

**MIDLAND**  
INTERNATIONAL<sup>®</sup>



**MODEL 79-892**

**40-CHANNEL MOBILE TRANSCEIVER**



**OWNER'S GUIDE**

**SYNTHESIZED, AM, USB AND LSB ON ALL 40 CB CHANNELS**



**MODEL 79-892**

For your protection and convenience the space below is provided for you to record the serial number of this product. The model number and serial number are located on the rear of the cabinet. After recording this number, keep this record for your future reference.

Serial Number \_\_\_\_\_

## FEDERAL COMMUNICATIONS COMMISSION'S REQUIREMENTS

Your new Midland 79-892 is a combination receiver-transmitter designed and built for licensed Class D operation on any of the 40 frequencies designated for citizens band use by the Federal Communications Commission. You are required to read and understand Part 95 of the F.C.C. rules and regulations prior to operation of this unit. You are also required to complete F.C.C. form 505 and submit it to the FCC, GETTYSBURG, PA. 17326 in order to receive your license to operate this unit. F.C.C. regulations will be violated if you transmit with this unit **without complying with procedures explained on F.C.C. temporary license Form 555-B.** You may use Form 555-B as a temporary permit while your regular Form 505 application is being processed by the F.C.C. Both Forms are packed with the transceiver along with a copy of part 95 regulations for your use and convenience.

**NOTE:** The technical information, diagrams, and charts provided in this manual are supplied for the use of a qualified holder of a first or second class radiotelephone license in servicing this transceiver. It is the user's responsibility to see that this unit is operating at all times in accordance with the F.C.C. Citizens Radio Service regulations.

If you install or service your own transceiver, do not attempt to make any transmitter tuning adjustment. Transmitter adjustments are prohibited by the F.C.C. unless you hold a first or second class radiotelephone license or are in the presence of a person holding such a license. A Citizens Band or Amateur license is not sufficient.

When service is performed by an authorized and licensed person, care must be taken in the replacement of parts to use only authorized parts, in order not to void the type acceptance of this model.

Midland International Corporation, Communications Division, hereby certifies that this unit has been designed, manufactured and F.C.C. type accepted in accordance with Part 95 and Part 15, Sub-part C of the current F.C.C. rules and regulations as of the date of manufacture.

## OWNER'S GUIDE

Your 79-892 is a versatile, professional quality transceiver and we strongly suggest that you read this Owner's Guide carefully before operation so that you may receive full benefit from its many features.

**WARNING:** To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

### SINGLE SIDEBAND

SSB (Single Sideband) is relatively new in Citizens Band Communications but has been highly effective in commercial amateur and military usage for many years. It is a superior means of wireless communications allowing transmissions of greater distances with a minimum amount of interference and noise.

There are two types of single sideband transmissions, USB (Upper Sideband) and LSB (Lower Sideband). These might be described as half signals and due to the narrow band-width required, will travel over greater distances at lower power than ordinary AM signals. Figure 1 below illustrates USB and LSB signals and the reference carrier line.

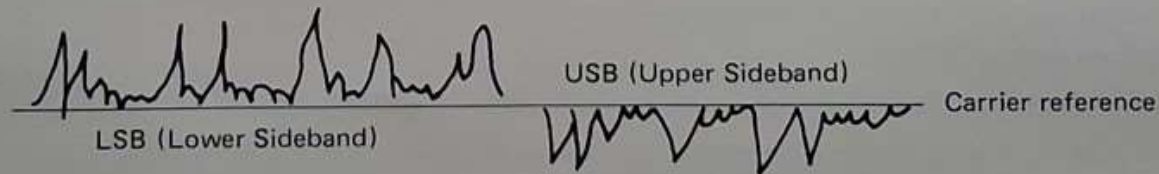


Figure 1

In the actual transmission of either USB or LSB, the carrier is removed. All of the modulation for a transmission is concentrated in either the Upper or the Lower sideband. In the receiver, the carrier is reconstructed and the intelligence or modulated voice is then detected, amplified and converted into an audible sound heard at the speaker.

AM (Amplitude Modulation) has been the standard method of Citizens Band Class D service and transmission for many years and most of the existing transceivers being used today are AM. Technically, Amplitude Modulation is Double Sideband (DSB). In this method of operation, a carrier is transmitted which is modulated or interrupted by voice on both positive and negative sides as represented by Figure 2.

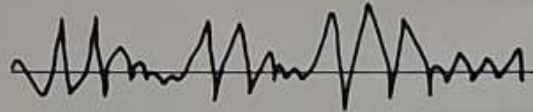


Figure 2

## COMPATIBILITY

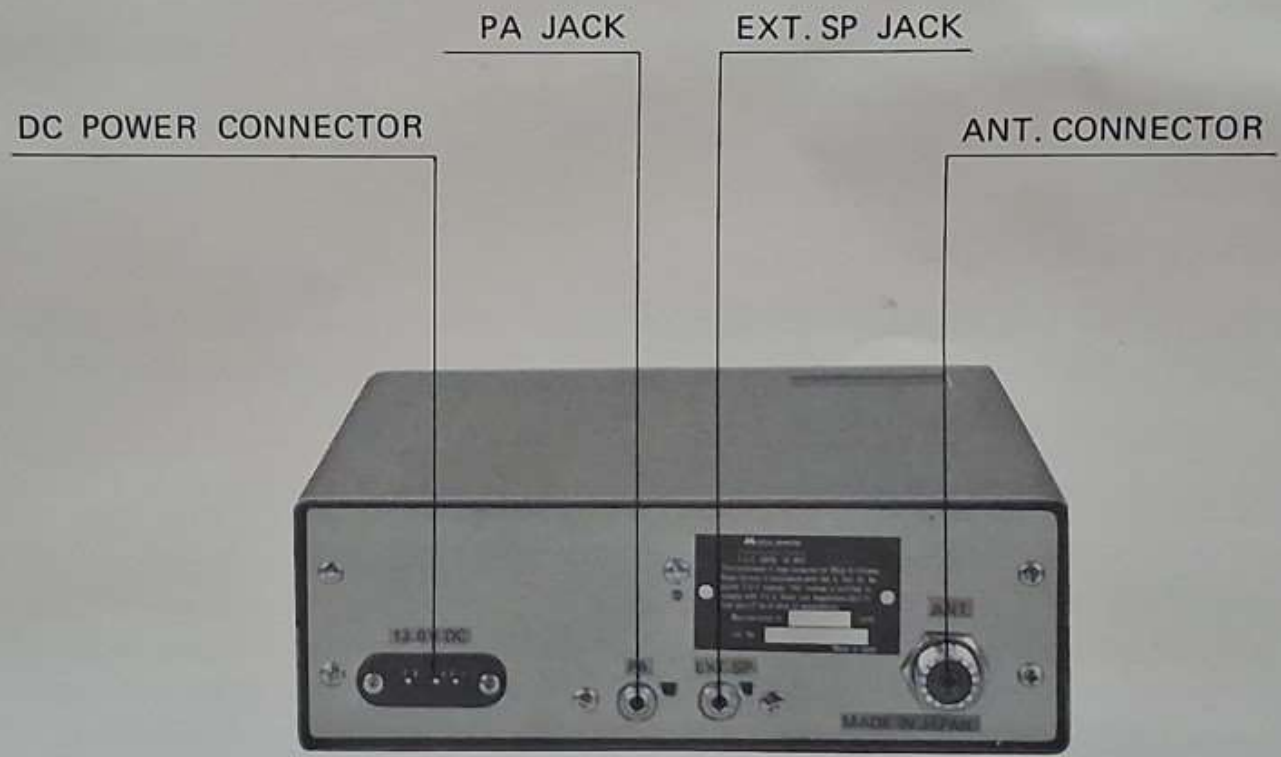
The 79-892 is designed to be completely compatible with all current modes of Class D operation, including single sideband (upper or lower), double sideband, or conventional AM and is equipped with separate transmitter circuitry to provide high level AM (Amplitude Modulated) transmissions and true SSB (Single Sideband) transmissions. The receiver section is also capable of receiving AM and SSB. The mode of operation for both receiver and transmitter sections is automatically selected by the mode selector switch.

# OPERATION OF CONTROLS

## FRONT VIEW



BACK VIEW



## **CLARIFIER (LOCATED ON MICROPHONE)**

When receiving SSB signals, adjust the CLARIFIER knob carefully and fix at such a position where the incoming signal can be heard most clearly. Because of the characteristics of an SSB signal, it is extremely important to adjust this control. With improper CLARIFIER adjustment, the signal will not be intelligible. The sound will be distorted. SSB tuning will become easy as you acquaint yourself with the operation of this control. After adjusting it to clarify once, no adjustment is needed if you stay on the same mode and channel, receiving the same station.

## **OFF POWER-VOLUME/PA CONTROL**

This turns the power on or off.

This controls the sound output from the speaker when receiving or from the public address (PA) speaker connected to the PA jack on the rear panel. The volume control does not affect transmitting output.

To turn the power off, rotate the control all the way counter-clockwise until a click is heard.

## **SQUELCH CONTROL**

Turning the control clockwise quiets the receiver when signals are not being received and allows a quiet standby operation. It functions only in the receive mode and does not affect the receiver volume when signals are being received.

To adjust, when no signals are present, rotate the squelch control clockwise until the receiver is quieted. Incoming signals will automatically release the squelch. Careful adjustment is necessary as a setting too far to the right will not allow weaker signals to release the squelch.

### **LSB-USB-AM SWITCH**

Controls the mode of operation for the transmitter and receiver simultaneously and allows selection of conventional AM operation or SSB operation on either upper or lower side band. In order to communicate with another transceiver, you must use the same operating mode.

### **CHANNEL SELECTOR**

This controls both transmitter and receiver frequencies simultaneously and may be set to any of the 40 channel positions indicated.

### **RF GAIN CONTROL**

Controls RF gain when receiving. To increase RF gain (reception sensitivity) turn the knob to the clockwise direction and to decrease counter-clockwise direction.

### **PA-CB SWITCH**

This transceiver may also be used as a PA (Public Address) amplifier by placing the switch in the PA position and connecting a suitable 8 or 16 ohms PA speaker to the "PA" jack on the rear panel. Press the Push-to-Talk bar on the microphone and speak at the microphone. Then your voice will be heard from the PA speaker.

For regular 2-way communications, the switch must be placed in the "CB" position.

### **NB-OFF SWITCH**

The NB (Noise Blanker) is a circuit designed to reduce impulse noises such as ignition noise from vehicles, etc., without significantly affecting the basic sensitivity of the receiver.

### **TONE HI-LO SWITCH**

This is a two-step tone control. Placing the switch in the "HI" or "LO" position boosts treble or bass sound, respectively.

### **S/RF METER**

This gives the relative strength of incoming signals when receiving and RF power output when transmitting.

### **MIC JACK**

This accepts the plug from the microphone supplied with the unit.

### **ANT CONNECTOR**

Used for antenna connection, matches PL-259 standard type.

### **EXT. SP JACK**

Used for an external speaker (8 ohms) connections.

This jack accepts a standard (3.5 mm $\phi$ ) 2 circuit phone plug. When the plug is inserted into the jack, the built-in speaker is automatically disconnected.

### **PA JACK**

This will be used for connection of PA speaker (8 or 16 ohms), see "PA-CB" switch in this manual. This jack accepts a standard (3.5 mm $\phi$ ) 2 circuit phone plug.

## **DC POWER CONNECTOR**

Used for connection of DC power cord supplied with the unit.

## **MOBILE INSTALLATION**

Safety and operating convenience are the primary factors to consider when mounting any piece of equipment in an automobile. Be sure that the transceiver controls may be easily reached by the operator. Also be sure that connecting cables do not interfere with the operation of the brake, accelerator, etc.

## **POWER CONNECTION**

The Model 79-892 may be installed and used in any 12 volt DC negative or positive ground system vehicle. Most newer U.S. and foreign-made cars and small trucks use a negative ground system while some older cars and some newer large trucks may use a positive ground system.

A negative ground system is generally identified by the (-) battery terminal being connected to the vehicle motor block, but if you cannot determine the polarity system of your vehicle, it is suggested that you contact your vehicle dealer for definite information.

### **NEGATIVE GROUND SYSTEM:**

In the case of negative ground system connect the red DC power cord from the transceiver to the positive or (+) battery terminal or other convenient point and connect the black power lead to the chassis or vehicle frame or (-) battery terminal.

## **POSITIVE GROUND SYSTEM:**

In the case of a positive ground system connect the black DC power cord from the transceiver to the negative or (−) battery terminal or other convenient point and connect the red power lead to the chassis or vehicle frame or (+) battery terminal.

With regard to the connection of the power cords, it may be possible or desirable to connect the ignition switch accessory terminal, so that the transceiver is automatically turned off when the ignition switch (key) is turned off.

Alternately, the power cord may be connected to an available terminal on the fuse block or even to a point in the wiring harness. Care must be taken, however, to guard against a short circuit condition so when in doubt, please contact your vehicle dealer for specific information for your vehicle.

## **MOBILE ANTENNA CONNECTION**

A vertical whip antenna is best suited for mobile operation. A nondirectional antenna should be used for best results in any case. The base-loaded whip antenna will normally provide effective communication or for greater range and more reliable operation a full quarter-wave whip may be used. Either of these antennas use the metal car body as a ground plane and the shield of the base lead as well as the metal case of the transceiver should be grounded. A standard antenna connector (type SO-239) is provided on the transceiver for easy connection to a standard PL-259 coax plug. Following the antenna manufacturer's instructions carefully will insure proper operation.

Whatever the type of antenna selected, it is important that it be properly adjusted and matched and the connecting transmission line be in good condition so as to avoid a high VSWR (voltage standing wave ratio). A VSWR over 2.5 results in reduced radiated power and may cause instability and damage to the final output stage of the transceiver.

## BASE STATION OPERATION

When the 79-892 is used as a base station, any Citizens Band beam, dipole, ground plane or vertical antenna may be used. A ground plane type antenna will provide good coverage, and since it is essentially non-directional, it is ideal in base station to mobile operation. From base station to base station or point-to-point operation a directional beam will give greater distance even under adverse conditions. The range of the transceiver also depends on the height of the antenna so whenever possible, select the highest location within F.C.C. limits.

### FREQUENCY-CHANNEL NUMBER CHARTS

Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel
26.965 MHz	1	27.085 MHz	11	27.215 MHz	21	27.315 MHz	31
26.975 MHz	2	27.105 MHz	12	27.225 MHz	22	27.325 MHz	32
26.985 MHz	3	27.115 MHz	13	27.255 MHz	23	27.335 MHz	33
27.005 MHz	4	27.125 MHz	14	27.235 MHz	24	27.345 MHz	34
27.015 MHz	5	27.135 MHz	15	27.245 MHz	25	27.355 MHz	35
27.025 MHz	6	27.155 MHz	16	27.265 MHz	26	27.365 MHz	36
27.035 MHz	7	27.165 MHz	17	27.275 MHz	27	27.375 MHz	37
27.055 MHz	8	27.175 MHz	18	27.285 MHz	28	27.385 MHz	38
27.065 MHz	9	27.185 MHz	19	27.295 MHz	29	27.395 MHz	39
27.075 MHz	10	27.205 MHz	20	27.305 MHz	30	27.405 MHz	40

## OPERATING INSTRUCTIONS

1. Insert the MIC plug into the MIC Jack (side panel).
2. Make sure your antenna is securely connected to the antenna connector.
3. Make sure the PA-CB switch is placed in the CB position.
4. Also make sure the RF Gain control is in full clockwise position and the SQUELCH control in full counter-clockwise position.
5. Turn the power on and adjust the VOLUME control for proper sound level.
6. Place the CLARIFIER control on the microphone in center position.
7. Place the channel selector in a desired channel.
8. Place the LSB-USB-AM control in a desired position.
9. To transmit, press the Push-to-Talk bar on the microphone and to receive release the bar.

**IMPORTANT:** Do not short circuit the antenna or do not try to transmit without an antenna connected to the Antenna connector on the rear panel. This may cause damage to the output power transistors. Transmit only after carefully checking the installation of connector and coaxial cable.

## SPECIFICATIONS

### GENERAL

Circuitry:	5 IC, 43 Transistors, 2 FETs, 51 Diodes, 1 Vari-cap
Frequency Control:	PLL (Phase Lock Loop) Synthesizing System
Channels:	40 channels all installed
Mode of Operations:	AM, Lower Sideband, Upper Sideband
Controls:	RF Gain, Volume/PA, Squelch Controls, LSB-USB-AM, Channel-Selector, PA-CB, NB-OFF, Tone Hi-Lo Switches
Jacks and Connectors:	Microphone, Antenna, PA speaker, External speaker, DC power connectors
Power Source:	DC 13.8 V
Speaker:	3" dynamic, 8 ohms
Microphone:	Dynamic CB microphone
PA Audio Output:	More than 3 W
Size:	2-1/2 (H) × 7-3/4 (W) × 9-1/2 (D) inches
Weight:	4.4 lbs
Accessories:	DC Power cord, Microphone, Mounting Bracket

## RECEIVER

Receiving system:	Single conversion superheterodyne
Sensitivity:	SSB: More than $0.5\mu\text{V}$ (S/N 10 dB), AM: More than $1\mu\text{V}$ (S/N 10 dB)
Selectivity:	SSB: 2 kHz at 6 dB down, AM: 6 kHz at 6 dB down
Clarifier:	$\pm 800$ Hz (receiving only)
Audio output power:	More than 3 W (into 8 ohm)
Squelch range:	$1\mu\text{V}$ — $500\mu\text{V}$ (AM & SSB)
Intermediate Frequency:	SSB: 10.695 MHz    AM: 1st/10.695 MHz    2nd/455 kHz

## SSB TRANSMITTER

SBB Generation:	Balance Modulation
RF Output Power:	12 Watts PEP (F.C.C. Maximum)
Carrier Suppression:	More than 45 dB
Unwanted Sideband Suppression:	More than 60 dB
Harmonic Suppression:	More than 60 dB

## AM TRANSMITTER

Modulation:	High Level
RF Output Power:	4.0 watts (F.C.C. Maximum)
Harmonic Suppression:	More than 60 dB

## TRANSCEIVER SERVICING

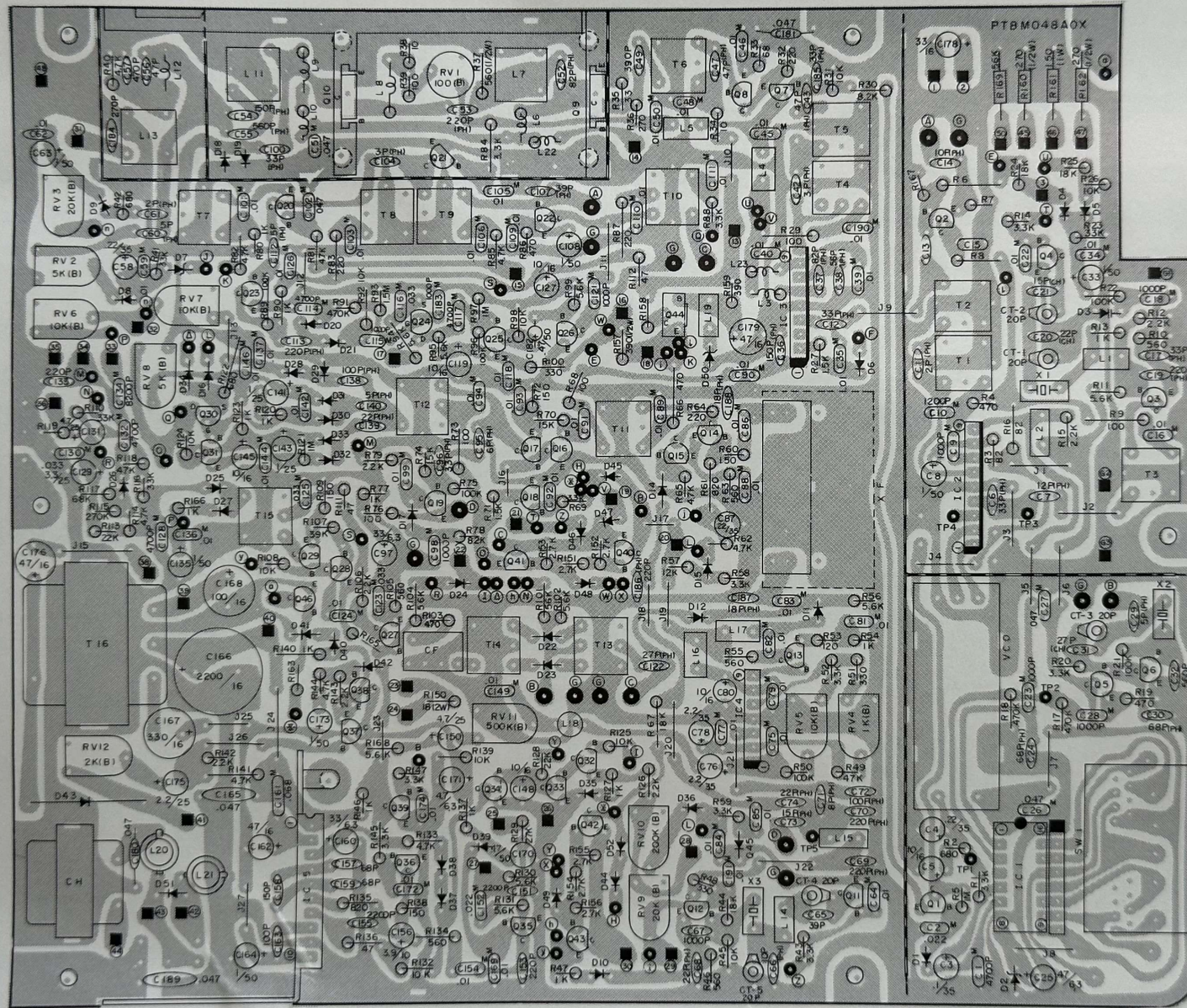
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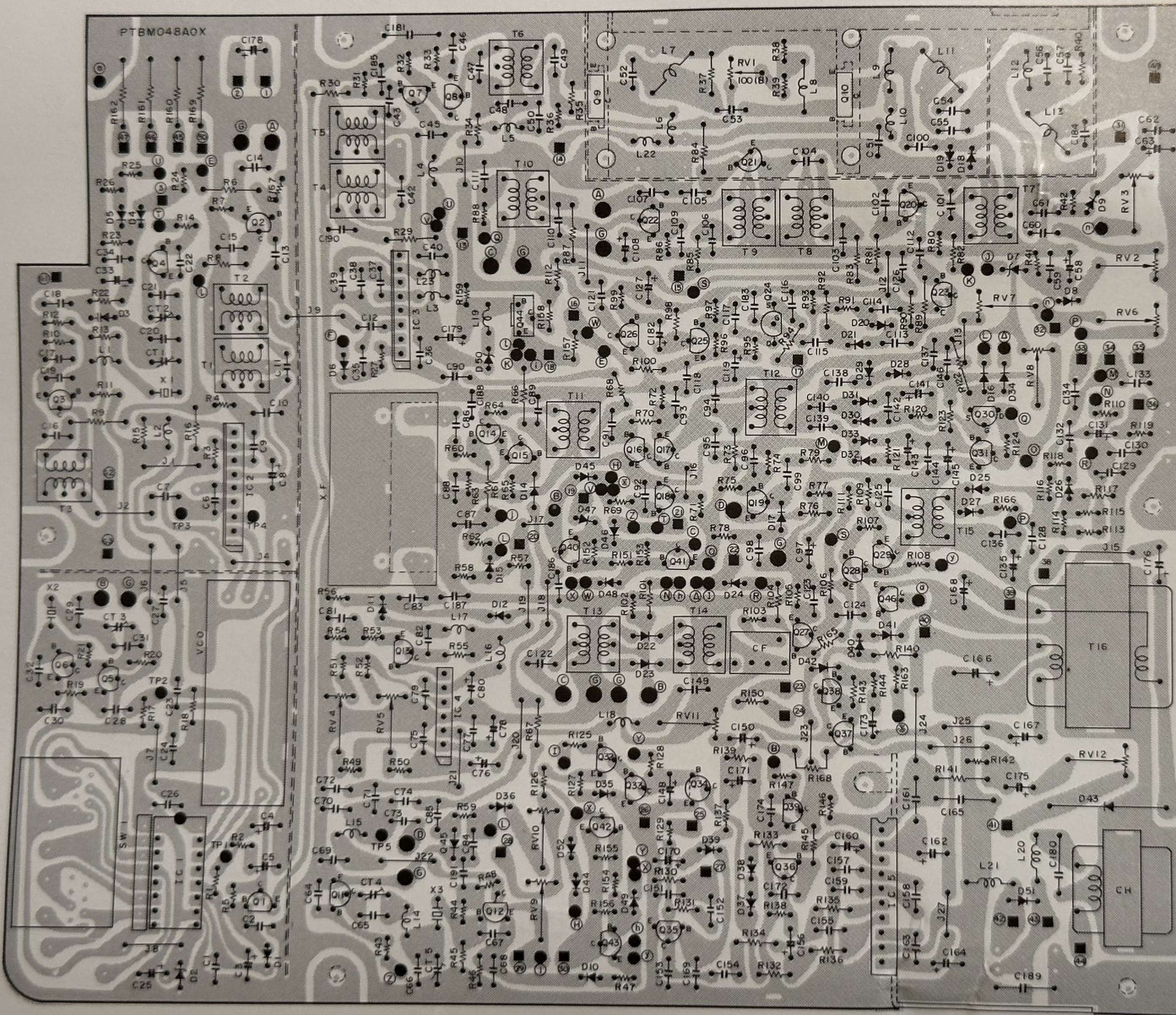
When service is performed by an authorized and licensed person, care must be taken in the replacement of parts to use only authorized parts, in order not to void the type acceptance of this unit.

**NOTE:** When ordering parts, it is essential to specify the correct model number, the date of manufacture and the production lot number [stamped on F.C.C. plate located at the rear or bottom of your radio].

FRONT VIEW



# BACK VIEW





## LIMITED WARRANTY

Midland International Corporation will repair or replace, at its option, without charge, any Midland citizens band, marine and amateur transceiver, citizens band test meter, weather monitor, and scanning receiver which fails due to a defect in material or workmanship within 90 days following the initial consumer purchase.

This warranty does not include any carrying cases, earphones, or telescoping antennas which may be a part of or included with the warranted product, or the cost of labor for removal or reinstallation of the product in a vehicle or other mounting.

Performance of any obligation under this warranty may be obtained by returning the warranted product, freight prepaid, along with proof of the purchase date, to Midland International Corporation, Warranty Service Department, 1960 North Topping, Kansas city, Missouri 64120, or to any "Midland Authorized Warranty Service Station." Warranty information and the location of the nearest "Midland Authorized Warranty Service Station," may be obtained by writing Midland International Corporation, Warranty Service Department.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



### Communications Division

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