

FURUNO

OPERATOR'S MANUAL

SSB RADIOTELEPHONE

MODEL FS-1552

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

- Installation ······Installation Manual
- Servicing ······Service Manual



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FIRST EDITION : FEB 1994
C : APR. 22, 1997

(TENI)

PUB. No. OME-55490
FS-1552





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.



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



This equipment contains **high voltages** in the transceiver unit and the antenna couple unit. These voltages are sufficient to kill anyone coming in direct contact with them.

Any internal adjustment, servicing and repair shall only be performed by qualified services personnel.

A residual charge remains in capacitors and other devices several minutes after turning off the power. Wait **at least 3 minutes** to allow residual charge to disappear.



Wear a safety belt and a hard hat when working high up on the mast or close to the radar antenna. Do not look into the radar antenna at a close distance. Stop the radar while working with the radiotelephone antenna.

**HIGH TENSION HAZARD.
DO NOT TRANSMIT WHEN
ATU IS OPENED.**

WARNING

EARTHING

Secure grounding wires on Transceiver Unit, Antenna Coupler Unit, Power Unit. This serves to reduce the risk of electrical shocks in case the high tension parts are shorted to the metallic cabin or covers, as well as improving receiver sensitivity and transmitter efficiency.

CAUTION

Restriction to use MF/HF

Radiotelephone in U.S.A.:

Ship stations authorized to use both 2,000-27,500 kHz and 156-162 MHz bands must not use frequencies in the 2,000-27,500 kHz band within the VHF service range. (US CFR 47, §80.367f)

Silence period

Do not transmit any signal if you are not in an emergency situation during the silence period, 00 to 03 min and 30 to 33 min of every hour.

Introduction

Foreword

FURUNO Electric Company thanks you for selecting the FS-1552 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-1552 is an all-purpose communications transceiver especially designed for marine mobile communication in the frequency range of 1.6 to 26.2 MHz. All ITU channels are preprogrammed. If required, TX/RX frequencies can be preprogrammed into a E² PROM having a capacity of 200 frequency pairs.

The FS-1552 consists of a Transceiver Unit, an Antenna Coupler, and a Handset.

About this manual

This manual mainly consists of two sections: PART 1 (Operation) and PART 2 (Maintenance).

Contents of PART 1

1. Controls and Indications
2. Operational Overview
3. Operation with Optional Equipment
4. Changing the System Settings

Contents of PART 2

1. Testing
2. Maintenance
3. Troubleshooting
4. Replacement of Fuses

Specifications

ITU SSB Frequency Table

Refer to the “Table of Contents” at the beginning of each section for detailed information on section contents.

Notice to FURUNO service agent or dealer:

- Installation information is contained in the Installation Manual.
- System initialization after installation is described in the Service Manual.

Features

- 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
- Optional 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
- Self test

Notes

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

Availability of TX Frequency Selection Methods

The availability of TX frequency selection methods depends on model type. There are three model types: Standard, Holland and Italy. The table which follows shows the availability of TX frequency selection methods for those model types.

| TX Frequency Selection | Type | | |
|------------------------|----------------------------|---------|---------------|
| | Standard | Holland | Italy |
| Manual entry | available (on marine band) | | not available |
| ITU channel | available | | not available |
| User channel | available | | |

Channel/Frequency Indication

The FS-1552 displays either channel or frequency of ITU/User channels depending on model types.

| | Type | | |
|------------|----------|-----------|---------|
| | Standard | Holland | Italy |
| Indication | channel | frequency | channel |

NOTE: *When the **FREQ/CH** encoder is used to change a channel (or frequency) on the LCD, the channel (or frequency) disappears and the frequency (or channel) appears instead momentarily.*

The descriptions in this manual show channel indication mode (Standard and Italy types).

2182 kHz Distress Calling

Introduction

For distress or emergency call, transmit 2182 kHz signal, modulated by two-tone, then call for help on 2182 kHz.

Procedure

1. Press the **2182** key. 2182 kHz and class of emission H3E are automatically selected.

NOTE: *When the 2182 key is pressed, the following are set automatically.*

Output power: Maximum

Speaker: On

Squelch: Off

2. While pressing and holding down the **ALARM** key, press the **ENT** key. The alarm sounds from the speaker and ceases automatically after 45 seconds. The alarm may be cancelled at any time by pressing the **ENT** (stop) key.
3. Speaking slowly and distinctly, say "**MAYDAY, MAYDAY, MAYDAY**. This is ..." giving the name of your vessel and call sign three times. Then, continue with the distress message, as follows.
 4. The name of your vessel.
 5. Position.
 6. The assistance needed.
 7. A description of your vessel (type, color, number of persons aboard, etc.)
 8. Indicate end of message by saying, "Over."

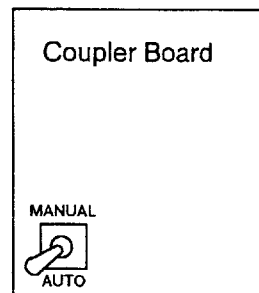
In the Event of Antenna Coupler Failure

Introduction

The antenna tuning circuit in the Antenna Coupler automatically tunes a wire or whip antenna. When the tuning cannot be completed for all frequencies, TUNE OK doesn't appear on the LCD. This means the coupler cannot be tuned automatically. In this case, you can communicate on 2182 kHz by tuning the coupler manually.

Procedure

1. 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-1552 on and select 2182 kHz.
5. Call a coast station and tell your situation. Be sure not to transmit during silent period (00 to 03 min. 30 to 33 min. of every hour).

PART 1

- 1. Controls and Indications**
- 2. Operational Overview**
- 3. Operation with Optional Equipment**
- 4. Changing the System Settings**

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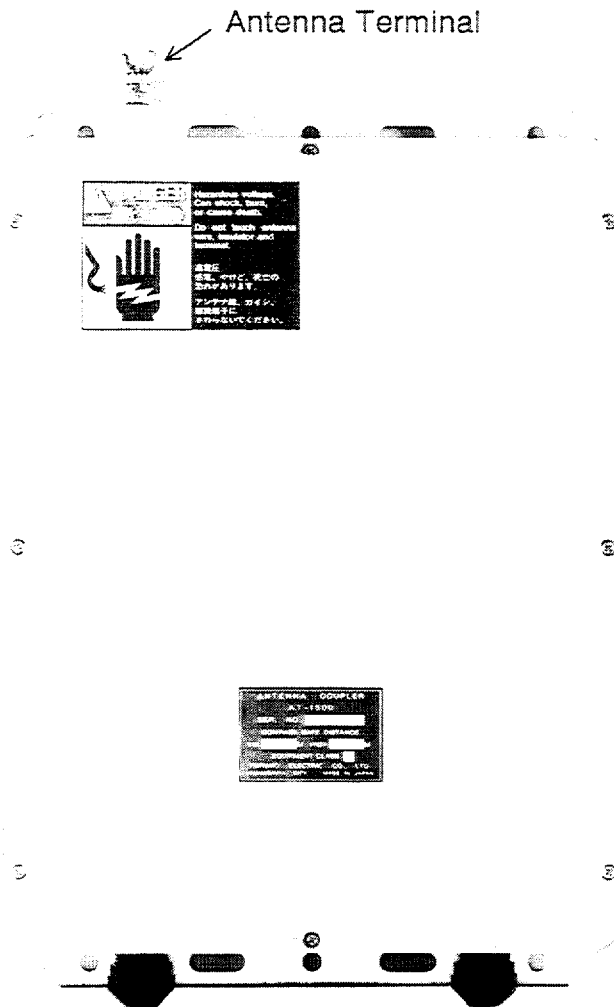
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1. Controls and Indications

Antenna Coupler

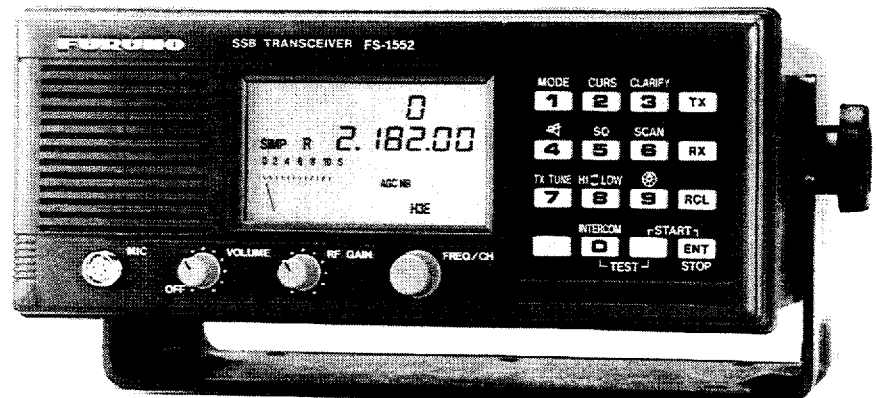


DANGER

Do not touch antenna wire, insulator or terminal. High voltage which can shock, burn or cause death exists at those points.

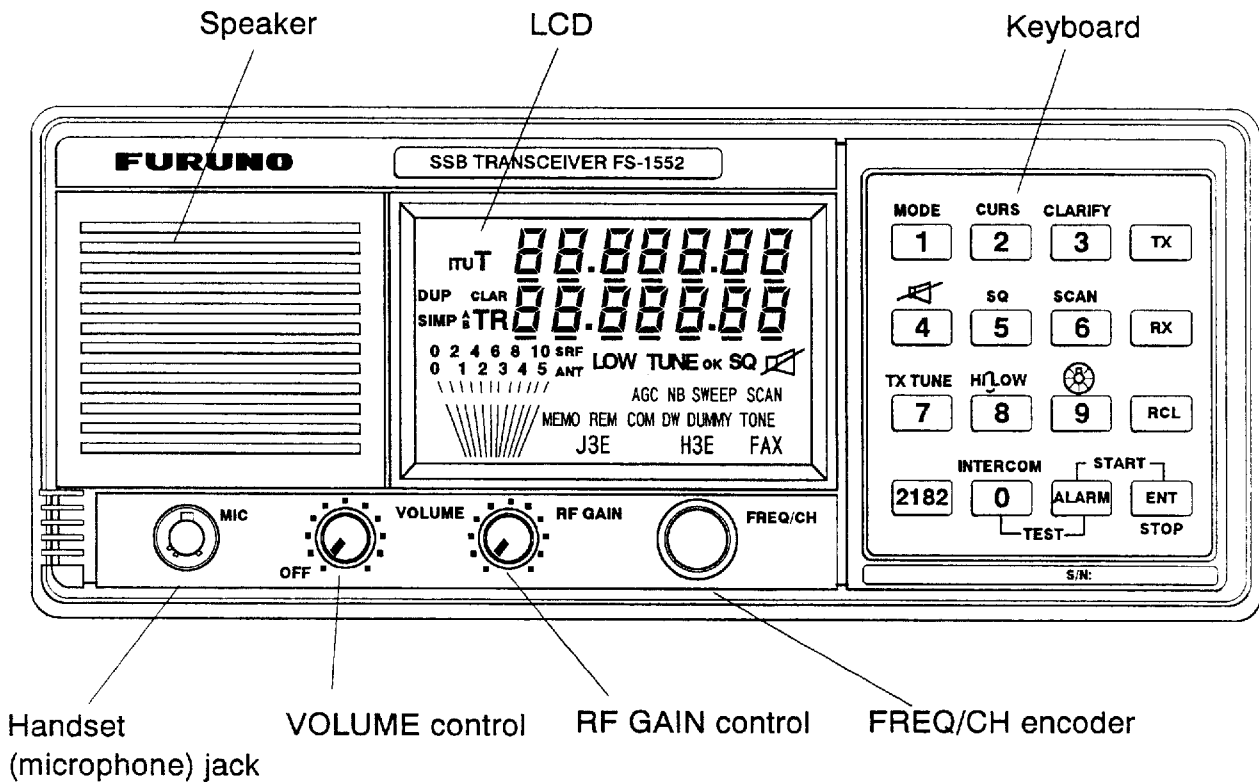
Main Unit

Do not place objects on the top of the cabinet, to keep the unit cool.



Hanger



Panel



Controls

| | |
|----------------|--|
| VOLUME | Turns the power on and off and adjusts speaker volume. |
| RF GAIN | Adjusts receiver sensitivity. |
| FREQ/CH | Changes frequency and selects channel number. |

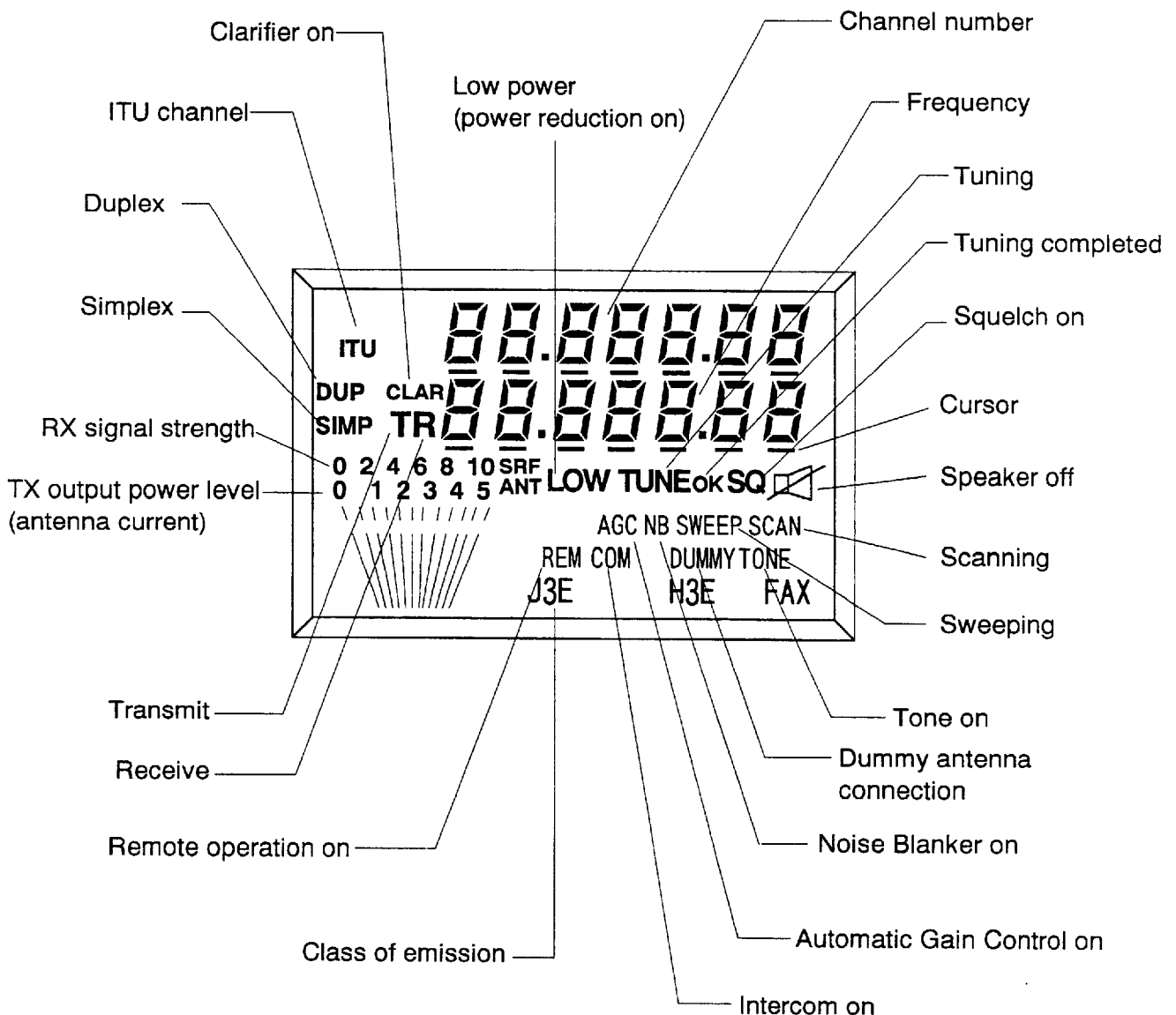
Keys

| | |
|--|--|
| MODE | Selects a class of emission and controls AGC on and off. |
| CURS | Shifts cursor. |
| CLARIFY | Adjusts RX frequency in User or ITU channel mode. The factory-set adjustable range is ± 150 Hz in 10 Hz steps. (For AM the width is fixed at ± 5 kHz, 100 Hz steps.) |
| TX | Selects a TX frequency. |
|  (speaker) | Turns the internal or external speaker on or off. The speaker mark appears on the display when the speaker is off. |
| SQ | Turns the squelch function on or off. "SQ" appears on the display when the squelch function is on. |
| SCAN | Turns the scan function on or off. "SCAN" appears on the display when the scan function is on. |
| RX | Selects an RX frequency. |
| TX TUNE | Tunes the antenna coupler. "TUNE" appears during tuning, and "OK" appears after tuning is successfully completed. |
| HI↻LOW | Alternately selects high and low output power. |
|  (dimmer) | Adjusts backlighting of keyboard and LCD. |
| RCL | Selects ITU channel or User channel. |
| 2182 | Selects 2182 kHz. |
| INTERCOM | Calls "remote station" (if connected). Press this key, enter station no. and then press the ENT key. |

- ALARM** Releases two-tone alarm for 45 seconds. To suspend it, press this key again. To transmit the alarm, press the **ENT** key while pressing and holding down the **ALARM** key. (Refer to page iv.)
- ENT** Terminates data entry.
- 1-0 keys** Enter numeric data.

Indications

The LCD provides various marks and indications which show operational status. The figure below shows the location and meaning of each mark and indication.



2. Operational Overview

2.1 Basic Operation

Turning the power on or off/adjusting speaker volume

To turn on the power, turn the **VOLUME** control clockwise until you hear a click. Further clockwise rotation of the control raises speaker volume. To turn off the power, turn the control fully counterclockwise until you hear the click.

Adjusting the backlighting

The **dimmer** (⊗) key adjusts the backlighting for the LCD and the keyboard. Each time the key is pressed, the backlighting changes in the sequence of high, medium, low and off.

Turning the loudspeaker on or off

When you are using a handset and therefore do not require the internal or external speaker, you can turn it off by pressing the **speaker** (🔊) key. The “speaker off mark” (🔊) appears when the speaker is off.

Turning the squelch on or off

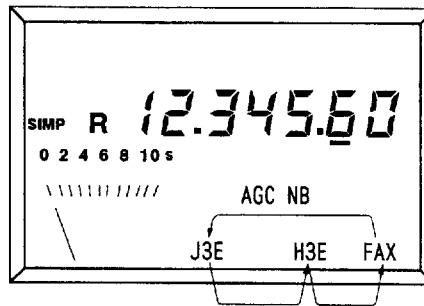
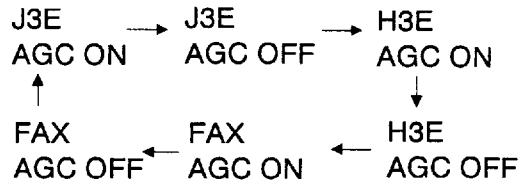
The squelch mutes the audio output in the absence of an incoming signal. Each time the **SQ** key is pressed, the squelch is turned on or off.

When radio noise is too jarring during stand-by condition, it may be muted by activating the squelch. “SQ” appears when the squelch is on.

NOTE: *The squelch cannot be turned on in class of emission FAX; “SQ” blinks.*

**Selecting class of emission/
turning AGC on or off**

The **MODE** key selects class of emission and turns the AGC on or off. Each time the key is pressed, class of emission changes and AGC is turned on or off in the following sequence. "AGC" appears on the LCD when AGC is on.



| Indication | Class of Emission | Purpose |
|------------|-------------------|--|
| J3E | J3E(USB) | SSB radiotelephone |
| | J3C | Ship-to-ship facsimile |
| H3E | H3E | Calling coast station on 2182 kHz (equivalent to AM) |
| FAX | F3C | Reception for weather facsimile |

2.2 Selecting Frequency

Frequency can be selected by;

- manual entry
- recalling User channel, or
- recalling ITU channel.

NOTE: *User channel programming should be done by an authorized FURUNO agent or dealer.*

Manually entering a frequency

Any frequency on marine bands can be manually entered through the keyboard.

To manually enter 12345.6 kHz, for example;

RX only

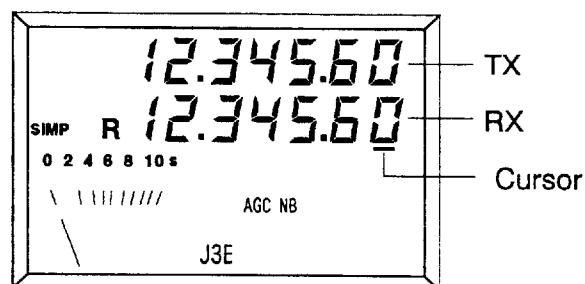
Press **RX**, **1**, **2**, **3**, **4**, **5**, **6**, and **ENT** in this order.

TX only

Press **TX**, **1**, **2**, **3**, **4**, **5**, **6**, and **ENT** in this order.

Both RX and TX

Press **RX**, **TX**, **1**, **2**, **3**, **4**, **5**, **6**, and **ENT** in this order.



- The **CURS** key shifts the cursor among last 4 places.
- The **FREQ/CH** encoder changes number above the cursor.

User channel mode

200 user channels can be stored. You can recall them through the keyboard or by operating the **FREQ/CH** encoder.

NOTE: *User channel programming should be done by a FURUNO service agent or dealer.*

To recall user channel 120, for example;

TX only

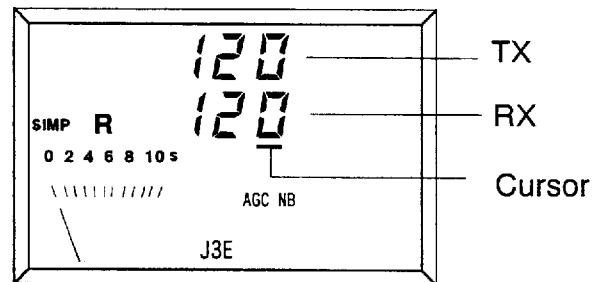
Press **TX**, **RCL**, **1**, **2**, **0**, and **ENT** in this order.

RX only

Press **RX**, **RCL**, **1**, **2**, **0**, and **ENT** in this order.

Both TX and RX

Press **RCL**, **1**, **2**, **0**, and **ENT** in this order.



- The **CURS** key shifts the cursor to band or channel number.
- The **FREQ/CH** encoder changes number above the cursor.

ITU channel mode

ITU SSB channel is stored in the FS-1552. You can recall them through the keyboard or by operating the **FREQ/CH** encoder.

First select emission mode, and then select a channel.

To recall ITU SSB channel 412, for example, select J3E with the **MODE** key, then;

TX only

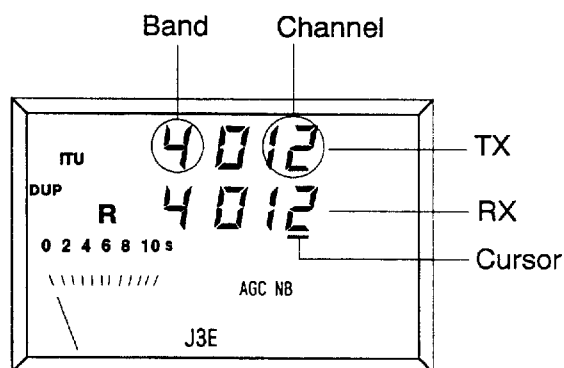
Press **TX**, **RCL**, **4**, **1**, **2** and **ENT** in this order.

RX only

Press **RX**, **RCL**, **4**, **1**, **2** and **ENT** in this order.

Both TX and RX

Press **RCL**, **4**, **1**, **2** and **ENT** in this order.



- The **CURS** key shifts the cursor to band or channel number.
- The **FREQ/CH** encoder changes number above the cursor.

NOTE: You can recall an ITU channel by entering either 3 or 4 digits (401 or 4001).

2.3 Reception

Introduction

To receive a signal, in most cases, select an RX frequency by using one method among the three mentioned on the page 2-4 in PART 1.

Adjusting RF gain

In normal use the **RF GAIN** control is set for maximum. If the audio of a transmitting station is unclear or there is noise mixed with other signals, however, adjust RF gain to pick up wanted signal only.

Clarifying a receive signal

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

Procedure

1. Press the **CLARIFY** key. (The cursor, which was located under the channel number, automatically moves under the 10 Hz place.)
2. Turn the **FREQ/CH** encoder to change (fine tune) the frequency.
3. To terminate this operation, press the **CLARIFY** key again. The cursor returns to the channel number.

NOTE: *The clarify width can be set, by an authorized FURUNO agent or dealer, for ± 100 Hz or ± 150 Hz (factory setting: ± 150 Hz) on system setting menu 9921. Note however that the width on AM is fixed at ± 5 kHz (100 Hz steps).*

Monitoring RX signal strength

0 2 4 6 8 10S



During reception the pointer indicates relative signal strength.

NOTE: *The noise blanker is, in the factory setting, always on.*

Watching on TX frequency

When a duplex channel is selected, TX frequency can be watched as follows.

Procedure

While pressing and holding down the **RX** key, press the **ENT** key. The FS-1552 starts watching on TX frequency. After 3 seconds, it automatically returns to previous state.

2.4 Transmission

Introduction

After selecting class of emission and frequency, you can transmit by pressing the PTT switch of the handset. Output power is shown on the ANT meter.

Tuning the antenna

The transmitter in the transceiver can deliver full power to the antenna only when antenna impedance and transmitter impedance match. Because antenna impedance changes with frequency a means must be provided to match (tune) antenna impedance with transmitter impedance (50 ohms). This is the job of the antenna coupler. The antenna coupler is automatically tuned when one of the following is pressed:

- the **PTT** switch on the handset
- the **TX TUNE** key on the front panel

After one of the above is pressed;

1. "TUNE" appears on the display.
2. Tuning should be completed within 2 to 15 seconds for a newly used frequency, or less than 0.5 seconds for a memorized frequency. (*A built-in*

memory remembers coil and capacitor settings.)

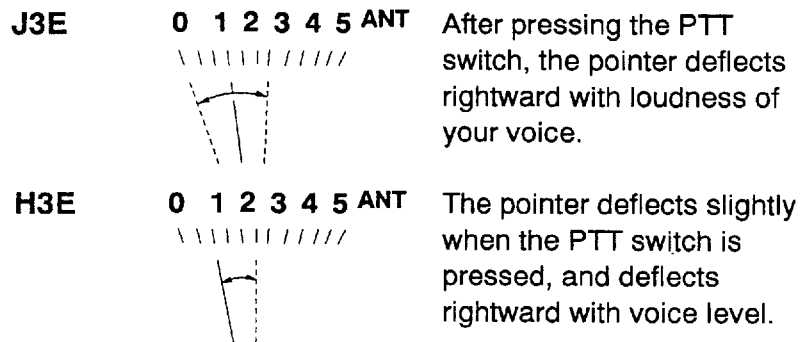
3. When the tuning process is successfully completed “OK” appears.

Using the handset

Hold the handset close to your mouth, press the **PTT** switch and speak clearly.

Monitoring transceiver output power

During transmission the pointer deflects according to transceiver output power.



NOTE: *The LCD shows “antenna current”. The pointer deflecting range differs by frequency or antenna length.*

Reducing transmitter power

To conserve electricity and to minimize interference to other stations, reduce transmitter power. This can be done when using the transceiver in a harbor, near the shore or close to communication partner (other ship), since you are probably close enough to the receiving station to make the call in reduced power. Each pressing of the **HI LOW** key selects high or low output power. “LOW” appears on the display when low output power is selected.

2.5 Scan/Sweep

Scan

For scan operation, the AGC function should be ON.

The receiver watches a User or ITU channel in order. The scan stop signal level and scan stop time can be changed on system channels 9951 and 9952, respectively. For further details, see page 4-1.

Procedure

1. Recall User or ITU channel.

User channel

User channel is divided into 20 groups in the scan mode. The FS-1552 scans channels in the scan group shown below.

| Scan Group | User 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 |

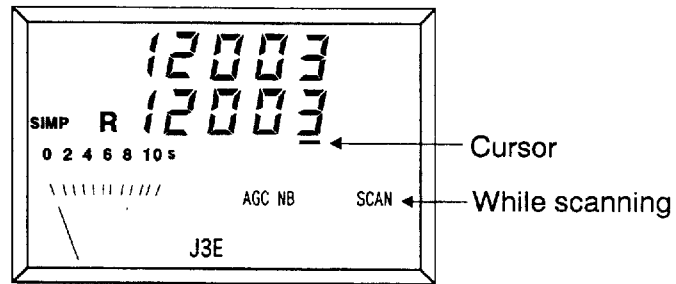
ITU channel

To select the scan group (band or channel), shift the cursor to either the position of the band or channel number by pressing the **CURS** key.

(Band scan is useful to watch on a same channel in different bands.)

2. Press the **SCAN** key. "SCAN" appears and the receiver starts scanning.

For example, scan group is “channel” and scan starts from ITU 1203;



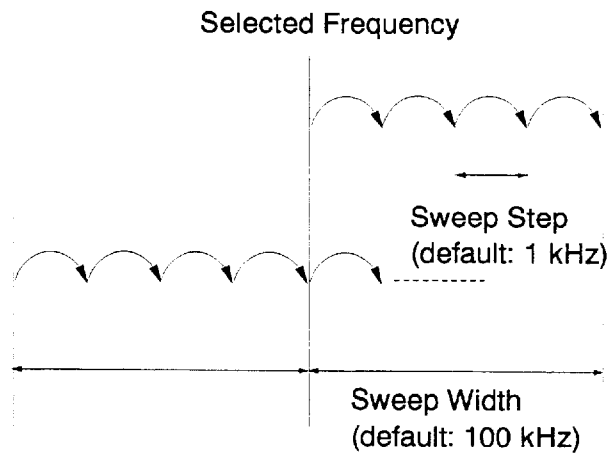
3. To stop scanning, press the **SCAN** key or the **PTT** switch. “SCAN” disappears from the LCD.

Sweep

For sweep operation, the AGC function should be ON.

The receiver watches a frequency which is changed by a sweep step frequency.

The sweep step frequency and sweep width can be changed on system channels 9954 and 9953, respectively. For further details, see page 4-1.



NOTE: Sweep width is the frequency width to sweep on both sides of the selected frequency.

Sweep step frequency is the frequency interval at which the receiver scans the sweep width.

Procedure

1. Select a center frequency of sweep by manually entering a frequency.
2. Press the **SCAN** key. “SWEEP” appears and the receiver starts sweeping.
3. To stop sweeping, press the **SCAN** or the **PTT** switch. “SWEEP” disappears from the LCD.

3. Operation with Optional Equipment

3.1 Intercom (Intercommunication System)

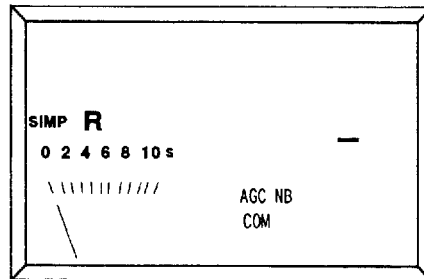
Introduction

The intercom provides communication between the FS-1552 and the RB-500 Remote Station (option).

Calling the RB-500

Procedure

1. Press the **INTERCOM** key. "COM" appears.



2. Press the **1** key, then press the **ENT** key. The calling buzzer (PiPiPi) on the FS-1552 sounds. The buzzer stops when the handset of the RB-500 is picked up.
3. Press the **PTT** switch to talk. Release the switch to listen.

Calling from the RB-500

When the FS-1552 is called from the RB-500, the FS-1552 releases the calling buzzer.

Procedure

1. Press the **ENT** key to silence the buzzer.
2. Press the **PTT** switch to talk. Release the switch to listen.

Terminating the intercom

Press the **INTERCOM** key to terminate intercom function. "COM" disappears.

3.2 Remote Station Operation

Priority

The Remote Station usually has higher priority than the FS-1552. This means that operation of the FS-1552 is disabled when the handset of the RB-500 is picked up.

Communication on 2182 kHz

When 2182 kHz is selected by the **2182** key of the FS-1552, the FS-1552 takes priority.

“REM” indication

When the RB-500 is in operation, “REM” appears on the LCD of the FS-1552.

4. Changing the System Settings

4.1 What are the System Channels?

The “system channels” allow the operator to customize the FS-1552 according to local regulation or preference. The table which follows shows the system channels and their function, setting range and factory setting.

| CH No. | Function | Setting Range | | | | Factory Setting |
|--------|---|---------------------|-------------|-----|----|-----------------|
| | | 0 | 1 | 2 | 3 | |
| 9951 | Scan stop signal level | SQ level | 1 – 10 | | | 3 |
| 9952 | Scan stop time | RX | 1 – 99 sec. | | | 2 |
| 9953 | Sweep width | 0.01 – 30000.00 kHz | | | | 100.0 |
| 9954 | Sweep step frequency | 0.01 – 30000.00 kHz | | | | 1.00 |
| 9955 | Squelch activation | Voice | Level | And | Or | 3 |
| 9956 | Squelch level | 0 – 10 for level | | | | 5 |
| 9957 | Squelch delay time | 500 – 4000 ms | | | | 1000 |
| 9958 | Squelch activating frequency | 500 – 2000 Hz | | | | 1000 |
| 9959 | Squelch on/off when 2-tone alarm on 2182 kHz is received | Off | On | | | 0 |
| 9999 | This channel is for service technicians. Do not change the setting. | | | | | |

9951

Scan 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 channel 9955 is available only when “0” (SQ level) is selected here.

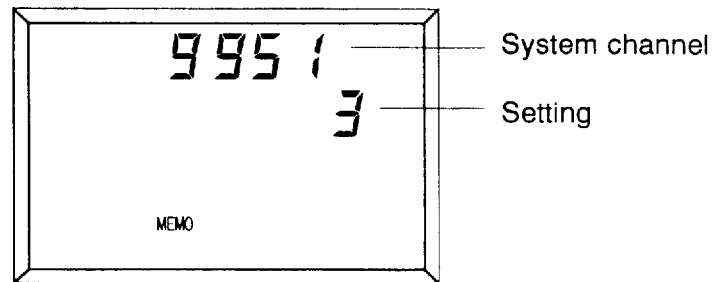
4.1 What are the System Channels?

- 9952** **Scan stop time**
When a signal is detected, the receiver stops scanning and keeps receiving for the time selected here. When "0" (RX) is selected, the receiver keeps receiving while detecting a signal.
- 9953/9954** **Sweep width/Sweep step frequency**
Refer to page 2-11 in PART 1.
- 9955/9956/
9958** **Squelch activation/Squelch level/Squelch activating frequency**
- "Squelch activation" is the method by which the squelch is activated. You can set the method on system channel 9955.
- Voice:** The squelch is activated by frequencies less than 1000 Hz (factory setting). This frequency can be changed between 500-2000 Hz on system channel 9958.
- Level:** The squelch is activated depending on "signal strength". The factory setting is "5". You can change the level between 0-10 on system channel 9956.
- And:** The squelch is activated only when both "voice" and "signal strength" are satisfactory.
- Or:** The squelch is activated by either "voice" or "signal strength", whichever is satisfactory.
- 9957** **Squelch delay time** means squelch recovery time after the signal (voice) has gone.
- (Ex) 9957: 1000ms
Squelch is opened 1000 ms after the signal goes away.
- 9959** Squelch can be turned on when two-tone alarm on 2182 kHz is received.

4.2 Changing the System Settings

Procedure

1. While pressing and holding down the **RCL** key, turn on the power. Release the **RCL** key when the following display appears.



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

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

PART 2

- 1. Testing**
- 2. Maintenance**
- 3. Troubleshooting**
- 4. Replacement of Fuses**

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1. Testing

1.1 Weekly Test (required by SOLAS)

Introduction

While underway, check the radiotelephone weekly for proper operation.

Aural testing

Procedure

1. Press the **ALARM** key to generate the alarm. Confirm that the two-tone alarm is released for more than 30 seconds.
2. Press the **ALARM** or **ENT** (stop) key to stop the test. Confirm that the alarm turns off.

Testing the transmitter by dummy antenna (option)

Procedure

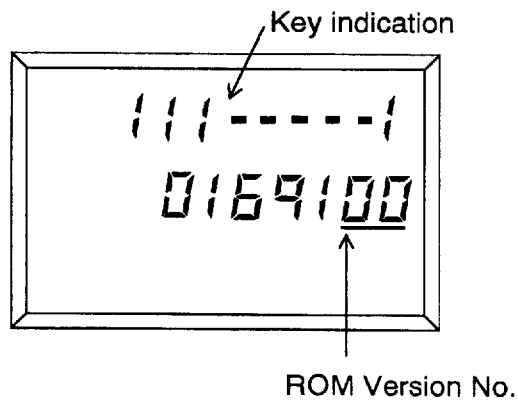
1. While pressing and holding down the **ALARM** key, press the **0** key. The dummy antenna in the antenna coupler, if mounted, is connected to the FS-1552 instead of the antenna. "DUMMY" appears and the test signal of the 2191kHz, modulated by two-tone alarm, is emitted to the dummy load for 45 seconds.
2. To suspend emission, press the **ALARM** key.

1.2 LCD/Keyboard Test & ROM Version No. Confirmation

Procedure

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 the indication on the upper hand-side of the LCD referring to the table below.

(Ex.) The **2** key is pressed.



All LCD segments reappear several seconds after the **2** key is pressed

| | | | | |
|------------|------|---|-------|-----|
| 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 |

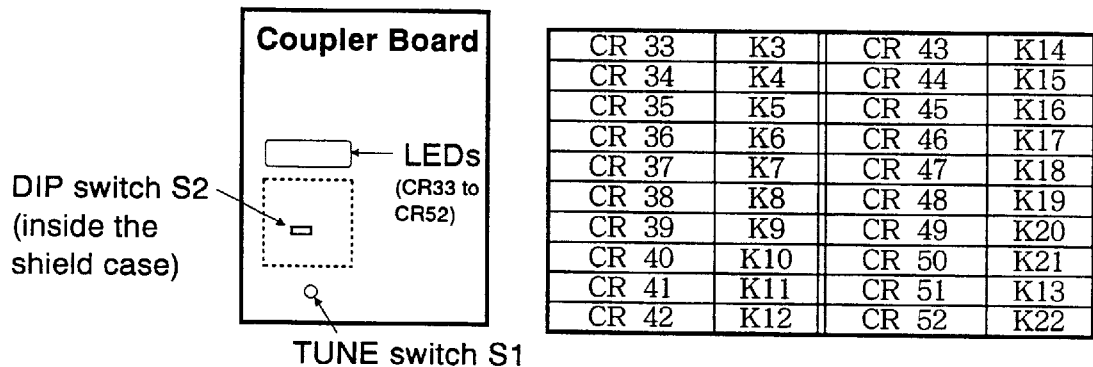
1.3 Antenna Coupler Test

The CPU and the relays which select capacitors and coils for tuning can be checked.

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 S1 in the antenna coupler.
5. The 20 LEDs (CR33 to CR52) light one by one for 1 second each. Then they brink all at once when the test is over.

LEDs and corresponding relays are as fellows.



6. Turn off no. 2 of the DIP switch S2.
7. Close the covers.

Note: Ensure that all switches of DIP switch S2 are set to "OFF" position before you close the cover.

2. Maintenance

Introduction

This radio is designed and manufactured to provide years of trouble-free performance. Without regular maintenance, however, no machine can perform its intended functions. A regular maintenance program should be established and should at least include the items listed in Table 2-1.

Table 2-1 Recommended maintenance program

| 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 metal structures. | If necessary, re-span antenna. |
| Insulators | Check for salt water accumulation on insulators. Check that connection at lead-in insulator is tight and rust-free. | Replace damaged insulators. Remove salt water deposits with fresh water. Remove rust, then tighten bolt and lock nut. Cover metallic surface with sealing compound. |
| Antenna coupler | Check contact at * Antenna terminal * Ground connection * Coaxial cable * Control cable (terminal board). Check that coupler lid and cable glands are firmly secured. Check for physical damage, corrosion and salt water deposits. | Tighten loosened connections. Fasten lid firmly and evenly to prevent water leakage. Replace if damaged. |
| Transceiver | Check contact at * Antenna cable * Ground connection * Power cable * Control cable Confirm that there are no objects on the top of the cabinet. | Tighten loosened connections; remove foreign material from connectors. Remove objects to prevent overheating. |

(continued on next page)

| Item | Check Point | Remedy/Remarks |
|--|--|---|
| Power supply | Check that supply voltage at transmission is within the rated range. (10.8 to 15.6 VDC at the power connector) | If not within the range, call for service. Low voltage may cause erratic operation. |
| 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 connectors of jumper cables. |
| Handset | Check that handset connector is firmly fastened. | Fasten if loosened. |

3. Troubleshooting

3.1 Troubleshooting List

Introduction

The troubleshooting list (below) gives common symptoms of equipment malfunction and the 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 licensed radiotelephone technician. Improper handling or adjustment may cause more serious damage.

Table 3-1 Troubleshooting list

| IF... | THEN... | ACTION |
|---------------------------------------|--|---|
| you can't turn on the power | <p>the mains switchboard may be off.</p> <p>the battery may have discharged, or poor contact at terminals.</p> <p>check fuse on the power cable or AC-DC (or DC-DC) power supply unit.</p> | <p>Turn on the mains switch.</p> <p>Recharge battery and tighten terminal connections.</p> <p>If blown, replace.</p> |
| frequency appears but no lamps light | the dimmer key may be off. | Operate the dimmer key. |
| power is on but no sound from speaker | <p>the speaker key may be off.</p> <p>volume may be too low.</p> <p>squelch may be on.</p> | <p>Turn on the speaker key.</p> <p>Adjust the VOLUME control.</p> <p>Press the SQ key if "SQ" appears on the display.</p> |
| you can't clarify SSB signal | <p>wrong class of emission may be in use. (For example, receiving SSB signal in H3E mode.)</p> <p>frequency may have detuned.</p> | <p>Select class of emission same as that of incoming signal.</p> <p>If USER or ITU channel receive mode, press the CLARIFY key then fine tune frequency by the FREQ/CH encoder.</p> |

(continued on next page)

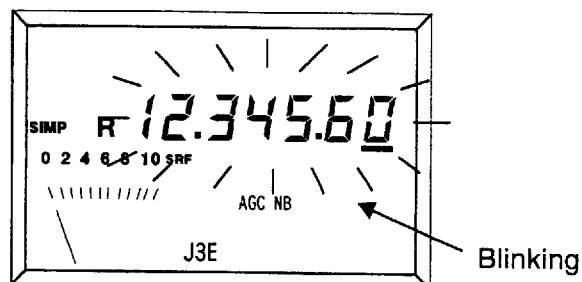
| IF... | THEN... | ACTION |
|--|--|--|
| output power is reduced to low ("LOW" indication blinks) | power is automatically reduced to protect against overheating due to continuous transmission. | Wait until the unit returns to normal condition. |
| key input is not accepted | the FS-1552 is under control of external equipment. | "REM" appears when controlled by external equipment. Suspend operation of external equipment. |
| antenna coupler can't tune antenna | antenna may be disconnected or shorted to ground. antenna is out of tunable length. poor coupler ground. breaker in coupler has tripped. connection cable has loosened or is disconnected. | Check antenna connections. Recommended length is 6 to 15 meters. Check coupler ground. Check mains voltage and polarity. If they are normal, reset breaker. Check cable. |

3.2 Error Indication

Introduction

When the FS-1552 detects a fault in the synthesizer unit (frequency unlocked), the frequency or channel number blinks.

Display



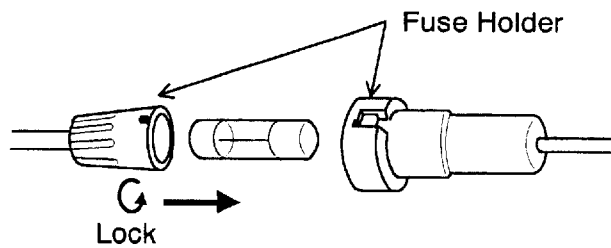
Action

Contact FURUNO agent or dealer.

4. Replacement of Fuses

Introduction

To protect the unit from reverse polarity and equipment fault, two 30 A fuses are provided in snap-in holders on the power cable.



Specifications

GENERAL

| | |
|---|---|
| Communication System | Simplex or semi-duplex |
| Frequency Range | 1.6 to 26.2 MHz (transmit) 0.1 to 30 MHz (receive) |
| Frequency Resolution | Transmit: 100 Hz Receive: 10 Hz |
| Class of Emission | J3E (USB) J3E (LSB) H3E (AM compatible) F1B F3C (weather facsimile, reception only) |
| Frequency Stability | ± 10 Hz |
| Number of Channels | User Channel: 200 ITU SSB/TELEX Channel 2182 kHz (single action) |
| Ambient Temperature Range | -20 to +55 °C |
| Relative Humidity | 93% at 40 °C |
| Power Supply and Power Consumption | 12 VDC +30 - 10% Receive: 1.5 A Transmit speech: 18A Transmit (max.): 30 A |
| Frequency Selection | Key or dial encoder |
| Dimmer | Illumination for keyboard and LCD (four levels incl. off) |
| Dimensions and Mass | 105 mm(W) \times 256 mm(H) \times 300 mm(D), 6.4 kg |

RECEIVER

Receiving System

Double-conversion superheterodyne
IF: 54.455 MHz and 455 kHz

Sensitivity

Input level to produce SINAD 20 dB

| | J3E | H3E | F1B |
|---------------------|-----|-----|-----|
| 0.1 to 0.3 MHz (*1) | +40 | +54 | |
| 0.3 to 1.6 MHz (*1) | +25 | +39 | |
| 1.6 to 4 MHz (*1) | +16 | +30 | +6 |
| 4 to 30 MHz (*2) | +3 | | -7 |

(dB μ V)

(*1): at 10 Ω + 250 pF (*2): at 50 Ω

Selectivity

2.4 kHz at -6 dB (J3E)
6.0 kHz at -6 dB (H3E)
300 Hz at -6 dB (F1B)

Spurious Response

Better than 70 dB

Intermodulation

Better than 80 dB

Audio Output

Internal speaker: 1 W/8 Ω
External speaker: 5 W/4 Ω
Line output: 0 dBm/600 Ω

Other Features

RF Gain: Adjustable
Squelch: ON/OFF, Activated by voice/signal strength
Dimmer: OFF/Low/Medium/High
Speaker: ON/OFF (Handset always alive)
AGC: ON/OFF
Noise blanker: always ON } Changeable by system setting

TRANSMITTER

| | |
|-------------------------|--|
| Output Impedance | 50 ohms |
| Output Power | J3E/H3E: 150 W F1B: 150 W (FEC mode: reduced to 75 W) Tune: 10 W approx. |
| Power Reduction | 60 to 70 W |
| Controls | Output HI/LOW, test/send of two-tone alarm generator, 2182 kHz single action key |

ANTENNA COUPLER (AT-1500)

| | |
|----------------------------|--|
| Tuning System | CPU controlled fully automatic tuning system |
| Frequency Range | 1.6 to 26.2 MHz |
| Input Impedance | 50 ohms (viewed from transceiver) |
| Antenna Required | 6 to 15 meters wire or whip |
| Power Capability | 150 W |
| Tuning Power | 10 W |
| VSWR | Less than 1.5 |
| Tuning Time | Within 2 to 15 seconds Within 0.5 seconds on pretuned bands |
| Dummy Load | Internal (10 ohms + 250 pF), optional supply |
| Power Requirement | 15 VDC 0.6 A (supplied from transceiver) |
| Ambient Temperature | – 30 to +70 °C at 95% relative humidity |
| Construction | Waterproof plastic cabinet, stainless steel mount |
| Dimensions and Mass | 267 mm(W) × 390mm(H) × 90mm(D), 2.9 kg approx. |

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

| Region | Ship Transmit (kHz) | Ship Receive (kHz) |
|------------|---------------------|--------------------|
| East Coast | 2031.5 | 2490.0 |
| | 2118.0 | 2514.0 |
| | 2126.0 | 2522.0 |
| | 2142.0 | 2538.0 |
| | 2166.0 | 2558.0 |
| | 2198.0 | 2590.0 |
| | 2366.0 | 2450.0 |
| | 2382.0 | 2482.0 |
| | 2390.0 | 2566.0 |
| | 2400.0 | 2400.0 |
| West Coast | 2406.0 | 2506.0 |
| | 2003.0 | 2450.0 |
| | 2009.0 | 2442.0 |
| | 2009.0 | 2566.0 |
| | 2031.5 | 2566.0 |
| | 2126.0 | 2522.0 |
| | 2206.0 | 2598.0 |
| | 2382.0 | 2466.0 |
| 2430.0 | 2482.0 | |

| Region | Ship Transmit (kHz) | Ship Receive (kHz) |
|--------------------------|---------------------|--------------------|
| Gulf Coast | 2009.0 | 2466.0 |
| | 2134.0 | 2530.0 |
| | 2142.0 | 2538.0 |
| | 2158.0 ¹ | 2550.0 |
| | 2166.0 | 2558.0 |
| | 2206.0 | 2598.0 |
| | 2366.0 | 2450.0 |
| | 2382.0 | 2482.0 |
| | 2430.0 | 2572.0 |
| | 2458.0 | 2506.0 |
| Great Lakes ² | 2118.0 | 2514.0 |
| | 2158.0 | 2550.0 |
| | 2206.0 | 2582.0 |
| Alaska | 2131.0 | 2309.0 |
| | 2134.0 | 2312.0 |
| | 2240.0 | 2400.0 |
| Hawaii | 2134.0 | 2530.0 |
| Caribbean | 2009.0 | 2506.0 |
| | 2086.0 ³ | 2585.0 |
| | 2134.0 | 2530.0 |
| Guam | 2009.0 | 2506.0 |

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

¹ Unlimited use December 15 to April 1 ² 2206 kHz for distress only.

³ Limited to pep of 150 W.

NOTE: ¹ to ³ 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 | CH NOs in () are ITU NOs (RR Section C-1). Use 3-digit Furuno's designators for selection in this radiotelephone. | | |
| 823 | 8785 | 8261 | | | |
| 824 | 8788 | 8264 | | | |
| 825 | 8791 | 8267 | | | |
| 826 | 8794 | 8270 | | | |
| 827 | 8797 | 8273 | | | |
| 828 | 8800 | 8276 | | | |
| 829 | 8803 | 8279 | | | |
| 830 | 8806 | 8282 | | | |
| 831 | 8809 | 8285 | | | |
| 832 | 8812 | 8288 | | | |
| 833 | 8291 | 8291 | | | |
| 834 | 8707 | 8707 | | | |
| 835 | 8710 | 8710 | | | |
| 836 | 8713 | 8713 | | | |
| 837 | 8716 | 8716 | | | |
| 838 | 8294 | 8294 | | | |
| 839 | 8297 | 8297 | | | |

A channel can be recalled by hitting the keys [RCL], [8], [0], [1], [ENT] for channel 801 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 8001, for a few seconds. (Additional zero is inserted automatically.)

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 | | | |

Above is factory programmed.

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.)

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 |

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.)

| 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 |

TELEX CHANNELS

MF BAND Telex FREQUENCY TABLE

The following frequencies are factory programmed.

| CH NO. | Ship Receive (NBDP, DSC) | Ship Transmit (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 | 12623.5 | 12521.5 | 12145 | 12651.0 | 12549.0 |
| 12036 | 12597.0 | 12494.5 | 12091 | 12624.0 | 12522.0 | 12146 | 12651.5 | 12549.5 |
| 12037 | 12597.5 | 12495.0 | 12092 | 12624.5 | 12522.5 | 12147 | 12652.0 | 12550.0 |
| 12038 | 12598.0 | 12495.5 | 12093 | 12625.0 | 12523.0 | 12148 | 12652.5 | 12550.5 |
| 12039 | 12598.5 | 12496.0 | 12094 | 12625.5 | 12523.5 | 12149 | 12653.0 | 12551.0 |
| 12040 | 12599.0 | 12496.5 | 12095 | 12626.0 | 12524.0 | 12150 | 12653.5 | 12551.5 |
| 12041 | 12599.5 | 12497.0 | 12096 | 12626.5 | 12524.5 | 12151 | 12654.0 | 12552.0 |
| 12042 | 12600.0 | 12497.5 | 12097 | 12627.0 | 12525.0 | 12152 | 12654.5 | 12552.5 |
| 12043 | 12600.5 | 12498.0 | 12098 | 12627.5 | 12525.5 | 12153 | 12655.0 | 12553.0 |
| 12044 | 12601.0 | 12498.5 | 12099 | 12628.0 | 12526.0 | 12154 | 12655.5 | 12553.5 |
| 12045 | 12601.5 | 12499.0 | 12100 | 12628.5 | 12526.5 | 12155 | 12656.0 | 12554.0 |
| 12046 | 12602.0 | 12499.5 | 12101 | 12629.0 | 12527.0 | 12156 | 12656.5 | 12554.5 |
| 12047 | 12602.5 | 12500.0 | 12102 | 12629.5 | 12527.5 | 12157 | 12657.0 | 12555.0 |
| 12048 | 12603.0 | 12500.5 | 12103 | 12630.0 | 12528.0 | 12158 | 12657.5 | 12555.5 |
| 12049 | 12603.5 | 12501.0 | 12104 | 12630.5 | 12528.5 | 12159 | 12658.0 | 12556.0 |
| 12050 | 12604.0 | 12501.5 | 12105 | 12631.0 | 12529.0 | 12160 | 12658.5 | 12556.5 |
| 12051 | 12604.5 | 12502.0 | 12106 | 12631.5 | 12529.5 | 12161 | 12659.0 | 12557.0 |
| 12052 | 12605.0 | 12502.5 | 12107 | 12632.0 | 12530.0 | 12162 | 12659.5 | 12557.5 |
| 12053 | 12605.5 | 12503.0 | 12108 | 12632.5 | 12530.5 | 12163 | 12660.0 | 12558.0 |
| 12054 | 12606.0 | 12503.5 | 12109 | 12633.0 | 12531.0 | 12164 | 12660.5 | 12558.5 |
| 12055 | 12606.5 | 12504.0 | 12110 | 12633.5 | 12531.5 | 12165 | 12661.0 | 12559.0 |

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 | 12577.5 | 12577.5 | 16027 | 16819.5 | 16696.5 | 16082 | 16724.0 | 16847.0 |
| 12193 | 12578.0 | 12578.0 | 16028 | 16820.0 | 16697.0 | 16083 | 16724.5 | 16847.5 |
| 12194 | 12578.5 | 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 | 16743.5 | 16861.5 | 16166 | 16889.0 | 16771.0 | 16221 | 16798.5 | 16798.5 |
| 16112 | 16744.0 | 16862.0 | 16167 | 16889.5 | 16771.5 | 16222 | 16799.0 | 16799.0 |
| 16113 | 16744.5 | 16862.5 | 16168 | 16890.0 | 16772.0 | 16223 | 16799.5 | 16799.5 |
| 16114 | 16745.0 | 16863.0 | 16169 | 16890.5 | 16772.5 | 16224 | 16800.0 | 16800.0 |
| 16115 | 16745.5 | 16863.5 | 16170 | 16891.0 | 16773.0 | 16225 | 16800.5 | 16800.5 |
| 16116 | 16746.0 | 16864.0 | 16171 | 16891.5 | 16773.5 | 16226 | 16801.0 | 16801.0 |
| 16117 | 16746.5 | 16864.5 | 16172 | 16892.0 | 16774.0 | 16227 | 16801.5 | 16801.5 |
| 16118 | 16747.0 | 16865.0 | 16173 | 16892.5 | 16774.5 | 16228 | 16802.0 | 16802.0 |
| 16119 | 16747.5 | 16865.5 | 16174 | 16893.0 | 16775.0 | 16229 | 16802.5 | 16802.5 |
| 16120 | 16748.0 | 16866.0 | 16175 | 16893.5 | 16775.5 | 16230 | 16803.0 | 16803.0 |
| 16121 | 16748.5 | 16866.5 | 16176 | 16894.0 | 16776.0 | 16231 | 16803.5 | 16803.5 |
| 16122 | 16749.0 | 16867.0 | 16177 | 16894.5 | 16776.5 | 16232 | 16804.0 | 16804.0 |
| 16123 | 16749.5 | 16867.5 | 16178 | 16895.0 | 16777.0 | 16233 | 16804.5 | 16804.5 |
| 16124 | 16750.0 | 16868.0 | 16179 | 16895.5 | 16777.5 | 16234 | 16805.0 | 16805.0 |
| 16125 | 16750.5 | 16868.5 | 16180 | 16896.0 | 16778.0 | 16235 | 16805.5 | 16805.5 |
| 16126 | 16751.0 | 16869.0 | 16181 | 16896.5 | 16778.5 | 16236 | 16806.0 | 16806.0 |
| 16127 | 16751.5 | 16869.5 | 16182 | 16897.0 | 16779.0 | | | |
| 16128 | 16752.0 | 16870.0 | 16183 | 16897.5 | 16779.5 | | | |
| 16129 | 16752.5 | 16870.5 | 16184 | 16898.0 | 16780.0 | | | |
| 16130 | 16753.0 | 16871.0 | 16185 | 16898.5 | 16780.5 | | | |
| 16131 | 16753.5 | 16871.5 | 16186 | 16899.0 | 16781.0 | | | |
| 16132 | 16754.0 | 16872.0 | 16187 | 16899.5 | 16781.5 | | | |
| 16133 | 16754.5 | 16872.5 | 16188 | 16900.0 | 16782.0 | | | |
| 16134 | 16755.0 | 16873.0 | 16189 | 16900.5 | 16782.5 | | | |
| 16135 | 16755.5 | 16873.5 | 16190 | 16901.0 | 16783.0 | | | |
| 16136 | 16756.0 | 16874.0 | 16191 | 16901.5 | 16783.5 | | | |
| 16137 | 16756.5 | 16874.5 | 16192 | 16902.0 | 16784.0 | | | |
| 16138 | 16757.0 | 16875.0 | 16193 | 16902.5 | 16784.5 | | | |
| 16139 | 16757.5 | 16875.5 | 16194 | 16785.0 | 16785.0 | | | |
| 16140 | 16758.0 | 16876.0 | 16195 | 16785.5 | 16785.5 | | | |
| 16141 | 16758.5 | 16876.5 | 16196 | 16786.0 | 16786.0 | | | |
| 16142 | 16759.0 | 16877.0 | 16197 | 16786.5 | 16786.5 | | | |
| 16143 | 16759.5 | 16877.5 | 16198 | 16787.0 | 16787.0 | | | |
| 16144 | 16760.0 | 16878.0 | 16199 | 16787.5 | 16787.5 | | | |
| 16145 | 16760.5 | 16878.5 | 16200 | 16788.0 | 16788.0 | | | |
| 16146 | 16761.0 | 16879.0 | 16201 | 16788.5 | 16788.5 | | | |
| 16147 | 16761.5 | 16879.5 | 16202 | 16789.0 | 16789.0 | | | |
| 16148 | 16762.0 | 16880.0 | 16203 | 16789.5 | 16789.5 | | | |
| 16149 | 16762.5 | 16880.5 | 16204 | 16790.0 | 16790.0 | | | |
| 16150 | 16763.0 | 16881.0 | 16205 | 16790.5 | 16790.5 | | | |
| 16151 | 16763.5 | 16881.5 | 16206 | 16791.0 | 16791.0 | | | |
| 16152 | 16764.0 | 16882.0 | 16207 | 16791.5 | 16791.5 | | | |
| 16153 | 16764.5 | 16882.5 | 16208 | 16792.0 | 16792.0 | | | |
| 16154 | 16765.0 | 16883.0 | 16209 | 16792.5 | 16792.5 | | | |
| 16155 | 16765.5 | 16883.5 | 16210 | 16793.0 | 16793.0 | | | |
| 16156 | 16766.0 | 16884.0 | 16211 | 16793.5 | 16793.5 | | | |
| 16157 | 16766.5 | 16884.5 | 16212 | 16794.0 | 16794.0 | | | |
| 16158 | 16767.0 | 16885.0 | 16213 | 16794.5 | 16794.5 | | | |
| 16159 | 16767.5 | 16885.5 | 16214 | 16795.0 | 16795.0 | | | |
| 16160 | 16768.0 | 16886.0 | 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 | 18898.5 | 18898.5 |
| 18008 | 19684.5 | 18874.0 | 18058 | 18899.0 | 18899.0 |
| 18009 | 19685.0 | 18874.5 | 18059 | 18899.5 | 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 | 22374.5 | 22374.5 | 25031 | 26116.0 | 25188.0 | | | |
| 22182 | 22375.0 | 22375.0 | 25032 | 26116.5 | 25188.5 | | | |
| 22183 | 22375.5 | 22375.5 | 25033 | 26117.0 | 25189.0 | | | |
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