

# FURUNO

# OPERATOR'S MANUAL

## SSB RADIOTELEPHONE

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FS-1562-15 (150W)

MODEL FS-1562-25 (250W)

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This manual contains only operating information.  
For other information, please refer to the following  
manuals:

- Installation . . . . . Installation Manual



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( TENI ) FS-1562-15/25

Your Local Agent/Dealer

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\* 0 0 0 8 0 5 5 2 8 0 0 \*



\* O M E 5 5 7 2 2 N 3 0 \*



# 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.

## **DANGER**

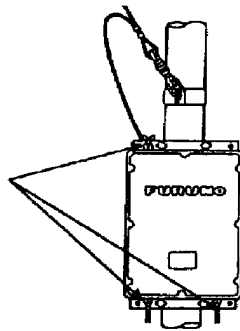


Do not work inside the equipment unless totally familiar with electrical circuits.

Hazardous voltage which will cause death or serious injury exists at the following locations:

- Transceiver unit
- Antenna and antenna coupler (both at TX)

HAZARDOUS VOLTAGE is present at these points.



ANTENNA COUPLER

## **WARNING**

**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.

## **WARNING**

**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.

**Any repair must be done by a licensed radio technician.**

Improper repair work 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.

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Declaration of conformity to type

# INTRODUCTION

FURUNO Electric Company thanks you for selecting the FS-1562 MF/HF SSB Radiotelephone. We are confident you will discover why FURUNO has become synonymous with quality and reliability. To get maximum performance from your unit, please carefully read and follow the recommended procedures for operation and maintenance.

The FS-1562 is an all-purpose radiotelephone system especially designed for marine mobile communication in the frequency range 1.6 to 27.5 MHz. All ITU channels are preprogrammed. In addition, TX/RX frequencies can be preprogrammed into a E<sup>2</sup> PROM having a capacity of 200 frequency pairs.

There are two types of the FS-1562: FS-1562-15 (150 W<sub>pep</sub>) and FS-1562-25 (250 W<sub>pep</sub>), where pep is peak envelope power, the unit for addressing an output power in a Single Sideband (SSB) transmitter.

- Installation information is contained in the installation manual.
- System initialization after installation is described in the service manual.

## Features

- GMDSS operation: DSC and NBDP connections
- 2182 key provides for immediate selection of 2182 kHz (at FULL power automatically)
- Scan/Sweep receiving function
- PROM stores all ITU SSB and TELEX frequencies
- Dummy load (in the Antenna Coupler) permits checking of transmitter
- Effective noise blanker cancels pulse noise
- Advanced “voice” detecting type squelch circuit filters out noise
- Remote station (RB-500) optionally available
- System diagnostics program
- The AC FAIL Board (option) functions to reduce Tx power automatically when AC power fails (only FS-1562-25).

## Notes

1. Use a battery having sufficient capacity (more than 120 AH for 150 W set, 200 AH for 250 W set). Otherwise, battery cannot provide sufficient transmission power.
2. Handle the microphone carefully. Heat, humidity and shock will affect performance.
3. Do not adjust the potentiometers inside the unit. Improper adjustment may cause serious damage.

# Specifications of MF/HF Radiotelephone model FS-1562

The model FS-1562-15/25 complies with the following rules and regulations:

- IMO A.421(XI), A.610(15), A.613(15), A.694(17)
- International Convention on Safety of Life at Sea 1974, as amended 1988 (GMDSS Conference)
- ITU Radio Regulations
- ETS 300 373
- IEC 1097-9 draft, IEC 945 General Requirements
- EC EMC Directive for CE marking requirements
- Other relevant rules

## GENERAL

|                                 |  |
|---------------------------------|--|
| Communication System            | Simplex or semi-duplex   |
| Frequency Range                 | 1.6 to 27.5 MHz (transmit), 0.1 to 30 MHz (receive)  |
| Frequency Resolution            | Transmit: 100 Hz    Receive: 10 Hz   |
| Class of Emission               | J3E    SSB, suppressed carrier, signal channel containing analogue information, telephony; when 2182 kHz is first selected, H3E is set.<br>H3E    SSB, full carrier, signal channel containing analogue information.<br>J2B    for DSC, NBDP; SSB, suppressed carrier, signal channel containing quantized or digital information with the use of a modulating sub-carrier, telegraphy for automatic reception<br>F3C    weather facsimile, reception only |
| Frequency Error                 | ±10 Hz (Both Transmitter and Receiver)   |
| Number of Channels              | Custom channels: 200 max programmed by Furuno authorized service representatives<br>ITU SSB/TELEX Channels as listed in Appendix<br>2182 kHz (single action)<br>2187.5 kHz (automatically selected on DSC equipment)   |
| Environmental                   | IEC 945: -15°C to +55°C Transceiver unit, -25°C to +70°C ACU; 93% at 40°C  |
| Power Supply                    | 24 VDC +30%, -10%. For AC, a rectifier unit required.<br>Receive:            2 A<br>Transmit (max.):    FS-1562-15...20 A<br>FS-1562-25...40 A   |
| Radiotelephone Signal Generator | Two tones of 2200Hz and 1300Hz transmitted alternately.  |

## TRANSMITTER

|                  |   |
|------------------|---|
| Output Impedance | 50 ohms   |
| Output Power     | J3E/H3E:    FS-1562-15...150 W pep,    FS-1562-25...250 W pep<br>J2B:        FS-1562-15...150 W pep,    FS-1562-25...250 W pep<br>(FEC mode: reduced to 60 W)<br>Tune: 10 to 20 W approx. |
| Power Reduction  | 60 W  |
| Controls         | Output HI/LOW, test   |

## ANTENNA COUPLER

|                  |  |
|------------------|--|
| Power Capability | AT-1560-15...150 W pep<br>AT-1560-25...250 W pep |
| Tuning System    | CPU controlled fully automatic tuning system     |

|                   |  |
|-------------------|--|
| Frequency Range   | 1.6 to 27.5 MHz  |
| Input Impedance   | 50 ohms (viewed from transceiver)                                      |
| Antenna Required  | 7 to 30 meters wire or whip  |
| Tuning Power      | 10 to 20 W pep   |
| VSWR              | Less than 1.5  |
| Tuning Time       | Within 2 to 15 seconds, Within 0.5 seconds for an ever tuned frequency |
| Dummy Load        | 10 ohms + 250 pF for check of Two-tone alarm generator at 2191 kHz     |
| Power Requirement | 15 VDC, 1A (supplied from transceiver)                                 |
| Construction      | Waterproof plastic cabinet, stainless steel mount                      |

## **RECEIVER**

|                  |   |  |   |
|------------------|---|--|---|
| Receiving System | Double-conversion superheterodyne<br>IF: 54.455 MHz and 455 kHz.  |  |   |
| Sensitivity      | Input level to produce SINAD 20 dB, or BER $10^{-2}$  |  |   |
|                  |   | J3E  | J2B   |
|                  | 1.6 - 4 MHz   | Below +16 dB $\mu$ V                       | Below +6 dB $\mu$ V across 10 $\Omega$ + 250 pF |
|                  | 4-27.5 MHz  | Below +3 dB $\mu$ V                        | Below -7 dB $\mu$ V across 50 $\Omega$          |
| Pass Band        | 350 - 2700 Hz   | -6 dB                                      |   |
| Cross Modulation | Unwanted signal +90 dB $\mu$ V $\pm$ 20 kHz from +60 dB $\mu$ V wanted signal   |  |   |
| Audio Output     | 2 W (8 $\Omega$ internal loudspeaker), 5 W (4 $\Omega$ optional external loudspeaker)<br>0 dBm/600 $\Omega$ line output (for NBDP, DSC) |  |   |
| Other Features   | RF Gain:  | Adjustable                                 |   |
|                  | Squelch:  | ON/OFF, Activated by voice/signal strength |   |
|                  | Dimmer:   | OFF/Low/Medium/High                        |   |
|                  | Loudspeaker:  | ON/OFF (Handset always alive)              |   |
|                  | AGC:  | ON/OFF                                     |   |
|                  | Noise blanker:  | always ON                                  |   |

## **POWER AMP UNIT (Type PA-2500 for FS-1562-25)**

|                        |  |
|------------------------|--|
| Power capability       | Input Power: 60 Wpep, Output Power: 250 Wpep |
| Input/Output Impedance | 50 ohms                                      |
| Power Supply           | 24 VDC, 30 A                                 |

## **DIMENSIONS**

|                      |  |
|----------------------|--|
| Transceiver Unit     | 108 mm(W) x 258 mm(H) x 300 mm(D), 6.5 kg        |
| Antenna Coupler Unit | 297 mm(W) x 390 mm(H) x 90 mm(D), 3.1 kg approx. |

## **COMPASS SAFE DISTANCE**

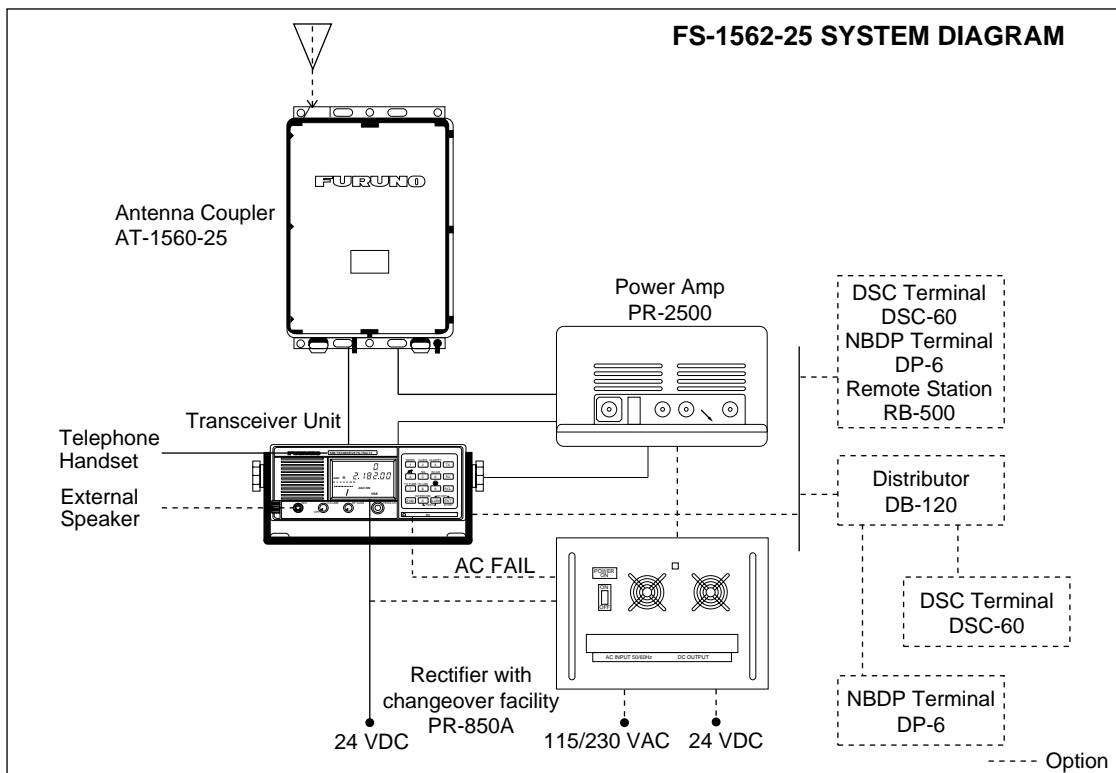
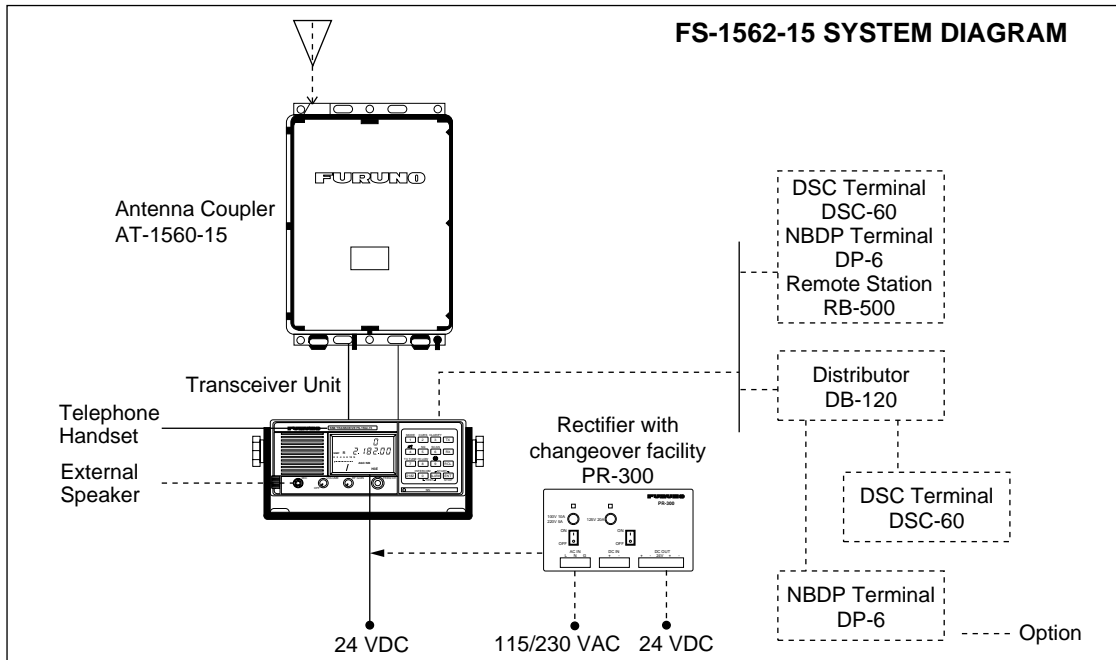
| Unit                       | Standard | Steering | NOTE   |
|----------------------------|----------|----------|--|
| Transceiver                | 1.2 m    | 0.9 m    | Furuno recommendation based on the ISO R 694 Method A tests for the variant models, added with correction factors which Furuno considers adequate. |
| Antenna coupler AT-1560-15 | 1.0 m    | 0.7 m    |  |
| Antenna coupler AT-1560-25 | 1.0 m    | 0.7 m    |  |
| Handset                    | 0.6 m    | 0.4 m    |  |
| PA-2500                    | 0.9 m    | 0.7 m    |  |
| PR-300                     | 0.9 m    | 0.7 m    |  |
| PR-850A                    | 1.0 m    | 0.7 m    |  |



# Chapter 1 OPERATION

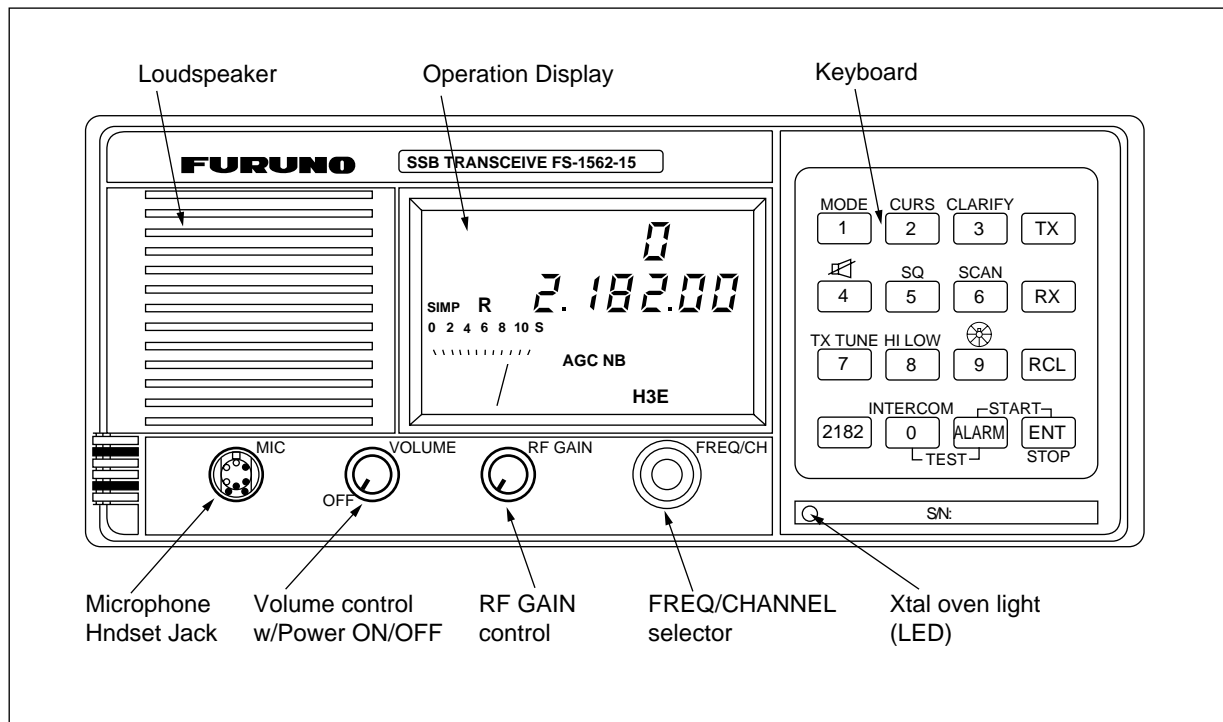
## 1.1 SYSTEM SET-UP

The basic 24 VDC FS-1562 consists of a Transceiver Unit, a Power Amp Unit (for 250 W), an Antenna Coupler, and a Handset. Shown below are the system setup for 150 W and 250 W with DSC (Digital Selective Calling) terminal and other ancillaries.



## 1.2 Front View of Transceiver Unit

(Same for FS-1562-15 and FS-1562-25)



### Rotary controls

- VOLUME** Turns the power on and off and adjust the loudspeaker volume. When FS-1562 is connected to DB-500 and RB-500, FS-1562 can be turned on by RB-500. This is possible with the RB-500 having ROM version 1.04 and after.
- RF GAIN** Adjusts the receiver sensitivity.
- FREQ/CH** Changes the frequency in conjunction with the [TX] or [RX] key. Also changes the channel numbers set with the [RCL] key.

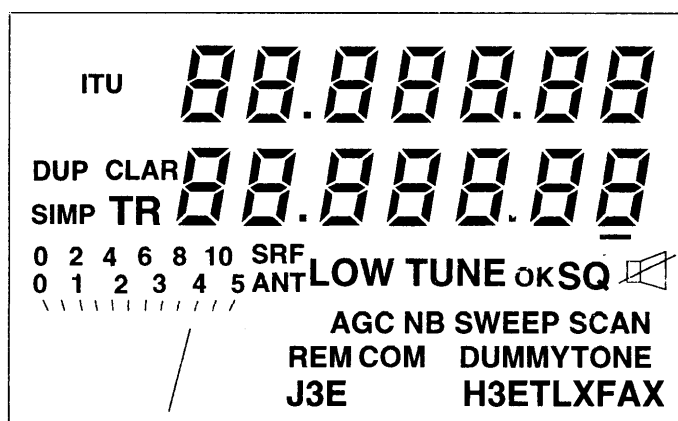
### Keys

- [1] (MODE) Selects a class of emission and controls AGC on and off. Press the [1] key repeatedly until the wanted class of emission appears.
- [2] (CURSOR) Shifts cursor (underline marking). Press the [2] key to move the cursor.
- [3] (CLARIFY) Adjusts the receiver frequency for fine tuning when the frequency is set in terms of Channel NO. Not active in direct frequency entry. The adjustable range is  $\pm 150$  Hz in 10 Hz steps.
- [TX] Selects a TX frequency.
- [4] (speaker) Turns the internal or external loudspeaker on or off. The speaker mark appears on the display when the speaker is off.

- [5] (SQelch) Turns the squelch function on or off. "SQ" appears on the display when the squelch function is on.
- [6] (SCAN) Turns the scan/sweep function on or off. "SCAN" or "SWEEP" appears on the display when the scan or sweep function is on.
- [RX] Selects a receive frequency.
- [7] (TX TUNE) Tunes the antenna coupler. "TUNE" appears during tuning, and "OK" appears after tuning is successfully completed.
- [8] (HI LOW) Alternately selects high or low output power.
- [9] (Dimmer) Adjusts backlighting of the keyboard and the Operation Display panel.
- [RCL] Selects ITU channel or Custom channel.
- [2182] Selects 2182 kHz on J3E.
- [INTERCOM] Calls "remote station" (if connected). Press this key, enter station no. and then press [ENT] key.
- [ALARM] Releases two-tone signal for 45 seconds. To transmit the two-tone signal, press the [ENT] key while holding down the [ALARM] key. To stop it, press this key again. NEVER press [ALARM] + [ENT], except for a distress situation.
- [ENT] Concludes data entry.
- [0]...[9] Enters numeric data.

## Indications

The operation display provides the operational status by various marks and indications. Shown below are the location and meaning of all available indications. They are not all indicated at a time but only the related parts appear with respect to the mode selected.



## 1.3 Power Supply Unit

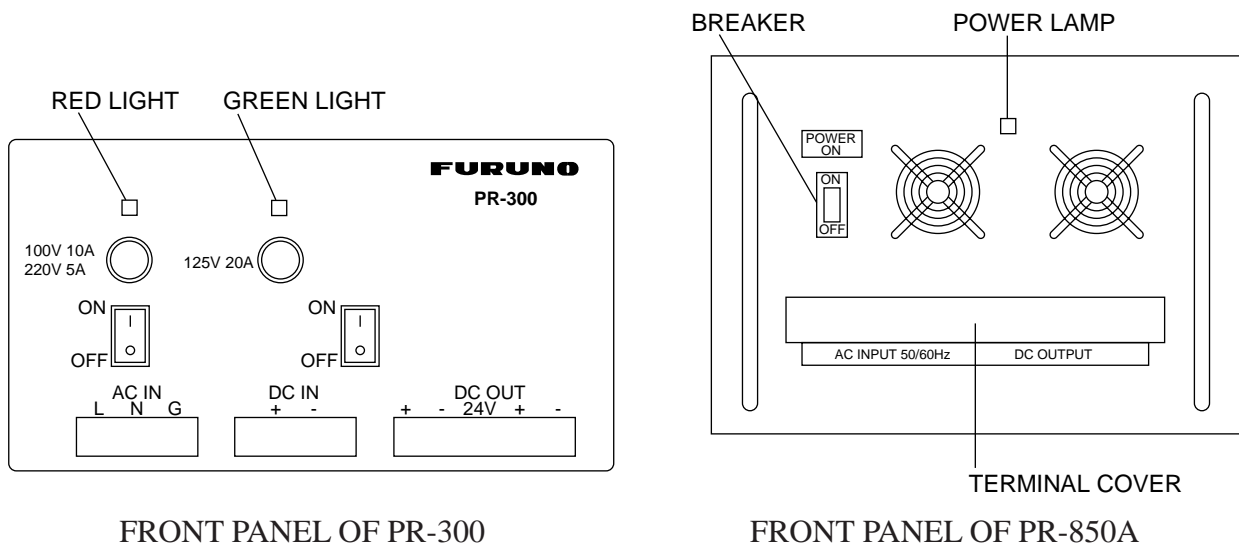
The transceiver unit FS-1562-15 or FS-1562-25 works direct on 24 VDC or through a Power Supply Unit on AC mains supply (115 or 230 VAC). The power supply unit is type PR-300 supplying 24 VDC power (20 A) to the FS-1562-15 (150 W) Transceiver Unit or type PR-850A, supplying 24 VDC (40 A) for the FS-1562-25 (250 W). Both 115/230 VAC and 24 VDC power can be connected simultaneously. In this case, the system normally operates on the AC mains supply and when AC power is lost, the PSU automatically switches to the DC power source.

This power supply arrangement satisfies the GMDSS requirements. The FS-1562-15/25 can be operated direct from 24 VDC without a rectifier unit.

**OVEN power supply:** The crystal oven is always powered even when the Power Switch is OFF. It draws 50 mA approx. The Oven LED lights while the oven is powered.

### AC and DC power switches

Both AC and DC power switches on the PSU can be always kept “on”. (These switches are provided to turn off the power supply for maintenance.) The transceiver may be turned on or off with the PSU kept on.



FRONT PANEL OF PR-300

FRONT PANEL OF PR-850A

Lamp (red): Lights when AC power source is in use.

Lamp (green) Lights when DC power source is in use.

**NOTE:** Both lamps light when changing to DC power supply (PR-300). These lamps also light when the internal temperature excessively rises. The PR-300 or PR-850A is not required on 24 VDC vessels.

### Fuses

The PR-300 has 2 fuses, each for AC and DC power.

100-120 VAC: 10 A

200-240 VAC: 5 A

DC fuse: 20 A

The PR-850A has a breaker and a power lamp on the front panel. The fuse is provided in the power cable.



The frequencies are indicated by:

Voice frequencies: Designated by the **CARRIER** frequency. Assigned frequencies are 1.4 kHz higher than the carrier frequencies.

Telex, DSC: Designated by the **CENTER** frequencies

| <b>TX Freq selection</b> | <b>Standard type</b>   | <b>Netherlands type</b>  | <b>Special type</b>  |
|--------------------------|--|--|--|
| Free selection           | NO   | YES (Marine band only)<br>indicated by frequency                                     | YES<br>indicated by frequency  |
| ITU Channels             | All channels in the APPENDIX<br>Indicated by frequency                   |  | Indicated by CH or<br>frequencies as required                                    |
| Custom Channels          | YES, indicated by frequency<br>Preset by Furuno authorized service agent |  | Indicated by CH or<br>frequencies as required                                    |
| User countries           | - Asia<br>- CEPT countries<br>- USA                                      | - Netherlands in Sea<br>area A2-4<br>- USA ships calling<br>foreign coastal stations | if required on ship with<br>competent radio personnel,<br>subject to Authorities |

## Direct frequency entry

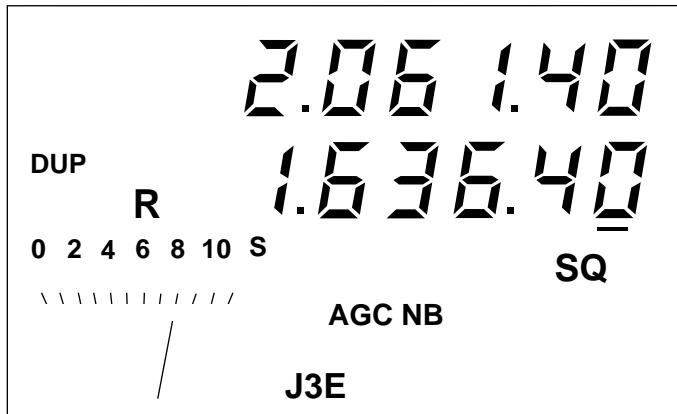
Free selection is possible in Dutch Version (in marine bands only).

RX: To set for a receive frequency of 1636.4 kHz, for example;

Press [RX], [1], [6], [3], [6], [4], [ENT] in this order. The decimal point is not required to enter.

TX: To set for a transmit frequency of 2061.4 kHz, for example;

Press [TX], [2], [0], [6], [1], [4], [ENT].



- The [2] Cursor key shifts the cursor among last 4 places.
- To modify a value at a particular digit (receive frequency only), you can use the rotary control. The FREQ/CH control changes the value above the cursor.

Paired RX/TX: To set for 2161 kHz simplex channel, for instance, press as below;

[RX], [TX], [2], [1], [6], [1], [0], [ENT].

Do not miss the last zero in the above example. The last numeral represents the 1/10 decimal place. Simply hitting [RX], [TX], [2], [1], [6], [1], [ENT] will set 216.1kHz.

## Custom channels

Up to 200 custom channels can be programmed in addition to 412 ITU channels. You can recall them through the keyboard by channel numbers. Once a channel is selected with the keyboard, the channel can be changed with the **FREQ/CH** rotary selector.

**NOTE:** Custom channel programming should be done by a FURUNO service agent.

To call the channel 120, for example:

### TX only

Press [TX], [RCL], [1], [2], [0], [ENT]

### RX only

Press [RX], [RCL], [1], [2], [0], [ENT]

### TX and RX paired

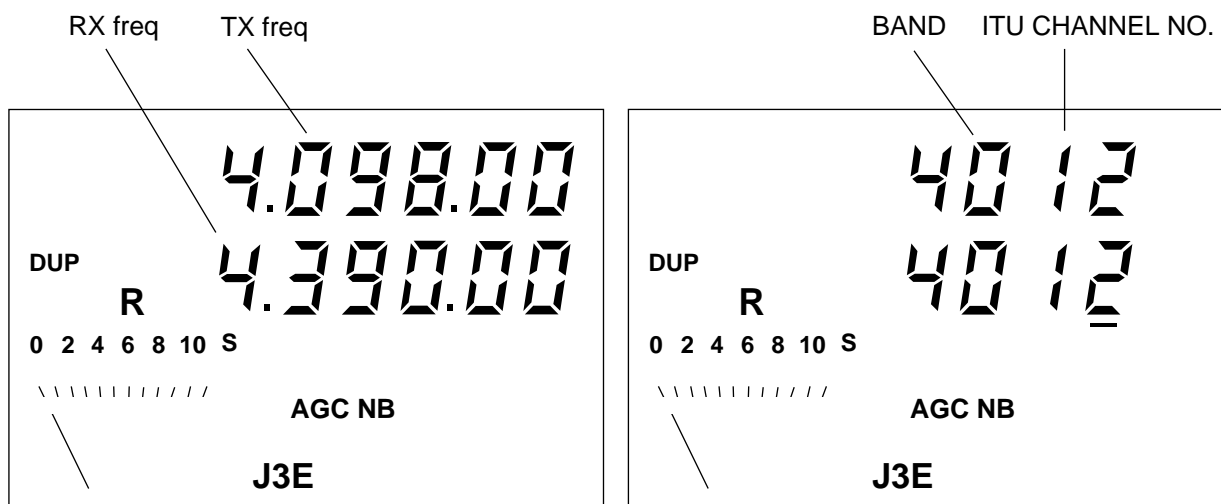
Press [RCL], [1], [2], [0], [ENT]

**NOTE:** The standard sets provide readout of frequencies in kHz. Pressing the [ENT] key or operating the **FREQ/CH** selector shows up the CH NO. temporarily.

## ITU telephony channels (SSB)

To recall ITU SSB channel 412, for example, select J3E with the [MODE] key.

Press [RCL], [4], [1], [2], [ENT], and a combination of TX frequency of 4098 kHz and RX frequency of 4390 kHz is selected. To select only RX or TX frequency, hit [RX] or [TX] to start with.



Frequency indication type. Frequencies are normally displayed. CH NO. is also displayed temporarily by operating the **FREQ/CH** selector or by pressing the [ENT] key.

Channel NO. indication type  
Identify the frequencies by referring to the APPENDIX. Entering 412 reads 4012 as above. Frequencies can be read temporarily by operating the **FREQ/CH** selector or by pressing the [ENT] key.

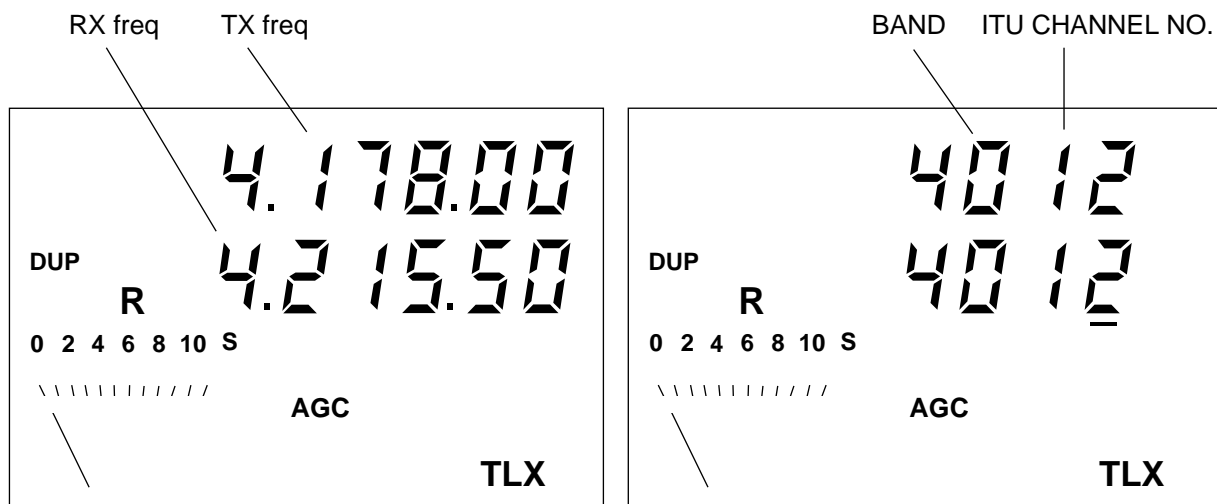


- The [CURS (cursor)] key shifts the cursor to band or channel number.
- To change the channel number, you can use the rotary control. The [FREQ/CH] control changes the number above the cursor, a band or channel designator.

## ITU TELEX channels

To select the ITU TELEX channel 4012, for example, first select TLX with the [MODE] key. This radiotelephone is furnished with J2B class of emission. The J2B is compatible with F1B which may be used on other parties. You do not have to worry about F1B or J2B; you can just select TELEX mode for narrow-band direct-printing.

Press [RCL], [4], [0], [1], [2], [ENT], and a combination of TX frequency of 4178.0 kHz and RX frequency of 4215.5 kHz is selected with the display as below. To select only RX or TX frequency, hit [RX] or [TX] to start with.



NOTE: You can recall an ITU channel by entering 3 or 4 digits. To recall ITU telex channel 4012 by three digits, for example, select “TLX” then enter 412 (instead of 4012).



## **Reducing transmitter power:**

To conserve energy and to minimize possible interference to other stations, reduce the transmission power. This should be done when using the transceiver in a harbor, near the shore or close to communication partner (other ship). Each pressing of the [HI/LOW] key selects high or low output power. "LOW" appears on the display when low output power is selected. Low power is 60 W<sub>pep</sub> for FS-1562-15 and FS-1562-25, both. The output power on 2182 kHz (Distress and calling) and 2187.5 kHz (DSC) is the rated maximum regardless of the position of the [HI/LOW] switch.

If the optional AC FAIL Board is installed, Tx power is automatically reduced when AC power fails.

## **1.7 Distress Call on 2182 kHz**

The frequency 2182 kHz is an International radiotelephony distress, urgency and safety frequency for ship stations, public and private coast stations, and survival craft stations. It is also used for call and reply by ship stations on a primary basis and by public coast stations on a secondary basis (US CFR 47, § 80.369).

Distress or emergency call is generally initiated by a radiotelephone on 2182kHz.

When the FS-1562 is installed with a DSC Terminal as required on GMDSS vessel, press the DISTRESS switch on the DSC Terminal prior to commencing the vocal communications.

1. Press the [2182] key. 2182kHz in the class of emission J3E is automatically selected.

When the [2182] key is pressed, the following parameters are set automatically.

|               |         |
|---------------|---------|
| Output power: | Maximum |
| Loudspeaker:  | On      |
| Squelch:      | Off     |

## 2. Distress calls and Distress message

- (1) Speak slowly and distinctly, “MAYDAY, MAYDAY, MAYDAY, pronounced as the French expression “m’aider”.
- (2) This is;
- (3) The name of your vessel and call sign three times.

Then, continue with the distress message, which consists of:

- (1) The distress signal MAYDAY;
  - (2) The name of the mobile station in distress;
  - (3) Particulars of its position (in latitude and longitude)
  
  - (4) The nature of the distress;
  - (5) The kind of assistance desired;
  - (6) Any other information which might facilitate rescue, for length, color, and type of vessels, number of persons on board.
3. Indicate the end of message by saying “Over.”
  4. When you receive no answer to a distress message, repeat at intervals over again the radiotelephone alarm signal, the distress call and the distress message. Repeat the same on other distress frequencies.

## Distress frequencies

All distress frequencies including 2182 kHz are shown below:

| Telephony SSB (kHz, Carrier) | DSC (kHz, Center) | Telex (kHz, Center) |
|------------------------------|-------------------|---------------------|
| 2 182                        | 2 187.5V          | 2 174.5             |
| 4 125 <ITU 421>              | 4 207.5           | 4 177.5             |
| 6 215 <ITU 606>              | 6 312             | 6 268               |
| 8 291 <ITU 833>              | 8 414.5           | 8 376.5             |
| 12 290 <ITU 1221>            | 12 577            | 12 520              |
| 16 420 <ITU 1621>            | 16 804.5          | 16 695              |

For other Telex frequencies, refer to Appendix.

## 1.8 In the Event of Antenna Coupler Failure

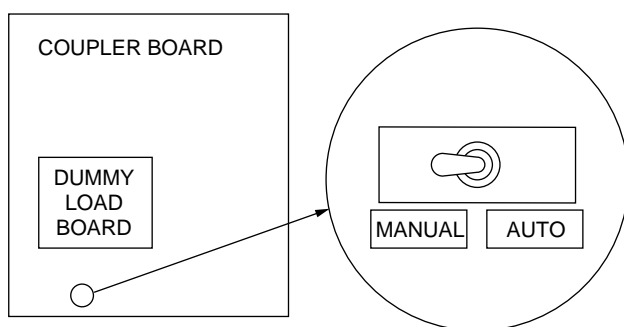


### **HIGH TENSION HAZARD**

DO NOT TRANSMIT WHEN ATU IS OPENED

The Antenna Coupler automatically tunes a wire or whip antenna to the transceiver. When the tuning cannot be completed for all frequencies, TUNE OK will not appear on the operation display. In this case, you can take tuning on 2182 kHz by manually operating Coupler as below:

1. Turn off the transceiver unit. Remove the cover of the Antenna Coupler.
2. Set the MANUAL-AUTO switch to the MANUAL position.



3. Replace the cover.
4. Turn the FS-1562 on and press the [2182] key for selection of 2182 kHz.

## 1.9 DSC Distress Calling

■ When connected to a Digital Selective Calling (DSC) terminal having the capability of controlling the FS-1562 such as FURUNO DSC-6:

1. Press the [DISTRESS] key on the DSC Terminal (Model DSC-6 for instance).
2. When a coast station acknowledges the call, the DSC Terminal displays “Received Dist Ack” and sets the predetermined DISTRESS frequency (2182 kHz) on the FS-1562.
3. Communicate with the coast station.

■ When connected to a DSC Terminal without remote control:

1. Select 2187.5 kHz on the FS-1562. (This step is not required with Furuno DSC-6.)
2. Press the [DISTRESS] key on the DSC Terminal. The DSC distress signal is transmitted over 2187.5 kHz.
3. After the DSC terminal notifies that a coast station has acknowledged the call, press the [2182] key on the FS-1562.
4. Communicate with the coast station.

NOTE: For details of distress calling by a DSC Terminal, refer to the operator’s manual for the DSC Terminal.

## 1.10 Receiving

You can select a receiving frequency by one of the following methods:

- Direct frequency entry, or
- Channel number entry

### Adjusting RF gain:

In normal use the RF GAIN control should be set for maximum. If the audio on the received channel is unclear or interfered with other signals, adjust (usually reduce) the RF gain to improve clarity.

### Clarifier adjustment:

If reception is unclear, try to clarify the signal as follows. For manual entry of frequency, simply turn the FREQ/CH control for fine tuning.

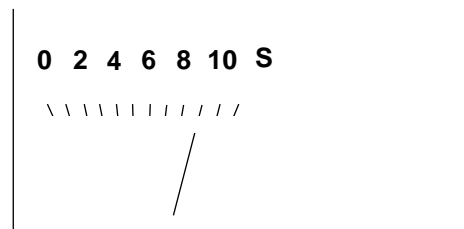
1. Press the [3] CLARIFY key. (if a frequency is selected by CH NO., the cursor which was located at the channel number, moves under the 10 Hz place.)
2. Turn the FREQ/CH control to fine tune the receiver on the wanted frequency.
3. To terminate this operation, press the [3] CLARIFY key again. The cursor returns to the channel number.

**NOTE:** The clarify working range can be adjusted, by an authorized FURUNO representative, for  $\pm 100$  Hz or  $\pm 150$  Hz (factory setting:  $\pm 150$  Hz) on system code 9921. Note however that the range on AM is fixed at  $\pm 5$  kHz (100 Hz steps).

### S - Meter:

During reception, the meter works as a Sensitivity Meter indicating the relative signal strength coming into the receiver frontend. While in transmission, it indicates the antenna current.

NOTE: S-meter will not work with AGC off.



### Monitoring traffic on intended transmit frequency:

When a semi-duplex (two-frequency simplex) channel is selected, it is recommended to monitor if there is no existing traffic on the frequency you are going to use. To do this, press the [RX] key followed by the [ENT] key. The transceiver unit monitors traffic on the selected frequency for 3 seconds.

### Receiving AM broadcasting stations:

1. Press the [1] MODE key repeatedly until H3E with AGC is selected.
2. To tune in a 15,260 kHz shortwave station, for instance, press as below:

[RX], [1], [5], [2], [6], [0], [0], [ENT]. **Do not miss the last zero.**

## Squelch control:

Squelch is used to mute the receiver audio output when the receiver input is less than a preset value or dominant noise is higher than a preset (1000 Hz) level. To switch the squelch function ON, press the [5] SQUELCH key. Make sure the label “SQ” appears on the display. To pick up a weak signal at high audio frequencies, you should remove the squelch function notwithstanding a possible increase of background noise. To do this, press the [5] SQ switch again. Make sure the label “SQ” goes off.

## Noise blanker (NB):

Always in circuit. This function is to clip off inputs noise resulting from an engine ignition or motor brush sparks.

## 1.11 Frequency Scan

### Channel scan:

Scan is the function where the receiver watches 10/group custom or ITU channels in succession at predetermined intervals. The scan-stop signal level and scan-stop time can be changed on system codes 9951 and 9952, respectively. Prior to the use of the scan function, turn AGC on.

1. Recall Custom or ITU channel

### Custom channels

Custom channels are divided into 20 groups in the scan mode as below.

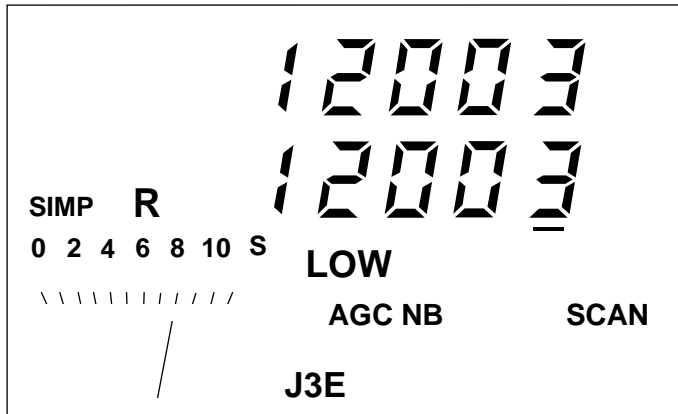
| Scan Group | Custom Channel No. |
|------------|--------------------|
| 1          | 1 to 10            |
| 2          | 11 to 20           |
| 3          | 21 to 30           |
| 4          | 31 to 40           |
| 5          | 41 to 50           |
| 6          | 51 to 60           |
| 7          | 61 to 70           |
| 8          | 71 to 80           |
| 9          | 81 to 90           |
| 10         | 91 to 100          |
| 11         | 101 to 110         |
| 12         | 111 to 120         |
| 13         | 121 to 130         |
| 14         | 131 to 140         |
| 15         | 141 to 150         |
| 16         | 151 to 160         |
| 17         | 161 to 170         |
| 18         | 171 to 180         |
| 19         | 181 to 190         |
| 20         | 191 to 200         |

## ITU channels:

To select the scan group (band or channel), shift the cursor to either the position of the band or channel number by pressing the [2] CURS key. (Band scan is useful to watch frequencies on the same channel in different bands.)

2. Press the [6] SCAN key, and “SCAN” appears. The receiver starts scanning, stopping at a channel where the signal is stronger than the scan-stop level. The receiver will restart scanning when the traffic goes out of that channel.

For example, the scan group is “channel” and scan starts at ITU 1203:



3. To stop scanning, press the [6] SCAN key. “SCAN” disappears from the operation display.

## 1.12 Frequency Sweep

Sweep is the function where the receiver searches for a signal within a selected frequency coverage. For sweep operation, the AGC function should be ON.

The defaults of respective parameters are as follows:

|                         |         |
|-------------------------|---------|
| Sweep stop signal level | 3       |
| Sweep stop time         | 2 s     |
| Sweep width             | 100 kHz |
| Step frequency          | 1 kHz   |

These can be adjusted on system codes 9951 through 9954.

NOTE: Sweep width is the frequency width to sweep on both sides of the selected frequency. Sweep step is the frequency interval at which the receiver sweeps the sweep width.

### Procedure

1. Select the sweep center by key operation.
2. Press the [6] SCAN key. “SWEEP” appears and the receiver starts sweeping.
3. To stop sweeping, press the [6].



# Chapter 2      OPERATION of OPTIONAL DEVICES

## 2.1 Telex Communication

Telex communication is performed with a Narrow-band direct-printing (NBDP) Terminal connected with an SSB transceiver. The recommended terminal for the FS-1562 is FURUNO DP-6. Other makes can also be connected with the FS-1562, if they comply with the interfacing requirements.

### FURUNO NBDP Terminal DP-6

No special operation is required; class of emission and frequencies are automatically set on the DP-6.

Other makes of NBDP Terminal:

1. Select "TLX" with the [1] MODE key.
2. Select a desired frequency.
3. Tune the antenna coupler by pressing the [7] TX TUNE key.

#### **NOTE:**

The DP-6 provides Forward Error Correction (FEC) mode to ensure quality communications. Continuous transmission on FEC can cause the transceiver internal temperature to go up beyond the temperature control sensor actuating point. When the internal temperature of the 150 W transceiver is above the sensor actuating temperature, the power is reduced to the LOW power. When the temperature goes down, the power is restored to the high rating. If this can cause an inconvenience of operation, it is recommend to install the fan kit (option), for added cooling effect.

The FS-1562-25, 250 W version, handles the high power in the Power Amp Unit PA-2500. The PA-2500 is provided with a cooling fan and not subject to the internal temperature rise. Continuous telex operation is possible with the high rated power.

Distress frequencies for telephony and telegraphy are as below. For other traffic frequencies, refer to Appendix.

| Telephony SSB<br>(kHz, Carrier) | DSC<br>(kHz, Center) | Telex<br>(kHz, Center) |
|---------------------------------|----------------------|------------------------|
| 2 182                           | 2 187.5              | 2 174.5                |
| 4 125                           | 4 207.5              | 4 177.5                |
| 6 215                           | 6 312                | 6 268                  |
| 8 291                           | 8 414.5              | 8 376.5                |
| 12 290                          | 12 577               | 12 520                 |
| 16 420                          | 16 804.5             | 16 695                 |

## 2.2 Intercom

The intercom provides communications between the FS-1562 and the RB-500 Remote Station (option). They must be wire-connected. When intercom mode is in use, there is no radio transmission.

### Calling RB-500

1. Press the [0] INTERCOM key. "COM" appears on the FS-1562 display panel.
2. Press [1]\*, [ENT] keys. Calling beeps on the FS-1562 sound. The buzzer stops when the handset of the RB-500 is picked up. \* Designated number of the RB-500 if more than one is installed.
3. Press the PTT switch to talk. Release the switch to listen.

### Call from RB-500

When the FS-1562 is called from the RB-500, the FS-1562 releases a beep. Press the [ENT] key to silence the buzzer. Press the PTT switch to talk. Release the switch to listen.

### Terminating the intercom

Press the [0] INTERCOM key to terminate intercom function. "COM" disappears.

## 2.3 Remote Station

Priority:

The Remote Station usually has higher priority than the FS-1562. This means that operation of the FS-1562 is disabled when the handset of the RB-500 is picked up. The label "REM" appears on the FS-1562 display when the remote control unit is in operation.

Communication on 2182 kHz

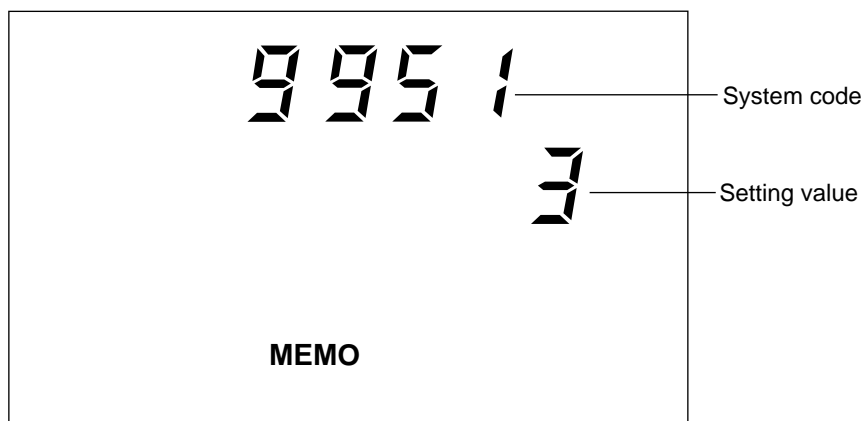
When 2182 kHz is selected on the FS-1562, the FS-1562 takes priority.

However the Remote Station can control FS-1562 when you give priority to the Remote Station by system setting on the FS-1562 (ROM ver. 107 and after of FS-1562).

# Chapter 3      CHANGING SYSTEM SETTING

## 3.1 SYSTEM SETUP

1. While pressing and holding down the [RCL] key, turn on the power. Release the [RCL] key when the “MEMO” appears on the display.



2. Turn the FREQ/CH control to select a desired code number.
3. Press the [RCL] key, enter desired setting by a numeral key, then press the [ENT] key.
4. To change setting for another code, repeat steps 2 and 3.
5. Turn off the power, then turn it on.

## 3.2 CUSTOMIZING BY OPERATOR

The operator can customize the parameters for scan, sweep and squelch function. The table below shows the system codes and their function, setting range and factory setting.

| <u>Code</u> | <u>Function, Setting</u>  |
|-------------|---|
| 9918        | Key response<br>Turns on/off key beep which sounds when wrong key is operated.<br>0: OFF<br>1: ON (Factory Setting)   |
| 9919        | Noise blanker activation<br>Turns on/off noise blanker.<br>0: OFF<br>1: ON (Factory Setting)  |
| 9920        | AGC activation<br>Turns on/off AGC. ON/OFF automatically activates or deactivates AGC depending on class of emission.<br>0: OFF<br>1: ON<br>2: MODE (Factory Setting) |

- 9951 Scan/sweep-stop signal level  
When the receiver detects a signal whose level is stronger than the preset level it stops scanning and receives the signal. The setting on system code 9955 is available only when “0” (SQ working condition) is selected here.  
Setting range: 0 (Squelch working condition is effective as set on code 9995), 1-10 (S-meter level); Factory setting 3
- 9952 Scan/sweep-stop time  
When a signal is detected, the receiver stops scanning/sweeping and dwells on this channel frequency. When “0” (RX) is selected, the receiver keeps receiving until the traffic goes out of this channel frequency. Define the dwell time between 1 and 99 s.  
Setting range: 0 (RX), 1-99 s; Factory setting 2
- 9953 Sweep width setting range: 0.01-30000.00 kHz; Factory setting 100.0
- 9954 Sweep step frequency  
Setting range: 0.01-30000.00 kHz; Factory setting 1.00
- 9955 Squelch activation  
“Squelch activation” is the method by which the squelch is activated.  
Setting range: 0, 1, 2, 3; Factory setting: 3.  
0: Voice  
The squelch is opened by signal frequency less than 1000 Hz (factory setting). This frequency can be changed between 500 - 2000 Hz on system code 9958. The loudspeaker reproduces a sound when the signal is lower than the preset frequency.  
Squelch OPEN:  
Audio signal is detected and a sound is reproduced through the loudspeaker.  
Squelch CLOSED:  
No input signal but only noise is coming into the receiver. The receiver is muted.  
1: Level  
The squelch is activated depending on “signal strength”. The factory setting is “5”. You can change the level between 0 - 10 on system code 9956.  
2: And  
The squelch opens when both “voice” and “signal strength” meet the setting.  
3: Or  
The squelch opens by either “voice” or “signal strength”, whichever meets the setting.
- 9956 Squelch level. Setting range: 0-10; Factory setting 5.
- 9957 Squelch delay - a delay until the squelch mutes (closes) the receiver after the signal has gone.  
(Ex) 9957: 1000 ms  
Squelch closes 1000 ms after the signal has gone.  
Setting range: 500-4000 ms; Factory setting 1000 ms.

- 9958 Squelch activating frequency  
Setting range: 500-2000 Hz; Factory setting 1000 Hz.
- 9959 Sets squelch opening frequency when 2-tone alarm on 2182 kHz is received.  
0: No change (frequency set on 9958)  
1: 1300 Hz
- Factory setting 1: 1300 Hz (Loudspeaker reproduces an audio with an input at 1300 Hz as the squelch opens at that frequency.)
- 9999 This is for frequency programming by service technicians. Needs a password to open.

**NOTE:**

**FURUNO Electric Company will assume no responsibility for the inconvenience or disturbance to communications due to inadequate or unlawful presetting of this equipment.**

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# Chapter 4      MAINTENANCE

## 4.1 Weekly Checks

Check the radiotelephone at appropriate intervals as required by Administration. For instance, Japanese Administration requires check of DSC every day. US 47 CFR 47, PART 80.869-Test of radiotelephone station calls for: Unless the normal use of the required radiotelephone station demonstrates that the equipment is operating, a test communication on a required or working frequency must be made each day the ship is navigated.

### Testing the transmitter with a dummy antenna

1. While pressing and holding down the [ALARM] key, press the [0] key. The dummy antenna in the antenna coupler is connected to the FS-1562 instead of the antenna. "DUMMY" appears and the test signal at 2191 kHz, modulated by two tones (1300 Hz and 2200 Hz), is generated across the dummy load for 45 seconds.
2. To stop the emission, press the [ALARM] key. The dummy load is disconnected and the transceiver restores the previous frequency setting.

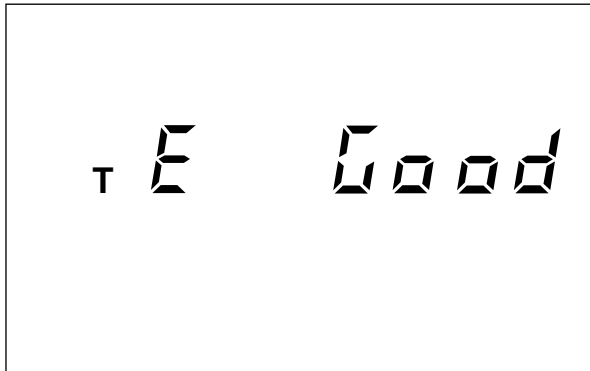
## 4.2 Diagnostic Test

This test checks the transceiver for proper operation. It should be conducted regularly to ensure proper operation. If a DSC or NBDP terminal is connected, the test should be conducted together with them. Before starting the test, set the RF GAIN control to maximum (fully clockwise).

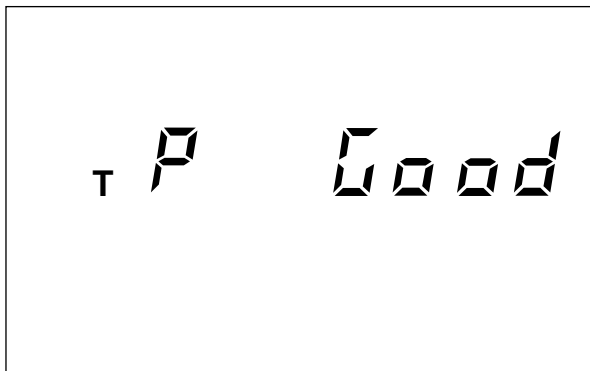
1. While pressing and holding down the [TX] key, turn on the power. All LCD segments appear.
2. Release the [TX] key. The FS-1562 starts diagnostics and the following indications appear.



Receiver section tested successfully.



Transmitter Exciter stage is tested successfully.



Transmitter Power Amplifier stage and Antenna Coupler (Coupler and Dummy Board) are tested successfully.

If a fault is detected, “no Good” appears instead of “Good” and the associated indication blinks after completion of this test.

Turn off the transceiver on completion of tests. Turn on again for normal operation.

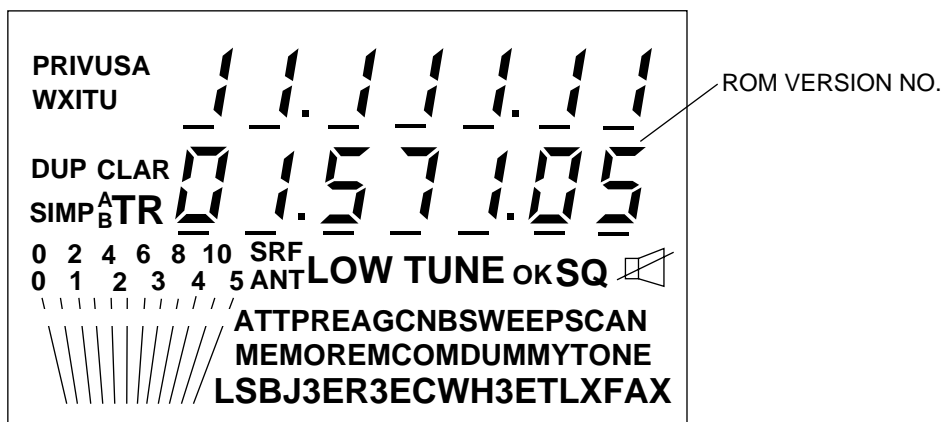


### 4.3 LCD/Keyboard Test & ROM Version No. Confirmation

1. While pressing and holding down the [ENT] key, turn on the power. All LCD segments appear.
2. Release the [ENT] key.
3. Press keys one by one. Check if the indication on the operation display is correct as shown below:

|            |      |   |       |     |
|------------|------|---|-------|-----|
| Key        | 1    | 2 | 3     | TX  |
| Indication | 0    | 1 | 2     | 3   |
| Key        | 4    | 5 | 6     | RX  |
| Indication | 4    | 5 | 6     | 7   |
| Key        | 7    | 8 | 9     | RCL |
| Indication | 8    | 9 | A     | b   |
| Key        | 2182 | 0 | ALARM | ENT |
| Indication | c    | d | E     | F   |

Example: The [2] key is pressed. The following appears. In a few seconds, 7 characters x 2 lines readout change to all  $\bar{8}$ .



Turn off the transceiver on completion of tests. Turn on again for normal operation.

## 4.4 Antenna Coupler Test

The CPU and the relays which select capacitors and coils for tuning can be checked. **For Competent technicians only**

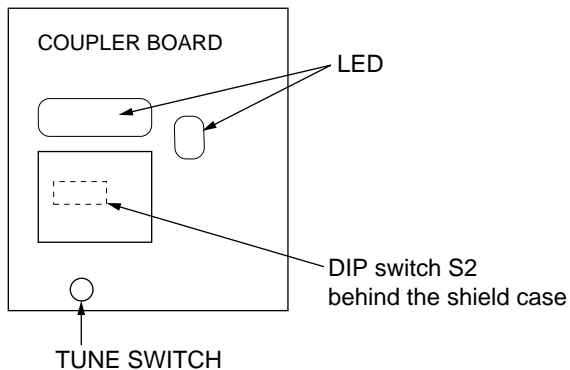


**DANGER - Electrical Shock Hazard**

### Procedure

1. Open the antenna coupler cover.
2. Open the shield cover inside the coupler.
3. Turn on No. 2 of the DIP switch S2.
4. Press the TUNE switch in the antenna coupler.
5. 24 LEDs (CR1 to CR24) light one by one every second. The relays trip on with the corresponding LEDs.  
CR1 ON - K1 ON  
CR2 ON - K2 ON  
.  
.  
.  
CR22 ON - K22 ON  
(CR23 not provided)  
CR24 ON - K24, K25 ON
6. Turn off No. 2 of the DIP switch S2.
7. Close the cover.

If a CPU error is detected, CR1 lights for ROM error, CR2 for RAM error, CR3 for A/D converter error. (ROM/RAM/AD Converter is incorporated in the CPU.)



## 4.5 Maintenance

This radiotelephone equipment is designed and manufactured to provide years of intended performance. For this, a regular maintenance program should be established and should at least include the items listed in below:

| Item  | Check Point  | Remedy/Remarks  |
|---|--|---|
| Whip antenna                                | Check for physical damage, corrosion and water leakage   | Replace damaged parts.  |
| Wire antenna                                | Check that antenna is properly spanned and separated sufficiently apart from metallic structures.  | If necessary, re-span the antenna.  |
| Insulators for antenna installation         | Check for salt water accumulation on insulators.<br><br>Check that connection at lead-in insulator is tight and rust-free.   | Replace damaged insulators.<br>Remove salt water deposits.<br>Clean with fresh water, then dry.<br>Remove rust, then tighten bolts and lock nuts. Cover metallic surface with sealing compound. |
| Antenna coupler                             | Check contact at<br>* Antenna terminal<br>* Ground connection<br>* Coaxial cable<br>* Control cable (terminal board)<br><br>Check that coupler lid and cable glands are firmly secured.<br><br>Check for physical damage, corrosion and salt water deposits. | Tighten loosened connections.<br><br>Fasten lid firmly and evenly to prevent water leakage.<br><br>Replace if damaged.  |
| Transceiver                                 | Check contact at<br>* Antenna cable<br>* Ground connection<br>* Power cable<br>* Control cable<br><br>Confirm that there are no objects on the top of the cabinet.   | Tighten loosened connections; remove foreign material from connectors.<br><br>Remove objects to prevent overheating.  |
| Power Amp Unit (PA-2500)<br>(for 250 W set) | Check contact at<br>* Coaxial cable<br>* Antenna cable<br>* Power cable<br><br>Confirm that there are no objects on the top of the cabinet.  | Tighten loosened connections; remove foreign material from connectors.<br><br>Remove objects to prevent overheating.  |
| Power supply                                | Check that supply voltage at transmission is within the rated range. (21.6 to 31.2 VDC at the power connector)   | If not within the range, call for service, Low voltage may cause erratic operation.   |

| Item                               | Check Point   | Remedy/Remarks                                   |
|------------------------------------|---|--|
| Power cable                        | Check for loosened or corroded connection at power terminals. | Clean and tighten.                               |
| Battery                            | Check that the battery is fully charged.                      | If discharged, charge.                           |
| Feeder (coax cable, control cable) | Check for physical damage.                                    | Replace if damaged.                              |
| PCB connection                     | Check that jumper cables between boards are firmly connected. | Reconnect loosened connections of jumper cables. |
| Microphone                         | Check that jumper cables between boards are firmly connected. | Fasten if loosened.                              |

# Chapter 5 TROUBLESHOOTING

## 5.1 Troubleshooting List



**For qualified personnel only**

The troubleshooting list below gives common symptoms of equipment malfunction and means to restore normal operation. If you cannot restore normal operation, please do not check inside any unit. Any repair is best left to a qualified radiotelephone technician. Improper handling or adjustment may cause more serious damage.

Troubleshooting list

| TROUBLE  | PROBABLE CAUSE   | REMEDY  |
|--|--|---|
| Power can not be turned on                               | <p>The mains switchboard may be off.</p> <p>DC overvoltage input.</p> <p>The battery may have discharged, or poor contact at terminals.</p> <p>Check fuse on the power cable or Power Supply Unit.</p> | <p>Turn on the mains switch.</p> <p>Check supply voltage. It should be less than 31.2V<br/>Recharge battery and tighten terminal connections.</p> <p>Replace the blown fuses.</p> |
| Frequency readout appears but no lamps light             | <p>The [DIMMER] key may be off.</p>  | <p>Operate the [DIMMER] key.</p>  |
| Power is on but no sound from loudspeaker                | <p>The [SPEAKER] key is off.</p> <p>Volume may be too low.</p> <p>Squelch is on.</p> <p>Reduced RF Gain.</p>   | <p>Press the [SPEAKER] key.</p> <p>Adjust the VOLUME control.</p> <p>Press the [SQ] key if "SQ" appears on the display.</p> <p>Turn the RF Gain control clockwise.</p>            |
| Poor articulation  | <p>Wrong class of emission may be in use. (For example, receiving signal in J3E mode. J3E should be used only on 2182 kHz.)</p> <p>Receiver detuned.</p>   | <p>Select class of emission same as that of incoming signal.</p> <p>In Custom or ITU channel mode, press the [CLARIFY] key then fine tune frequency by the FREQ/CH control.</p>   |
| Output power is reduced to low ("LOW" indication blinks) | <p>Power is automatically reduced to protect against overheating due to continuous transmission.</p>   | <p>Wait until the unit returns to normal condition.</p>   |

| TROUBLE                             | PROBABLE CAUSE   | REMEDY  |
|-------------------------------------|--|---|
| Key input is not accepted           | FS-1562 is under control of external equipment   | "REM" appears when controlled by external equipment. Suspend operation of external operation.   |
| Antenna coupler can't tune antenna  | Antenna may be disconnected or shorted to ground<br><br>Antenna is out of tunable length.<br><br>Poor grounding of the coupler.<br><br>Breaker in coupler has tripped.<br><br>Connection cable loosened or disconnected. | Check antenna connection.<br><br>Recommended length is 7 to 30 meters.<br><br>Check coupler ground.<br><br>Check mains voltage and polarity. If they are normal, reset breaker.<br><br>Check cable. |
| Can not tune in a broadcast station | Missing last numeral at the digit of 1 when trying to tune in the station.<br><br>Wrong setting of MODE<br><br>The station is off air  | To tune in 9640 kHz for instance, press [RX], [9], [6], [4], [0], [0], [ENT]. Do not miss the last [0]; otherwise you will set 964.0 kHz.<br><br>Select H3E.<br><br>Select another frequency.       |

## 5.2 Error Indication

When the FS-1562 detects a fault in the synthesizer unit (frequency unlocked), the frequency or channel number blinks.

## 5.3 Replacing Fuses

To protect the unit from overcurrent and equipment fault, two 20 A fuses for the transceiver unit (and two 30 A fuses for the PA-2500) are provided in snap-in holders on the power cable and two fuses in the PR-300 Power Supply Unit (for 150 W set).

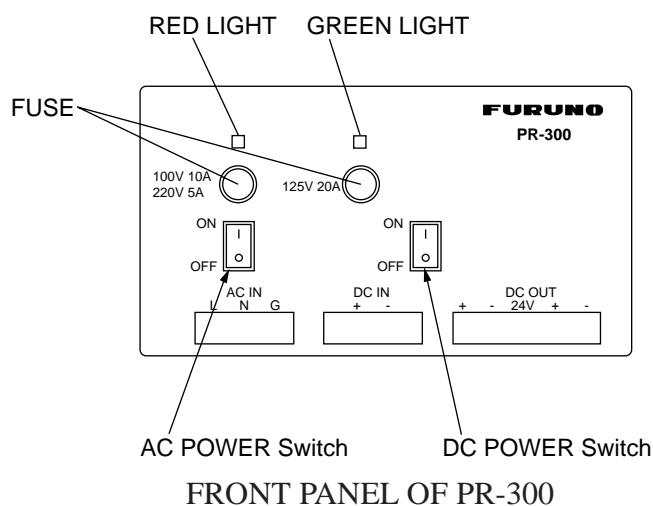
Power Cable Fuse: 20 A (for both 150 W/250 W) and 30 A (for PA-2500 power amplifier unit)

Power supply unit (for 150 W sets)

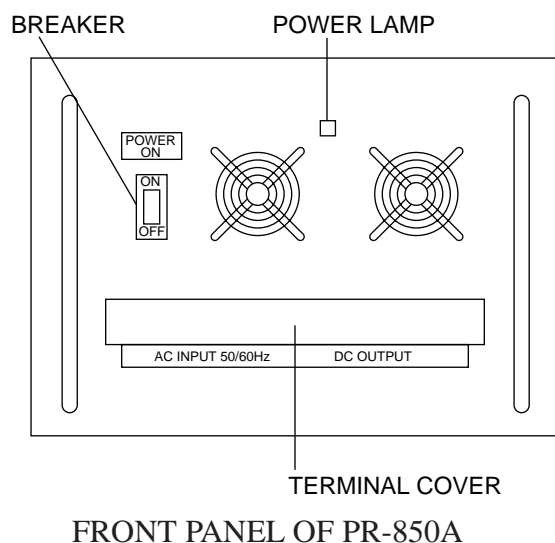
Remove the fuse cover using a screwdriver (+), then replace:

Fuse 10 A for 100-120 VAC (5 A for 200-240 VAC)

20 A for 24 VDC



The Power Supply Unit PR-850A does not have a fuse on the front panel but a circuit breaker. If this has been tripped off, remove the cause of tripping and turn it on (Upward position on the front panel). A fuse (20 A) is provided in the power cable.



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**MF band working carrier frequencies - ref. US CFR 47 Part 80.371**

| Region     | Ship Transmit (kHz) | Ship Receive (kHz)       | Region              | Ship Transmit (kHz) | Ship Receive (kHz) |
|------------|---------------------|--------------------------|---------------------|---------------------|--------------------|
| East Coast | 2031.5              | 2490.0                   | Gulf Coast          | 2009.0              | 2466.0             |
|            | 2118.0              | 2514.0                   |                     | 2134.0              | 2530.0             |
|            | 2126.0              | 2522.0                   |                     | 2142.0              | 2538.0             |
|            | 2142.0              | 2538.0                   |                     | 2158.0 <sup>1</sup> | 2550.0             |
|            | 2166.0              | 2558.0                   |                     | 2166.0              | 2558.0             |
|            | 2198.0              | 2590.0                   |                     | 2206.0              | 2598.0             |
|            | 2366.0              | 2450.0                   |                     | 2366.0              | 2450.0             |
|            | 2382.0              | 2482.0                   |                     | 2382.0              | 2482.0             |
|            | 2390.0              | 2566.0                   |                     | 2430.0              | 2572.0             |
|            | 2400.0              | 2400.0                   |                     | 2458.0              | 2506.0             |
| 2406.0     | 2506.0              | Great Lakes <sup>2</sup> | 2118.0              | 2514.0              |                    |
| West Coast | 2003.0              |                          | 2450.0              | 2158.0              | 2550.0             |
|            | 2009.0              |                          | 2442.0              | 2206.0              | 2582.0             |
|            | 2009.0              | 2566.0                   | Alaska              | 2131.0              | 2309.0             |
|            | 2031.5              | 2566.0                   |                     | 2134.0              | 2312.0             |
|            | 2126.0              | 2522.0                   |                     | 2240.0              | 2400.0             |
|            | 2206.0              | 2598.0                   | Hawaii              | 2134.0              | 2530.0             |
|            | 2382.0              | 2466.0                   |                     | Caribbean           | 2009.0             |
|            | 2430.0              | 2482.0                   | 2086.0 <sup>3</sup> |                     | 2585.0             |
|            |                     | 2134.0                   | 2530.0              |                     |                    |
|            |                     | Guam                     | 2009.0              | 2506.0              |                    |

**Above is not factory programmed, should be programmed by Furuno representatives.**

<sup>1</sup> Unlimited use December 15 to April 1    <sup>2</sup> 2206 kHz for distress only.

<sup>3</sup> Limited to pep of 150 W.

**NOTE:** <sup>1</sup> to <sup>3</sup> indicate the outline only. Refer to the relative documentation for full detail. For other coast stations, consult with your dealers.

## MF band SSB working carrier frequencies

| CH NO | Ship Receive (kHz) | Ship Transmit (kHz) | CH NO | Ship Receive (kHz) | Ship Transmit (kHz) |
|-------|--------------------|---------------------|-------|--------------------|---------------------|
| 241   | 1635               | 2060                | 271   | 1725               | 2069                |
| 242   | 1638               | 2063                | 272   | 1728               | 2072                |
| 243   | 1641               | 2066                | 273   | 1731               | 2075                |
| 244   | 1644               | 2069                | 274   | 1734               | 2078                |
| 245   | 1647               | 2072                | 275   | 1737               | 2081                |
| 246   | 1650               | 2075                | 276   | 1740               | 2084                |
| 247   | 1653               | 2078                | 277   | 1743               | 2087                |
| 248   | 1656               | 2081                | 278   | 1746               | 2090                |
| 249   | 1659               | 2084                | 279   | 1749               | 2093                |
| 250   | 1662               | 2087                | 280   | 1752               | 2096                |
| 251   | 1665               | 2090                | 281   | 1755               | 2099                |
| 252   | 1668               | 2093                | 282   | 1758               | 2102                |
| 253   | 1671               | 2096                | 283   | 1761               | 2105                |
| 254   | 1674               | 2099                | 284   | 1764               | 2108                |
| 255   | 1677               | 2102                | 285   | 1767               | 2111                |
| 256   | 1680               | 2105                | 286   | 1770               | 2114                |
| 257   | 1683               | 2108                | 287   | 1773               | 2117                |
| 258   | 1686               | 2111                | 288   | 1776               | 2120                |
| 259   | 1689               | 2114                | 289   | 1779               | 2123                |
| 260   | 1692               | 2117                | 290   | 1782               | 2126                |
| 261   | 1695               | 2120                | 291   | 1785               | 2129                |
| 262   | 1698               | 2123                | 292   | 1788               | 2132                |
| 263   | 1701               | 2126                | 293   | 1791               | 2135                |
| 264   | 1704               | 2129                | 294   | 1794               | 2138                |
| 265   | 1707               | 2132                | 295   | 1797               | 2060                |
| 266   | 1710               | 2135                |       |                    |                     |
| 267   | 1713               | 2138                |       |                    |                     |
| 268   | 1716               | 2060                |       |                    |                     |
| 269   | 1719               | 2063                |       |                    |                     |
| 270   | 1722               | 2066                |       |                    |                     |

Above is factory programmed. A channel can be recalled by hitting the keys [RCL], [2], [4], [1], [ENT] for channel 241 as an example. Transmit and receive frequencies appear on the display. The channel number is checked by pressing the [ENT] key or by turning the FREQ/CH selector; the channel number is displayed in 4 digits, such as 2041, for a few seconds. (Additional zero is inserted automatically.)

## 4/6 MHz ITU SSB carrier frequencies (ITU RR APPENDIX 16)

The following frequencies are factory programmed.

| 4 MHz SSB (J3E) |         |         |
|-----------------|---------|---------|
| ITU CH NO       | Ship RX | Ship TX |
| 401             | 4357    | 4065    |
| 402             | 4360    | 4068    |
| 403             | 4363    | 4071    |
| 404             | 4366    | 4074    |
| 405             | 4369    | 4077    |
| 406             | 4372    | 4080    |
| 407             | 4375    | 4083    |
| 408             | 4378    | 4086    |
| 409             | 4381    | 4089    |
| 410             | 4384    | 4092    |
| 411             | 4387    | 4095    |
| 412             | 4390    | 4098    |
| 413             | 4393    | 4101    |
| 414             | 4396    | 4104    |
| 415             | 4399    | 4107    |
| 416             | 4402    | 4110    |
| 417             | 4405    | 4113    |
| 418             | 4408    | 4116    |
| 419             | 4411    | 4119    |
| 420             | 4414    | 4122    |
| 421             | 4417    | 4125    |
| 422             | 4420    | 4128    |
| 423             | 4423    | 4131    |
| 424             | 4426    | 4134    |
| 425             | 4429    | 4137    |
| 426             | 4432    | 4140    |
| 427             | 4435    | 4143    |
| 428             | 4351    | 4351    |
| 429             | 4354    | 4354    |
| 430             | 4146    | 4146    |
| 431             | 4149    | 4149    |
| 432 (01)        | 4000    | 4000    |
| 433 (02)        | 4003    | 4003    |
| 434 (03)        | 4006    | 4006    |
| 435 (04)        | 4009    | 4009    |
| 436 (05)        | 4012    | 4012    |
| 437 (06)        | 4015    | 4015    |
| 438 (07)        | 4018    | 4018    |
| 439 (08)        | 4021    | 4021    |
| 440 (09)        | 4024    | 4024    |
| 441 (10)        | 4027    | 4027    |
| 442 (11)        | 4030    | 4030    |
| 443 (12)        | 4033    | 4033    |
| 444 (13)        | 4036    | 4036    |
| 445 (14)        | 4039    | 4039    |
| 446 (15)        | 4042    | 4042    |
| 447 (16)        | 4045    | 4045    |
| 448 (17)        | 4048    | 4048    |
| 449 (18)        | 4051    | 4051    |
| 450 (19)        | 4054    | 4054    |
| 451 (20)        | 4057    | 4057    |
| 452 (21)        | 4060    | 4060    |

| 6 MHz SSB (J3E) |         |         |
|-----------------|---------|---------|
| ITU CH NO       | Ship RX | Ship TX |
| 601             | 6501    | 6200    |
| 602             | 6504    | 6203    |
| 603             | 6507    | 6206    |
| 604             | 6510    | 6209    |
| 605             | 6513    | 6212    |
| 606             | 6516    | 6215    |
| 607             | 6519    | 6218    |
| 608             | 6522    | 6221    |
| 609             | 6224    | 6224    |
| 610             | 6227    | 6227    |
| 611             | 6230    | 6230    |

A channel can be recalled by hitting the keys [RCL], [4], [0], [1], [ENT] for channel 401 as an example.

Transmit and receive frequencies appear on the display. To see the CH NO, press [ENT] or turn the FREQ/CH selector; the channel NO appears in 4 digits such as 4001 for a few sec.

CH NOs in ( ) are ITU NOs (RR Section C-1).  
Use 3-digit Furuno's designators for selection.

## **8 MHz ITU SSB carrier frequencies (ITU RR APPENDIX 16)**

The following frequencies are factory programmed.

| 8 MHz SSB (J3E) - Duplex |         |         | 8 MHz SSB (J3E) - Simplex   |         |         |
|--------------------------|---------|---------|---|---------|---------|
| ITU CH NO                | Ship RX | Ship TX | (ITU CH NO)   | Ship RX | Ship TX |
| 801                      | 8719    | 8195    | 840 (01)  | 8101    | 8101    |
| 802                      | 8722    | 8198    | 841 (02)  | 8104    | 8104    |
| 803                      | 8725    | 8201    | 842 (03)  | 8107    | 8107    |
| 804                      | 8728    | 8204    | 843 (04)  | 8110    | 8110    |
| 805                      | 8731    | 8207    | 844 (05)  | 8113    | 8113    |
| 806                      | 8734    | 8210    | 845 (06)  | 8116    | 8116    |
| 807                      | 8737    | 8213    | 846 (07)  | 8119    | 8119    |
| 808                      | 8740    | 8216    | 847 (08)  | 8122    | 8122    |
| 809                      | 8743    | 8219    | 848 (09)  | 8125    | 8125    |
| 810                      | 8746    | 8222    | 849 (10)  | 8128    | 8128    |
| 811                      | 8749    | 8225    | 850 (11)  | 8131    | 8131    |
| 812                      | 8752    | 8228    | 851 (12)  | 8134    | 8134    |
| 813                      | 8755    | 8231    | 852 (13)  | 8137    | 8137    |
| 814                      | 8758    | 8234    | 853 (14)  | 8140    | 8140    |
| 815                      | 8761    | 8237    | 854 (15)  | 8143    | 8143    |
| 816                      | 8764    | 8240    | 855 (16)  | 8146    | 8146    |
| 817                      | 8767    | 8243    | 856 (17)  | 8149    | 8149    |
| 818                      | 8770    | 8246    | 857 (18)  | 8152    | 8152    |
| 819                      | 8773    | 8249    | 858 (19)  | 8155    | 8155    |
| 820                      | 8776    | 8252    | 859 (20)  | 8158    | 8158    |
| 821                      | 8779    | 8255    | 860 (21)  | 8161    | 8161    |
| 822                      | 8782    | 8258    | 861 (22)  | 8164    | 8164    |
| 823                      | 8785    | 8261    | 862 (23)  | 8167    | 8167    |
| 824                      | 8788    | 8264    | 863 (24)  | 8170    | 8170    |
| 825                      | 8791    | 8267    | 864 (25)  | 8173    | 8173    |
| 826                      | 8794    | 8270    | 865 (26)  | 8176    | 8176    |
| 827                      | 8797    | 8273    | 866 (27)  | 8179    | 8179    |
| 828                      | 8800    | 8276    | 867 (28)  | 8182    | 8182    |
| 829                      | 8803    | 8279    | 868 (29)  | 8185    | 8185    |
| 830                      | 8806    | 8282    | 869 (30)  | 8188    | 8188    |
| 831                      | 8809    | 8285    | 870 (31)  | 8191    | 8191    |
| 832                      | 8812    | 8288    | CH NOs in ( ) are ITU NOs (RR Section C-1).<br>Use 3-digit Furuno's designators for selection in this radiotelephone. |         |         |
| 833                      | 8291    | 8291    |   |         |         |
| 834                      | 8707    | 8707    |   |         |         |
| 835                      | 8710    | 8710    |   |         |         |
| 836                      | 8713    | 8713    |   |         |         |
| 837                      | 8716    | 8716    |   |         |         |
| 838                      | 8294    | 8294    |   |         |         |
| 839                      | 8297    | 8297    |   |         |         |

**12/16 MHz ITU SSB carrier frequencies (ITU RR APPENDIX 16)**

| 12 MHz SSB (J3E) |         |         | 16 MHz SSB (J3E) |         |         | 16 MHz SSB (J3E) |         |         |
|------------------|---------|---------|------------------|---------|---------|------------------|---------|---------|
| CH NO.           | SHIP RX | SHIP TX | CH NO.           | SHIP RX | SHIP TX | CH NO.           | SHIP RX | SHIP TX |
| 1201             | 13077   | 12230   | 1601             | 17242   | 16360   | 1651             | 17392   | 16510   |
| 1202             | 13080   | 12233   | 1602             | 17245   | 16363   | 1652             | 17395   | 16513   |
| 1203             | 13083   | 12236   | 1603             | 17248   | 16366   | 1653             | 17398   | 16516   |
| 1204             | 13086   | 12239   | 1604             | 17251   | 16369   | 1654             | 17401   | 16519   |
| 1205             | 13089   | 12242   | 1605             | 17254   | 16372   | 1655             | 17404   | 16522   |
| 1206             | 13092   | 12245   | 1606             | 17257   | 16375   | 1656             | 17407   | 16525   |
| 1207             | 13095   | 12248   | 1607             | 17260   | 16378   | 1657             | 16528   | 16528   |
| 1208             | 13098   | 12251   | 1608             | 17263   | 16381   | 1658             | 16531   | 16531   |
| 1209             | 13101   | 12254   | 1609             | 17266   | 16384   | 1659             | 16534   | 16534   |
| 1210             | 13104   | 12257   | 1610             | 17269   | 16387   | 1660             | 16537   | 16537   |
| 1211             | 13107   | 12260   | 1611             | 17272   | 16390   | 1661             | 16540   | 16540   |
| 1212             | 13110   | 12263   | 1612             | 17275   | 16393   | 1662             | 16543   | 16543   |
| 1213             | 13113   | 12266   | 1613             | 17278   | 16396   | 1663             | 16546   | 16546   |
| 1214             | 13116   | 12269   | 1614             | 17281   | 16399   |                  |         |         |
| 1215             | 13119   | 12272   | 1615             | 17284   | 16402   |                  |         |         |
| 1216             | 13122   | 12275   | 1616             | 17287   | 16405   |                  |         |         |
| 1217             | 13125   | 12278   | 1617             | 17290   | 16408   |                  |         |         |
| 1218             | 13128   | 12281   | 1618             | 17293   | 16411   |                  |         |         |
| 1219             | 13131   | 12284   | 1619             | 17296   | 16414   |                  |         |         |
| 1220             | 13134   | 12287   | 1620             | 17299   | 16417   |                  |         |         |
| 1221             | 13137   | 12290   | 1621             | 17302   | 16420   |                  |         |         |
| 1222             | 13140   | 12293   | 1622             | 17305   | 16423   |                  |         |         |
| 1223             | 13143   | 12296   | 1623             | 17308   | 16426   |                  |         |         |
| 1224             | 13146   | 12299   | 1624             | 17311   | 16429   |                  |         |         |
| 1225             | 13149   | 12302   | 1625             | 17314   | 16432   |                  |         |         |
| 1226             | 13152   | 12305   | 1626             | 17317   | 16435   |                  |         |         |
| 1227             | 13155   | 12308   | 1627             | 17320   | 16438   |                  |         |         |
| 1228             | 13158   | 12311   | 1628             | 17323   | 16441   |                  |         |         |
| 1229             | 13161   | 12314   | 1629             | 17326   | 16444   |                  |         |         |
| 1230             | 13164   | 12317   | 1630             | 17329   | 16447   |                  |         |         |
| 1231             | 13167   | 12320   | 1631             | 17332   | 16450   |                  |         |         |
| 1232             | 13170   | 12323   | 1632             | 17335   | 16453   |                  |         |         |
| 1233             | 13173   | 12326   | 1633             | 17338   | 16456   |                  |         |         |
| 1234             | 13176   | 12329   | 1634             | 17341   | 16459   |                  |         |         |
| 1235             | 13179   | 12332   | 1635             | 17344   | 16462   |                  |         |         |
| 1236             | 13182   | 12335   | 1636             | 17347   | 16465   |                  |         |         |
| 1237             | 13185   | 12338   | 1637             | 17350   | 16468   |                  |         |         |
| 1238             | 13188   | 12341   | 1638             | 17353   | 16471   |                  |         |         |
| 1239             | 13191   | 12344   | 1639             | 17356   | 16474   |                  |         |         |
| 1240             | 13194   | 12347   | 1640             | 17359   | 16477   |                  |         |         |
| 1241             | 13197   | 12350   | 1641             | 17362   | 16480   |                  |         |         |
| 1242             | 12353   | 12353   | 1642             | 17365   | 16483   |                  |         |         |
| 1243             | 12356   | 12356   | 1643             | 17368   | 16486   |                  |         |         |
| 1244             | 12359   | 12359   | 1644             | 17371   | 16489   |                  |         |         |
| 1245             | 12362   | 12362   | 1645             | 17374   | 16492   |                  |         |         |
| 1246             | 12365   | 12365   | 1646             | 17377   | 16495   |                  |         |         |
|                  |         |         | 1647             | 17380   | 16498   |                  |         |         |
|                  |         |         | 1648             | 17383   | 16501   |                  |         |         |
|                  |         |         | 1649             | 17386   | 16504   |                  |         |         |
|                  |         |         | 1650             | 17389   | 16507   |                  |         |         |

A channel can be recalled by hitting the keys [RCL], [1], [2], [0], [1], [ENT] for channel 1201 as an example. Transmit and receive frequencies appear on the display.

The CH NO is checked by pressing the [ENT] key or by turning the FREQ/CH selector; it is displayed in 5 digits, such as 12001, for a few seconds. (Additional zero is inserted automatically.)

Above is factory programmed.

## 18/19, 22, 25/26 MHz ITU SSB carrier frequencies (ITU RR APPENDIX 16)

The following frequencies are factory programmed.

| 18/19 MHz SSB (J3E) |         |         |
|---------------------|---------|---------|
| CH NO.              | SHIP RX | SHIP TX |
| 1801                | 19755   | 18780   |
| 1802                | 19758   | 18783   |
| 1803                | 19761   | 18786   |
| 1804                | 19764   | 18789   |
| 1805                | 19767   | 18792   |
| 1806                | 19770   | 18795   |
| 1807                | 19773   | 18798   |
| 1808                | 19776   | 18801   |
| 1809                | 19779   | 18804   |
| 1810                | 19782   | 18807   |
| 1811                | 19785   | 18810   |
| 1812                | 19788   | 18813   |
| 1813                | 19791   | 18816   |
| 1814                | 19794   | 18819   |
| 1815                | 19797   | 18822   |
| 1816                | 18825   | 18825   |
| 1817                | 18828   | 18828   |
| 1818                | 18831   | 18831   |
| 1819                | 18834   | 18834   |
| 1820                | 18837   | 18837   |
| 1821                | 18840   | 18840   |
| 1822                | 18843   | 18843   |

| 22 MHz SSB (J3E) |         |         |
|------------------|---------|---------|
| CH NO.           | SHIP RX | SHIP TX |
| 2201             | 22696   | 22000   |
| 2202             | 22699   | 22003   |
| 2203             | 22702   | 22006   |
| 2204             | 22705   | 22009   |
| 2205             | 22708   | 22012   |
| 2206             | 22711   | 22015   |
| 2207             | 22714   | 22018   |
| 2208             | 22717   | 22021   |
| 2209             | 22720   | 22024   |
| 2210             | 22723   | 22027   |
| 2211             | 22726   | 22030   |
| 2212             | 22729   | 22033   |
| 2213             | 22732   | 22036   |
| 2214             | 22735   | 22039   |
| 2215             | 22738   | 22042   |
| 2216             | 22741   | 22045   |
| 2217             | 22744   | 22048   |
| 2218             | 22747   | 22051   |
| 2219             | 22750   | 22054   |
| 2220             | 22753   | 22057   |
| 2221             | 22756   | 22060   |
| 2222             | 22759   | 22063   |
| 2223             | 22762   | 22066   |
| 2224             | 22765   | 22069   |
| 2225             | 22768   | 22072   |
| 2226             | 22771   | 22075   |
| 2227             | 22774   | 22078   |
| 2228             | 22777   | 22081   |
| 2229             | 22780   | 22084   |
| 2230             | 22783   | 22087   |
| 2231             | 22786   | 22090   |
| 2232             | 22789   | 22093   |
| 2233             | 22792   | 22096   |
| 2234             | 22795   | 22099   |
| 2235             | 22798   | 22102   |
| 2236             | 22801   | 22105   |
| 2237             | 22804   | 22108   |
| 2238             | 22807   | 22111   |
| 2239             | 22810   | 22114   |
| 2240             | 22813   | 22117   |
| 2241             | 22816   | 22120   |
| 2242             | 22819   | 22123   |
| 2243             | 22822   | 22126   |
| 2244             | 22825   | 22129   |
| 2245             | 22828   | 22132   |
| 2246             | 22831   | 22135   |
| 2247             | 22834   | 22138   |
| 2248             | 22837   | 22141   |
| 2249             | 22840   | 22144   |
| 2250             | 22843   | 22147   |

| 22 MHz SSB (J3E) |         |         |
|------------------|---------|---------|
| CH NO.           | SHIP RX | SHIP TX |
| 2251             | 22846   | 22150   |
| 2252             | 22849   | 22153   |
| 2253             | 22852   | 22156   |
| 2254             | 22159   | 22159   |
| 2255             | 22162   | 22162   |
| 2256             | 22165   | 22165   |
| 2257             | 22168   | 22168   |
| 2258             | 22171   | 22171   |
| 2259             | 22174   | 22174   |
| 2260             | 22177   | 22177   |

| 25/26 MHz SSB (J3E) |         |         |
|---------------------|---------|---------|
| CH NO               | Ship RX | Ship TX |
| 2501                | 26145   | 25070   |
| 2502                | 26148   | 25073   |
| 2503                | 26151   | 25076   |
| 2504                | 26154   | 25079   |
| 2505                | 26157   | 25082   |
| 2506                | 26160   | 25085   |
| 2507                | 26163   | 25088   |
| 2508                | 26166   | 25091   |
| 2509                | 26169   | 25094   |
| 2510                | 26172   | 25097   |
| 2511                | 25100   | 25100   |
| 2512                | 25103   | 25103   |
| 2513                | 25106   | 25106   |
| 2514                | 25109   | 25109   |
| 2515                | 25112   | 25112   |
| 2516                | 25115   | 25115   |
| 2517                | 25118   | 25118   |

A channel can be recalled by hitting the keys [RCL], [1], [8], [0], [1], [ENT] for channel 1801 as an example. Transmit and receive frequencies appear on the display.

The CH NO is checked by pressing the [ENT] key or by turning the FREQ/CH selector; it is displayed in 5 digits, such as 18001, for a few seconds. (Additional zero is inserted automatically.)

# TELEX CHANNELS

## MF BAND Telex FREQUENCY TABLE

The following frequencies are factory programmed.

| CH NO. | Ship Transmit<br>(NBDP, DSC) | Ship Receive<br>(NBDP, DSC) |          |
|--------|------------------------------|-----------------------------|----------|
| 201    | 2142.0                       | 1607.0                      | NBDP/DSC |
| 202    | 2142.5                       | 1607.5                      |          |
| 203    | 2143.0                       | 1608.0                      |          |
| 204    | 2143.5                       | 1608.5                      |          |
| 205    | 2144.0                       | 1609.0                      |          |
|        |                              |                             |          |
| 206    | 2144.5                       | 1609.5                      |          |
| 207    | 2145.0                       | 1610.0                      |          |
| 208    | 2145.5                       | 1610.5                      |          |
| 209    | 2146.0                       | 1611.0                      |          |
| 210    | 2146.5                       | 1611.5                      |          |
|        |                              |                             |          |
| 211    | 2147.0                       | 1612.0                      |          |
| 212    | 2147.5                       | 1612.5                      |          |
| 213    | 2148.0                       | 1613.0                      |          |
| 214    | 2148.5                       | 1613.5                      |          |
| 215    | 2149.0                       | 1614.0                      |          |
|        |                              |                             |          |
| 216    | 2149.5                       | 1614.5                      |          |
| 217    | 2150.0                       | 1615.0                      |          |
| 218    | 2150.5                       | 1615.5                      |          |
| 219    | 2151.0                       | 1616.0                      |          |
| 220    | 2151.5                       | 1616.5                      |          |
|        |                              |                             |          |
| 221    | 2152.0                       | 1617.0                      |          |
| 222    | 2152.5                       | 1617.5                      |          |
| 223    | 2153.0                       | 1618.0                      |          |
| 224    | 2153.5                       | 1618.5                      |          |
| 225    | 2154.0                       | 1619.0                      |          |
|        |                              |                             |          |
| 226    | 2154.5                       | 1619.5                      |          |
| 227    | 2155.0                       | 1620.0                      |          |
| 228    | 2155.5                       | 1620.5                      |          |
| 229    | 2156.0                       | 1621.0                      |          |
| 230    | 2156.5                       | 1621.5                      |          |
|        |                              |                             |          |
| 231    | 2157.0                       | 1622.0                      |          |
| 232    | 2157.5                       | 1622.5                      |          |
| 233    | 2158.0                       | 1623.0                      |          |
| 234    | 2158.5                       | 1623.5                      |          |
| 235    | 2159.0                       | 1624.0                      |          |
|        |                              |                             |          |
| 236    | 2159.5                       | 1624.5                      |          |

A channel can be recalled by hitting the keys [RCL], [2], [0], [1], [ENT] for channel 201 as an example. Transmit and receive frequencies appear on the display. The channel number is checked by pressing the [ENT] key or by turning the **FREQ/CH** selector; the channel number is displayed in 4 digits, such as 2001, for a few seconds. (Additional zero is inserted automatically.)



**4/6 MHz BAND ITU NBDP (Telex) FREQUENCY TABLE**  
 (ITU RR APPENDIX 32)

| 4 MHz TELEX |         |         | 6 MHz TELEX |         |         | 6 MHz TELEX |         |         |
|-------------|---------|---------|-------------|---------|---------|-------------|---------|---------|
| CH NO.      | SHIP RX | SHIP TX | CH NO.      | SHIP RX | SHIP TX | CH NO.      | SHIP RX | SHIP TX |
| 4001        | 4210.5  | 4172.5  | 6001        | 6314.5  | 6263.0  | 6041        | 6303.5  | 6303.5  |
| 4002        | 4211.0  | 4173.0  | 6002        | 6315.0  | 6263.5  | 6042        | 6304.0  | 6304.0  |
| 4003        | 4211.5  | 4173.5  | 6003        | 6315.5  | 6264.0  | 6043        | 6304.5  | 6304.5  |
| 4004        | 4212.0  | 4174.0  | 6004        | 6316.0  | 6264.5  | 6044        | 6305.0  | 6305.0  |
| 4005        | 4212.5  | 4174.5  | 6005        | 6316.5  | 6265.0  | 6045        | 6305.5  | 6305.5  |
| 4006        | 4213.0  | 4175.0  | 6006        | 6317.0  | 6265.5  | 6046        | 6306.0  | 6306.0  |
| 4007        | 4213.5  | 4175.5  | 6007        | 6317.5  | 6266.0  | 6047        | 6306.5  | 6306.5  |
| 4008        | 4214.0  | 4176.0  | 6008        | 6318.0  | 6266.5  | 6048        | 6307.0  | 6307.0  |
| 4009        | 4214.5  | 4176.5  | 6009        | 6318.5  | 6267.0  | 6049        | 6307.5  | 6307.5  |
| 4010        | 4215.0  | 4177.0  | 6010        | 6319.0  | 6267.5  | 6050        | 6308.0  | 6308.0  |
| 4011        | 4177.5  | 4177.5  | 6011        | 6268.0  | 6268.0  | 6051        | 6308.5  | 6308.5  |
| 4012        | 4215.5  | 4178.0  | 6012        | 6319.5  | 6268.5  | 6052        | 6309.0  | 6309.0  |
| 4013        | 4216.0  | 4178.5  | 6013        | 6320.0  | 6269.0  | 6053        | 6309.5  | 6309.5  |
| 4014        | 4216.5  | 4179.0  | 6014        | 6320.5  | 6269.5  | 6054        | 6310.0  | 6310.0  |
| 4015        | 4217.0  | 4179.5  | 6015        | 6321.0  | 6270.0  | 6055        | 6310.5  | 6310.5  |
| 4016        | 4217.5  | 4180.0  | 6016        | 6321.5  | 6270.5  | 6056        | 6311.0  | 6311.0  |
| 4017        | 4218.0  | 4180.5  | 6017        | 6322.0  | 6271.0  | 6057        | 6311.5  | 6311.5  |
| 4018        | 4218.5  | 4181.0  | 6018        | 6322.5  | 6271.5  | 6058        | 6312.0  | 6312.0  |
| 4019        | 4219.0  | 4181.5  | 6019        | 6323.0  | 6272.0  | 6059        | 6331.0  | 6312.5  |
| 4020        | 4202.5  | 4202.5  | 6020        | 6323.5  | 6272.5  | 6060        | 6331.5  | 6313.0  |
| 4021        | 4203.0  | 4203.0  | 6021        | 6324.0  | 6273.0  | 6061        | 6332.0  | 6313.5  |
| 4022        | 4203.5  | 4203.5  | 6022        | 6324.5  | 6273.5  |             |         |         |
| 4023        | 4204.0  | 4204.0  | 6023        | 6325.0  | 6274.0  |             |         |         |
| 4024        | 4204.5  | 4204.5  | 6024        | 6325.5  | 6274.5  |             |         |         |
| 4025        | 4205.0  | 4205.0  | 6025        | 6326.0  | 6275.0  |             |         |         |
| 4026        | 4205.5  | 4205.5  | 6026        | 6326.5  | 6275.5  |             |         |         |
| 4027        | 4206.0  | 4206.0  | 6027        | 6327.0  | 6281.0  |             |         |         |
| 4028        | 4206.5  | 4206.5  | 6028        | 6327.5  | 6281.5  |             |         |         |
| 4029        | 4207.0  | 4207.0  | 6029        | 6328.0  | 6282.0  |             |         |         |
| 4030        | 4207.5  | 4207.5  | 6030        | 6328.5  | 6282.5  |             |         |         |
| 4031        | 4219.5  | 4208.0  | 6031        | 6329.0  | 6283.0  |             |         |         |
| 4032        | 4220.0  | 4208.5  | 6032        | 6329.5  | 6283.5  |             |         |         |
| 4033        | 4220.5  | 4209.0  | 6033        | 6330.0  | 6284.0  |             |         |         |
|             |         |         | 6034        | 6330.5  | 6284.5  |             |         |         |
|             |         |         | 6035        | 6300.5  | 6300.5  |             |         |         |
|             |         |         | 6036        | 6301.0  | 6301.0  |             |         |         |
|             |         |         | 6037        | 6301.5  | 6301.5  |             |         |         |
|             |         |         | 6038        | 6302.0  | 6302.0  |             |         |         |
|             |         |         | 6039        | 6302.5  | 6302.5  |             |         |         |
|             |         |         | 6040        | 6303.0  | 6303.0  |             |         |         |

Above is factory programmed.

**8 MHz BAND ITU NBDP (Telex) FREQUENCY TABLE**  
(ITU RR APPENDIX 32)

| 8 MHz TELEX |         |         | 8 MHz TELEX |         |         |
|-------------|---------|---------|-------------|---------|---------|
| CH NO.      | SHIP RX | SHIP TX | CH NO.      | SHIP RX | SHIP TX |
| 8001        | 8376.5  | 8376.5  | 8046        | 8399.0  | 8399.0  |
| 8002        | 8417    | 8377    | 8047        | 8399.5  | 8399.5  |
| 8003        | 8417.5  | 8377.5  | 8048        | 8400.0  | 8400.0  |
| 8004        | 8418    | 8378    | 8049        | 8400.5  | 8400.5  |
| 8005        | 8418.5  | 8378.5  | 8050        | 8401.0  | 8401.0  |
| 8006        | 8419    | 8379    | 8051        | 8401.5  | 8401.5  |
| 8007        | 8419.5  | 8379.5  | 8052        | 8402.0  | 8402.0  |
| 8008        | 8420    | 8380    | 8053        | 8402.5  | 8402.5  |
| 8009        | 8420.5  | 8380.5  | 8054        | 8403.0  | 8403.0  |
| 8010        | 8421    | 8381    | 8055        | 8403.5  | 8403.5  |
| 8011        | 8421.5  | 8381.5  | 8056        | 8404.0  | 8404.0  |
| 8012        | 8422    | 8382    | 8057        | 8404.5  | 8404.5  |
| 8013        | 8422.5  | 8382.5  | 8058        | 8405.0  | 8405.0  |
| 8014        | 8423    | 8383    | 8059        | 8405.5  | 8405.5  |
| 8015        | 8423.5  | 8383.5  | 8060        | 8406.0  | 8406.0  |
| 8016        | 8424    | 8384    | 8061        | 8406.5  | 8406.5  |
| 8017        | 8424.5  | 8384.5  | 8062        | 8407.0  | 8407.0  |
| 8018        | 8425    | 8385    | 8063        | 8407.5  | 8407.5  |
| 8019        | 8425.5  | 8385.5  | 8064        | 6312.0  | 8408.0  |
| 8020        | 8426    | 8386    | 8065        | 6331.0  | 8408.5  |
| 8021        | 8426.5  | 8386.5  | 8066        | 6331.5  | 8409.0  |
| 8022        | 8427    | 8387    | 8067        | 6332.0  | 8409.5  |
| 8023        | 8427.5  | 8387.5  | 8068        | 6332.5  | 8410.0  |
| 8024        | 8428    | 8388    | 8069        | 6333.0  | 8410.5  |
| 8025        | 8428.5  | 8388.5  | 8070        | 6333.5  | 8411.0  |
| 8026        | 8429    | 8389    | 8071        | 6334.0  | 8411.5  |
| 8027        | 8429.5  | 8389.5  | 8072        | 6334.5  | 8412.0  |
| 8028        | 8430    | 8390    | 8073        | 6335.0  | 8412.5  |
| 8029        | 8430.5  | 8390.5  | 8074        | 6335.5  | 8413.0  |
| 8030        | 8431    | 8391    | 8075        | 6336.0  | 8413.5  |
| 8031        | 8431.5  | 8391.5  | 8076        | 8414.0  | 8414.0  |
| 8032        | 8432    | 8392    | 8077        | 8414.5  | 8414.5  |
| 8033        | 8432.5  | 8392.5  | 8078        | 8436.5  | 8415.0  |
| 8034        | 8433    | 8393    | 8079        | 8437.0  | 8415.5  |
| 8035        | 8433.5  | 8393.5  | 8080        | 8437.5  | 8416.0  |
| 8036        | 8434    | 8394    |             |         |         |
| 8037        | 8434.5  | 8394.5  |             |         |         |
| 8038        | 8435    | 8395    |             |         |         |
| 8039        | 8435.5  | 8395.5  |             |         |         |
| 8040        | 8436    | 8396    |             |         |         |
| 8041        | 8396.5  | 8396.5  |             |         |         |
| 8042        | 8397.0  | 8397.0  |             |         |         |
| 8043        | 8397.5  | 8397.5  |             |         |         |
| 8044        | 8398.0  | 8398.0  |             |         |         |
| 8045        | 8398.5  | 8398.5  |             |         |         |

Above is factory programmed.

## 12 MHz BAND ITU NBDP (Telex) FREQUENCY TABLE

The following frequencies are factory programmed.

| 12 MHz TELEX |         |         | 12 MHz TELEX |         |         | 12 MHz TELEX |         |         |
|--------------|---------|---------|--------------|---------|---------|--------------|---------|---------|
| CH NO.       | SHIP RX | SHIP TX | CH NO.       | SHIP RX | SHIP TX | CH NO.       | SHIP RX | SHIP TX |
| 12001        | 12579.5 | 12477.0 | 12056        | 12607.0 | 12504.5 | 12111        | 12634.0 | 12532.0 |
| 12002        | 12580.0 | 12477.5 | 12057        | 12607.5 | 12505.0 | 12112        | 12634.5 | 12532.5 |
| 12003        | 12580.5 | 12478.0 | 12058        | 12608.0 | 12505.5 | 12113        | 12635.0 | 12533.0 |
| 12004        | 12581.0 | 12478.5 | 12059        | 12608.5 | 12506.0 | 12114        | 12635.5 | 12533.5 |
| 12005        | 12581.5 | 12479.0 | 12060        | 12609.0 | 12506.5 | 12115        | 12636.0 | 12534.0 |
| 12006        | 12582.0 | 12479.5 | 12061        | 12609.5 | 12507.0 | 12116        | 12636.5 | 12534.5 |
| 12007        | 12582.5 | 12480.0 | 12062        | 12610.0 | 12507.5 | 12117        | 12637.0 | 12535.0 |
| 12008        | 12583.0 | 12480.5 | 12063        | 12610.5 | 12508.0 | 12118        | 12637.5 | 12535.5 |
| 12009        | 12583.5 | 12481.0 | 12064        | 12611.0 | 12508.5 | 12119        | 12638.0 | 12536.0 |
| 12010        | 12584.0 | 12481.5 | 12065        | 12611.5 | 12509.0 | 12120        | 12638.5 | 12536.5 |
| 12011        | 12584.5 | 12482.0 | 12066        | 12612.0 | 12509.5 | 12121        | 12639.0 | 12537.0 |
| 12012        | 12585.0 | 12482.5 | 12067        | 12612.5 | 12510.0 | 12122        | 12639.5 | 12537.5 |
| 12013        | 12585.5 | 12483.0 | 12068        | 12613.0 | 12510.5 | 12123        | 12640.0 | 12538.0 |
| 12014        | 12586.0 | 12483.5 | 12069        | 12613.5 | 12511.0 | 12124        | 12640.5 | 12538.5 |
| 12015        | 12586.5 | 12484.0 | 12070        | 12614.0 | 12511.5 | 12125        | 12641.0 | 12539.0 |
| 12016        | 12587.0 | 12484.5 | 12071        | 12614.5 | 12512.0 | 12126        | 12641.5 | 12539.5 |
| 12017        | 12587.5 | 12485.0 | 12072        | 12615.0 | 12512.5 | 12127        | 12642.0 | 12540.0 |
| 12018        | 12588.0 | 12485.5 | 12073        | 12615.5 | 12513.0 | 12128        | 12642.5 | 12540.5 |
| 12019        | 12588.5 | 12486.0 | 12074        | 12616.0 | 12513.5 | 12129        | 12643.0 | 12541.0 |
| 12020        | 12589.0 | 12486.5 | 12075        | 12616.5 | 12514.0 | 12130        | 12643.5 | 12541.5 |
| 12021        | 12589.5 | 12487.0 | 12076        | 12617.0 | 12514.5 | 12131        | 12644.0 | 12542.0 |
| 12022        | 12590.0 | 12487.5 | 12077        | 12617.5 | 12515.0 | 12132        | 12644.5 | 12542.5 |
| 12023        | 12590.5 | 12488.0 | 12078        | 12618.0 | 12515.5 | 12133        | 12645.0 | 12543.0 |
| 12024        | 12591.0 | 12488.5 | 12079        | 12618.5 | 12516.0 | 12134        | 12645.5 | 12543.5 |
| 12025        | 12591.5 | 12489.0 | 12080        | 12619.0 | 12516.5 | 12135        | 12646.0 | 12544.0 |
| 12026        | 12592.0 | 12489.5 | 12081        | 12619.5 | 12517.0 | 12136        | 12646.5 | 12544.5 |
| 12027        | 12592.5 | 12490.0 | 12082        | 12620.0 | 12517.5 | 12137        | 12647.0 | 12545.0 |
| 12028        | 12593.0 | 12490.5 | 12083        | 12620.5 | 12518.0 | 12138        | 12647.5 | 12545.5 |
| 12029        | 12593.5 | 12491.0 | 12084        | 12621.0 | 12518.5 | 12139        | 12648.0 | 12546.0 |
| 12030        | 12594.0 | 12491.5 | 12085        | 12621.5 | 12519.0 | 12140        | 12648.5 | 12546.5 |
| 12031        | 12594.5 | 12492.0 | 12086        | 12622.0 | 12519.5 | 12141        | 12649.0 | 12547.0 |
| 12032        | 12595.0 | 12492.5 | 12087        | 12622.5 | 12520.0 | 12142        | 12649.5 | 12547.5 |
| 12033        | 12595.5 | 12493.0 | 12088        | 12623.0 | 12520.5 | 12143        | 12650.0 | 12548.0 |
| 12034        | 12596.0 | 12493.5 | 12089        | 12623.5 | 12521.0 | 12144        | 12650.5 | 12548.5 |
| 12035        | 12596.5 | 12494.0 | 12090        | 12624.0 | 12521.5 | 12145        | 12651.0 | 12549.0 |
| 12036        | 12597.0 | 12494.5 | 12091        | 12624.5 | 12522.0 | 12146        | 12651.5 | 12549.5 |
| 12037        | 12597.5 | 12495.0 | 12092        | 12625.0 | 12522.5 | 12147        | 12652.0 | 12550.0 |
| 12038        | 12598.0 | 12495.5 | 12093        | 12625.5 | 12523.0 | 12148        | 12652.5 | 12550.5 |
| 12039        | 12598.5 | 12496.0 | 12094        | 12626.0 | 12523.5 | 12149        | 12653.0 | 12551.0 |
| 12040        | 12599.0 | 12496.5 | 12095        | 12626.5 | 12524.0 | 12150        | 12653.5 | 12551.5 |
| 12041        | 12599.5 | 12497.0 | 12096        | 12627.0 | 12524.5 | 12151        | 12654.0 | 12552.0 |
| 12042        | 12600.0 | 12497.5 | 12097        | 12627.5 | 12525.0 | 12152        | 12654.5 | 12552.5 |
| 12043        | 12600.5 | 12498.0 | 12098        | 12628.0 | 12525.5 | 12153        | 12655.0 | 12553.0 |
| 12044        | 12601.0 | 12498.5 | 12099        | 12628.5 | 12526.0 | 12154        | 12655.5 | 12553.5 |
| 12045        | 12601.5 | 12499.0 | 12100        | 12629.0 | 12526.5 | 12155        | 12656.0 | 12554.0 |
| 12046        | 12602.0 | 12499.5 | 12101        | 12629.5 | 12527.0 | 12156        | 12656.5 | 12554.5 |
| 12047        | 12602.5 | 12500.0 | 12102        | 12630.0 | 12527.5 | 12157        | 12560.0 | 12560.0 |
| 12048        | 12603.0 | 12500.5 | 12103        | 12630.5 | 12528.0 | 12158        | 12560.5 | 12560.5 |
| 12049        | 12603.5 | 12501.0 | 12104        | 12631.0 | 12528.5 | 12159        | 12561.0 | 12561.0 |
| 12050        | 12604.0 | 12501.5 | 12105        | 12631.5 | 12529.0 | 12160        | 12561.5 | 12561.5 |
| 12051        | 12604.5 | 12502.0 | 12106        | 12632.0 | 12529.5 | 12161        | 12562.0 | 12562.0 |
| 12052        | 12605.0 | 12502.5 | 12107        | 12632.5 | 12530.0 | 12162        | 12562.5 | 12562.5 |
| 12053        | 12605.5 | 12503.0 | 12108        | 12633.0 | 12530.5 | 12163        | 12563.0 | 12563.0 |
| 12054        | 12606.0 | 12503.5 | 12109        | 12633.5 | 12531.0 | 12164        | 12563.5 | 12563.5 |
| 12055        | 12606.5 | 12504.0 | 12110        | 12634.0 | 12531.5 | 12165        | 12564.0 | 12564.0 |

## 12/16 MHz BAND ITU NBDP (Telex) FREQUENCY TABLE

The following frequencies are factory programmed.

| 12 MHz TELEX |         |         | 16 MHz TELEX |         |         | 16 MHz TELEX |         |         |
|--------------|---------|---------|--------------|---------|---------|--------------|---------|---------|
| CH NO.       | SHIP RX | SHIP TX | CH NO.       | SHIP RX | SHIP TX | CH NO.       | SHIP RX | SHIP TX |
| 12166        | 12564.5 | 12564.5 | 16001        | 16807.0 | 16683.5 | 16056        | 16834.0 | 16711.0 |
| 12167        | 12565.0 | 12565.0 | 16002        | 16807.5 | 16684.0 | 16057        | 16834.5 | 16711.5 |
| 12168        | 12565.5 | 12565.5 | 16003        | 16808.0 | 16684.5 | 16058        | 16835.0 | 16712.0 |
| 12169        | 12566.0 | 12566.0 | 16004        | 16808.5 | 16685.0 | 16059        | 16835.5 | 16712.5 |
| 12170        | 12566.5 | 12566.5 | 16005        | 16809.0 | 16685.5 | 16060        | 16836.0 | 16713.0 |
| 12171        | 12567.0 | 12567.0 | 16006        | 16809.5 | 16686.0 | 16061        | 16836.5 | 16713.5 |
| 12172        | 12567.5 | 12567.5 | 16007        | 16810.0 | 16686.5 | 16062        | 16837.0 | 16714.0 |
| 12173        | 12568.0 | 12568.0 | 16008        | 16810.5 | 16687.0 | 16063        | 16837.5 | 16714.5 |
| 12174        | 12568.5 | 12568.5 | 16009        | 16811.0 | 16687.5 | 16064        | 16838.0 | 16715.0 |
| 12175        | 12569.0 | 12569.0 | 16010        | 16811.5 | 16688.0 | 16065        | 16838.5 | 16715.5 |
| 12176        | 12569.5 | 12569.5 | 16011        | 16812.0 | 16688.5 | 16066        | 16839.0 | 16716.0 |
| 12177        | 12570.0 | 12570.0 | 16012        | 16812.5 | 16689.0 | 16067        | 16839.5 | 16716.5 |
| 12178        | 12570.5 | 12570.5 | 16013        | 16813.0 | 16689.5 | 16068        | 16840.0 | 16717.0 |
| 12179        | 12571.0 | 12571.0 | 16014        | 16813.5 | 16690.0 | 16069        | 16840.5 | 16717.5 |
| 12180        | 12571.5 | 12571.5 | 16015        | 16814.0 | 16690.5 | 16070        | 16841.0 | 16718.0 |
| 12181        | 12572.0 | 12572.0 | 16016        | 16814.5 | 16691.0 | 16071        | 16841.5 | 16718.5 |
| 12182        | 12572.5 | 12572.5 | 16017        | 16815.0 | 16691.5 | 16072        | 16842.0 | 16719.0 |
| 12183        | 12573.0 | 12573.0 | 16018        | 16815.5 | 16692.0 | 16073        | 16842.5 | 16719.5 |
| 12184        | 12573.5 | 12573.5 | 16019        | 16816.0 | 16692.5 | 16074        | 16843.0 | 16720.0 |
| 12185        | 12574.0 | 12574.0 | 16020        | 16816.5 | 16693.0 | 16075        | 16843.5 | 16720.5 |
| 12186        | 12574.5 | 12574.5 | 16021        | 16817.0 | 16693.5 | 16076        | 16844.0 | 16721.0 |
| 12187        | 12575.0 | 12575.0 | 16022        | 16817.5 | 16694.0 | 16077        | 16844.5 | 16721.5 |
| 12188        | 12575.5 | 12575.5 | 16023        | 16818.0 | 16694.5 | 16078        | 16845.0 | 16722.0 |
| 12189        | 12576.0 | 12576.0 | 16024        | 16695.0 | 16695.0 | 16079        | 16845.5 | 16722.5 |
| 12190        | 12576.5 | 12576.5 | 16025        | 16818.5 | 16695.5 | 16080        | 16846.0 | 16723.0 |
| 12191        | 12577.0 | 12577.0 | 16026        | 16819.0 | 16696.0 | 16081        | 16723.5 | 16846.5 |
| 12192        | 12657.0 | 12577.5 | 16027        | 16819.5 | 16696.5 | 16082        | 16724.0 | 16847.0 |
| 12193        | 12657.5 | 12578.0 | 16028        | 16820.0 | 16697.0 | 16083        | 16724.5 | 16847.5 |
| 12194        | 12658.0 | 12578.5 | 16029        | 16820.5 | 16697.5 | 16084        | 16725.0 | 16848.0 |
|              |         |         | 16030        | 16821.0 | 16698.0 | 16085        | 16725.5 | 16848.5 |
|              |         |         | 16031        | 16821.5 | 16698.5 | 16086        | 16726.0 | 16849.0 |
|              |         |         | 16032        | 16822.0 | 16699.0 | 16087        | 16726.5 | 16849.5 |
|              |         |         | 16033        | 16822.5 | 16699.5 | 16088        | 16727.0 | 16850.0 |
|              |         |         | 16034        | 16823.0 | 16700.0 | 16089        | 16727.5 | 16850.5 |
|              |         |         | 16035        | 16823.5 | 16700.5 | 16090        | 16728.0 | 16851.0 |
|              |         |         | 16036        | 16824.0 | 16701.0 | 16091        | 16728.5 | 16851.5 |
|              |         |         | 16037        | 16824.5 | 16701.5 | 16092        | 16729.0 | 16852.0 |
|              |         |         | 16038        | 16825.0 | 16702.0 | 16093        | 16729.5 | 16852.5 |
|              |         |         | 16039        | 16825.5 | 16702.5 | 16094        | 16730.0 | 16853.0 |
|              |         |         | 16040        | 16826.0 | 16703.0 | 16095        | 16730.5 | 16853.5 |
|              |         |         | 16041        | 16826.5 | 16703.5 | 16096        | 16731.0 | 16854.0 |
|              |         |         | 16042        | 16827.0 | 16704.0 | 16097        | 16731.5 | 16854.5 |
|              |         |         | 16043        | 16827.5 | 16704.5 | 16098        | 16732.0 | 16855.0 |
|              |         |         | 16044        | 16828.0 | 16705.0 | 16099        | 16732.5 | 16855.5 |
|              |         |         | 16045        | 16828.5 | 16705.5 | 16100        | 16733.0 | 16856.0 |
|              |         |         | 16046        | 16829.0 | 16706.0 | 16101        | 16733.5 | 16856.5 |
|              |         |         | 16047        | 16829.5 | 16706.5 | 16102        | 16739.0 | 16857.0 |
|              |         |         | 16048        | 16830.0 | 16707.0 | 16103        | 16739.5 | 16857.5 |
|              |         |         | 16049        | 16830.5 | 16707.5 | 16104        | 16740.0 | 16858.0 |
|              |         |         | 16050        | 16831.0 | 16708.0 | 16105        | 16740.5 | 16858.5 |
|              |         |         | 16051        | 16831.5 | 16708.5 | 16106        | 16741.0 | 16859.0 |
|              |         |         | 16052        | 16832.0 | 16709.0 | 16107        | 16741.5 | 16859.5 |
|              |         |         | 16053        | 16832.5 | 16709.5 | 16108        | 16742.0 | 16860.0 |
|              |         |         | 16054        | 16833.0 | 16710.0 | 16109        | 16742.5 | 16860.5 |
|              |         |         | 16055        | 16833.5 | 16710.5 | 16110        | 16743.0 | 16861.0 |

## 16 MHz BAND ITU NBDP (Telex) FREQUENCY TABLE

The following frequencies are factory programmed.

| 16 MHz TELEX |         |         | 16 MHz TELEX |         |         | 16 MHz TELEX |         |         |
|--------------|---------|---------|--------------|---------|---------|--------------|---------|---------|
| CH NO.       | SHIP RX | SHIP TX | CH NO.       | SHIP RX | SHIP TX | CH NO.       | SHIP RX | SHIP TX |
| 16111        | 16861.5 | 16743.5 | 16166        | 16889.0 | 16771.0 | 16221        | 16798.5 | 16798.5 |
| 16112        | 16862.0 | 16744.0 | 16167        | 16889.5 | 16771.5 | 16222        | 16799.0 | 16799.0 |
| 16113        | 16862.5 | 16744.5 | 16168        | 16890.0 | 16772.0 | 16223        | 16799.5 | 16799.5 |
| 16114        | 16863.0 | 16745.0 | 16169        | 16890.5 | 16772.5 | 16224        | 16800.0 | 16800.0 |
| 16115        | 16863.5 | 16745.5 | 16170        | 16891.0 | 16773.0 | 16225        | 16800.5 | 16800.5 |
| 16116        | 16864.0 | 16746.0 | 16171        | 16891.5 | 16773.5 | 16226        | 16801.0 | 16801.0 |
| 16117        | 16864.5 | 16746.5 | 16172        | 16892.0 | 16774.0 | 16227        | 16801.5 | 16801.5 |
| 16118        | 16865.0 | 16747.0 | 16173        | 16892.5 | 16774.5 | 16228        | 16802.0 | 16802.0 |
| 16119        | 16865.5 | 16747.5 | 16174        | 16893.0 | 16775.0 | 16229        | 16802.5 | 16802.5 |
| 16120        | 16866.0 | 16748.0 | 16175        | 16893.5 | 16775.5 | 16230        | 16803.0 | 16803.0 |
| 16121        | 16866.5 | 16748.5 | 16176        | 16894.0 | 16776.0 | 16231        | 16803.5 | 16803.5 |
| 16122        | 16867.0 | 16749.0 | 16177        | 16894.5 | 16776.5 | 16232        | 16804.0 | 16804.0 |
| 16123        | 16867.5 | 16749.5 | 16178        | 16895.0 | 16777.0 | 16233        | 16804.5 | 16804.5 |
| 16124        | 16868.0 | 16750.0 | 16179        | 16895.5 | 16777.5 | 16234        | 16903.0 | 16805.0 |
| 16125        | 16868.5 | 16750.5 | 16180        | 16896.0 | 16778.0 | 16235        | 16903.5 | 16805.5 |
| 16126        | 16869.0 | 16751.0 | 16181        | 16896.5 | 16778.5 | 16236        | 16904.0 | 16806.0 |
| 16127        | 16869.5 | 16751.5 | 16182        | 16897.0 | 16779.0 |              |         |         |
| 16128        | 16870.0 | 16752.0 | 16183        | 16897.5 | 16779.5 |              |         |         |
| 16129        | 16870.5 | 16752.5 | 16184        | 16898.0 | 16780.0 |              |         |         |
| 16130        | 16871.0 | 16753.0 | 16185        | 16898.5 | 16780.5 |              |         |         |
| 16131        | 16871.5 | 16753.5 | 16186        | 16899.0 | 16781.0 |              |         |         |
| 16132        | 16872.0 | 16754.0 | 16187        | 16899.5 | 16781.5 |              |         |         |
| 16133        | 16872.5 | 16754.5 | 16188        | 16900.0 | 16782.0 |              |         |         |
| 16134        | 16873.0 | 16755.0 | 16189        | 16900.5 | 16782.5 |              |         |         |
| 16135        | 16873.5 | 16755.5 | 16190        | 16901.0 | 16783.0 |              |         |         |
| 16136        | 16874.0 | 16756.0 | 16191        | 16901.5 | 16783.5 |              |         |         |
| 16137        | 16874.5 | 16756.5 | 16192        | 16902.0 | 16784.0 |              |         |         |
| 16138        | 16875.0 | 16757.0 | 16193        | 16902.5 | 16784.5 |              |         |         |
| 16139        | 16875.5 | 16757.5 | 16194        | 16785.0 | 16785.0 |              |         |         |
| 16140        | 16876.0 | 16758.0 | 16195        | 16785.5 | 16785.5 |              |         |         |
| 16141        | 16876.5 | 16758.5 | 16196        | 16786.0 | 16786.0 |              |         |         |
| 16142        | 16877.0 | 16759.0 | 16197        | 16786.5 | 16786.5 |              |         |         |
| 16143        | 16877.5 | 16759.5 | 16198        | 16787.0 | 16787.0 |              |         |         |
| 16144        | 16878.0 | 16760.0 | 16199        | 16787.5 | 16787.5 |              |         |         |
| 16145        | 16878.5 | 16760.5 | 16200        | 16788.0 | 16788.0 |              |         |         |
| 16146        | 16879.0 | 16761.0 | 16201        | 16788.5 | 16788.5 |              |         |         |
| 16147        | 16879.5 | 16761.5 | 16202        | 16789.0 | 16789.0 |              |         |         |
| 16148        | 16880.0 | 16762.0 | 16203        | 16789.5 | 16789.5 |              |         |         |
| 16149        | 16880.5 | 16762.5 | 16204        | 16790.0 | 16790.0 |              |         |         |
| 16150        | 16881.0 | 16763.0 | 16205        | 16790.5 | 16790.5 |              |         |         |
| 16151        | 16881.5 | 16763.5 | 16206        | 16791.0 | 16791.0 |              |         |         |
| 16152        | 16882.0 | 16764.0 | 16207        | 16791.5 | 16791.5 |              |         |         |
| 16153        | 16882.5 | 16764.5 | 16208        | 16792.0 | 16792.0 |              |         |         |
| 16154        | 16883.0 | 16765.0 | 16209        | 16792.5 | 16792.5 |              |         |         |
| 16155        | 16883.5 | 16765.5 | 16210        | 16793.0 | 16793.0 |              |         |         |
| 16156        | 16884.0 | 16766.0 | 16211        | 16793.5 | 16793.5 |              |         |         |
| 16157        | 16884.5 | 16766.5 | 16212        | 16794.0 | 16794.0 |              |         |         |
| 16158        | 16885.0 | 16767.0 | 16213        | 16794.5 | 16794.5 |              |         |         |
| 16159        | 16885.5 | 16767.5 | 16214        | 16795.0 | 16795.0 |              |         |         |
| 16160        | 16886.0 | 16768.0 | 16215        | 16795.5 | 16795.5 |              |         |         |
| 16161        | 16886.5 | 16768.5 | 16216        | 16796.0 | 16796.0 |              |         |         |
| 16162        | 16887.0 | 16769.0 | 16217        | 16796.5 | 16796.5 |              |         |         |
| 16163        | 16887.5 | 16769.5 | 16218        | 16797.0 | 16797.0 |              |         |         |
| 16164        | 16888.0 | 16770.0 | 16219        | 16797.5 | 16797.5 |              |         |         |
| 16165        | 16888.5 | 16770.5 | 16220        | 16798.0 | 16798.0 |              |         |         |

## 18/19 MHz BAND ITU NBDP (Telex) FREQUENCY TABLE

The following frequencies are factory programmed.

| 18/19 MHz TELEX |         |         | 18/19 MHz TELEX |         |         |
|-----------------|---------|---------|-----------------|---------|---------|
| CH NO.          | SHIP RX | SHIP TX | CH NO.          | SHIP RX | SHIP TX |
| 18001           | 19681.0 | 18870.5 | 18051           | 18895.5 | 18895.5 |
| 18002           | 19681.5 | 18871.0 | 18052           | 18896.0 | 18896.0 |
| 18003           | 19682.0 | 18871.5 | 18053           | 18896.5 | 18896.5 |
| 18004           | 19682.5 | 18872.0 | 18054           | 18897.0 | 18897.0 |
| 18005           | 19683.0 | 18872.5 | 18055           | 18897.5 | 18897.5 |
| 18006           | 19683.5 | 18873.0 | 18056           | 18898.0 | 18898.0 |
| 18007           | 19684.0 | 18873.5 | 18057           | 19703.5 | 18898.5 |
| 18008           | 19684.5 | 18874.0 | 18058           | 19704.0 | 18899.0 |
| 18009           | 19685.0 | 18874.5 | 18059           | 19704.5 | 18899.5 |
| 18010           | 19685.5 | 18875.0 |                 |         |         |
| 18011           | 19686.0 | 18875.5 |                 |         |         |
| 18012           | 19686.5 | 18876.0 |                 |         |         |
| 18013           | 19687.0 | 18876.5 |                 |         |         |
| 18014           | 19687.5 | 18877.0 |                 |         |         |
| 18015           | 19688.0 | 18877.5 |                 |         |         |
| 18016           | 19688.5 | 18878.0 |                 |         |         |
| 18017           | 19689.0 | 18878.5 |                 |         |         |
| 18018           | 19689.5 | 18879.0 |                 |         |         |
| 18019           | 19690.0 | 18879.5 |                 |         |         |
| 18020           | 19690.5 | 18880.0 |                 |         |         |
| 18021           | 19691.0 | 18880.5 |                 |         |         |
| 18022           | 19691.5 | 18881.0 |                 |         |         |
| 18023           | 19692.0 | 18881.5 |                 |         |         |
| 18024           | 19692.5 | 18882.0 |                 |         |         |
| 18025           | 19693.0 | 18882.5 |                 |         |         |
| 18026           | 19693.5 | 18883.0 |                 |         |         |
| 18027           | 19694.0 | 18883.5 |                 |         |         |
| 18028           | 19694.5 | 18884.0 |                 |         |         |
| 18029           | 19695.0 | 18884.5 |                 |         |         |
| 18030           | 19695.5 | 18885.0 |                 |         |         |
| 18031           | 19696.0 | 18885.5 |                 |         |         |
| 18032           | 19696.5 | 18886.0 |                 |         |         |
| 18033           | 19697.0 | 18886.5 |                 |         |         |
| 18034           | 19697.5 | 18887.0 |                 |         |         |
| 18035           | 19698.0 | 18887.5 |                 |         |         |
| 18036           | 19698.5 | 18888.0 |                 |         |         |
| 18037           | 19699.0 | 18888.5 |                 |         |         |
| 18038           | 19699.5 | 18889.0 |                 |         |         |
| 18039           | 19700.0 | 18889.5 |                 |         |         |
| 18040           | 19700.5 | 18890.0 |                 |         |         |
| 18041           | 19701.0 | 18890.5 |                 |         |         |
| 18042           | 19701.5 | 18891.0 |                 |         |         |
| 18043           | 19702.0 | 18891.5 |                 |         |         |
| 18044           | 19702.5 | 18892.0 |                 |         |         |
| 18045           | 19703.0 | 18892.5 |                 |         |         |
| 18046           | 18893.0 | 18893.0 |                 |         |         |
| 18047           | 18893.5 | 18893.5 |                 |         |         |
| 18048           | 18894.0 | 18894.0 |                 |         |         |
| 18049           | 18894.5 | 18894.5 |                 |         |         |
| 18050           | 18895.0 | 18895.0 |                 |         |         |

## 22 MHz BAND ITU NBDP (Telex) FREQUENCY TABLE

The following frequencies are factory programmed.

| 22 MHz TELEX |         |         | 22 MHz TELEX |         |         | 22 MHz TELEX |         |         |
|--------------|---------|---------|--------------|---------|---------|--------------|---------|---------|
| CH NO.       | SHIP RX | SHIP TX | CH NO.       | SHIP RX | SHIP TX | CH NO.       | SHIP RX | SHIP TX |
| 22001        | 22376.5 | 22284.5 | 22051        | 22401.5 | 22309.5 | 22101        | 22426.5 | 22334.5 |
| 22002        | 22377.0 | 22285.0 | 22052        | 22402.0 | 22310.0 | 22102        | 22427.0 | 22335.0 |
| 22003        | 22377.5 | 22285.5 | 22053        | 22402.5 | 22310.5 | 22103        | 22427.5 | 22335.5 |
| 22004        | 22378.0 | 22286.0 | 22054        | 22403.0 | 22311.0 | 22104        | 22428.0 | 22336.0 |
| 22005        | 22378.5 | 22286.5 | 22055        | 22403.5 | 22311.5 | 22105        | 22428.5 | 22336.5 |
| 22006        | 22379.0 | 22287.0 | 22056        | 22404.0 | 22312.0 | 22106        | 22429.0 | 22337.0 |
| 22007        | 22379.5 | 22287.5 | 22057        | 22404.5 | 22312.5 | 22107        | 22429.5 | 22337.5 |
| 22008        | 22380.0 | 22288.0 | 22058        | 22405.0 | 22313.0 | 22108        | 22430.0 | 22338.0 |
| 22009        | 22380.5 | 22288.5 | 22059        | 22405.5 | 22313.5 | 22109        | 22430.5 | 22338.5 |
| 22010        | 22381.0 | 22289.0 | 22060        | 22406.0 | 22314.0 | 22110        | 22431.0 | 22339.0 |
| 22011        | 22381.5 | 22289.5 | 22061        | 22406.5 | 22314.5 | 22111        | 22431.5 | 22339.5 |
| 22012        | 22382.0 | 22290.0 | 22062        | 22407.0 | 22315.0 | 22112        | 22432.0 | 22340.0 |
| 22013        | 22382.5 | 22290.5 | 22063        | 22407.5 | 22315.5 | 22113        | 22432.5 | 22340.5 |
| 22014        | 22383.0 | 22291.0 | 22064        | 22408.0 | 22316.0 | 22114        | 22433.0 | 22341.0 |
| 22015        | 22383.5 | 22291.5 | 22065        | 22408.5 | 22316.5 | 22115        | 22433.5 | 22341.5 |
| 22016        | 22384.0 | 22292.0 | 22066        | 22409.0 | 22317.0 | 22116        | 22434.0 | 22342.0 |
| 22017        | 22384.5 | 22292.5 | 22067        | 22409.5 | 22317.5 | 22117        | 22434.5 | 22342.5 |
| 22018        | 22385.0 | 22293.0 | 22068        | 22410.0 | 22318.0 | 22118        | 22435.0 | 22343.0 |
| 22019        | 22385.5 | 22293.5 | 22069        | 22410.5 | 22318.5 | 22119        | 22435.5 | 22343.5 |
| 22020        | 22386.0 | 22294.0 | 22070        | 22411.0 | 22319.0 | 22120        | 22436.0 | 22344.0 |
| 22021        | 22386.5 | 22294.5 | 22071        | 22411.5 | 22319.5 | 22121        | 22436.5 | 22344.5 |
| 22022        | 22387.0 | 22295.0 | 22072        | 22412.0 | 22320.0 | 22122        | 22437.0 | 22345.0 |
| 22023        | 22387.5 | 22295.5 | 22073        | 22412.5 | 22320.5 | 22123        | 22437.5 | 22345.5 |
| 22024        | 22388.0 | 22296.0 | 22074        | 22413.0 | 22321.0 | 22124        | 22438.0 | 22346.0 |
| 22025        | 22388.5 | 22296.5 | 22075        | 22413.5 | 22321.5 | 22125        | 22438.5 | 22346.5 |
| 22026        | 22389.0 | 22297.0 | 22076        | 22414.0 | 22322.0 | 22126        | 22439.0 | 22347.0 |
| 22027        | 22389.5 | 22297.5 | 22077        | 22414.5 | 22322.5 | 22127        | 22439.5 | 22347.5 |
| 22028        | 22390.0 | 22298.0 | 22078        | 22415.0 | 22323.0 | 22128        | 22440.0 | 22348.0 |
| 22029        | 22390.5 | 22298.5 | 22079        | 22415.5 | 22323.5 | 22129        | 22440.5 | 22348.5 |
| 22030        | 22391.0 | 22299.0 | 22080        | 22416.0 | 22324.0 | 22130        | 22441.0 | 22349.0 |
| 22031        | 22391.5 | 22299.5 | 22081        | 22416.5 | 22324.5 | 22131        | 22441.5 | 22349.5 |
| 22032        | 22392.0 | 22300.0 | 22082        | 22417.0 | 22325.0 | 22132        | 22442.0 | 22350.0 |
| 22033        | 22392.5 | 22300.5 | 22083        | 22417.5 | 22325.5 | 22133        | 22442.5 | 22350.5 |
| 22034        | 22393.0 | 22301.0 | 22084        | 22418.0 | 22326.0 | 22134        | 22443.0 | 22351.0 |
| 22035        | 22393.5 | 22301.5 | 22085        | 22418.5 | 22326.5 | 22135        | 22443.5 | 22351.5 |
| 22036        | 22394.0 | 22302.0 | 22086        | 22419.0 | 22327.0 | 22136        | 22352.0 | 22352.0 |
| 22037        | 22394.5 | 22302.5 | 22087        | 22419.5 | 22327.5 | 22137        | 22352.5 | 22352.5 |
| 22038        | 22395.0 | 22303.0 | 22088        | 22420.0 | 22328.0 | 22138        | 22353.0 | 22353.0 |
| 22039        | 22395.5 | 22303.5 | 22089        | 22420.5 | 22328.5 | 22139        | 22353.5 | 22353.5 |
| 22040        | 22396.0 | 22304.0 | 22090        | 22421.0 | 22329.0 | 22140        | 22354.0 | 22354.0 |
| 22041        | 22396.5 | 22304.5 | 22091        | 22421.5 | 22329.5 | 22141        | 22354.5 | 22354.5 |
| 22042        | 22397.0 | 22305.0 | 22092        | 22422.0 | 22330.0 | 22142        | 22355.0 | 22355.0 |
| 22043        | 22397.5 | 22305.5 | 22093        | 22422.5 | 22330.5 | 22143        | 22355.5 | 22355.5 |
| 22044        | 22398.0 | 22306.0 | 22094        | 22423.0 | 22331.0 | 22144        | 22356.0 | 22356.0 |
| 22045        | 22398.5 | 22306.5 | 22095        | 22423.5 | 22331.5 | 22145        | 22356.5 | 22356.5 |
| 22046        | 22399.0 | 22307.0 | 22096        | 22424.0 | 22332.0 | 22146        | 22357.0 | 22357.0 |
| 22047        | 22399.5 | 22307.5 | 22097        | 22424.5 | 22332.5 | 22147        | 22357.5 | 22357.5 |
| 22048        | 22400.0 | 22308.0 | 22098        | 22425.0 | 22333.0 | 22148        | 22358.0 | 22358.0 |
| 22049        | 22400.5 | 22308.5 | 22099        | 22425.5 | 22333.5 | 22149        | 22358.5 | 22358.5 |
| 22050        | 22401.0 | 22309.0 | 22100        | 22426.0 | 22334.0 | 22150        | 22359.0 | 22359.0 |

## 22, 25/26 MHz BAND ITU NBDP (Telex) FREQUENCY TABLE

The following frequencies are factory programmed.

| 22 MHz TELEX |         |         | 25/26 MHz TELEX |         |         | 25/26 MHz TELEX |         |         |
|--------------|---------|---------|-----------------|---------|---------|-----------------|---------|---------|
| CH NO.       | SHIP RX | SHIP TX | CH NO.          | SHIP RX | SHIP TX | CH NO.          | SHIP RX | SHIP TX |
| 22151        | 22359.5 | 22359.5 | 25001           | 26101.0 | 25173.0 | 25051           | 25198.0 | 25198.0 |
| 22152        | 22360.0 | 22360.0 | 25002           | 26101.5 | 25173.5 | 25052           | 25198.5 | 25198.5 |
| 22153        | 22360.5 | 22360.5 | 25003           | 26102.0 | 25174.0 | 25053           | 25199.0 | 25199.0 |
| 22154        | 22361.0 | 22361.0 | 25004           | 26102.5 | 25174.5 | 25054           | 25199.5 | 25199.5 |
| 22155        | 22361.5 | 22361.5 | 25005           | 26103.0 | 25175.0 | 25055           | 25200.0 | 25200.0 |
| 22156        | 22362.0 | 22362.0 | 25006           | 26103.5 | 25175.5 | 25056           | 25200.5 | 25200.5 |
| 22157        | 22362.5 | 22362.5 | 25007           | 26104.0 | 25176.0 | 25057           | 25201.0 | 25201.0 |
| 22158        | 22363.0 | 22363.0 | 25008           | 26104.5 | 25176.5 | 25058           | 25201.5 | 25201.5 |
| 22159        | 22363.5 | 22363.5 | 25009           | 26105.0 | 25177.0 | 25059           | 25202.0 | 25202.0 |
| 22160        | 22364.0 | 22364.0 | 25010           | 26105.5 | 25177.5 | 25060           | 25202.5 | 25202.5 |
| 22161        | 22364.5 | 22364.5 | 25011           | 26106.0 | 25178.0 | 25061           | 25203.0 | 25203.0 |
| 22162        | 22365.0 | 22365.0 | 25012           | 26106.5 | 25178.5 | 25062           | 25203.5 | 25203.5 |
| 22163        | 22365.5 | 22365.5 | 25013           | 26107.0 | 25179.0 | 25063           | 25204.0 | 25204.0 |
| 22164        | 22366.0 | 22366.0 | 25014           | 26107.5 | 25179.5 | 25064           | 25204.5 | 25204.5 |
| 22165        | 22366.5 | 22366.5 | 25015           | 26108.0 | 25180.0 | 25065           | 25205.0 | 25205.0 |
| 22166        | 22367.0 | 22367.0 | 25016           | 26108.5 | 25180.5 | 25066           | 25205.5 | 25205.5 |
| 22167        | 22367.5 | 22367.5 | 25017           | 26109.0 | 25181.0 | 25067           | 25206.0 | 25206.0 |
| 22168        | 22368.0 | 22368.0 | 25018           | 26109.5 | 25181.5 | 25068           | 25206.5 | 25206.5 |
| 22169        | 22368.5 | 22368.5 | 25019           | 26110.0 | 25182.0 | 25069           | 25207.0 | 25207.0 |
| 22170        | 22369.0 | 22369.0 | 25020           | 26110.5 | 25182.5 | 25070           | 25207.5 | 25207.5 |
| 22171        | 22369.5 | 22369.5 | 25021           | 26111.0 | 25183.0 | 25071           | 25208.0 | 25208.0 |
| 22172        | 22370.0 | 22370.0 | 25022           | 26111.5 | 25183.5 | 25072           | 26121.0 | 25208.5 |
| 22173        | 22370.5 | 22370.5 | 25023           | 26112.0 | 25184.0 | 25073           | 26121.5 | 25209.0 |
| 22174        | 22371.0 | 22371.0 | 25024           | 26112.5 | 25184.5 | 25074           | 26122.0 | 25209.5 |
| 22175        | 22371.5 | 22371.5 | 25025           | 26113.0 | 25185.0 |                 |         |         |
| 22176        | 22372.0 | 22372.0 | 25026           | 26113.5 | 25185.5 |                 |         |         |
| 22177        | 22372.5 | 22372.5 | 25027           | 26114.0 | 25186.0 |                 |         |         |
| 22178        | 22373.0 | 22373.0 | 25028           | 26114.5 | 25186.5 |                 |         |         |
| 22179        | 22373.5 | 22373.5 | 25029           | 26115.0 | 25187.0 |                 |         |         |
| 22180        | 22374.0 | 22374.0 | 25030           | 26115.5 | 25187.5 |                 |         |         |
| 22181        | 22444.0 | 22374.5 | 25031           | 26116.0 | 25188.0 |                 |         |         |
| 22182        | 22444.5 | 22375.0 | 25032           | 26116.5 | 25188.5 |                 |         |         |
| 22183        | 22445.0 | 22375.5 | 25033           | 26117.0 | 25189.0 |                 |         |         |
|              |         |         | 25034           | 26117.5 | 25189.5 |                 |         |         |
|              |         |         | 25035           | 26118.0 | 25190.0 |                 |         |         |
|              |         |         | 25036           | 26118.5 | 25190.5 |                 |         |         |
|              |         |         | 25037           | 26119.0 | 25191.0 |                 |         |         |
|              |         |         | 25038           | 26119.5 | 25191.5 |                 |         |         |
|              |         |         | 25039           | 26120.0 | 25192.0 |                 |         |         |
|              |         |         | 25040           | 26120.5 | 25192.5 |                 |         |         |
|              |         |         | 25041           | 25193.0 | 25193.0 |                 |         |         |
|              |         |         | 25042           | 25193.5 | 25193.5 |                 |         |         |
|              |         |         | 25043           | 25194.0 | 25194.0 |                 |         |         |
|              |         |         | 25044           | 25194.5 | 25194.5 |                 |         |         |
|              |         |         | 25045           | 25195.0 | 25195.0 |                 |         |         |
|              |         |         | 25046           | 25195.5 | 25195.5 |                 |         |         |
|              |         |         | 25047           | 25196.0 | 25196.0 |                 |         |         |
|              |         |         | 25048           | 25196.5 | 25196.5 |                 |         |         |
|              |         |         | 25049           | 25197.0 | 25197.0 |                 |         |         |
|              |         |         | 25050           | 25197.5 | 25197.5 |                 |         |         |



# FURUNO®

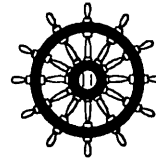
**FURUNO ELECTRIC CO., LTD.**

9-52 Ashihara-Cho, Nishinomiya City, 662-8580, Hyogo, Japan

Tel: +81 798-65-2111 Fax: +81 798-65-4200

Pub NO. DOC-484

## Declaration of conformity



# 0560

We **FURUNO ELECTRIC CO., LTD.**

(Manufacturer)

9-52 Ashihara-Cho, Nishinomiya City, 662-8580, Hyogo, Japan

(Address)

hereby declare under our sole responsibility that the product

MF/HF SSB radiotelephone model FS-1562-15 consisting of Transceiver FS-1562, Antenna tuning unit AT-1560-15, Remote control RB-500, Distribution box DB-500 and Power supply unit PR-300

(Model names, type numbers)

to which this declaration relates conforms to the following standard(s) or normative document(s)

IMO Resolutions A.804(19), A.806(19), A.694(17), MSC.36(63)

IMO MSC Circular MSC/Circ.862

ETS 300 338: 1995-11, 300 373: 1995-08, 300 067: 1998-11

EN 60945: 1997-01 (IEC 60945 Third edition: 1996-11)

ITU-R Recommendations M.1173, 493-9, 541-8, 476-5, 497-1, 625-3

(title and/or number and date of issue of the standard(s) or other normative document(s))

For assessment, see

- EC – type-examination certificate N° 99212013/AA/01 of 8 July 2002 issued by Telefication, The Netherlands
- Test reports 943067(01) of 16 February 1996, 98507130 of 16 June 1999 and 943067 of 24 August 1994 issued by KTL, The Netherlands

This declaration is issued according to the provisions of European Council Directive 96/98/EC on marine equipment modified by Commission Directive 98/85/EC and further amended by the Commission Directive 2001/53/EC.

On behalf of Furuno Electric Co., Ltd.

Hiroaki Komatsu  
Manager,  
International Rules and Regulations

Nishinomiya City, Japan  
July 26, 2002

(Place and date of issue)

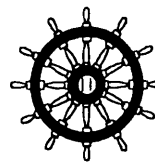
(name and signature or equivalent marking of authorized person)

**FURUNO®****FURUNO ELECTRIC CO., LTD.**

9-52 Ashihara-Cho, Nishinomiya City, 662-8580, Hyogo, Japan

Tel: +81 798-65-2111 Fax: +81 798-65-4200

Pub NO. DOC-485

**Declaration of conformity****0560**We **FURUNO ELECTRIC CO., LTD.**-----  
(Manufacturer)

9-52 Ashihara-Cho, Nishinomiya City, 662-8580, Hyogo, Japan

-----  
(Address)

hereby declare under our sole responsibility that the product

MF/HF SSB radiotelephone model FS-1562-25 consisting of Transceiver FS-1562, Antenna tuning unit AT-1560-25, Power amplifier PA-2500, Remote control RB-500, Distribution box DB-500 and Power supply unit PR-850

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(Model names, type numbers)

to which this declaration relates conforms to the following standard(s) or normative document(s)

IMO Resolutions A.804(19), A.806(19), A.694(17), MSC.36(63)

IMO MSC Circular MSC/Circ.862

ETS 300 338: 1995-11, 300 373: 1997-08, 300 067: 1993-10

EN 60945: 1997-01 (IEC 60945 Third edition: 1996-11)

ITU-R Recommendations M.1173, 476-5, 491-1, 492-6, 493-9, 541-8, 625-3

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(title and/or number and date of issue of the standard(s) or other normative document(s))

For assessment, see

- EC – type-examination certificate N° 99212007/AA/01 of 8 July 2002 issued by Telefication, The Netherlands
- Test reports 943090 of 24 August 1994, 943090(01) of 16 February 2996 and 963297(00) of 27 May 1997 issued by Telefication, The Netherlands
- Test report 98507230 of 16 June 1999 issued by KTL, The Netherlands

This declaration is issued according to the provisions of European Council Directive 96/98/EC on marine equipment modified by Commission Directive 98/85/EC and further amended by the Commission Directive 2001/53/EC.

On behalf of Furuno Electric Co., Ltd.

Hiroaki Komatsu  
Manager,  
International Rules and RegulationsNishinomiya City, Japan  
July 26, 2002-----  
(Place and date of issue)-----  
(name and signature or equivalent marking of authorized person)