



Service Bulletin
for
Model 312C Solid Sate FM Stereo Tuner

Usable Sensitivity (UV)	1.7 uv
Cross Modulation Rejection	90 db
Signal to Noise Ratio	65 db
Total Harmonic Distortion	0.8%
Frequency Deviation	less than .02%
Frequency Response	* 50-15,000 hz : <u>+1</u> db
Selectivity	45 db
Hum	-70 db
Separation	40 db
Audio Output (100% modulation)	1.2 vrms
Tuning Range	87-109 mc
Accuracy of Calibration	0.5%
FM Front End	3 Field Effect

**FM FRONT END
Z-FM-16**

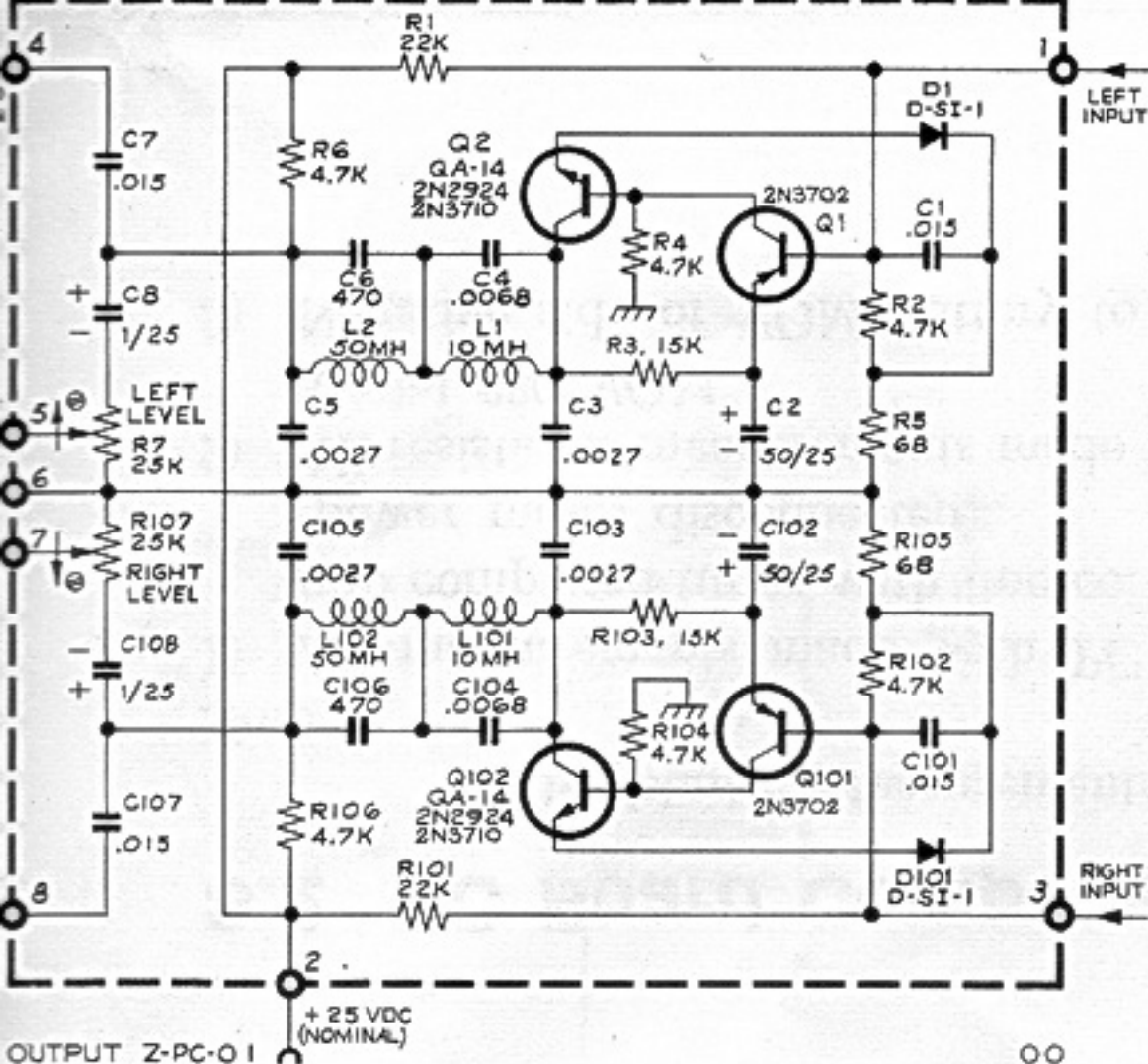
**HIGHEST
SERIES NO.**

R216
C226
L207
Q201
T201
Q204

NOTES

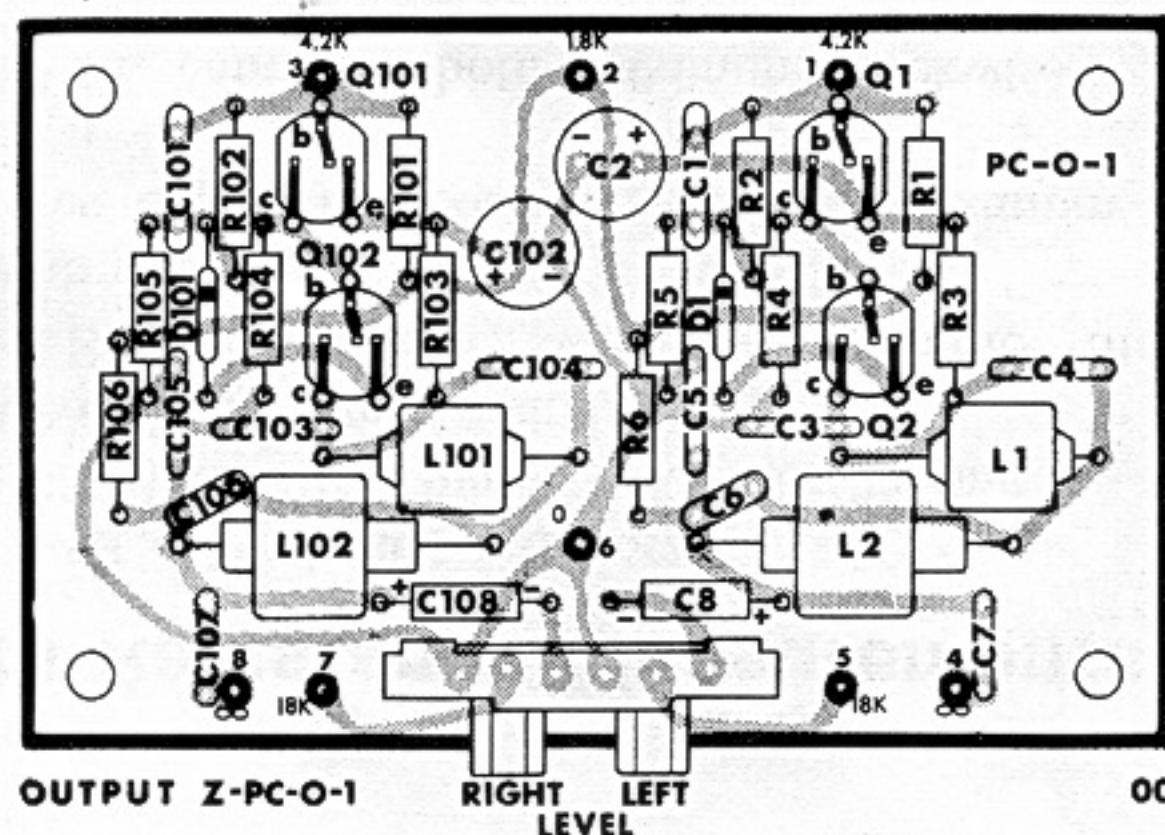
1. Unless otherwise specified: Resistance in ohms $\pm 10\%$ capacitance in MFD's. Resistors 1/4 watt.
2. Indicated supply voltages may vary above or below nominal voltage shown from model to model.
3. DC voltages $\pm 15\%$ measured with 20k ohm/v vom.
4. Arrow-heads indicate main signal path.

FM Front End

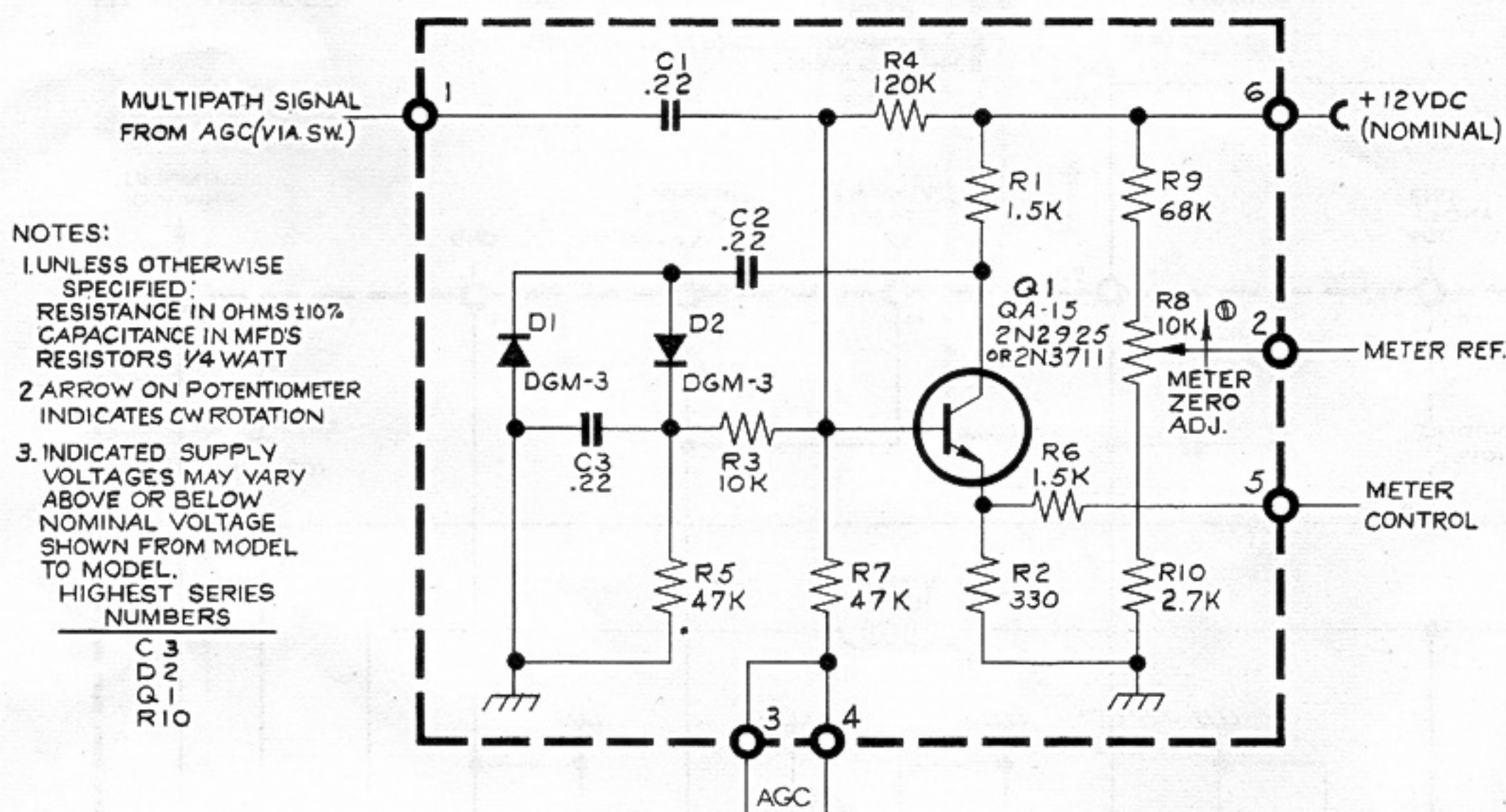


Output Audio Amplifier

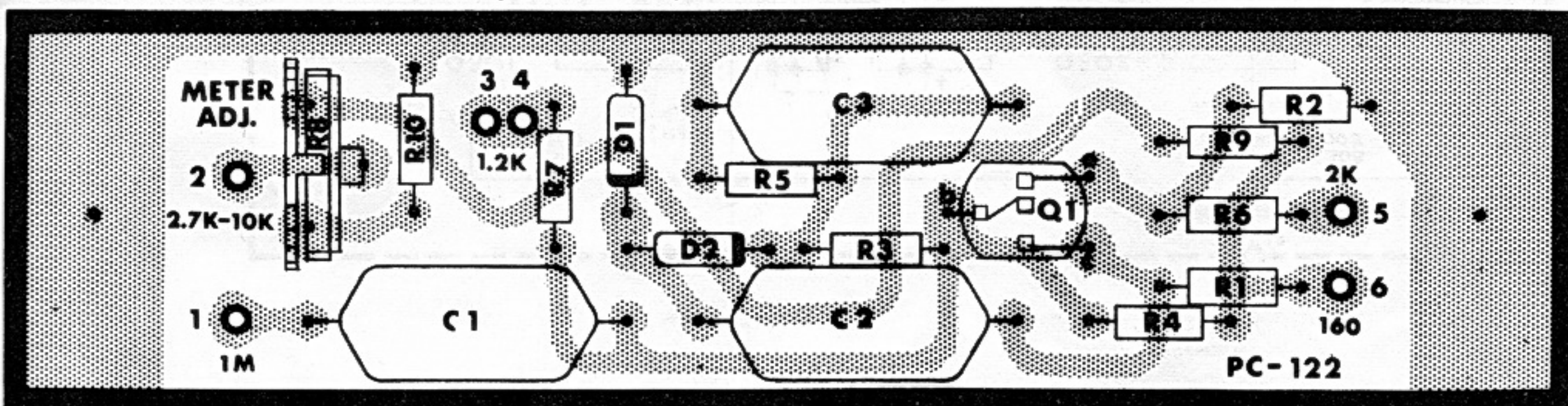
Q1, Q101 - 2N3702
Q2, Q102 - QA-14, 2N3710 & 2N2924



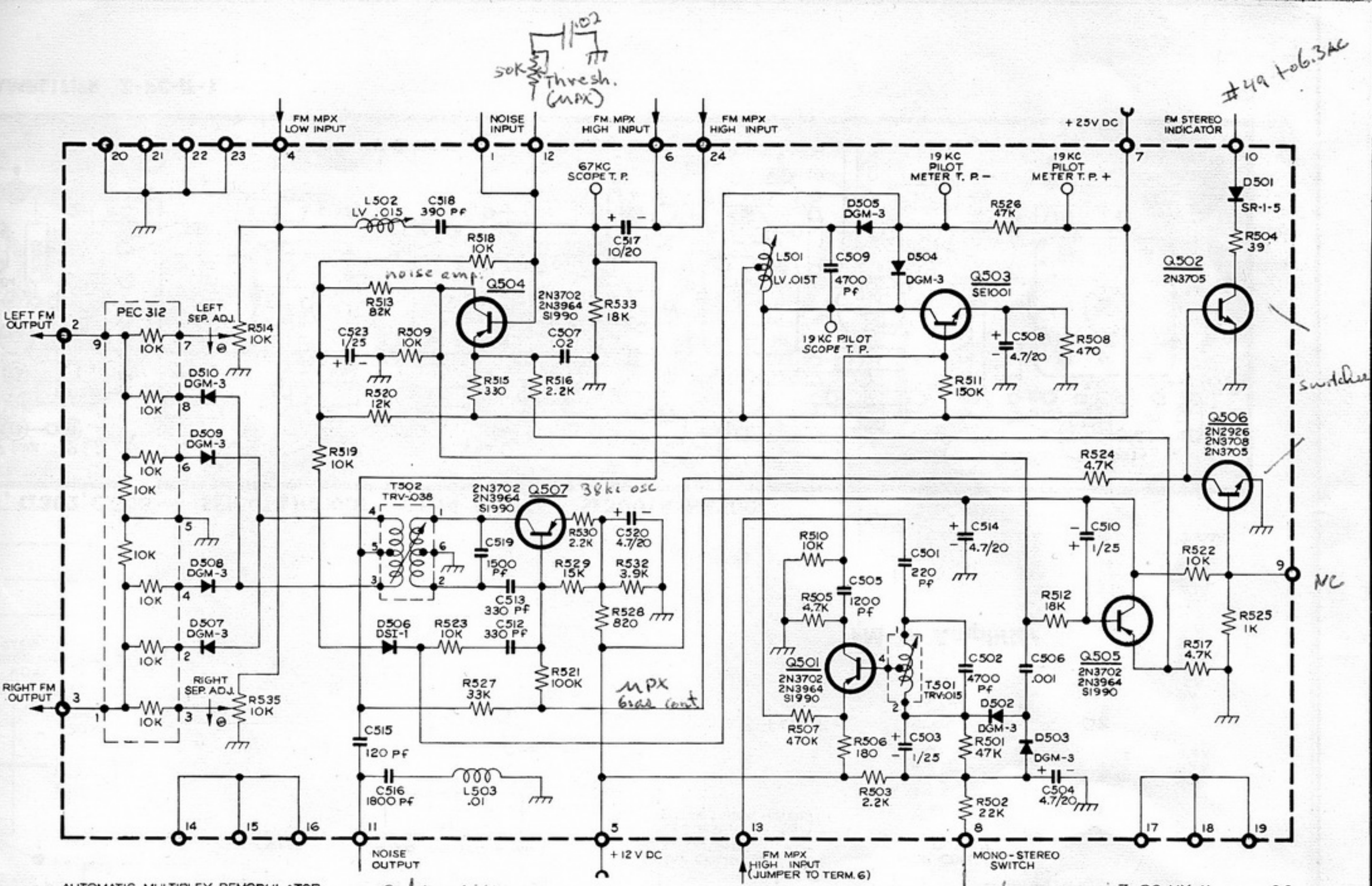
Output Z-PC-O-1



Q1 - 2N2925 or 2N3711 (QA-15)



MULTIPATH INDICATOR Z-PC-MI-1



AUTOMATIC MULTIPLEX DEMODULATOR

NOTES:

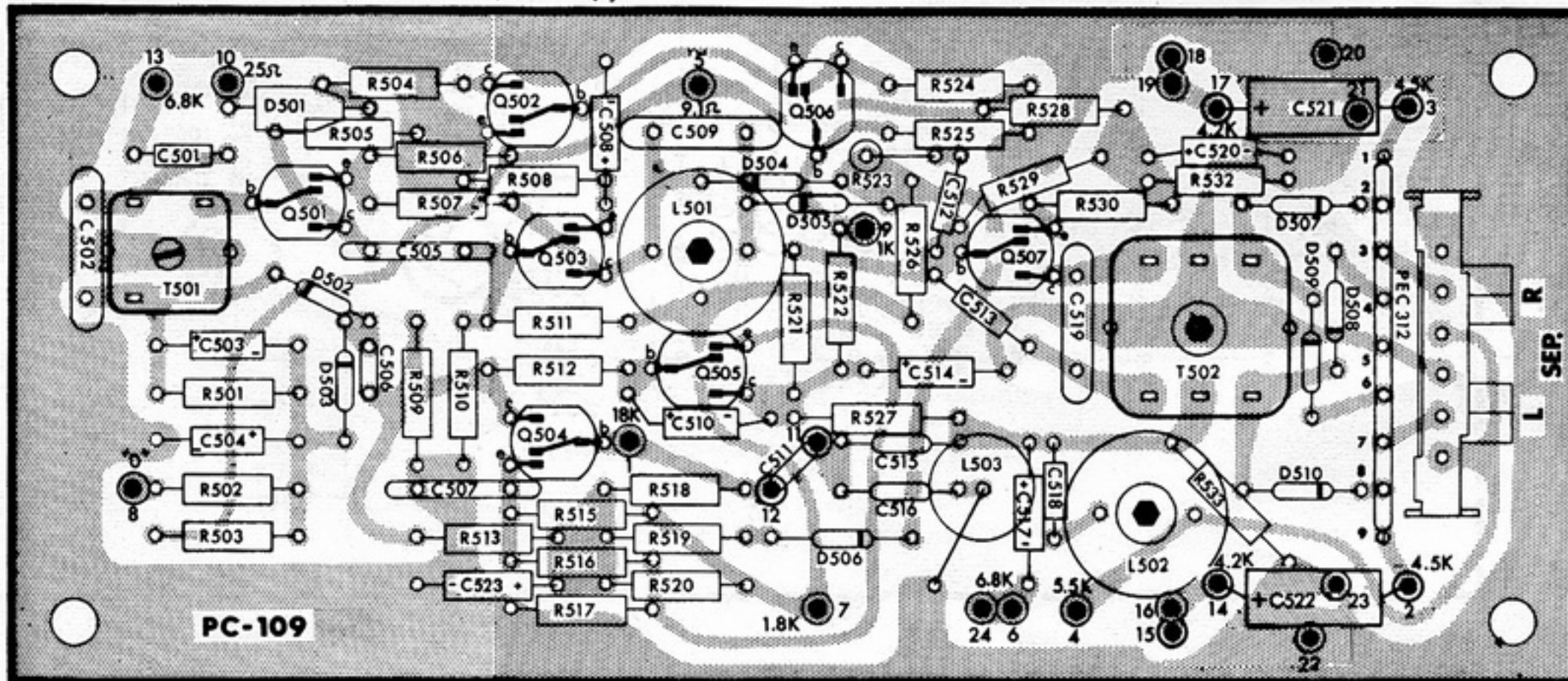
1. UNLESS OTHERWISE SPECIFIED: RESISTANCE IN OHMS $\pm 10\%$ CAPACITANCE IN MFD'S, RESISTORS $\frac{1}{2}$ WATT.
2. ARROWS ON POTENTIOMETERS INDICATE CW ROTATION.
3. PILOT ADJ. - USING 2000 OHM/V METER, MEASURE 4V MIN. DC. SEE INSTRUCTIONS.
4. INDICATED SUPPLY VOLTAGES MAY VARY ABOVE OR BELOW NOMINAL VOLTAGE SHOWN, FROM MODEL TO MODEL.
5. ARROW-HEADS INDICATE MAIN SIGNAL PATH.

HIGHEST SERIES NUMBERS

C523
D510
L503
Q507
R535
T502

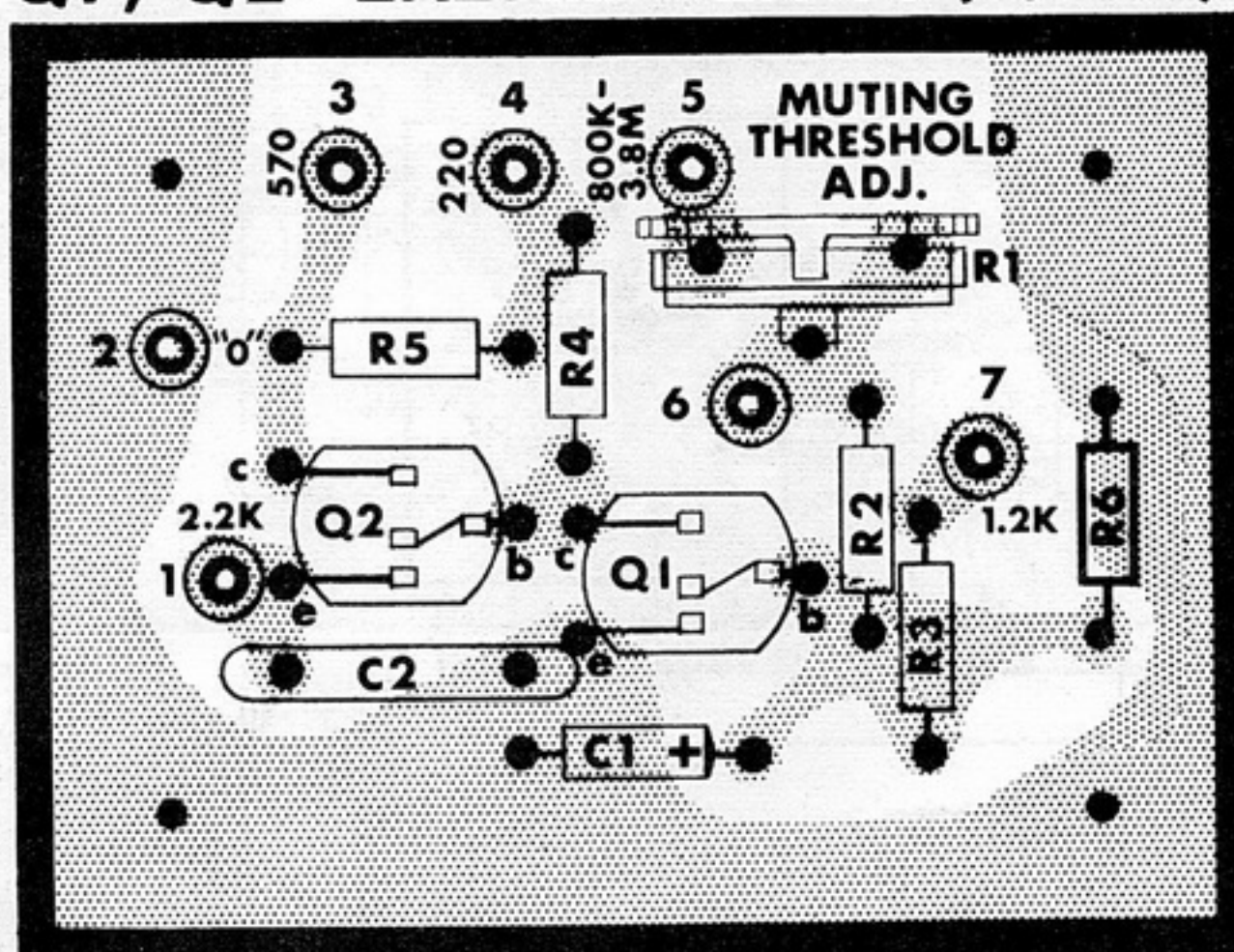
Multiplex

- Q501, Q504, Q505, Q507 - 51990, 2N3964, 2N3702
Q502 - Q-2N3705
Q503 - SE1001
Q506 - Q-2N2926 or Q-2N3708(QA-13), or 2N3705



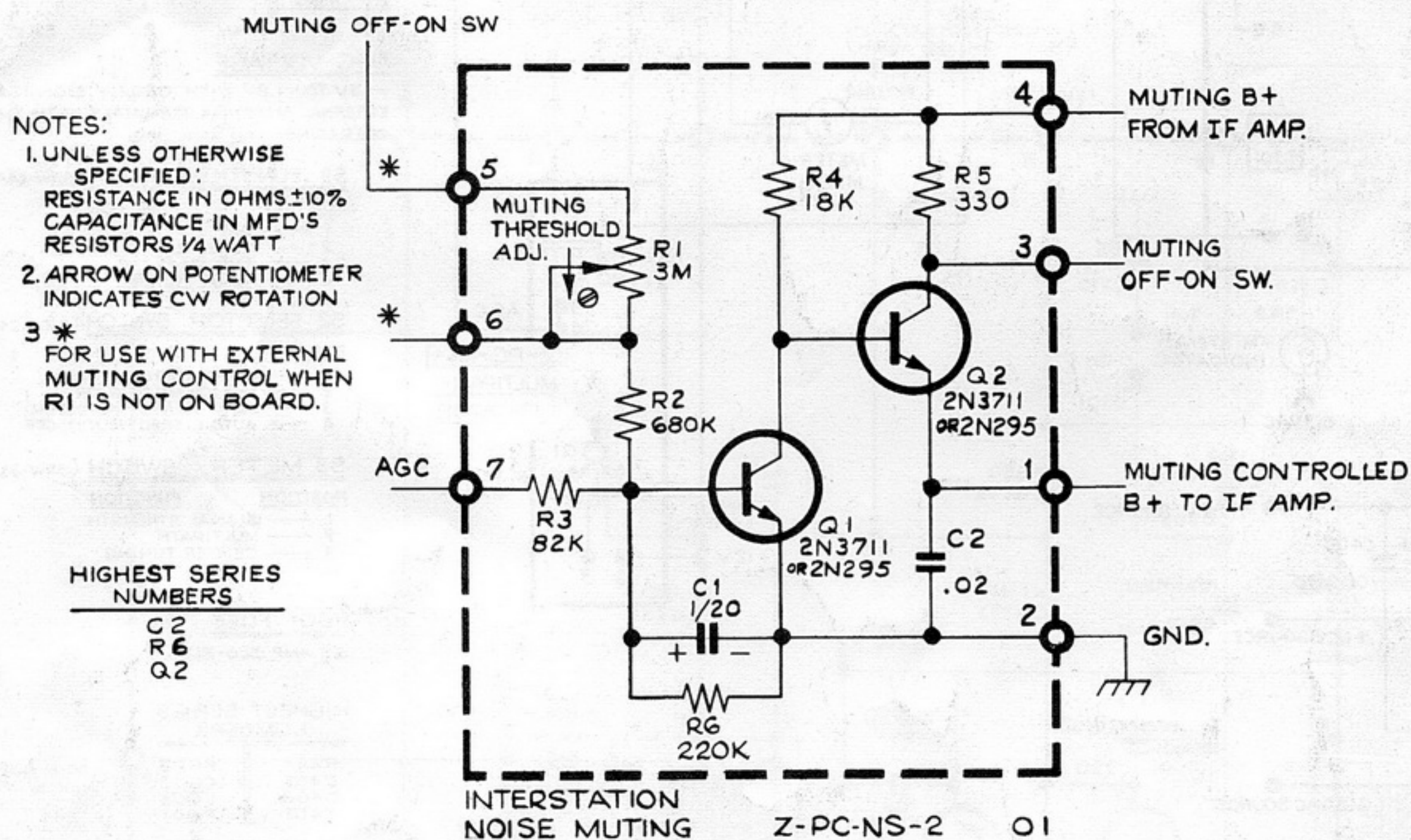
MULTIPLEX Z-PC-MX-11

Q1, Q2 - 2N2925 or 2N3711(QA-15)



INTERSTATION Z-PC-NS-2
NOISE MUTING

00



Z-PC-NS-2 Parts List

PC BOARD

PC-124

C1

CTT-1/25

C2

CC-.02

Q1, Q2

QA-15, 2N3711, 2N2925

R1

R2

R3

R4

R5

R6

RCV-3M-PCM

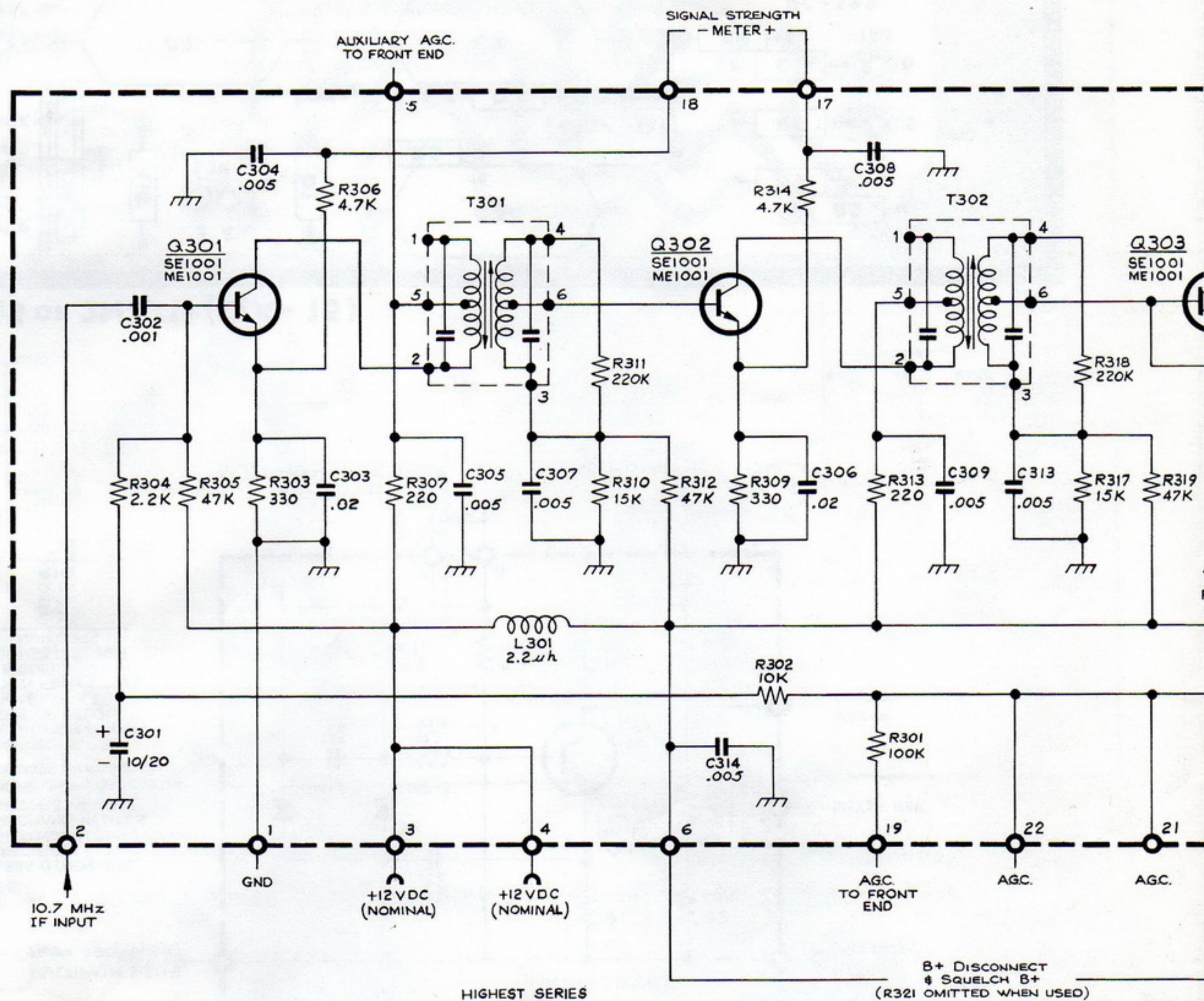
RC11-680k

RC11-82k

RC11-18k

RC11-330

RC11-220k



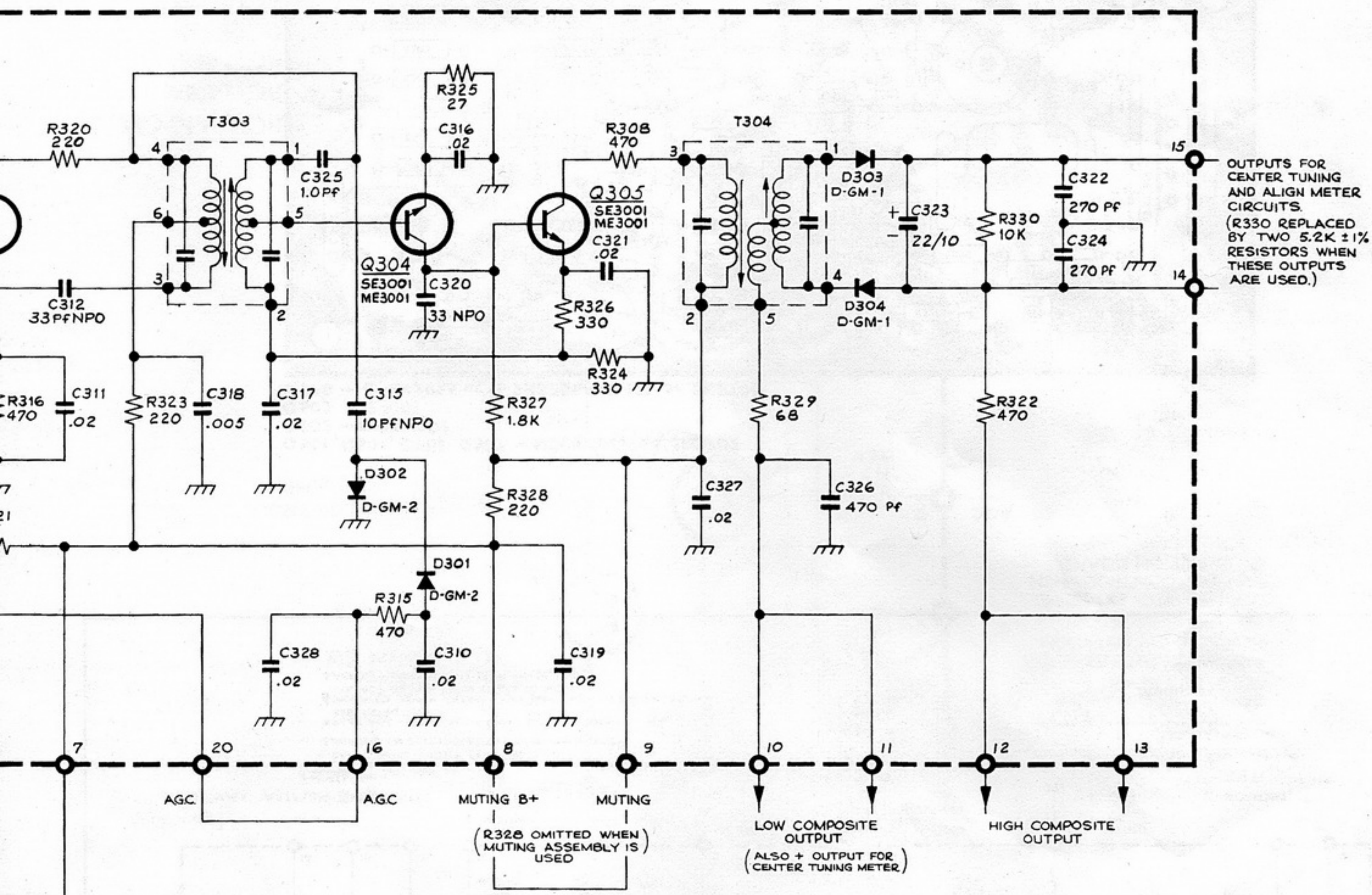
8.2 PC Board Component Layout with Resistance Measurements

Resistance Measurements

Note

- 1) All measurements made with PC boards wired into completed tuner, with line cord disconnected (power mains disconnected).
- 2) All resistance measurements made with a Triplet Model 630 VOM.
- 3) Negative side of VOM battery to ground.

- 4) All controls set as below.
METER function switch — "Center Tuning"
FUNCTION rotary switch — "Off"
SELECTOR rotary switch — "Automatic Stereo," "Muting-Off"
Stereo Separation controls — set for maximum separation
LEVEL controls — both maximum clockwise

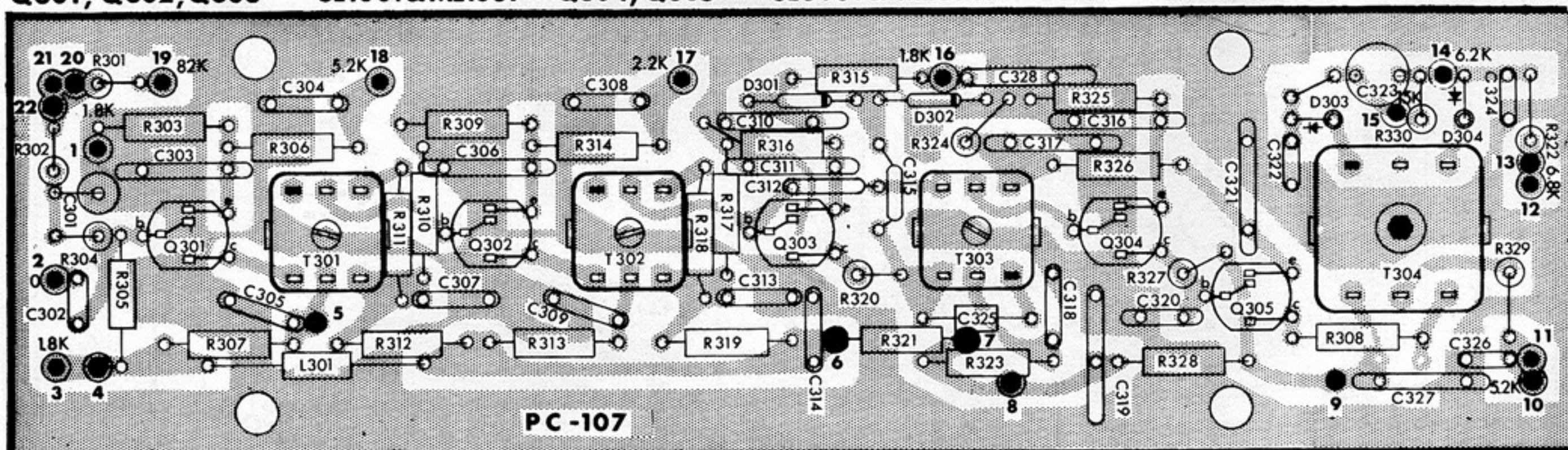


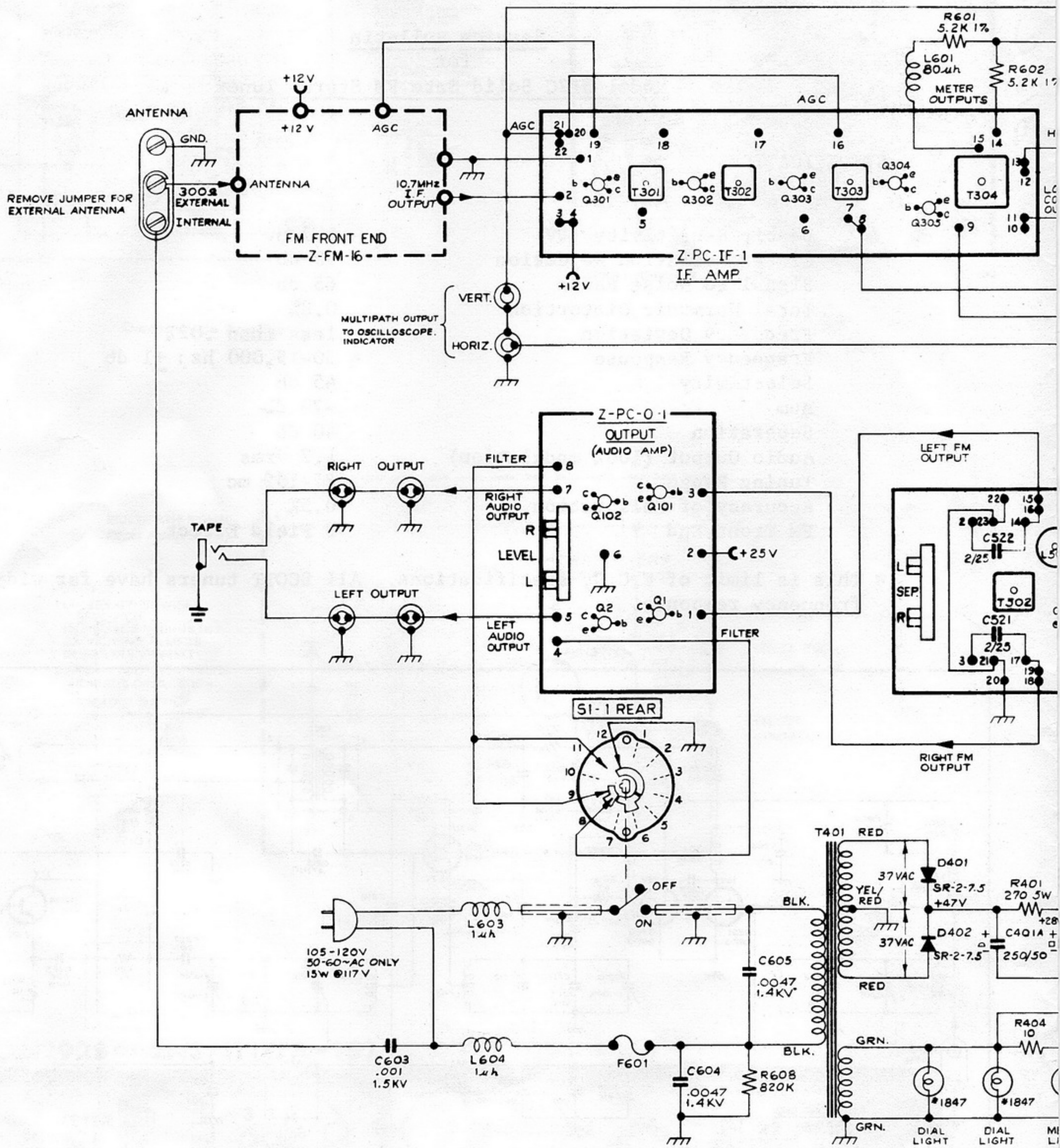
Z-PC-IF-1

02

FM IF Amplifier

Q301, Q302, Q303 - SE1001 & ME1001 Q304, Q305 - SE3001 & ME3001





312C BROADCAST MONITOR FM TUNER

REVISIONS			
SYM	DESCRIPTION	DATE	APP.

VOLTAGES

UNLESS OTHERWISE SPECIFIED:

ALL VOLTAGES POSITIVE DC $\pm 15\%$ MEASURED WITH 20K Ω /V VOM AND 117 VAC LINE. 300 OHM LOAD ON EXTERNAL ANTENNA TERMINALS, TUNER OFF STATION AND FUNCTION SWITCH IN "NORMAL" POSITION, SELECTOR SWITCH IN "MONO-MUTING OFF", METER SWITCH IN "SIGNAL STRENGTH" POSITION.
 * VOLTAGES MEASURED UNDER SAME CONDITIONS AS ABOVE, ONLY SELECTOR SWITCH IN "MONO-MUTING ON" POSITION.
 ** VOLTAGES MEASURED UNDER SAME CONDITIONS AS ABOVE ONLY SELECTOR SWITCH IN "AUTO STEREO-MUTING OFF" WITH STEREO SIGNAL FED INTO TUNER.

Z-PC-IF-1

	e	b	c
Q301	1.75V	2V	11V
Q302	1.75V	2V	11V
Q303	1.5V	2V	10V
Q304	.1V	.9V	2.5V
* Q304	0V	0V	0V
Q305	1.8V	2.5V	7.4V
* Q305	0V	0V	0V

Z-PC-O-1

	e	b	c
Q1	4.4V	4.2V	1.2V
Q2	1V	1.2V	9.2V
Q101	4.4V	4.2V	1.2V
Q102	1V	1.2V	9.2V

Z-PC-MX-11

	e	b	c
Q501	11V	10V	1.5107V
Q502	0V	.7V	1.1V
Q503	.7V	1.3V	23V
Q504	23V	22V	21V
Q505	13.5V	22V	.65V
Q506	0V	.1V	.7V
Q507	7.6V	8.3V	0V
Q501	11V	11V	0V
Q502	0V	0V	2.7V
Q503	.8V	1.4V	23.5V
Q504	23V	23V	10V
Q505	12V	12V	12V
Q506	0V	.5V	0V
Q507	9V	9V	0V

Z-PC-NS-2

	e	b	c
Q1	0V	.47V	9.4V
* Q1	0V	.66V	.19V
Q2	8.7V	9.4V	9.4V
* Q2	0V	.19V	11.8V

Z-PC-MI-1

	e	b	c
Q1	1.4V	2V	5.4V

AGC VOLTAGE

-1.5V TO -1.8V WITH 1000 μ V SIGNAL FED TO EXTERNAL ANTENNA TERMINALS WITH THE UNIT OPERATING.

S1 FUNCTION SWITCH (SRW-44-11)

POSITION	FUNCTION
1	OFF
2	NORMAL
3	SUB CH FILTER
4	NOISE FILTER

S2 SELECTOR SWITCH (SRW-24-8)

POSITION	FUNCTION
1	MONO - MUTING OFF
2	MONO - MUTING ON
3	AUTO STEREO - MUTING ON
4	AUTO STEREO - MUTING OFF

S3 METER SWITCH (SRW-33-7)

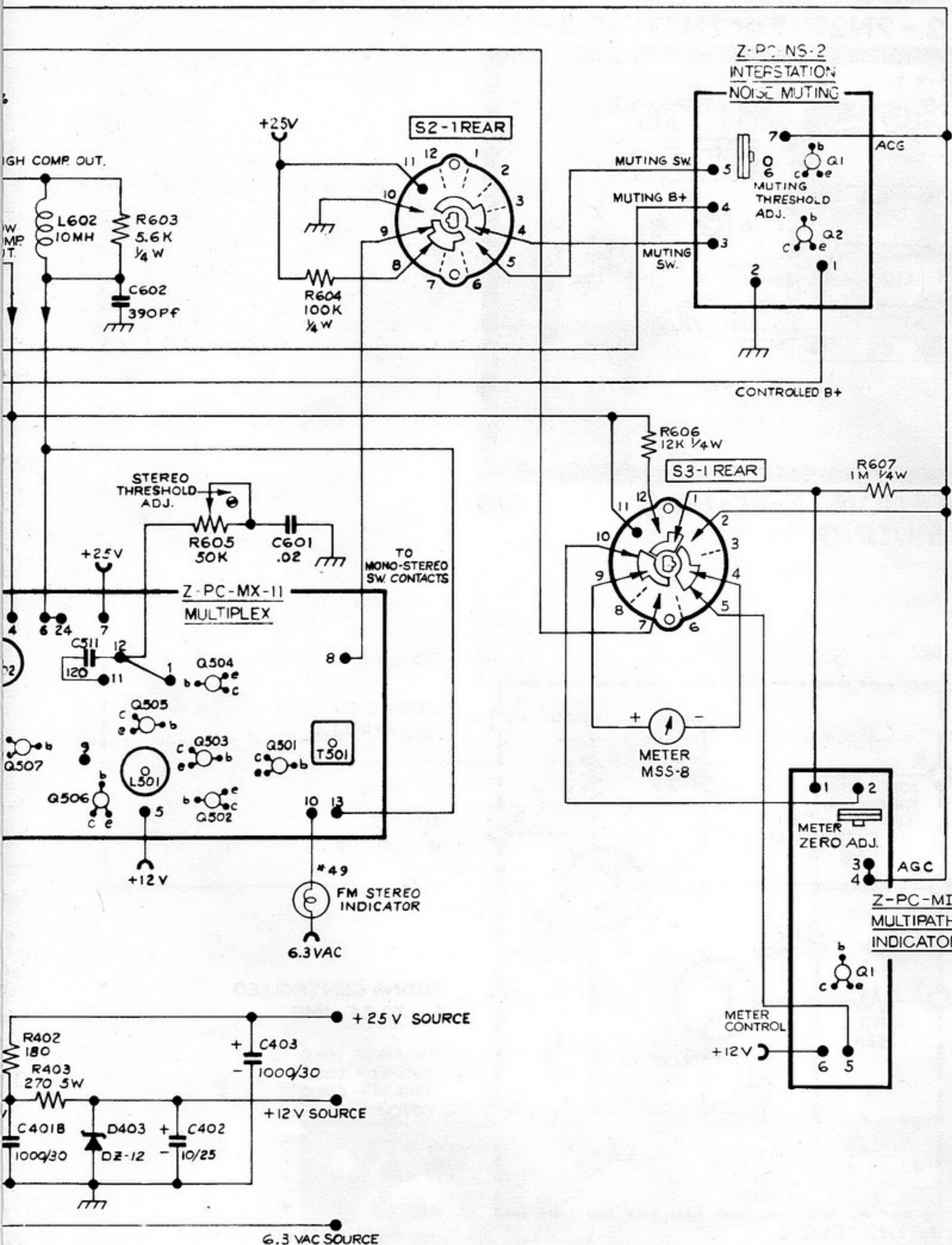
POSITION	FUNCTION
1	SIGNAL STRENGTH
2	MULTIPATH
3	CENTER TUNING

F601 FUSE

0.5 AMP SLO-BLO

HIGHEST SERIES NUMBERS

R404	R608
C404	C605
D403	L603
T401	F601



NOTES

- UNLESS OTHERWISE SPECIFIED: RESISTANCE IN OHMS $\pm 10\%$ CAPACITANCE IN MFC'S, RESISTORS $\frac{1}{2}$ WATT.
- CAPACITORS C521, C522, C511 ADDED TO Z-PC-MX-11 ASSEMBLY
- ROTARY SWITCHES SHOWN IN FULL CCW POSITION AS VIEWED FROM THE FRONT.
- ON Z-PC-IF-1 ASSEMBLY RESISTORS R328 AND R330 ARE REMOVED.
- ARROW-HEADS INDICATE MAIN SIGNAL PATH.
- ARROW ON POTENTIOMETER INDICATES CW ROTATION.

DATE 10-14-66	H.H. SCOTT, INC. NAYHARD, MASS.
DRAW. @	CIRCUIT DIAGRAM
CH.	
ENG. D.B. LANGHUR	SCALE: —
PROD.	SHEET 1 OF 1
	DWG. SIZE D
	312C-C1