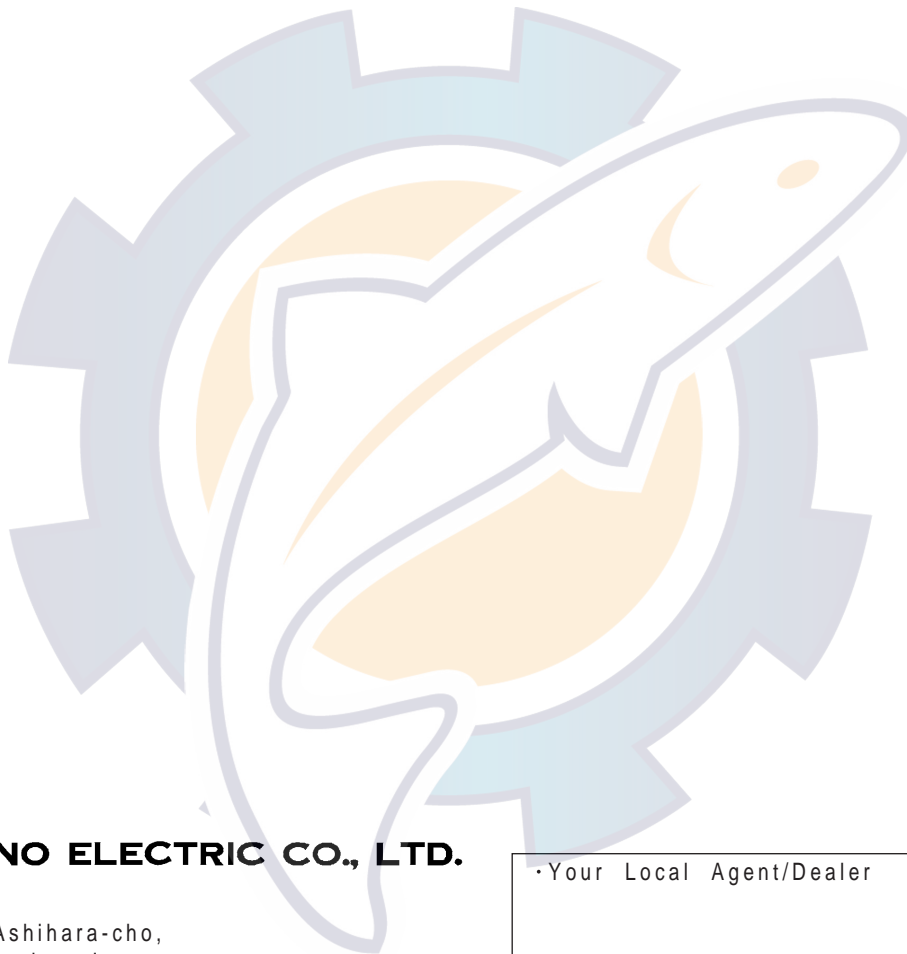


# INSTALLATION MANUAL NBDP TERMINAL DP-6

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•Your Local Agent/Dealer

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(TENI)

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



\* 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.

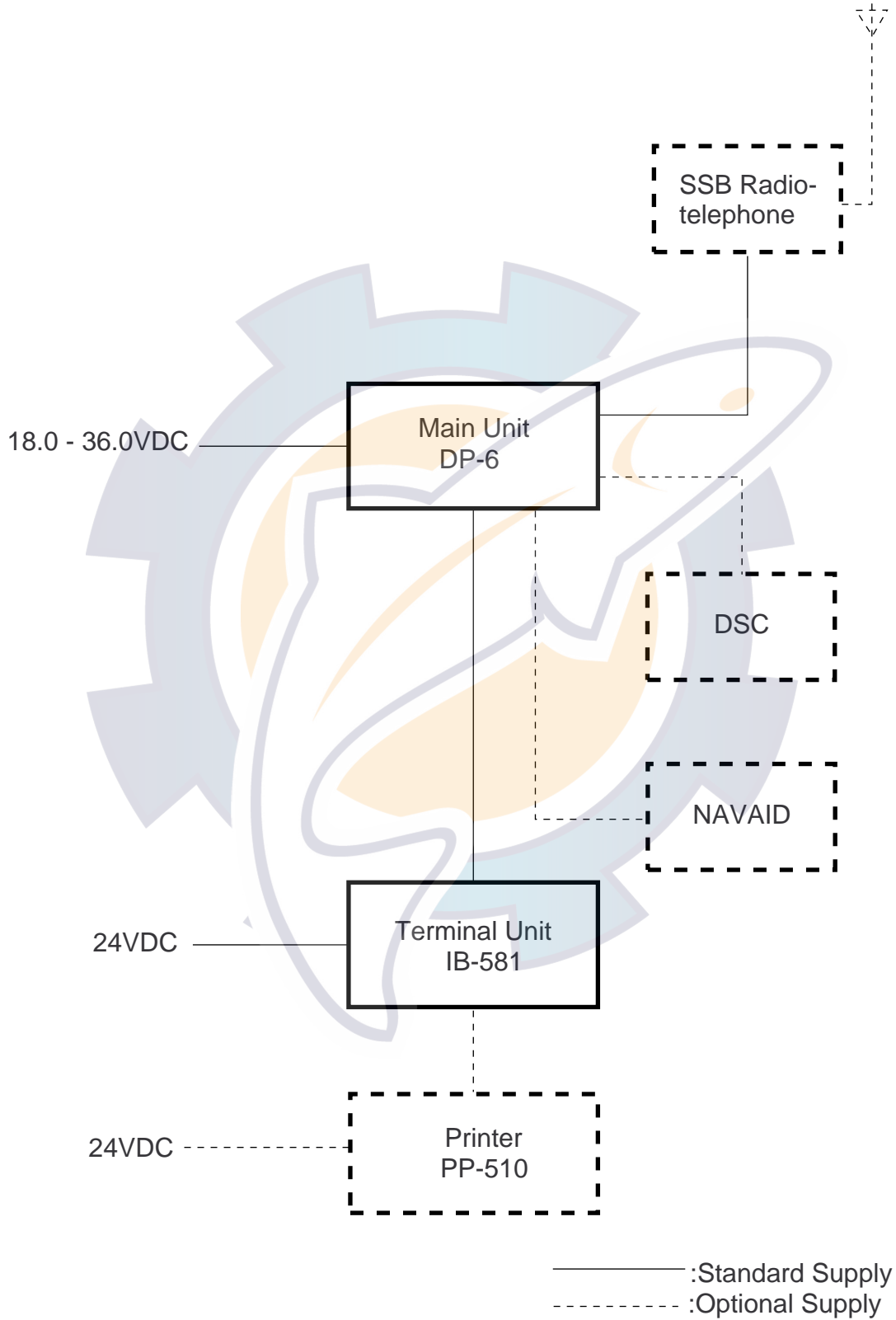
**Use the correct fuse.**

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.


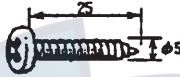

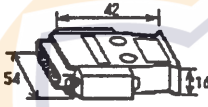

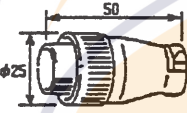
### Optional Equipment

	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

# FURUNO

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

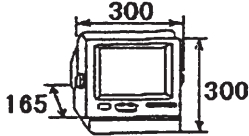
1/1

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	用途/備考 REMARKS
1	7-ス板 COPPER STRAP		05-003-0031-0	1	
			CODE NO. 590-300-310		
2	ナベタップピンネジ 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		

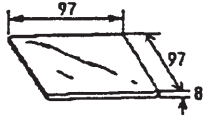
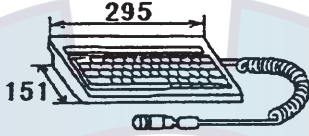
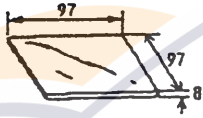
FURUNO ELECTRIC CO., LTD

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

IB-581(DP-6)

NAME	OUTLINE	DESCRIPTION/CODE No.	QTY
<b>ユニット UNIT</b>			
ターミナルユニット TERMINAL UNIT		IB-581-02-2.5GY 000-055-405 **	1

**付属品 ACCESSORIES**




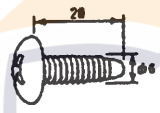

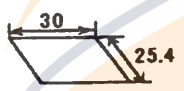
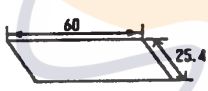


フロッピーディスク FLOPPY DISK		MF-256HD 000-115-862	1
ミニキーボード MINI KEYBOARD		BTC-5100C PS/2 004-442-400	1
フロッピーディスク(書き込品) FLOPPY DISK		05-501-891 004-447-090	1

注記) コード番号末尾の[\*\*]は、共通機種種の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.



# FURUNO

CODE NO.	000-043-259	16AF-X-9410 -0 1/1
TYPE	CP16-01150	

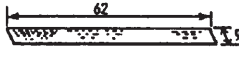
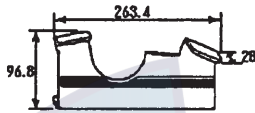


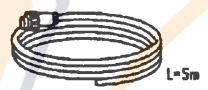

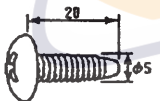
工事材料表 INSTALLATION MATERIALS		1B-581	ターミナルユニット TERMINAL UNIT		
番号 NO.	名称 NAME	略図 OUTLINE	型名/規格 DESCRIPTIONS	数量 Q'TY	用途/備考 REMARKS
1	7-2線 GROUNDING WIRE		08S0087	1	
			CODE NO. 000-108-13A		
2	電源ケーブル & DC用 POWER CABLE (FOR DC MAINS)		VCTF0.75X2C *3M*	1	
			CODE NO. 000-112-543		
3	ケーブル組品 CABLE		17JE-573-10A-32 16S0068 *5M*	1	
			CODE NO. 000-127-108		
4	プラスタッピングネジ +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	フック(3) HOOK LOOP FASTENER		16-007-6814-0	4	
			CODE NO. 100-237-670		
7	フック(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.)

# FURUNO

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

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	1	COMPASS SAFE DISTANCE
			CODE NO.		
2	プリンタ取付板(2)組品 PRINTER FIXTURE		CP16-00502 SPCC 2.5GY5/1.5 #5-N	1	
			CODE NO.		
3	プリンタ取付板(1)組品 PRINTER FIXTURE		CP16-00501 SPCC 2.5GY5/1.5 #5-N	1	
			CODE NO.		
4	ケーブル組品 CABLE ASSY.		16S0184	1	ターミナルユニット用 / FOR TERMINAL UNIT
			CODE NO.		
5	電源ケーブル組品 POWER CABLE ASSY.		16S0084 (VCTF-0.75X3C *5M*)	1	
			CODE NO.		
6	ハリマーク(INMAR) LABEL (INMAR)		16-007-6919-0	1	
			CODE NO.		
7	+トラスタップネジ +TAPPING SCREW		5X20 SUS304 1ヶ	4	
			CODE NO.		

FURUNO ELECTRIC CO., LTD

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

**FURUNO**

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

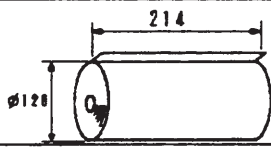
付 属 品 表 ACCESSORIES		PP-510 プリンター PRINTER			
番号 No.	名 称 N A M E	略 図 OUTLINE	型 名 / 規 格 DESCRIPTIIONS	数 量 Q'TY	用 途 / 備 考 REMARKS
1	フ°リタ用紙 RECORDING PAPER		A2 1PLY W CODE NO. 000-134-903	1	
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		

図 番 (1/1)  
DWG. NO. C5589-F01-C

### 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.

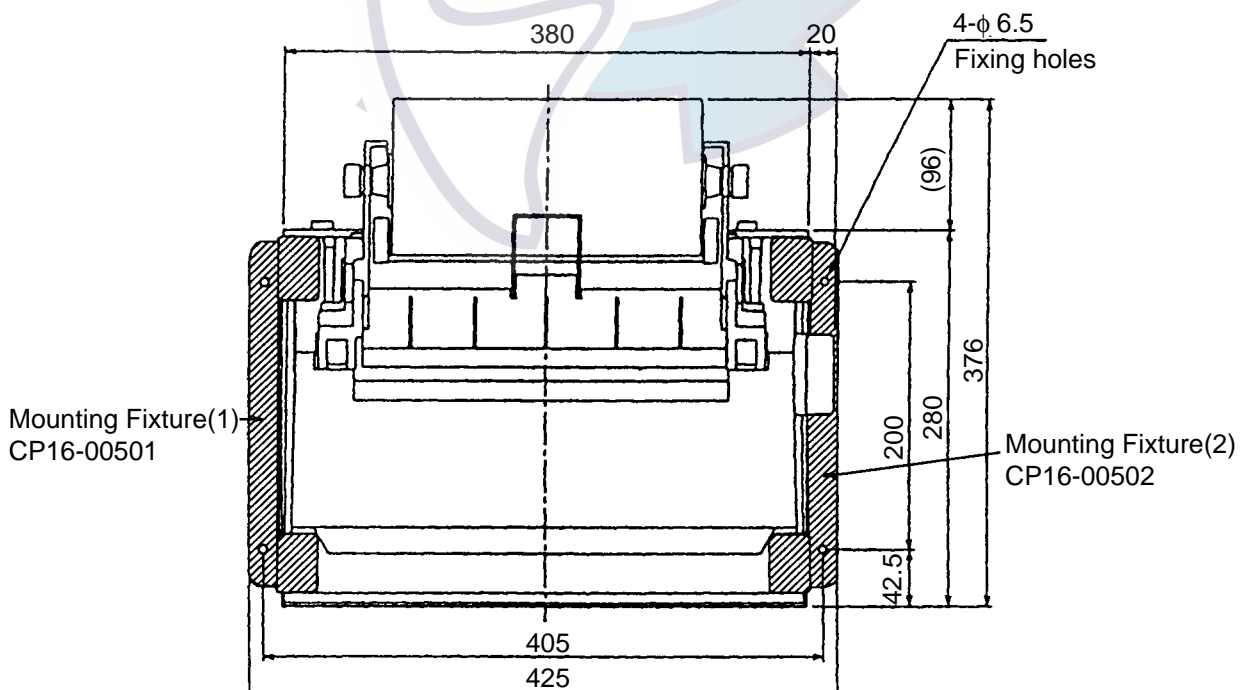
Leave at least 80 mm at the sides and rear to permit the checking and maintenance.

### 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.

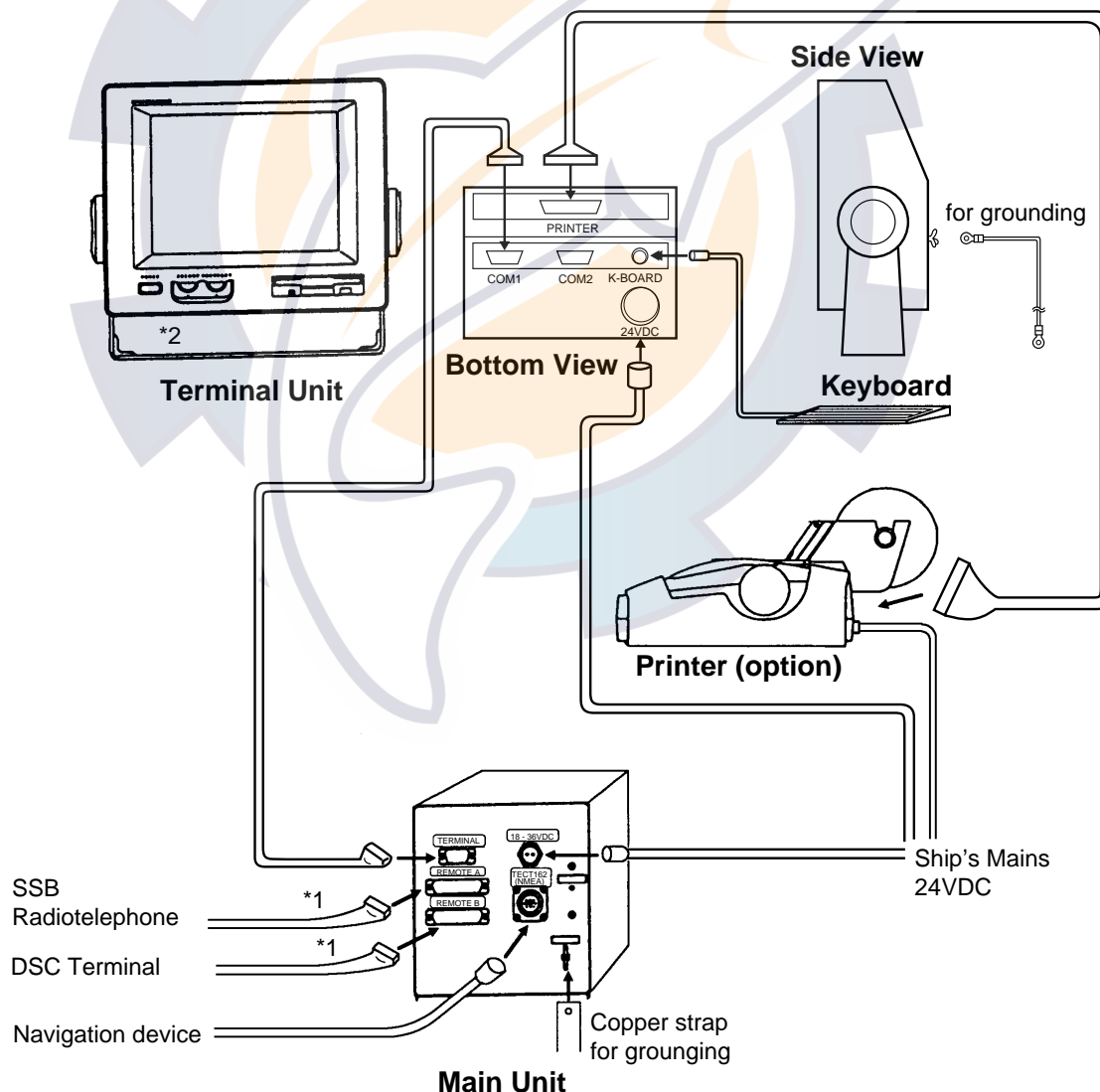
## Printer

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



# 4. Wiring

	<b>CAUTION</b>
	<b>Ground the equipment to prevent electrical shock and mutual interference.</b>
<b>Confirm that the power supply voltage is compatible with the voltage rating of the equipment.</b>	
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*

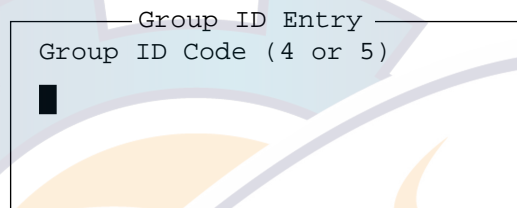
3. For final verification of the data, the above CAUTION appears. If correct, press the **ENTER** key again.

**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.

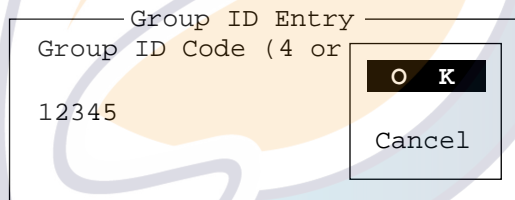


Group ID Entry  
Group ID Code (4 or 5)  
█

### *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			
<b>Setup</b>	<b>Lock</b>	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>	<u>O</u>	<u>N</u>
Freeze	<u>OFF</u>	<u>O</u>	<u>N</u>
AGC	<u>OFF</u>	<u>O</u>	<u>N</u>
Emission	<u>OFF</u>	<u>O</u>	<u>N</u>
-----			
TX/RX MSG Save	<u>OFF</u>	<u>O</u>	<u>N</u>
Edit Before sending	<u>OFF</u>	<u>O</u>	<u>N</u>
-----			
Time system	<u>OFF</u>	<u>UTC</u>	<u>SMT</u> <u>JST</u>
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

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

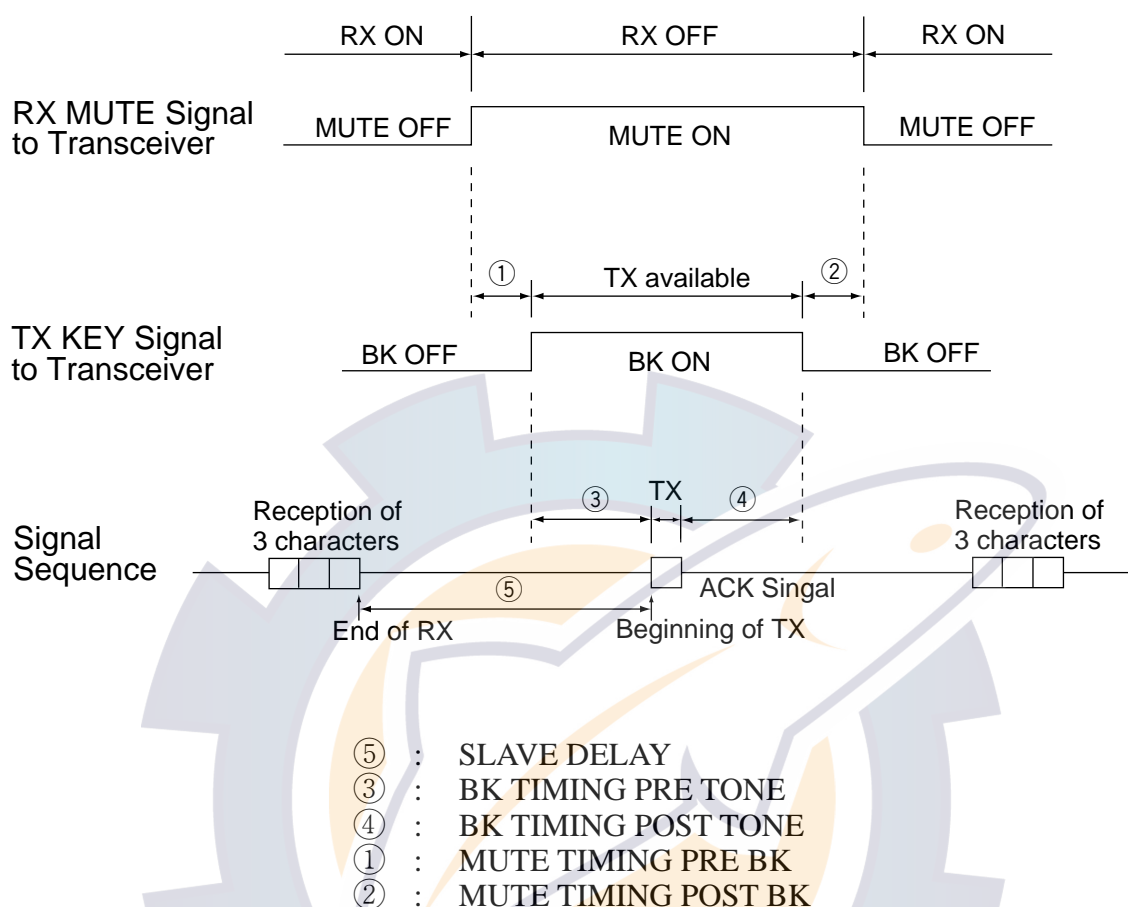
An outgoing or incoming message can be saved automatically to a floppy disk.

**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

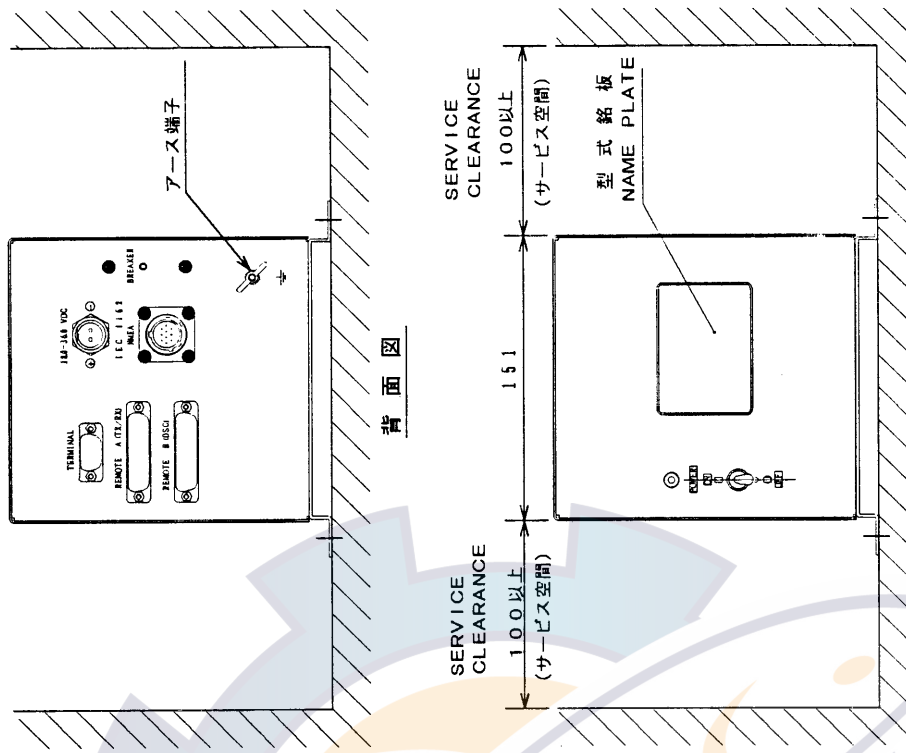
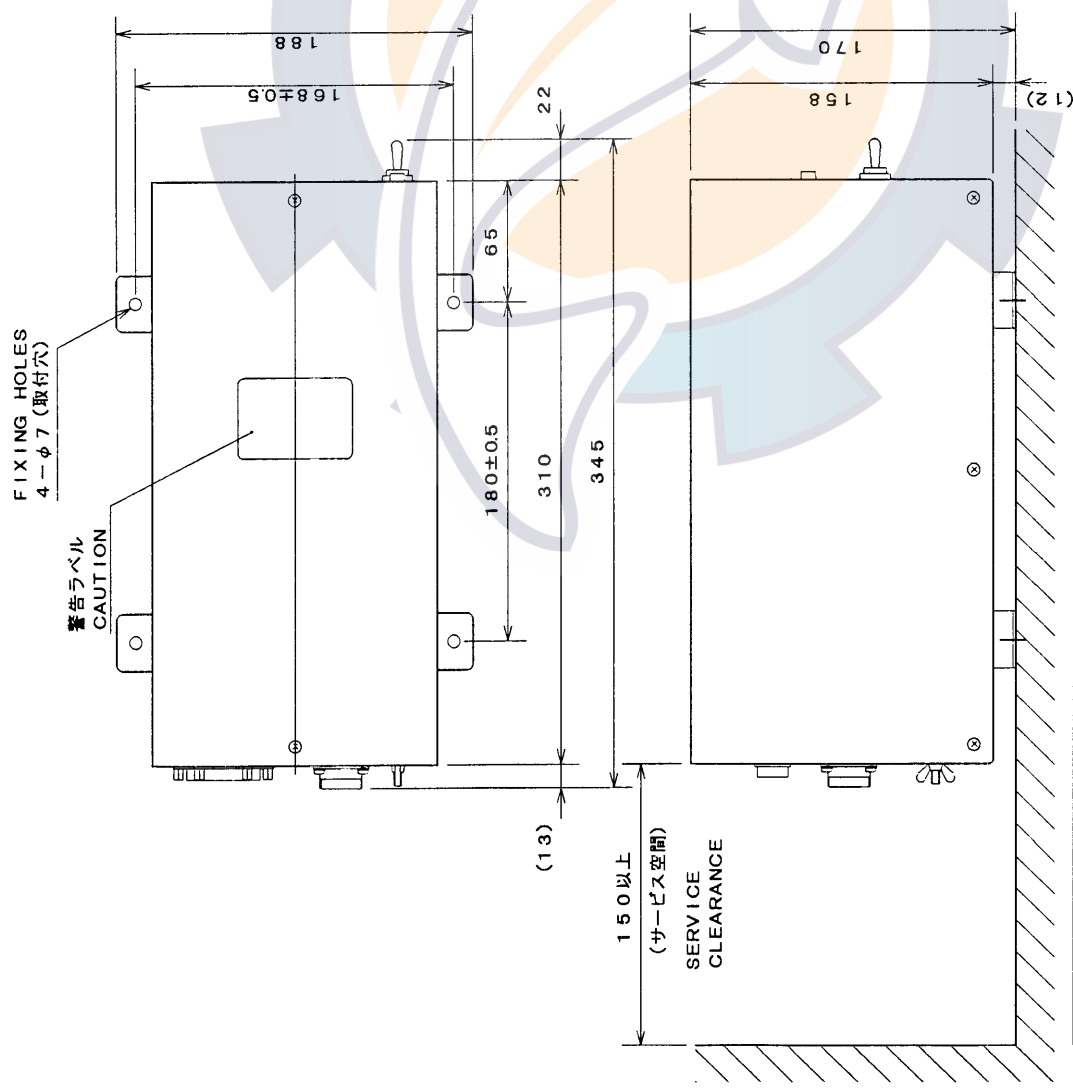


Timing values depend on the transceiver connected. Therefore some trial and error may be necessary to find suitable values.

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

### Setting of Timing

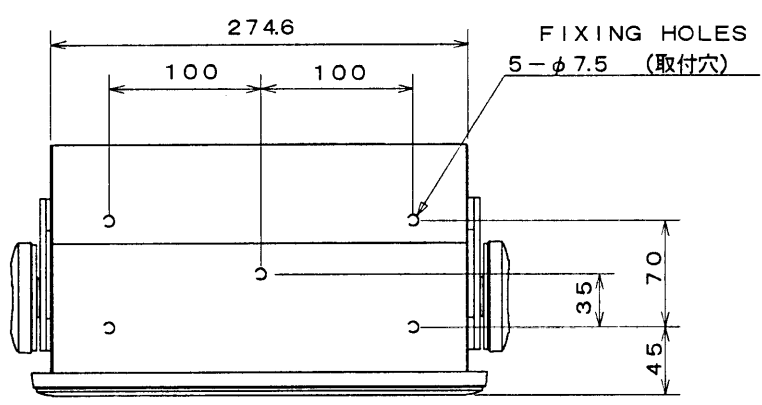
Timing (msec)	FS-5000 series FS-8000 series FS-1562	FS-1500 series FS-1502 FS-1552	RC-258 RC-508 RC-808 RC-1208
Slave Delay	5 msec	50	5
BK Timing Pretone	10 msec	50	5
Post Tone	0 msec	10	0
MUTE Timing Pre BK	0 msec	0	0
Post BK	0 msec	0	0
Remarks	DP-6 MIF AGC	ON (FS-1562 : OFF)	OFF
	System setting of each equipment	9982 → 1 (FS-5000/8000)	9934 → 1 (FS-1502) 9904 → 0 9905 → 1 9906 → 10ms ] (FS-1552)



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

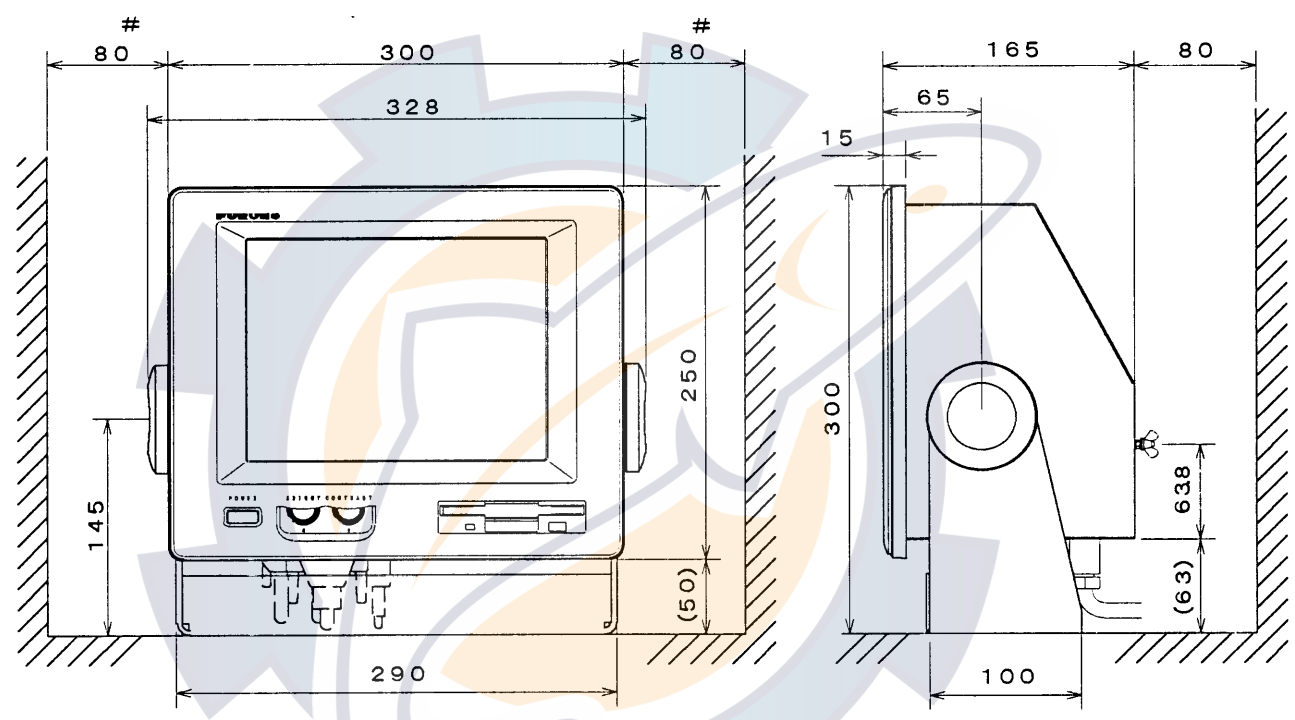
表 1  
TABLE 1

DRAWN Nov. 13 '96 K. Kojima	TITLE DP-6/10
CHECKED Nov 13 '96 K. Ueda	名称 狭帯域直接印刷電信装置本体
APPROVED Nov 13 '96 K. Ueda	外寸図
SCALE 1/4 MASS 4.5±0.5kg	NAME NBDP MAIN UNIT
FIG. No. C5610-601-A	05-075-2100-GO
	OUTLINE DRAWING

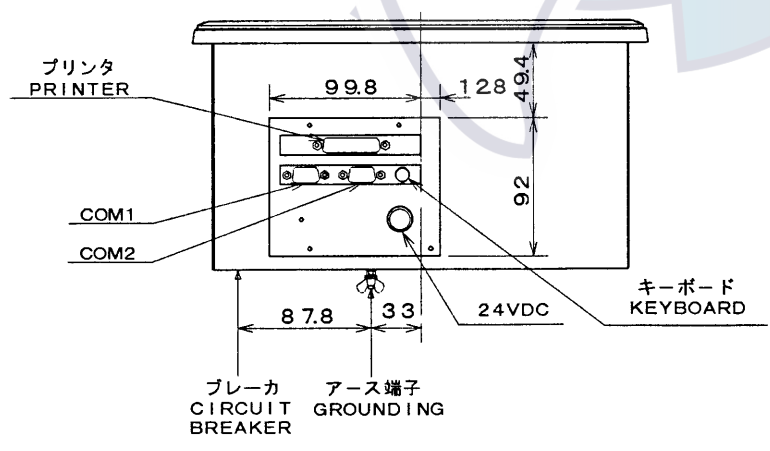


範囲 DIMENSIONS	公差 TOL
$L \leq 50$	±1mm
$50 < L \leq 100$	±2mm
$100 < L \leq 500$	±3mm
$500 < L \leq 1000$	±4mm
$1000 < L \leq 2000$	±5mm
$2000 < L \leq 4000$	±7mm
$4000 < L \leq 8000$	±10mm
$8000 < L$	±15mm

表 1  
 TABLE 1



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

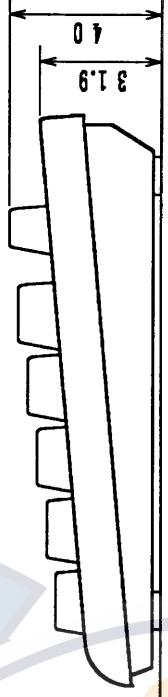
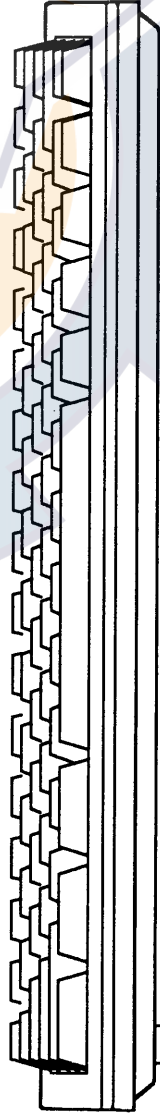
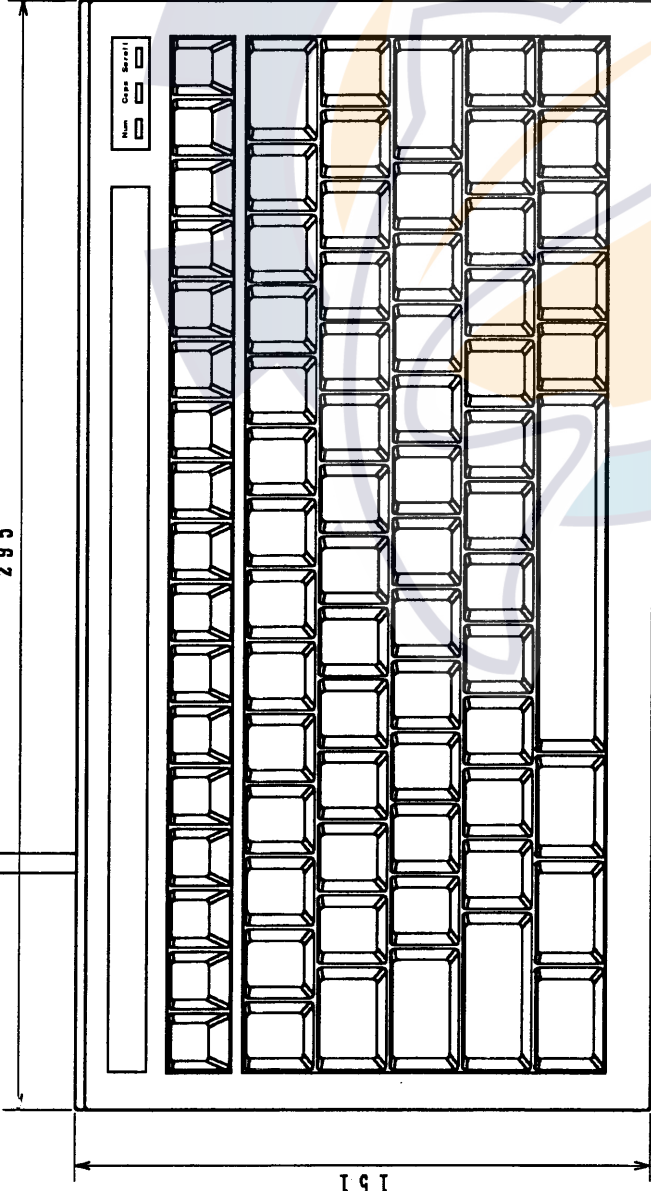


注記 NOTE

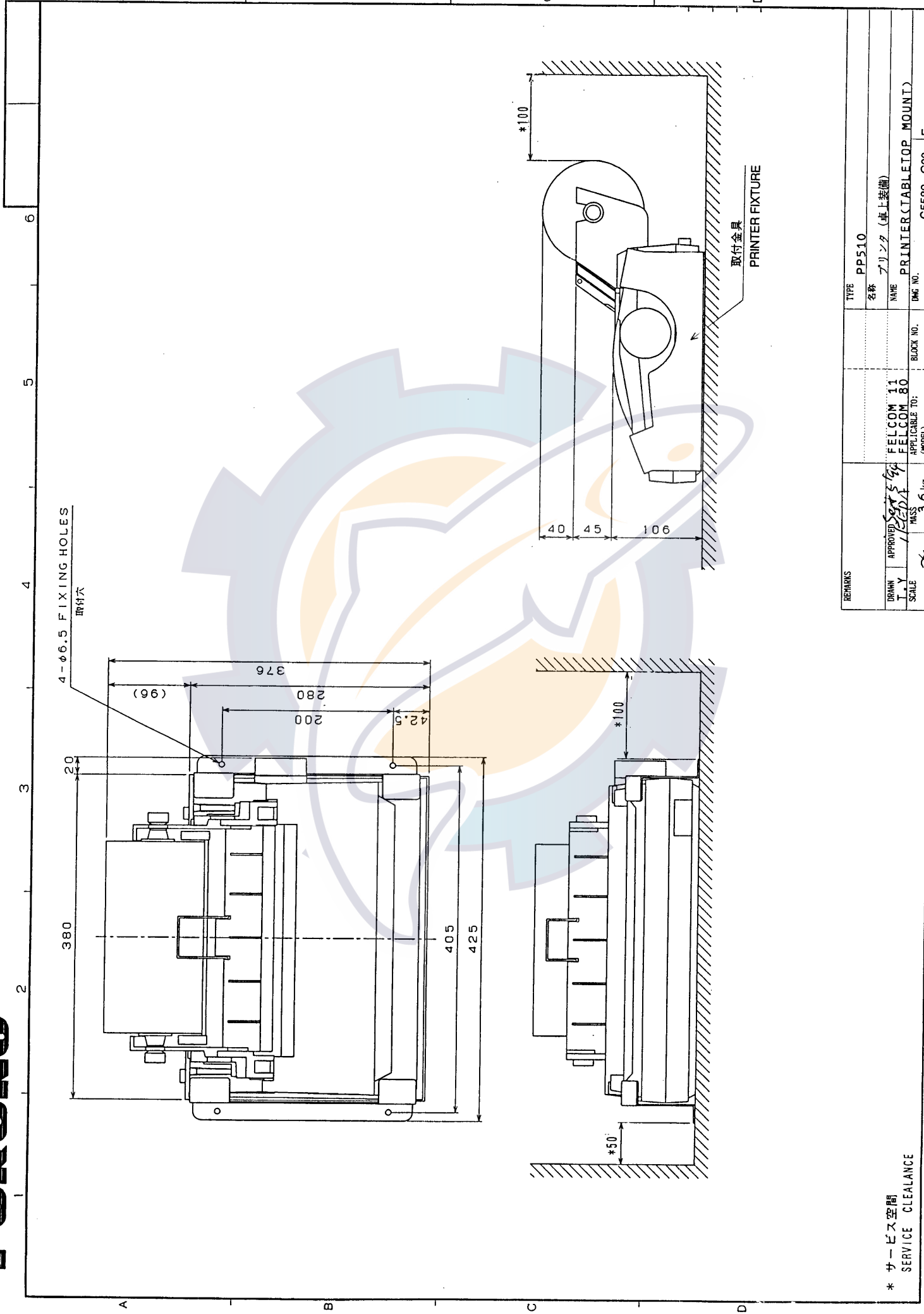
- 1) 装備ケーブルはサービス時、ユニットを前方に充分引き出せるよう、余裕を持たせること。
  - 2) 取付用ネジはM6ボルトまたはコーチボルト呼び径6を使用のこと。
  - 3) #印寸法は最小サービス空間寸法とする。
- 1) KEEP ENOUGH CABLE LENGTH BEHIND DISPLAY
  - 2) USE M6 BOLTS OR φ6 COACH BOLTS FOR FIXING DISPLAY UNIT.
  - 3) DIMENSIONS WITH " #" INDICATES RECOMMENDED SERVICE CLEARANCE

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. OTS	FELCOM-81	外寸図
SCALE	1/5 MASS 60kg	NAME	TERMINAL UNIT
DWGNo.	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. YAMAZAKI	TITLE BTC-5100C PS/2
CHECKED Dec 5 '97 K. HISUNO	名番 キーボード
APPROVED Dec 5 '97 T. Yamazaki	外寸図
SCALE 1/8 MASS 0.7 kg	NAME KEYBOARD
DMGN C5609-G05-B	OUTLINE DRAWING

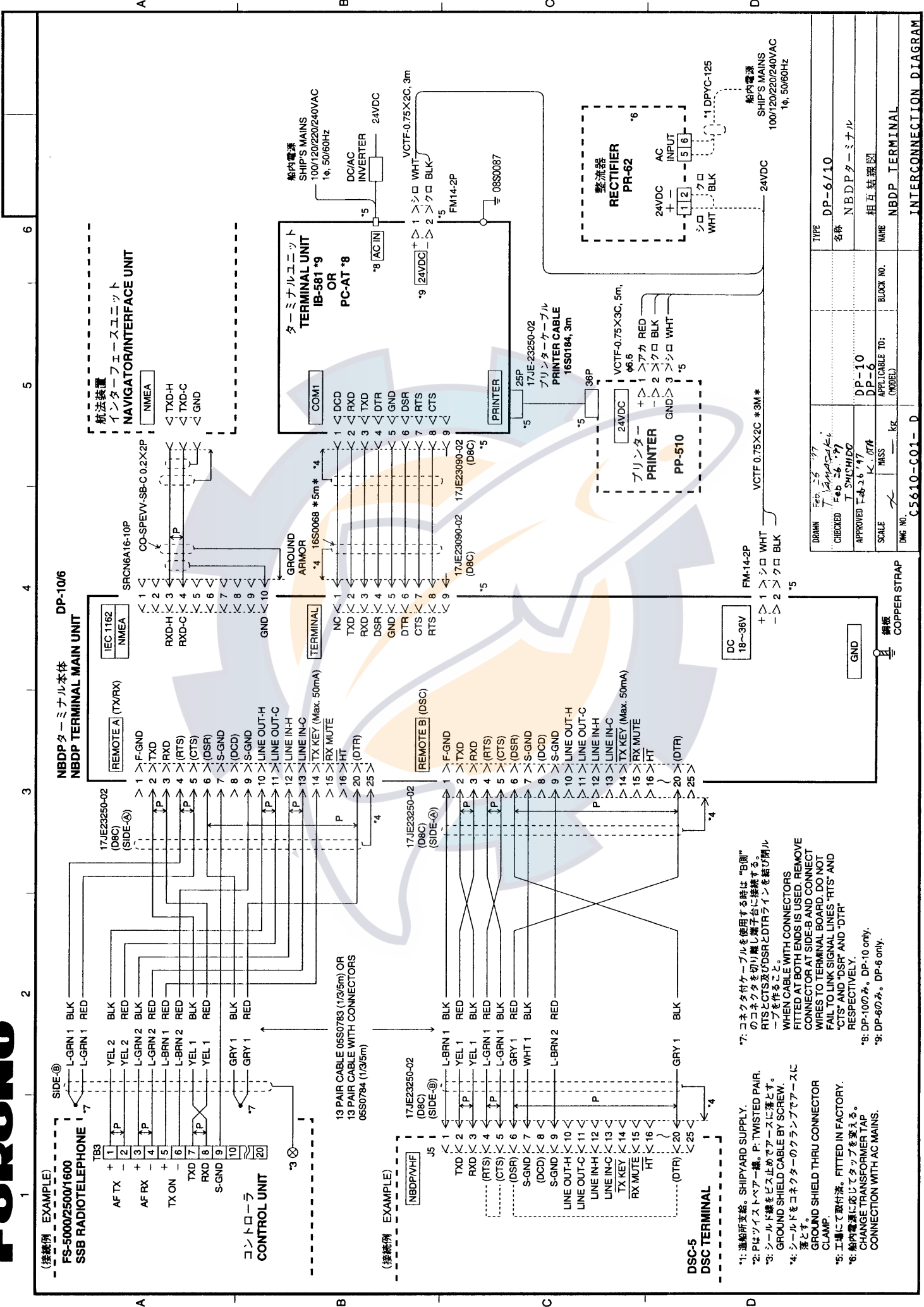


REMARKS		TYPE	PP510
DRAWN		名称	プリンタ (卓上装備)
CHECKED		NAME	PRINTER (TABLETOP MOUNT)
APPROVED		BLOCK NO.	C5589 - G08 - F
SCALE	1/20	APPLICABLE TO:	FELCOM 11
		(MODEL)	FELCOM 80
		MASS	3.6 kg

\* サービス空間  
SERVICE CLEARANCE



FURUNO

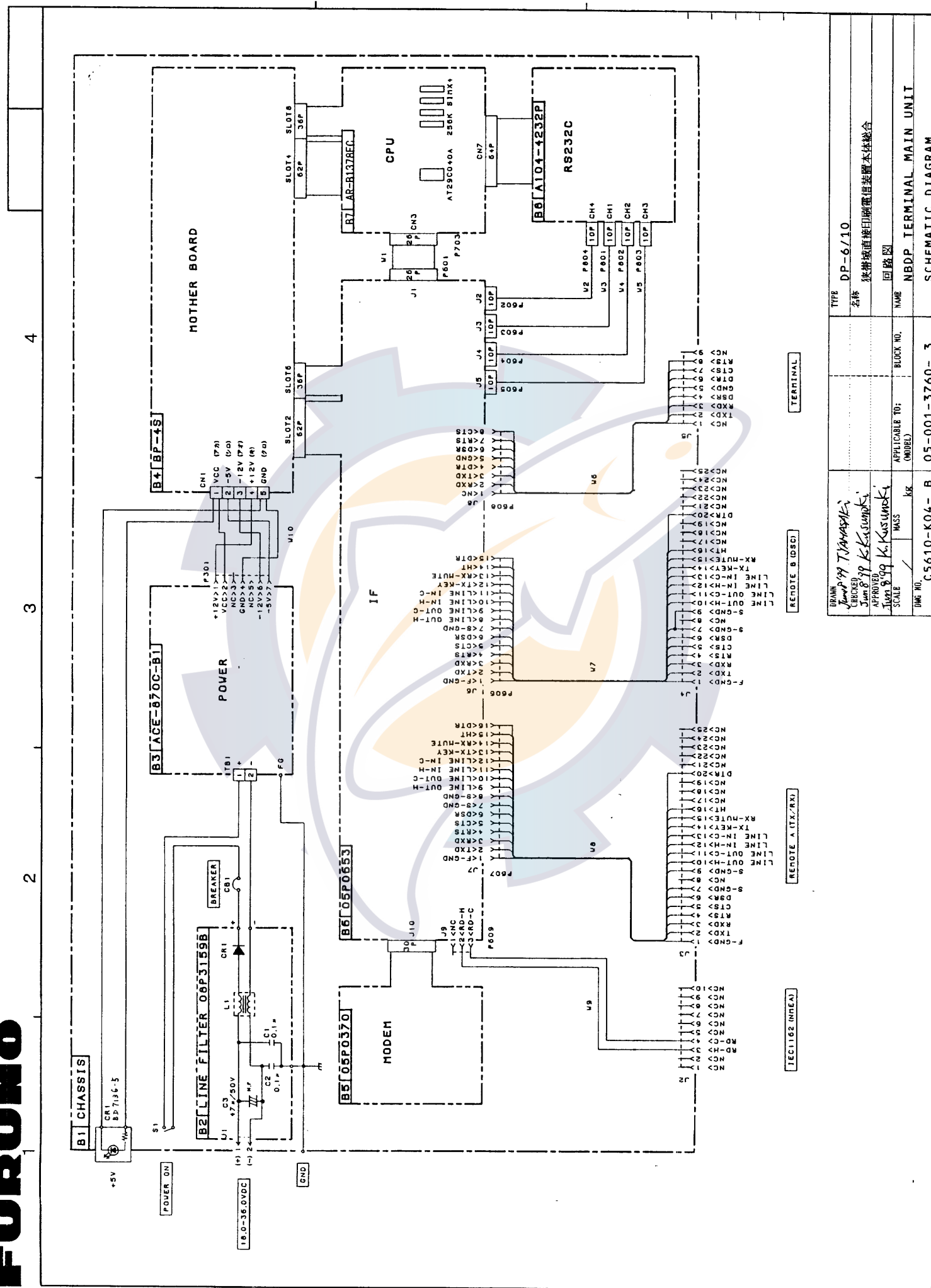


DRAWN	Feb. 26 '97	T. Yamashita
CHECKED	Feb. 26 '97	T. SHIMIZU
APPROVED	Feb. 26 '97	K. OHTA
SCALE	—	kg
DATE	—	—
TYPE	DP-6/10	名称
BLOCK NO.		NBDPターミナル
APPLICABLE TO:	DP-10	相互接続図
(MODEL)	DP-6	
NAME		NBDPターミナル
INTERCONNECTION DIAGRAM		

- \*1: 造船所支給, SHIPYARD SUPPLY.
- \*2: Pはツイストペア一線, P: TWISTED PAIR.
- \*3: シールド線を必ず止めてアースに落とす, GROUND SHIELD CABLE BY SCREW.
- \*4: シールドをコネクタのクランプでアースに落とす, GROUND SHIELD THRU CONNECTOR CLAMP.
- \*5: 工場にて取付済, FITTED IN FACTORY.
- \*6: 船内電源に依りてタップを変える, CHANGE TRANSFORMER TAP.
- \*7: コネクタケーブルを使用する時は“凸側”のコネクタを切り離し端子台に接続する, RTSとCTS及びDSRとDTRラインを結び閉ループを作ること, WHEN CABLE WITH CONNECTORS FITTED AT BOTH ENDS IS USED, REMOVE CONNECTOR AT SIDE-B AND CONNECT WIRES TO TERMINAL BOARD, DO NOT FAIL TO LINK SIGNAL LINES "RTS" AND "CTS" AND "DSR" AND "DTR" RESPECTIVELY.
- \*8: DP-10のみ, DP-10 only.
- \*9: DP-6のみ, DP-6 only.

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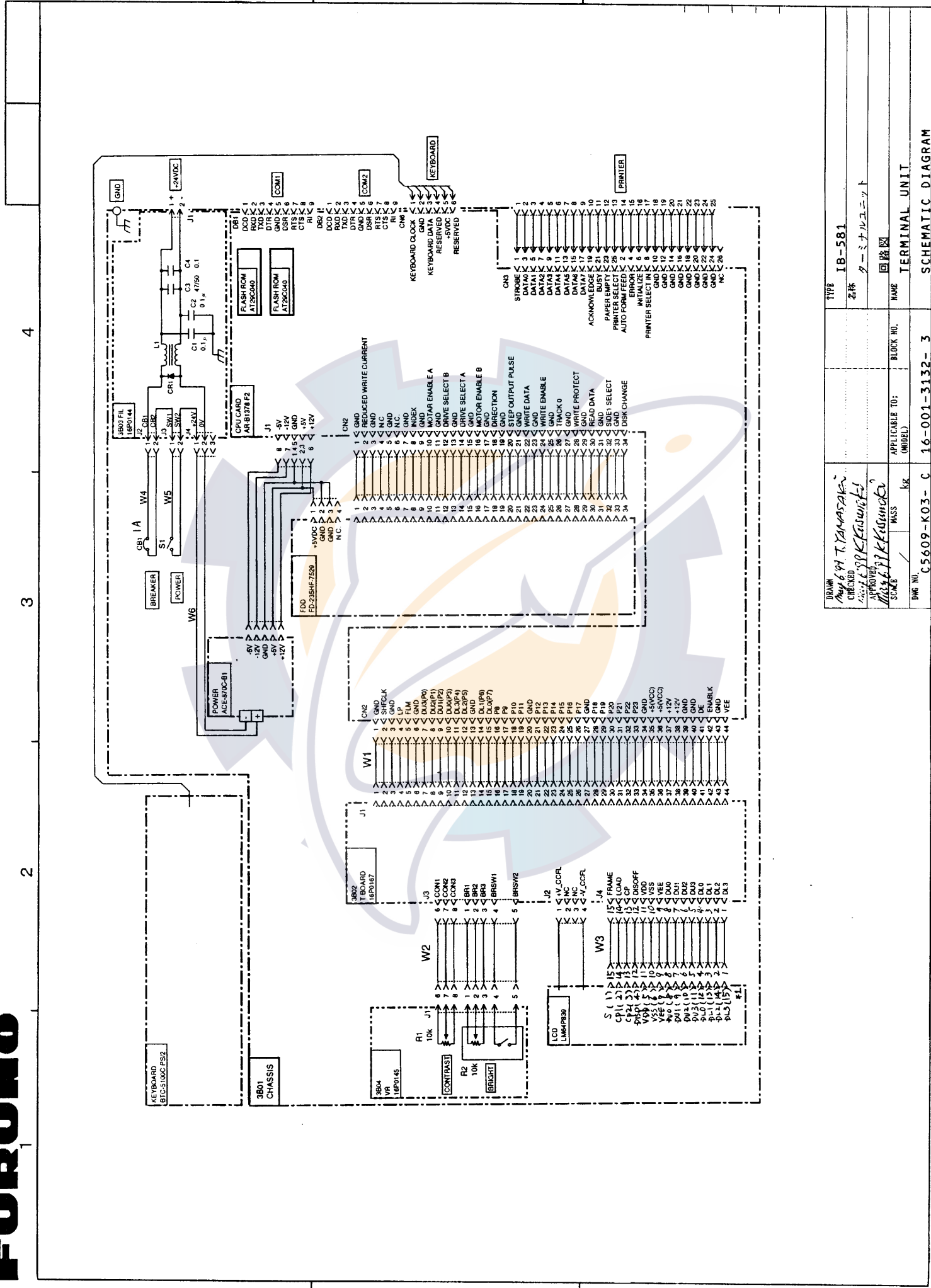
DRAWN Jun 29 1979 T. Yamashita	TYPE DP-6/10	NAME 回線図	BLOCK NO.
CHECKED Jun 29 1979 K. Kusumoki	名称 狭帯域直接印刷電信基盤本体総合	NAME NBDDP TERMINAL MAIN UNIT	APPLICABLE TO: (MODEL)
APPROVED Jun 29 1979 K. Kusumoki	SCALE kg	BLOCK NO.	C5610-K04-B
SCALE	SCALE	APPLICABLE TO: (MODEL)	05-001-3760-3
DWG NO.	SCHEMATIC DIAGRAM		
FURUNO ELECTRIC CO., LTD.			

TERMINAL

REMOTE B (DSD)

REMOTE A (TX/RX)

TECL162 (IN/EN)



TYPE	IB-581
名称	ターミナルユニット
回路図	回路図
NAME	TERMINAL UNIT
BLOCK NO.	16-001-3132-3
APPLICABLE TO:	C5609-K03-C
(MODEL)	
MASS	kg
DWG NO.	

SCHEMATIC DIAGRAM

FURUNO ELECTRIC CO., LTD.

A

B

C

4

3

2