18-CHANNEL MOBILE CB TRANSCEIVER MODEL CB-845

INSTRUCTION HANDBOOK

RAY JEFFERSON

CITIZEN BAND RADIO

MESSAGE TO THE OWNER

CONGRATULATIONS! As the new owner of Ray Jefferson Model CB-845 CB Mobile Transceiver, you are probably anxious to install it in mobile and "try it out." However, before operating, we strongly recommend that you read this instruction handbook carefully. By following these instructions, you will avoid problems and obtain the maximum efficiency from your unit.

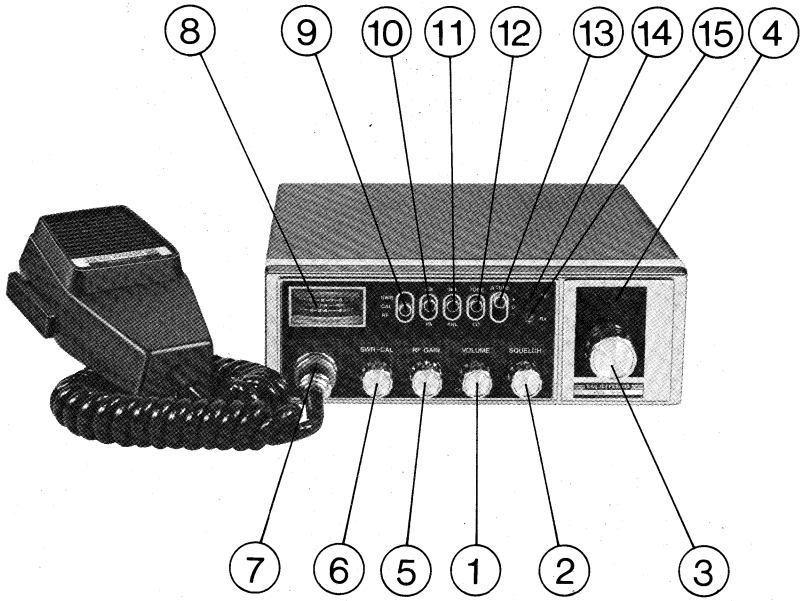
GENERAL DESCRIPTION

The Ray Jefferson Model CB-845 is the result of the latest space age research and development. The CB-845 is a completely solid state transistorized transceiver and contains no tubes to heat up, draw a lot of current and burn out. Space age integrated circuits are used in the transceiver.

POSTAL AND TELECOMMUNICATIONS DEPARTMENT REQUIREMENT

The station license must be applied for by submitting a properly completed station license application form (Form RB 13, supplied with your radio). Rules RB 249 defines operation in this service and the licensee is required to read and understand these rules (Form RB 14, not supplied, however available from your nearest P. and T. department office) prior to operating a CB transmitter.

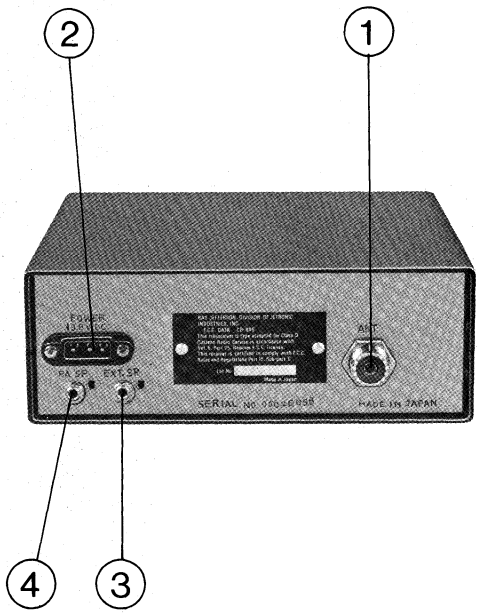
OPERATING CONTROLS AND FEATURES



FRONT PANEL

1. On-Off/Volume Control: Turns unit on and adjusts audio output level.
2. Squelch Control: Adjusts to remove background noise.
3. Channel Selector: Selects desired operating channel.
4. Channel Indicator: An LED to show channel selected.
5. RF Gain Control: Set in fully clockwise position normally.
6. SWR Calibration Control: Used for measurement of SWR of your antenna.
7. Mic Jack: Accepts 4-pin plug Push-to-Talk microphone supplied.
8. Meter: Provides 4 functions in indication:
   (1) Relative strength of incoming signals regardless of meter switch.
   (2) Relative Power output when transmitting.
   (3) Calibration for correct SWR measurement.
   (4) Direct SWR reading out.
9. Meter Switch: Changes meter function in RF (above 2), CAL (above 3) and SWR (above 4).

10. CB-PA Switch: Changes mode of transceiver operation, public address or CB.
11. NB-ANL Switch: Selects Noise Blanker or Automatic Noise Limiter for reduction of undesirable noises.
12. Tone Switch: Varies tonal response in reception.
13. Delta Tune Switch: Used for clearer reception when receiving an off-frequency station.
14. Transmit Indicator: Lights up during transmission.
15. Receive Indicator: Lights up during reception.



REAR PANEL

1. Antenna connector: Used for connection of antenna.
2. DC Power Connector: Used for connection of DC power source.
3. External Speaker Jack: Used for connection of external speaker.
4. Public Address Speaker Jack: Used for connection of PA speaker.

   NOTE: Insertion of an external or PA speaker will automatically silence the built-in speaker.

POWER CONNECTIONS

Ttis transceiver may be installed and used in any 12V DC negative or positive ground system vehicle. Most Australian cars are negative ground type.
Refer to appropriate instruction.

For Negative Ground System vehicle:

Connect the red DC power cord from the transceiver to the positive (+) battery terminal or other convenient point and connect the black power cord to the chassis or vehicle frame or (–) battery terminal.

For Positive Ground System vehicle:

Connect the black power cord from the transceiver to the negative (–) battery terminal or other convenient point and connect the red power cord to the chassis or vehicle frame or (+) battery terminal.

CAUTION: A negative ground system is generally identified by the (–) battery terminal being connected to the vehicle motor block, but if you can not determine the porality system of your car, it is suggested that you contact with your dealer for definite informations.

ANTENNA CONNECTIONS

A vertical whip antenna is best suited for mobile operation. A non-directional antenna should be used for best results in any case. The base-loaded whip antenna will normally provide effective communication or for greater range and more reliable operation a full quarter-wave whip may 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 coaxial plug. Following the antenna manufacturer's instructions carefully will insure proper operation.

OPERATING INSTRUCTIONS

Before operation, make sure not to short circuit the antenna or do not try to transmit without an antenna connected to the ANT connector on the rear panel. This may cause damage to the output power transistor.

1. Insert the microphone plug into the MIC jack.
2. Make sure your antenna is securely connected to the ANT connector.
3. Place the CB-PA switch in CB position, then turn power on.

4. Place the channel selector to a desired channel.
5. To transmit, depress the Push-to-Talk bar on microphone and to receive, release the bar.

PUBLIC ADDRESS OPERATION INSTRUCTIONS

Your transceiver is equipped with a public address amplifier system.
Refer to followings:

1. Connect a PA speaker with an impedance of 8 to 16-ohm to the PA jack on rear panel.
2. Place the CB-PA switch in PA position.
3. Turn power on, depress the Push-to-Talk bar and speak into it.

SWR MEASUREMENT PROCEDURE

Your transceiver is equipped with the SWR measurement facilities for correct antenna matching to transceiver.
Refer to followings:

1. Connect a proper antenna system to the ANT connector.
2. Turn power on.
3. Place CB-PA switch in CB position.
4. Place the meter switch in CAL position.
5. Depress the Push-to-Talk bar on the microphone.
6. Adjust the Calibration control unitl the meter pointer coincide with the SET mark on the meter scale.
7. Place the meter switch in SWR and again depress the Push-to-Talk bar.
   The SWR reading of your antenna system will be shown directly on the meter.
   The SWR value must not be 3.0 or higher on all channels.

TECHNICAL SPECIFICATIONS FOR MODEL CB-845

Frequency Control	:	Phase Locked Loop Synthesizer System
Channels	:	18 channels all installed
Mode of Operation	:	AM
Receiving System	:	Dual coversion superheterodyne system
Sensitivity (at 10 dB S/N)	:	Nominal 0.5 μV
Selectivity (at 10 kHz)	:	More than 45 dB down
Intermediate Frequency	:	1st/10.695 MHz 2nd/455 kHz
Frequency Tolerance	:	0.005%
Spurious Rejection	:	More than 60 dB down
RF Output Power	:	Maximum 4W at 13.8V DC
Squelch Range	:	0.5 μV to 500 μV
Delta Tune	:	Approx. ±1000 Hz (receive mode only)
Audio Output Power	:	3W at 8-ohm
Power Source	:	13.8V DC
Controls	:	On-Off/Volume control, RF GAIN control Squelch control, Meter switch, CB-PA switch NB-ANL switch, Tone switch, Delta Tune
Indicators and Connectors	:	RX and TX lamps, S/RF/SWR meter, Mic Jack, Antenna Connector, DC power jack, PA speaker jack, External speaker jack

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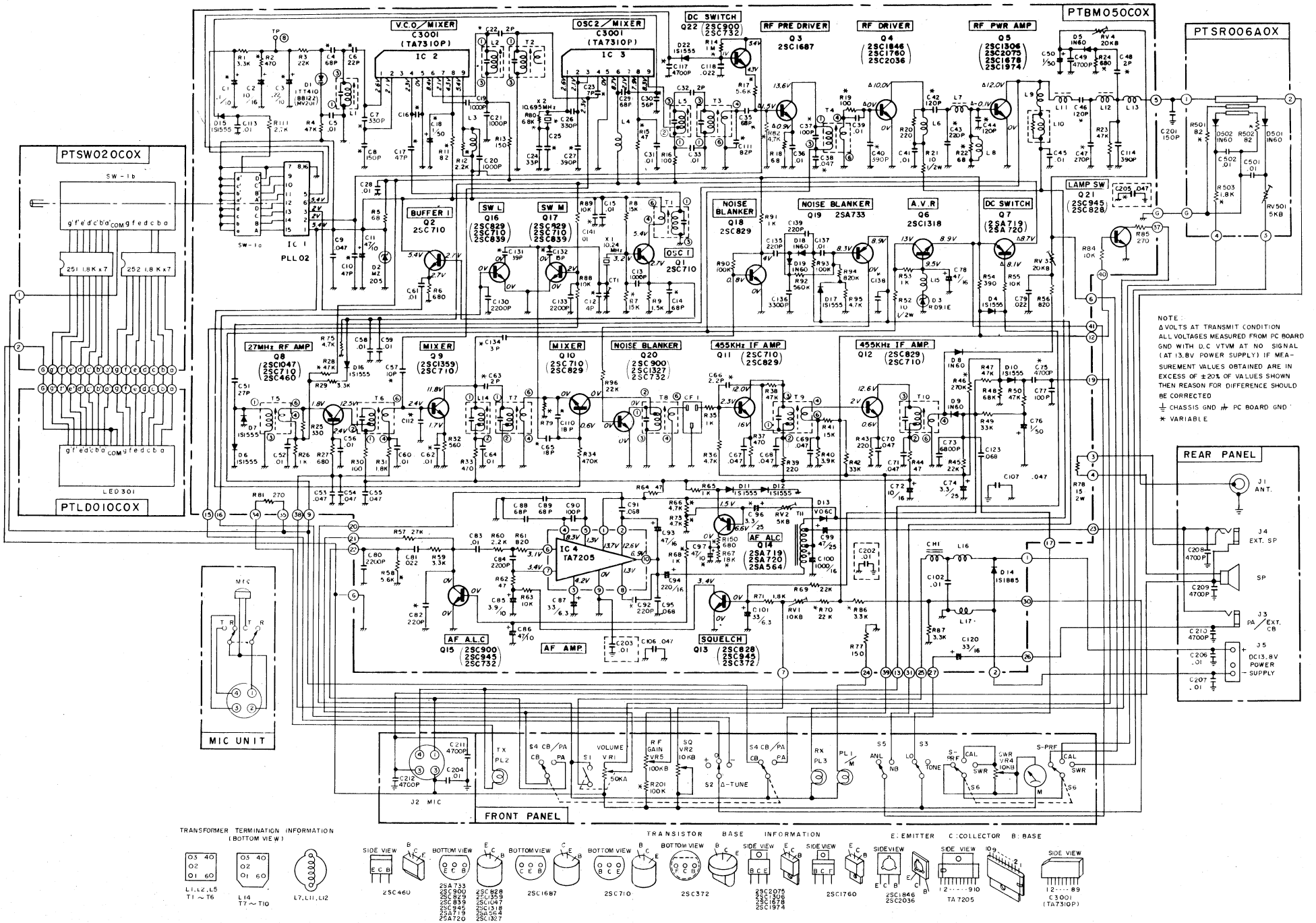
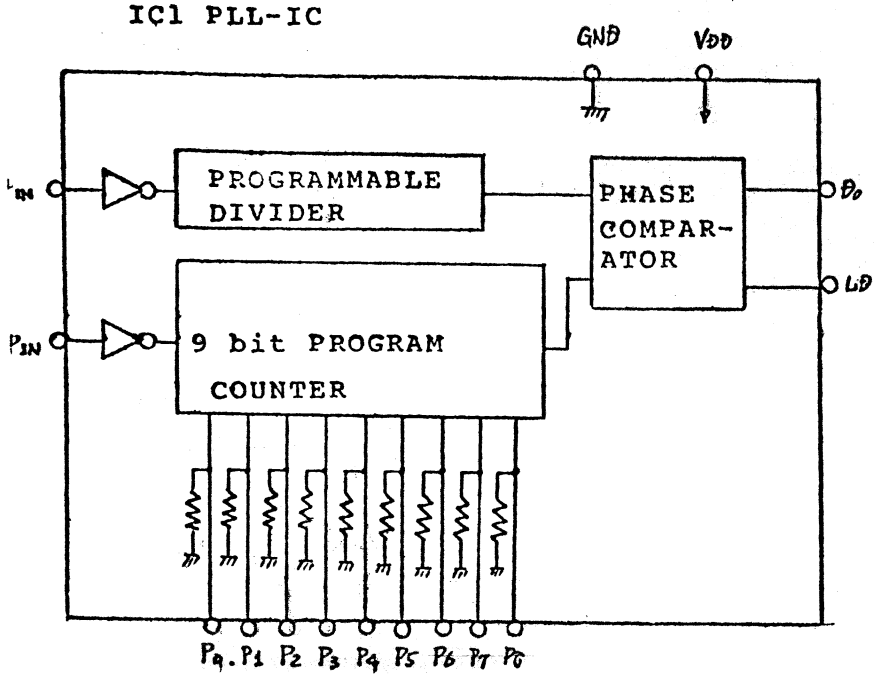
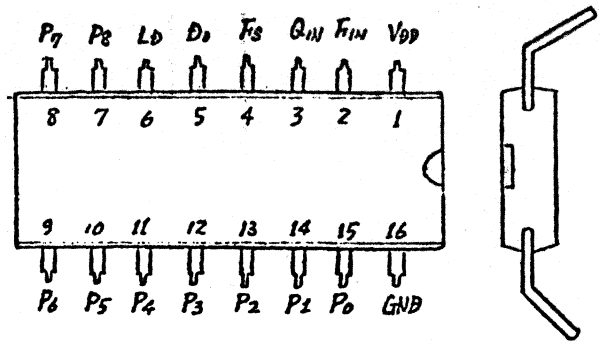
SCHEMATIC DIAGRAM



IC EQUIVALENT CIRCUITS

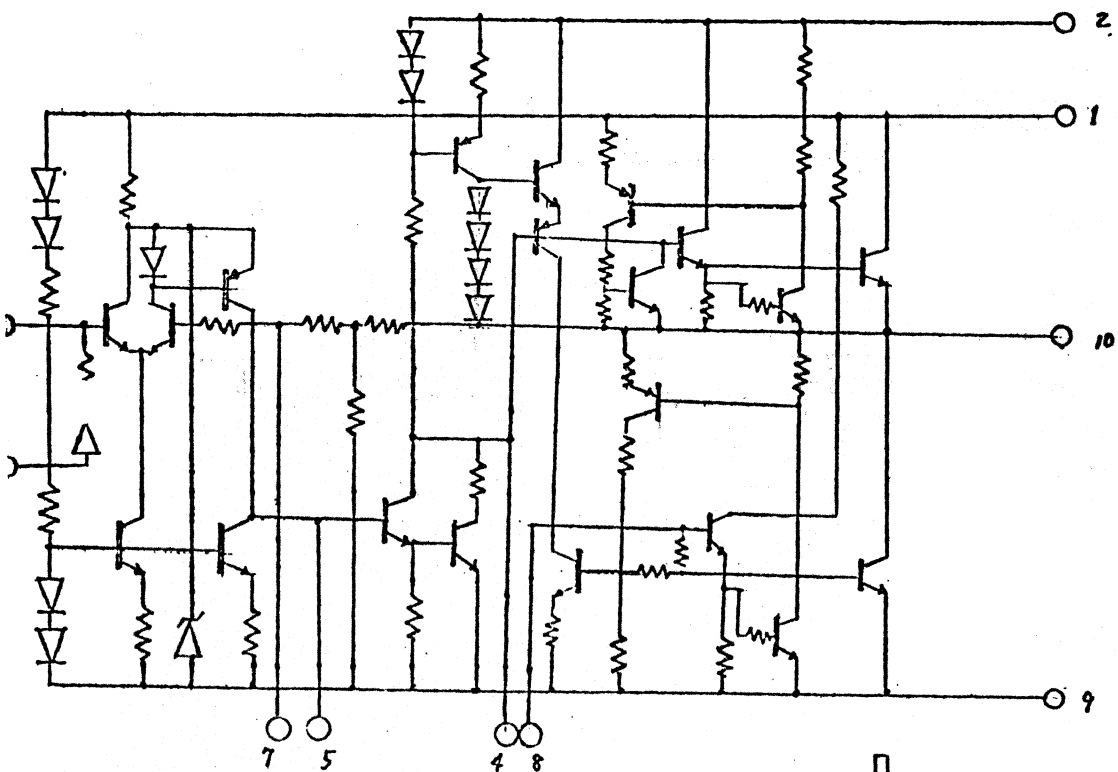
IC1 PLL-IC

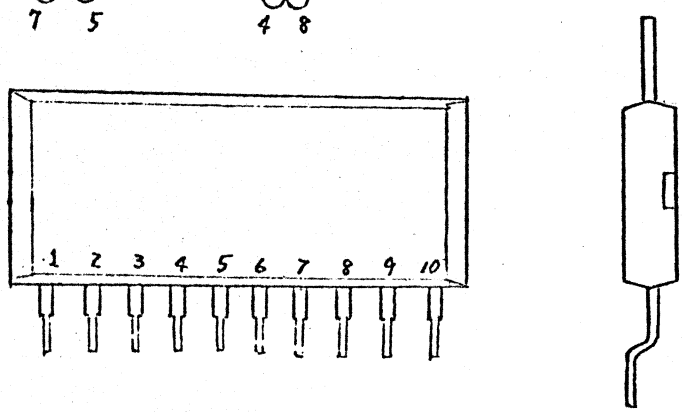




PLL02A

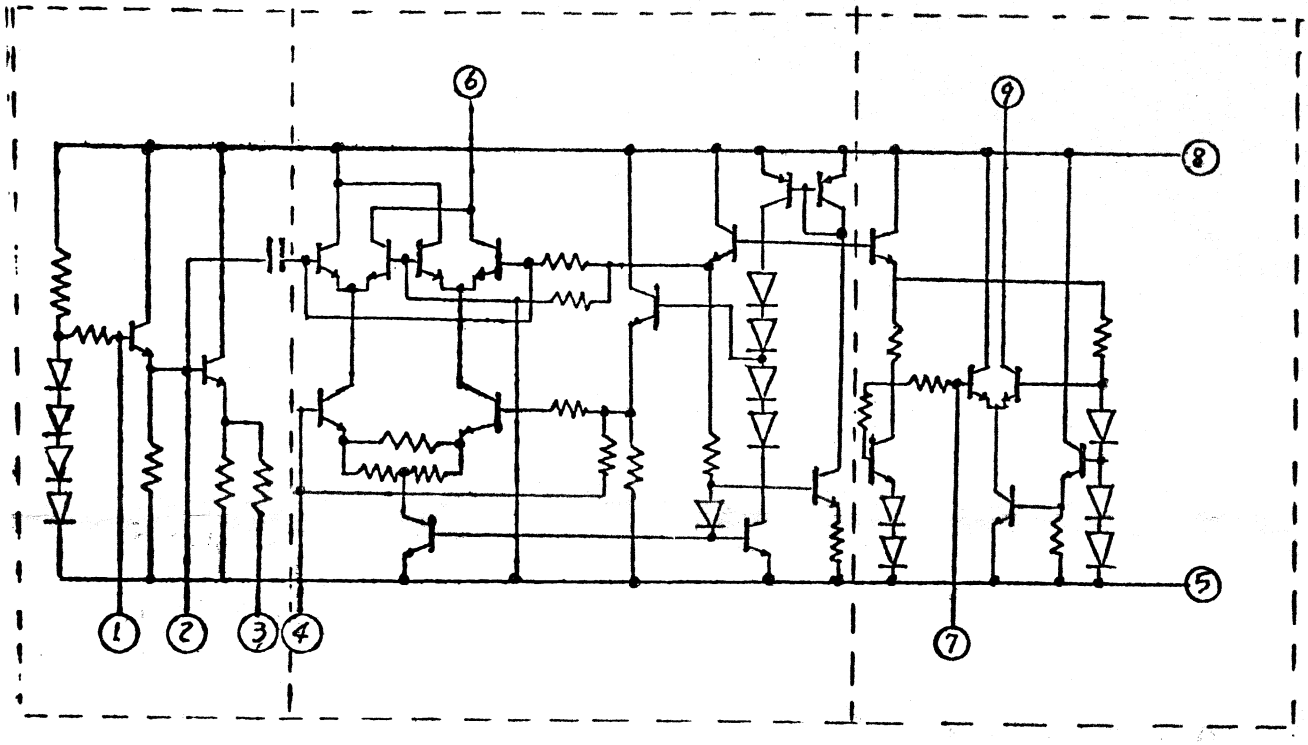
IC5 AF AMP.

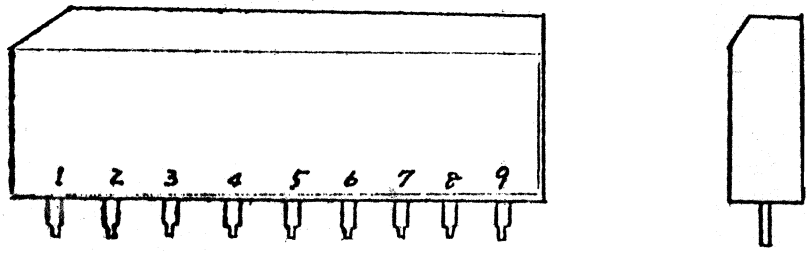




TA7205P

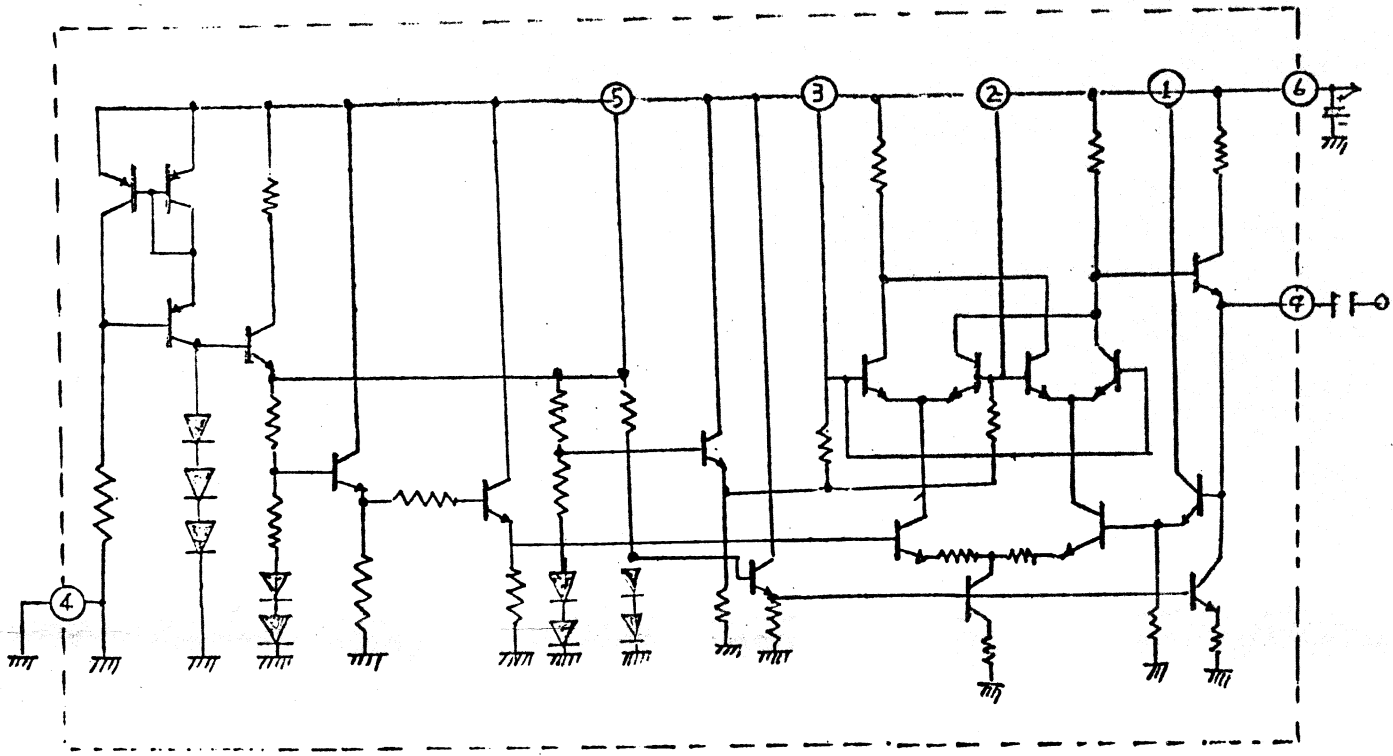
IC2 & IC3 :IC2 V.C.O/MIXER/BUFFER,IC3 OSC2/MIXER/RF AMP.

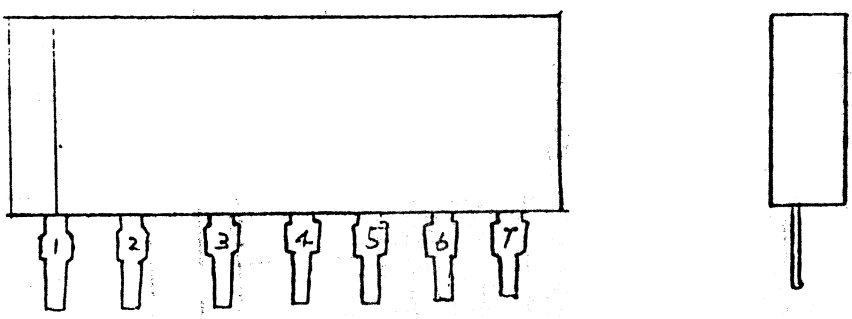




TA7310P

IC 4 : BALANCE MOD.





AN612