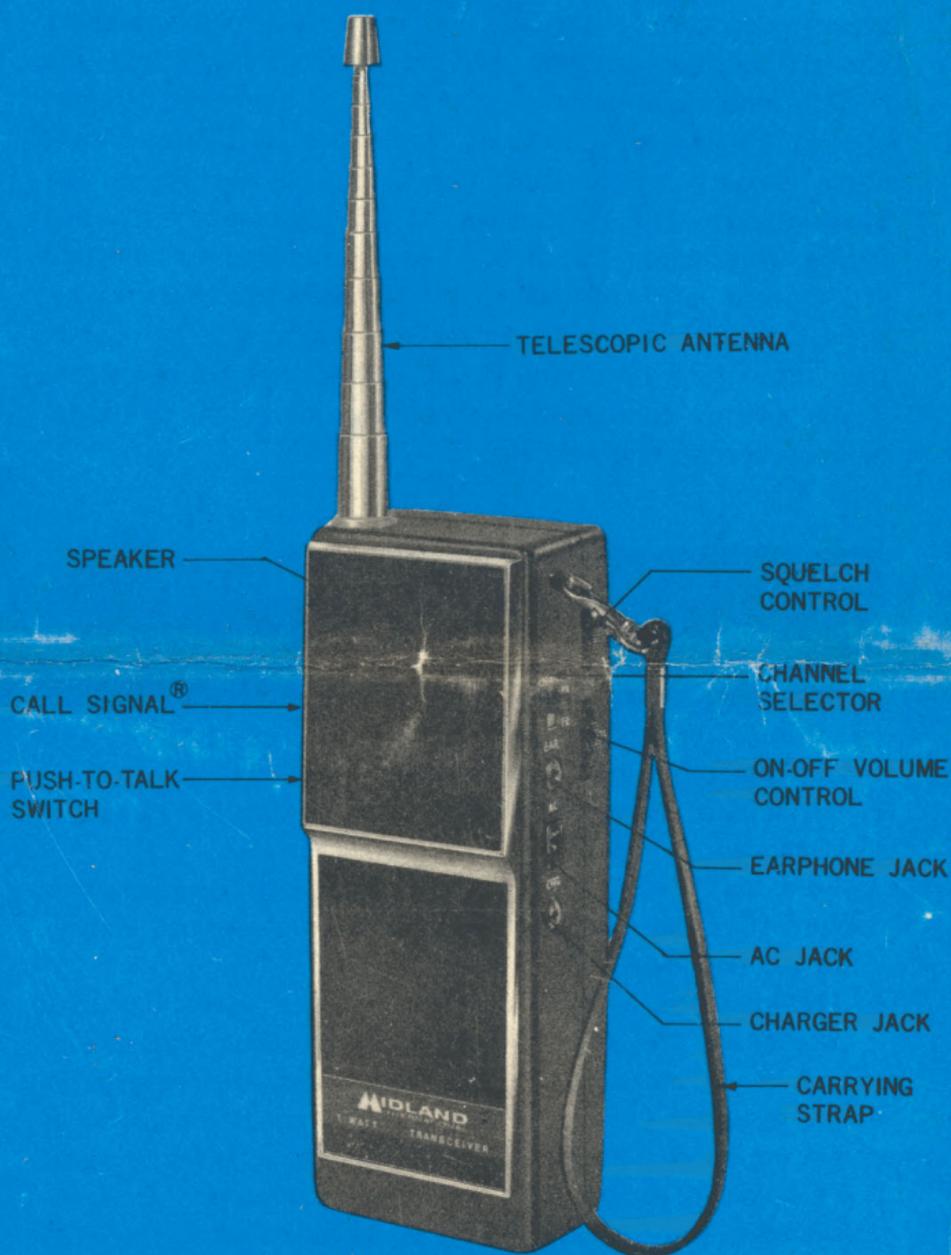


MIDLAND INTERNATIONAL



MODEL 13-700
11-TRANSISTOR 2-CHANNEL CALL SIGNAL
TRANSCIVER

INTRODUCTION

Your new Midland Model 13-700 is a combination receiver-transmitter designed and engineered for licensed class "D" operation on any of the 23 channels designated as Citizens Band frequencies by the Federal Communications Commission. You are required to read and understand Part 19 of the F.C.C. regulations prior to operations of this unit. Copies of Part 19-Manual IV covering regulations for Citizens Band Radio Service are available for \$1.25 by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. You are required to complete F.C.C. form 505 and submit it to the Federal Communications Commission in order to receive your license to operate this unit. Part 19 of the F.C.C. regulations will be violated if you operate this transceiver on the air prior to receipt of your license and call sign.

HOW TO OPERATE YOUR 13-700 SOLID STATE TRANSCEIVER

1. Open back cover. Insert 8 penlight batteries (Midland 20-815), carefully observing Polarities and check to see that batteries are firmly seated.
2. Extend the telescopic antenna to full length for maximum distance.
3. Turn the "ON-OFF & VOLUME" switch to "ON" position. Your transceiver is now ready to operate. Adjust volume to desired level.
4. This unit has a highly efficient variable squelch control located on the cabinet side, which reduces background and other undesirable noises and keeps interference at the minimum between calls. Caution should be taken in setting squelch control so as not to reduce incoming signal.
5. This unit is equipped for two-channel operation. One set channel 11 (27.085MC) crystals are installed in the unit. Additional crystals may be installed for second channel. Make sure the slide switch located on right side of unit is set to desired channel.
6. Press the "PUSH-TO-TALK" switch for transmitting.
7. Release the "PUSH-TO-TALK" switch for receiving.
8. When transmitting, speak clearly in a normal voice, holding the transceiver about 3 to 6 inches from your mouth.

9. When receiving, adjust the volume control for best reception and desired listening level. For private listening, or when receiving in noisy locations, use an earphone (supplied).
10. For best transmission and reception, antenna should be held in vertical position.

CALL SIGNAL OPERATION

How to receive an automatic call:

- a) Turn "ON-OFF" switch to "ON" position. Your unit is now properly set to receive the calling tone from another unit.
- b) When another unit sends a calling tone (on the same channel) you will hear that tone through the speaker on your unit.
- c) Then, to communicate with the other unit, push the "PUSH-TO-TALK" switch and speak into the microphone.

How to send an automatic call:

- 1) Turn "ON-OFF" switch to "ON" position.
- 2) Press "CALL-SIGNAL" switch, which automatically depress push-to-talk switch.
- 3) Your unit will then transmit the calling tone, if another unit, operating on the same channel, has been properly set up to receive the call signal.

Do not push the call signal switch when you are transmitting voice.

OPERATION RANGE

Your **MIDLAND INTERNATIONAL** 13-700 is a fine piece of high-frequency electronic equipment using tuned RF for greater sensitivity and range. Incorporated in the unit is push-pull audio output for better tone and voice response. The operation range varies, depending upon terrain, obstacles, climatic conditions and the type of equipment used with this unit. By using your **MIDLAND INTERNATIONAL** 13-700 transceiver with a base station or mobile unit, this range can be greatly increased.

SPECIFICATIONS

Semi-Conductor Complement: 11 Transistors, 1 diode, 1 Thermistor and 1 transistor used in squelch circuit.

Transmitter Frequency: 2-channels available, one set plug-in
Channel 11 (27.085 MC) crystals of factory
installed.

Frequency Tolerance: $\pm 0.005\%$

Transmitter circuit: Crystal controlled oscillator followed by
RF amplifier.

Transmitter input power: 1-watt to final amplifier.

Modulation system: Push-pull high level Class B

Receiver circuit: Crystal controlled, super-heterodyne system
with tuned RF stage.

Intermediate Frequency: 455 KC.

Receiver sensitivity: 1 μ V or better at 10 db S/N.

Speaker-Microphone: 2 $\frac{1}{4}$ " PM dynamic, 8 ohms.

Antenna: Built-in 13-section, 60" telescopic.

Accessory jacks: AC jack, Earphone jack and Charger jack.

Dimensions:

Weight:

GUIDE TO ADJUSTMENT

Transmission

1. Use only those crystals recommended for the circuitry of this unit. Otherwise, the specified channel frequency may not be attained. A check of the oscillation frequencies by frequency meter should be made.
2. When the frequencies are close to each other, such as Channel 1 and 2, no adjustment for frequency is necessary. If adjustment is necessary, please follow the instructions below:
 - a) Extend the rod antenna to its full length. Never transmit without antenna fully extended as one or more transistors will be severely damaged and will not be covered by warranty.
 - b) Make sure that battery voltage is 12 volts.
 - c) Use a simple field strength meter.
 - d) Install the crystals in their proper sockets for transmit and receive.
 - e) Press the Talk-Listen switch to transmit, adjust the antenna load coil and tank coil for maximum indication on field strength meter or RF output meter.

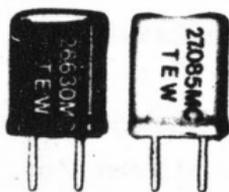
- f) Input power can be controlled by adjusting the oscillator coil of the transmitter.
- g) Too much input power in relation to modulation capability can result in a low modulation percentage, therefore, decrease drive to obtain 85% modulation.

Reception

1. Adjust the intermediate frequency circuit to 455 KC from signal generator. Peak the IF transformer for maximum.
2. Adjust the receiver antenna and oscillator coil for maximum reception or indication by instruments, using another transceiver or transmitter as signal source.
3. The above adjustment should be repeated several times to ascertain peak reception.

NOTE: It is best to choose channel numbers close to one another, as adjustments are not adequate for wide channel separation such as from channel 2 to 22.

OPTIONAL ACCESSORIES



Your new Model 13-700 is equipped with plug-in receive and transmit Channel 11 crystals. Crystals for any other Citizens Band Channel, 1 through 23, may be ordered.

Plug-in Crystals



Your new 13-700 may be operated on an external DC power source. For use on 117-volts AC, use Model 18-140. Do not connect directly to 117V AC.

18-140 Power Supply



All leather pack holds 8 flashlight batteries for heavy duty field use. Fastens to belt.

18-137 External Battery Pack



For maximum battery economy with heavy usage. Battery pack recharges up to 100 times and more.

20-312 Nickel Cadmium Battery and Charger

WARRANTY POLICY

MIDLAND
INTERNATIONAL International Corporation warrants each new Midland product to be free from defects in material and workmanship under normal use and service for a period of 90 days after delivery to the ultimate user and will replace or repair the product, at our option, at no charge should it become defective and which our examination shall disclose to be defective and under warranty.

This warranty shall not apply to any Midland product which has been subject to misuse, neglect, accident, incorrect wiring not of our own installation, or to use in violation of instructions furnished by us, nor extended to units which have been repaired or altered outside of our factory.

This warranty does not cover carrying cases, earphones, batteries, antennas, broken or cracked cabinets, or any other accessory used in connection with the product.

This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

Sales receipt must accompany product to validate date of purchase.

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