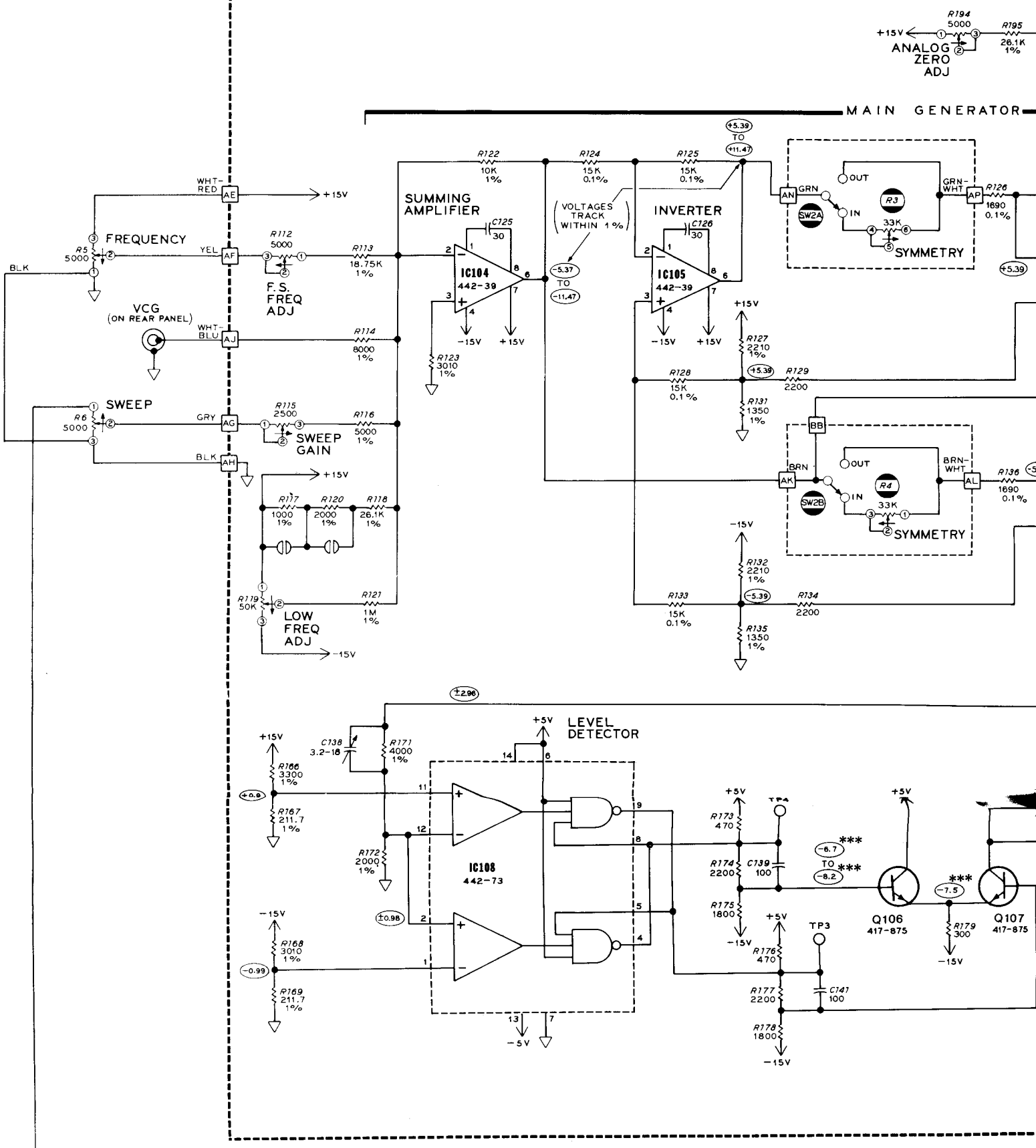
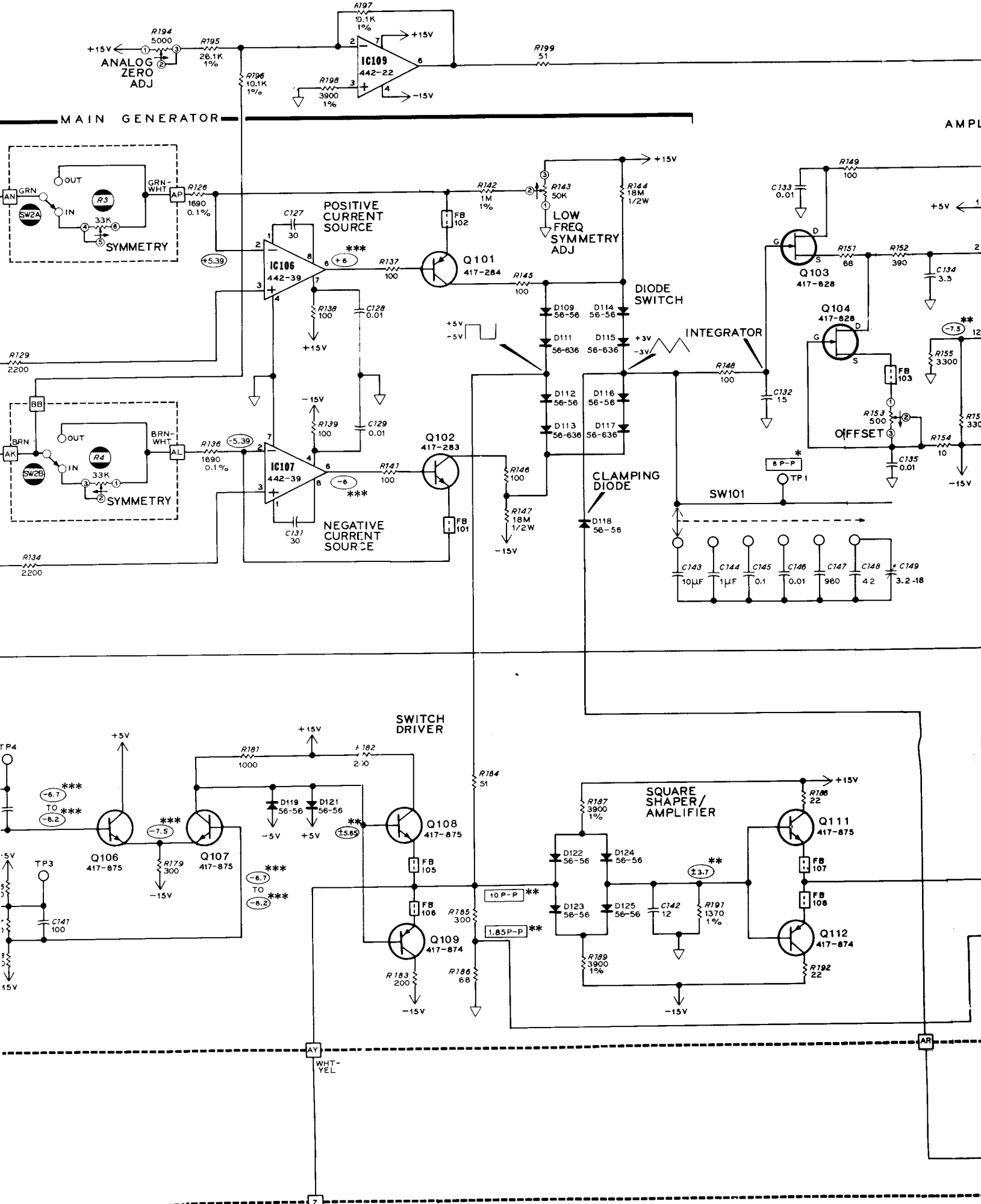
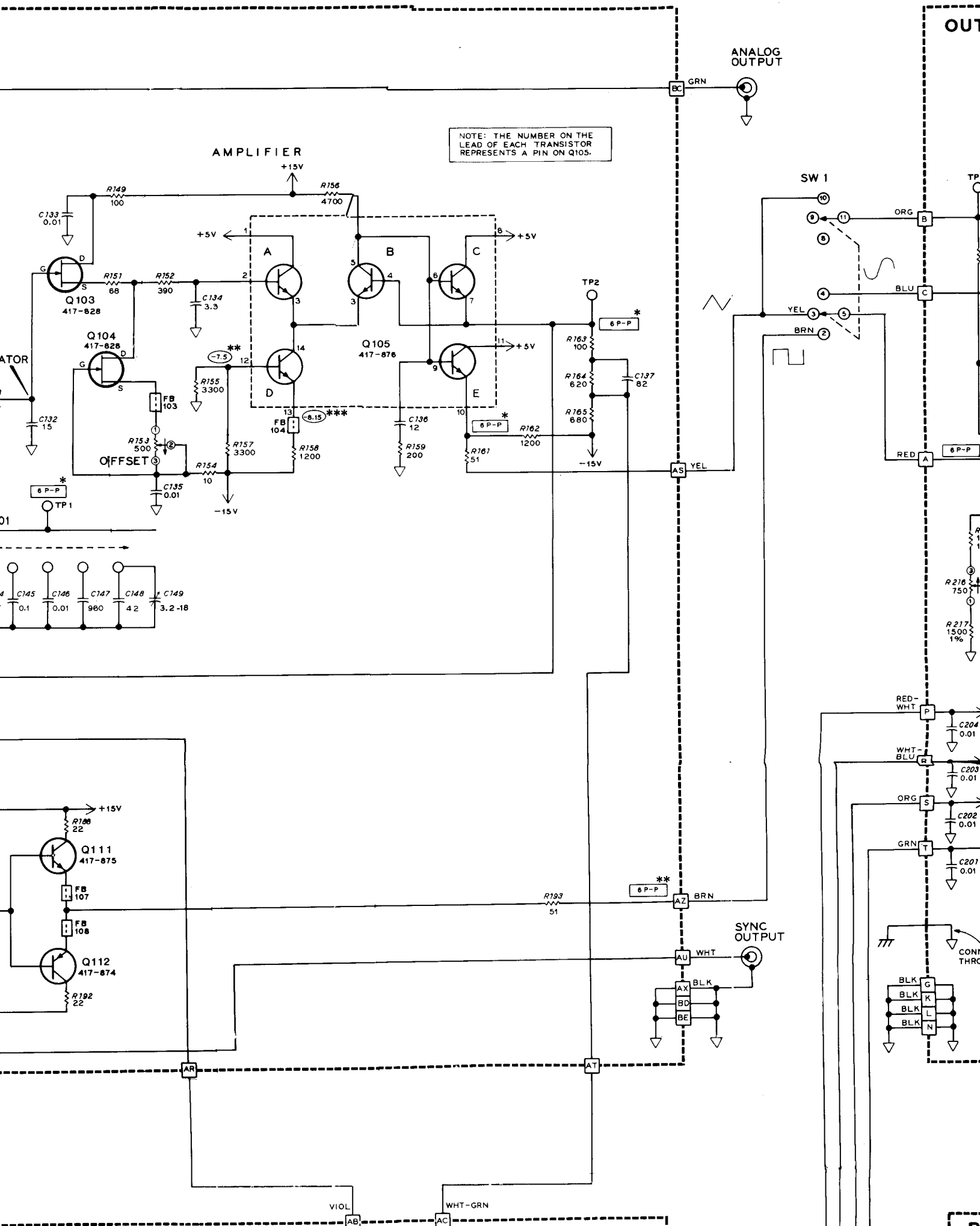
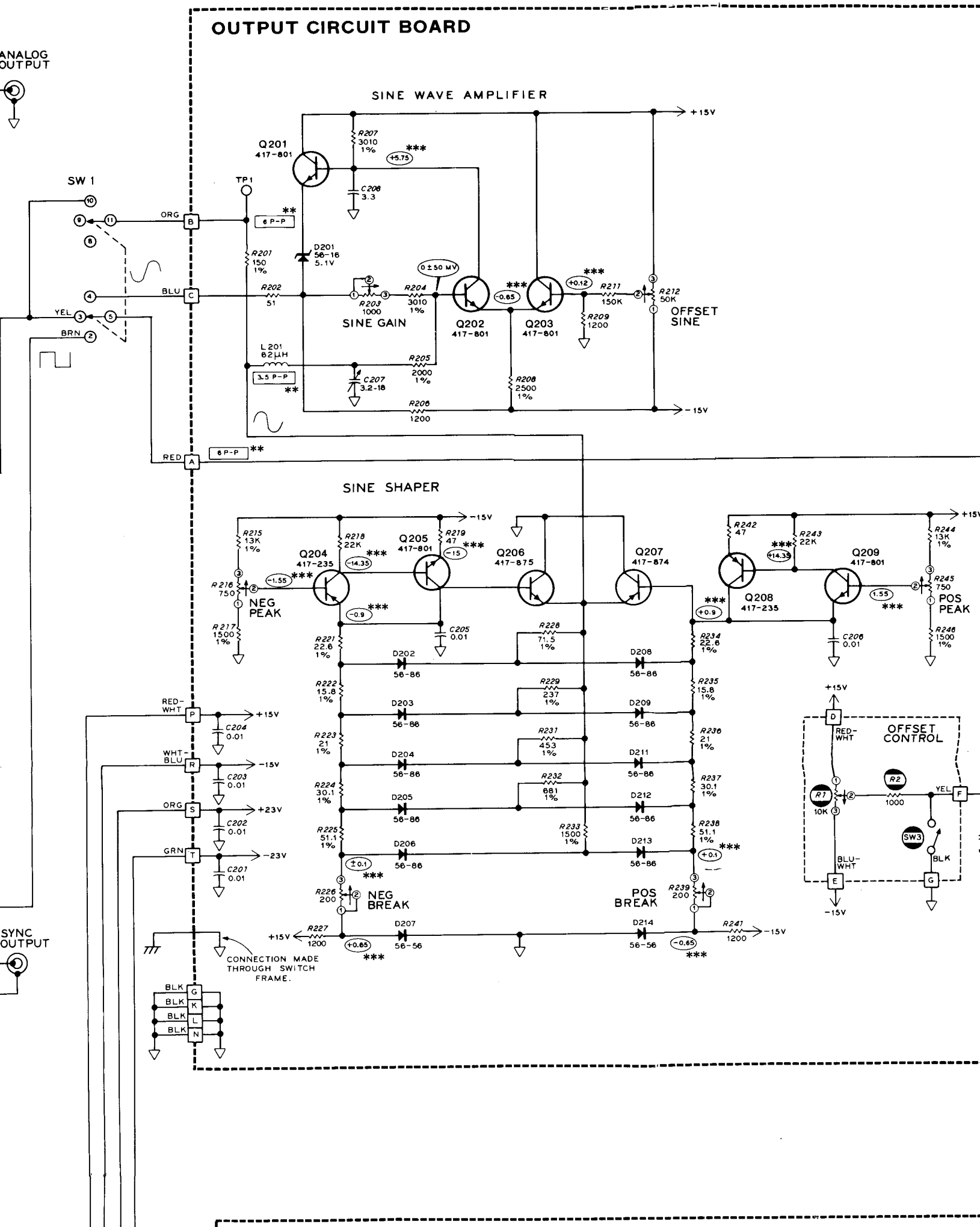
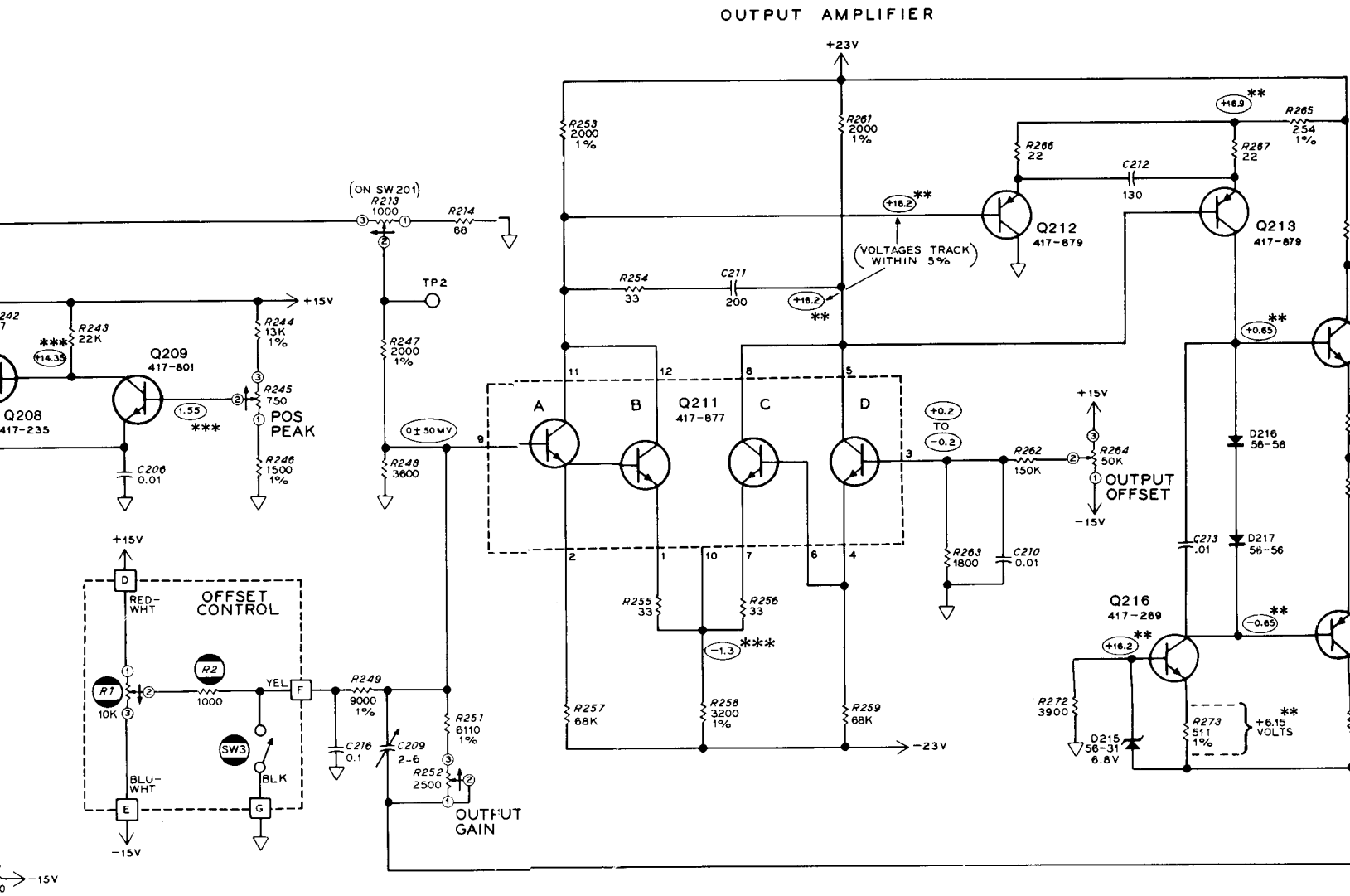
GENERATOR CIRCUIT BOARD

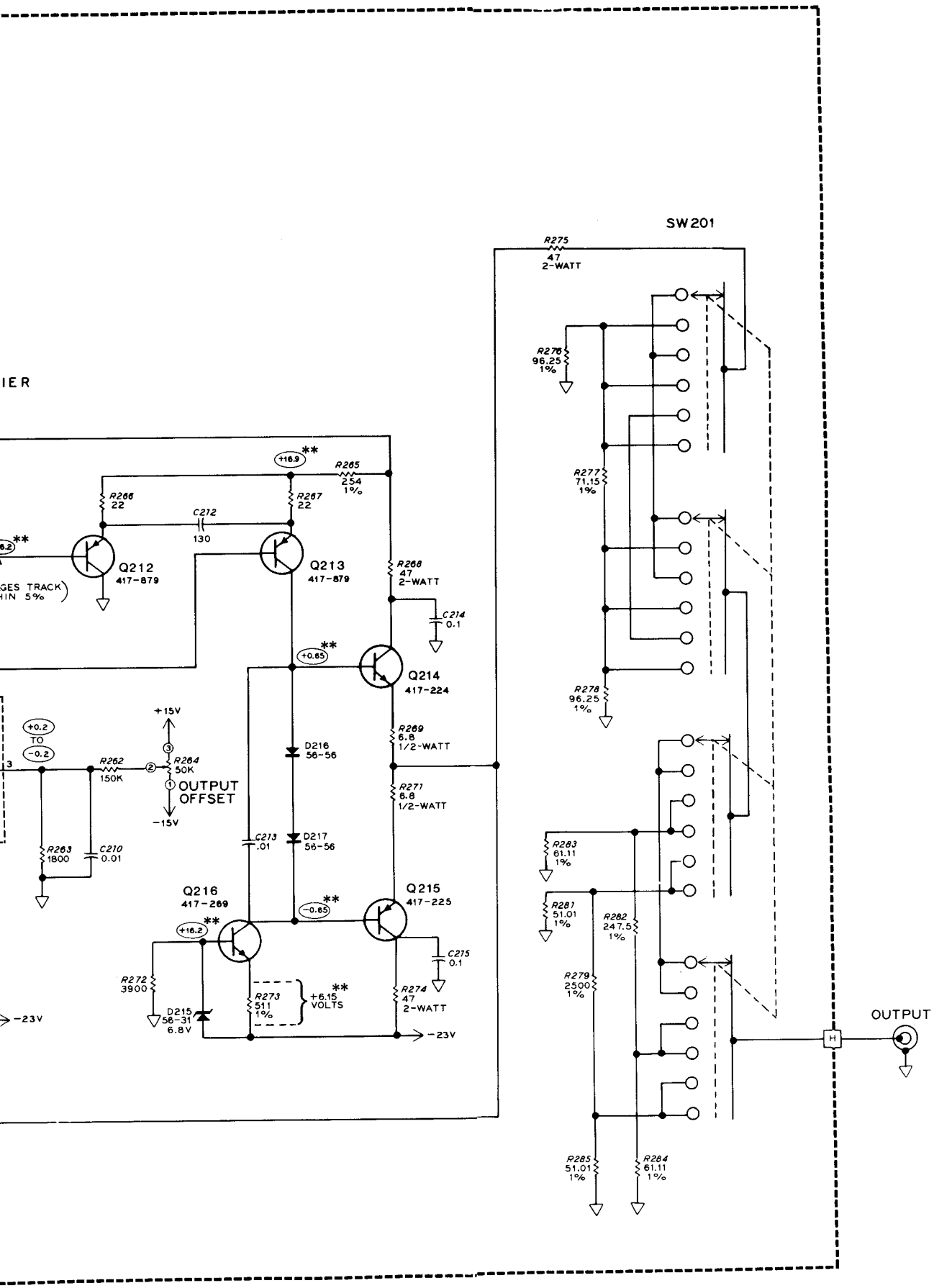



MAIN GENERATOR
AMPL
ANALOG ZERO ADJ
R194 5000
R195 26.1K 1%
R196 10.1K 1%
R197 10.1K 1%
R198 3900 1%
R199 51
IC109 442-22
+15V
-15V
SYMMETRY
SW2A
SW2B
R3
R4
33K
GRN
GRN-WHT
BRN
BRN-WHT
AN
AP
AK
AL
BB
R126 1690 0.1%
R136 1690 0.1%
R129 2200
R134 2200
POSITIVE CURRENT SOURCE
NEGATIVE CURRENT SOURCE
IC106 442-39
IC107 442-39
C127 30
C128 0.01
C129 0.01
C131 30
R137 100
R138 100
R139 100
R141 100
R142 1M 1%
R143 50K
R144 18M 1/2W
R145 100
R146 100
R147 18M 1/2W
FB 102
FB 101
Q101 417-284
Q102 417-283
LOW FREQ SYMMETRY ADJ
DIODE SWITCH
CLAMPING DIODE
INTEGRATOR
D109 56-56
D114 56-56
D111 56-636
D115 56-636
D112 56-56
D116 56-56
D113 56-636
D117 56-636
D118 56-56
+5V
-5V
+3V
-3V
R148 100
C132 15
R149 100
C133 0.01
C134 3.3
R151 68
R152 390
R153 500
R154 10
R155 3300
C135 0.01
Q103 417-828
Q104 417-828
FB 103
OFFSET
TP1
SW101
C143 10µF
C144 1µF
C145 0.1
C146 0.01
C147 960
C148 42
C149 3.2-18
SWITCH DRIVER
R181 1000
R182 200
R184 51
D119 56-56
D121 56-56
Q106 417-875
Q107 417-875
Q108 417-875
Q109 417-874
R179 300
R183 200
R185 300
R186 68
C141 100
FB 105
FB 106
TP3
TP4
SQUARE SHAPER/ AMPLIFIER
R187 3900 1%
R188 22
R189 3900 1%
R191 1370 1%
R192 22
C142 12
D122 56-56
D124 56-56
D123 56-56
D125 56-56
Q111 417-875
Q112 417-874
FB 107
FB 108
10 P-P
1.85P-P
AY
WHT-YEL
AR

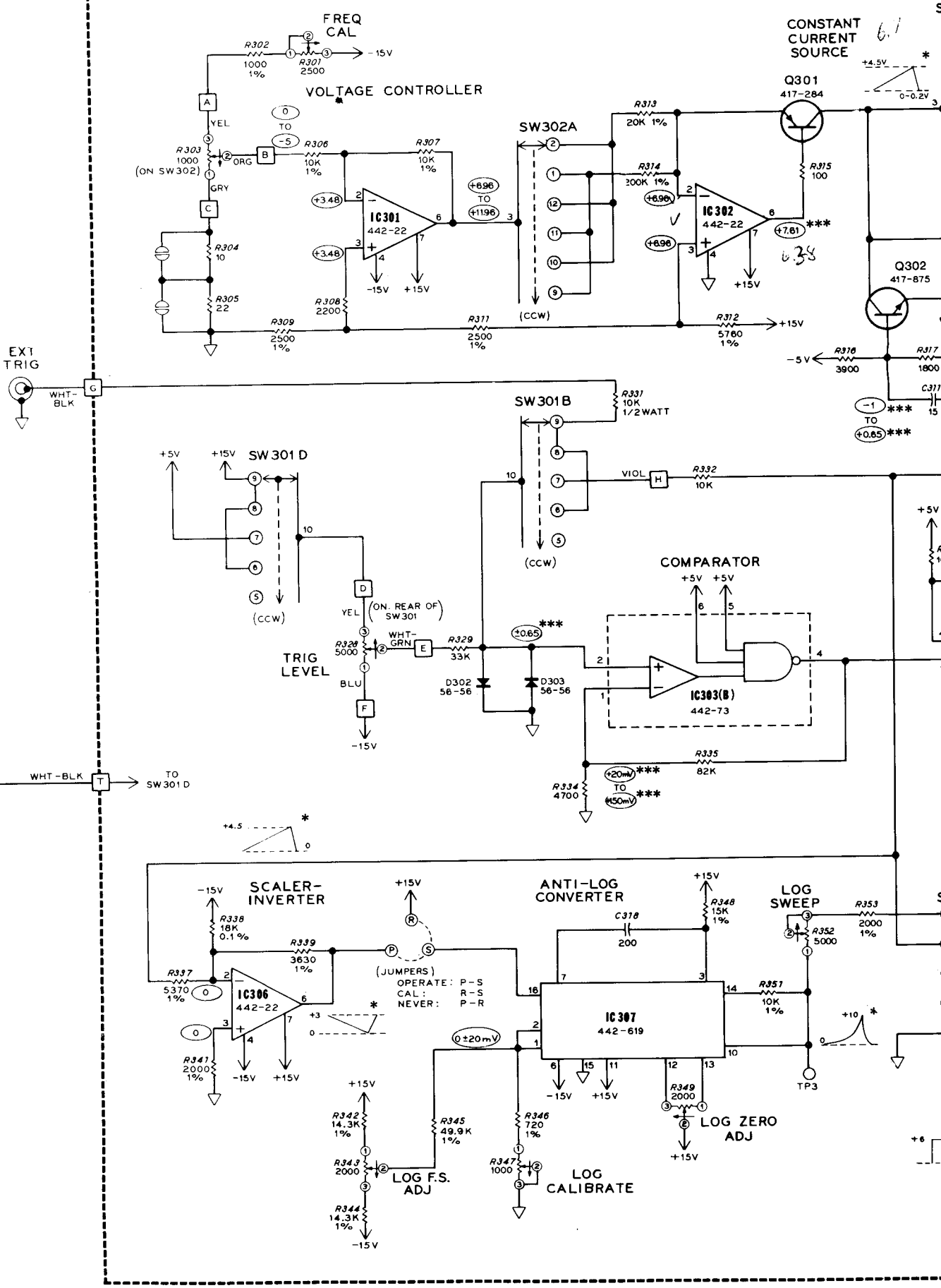

ANALOG OUTPUT
BC GRN
NOTE: THE NUMBER ON THE LEAD OF EACH TRANSISTOR REPRESENTS A PIN ON Q105.
AMPLIFIER
+15V
R149 100
R156 4700
C133 0.01
+5V
A
B
C
+5V
Q103 417-828
R151 68
R152 390
C134 3.3
TP2
6 P-P
Q104 417-828
Q105 417-876
R163 100
R164 620
C137 82
R165 680
R155 3300
R157 3300
R158 1200
R153 500
OFFSET
R154 10
C135 0.01
FB 103
FB 104
C132 15
C136 12
R159 200
R161 51
R162 1200
-15V
TP1
AS YEL
SW 1
ORG
BLU
YEL
BRN
RED
C145 0.1
C146 0.01
C147 960
C148 42
C149 3.2-18
R216 750
R217 1500 1%
RED-WHT
WHT-BLU
C204 0.01
C203 0.01
C202 0.01
C201 0.01
GRN
ORG
Q111 417-875
R188 22
FB 107
FB 108
Q112 417-874
R192 22
R193 51
AZ BRN
SYNC OUTPUT
AU WHT
AX BLK
BD
BE
AR
AT
VIOL
WHT-GRN
AB
AC

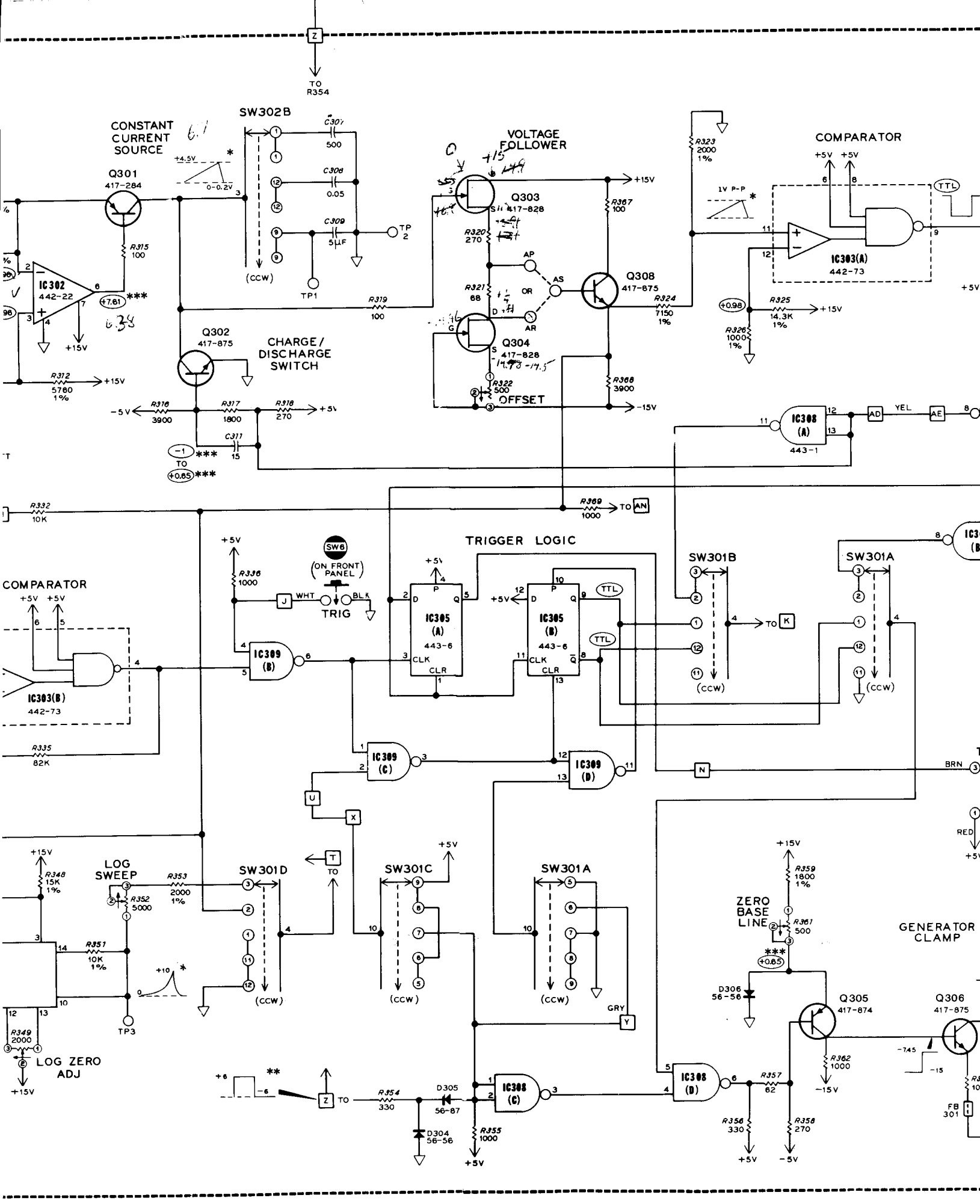

OUTPUT CIRCUIT BOARD
ANALOG OUTPUT
SYNC OUTPUT
SINE WAVE AMPLIFIER
SINE SHAPER
SW 1
TP1
ORG
BLU
YEL
BRN
RED
L201 62µH
Q201 417-801
Q202 417-801
Q203 417-801
SINE GAIN
OFFSET SINE
D201 56-16 5.1V
C207 3.2-18
C208 3.3
Q204 417-235
Q205 417-801
Q206 417-875
Q207 417-874
Q208 417-235
Q209 417-801
NEG PEAK
POS PEAK
NEG BREAK
POS BREAK
OFFSET CONTROL
RED-WHT
WHT-BLU
GRN
SW3
BLU-WHT
BLK
CONNECTION MADE THROUGH SWITCH FRAME.
+15V
-15V
+23V
-23V

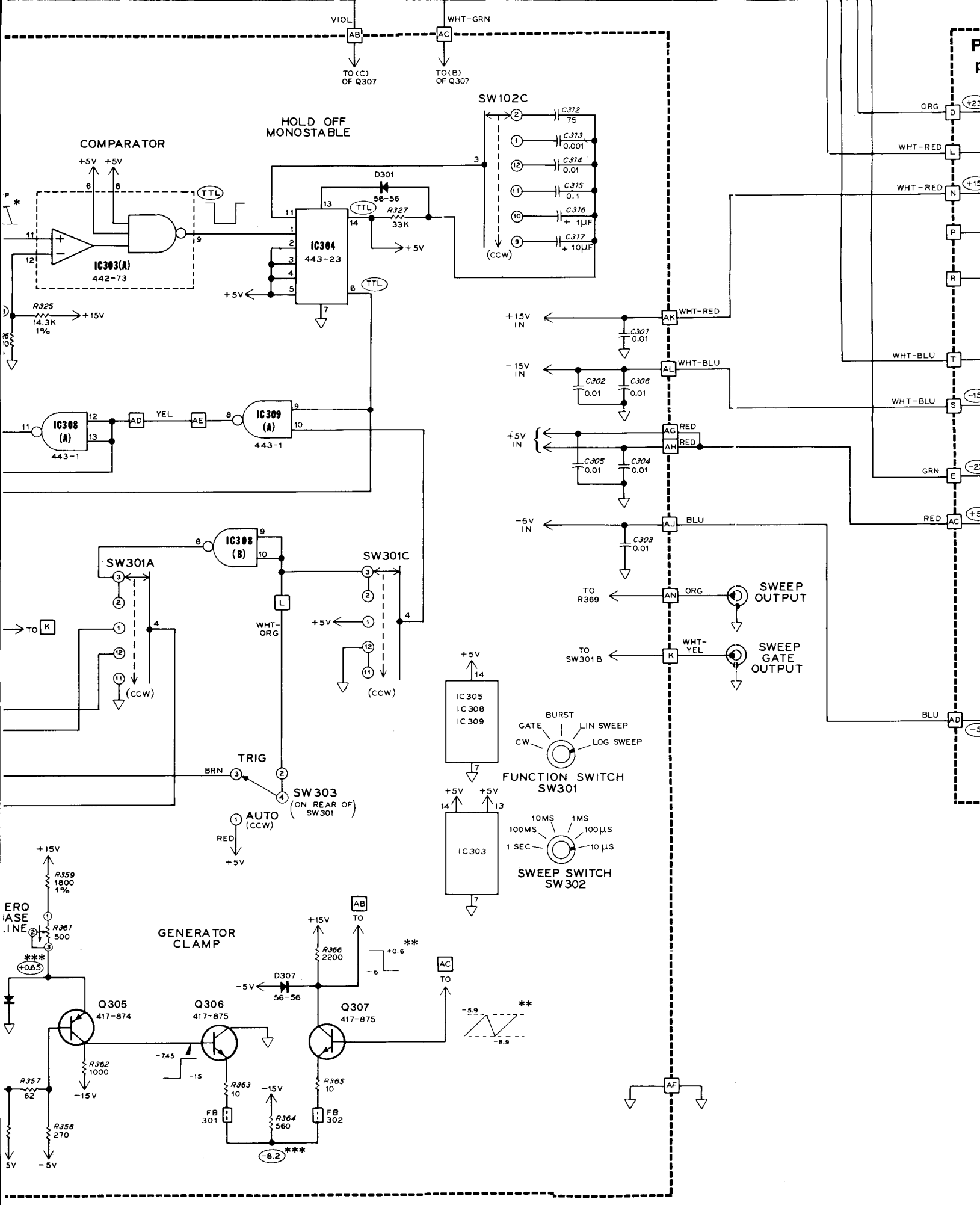

OUTPUT AMPLIFIER
+23V
R253 2000 1%
R261 2000 1%
+16.9 **
R265 254 1%
R266 22
R267 22
C212 130
+16.2 **
Q212 417-879
Q213 417-879
(VOLTAGES TRACK WITHIN 5%)
R254 33
C211 200
+16.2 **
(ON SW201)
R213 1000
R214 68
TP2
+15V
R243 22K
***
+14.39
Q209 417-801
R244 13K 1%
R245 750
1.55 ***
POS PEAK
R246 1500 1%
C206 0.01
Q208 417-235
R247 2000 1%
0±50MV
R248 3600
A
B
Q211 417-877
C
D
+0.2 TO -0.2
R262 150K
+15V
R264 50K
OUTPUT OFFSET
-15V
R263 1800
C210 0.01
R255 33
R256 33
-1.3 ***
R257 68K
R258 3200 1%
R259 68K
-23V
+0.65 **
D216 56-56
C213 .01
D217 56-56
Q216 417-269
-0.65 **
+16.2 **
R272 3900
D215 56-31 6.8V
R273 511 1%
+6.15 VOLTS
+15V
D
RED-WHT
OFFSET CONTROL
R1 10K
R2 1000
YEL
F
R249 9000 1%
C216 0.1
C209 2-6
R252 2500
R257 6110 1%
OUTPUT GAIN
SW3
BLK
BLU-WHT
E
G
-15V
-15V

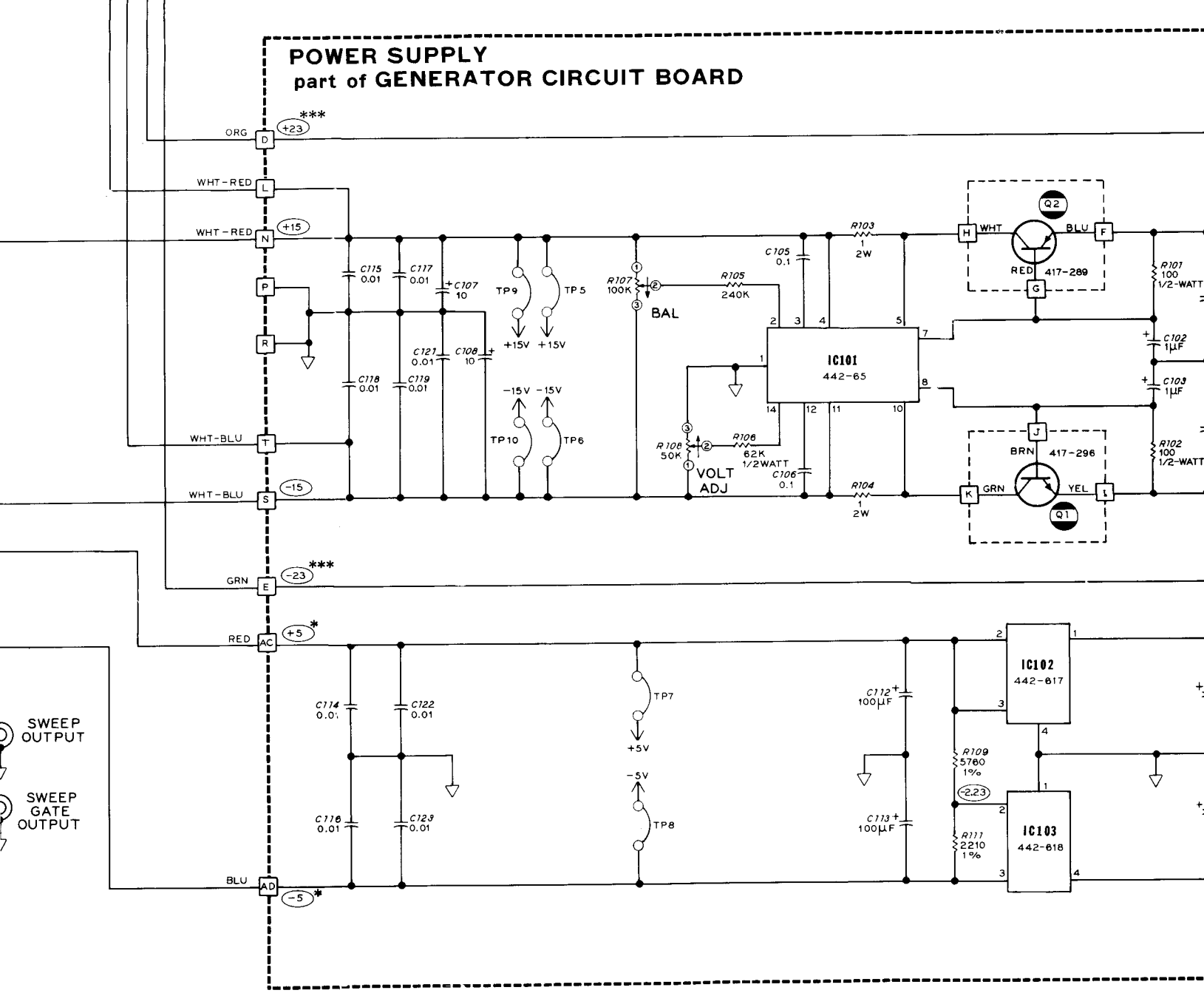

IER
SW201
R275
47
2-WATT
R276
96.25
1%
R277
71.15
1%
R278
96.25
1%
R283
61.11
1%
R281
51.01
1%
R282
247.5
1%
R279
2500
1%
R285
51.01
1%
R284
61.11
1%
OUTPUT
H
+16.9
**
R265
254
1%
R266
22
R267
22
C212
130
Q212
417-879
Q213
417-879
R268
47
2-WATT
C214
0.1
+0.65
Q214
417-224
R269
6.8
1/2-WATT
D216
56-56
R271
6.8
1/2-WATT
D217
56-56
C213
.01
+15V
+0.2
TO
-0.2
R262
150K
R264
50K
OUTPUT
OFFSET
-15V
R263
1800
C210
0.01
Q216
417-269
+16.2
Q215
417-225
-0.65
C215
0.1
R272
3900
D215
56-31
6.8V
R273
511
1%
+6.15
VOLTS
R274
47
2-WATT
-23V
-23V

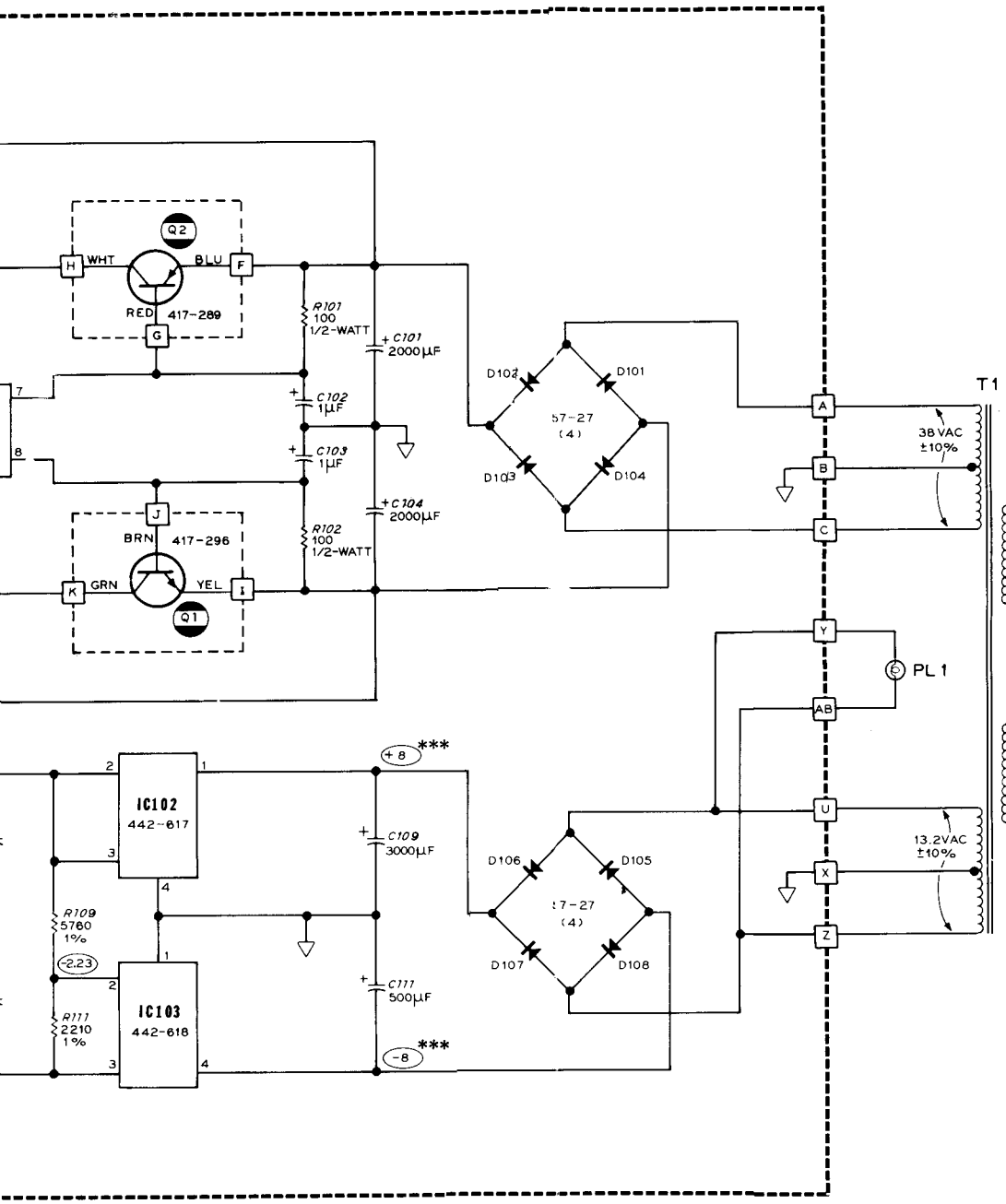
SWEEP CIRCUIT BOARD




Z
TO R354
CONSTANT CURRENT SOURCE
SW302B
C307 500
C308 0.05
C309 5µF
TP2
TP1
(CCW)
Q301 417-284
R315 100
IC302 442-22
+7.61
+15V
R312 5780 1%
Q302 417-875
CHARGE/ DISCHARGE SWITCH
R316 3900
R317 1800
R318 270
-5V
+5V
C311 15
-1 TO +0.65
VOLTAGE FOLLOWER
Q303 417-828
R320 270
R319 100
AP
AS
OR
D
AR
Q304 417-828
R321 68
R322 500 OFFSET
Q308 417-875
R324 7150 1%
R367 100
R368 3900
-15V
R323 2000 1%
COMPARATOR
1V P-P
IC303(A) 442-73
R325 14.3K 1%
+0.98
R326 1000 1%
IC308 (A) 443-1
AD
YEL
AE
R332 10K
R369 1000
TO AN
TRIGGER LOGIC
SW6 (ON FRONT PANEL)
J
WHT
BLK
TRIG
R336 1000
IC309 (B)
IC305 (A) 443-6
IC305 (B) 443-6
CLK
CLR
TTL
SW301B
SW301A
TO K
COMPARATOR
IC303(B) 442-73
R335 82K
IC309 (C)
IC309 (D)
N
BRN
U
X
T
TO
SW301D
SW301C
SW301A
LOG SWEEP
R348 15K 1%
R352 5000
R353 2000 1%
R351 10K 1%
R349 2000
LOG ZERO ADJ
TP3
+10
GRY
Y
ZERO BASE LINE
R359 1800 1%
R361 500
GENERATOR CLAMP
D306 56-56
Q305 417-874
Q306 417-875
R362 1000
R357 62
R356 330
R358 270
RED
FB 301
R354 330
D305 56-87
D304 56-56
R355 1000
IC308 (C)
IC308 (D)


VIOL
AB
TO (C) OF Q307
WHT-GRN
AC
TO (B) OF Q307
SW102C
HOLD OFF MONOSTABLE
COMPARATOR
+5V
+5V
TTL
D301
56-56
C312 75
C313 0.001
C314 0.01
C315 0.1
C316 + 1µF
C317 + 10µF
(CCW)
R327 33K
IC304 443-23
IC303(A) 442-73
R325 14.3K 1%
+15V
IC308 (A) 443-1
IC309 (A) 443-1
YEL
AD
AE
IC308 (B)
SW301A
SW301C
TO K
WHT-ORG
L
TRIG
BRN
SW303 (ON REAR OF SW301)
AUTO (CCW)
RED
+5V
IC305 IC308 IC309
IC303
FUNCTION SWITCH SW301
BURST
GATE
LIN SWEEP
CW
LOG SWEEP
SWEEP SWITCH SW302
10MS
1MS
100MS
100µS
1 SEC
10µS
+15V IN
C307 0.01
WHT-RED
AK
-15V IN
C302 0.01
C306 0.01
WHT-BLU
AL
+5V IN
C305 0.01
C304 0.01
RED
AG
AH
-5V IN
C303 0.01
BLU
AJ
TO R369
ORG
AN
SWEEP OUTPUT
TO SW301B
WHT-YEL
K
SWEEP GATE OUTPUT
ORG
WHT-RED
WHT-BLU
GRN
RED
BLU
D
L
N
P
R
T
S
E
AC
AD
AF
GENERATOR CLAMP
R359 1800 1%
R361 500
R362 1000
R357 62
R358 270
R363 10
R364 560
R365 10
R366 2200
D307 56-56
Q305 417-874
Q306 417-875
Q307 417-875
FB 301
FB 302
-15V
-5V
+0.65
-7.45
-15
-8.2
+0.6
-6
-5.9
-8.9


POWER SUPPLY
part of GENERATOR CIRCUIT BOARD
ORG
D
+23
***
WHT-RED
L
WHT-RED
N
+15
P
R
WHT-BLU
T
WHT-BLU
S
-15
GRN
E
-23
***
RED
AC
+5
*
BLU
AD
-5
*
C115 0.01
C117 0.01
C107 10
C118 0.01
C119 0.01
C121 0.01
C108 10
TP9
TP5
+15V
+15V
TP10
TP6
-15V
-15V
R107 100K
BAL
R105 240K
C105 0.1
R103 1 2W
R108 50K
VOLT ADJ
R106 62K 1/2WATT
C106 0.1
R104 1 2W
IC101 442-65
Q2
H
WHT
BLU
F
RED
417-289
G
Q1
J
BRN
417-296
K
GRN
YEL
L
R101 100 1/2-WATT
R102 100 1/2-WATT
C102 1µF
C103 1µF
C114 0.01
C122 0.01
C116 0.01
C123 0.01
TP7
+5V
-5V
TP8
C112 100µF
C113 100µF
IC102 442-617
IC103 442-618
R109 5760 1%
R111 2210 1%
-2.23
SWEEP OUTPUT
SWEEP GATE OUTPUT



SCHEMATIC OF
HEATHKIT®
LIN/LOG SWEEP GEN
MODEL IG-1275

NOTES:

1. COMPONENTS ARE NUMBERED IN THE FOLLOWING GROUPS:

   1- 99 MOUNTED ON CHASSIS.
   101-199 MOUNTED ON GENERATOR CIRCUIT BOARD.
   201-299 MOUNTED ON OUTPUT CIRCUIT BOARD.
   301-399 MOUNTED ON SWEEP CIRCUIT BOARD.

2. ▽ THIS SYMBOL INDICATES A CIRCUIT BOARD GROUND.

3. ⏚ THIS SYMBOL INDICATES EARTH AND CHASSIS GROUND.

4. □ THIS SYMBOL INDICATES A CIRCUIT BOARD WIRE CONNECTION.

5. ALL MEASUREMENTS (VOLTAGE OR WAVEFORM) ARE SPECIFIED AT VARIOUS TOLERANCES: NO ASTERISK IS 1%, ONE ASTERISK IS 5%, TWO ASTERISKS ARE 10%, AND THREE ASTERISKS ARE 20%.

6. ⬭ THIS SYMBOL INDICATES A DC VOLTAGE MEASUREMENT TAKEN WITH A HIGH-IMPEDANCE INPUT VOLTMETER FROM THE POINT INDICATED TO CIRCUIT GROUND.

7.

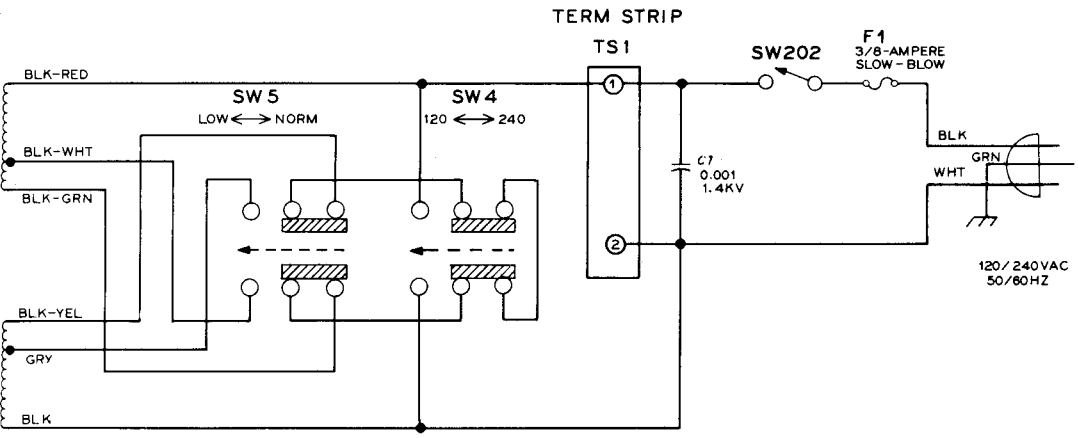
8.

9.

10.

11.

12.



SCHEMATIC OF THE HEATHKIT® LIN/LOG SWEEP GENERATOR MODEL IG-1275

Part of 595-1758-01

ED IN THE FOLLOWING GROUPS:

ASSIS.
IERATOR CIRCUIT BOARD.
TPUT CIRCUIT BOARD.
EEP CIRCUIT BOARD.

ICATES A CIRCUIT BOARD GROUND.

ICATES EARTH AND CHASSIS GROUND.

ICATES A CIRCUIT BOARD WIRE

AGE OR WAVEFORM) ARE SPECIFIED AT
ASTERISK IS 1%, ONE ASTERISK IS
0%, AND THREE ASTERISKS ARE 20%.

ICATES A DC VOLTAGE MEASUREMENT
H-IMPEDANCE INPUT VOLTMETER FROM
TED TO CIRCUIT GROUND.

7.  THIS SYMBOL INDICATES AN AC VOLTAGE MEASUREMENT WITH A HIGH-IMPEDANCE INPUT VOLTMETER OR CALIBRATED OSCILLOSCOPE FROM THE POINT INDICATED TO CIRCUIT GROUND.

8.  THIS SYMBOL INDICATES A CHASSIS-MOUNTED COMPONENT SHOWN WITHIN A CIRCUIT BOARD OUTLINE.

9.  ARROW INDICATES CLOCKWISE CONTROL ROTATION.

10. RESISTOR VALUES ARE IN OHMS (K=1000, M=1,000,000).

11. CAPACITOR VALUES LESS THAN 1 ARE IN µF (MICROFARADS). ALL OTHER CAPACITORS ARE IN pF (PICOFARADS) UNLESS MARKED OTHERWISE.

12. REFER TO THE CIRCUIT BOARD X-RAY VIEWS FOR THE PHYSICAL LOCATION OF PARTS.