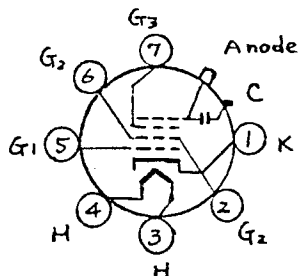


Minimum screen dimensions (projected)	
Diagonal	4.921" (127.3 mm)
Width	4.291" (109.9 mm)
Height	3.267" (84.9 mm)
Weight (Approx.)	0.5 kg
Operating Position	Any
Anode cap	Small Cavity (J1-21)
Base	Small-Button Special miniature 7 pin (E7-91)
Basing	

Bottom view

Pin 1-Cathode
Pin 2-Grid-No.2
Pin 3-Heater
Pin 4-Heater
Pin 5-Grid-No.1
Pin 6-Grid-No.2
Pin 7-Grid-No.3



. Cap-Anode (Grid No.4
screen collector)

C-External conductive
coating

GRID-DRIVE SERVICE

Unless otherwise specified, voltage values are positive with respect to cathode.

MAXIMUM AND MINIMUM RATINGS (Design-Maximum Values)

Anode Voltage	{ 10000 max volts 7000 min volts
Grid-No.3 (Focusing) Voltage:	
Positive value	1100 max volts
Negative value	550 max volts
Grid-No.2 Voltage	{ 550 max volts 250 min volts
Grid-No.1 Voltage:	
Negative-bias value	125 max volts
Positive-bias value	0 max volts
Positive-peak value	2 max volts
Heater voltage	{ 13.9 max volts 11.3 min volts
Peak Heater-Cathode Voltage 1)	
Combined AC & DC Voltage	130 max volts
DC Component	80 max volts

EQUIPMENT DESIGN RANGES

Grid-No.3 Current	-25 to +25 μ A
Grid-No.2 Current	-15 to +15 μ A
Field Strength of Adjustable Centering magnet 2)	0 to 10 gauss

TYPICAL OPERATING CONDITIONS

Anode Voltage	8000 volts
Grid-No.2 Voltage	400 volts
Grid-No.3 Voltage for focus 3)	0 to 400 volts
Grid-No.1 Voltage for visual extinction of focused raster	-22 to -46 volts

MAXIMUM CIRCUIT VALUES

Grid-No.1 Circuit Resistance	1.5 max. megohms
------------------------------------	------------------

CATHODE-DRIVE SERVICE

Unless otherwise specified, voltage values are positive with respect to Grid-No.1

MAXIMUM AND MINIMUM RATINGS (Design-Maximum Values)

Anode Voltage	10000 max volts 7000 min volts
Grid-No.3 (Focusing) Voltage:	
Positive value	1100 max volts
Negative value	550 max volts
Grid-No.2 Voltage	{ 550 max volts 250 min volts
Cathode Voltage:	
Positive-bias value	125 max volts
Negative-bias value	0 max volts
Negative-peak value	2 max volts
Heater voltage	{ 13.9 max volts 11.3 min volts
Peak Heater-Cathode Voltage 1)	
Combined AC & DC Voltage	130 max volts
DC Component	80 max volts

EQUIPMENT DESIGN RANGES

Grid-No.3 Current	-25 to +25 μ A
Grid-No.2 Current	-15 to +15 μ A
Field Strength of Adjustable Centering magnet 2)	0 to 10 gaussess

TYPICAL OPERATING CONDITIONS

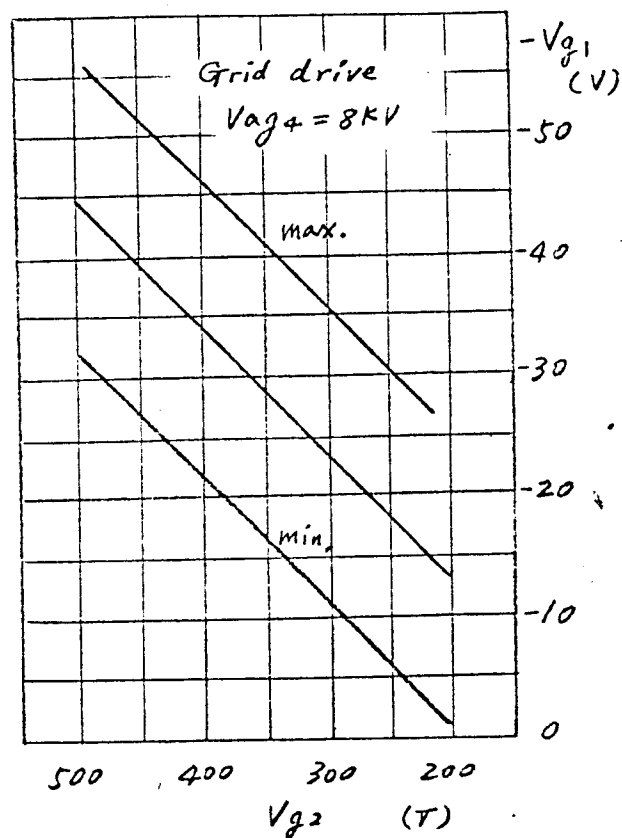
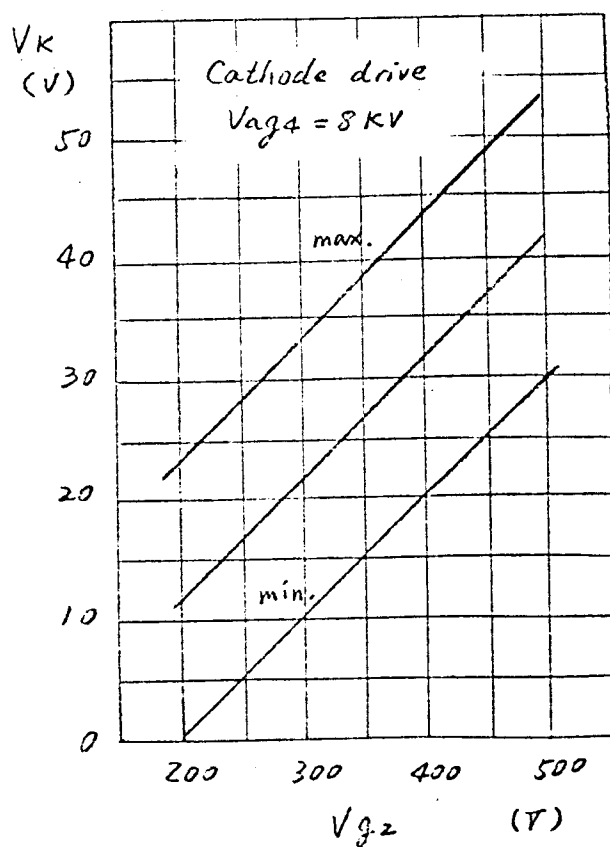
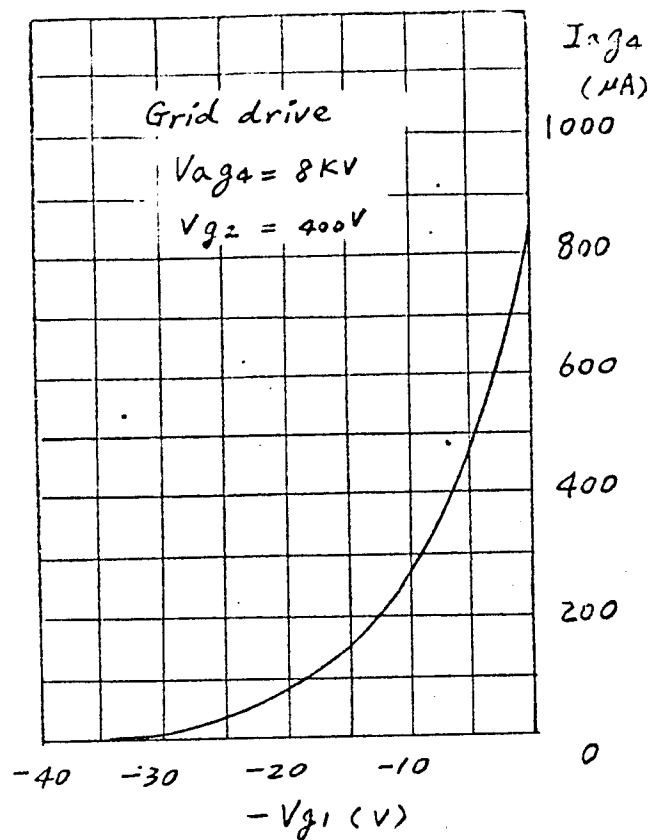
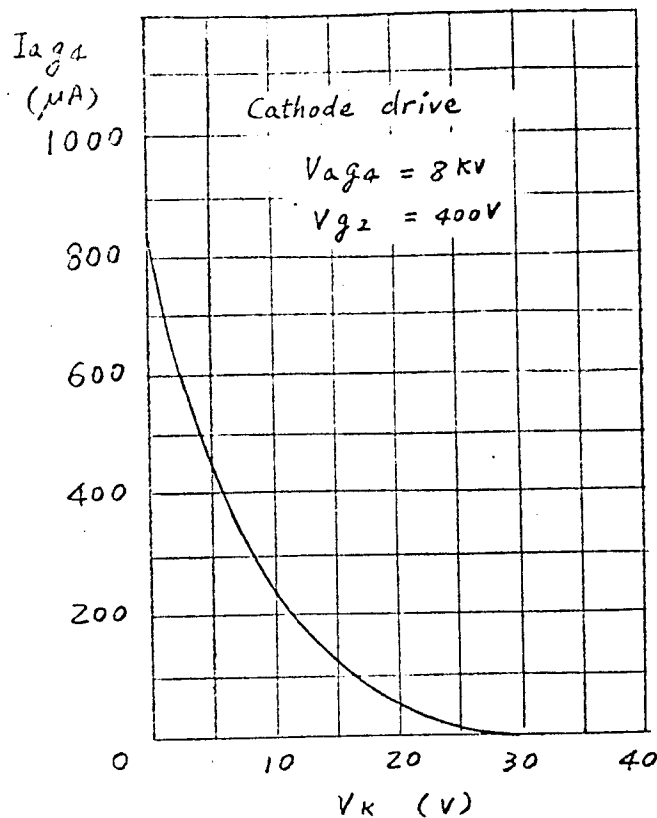
Anode Voltage	8000 volts
Grid-No.2 Voltage	400 volts
Grid-No.3 Voltage for focus 3)	0 to 400 volts
extinction of focused raster	20 to 43 volts

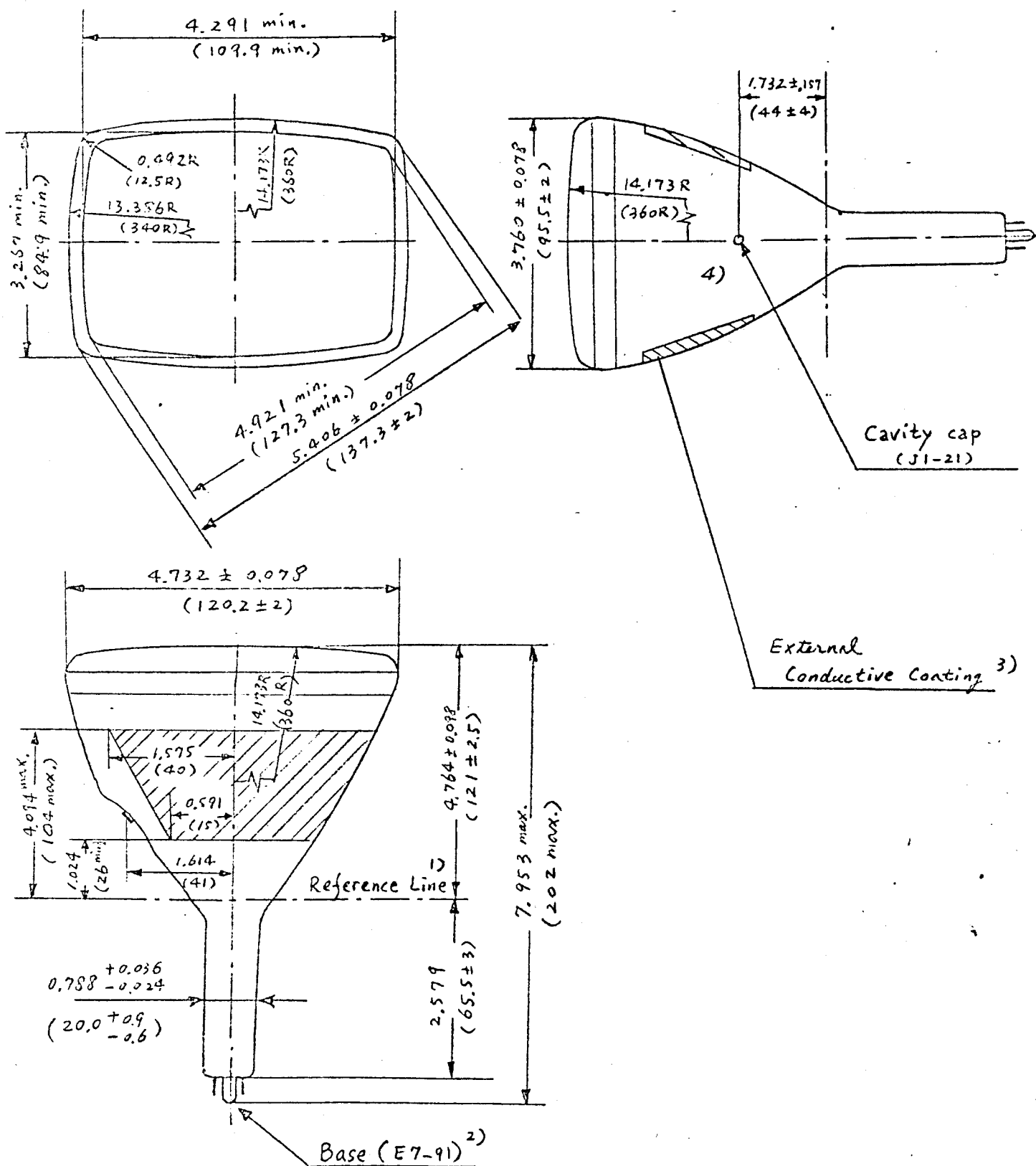
MAXIMUM CIRCUIT VALUES

Grid-No.1 Circuit Resistance	1.5 max negohms
------------------------------------	-----------------

NOTES

- 1) To avoid excessive hum the AC component of the heater to chassis voltage should be as low as possible and must not exceed 20V r.m.s.
- 2) The maximum distance between the centre of the field of this magnet and the reference line is 1.42" (36 mm).
The centring magnet should be mounted as close to the deflection coils as possible.
- 3) Voltage range necessary to obtain optimum overall focus at a beam current of 55 μ A.





Dimensions in Inches (mm)

140AKB4
Sheet 6 of 7

NOTES (Concerning Sheet 6)

- 1) The reference line is determined by Reference line gauge JEDEC Type No. G-R55J1.
- 2) The socket for this base should not be rigidly mounted; it should have flexible leads and be allowed to move freely. The bottom circumference of the base wafer will fall within a circle concentric with the bulb axis and having a diameter of 1.58" (40 mm).
- 3) The configuration of the outer coating is optional, but must contain the contact area as shown in the drawing.
The external coating must be earthed.
- 4) This area must be kept clean.

- ~~-R-1~~ 10K
~~-R-2~~ 10K
~~-R-3~~ 470K
~~-R-4~~ 470K
~~-R-5~~ 120K
~~-R-6~~ 120K
~~-R-7~~ 10K
~~-R-8~~ 33K
~~-R-9~~ 33K
~~-R-10~~ 2K POT
~~-R-11~~ 33K
~~-R-12~~ 1K POT
~~-R-13~~ 47K
~~-R-14~~ 47K
~~-R-15~~ 47K
~~-R-16~~ 5K
~~-R-17~~ 5K
~~-R-18~~ 5K
~~-R-19~~ 5K
~~-R-20~~ 5K
~~-R-21~~ 5K
~~-R-22~~ 5K
~~-R-23~~ 5K
~~-R-24~~ 5K
~~-R-25~~ 5K
~~-R-26~~ 5K
~~-R-27~~ 5K
~~-R-28~~ 5K
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~~-R-95~~ 5K
~~-R-96~~ 5K
~~-R-97~~ 5K
~~-R-98~~ 5K
~~-R-99~~ 5K
~~-R-100~~ 5K

PC-123

Deflection
Amp.

FEEDBACK RESISTOR
 $.17 \Omega$ (3-.52)

- | | |
|-------|-----------------------------|
| — R20 | 2K POT |
| — R25 | 2K POT |
| — R26 | 470 Ω $\frac{1}{2}W$ |
| — R27 | 2K |
| — R28 | 470 Ω $\frac{1}{2}W$ |
| — R29 | 2K |
| — R30 | 100K |
| — R31 | 4.7K |
| — R32 | 4.7K |
| — R33 | 220 Ω |
| — R34 | 2K |

- 1 SWEEP IN
- 2 SWEEP (ON) OFF
- 3 Feedback \rightarrow HIGH SIDE
- 4 $+3V$
- 5 NPN BASE
- 6 PNP BASE
- 7 $-35V$
- 8 $100k$
- 9 " "

- 17 Yok 2nd

HCS
35

PC-123

Deflection Amp alignment

power off

adjust R12 CW all the way. Then face east, kneel down

power on

adjust R25 for gain (signal on pin 1 only)

adjust R10 with signal on pins 1 and 2 for Null

adjust R12 ^{ccw} for no crossover and no oscillation

adjust R24 for centering picture

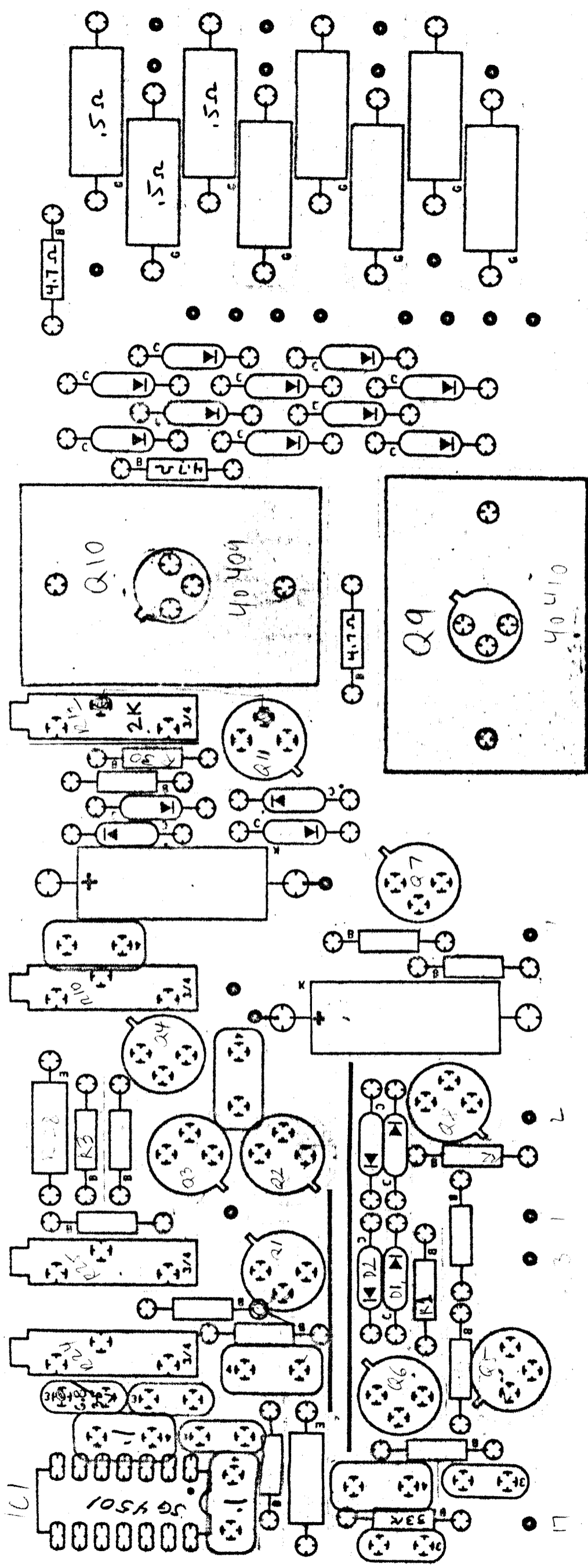
When brown, remove from heatsink



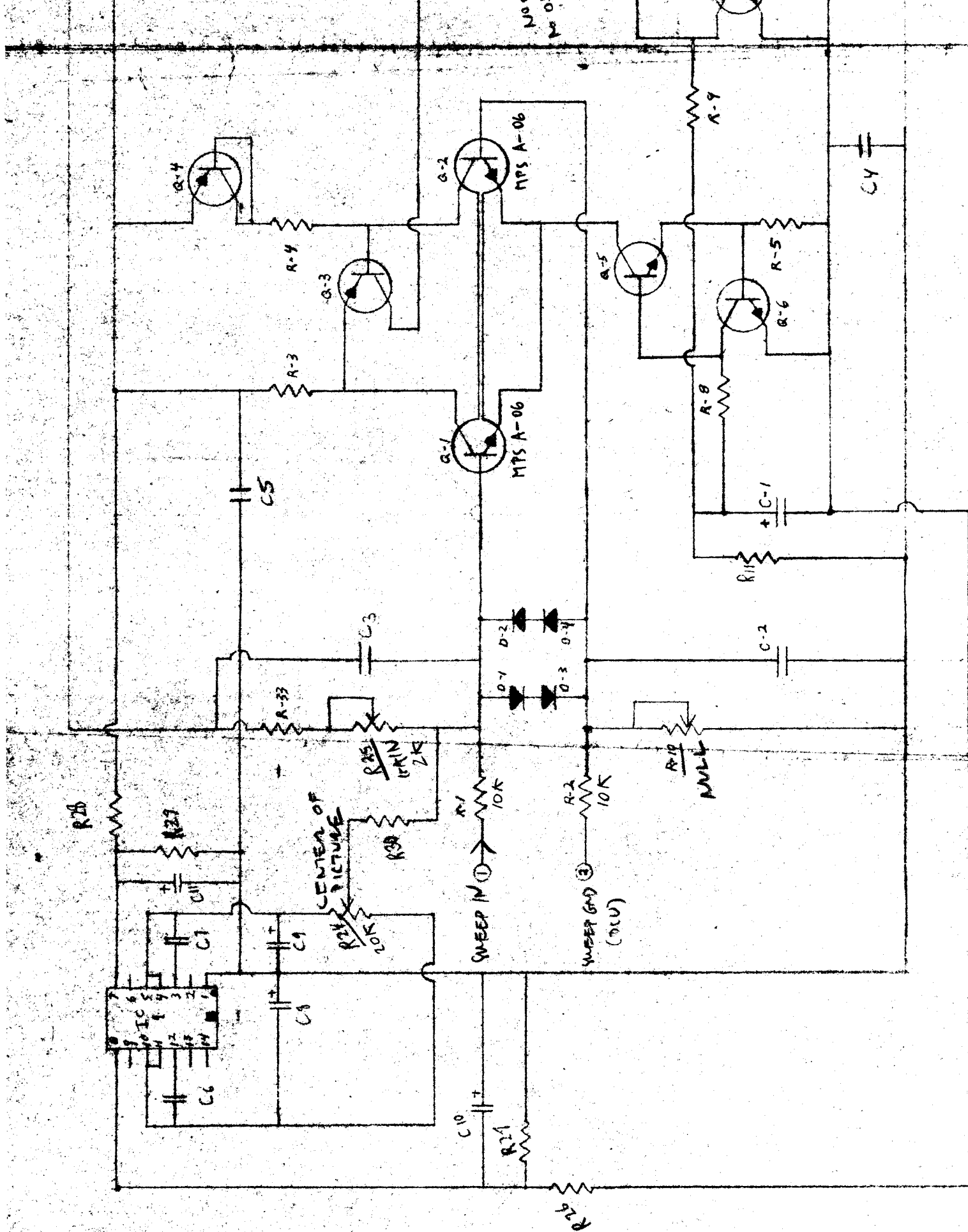
.25 Ω FEEDBACK SHUNT: 1 AMP = 250 MV
4 AMPS = 1 VOLT

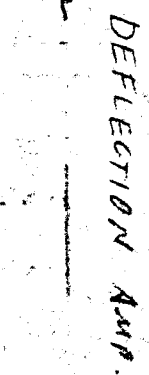
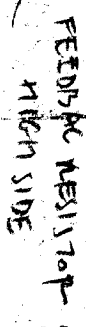
HCS
14

PC123



PC 123 Deflection Amp





HCS
23

YOKIN 057

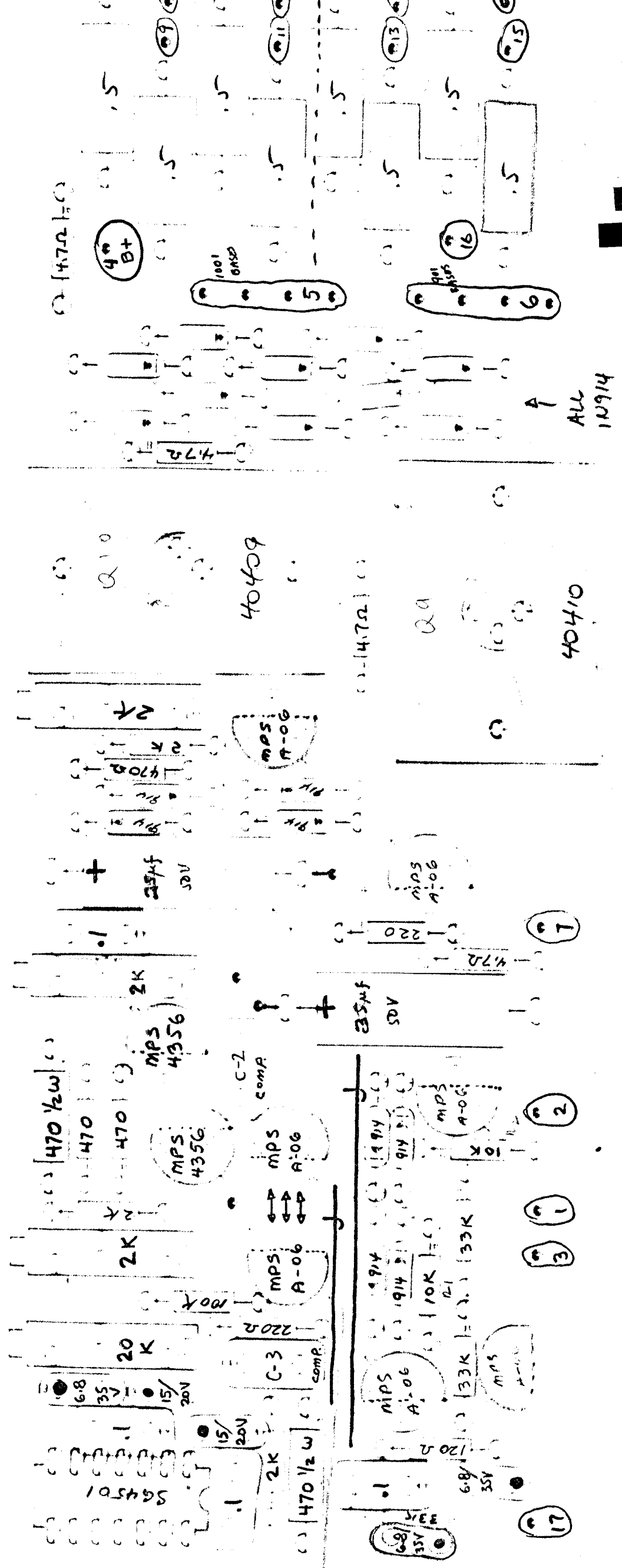
PC-123

TERMINALS:

- | | |
|---------------------------------|----------------------------------|
| 1. SWEEP IN | 12-13-14-15 PNP EMITTERS (MJ901) |
| 2. SWEEP (DC) GND | 16 - YOKER OUT |
| 3. FEEDBACK RESISTOR HIGH SIDE | 17 - GND |
| 4. +35V | |
| 5. NPN BASES (MJ1001) | |
| 6. PNP BASES (MJ901) | |
| 7. -35V | |
| 8-9-10-11 NPN EMITTERS (MJ1001) | |

PC 123

DEFLECTION AMP.



NOTE: THESE ARE PUT IN WITH LOW LEADS, TURNED OVER AND MOUNTED FLAT-TO-FLAT THEN TIED TOGETHER WITH SILICONE GOOP BETWEEN THEM.

SIDE VIEW



170 20
227 20
448 47

