

INSTALLATION MANUAL

NBDP TERMINAL DP-6

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PUB. No. IME-56100-D
DP-6

•Your Local Agent/Dealer

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* 00080791300 *



SAFETY INSTRUCTIONS

"**WARNING**" and "**CAUTION**" notices appear throughout this manual. It is the responsibility of the installer of the equipment to read, understand and follow these notices. If you have any questions regarding these safety instructions, please contact a FURUNO agent or dealer.

The level of risk appearing in the notices is defined as follows:



WARNING

This notice indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

This notice indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury, or property damage.



WARNING



Do not work inside the equipment unless totally familiar with electrical circuits.

Hazardous voltage which can shock, burn or cause serious injury exists inside the equipment.



Turn off the power at the mains switchboard before beginning the installation. Post a sign near the switch to indicate it should not be turned on while the equipment is being installed.

Fire, electrical shock or serious injury can result if the power is left on or is applied while the equipment is being installed.



CAUTION



Ground the equipment to prevent electrical shock and mutual interference.

Confirm that the power supply voltage is compatible with the voltage rating of the equipment.

Connection to the wrong power supply can cause fire or equipment damage. The voltage rating appears on the label at the rear of the display unit.

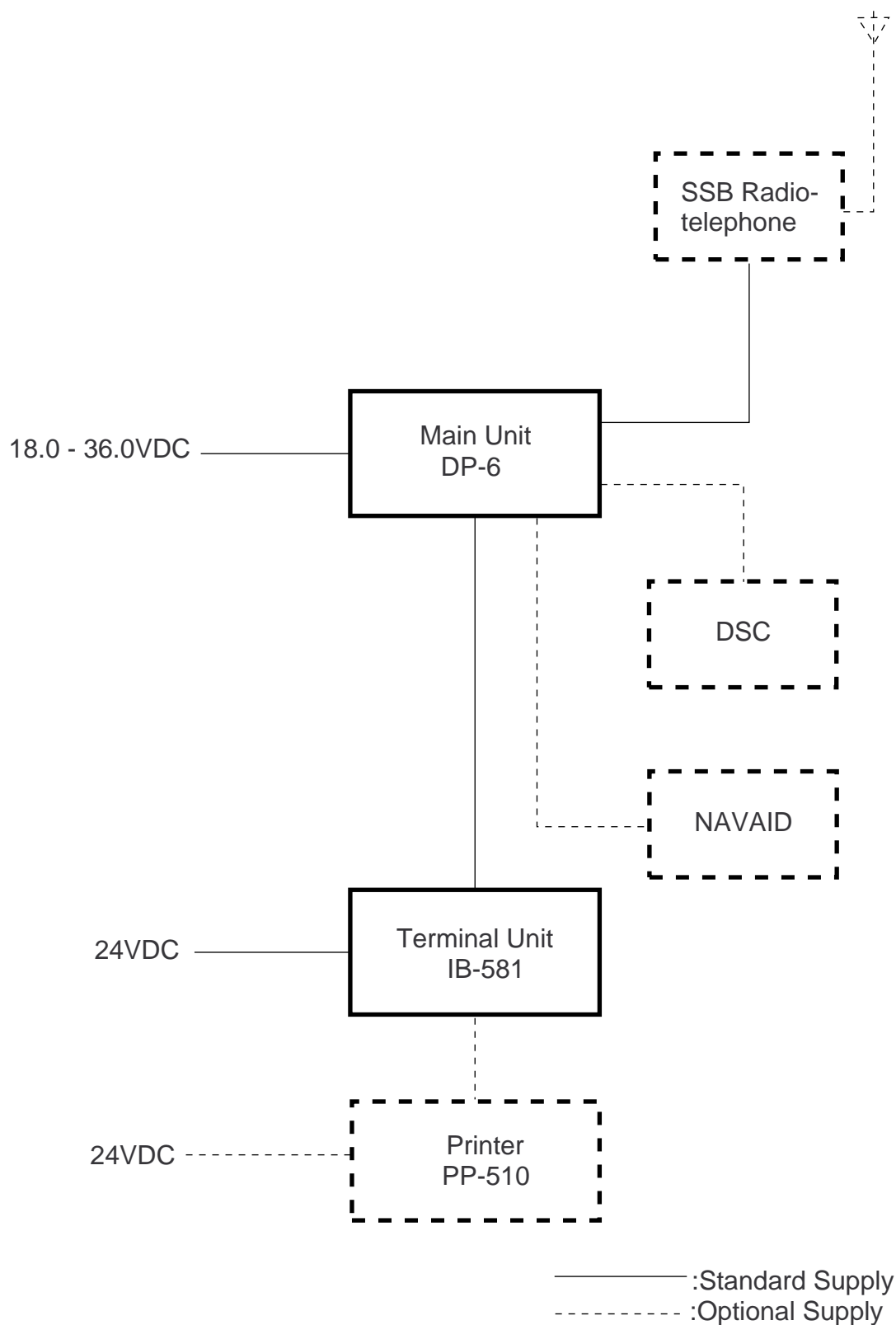
Use the correct fuse.

Use of a wrong fuse can cause fire or equipment damage.

Keep the following compass safe distances.

	Standard	Steering
Main Unit	1.2 m	0.9 m
Terminal Unit	1.4 m	1.0 m
Printer	1.0 m	0.8 m

1. System Configuration



2. Equipment Lists




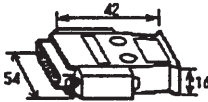

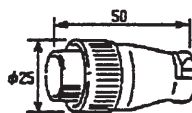
Standard Set

	Name	Type	Qty	Mass(kg)	Remarks
1	Main Unit	DP-6	1	4.5	
2	Terminal Unit	IB-581	1	6.0	w/Inst. materials CP16-01150 (See page 4a.)
3	Installation Materials	CP05-07400	1		See page 3.

Optional Equipment

	Name	Type	Mass(kg)	Remarks
1	Printer	PP-510	3.6	w/Installation materials (See page 4b.) and Accessories FP16-00100 (See page 5.)
2	Rectifier	PR-62	3.0	For AC mains

CODE NO.	000-055-404	05DQ-X-9401 -2 1/1
TYPE	CP05-07400	

工事材料表 INSTALLATION MATERIALS		DP-6 狭帯域直接印刷電信装置 NBDP TERMINAL			
番号 NO.	名称 NAME	略図 OUTLINE	型名/規格 DESCRIPTIONS		数量 Q'TY
1	7-ス板 COPPER STRAP		05-003-0031-0		1
			CODE NO.	590-300-310	
2	ナベタッピンネジ TAPPING SCREW		5X25 SUS304		4
			CODE NO.	000-867-553	
3	ミガキ平座金 FLAT WASHER		M5 SUS304		4
			CODE NO.	000-864-128	
4	コネクタ CONNECTOR		17JE-23250-02 (D8C)		2
			CODE NO.	000-120-946	
5	電源ケーブルDC用 POWER CABLE (FOR DC MAINS)		VCTF0.75X2C *3M*		1
			CODE NO.	000-112-543	
6	コネクタ CONNECTOR		SRCN6A16-10P		1
			CODE NO.	000-508-663	

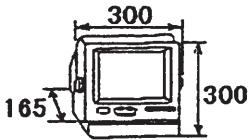
FURUNO ELECTRIC CO., LTD

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

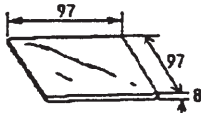
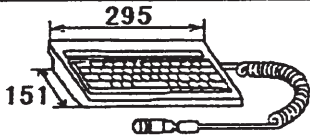
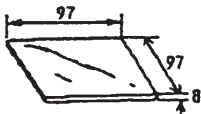
PACKING LIST

16AF-X-9852-4 1/1




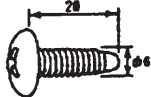
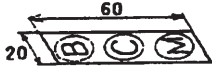
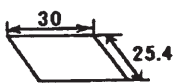
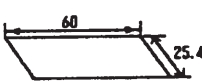
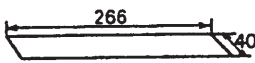
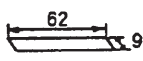
IB-581(DP-6)

NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット UNIT			
ターミナルユニット TERMINAL UNIT		IB-581-02-2. 5GY 000-055-405 **	1

付属品 ACCESSORIES

フロッピーディスク FLOPPY DISK		MF-256HD 000-115-862	1
ミニキーボード MINI KEYBOARD		BTC-5100C PS/2 004-442-400	1
フロッピーディスク(書き込品) FLOPPY DISK		05-501-891 004-447-090	1

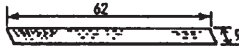
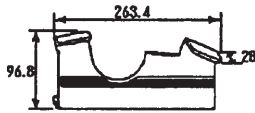
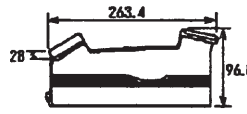


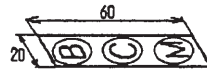
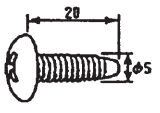
注記) コード番号末尾の[**]は、共通機種代表コード番号を表します。 C5610-Z01-D
CODE NUMBER ENDED BY "**" INDICATES THE NUMBER OF TYPICAL MODEL.

工事材料表 INSTALLATION MATERIALS		IB-581	ターミナルユニット TERMINAL UNIT		
番号 NO.	名称 NAME	略図 OUTLINE	型名/規格 DESCRIPTIONS	数量 Q'TY	用途/備考 REMARKS
1	7-2線 GROUNDING WIRE		08S0087	1	
			CODE NO. 000-108-13A		
2	電源ケーブル DC用 POWER CABLE (FOR DC MAINS)		VCTF0.75X2C *3M*	1	
			CODE NO. 000-112-543		
3	ケーブル組品 CABLE		17JE-573-10A-22 16S0068 *5M*	1	
			CODE NO. 000-127-108		
4	プラスティック TAPPING SCREW		6X20 SUS304 1種	4	
			CODE NO. 000-802-084		
5	ハリマーク (INMAR) LABEL (INMAR)		16-007-6919-0	1	
			CODE NO. 100-217-010		
6	フaster (3) HOOK LOOP FASTENER		16-007-6814-0	4	
			CODE NO. 100-237-670		
7	フaster (4) HOOK LOOP FASTENER		16-007-6815-0	4	
			CODE NO. 100-237-680		
8	ハリマーク LABEL		16-011-5803-1	1	
			CODE NO. 100-248-051		
9	ハリマーク (C. S. D) LABEL (C. S. D)		16-011-5804-0	1	
			CODE NO. 100-248-060		

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(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

CODE NO.	004-441-780	16AC-X-9420 -1
TYPE	CP16-01200	1/1

工事材料表 INSTALLATION MATERIALS		PP-510 プリンター PRINTER			
番号 NO.	名称 NAME	略図 OUTLINE	型名/規格 DESCRIPTIONS	数量 Q'TY	用途/備考 REMARKS
1	ハリマーク LABEL		16-007-6927-0 CODE NO. 100-222-480	1	COMPASS SAFE DISTANCE
2	プリンタ取付板(2)組品 PRINTER FIXTURE		CP16-00502 SPCC 2.5GY5/1.5 #5-N CODE NO. 004-434-410	1	
3	プリンタ取付板(1)組品 PRINTER FIXTURE		CP16-00501 SPCC 2.5GY5/1.5 #5-N CODE NO. 004-434-400	1	
4	ケーブル組品 CABLE ASSY.		16S0184 CODE NO. 000-138-539	1	ターミナルユニット用 / FOR TERMINAL UNIT
5	電源ケーブル組品 POWER CABLE ASSY.		16S0084 (VCTF-0.75X3C *5M*) CODE NO. 000-132-249	1	
6	ハリマーク(INMAR) LABEL (INMAR)		16-007-6919-0 CODE NO. 100-217-010	1	
7	+トラスタップネジ +TAPPING SCREW		5X20 SUS304 1ヶ CODE NO. 000-802-081	4	

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(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

CODE NO	000-043-258	16AC-X-9501-1
TYPE	FP16-00100	


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3. Mounting

Mounting Guidelines

The main unit and terminal unit are designed for tabletop mounting. They may be installed almost anywhere provided the location satisfies the following conditions:

- The ambient temperature range is -15 to +55°C.
- For the terminal unit, select a place where the keyboard can be easily operated while viewing the display screen.
- Locate the units a sufficient distance from air conditioners, heat sources and ventilation fans.
- Water splash will most assuredly harm the sensitive components inside the units. Keep the units away from areas subject to water splash or water spray.
- Select a place where vibration is minimal.
- Leave enough space around the sides and rear of the units to permit checking and maintenance and to allow for circulation of cooling air.
- Keep the units out of direct sunlight.
- Keep the units away from magnetic fields (telephone, refrigerator, compass, etc.)

 CAUTION		
Keep the following compass safe distances.		
	Standard	Standard
Main Unit	1.2 m	0.9 m
Terminal Unit	1.4 m	1.0 m
Printer	1.0 m	0.8 m

Main Unit

Fix the unit with four tapping screws, referring to the outline drawing on page D-1.

Leave at least 100 mm at the sides and at least 150 mm at the rear to permit easy checking and maintenance.

Terminal Unit

1. Fix the hanger to the table with four tapping screws, referring to outline drawing on page D-2.
2. Attach connectors to bottom panel. (See next page)
3. Set the terminal unit to the hanger with two knobs.
4. Adjust the display screen so it can be easily viewed and tighten knobs.

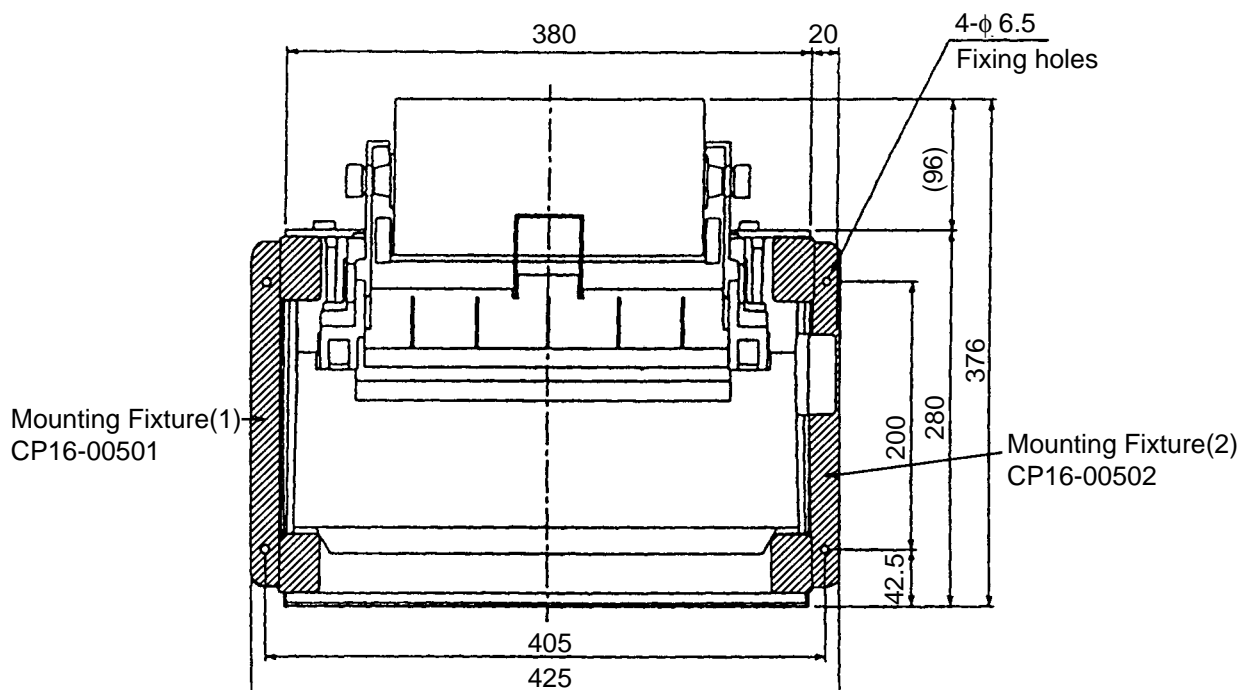
Leave at least 80 mm at the sides and rear to permit the checking and maintenance.

Keyboard

1. Attach the four “hook loop fasteners 3” (small ones) to the bottom of the keyboard.
2. Attach the four “hook loop fasteners 4” (large ones) to the “hook loop fasteners 3” attached to the keyboard bottom.
3. Remove seals from the “hook loop fasteners 4”.
4. Set the keyboard on the mounting location and press down firmly.

Printer

Fix the printer to mounting location with two printer fixtures (supplied).



4. Wiring



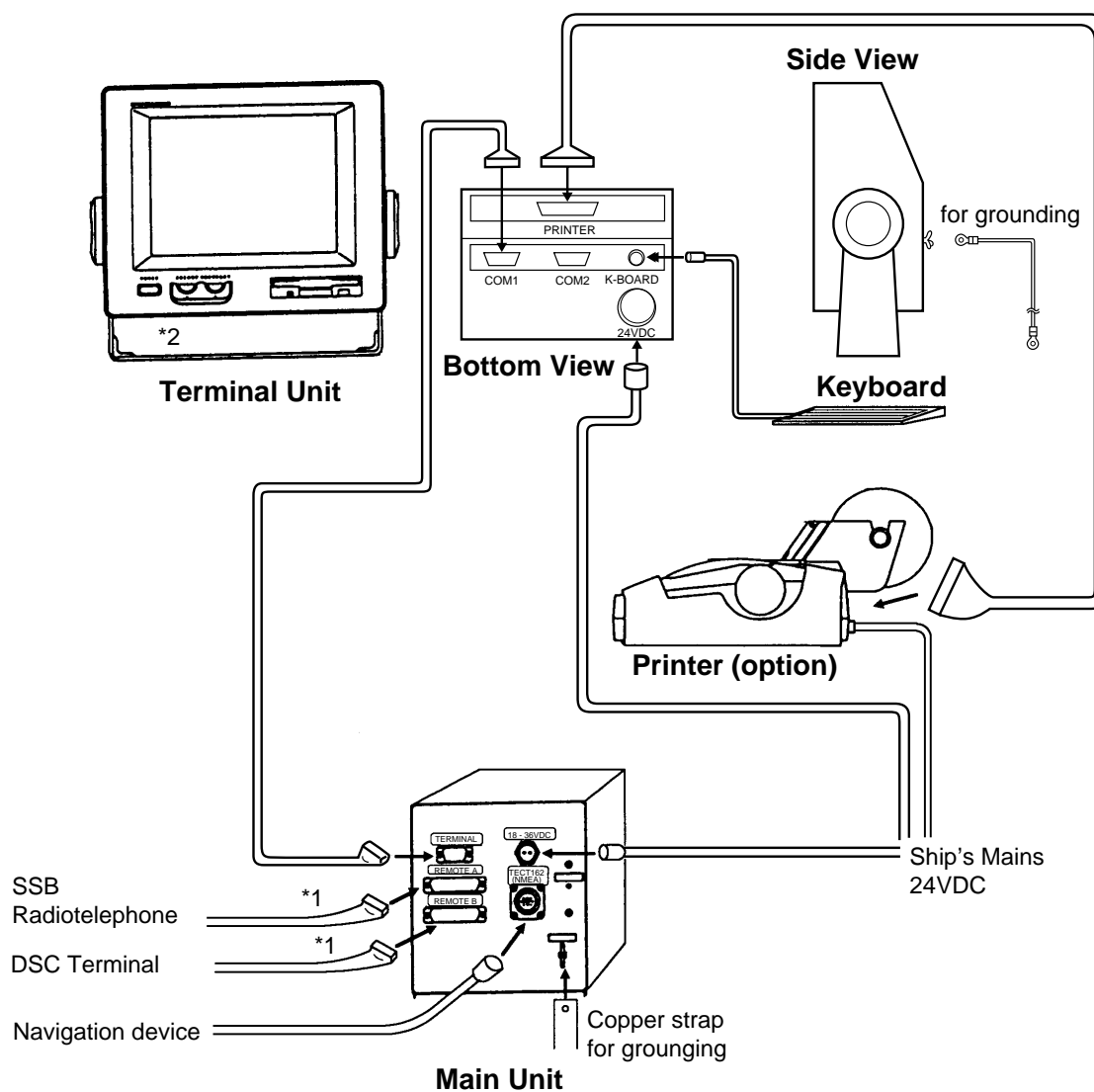
CAUTION



Ground the equipment to prevent electrical shock and mutual interference.

Confirm that the power supply voltage is compatible with the voltage rating of the equipment.

Connection to the wrong power supply can cause fire or equipment damage. The voltage rating appears on the label at the rear of the display unit.



*1 : Attach connectors in field.

*2 : Attach connectors before fixing the terminal unit to the hanger.

5. Initial Setting

Answerback Code & ID Code

Enter vessel's answerback code and ID code as follows.

NOTE

The answerback and ID code number can be written only once; be sure to enter the codes correctly.

Answerback Code

Procedure

1. Press function key **F5** and then the [5] key. The display should look something like below.

Answerback Code Entry

Answerback Code

■

Answerback Code Entry Screen

2. Enter vessel's answerback code (max. 20 characters, including spaces). Press the **ENTER** key. The prompt OK/CANCEL asks for verification of data. If correct, press the **ENTER** key again.

Example

Answerback Code Entry

Answerback Code

123456789 FURU X

OK

Cancel

Caution

Confirm the 'CODE' before pressing ENTER key.
You cannot change the CODE once it has been entered.

Message for confirmation of code entered

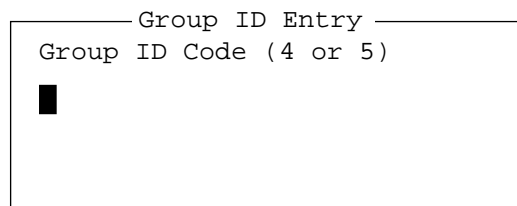
3. For final verification of the data, the above CAUTION appears. If correct, press the **ENTER** key again.

NOTE: *Form of answerback depends on coast station. Some request ship name and/or call sign.*

ID Code

Procedure

1. Press function key **F5** and then the [6], [7], [8] or [9] key to enter the Group ID Code (4 or 5 digits), Group ID Code (9 digits), Select ID Code (4/5 digits) or Select ID Code (9 digits), respectively.

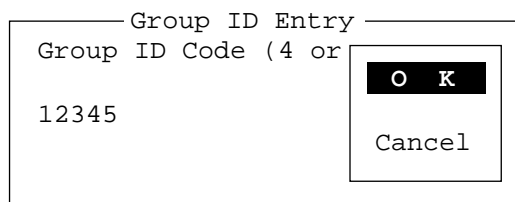


Group ID Entry
Group ID Code (4 or 5)
■

ID Code Screen

2. Enter group ID or select ID. Then, press the **ENTER** key. A prompt asks for verification of data. If correct, press the **ENTER** key.

Example



Group ID Entry
Group ID Code (4 or 5)
12345

OK
Cancel

Caution
Confirm the 'CODE' before pressing ENTER key.
You cannot change the CODE once it has been entered.

Message for confirmation of code entered

3. For final verification of the data, the above CAUTION appears. If correct, press the **ENTER** key again.

Note: Application software of DP-6 is already installed in the unit. The floppy disk programed in the accessories is for backup.

System Settings

Press function key **F6** to display the System screen.

System			
Setup	Lock	Change	Default
*Slave Delay	5 msec	(0- 50 msec)	
*BK Timing PreTone	10 msec	(0-100 msec)	
PoseTone	0 msec	(0- 20 msec)	
*Mute Timing PreBK	0 msec	(0- 20 msec)	
PostBK	0 msec	(0- 20 msec)	
*Modem Output Level	0 dBm	(-30 - +10 dBm)	
MIF Tune	<u>OFF</u>	O N	
Freeze	<u>OFF</u>	O N	
AGC	<u>OFF</u>	O N	
Emission	<u>OFF</u>	<u>O</u> N	
TX/RX MSG Save	<u>OFF</u>	O N	
Edit Before sending	<u>OFF</u>	O N	
Time system	OFF	<u>UTC</u> SMT JST	
Time & Data	1997/3/16/	10:00:00	
Display Mode	<u>Normal</u>	Reverse	
Self Test			

Procedure

To change settings, press the [→] key to display change (on the Setup line) in inverse video. Press the [↓] key to select item, then press the [→] or [←] key to select option.

(“Default” on the Setup line is for factory use.)

Menu Description

Setup	Lock/unlocks settings.
Slave Delay	Sets the length of the slave delay timing in the ARQ mode, between 0 - 50 msec.
BK Timing Pre Tone	Sets the timing for the leading edge of the BK signal in the ARQ mode.
Post Tone	Sets the timing for the trailing edge of the BK signal.
Mute Timing Pre BK	Sets the timing for the leading edge of the mute signal in the ARQ mode.

Post BK	Sets the timing for the trailing edge of the mute signal.
----------------	---

NOTE: *For further details about BK timing and mute timing, see page 14.*

Modem Output Level	Adjusts output signal from the modem, between -30 and +10 dBm. Refer to operation's manual of radiotelephone connected. With FURUNO radiotelephone, the default setting is available.
---------------------------	---

MIF Command

Tune*	With FURUNO transmitter connected, ON sends antenna coupler tuning command.
--------------	---

Freeze*	With FURUNO radio equipment connected, ON sends "freeze" command to disable controls of radio equipment.
----------------	--

AGC*	Turn on for radio equipment which supports AGC command in the MIF format, so that the gain is automatically controlled in the telex mode.
-------------	---

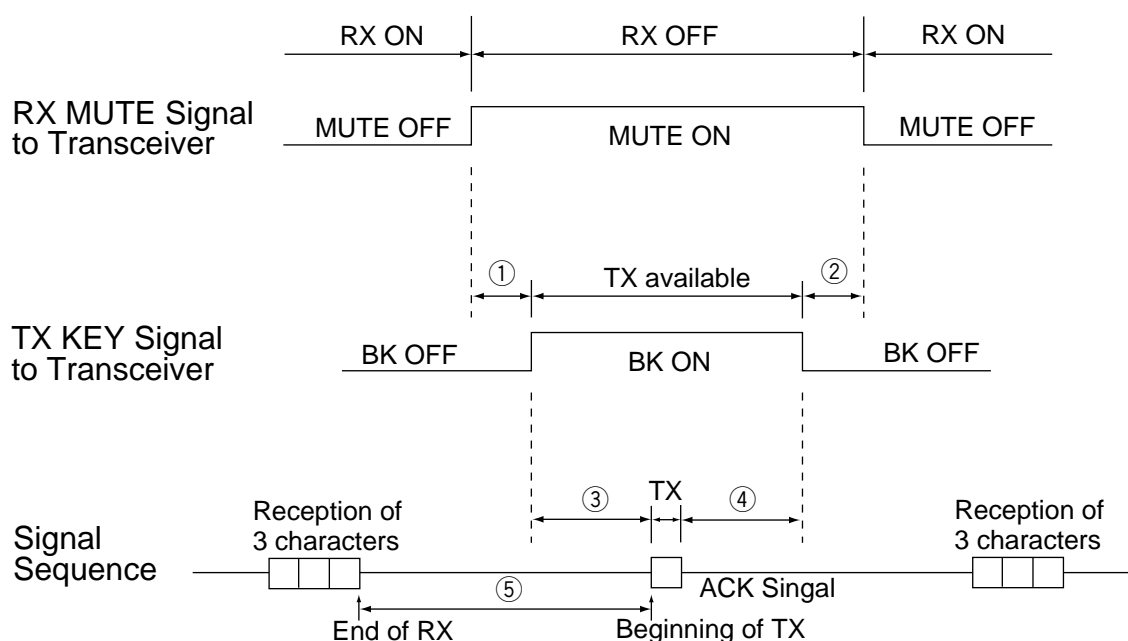
Emission*	ON sends EM (emission) command to radiotelephone.
------------------	---

TX/RX MSG Save	An outgoing or incoming message can be saved automatically to a floppy disk.
-----------------------	--

Edit before Sending	OFF: Transmits keying operation one by one. ON: Transmits message only when the ENTER key is pressed.
----------------------------	--

*: These commands are available according to a model connected.

INFORMATION RECEIVING STATION TMING



- ⑤ : SLAVE DELAY
- ③ : BK TIMING PRE TONE
- ④ : BK TIMING POST TONE
- ① : MUTE TIMING PRE BK
- ② : MUTE TIMING POST BK

Timing values depend on the transceiver connected. Therefore some trial and error may be necessary to find suitable values.

Default values are for FURUNO SSB Radiotelephone model FS-1500 or FS-1562.

Setting of Timing

Timing (msec)		FS-5000 series FS-8000 series FS-1562	FS-1500 series FS-1502 FS-1552	RC-258 RC-508 RC-808 RC-1208
Slave Delay		5 msec	50	5
BK Timing Pretone		10 msec	50	5
Post Tone		0 msec	10	0
MUTE Timing Pre BK		0 msec	0	0
Post BK		0 msec	0	0
Remarks	DP-6 MIF AGC	ON (FS-1562 : OFF)	OFF	OFF
	System setting of each equipment	9982 → 1 (FS-5000/8000)	9934 → 1 (FS-1502) 9904 → 0 9905 → 1 9906 → 10ms] (FS-1552)	none

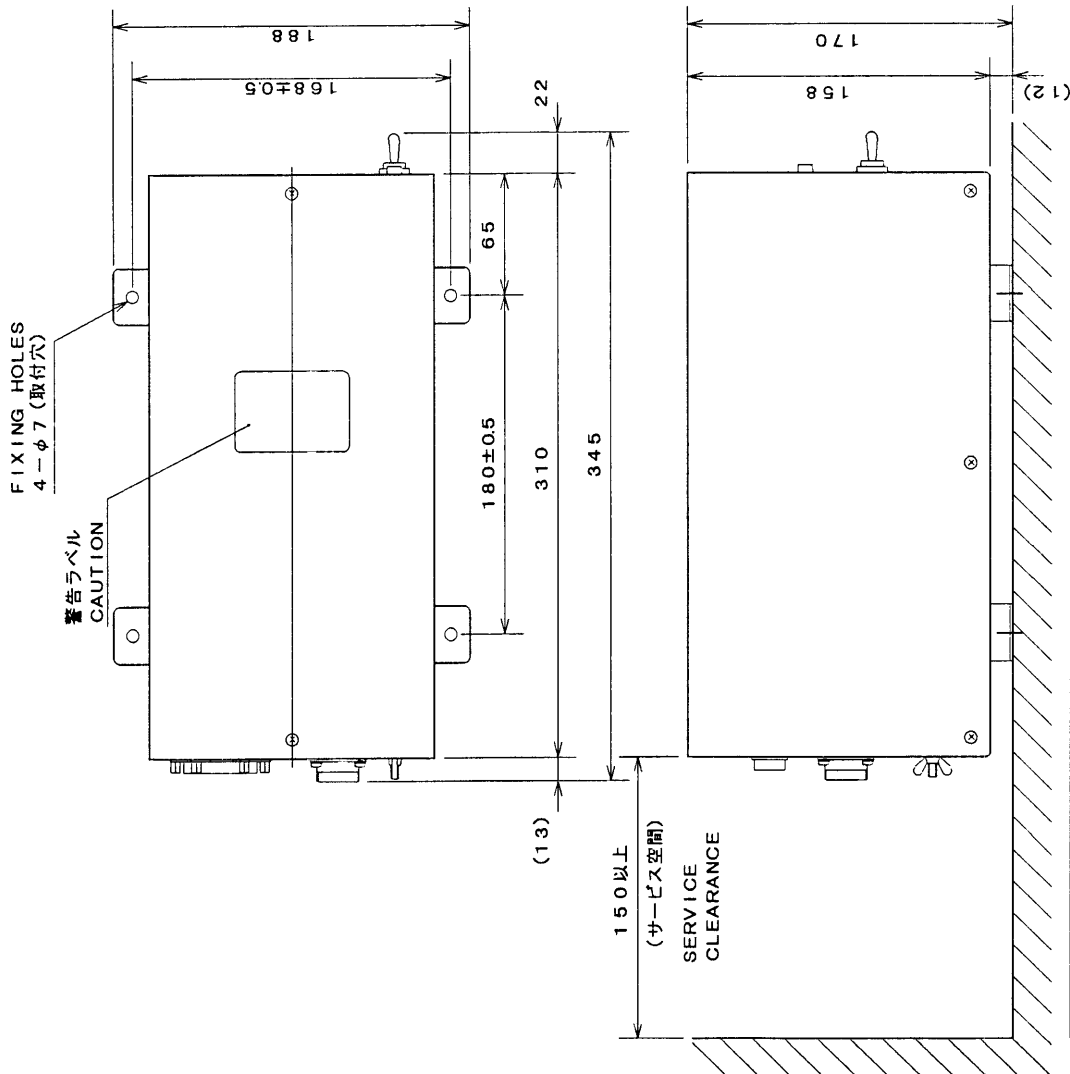
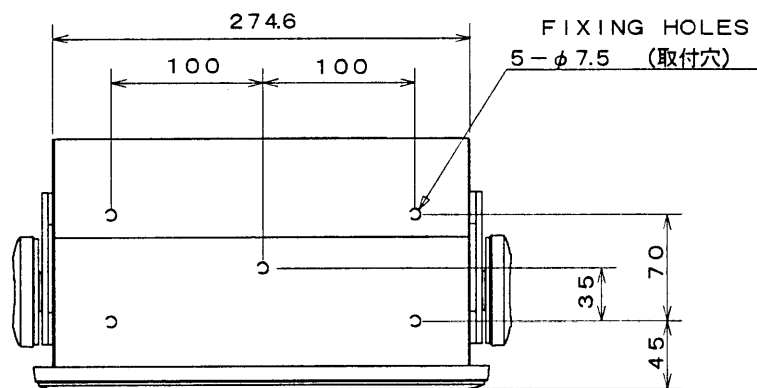


表 1
TABLE 1

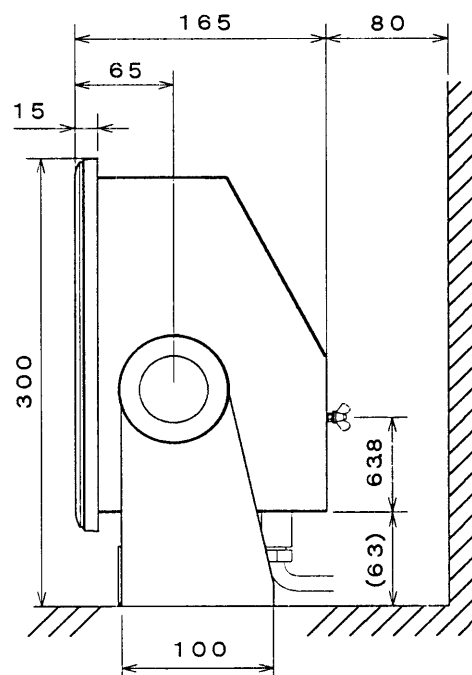
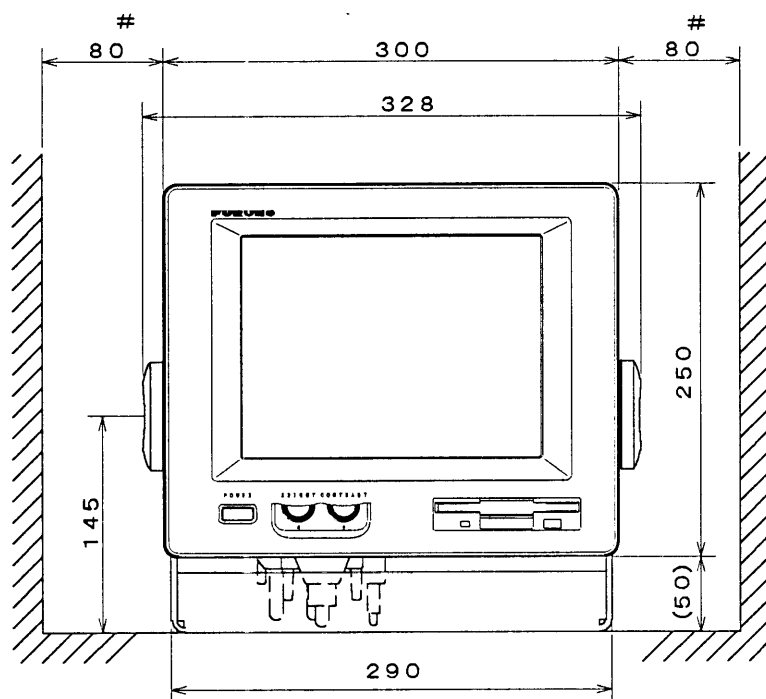
範囲 DIMENSIONS	公差 TOL
$L \leq 50$	±1mm
$50 < L \leq 100$	±2mm
$100 < L \leq 500$	±3mm
$500 < L \leq 1000$	±4mm
$1000 < L \leq 2000$	±5mm
$2000 < L \leq 4000$	±7mm
$4000 < L \leq 8000$	±10mm
$8000 < L$	±15mm

DRAWN Nov. 13 '96 K. Kikunaga/Ki	TITLE DP-6/10	
CHECKED Nov 13 '96 K. Kikunaga/Ki	名称 狭帯域直接印刷電信装置本体	
APPROVED Nov 13 '96 K. Kikunaga/Ki	外 寸 図	
SCALE 1/4	NAME NBPD MAIN UNIT	
DMGNa C5610-601-A	05-075-2100-GO	OUTLINE DRAWING

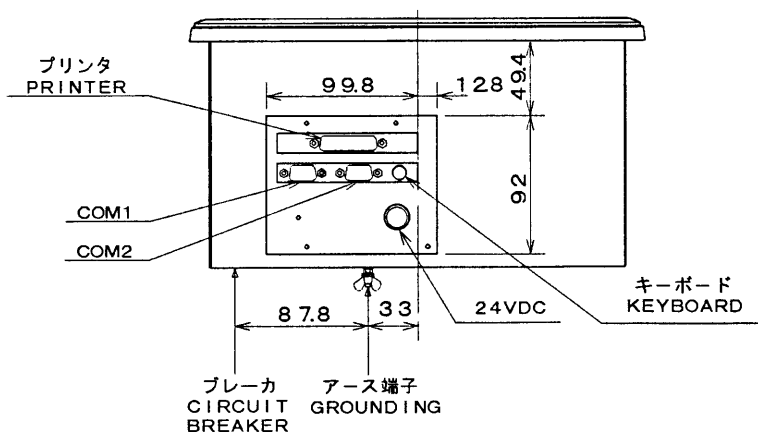


範圍 DIMENSIONS	公差 TOL
$L \leq 50$	$\pm 1\text{mm}$
$50 < L \leq 100$	$\pm 2\text{mm}$
$100 < L \leq 500$	$\pm 3\text{mm}$
$500 < L \leq 1000$	$\pm 4\text{mm}$
$1000 < L \leq 2000$	$\pm 5\text{mm}$
$2000 < L \leq 4000$	$\pm 7\text{mm}$
$4000 < L \leq 8000$	$\pm 10\text{mm}$
$8000 < L$	$\pm 15\text{mm}$

表 1
TABLE 1



コネクタ接続部 (本体底面図)
CONNECTOR LOCATION
(BOTTOM VIEW)

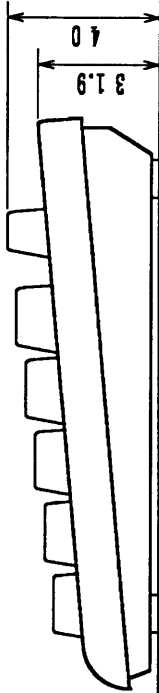
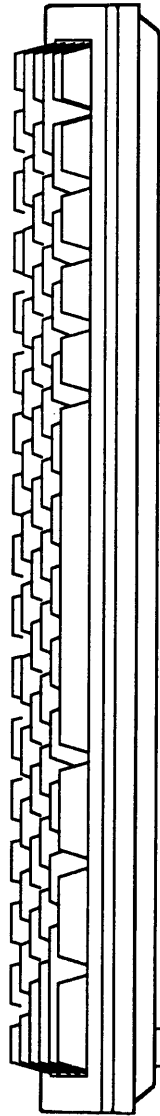
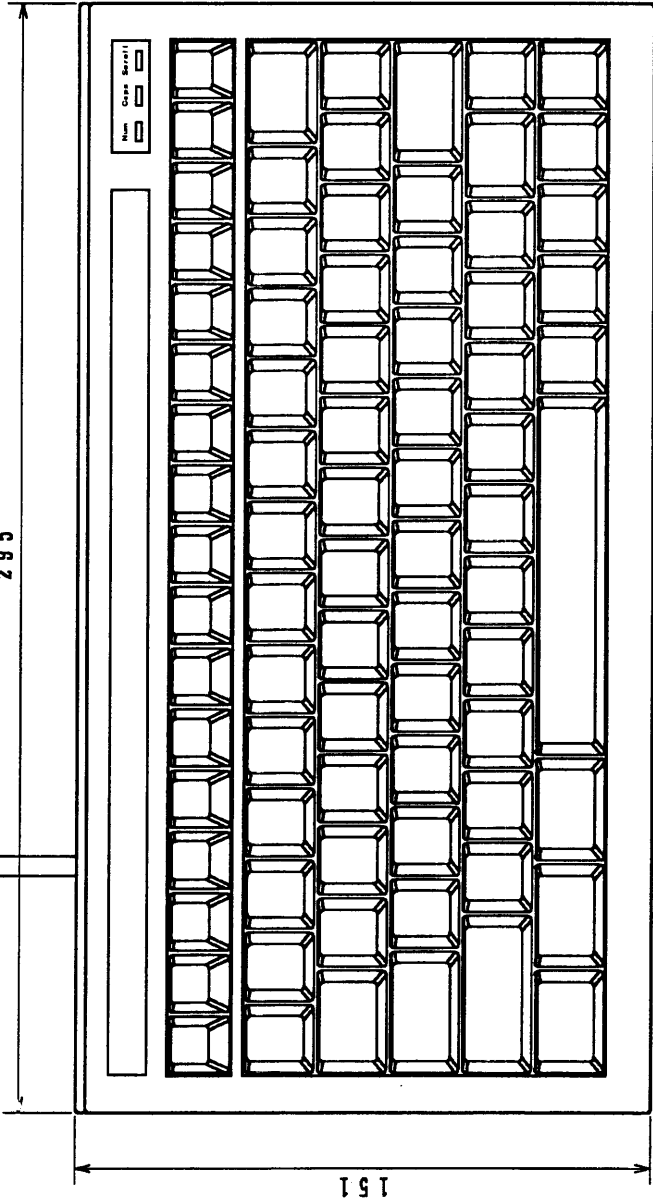


注 記 NOTE

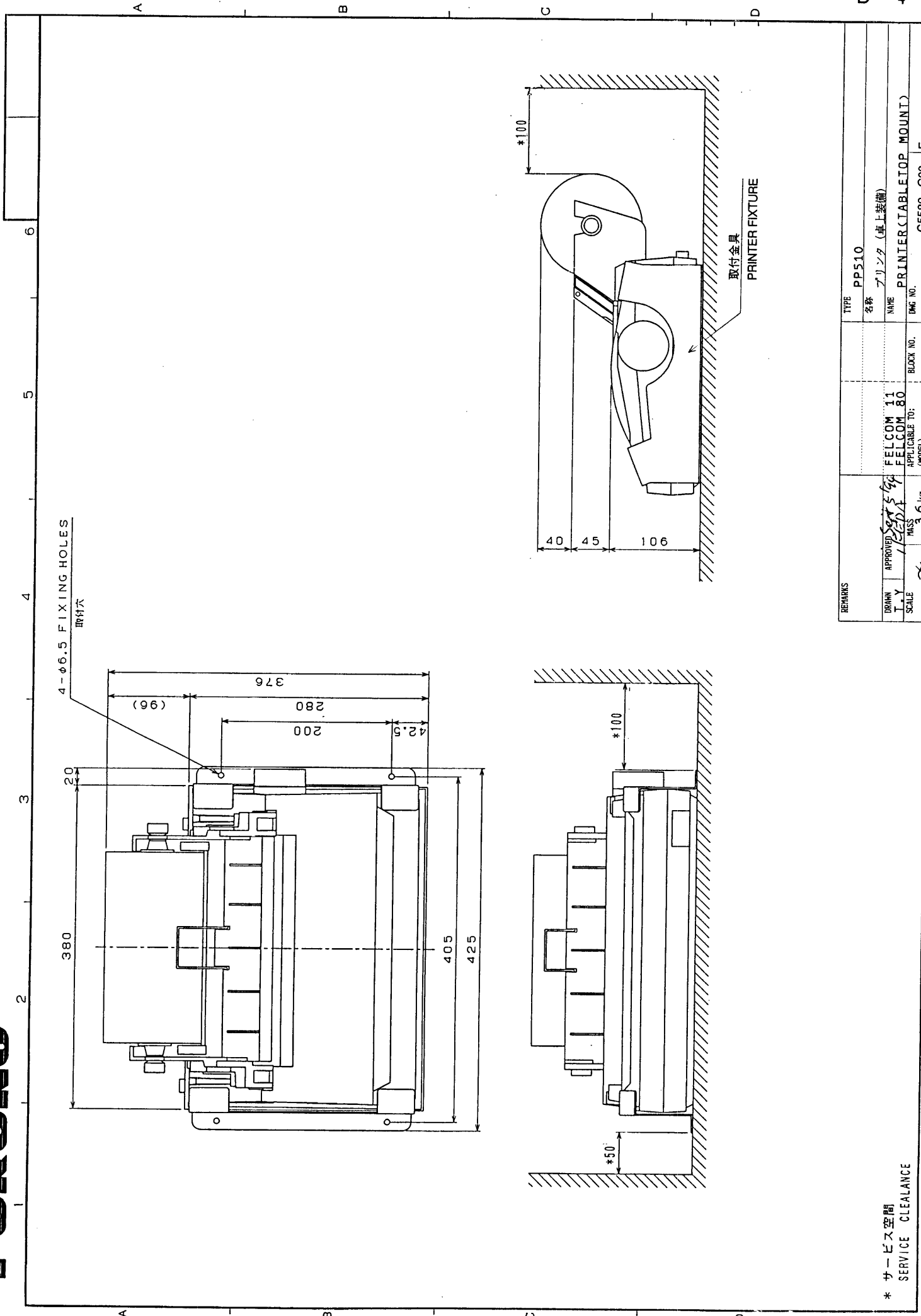
- 1) 装備ケーブルはサービス時、ユニットを前方に充分引き出せるよう、余裕を持たせること。
 - 2) 取付用ネジはM6ボルトまたはコーチボルト呼び径6を使用のこと。
 - 3) #印寸法は最小サービス空間寸法とする。
- 1) KEEP ENOUGH CABLE LENGTH BEHIND DISPLAY
 - 2) USE M6 BOLTS OR $\phi 6$ COACH BOLTS FOR FIXING DISPLAY UNIT.
 - 3) DIMENSIONS WITH " #" INDICATES RECOMMENDED SERVICE CLEARANCE

DRAWN	Nov. 12 '96 K. Kusunoki			TITLE	IB-581
CHECKED	Nov. 12 '96 T. SHISHIDO			名称	ターミナルユニット
APPROVED	Nov 12 '96 K. UTAH	FELCOM-81			外寸図
SCALE	1/5	MASS	60kg	NAME	TERMINAL UNIT
DWG No.	C5609-G03-B		16-001-5000-G1		OUTLINE DRAWING

カーリコード 1.3 m
CURL CORD 295



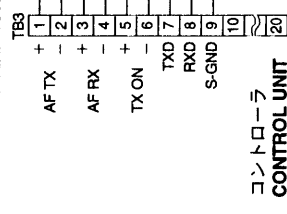
DRAWN Dec 5 '97 T. YAMASAKI		TITLE BTC-5100C PS/2
CHECKED Dec 5 '97 K. HISUNO		名義 キーボード
APPROVED Dec 5 '97 T. Yamaguchi		外寸図
SCALE 1/8 MASS 0.7 kg		NAME KEYBOARD
DMGNa C5609-G05-B		OUTLINE DRAWING



* サービス空間
SERVICE CLEARANCE

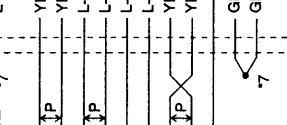
(接続例 EXAMPLE)

FS-5000/2500/1600
SSB RADIOTELEPHONE



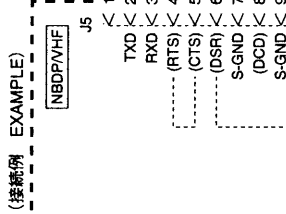
コントロール
CONTROL UNIT

SIDE ③



(接続例 EXAMPLE)

NBDP/VHF

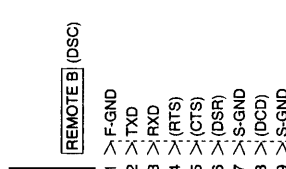
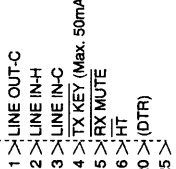


DSC-5
DSC TERMINAL

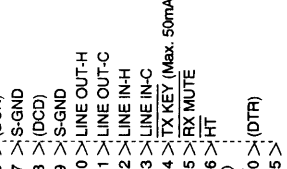
NBDPターミナル本体
NBDP TERMINAL MAIN UNIT



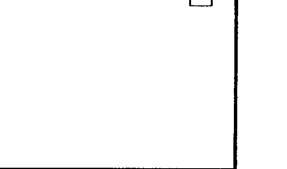
ターミナルユニット
TERMINAL UNIT



ターミナルユニット
TERMINAL UNIT



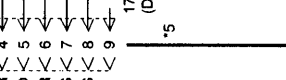
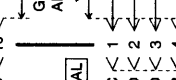
ターミナルユニット
TERMINAL UNIT



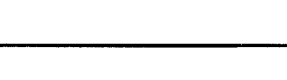
航海装置
NAVIGATOR/INTERFACE UNIT



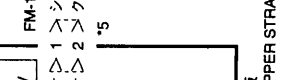
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NAVIGATOR/INTERFACE UNIT



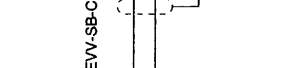
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NAVIGATOR/INTERFACE UNIT



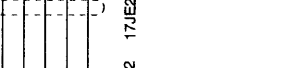
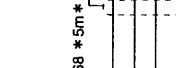
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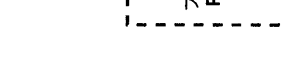
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NAVIGATOR/INTERFACE UNIT



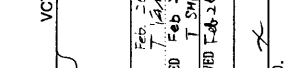
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NAVIGATOR/INTERFACE UNIT



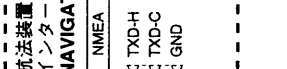
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NAVIGATOR/INTERFACE UNIT



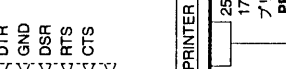
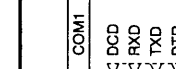
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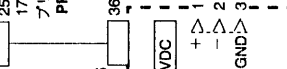
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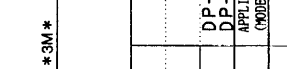
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航海装置
NAVIGATOR/INTERFACE UNIT



航海装置
NAVIGATOR/INTERFACE UNIT



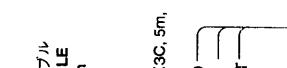
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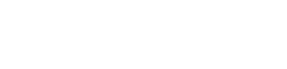
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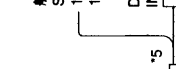
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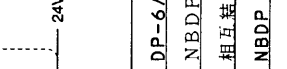
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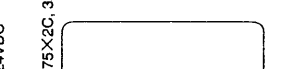
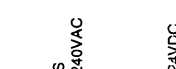
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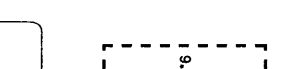
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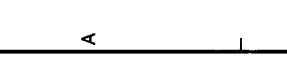
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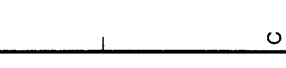
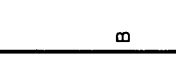
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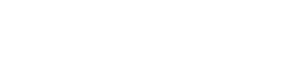
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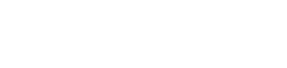
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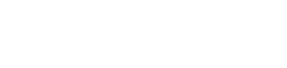
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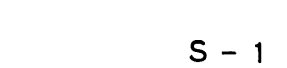
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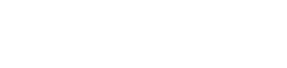
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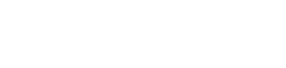
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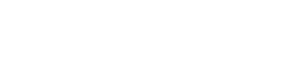
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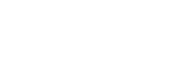
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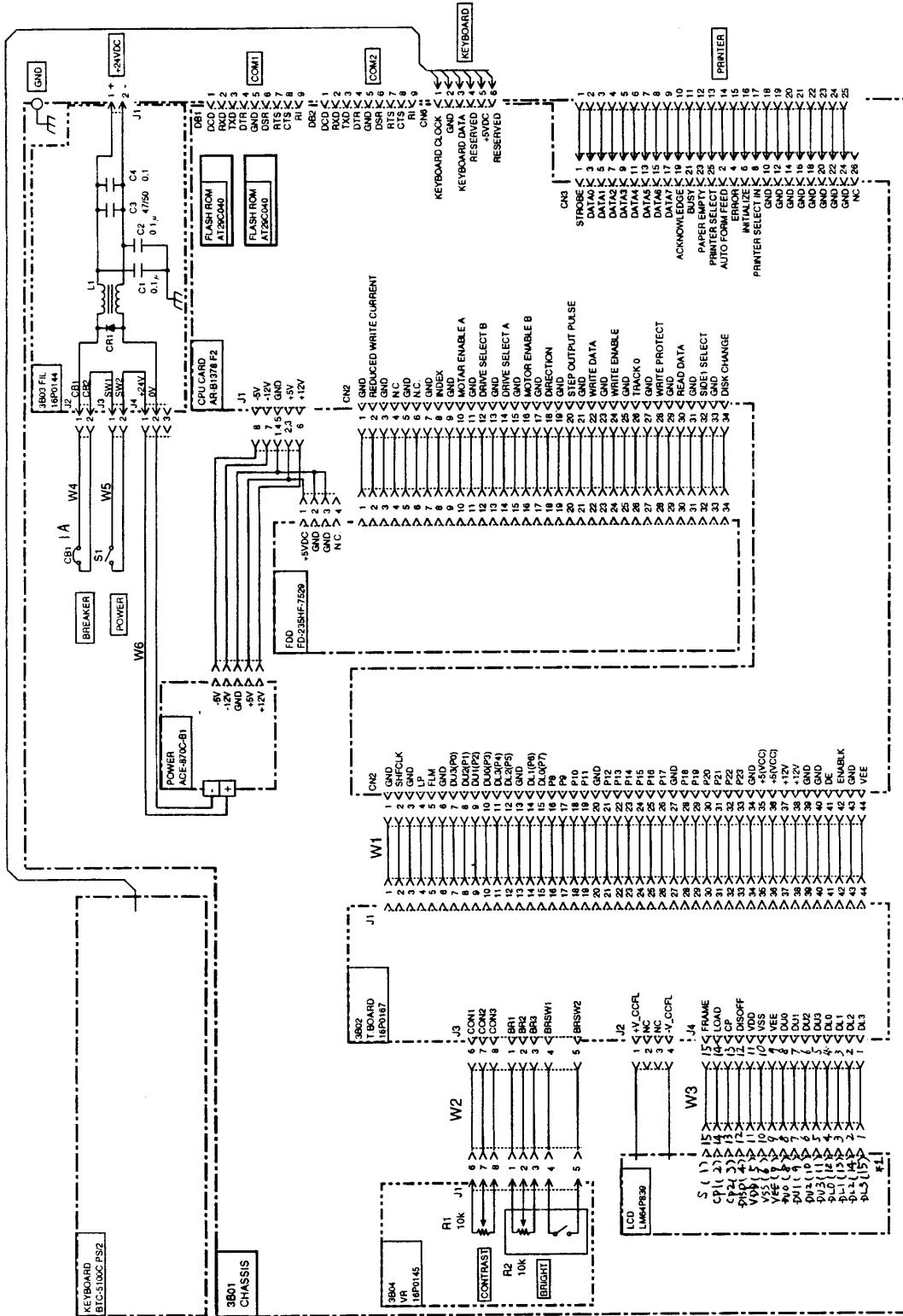


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NAVIGATOR/INTERFACE UNIT





FURUNO ELECTRIC CO., LTD.

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