OPERATING INSTRUCTIONS

BASIC SET-UP AND INITIAL OPERATING PROCEDURE

In all of the operating instructions in this manual, the numbers in parentheses refer to controls and indicators and operator's facilities as identified in Fig. 1, 2 and 3. It is good practice to return operating controls to a standard configuration at the conclusion of each test. We recommend the settings listed in step 1, which are a combination of the most commonly used settings and those which provide maximum protection for equipment against accidental overload. All operating instructions in this manual assume that the controls have been placed in the standard configuration recommended in step 1 at the start of the test.

INITIAL OPERATING PROCEDURE

To familiarize yourself with the operating controls and testing techniques, it is recommended that all tests first be performed using a Citizen's Band transceiver known to be in good operating condition. Before power is applied to the unit the first time, start with the following procedure:

1. Set operating controls to the following standard configuration:

CONTROL	SETTING
RECEIVER FUNCTION Switch (4)	10 WATTS
AUDIO SOURCE Switch (9)	RECVR AUDIO
AUDIO GAIN Control (10)	Mid Position
SPEAKER Switch (11)	ON
RF Power Meter RANGE Switch (15)	100W
TRANSMITTER FUNCTION Switch (16)	FWD
RF LOAD Switch (18)	INT
RF POWER Switch	AVG
All Other Controls	Any Desired Position

2. Set POWER switch (7) to OFF.

3. Connect AC power cord (29) to 120-volt, 60-Hz AC outlet.

> **WARNING**
>
> Use only a 3-wire outlet. The 3rd wire connects the chassis of the 1040 to earth ground and eliminates all hazard from electrical shock. If a 2-wire to 3-wire adapter must be used, be sure the adapter wire is securely connected to a good earth ground.

4. Set POWER switch (7) to ON. POWER indicator (8) should light.

5. Check that both meters (1) and (13) are resting at exact zero. If necessary, adjust meter zero adjustments (2) and (14) for exact zero. Adjustment of (14) must be performed with unit turned on.

BASIC SET-UP (See Figure 5)

1. Connect a coaxial cable from the RF GENERATOR jack (26) to the RF output jack of the RF signal generator.

2. Connect a coaxial cable from the FREQUENCY COUNTER jack (25) to the input jack of the frequency counter.

3. Connect a coaxial cable from the OSCILLOSCOPE jack (24) to the vertical input jack of the oscilloscope.

4. Connect a coaxial cable from the TRANSCEIVER jack (23) to the antenna jack of the radio under test.

5. Connect a shielded audio cable from the RECEIVER AUDIO jacks (20) to the external speaker jack of the radio under test. Most CB transceivers are equipped with an external speaker jack, but if the radio under test is not so equipped, disconnect one side of the radio speaker and connect the transceiver speaker leads to the RECEIVER AUDIO jacks (20) using a shielded cable. If desired, an external speaker jack could be added to the transceiver to facilitate future testing and add operational convenience.

6. If the radio under test is a mobile unit, it must be connected to the DC power supply. Connect a cable from the power input plug of the radio under test to the (+) and (−) terminals of the power supply. Observe correct polarity. If the power cable is permanently wired to the radio set (no removable power plug), connect the power cable directly to the (+) and (−) terminals of the power supply. If the radio under test is a base station unit, connect it to a 120-volt, 60-Hz AC outlet; the power supply is not required.

7. Connect all test equipment to AC power outlets.

> **CAUTION**
>
> Before connecting the power supply to an AC outlet, make sure it is turned off or set to produce less than 15 volts output when power is applied.

8. Turn on all test equipment and the radio under test. If a mobile unit is under test and the power supply is used, adjust the power supply for 13.8 volts.

OPERATION FROM DC POWER

The Model 1040 CB ServiceMaster can be operated from any 12-volt DC power source such as an automotive vehicle, battery pack or DC power supply. If the power source is adjustable, it should be set for 13.8 volts. Make sure the power source voltage *never* exceeds 15 volts. Do *not* leave AC power connected when DC power is applied.

For convenient vehicular use, fabricate a 2-conductor power cable terminated in a cigar lighter plug. Then, whenever you wish to use the unit for vehicular antenna SWR checks, simply plug it into the vehicle's cigar lighter socket. A second DC power cable terminated in alligator clips should serve any vehicle without a cigar lighter and most other needs. Since the current requirement is low, cables up to 10 feet long can be made from 20 gauge insulated wire. Longer cables should use 18 gauge. Use two colors, such as red and black, so that polarity is easy to observe.