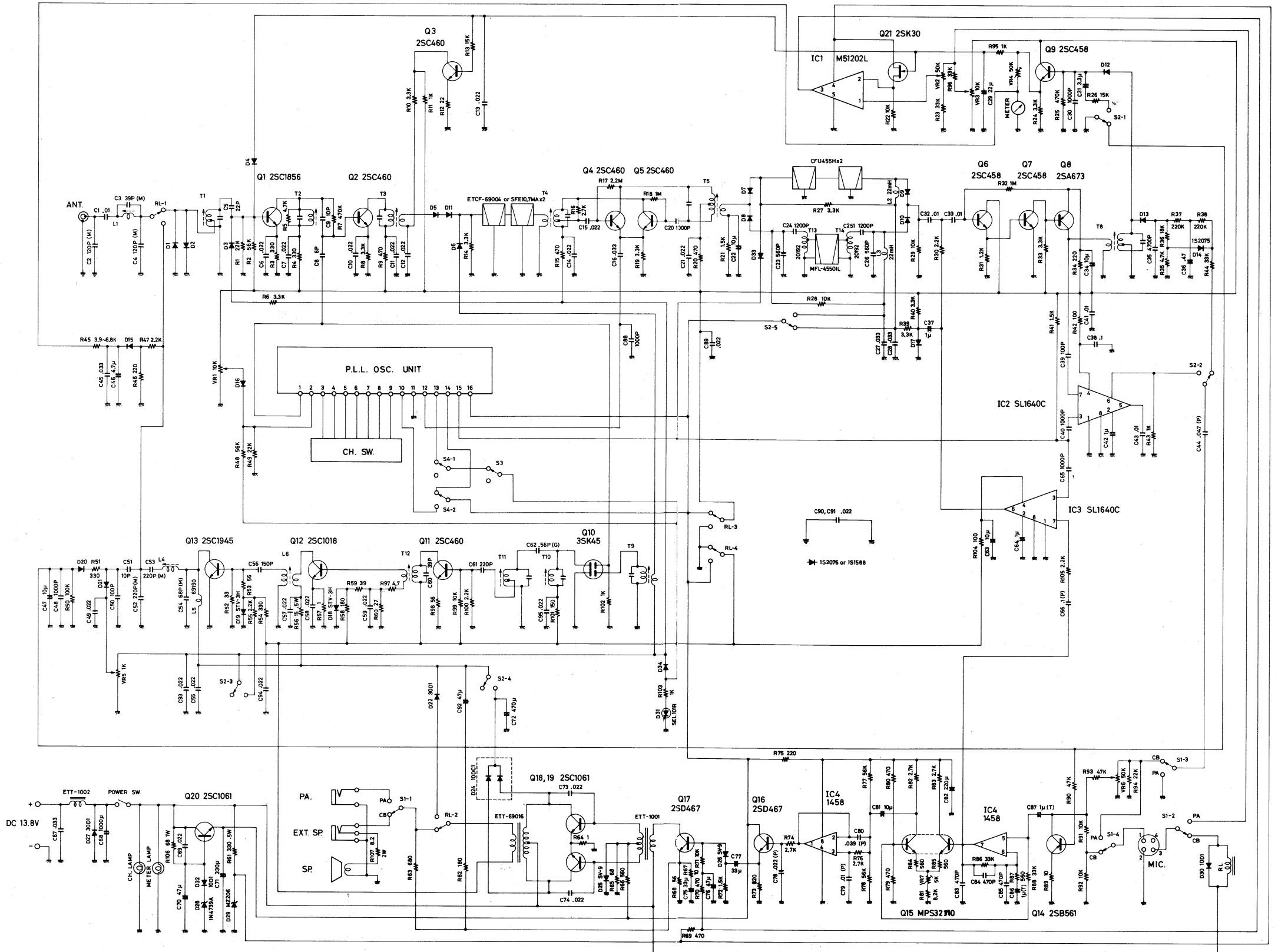
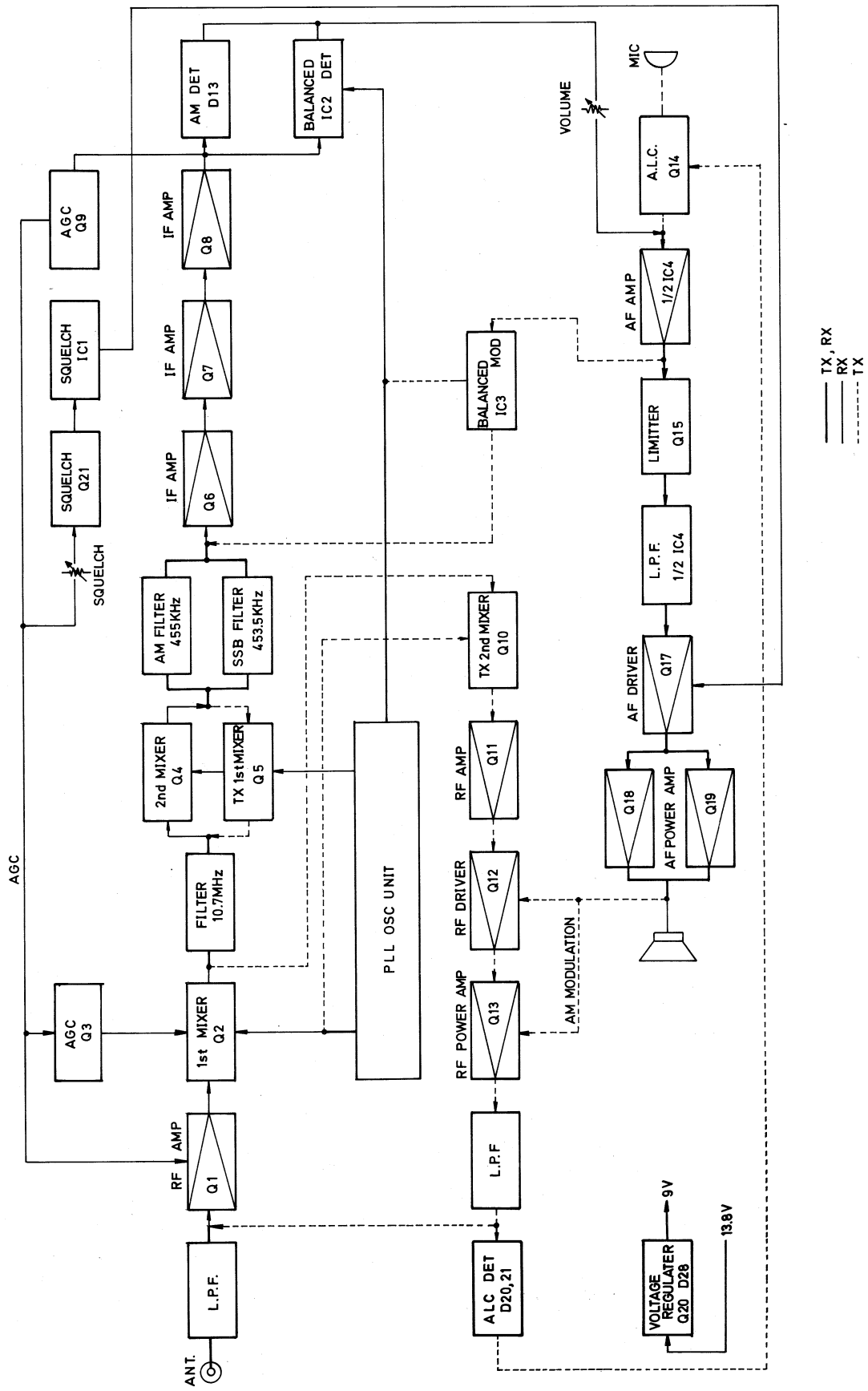


SCHEMATIC DIAGRAM

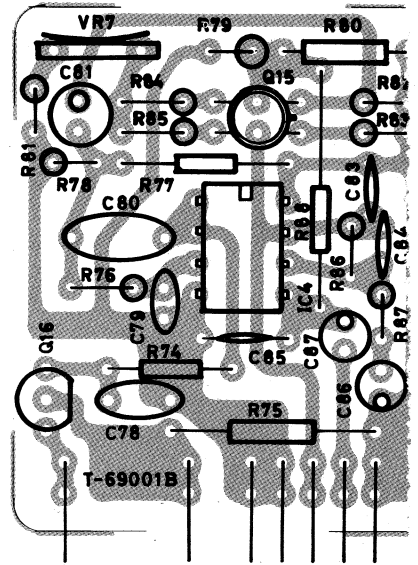
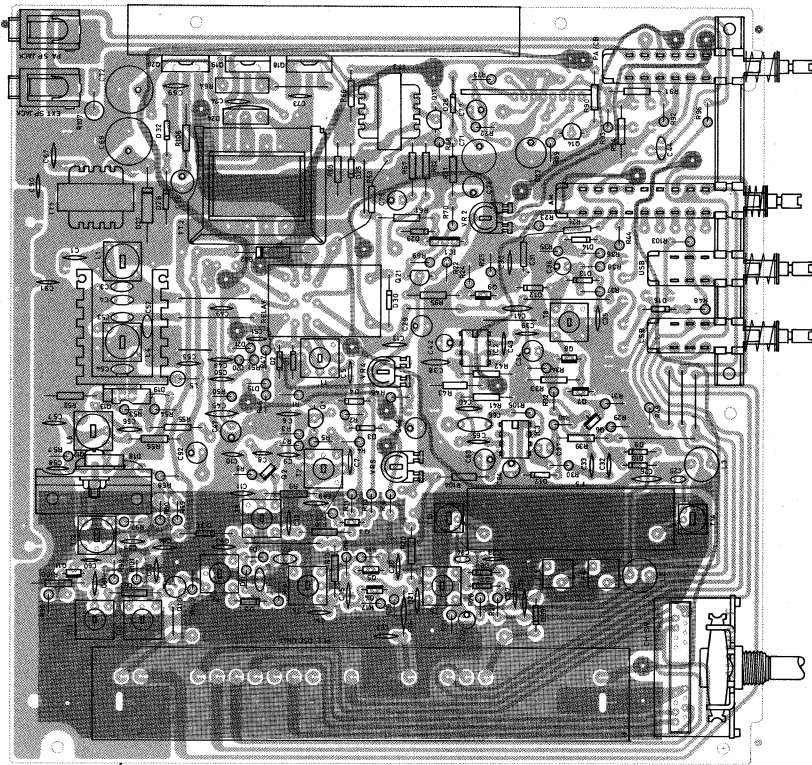


BLOCK DIAGRAM

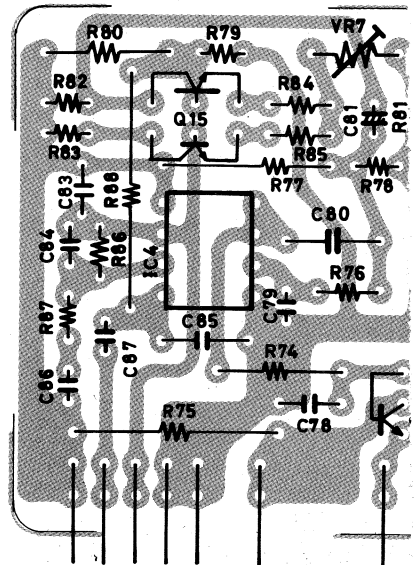
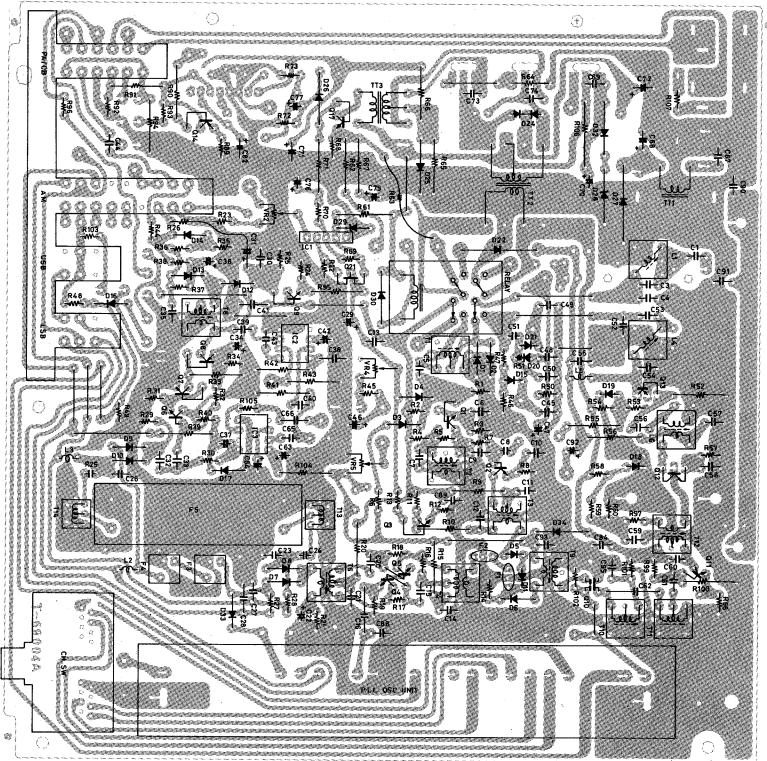


PARTS LAYOUT

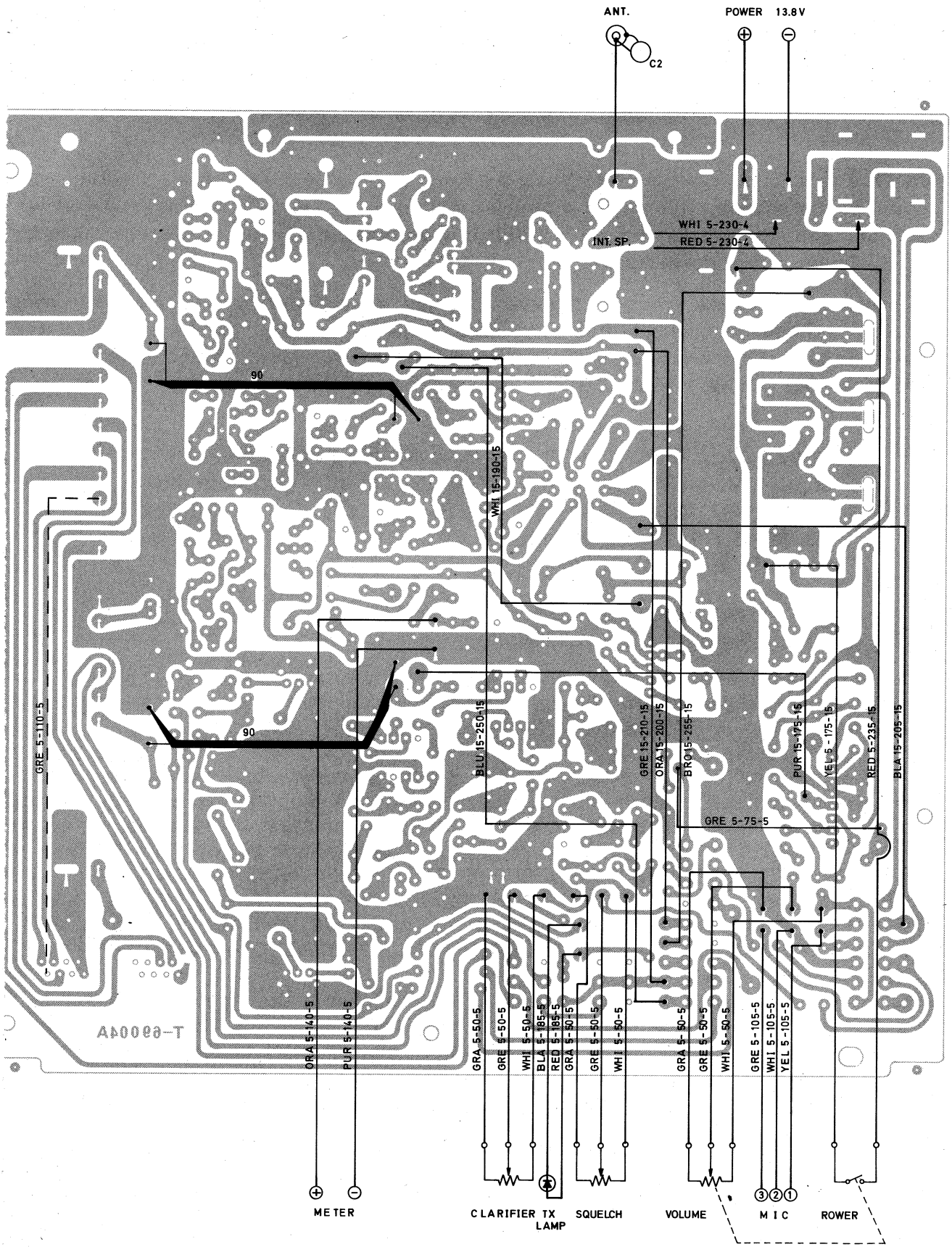
TOP VIEW



BACK VIEW



WIRING DIAGRAM



TRANSISTOR VOLTAGE CHART

		Vb (V)				Vc (V)				Ve (V)			
		TX		RX		TX		RX		TX		RX	
		AM	SSB	AM	SSB	AM	SSB	AM	SSB	AM	SSB	AM	SSB
Q 1	2SC1856	1.1	1.1	2.1	2.1	0.4	0.4	8.8	8.8	0.35	0.35	1.3	1.3
Q 2	2SC460	0	0	2.9	2.8	0	0	9.6	9.6	0	0	3.1	3
Q 3	2SC460	0	0	0~ 0.9	0~ 1	0	0	8.8~ 0.8	8.8~ 0.8	0	0	0.1~ 0.2	0~ 0.2
Q 4	2SC460	0	0	0.52	0.52	0	0	9.8	9.8	1.45	1.45	1.1	1.1
Q 5	2SC460	1.3	1.3	0	0	8.9	9.1	0	0	1.45	1.45	1.1	1.1
Q 6	2SC458	0	0	1.3	1.3	0	0	10	10	0	0	0.7	0.7
Q 7	2SC458	0	0	0.7	0.7	0	0	3.4	3.4	0	0	0	0
Q 8	2SA673	0	0	3.4	3.4	0	0	0	0	0	0	4.1	4.1
Q 9	2SC458	0	0	1~ 7.1	0~ 6.5	0	0	10	10	0	0	1~ 6.5	0~ 5.9
Q11	2SC460	1.5	1.5	0	0	9.8	10	0	0	0.8	0.8	0	0
Q12	2SC1018	0.6	0.7	0	0	8.3	13.3~ 18.7	0	0	0.2	0.025 ~0.07	0	0
Q13	2SC1945	0.24	0.6	0	0	8.4	13.3~ 18.7	0	0	0	0	0	0
Q14	2SB561	0	0~ 0.5	0	0	0	0	0	0	0	0	0	0
Q15	MPS32310	3.1	3.1	3.1	3.1	6.1	6.1	6.1	6.1	2.9	2.9	2.9	2.9
Q16	2SD467	3.1	3.1	3.1	3.1	9	9	9	9	2.6	2.6	2.6	2.6
Q17	2SD467	1.06	1.04	1.1	1.1	13.6	12.7	13.2	13.2	0.45	0.46	0.45	0.45
		1.06	1.04	0	0	13.6	12.7	13.8	13.8	0.45	0.46	0	0
Q18	2SC1061	0.7	0.7	0.7	0.7	13.6	13.7	13.6	13.6	0.1~ 0.5	0.1~ 0.88	0.04~ 0.45	0.04~ 0.45
Q19	2SC1061	0.7	0.7	0.7	0.7	13.6	13.7	13.6	13.6	0.1~ 0.5	0.1~ 0.88	0.04~ 0.45	0.04~ 0.45
Q20	2SC1061	10.6	10.6	10.6	10.6	13.6	13.4	13.7	13.7	9.8	10	10	10

NO
SQUELCH

SQUELCH

		Vg (V)				Vd (V)				Vs (V)			
		Tx		Rx		Tx		Rx		Tx		Rx	
		AM	SSB	AM	SSB	AM	SSB	AM	SSB	AM	SSB	AM	SSB
Q19	2SK30A	0	0	0.4 ~4.9	0 ~4.9	6.4	6.4	6.4	6.4	1.4	1.4	2.1 ~5.9	1.3 ~5.7

		Vg1 (V)				Vg2 (V)				Vd (V)				Vs (V)			
		Tx		Rx		Tx		Rx		Tx		Rx		Tx		Rx	
		AM	SSB	AM	SSB	AM	SSB	AM	SSB	AM	SSB	AM	SSB	AM	SSB	AM	SSB
Q10	3SK45	0	0	0	0	0	0	0	0	9.4	9.5	0	0	0	0	0	0

			PIN NO	1	2	3	4	5	6	7	8
IC1	M51202L	Tx	AM	0	1.4	5.8	6.4	0			
			SSB	0	1.4	5.8	6.4	0			
		Rx	No SQUELCH	0	1.3 ~ 6	5.8	6.4	0			
			SQUELCH	4.7	1.3 ~ 6	0	6.4	0			
IC2	SL1640C	Tx		0	0	0	0	0	0	0	0
		Rx		0	3.6	3.6	7.8	6.9	6.1	3.6	0
IC3	SL1640C	Tx		0	3.6	3.6	7.8	6.9	6.4	3.6	0
		Rx		0	0	0	0	0	0	0	0
IC4	MC1458			3	3	3	0	3	3.2	3.2	6.7

1-632 Alignment Instruction

RECEIVER

1. Testing Equipment to be used:

*Power Supply 13.8VDC	1 set
*Standard Signal Generator	1 set
*Low Frequency Voltmeter	1 set
*Oscilloscope	1 set
*8 ohms Dummy Load	1 pc.
*Speaker	1 pc.
*Microphone	1 pc.

2. Alignment Procedures:

- 1) Set the Mode Switch to AM, Volume Control at maximum, Squelch at minimum, Clarifier in the center and the CB-PA Switch to CB.
- 2) Set the SSG on Channel 19 and Channel Selector of the unit on Channel 19. Then, connect the Power Supply and 8 ohms Dummy Load to the transceiver unit.
- 3) Feed the signal from the SSG and set the audio output for a peak reading by adjusting T-1, T-2, T-3, and T-8.
In this case be sure that antenna input should be less than 1uV at the AF standard output power. Also, make sure that the audio on the oscilloscope is a sine wave
- 4) set the antenna input at 1uV so that the antenna power may be more than 0.5 Watt at the maximum volume of all channels.
- 5) Set the antenna input at 1,000uV so that the output power should be more than 3.5 watts at the maximum volume.
- 6) Set the antenna input to 50,000uV and the low frequency output to 0.5watt by volume control. Then, decrease the antennae input until the low frequency output stays 10dB lower. Be sure that the antenna input then should be less than 5uV.
- 7) Set the antenna input to 100uV and the meter indication to 9 by VR4.
- 8) Set the volume control and squelch control at maximum, and set the tight squelch by VR2 so that the output from speaker is heard when the antenna input is increased upto 500uV.
- 9) Set the antenna input to 0.7uV and be sure that the low frequency output should be over 10dB more when the modulation of the SSG is turned off at the normal output.
- 10) Set the Mode Switch to USB, Volume Control at maximum, Squelch at minimum and Clarifier in the center. Tune off the modulation of the SSG and remove the frequency by 1KHz.
- 11) Make sure that the maximum sensitivity should be less than 0.2uV.
- 12) Make sure of AGC like with AM.
- 13) Set the antenna input to 0.15uV and keep the AF output to be over 10dB lower when the antenna input is turned off at the normal output.

3. PA Functioning:

- 1) Set the PA-CB Switch to PA. Connect the dummy load to PA Speaker Jack and microphone to Microphone Jack.
- 2) Make sure of the variation of the sound level with the volume control by pushing down the push-to-talk knob on the microphone.

1-632 Alignment Instruction

4. Receiver Alignment Specifications:

AM:	Maximum Sensitivity	less than 1uV
	Low Frequency Output	more than 3.5 Watts
	AGC	more than 80dB
	Meter	S9 at 100uV
	SQ	500uV
	S+N/N	more than 10dB at 0.7uV
SSB:	Maximum Sensitivity	less than 0.2uV
	AGC	more than 80dB
	Meter	S9 at 100uV
	S+N/N	more than 10dB at 0.15uV

TRANSMITTER

1. Connection of test equipment.

*Power supply at 13.8VDC

*Connect a Power meter, oscilloscope, frequency counter, spectrum analyzer and P-P RF volt meter to the RF output connector.

*Connect an AF oscillator and AF volt meter to the microphone connector.

2. Power adjustment

*Set the mode switch to AM.

*Adjust T5, 4, 9, 10, 11 and T12, and L6 for the maximum point.

*Adjust L4 for 3.6W output.

*Adjust L1 to increase 2nd harmonic.

3. Frequency-Make sure every channel stays within ± 800 Hz.

4. Modulation Limiter Adjustment

*Put in 1KHz and 500mV signal from AF oscillator and adjust VR7 for 90% modulation.

5. Modulation capability

*Put in 1KHz signal by AF oscillator and get 90% modulation for the minus side. The plus side should be over 80%.

6. SSB

*Set the mode switch to USB

*Put in two-tone signal of 1KHz and 1.6KHz by two AF oscillators.

*Adjust T6 and T7 for the maximum point.

7. ALC alignment

*Adjust the two-tone signal of AF oscillator for 3W RF power output.

*Adjust VR5 for 11W PEP RF power output when the two-tone signal is increased by 20dB.

8. Carrier suppression

*Cut off the two-tone signal and make sure the output level of the carrier is below -40dB.

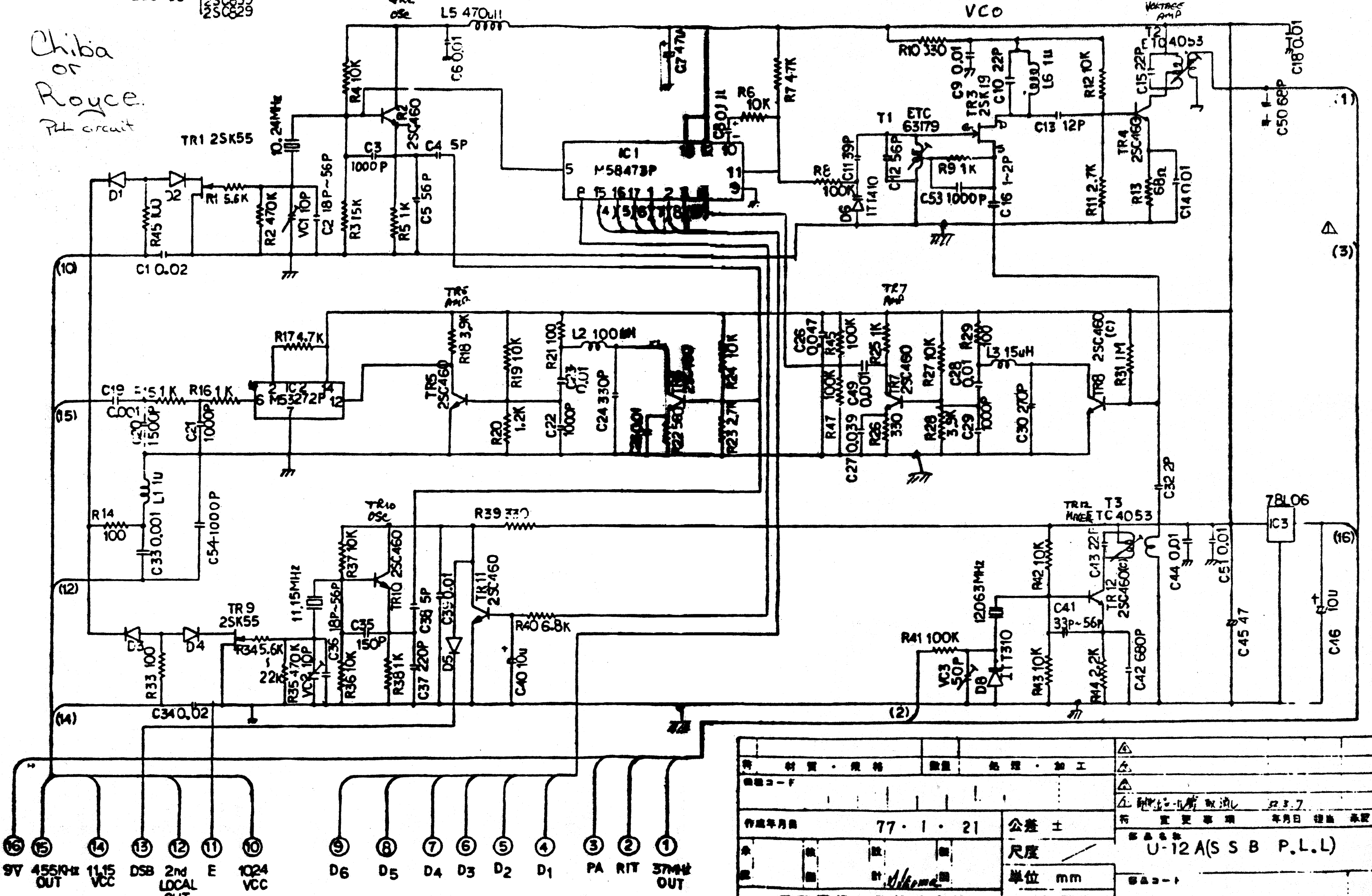
*Set the mode switch to LSB and do the same.

ROYCE 1-632 PLL

Chiba
or
Royce
PLL circuit

2SC460 →
2SC461
2SC710
2SC639
2SC629

2SK55 ↔ 2SK19
2SK107



特 許 資 料	製 造 廠	製 造 年 月 日	77. 1. 21	公 差 士	尺 度	單 位	mm
子 業 通 信 工 業 株 式 會 社				三 角 圖 法			
U-12A(S S B P.L.L)				製 造 年 月 日			

此圖表は、本機に使用される部品を指定するものである。各部品の仕様は、本機に付属の部品表を参照せよ。

ROYCE 1-632 PLL BLOCK

