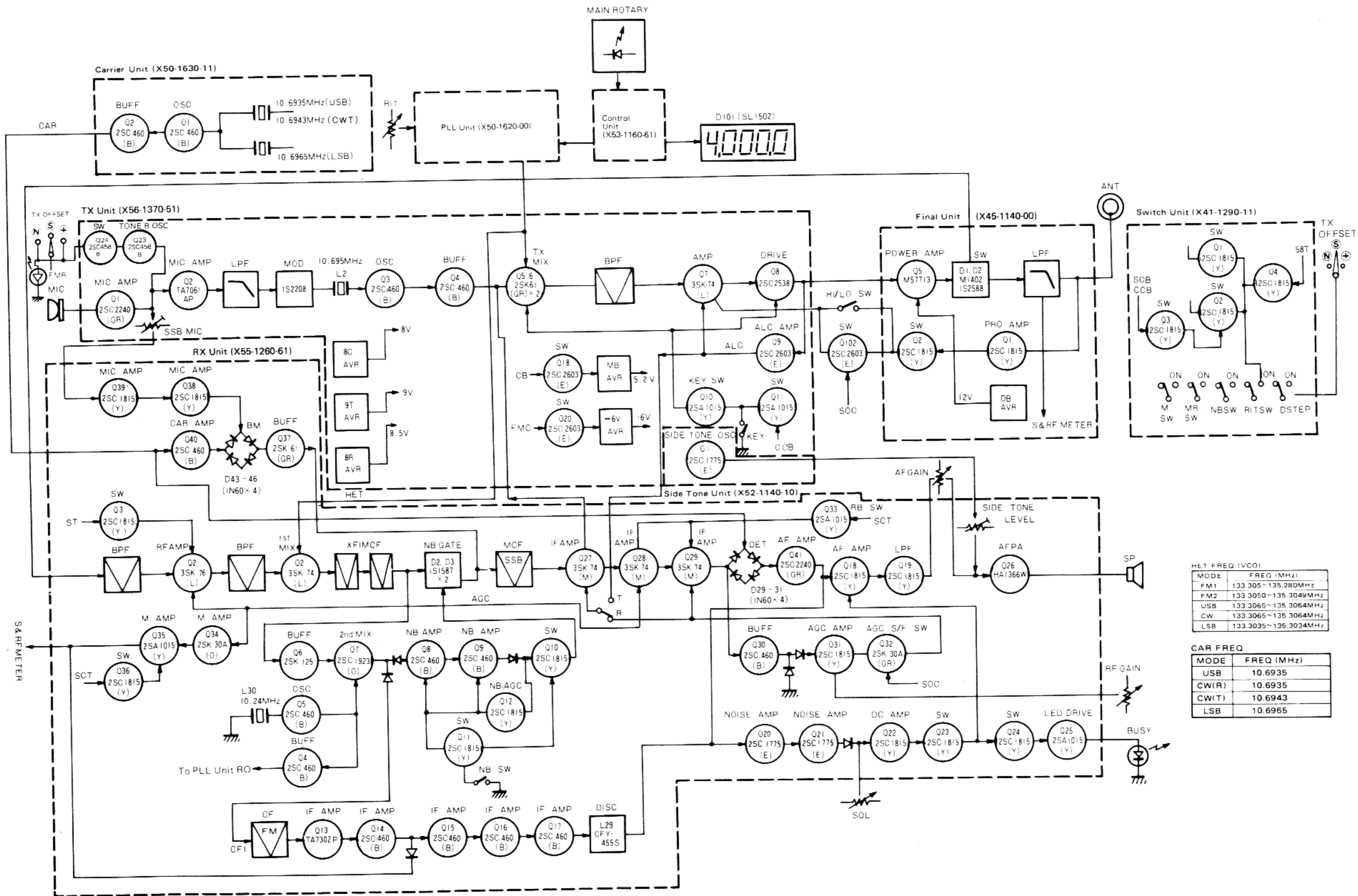


# BLOCK DIAGRAM



HET FREQ (VCO)

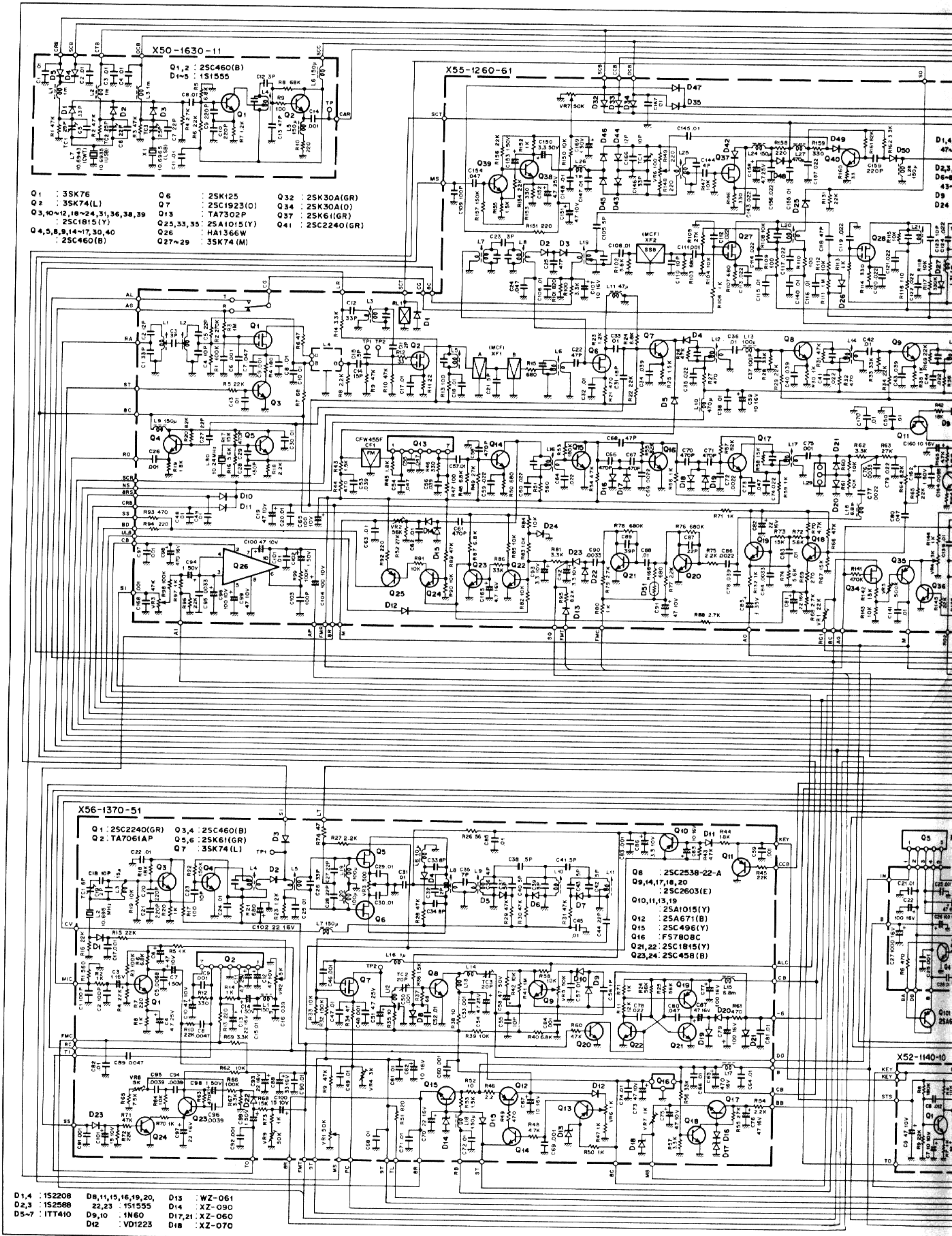
MODE	FREQ (MHz)
FM1	133.305~135.280MHz
FM2	133.3050~135.3049MHz
USB	133.3065~135.3064MHz
CW	133.3065~135.3064MHz
LSB	133.3035~135.3034MHz

CAR FREQ

MODE	FREQ (MHz)
USB	10.6935
CW(R)	10.6935
CW(T)	10.6943
LSB	10.6965

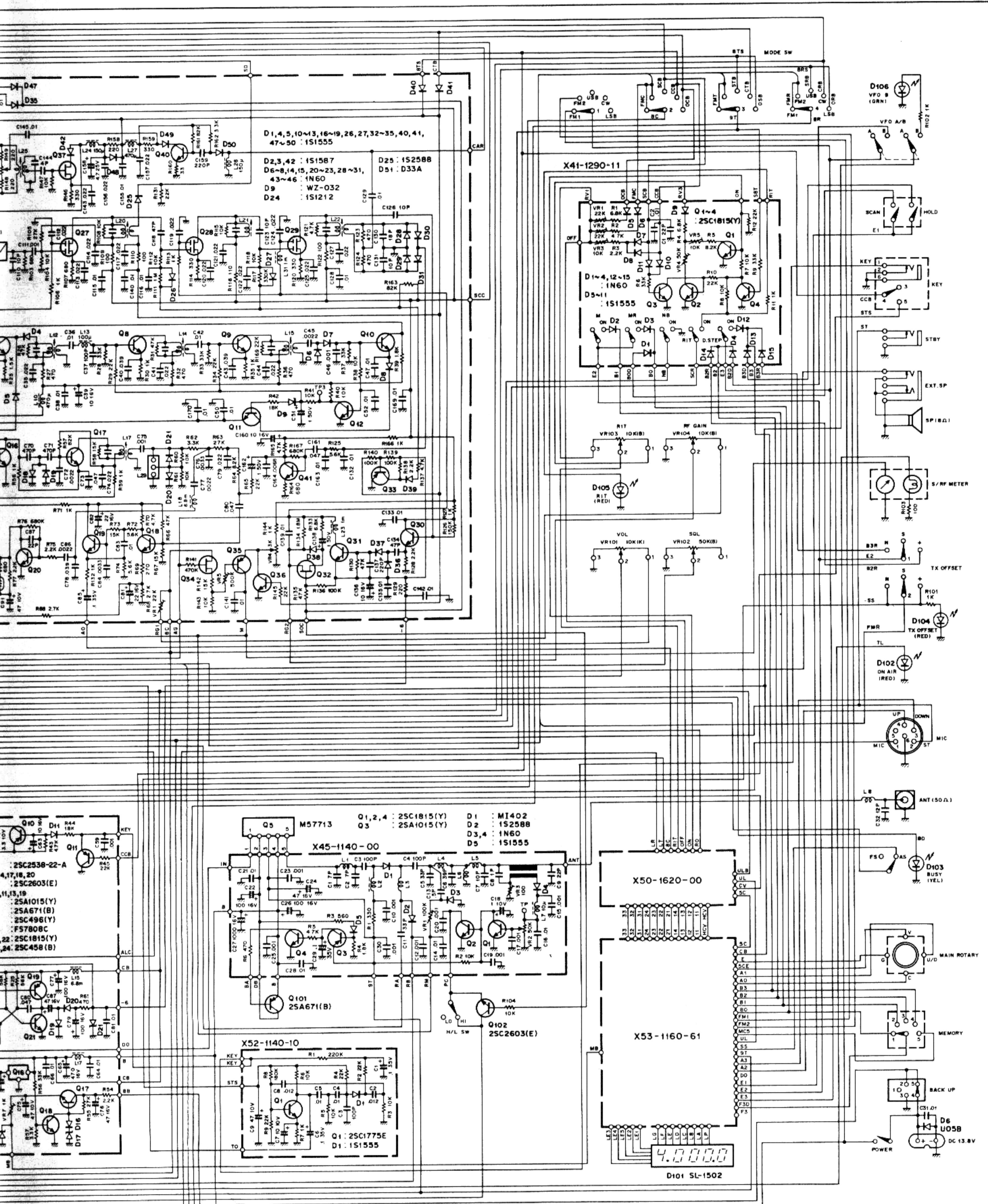


# TR-9000 SCHEMATIC DI





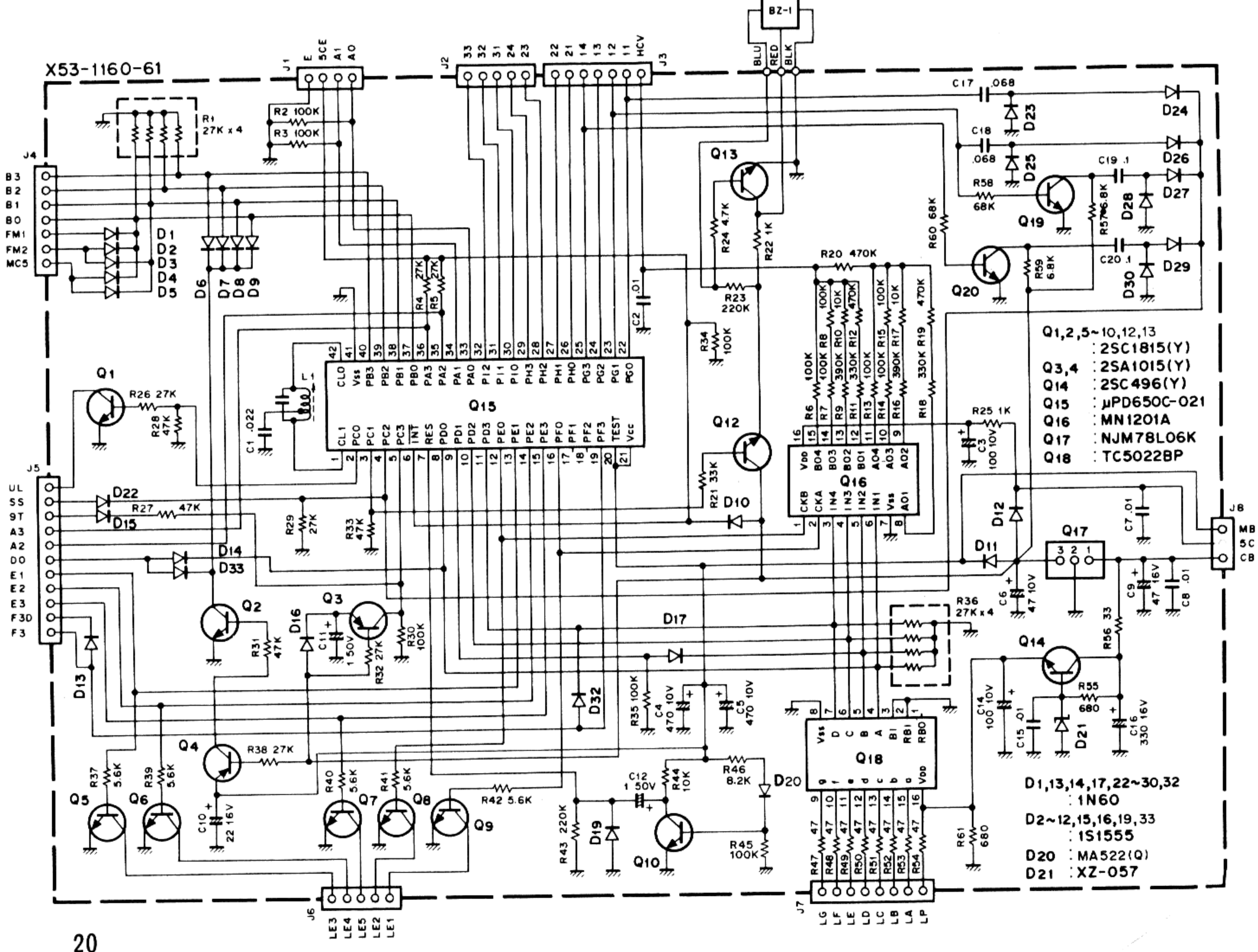
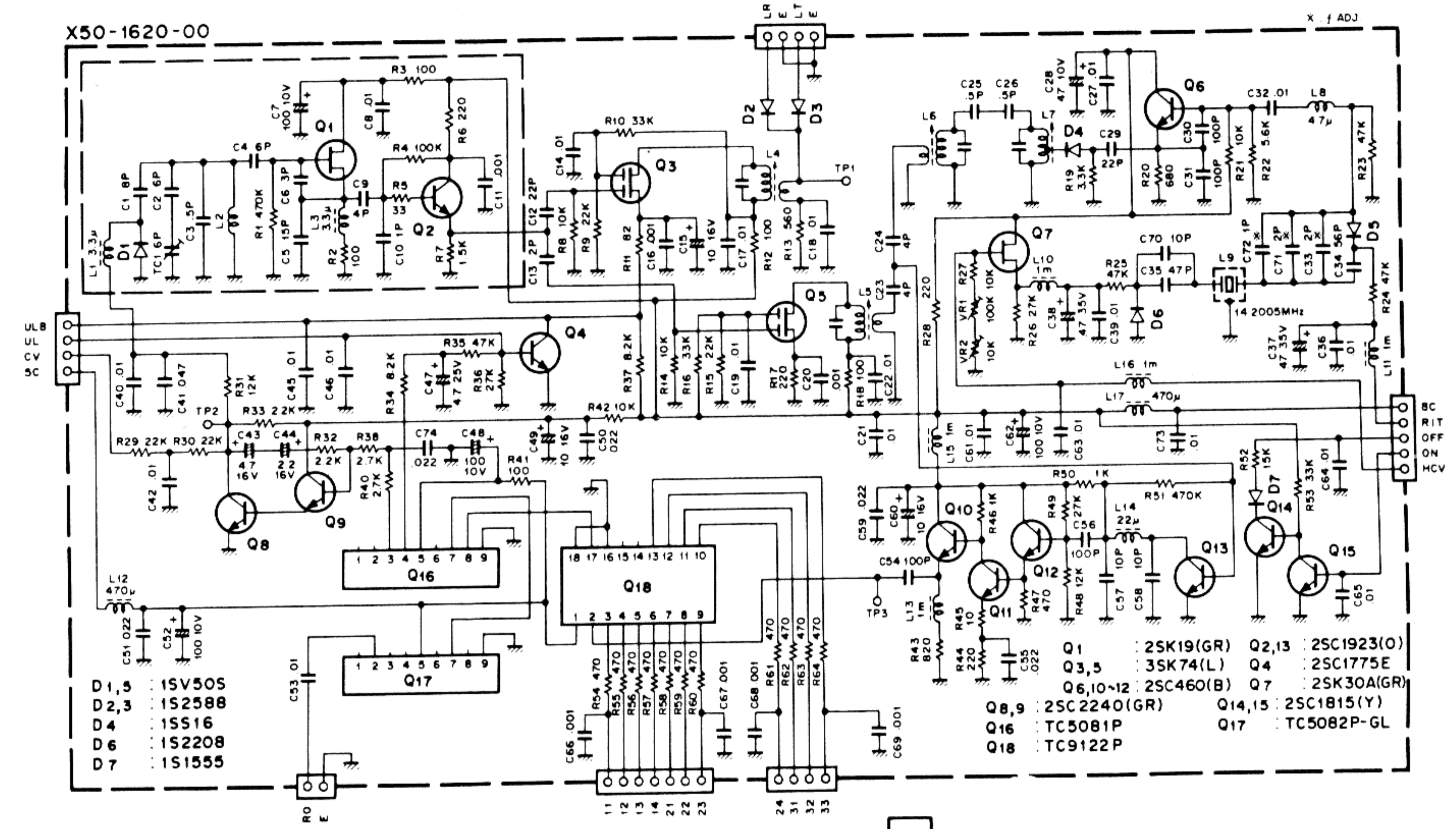
# SCHEMATIC DIAGRAM



TR-9000(T)



# SCHEMATIC DIAGRAM





# SERVICE BULLETIN

from: TRIO-KENWOOD COMMUNICATIONS, INC.

TR-9000

#824

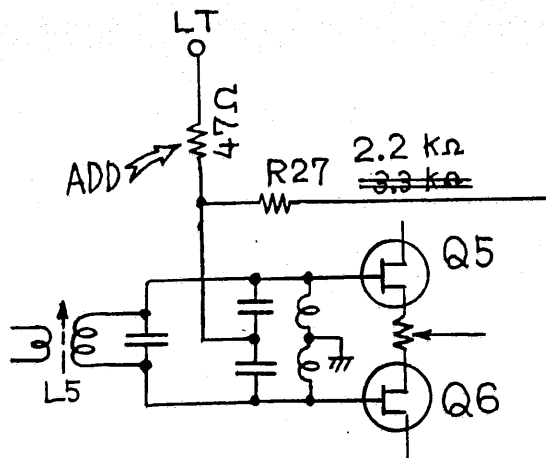
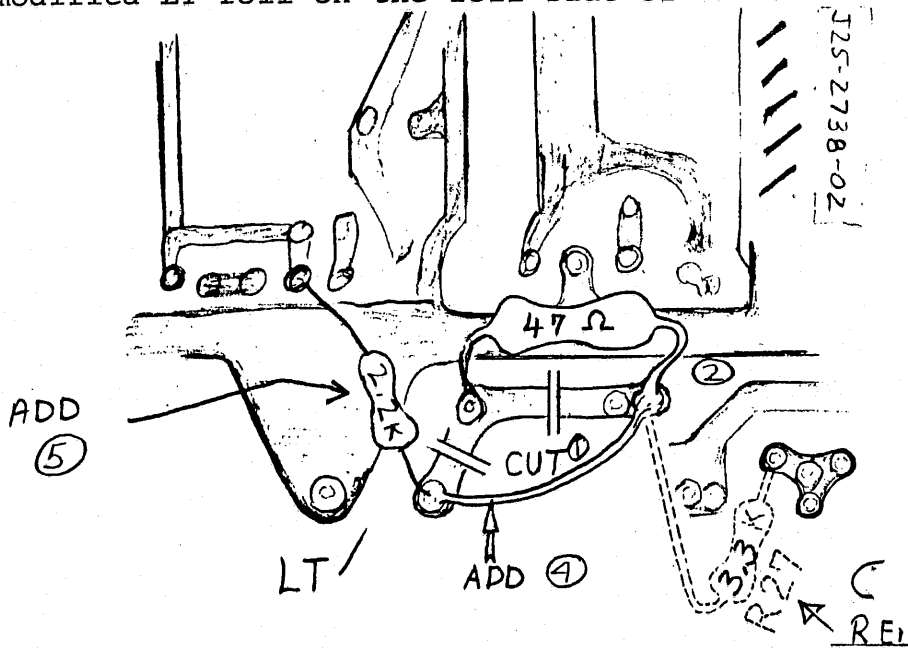
SUBJECT: TR-9000 CW, SSB TX INSTABILITY

DATE 5/29/80

Complaints of FMing in SSB, or CW chirp may be eliminated by minor changes to the TX mixer circuit.

On the TX unit X56-1370-10, perform the following changes:

1. Cut the LT foil path.
2. Install a  $47\Omega$  resistor on the foil side of the PCB.
3. Remove R27,  $3.3K\Omega$  and delete.
4. Jumper the cut foil.
5. Install a  $2.2K\Omega$  resistor from Q12 collector to the modified LT foil on the foil side of the PCB.



JEB/yn

TRIO-KENWOOD  
COMMUNICATIONS, INC.

1111 WEST WALNUT STREET - COMPTON, CALIFORNIA 90220  
MAILING: P.O. BOX 7065 - COMPTON, CALIFORNIA 90224



# SERVICE BULLETIN

from: TRIO-KENWOOD COMMUNICATIONS, INC.

TR-9000

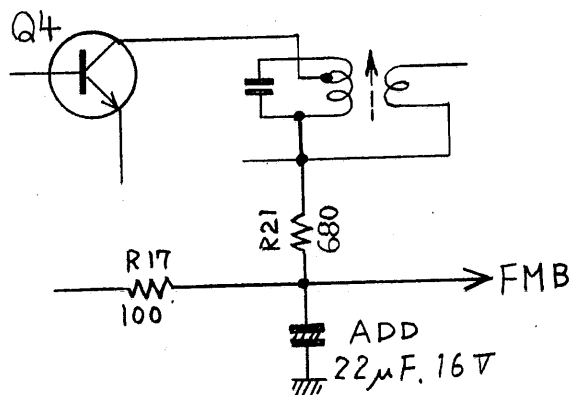
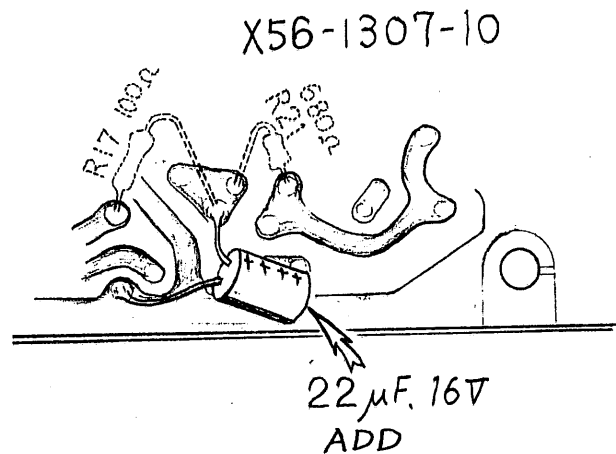
#825

SUBJECT: TR-9000 TX PULSE NOISE IN SSB MODE

DATE 6/2/80

Pulse noise heard during SSB transmission may be reduced or eliminated by adding one capacitor to the TX unit.

On the TX unit X56-1307-10 add a 22 $\mu$ F 16V radial lead cap to the FMB line, as illustrated, on the foil side of the PCB. No adjustments are necessary.



JEB/yn



# SERVICE BULLETIN

from: TRIO-KENWOOD COMMUNICATIONS, INC.

TR-7800 & TR-9000 #833

SUBJECT: TR-7800/TR-9000 OPTIONAL CERAMIC FILTERS

DATE 10/10/80

FM adjacent channel rejection in either unit may be improved by installing an optional narrow ceramic filter.

<u>Filter</u>	<u>Part</u>	<u>-6dB Bandwidth</u>	<u>-70dB Bandwidth</u>	<u>Retail</u>
CFK-455F	L72-0304-05	+ 6KHz	+ 12KHz	\$33.50
CFK-455G	(CFK-455G *	+ 4KHz	+ 10KHz	\$33.50

\* Not original part. No computer part number.

Location: TR-7800, RX unit X55-1270-10 part, L10  
TR-9000, RX unit X55-1260-11 part, CF1

To install, desolder the original filter and clear the second set of holes for the optional filter. Solder the new filter in place. Be sure all pins are actually soldered, and that there are no solder bridges between pins or across the printed circuit board. Clip the pins flush to the board, and reinstall the circuit board.

Note: Squelch operation will vary from unit to unit with an optional narrow filter. Tighter coupling from the detector to the squelch circuit may be tried to restore "original feel".

JEB/yn



# SERVICE BULLETIN

from: TRIO-KENWOOD COMMUNICATIONS, INC.

TR-9000

#849

1/2

**SUBJECT:** TR-9000 Transmitter Sideband Carrier Balance

**DATE** 7/30/81

Distorted sideband transmission may have one of two causes. If normal alignment does not cure the problem, distortion or poor carrier suppression may be improved by rerouting two leads in the wire harness.

#### PERFORM THESE INITIAL CHECKS FIRST:

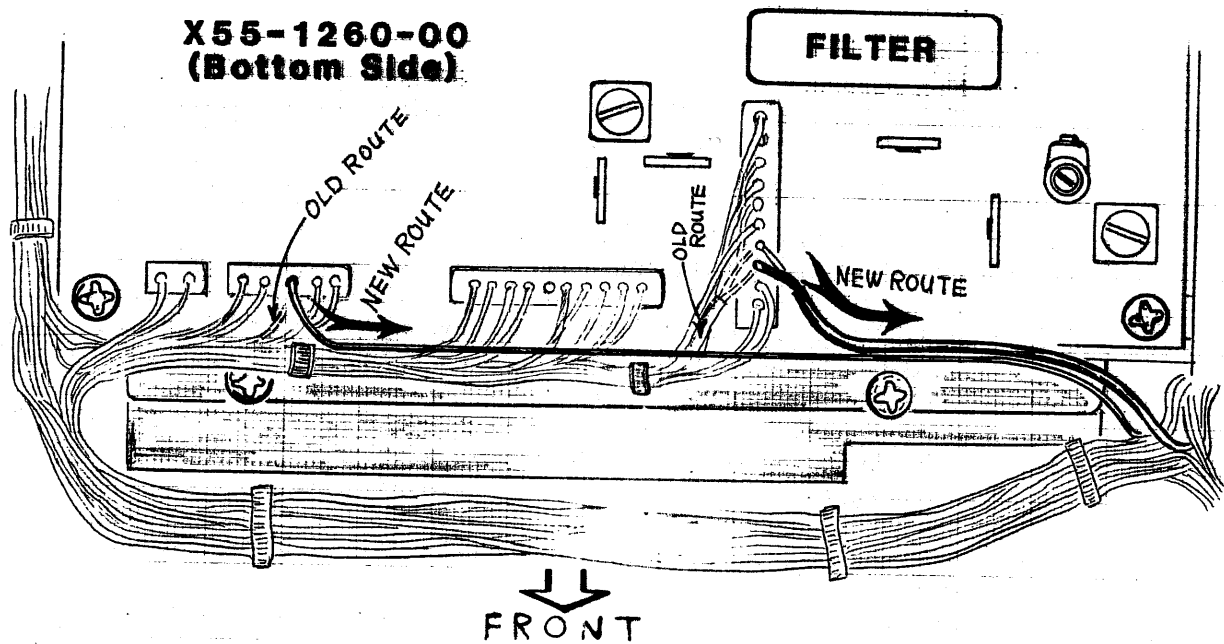
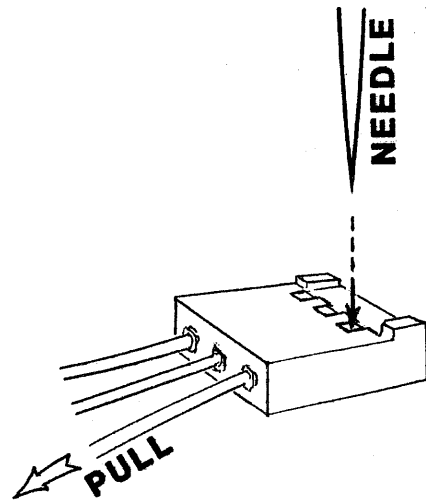
1. On early units, ascertain that R74, 47 $\Omega$  is present on the TX unit X56-1370-10 between connector 33, the LT line, and R27, 2.2K $\Omega$  (vicinity of Q5, Q6), and that R27 is 2.2K $\Omega$ . (Service Bulletin #824).
2. Verify TR-9000 Service Manual alignments, General section steps 4 (PLL), and 5 (HET frequency alignment).
3. TX section, steps #4 (power adjustment), 9 (SSB mic gain), 10 (carrier point) & 11 (carrier suppression).

#### PROCEDURE:

1. Remove the bottom cover and unplug the speaker.
2. With the radio upside down and facing forward, locate connectors 8 and 10 at the front of the RX unit X55-1260-00. Connector # 8, pin 3 (violet) is the -6V DC line from the TX unit, connector # 31, pin 1. Connector # 10, pins 7 (signal) and 8 (ground) (green coaxial cable) is the MS pins 5 (sig) and 4 (gnd).
3. Carefully cut the cable ties (without cutting any leads) securing these two lines in the wire harness which runs to the left, around the upright Control unit, and then right behind the front panel as far as the Mode switch.
4. Carefully unplug each of these connectors by gripping the connector housing with a long-nosed plier.
5. Extract the terminal from the housing by depressing the locking tab and simultaneously withdrawing the lead with terminal. (see illustration on page 2).
6. Reroute these two lines from the behind the Mode switch, between the chassis and control unit, then left to their original connectors. Reinstall the terminals in their original positions in the connector housing.
7. Coil the excess of each lead and secure with cable ties. Retie the harness behind the front panel, along the left of the chassis, and back behind the control unit.



8. Readjust carrier suppression. Mod SW:USB, Mic terminal terminated with  $470\Omega$ . On the RX unit, alternately adjust TC1 & VR6 for minimum output at 145MHz. Carrier should be at least -40dB down.
9. Work is complete. Replace the bottom cover.





# SERVICE BULLETIN

from: TRIO-KENWOOD COMMUNICATIONS, INC.

TR-9000

#859

SUBJECT: TR-9000 Temperature Stability Improvement

DATE 04/14/82

PLL noise or unlock at high temperature may be cured by changing a mixer feed point in the PLL.

Measure TP3 on the PLL unit. If greater than 0.5V RMS signal is available, this change will not be required. If less than this level is present, proceed.

On the PLL unit X50-1620-00 at Q13:

1. Remove and delete C23.
2. Connect Q13 emitter to L5 "hot" (original C23 take-off.)
3. Realign L5, 6, 7 for at least 0.5V RMS at TP3.

Note: Installation time for this procedure is  $\frac{1}{2}$  hour or less.

Alignment Note: To align L6 & 7, first position the slugs flush with the tops of the coils, then alternately adjust these two coils for maximum output at the first peak into the coil (fundamental frequency). Then align L5 for maximum.

TP-3

