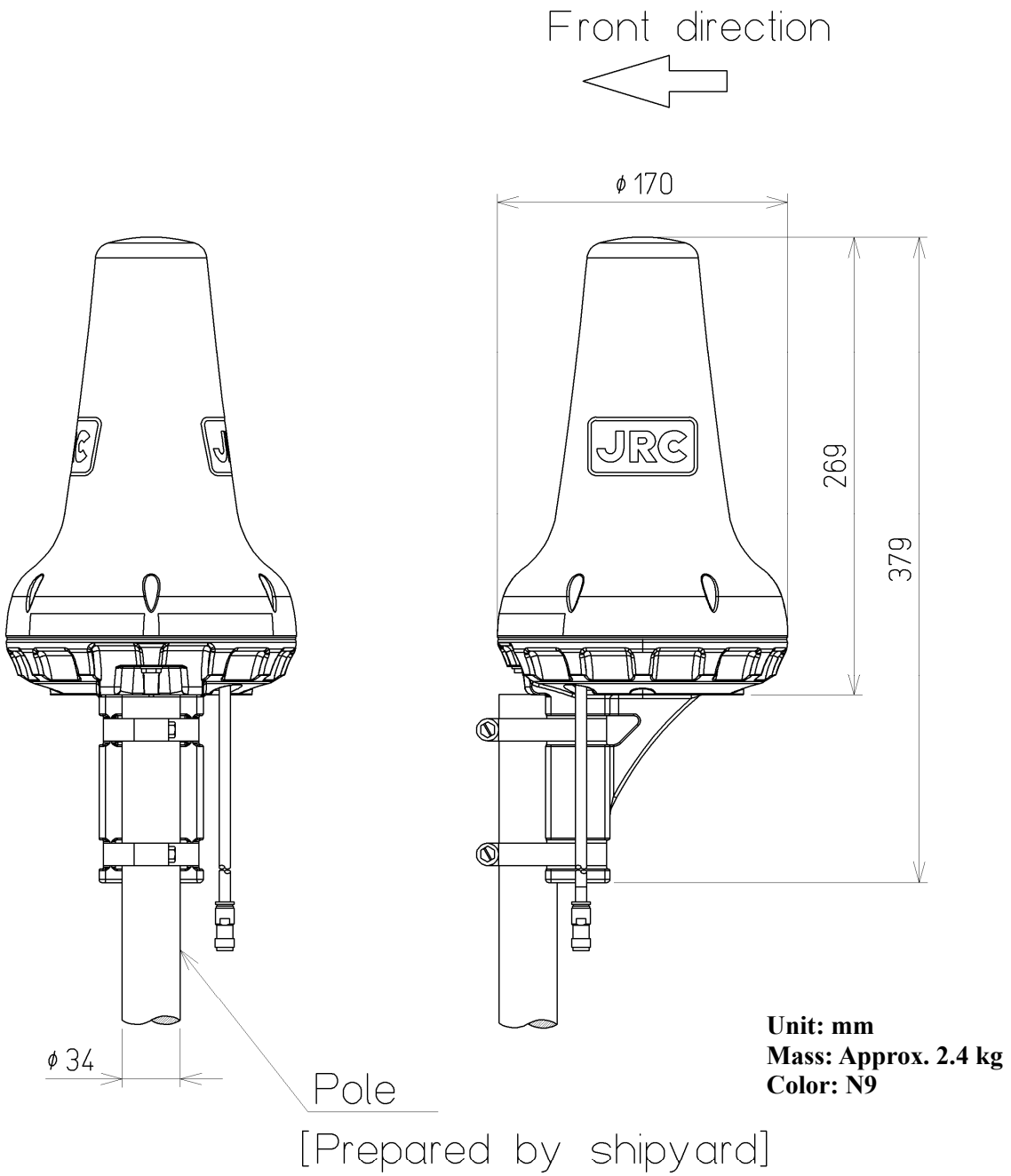
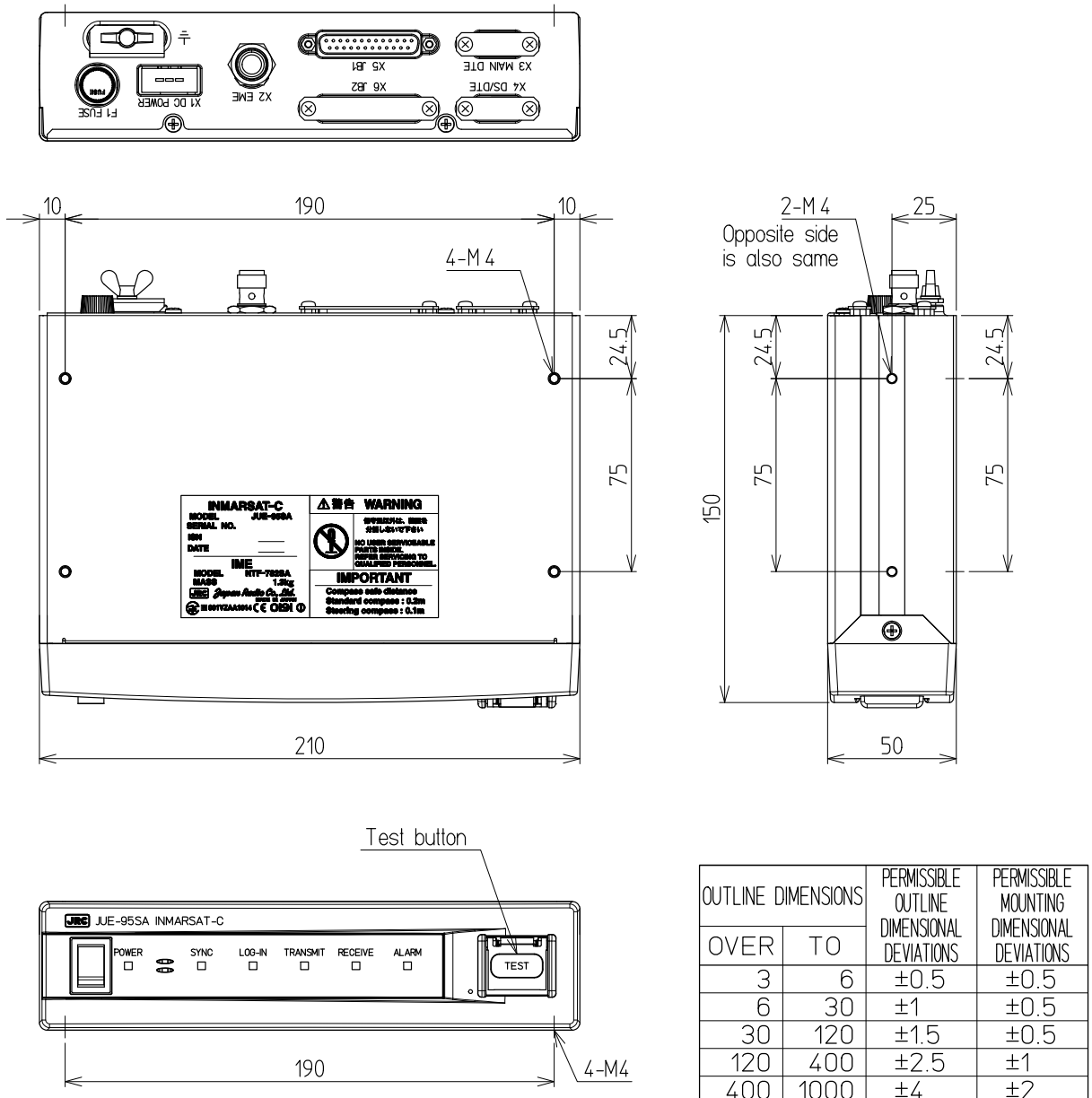


Fig.2.5.2 EME (NAF-253SA)

2.5.3 IME (NTF-782SA)

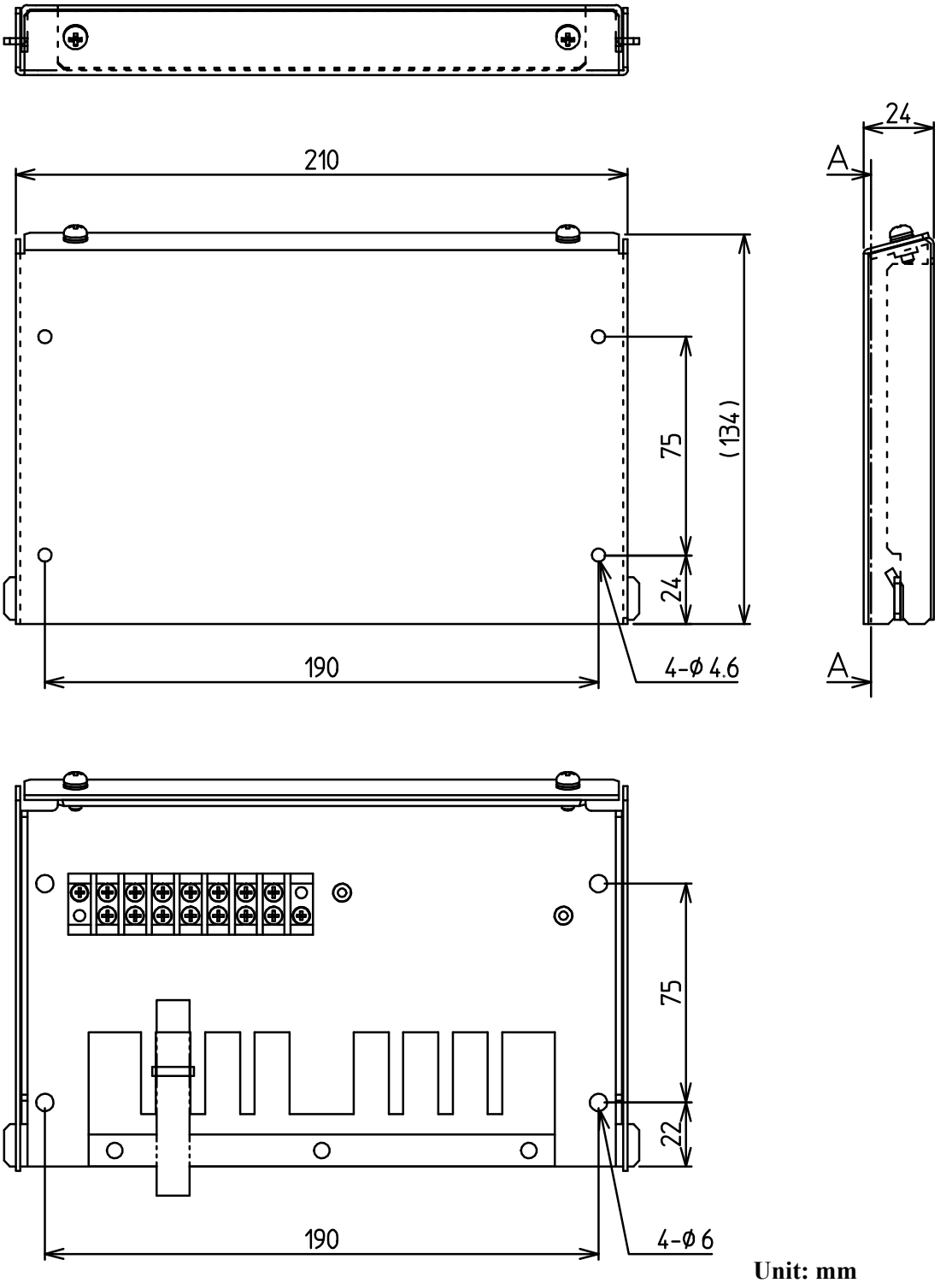


OUTLINE DIMENSIONS		PERMISSIBLE OUTLINE DIMENSIONAL DEVIATIONS	PERMISSIBLE MOUNTING DIMENSIONAL DEVIATIONS
OVER	TO		
3	6	±0.5	±0.5
6	30	±1	±0.5
30	120	±1.5	±0.5
120	400	±2.5	±1
400	1000	±4	±2
1000	2000	±6	±3
2000	4000	±8	±3

Unit: mm
Mass: Approx. 1.3kg

Fig.2.5.3 IME

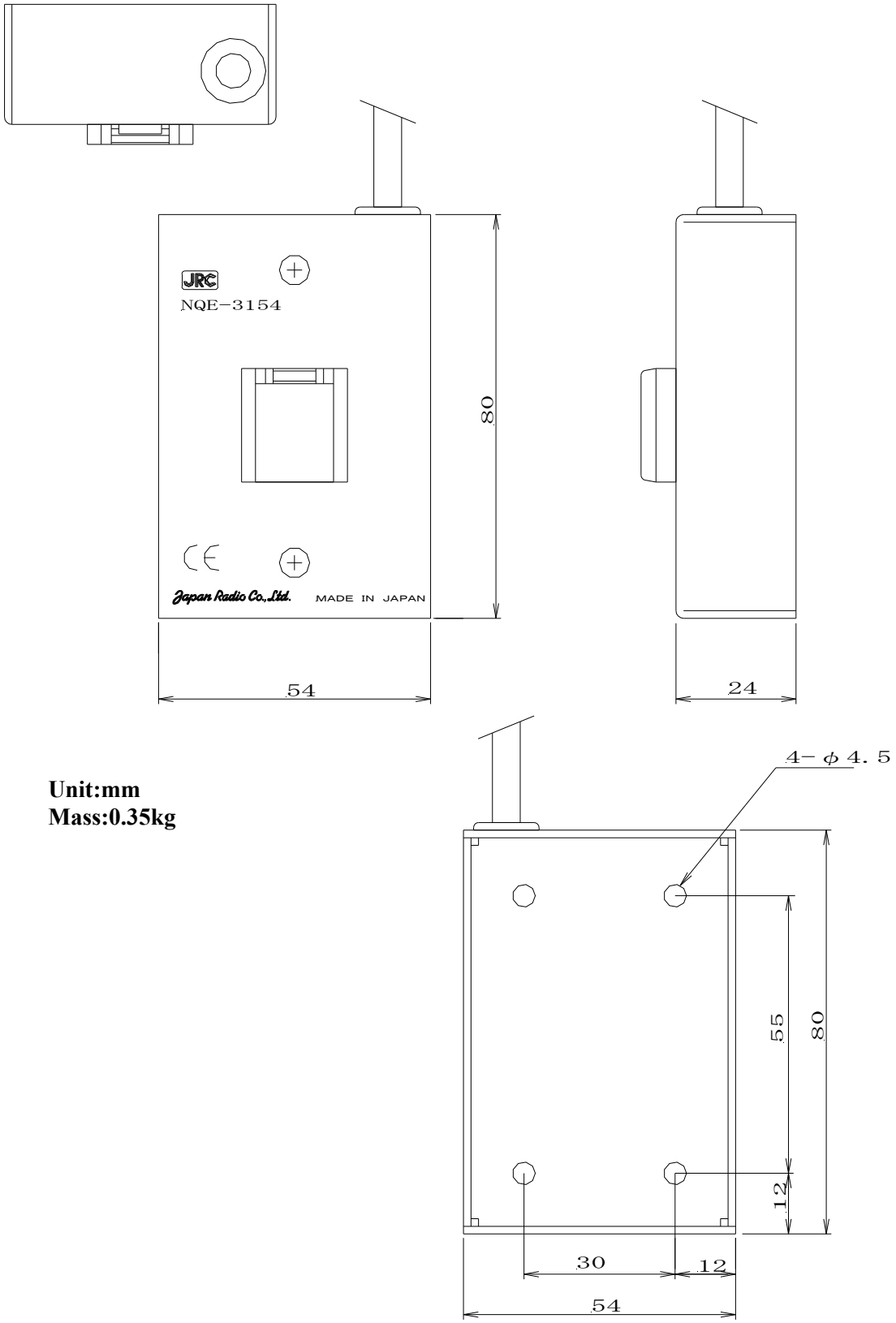
2.5.4 JB (MPBC40613)



Unit: mm
Mass: Approx. 1.1kg

Fig.2.5.4 JB

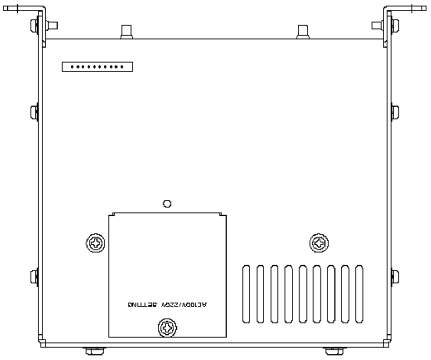
2.5.5 Security Button (NQE-3154)



Unit:mm
Mass:0.35kg

Fig.2.5.5 Security button

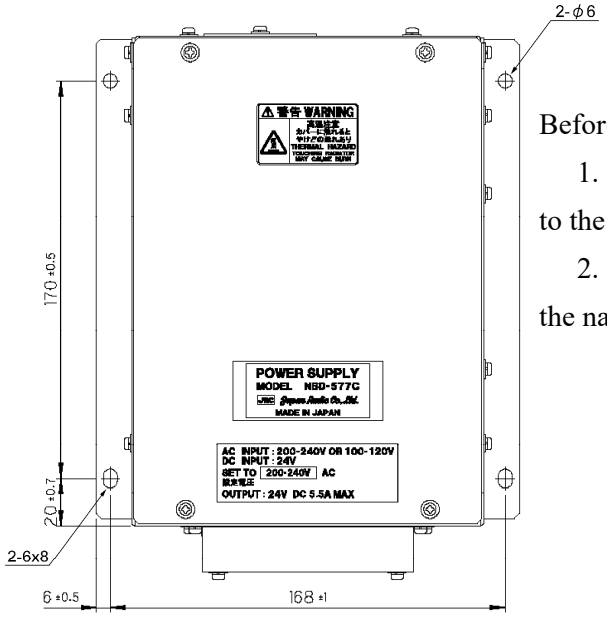
2.5.6 EXT PSU (NBD-577C)



Specification

Input voltage:
AC 100/220V (typical), ±10%
50/60Hz (typical), Single phase
DC 24V (typical), +30%, -20%

Output voltage:
DC 24V



Caution

Before installation, do the following procedure.

1. Set the plug “P1” to suitable receptacle according to the input voltage.

2. Stick the attached label for voltage indication on the name plate according to the input voltage.

Unit: mm
Mass: Approx. 5.4kg

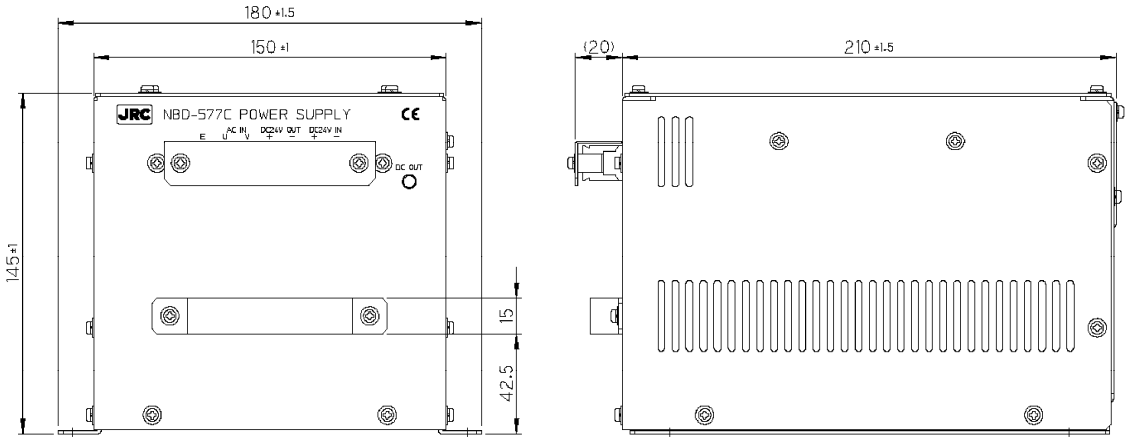
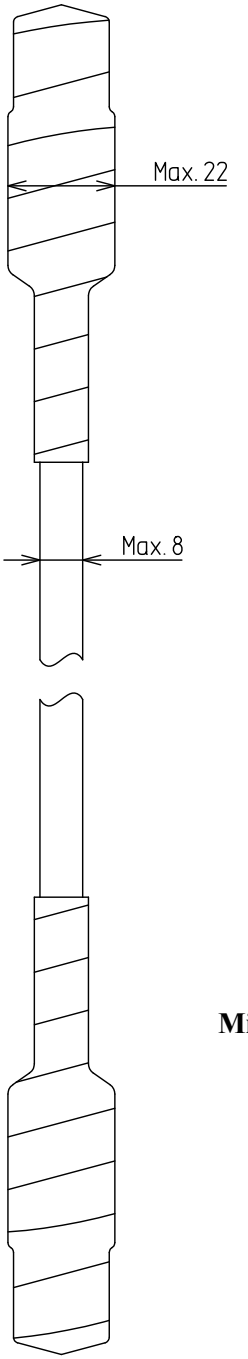


Fig.2.5.6 EXT PSU

2.5.7 Coaxial Cable (CFQ-5924A3, CFQ-5924A15)



Minimum bending radius：54mm

Unit: mm

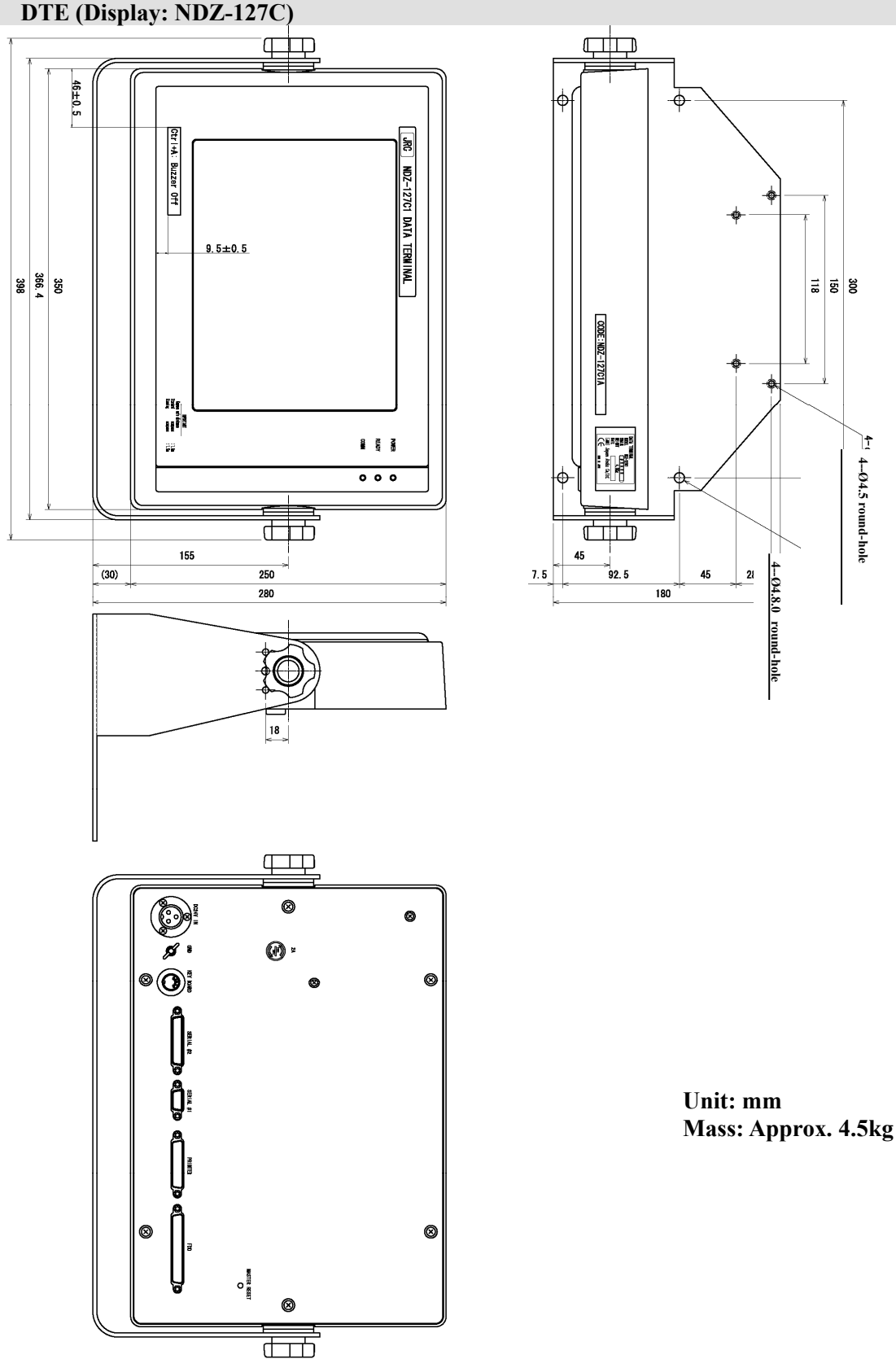
Type	Length	Mass
CFQ-5924A15	15m(±0.5m)	Approx. 1.4kg
CFQ-5924A3	30m(±1.0m)	Approx.2.3kg

Note) Lay down coaxial cable without cutting.
If reducing cable length is needed, cut the "IME" side only.

Fig.2.5.7 Coaxial Cable

2.6 Optional Equipment Dimensional drawing

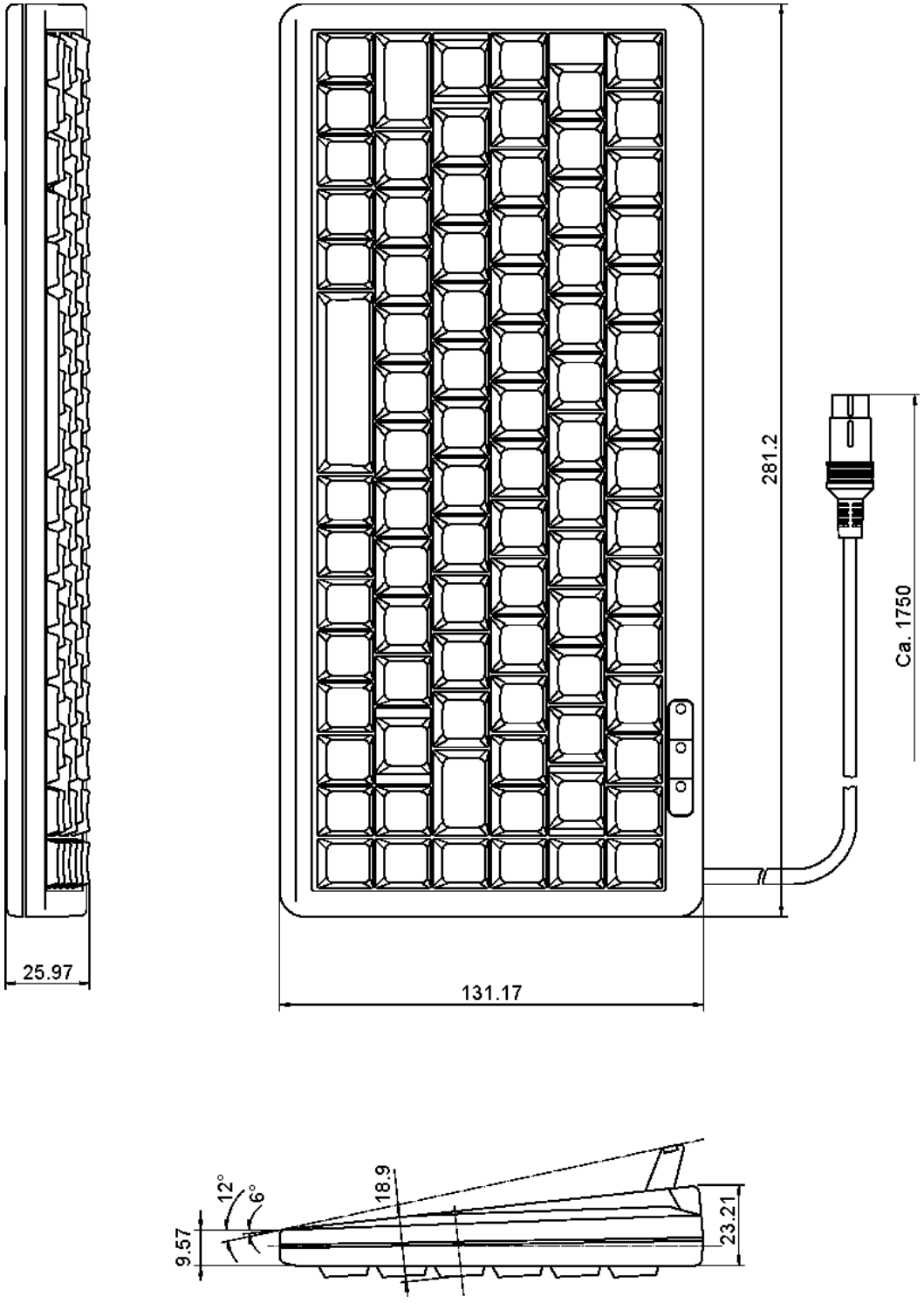
2.6.1 DTE (Display: NDZ-127C)



Unit: mm
Mass: Approx. 4.5kg

Fig.2.6.1 DTE (Display: NDZ-127C1)

2.6.2 DTE (Keyboard: NDF-368)



Unit: mm
Mass: 0.4kg

Fig.2.6.2 DTE (Keyboard: NDF-368)

2.6.3 DTE (Display: NDZ-227)

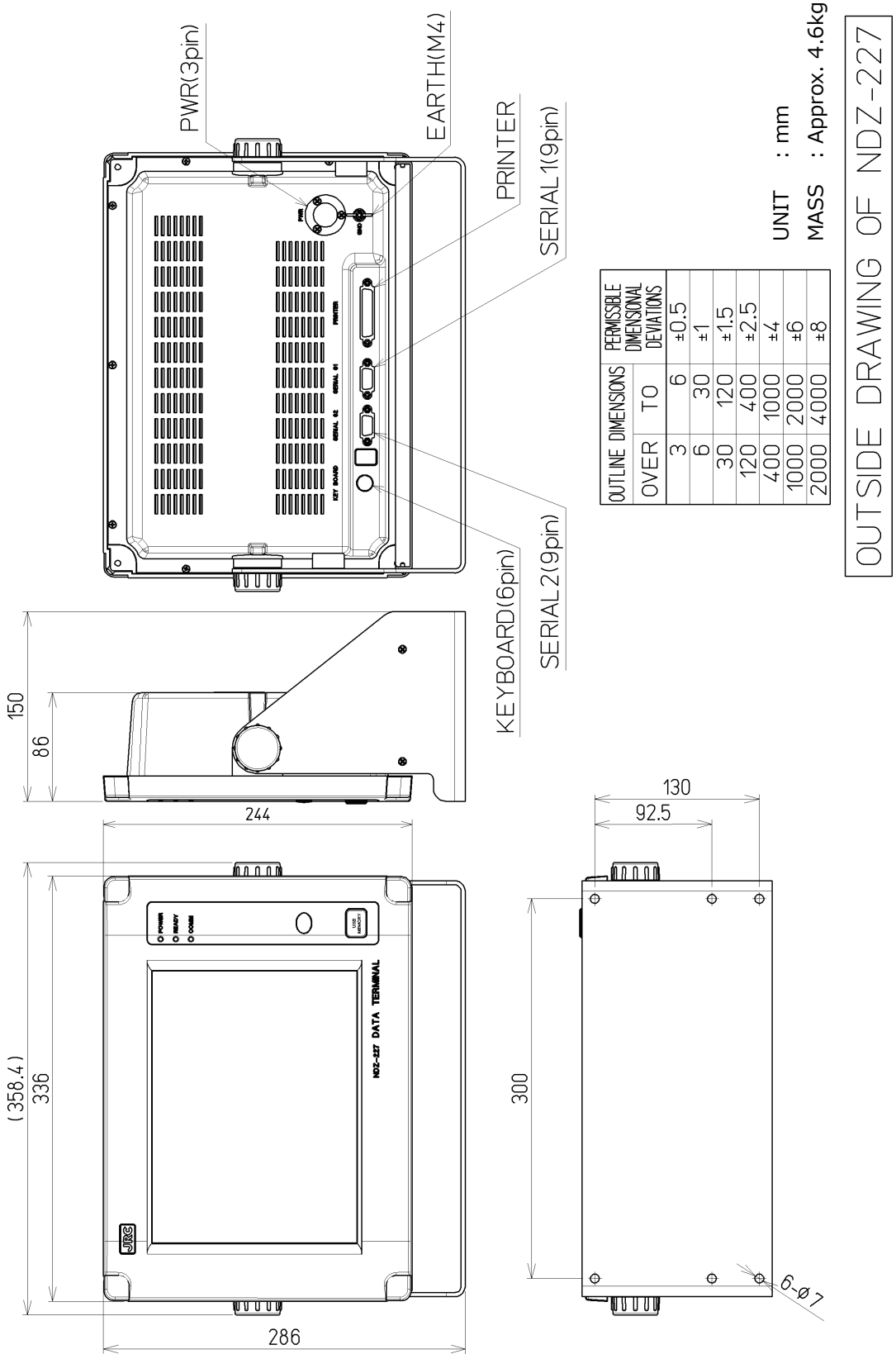
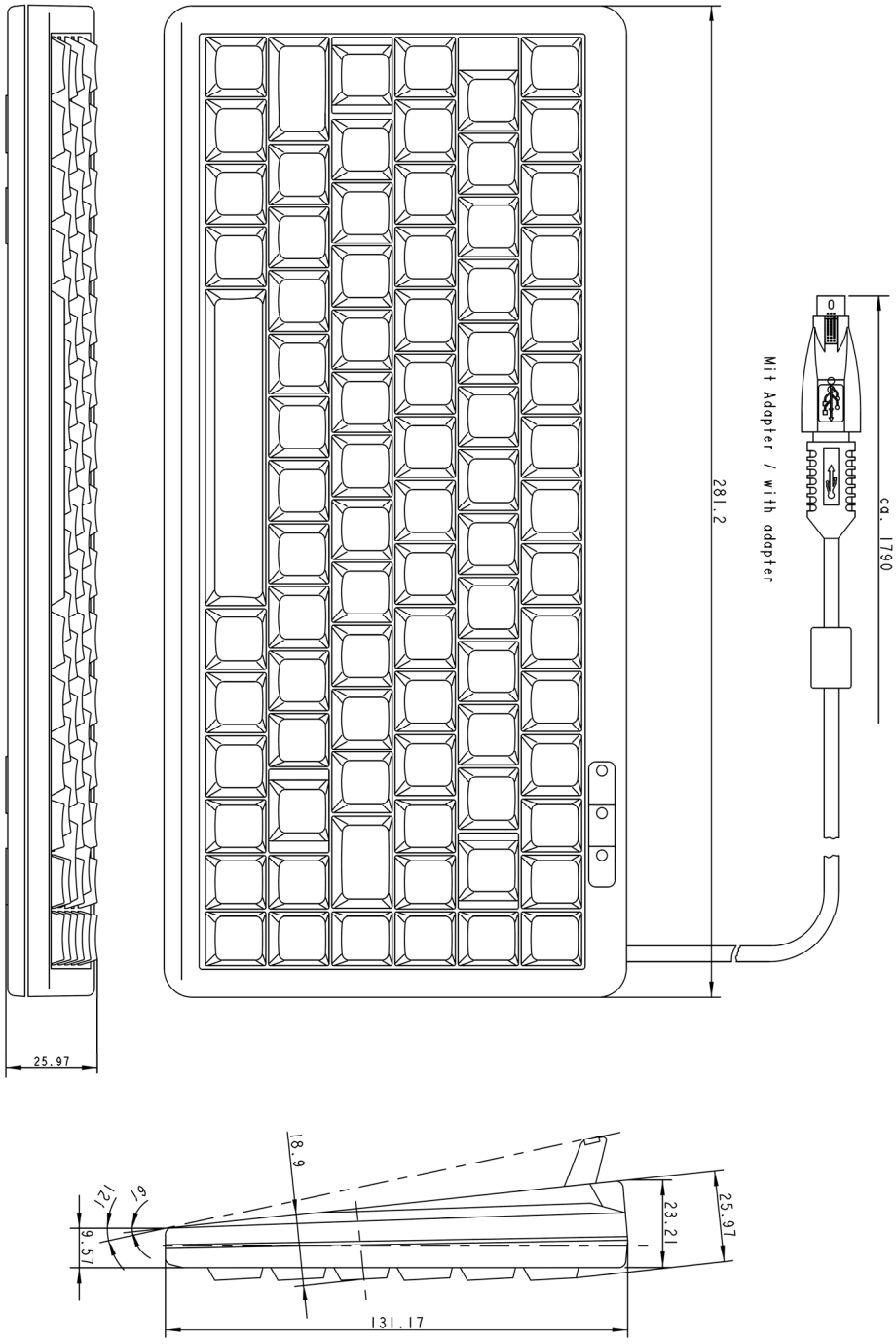


Fig.2.6.3 DTE (Display: NDZ-227)

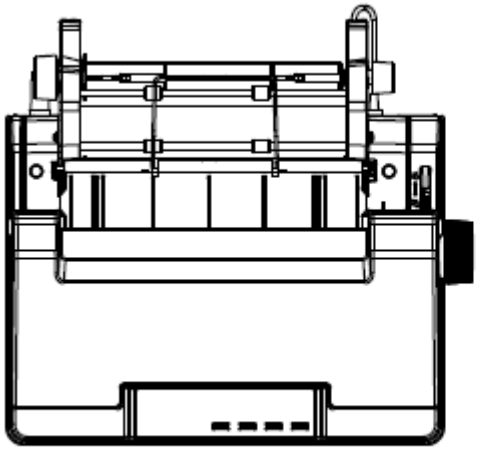
2.6.4 DTE (Keyboard: NDF-369)

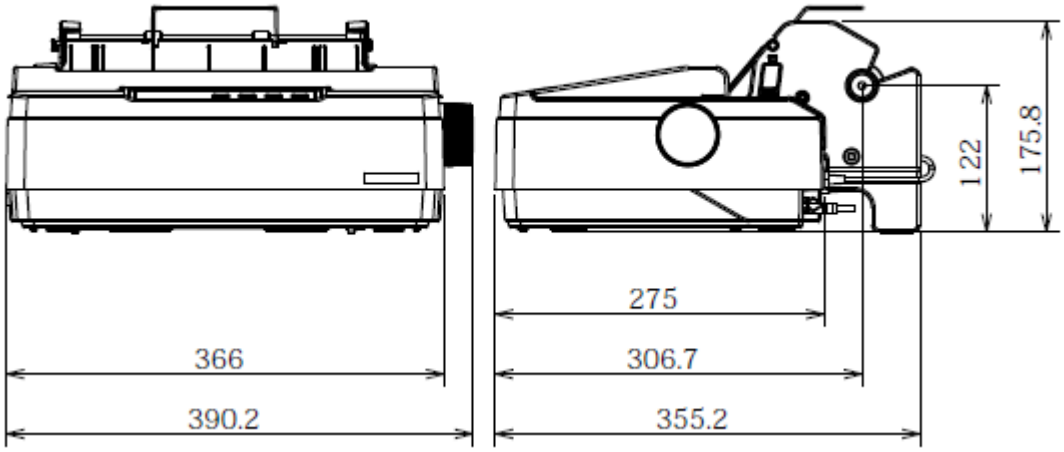


Unit : mm
Mass : 0.4kg

Fig.2.6.4 DTE (Keyboard: NDF-369)

2.6.5 Printer (NKG-900/NKG-800)

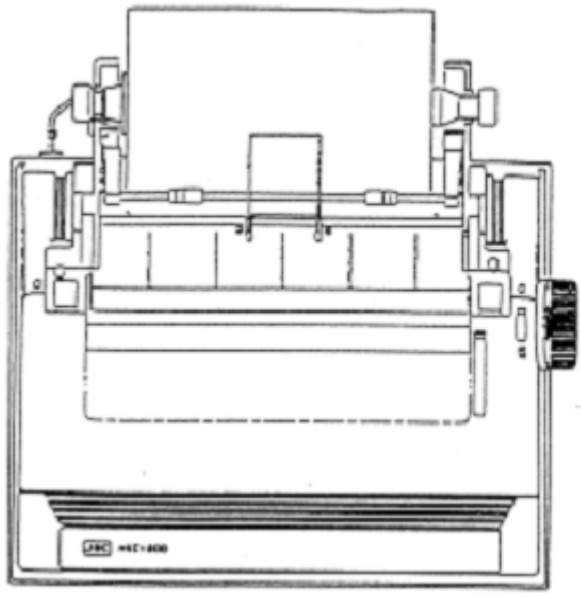


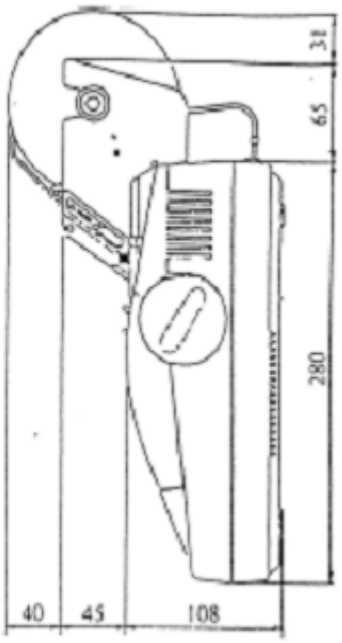


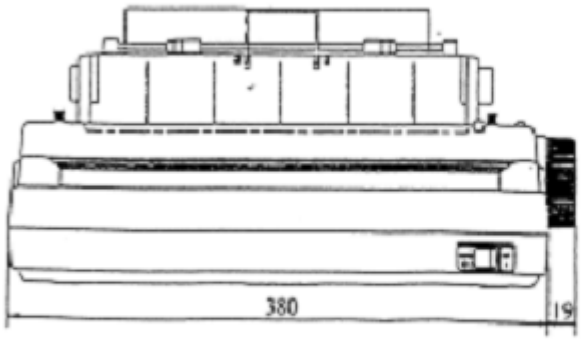
Fixing
Fix the printer on the desk with the hook and loop fastener, attached to the printer base.

Unit: mm
Mass: Approx. 4.8kg

Fig.2.6.5a Printer(NKG-900)







Fixing
Fix the RO printer on the desk with the velcro

Unit : mm

Fixing
Fix the printer on the desk with the hook and loop fastener, attached to the printer base.

Unit: mm
Mass: Approx. 3.7kg

Fig.2.6.5b Printer(NKG-800)

CHAPTER 3. OPERATION

3.1 Basic operation of JUE-95SA

Before turning on power switch of JUE-95SA, confirm all the signal cables and power cables are connected correctly.

Regarding the details of LED lamp display, switch functions, and connecting cable and connector, refer table 3.1.1 to 3.1.3.

Carry out Power ON/OFF with the procedure mentioned below.

NOTE

All LEDs are turned off due to JUE-95SA changed its state to [Security warning transmission standby (*1)], by turns on power source of IME and terminates log-in process.

Press Test button to confirm status of JUE-95SA in this situation (*2).

Press Test button again after you confirmed the status of JUE-95SA, then all LEDs are turned off again.

(*1) Security warning transmission is transmitted when security button is pressed on this situation. All LEDs are still turned off during transmission.

(*2) Then LED of Test button and other LED, which corresponding to the state of JUE-95SA at that time, are lit.

Security warning is transmitted after 30 seconds, when you press Security button on this status. And LED is lit corresponding to transmitting result.

3.1.1 Power on and log in

Turn ON the power switch of IME, the terminal is logged in to Ocean Region automatically, then LOG-IN lamp on PANEL is illuminated. (At the first time, it will takes maximum 20 minutes to logged in after powered on. Normally, it will takes maximum 3 minutes to logged in.)

3.1.2 Log out and power off

Turn OFF the power switch of IME, the terminal is powered off after it was logged out from Ocean Region, automatically. (It will takes maximum 5 seconds to logged in after powered on.)

3.1.3 Setting of Security Alert

Before security alert transmission, set the destination, message and so on in the setting menu. Refer to clause 3.2.

3.1.4 Transmission of Security Alert

In case of security alert transmission, press security button. After 30 seconds, security alert is transmitted. Security alert is transmission on a setup interval until canceled. Refer to clause 3.3.

3.1.5 Cancellation of security alert

To cancel security alert, press again the security button. Refer clause 3.3.

3.1.6 Test transmission of security alert

It is used to test transmission of SSAS. Refer clause 3.4.

3.1.7 Optional DTE

When DTE is connected to JUE-95SA, refer an operation manual of JUE-85 (option).

Main functions can be used when the DTE connected to JUE-95SA are mentioned below.

-S&F message communication (Telex, Facsimile, Data, and E-mail)

-Data Reporting/Polling (Position, Call Log, and Alarm pack)

-Message Editor/File Management

-Receiving Message Management (Inmarsat-C/EGC)

-Call Logging

-Initial Setting (NCS/LES, Preferred Ocean Region, e.t.c.)

-Testing function (PV test, Alarm pack, ROM version, e.t.c.)

-Warning message

3.1.8 Optional Printer

When the printer is connected to JUE-95SA, refer an operation manual of JUE-85 (option)..

3.1.9 Optional Ex. PSU

It provides power supply (DC24V) to IME, optional DTE, and printer. Power ON/OFF is available by turning switch of the front panel.

Table 3.1.1 The status of MES which LED lamps indicated

(Number of the button name corresponds to Figure 2.3.2a)

NAME	ON	OFF
(2) POWER Lamp	MES power on.	MES power off.
(3) SYNC Lamp	Bulletin Board OK. When the MES is returned the NCS channel to the TDM channel or the TDM channel to the NCS channel, this LED is blinking.	Bulletin Board NG.
(4) LOG-IN Lamp	Logged in.	Logged out.
(5) TRANSMIT Lamp	MES carrier on.	MES carrier off.
(6) RECEIVE Lamp	Message receiving.	No message, or message received and output it to DTE and/or Printer.
(7) ALARM Lamp	・When TX Alarm *1 is occurred, it blinks at intervals of 0.5 seconds. ・When Battery Alarm*2 is occurred, it blinks with 1 second interval. ・When both of TX and Battery Alarms are occurred, this lamp lights without blink. ・Security alert is not transmitted even if the button is pushed, when the bad connection cannot be recognized.	Normal condition. （To extinction the lamp, turn on and off the power switch.）

*1) TX Alarm informs some sort of malfunction is occurred on communication devices.
*2) Battery Alarm informs the battery is decreased to under the specified level.

Table 3.1.2 Function of switch and buttons

Name	Function	Remarks
(1) POWER Switch	Power ON/OFF the MES.	
(8) RESET Button	To reset the status of JUE-95SA when it operates abnormally.	Refer to 4.6 of this manual and be careful to handle this button. (It seems as a very little hole. Press the switch exists in the hole with narrow object like a wire.)
(9) TEST Button	To use for SSAS test transmission.	

Table 3.1.3 Connectors and the Cable (Refer 2.3.2b for detail)

Name	Connected from/to
EME Connector	IME to EME
Power Supply Connector	IME to AC adopter of PSU (24V)
DTE Connector	IME to DTE and DS/DTE
Option Connector (X5 and X6)	IME to Security Button 1/2(X5), and Security Button 3/4(X6)

3.2 SSAS Schedule confirmation/setting

Confirmation and setting of SSAS Alart transmission schedule can be done in SSAS Schedule screen.

3.2.1 SSAS Schedule confirmation

1. Click [Scheduled Transmission] on [MENU LIST]. Then below mentioned screen is displayed.

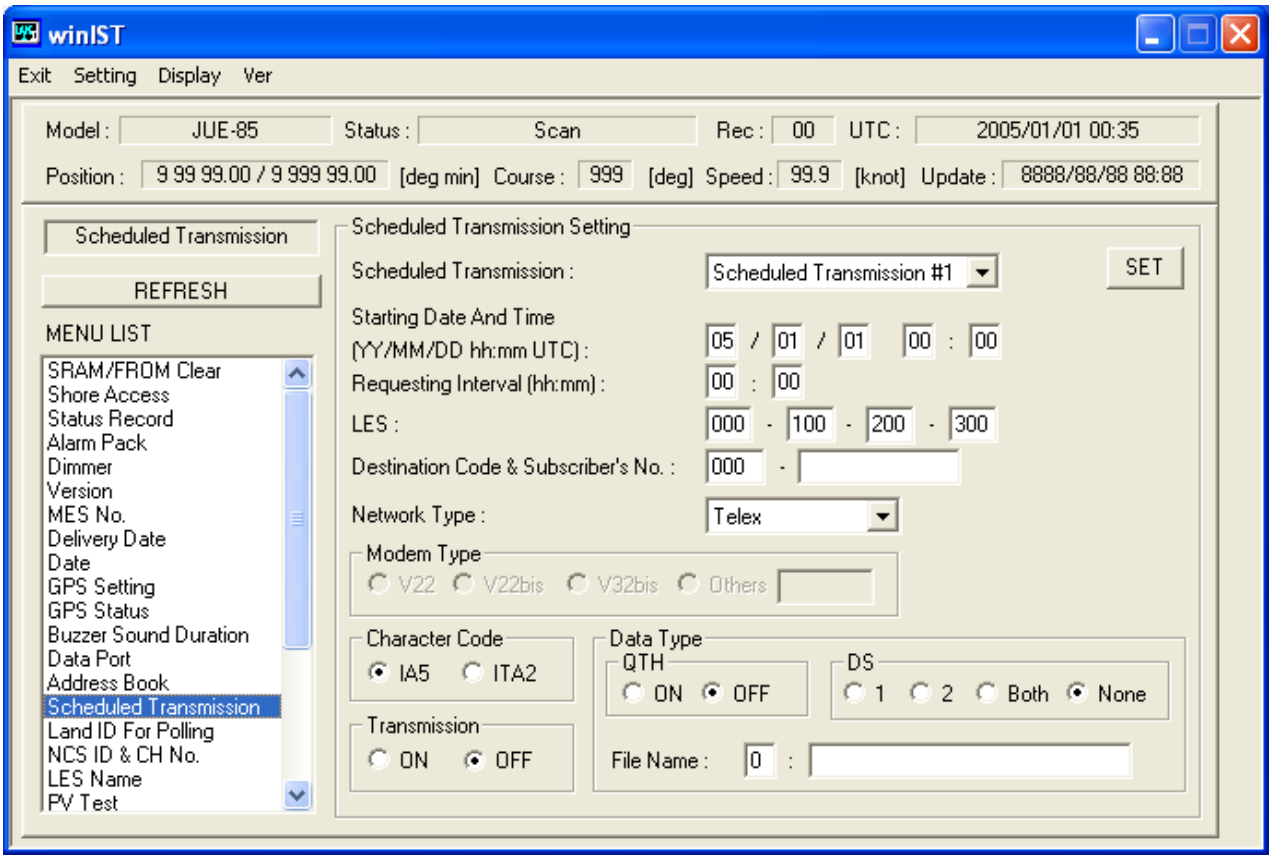


Fig. 3.2.1a Scheduled Transmission screen

2. Press Ctrl+F10 key after the data of Scheduled Transmission is displayed on Scheuled Transmission screen.
3. Below mentioned window is displayed. Then, enter 4-digit password and click SET button.

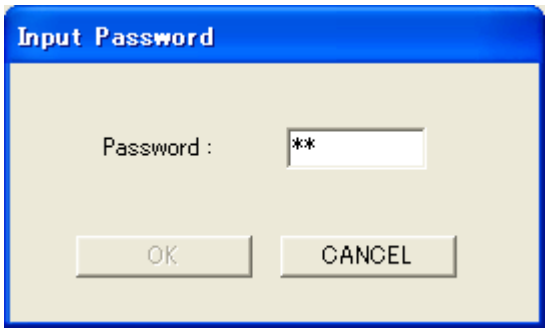


Fig. 3.2.1b Input Password widow

4. Below mentioned SSAS Schedule screen is displayed when correct password is entered.

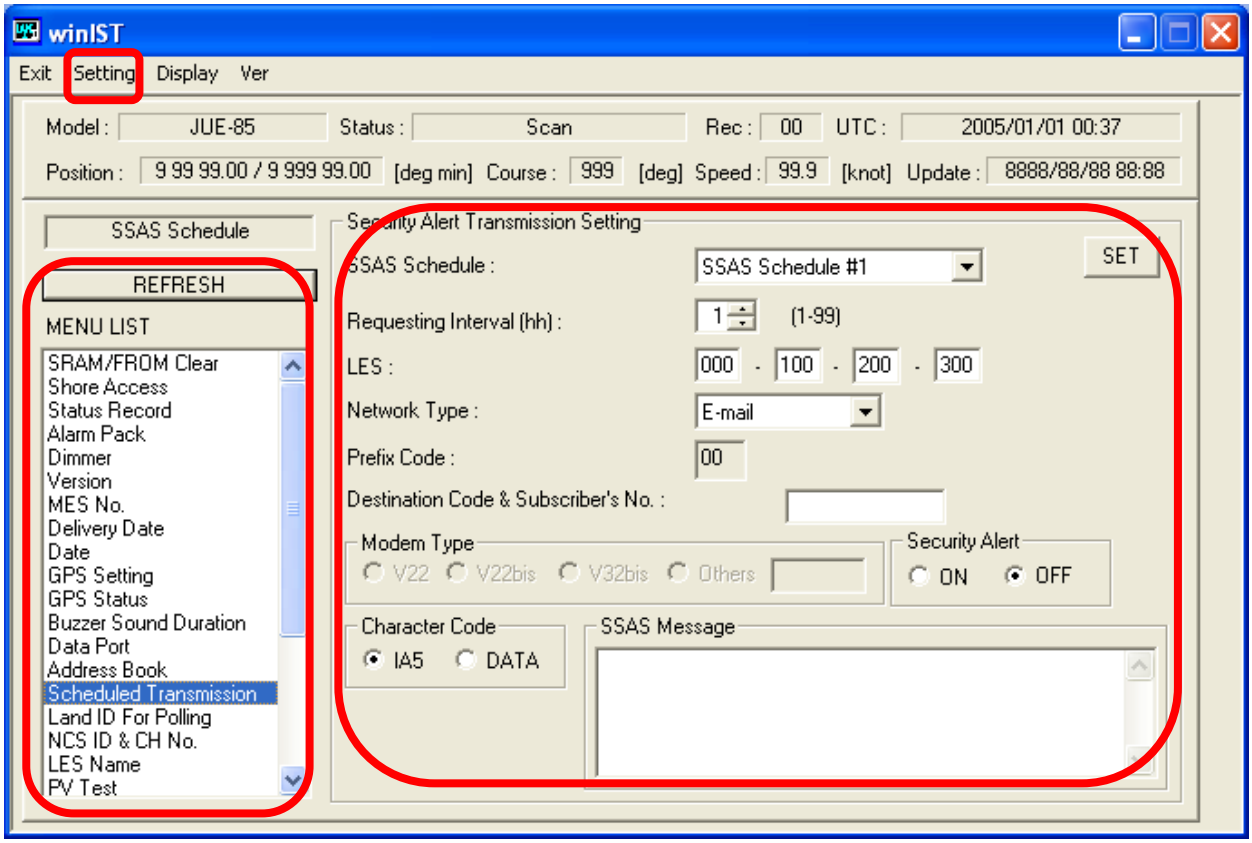


Fig. 3.2.1c SSAS Schedule screen display

5. Select SSAS Schedule you want to set from SSAS Schedule #1 to＃5.
6. Confirm below mentioned data on above screen.

■Requesting Interval

■LES

■Destination Code & Subscriver's No.

■Network Type

- E-Mail
- Telex
- PSTN
- Facsimile
- PSDN
- Closed Net
- Special Access

■Security Alert ON/OFF

■SSAS Message

■Charactor Code

***When Network Type is Telex**

- IA5
- ITA2

***When Network Type is except Telex**

IA5

- DATA

***When Network Type is PSTN**

■ Modem Type

- V22
- V22bis
- V32bis

NOTE

1.Empty column is displayed when winIST failed to receive the data.

In this case, carry out following procedure and confirm again.

1). Click [Setting] of menu bar and open the dialogue box of COM PORT, then click [OK], and confirm that COM PORT is opened normally.

2). Confirm that COM PORT of PC and PORT of IME is connected with serial cable.

3). Confirm INMARSAT terminal works normally or not, by seeing the ligtning of POWER-LED of IME.

2.Operation except [Exit], [Display], and [Ver] is not available during winIST is communicating with INMARSAT terminal. (the function of inner frame of **Fig. 3.2.1c SSAS Schedule screen display** cannot be operated.)

3.2.2 Setting SSAS Schedule

1. Click Scheduled Transmission on MENU LIST, then Scheduled Transmission screen is opened.

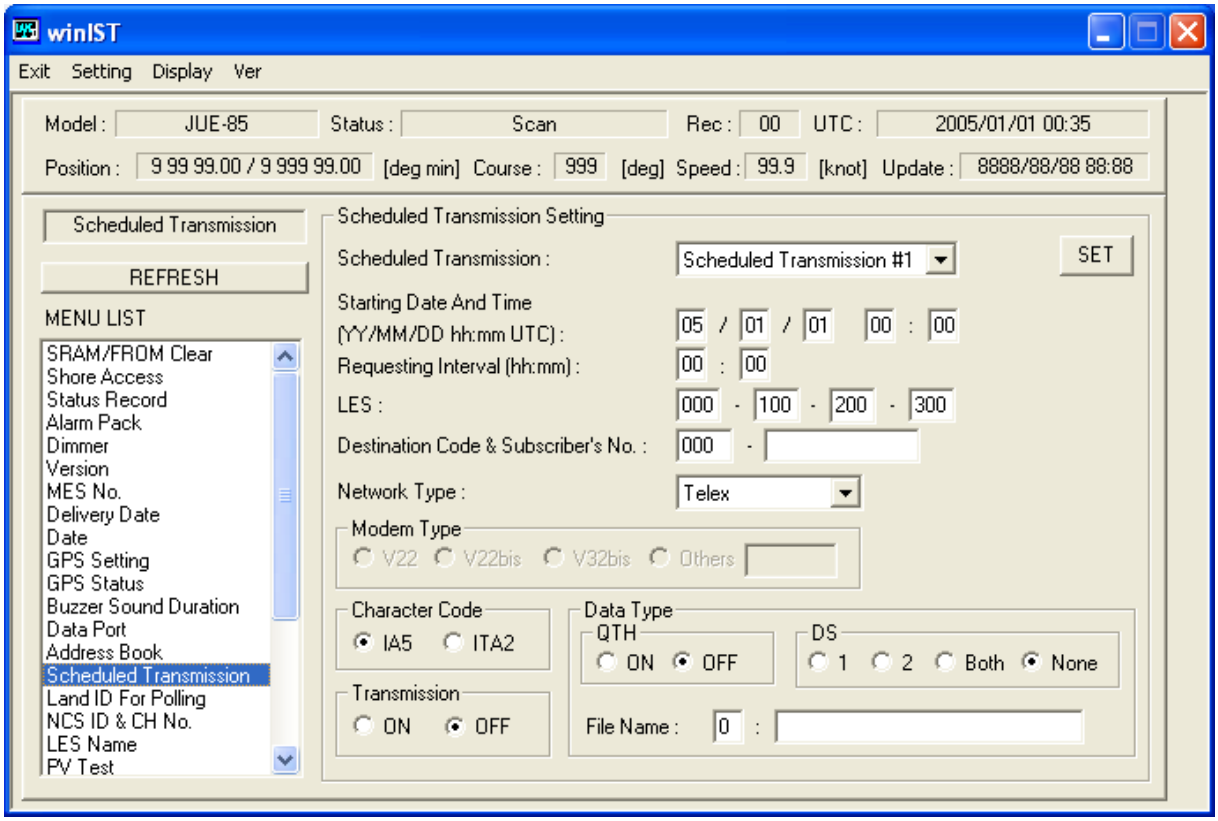


Fig. 3.2.2a Scheduled Transmission screen

2. Press [Ctrl+F10] key after the data of Scheduled Transmission is displayed on the screen.
3. Following window is displayed. Then, enter 4-digit password and click [SET] button.

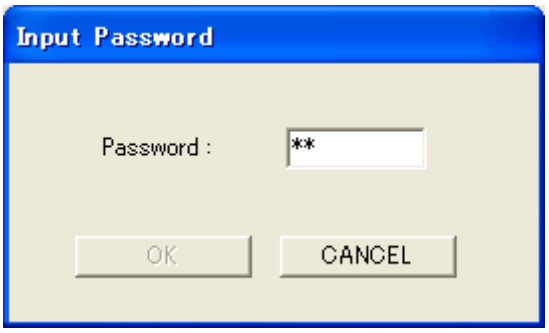


Fig. 3.2.2b Input Password screen

4. Following SSAS Schedule screen is displayed when correct password is entered.

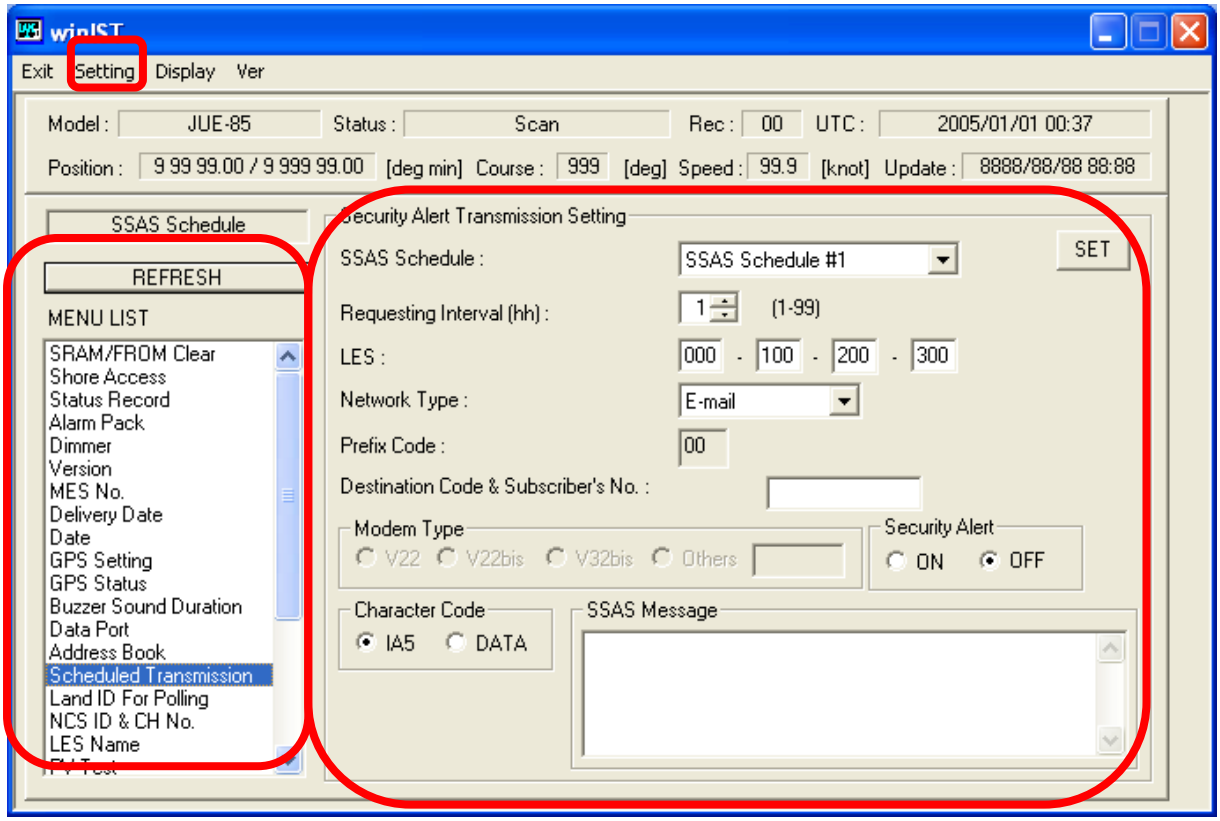


Fig. 3.2.2c SSAS Schedule screen (E-mail selected)

5. Select SSAS Schedule you want to set from SSAS Schedule #1 to＃5.
6. Input Requesting Interval within the range of 0 to 99.
7. Input LES number

   Input LES number to first box (from left) within the range of 000 to 063.
   Input LES number to second box (from left) within the range of 100 to 163.
   Input LES number to third box (from left) within the range of 200 to 263.
   Input LES number to fourth box (from left) within the range of 300 to 363.

8. Select Network Type from following 7 choices.
   - E-mail
   - Telex
   - PSTN
   - Facsimile
   - PSDN
   - Closed Net
   - Special Access

9. Input Prefix Code within the range of 0 to 99.

***When E-mail or Special Access is selected to Network Type**

9 Input Destination Code and Subscribers Number by alphabet (capital letter and small letter), 6 character or less.

10 Select Character Code from following choices.

- IA5
- DATA

11. Set Security Alart ON/OFF.

12. Input SSAS Message by one-byte character, 512 character or less.

13. Repeat the procedure from No.5 to No.12 when you edit other SSAS Scheduled data.

14. Click [SET] button to write the data into INMARSAT terminal, when setup is completed.

***When Telex is selected to Network Type**

9. Input Destination Code and Subscribers Number.

Input Destination Code to first box (from left) within the range of 0 to 999.

Input Subscribers Number to second box (from left) by 11-digit figure.

10. Select Character Code from following 2 choices.

- IA5
- ITA2

11. Setup Security Alert ON/OFF.

12. Input SSAS Message by one-byte character, 512 character or less.

13. Repeat the procedure from No.5 to No.12 when you edit other SSAS Scheduled data.

14. Click [SET] button to write the data into INMARSAT terminal, when setup is completed.

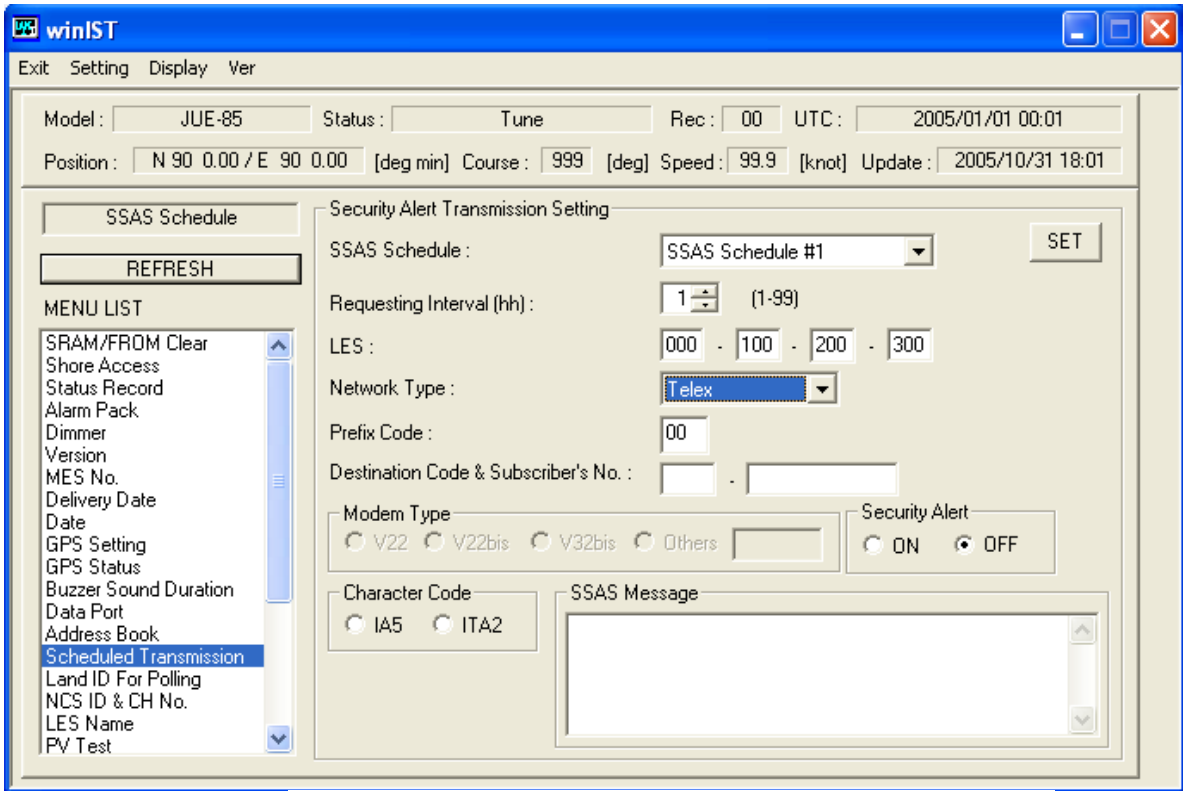


Fig. 3.2.2d SSAS Schedule screen (Telex selected)

***When PSTN is selected to Network Type**

9. Input Destination Code and Subscribers Number.
   Input Destination Code to first box (from left) within the range of 0 to 999.
   Input Subscribers Number to second box (from left) by 12-digit figure.
10. Select Modem Type from following 4 choices:
    - V22
    - V22bis
    - V32bis
    - Others

※Input character string, one alphabet and 3-digit figures when others are selected.

11. Select Character Code from following 2 choices:
    - IA5
    - DATA
12. Setup Security Alert ON/OFF.
13. Input SSAS Message by one-byte character, 512 character or less.
14. Repeat the procedure from No.5 to No.13 when you edit other SSAS Scheduled data.
15. Click [SET] button to write the data into INMARSAT terminal, when setup is completed.

***When Facsimile is selected to Network Type**

9. Input Destination Code and Subscribers Number.
   Input Destination Code to first box (from left) within the range of 0 to 999.
   Input Subscribers Number to second box (from left) by 12-digit figure.
10. Select Character Code from following two choices:
    - IA5
    - DATA
11. Setup Security Alart ON/OFF.
12. Input SSAS Message by one-byte character, 512 character or less.
13. Repeat the procedure from No.5 to No.12 when you edit other SSAS Scheduled data.
14. Click [SET] button to write the data onto INMARSAT terminal, when setup is completed.

***When PSDN or Closed Net is selected to Network Type**

9. Input Destination Code and Subscribers Number:
   Input Destination Code to first box (from left) within the range of 0 to 9999.
   Input Subscribers Number to second box (from left) by 10-digit figure.
10. Select Character Code from following two choices:
    - IA5
    - DATA
11. Setup SSAS Schedule ON/OFF.
12. Input SSAS Message by one-byte character, 512 character or less.
13. Repeat the procedure from No.5 to No.12 when you edit other SSAS Scheduled data.
14. Click [SET] button to write the data onto INMARSAT terminal, when setup is completed.

NOTE

1. All data of SSAS Scheduled #1～#5 is written onto INMARSAT terminal when [SET] button is pressed.

2. The data can not be set when winIST failed to receive the data.

3. Following pop-up message is displayed when incorrect data is input and [SET] button is pressed.

Correct the data with reffering below mentioned Responses.

(● means number 1 to 5 of SSAS Schedule.)

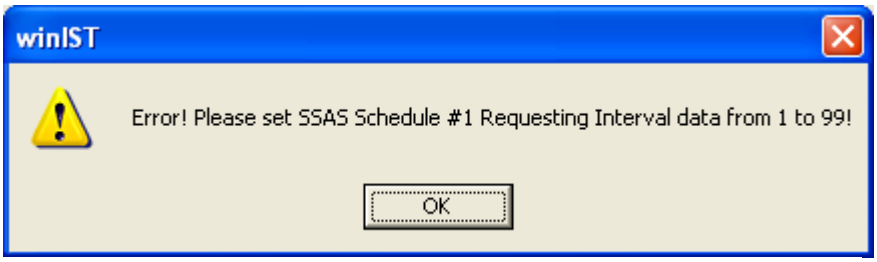


Fig. 3.2.2e Requesting Interval setting error window

・Error! Please set SSAS Schedule #● Requesting Interval data from 1 to 99!!

Response: Setup the setting value of Requesting Intertval of SSAS Schedule #●, within the range of 1 to 99.

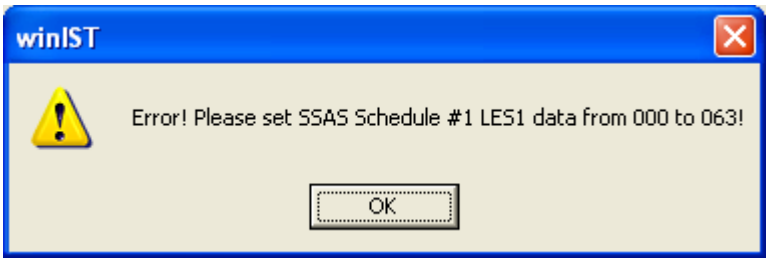


Fig. 3.2.2f LES1 data setup error window

・Error! Please set SSAS Schedule #● LES1 data from 000 to 063!

Response: Set the LES No. to first box (from left) of SSAS Schedule #●, within the range of 000 to 063

NOTE

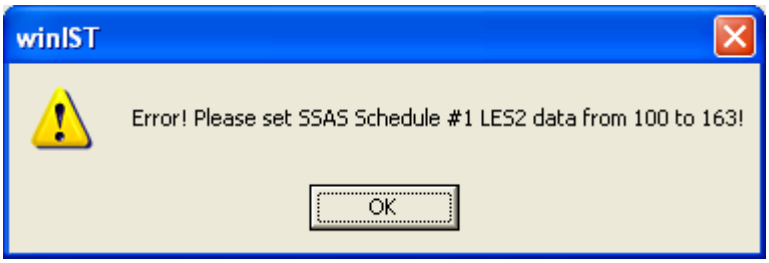


Fig. 3.2.2g LES2 data setup error window

・Error! Please set SSAS Schedule #● LES2 data from 100 to 163!

Response: Set the LES No. to second box (from left) of SSAS Schedule #●, within the range of 100 to 163.

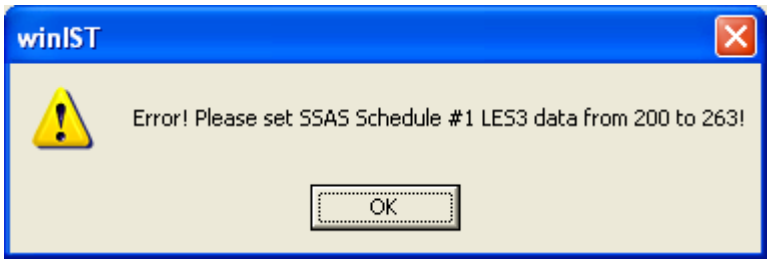


Fig. 3.2.2h LES3 data setup error window

・Error! Please set SSAS Schedule #● LES3 data from 200 to 263!

Response: Set the LES No. to third box (from left) of SSAS Schedule #●, within the range of 200 to 263.

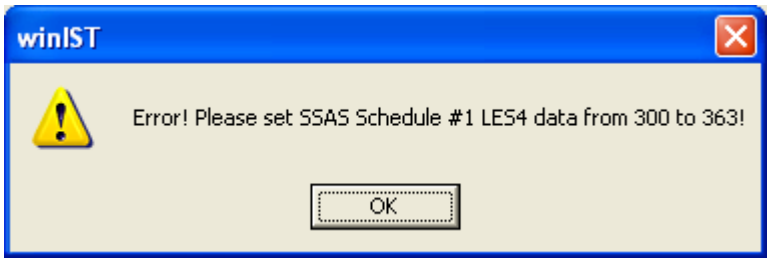


Fig. 3.2.2i LES4 data setup error window

・Error! Please set SSAS Schedule #● LES4 data from 300 to 363!

Response: Set the LES No. to fourth box (from left) of SSAS Schedule #●, within the range of 300 to 363.

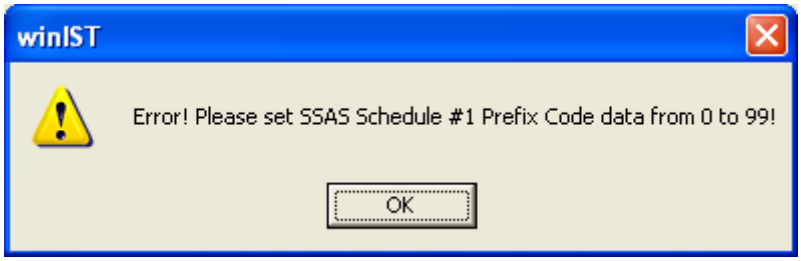


Fig. 3.2.2j Prefix Code data setting error window

・Error! Please set SSAS Schedule #● Prefix Code data from 0 to 99!

Response: Set the Prefix Code of SSAS Schedule #●, within the range of 0 to 99.

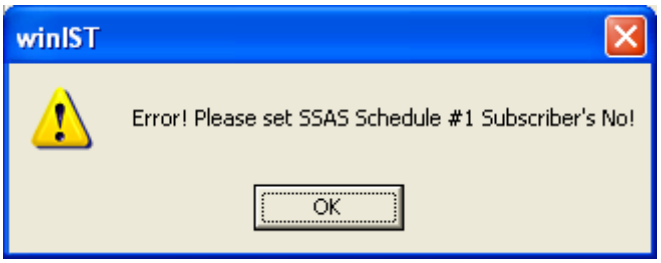


Fig. 3.2.2k Subscriber's Number setting error window

・Error! Please set SSAS Schedule #● Subscriber's No!

Response: Set the subscriber's number of SSAS Schedule #●, Input subscriber's number to first box (from left) within the range of 0 to 999.

Input subscriber's number into second box (from left) :
by 11-digit figure or less when Network Type is Telex.
by 10-digit figure or less when Network Type is PSDN.
by 12-digit figure or less when Network Type is PSTN.
by 5-digit figure or less when Network Type is Closed Net.
or by alphanumeric character, 6 character or less when Special Access or E-mail is selected.

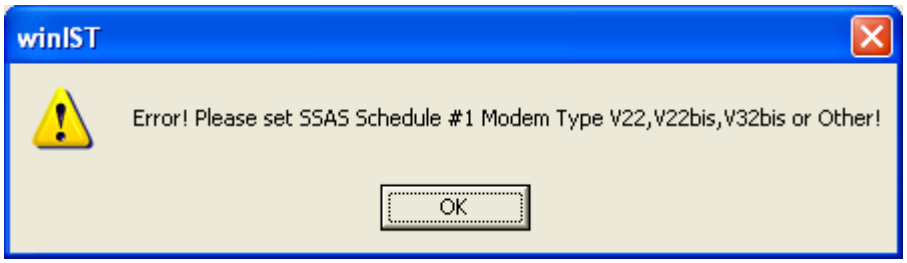


Fig. 3.2.2l Modem Type data setup error display

・Error! Please set SSAS Schedule#● Modem Type V22,V22bis,V32bis or Other!

Response: Select Modem Type of SSAS Schedule #● from V22,V22bis,V32bis, and others.

Set the name of Modem Type to the box right side of button, by alphanumeric characters.

NOTE

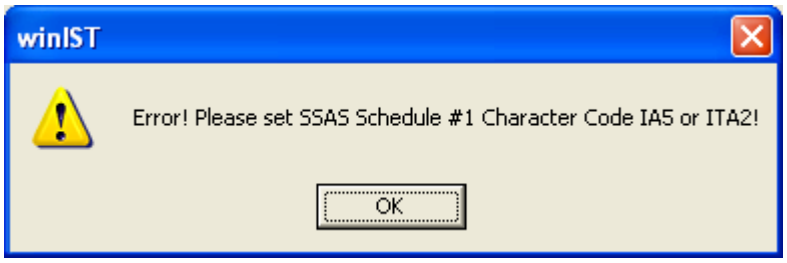


Fig. 3.2.2m Character Code data setup error display 1

- **Error! Please set Scheduled Transmission #● Character Code IA5 or ITA2!**

Response: Select Character Code of SSAS Schedule #● from IA5 and ITA2.

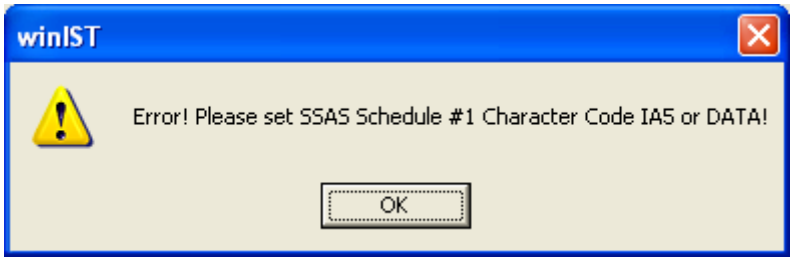


Fig. 3.2.2n Character Code data setup error display 2

- **Error! Please set Scheduled Transmission #● Character Code IA5 or DATA!**

Response: Select Character Code of SSAS Schedule #● from IA5 and DATA

4. Following pop-up message is displayed after [SET] button is pressed, when winIST failed to write the data into INMARSAT terminal.

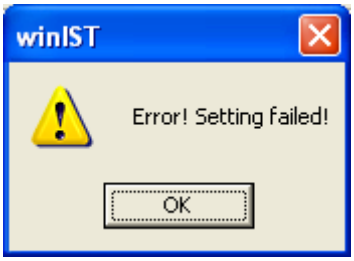


Fig. 3.2.2o Data setup failure window

In this case, carry out following procedure and do the setup again.

1). Click [Setting] of menu bar and open the dialogue box of COM PORT, then click [OK], and confirm that COM PORT is opened normally.

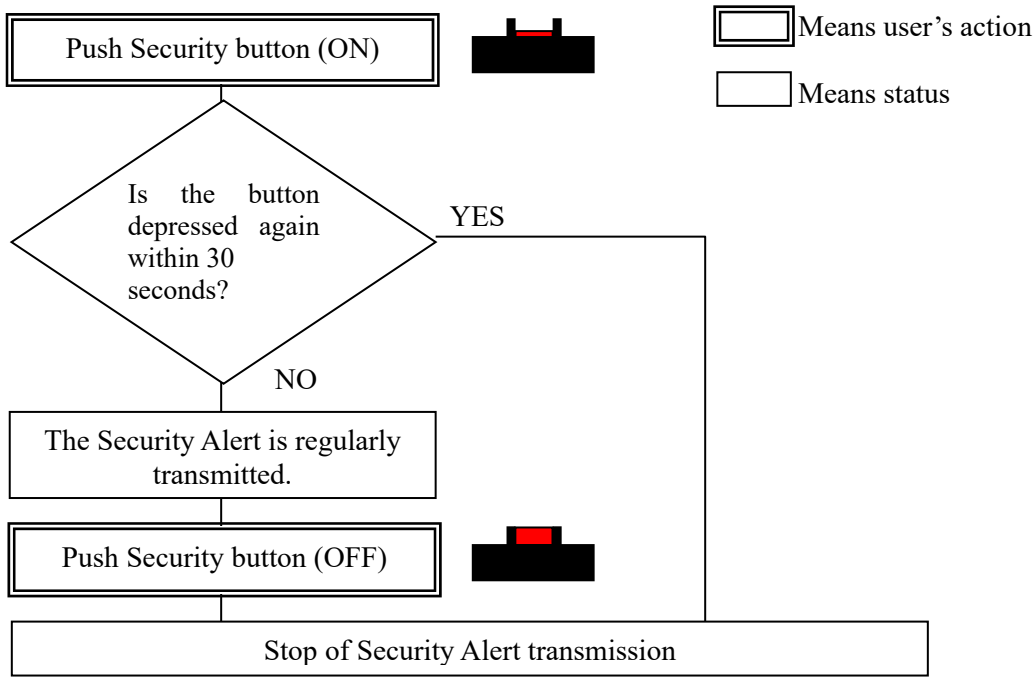
2). Confirm that COM PORT of PC and PORT of IME is connected with serial cable.

3). Confirm INMARSAT terminal works normally or not, by seeing the ligtning of POWER-LED of IME.

5. Operation except Exit, Display, and Ver is not available during winIST is communicating with INMARSAT terminal (the function of inner frame of **Fig. 3.2.2c SSAS Schedule screen (E-mail selected)** cannot be operated).

3.3 Transmitting Security Alert

3.3.1 Flowchart of Security Alert transmission



3.3.2 Security Alert transmission procedure

NOTE

Security transmission causes no reactions of terminals. No LED lit and buzzer does not sound on the IME, no communication status is displayed on DTE(optional component), and nothing is printed on the Printer(optional component).

Step 1 Pull open the button cover of the transparency of the security button forward.

Step 2 Push down red button（ON status：The button is pushed down）.
Security alert transmission is initiated after 30 seconds passed.

OFF status (Push once) ON Status (Push again) OFF Status

＜Transmission start＞ ＜Transmission cancel>

NOTE

＜Discontinuing transmission procedure when button is pushed by mistake＞

Push the Button again within 30 seconds: No transmission

Push the Button again after 30 seconds passed : Security Alert is transmitted only of first time, and no transmission is carried out after then.

Pull out the Power cable from IME rear panel and push the button to turn to OFF, when you want to discontinue transmitting at once regardless of the time after the button is pushed.

Step 3 Security Alert is kept transmitted regularly at set intervals to the address set beforehand.

NOTE

The message of the following content reaches the destination when the Security Alert is transmitted.

User edit message (Example)

This is a SECURITY MESSAGE
Ship Name :ABCD
Call Sign :DFGZ
MMSI :123456789

Automatic insertion message (Example)

SECURITY SECURITY
MES NO, 987654321
LAT,N12 34.56LON,E123 45.56,UTC,07.01.2004 12:34,SOG, 10.0KT,COG,20DEG

Step 4 Push the button again when you want to cancel security alert transmission.

NOTE

Turn off all buttons when you pushed 2 or more buttons at the time of transmission.

Security Alert transmission is not canceled as long as one button is remained turned on.

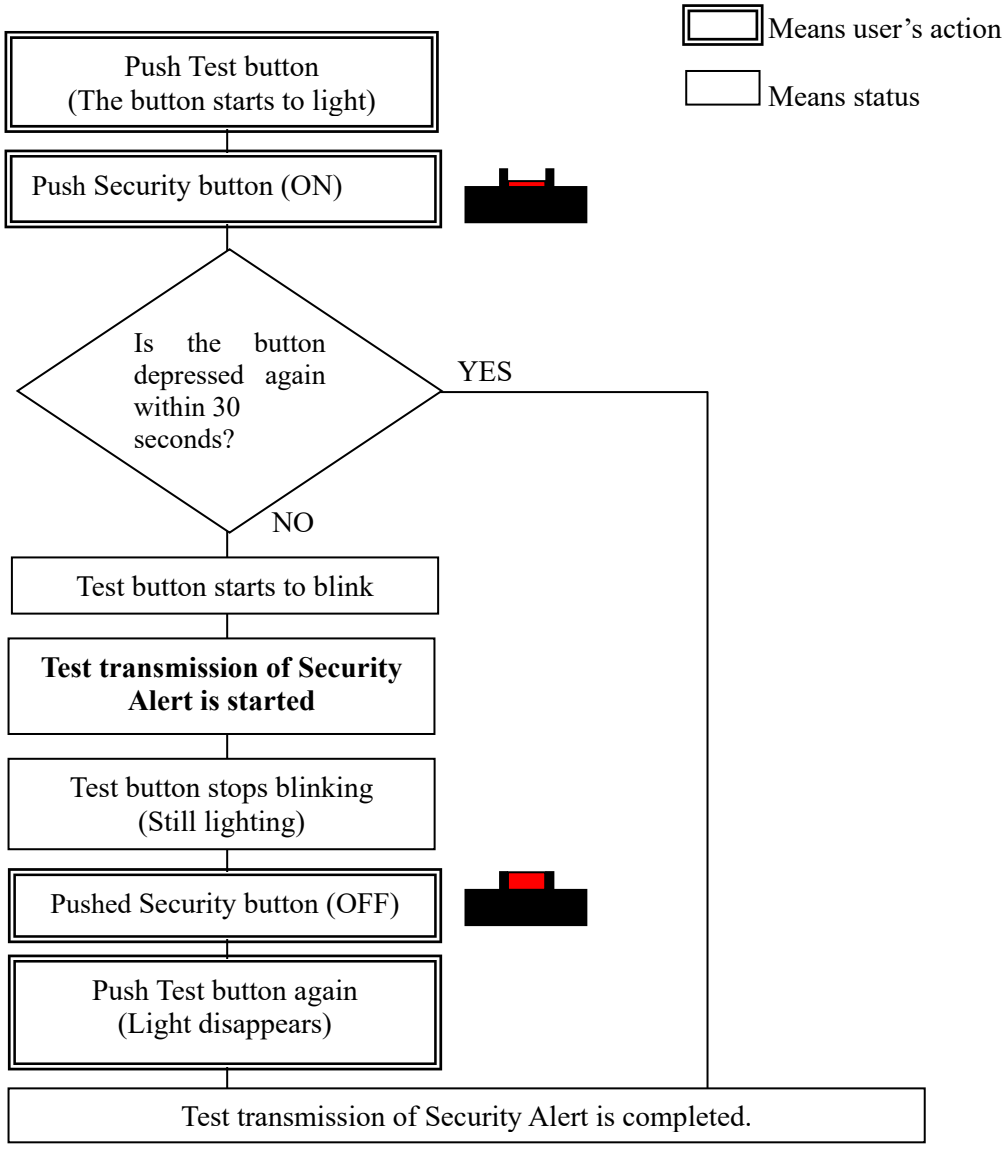
3.4 Test transmission of Security Alert

3.4.1 Flowchart of Security Alert Test Transmission

This test is done without sending real security alert.

Security button

Test button



3.4.2 Procedure of Security Alert test transmission

NOTE

Confirm all of security buttons are turned off before you start the test transmission.

Test transmission is impossible as long as one button is remained turned on.

Step1 Push the Test Button of IME, then the button lights.

Step 2 Push down Security button.
Light of the button changes from lighting to blinking after 30 seconds passed, and then starts Test transmission.

NOTE

Below mentioned message is sent to destination, when Security Alert is transmitted.

Automatic insertion message (Example)

This is a SECURITY MESSAGE
Ship Name :ABCD
Call Sign :DFGZ
MMSI :123456789

Users edit message (Example)

TEST TEST
MES NO, 987654321
LAT,N12 34.56LON,E123 45.56,UTC,07.01.2004 12:34,SOG, 10.0KT,COG,20DEG

Step 3 Blinking of Test button stops and lights with normal status, when the test transmission is completed.
Press Security button again.

NOTE

＜Time required until completing Test transmission＞

Transmission setting number
1（5 minutes）2（17 minutes）3（29 minutes）4（41minutes）5（53 minutes）

The time required is done back and forth according to the state of the line and the message length, etc.

Step 4 Push Test button.
Light of button disappears.

NOTE

Light of Test button is not disappear, and buzzer begins to sound even Test button is pushed, when the Security button is not turned off correctly, on the status of Step 3.

Push Test button after turned off Security button, certainly.

Security Alert transmission is not canceled as long as one button is remained turned on.

CHAPTER 4. MAINTENANCE

4.1 Maintenance

Maintenance decides your equipment's life. Check the following items daily for a long life and extreme performance of your equipment.

1) Keep input voltage in specific voltage range.
2) Try to compare the records with current status for finding a fault earlier.

4.2 Daily maintenance

The following table shows daily maintenance items using general tools.

⚠ WARNING

Do not check or repair the internal equipment of JUE-95SA by yourself.
Any electrical work by any person other than our specialized maintenance persons may cause fire or abnormal operation of this equipment or electrical shock for you.
This equipment meets the technical standard of the Ministry of Internal affairs and Communications (MIC).

Do not adjust the internal circuit or exchange the parts because the internal circuit is adjusted strictly. When an abnormal operation is found, please contact to our sales department or nearest branch office.

Item	Maintenance procedures
Cleaning	Clean the panel, the knob, the switch, the top cover and the button cover with soft cloth or silicon oil. Clean the internal of the equipment with the brush or cleaner.
Fastening	Fasten the screw, the nut, the knob, the switch, and the connector.

4.3 Troubleshooting

Check all items in the following section to secure normal communication at all times. If any unusual phenomenon occurs in the equipment, send appropriate information to JRC service network to get advice or to request for repair with the results of these items.

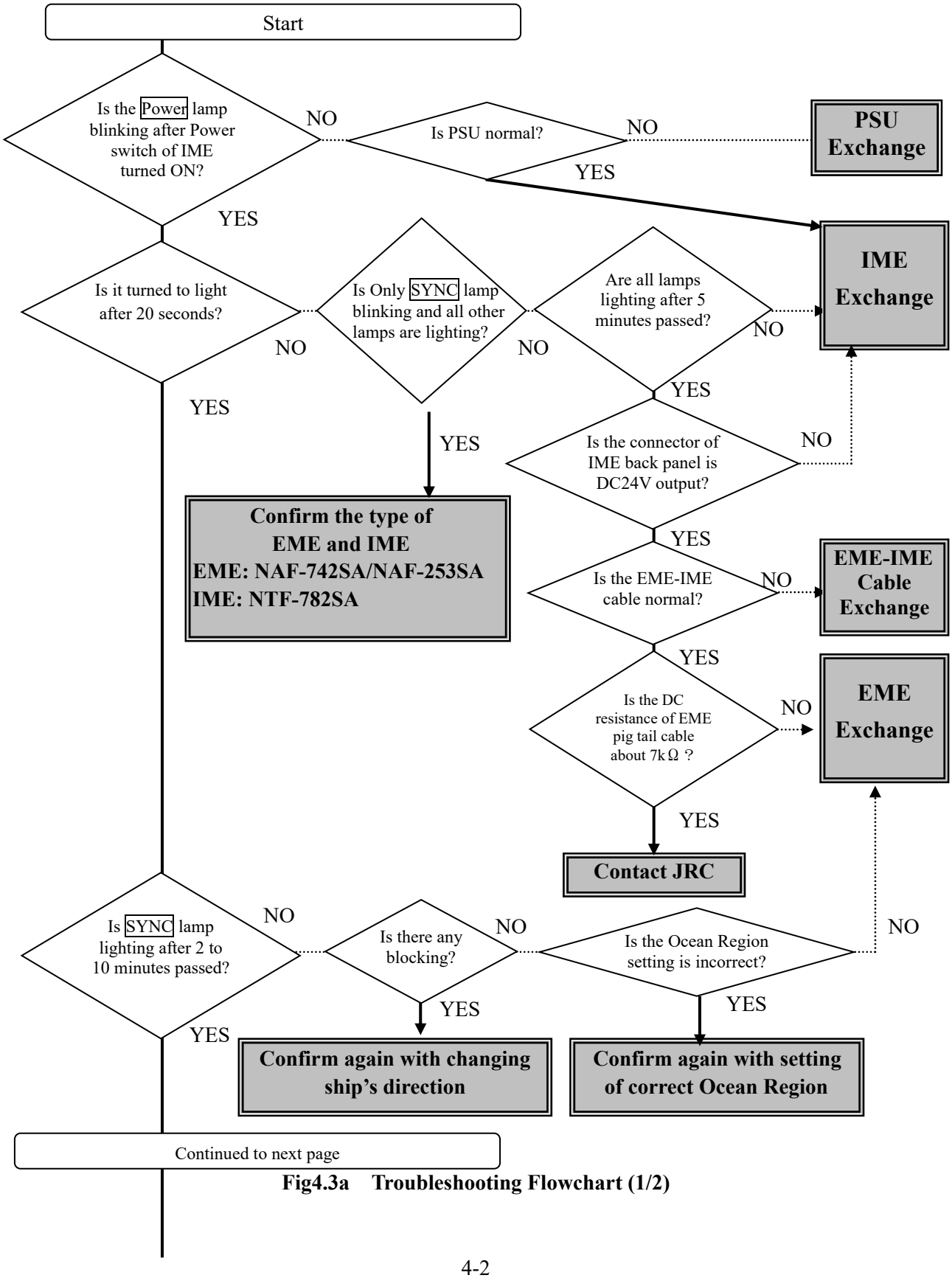
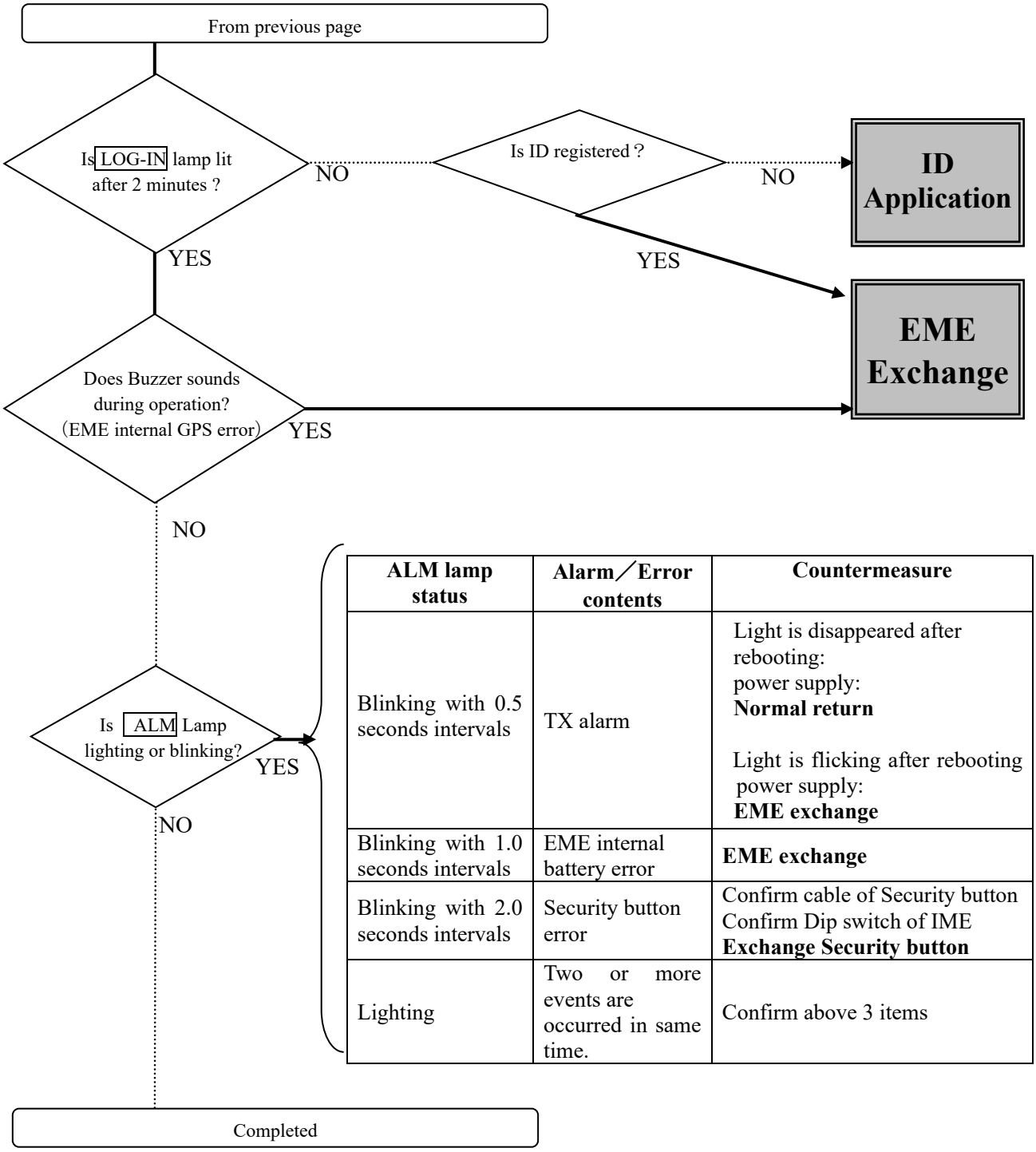


Fig4.3a Troubleshooting Flowchart (1/2)



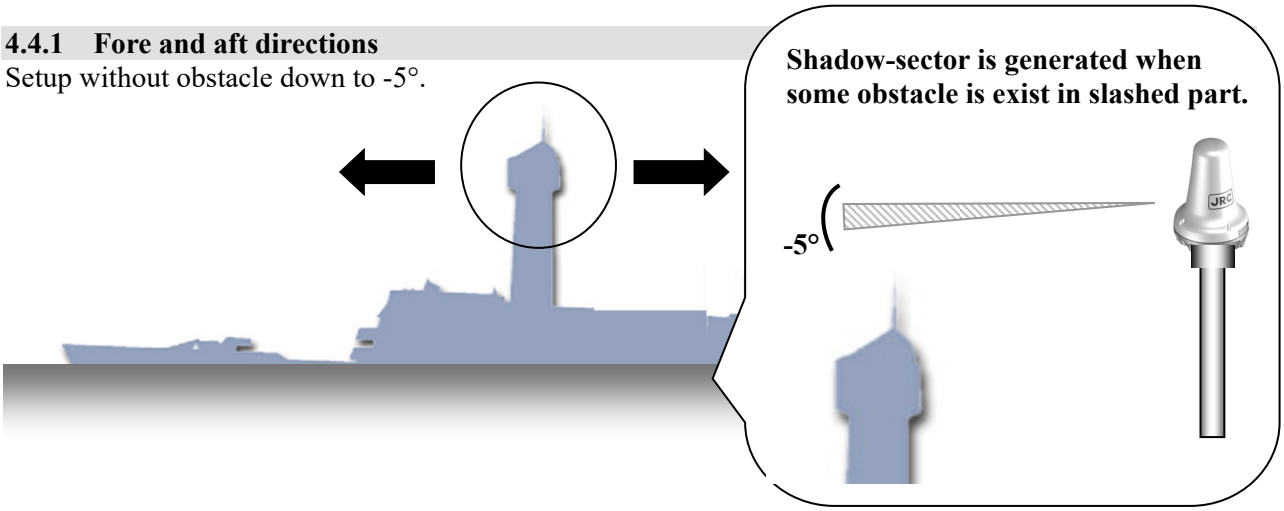
ALM lamp status	Alarm／Error contents	Countermeasure
Blinking with 0.5 seconds intervals	TX alarm	Light is disappeared after rebooting: power supply: **Normal return** Light is flicking after rebooting power supply: **EME exchange**
Blinking with 1.0 seconds intervals	EME internal battery error	**EME exchange**
Blinking with 2.0 seconds intervals	Security button error	Confirm cable of Security button Confirm Dip switch of IME **Exchange Security button**
Lighting	Two or more events are occurred in same time.	Confirm above 3 items

Fig4.3b Troubleshooting Flowchart (2/2)

4.4 Shadow-sector countermeasure

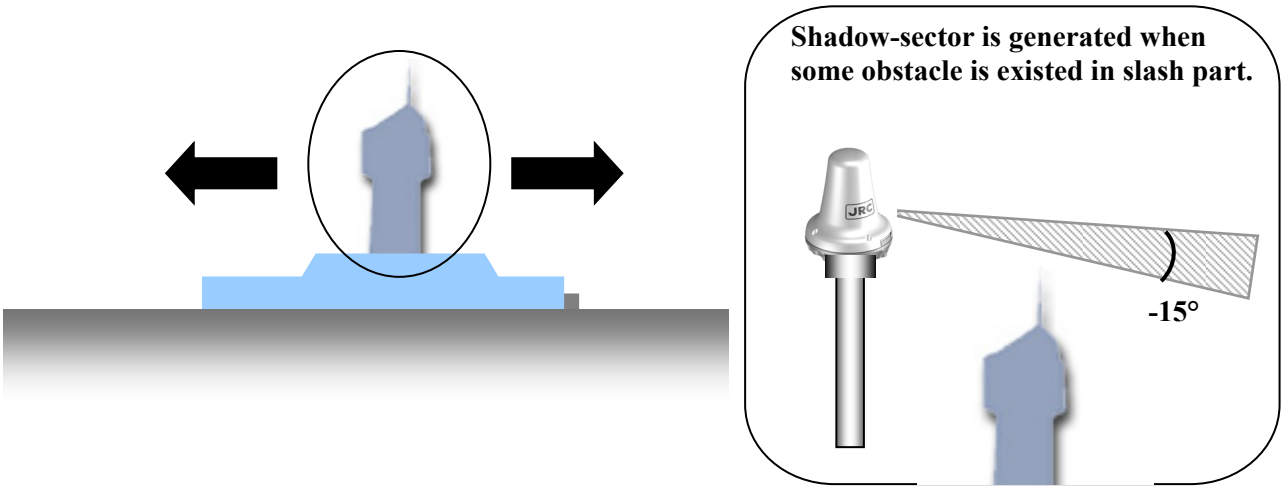
4.4.1 Fore and aft directions

Setup without obstacle down to -5°.



4.4.2 Port and starboard directions

Setup without obstacle down to -15°.



4.4.3 Within radius 1m from EME

Avoid obstacles more than 2 degrees within 1m in radius from EME.

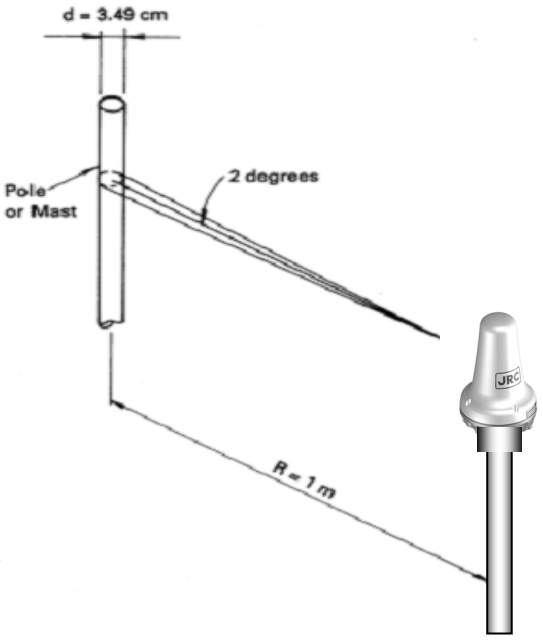


Fig.4.4.3

Minimum Requirement for EME Installation (based on the GMDSS Performance Standards)

4.4.4 Reference: Estimation methods of RX/TX signal loss by physical obstructions

Attenuation with the obstacle calculates easily in the following method.

I. Estimation procedure with the chart (for cylindrical obstacles)

i) Estimate the distance (R) from the obstacle; R (m)

ii) Estimate the effective diameter (d) of the obstacle; d (m)

iii) Read off the loss (L_B) in the Chart I; L_B (dB)

iv) Determine whether the loss (L_B) is allowable.

Example
i) R:5
ii) d:02m
iii) L_B:1dB (approx.)
iv) Allowable

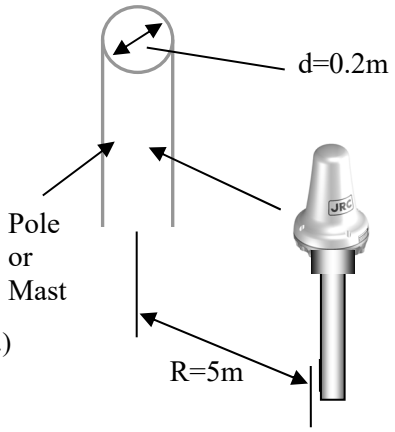


Fig.4.4.4a EME Installation against cylindrical obstacle

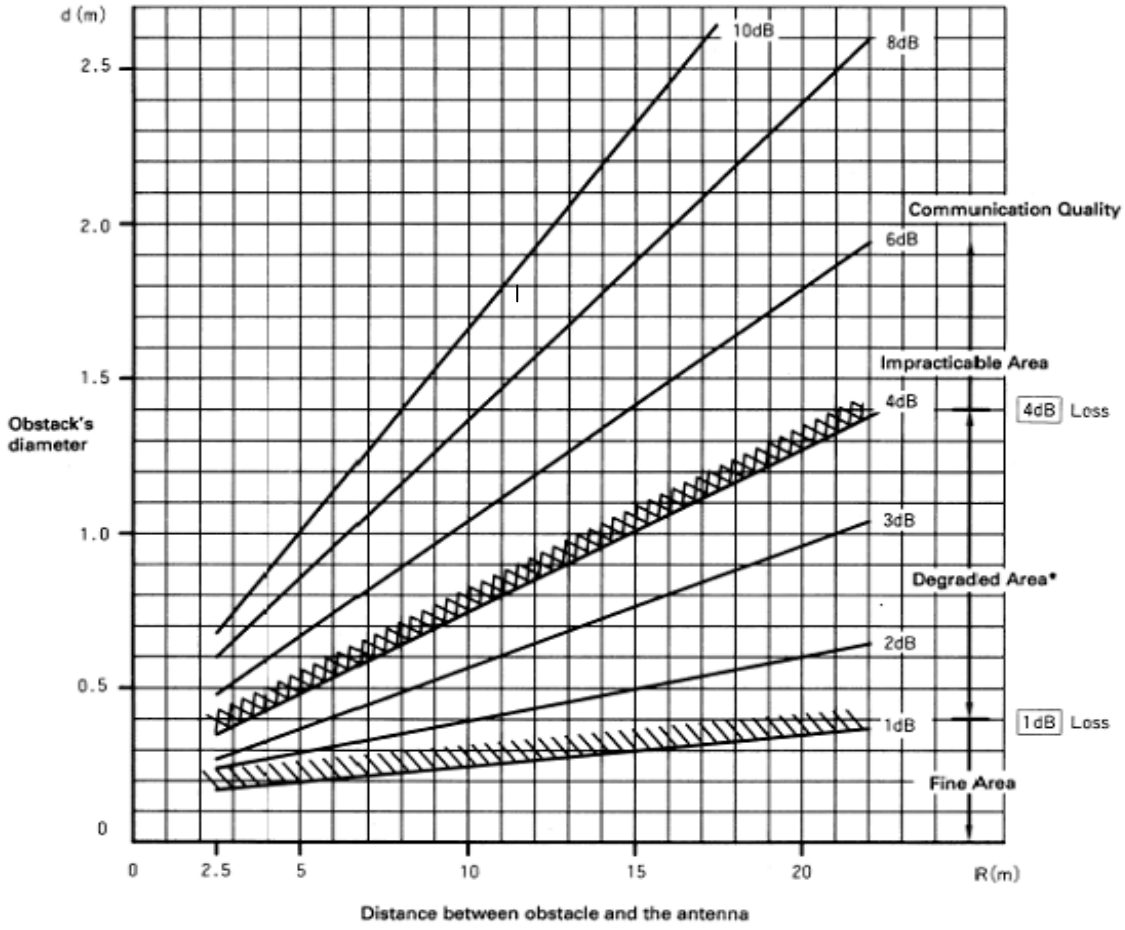


Chart 4.4.4b The Loss Due to cylindrical obstacle

NOTE

*Under lower elevation angle area, sometimes the communication might be impossible due to fading or weather condition.

II. Estimation procedure with the chart (for un-cylindrical obstacles)

i) Estimate the distance (R) from the antenna to the obstacle R (m)

ii) Read the effective propagation radius (r) at R meter distance
(at point A) from the antenna in the Chart II-1 r (m)

iii) Estimate the obstacle area (S_B) just occupying effective propagation
radius (see hatched area shown in Example 2.) S_B (dm^2)

iv) Read the loss in the Chart II-2 L_B (dB)

v) Determine whether the loss is allowable.

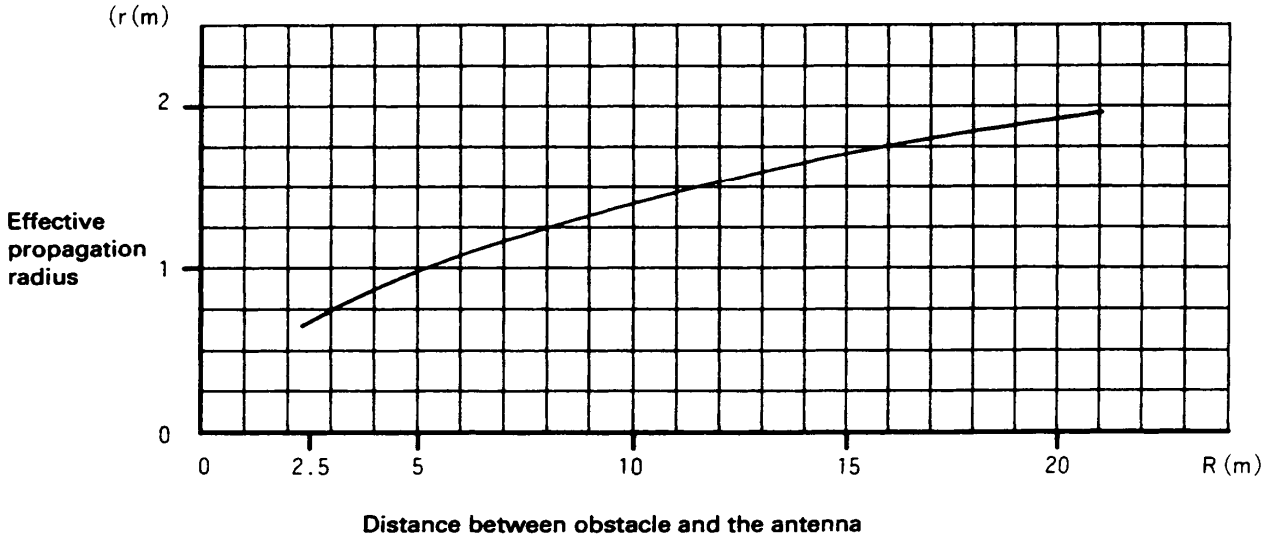
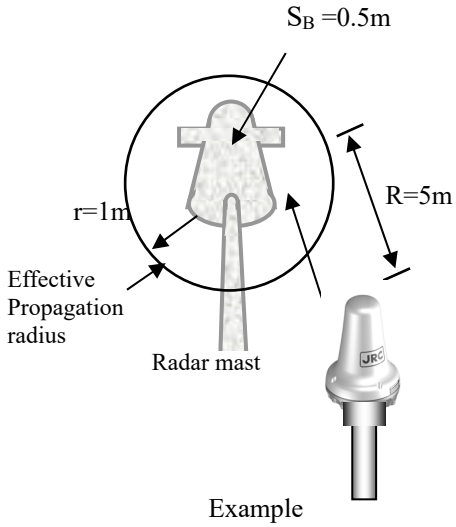


Chart4.4.4c Effective Propagation Radius vs. Obstacle's Distance



Example
i) R:5m
ii) r:1m
iii) S_B:0.5m^2
iv) L_B:1dB (approx.)
v) Allowable

Fig.4.4c EME Installation against un-cylindrical obstacles

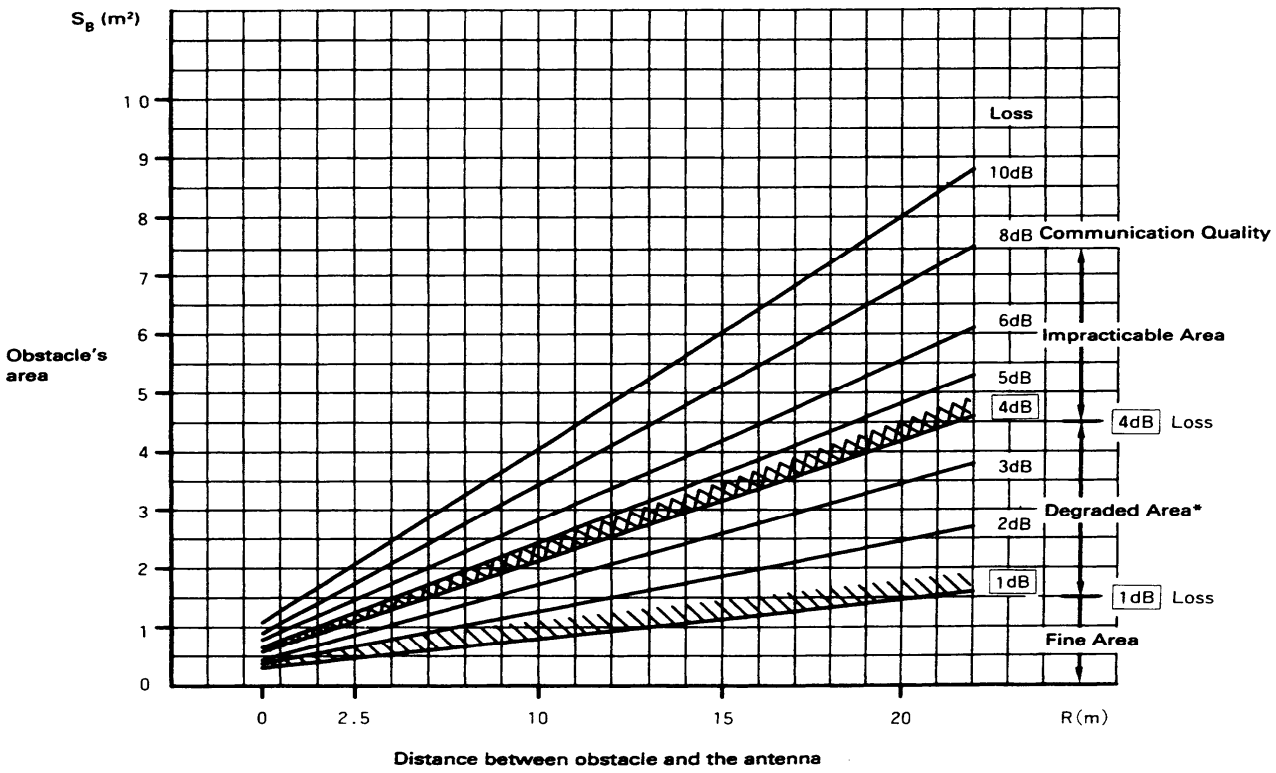


Chart 4.4c The loss due to un-cylindrical obstacle

NOTE

*When the satellite is existed under lower elevation angle area, sometimes the communication might be impossible due to fading or weather condition.

4.5 Noise countermeasure (interference with other equipment)

Earthing of EME antenna is highly recommended when trouble is caused in transmission (noise interference, e.t.c.) due to occurrence of interference with other communication device.

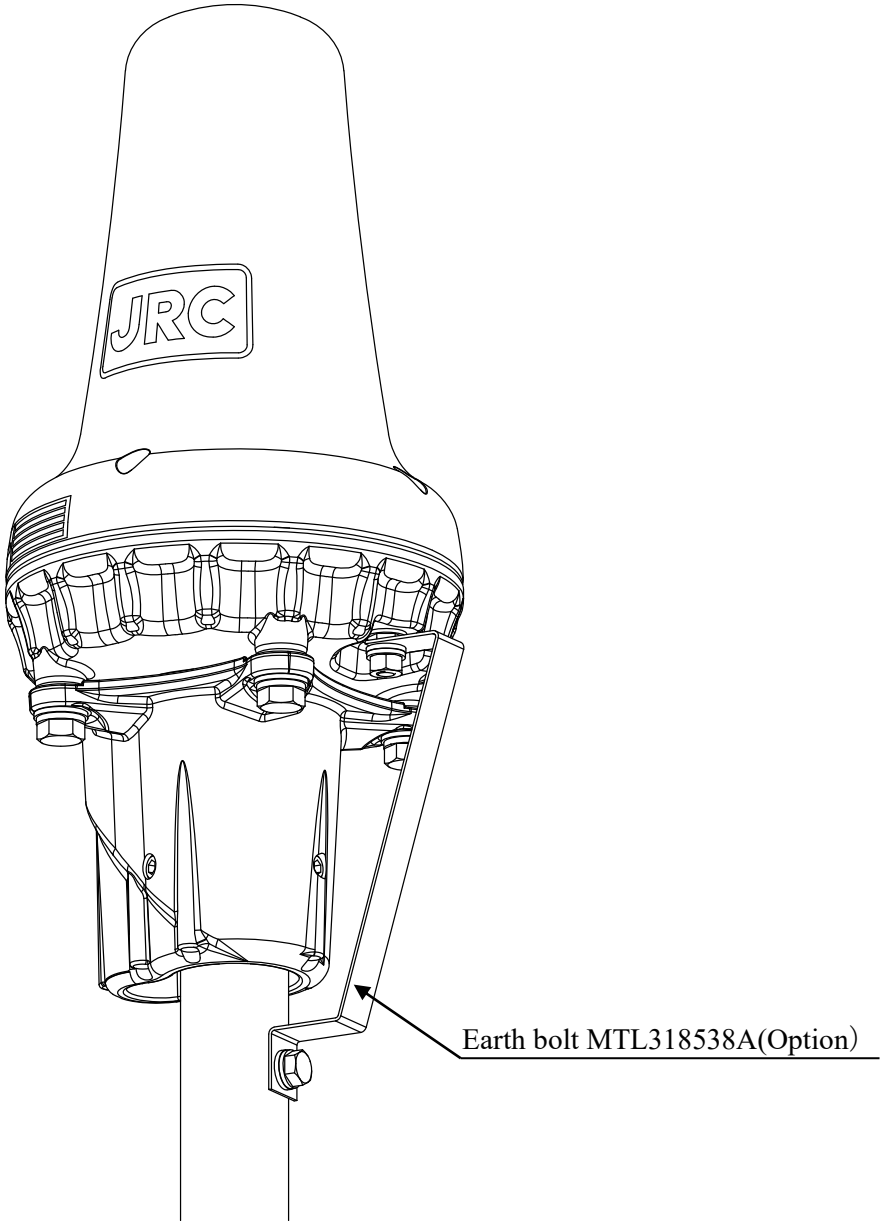


Fig. 4.5 Earthing of EME antenna

4.6 Countermeasure

If the equipment does not operate normally even following procedure is performed, please consult JRC service agent.

Take care not to touch any parts PC board.

Abnormal operation of IME

In case of the heavy fluctuation of the voltage or frequency of the power source, or thunderbolt and etc., IME may not operate normally. In this case, please try following procedure (a). And try procedure (b) when procedure (a) did not work.

(a) Set **POWER** switch to OFF, and confirm all of the LED lamps are lights out (it will takes approximately 3 minutes) and set to ON again.

(b) Press **RESET** button in the IME panel by the tip of narrow object (like extended clip,ϕ0.5mm). Push until you feel the object clicks. (refer Fig. 4.6)
Five lamps (**POWER** lamp to **RECEIVE** lamp) lights in order, and starts blinking (it will takes approximately 10 seconds). Turn on POWER switch with confirming these lamps are blinking.

NOTE

The data, which are received message, call logging history and alarm history, memorized in IME are cleared when RESET button is pushed. Saving important data to Floppy-Disk or USB Flash Memory is highly recommended (Prepare optional DTE, Floppy-Disk Drive (for DTE (NDZ-127C1)), and JUE-85 instruction manual).

Procedure (a)

Set **POWER** switch to OFF and set to ON again.

Procedure (b)

Push the **RESET** Button with a stick of wire like extended clip.

The depth of the hole is approximately 1cm. So, use the wire 2cm or more.

Fig. 4.6 Reset of IME

4.7 After service

4.7.1 Longevity/ exchange time of the consumption (lithium battery)

Contact the dealer from which you purchased the device or one of our marketing offices, when ALM lamp of IME lights, or blinks with 1-second intervals (Life of longevity of the Lithium is approximately 10 years, however it might be shorten depend on the customer's usage condition.

There is no influence in other telecommunication functions though the reception message and the call log, etc. cannot be preserved in the power discontinuity, when the capacity of the lithium battery is lost.

⚠DANGER

The lithium battery is built into JUE-95SA (EME). Do not short-circuited of the terminal, do not give the high impact, and wet it to water.

There is danger of exploding.

4.7.2 When ordering repair

When a failure has been detected, check it according to the Trouble shooting described in this manual. When abnormalities are still accepted, stop operation and contact the purchasing dealer, JRC agent or one of the JRC branches.

In the case of fixing during the term of a guarantee

When it breaks down in the state of the normal operation according to explanation and a handling description in the operation manual, the dealer or our company will perform repair without any charge according to the previsions in the specific action.

However, in the following case, gratis service cannot be received even if it is during the term of a guarantee.

-When the construction report is not sent to JRC after installation of JUE-95SA is completed.

-Failure produced by inevitability, such as misuse, negligence, or a natural disaster, a fire, etc.

In the case of passed over the term of a guarantee

When a function can be recovered by repair, any repair is performed with charge by demand of a user.

Please inform us of the following items when ordering the repair:

+ Product name, model name, date of manufacture, manufacture number
+ State of the abnormality (as in detail as possible)
+ Office name or organization name, address, telephone number

Recommendation of overhaul

The performances of the set may deteriorate due to the aging of parts, and so on through the rate varies depending on the conditions of use.

So, it is recommendable to contact the dealer from which you purchased the device, or one of our marketing offices for overhaul apart from daily services. In this case, it becomes charged.

Disposal of packaging material

When disposing packaging material, follow the rules of the pertinent local government.

⚠ CAUTION

Ask JRC to abandon JUE-95SA (EME). When the lithium battery is short-circuited, receives the impact or it gets wet because of water, it causes generation of heat, the explosion, and the ignition if this is not defended.

For details, please contact to the dealer, which you purchased, our service office or a pertinent local government.

Please contact the dealer, which you purchased the device, or our marketing offices that is nearest to you for any question as to the after-sales service.

For any question, please refer to the list of office at the end of this volume.

CHAPTER 5. SPECIFICATION

5.1 JUE-95SA (EME and IME)

Table 5.1 Principal Specification of JUE-95SA

Class of Inmarsat -C MES			Class 1
Frequency range		Transmission	1626.5-1646.5 MHz
		Reception	1530.0-1545.0 MHz (EME: NAF-742SA) 1537.0-1544.2 MHz (EME: NAF-253SA)
Channel spacing			5 kHz
EIRP			Within +7 - +16 dBW (at 5 degrees elevation angle)
G/T			-23.7 dB/K minimum
Modulation	Transmission		1200 symbols/sec. BPSK* (2nd generation satellite)
	Reception		1200 symbols/sec. BPSK* (BPSK: Binary Phase Shift keying)
Antenna	Type		Helical antenna
	Pattern		Hemisphere (non directional)
	Polarization		Right hand circular
Power supply	Voltage		AC100/220 ±10%, DC 24V (+30%, -20%)
	Power consumption		TX: 75 W (EME and IME) RX: 15 W (EME and IME)
Environmental Condition	Ambient temperature		-35° C - +55° C (EME operational) -15° C - +55° C (IME operational)
	Preservation temperature		-40° C - +80°C (EME: NAF-742SA) -40° C - +75°C (EME: NAF-253SA)
	Relative humidity		95 % (+40°C)
	Ice		25 mm (EME)
	Precipitation		100 mm/hour (EME)
	Velocity		100 knots
	Vibration		IEC60945 compatible
Coding			Interleaved, convolutional code (R = 1/2, K = 7)
Data rate		Transmission	600 bps
		Reception	600 bps
Max transmission message			8K bytes
Reception message storage			80K bytes (INMARSAT-C: 40K bytes, EGC: 40K bytes)
Interface		Internal GPS	JRC original
		DTE	CCITTV 24/28, 9600 bps, 9 PIN DSUB connector
		Printer	Centronics compatible parallel interface
Dimensions			EME (NAF-742SA): 144 mm (ϕ) × 224 mm (H) EME (NAF-253SA): 170 mm (ϕ) × 379 mm (H) IME: 210 mm (W) × 150.3 mm (D) × 50 mm (H)
Mass			EME (NAF-742SA): 1.5 kg EME (NAF-253SA): 2.4 kg IME: 1.3 kg

*BPSK：Binary Phase Shift keying

CHAPTER 6. JRC Service Network

Please contact the dealer from which you purchased the device, or our marketing offices that is nearest to you for any question as to the after-sales service.

JRC web site

JRC Tokyo Japan	http://www.jrc.co.jp
JRC Seattle	http://www.jrcamerica.com
Alphatron	http://www.alphatronmarine.com

アスベストは使用しておりません
Not use the asbestos

For further information,contact:

JRC Japan Radio Co., Ltd.
Since 1915

URL Head office : http://www.jrc.co.jp/eng/
Marine Service Department
1-7-32 Tatsumi, Koto-ku, Tokyo 135-0053, Japan
e-mail : tmsc@jrc.co.jp
One-call : +81-50-3786-9201

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