OWNER'S GUIDE

Royce

MODEL 1-590

5-WATT 3 CHANNEL MOBILE TRANSCEIVER

INTRODUCTION

Thank you for buying ROYCE. We appreciate your business and look forward to serving you. Your new ROYCE Model 1-590 has been designed for maximum reliability and performance. Here are some helpful hints.

A. RANGE

The range obtainable on hand held or mobile equipment depends on many factors. The type of unit, the terrain, atmosphere conditions etc. Best range is obtainable over water or flat terrain. It will decrease as objects (such as hills and buildings) are put between the two units. Metropolitan areas with a concentrated amount of buildings produce least desirable range conditions.

B. CLEANING

Plastics and metals are easy to clean.
Use a damp cloth to clean surface.
Polish and wipe dry with a clean dry cloth. Never use cleaners or solvents as they could damage some parts.

C. LICENSEING

All units running over 100MW of input power require a license. A handy license form is included for your convenience. Your Model 1-590 is designed and engineered for Class "D" operation. To obtain the license you are required to read and understand Part 19 of the F.C.C. regulations prior to operations of this unit. You may obtain copies of Part 19 covering regulations by sending $2.00 to the Superintendant of Documents, U.S. Government Printing Office, Washington 25, D.C.
After reviewing fill out Form 505 and remit with the proper license fee to the Federal Communications Commission.

ANTENNA INSTALLATION

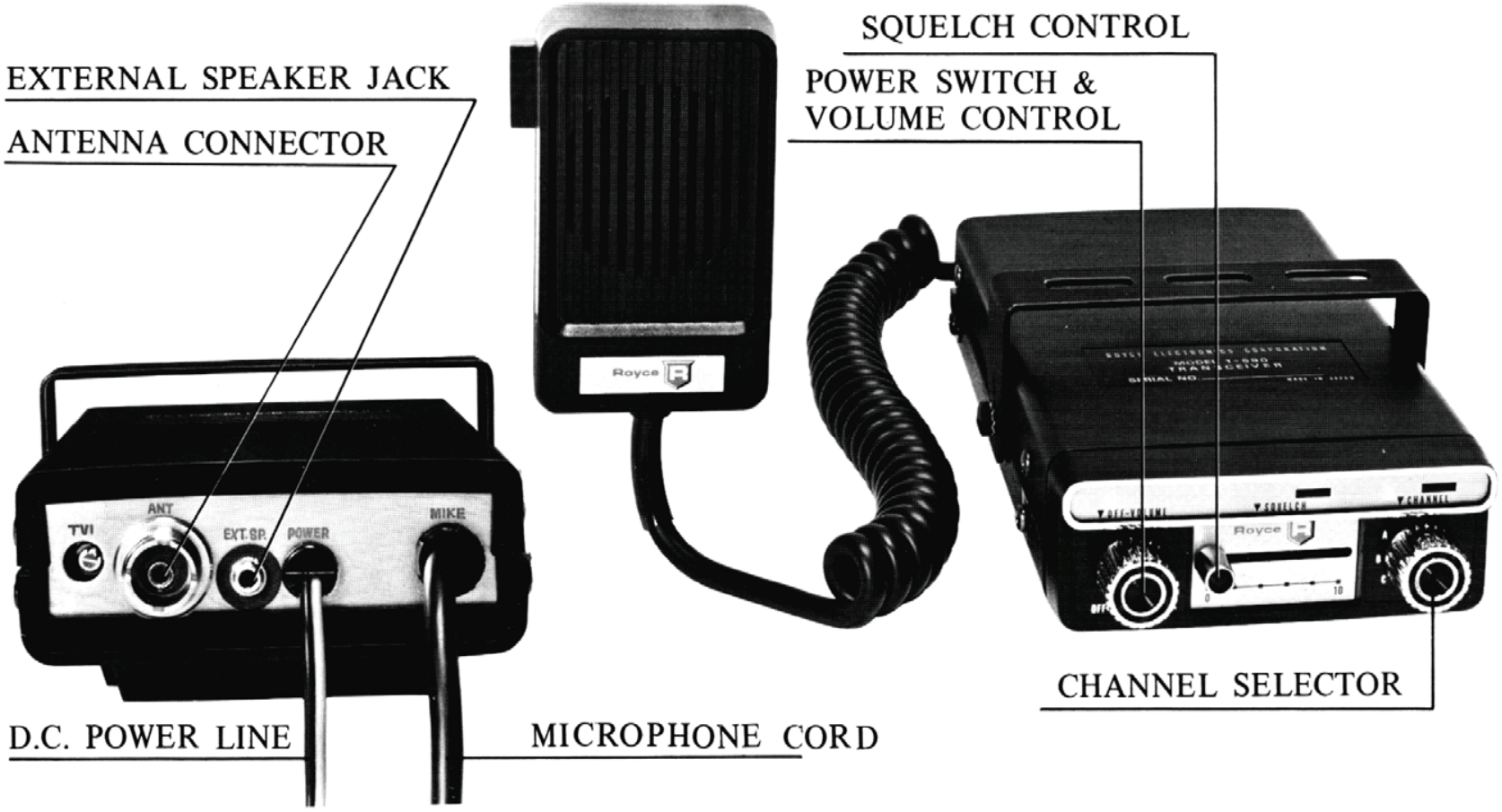
The mobile antenna requires nondirectional type, such as full quarterwave or vertical whip standard 102 inch length, its usual location on the left, rear fender of the vehicle. A base or top-loaded mobile antenna is mountable on roof top or trunk deck.
A combination CB-AM standard antenna, which ordinarily does not require drilling an additional mounting hole in the vehicle body, is adequate for short-range communication.

MOBILE INSTALLATION

The power lead of the 1-590 is designed for use in vehicles with a NEGATIVE GROUND.
By connecting the red power lead with fuse to the vehicles ignition switch or radio power lead, the unit will operate only when the ignition is turned on. The black ground lead must be connected on the vehicle frame or battery ground terminal.
The unit is supplied with a mounting bracket and all hardware necessary for installation. Connect the antenna cable to the back of the unit, use a plug type PL-259.
The antenna cable should be low loss cable, such as type RG-58/A-U.

CAUTION: Do not operate the unit without an antenna cable is connected. Otherwise the transmitter transistors may be damaged.

OPERATION OF CONTROLS



SPECIFICATIONS

A.	Solid State Compliment	:	13 transistors. 9 diodes, 1 IC.
B.	Transmit and Receive Frequencies	:	3 Channels available. Channel 9 plug in crystals installed.
C.	Transmitter	:	Triple stage, crystal controlled. Collector modulation AM.
D.	Intermediate Frequency	:	455 KHz
E.	Receiver	:	Single conversion superheterodyne, crystal controlled.
F.	R.F. Input Power	:	5 watts
G.	Frequency Tolerance	:	±0.005%
H.	Receiver Sensitivity	:	1μV at 10 dB S/N
I.	Squelch Sensitivity	:	0.5μV nominal
J.	Power Source	:	13.8 V DC
K.	Speaker	:	2½", 8 ohm
L.	Controls	:	Off-on Volume, Squelch, Channel Selector
M.	Accessory Jack	:	External Speaker Jack.
N.	Dimension	:	2-3/32"H X 4"W X 6-7/16"D
O.	Accessories Included	:	Mounting bracket, Mounting hardware, Mike clip.
P.	Weight	:	1.8 LBS. (800 g.)

ALIGNMENT INSTRUCTIONS

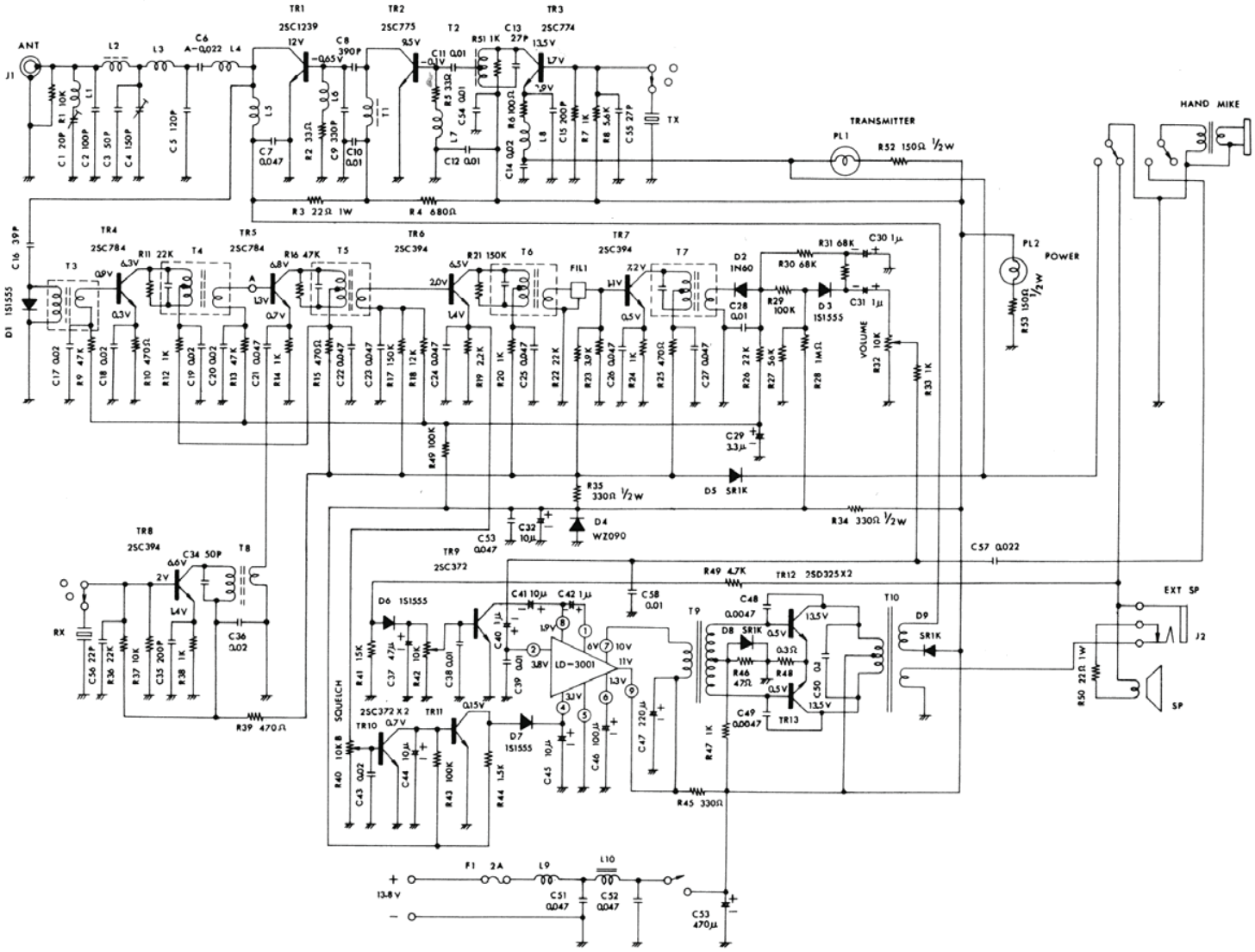
Transmitting Section
Set channel selector switch to channel A.
Connect RF output meter to antenna connector of unit.

Step	Indicator	Adjust	Remarks
1	RF output power meter	T_1, T_2 L_4, C_4	Adjust for maximum indicator. Adjust C_4 for 3 ~ 3.5W.
2	Field strength meter	C_1	Tune the dial of field strength meter to the signal of 2nd harmonic (54 MHz) which is radiated from the unit.

Receiving Section
Connect either 8 ohm resistor or speaker with the prove of VTVM to external speaker jack.

Step	Generator	Indicator	Adjust	Remarks
1	Connect to Test point A. Tune 455 KHz	VTVM	T_5, T_6, T_7	Adjust for maximum output.
2	Connect to antenna connector Tune to 27 MHz, 1,000 Hz, 30% modulation.	VTVM	T_3, T_4, T_8	Adjust for maximum output. Volume control: maximum Squelch control: maximum

SCHEMATIC DIAGRAM



SPECIAL NOTE:

While we include schematics, diagrams and information for servicing, a qualified holder of a first or second class F.C.C. license should be used.
It is the users responsibility to see that this unit is operated at all times in accordance with the F.C.C. Citizens Radio Service Regulations.

Many people install their own transceiver. This is acceptable as long as no adjustments are made to the transmitter or frequency.

ROYCE ELECTRONICS CORPORATION CERTIFIES THAT THIS EQUIPMENT HAS BEEN MANUFACTURED AND DESIGNED TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN SUB-PARAGRAPHS (1), (2), (3), (4) AND (5) OF PART 1971 (C) OF THE F.C.C. RULES AND REGULATIONS AS AMENDED EFFECTIVE FEBRUARY 1972.

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