

SITEX 

**FULL SYNTHESIZED
MARINE VHF/FM
RADIOTELEPHONE**

OWNERS MANUAL

SITEX 950

SI-TEX MARINE ELECTRONICS INC.

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INTRODUCTION

This instruction manual provides information necessary for proper operation of your VHF/FM radiotelephone.

To avoid problems and obtain the best results, please read this instruction manual carefully before operating the unit.

You should become familiar with the FCC rules and regulations regarding the proper operating procedures, channels assigned for your type of operation, and restrictions that apply to the use of United States channels.

WARRANTY INFORMATION

The warranty certificate provided with this unit outlines the limited warranty provisions. Water damage is specifically EXCLUDED from the limited warranty. It is therefore important to protect the equipment from water spray and rain.

IMPORTANT NOTICE

This space is provided to record a description of your VHF/FM radiotelephone equipment. Enter the information for a permanent record.

Manufacturer : _____
Description : VHF/FM Radiotelephone
Model Number : _____
Serial Number : _____
Date of Purchase : _____
Station License Number : _____
Call Sign : _____

FCC LICENSE AND REGULATION INFORMATION

The FCC requires a ship station license for any vessel on which a radiotelephone is installed. The following procedures should be followed to obtain the ship station license.

1. It is necessary for you to fill out FCC Form 506, an application for ship station license, sign it and mail to **FEDERAL COMMUNICATIONS COMMISSION, GETTYSBURG, PENNSYLVANIA 17325**.
2. You may operate your VHF/FM marine radio under a temporary license Form 506A. You should read FCC Form 506A carefully to determine whether you meet all the requirements for holding a temporary permit. After reading Form 506A, you should sign the form and indicate the date of mailing of Form 506. **DO NOT MAIL THE TEMPORARY PERMIT**. Keep it in your possession until notification is received from the FCC that the regular license application has been approved. This temporary form is valid for 60 days.
3. Determine a temporary call sign to be used with the temporary permit, and enter this call sign in the appropriate place on Form 506A.

SPECIFICATIONS

TRANSMITTER

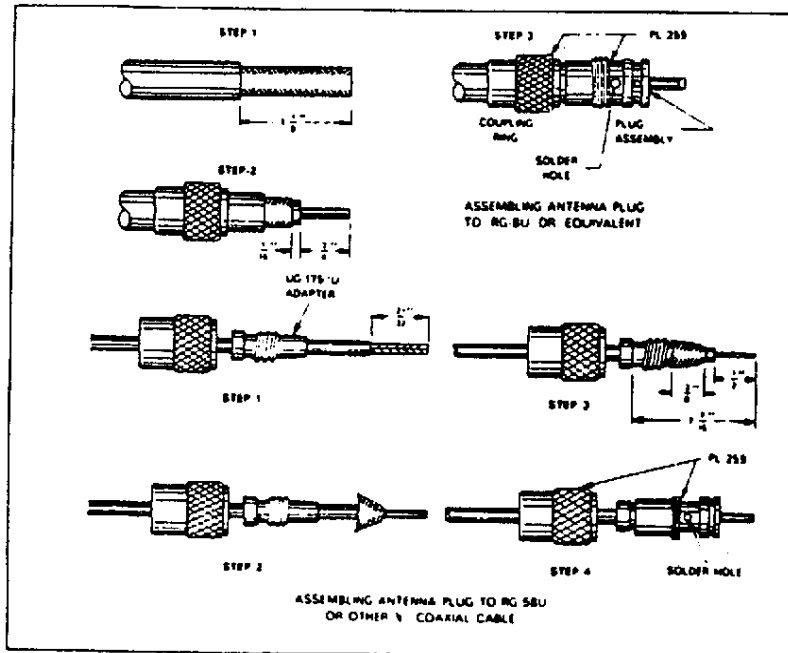
Channels : 49
Frequency Range : 156.050 to 157.425 MHz.
Frequency Stability : 0.001%
Channel Spacing : 25 KHz.
Temperature Range : -20°C to + 50°C
Antenna Impedance : 50 ohms
Spurious and Harmonics
 Emission : -60 dB
Transmit Power : Low 1 Watt / High 25 Watts
Modulation : 16F3
Power Requirements : 12V DC, Negative ground
Current Drain : Low power : 1.5 amps
 High power : 6 amps
Microphone Type : Dynamic

RECEIVER

Channels : 59
Frequency Range : 156.050 to 162.550 MHz.
Sensitivity : 0.5 microvolts or less for
 -20 dB quieting
Squelch Sensitivity : Threshold 0.35 microvolts
 tight 1.0 microvolts
Spurious and Image
 Rejection : -60 dB or better
Intermodulation Rejection : -60 dB
Audio Output : 2.5 Watts into 8 ohms
 10% distortion
Receiver Current : 1.0 amps at 12V DC
Weight : 3.5 lbs.
Dimensions : 2.4"(H) x 7" (W) x 8.75" (D)

**THIS MARINE VHF/FM RADIOTELEPHONE IS FCC TYPE
ACCEPTED FOR MARINE/MOBILE USE UNDER PART 80,
FOR VOLUNTARILY FITTED VESSELS.
NO LICENSED TECHNICIAN REQUIRED FOR INSTALLATION
PROVIDING PRE-TUNING IS NOT CHANGED.**

COAX CONNECTOR ASSEMBLY DETAIL



INSTALLED MARINE CHANNELS AND THEIR USAGE

CAUTION: While it is possible to select channel such as channels WX1 ~ WX9 and 15, the transmitter is disabled since no communication is authorized on these channels.

| INSTALLED CHANNELS | FREQUENCY (MHz) | | TYPE TRAFFIC | FUNCTION | |
|--------------------|-----------------|---------|--------------------|--------------|---------------|
| | TX | RX | | SHIP TO SHIP | SHIP TO SHORE |
| WX1 | - | 162.550 | NOAAWX | Receive Only | Receive Only |
| WX2 | - | 162.400 | NOAAWX | Receive Only | Receive Only |
| WX3 | - | 162.475 | NOAAWX | Receive Only | Receive Only |
| WX4 | - | 162.425 | NOAAWX | Receive Only | Receive Only |
| WX5 | - | 162.450 | NOAAWX | Receive Only | Receive Only |
| WX6 | - | 162.500 | NOAAWX | Receive Only | Receive Only |
| WX7 | - | 162.52- | NOAAWX | Receive Only | Receive Only |
| WX8 | - | 161.650 | CanadianWX | Receive Only | Receive Only |
| WX9 | - | 161.775 | CanadianWX | Receive Only | Receive Only |
| 01 | 166.050 | 166.050 | Port Op | Yes | Yes |
| 02 | 166.100 | 166.100 | Port Op | Yes | Yes |
| 03 | 166.150 | 166.150 | Port Op | Yes | Yes |
| 04 | 166.200 | 166.200 | Port Op | Yes | Yes |
| 05 (A) | 166.250 | 166.250 | Port Op | Yes | Yes |
| 06 | 166.300 | 166.300 | Safety | Yes | No |
| 07 (A) | 166.350 | 166.350 | Com'l | Yes | Yes |
| 08 | 166.400 | 166.400 | Com'l | Yes | No |
| 09 | 166.450 | 166.450 | Com'l & Non Com'l | Yes | Yes |
| 10 | 166.500 | 166.500 | Com'l | Yes | Yes |
| 11 | 166.550 | 166.550 | Com'l | Yes | Yes |
| 12 | 166.600 | 166.600 | Port Op | Yes | Yes |
| 13 | 166.650 | 166.650 | Nav. | Yes | Yes |
| 14 | 166.700 | 166.700 | Port Op | Yes | Yes |
| 15 | - | 166.750 | Distress, Safety C | Receive Only | Receive Only |
| 16 | 166.800 | 166.800 | Safety C | Yes | Yes |
| 17 | 166.850 | 166.850 | State Com | Yes | Yes |
| 18 (A) | 166.900 | 166.900 | Com'l | Yes | Yes |
| 19 (A) | 166.950 | 166.950 | Com'l | Yes | Yes |
| 20 | 167.000 | 167.000 | Port Op | Yes | Yes |
| 21 (CG) | 167.050 | 167.050 | Coast Ga'd | Yes | Yes |
| 22 (CG) | 167.100 | 167.100 | Coast Ga'd | Yes | Yes |
| 23 (CG) | 167.150 | 167.150 | Coast Ga'd | Yes | Yes |
| 24 | 167.200 | 167.200 | Public C | No | Yes |
| 25 | 167.250 | 167.250 | Public C | No | Yes |
| 26 | 167.300 | 167.300 | Public C | No | Yes |
| 27 | 167.350 | 167.350 | Public C | No | Yes |
| 28 | 167.400 | 167.400 | Public C | No | Yes |
| 65 (A) | 166.275 | 166.275 | Port Op | Yes | Yes |
| 66 (A) | 166.325 | 166.325 | Port Op | Yes | Yes |
| 67 | 166.375 | 166.375 | Com'l | Yes | No |
| 68 | 166.425 | 166.425 | Non Com'l | Yes | Yes |
| 69 | 166.475 | 166.475 | Non Com'l | Yes | Yes |
| 70 | 166.525 | 166.525 | Non Com'l | Yes | No |
| 71 | 166.575 | 166.575 | Non Com'l | Yes | Yes |
| 72 | 166.625 | 166.625 | Non Com'l | Yes | No |
| 73 | 166.675 | 166.675 | Port Op | Yes | Yes |
| 74 | 166.725 | 166.725 | Port Op | Yes | Yes |
| 77 | 166.875 | 166.875 | Port Op | Yes | No |
| 78 (A) | 166.925 | 166.925 | Non Com'l | Yes | Yes |
| 79 (A) | 166.975 | 166.975 | Com'l | Yes | Yes |
| 80 | 167.025 | 167.025 | Com'l | Yes | Yes |
| 81 | 167.075 | 167.075 | Coast Ga'd | Yes | Yes |
| 82 (CG) | 167.125 | 167.125 | Coast Ga'd | Yes | Yes |
| 83 (CG) | 167.175 | 167.175 | Coast Ga'd A | Yes | Yes |
| 84 | 167.225 | 167.225 | Public C | No | Yes |
| 85 | 167.275 | 167.275 | Public C | No | Yes |
| 86 | 167.325 | 167.325 | Public C | No | Yes |
| 87 | 167.375 | 167.375 | Public C | No | Yes |
| 88 (A) | 167.425 | 167.425 | Com'l | Yes | No |

CAUTION: OPERATION OF CHANNELS NOT DESIGNATED FOR USES BY YOUR CLASSIFICATION OF CRAFT OR ON INTERNATIONAL CHANNELS WHEN WITHIN UNITED STATES TERRITORIAL WATERS IS A VIOLATION OF FEDERAL COMMUNICATIONS COMMISSION RULES AND REGULATIONS AND MAY RESULT IN SEVERE PENALTIES.

GENERAL DESCRIPTION

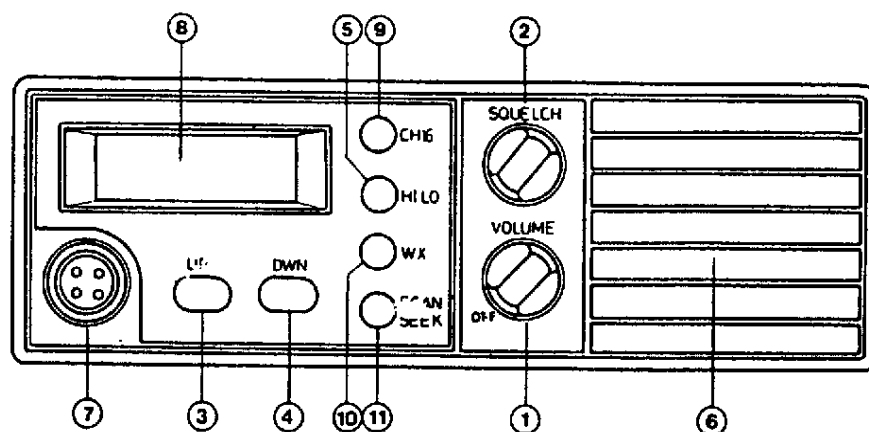
This unit is an all solid state VHF-FM marine radiotelephone. It contains 49 transmit channels and 59 receive channels which includes 7 U.S. weather channels and 2 Canadian weather channels. These channels are designated for marine VHF-FM operations in United States territorial waters.

This unit is completely factory calibrated and does not require the services of a licensed technician for installation.

Channel selection automatically sets up the proper U.S. mode of operation. Key pad switches permit instant selection of Channel 16 for emergency use and High-Low transmit power. Front panel indicators display each mode of operation in the highly visible liquid crystal display (LCD).

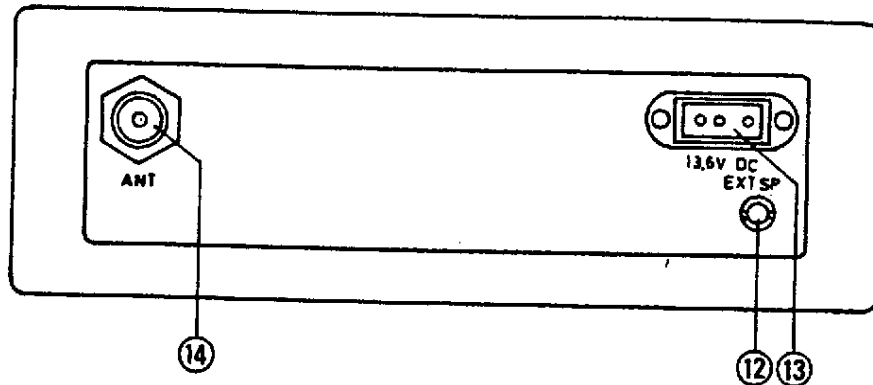
The unit is rugged and reliable. With normal care and protection it will provide many years of dependable operation.

FRONT PANEL AND CONTROLS



1. **ON-OFF/VOLUME CONTROL**
Applies power to the Model 950 and adjusts desired level of sound.
2. **SQUELCH CONTROL**
When properly set, silences background noise in absence of a received signal.
3. **UP KEY**
Pressing UP key and releasing increases channel numbers one at a time. By applying constant pressure to UP key channel number increases automatically.
4. **DOWN KEY**
Pressing DOWN key and releasing decreases channel numbers one at a time. By applying constant pressure to DOWN key channel number decreases automatically.
5. **HI-LOW KEY**
Low position : Transmitter is powered at 1 watt level.
HI position : Transmitter is powered at 25 watts level.
6. **SPEAKER**
Front panel speaker.
7. **MICROPHONE JACK**
Allows microphone plug to be connected.
8. **LCD CHANNEL/FUNCTION DISPLAY**
Shows channel number, power level, SEEK , WX and TX mode.
9. **CHANNEL 16 KEY**
Will automatically switch from displayed channel to Channel 16.
10. **WX KEY**
Allows monitoring any of 9 weather channels.
11. **SEEK KEY**
Puts unit into SEEK mode.

REAR PANEL CONNECTORS



12. **EXTERNAL JACK**
Connect external speaker into jack. 8 ohms, 2.5 watts.
13. **POWER CORD CONNECTOR**
Connect power cable.
14. **ANTENNA CONNECTOR**
Connect VHF-FM marine antenna.

INSTALLATION

Refer to the installation and connection diagrams. Your radiotelephone is designed for easy installation, however, certain recommendations should be followed.

Location

Choose a convenient location for easy access and operation. Choose a location that will provide protection from extreme conditions such as rain, direct spray of salt or fresh water and from extreme heat.

Mounting the Radio

A universal mounting bracket is supplied and can be used for bulkhead, overhead or table top mounting. Use the mounting bracket as a template to locate holes for mounting the unit.

Antenna Location and Mounting

This radio requires a 50 ohm VHF/FM marine antenna -NOT SUPPLIED. Consult with your marine dealer to determine the best type of antenna for your type of boat.

Mount the antenna as high as possible, on the mast head or cabin top. It should be as high as practical for the best performances and longest range.

Antenna Connection

After installing the antenna, route the cable to the back of the radio and connect it to the ANT connector.

CAUTION : Do not press the transmit switch (on the microphone) unless the antenna is connected. Damage can result and your warranty may be void.

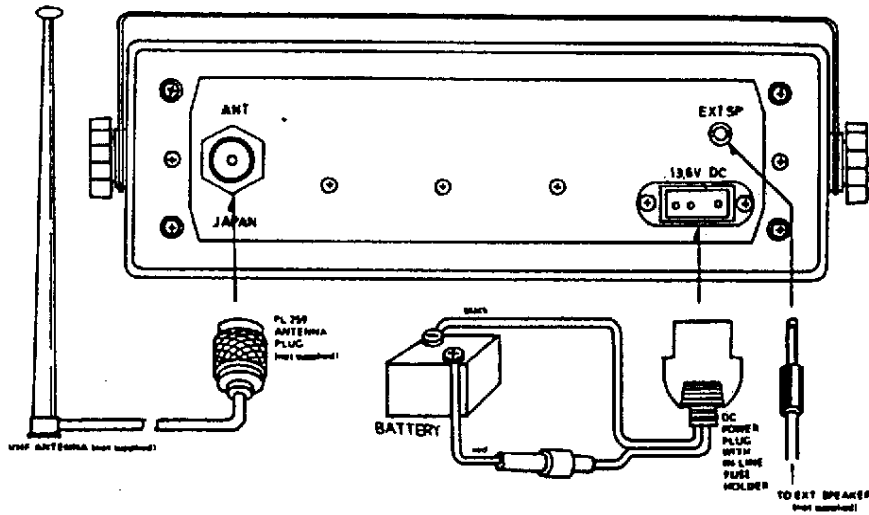
Power Connection

This unit is designed to operate from a 12V DC NEGATIVE GROUND system only. Do not connect the unit to a positive ground or a floating ground. The power cable provided with the unit contains an in-line fuse to protect both the unit and the power source. In addition, the unit contains a special protective circuit to prevent excessive damage in case of reversed polarity or improperly wired unit. The fuse will normally blow when polarity is reversed.

NOTE : When a fuse blows, check the protective circuit to be sure that it is not damaged. Do not install a higher rated fuse. Use a 7 amp 3 AG type of fuse.

The power cable is color coded for easy identification. Connect the Red wire to the (+) positive terminal and the Black wire to the (-) negative terminal of the battery. If necessary to extend the power cable, be sure to use #10 AWG stranded wire with a similar color code for easy identification.

INSTALLATION DIAGRAM



OPERATION

RECEIVING

1. Rotate the VOLUME control clockwise. When you hear a click, the power is on. Adjust the control to the desired listening level of sound.
If you do not hear any sound, proceed to next step.
2. Turn the SQUELCH completely counterclockwise. When sound comes from the speaker, adjust the VOLUME control to the desired listening level. Set the channel to an unused channel, then adjust the SQUELCH control clockwise until the background noise is just eliminated. This is called threshold adjustment. Further rotation of the squelch control can block out weaker signals.
3. Select the channel desired with up or down key of keypad
If channel 16 is to be used, select with CH 16 key.

TRANSMITTING

CAUTION : DO NOT TRANSMIT UNLESS THE ANTENNA IS CONNECTED TO THE UNIT.

Transmission is controlled by the "Push to Talk" switch on the microphone. When the switch is pressed, the transmitter is turned on and the receiver is turned OFF. When the switch is released, the receiver is turned ON again and the transmitter is turned off. TX will appear in the LCD display when the PTT switch is pressed.

1. Before transmitting, choose the desired channel for operation. Be sure that the channel is clear and not occupied by another party.
2. If your transmission is to be short range or in a harbor area, set to LOW power. When the communication range is longer, set to HI power. HI or LOW power is indicated in the LCD display.

Low power is 1 watt, high power is 25 watts.

NOTE : Channel 13 and 67 are automatically set to 1W low power when they are selected. 25W high power for these two channel is available by pressing the HI/LO switch. The transmitter will not operate on CH 15 and on weather channels WX1 thru WX 9.

3. Do not use obscene language in your communications. It is a violation of the rules and regulations and your license can be revoked.

USING THE KEYPAD

16

16 KEY

Pressing the "16" key selects channel "16". When selecting a channel other than "16", operates the keys as follows :

- a) Press the "DOWN" key to select channel 15 or below.
- b) Press the "UP" key to select channel 17 or above.
- c) Press the "SEEK" key and the SEEK operation will start from channel 16.
- d) Pressing the "16" key again makes the unit return to the last channel set before the "16" key was pressed.

SEEK

SEEK KEY

Pressing the "SEEK" key starts the SEEK or searching operation. The searching speed is 2 channels per second and the stop period is 4 seconds approx. on any active channel. To stop the SEEK operation, operate the keys as follows :

- a) Re-press the "SEEK" key. The seek operation stops at the last channel displayed.
- b) Pressing the "WX" key stops the "SEEK" operation and causes the radio to receive on channel WX 1.
- c) Pressing "UP" or "DOWN" key also stops the "SEEK" operation, and automatically changes to "UP" or "DOWN" function.
- d) Pressing the "16" key stops the "SEEK" operation and immediately operates on channel 16.
- e) Depressing the microphone switch stops the "SEEK" operation at last channel displayed and turns the transmitter ON.

WX

WX KEY

Pressing the "WX" key during reception in any other channel selects the channel WX 1. Pressing "UP" key advances the channel to WX 2, WX 3 ... WX 9 in this sequence and pressing "DOWN" key goes back the channel to WX 8, WX 7 ... WX 1 sequentially.

When selecting other channels, operate the keys as follows :

- a) Re-pressing the "WX" key returns the unit to the last channel selected before the "WX" channel was selected.
- b) Pressing the CH 16 key automatically selects channel 16.
- c) The "SEEK" key is disabled when in "WX" mode.

UP

UP KEY

Pressing the "UP" key increases the channel numbers.

Pressing the key during transmit mode also advances channel numbers.

DOWN DOWN KEY

Pressing the "DOWN" key decreases the channel numbers. Pressing the key during transmit mode also decreases the channel numbers.

**HI
LO** TRANSMIT POWER KEY

The transmit power is switched from "LO" to "HI" or "HI" to "LO" each time the key is pressed. The word "HI" or "LO" appears on the LCD display.

POWER SWITCH

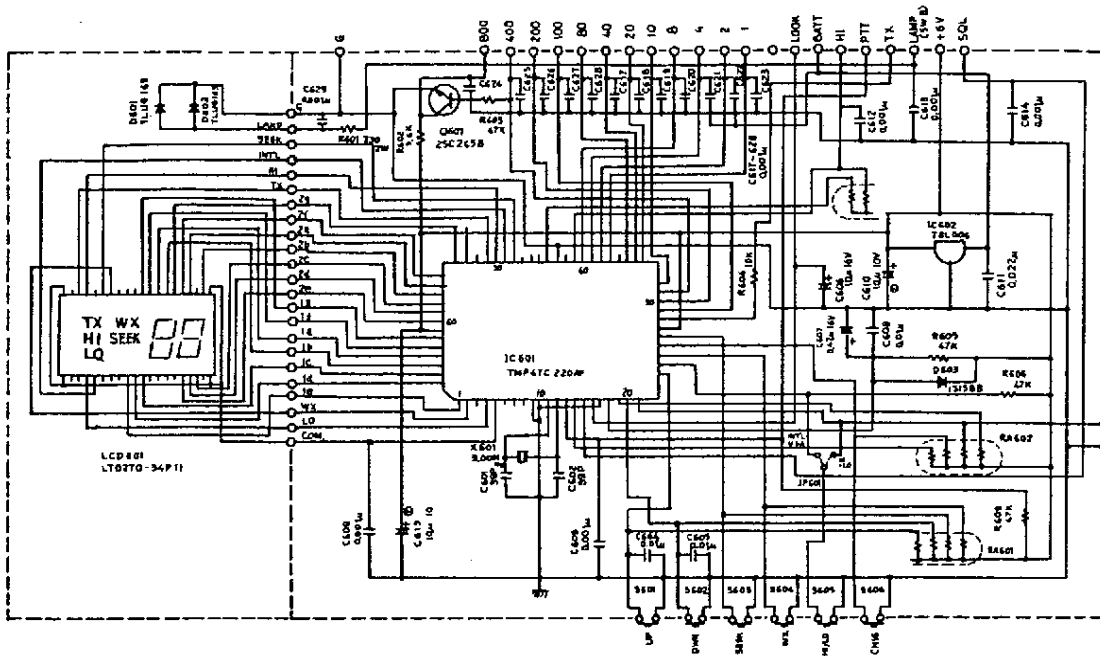
When the power is turned on, the set will automatically return to the last displayed channel.

NOTICE

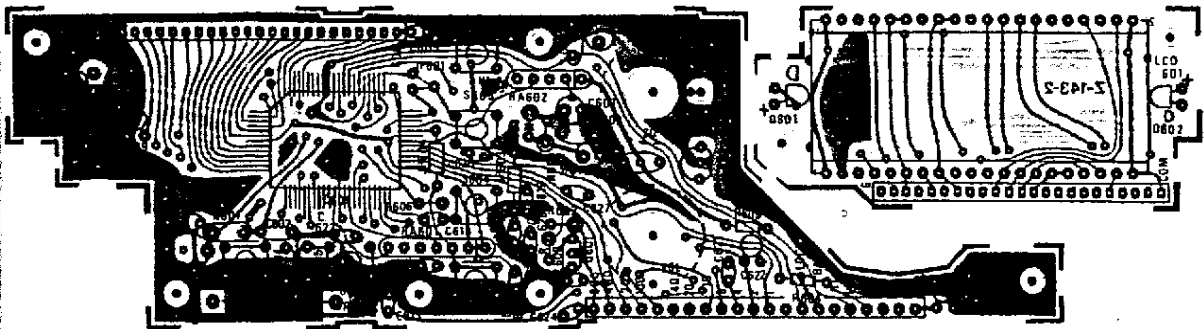
The FCC has reassigned the use of Channel 70
156.525 MHz for Digital Selective Calling only.
Do not use Channel 70 for radiotelephone communications.

- TEX 950 SERVICE DATA

SCHEMATIC DIAGRAM CPU BOARD



P.C. BOARD LAYOUT CPU



SHIP RADIO STATION MAINTENANCE LOG

Page No. _____ Name of Vessel _____ Radio Call _____

| DATE | SERVICE PERFORMED | TECHNICIAN'S LICENSE DATA |
|------|-------------------|-----------------------------------------------------------------------------|
| | | Class _____ Number _____ Expiration Date _____ Address _____ _____ |
| | | Class _____ Number _____ Expiration Date _____ Address _____ _____ |
| | | Class _____ Number _____ Expiration Date _____ Address _____ _____ |
| | | Class _____ Number _____ Expiration Date _____ Address _____ _____ |
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