



**COMMUNICATIONS RECEIVER
NACHRICHTENEMPFÄNGER
RECEPTEUR DE COMMUNICATIONS
RECEPTOR DE COMUNICACIONES**

Model R-2000

SCHEMATHEEK

Beh. T. Hultermans

Postbus 4228

5604 EE Eindhoven

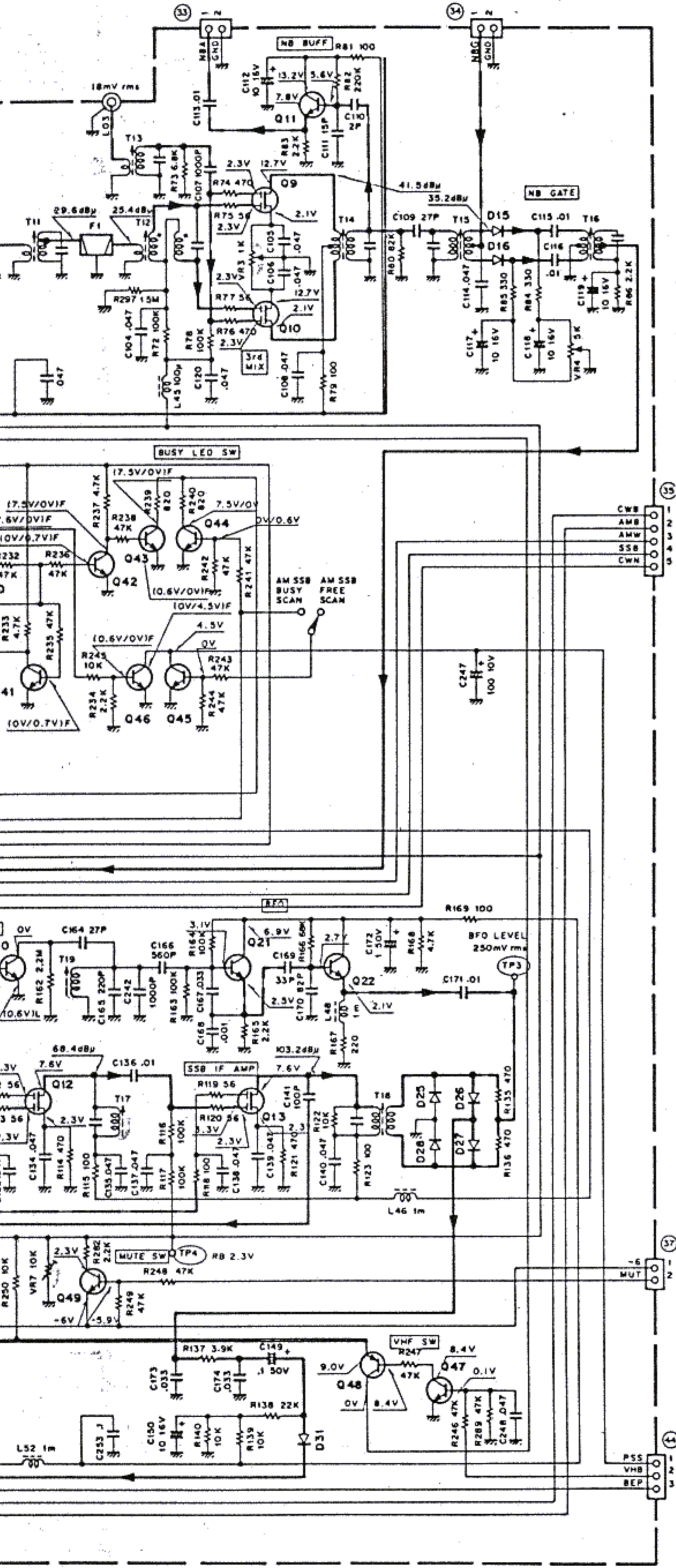
**INSTRUCTION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
MANUAL DE INSTRUCCIONES**

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nt conditions.
25 MHz, USB, RX no signal

(Squelch open/close) FM Mode
Level

- : Signal line
- - - : Control line
- : Common DC line
- : Test point
- ⊙ : Adjusting point



SPECIFICATIONS

Frequency Range: 150 kHz ~ 30 MHz
 150 kHz ~ 26 MHz (W2 type)
 2 MHz ~ 30 MHz (X type)
 Mode: AM, FM, SSB (USB/LSB), CW
 Sensitivity: (0 dBμ = 1 μV)

Mode	Frequency	150 kHz ~ 2 MHz	2 MHz ~ 30 MHz
SSB/CW (S+N/N 10 dB)		Less than 2 μV	Less than 0.4 μV
AM (S+N/N 10 dB)		Less than 20 μV	Less than 4 μV
FM (S+N/N 20 dB)		-	Less than 1 μV

Selectivity:

Mode	Selectivity	Selectivity
AM-WIDE	6 kHz (-6 dB)	18 kHz (-50 dB)
AM-NARROW	2.7 kHz (-6 dB)	5 kHz (-50 dB)
SSB/CW	2.7 kHz (-6 dB)	5 kHz (-50 dB)
CW-NARROW	500 Hz (-6 dB)*	820 Hz (-60 dB)*
FM	15 kHz (-6 dB)	30 kHz (-50 dB)

*: with YG-455C optional CW crystal filter

Symbol	Destination
K	U. S. A
M	General market
T	Britain
W	Europe
X	Australia & New Zealand

Image Ratio: Better than 70 dB
 IF Rejection: Better than 70 dB
 Frequency Stability: Within ± 300 Hz during the first hour after 1 minute of warm-up.
 Within ± 50 Hz during any 30 minutes period thereafter.
 Frequency Accuracy: ± 10 × 10⁻⁶ or better (at normal temperatures)
 Squelch Sensitivity: (threshold, 0 dBμ = 1 μV)
 AM/SSB/CW = Less than 3.12 μV
 FM = Less than 0.5 μV
 Audio Load Impedance: 4Ω to 16Ω
 Audio Output Power: 1.5W (8Ω load, 10% distortion)
 Antenna Impedance: 50Ω/500Ω
 Power Consumption: (at no signal) = 14W AC
 13.8V DC, 0.6A (with optional DCK-1)
 (at Memory Back-up) = 3W AC
 13.8V DC, 0.1A (with optional DCK-1)
 Power Requirements: 100/120/220/240V AC, 50/60 Hz
 13.8V DC (with optional DCK-1)
 Dimensions: 375 (14.8) W × 115 (4.5) H × 210 (8.3) D mm (inch)
 Weight: 5.5 kg (12.1 lbs.) approx.



RX UNIT (X55-1340-00)

Measurement conditions.

Freq.: 14.525 MHz, USB, RX no signal

Notes

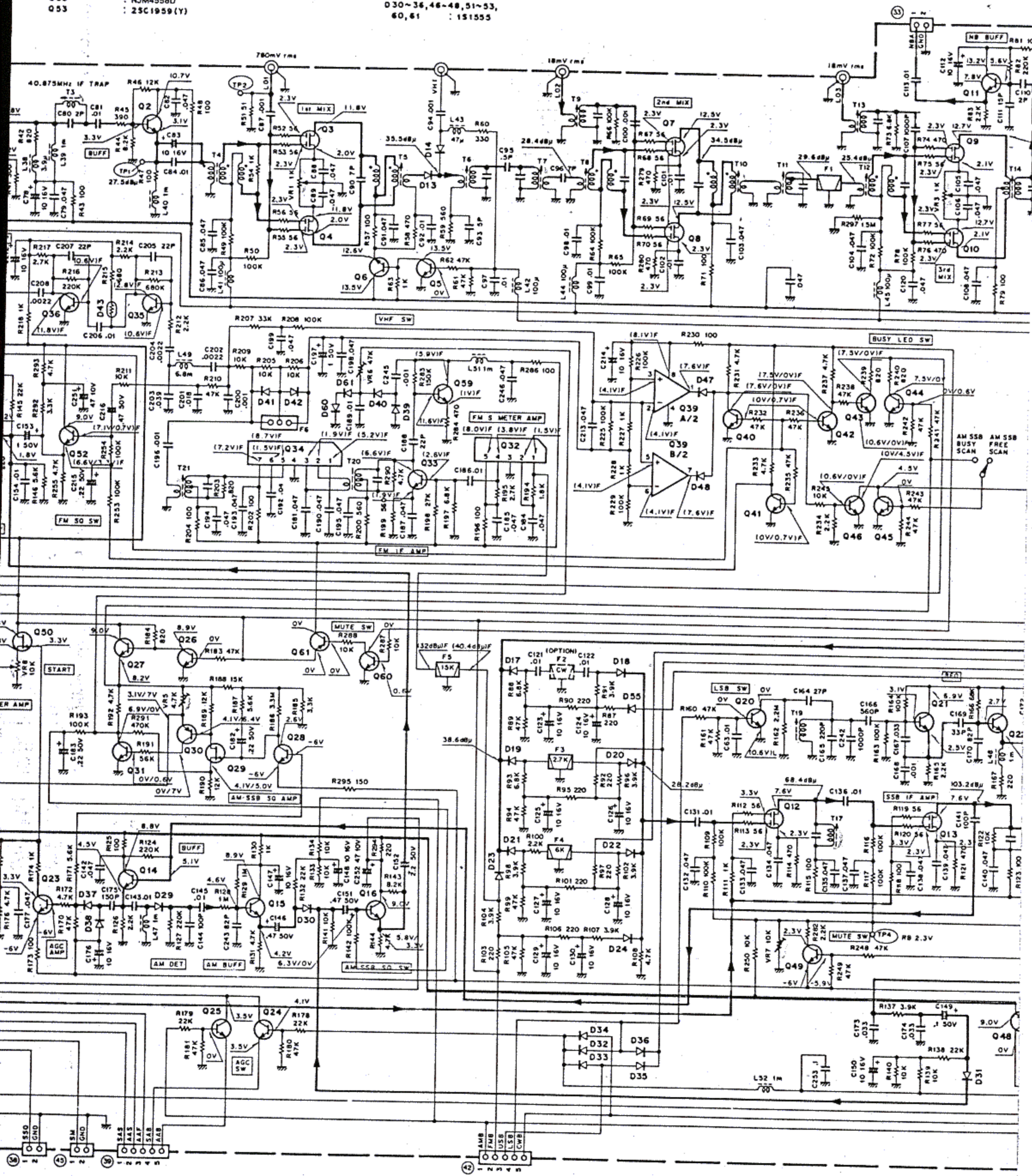
- (1.5/2.0) F: (Squelch open/close) FM Mode
- XXmVrms: Level

Q30, 48, 51, 61 : 2SA1015 (Y)
 Q32 : TA7060P
 Q33 : 2SC1675(L)
 Q34 : μ PC577H
 Q35, 36 : 2SC1775(E)
 Q39 : NJM4558D
 Q53 : 2SC1959(Y)

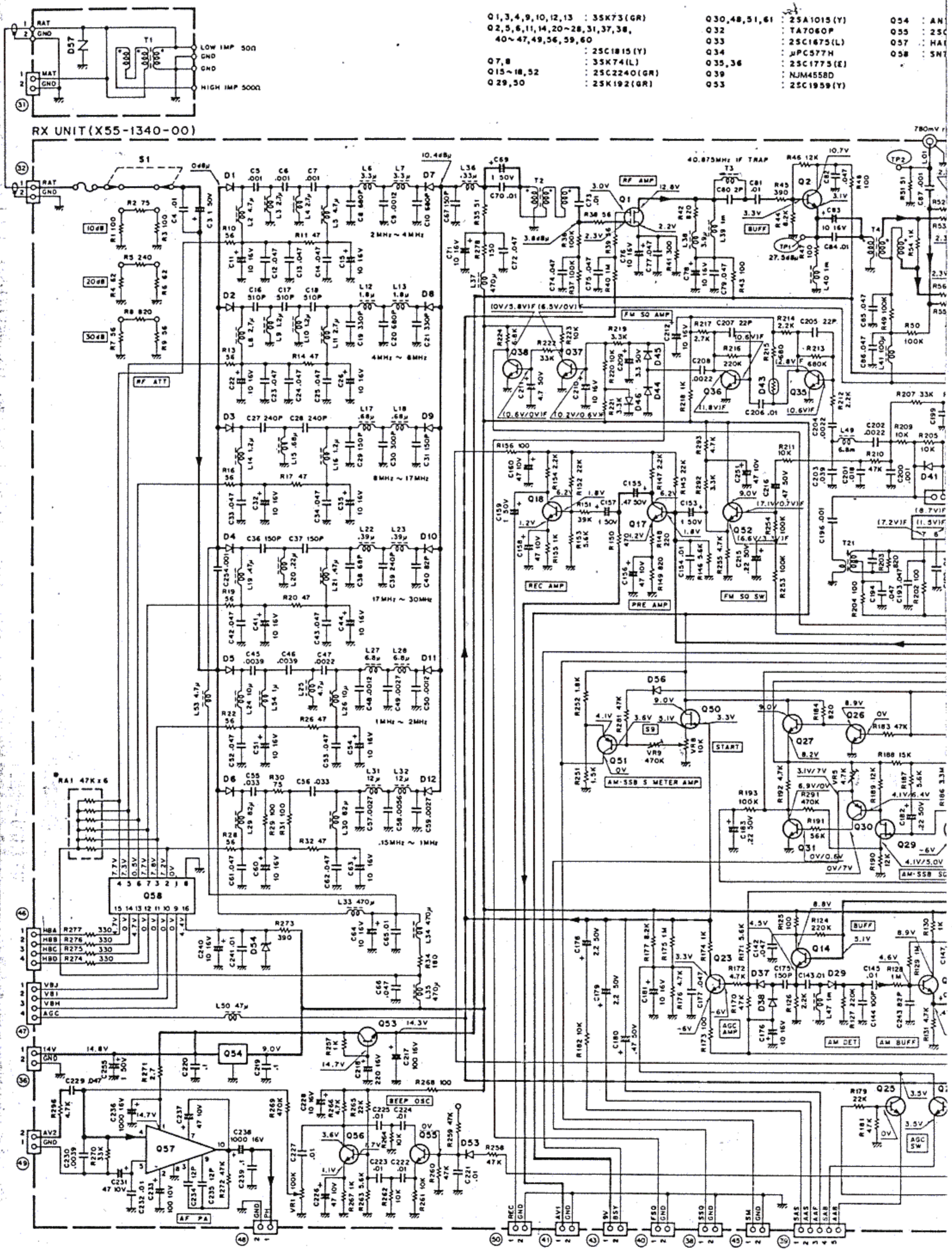
Q54 : AN7809
 Q55 : 2SC287B
 Q57 : HA1368R
 Q58 : 5N74LS145N

D1~14 : BA282
 D15~20, 24 : 1S1587
 D21~23 : 1S1007
 D25~29, 37, 38, 41, 42, 44, 45 : 1N60
 D30~36, 46~48, 51~53, 60, 61 : 1S1555

D43 : D33A
 D54 : RD47EB3
 D57 : ERZ03DK351



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- | | | | | | |
|--------------------------------------|-----------------------|-----------------|---------------|-----|-------|
| Q1, 3, 4, 9, 10, 12, 13 | : 35K73 (GR) | Q30, 48, 51, 61 | : 25A1015 (Y) | Q54 | : AN |
| Q2, 5, 6, 11, 14, 20-28, 31, 37, 38, | 40-47, 49, 56, 59, 60 | Q32 | : TA7060P | Q55 | : 25C |
| Q7, 8 | : 25C1815 (Y) | Q33 | : 25C1675 (L) | Q57 | : HA |
| Q15-18, 52 | : 35K74 (L) | Q34 | : JPC577H | Q58 | : SNT |
| Q29, 50 | : 25C2240 (GR) | Q35, 36 | : 25C1775 (E) | | |
| | : 25K192 (GR) | Q39 | : NJM4558D | | |
| | | Q53 | : 25C1959 (Y) | | |

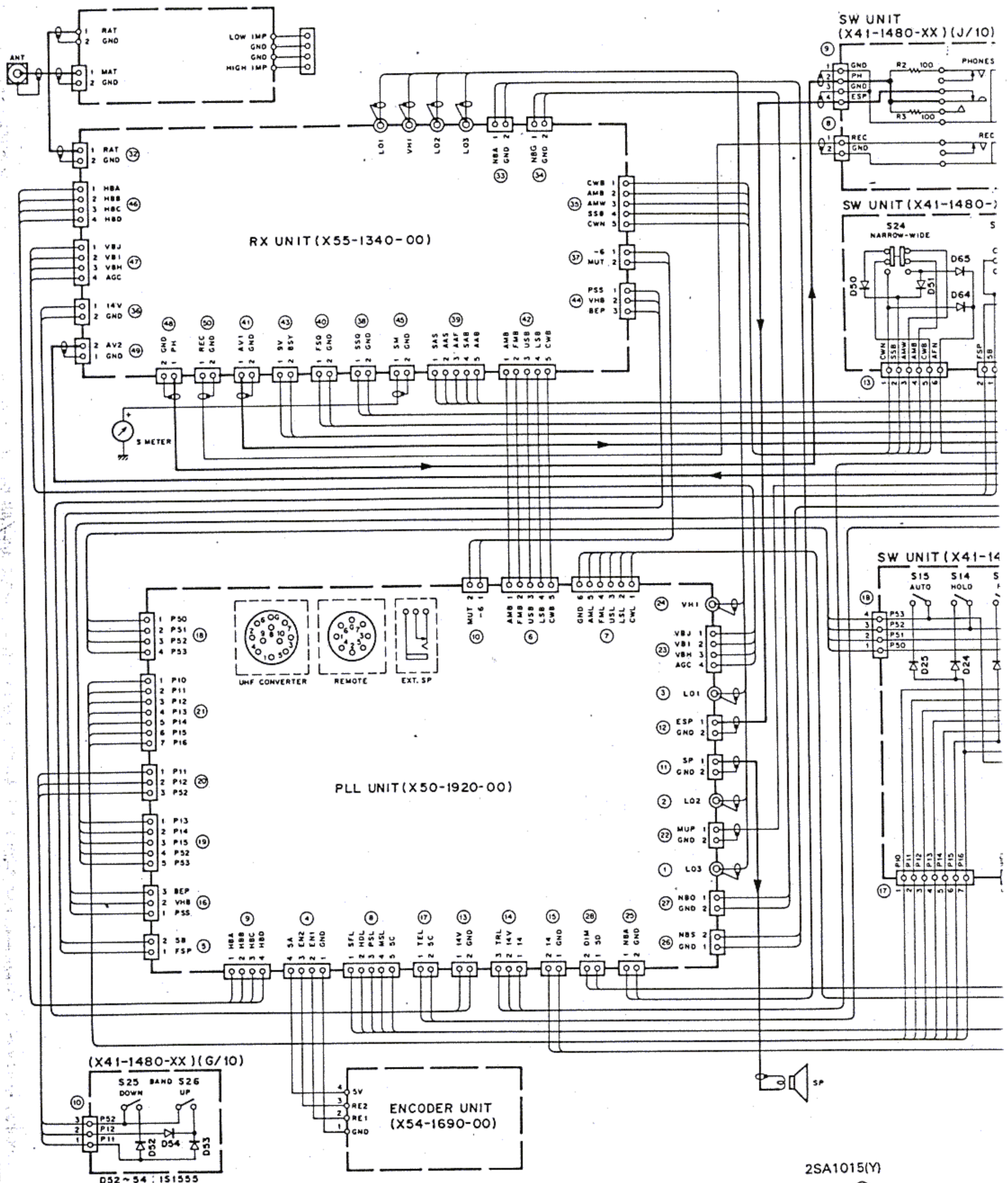
RX UNIT (X55-1340-00)

780mV

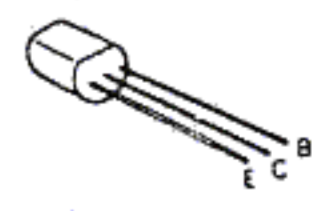
SI555

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1
2
3
4
5
6

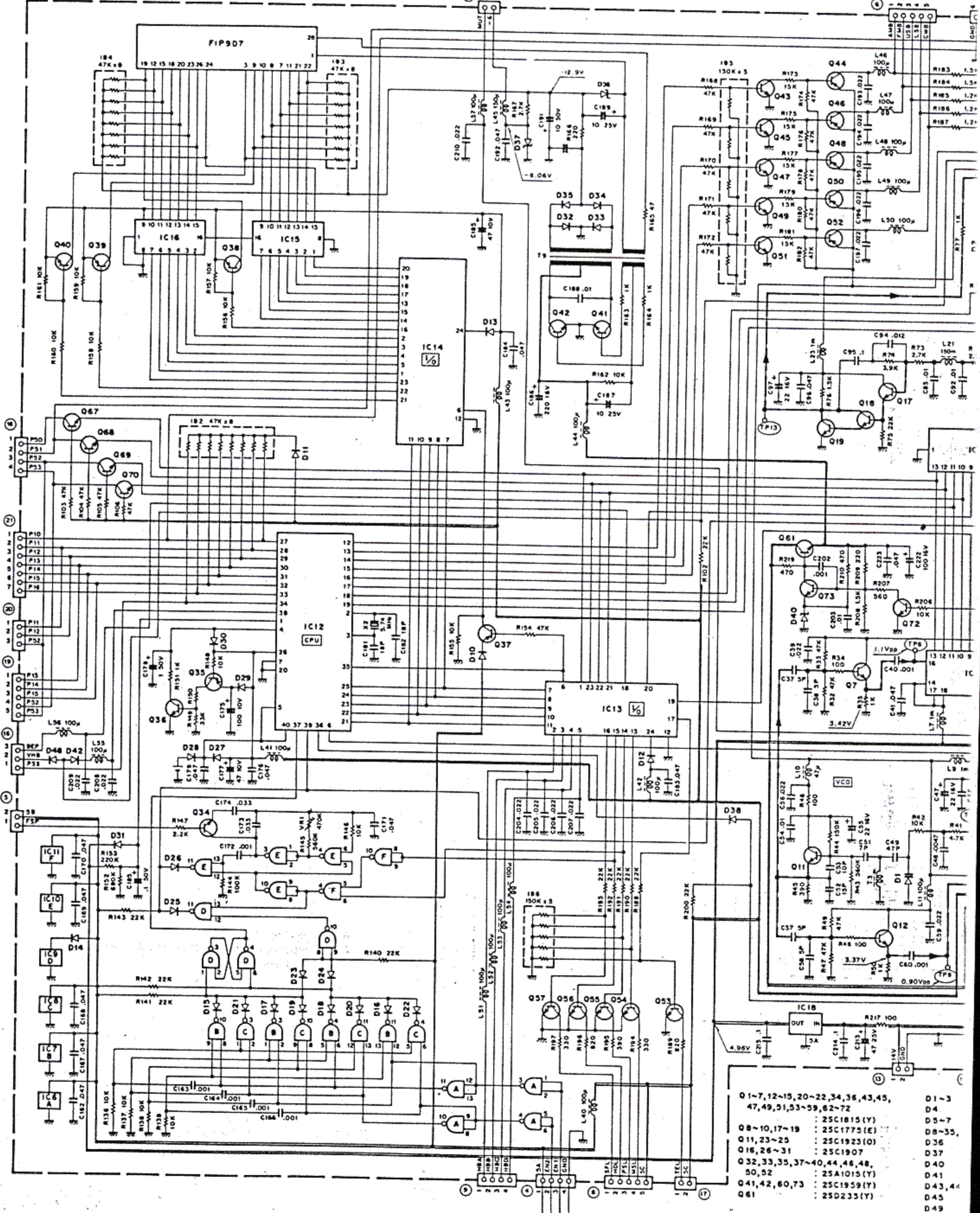


2SA1015(Y)



PLL UNIT (X50-1)

PLL UNIT(X50-1920-00)



- | | |
|-------------------------------------|---------|
| Q1-7, 12-15, 20-22, 34, 36, 43, 45, | D1-3 |
| 47, 49, 51, 53-59, 62-72 | D4 |
| Q8-10, 17-19 | D5-7 |
| Q11, 23-25 | D8-35 |
| Q16, 26-31 | D37 |
| Q32, 33, 35, 37-40, 44, 46, 48, | D40 |
| 50, 52 | D41 |
| Q41, 42, 60, 73 | D43, 44 |
| Q61 | D45 |
| | D49 |

PLL UNIT (X50-1920-00)

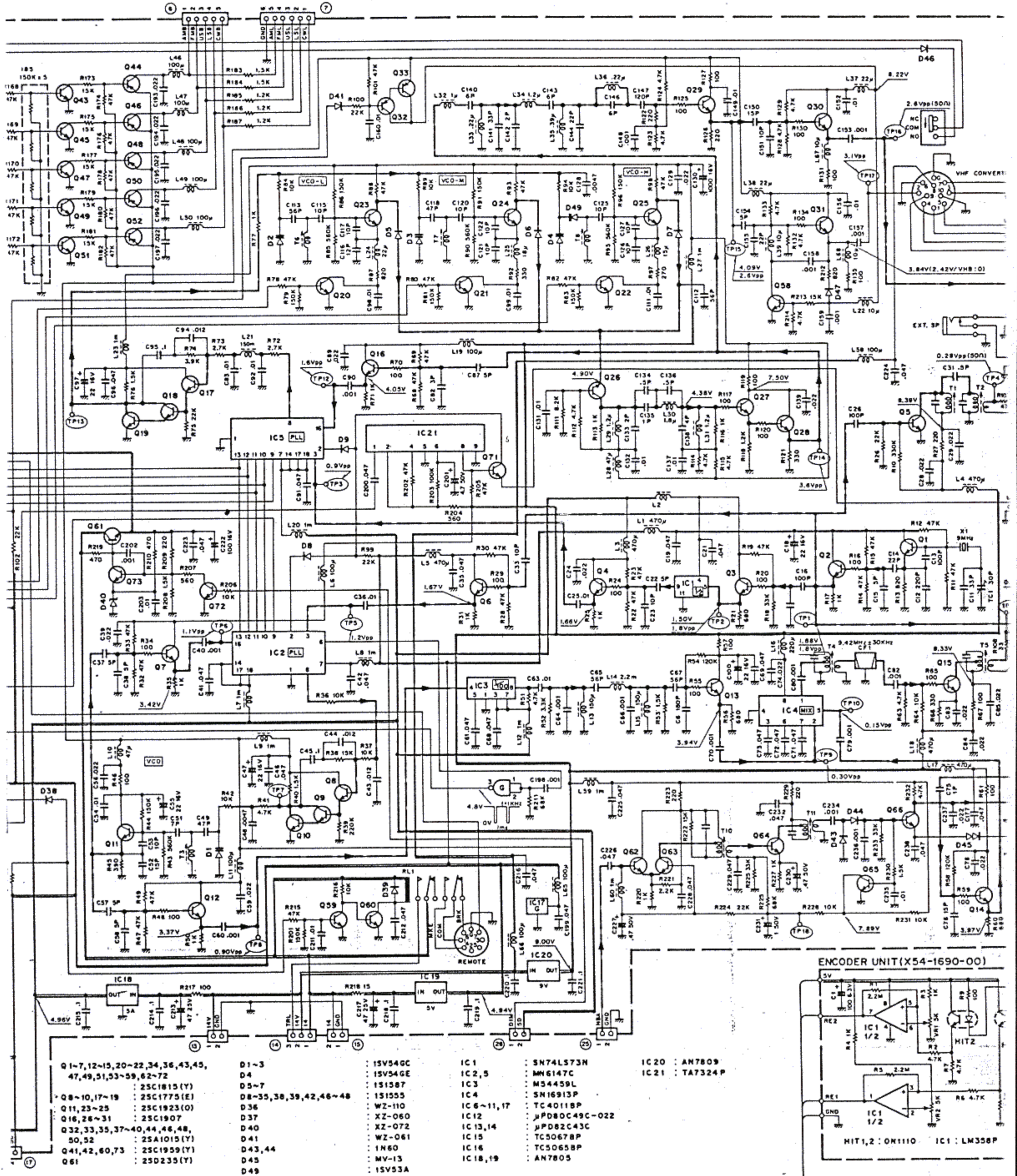
Measurement conditions.

Freq.: 14.525 MHz, USB, RX no signal

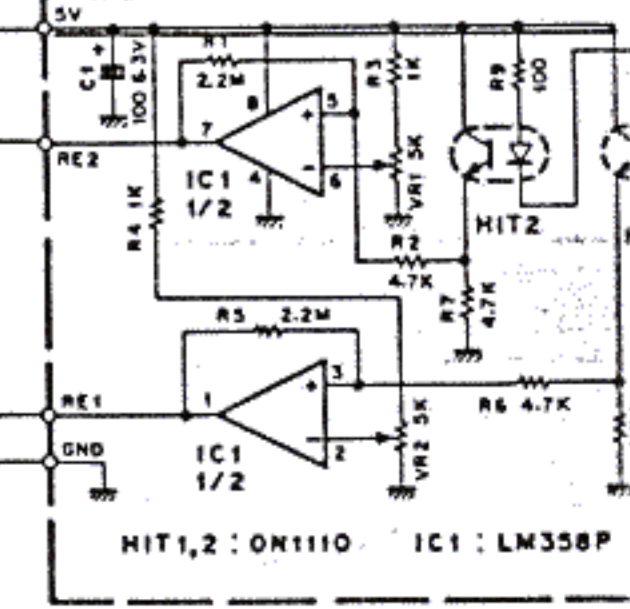
— : Signal line

- - - : Control line

— : Common DC line

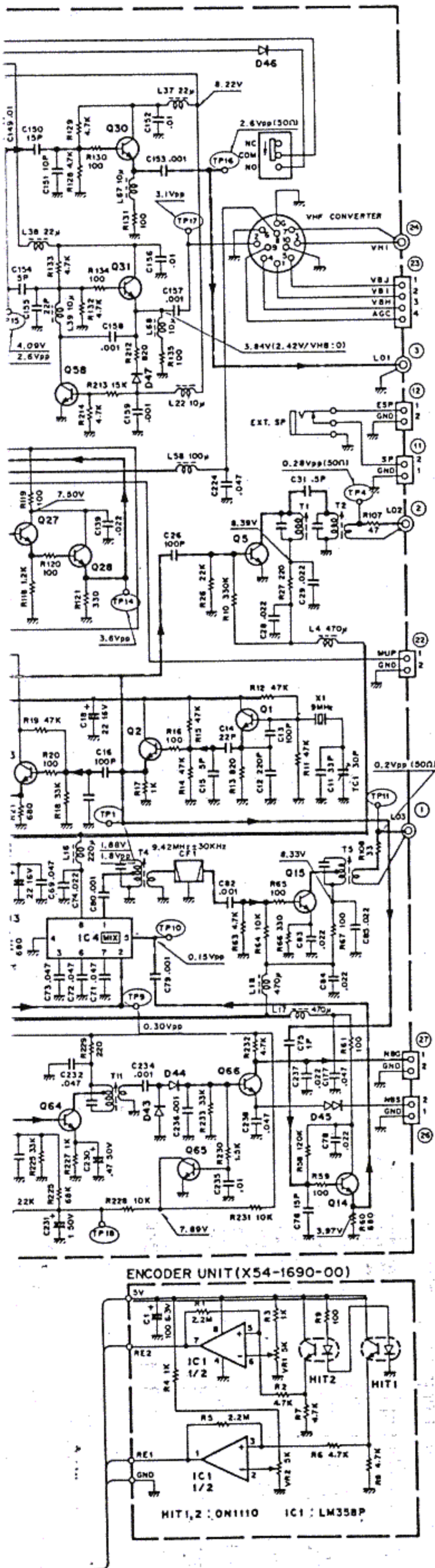


ENCODER UNIT (X54-1690-00)

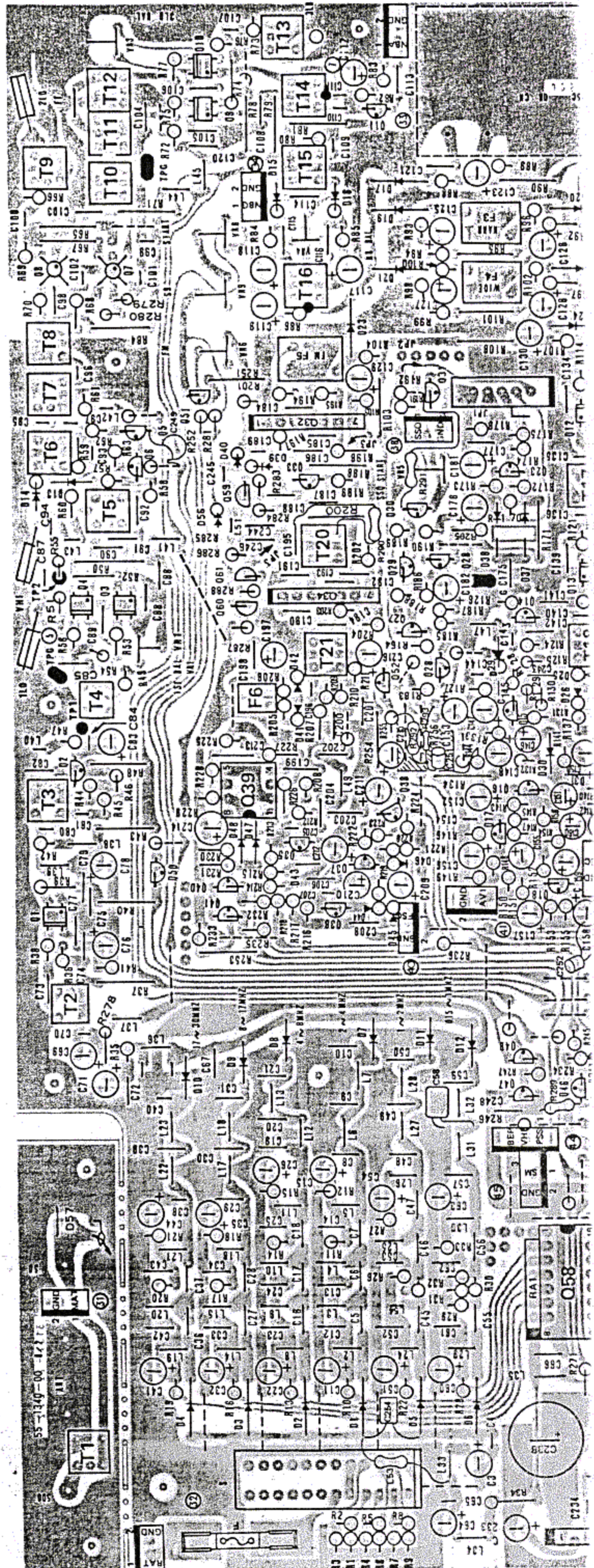


- | | | | |
|---|--------------------------|------------|----------------|
| Q1-7, 12-15, 20-22, 34, 36, 43, 45,
47, 49, 51, 53-59, 62-72 | D1-3 | IC1 | IC20 |
| Q8-10, 17-19 | D4 | IC2, 5 | IC21 |
| Q11, 23-25 | D5-7 | IC3 | |
| Q16, 26-31 | D8-35, 38, 39, 42, 46-48 | IC4 | |
| Q32, 33, 35, 37-40, 44, 46, 48,
50, 52 | D36 | IC6-11, 17 | |
| Q41, 42, 60, 73 | D37 | IC12 | |
| Q61 | D40 | IC13, 14 | |
| | D41 | IC15 | |
| | D43, 44 | IC16 | |
| | D45 | IC18, 19 | |
| | D49 | | |
| | | IC1 | SN74LS73N |
| | | IC2, 5 | MN6147C |
| | | IC3 | M54459L |
| | | IC4 | SN16913P |
| | | IC6-11, 17 | TC4011BP |
| | | IC12 | μPD80C49C-022 |
| | | IC13, 14 | μPD82C43C |
| | | IC15 | TC50678P |
| | | IC16 | TC50658P |
| | | IC18, 19 | AN7805 |
| | | | IC20 : AN7809 |
| | | | IC21 : TA7324P |

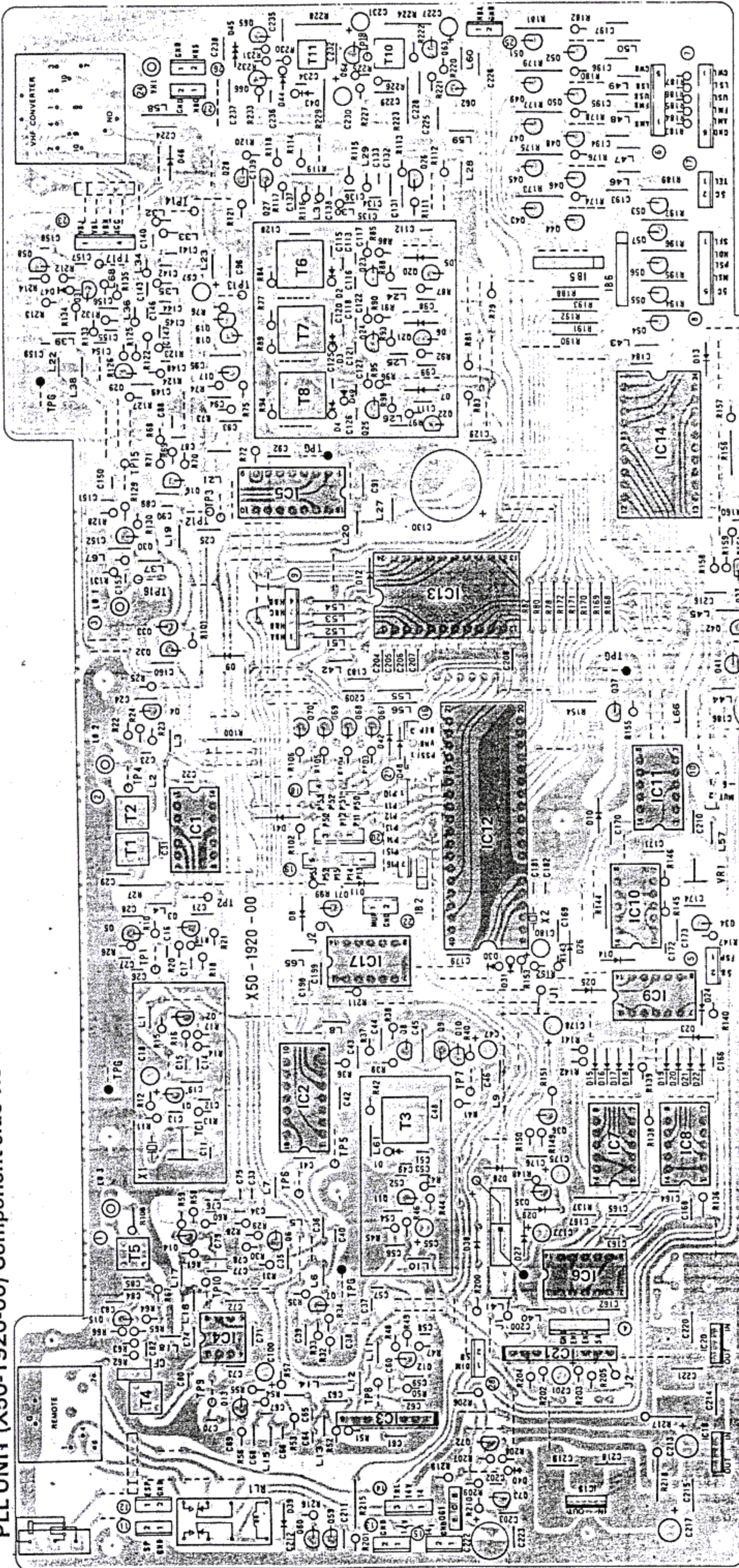
- B — : Signal line
- : Control line
- : Common DC line
- : Test point
- : Adjusting point



RX UNIT (X55 - 1340 - 00) Component Side view

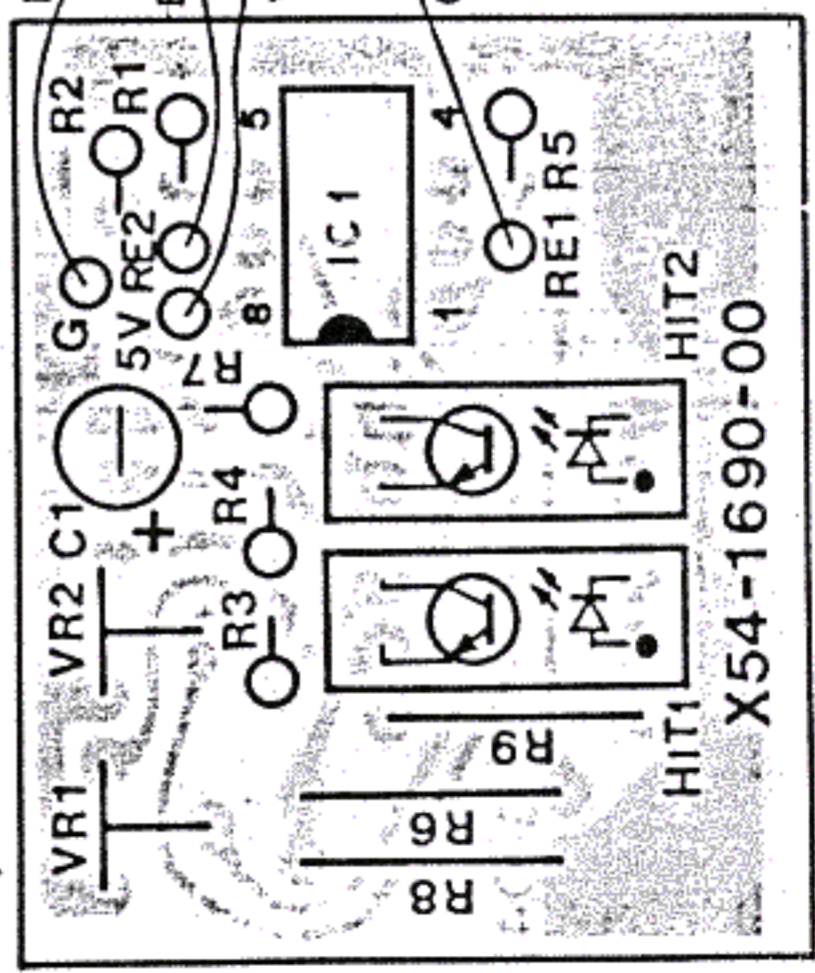


PLL UNIT (X50-1920-00) Component side view

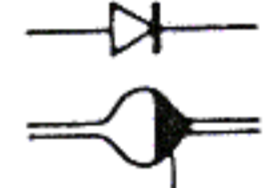


ENCODER UNIT (X54-1690-00)

Component side view

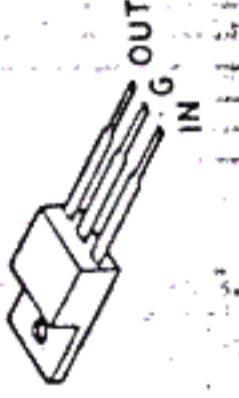


MV-13

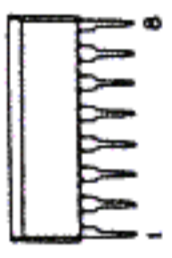


GREEN

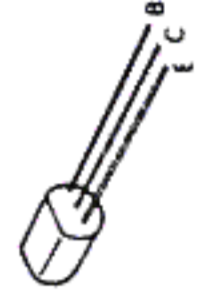
AN7805
AN7809



M54459L

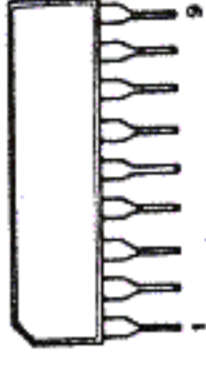


2SA1015 (Y)
2SC1775 (E)
2SC1815 (Y)
2SC1907

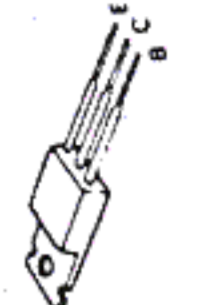


2SC1923 (O)
2SC1959 (Y)

TA7324P

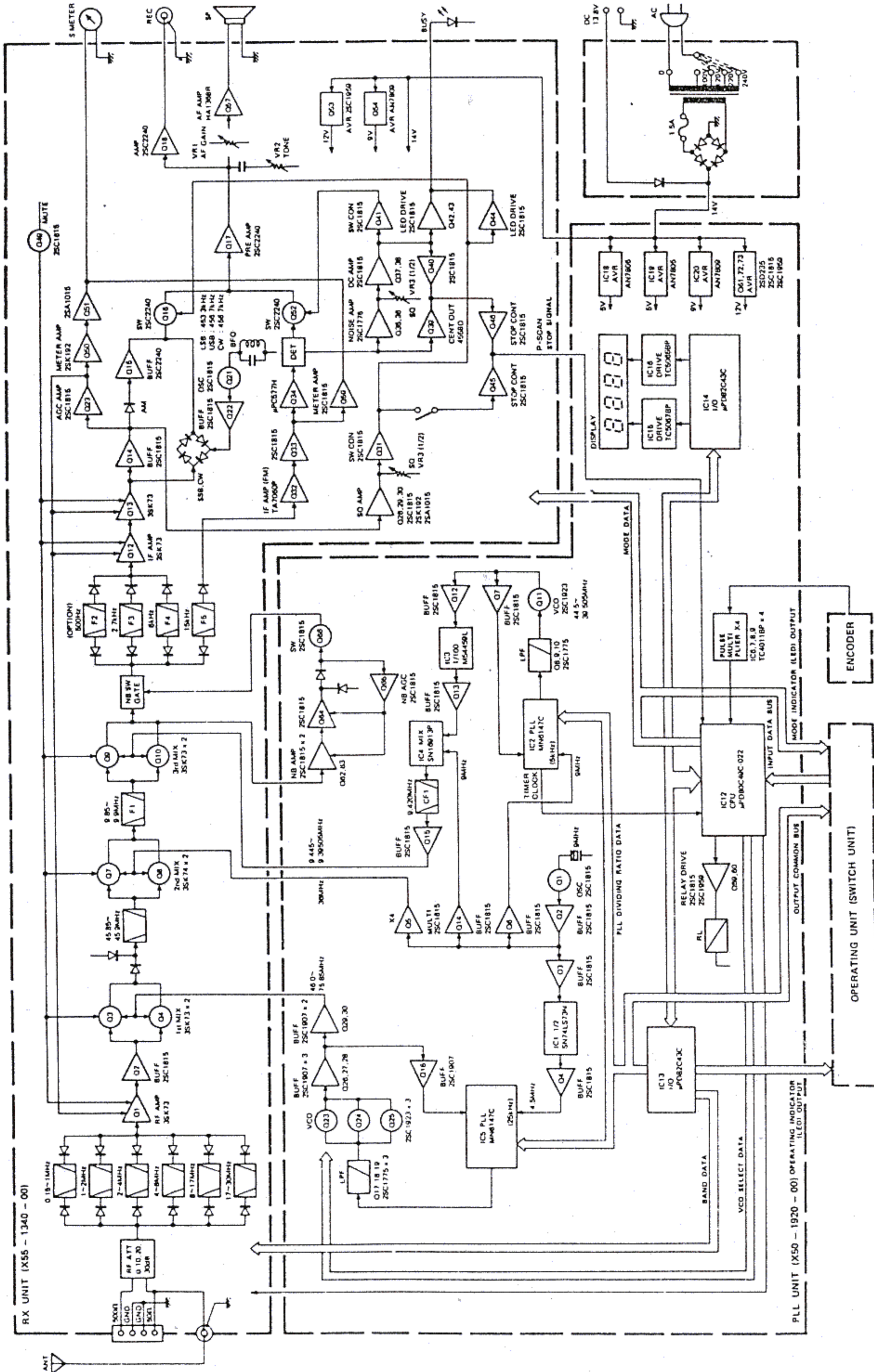


2SD235 (Y)



**BLOCK DIAGRAM
BLOCKSCHALTBIKD**

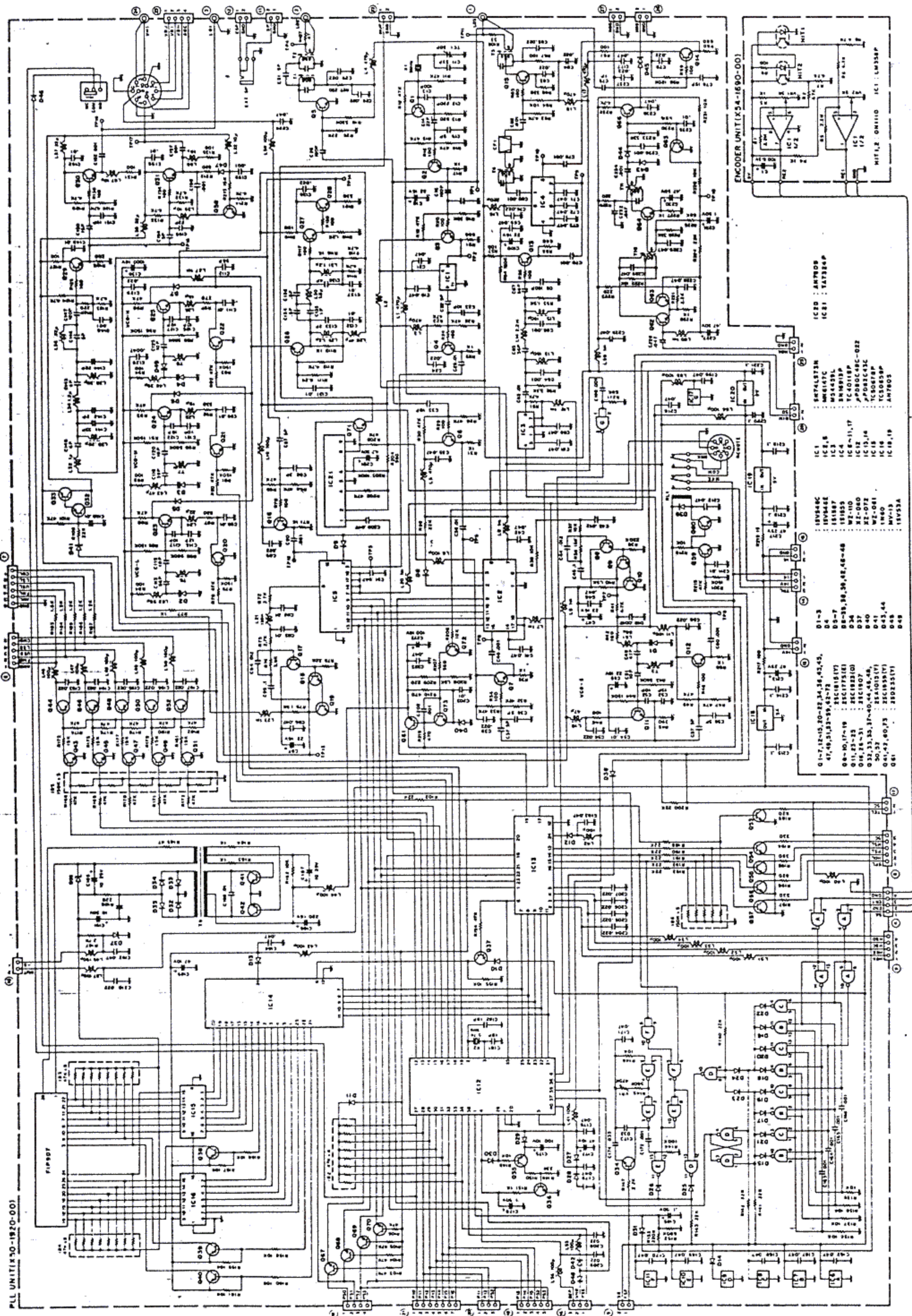
**DIAGRAMME SYNOPTIQUE
DIAGRAMA ESQUEMATICO**



Rx Kenwood 2000

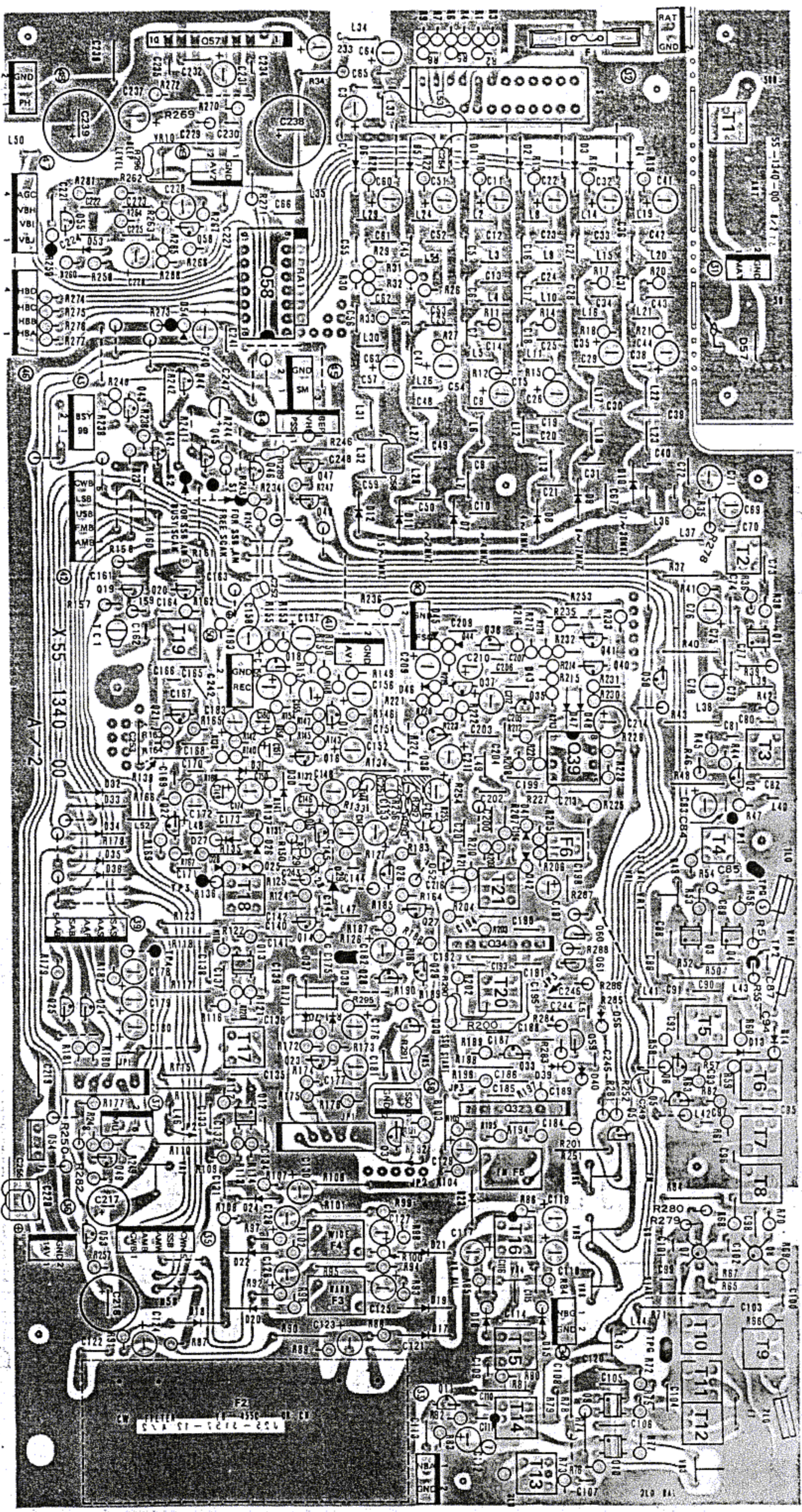
SCHEMATIC DIAGRAM SCHEMATISCHES SCHALTBILD

SCHEMA SIMPLIFIE DIAGRAMA DEL CIRCUITO



Rx Kenwood 2000

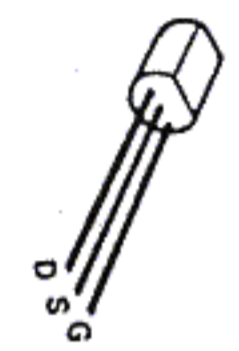
RX UNIT (X55 - 1340 - 00) Component Side view



- 2SA1015 (Y)
- 2SC1675 (L)
- 2SC1775 (E)
- 2SC1815 (Y)
- 2SC1959 (Y)
- 2SC2240 (GR)
- 2SC2878



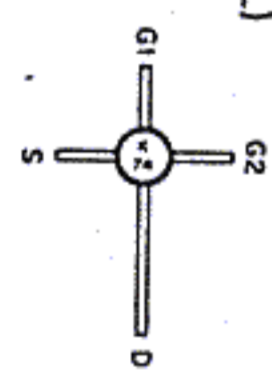
2SK192A



3SK73 (GR)



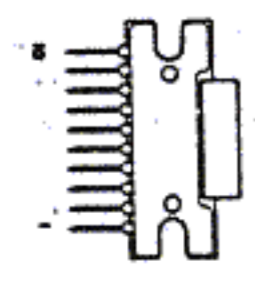
3SK74 (L)



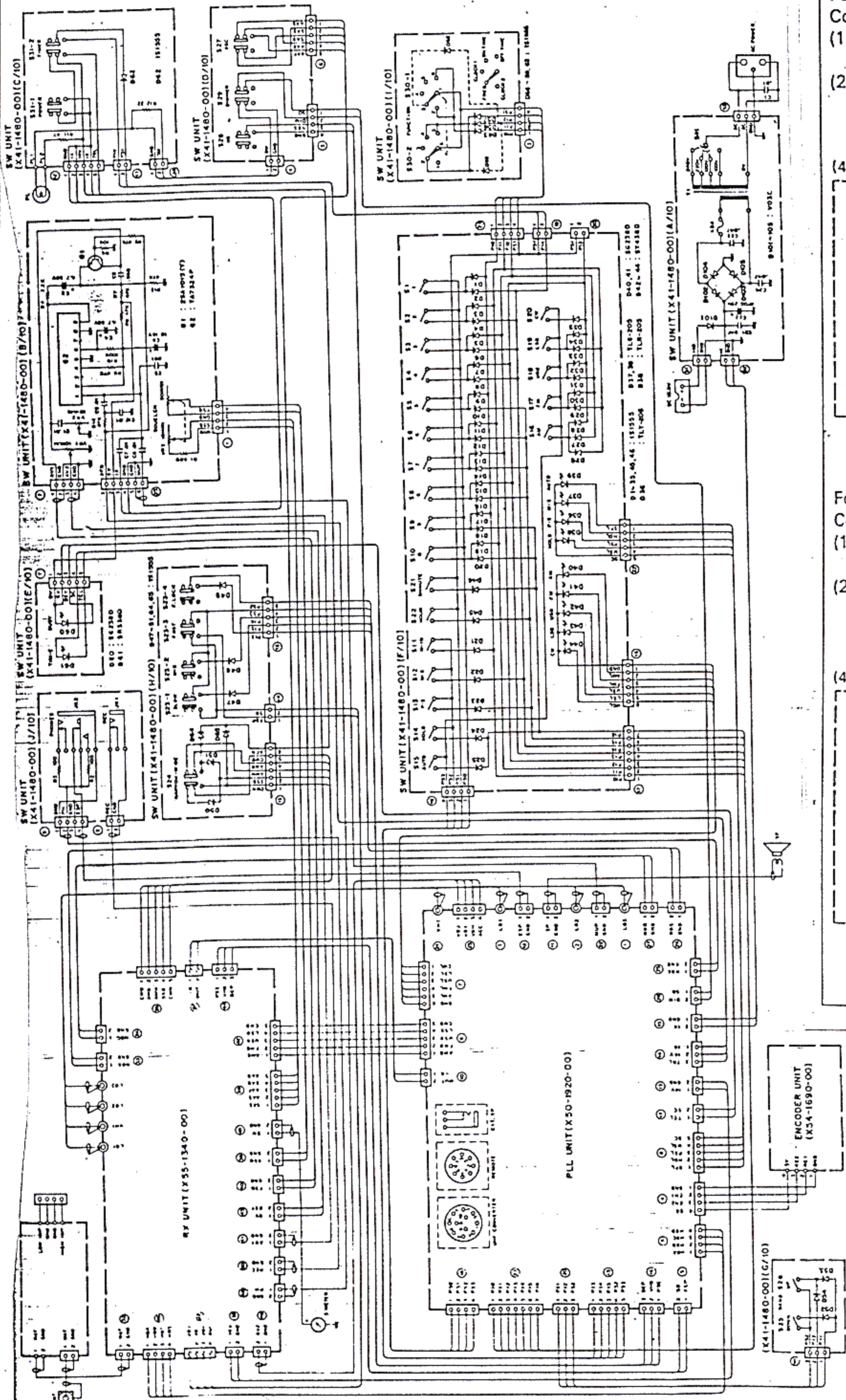
μPC577H



HA1368R

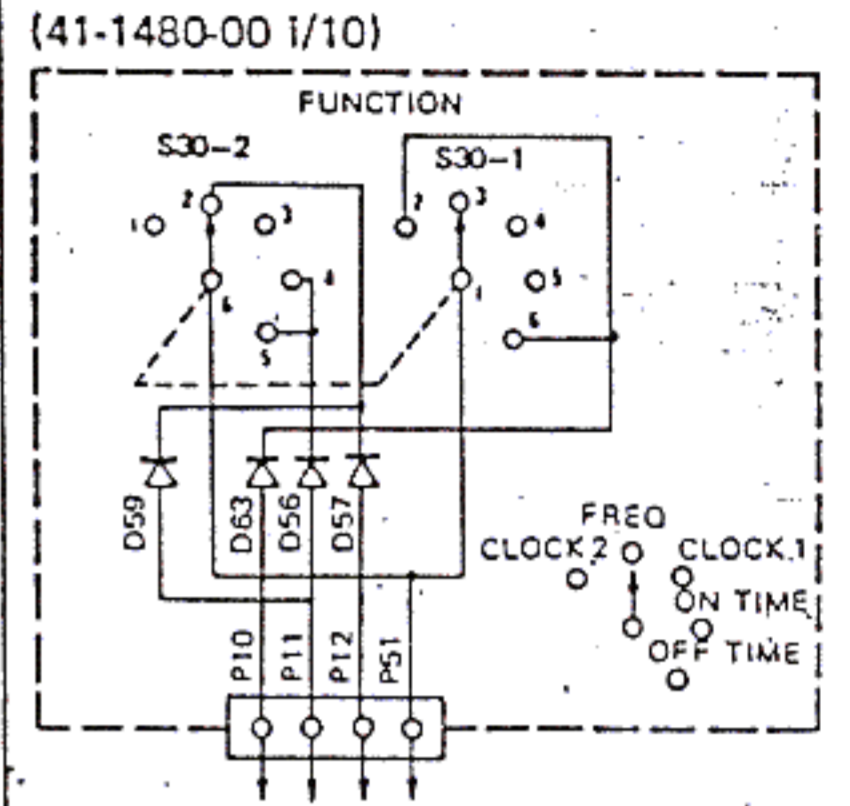


SCHEMATIC DIAGRAM SCHEMATISCHES SCHALTBILD

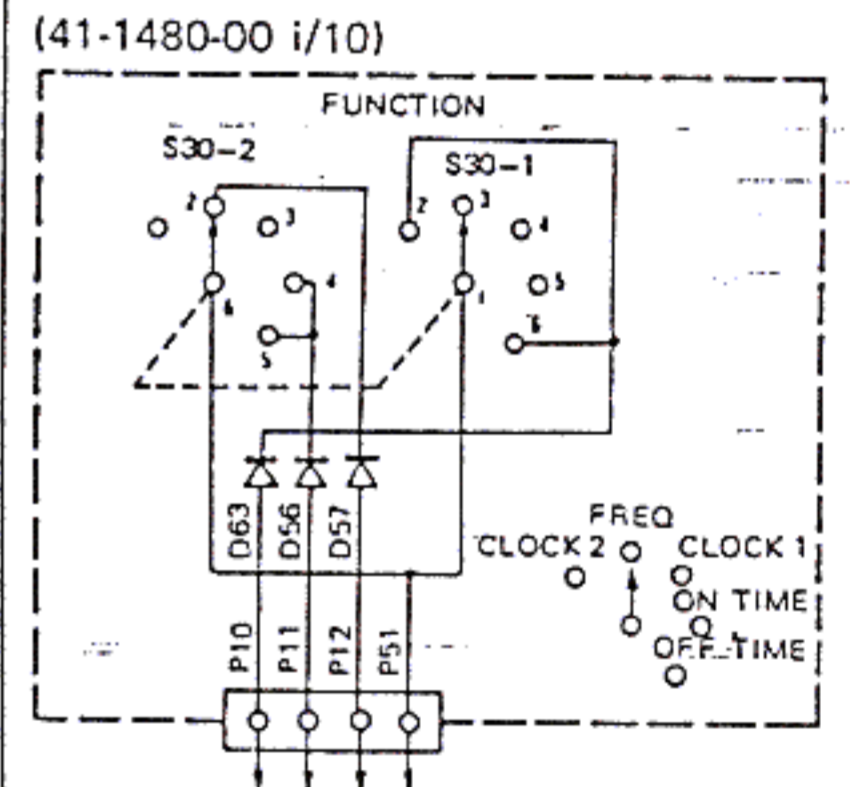


NOTE:
RX RANGE UP TO 30 MHz, NOT
150 kHz TO 2 MHz for Units
Shipped to Oceanian Countries.

CIRCUIT DIFFERENCE:
For Units Shipped to Oceanian
Countries
(1) Set the VOLTAGE SELECTOR to
240V.
(2) On the FUNCTION-SW PC
board, IS1555 (D59) is mount-
ed.



For Units Shipped to European
Countries Other Than Germany
(1) Set the VOLTAGE SELECTOR to
220V.
(2) Delete the countermeasure of
(2) of the units Shipped to
Oceanian countries.



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