FURUNO

OPERATOR'S MANUAL

ALL WAVE RECEIVER

MODEL RV-107

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⚠ SAFETY INSTRUCTIONS

"**DANGER**", "**WARNING**" and "**CAUTION**" notices appear throughout this manual. It is the responsibility of the operator 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:

⚠ **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.

⚠ WARNING

Do not open the equipment except to replace paper or fuse.

Hazardous voltage which can cause electrical shock, burn or serious injury exists inside the equipment. Only qualified personnel should work inside the equipment.

Do not disassemble or modify the equipment.

Fire, electrical shock or serious injury can result.

Turn off the power immediately if water leaks into the equipment or the equipment is emitting smoke or fire.

Continued use of the equipment can cause fire or electrical shock.

Do not place liquid-filled containers on the top of the equipment.

Fire or electrical shock can result if a liquid spills into the equipment.

Do not operate the equipment with wet hands.

Electrical shock can result.

Keep heater away from equipment.

Heat can alter equipment shape and melt the power cord, which can cause fire or electrical shock.

⚠ CAUTION

Use the proper fuse.

Use of a wrong fuse can result in fire or permanent equipment damage.

Do not use the equipment for other than its intended purpose.

Personal injury can result if the equipment is used as a chair or stepping stool, for example.

Do not place objects on the top of the equipment.

The equipment can overheat or personal injury can result if the object falls.

FOREWORD

Thank you for considering and purchasing the FURUNO RV-107 All Wave Receiver. We are confident that you will enjoy many years of operation with this fine piece of equipment.

For over 40 years FURUNO Electric Company has enjoyed an enviable reputation for quality and reliability throughout the world. This dedication to excellence is furthered by our extensive global network of agents and dealers.

The RV-107 is just one of the many FURUNO developments in the field of radio communication. The unit is easy to install and is suitable for marine radio stations.

This unit is designed and constructed to give the user many years of trouble-free operation. However, to obtain optimum performance from this unit, you should carefully read and follow the recommended procedures for installation, operation and maintenance. No machine can perform to the utmost of its ability unless it is installed and maintained properly.

We would appreciate feedback from you, the end-user, about whether we are achieving our purposes.

TABLE OF CONTENTS

FEATURES

The fully synthesized RV-107 All Wave Receiver consecutively receives frequencies between 90kHz and 29.99999MHz in 10Hz steps. A microcomputer in the control block controls a wide variety of functions. Spot receiving, scan receiving or sweep receiving can be made at the touch of a key. One-touch receiving of international emergency frequency 2182kHz is provided as standard.

1. High sensitivity, excellent frequency stability.

2. Extra wide receiving frequency range; up to 29.99999MHz.

3. Channel receiving facility. The desired frequency and class of emission, stored in the memory (max. 200ch), can be summoned for channel receiving (spot receiving).

4. All ITU SSB and TELEX channels provided. An ITU frequency can be called up by entering the associated ITU channel number.

5. Scan receiving facility. Channels, preregistered by groups, can be scanned by simply pressing the [SCAN] key.

6. The sweep receiving facility permits "sweep" of a designated frequency range.

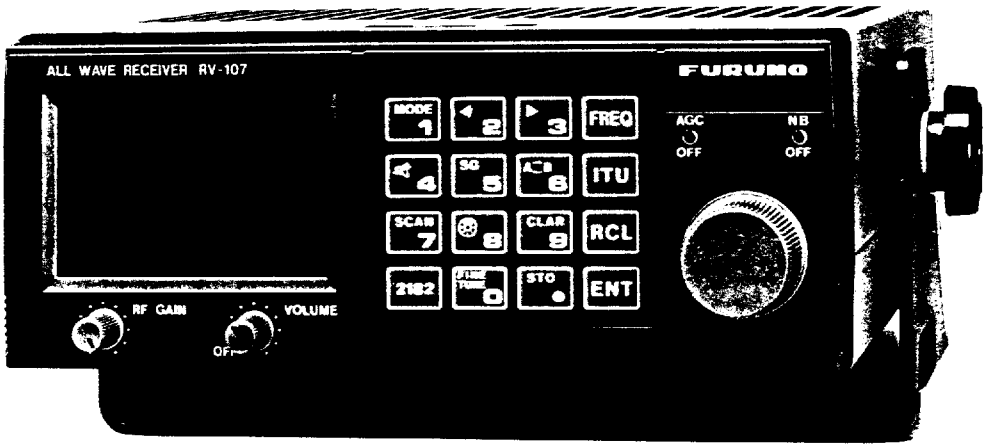
7. Noise blanker (noise reduction circuit) provided.

8. Dual VFO for dual frequency watching.

9. Large easy-to-read LCD.

10. Protection against excessive antenna input.

11. RS-232C port provided, enabling control of frequency and class of emission by personal computer.

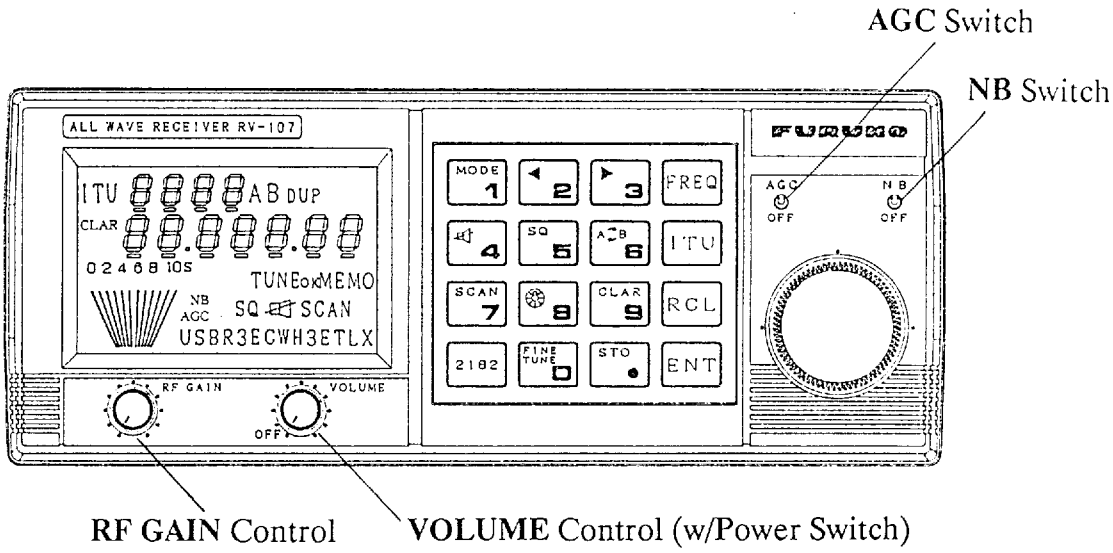


RV-107, Front View

USAGE PRECAUTIONS

1. This unit is comprised of highly sensitive components. Careless handling may severely degrade performance. To ensure many years of trouble-free operation, please read and follow the recommended procedures for installation, operation and maintenance.
2. This equipment is designed to operate at any voltage between 10-40VDC without internal modification. The power supply should be checked regularly to confirm that it is within the specified rating, otherwise the equipment cannot provide its intended functions. For AC operation, a rectifier unit (output 24VDC, 60W) is required. (FURUNO Rectifier Unit PR-62 is optionally available.)
3. For the power supply cable, a 2 meter long cable with connector and in-line fuse is supplied. Connect the red lead of this cable to + (plus) and the black lead to – (minus) of the power supply.
4. Never attempt to check inside the unit; there are no user-serviceable parts inside.
5. This unit is designed and constructed to withstand moderate levels of heat, humidity, vibration and shock. Excessive levels, however, will most assuredly damage the sensitive components inside.
6. If the equipment is not to be used regularly for one month or longer, it is recommended to remove it from the vessel to prevent moisture build-up inside. If this is not feasible, operate the controls from time to time to release trapped moisture.

CHAPTER 1 OPERATION

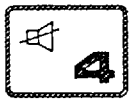
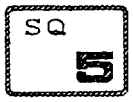
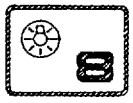
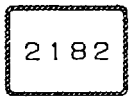


NORMAL SETTING

Item	Corresponding controls	Indication on the LCD when the function is active	Settings
Sensitivity	**RF GAIN** control	——	Turn fully clockwise
Automatic Gain Control	**AGC** switch	**AGC**	Turn upward
Noise Blanker	**NB** switch	**NB**	Turn upward

BASIC OPERATION

Item	Operation (Key Strokes)	
Setting frequencies from keyboard	Entering a frequency	(ex) : 4357.4kHz **[FREQ]** [4] [3] [5] [7] [.] [4] **[ENT]**
	Changing a frequency	Press the **[◄ 2]** or **[► 3]** key to move the cursor to the desired position, then turn the **DIAL** until the desired numeral appears.
Changing class of emission	The class of emission changes in the sequence shown below, with every press of the **[MODE]** key. LSB (SSB Lower Side Band) : Land mobile USB (SSB Upper Side Band) : General marine mobile R3E (Indication only, actually F3C) : Facsimile CW (Morse Code Wave) : Telegraph H3E (SSB with Full Carrier) : Communication on 2182kHz, Broadcasting TLX (Frequency Shift Keying) : Radioteletype (RTTY)	

Item	Corresponding key or switch	Indication on the LCD when the function is active.	Remarks
Speaker OFF		(SP:OFF)	Audio output at PHONE jack and LINE OUT from TELEX jack are not affected.
Squelch ON		SQ	If squelch is turned on, audio output is obtained only when low frequency component (lower than 1kHz: speech) is detected for a certain period.
Illumination		Every press of this key changes the illumination in the following sequence. Bright → Medium → Dim → Off	
Tuning (Effective for the frequencies from 500kHz to 4.5MHz)		TUNE	Turn the **DIAL** to get maximum receiving sensitivity while monitoring the receiving signal and/or observing the S-meter on the LCD. Note that the sensitivity does not change remarkably by this adjustment if the length of the coaxial cable between the antenna and the receiver unit is quite long (more than 10 meters).
Clarifier (Effective only for "channel receiving")		CLAR	Turn the **DIAL** to adjust signal clarity. (± 150Hz adjustable)
2182 kHz receiving		2182	Highest priority is given to this key.
Noise Blanker	**NB** switch	NB	Noise level, such as pulse components, is suppressed.
AGC	**AGC** switch	AGC	Only strong receiving signal is suppressed in level.

RECALLING FREQUENCY ON ITU CHANNEL

Reception	Key Stroke
ITU SSB Frequency	Make sure the indication "A" is displayed on the top line of the LCD. If not, press the [A ↔ B] key to display it. A --- Coast station B --- Ship station [ITU] [ ] [ ] [ ] [ENT] (401 to 2245) If you want to change the channel number, turn the **DIAL**. If change of receiving band is required, press the [◀ 2] key once to move the cursor leftward, and then turn the **DIAL** to get the desired band.

MEMORIZING FREQUENCIES TO "USER CHANNEL" (Max. 200 freq.)

Item	Key Stroke
Memorizing the currently displayed frequency	[STO] [ ] [ENT] ⇒ Last-entered frequency ⇒ [ENT] ⇒ is displayed (See Note 1). Channel No. (1 to 8999) ⇒ "OK MEMO" is displayed. ⇒ [STO] NOTE: 1. If there is no data stored in a channel, "0.00" (kHz) is displayed. 2. If you enter a wrong frequency, press the **[STO]** key instead of the **[ENT]** key, after the last-entered frequency is displayed. 3. Any type of channelizing, i.e., 1, 2, 3, ----, 1000, 1001, 1002, ---- , 2000, 2001, 2002 can be done.
Memorizing the desired frequency	1. Select a class of emission. 2. [STO] [ ] [ENT] Channel No. (1 to 8999) 3. [FREQ] [ ] [ENT] [STO] Desired freq.

RECALLING FREQUENCY FROM "USER CHANNEL"

Item	Key Stroke
Recalling	[RCL] [ENT] ⇒ Turn the **DIAL** until desired channel number appears. or [RCL] [ ] [ENT] Channel No. (1 to 8999)

SCAN/SWEEP RECEPTION	
Item	**Operation**
Start	Press [SCAN] key.
Stop	

NOTE: 1. SCAN RECEPTION
The receiver scans in order each frequency (channel) in the designated channel group and stops scanning when a signal is received. (The amount of time the receiver stops on a frequency, called "dwell time", can be selected as shown below.)

Frequencies	Scanning Range
User Channel	Group scanning. (The channels whose upper two digits in the channel number are the same.) (ex) Selected channel number: 2001 Group scanning : 2001 → 2002 ----> 2099
ITU SSB	An ITU band (ex) If ITU401 is selected, the set receives one by one the frequencies of the 4MHz band.

2. SWEEP RECEPTION
The receiver sweeps the designated range of frequencies in order of frequency steps and stops sweeping when a signal is received. (The amount of width the receiver sweeps, called "sweep width", can be selected as shown the next page.)

CHANGING CONDITIONS OF SCAN/SWEEP RECEPTION			
Item	**To get in to preset mode**	**Factory setting (Presettable range)**	**To change the setting**
SCAN			
Signal level to stop the scanning	[STO] [9] [9] [3] [1] [ENT]	"3" (0 to 10)	[FREQ] [ ] [ENT] [STO] ↑ Enter the desired numeral
Dwell time	[STO] [9] [9] [3] [2] [ENT]	"1" (0 to 99sec)	

Item	To get in to preset mode	Factory setting (Presettable range)	To change the setting (*)
SWEEP			
Sweep width	[STO] [9] [9] [2] [7] [ENT]	"1,000" (0 to 99,999kHz)	[FREQ] [ ] [ENT] [STO] ↑ Enter the desired numeral
Step	[STO] [9] [9] [2] [8] [ENT]	"1" (0 to 99,999kHz)	
Signal level to stop the sweep	[STO] [9] [9] [2] [9] [ENT]	"3" (0 to 10)	
Dwell time	[STO] [9] [9] [3] [0] [ENT]	"1" (0 to 99sec)	

(*): Use the following procedure when collectively changing the data.

(1) Recall and change a parameter by pressing [STO] [ ] [ ] [ ] [ ] [ENT] [FREQ] [ ] [ENT] in this order.

(2) Turn the **DIAL** to recall another parameter, then change the setting. Follow the same procedure to change other (remaining) parameters.

(3) After all required changes are made, press the [STO] key.

MISCELLANEOUS FUNCTIONS

Item	Operation
Dual VFO	Dual watch operation is available by using the [A ↔ B] key. 1. Set the frequency (1) to be watched. (Confirm that the indication "A" is displayed.) 2. Press the [A ↔ B] key to change the indication from "A" to "B". 3. Set another frequency (2) to be watched. 4. Every pressing of the [A ↔ B] key alternates the frequencies (1) and (2).
S-meter	The S-meter indication on the LCD shows the receiving signal strength if the **AGC** switch and the **RF GAIN** control are set to "ON" and fully clockwise, respectively. If the **AGC** switch is turned to the "OFF" position, it shows the "sensitivity suppressing level."
Signal clarity	With the **AGC** switch turned on, noise can be suppressed by turning the **RF GAIN** control counterclockwise until the S-meter swings rightward slightly. (The **VOLUME** control should be turned clockwise slightly to increase the audio output level.)

Item	Operation
Beat sound on CW	The BFO is set for 800Hz at the factory, but is presettable among –2kHz to +2kHz. For further details, refer to the "System Initialization" in CHAPTER 3.
TLX reception	All of the ITU TELEX frequencies (current and new ones from July 1, 1991) are stored in the memory. To receive them, set the class of emission to "TLX" by pressing the **[MODE]** key. If the set is connected to a telex machine, the received signal can be printed out. Output level: 0dBm/600 ohms Subcarrier: 1.7kHz (changeable by the "System Initialization")
FAX reception	You may receive meteorological and newspaper facsimile broadcasts by setting the class of emission to "R3E" with the **[MODE]** key. If the set is connected to a facsimile recorder, the received signal can be printed out. Output level: 0dBm Subcarrier: 1.9kHz (changeable by the "System Initialization")
Reception of GMDSS frequencies	You may receive the frequencies designated by the GMDSS (From July 1, 1991). To recall the frequencies, follow the key strokes shown below. **[RCL]** [ ] [ ] [ ] [ ] **[ENT]** (9000 to 9049) NOTE: When scan reception is required, the channel numbers (9000 to 9049) should be memorized in the user channel as "a group".
Beep sound/ BK relay operation/ AGC control	Refer to the "System Initialization" in CHAPTER 3.

CHAPTER 2 MAINTENANCE & TROUBLESHOOTING

MAINTENANCE

To ensure maximum performance of the equipment at all times a regular maintenance program should be established (and performed at least every 3 months) and should include the following;

1) Confirm that the coaxial cable is securely connected to the antenna. Check the coaxial cable for damage. Replace it if there is water leakage.

2) Salt water deposits on the coaxial cable or the antenna can degrade performance. Clean the cable and antenna with distilled water, if necessary.

3) Confirm that the cable connected between the battery and switchboard is securely connected.

4) Check for loose screws on the equipment.

5) Remove accumulated dust with a camel's hair brush.

6) Clean the front panel with a soft and dry cloth. NEVER USE CHEMICAL SUBSTANCES; THEY MAY REMOVE PAINT AND MARKINGS.

TROUBLESHOOTING

Whenever you experience operating problems consult the troubleshooting guide below. If the problem cannot be alleviated, do not attempt to check inside the unit. Any repair work is best left to a licensed communications technician.

Power cannot be supplied.

1) Check the power supply cable/connector for discontinuity.

2) Check for blown fuse in the power cable.

Cannot receive signal.

1) Make sure the speaker off mark [ ] is not displayed on the LCD.

2) Make sure the RF GAIN and/or VOLUME knobs are not turned counterclockwise.

3) Confirm that the squelch mark (SQ) is not displayed on the LCD.

4) If the S-meter does not deflect with the AGC ON and the RF GAIN control fully clockwise, check the antenna connection.

5) Confirm that the class of emission (MODE) is correct.

Unable to receive a particular frequency band, (for example, 27 MHz band).

1) Confirm that system settings are correct, referring to Chapter 3.

Scan/sweep does not stop.

1) Setting of "stop level" may be incorrect. (If "initialization" is made, all the preset values will be erased. See para. 3-3.)

CHAPTER 3 INSTALLATION

Correct installation is important for good performance. Antenna and ground connections must be made with the greatest of care.

MOUNTING

This unit can be installed most anywhere, provided that the following conditions are satisfied.

1) Select a place where the LCD can be easily observed and the optimum viewing angle, shown below, is maintained.

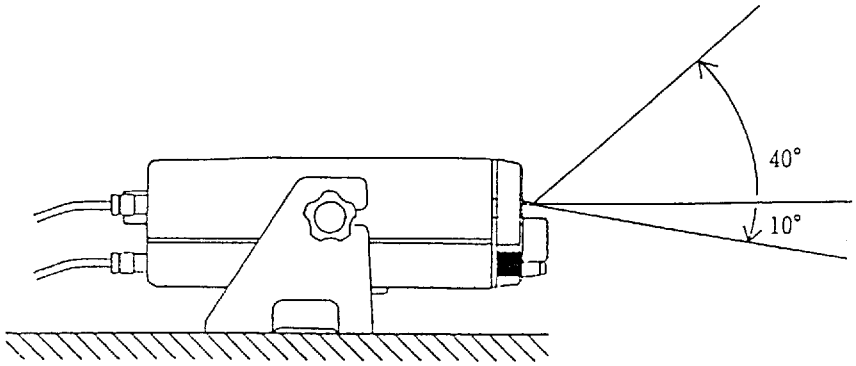


Fig. 3-1 LCD Viewing Angle

2) Allow for sufficient circulation of air around the unit.

3) The area should be free from water spray/rain.

4) Keep the unit out of direct sunlight because of heat that can build up inside the cabinet.

5) Leave at least 10cm space at the rear of the unit for maintenance space.

6) The compass safe distance of 0.7 meter (standard compass) and 0.4 meter (steering compass) should be observed to prevent deviation of the magnetic compass.

Procedure

1. Fix the mounting base to the chosen location with four wood screws, using the mounting base to mark mounting hole locations.

2. Place the unit in the mounting base and fix it with the knob bolts supplied.

WIRING

The arrangement of the connectors on the rear panel is shown in Fig. 3-2. For connection, refer to table 3-1.

Table 3-1 Connection to RV-107

Name	Connected to;	Cable to be used;	Remarks
POWER connector	10-40VDC power supply (approx. 30W)	Supplied cable (2m with 7A fuse)	Use only the power cable supplied.
ANT connector	Wire or whip antenna	50 ohm coaxial cable (75 ohm coax. can also be used.)	Connect only the center conductor of the coaxial cable to the antenna.
GND terminal	Grounding bus for radio equipment	2m ground wire (supplied)	
SPKR	4 to 8 ohms, 3W loudspeaker	VCT-0.75 x 2C or equivalent	Plug is supplied as installation materials.
PHONE connector	8 ohm earphone	-----	--ditto
REMOTE connector	Personal computer, etc.	3P twisted pair cable	--ditto
TELEX connector	Transmitter (for mute, BK)	VCT-0.75 x 2C or equivalent	--ditto
	LINE IN terminal	VCTS 0.75 x 2C or equivalent (recommended to use shielded cable)	--ditto
	Telex terminal	5P twisted pair cable (recommended to use shielded cable)	--ditto

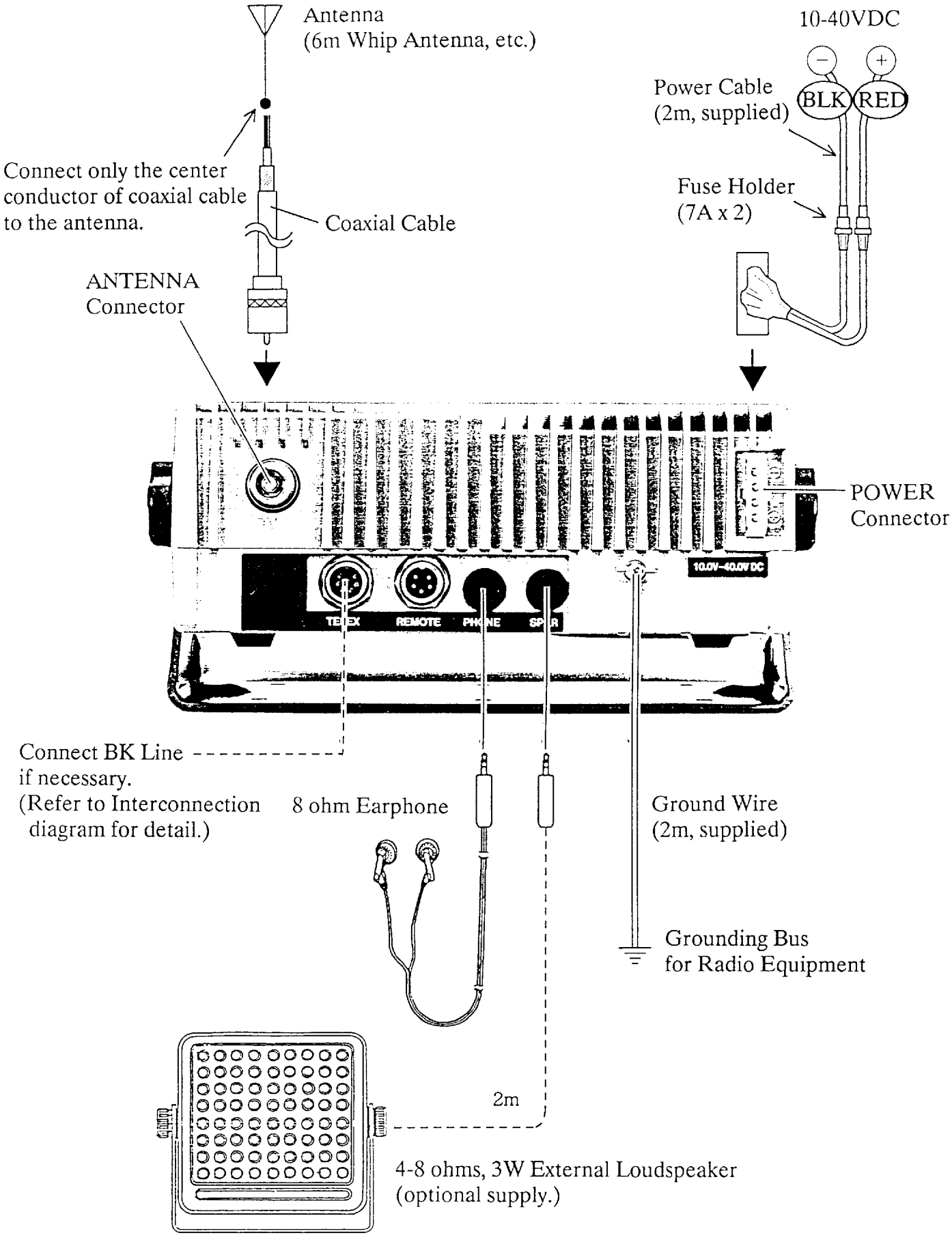

Antenna
(6m Whip Antenna, etc.)
10-40VDC
Power Cable
(2m, supplied)
BLK
RED
Connect only the center
conductor of coaxial cable
to the antenna.
Coaxial Cable
Fuse Holder
(7A x 2)
ANTENNA
Connector
POWER
Connector
10.0V-40.0V DC
TELEX
REMOTE
PHONE
SP
Connect BK Line
if necessary.
(Refer to Interconnection
diagram for detail.)
8 ohm Earphone
Ground Wire
(2m, supplied)
Grounding Bus
for Radio Equipment
2m
4-8 ohms, 3W External Loudspeaker
(optional supply.)

Fig. 3-1

Power Cable

The RV-107 is designed to operate normally at any voltage between 10 and 40Vdc, and thus it can be connected directly to a 12V, 24V or 32V power system without any presetting inside the unit. For power connection, a 2m cable is provided. Connect its end leads to a distribution box, breaker panel, battery or rectifier; the red lead to positive (+) terminal and the black lead to negative (–) terminal.

CAUTION: To protect the equipment form transient voltage change and accidental reversal of the polarity of the power supply fuses are provided in the power cable. Should the fuse blow, first suspect wrong polarity or short circuit. Locate and remove the cause on replacement of the fuse.

If it is necessary to extend the power line, use an appropriate size cable, taking into account the supply voltage and extension length (thicker wire for lower supply voltage and longer extension distance). A 2mm square cable (US gauge 14, British gauge 16) will be sufficient for a 10m extension in the 12V system. Do not make the connection by twist wrapping but by soldering.

Antenna

Performance of the receiver, especially in weak signal areas, is directly related to the antenna installation. In general, the antenna should be installed as high as possible on the boat, free from the influence of nearby antennas, rigging and masts.

The antenna commonly used for the receiver is a 10 to 15m long wire or 6 to 7m whip.

Long Wire Antenna

If your boat is large enough, install a long wire antenna. If a long wire antenna is used, it should be dedicated to this receiver only. The antenna should never be shared with a receiver and/or transmitter without using an antenna switch.

In the case of a sailboat, the backstay itself can be used as the antenna provided both ends are properly insulated and it is not shared with transceiver.

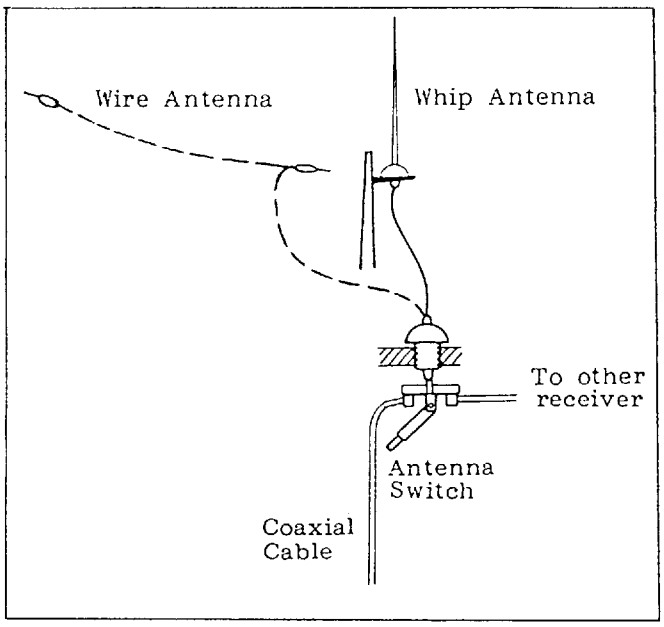


Fig. 3-2 Required Antenna

Whip Antenna

For smaller boats where the long wire antenna can not be stretched, install a whip antenna.

Connections between the Antenna and the Main Unit

The long wire antenna may be connected directly to the equipment but it is recommended to use a 50 or 75 ohm coaxial cable (RG-8/U, RG-5/U, etc.) between the antenna and the receiver to minimize interference from onboard electronic equipment.

Connect only the center conductor of the cable to the antenna. Insulate the outer conductor with vinyl tape. The cable end connected to the receiver should be fabricated as shown below.

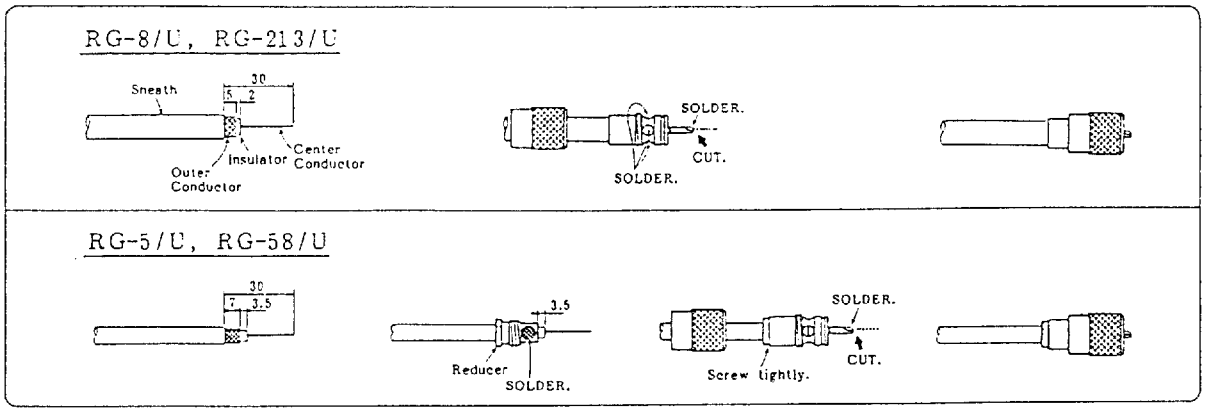


Fig. 3-3 Fabrication of Coaxial Connector

The whip antenna, depending on type, is fitted with either a coaxial connector (whip antenna model FAW-6RP2 ... refer to page D-4), for direct connection to the receiver by coaxial cable, or a copper lug (whip antenna model FAW-6R2, FAW-6D, etc. ... refer to pages D-4 and D-5). In the latter case connect coaxial cable to the whip antenna using a "junction box". Any type of junction box can be used (FURUNO can optionally supply Junction Box AJB1-1), provided the following conditions are satisfied;

1) Antenna wire and center conductor of the coaxial cable can be securely connected.

2) The junction box must be waterproof.

3) Wire and coaxial cable can be kept fixed (resist vibration and rocking).

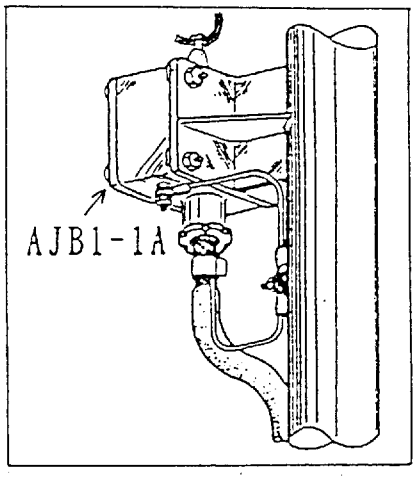


Fig. 3-4 Antenna Junction Box (Type AJB1-1)

Ground

The need for a good ground system cannot be overemphasized. A good ground not only preserves receiver sensitivity but also is an effective "lightning arrestor".

In most cases the ground wire supplied will provide a sufficient ground. Run it between the earth stud and the grounding bus for radio equipment. If it does not provide a good ground, use a 3-5cm wide copper strap instead.

External Loudspeaker (option)

A 1W loudspeaker is incorporated in the bottom cabinet. If the output level of the speaker is insufficient for your installation, or you require a remote monitor, connect an external loudspeaker to the SPKR receptacle. The speaker should be 4 to 8 ohms, 3W or higher.

If a sharper and crisper sound is required a trumpet speaker is recommended, such as FURUNO model CA-150.

PHONE Connector

The PHONE connector is provided to connect a (8 ohm) earphone. A receiving signal can be monitored through the headphone even when the speaker is turned off.

REMOTE Connector

The equipment is so designed that it is possible to control the receiving frequency and class of emission by the instruction of a personal computer. Connect a suitable signal control cable between the REMOTE connector and a personal computer.

TELEX Connector (LINE output/BK connection possible)

This connector is provided for connection with telex terminals. If LINE output (AF output 0dBm/600 ohms, balanced) and/or BK connection is required, connect them here.

$\overline{\text{S/S}}$ signal is a scan start/stop signal. The scanning or sweep reception can be started or stopped when this line gets "low (0V)".

The $\overline{\text{RX MUTE}}$ signal mutes the audio output. If this line gets "low (0V)", the "BK relay" provided at the front stage of the equipment is actuated, preventing the antenna input from being applied to the receiver circuit.

NOTE: To activate the BK relay, the system setting should be "1" (default setting). For further details see page 3-8.

When this equipment is used in combination with a transmitter, or if it receives the same frequency bands as does a transceiver unit onboard, make "BK connections" among respective equipment. (Even if connection is considered unnecessary, it is recommended to run a cable at the time of installation, rather than making connection after trouble is encountered.)

Refer to the interconnection diagram on page D-6 for the connections.

SYSTEM SETTINGS

This equipment can be custom tailored, through the keyboard, to suit individual requirements. The default settings and the procedure to change them are shown in the table on the next page.

NOTE:

1. *For normal operation, excluding sweep and scan conditions, change of settings is not required.*

2. *Whenever "initialization" is made, by calling up 9900, the default settings for 9901-9932 are restored.*

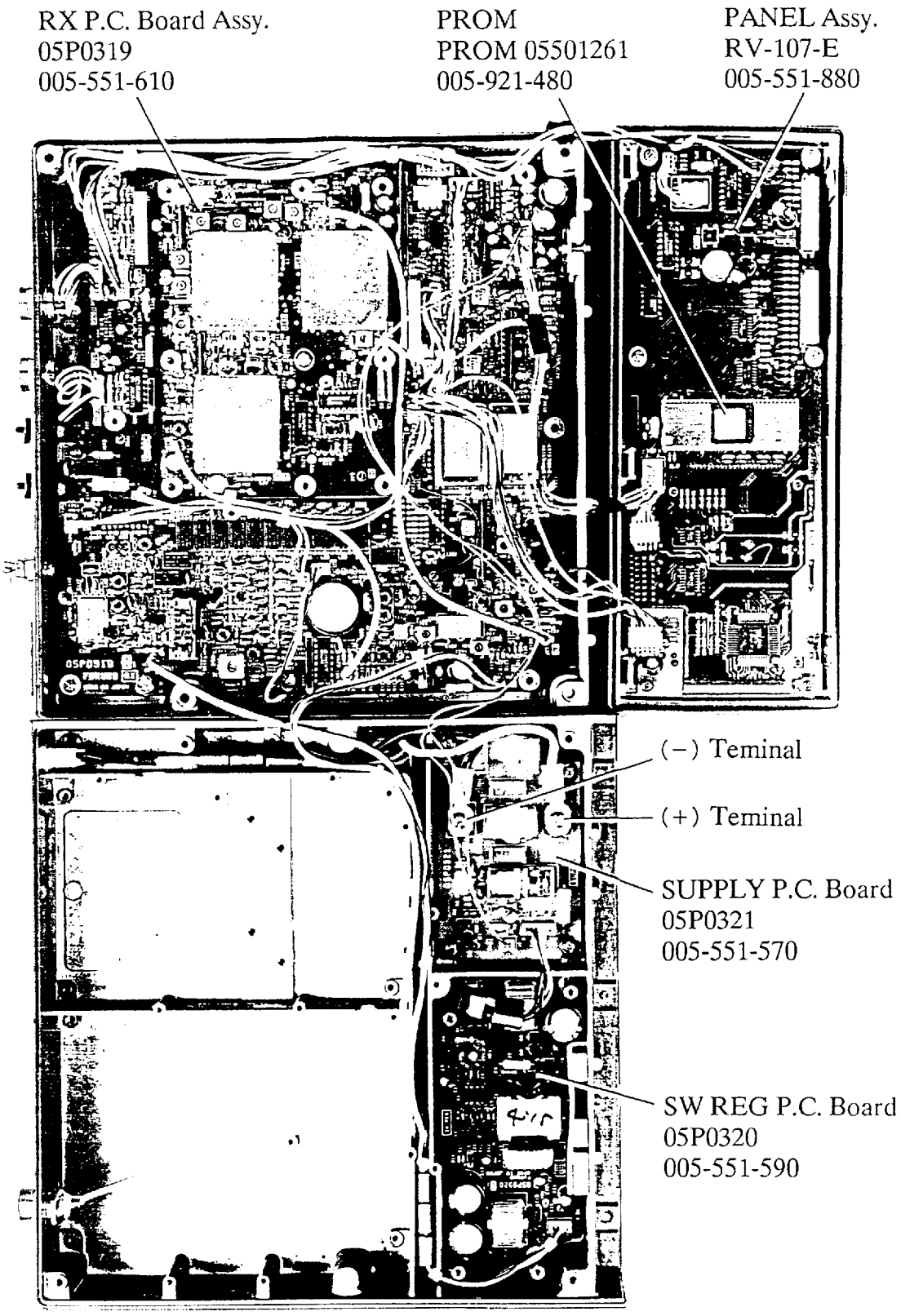
3. *If the bandwidth of the 455kHz filter is changed, signal may not be received properly.*

USER PRESET ITEM			SETTINGS (▒▒ shows default setting.)				
STO 9 9 ENT			FREQ ENT (0, 1, 2)		Rotate dial for next preset item.		Press 【STO】 ⇨when all change is completed.
			0	1	2	UNIT	REMARKS
9900	INITIALIZATION		SETTINGS	○			See Note 1 Below.
9901	RECEPTION OF 32MHz~60MHz		×	○			
2	NONE		—	—			
4	RECEPTION OF 27MHz		×	○			
5	RECEPTION OF 40MHz		×	○			
6	RECEPTION OF R3E		×	○			Reception of facsimile broadcast(F3C)
7	CLASS OF EMISSION		H3E	USB			
9908	EXTERNAL INPUT		×	○			Furuno serial interface
9	BEEP		×	○			
10	SQUELCH		SPEECH	CARRIER			
11	BK RELAY		×	ACTIVATED			
9912	455kHz FILTER	LSB	WIDE	MID	NARROW		
13		USB	WIDE	MID	NARROW		
14		CW	WIDE	MID	NARROW		
15		H3E	WIDE	MID	NARROW		
16		TLX	WIDE	MID	NARROW		
17		FAX	WIDE	MID	NARROW		
9918	AGC CHARACTER-ISTICS	LSB	SLOW	FAST			
19		USB	SLOW	FAST			
20		CW	SLOW	FAST			
21		H3E	SLOW	FAST			
22		TLX	SLOW	FAST			
23		FAX	SLOW	FAST			

9924	BFO/SHIFT FREQUENCY	CW	− 2.00~	0.8	~2.00	kHz	Default for CW;+800Hz
25		TLX	− 2.00~	1.7	~2.00	kHz	To enter"minus", key in 【FREQ】【.】【desired numeral】【ENT】. (■ will appear on the "S(S − meter)".
26		FAX	− 2.00~	1.9	~2.00	kHz	
9927	SWEEP RECEPTION	WIDTH	0~	1.000	~99.999	kHz	
28		STEP	0~	1	~99.999	kHz	
29		STOP LEVEL	0~	3	~10		To stop by squelch signal,select "0".
30		DWELL TIME	0~	1	~99	SEC	
9931	SCAN RECEPTION	STOP LEVEL	0~	3	~10		To stop by squelch signal,select "0".
32		DWELL TIME	0~	1	~99	SEC	

(NOTE 1) All the user settings and user channels are erased when "1" is selected. (It takes approx. 30 sec. to erase. "1" on the LCD will be changed to"0"when erasure is completed.)

CHAPTER 4 PARTS LOCATION



SPECIFICATIONS

1. Receiving Frequency : 90kHz~29.99999MHz, 10Hz steps
2. Class of Emission receivable : SSB, AM, CW, TELEX, FAX
3. Sensitivity :
   90kHz~0.3MHz ····· 25dBμV or less
   0.3MHz~1.6MHz ····· 10dBμV or less
   1.6MHz~29.99999MHz · 3dBμV or less
4. Selectivity(– 6dB) : SSB 2.4kHz, AM 6kHz, TLX/CW 0.5kHz
5. Memory Capacity :
   For User Channel ····· 200
   ITU SSB ····· 341
   ITU TELEX ····· 793
   GMDSS ····· 31
6. Audio Output :
   Internal Speaker ····· 1W/8 ohms(Max)
   External Speaker····· 3W/4~8 ohms(Max)
   Headphone ····· 8 ohms
   Line Out····· 0 dBm 600 ohms, Ballanced
7. Scanning/Sweep :

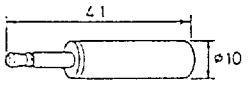
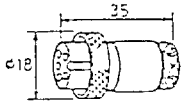
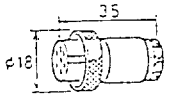
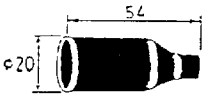
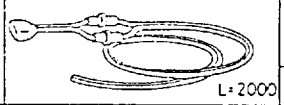
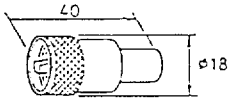
	SCANNING	SWEEP
Start Frequency	Current receiving channel	Current receiving frequency
Width	Designated band or channels having a similar type of channel number.	0~99,999kHz
Step	——	0~99,999kHz
Stop Level	0~10(Signal strength or squelch on/off signal)	
Dwell Time	0~99 Sec	
Interval	200ms(Can not be changed)	

8. Standard Features : Squelch(Speech signal detect type),
   Noise blanker, AGC, Dual VFO, Clarifier, S – meter,
   Protctor for Excessive Antenna Input
9. Ambient Temperature : – 20℃ ~+55℃
10. Power Requirement : DC10~40V Universal, 30W(24V)
11. Coating Color :
    Front Panel ····· Munsell N – 3.0
    Cabinet····· Munsell 2.5G5/1.5

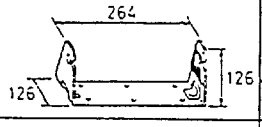
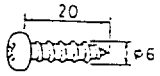
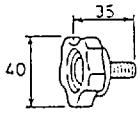
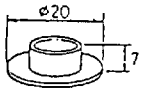
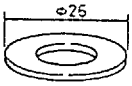
Complete Set

No.	Name	Type	Code No.	Q'ty	Remarks
1	Main Unit	RV-107-E	000-055-301	1 set	
2	Installation Materials	CP05-03200	000-055-303	1 set	
3	Accessories	FP05-02500	000-055-304	1 set	
4	Spare Parts	SP05-02500	000-055-305	1 set	
5	AC Power Supply	PR-62		(1)	option
6	External Loudspeaker	HCB100C	000-113-352	(1)	option
7	Flush-mount Kit	OP05-16	005-923-960	(1)	option

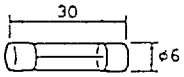
Installation Materials

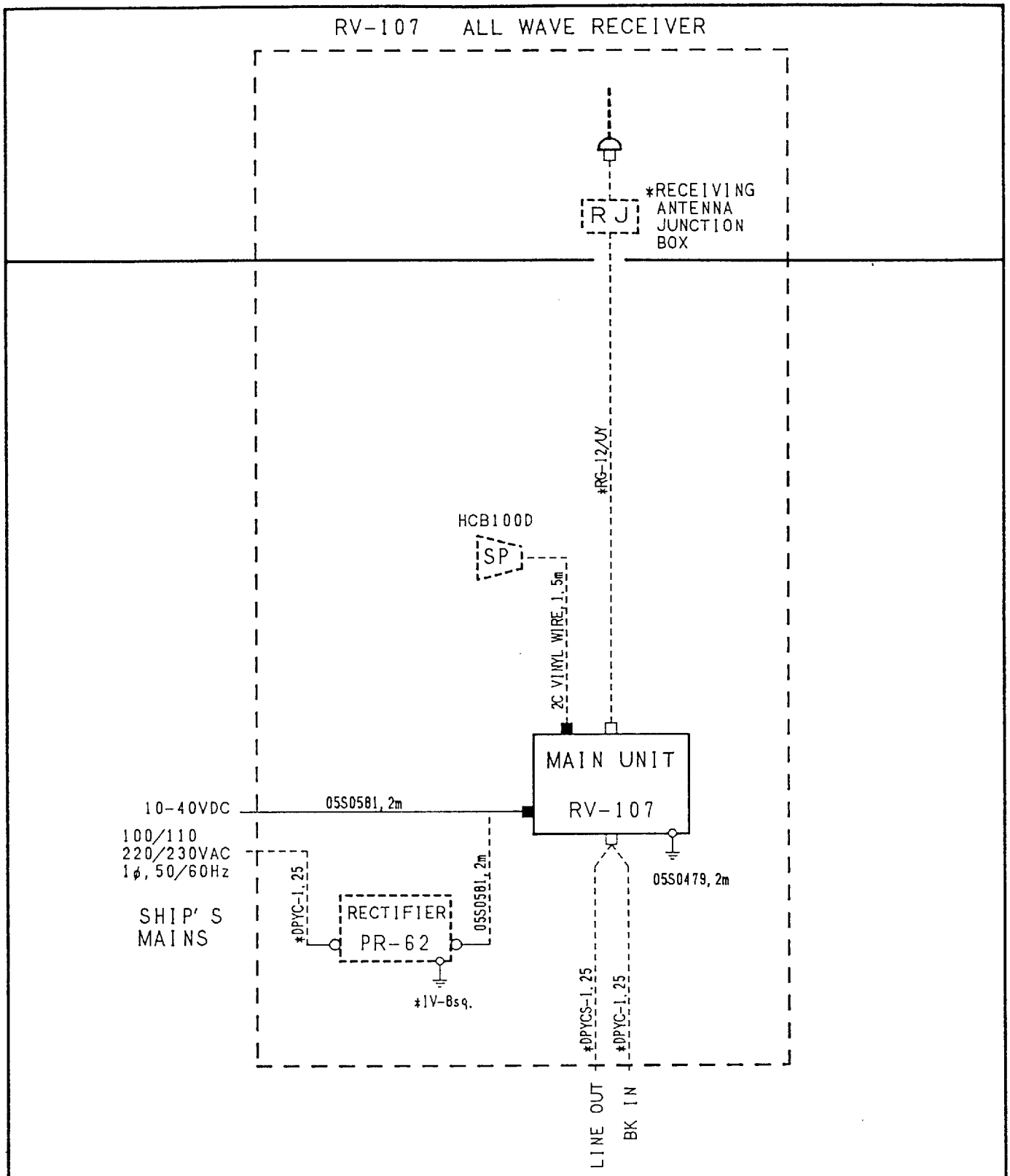
No.	N A M E	OUTLINE	DESCRIPTIONS	Q'TY	R E M A R K S
1	US PLUG		PJ-2240-P CODE No. 000-110-961	2	
2	CONNECTOR		FM-14-5-P CODE No. 000-111-537	1	
3	CONNECTOR		FM14-7P CODE No. 000-113-345	1	
4	CONNECTOR COVER		05S4426-0 CODE No. 000-113-346	2	
5	GROUND WIRE ASSY.		L-2M 05S0479-0 CODE No. 000-113-348	1	
6	POWER CABLE ASSY.		05S0581-0 *2M* 7A CODE No. 000-116-367	1	
7	CONNECTOR		M-P-7 CODE No. 000-500-512	1	

Accessories

No.	N A M E	O U T L I N E	DESCRIPTIONS	Q'TY	R E M A R K S
1	HANGER ASSY.		FP05-02001 CODE No. 005-922-690	1	
2	TAPPING SCREW		6×20 SUS304 CODE No. 000-800-414	6	
3	KNOB BOLT		KG-B2 M8×20 SUS304 CODE No. 000-800-601	2	
4	FLAT WASHER		M6 SUS304 CODE No. 000-864-129	6	
5	HANGER WASHER		05-029-0132-0 CODE No. 100-087-910	2	
6	KNOB WASHER		05-029-0135 CODE No. 100-100-390	2	

Spare Parts

ITEM No.	NAME OF PART	O U T L I N E	DWG. No. OR TYPE No.	QUANTITY WORKING PER SET	QUANTITY WORKING PER VES.	QUANTITY SPARE	REMARKS/CODE No.
1	GLASS TUBE FUSE		FGBO 7A AC125V OR JSO 7A 125V	1		2	000-549-013



NOTE

*: SHIPYARD SUPPLY

: CONNECTOR (: FACTORY-FITTED)

: CRIMP-ON LUG (: FACTORY-FITTED)

: GROUNDING COPPER STRAP

: GROUNDING WIRE 1V-8sq.

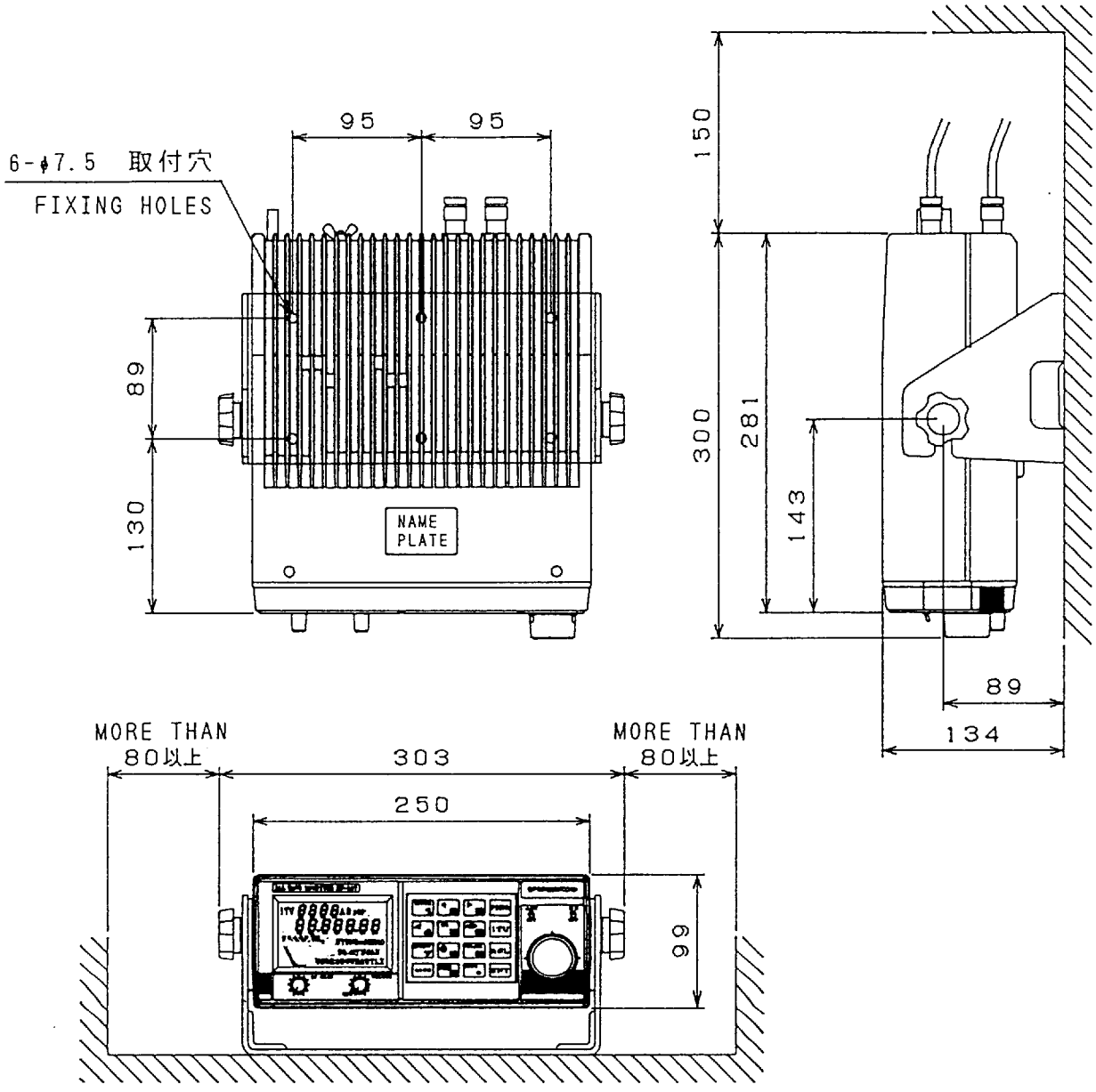
: CABLE SUPPLY SIDE

---: OPTIONAL SUPPLY

CO-0.2x5P: CO-SPEVV-SB-CO.2x5P, φ13.5

APPROVED	Jun.23.'89 T.NAKANO	TITLE	RV-107 ALL WAVE RECEIVER
CHECKED	June.23.'89 M.IKEDA		
DRAWN	June.23.'89 M.9	DWG. NO.	E5508D01A000

COMPASS SAFE DISTANCE
STD: 1.0m STEER: 0.8m



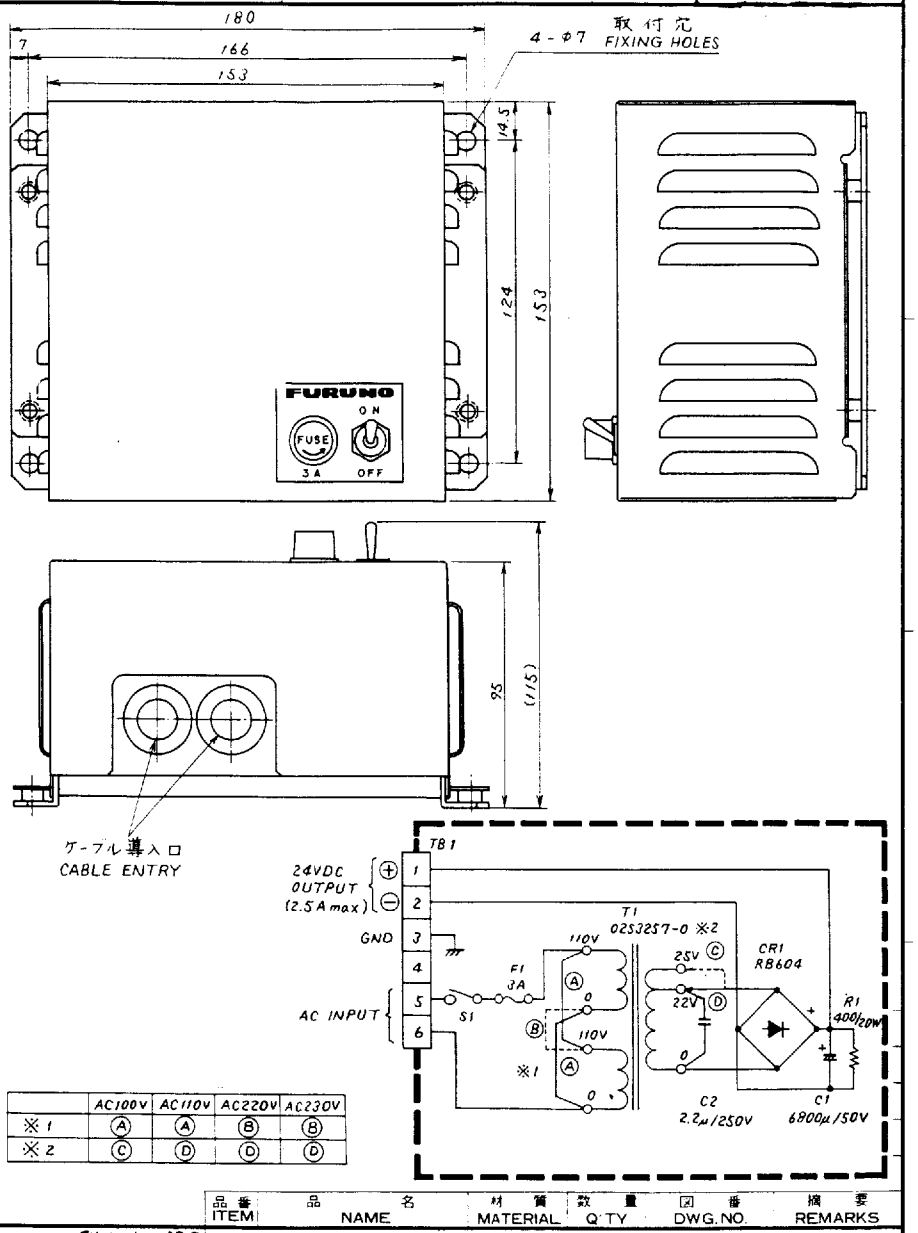
英文パネル機
ENGLISH VERSION

品番 ITEM	品名 NAME	材質 MATERIAL	数量 Q'TY	図番 DWG.NO.	摘要 REMARKS

承認 APPROVED	MAY·22·'89 T.NAKANO	三角法 THIRD ANGLE PROJECTION		名称 TITLE	RV-107 全波受信機 ALL-WAVE RECEIVER
検図 CHECKED	May·22·'89 M.IKEDA	R度 SCALE	1/5		
製図 DRAWN	MAR 28·'89 Y.Tada	重量 WEIGHT	4.8 kg	図番 DWG.NO.	C5508-G02-B

FURUNO ELECTRIC CO., LTD.

FURUNO

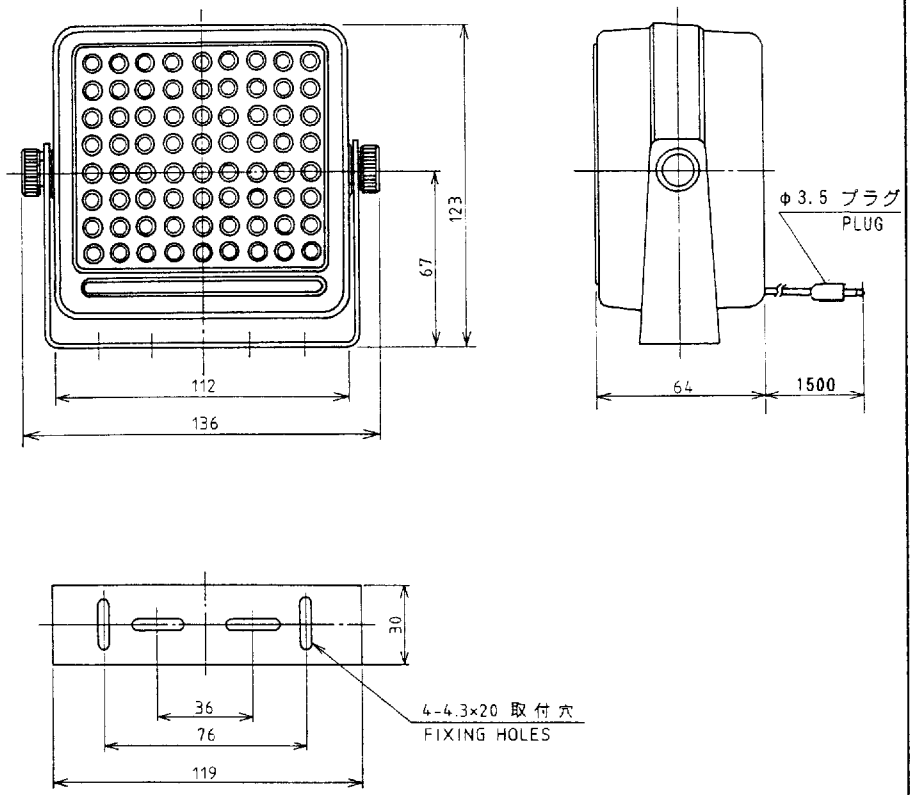


	AC100V	AC110V	AC220V	AC230V
※1	Ⓐ	Ⓐ	Ⓑ	Ⓑ
※2	Ⓒ	Ⓓ	Ⓓ	Ⓓ

品番 ITEM	品名 NAME	材質 MATERIAL	数量 Q'TY	図番 DWG.NO.	摘要 REMARKS

承認 APPROVED	JUN.14.'89	三角法 THIRD ANGLE PROJECTION	名称 TITLE: PR-62 整流器外観図 RECTIFIER UNIT
検図 CHECKED		尺度 SCALE: 1/2	
製図 DRAWN		重量 WEIGHT: 3 kg	図番 DWG.NO. C5003-034-C

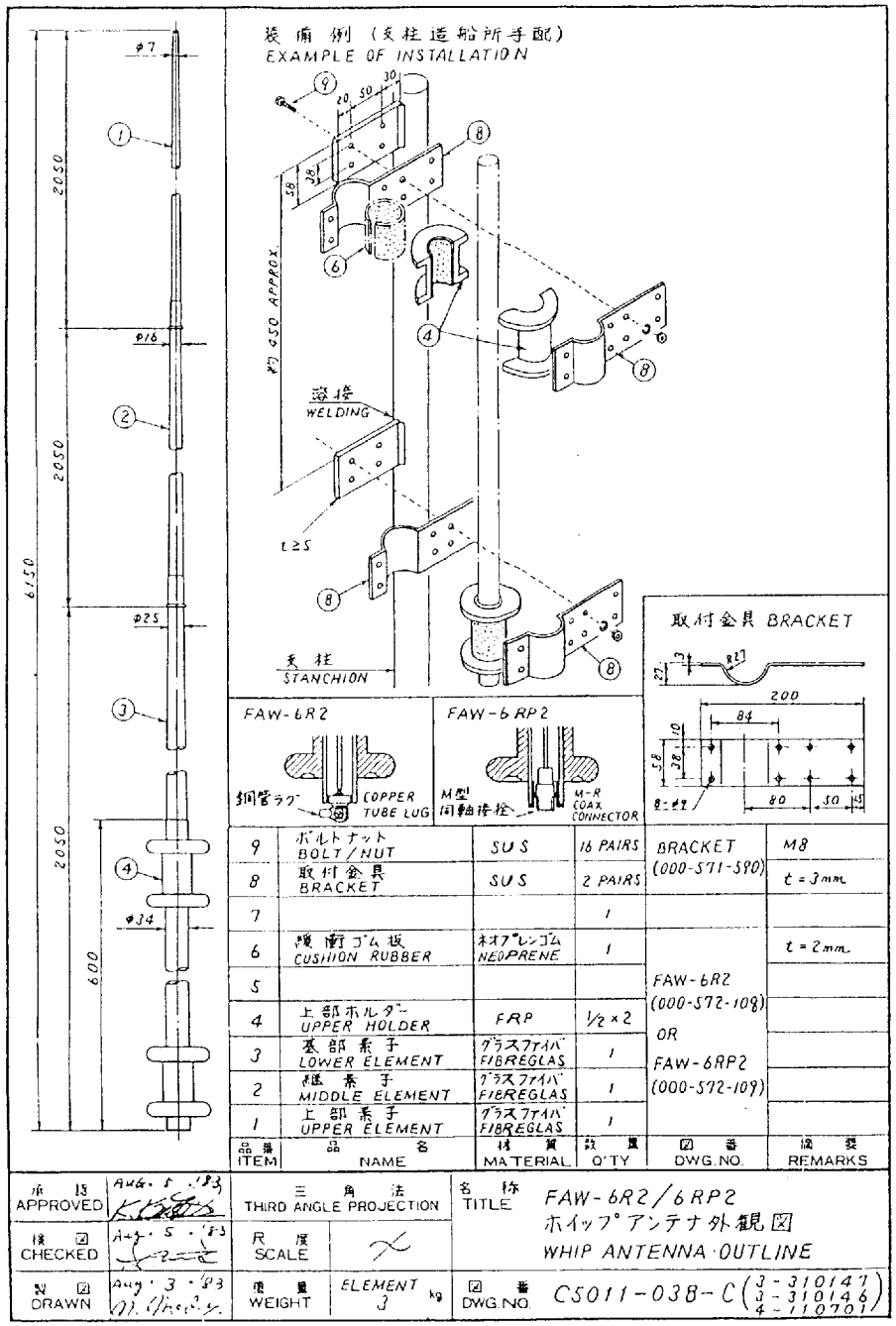
FURUNO



品番 ITEM	品名 NAME	材質 MATERIAL	数量 Q'TY	図番 DWG.NO.	摘要 REMARKS

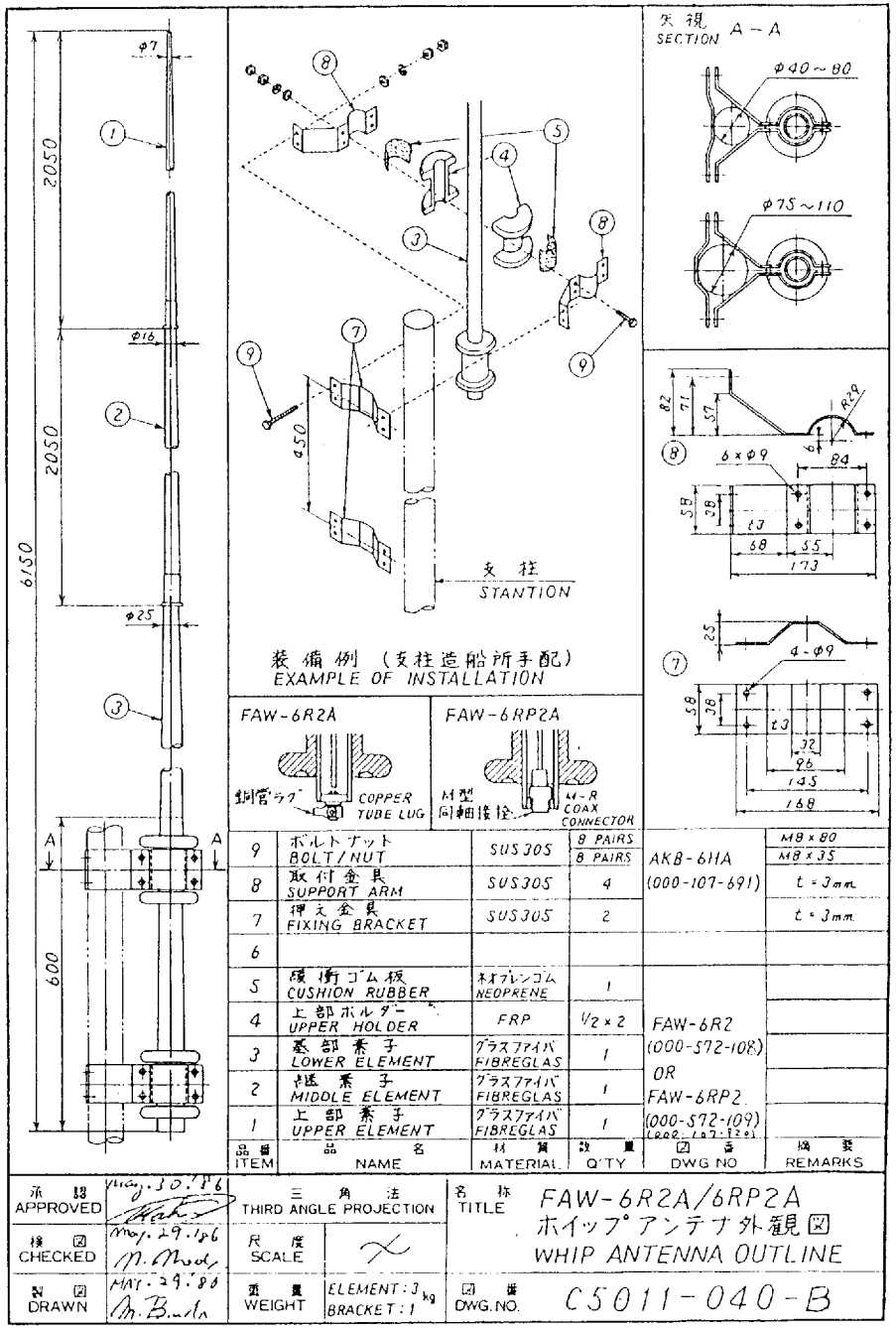
承認 APPROVED	JUNE. 21. '89 T. NAKAJIC	三角法 THIRD ANGLE PROJECTION	名称 TITLE: HCB100D スピーカ（4Ω） LOUDSPEAKER
検図 CHECKED	June. 21. '89 M. IKEDA	尺度 SCALE: 1/2	
製図 DRAWN	June. 21. '89 M. I	重量 WEIGHT: 0.7 kg	図番 DWG.NO. C5016-G01-B

FURUNO ELECTRIC CO., LTD



ITEM	NAME	MATERIAL	Q'TY	DWG.NO.	REMARKS
9	ボルトナット BOLT/NUT	SUS	16 PAIRS	BRACKET (000-571-590)	M8
8	取付金具 BRACKET	SUS	2 PAIRS		t=3mm
7			1		
6	緩衝ゴム板 CUSHION RUBBER	ネオプレンゴム NEOPRENE	1		t=2mm
5				FAW-6R2 (000-572-108) OR FAW-6RP2 (000-572-109)	
4	上部ホルダー UPPER HOLDER	FRP	1/2×2		
3	基部素子 LOWER ELEMENT	グラスファイバ FIBREGLAS	1		
2	中継素子 MIDDLE ELEMENT	グラスファイバ FIBREGLAS	1		
1	上部素子 UPPER ELEMENT	グラスファイバ FIBREGLAS	1		

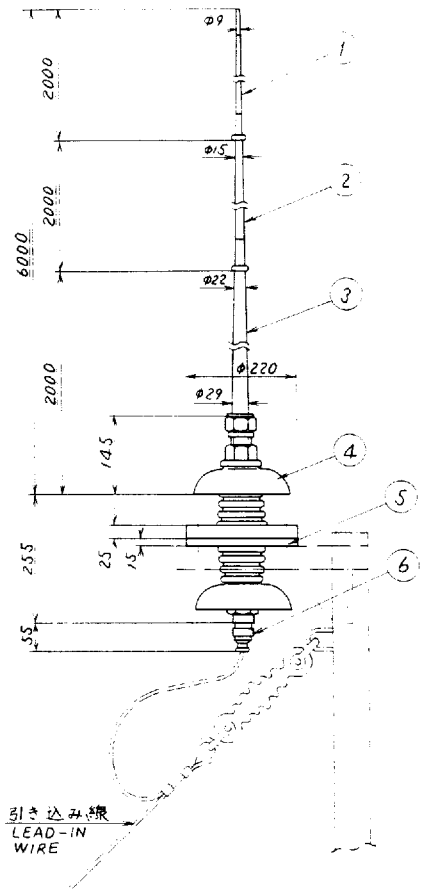
承認 APPROVED	Aug. 5. '83	三角法 THIRD ANGLE PROJECTION	名称 TITLE: FAW-6R2/6RP2 ホイップアンテナ外観図 WHIP ANTENNA OUTLINE
検図 CHECKED	Aug. 5. '83	尺度 SCALE: 1/7	
製図 DRAWN	Aug. 3. '83 M. Ueda	重量 WEIGHT: ELEMENT 3 kg	図番 DWG.NO. C5011-038-C (3-310141 / 3-310146 / 4-110701)



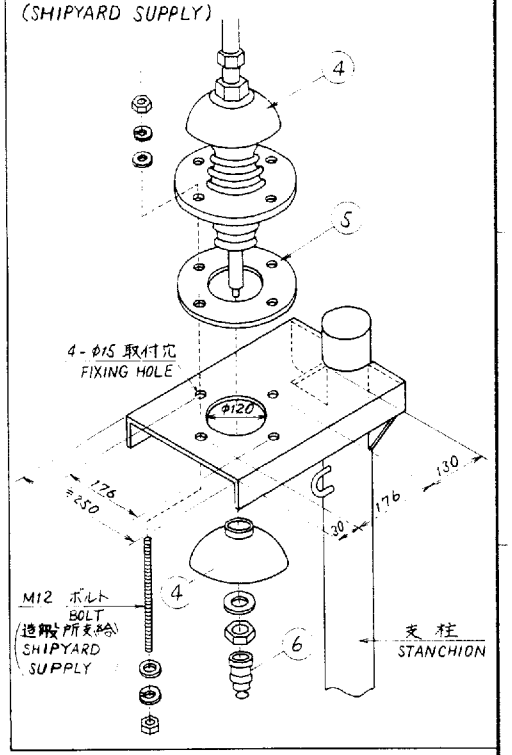
ITEM	NAME	MATERIAL	Q'TY	DWG NO	REMARKS
9	ボルトナット BOLT/NUT	SUS305	8 PAIRS	AKB-611A (000-107-691)	M8×80
8	取付金具 SUPPORT ARM	SUS305	4		M8×35
7	押え金具 FIXING BRACKET	SUS305	2		t=3mm
6					t=3mm
5	緩衝ゴム板 CUSHION RUBBER	ネオプレンゴム NEOPRENE	1	FAW-6R2 (000-572-108) OR FAW-6RP2 (000-572-109)	
4	上部ホルダー UPPER HOLDER	FRP	1/2×2		
3	基部素子 LOWER ELEMENT	グラスファイバ FIBREGLAS	1		
2	中継素子 MIDDLE ELEMENT	グラスファイバ FIBREGLAS	1		
1	上部素子 UPPER ELEMENT	グラスファイバ FIBREGLAS	1		

承認 APPROVED	May. 30. '86	三角法 THIRD ANGLE PROJECTION	名称 TITLE: FAW-6R2A/6RP2A ホイップアンテナ外観図 WHIP ANTENNA OUTLINE
検図 CHECKED	May. 29. '86 M. Ueda	尺度 SCALE: 1/7	
製図 DRAWN	MAY. 29. '86 M. Ueda	重量 WEIGHT: ELEMENT: 3 kg BRACKET: 1	図番 DWG.NO. C5011-040-B

FURUNO



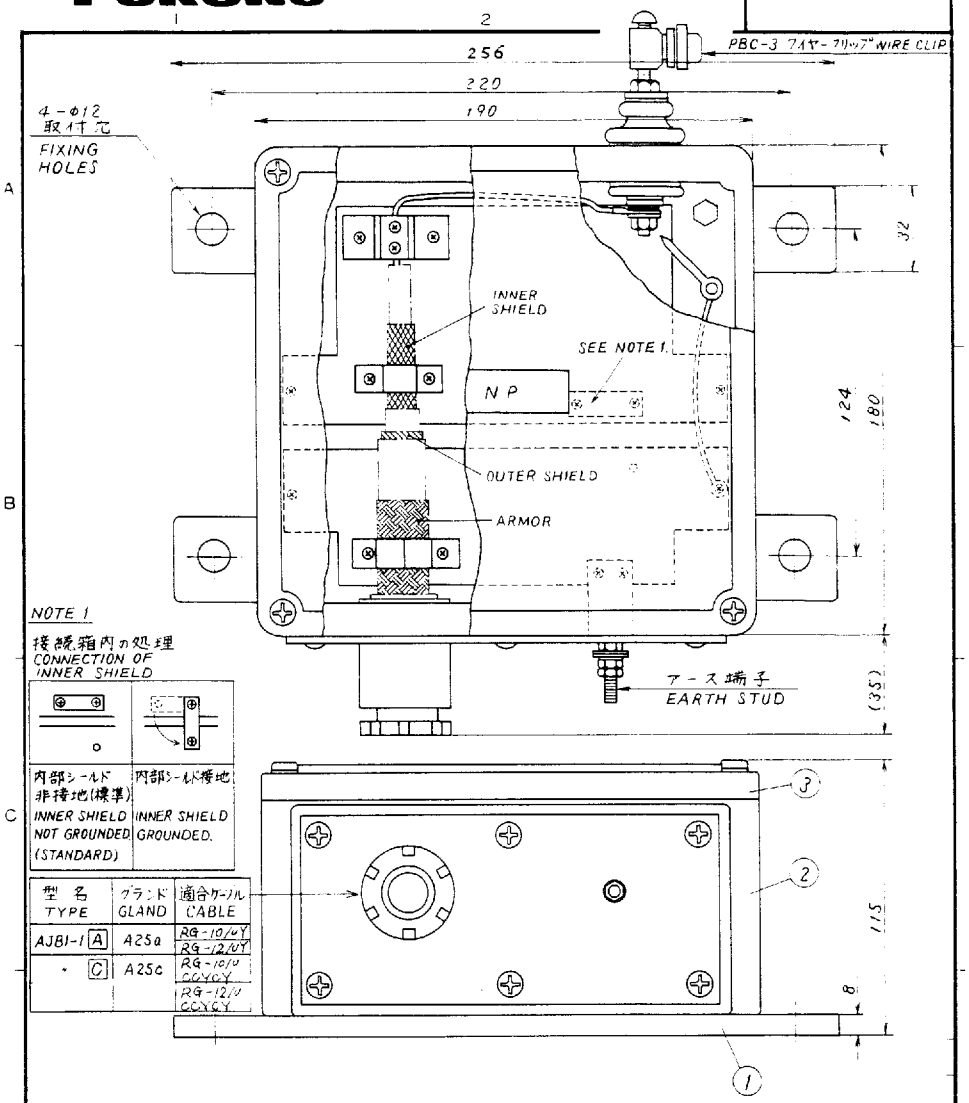
取付金具（造船所手配）装備例
FABRICATION OF MOUNTING BASE (SHIPYARD SUPPLY)



ITEM	NAME	MATERIAL	Q'TY	DWG. NO.	REMARKS
6	ケーブル保護金具 CABLE COVER	BRASS	1		
5	パッキン GASKET	HARD RUBBER	1		φ220×15t
4	碍子 INSULATOR	EPOXY RESIN	1		
3	基部素子 BASE ELEMENT	FIBREGLASS	1		
2	継素子 MIDDLE ELEMENT	FIBREGLASS	1		
1	上部素子 TOP ELEMENT	FIBREGLASS	1		

承認 APPROVED	APR.14.'82	三角法 THIRD ANGLE PROJECTION	名称 TITLE	FAW-6D 6m ホイップアンテナ WHIP ANTENNA
検図 CHECKED	APR.16.'82	尺度 SCALE	1/10	
製図 DRAWN	APR.14.'82	重量 WEIGHT	10 kg	図番 DWG.NO. C5011-034-A

FURUNO



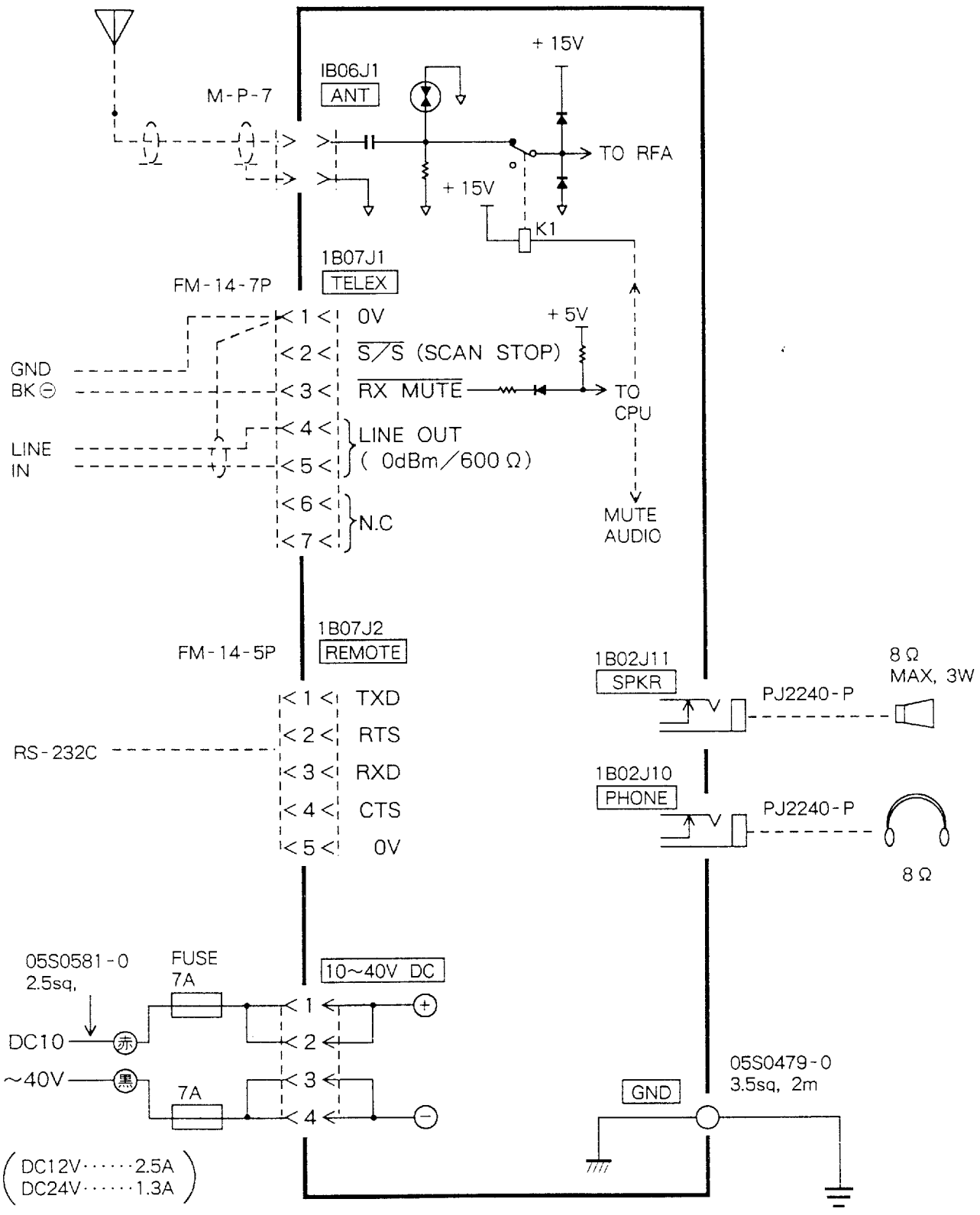
NOTE 1
接続箱内の処理
CONNECTION OF INNER SHIELD

内部シールド非接地(標準) INNER SHIELD NOT GROUNDED (STANDARD)	内部シールド接地 INNER SHIELD GROUNDED.

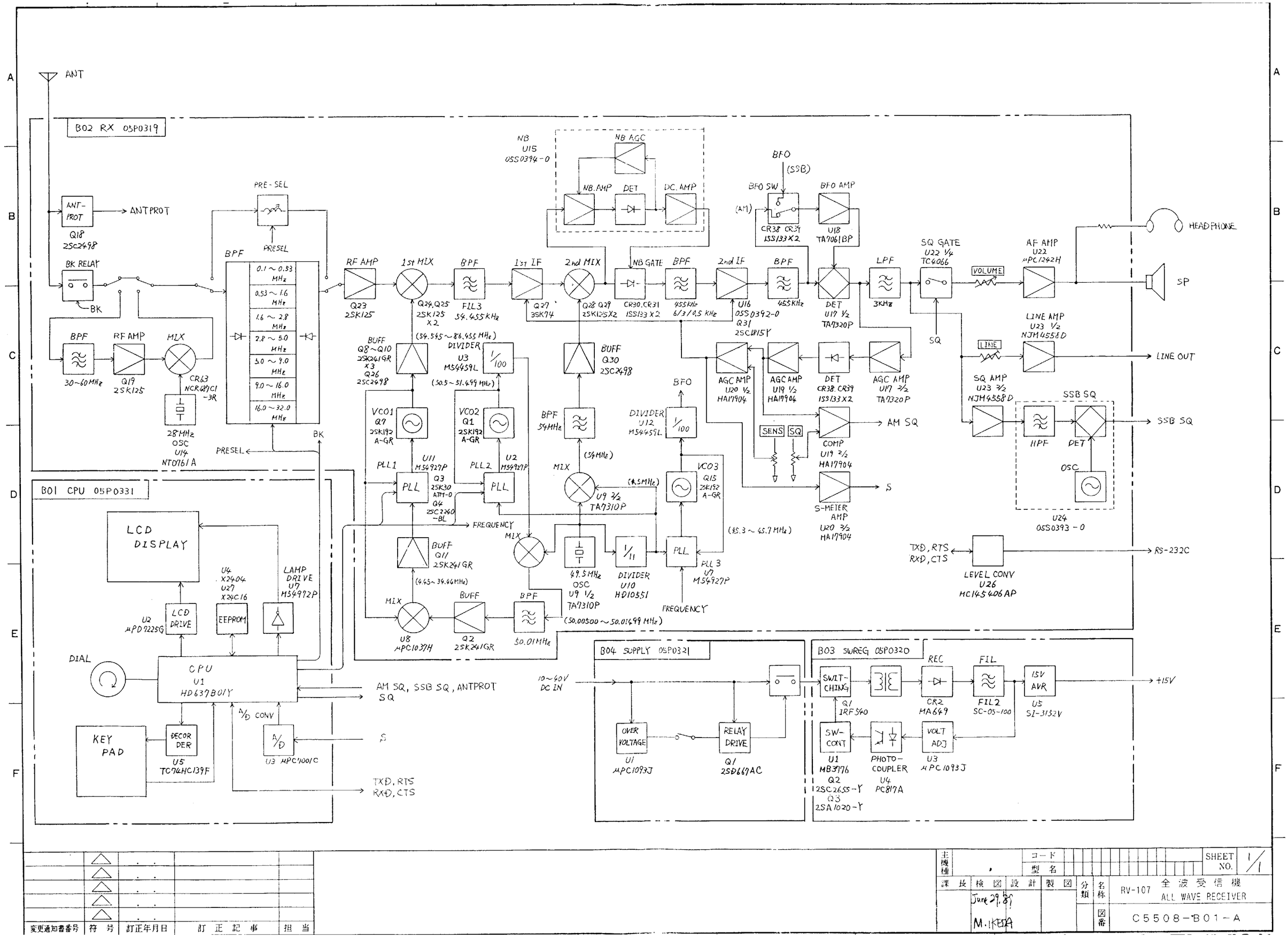
型名 TYPE	グランド GLAND	適合ケーブル CABLE
AJBI-1 A	A25a	RG-10/UY, RG-12/UY
C	A25c	RG-10/U, CQ/CY, RG-12/U, CQ/CY

ITEM	NAME	MATERIAL	Q'TY	DWG. NO.	REMARKS
3	蓋 LID	SUS304	1		
2	筐体 CASE	FRP	1		
1	取付金具 BRACKET	SUS304	1		t=3

承認 APPROVED	SEP.28.'83	三角法 THIRD ANGLE PROJECTION	名称 TITLE	AJB1-1 A 受信空中線接続箱 B RECEIVING ANTENNA C JUNCTION BOX
検図 CHECKED		尺度 SCALE		
製図 DRAWN		重量 WEIGHT	4 kg	図番 DWG.NO. C5017-046-F (4-110770)

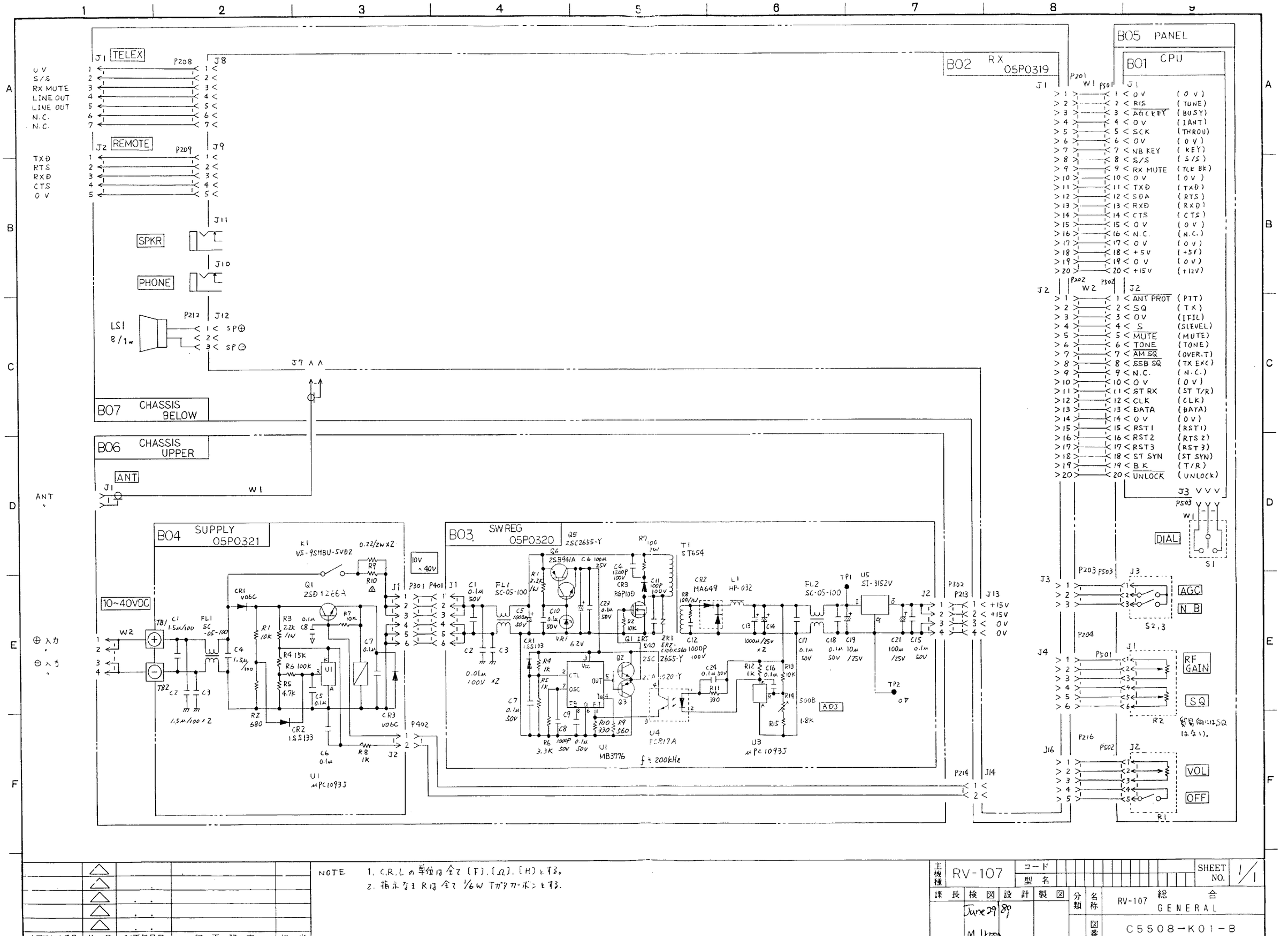


承認 APPROVED		三角法 THIRD ANGLE PROJECTION		名称 TITLE	RV-107 相互結線図 INTERCONNETION
検図 CHECKED	Jan 29 '89 M. Hirata	尺度 SCALE			
製図 DRAWN	June 29 '89	重量 WEIGHT	kg	図番 DWG.NO.	C5508－C02－A



変更通知書番号	符号	訂正年月日	訂正記事	担当
	△	. .		
	△	. .		
	△	. .		
	△	. .		
	△	. .		

主機種		コード		SHEET NO.	1/1
		型名			
課長	検図	設計	製図	分類	名称 RV-107 全波受信機 ALL WAVE RECEIVER
	June 29, 87 M.IKEDA			図番	C5508-B01-A



NOTE 1. C,R,Lの単位は全て[F],[Ω],[H]とする。
2. 指示なきRは全て1/6W Tカタカーボンとする。

ITU SSB FREQUENCIES

BAND	CHANNEL No.	FREQ. (kHz)	STEP
ITU SSB	401 ~ 427 A	4357 ~ 4435	3.0
	B	4065 ~ 4143	3.0
	428 ~ 429	4351 ~ 4354	3.0
	430 ~ 431	4146 ~ 4149	3.0
	432 ~ 452 ?	4000 ~ 4060	3.0
	601 ~ 608 A	6501 ~ 6522	3.0
	B	6200 ~ 6221	3.0
	609 ~ 611	6224 ~ 6230	3.0
	801 ~ 832 A	8719 ~ 8812	3.0
	B	8195 ~ 8288	3.0
	833 A	8291	
	B	8291	
	834 ~ 837	8707 ~ 8716	3.0
	838 ~ 839	8294 ~ 8297	3.0
	840 ~ 870 ?	8101 ~ 8191	3.0
	1201 ~ 1241 A	13077 ~ 13197	3.0
	B	12230 ~ 12350	3.0
	1242 ~ 1246	12353 ~ 12365	3.0
	1601 ~ 1656 A	17242 ~ 17407	3.0
	B	16360 ~ 16525	3.0
	1657 ~ 1663	16528 ~ 16546	3.0
	1801 ~ 1815 A	19755 ~ 19797	3.0
	B	18780 ~ 18822	3.0
	1816 ~ 1822	18825 ~ 18843	3.0
	2201 ~ 2253 A	22696 ~ 22852	3.0
	B	22000 ~ 22156	3.0
	2254 ~ 2260	22159 ~ 22177	3.0
	2501 ~ 2510 A	26145 ~ 26172	3.0
	B	25070 ~ 25097	3.0
	2511 ~ 2517	25100 ~ 25118	3.0

GMDSS·DSC FREQUENCIES

BAND	CHANNEL No.	FREQ. (kHz)			
EMERGENCY G M D S S	9000	500	H3E	(A2A)	
	9001	2182	USB		
	9002	4125	USB	421	
	9003	6215	USB	606	I
	9004	8291	USB	833	T
	9005	12290	USB	1221	U
	9006	16420	USB	1621	
	9011 (DSC)	2187.5	DSC	(TLX)	
	9012	4207.5	DSC	4031	
	9013	6312	DSC	6058	I
	9014	8414.5	DSC	8077	T
	9015	12577	DSC	12191	U
	9016	16804.5	DSC	16233	
	9021 (TLX)	2174.5	TLX		
	9022	4177.5	TLX	4011	
	9023	6268	TLX	6011	I
	9024	8376.5	TLX	8001	T
	9025	12520	TLX	12087	U
	9026	16695	TLX	16024	
	9030 (NAV)	490	TLX		
	9031	518	TLX		
	9032	4209.5	TLX		
	9042 (MSI)	4210	TLX		
	9043	6314	TLX		
	9044	8416.5	TLX		
	9045	12579	TLX		
	9046	16806.5	TLX		
	9047	19680.5	TLX		
	9048	22376	TLX		
	9049	26100.5	TLX		

RV-107 RECEIVER USER CHANNEL LIST

CH. NO.	Frequency	Purpose	CH. NO.	Frequency	Purpose