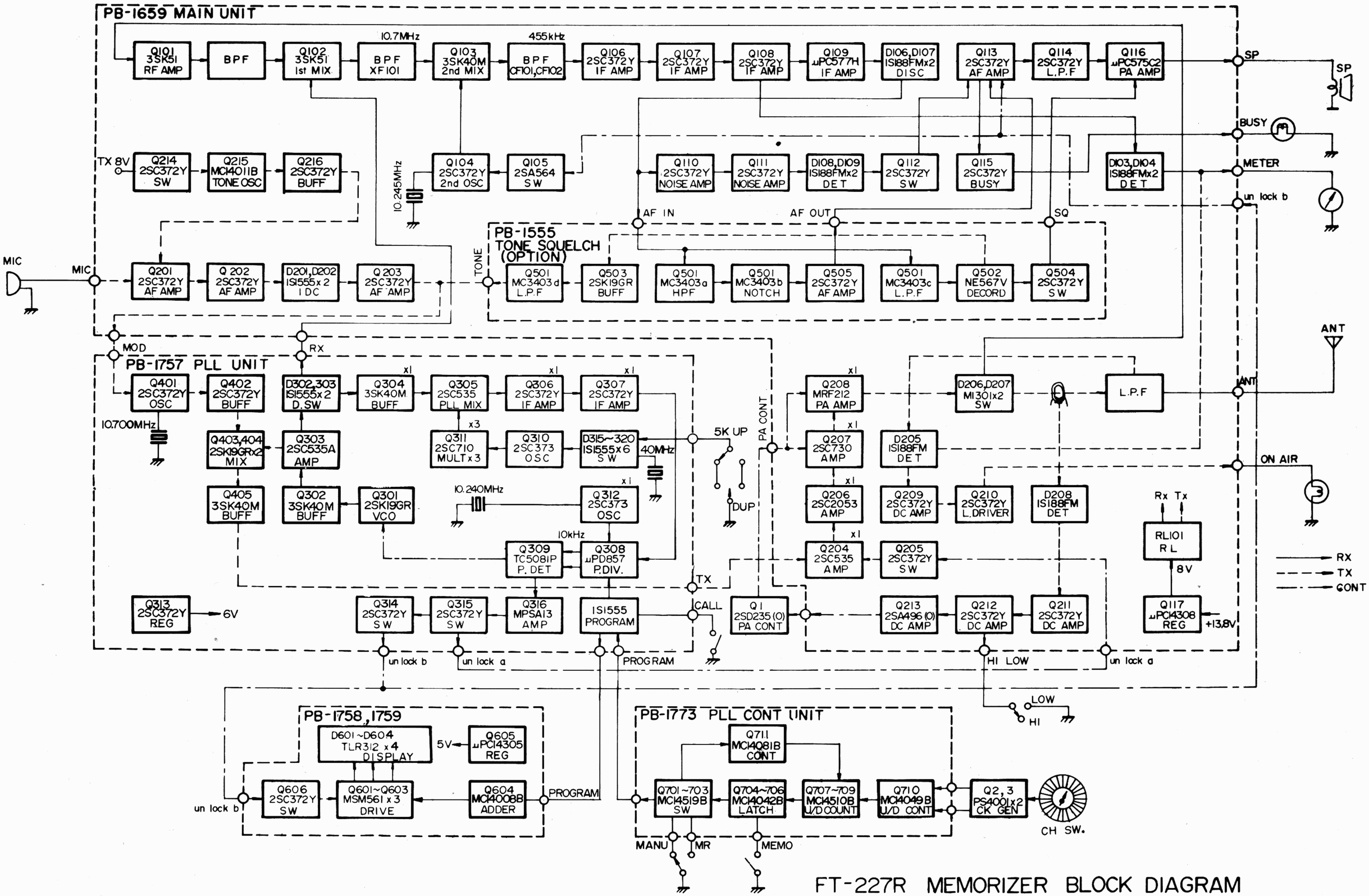
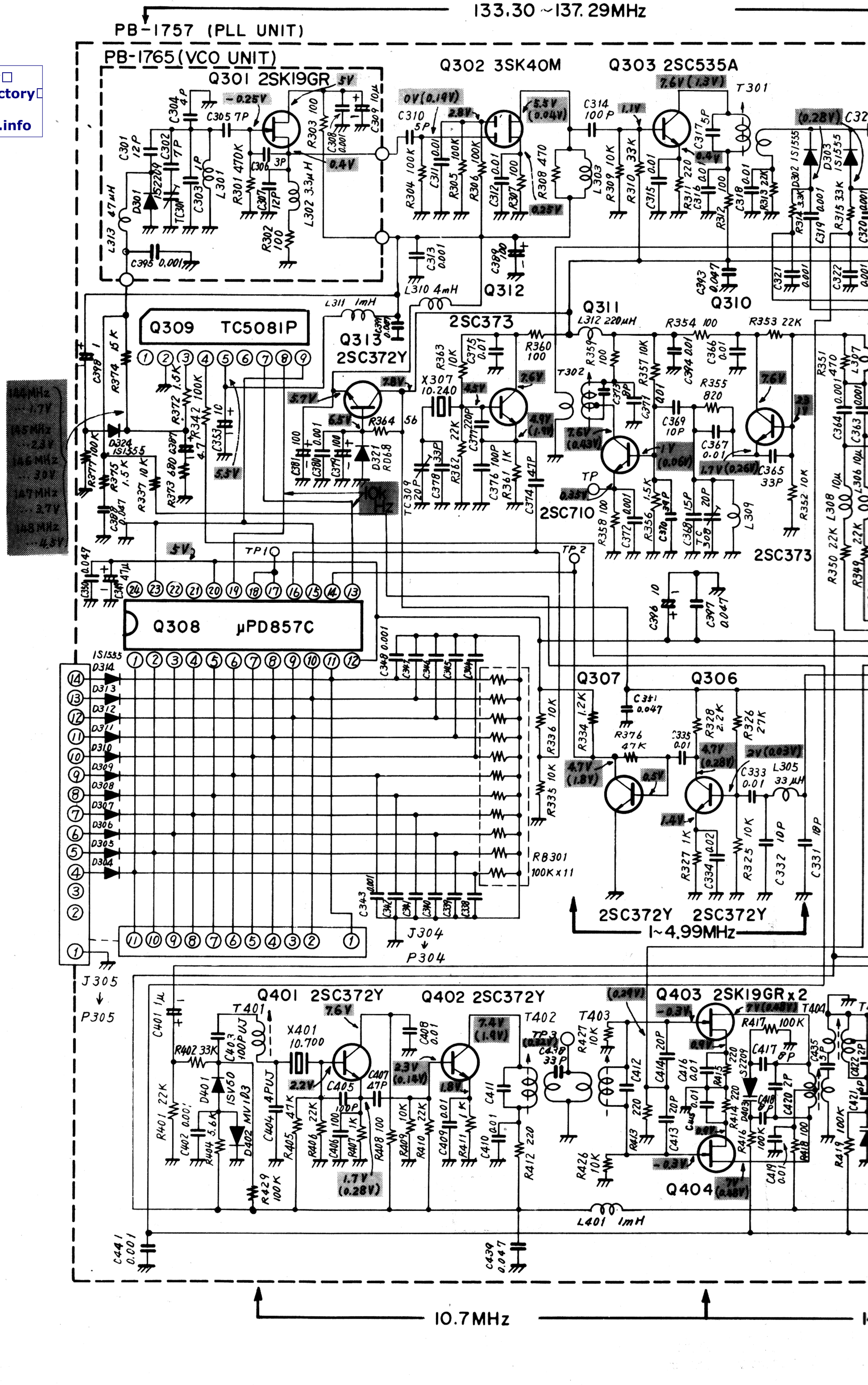


FT-227R MEMORIZER BLOCK DIAGRAM

Figure 7



37.29MHz

1~4.99MHz

SIMP: 132.3MHz
-600: 131.7
+600: 132.9
5UP: 132.305
-600
5UP: 131.705
+600
5UP: 132.905

PB-1758 PB-1759 (DISPLAY U

Q303 2SC535A

Q304 3SK40M

Q305 2SC535A

T301

D601 TLR312

D602 TLR

Q601 MSM561

Q602 MSM

Q604 MC14008B

J301 P301

J302 P302

J303 P303

Q310

Q311

2SC373

Q307

Q306

2SC372Y 2SC372Y

Q316

Q315

Q314

MPSA13

Q403 2SK19GRx2

Q404

T403 T404 T405 T406 T407 T408

Q405 3SK40M

L401 1mH

1~4.99MHz

144.00MHz~147.99MHz

TX IN

PB-1773A
PLL CONT

Q2 PS4001
Q3 PS4001

PL1 PL2 PL3

5V
Rx8V
Rx
TX
C
SIMP
-600
+600
5
UL-b
UL-a
8V
TX8V
MOD
E
OUT

MEM MANU MR

CK U/D C B A

-1759 (DISPLAY UNIT)

144.00MHz ~ 147.99MHz

PB-1659 (MAIN UNIT)

D602 TLR312

D603 TLR312

D604 TLR312

R609 470 R610 470 R611 470 R612 470 R613 470 R614 470 R615 470

R616 470 R617 470 R618 470 R619 470 R620 470 R621 470 R622 470

R624 680

R625 330

R623 180

Q602 MSM561

Q603 MSM561

0

5KHz

5V

Q605 μPC14305

C603 100/10

C602 0.47

C601 0.001

13.8V

22 1/2W

R8

Q606 2SC372Y

R626 10K

UL-b

P304

J304

R7 820

PL2

PL3

R5 10K

5UP

MR

S5a

S5b

S3a

S3b

-600 +600

SIMP

MEM

S8a

S8b

S8c

S8d

MANU MR RL PTT

MHz 100KHz 10KHz

CK U/D C B A D C B A D C B A

P305

J305

R6 820

D4 W1050

C6 10μ

D5 W3050

C7 10M

Q101 3SK51

RX ANT

L101

C101 10P

C102 10P

R101 47K

C104 0.001

C105 0.01

R102 56

C103 0.01

R105 56

L102 2.2μH

C106 0.001

C107 15P

L103-1

C109 18P

L103-2

C111 18P

L103-3

C113 15P

L103-4

R106 47K

R108 47K

C108 5P

TC101 10P

C110 5P

TC102 10P

C112 5P

TC103 10P

C114 5P

TC104 10P

R103 22K

R104 22K

Q102 3SK51

L104 C117

C119 10P

0.001

C118 3P

Q117 μPC14308

RX LOCAL

13.8

C177 1000

C176 0.001

C175 100 10V

PTT

D113 1S1555

C183 10

RL101

TX8V

8V

RX8V

T.SQ

C178 0.001

R162 220

C174 100

C173 220 10WV

R161 2.2K

R159 150K

R160 120K

C170 0.001

C169 47

C172 0.1

Q116 μPC575C2

E

T.SQ

C168 4.7

R163 470

TX IN

R252 100

UL-b

UL-a

CH1

J1 POWER

C9 0.01

D1 U05B

C5 22μ

C8 0.01

S1

C263 100

J2 MIC

J3 ACC

C255 0.01

R244 4.7K

C206 100

C207 0.001

C201 0.001

R201 100

C203 0.02

C202 0.001

VR201 5K

R202 1.8K

C204 0.001

R203 5.6K

MIC IN

MOD

R1 470 1/2W

C2 0.001

J2 EXT 5P

SP-1

Q201 2S

2 PS4001

Q3 PS4001

Hz ~ 147.99MHz — 10.7MHz — 455kHz

T)

Q102 3SK51

Q103 3SK40M

Q106 2SC372Y

Q107 2SC372Y

Q108 2SC372Y

LFB-15 CF101

LFB-15 CF102

Q104 2SC372Y

Q105 2SA564

Q110 2SC372Y

Q111 2SC372Y

Q112 2SC372Y

Q116 µPC575C2

Q204 2SC535A

Q206 2SC2053

Q207 2SC730

Q208 MRF212

Q205 2SC372Y

Q216 2SC372Y

Q215 MC14011B

Q203 2SC372Y

Q201 2SC372Y Q202 2SC372Y

TX IN

UL-b

UL-a

MIC IN

MOD

BURST

TONE BURST

S6

T.SQ

D105 IS1555

D112 IS1555

D204 IS1555

D203 IS1555

D201 IS1555

D202 IS1555

D101 IS1555

D111 IS1555

D109 IS188FM

D108 IS188FM

D110 IS1555

D102 IS1555

R: 2V/T: 0V

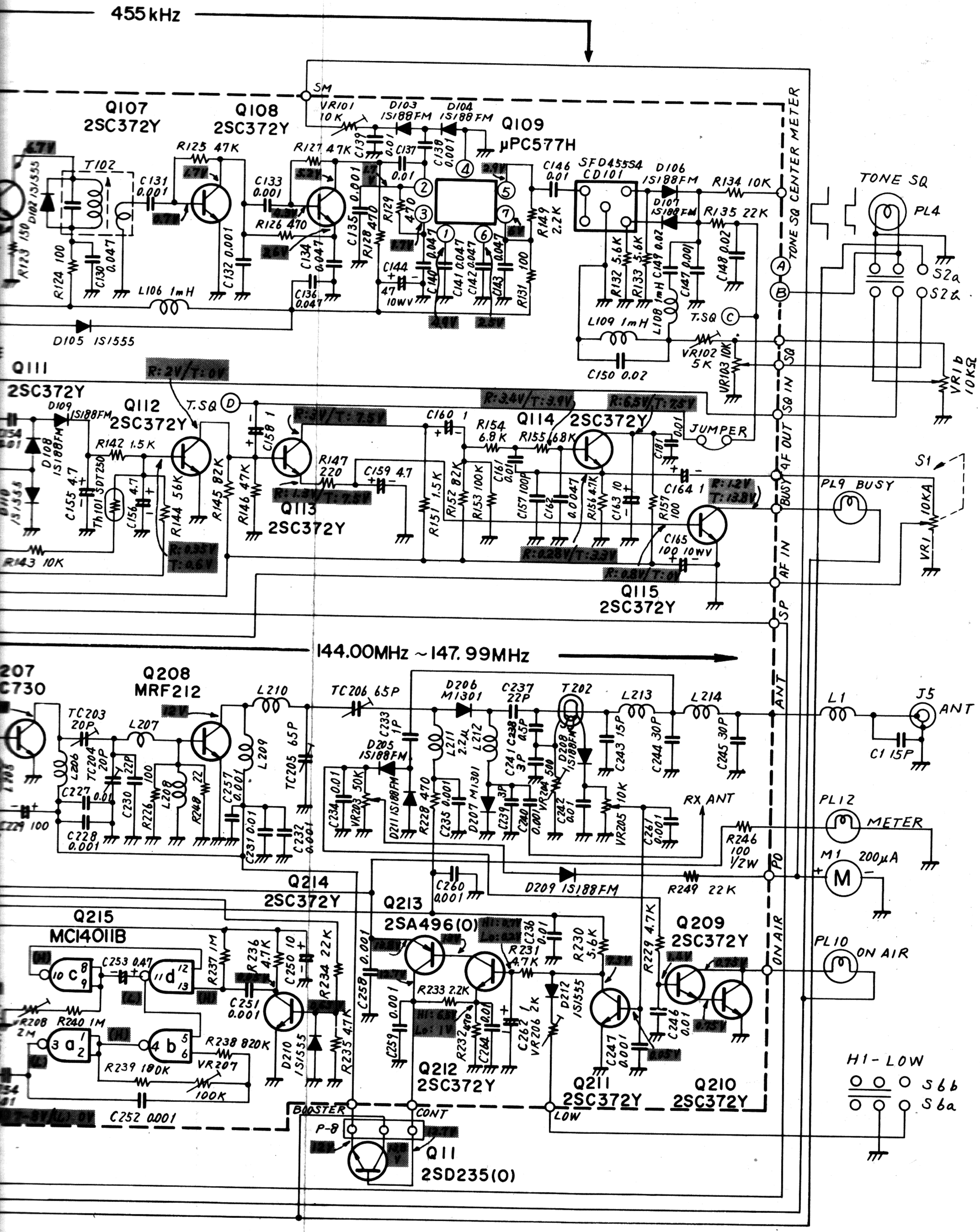
R: 0.3V T: 0.6V

NOTES

1. ALL RESISTORS ARE IN 1/4W UNL
2. ALL CAPACITORS ARE IN µF UNLES
3. ALL ELECTROLYTIC CAPACITORS OTHERWISE NOTED
4. ※ VALUE IS NOMINAL.

__V DC VOLTAGE

(__V) rms SIGNAL LEVEL MEASURED WITH VTVM.



NOTES

1. ALL RESISTORS ARE IN 1/4W UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE IN µF UNLESS OTHERWISE NOTED.
3. ALL ELECTROLYTIC CAPACITORS ARE 16WV UNLESS OTHERWISE NOTED
4. ※ VALUE IS NOMINAL.

FT-227R
CIRCUIT DIAGRAM

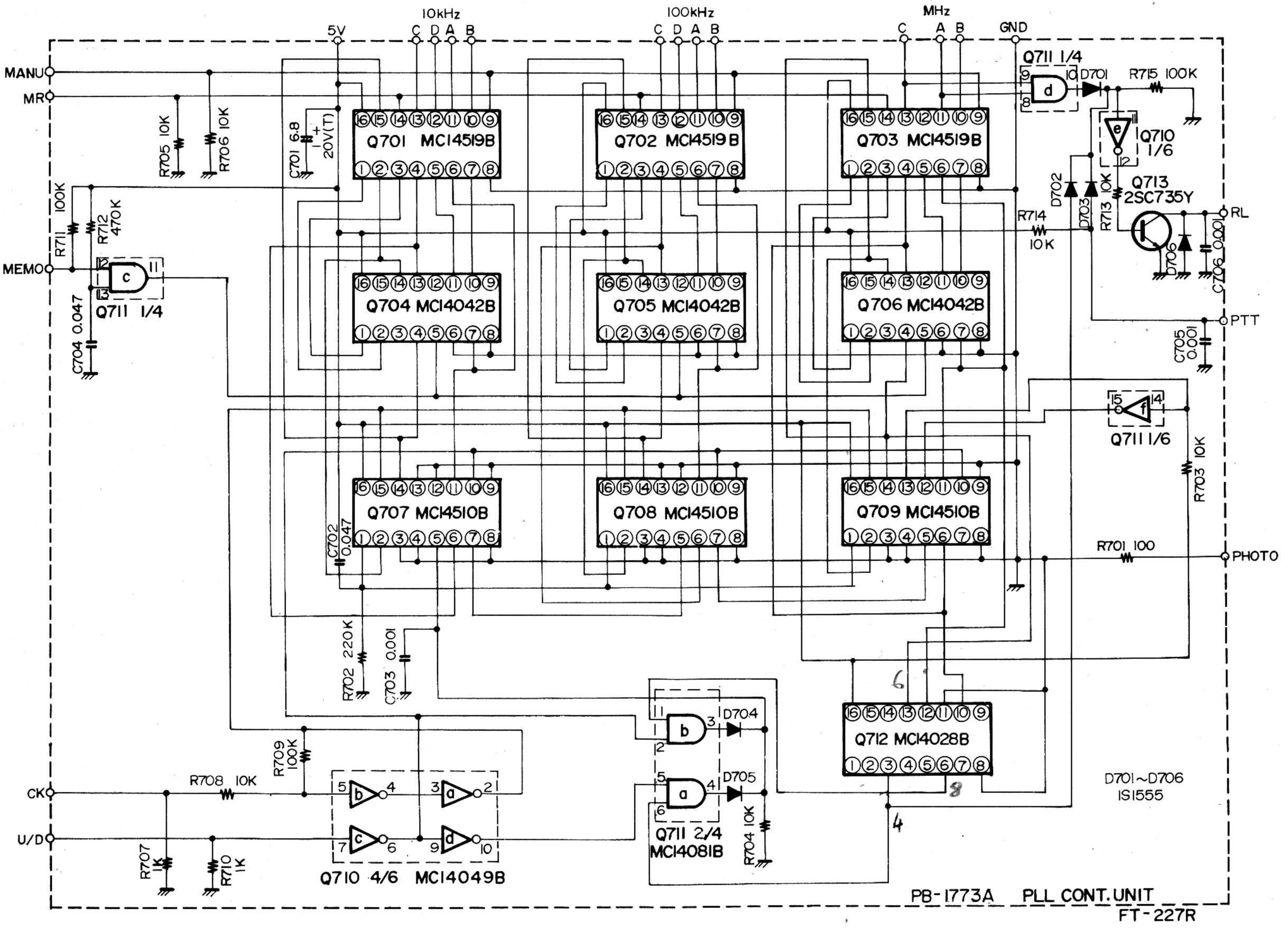

5V
10kHz
C D A B
100kHz
C D A B
MHz
C A B
GND
MANU
MR
MEMO
CK
U/D
RL
PTT
PHOTO
R705 10K
R706 10K
C701 6.8 20V(T)
R711 100K
R712 470K
C704 0.047
Q711 1/4
Q701 MC14519B
Q702 MC14519B
Q703 MC14519B
Q704 MC14042B
Q705 MC14042B
Q706 MC14042B
Q707 MC14510B
Q708 MC14510B
Q709 MC14510B
C702 0.047
R702 220K
C703 0.001
R709 100K
R708 10K
R707 1K
R710 1K
Q710 4/6 MC14049B
Q711 2/4 MC14081B
D704
D705
R704 10K
Q712 MC14028B
Q711 1/4
D701
R715 100K
Q710 1/6
D702
D703
R713 10K
Q713 2SC735Y
D706
C706 0.001
R714 10K
C705 0.001
Q711 1/6
R703 10K
R701 100
D701~D706 IS1555
PB-1773A PLL CONT. UNIT
FT-227R

Figure 8

Q308 (μPD857C) PROGRAMMABLE DIVIDER CODE

Q308 PROGRAMMABLE INPUT PIN →			1	2	3	4	5	6	7	8	9	10	11
P/J305 →			4	5	6	7	8	9	10	11	12	13	14
P/J304 →			11	10	9	8	7	6	5	4	3	2	1
FREQUENCY ↓	DIAL DISPLAY ↓	PROGRAMMABLE DIVIDER RATIO ↓	P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8	P_9	P_{10}	P_{11}
144.00	4.000	1/100	0	0	0	0	0	0	0	0	1	0	0
4.01	4.010	1/101	1	0	0	0	0	0	0	0	1	0	0
4.02	4.020	1/102	0	1	0	0	0	0	0	0	1	0	0
4.03	4.030	1/103	1	1	0	0	0	0	0	0	1	0	0
4.04	4.040	1/104	0	0	1	0	0	0	0	0	1	0	0
4.05	4.050	1/105	1	0	1	0	0	0	0	0	1	0	0
4.06	4.060	1/106	0	1	1	0	0	0	0	0	1	0	0
4.07	4.070	1/107	1	1	1	0	0	0	0	0	1	0	0
4.08	4.080	1/108	0	0	0	1	0	0	0	0	1	0	0
4.09	4.090	1/109	1	0	0	1	0	0	0	0	1	0	0
144.10	4.100	1/110	0	0	0	0	1	0	0	0	1	0	0
4.11	4.110	1/111	1	0	0	0	1	0	0	0	1	0	0
4.12	4.120	1/112	0	1	0	0	1	0	0	0	1	0	0
4.13	4.130	1/113	1	1	0	0	1	0	0	0	1	0	0
4.14	4.140	1/114	0	0	1	0	1	0	0	0	1	0	0
4.15	4.150	1/115	1	0	1	0	1	0	0	0	1	0	0
4.16	4.160	1/116	0	1	1	0	1	0	0	0	1	0	0
4.17	4.170	1/117	1	1	1	0	1	0	0	0	1	0	0
4.18	4.180	1/118	0	0	0	1	1	0	0	0	1	0	0
4.19	4.190	1/119	1	0	0	1	1	0	0	0	1	0	0
144.20	4.200	1/120	0	0	0	0	0	1	0	0	1	0	0
4.30	4.300	1/130	0	0	0	0	1	1	0	0	1	0	0
4.40	4.400	1/140	0	0	0	0	0	0	1	0	1	0	0
4.50	4.500	1/150	0	0	0	0	1	0	1	0	1	0	0
4.60	4.600	1/160	0	0	0	0	0	1	1	0	1	0	0
4.70	4.700	1/170	0	0	0	0	1	1	1	0	1	0	0
4.80	4.800	1/180	0	0	0	0	0	0	0	1	1	0	0
4.90	4.900	1/190	0	0	0	0	1	0	0	1	1	0	0
145.00	5.000	1/200	0	0	0	0	0	0	0	0	0	1	0
145.01	5.010	1/201	1	0	0	0	0	0	0	0	0	1	0
145.02	5.020	1/202	0	1	0	0	0	0	0	0	0	1	0
145.03	5.030	1/203	1	1	0	0	0	0	0	0	0	1	0
145.04	5.040	1/204	0	0	1	0	0	0	0	0	0	1	0
145.05	5.050	1/205	1	0	1	0	0	0	0	0	0	1	0
145.06	5.060	1/206	0	1	1	0	0	0	0	0	0	1	0
145.07	5.070	1/207	1	1	1	0	0	0	0	0	0	1	0
145.08	5.080	1/208	0	0	0	1	0	0	0	0	0	1	0
145.09	5.090	1/209	1	0	0	1	0	0	0	0	0	1	0
145.10	5.100	1/210	0	0	0	0	1	0	0	0	0	1	0
145.20	5.200	1/220	0	0	0	0	0	1	0	0	0	1	0
145.30	5.300	1/230	0	0	0	0	1	1	0	0	0	1	0
145.40	5.400	1/240	0	0	0	0	0	0	1	0	0	1	0
145.50	5.500	1/250	0	0	0	0	1	0	1	0	0	1	0
145.60	5.600	1/260	0	0	0	0	0	1	1	0	0	1	0
145.70	5.700	1/270	0	0	0	0	1	1	1	0	0	1	0
145.80	5.800	1/280	0	0	0	0	0	0	0	1	0	1	0
145.90	5.900	1/290	0	0	0	0	1	0	0	1	0	1	0
146.00	6.000	1/300	0	0	0	0	0	0	0	0	1	1	0
147.00	7.000	1/400	0	0	0	0	0	0	0	0	0	0	1
147.99	7.990	1/499	1	0	0	1	1	0	0	1	0	0	1

※1 HIGH LEVEL (5V)
※0 LOW LEVEL (0V)

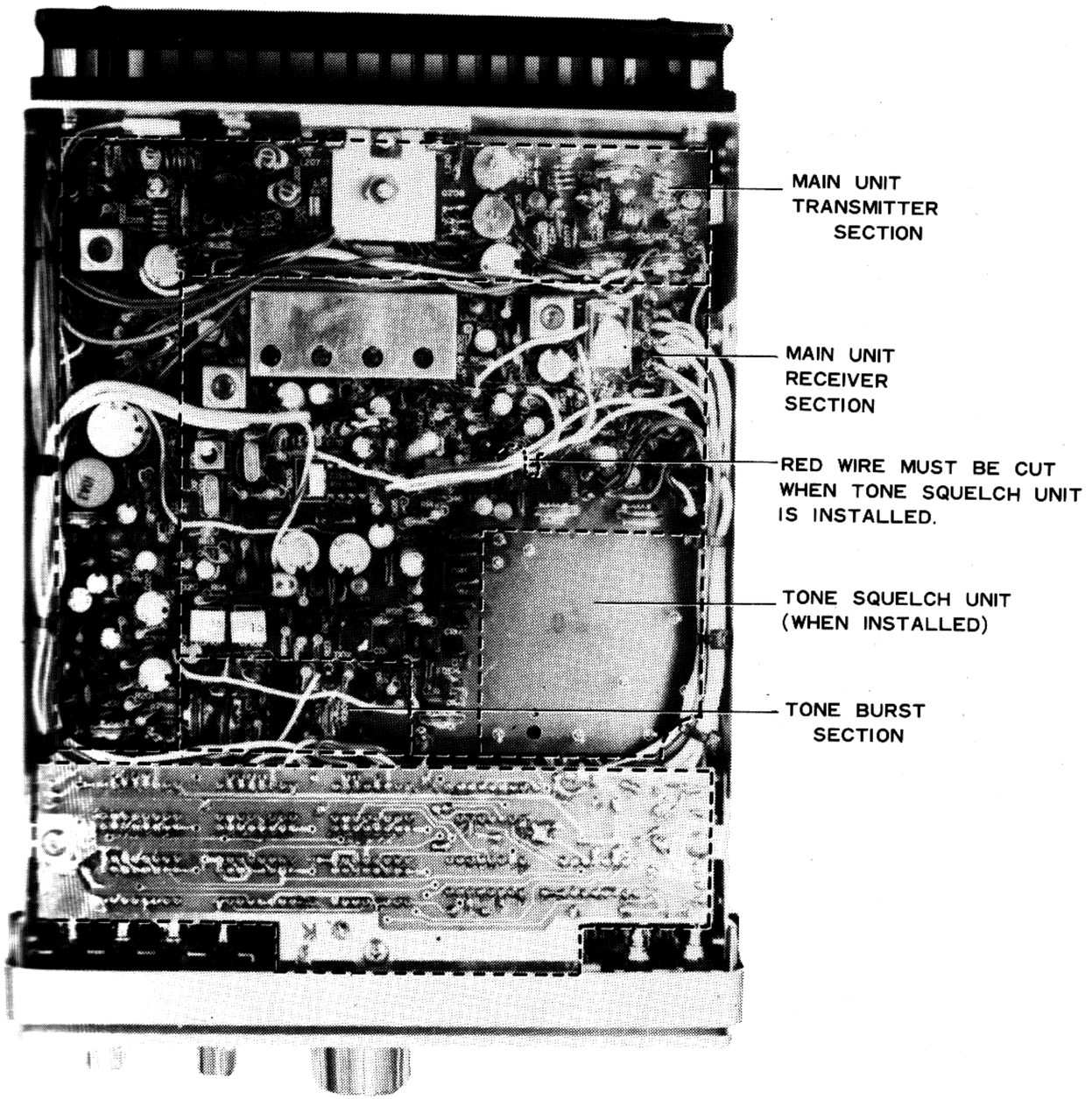


Figure 10 TOP VIEW

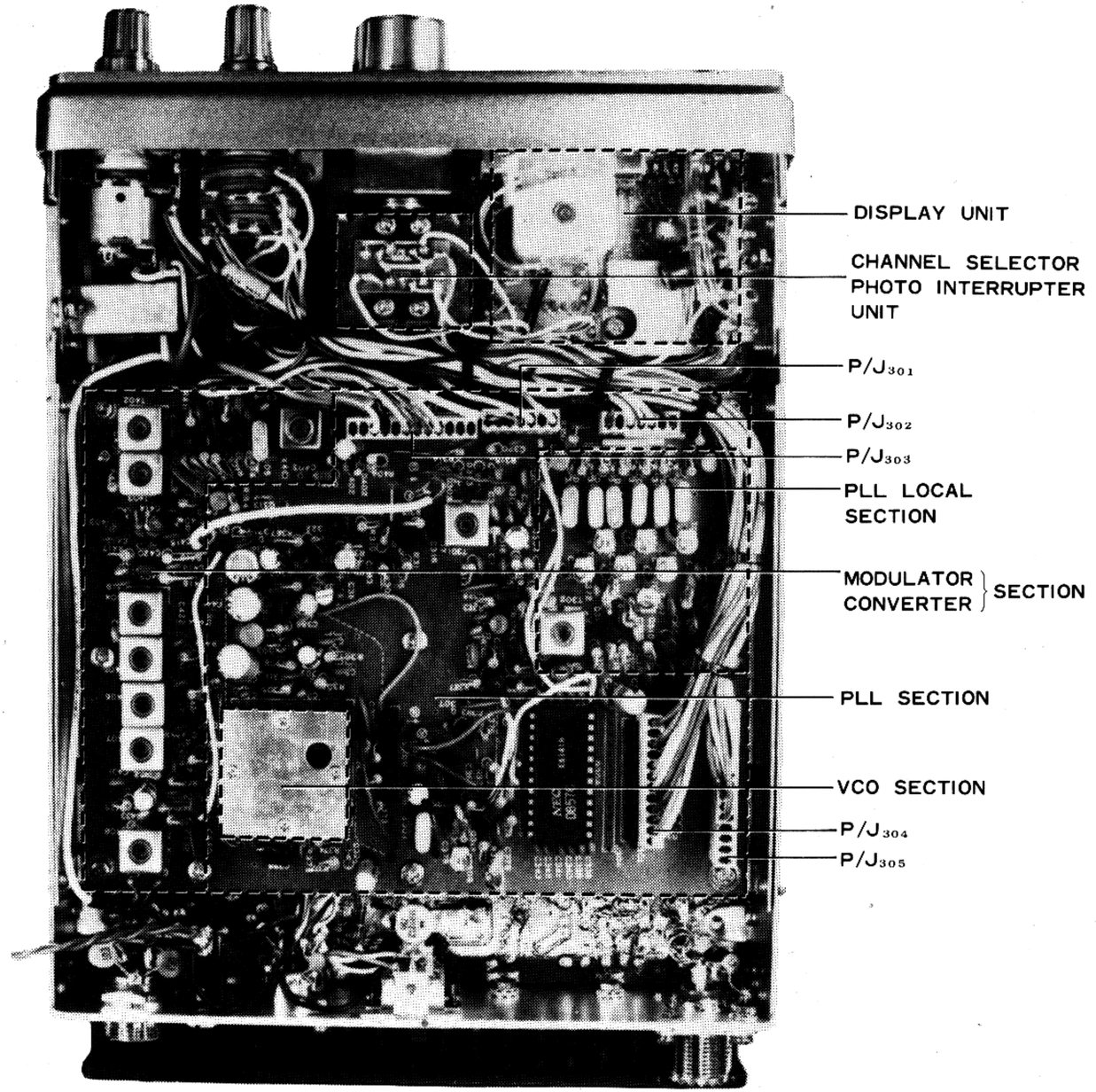


Figure 11 BOTTOM VIEW

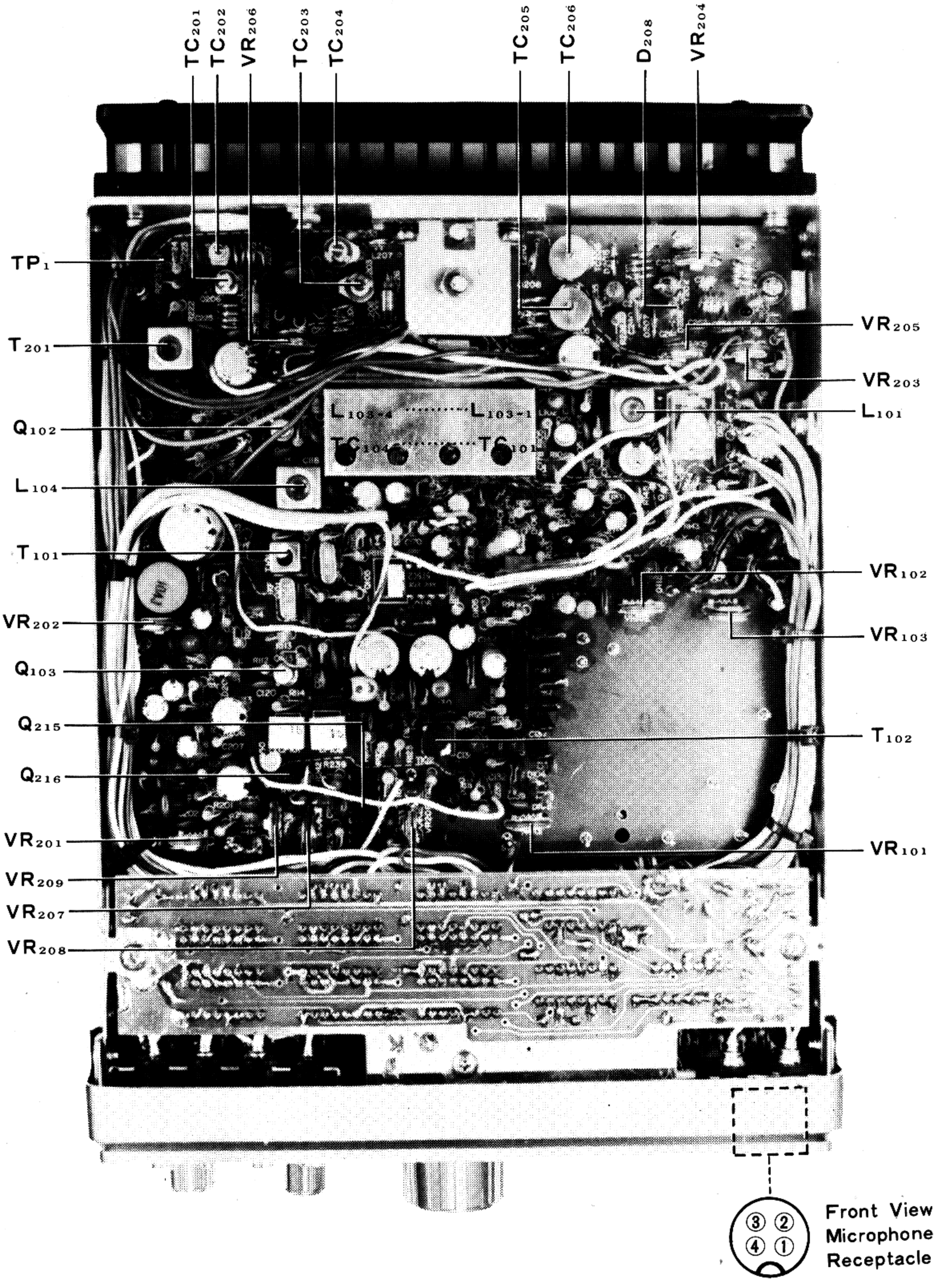


Figure 12 **ALIGNMENT POINT**

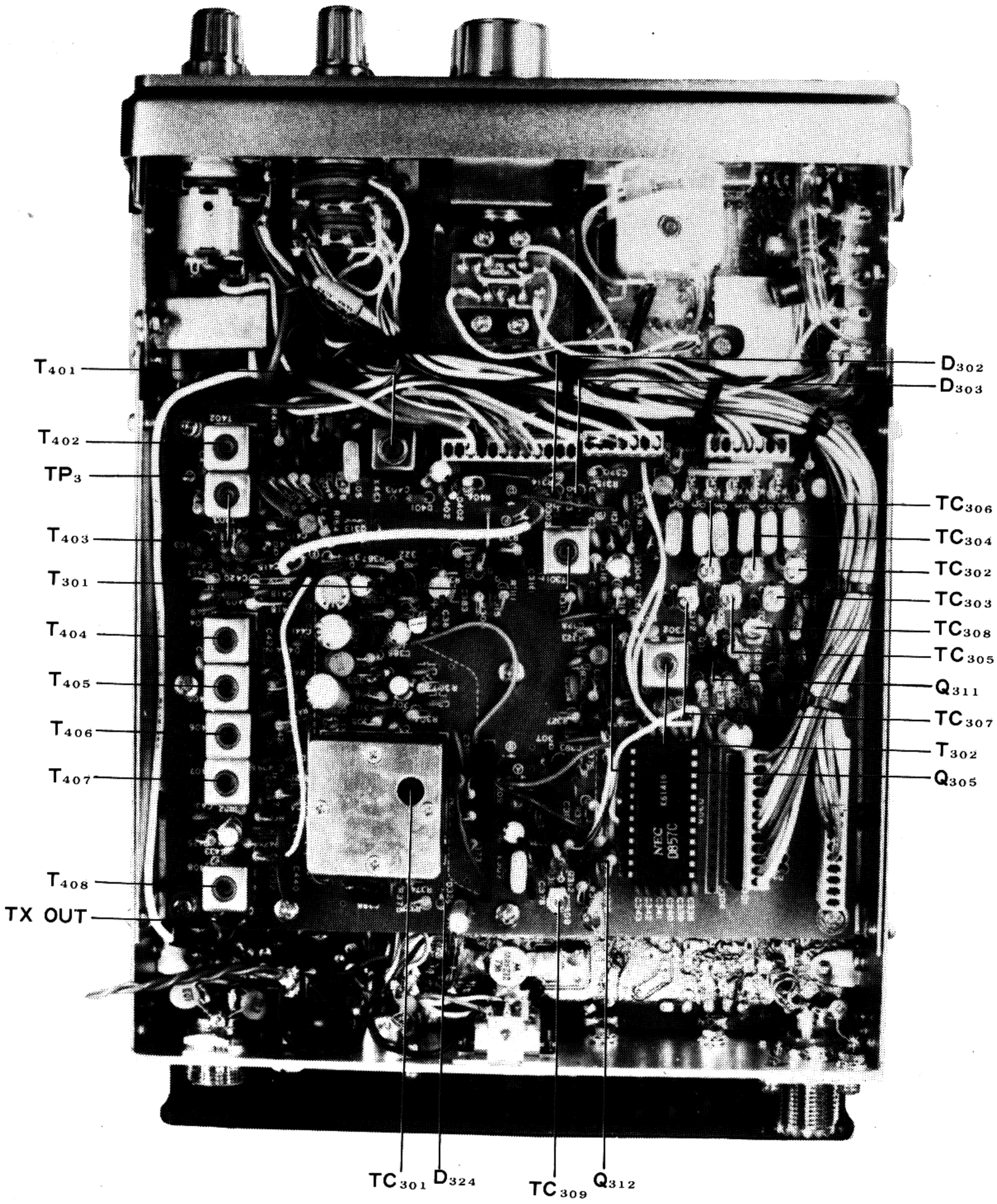


Figure 16 ALIGNMENT POINT

Optional tone squelch

The optional tone squelch unit has been set to 77 Hz operation at the factory, however, the tone squelch frequency can be chosen to any frequency between 70 Hz to 160 Hz by the setting of VR502. The transmitting level of the tone signal is set by VR504.

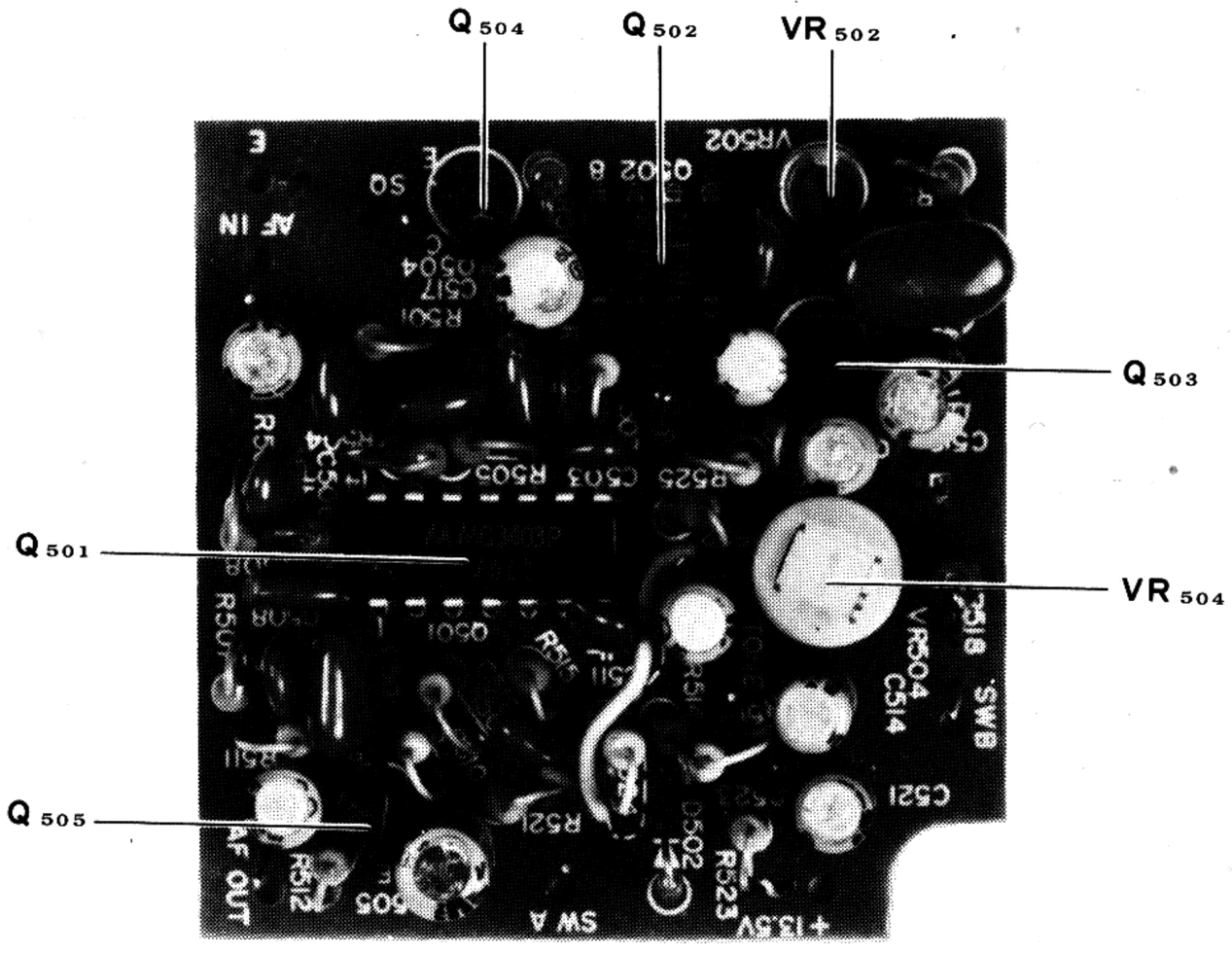
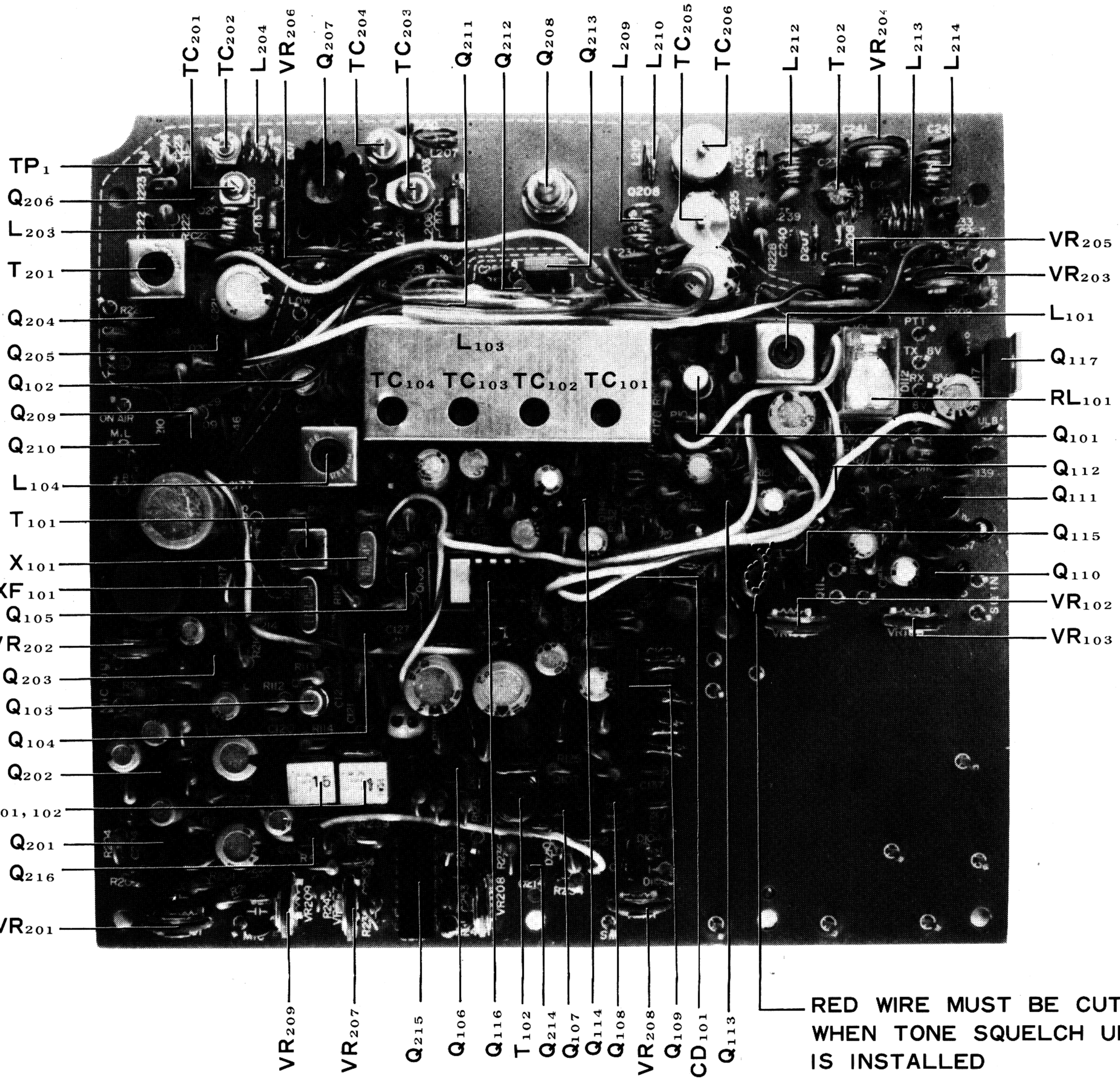
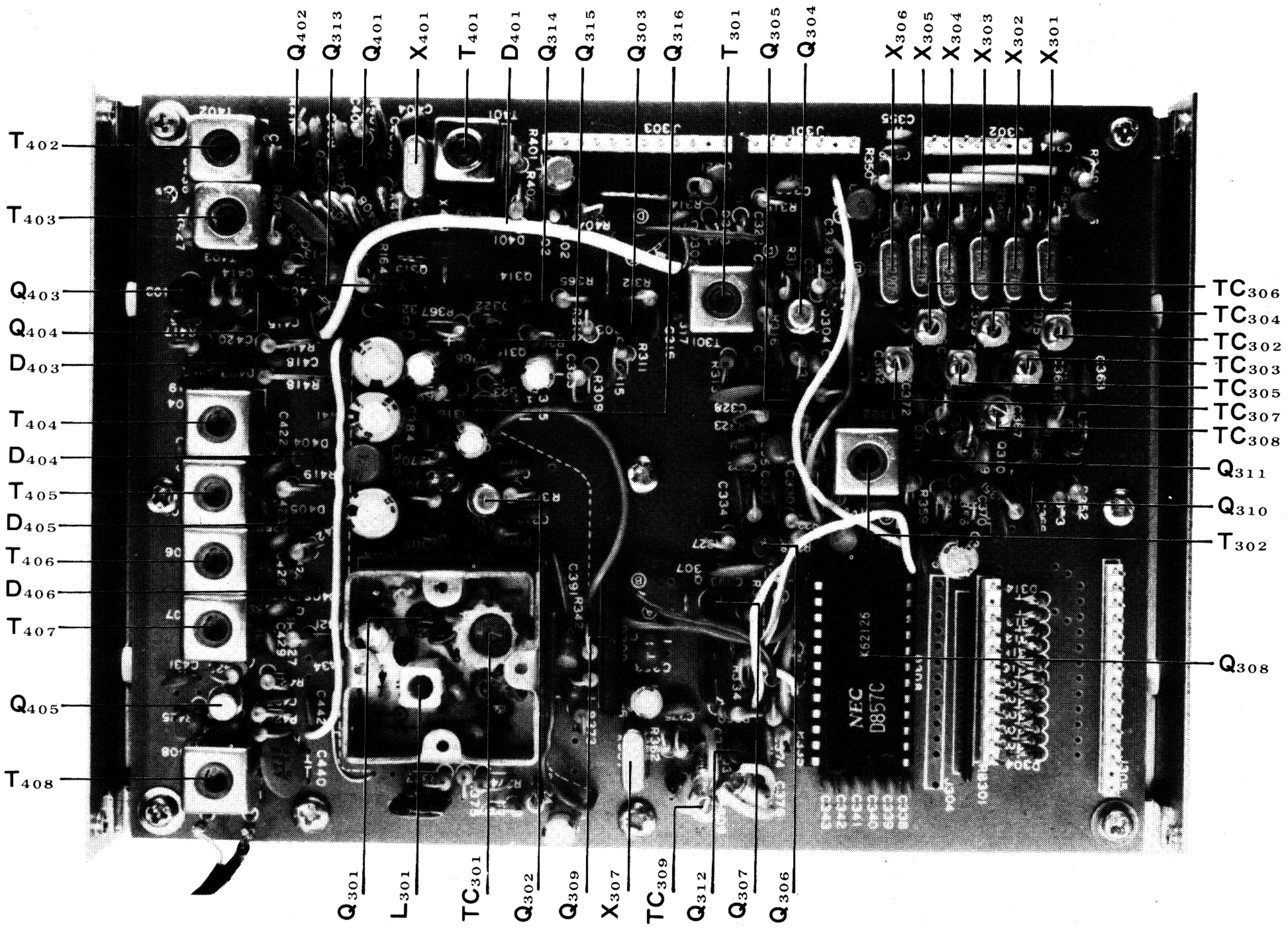


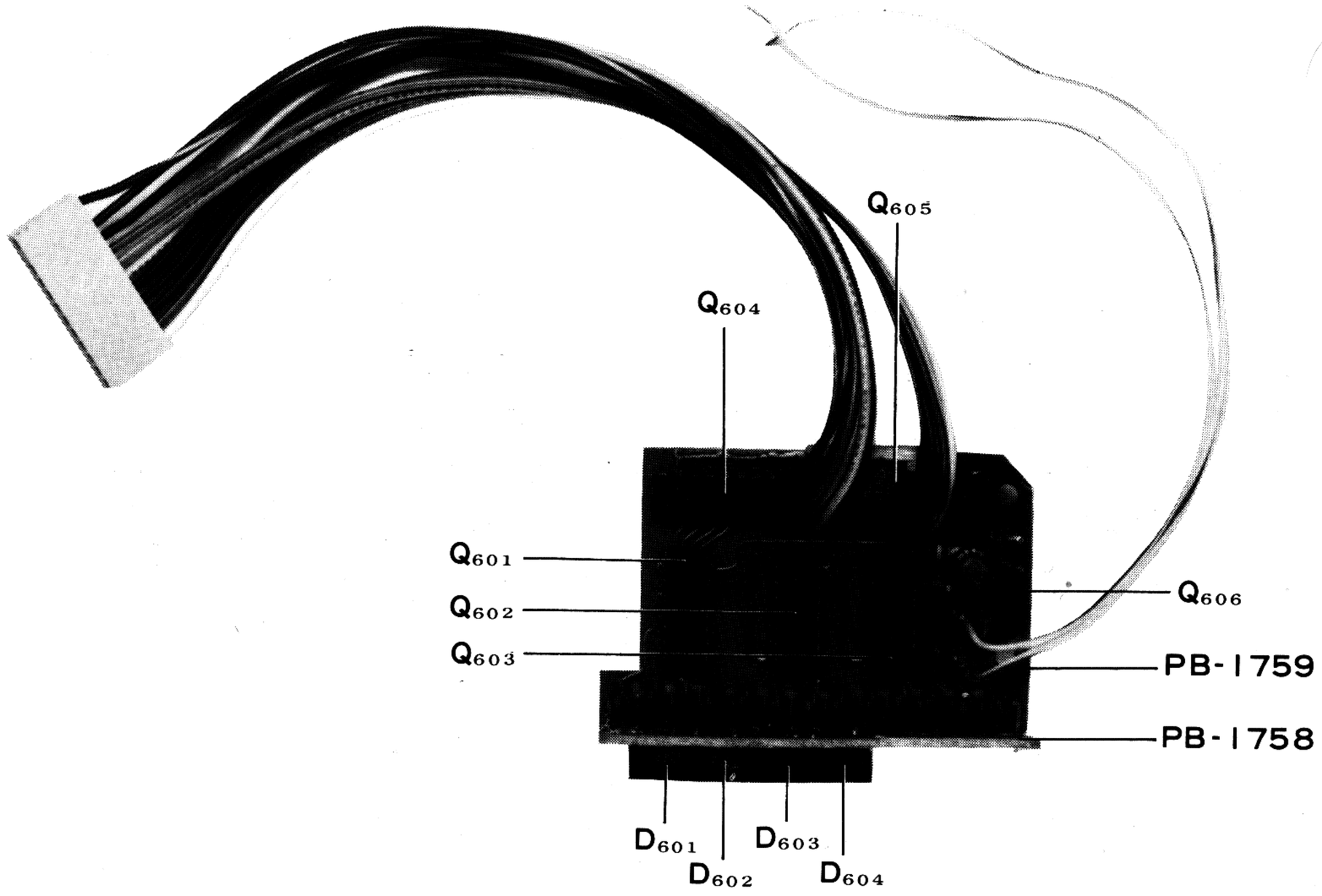
Figure 17



PLL CONTROL UNIT



PLL UNIT



DISPLAY UNIT