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FURUNO

INSTALLATION MANUAL
DSC-6/6A MF/HF DSC TERMINAL

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·Your Local Agent/Dealer

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PUB. No. IME-55870-H
(TENI) DSC-6/6A

000806826 00

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⚠ SAFETY INSTRUCTIONS

"**DANGER**", "**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.

⚠ **DANGER**	This notice indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.
⚠ **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.

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⚠ WARNING



Only qualified personnel should work inside the equipment.

This equipment uses high voltage electricity which can shock, burn, or cause death.

Turn off the power at the ship's mains switchboard before beginning the installation. Post a warning sign near the switchboard to ensure that the power will not be applied while the equipment is being installed.

Serious injury or death can result if the power is not turned off, or is applied while the equipment is being installed.

⚠ CAUTION



Ground the equipment.

Ungrounded equipment can give off or receive electro-magnetic interference or cause electrical shock.

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 equipment.

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1. Mounting

1.1 Mounting Considerations

General

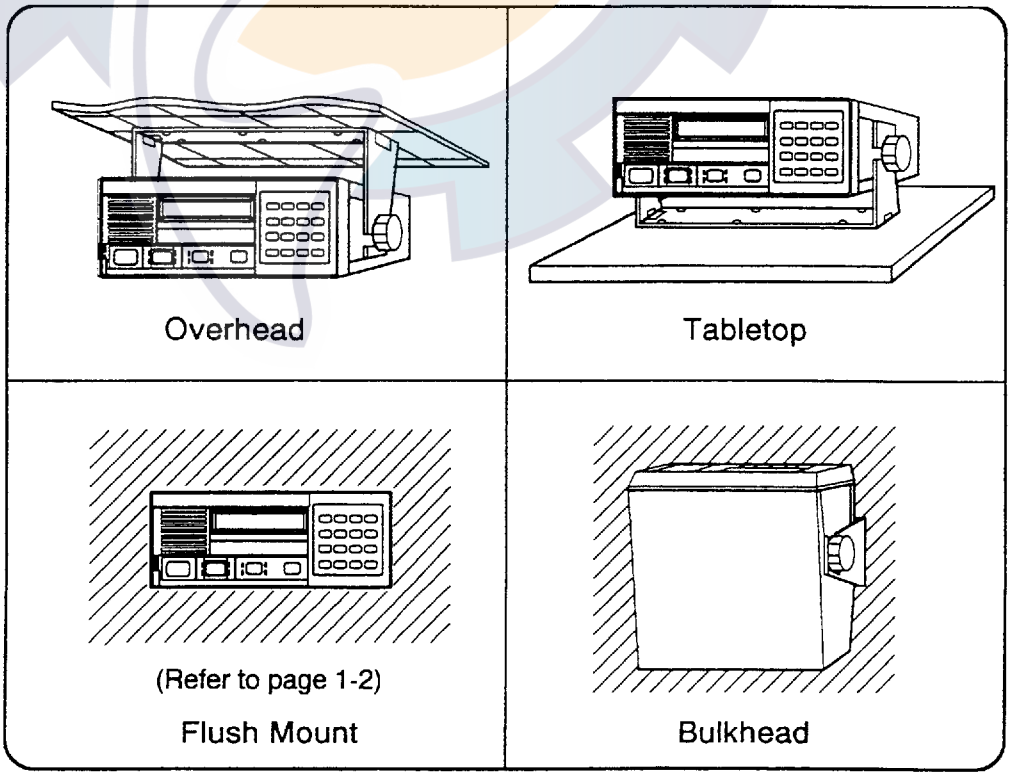
The DSC-6/6A can be mounted on the overhead, on a tabletop, on a bulkhead, or flush mounted in a panel. It can be mounted together with the FS-1562 using a piggy-back hanger (optional supply). Mount the unit where it can be easily viewed and operated. When selecting a mounting location, keep in mind the following considerations, in addition to those already mentioned.

- Locate the unit away from water splash and rain.
- The temperature and humidity of the location should be stable and moderate.
- Keep the unit away from exhaust gas and heating and cooling vents.
- Select a well ventilated location.
- Select a location where shock and vibration are minimal.

Compass safe distance

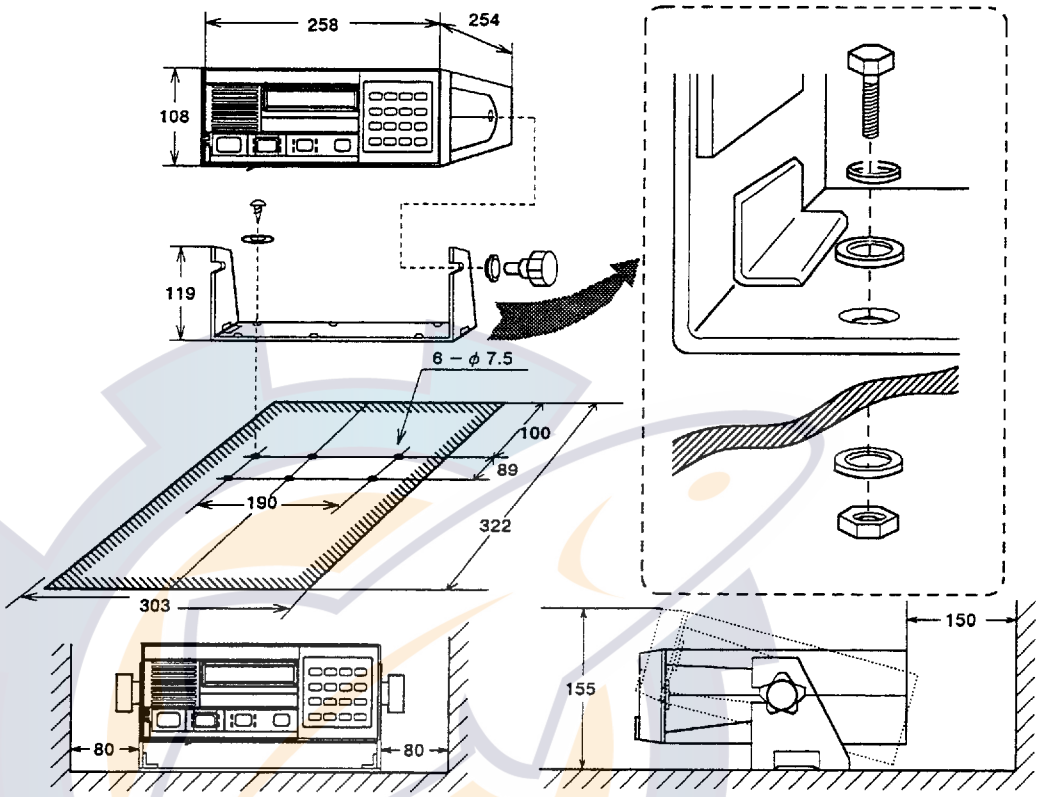
A magnetic compass will be affected if placed too close to the main unit. Keep the following compass safe distances in mind when selecting a mounting location.

(Standard: 0.4 meters
Steering: 0.3 meters)



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1.2 Mounting



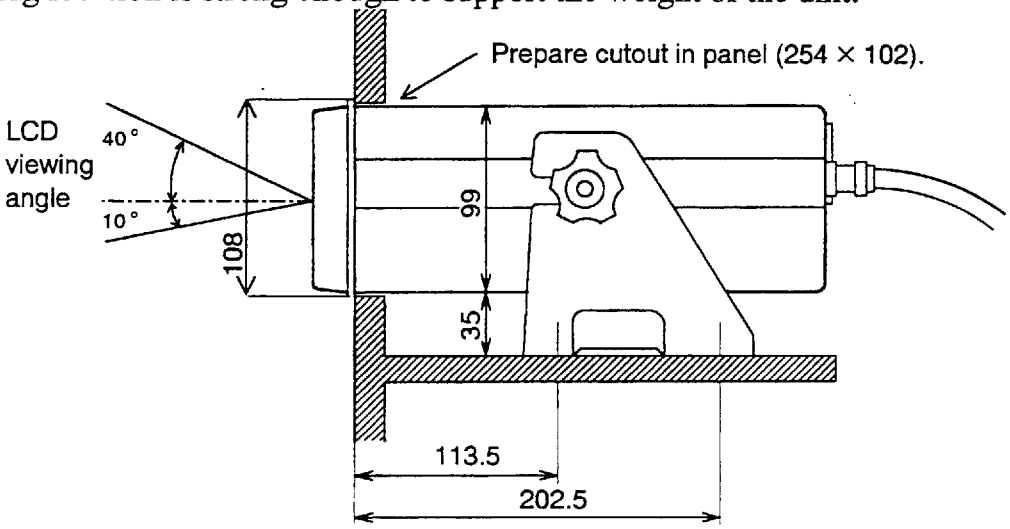
Notes

- All dimensions in millimeters.
- For added support fasten unit to mounting location with nuts and bolts instead of tapping screws.
- Leave sufficient space at sides and rear of unit for maintenance and service purposes. The minimum recommended space appears in the figure shown above.

1.3 Flush Mounting

Overview

The hanger is mounted with the unit when the unit is flush mounted. Be sure the mounting location is strong enough to support the weight of the unit.



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1.4 Antenna (DSC-6A only)

The 2187.5kHz receiving antenna should be installed to keep watching on 2187.5kHz DSC distress frequency.

Connect the antenna to this unit with any 50 ohm coaxial cable heavier than 5D-2V (RG-212U or equivalent). To extend the cable longer than 15m, use heavier coaxial cable; for example, 8D-2V or RG-213/U, to minimize signal attenuation through the cable. Be sure to leave some slack in the cable for future service and maintenance.

After laying the coaxial cable, solder the M type plug onto the cable end. Refer to the illustraion below.



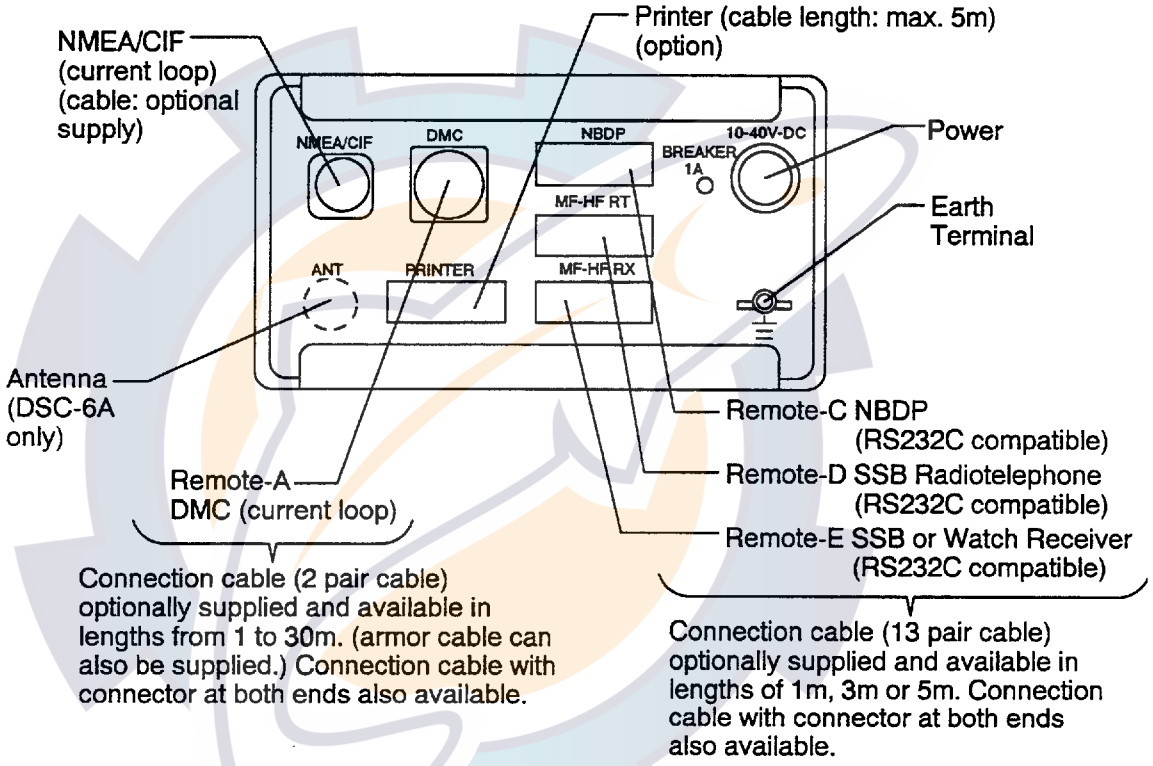
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2. Connections

2.1 External Equipment

Connect equipment to the DSC-6/6A as shown in the figure which follows. Note that all interconnection cables are optionally supplied. For further details, refer to the interconnection diagram attached.

DSC-6/6A Rear View



DSC-6/6A rear veiw, showing connector location

Ground

Connect either a copper strap or 8sq vinyl wire (local supply) between ship's superstructure and ground terminal on the DSC-6/6A.

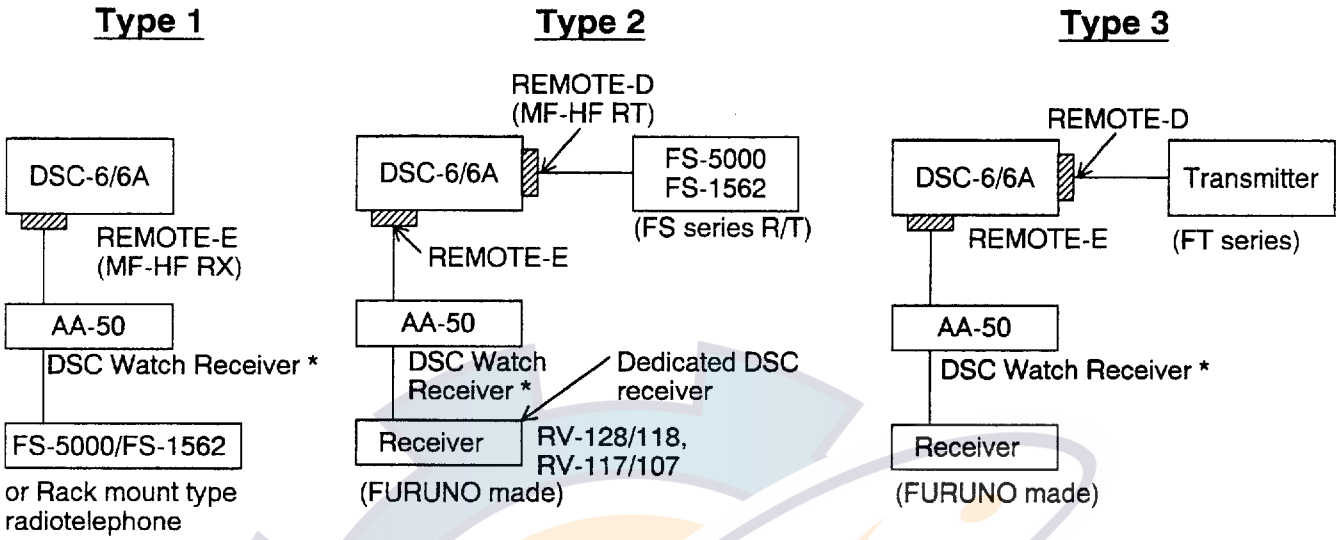
⚠ CAUTION

Ground the equipment.

Ungrounded equipment can give off or receive electromagnetic interference or cause electrical shock.

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2.2 Installation Type



*: DSC watch receiver not required when DSC-6A is installed.

Installation Type	Terminal Name	Output Data (TXD data = MIF data)
Type 1	REMOTE-E	1. FZ/DR (keylock command) 2. Class of emission 3. DSC and Working frequencies (for both TX and RX) 4. Tuning (TU)
Type 2	REMOTE-D	1. FZ/DR (keylock command) 2. Class of emission 3. DSC TX and Working TX/RX frequencies 4. Tuning (TU)
	REMOTE-E	1. Class of emission 2. DSC RX frequency
Type 3	REMOTE-D	1. FZ/DR (keylock command) 2. Class of emission 3. DSC TX and Working TX frequencies 4. Tuning (TU)
	REMOTE-E	1. Class of emission 2. DSC RX and Working RX frequencies
OFF	No remote function available. (For other make of radiotelephone)	

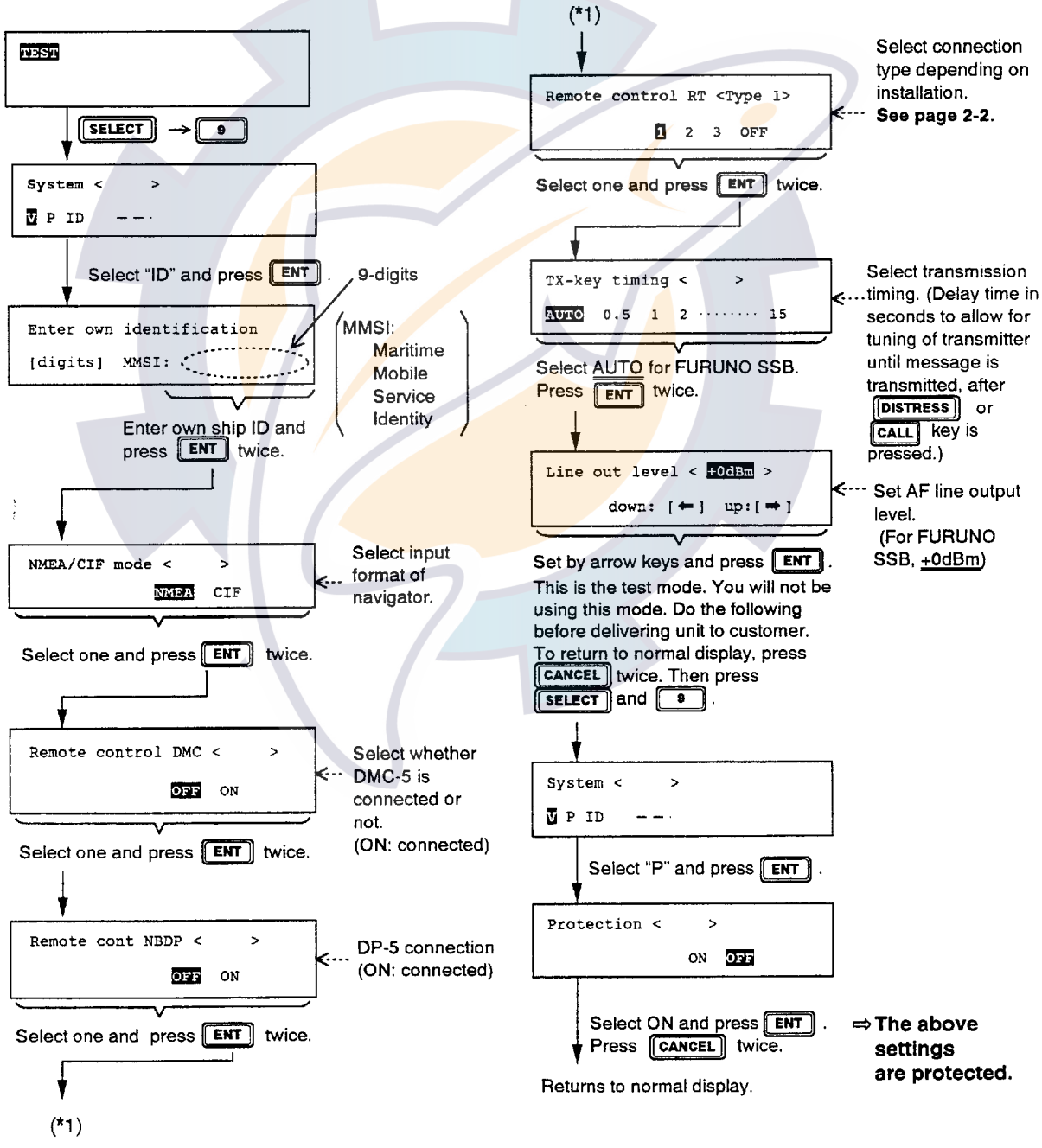
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3. Initial Settings

3.1 System Settings

When turning on the power first, the display shown below appears.
Enter **Own Ship's ID, Format of Navigator** (NMEA or CIF), **DMC-5 Connection, DP-5 Connection, Installation Type, Transmission Timing and AF Line Output level** as below.

Correct entry is essential; once registered they cannot be changed.

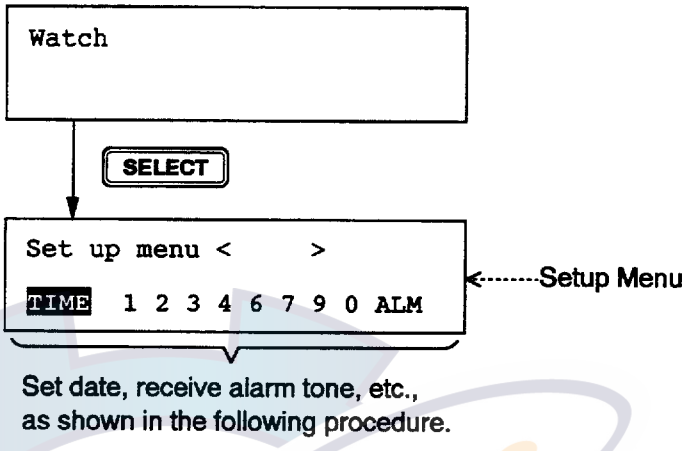


Highlight shows default settings.

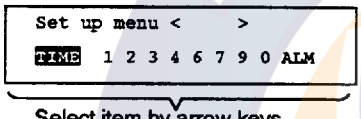
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3.2 Setup Menu

The Setup menu appears by pressing the SELECT key at the normal display.



Procedure



Select item by arrow keys and press ENT.
(Or press numeric key.)

Entering date, time

Select **"TIME"**.



Enter month, day, year and time in that order.
Example:1993, October 5, 14:30;

[1][0] ▶ [0][5] ▶ [1][9][9][3] ▶ [1][4][3][0]

October 5 1993 14:30

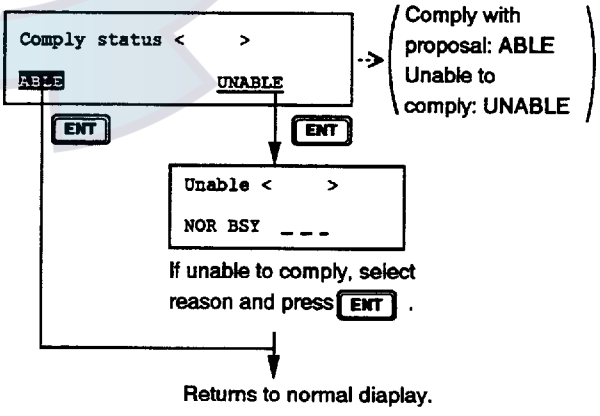
Press ENT.

Entering ship's position manually

Select **"1"**.
Enter ship's position manually when no navigation data is input. Refer to Chapter 7 of PART 1 in the Operator's Manual.

Entering own ship's comply status

Select **"2"**.
Select whether own ship is able or unable to comply to proposal from other station. For further details see page 9-6 of PART 1 in the Operator's Manual.



Highlight shows default settings.

Conducting selftest

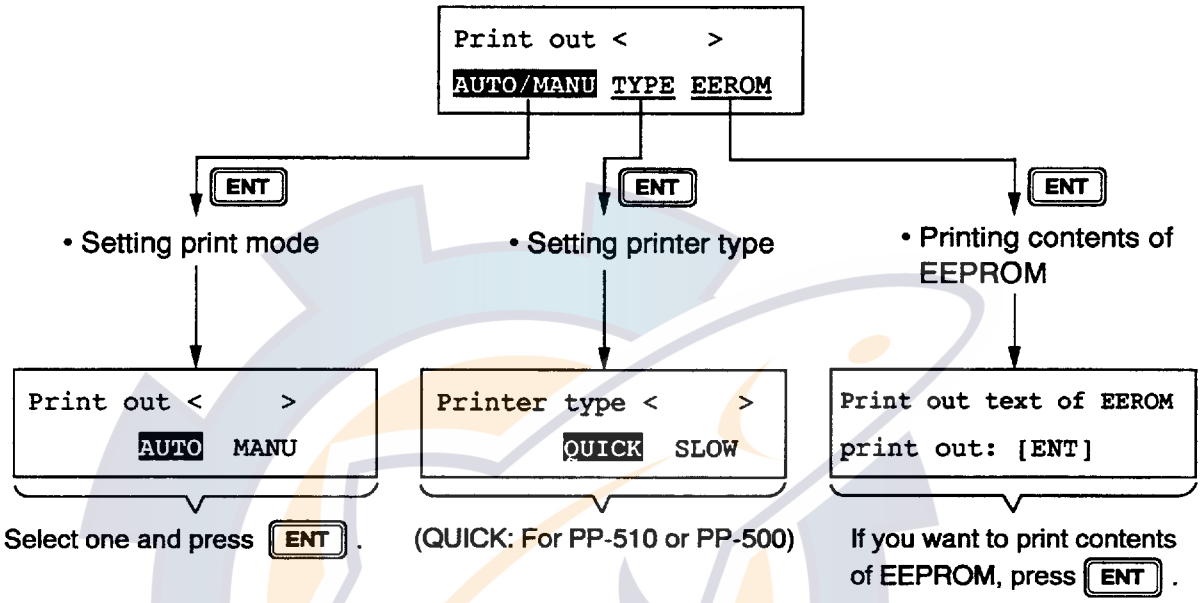
Select **"3"**.
Refer to Chapter 3 of PART 2 in the Operator's Manual.

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Setting the printer

Select "**4**".

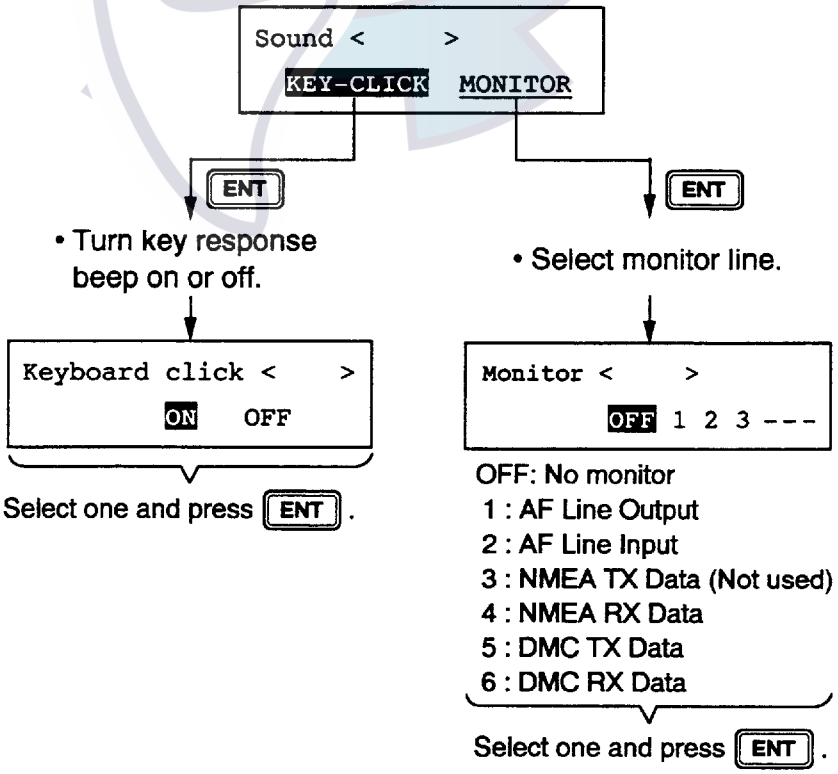
Select printer type and whether you want automatic or manual printing. (Refer to Chapter 13 of PART 1 in the Operator's Manual.)



Selecting monitor line

Select "**6**".

You can turn key response beep on or off, and select which line to monitor (by aural tone).

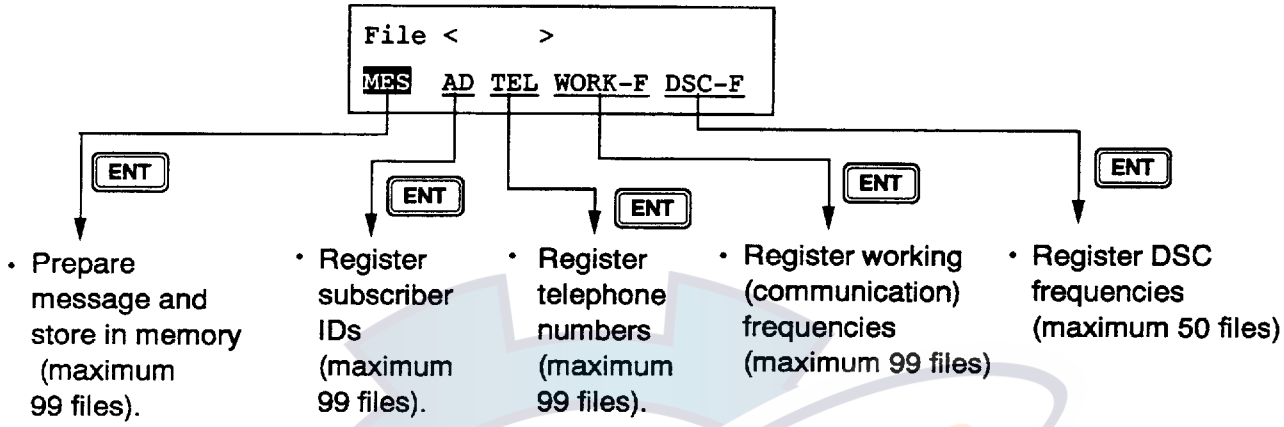


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Registering subscriber IDs

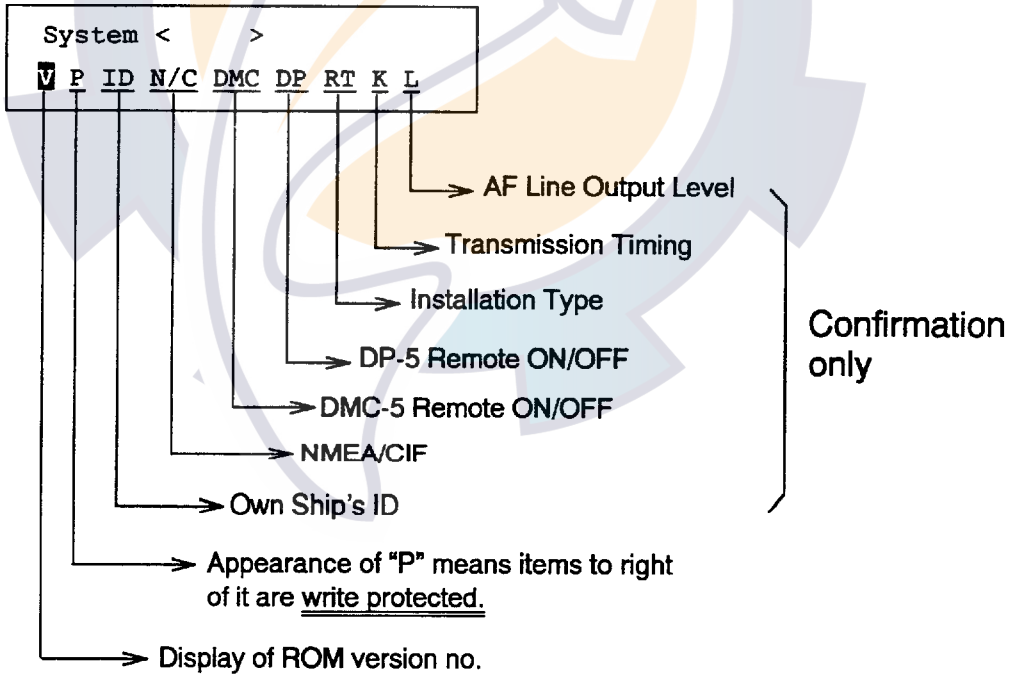
Select "**7**".

You can register station IDs and telephone numbers here.



Displaying ROM version no.

Select "**9**" to display ROM version no. and confirm system settings.

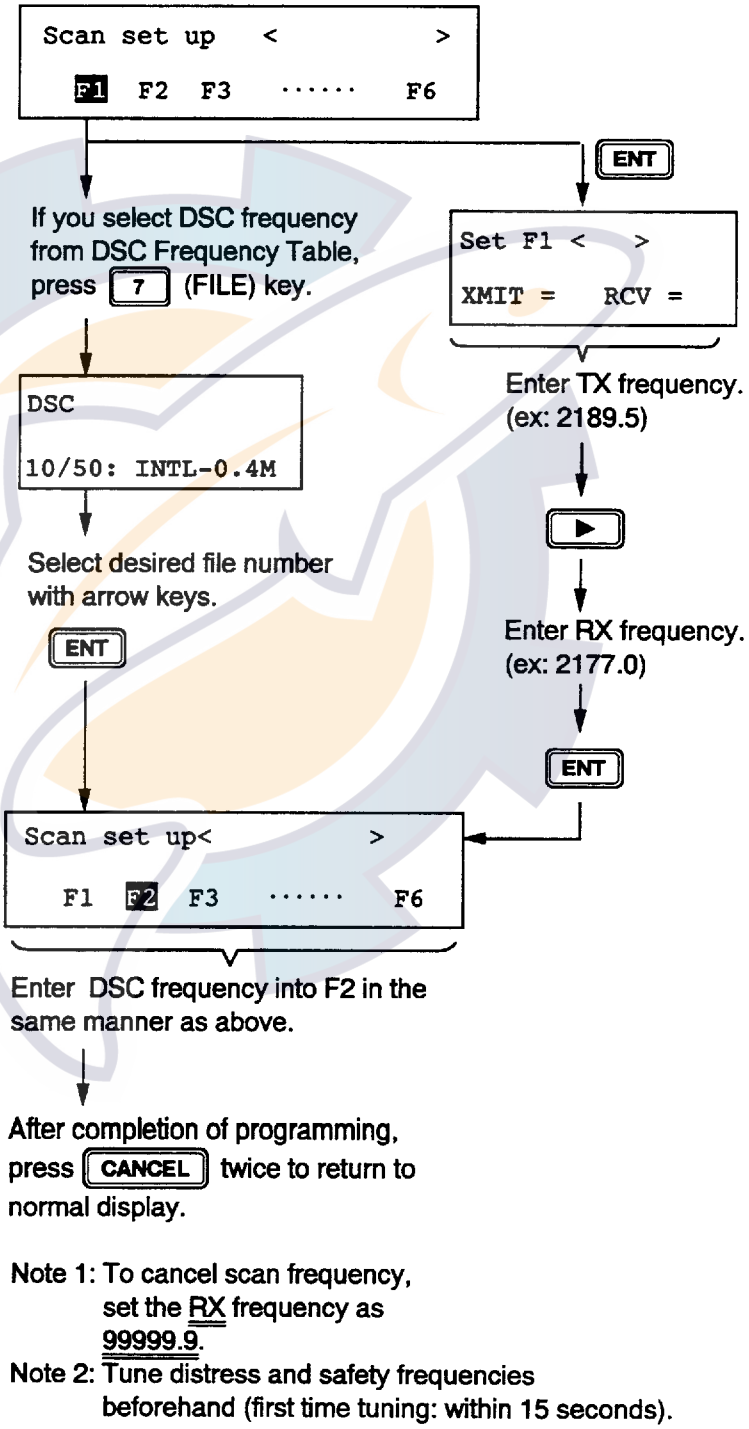


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Programming scan frequency

Select "**0**".

Six general DSC frequencies (F1 to F6) can be programmed. (Refer to DSC Frequency Table of Appendix 1 in the operator's manual.)



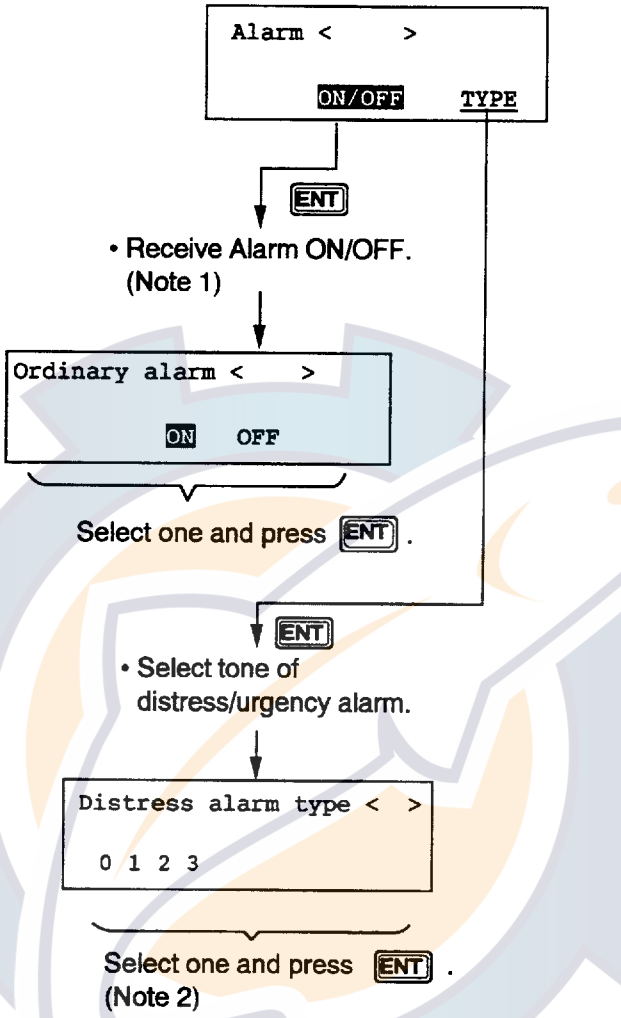
Note 1: To cancel scan frequency, set the RX frequency as 99999.9.

Note 2: Tune distress and safety frequencies beforehand (first time tuning: within 15 seconds).

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Setting receive alarms

Select "**ALM**". Then, select desired tone for the receive alarms.



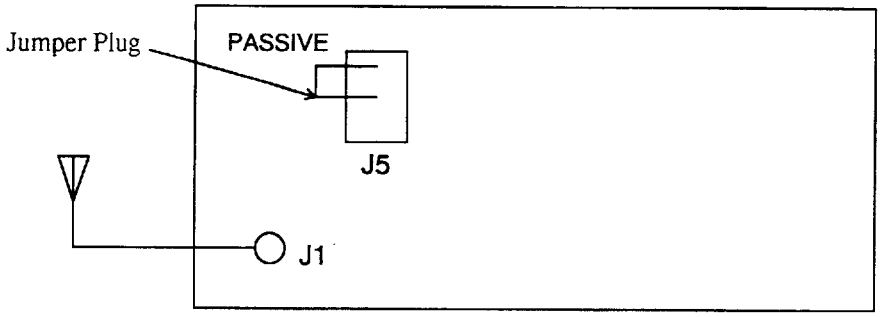
Note 1: Distress/urgency alarm always sounds at maximum volume.

Note 2: The tone specifications of the distress/urgency alarm are as follows.

Key to press	Tone Specifications	
	Frequency (Hz)	Interval (ms)
0	2200	Continuous
1	1300 and 2200	250
2	1300 and 2200	125
3	3290	Continuous
4	1945 and 3290	250
5	1945 and 3290	125
6	1100	Continuous
7	650 and 1100	250
8	650 and 1100	125
9	2200 and 0	250

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3.3 For Wire Antenna ... DSC-6A only



RECEIVER BOARD

When a wire antenna is installed, change jumper position on J5 to "PASSIVE" on the RECEIVER board (05P0460).

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4. The Printer (option)

4.1 PP-510 (DC Power)

Overview (Mounting)

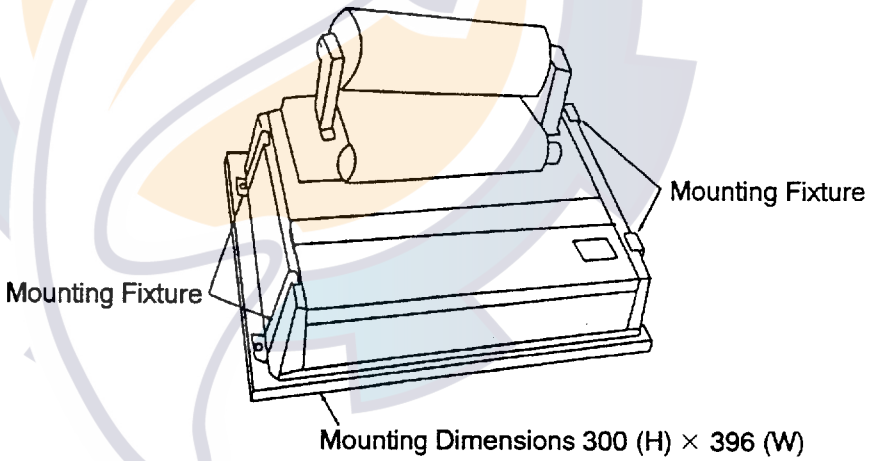
Install the unit with the four mounting fixtures (supplied). Refer to the outline drawing on page D-3. Connect the interconnection cable between the printer and the DSC-6/6A.

For how to load paper and set ribbon cassette, refer to the Operator's Manual of the printer.

Mounting

Refer to the printer outline drawing on page D-3 for mounting dimensions.

1. Select a flat surface.
2. Fix the mounting base to the mounting location with four screws (supplied).
3. Lay the printer on the top of the mounting base and fasten it with the mounting fixtures (two at each side and one at rear).

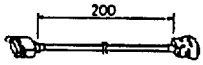
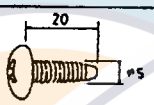


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PP-510 Installation Materials

CODE NO	000-043-257
TYPE	CP16-00500

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
1	電源ケーブル組品 POWER CABLE ASSY.	 L=5m	16S0084 (VCTF-0.75X3C ±5M±)	1
			CODE NO 000-132-249	
2	変換ケーブル COUPLING CABLE (ONLY FOR PC)	 L=0.2m	16S0083 UL2464 IFVV-SB 10PXAWG28 ±0.2M±	1
			CODE NO 000-132-614	
3	ケーブル組品 CABLE ASSY.	 L=5m	10S1197 UL2464IFVV-SB 10XAWG28 ±5M±	1
			CODE NO 000-566-966	
4	+トラスタッピングネジ TAPPING SCREW	 φ5	5X20 1ﾘﾚ SUS304	4
			CODE NO 000-802-081	
5	プリンター押え PRINTER FIXTURE			4

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5. Specifications and Equipment List

5.1 Specifications

1. Communications

Communication Protocol	CCIR Rec. 493 and 541 (Class A)
Communication Speed	100 ± 30 × 10^{-6} baud
Modulation	AFSK
Frequency Shift	1700 ± 85 Hz (Mark: 1615 Hz, Space: 1785 Hz)
Frequency Deviation	within ± 0.5 Hz
Tone Frequency Tracking Range	± 80 Hz
Line I/O	600 ohms balanced, -30 dBm to +10 dBm
Class of Emission	F1B J2B (DSC-6A only)

2. Communications Features

One touch distress alert transmission (ship's position and time automatically transmitted; navigator output in NMEA/CIF format required)
Automatic call acknowledge
Automatic frequency settings
Frequency scanning
Monitoring of TX frequency

3. Other Features

Remote control (MIF) to NBDP and SSB radiotelephone
Message memory
Abbreviated calling
Redialing
Printing
Selftest

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4. Display

LCD (amber color with backlit LED)
24 characters by 2 lines (one character: 5 x 7 dot)

5. Power Supply and Power Consumption

Main Unit	10 to 40 VDC, less than 15 W
Printer (option)	24 VDC ····· PP-510

6. Environmental Conditions

Temperature	-15 ℃ to +55 ℃
Relative Humidity	93% (at 40 ℃)

7. Color

Panel ····· N3.0
Chassis ····· 2.5GY 5/1.5

8. Connectable Equipment

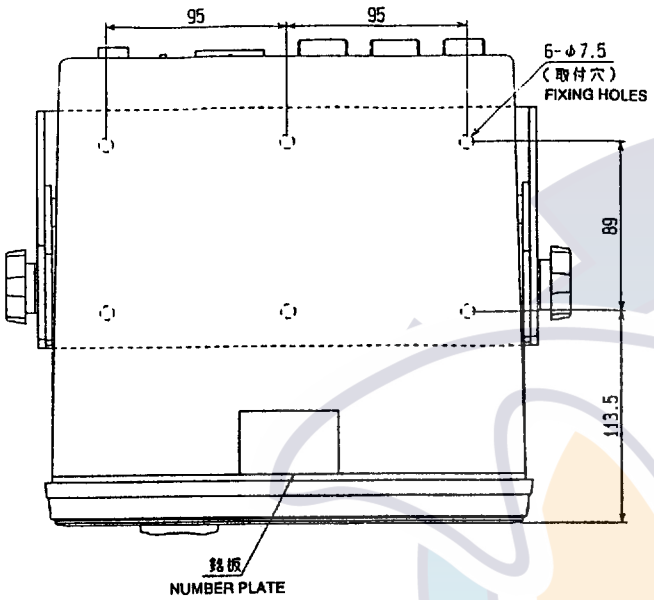
SSB Radiotelephone (FS series)
Distress Message Controller DMC-5
All Wave Receiver RV-107/128/117/118
NBDP Therminal DP-5
MF/HF DSC Watch Receiver AA-50
Navigator outputting data in NMEA or CIF format
(FURUNO make Loran C, Satnav and GPS)
Printer (for Centronix)

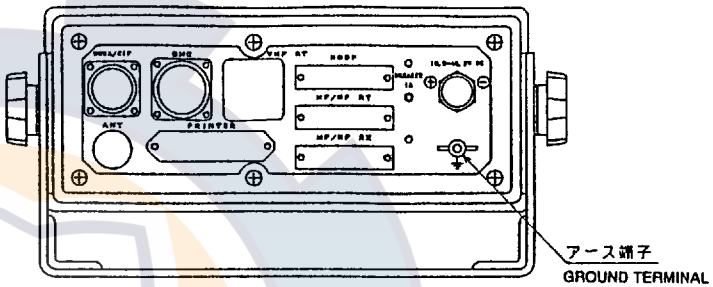
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5.2 Equipment List

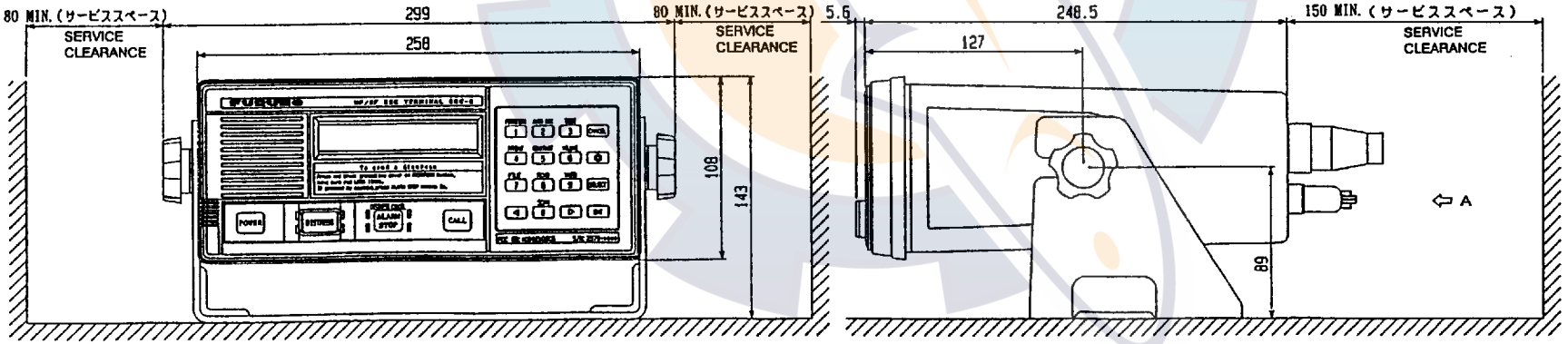
Name	Type		Code No.	Qty	Remarks
Main Unit	DSC-6/6A			1	No hanger
Installation Materials	CP05-06100		000-056-196	1	for DSC-6
	CP05-06200		000-056-197	1	for DSC-6A
Spare Parts	SP05-02700		005-927-660	1	DSC-6A only
Single Column Hanger	FP05-02001		005-922-690	1	
Option					
Interconnection Cable	05S0784 (13-pair cable w/connectors at both ends)	1m	000-123-582	(1)	
		3m	000-123-583		
		5m	000-123-584		
	14S4231 (two-pair composite cable w/armor)	5m	000-111-680	(1)	For DMC-5 and Navigator (CO-2P)
		10m	000-120-792		
		15m	000-120-793		
		20m	000-120-794		
		30m	000-120-214		
Whip Antenna	04S4176		000-112-845	(1)	DSC-6A only
Preamp Unit	FAX-5		000-075-016	(1)	DSC-6A only
Extention Cable Kit	OP04-2	10m	000-041-174	(1)	DSC-6A only
		20m	000-041-175		
		30m	000-041-176		
		40m	000-041-177		

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VIEW A

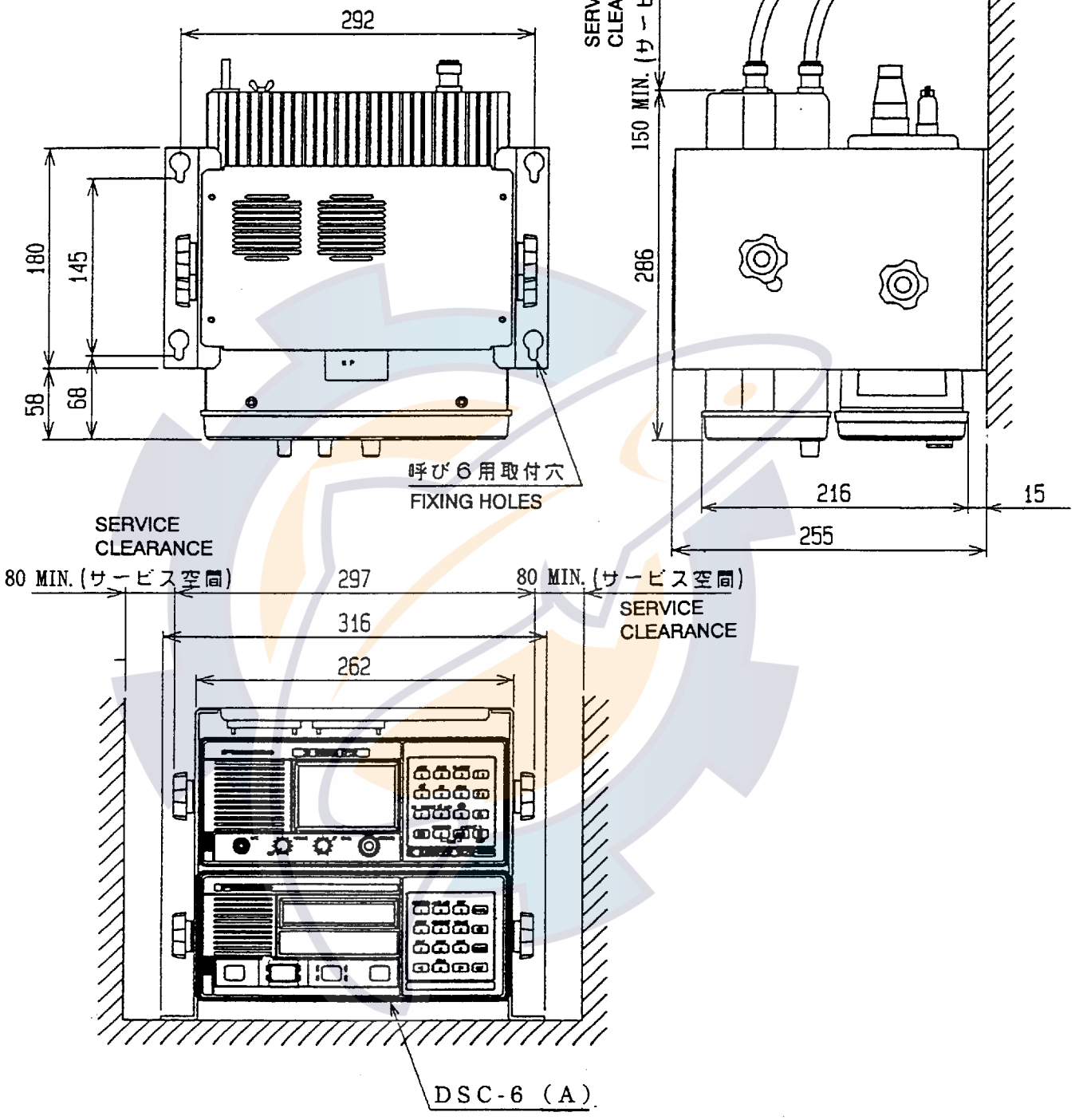


DRAWN Jan.14'98 T.YAMASAKI			TYPE DSC-6/6A
CHECKED Jan 14'98 K.Kusunoki			名称 DSCターミナル
APPROVED Jan 14'98 H.Yamaguchi			外寸図
SCALE 1/4 MASS 3.5 kg	APPLICABLE TO; (MODEL)	BLOCK NO.	NAME DSC TERMINAL
DWG NO. C5587-G01- B			OUTLINE DRAWING

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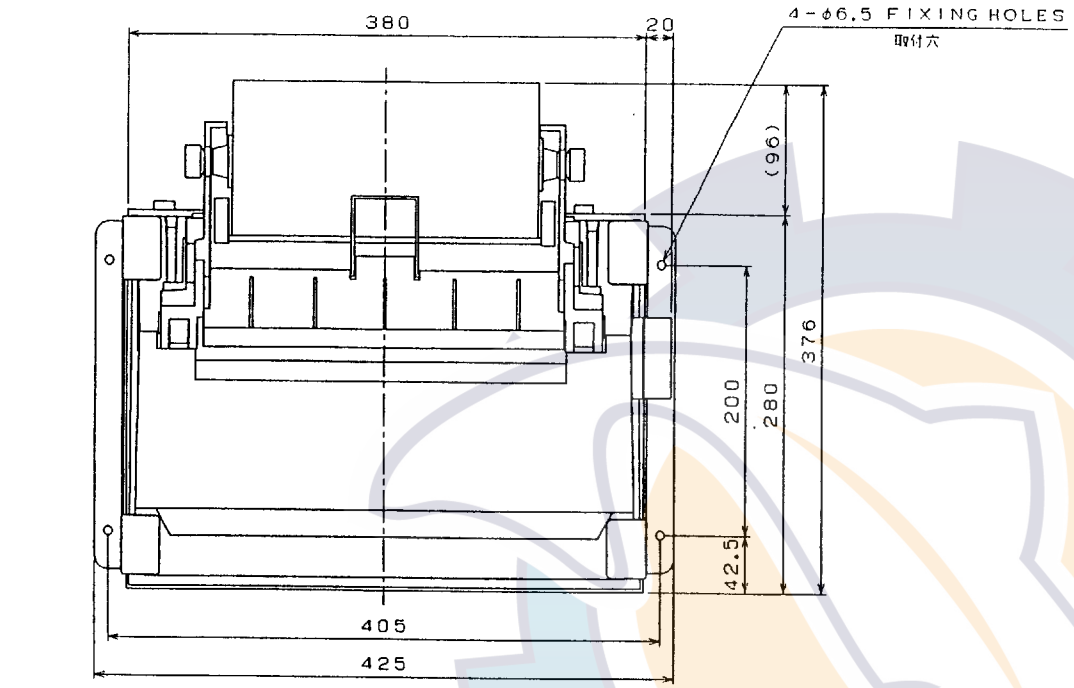
FURUNO

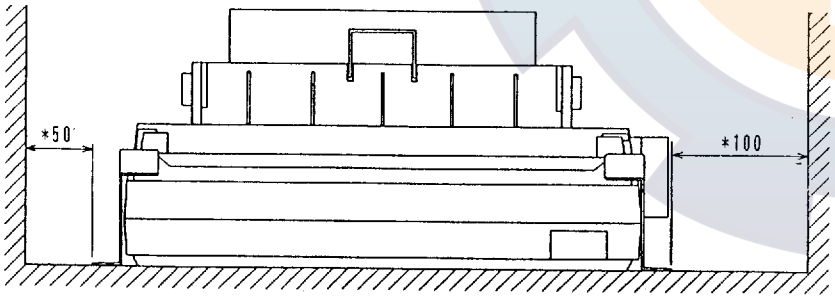


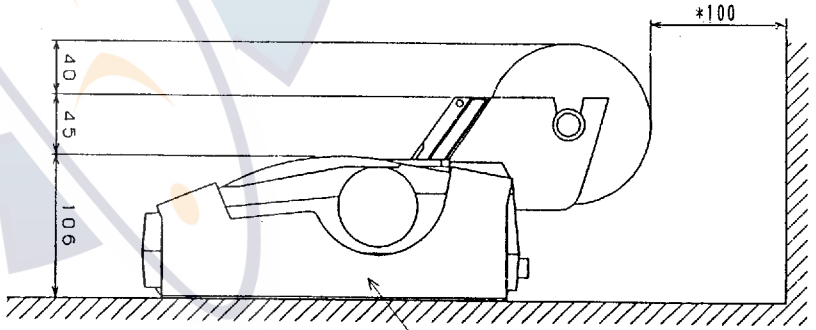
REMARKS				TYPE DSC-6(6A)+FS-1562
DRAWN T.N	APPROVED SEPT 28'96	DSC-6A DSC-6		名称 二段ハンガー装備（ファンキット付）
SCALE 1/5	MASS 12 kg	APPLICABLE TO: (MODEL)	BLOCK NO.	NAME PIGGY-MOUNT W/FAN KIT
				DWG NO. C5588-G01- A

FURUNO ELECTRIC CO., LTD.

FURUNO





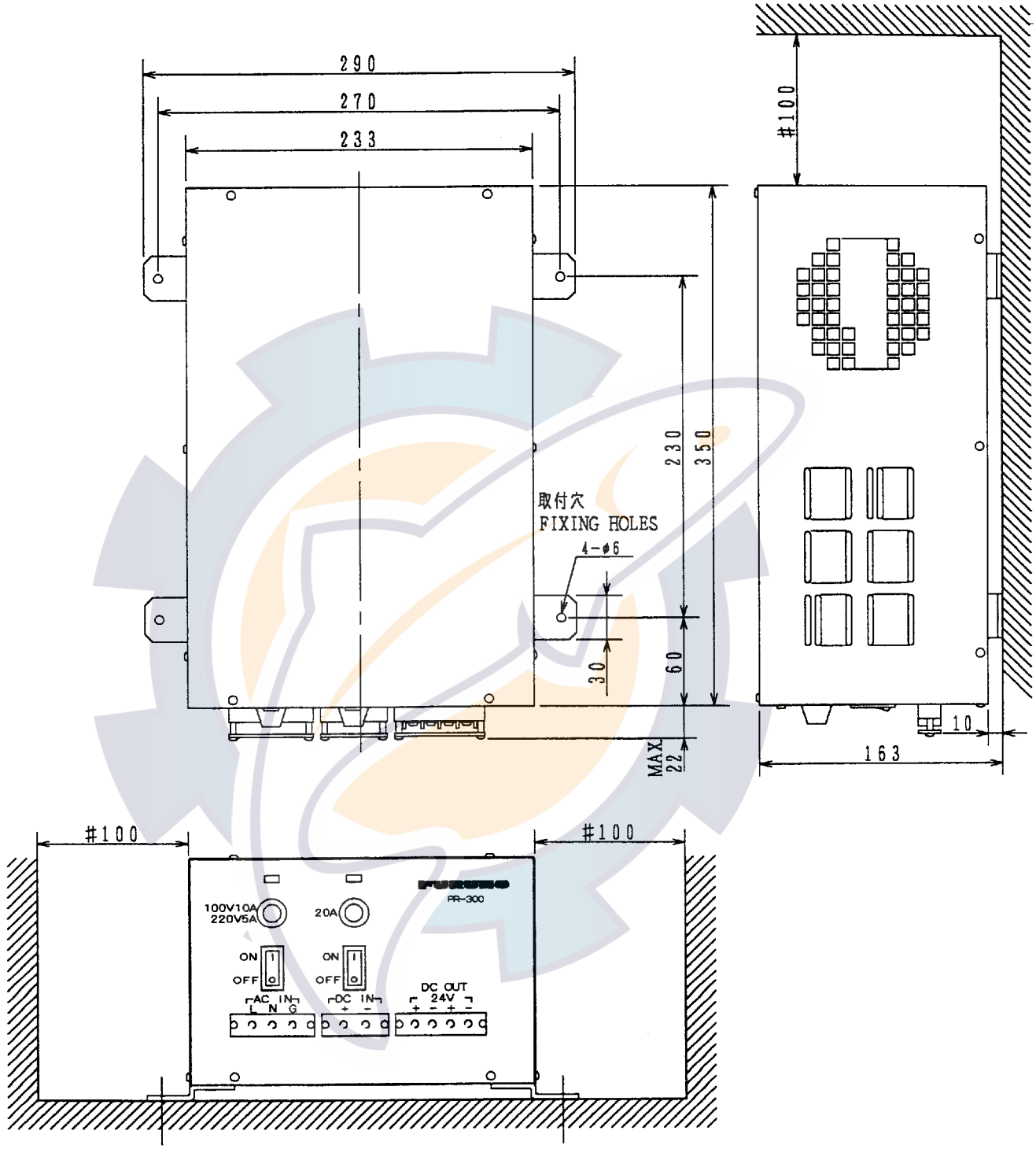


* サービス空間
SERVICE CLEALANCE

REMARKS			TYPE PP510
DRAWN T.Y / APPROVED Sept 5'99 11-2-04		FELCOM 11 FELCOM 80	名称 プリンタ（卓上装備）
SCALE	MASS	APPLICABLE TO:	BLOCK NO. / NAME PRINTER(TABLETOP MOUNT) / DWG NO.

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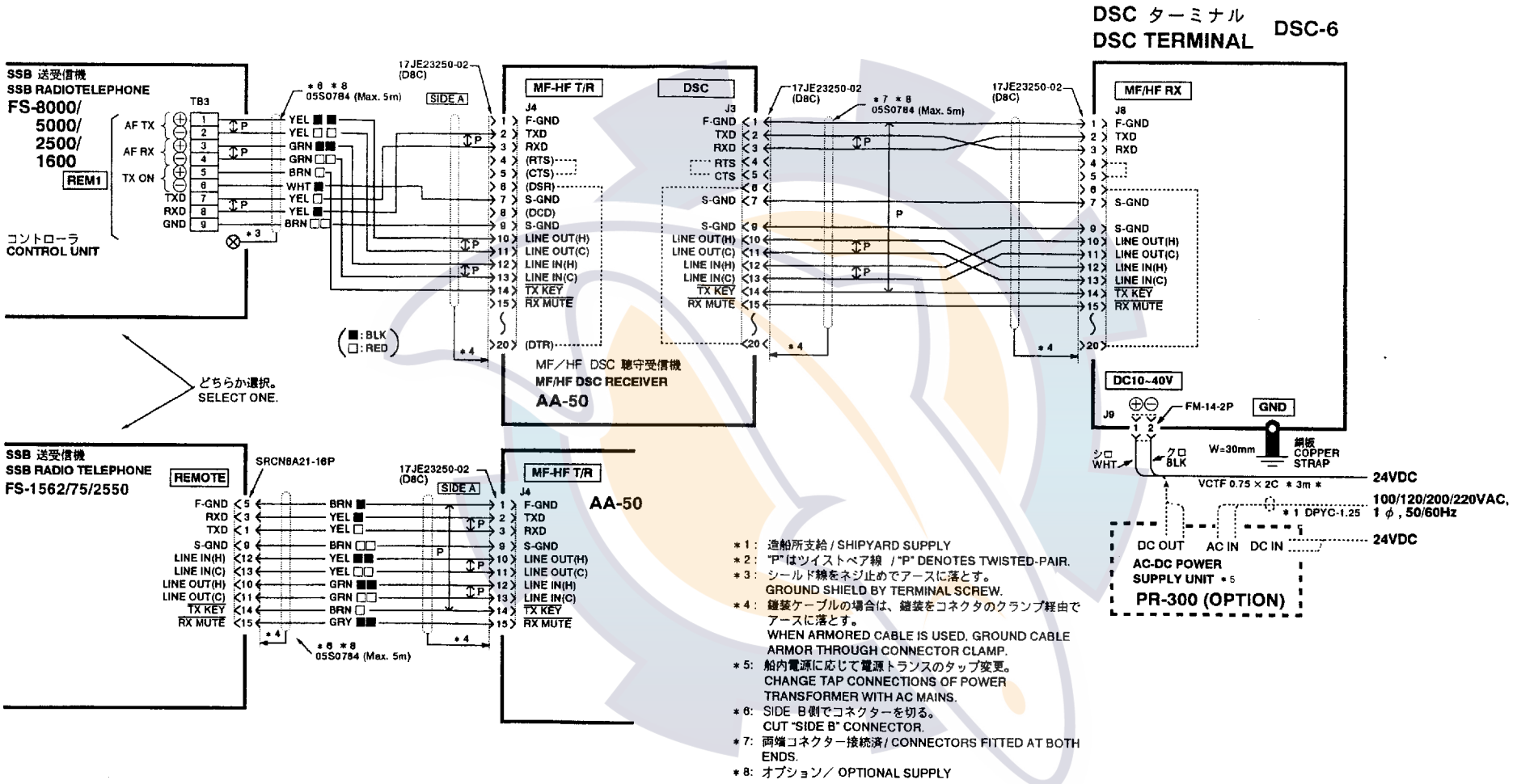
注記
1) #：推奨する最小サービス空間寸法。

NOTE
1. #:RECOMMENDED SERVICE CLEARANCE DIMENSION

DRAWN Jan 8 '98 T.YAMASAKI			TITLE PR-300
CHECKED Jan 8 '98 K.Kusunoki	FS-75		名称 AC-DC電源ユニット
APPROVED Jan 8 '98 F.Yamaguchi	FS-15 FS-1562-15		外寸図
SCALE 1/4 MASS 14.5 kg			NAME AC-DC POWER SUPPLY UNIT
DWG No. C5003-G02- C			OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.

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* 1 : 造船所支給 / SHIPYARD SUPPLY
* 2 : "P" はツイストペア線 / "P" DENOTES TWISTED-PAIR.
* 3 : シールド線をネジ止めでアースに落とす。
GROUND SHIELD BY TERMINAL SCREW.
* 4 : 鎧装ケーブルの場合は、鎧装をコネクタのクランプ経由でアースに落とす。
WHEN ARMORED CABLE IS USED, GROUND CABLE ARMOR THROUGH CONNECTOR CLAMP.
* 5: 船内電源に応じて電源トランスのタップ変更。
CHANGE TAP CONNECTIONS OF POWER TRANSFORMER WITH AC MAINS.
* 6: SIDE B側でコネクターを切る。
CUT "SIDE B" CONNECTOR.
* 7: 両端コネクター接続済 / CONNECTORS FITTED AT BOTH ENDS.
* 8: オプション / OPTIONAL SUPPLY

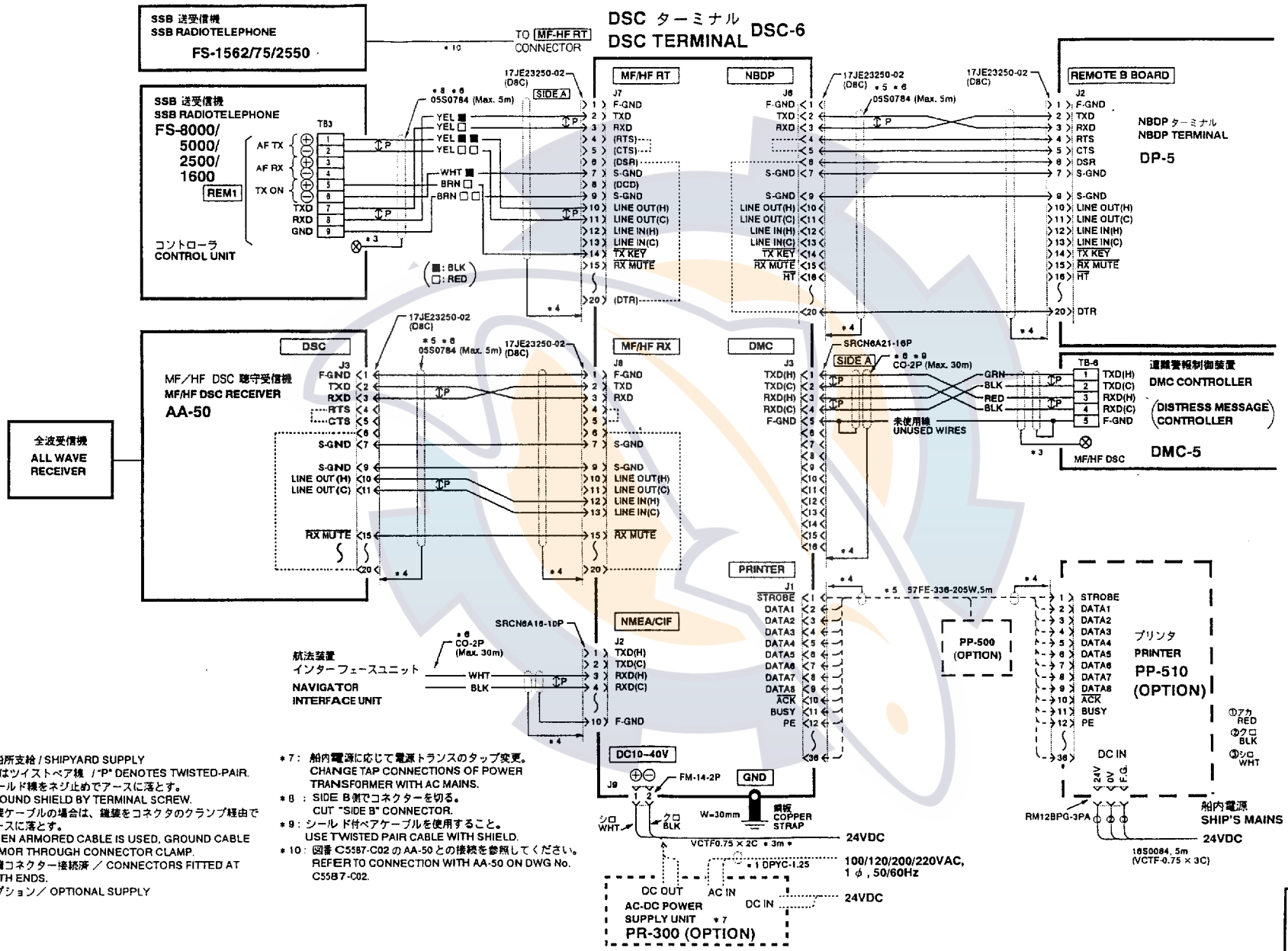
REMARKS			TYPE DSC-6+AA-50+FS SERIES
DRAWN T.N / APPROVED IKEDA Aug 22 '94	DSC-6		名称 相互結線図 / NAME INTERCONNECTION
SCALE / MASS kg	APPLICABLE TO: (MODEL)	BLOCK NO.	DWG NO. C5587-C02- C

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DSC ターミナル
DSC TERMINAL DSC-6



＊1：造船所支給 / SHIPYARD SUPPLY
＊2："P"はツイストペア線 / "P" DENOTES TWISTED-PAIR.
＊3：シールド線をネジ止めでアースに落とす。
GROUND SHIELD BY TERMINAL SCREW.
＊4：鎧装ケーブルの場合は、鎧装をコネクタのクランプ経由でアースに落とす。
WHEN ARMORED CABLE IS USED, GROUND CABLE ARMOR THROUGH CONNECTOR CLAMP.
＊5：両端コネクター接続済 / CONNECTORS FITTED AT BOTH ENDS.
＊6：オプション / OPTIONAL SUPPLY
＊7：船内電源に応じて電源トランスのタップ変更。
CHANGE TAP CONNECTIONS OF POWER TRANSFORMER WITH AC MAINS.
＊8：SIDE B側でコネクターを切る。
CUT "SIDE B" CONNECTOR.
＊9：シールド付ペアケーブルを使用すること。
USE TWISTED PAIR CABLE WITH SHIELD.
＊10：図番 C5587-C02 の AA-50 との接続を参照してください。
REFER TO CONNECTION WITH AA-50 ON DWG No. C5587-C02.

DSC-6 — FS SERIES / AA-50+RCVR

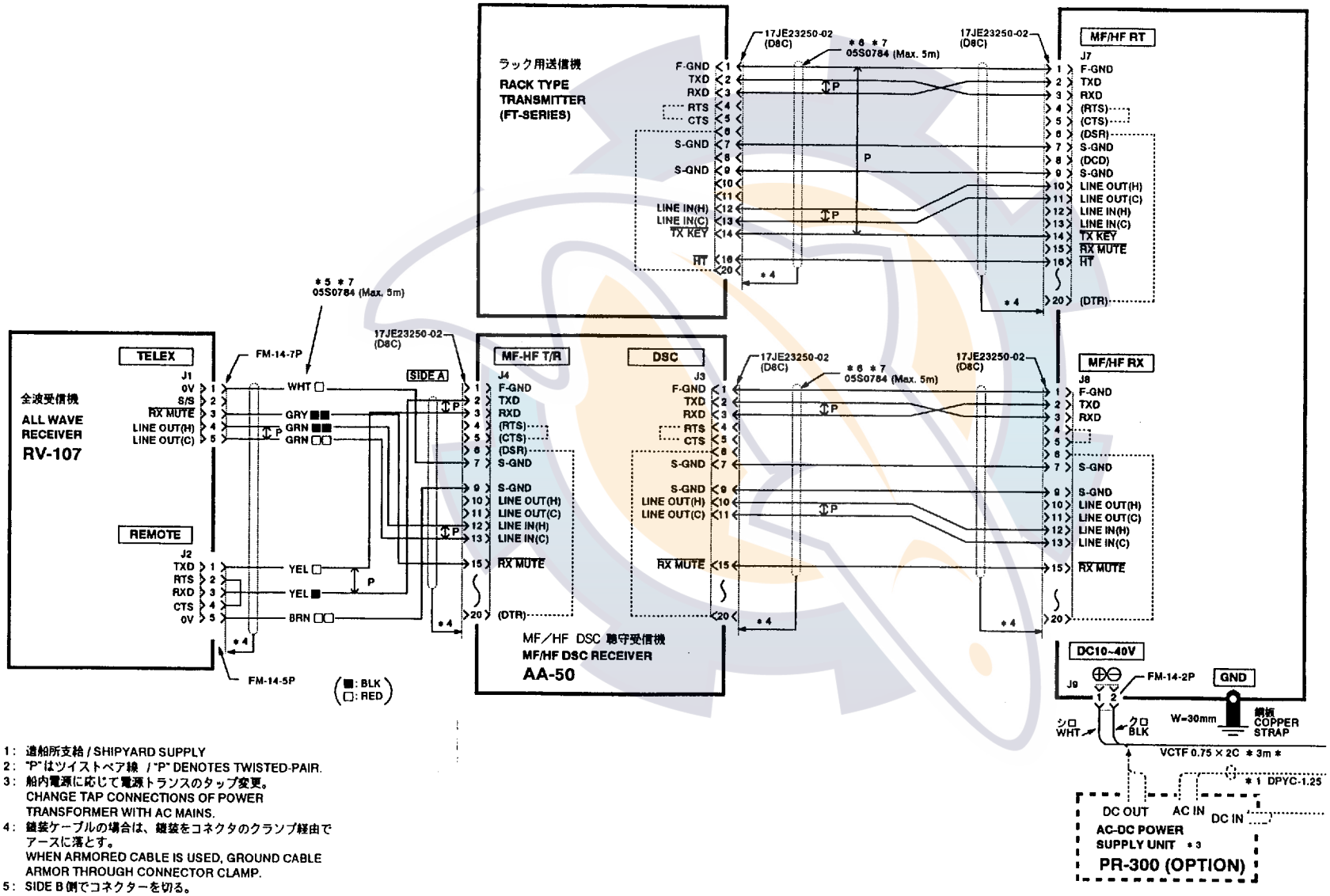
REMARKS			TYPE DSC-6
			名称 相互結線図
DRAWN T.N	APPROVED Aug 22 '96 IECDA	DSC-6	NAME INTERCONNECTION
SCALE	MASS	APPLICABLE TO:	BLOCK NO. / DWG NO.

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DSC ターミナル
DSC TERMINAL DSC-6



＊1：造船所支給 / SHIPYARD SUPPLY
＊2："P"はツイストペア線 / "P" DENOTES TWISTED-PAIR.
＊3：船内電源に応じて電源トランスのタップ変更。
CHANGE TAP CONNECTIONS OF POWER TRANSFORMER WITH AC MAINS.
＊4：鎧装ケーブルの場合は、鎧装をコネクタのクランプ経由でアースに落とす。
WHEN ARMORED CABLE IS USED, GROUND CABLE ARMOR THROUGH CONNECTOR CLAMP.
＊5：SIDE B側でコネクターを切る。
CUT "SIDE B" CONNECTOR.
＊6：両端コネクター接続済 / CONNECTORS FITTED AT BOTH ENDS.
＊7：オプション／ OPTIONAL SUPPLY

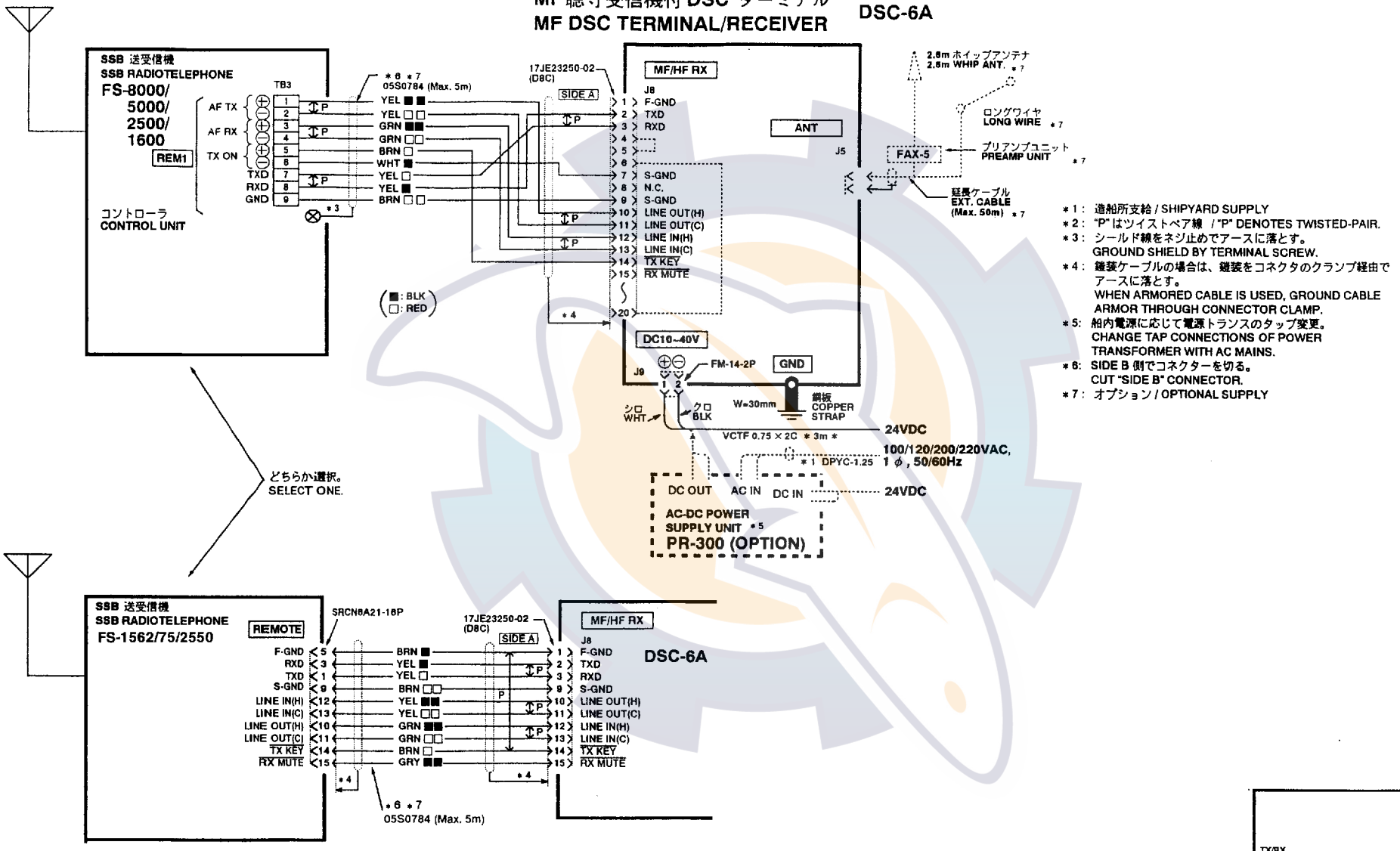
REMARKS			TYPE DSC-6+FT SERIES XMTR
DRAWN T.N	APPROVED Aug 22 '94	DSC-6	名称 相互結線図
			NAME INTERCONNECTION

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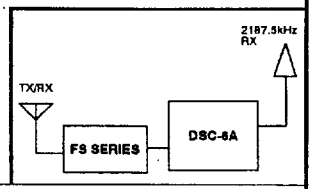
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MF聴守受信機付DSC ターミナル
MF DSC TERMINAL/RECEIVER DSC-6A



＊1： 造船所支給 / SHIPYARD SUPPLY
＊2： "P" はツイストペア線 / "P" DENOTES TWISTED-PAIR.
＊3： シールド線をネジ止めでアースに落とす。
GROUND SHIELD BY TERMINAL SCREW.
＊4： 鎧装ケーブルの場合は、鎧装をコネクタのクランプ経由で
アースに落とす。
WHEN ARMORED CABLE IS USED, GROUND CABLE
ARMOR THROUGH CONNECTOR CLAMP.
＊5： 船内電源に応じて電源トランスのタップ変更。
CHANGE TAP CONNECTIONS OF POWER
TRANSFORMER WITH AC MAINS.
＊6： SIDE B 側でコネクターを切る。
CUT "SIDE B" CONNECTOR.
＊7： オプション / OPTIONAL SUPPLY



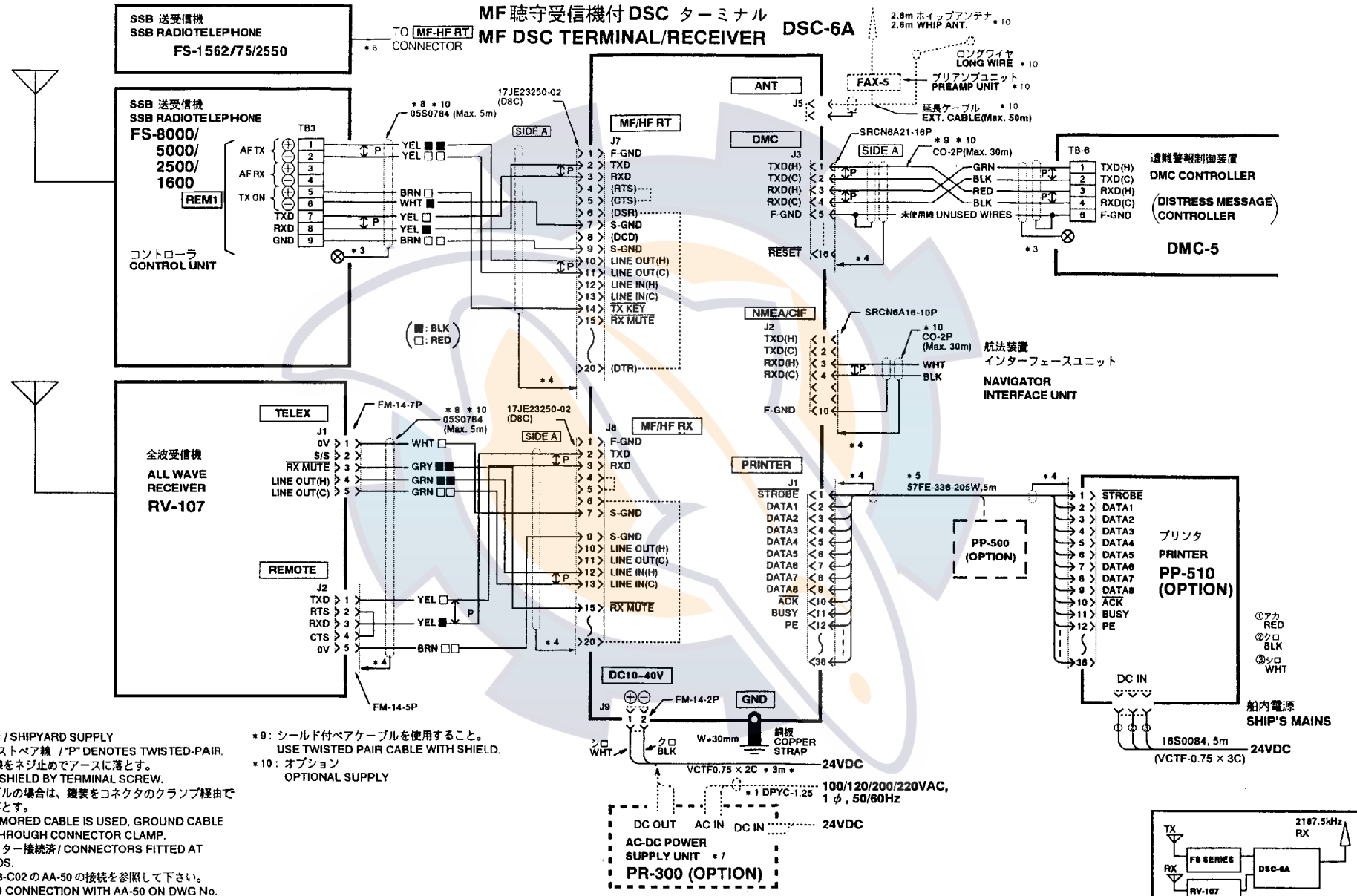
REMARKS			TYPE DSC-6A+FS SERIES
DRAWN T.N	APPROVED Aug 22 '94 IKEDA	DSC-6A	名称 相互結線図
SCALE	MASS kg	APPLICABLE TO: (MODEL)	NAME INTERCONNECTION
		BLOCK NO.	DWG NO. C5588-C02- E

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MF聴守受信機付DSC ターミナル
MF DSC TERMINAL/RECEIVER DSC-6A



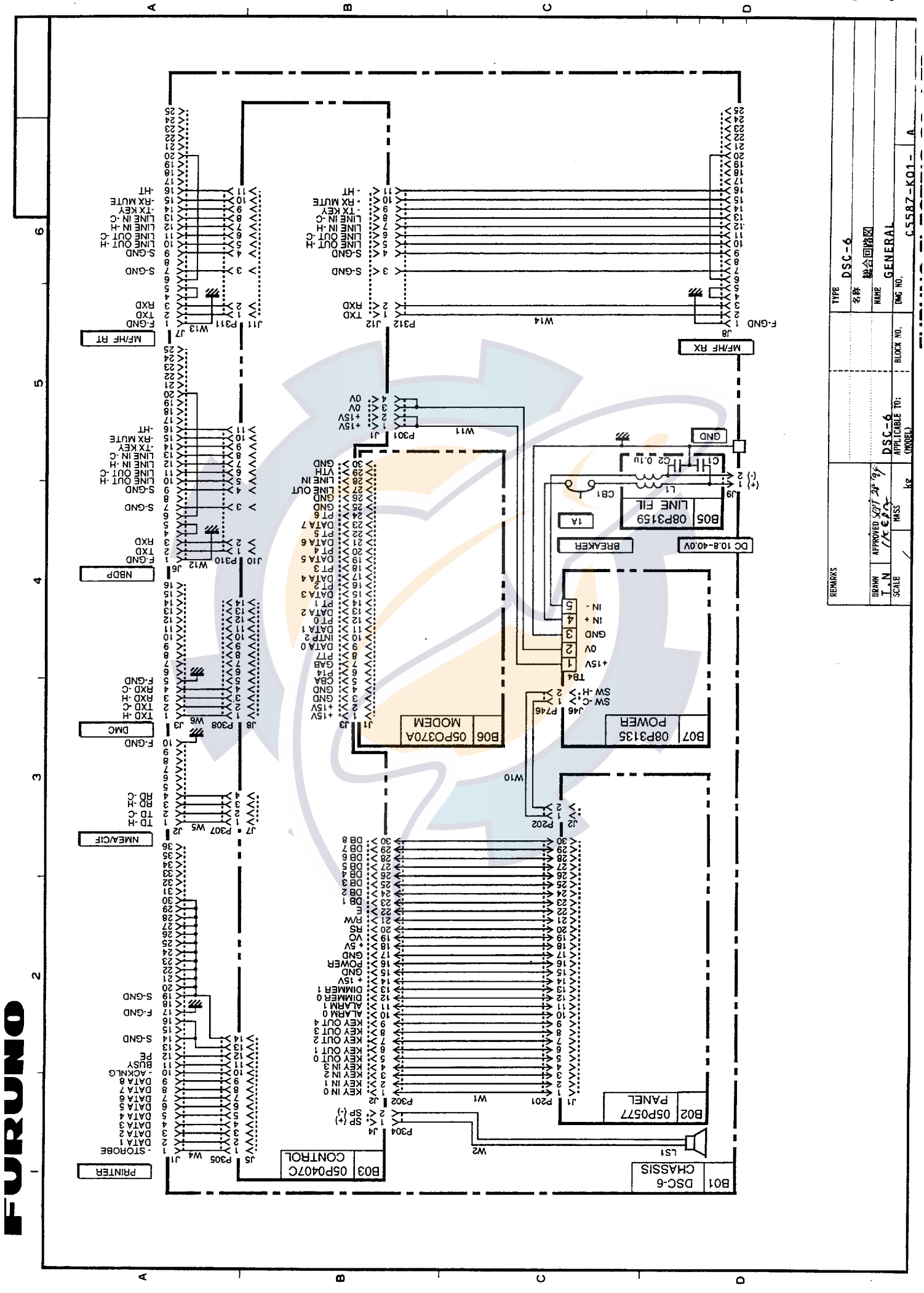
*1: 造船所支給 / SHIPYARD SUPPLY
*2: "P" はツイストペア線 / "P" DENOTES TWISTED-PAIR.
*3: シールド線をネジ止めでアースに落とす。
GROUND SHIELD BY TERMINAL SCREW.
*4: 鎧装ケーブルの場合は、鎧装をコネクタのクランプ経由でアースに落とす。
WHEN ARMORED CABLE IS USED, GROUND CABLE ARMOR THROUGH CONNECTOR CLAMP.
*5: 両端コネクター接続済 / CONNECTORS FITTED AT BOTH ENDS.
*6: 図番C5588-C02のAA-50の接続を参照して下さい。
REFER TO CONNECTION WITH AA-50 ON DWG No. C5588-C02.
*7: 船内電源に応じて電源トランスのタップ変更。
CHANGE TAP CONNECTIONS OF POWER TRANSFORMER WITH AC MAINS.
*8: SIDE B 側でコネクターを切る。
CUT "SIDE B" CONNECTOR.
*9: シールド付ペアケーブルを使用すること。
USE TWISTED PAIR CABLE WITH SHIELD.
*10: オプション
OPTIONAL SUPPLY

REMARKS		TYPE	DSC-6A
		名称	相互結線図
DRAWN T.N	APPROVED 1/22/97	NAME	INTERCONNECTION
SCALE	MASS kg	APPLICABLE TO: DSC-6A (MODEL)	BLOCK NO.
		DWG NO.	C5588-C01- D

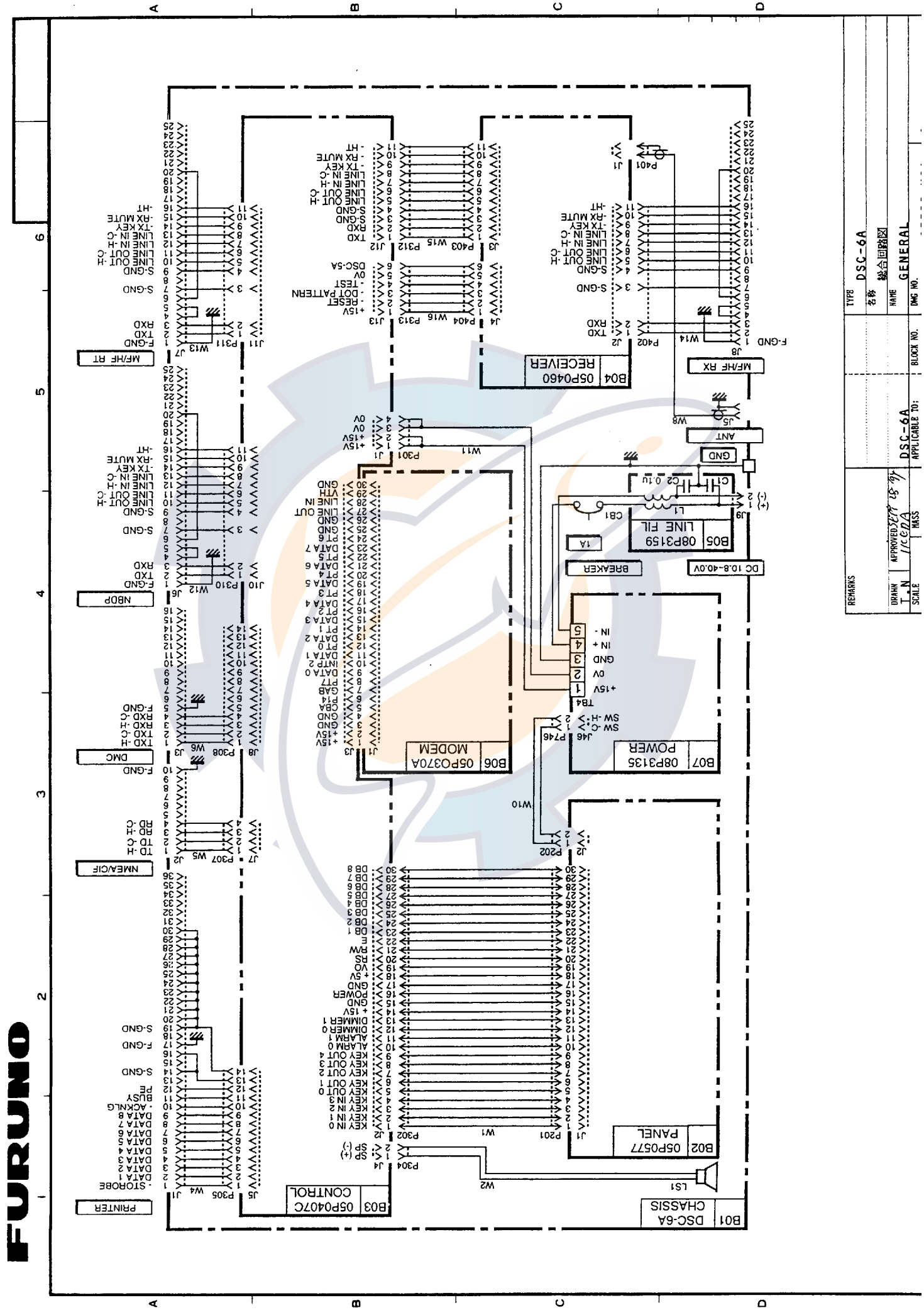
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