Midland 13-883 Owner's Manual

MIDLAND
ELECTRONICS COMPANY

23-Channel

Mobile Transceiver

MODEL 13-883

OWNER'S GUIDE

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FEDERAL COMMUNICATIONS COMMISSION REQUIREMENTS.

Your new Midland 13-883 is a combination receiver-transmitter designed and built for licensed Class D operation on any of the 23-channels designated as citizens band channels 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. Part 95 regulations are available from the Superintendent of Documents, Government Printing Office. Washington. D.C. 20402. You are also required to complete F.C.C. form 505 and submit it to the F.C.C. in order to receiver you license to operate this unit. F.C.C. regulations will be violated if you transmit with this unit prior to receipt of your license.

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 users 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.

MIDLAND ELECTRONICS COMPANY HEREBY CERTIFIES THAT THIS UNIT HAS BEEN DESIGNED AND MANUFACTURED IN ACCORDANCE WITH VOL. 6, PART 95 OF THE CURRENT F. C. C. RULES AND REGULATIONS AS OF THE DATE OF MANUFACTURE.

UNDERSTANDING YOUR NEW 13-883

RECEIVER:

Sensitive dual conversion circuit with all crystals supplied for 23-channel reception. One microvolt sensitivity, built-in controlled squelch circuit and noise limiting give low noise operation. Active AGC circuit reduces fading and over driving.

TRANSMITTER:

Precision crystal-controlled oscillator circuit with all 23 Citizens Band channels built-in. The transmitter final is a conservatively rated high gain RF power transistor. A maximum of TVI filtering is employed. Pi-network matching for exact loading to any standard CB antenna.

SIGNAL-TRANSMIT POWER METER:

A combination meter on front panel provides a constant visual monitor of incoming "Signal Strength" when receiving and "Relative Output Power" when transmitting.

CONTROLS:

A full set of controls is employed, featuring a volume control microphone and including a volume ON-OFF switch, 23-channel selector switch, full variable squelch, Automatic Noise Limiter switch, Delta Tune, Noise Blanker switch, Standing Wave Ratio/Calibration switch, PA-CB selector switch and SWR-CAL-S/RF selector switch.

INDICATORS:

A full set of Indicators is employed, including Transmit-on and Antenna warning Indicators.

PUBLIC ADDRESS:

In the "PA" position, your transceiver is converted to a public address system. A convenient pin jack on the back panel is provided for connection to any standard 8 ohm PA speaker.

MOBILE INSTALLATIONS

A location in the car or truck should be chosen carefully for convenience of operation and non-interference with normal driving functions. Mounting may be under the dash or instrument panel or any place a secure installation can be made. The carrying handle again serves as the mounting bracket or additional perforated straps or brackets may be used as desired.

GROUND INFORMATION:

NOTE:

This transceiver 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 consult your vehicle dealer for definite information.

NEGATIVE GROUND SYSTEM:

In the case of a 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 (red lead for negative ground system) or (black lead for positive ground system) to the ignition switch accessory terminal so that the transceiver is automatically turned off when the ignition switch (key) is turned off.

Alternately, the power lead 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.

IGNITION INTERFERENCE:

Engine ignition interference should not be a problem and vehicles equipped with standard broadcast radios will have enough suppression to eliminate ignition interference. If interference is present, any skilled auto radio repairman should be able to eliminate it for you.

ANTENNA REQUIREMENT:

This transceiver will operate with any standard 52 ohm ground-plane, vertical, mobile, whip, long wire or other CB antenna. A standard SO239 type connector is provided on the back panel for use with popular PL 259 antenna plug. An adjustable loading net-work is provided to match antenna impedance exactly.

FREQUENCY:

Each unit is completely equipped with crystals for operation on any of the 23 Citizens Band channels. It is not necessary to purchase any additional crystals for this unit. Refer to part 95 of the F. C. C. rules and regulations to determine which channels may be used for various kinds of communication.

BASE STATION INSTALLATIONS

For base station use, the Midland model 18-802 power supply is recommended. When this power supply is used, simply connect the red (+) and black(−) terminals on the power supply to the (+) and (−) leads on your 13-883. Do not attempt to operate this transceiver by connecting it directly to 110 volts AC.

ANTENNA INSTALLATIONS

BASE STATION:

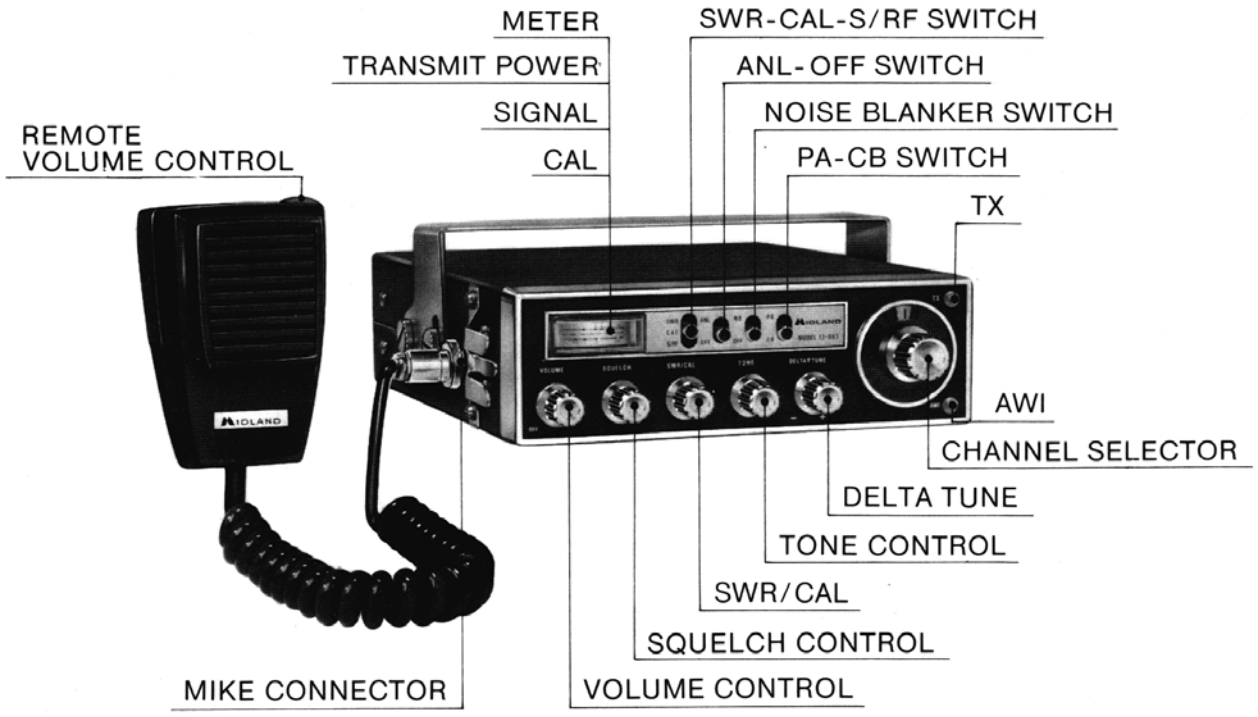
When 13-883 is used as a base station, any Citizens Band beam, dipole, ground plane or vertical antenna may be used. A ground plane type will provided greater coverage and, since it is essentially non-directional, it is ideal in base station to mobile operation. From base station to base station, or point to point operation, a directional beam will give greater distance even under adverse condition. The range of the transceiver depends basically on the height of the antenna and, whenever possible, select the highest location within F. C. C. limits. Generally a maximum of lead-in cable should be used due to line losses. However, a desireable antenna location may justify the loss in longer cable runs.

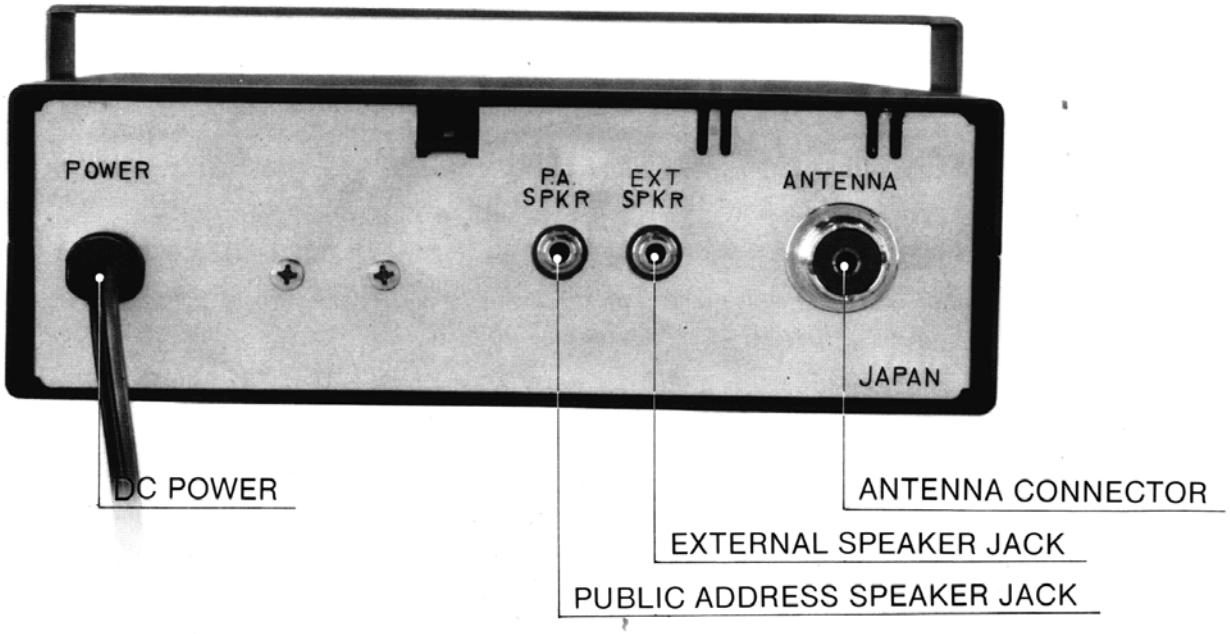
MOBILE ANTENNAS:

A vertical whip antenna is best suited for mobile use. A non-directional antenna should be used for best results in any case. The base loaded whip antenna will normally provide effective communication. For greater range and more reliable operation, a full quarter wave whip should 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 cable termination.

OPERATION OF CONTROLS





VOLUME CONTROL AND OFF-ON SWITCH:

The volume control varies the sound output of the loudspeaker. It also functions as "off-on" switch. Clockwise rotation increases volume.

CHANNEL SELECTOR SWITCH:

Tuning the receiver and transmitter is simultaneous by rotating the 23 channel selector switch. Set switch to desired channel 1 to 23 as indicated directly on switch knob.

SQUELCH:

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.

PUBLIC ADDRESS:

In the "PA" position on the channel selector switch, your transceiver is converted to a public address system. A convenient pin jack on the back panel is provided for connection to any standard 8 ohm PA speaker.

NOISE BLANKER:

The noise blanker is designed to reduce excessive pulse type noise such as ignition noise, etc. To operate, simply set the switch to the "ON" position.

VOLUME CONTROL ON MICROPHONE:

The auxiliary volume control on the Microphone varies the sound output of the loudspeaker. Clockwise rotation increases volume. This is designed to allow you to control the volume in your hand, and without having to reach over to where your transceiver is mounted. Normal operation would be to adjust the primary volume control on the transceiver to a higher level than you want and then use the microphone volume.

DELTA TUNE:

This is a three-position switch which enables the operator to move the receiver frequency approximately 1.5KHz above or below the normal channel frequency. When the switch is in the middle position, the receiver is set for normal channel operation. Moving the Delta Tune knob to the right raises the channel frequency and moving it to the left lowers the channel frequency.
This is helpful in receiving stations that are transmitting slightly off frequency.

TONE CONTROL:

The Tone Control is designed to adjust Tone to your listening preference by rotating the Control knob.

ANL SWITCH (Automatic Noise Limiter):

It is designed to reduce excessive noise from electrical and atmospheric conditions.

TX INDICATOR:

The red light located to the right of the channel selector is an output indicator device which is activated when the transmitter is keyed.

ANTENNA WARNING INDICATOR:

This indicator alerts you to trouble in your antenna system. The red light is a warning indicator which is activated when the antenna is broken, fallen, short, etc.

PRESS-TO-TALK MICROPHONE:

The receiver and transmitter are controlled by the press-to-talk switch on the microphone. Press in this switch and the transmitter is activated. Release this switch to receive. When transmitting, hold the microphone 3 to 4 inches from your mouth and speak clearly and in a normal voice.

SWR FUNCTION SWITCH AND SENSITIVITY CONTROL:

In order for you to achieve maximum radiated power and the longest ranges, it is important that your antenna is in good condition, properly adjusted and matched to your transceiver. The built-in SWR (standing wave ratio) meter of Model 13-883 lets you easily measure your antenna's condition. To operate this function, connect your antenna to the transceiver antenna output connector. Select an unused channel near the middle of the band, such as channel 7, 8, 10, 11, or the channel you plan to use most frequently. Turn the set power on and set the meter function switch to the CAL position. Press and hold the microphone push-to-talk botton and using the SWR sensitivity control, adjust the meter to read the CALposition indicated on the meter face. Then, without releasing the microphone button, switch the meter function switch to the SWR position and read the SWR indicated. The lower the figure, the better, with 1 being ideal. Generally speaking, readings up to 3 are acceptable, but over 3 indicates that you are losing radiated power and antenna adjustments may be advisable. Readings over 6 or 7 definitely indicate trouble and a serious loss in radiated signal, and in some cases damage to the transceiver.

GENERAL OPERATING INSTRUCTIONS

CAUTION:

Before operating this transceiver, you are required by law to read and thoroughly understand part 95 of the F.C.C. rules and regulations.

Check to see if the proper connections have been made on power cable, antenna system and microphone and that the correct cables have been used. Be sure that the transceiver is adequately grounded (if not mounted directly to a metal surface). To transmit, press the push-to-talk switch and hold it down, speak directly into the microphone. Release this switch to receive. Actual receive and transmitting power should be monitored by watching the SIGNAL-TRANSMIT POWER METER and using the switch provided for this purpose.

Select the channel on which you wish to operate by rotating the channel selector switch to the desired channel. The microphone should be held approximately 3 to 4 inches away from your mouth. Use a normal speaking voice. Speak slowly and clearly. Talking louder does not increase transmitting power and only cause distortion. You will notice the SIGNAL-TRANSMIT POWER METER moving as you transmit. This indicates that you are transmitting. Always release the microphone switch when you complete your transmission.