

# HONEST ABE

## 40-CHANNEL SOLID STATE CB TRANSCEIVER



## OWNER'S MANUAL

**PRESIDENT<sup>TM</sup>**  
**ELECTRONICS, INC.**

# SPECIFICATIONS

## GENERAL

Channels:	40
Frequency Coverage:	26.965MHz to 27.405MHz
Frequency Control:	Phase Locked Loop(PLL) Synthesized Circuitry.
Frequency Tolerance:	±0.005%
Operating Temperature Range:	-30°C to +50°C.
Microphone:	Plug-in type, dynamic.
Input Voltage:	13.8VDC nominal. (positive or negative ground)
Current Drain:	Transmit: AM full mod. 1.5A. Receive: Squelched, 0.3A. Full audio output: 1.2A.

Size:	$9 \frac{5}{8}$ L x $7 \frac{5}{16}$ W x $2 \frac{3}{4}$ H
Weight:	5 Lbs.
Antenna Connector:	UHF SO-239
Meter:	Illuminated. Indicates relative RF power, received signal strength and modulation percentage.

## TRANSMITTER

Power Output:	4 watts.
Modulation:	High and low Class B amplitude modulation.
Frequency Response:	300 to 2,500Hz.
Output Impedance:	50 ohms, unbalanced.

## RECEIVER

Sensitivity:	Less than 1μV for 10dB (S+N) /N.
Selectivity:	6dB @7KHz, 60dB @10KHz.
Image Rejection:	50dB
I.F. Frequencies:	Double conversion; 1st: 10.695MHz 2nd: 455KHz.
Automatic Gain Control:	Less than 10dB change in audio output for inputs from 10 to 50,000 microvolts.
RF Gain Control:	Adjustable for optimum signal reception.
Delta Tune Range:	±1.5KHz, continuously adjustable.
Squelch:	Adjustable; threshold less than 1μV.
Audio Output Power:	4 watts (maximum)
Frequency Response:	300 to 3,000Hz.
Distortion:	Less than 10% @3 watts @1000Hz.



Built-in Speaker:	8 ohms, round.
External Speaker:	8 ohms. Disables internal speaker when connected.

## PA SYSTEM

Power Output:	4 watts into external speaker (maximum).
External Speaker for PA: (not supplied)	8 ohms. When PA-CB switch is in PA, the PA speaker monitors the receiver. Separate jack provided.

## INTRODUCTION

PRESIDENT ELECTRONICS has combined superb workmanship and modern styling with the very latest state-of-art circuitry to bring you the new **HONEST ABE** Citizens Band Transceiver. It has been especially designed to give you maximum performance and reliability. Your **HONEST ABE** is completely factory aligned and quality assurance tested. To obtain the maximum benefit and pleasure from your **HONEST ABE**, please read very carefully the contents of this manual before attempting to install or operate the transceiver.

## FEATURES

- **ALL SOLID STATE:** Transistorized construction with low current drain for a long, trouble-free life.
- **FULL 40-CHANNEL OPERATION:** PLL frequency synthesizer circuitry allows transmission and reception on all 40 channels without the purchase of any additional crystals.
- **LARGE LED CHANNEL DISPLAY:** Channel number is displayed by use of LED (light emitting diode) display for maximum ease of channel selection.
- **CLEAN SIGNAL:** Transmitter audio processing circuitry produces a clean signal (no adjacent channel splatter) to provide more usable range.
- **A QUIET RECEIVER:** Effective squelch and automatic noise limiting for superior quieting.
- **EFFECTIVE AGC:** Receiver amplified automatic gain control (AGC) reduces the effect of differences in received signal strengths. No distracting "blasting" and "fading" of signals.
- **AN EFFICIENT TRANSMITTER:** Provides four watts maximum power to the antenna.
- **PUBLIC ADDRESS FUNCTION:** Useful for paging and announcements.

## GENERAL INFORMATION

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

To insure that you obtain the maximum performance from this radio, please read carefully the following descriptions and operating instructions.

**NOTE:** This radio has been designed for FCC Class "D" operation in the 11 meter Citizens Radio Service. It uses a frequency synthesizing circuit with Phase Locked Loop (PLL) techniques to provide crystal controlled transmit and receive operation on all 40 channels. The PLL circuitry assures ultraprecise frequency control. It is designed to meet the Federal Communications Commission requirements applicable to equipment operating in the Class "D" Service, and is not to be used for any other purpose. Part 95 of the FCC regulations defines operation in this service, and you are required to read and understand these regulations prior to operating this equipment. You are also required to complete FCC license application Form 505 and submit it to the FCC GETTYSBURG, PA. 17326 in order to receive your license to operate this unit. While your Form 505 is being processed by the FCC, you may use FCC temporary license Form 555-B as a temporary permit. **YOU WILL BE IN VIOLATION OF PART 95 OF THE FCC REGULATIONS IF YOU OPERATE THIS EQUIPMENT ON THE AIR**



PRIOR TO RECEIVING YOUR LICENSE AND CALL SIGNS OR IF YOU TRANSMIT WITH THIS UNIT WITHOUT COMPLYING WITH THE PROCEDURES EXPLAINED ON FCC TEMPORARY LICENSE FORM 555-B. FCC Forms 505 and 555-B as well as a copy of Part 95 of the Commissions Rules are packed with the transceiver for your convenience.

**Warning:** Transmitter section adjustments must be performed by qualified technician holding a valid First or Second Class FCC Radiotelephone License.

## INSTALLATION

### Location

Plan the location of the transceiver and microphone bracket before starting the installation. Select a location that is convenient for operation and does not interfere with the driver or passenger in the vehicle. In automobiles, the transceiver is usually mounted to the dash panel with the microphone bracket beside it.

### Mounting and Connection

This radio is supplied with a universal mounting bracket. The transceiver is held in the bracket by four bolts supplied, permitting adjustment to the most convenient angle. The bracket must be mounted with the machine screws and nuts supplied. The mounting surface must be mechanically strong and also provide a good electrical connection to the chassis of the vehicle. Proceed as follows to mount the transceiver:

1. After you have determined the most convenient location in your vehicle, hold the radio with mounting bracket in the exact location desired. If nothing interferes with mounting it in the desired position, remove the mounting bracket bolts. Before drilling the holes, make sure nothing will interfere with the installation of the mounting bolts.
2. Connect the antenna cable plug to the standard receptacle on the rear panel. Most CB antenna cables are terminated with a type PL-259 plug which mates with the receptacle on the rear panel.
3. Connect the DC power input wire with the fuse (red) to +12V DC. This wire extends from a plug which connects to the rear panel. In automobile installations, +12V DC is usually obtained from the accessory contact on the ignition switch. This prevents the set being left on accidentally when the driver leaves the car and also permits operating the radio without the engine running. Locate the accessory contact on most ignition switches by tracing the power wire from the AM broadcast receiver in the car.
4. Connect the black wire to ground. This is usually the chassis of the car. Any convenient location with good electrical contact may be used. (remove paint).
5. Mount the microphone hanger on the side of the unit or near the unit, using two screws supplied. When mounting in an automobile, place the hanger on the dash. So, the microphone is easily accessible.



# GENERAL INFORMATION

## GROUND CONNECTION

This radio may be installed and used in any 12V DC negative or positive ground system vehicle. Most new U.S. and foreign made cars or small trucks use a negative ground system while some older cars and some newer large trucks may use a positive ground system.

1. Negative ground system: Connect the Red power lead from the radio 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.
2. Positive ground system: In the case of positive ground system, connect the Black power lead from the radio 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.

## ANTENNA

This radio is designed to operate into a 50 ohm CITIZENS RADIO antenna. Best results will be obtained by your transceiver if you use a good antenna and properly install your antenna. (Refer to the antenna installation instructions included with your antenna.) See paragraphs 95.37, FCC Rules and Regulations for FCC antenna requirements.

A vertically polarized quarter-wavelength whip antenna provides the most reliable operation and greater range. The shorter loaded-type whip antennas are more attractive, compact and adequate for applications where the maximum possible distance is not required. Also, the loaded whip antennas do not present the problems of height imposed by the full quarter-wavelength whip.

Mobile whip antennas utilize the metal body of the vehicle as a ground plane. When mounted on a corner of the vehicle, they are slightly directional, in the direction of the body of the vehicle. For all practical purposes, however, the radiation pattern is non-directional. A slight directional characteristic will be observed only at extreme distances. A standard antenna connector (Type SO-239) is provided on the transceiver for easy connection to a standard PL-259 cable termination.

If the transceiver is not mounted on a metal surface, it is necessary to run a separate ground wire from the unit to a good metal electrical ground in the vehicle. When installed in a boat, the transceiver will not operate at the maximum efficiency without ground plane, unless the vessel has a steel hull.

Before installing the transceiver in a boat, consult your dealer for information regarding an adequate grounding system and prevention of electrolysis between fittings in the hull and water. It is desirable to use a CB antenna specifically made for boat installations.

## **BASE STATION OPERATION**

To operate the transceiver from your home or office, using regular house current as the power source, you will require a separate power supply capable of supplying two amps at a 13.8V DC output with a nominal input voltage of 120 volts AC, 50/60Hz. Simply connect the red (+) and black (-) leads of the transceiver to the corresponding DC terminals of the power supply.

**NOTE:** Do not attempt to operate this transceiver by connecting directly to 117V. AC. When AC power supply is used with the transceiver for base station operation, any Citizens Band beam, dipole, ground plane or vertical antenna may be used. A ground plane vertical antenna will provide the most uniform horizontal coverage.

## **REMOTE SPEAKER**

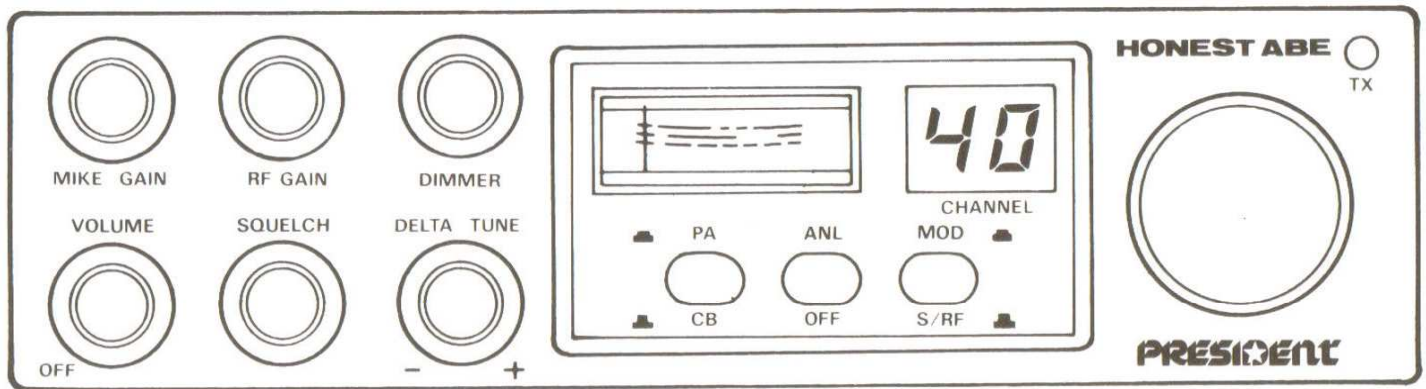
The external speaker jack (EXT. SPKR) on the rear panel is used for remote receiver monitoring. The external speaker should have 8 ohms impedance. When the external speaker is plugged in, the internal speaker is disconnected.

## **PUBLIC ADDRESS**

An external 8 ohm 4-watt speaker must be connected to the (PA SPKR) jack located on the rear panel when the transceiver is used as a public address system. The speaker should be directed away from the microphone to prevent acoustic feedback. Physical separation or isolation of the microphone and speaker is important when operating the PA at high output levels.



# OPERATING INSTRUCTIONS



## OPERATING CONTROLS

Your HONEST ABE, designed for ease of operation, is provided with the following operating controls:

1. **OFF/ON VOLUME:** To turn the transceiver on, rotate the control clockwise past click. To turn the transceiver off, rotate the control counterclockwise past click. Rotate the control clockwise for a comfortable audio level. The OFF/ON VOLUME does not affect the transmitted signal in any way.
2. **CHANNEL SELECTOR:** This switch is used to select any one of the 40 Citizens Band channels. Since all necessary crystals are included for 40 channel operation, no additional crystals need to be purchased. Channel 9 has been reserved by the FCC for emergency communications involving immediate safety of life of individuals or immediate protection of property. Channel 9 may also be used to render assistance to a motorist.
3. **SQUELCH:** The Squelch control is normally set to a position which eliminates undesired background noise with no signal present. With the audio adjusted to a satisfactory level, rotate the Squelch control clockwise to the point where the sound from the speaker is cut off. In this position, there will be no sound from the speaker until a signal is received. In order to hear weak signals, it may be necessary to rotate the Squelch control counterclockwise, allowing some background noise to be heard.
4. **DELTA TUNE:** The Delta Tune control is normally set to the center position. This feature has several uses and can greatly enhance receiver operation. First, if a received signal is slightly off frequency, this control can be operated as required to optimize the receiver frequency. The effectiveness of this Delta Tune feature under these conditions can be observed either by listening for a more readable signal at the speaker or by noting the S-meter reading when the Delta Tune control is operated. Another effective application of this control is in eliminating adjacent channel interference from strong signals. Operate this control, as required, to obtain minimum adjacent channel interference.



5. **MIKE GAIN:** This control is used to adjust, as required, microphone input sensitivity for optimum amount of modulation in transmit. When operating this control, set MOD-S/RF switch to MOD position and note effectiveness of this control.
6. **RF GAIN:** This control is used primarily to optimize reception in strong signal areas. Gain is reduced by counterclockwise rotation of the control.
7. **DIMMER CONTROL:** This control is used to adjust the brightness of LED channel display and S/RF/MOD meter. Clockwise rotation of this control reduces brightness.
8. **PA-CB SWITCH:** This control engages the PA (public address) function. The PA function should not be used unless an external speaker is connected. In the CB position, the PA function is disabled and the radio will transmit and receive on the selected channel.
9. **ANL SWITCH:** This switch, when set in the ANL position, activates an automatic noise limiter circuit which helps to eliminate low level impulse type external noise.
10. **MOD-S/RF SWITCH:** This switch is used to select the mode of the meter. When the switch is set in the MOD position, the meter will show percentage of modulation in transmit. The meter is also used with the MIKE GAIN CONTROL to set modulation. In the S/RF position, the meter will show received signal strength when receiving, and relative RF output power when transmitting.

## INDICATOR FUNCTION

1. **MOD-S/RF METER:** The meter will show percentage of modulation in the transmit mode when the MOD-S/RF switch is set in MOD position. In S/RF position of the switch, the meter shows relative transmitter RF output power, and input signal strength when receiving. The meter is illuminated when power is on. The intensity can be adjusted by the DIMMER CONTROL for optimum brightness.
2. **TX INDICATOR:** TX light comes on when microphone button is pressed and transmitter is in operation.

## PRESS TO TALK MICROPHONE

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

## RECEIVE OPERATING PROCEDURE

1. Place the CB-PA switch in CB position and advance RF GAIN control fully clockwise.

2. Turn the set on by turning the **VOLUME CONTROL** clockwise past click.  
**NOTE:** Microphone must be plugged in for receiver to operate.
3. Set the **VOLUME CONTROL** for a comfortable level.
4. Listen to the background noise from the speaker. Turn the **SQUELCH CONTROL** slowly clockwise, until the noise just disappears. The Squelch is now properly adjusted. The receiver will remain quiet until a signal is received. Do not advance the control too far, or some of the weaker signals will not be heard.
5. Set the **CHANNEL SELECTOR** switch to the desired channel.

## **TRANSMIT OPERATING PROCEDURE**

1. Select the desired channel you wish to transmit on.
2. If the channel is clear, depress the push-to-talk switch on the microphone and speak in a normal voice.

## **WARNING**

Operation of this equipment requires a valid station license issued by the Federal Communications Commission. Do not transmit with your equipment until you have filled out a temporary license Form 555-B. Also, complete F.C.C. form 505 then send it to the F.C.C. office indicated on the application. Illegal operation can result in severe penalties. (A copy of both forms are included with your new transceiver.)

You are required to maintain a current copy of Part 95 of the F.C.C. Rules as part of your station records. A copy of Part 95 is included with your new transceiver. Additional copies of Part 95 are available from the Superintendent of Documents, GPO, Washington, D.C., 20402. Be certain that you have read Part 95 of the F.C.C. Rules and Regulations before operating your station.

Your Station License is to be posted in accordance with paragraph 95.101 of the Rules and an executed Transmitter Identification Card (F.C.C. form 452-C) is to be attached to each transmitter. (A copy of this form is included with your new transceiver.)

F.C.C. Rules require that ALL transmitter adjustments, other than those supplied by the manufacturer as front panel operating controls, be made by or under the supervision of the holder of an F.C.C. issued 1st or 2nd Class Radio Telephone License.

Replacement or substitution of crystals, transistors, regulator diodes or other parts of unique nature, other than recommended by us, may cause violation of the technical regulations of Part 95 of the F.C.C. rules or violation of the Type Acceptance requirements of Part 2 of the rules.



# MAINTENANCE AND ADJUSTMENT

This transceiver is especially designed for the environment encountered in mobile installations. The use of all solid state circuitry and its light weight result in high reliability. Should failure occur, however, replace parts only with identical parts. Do not substitute.

## MAINTENANCE

All repairs on this radio should be performed by a qualified radio technician, holding an FCC first or second class Radiotelephone License. Repairs or adjustments by unauthorized persons can result in damage to the radio or illegal operation.

## ADJUSTMENT

This transceiver is factory aligned and should not require any adjustment when used with a 50 ohm antenna. If an antenna other than 50 ohm impedance is used, adjustment of the transmitter output circuit may be made to obtain optimum power transfer to the antenna. This adjustment should be made only by a licensed person using a high quality in-line RF wattmeter which will not produce standing waves when inserted in the antenna cable.

## SERVICE

PRESIDENT ELECTRONICS maintains a factory service center for the repair and service of your radio. If you desire this service, please pack your radio unit in its original shipping container, enclose a note describing the problem and return, (transportation prepaid) to:

PRESIDENT ELECTRONICS, INC.  
16691 HALE AVENUE  
IRVINE, CA. 92714

President Electronics has also established Authorized President Service Stations around the country for the repair and service of your radio. A list of these stations is enclosed. Service is obtained at these stations the same way as at the factory.

## ONE YEAR LIMITED WARRANTY

PRESIDENT ELECTRONICS, INC., warrants to the purchaser of each new PRESIDENT radio that such product shall be free from defects in material and workmanship under normal use and service for a period of one(1) year from the date of sale to the purchaser provided you return your warranty registration card to PRESIDENT ELECTRONICS, INC., within 10 days of date of purchase.

If a defect should be found within the warranty period and if the radio has not been subject to neglect, misuse, accident, improper installation or such defect is caused by service by other than PRESIDENT ELECTRONICS Authorized Service Station, PRESIDENT ELECTRONICS will, at its option, either replace or repair the radio.

To obtain warranty repair, the customer must return the radio properly packed, freight prepaid, to PRESIDENT ELECTRONICS or any Authorized PRESIDENT Service Station. It will be returned freight prepaid. A sales receipt must accompany the radio to validate date of purchase.

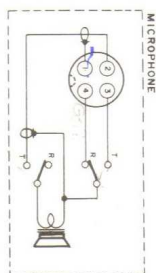
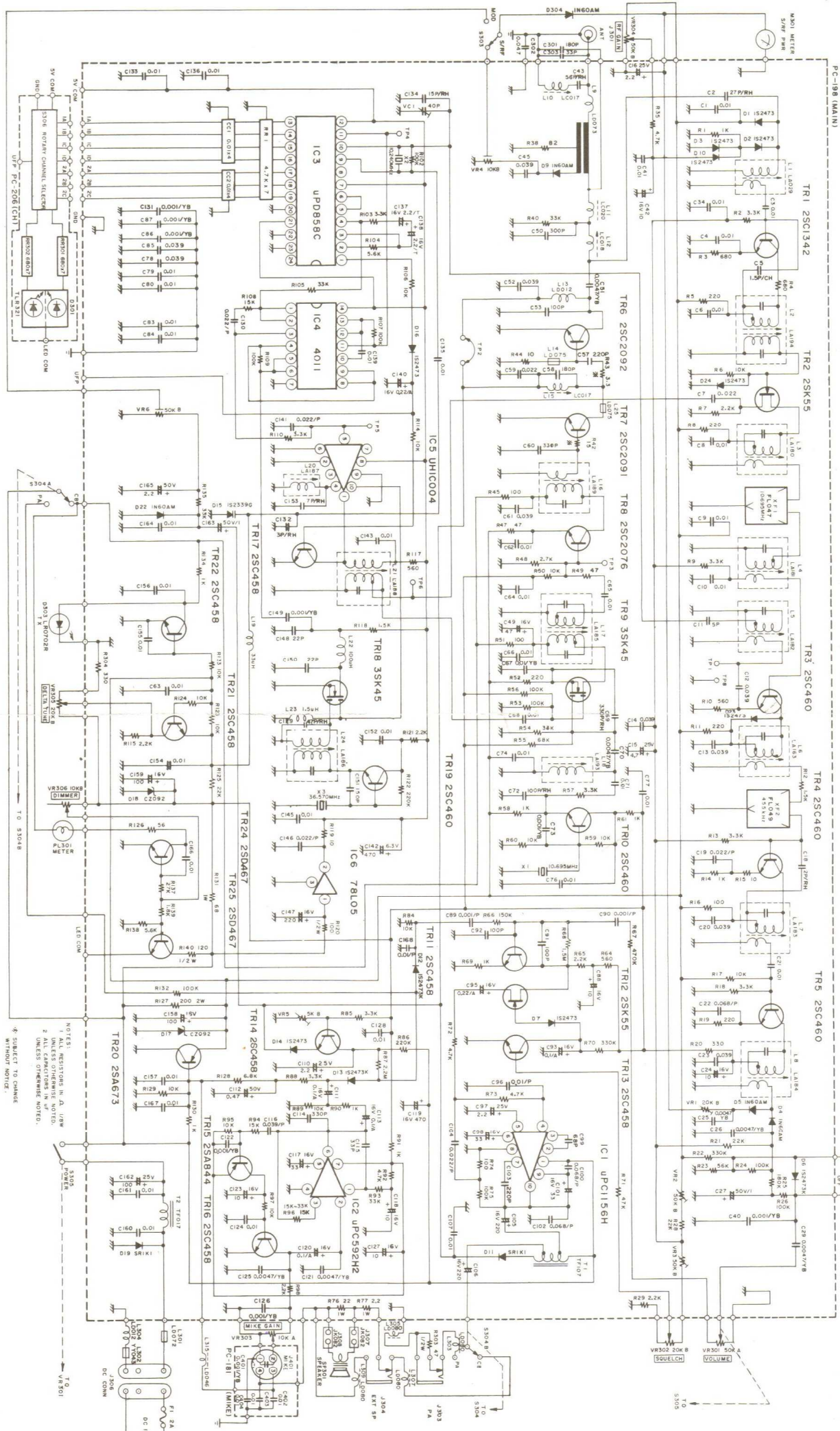
Where permitted by law, this warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability. Some states do not allow limitations on implied warranties so the above limitation may not be applicable. You may have rights as defined by each states law.

**PRESIDENT<sup>TM</sup>**  
**ELECTRONICS, INC.**

16691 HALE AVE. IRVINE, CA 92714 (714)556-7355



# CIRCUIT DIAGRAM FOR HONEST ABE



# BLOCK DIAGRAM FOR HONEST ABE

