McIntosh

C 32

PREAMPLIFIER

SERVICE INFORMATION

STARTING WITH SERIAL NO. AY1001

McINTOSH LABORATORY INC. BINGHAMTON, NEW YORK 13903

039-075

PERFORMANCE LIMITS

FREQUENCY RESPONSE

+0 to -.5dB from 20Hz to 20,000Hz

Equalizer Out: +0 to -1dB from 10Hz to 100,000Hz

DISTORTION

.05% maximum at rated output level, 20Hz to 20,000Hz

INPUT SENSITIVITY AND IMPEDANCE

Phono 1 & 2: 2 millivolts at 47KΩ 65pF

Auxiliary: Tuner, tape 1, tape 2 & tape 3: 250 millivolts at 50KΩ

HUM AND NOISE

Auxiliary, Tuner, tape 1, tape 2 and tape 3- IHF 100dB; unweighted -90dB

Phono 1 & 2: IHF 90dB; unweighted 80dB below 10 millivolt input or equivalent to less than 1 microvolt at the input terminals.

OUTPUT LEVEL AND IMPEDANCE

Main Output: 2.5 volts with rated input to operate into 5,000 ohm or greater load. Output Source Impedance 220 ohms.

Tape Output: 250 millivolts with rated input to operate into 5,000 ohms or greater load.

Monitor, Headphone, Line Output: 12 watts per channel continuous into 8Ω @ less than .1% total harmonic distortion 20Hz to 20,000Hz or 5 volts RMS into 600Ω line-level controls provided.

PROGRAM EQUALIZER

12dB of boost or cut at 30, 150, 500, 1500 and 10,000Hz

VOLTAGE AMPLIFICATION

In Decibels with all equalizers and filters flat.

Input	Main	Tape 1,2,3	Monitor Amp	Headphone Jack
Aux.,Tuner	20dB	0 dB	30dB	30dB
Tape 1, 2 or 3	20dB	0 dB	30dB	30dB
Phono 1	62dB	42dB	72dB	72dB
Phono 2	62dB	42dB	72dB	72dB

SEMICONDUCTOR COMPLEMENT

67 Transistors

35 Integrated Circuits

62 Diodes

2 Field Effect Transistors

1 Silicon Controlled Rectifier (SCR)

POWER REQUIREMENT

120 volts, 50/60Hz, 25 to 85 watts

MECHANICAL INFORMATION

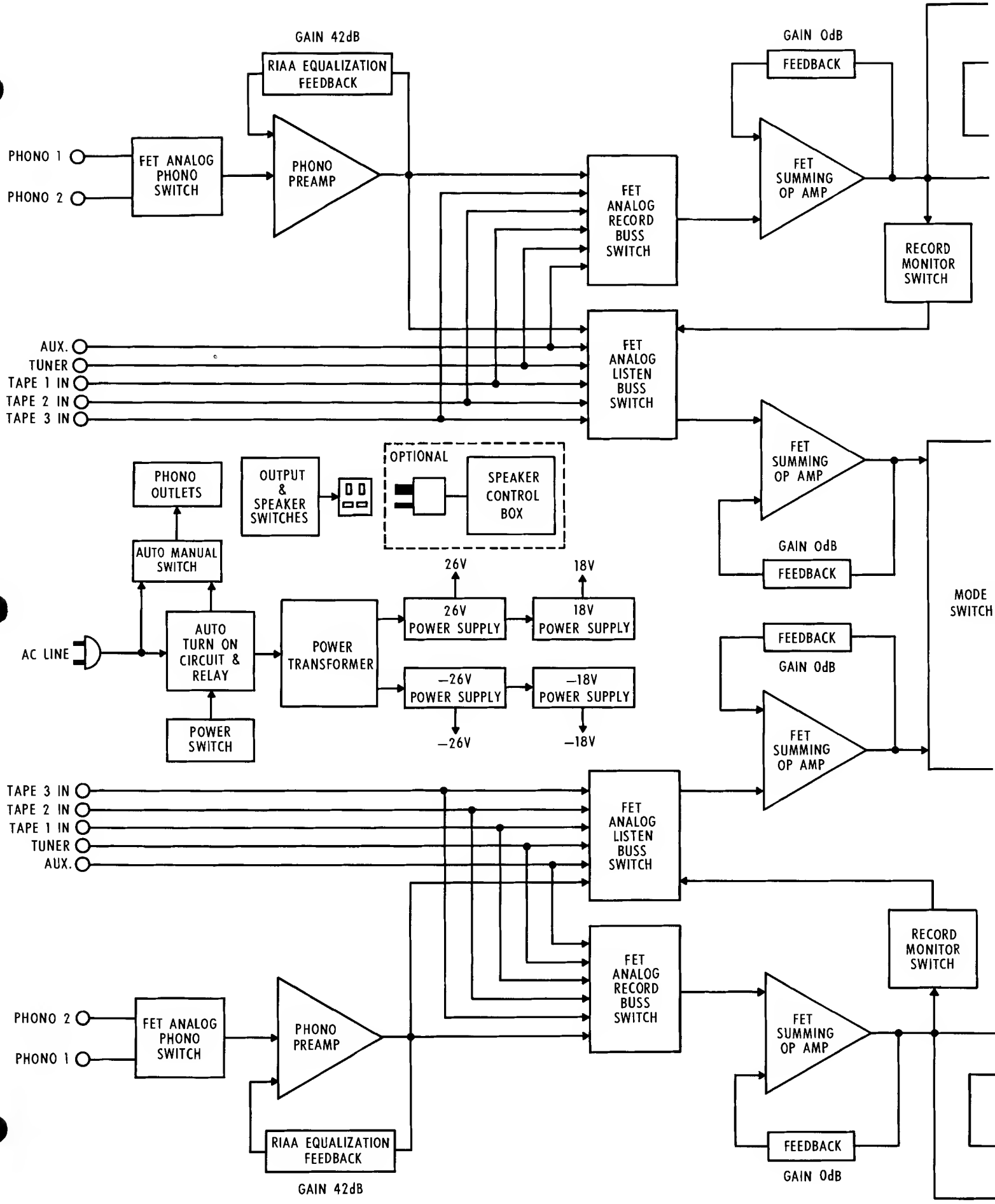
Size: Front panel measures 16 inches wide (40.64 cm) by 5-7/16 inches deep (13.81 cm). Chassis measures 15 inches wide (38.1 cm) by 5 inches high (12.7 cm) by 13 inches deep (33.02 cm), including PANLOC shelf and back panel connectors. Knob clearance required is 1-1/2 inches (3.81 cm) in front of the mounting panel.

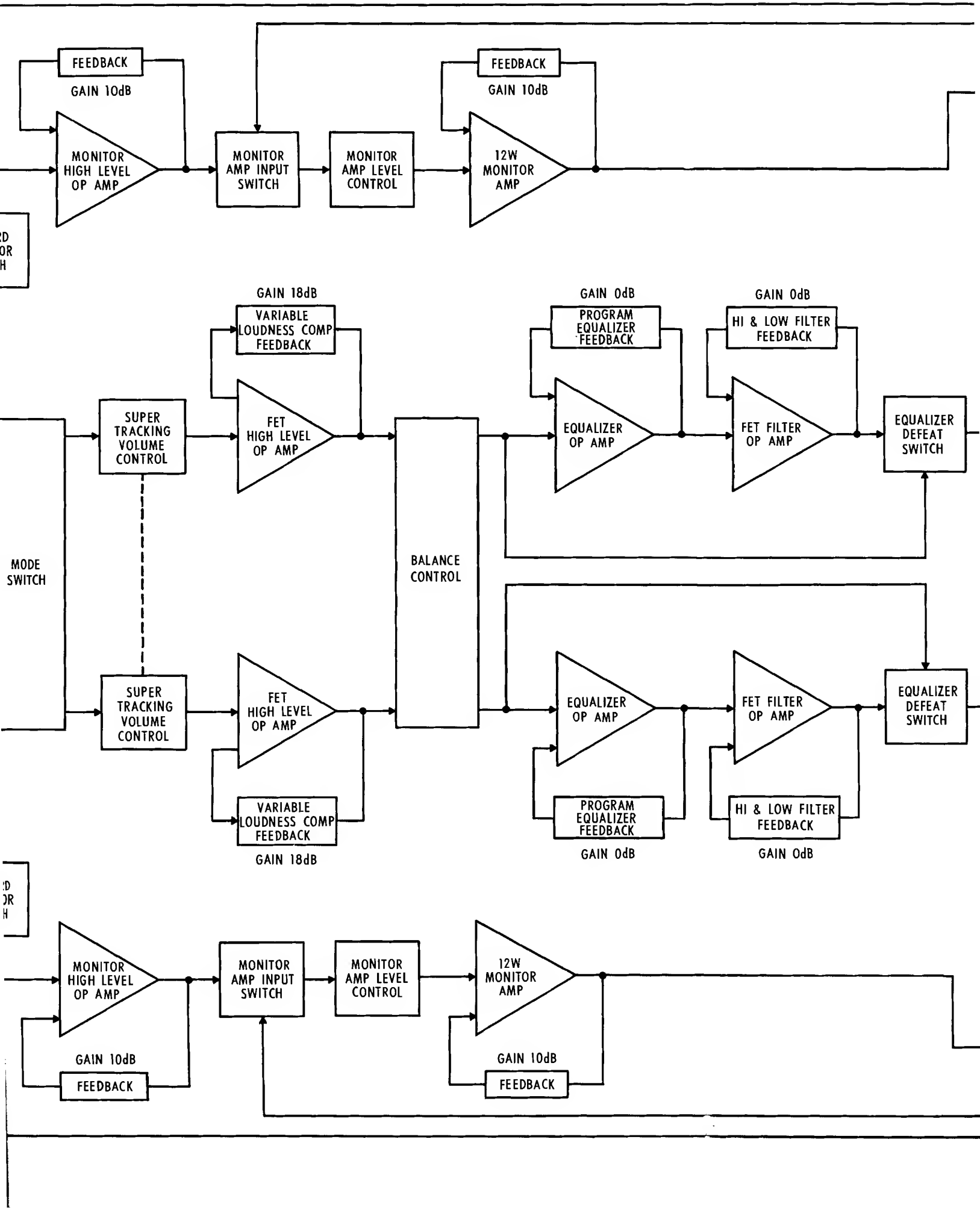
Finish: Front panel is anodized gold and black with special gold/teal nomenclature illumination. Chassis is black.

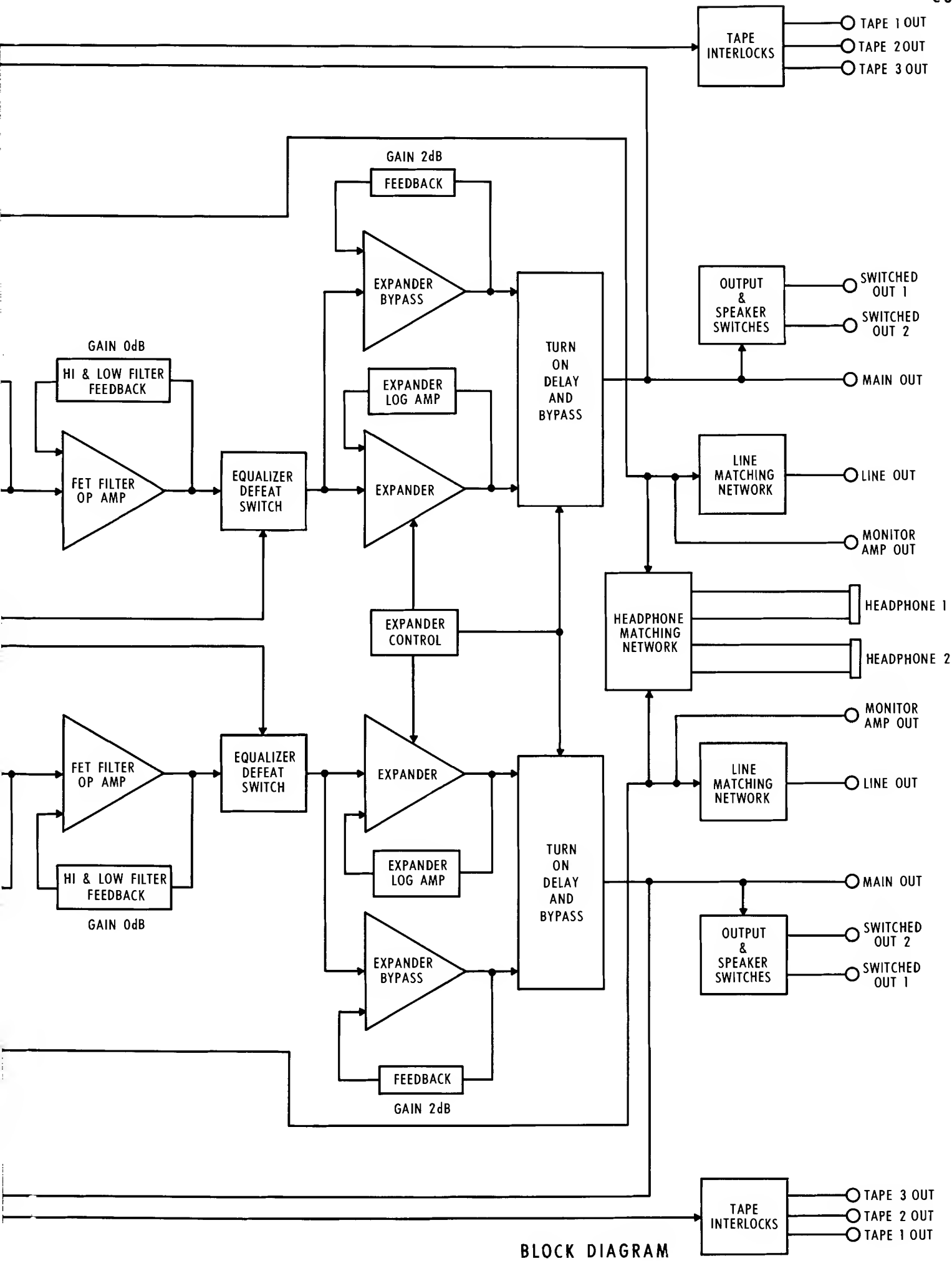
Mounting: Exclusive McIntosh developed professional PANLOC

Weight: 26 pounds (11.8 kg) net, 36 pounds (17.2 kg) in shipping carton.

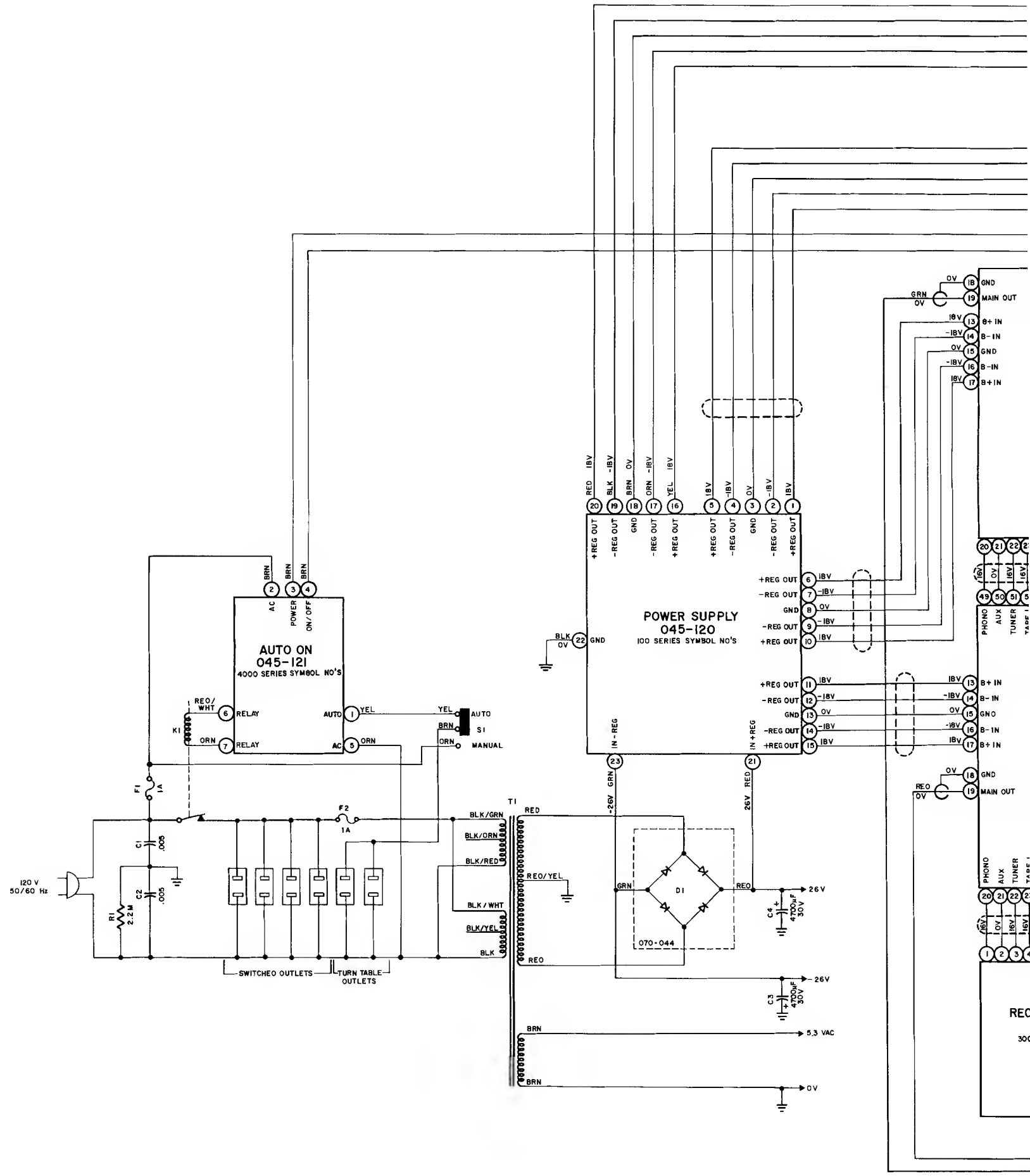
Shipping Carton Size: 21" x 21" x 11"


GAIN 42dB
RIAA EQUALIZATION FEEDBACK
PHONO 1
PHONO 2
FET ANALOG PHONO SWITCH
PHONO PREAMP
GAIN 0dB
FEEDBACK
FET SUMMING OP AMP
FET ANALOG RECORD BUSS SWITCH
RECORD MONITOR SWITCH
AUX.
TUNER
TAPE 1 IN
TAPE 2 IN
TAPE 3 IN
FET ANALOG LISTEN BUSS SWITCH
FET SUMMING OP AMP
GAIN 0dB
FEEDBACK
MODE SWITCH
OPTIONAL
PHONO OUTLETS
OUTPUT & SPEAKER SWITCHES
SPEAKER CONTROL BOX
AUTO MANUAL SWITCH
26V
18V
AC LINE
AUTO TURN ON CIRCUIT & RELAY
POWER TRANSFORMER
26V POWER SUPPLY
18V POWER SUPPLY
−26V POWER SUPPLY
−18V POWER SUPPLY
−26V
−18V
POWER SWITCH
FEEDBACK
GAIN 0dB
FET SUMMING OP AMP
TAPE 3 IN
TAPE 2 IN
TAPE 1 IN
TUNER
AUX.
FET ANALOG LISTEN BUSS SWITCH
RECORD MONITOR SWITCH
FET ANALOG RECORD BUSS SWITCH
PHONO 2
PHONO 1
FET ANALOG PHONO SWITCH
PHONO PREAMP
FET SUMMING OP AMP
RIAA EQUALIZATION FEEDBACK
FEEDBACK
GAIN 42dB
GAIN 0dB

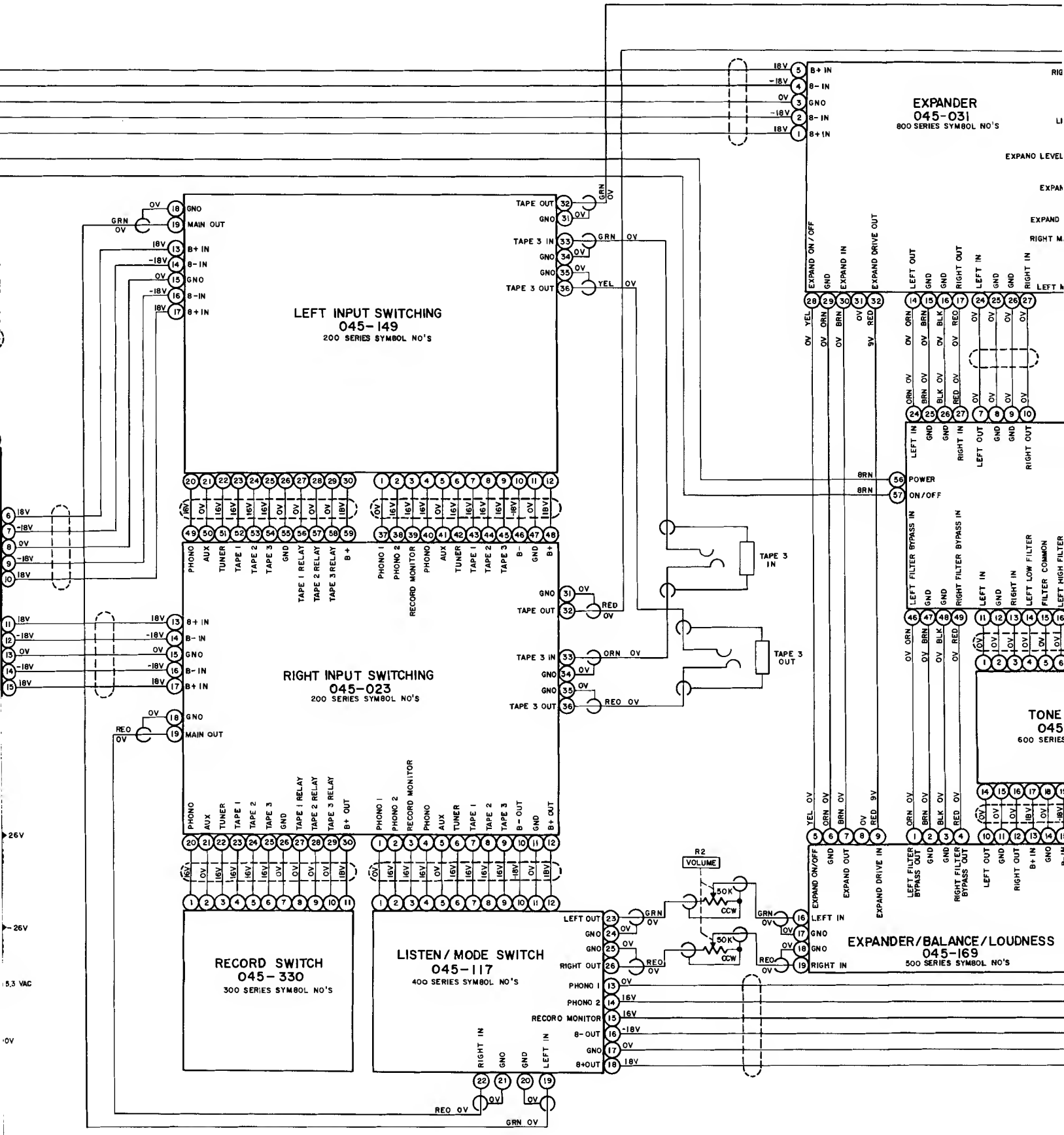

FEEDBACK
GAIN 10dB
MONITOR HIGH LEVEL OP AMP
MONITOR AMP INPUT SWITCH
MONITOR AMP LEVEL CONTROL
FEEDBACK
GAIN 10dB
12W MONITOR AMP
GAIN 18dB
VARIABLE LOUDNESS COMP FEEDBACK
GAIN 0dB
PROGRAM EQUALIZER FEEDBACK
GAIN 0dB
HI & LOW FILTER FEEDBACK
SUPER TRACKING VOLUME CONTROL
FET HIGH LEVEL OP AMP
EQUALIZER OP AMP
FET FILTER OP AMP
EQUALIZER DEFEAT SWITCH
MODE SWITCH
BALANCE CONTROL
SUPER TRACKING VOLUME CONTROL
FET HIGH LEVEL OP AMP
EQUALIZER OP AMP
FET FILTER OP AMP
EQUALIZER DEFEAT SWITCH
VARIABLE LOUDNESS COMP FEEDBACK
GAIN 18dB
PROGRAM EQUALIZER FEEDBACK
GAIN 0dB
HI & LOW FILTER FEEDBACK
GAIN 0dB
MONITOR HIGH LEVEL OP AMP
MONITOR AMP INPUT SWITCH
MONITOR AMP LEVEL CONTROL
12W MONITOR AMP
GAIN 10dB
FEEDBACK
GAIN 10dB
FEEDBACK

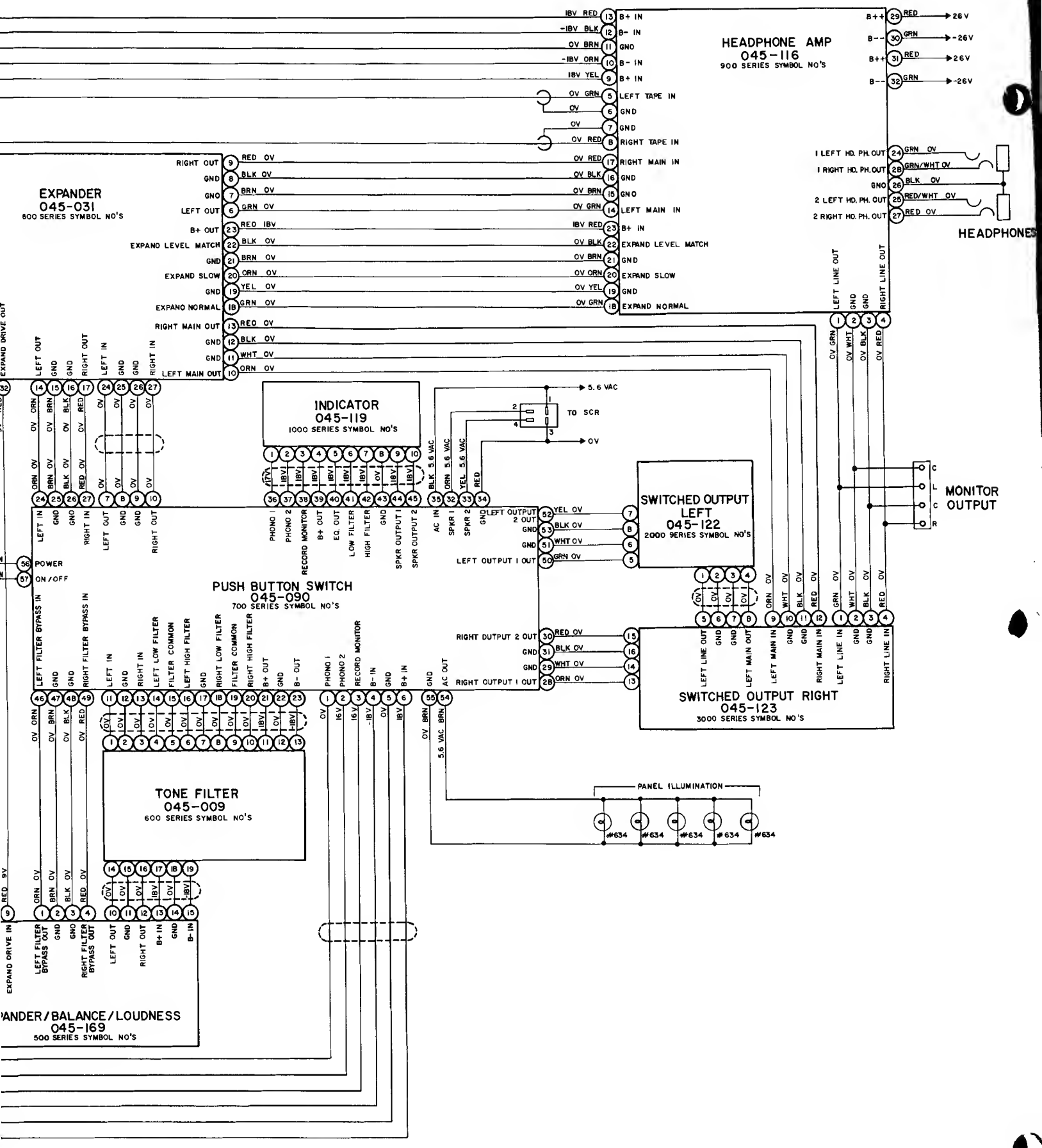


BLOCK DIAGRAM



INTERCONNECT


EXPANDER
045-031
800 SERIES SYMBOL NO'S
LEFT INPUT SWITCHING
045-149
200 SERIES SYMBOL NO'S
RIGHT INPUT SWITCHING
045-023
200 SERIES SYMBOL NO'S
RECORD SWITCH
045-330
300 SERIES SYMBOL NO'S
LISTEN/MODE SWITCH
045-117
400 SERIES SYMBOL NO'S
EXPANDER/BALANCE/LOUDNESS
045-169
500 SERIES SYMBOL NO'S
TAPE 3 IN
TAPE 3 OUT
R2
VOLUME
50K
CCW
EXPAND ON/OFF
EXPAND IN
EXPAND DRIVE OUT
LEFT OUT
RIGHT OUT
LEFT IN
RIGHT IN
POWER
ON/OFF
LEFT FILTER BYPASS IN
RIGHT FILTER BYPASS IN
LEFT FILTER BYPASS OUT
RIGHT FILTER BYPASS OUT
EXPAND OUT
B+ IN
MAIN OUT
PHONO
AUX
TUNER
TAPE 1
TAPE 2
TAPE 3
GND
TAPE 1 RELAY
TAPE 2 RELAY
TAPE 3 RELAY
B+ OUT
B- OUT
PHONO 1
PHONO 2
RECORD MONITOR
LEFT OUT
RIGHT OUT
PHONO 1
PHONO 2
RECORD MONITOR
B- OUT
B+ OUT


HEADPHONE AMP
045-116
900 SERIES SYMBOL NO'S
EXPANDER
045-031
800 SERIES SYMBOL NO'S
INDICATOR
045-119
1000 SERIES SYMBOL NO'S
PUSH BUTTON SWITCH
045-090
700 SERIES SYMBOL NO'S
SWITCHED OUTPUT
LEFT
045-122
2000 SERIES SYMBOL NO'S
SWITCHED OUTPUT RIGHT
045-123
3000 SERIES SYMBOL NO'S
TONE FILTER
045-009
600 SERIES SYMBOL NO'S
EXPANDER/BALANCE/LOUDNESS
045-169
500 SERIES SYMBOL NO'S
HEADPHONES
MONITOR OUTPUT
PANEL ILLUMINATION
TO SCR
5.6 VAC
POWER
ON/OFF

SCHEMATIC NOTES

1. Unless otherwise specified: Resistance values are in ohms, 1/4 watt, and 5% tolerance; capacitance values smaller than 1 are in microfarads (μF); capacitance values greater than 1 are in picofarads (pF); inductors are in microhenries (μH).

2. Printed circuit board components are outlined on the schematics by dotted lines. The circled numbers around the dotted lines correspond to the numbers on the PC Board layouts.

3. The heavy lines on the schematics denote the primary signal path. The heavy dash lines on the schematics denote a secondary signal path.

4. The terminal numbering of rotary switches is for reference only.

5. All voltages indicated on the schematics are measured under the following conditions:

   a. Use of an 11 megohm input impedance VTVM.

   b. All voltages ± 10% with respect to chassis ground.

   c. No signal at input terminals.

   d. AC input at 120 volts, 50/60 Hz.

   e. Front panel controls at:

Listen	Aux
Record	Aux
Mode Selector	Stereo
Equalizer Freq.	Center Detent
Volume	CCW
Expander	Off
Balance	Center Detent
Loudness	Flat
Push Switches	Out
Power Switch	On

   All other controls at normal positions.

6. In units with Serial No's below AY2076 D200, D201, D202, & D203 are used.

7. In units with Serial No's below AY1295 R943 and R944 are not used.

8. In units with Serial No's below AY3000 R813, R814, R821 and R822 are 560Ω.

9. In units with Serial No s below AY3000: C649 and C650 are .003μF; C631, C632, C633 and C634 are .047μF and C637 and C638 are used.

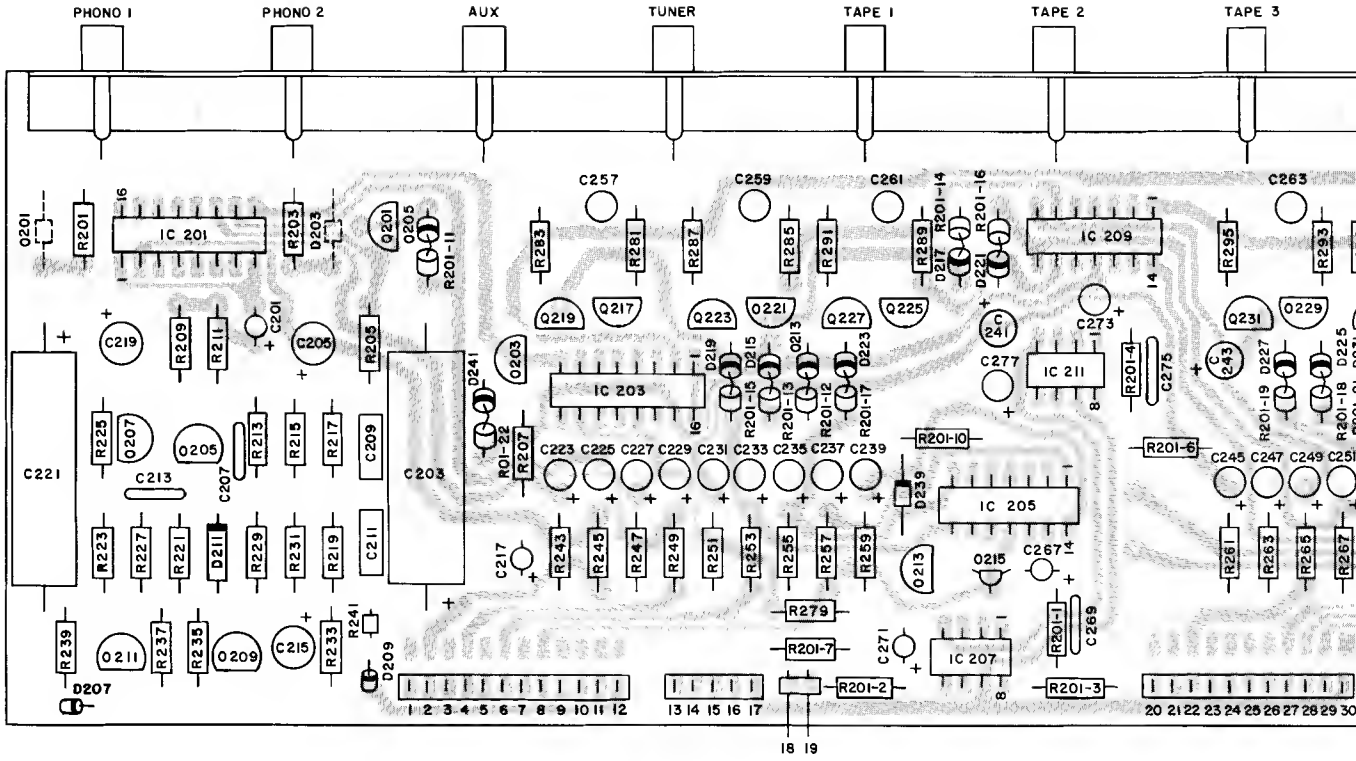
10. In units with Serial No s below AY3000: R509, R510, R513 and R514 are 68K; R507 and R508 are 680K and R511 and R512 are 6.8K.

11. In units with Serial No's below AY2076: D301, D302, D303, C301, C302, and C303 are not used.

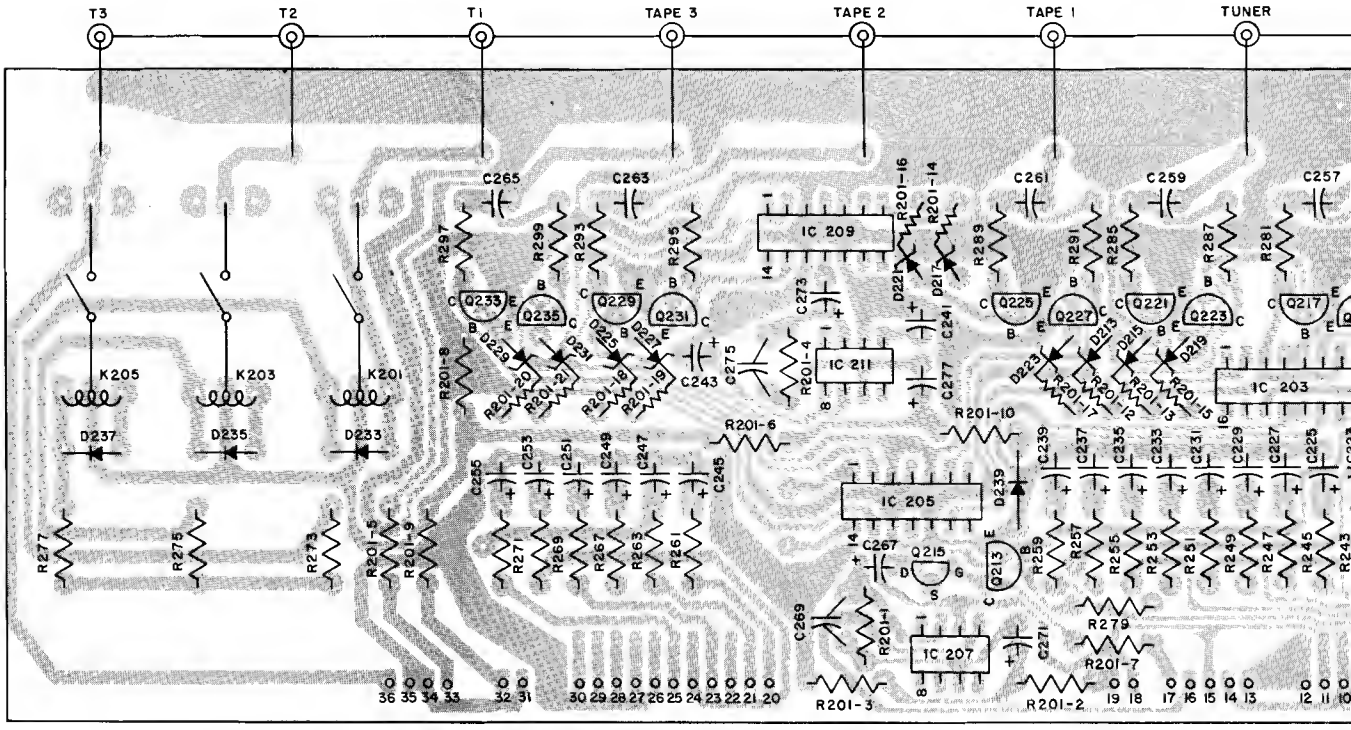
12. In units with Serial No's Below AY3000: R310, R311 and R312 are not used.

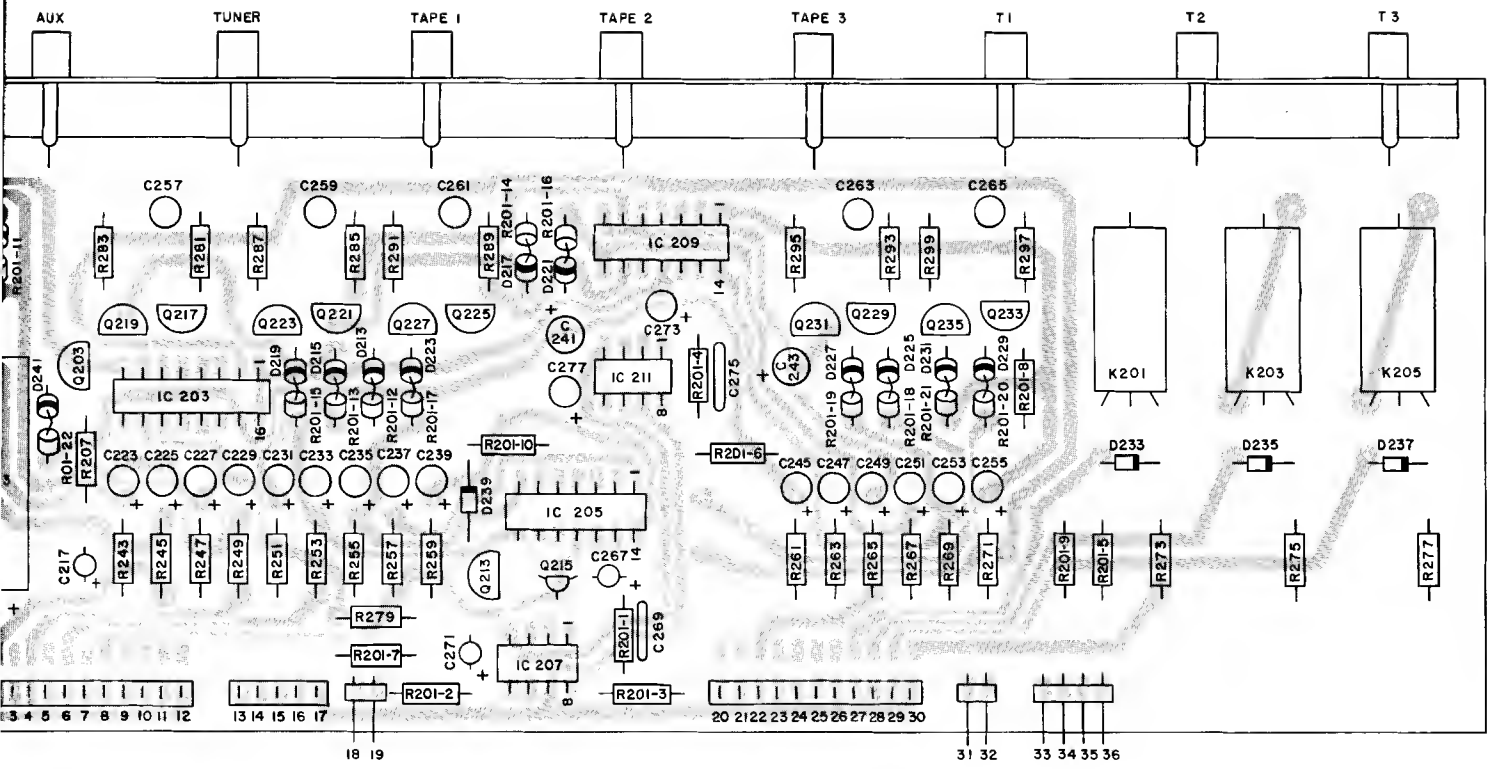
13. In units with Serial No's below AY3000: R913 and R914 are 15K; R925 and R926 are 330Ω; C911 & C912 are 47μF; C915 and C916 are 220μF and R927 and R928 are used.

14. In units with Serial No's below AY2289 C4002 is not used.

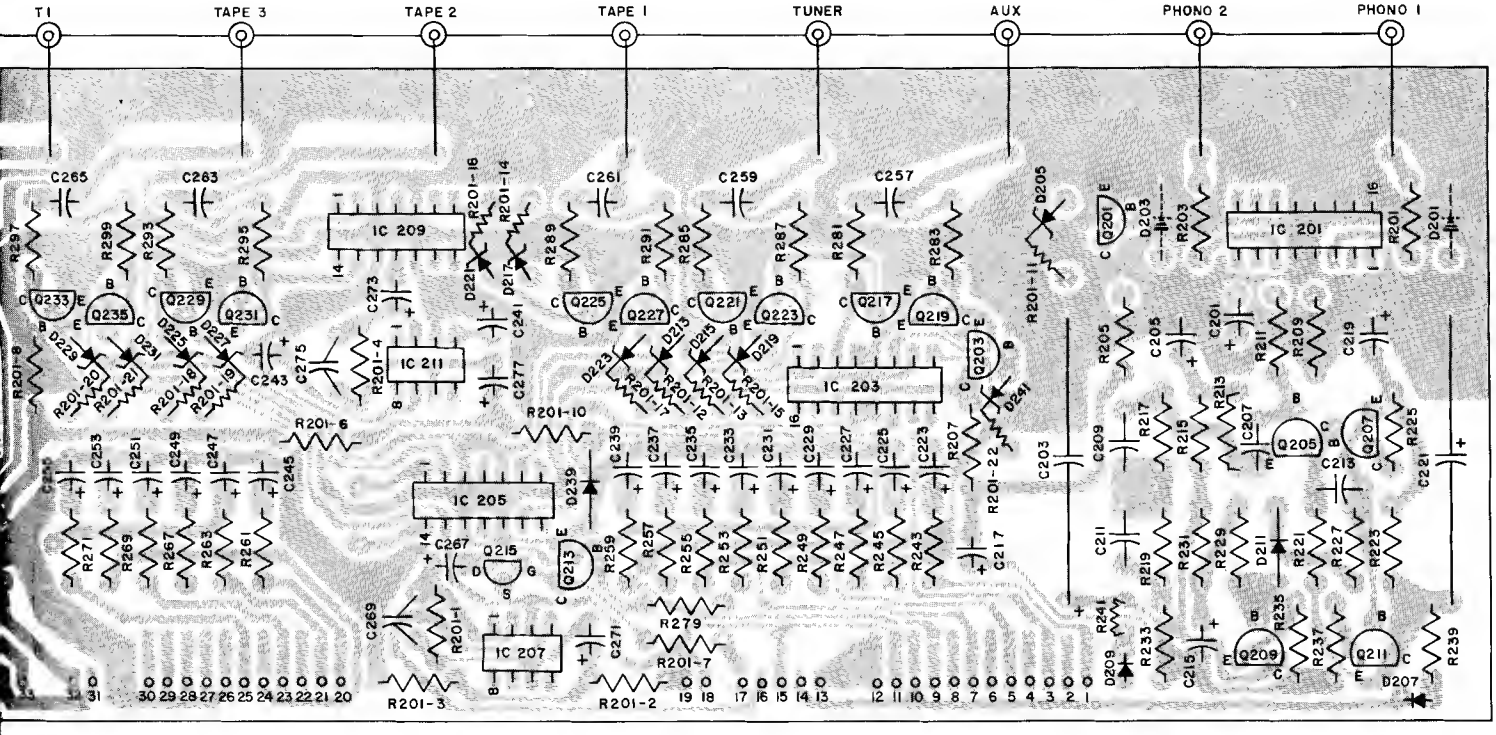


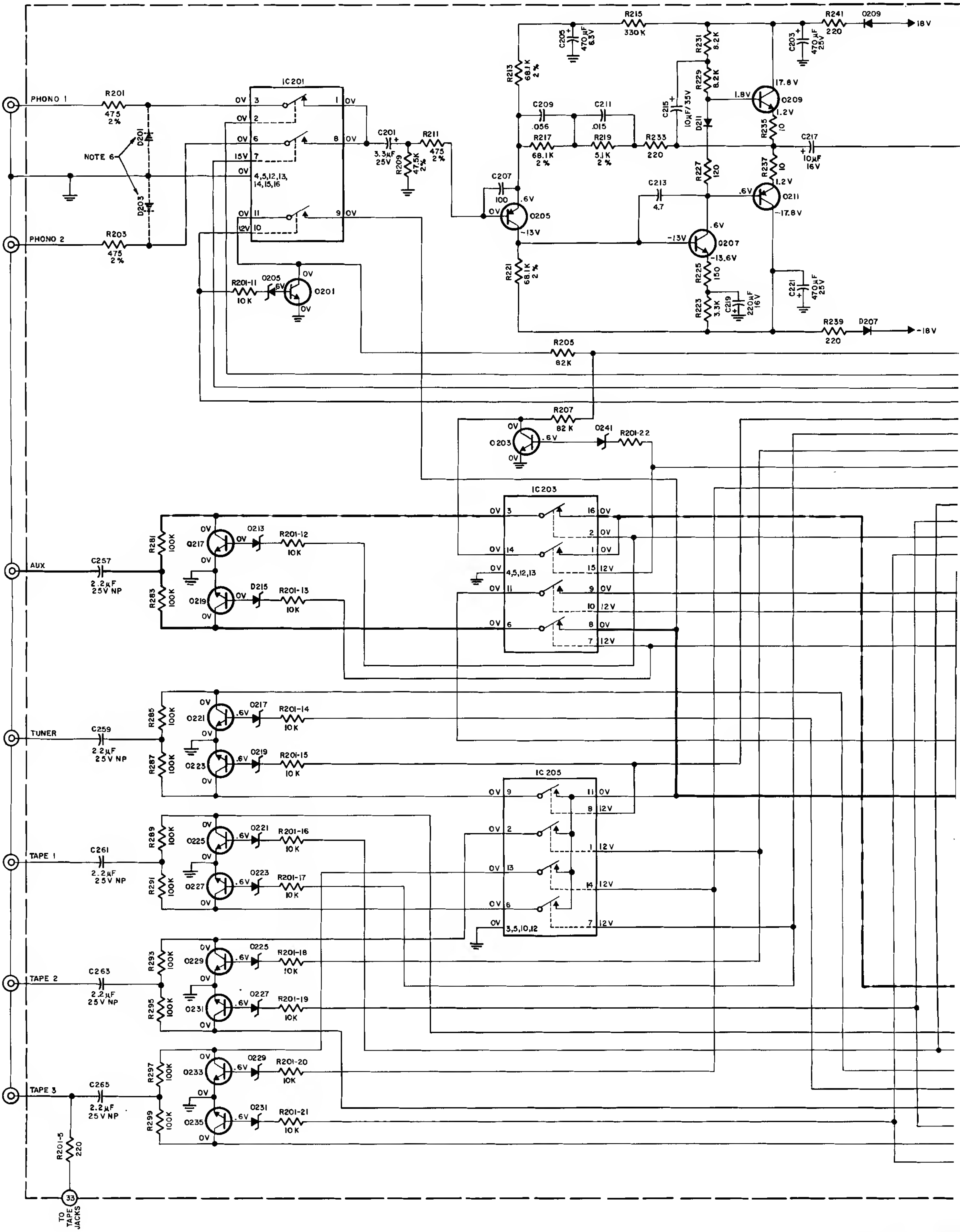
LEFT INPUT SWITCHING
045–149

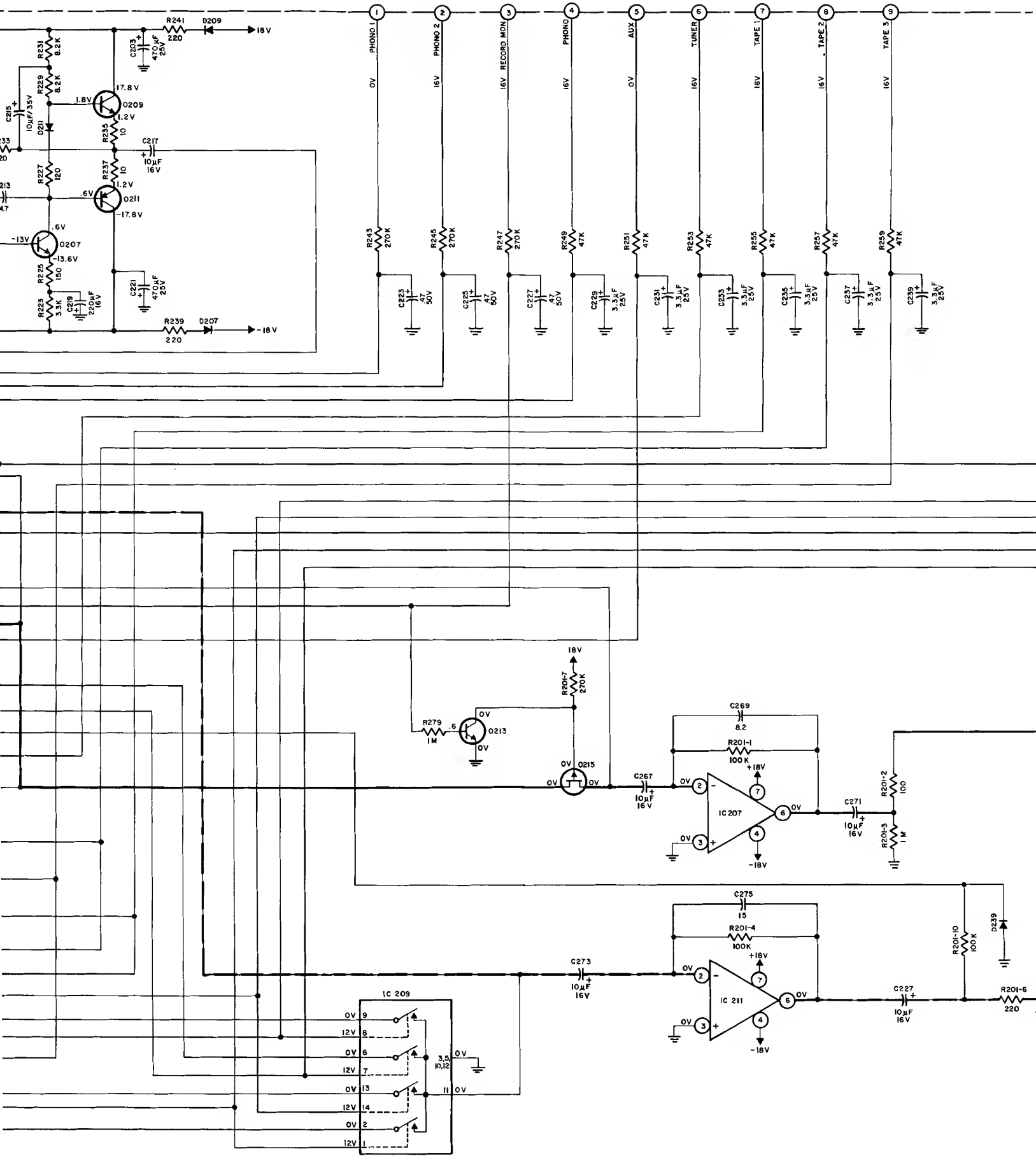


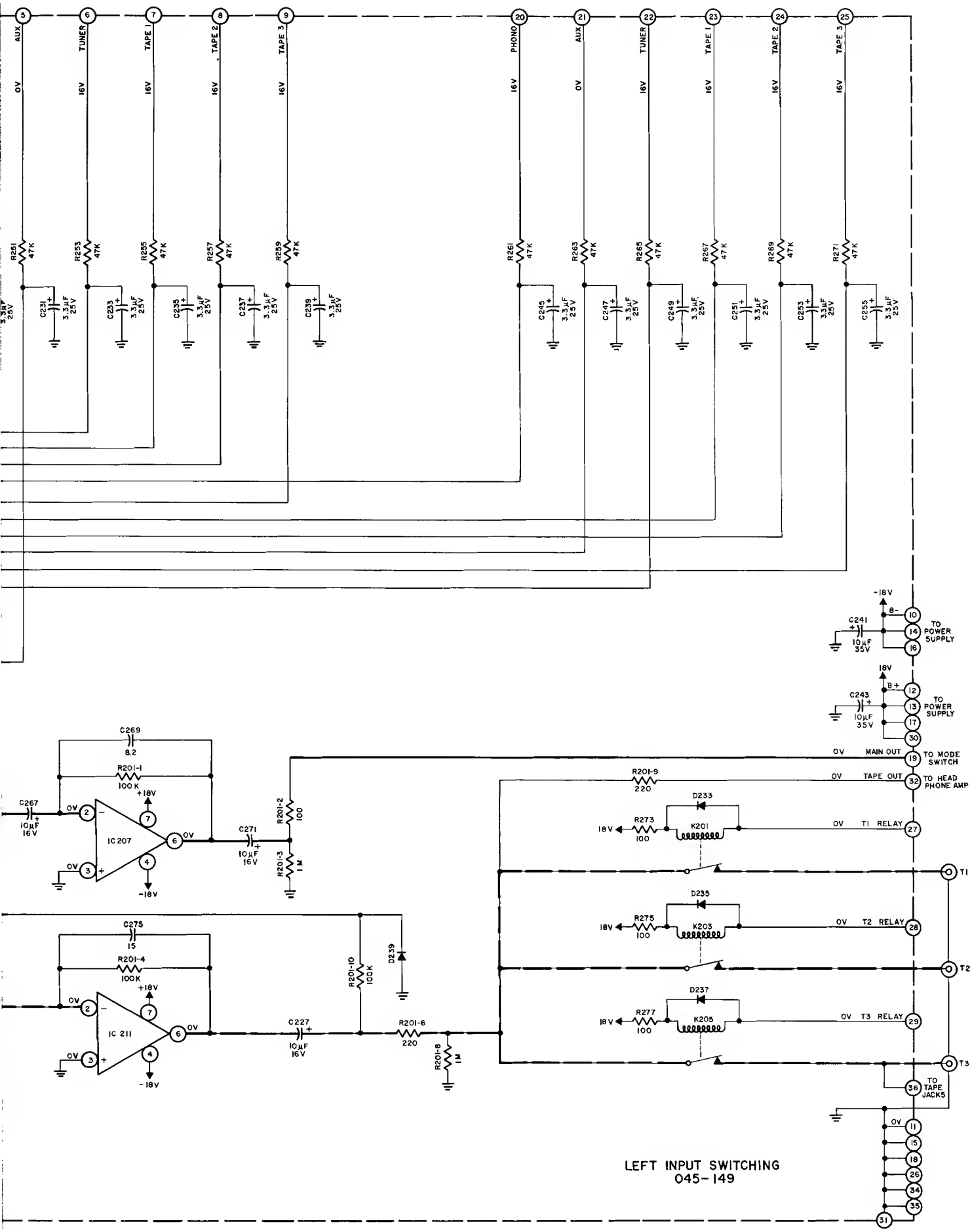


LEFT INPUT SWITCHING
045–149



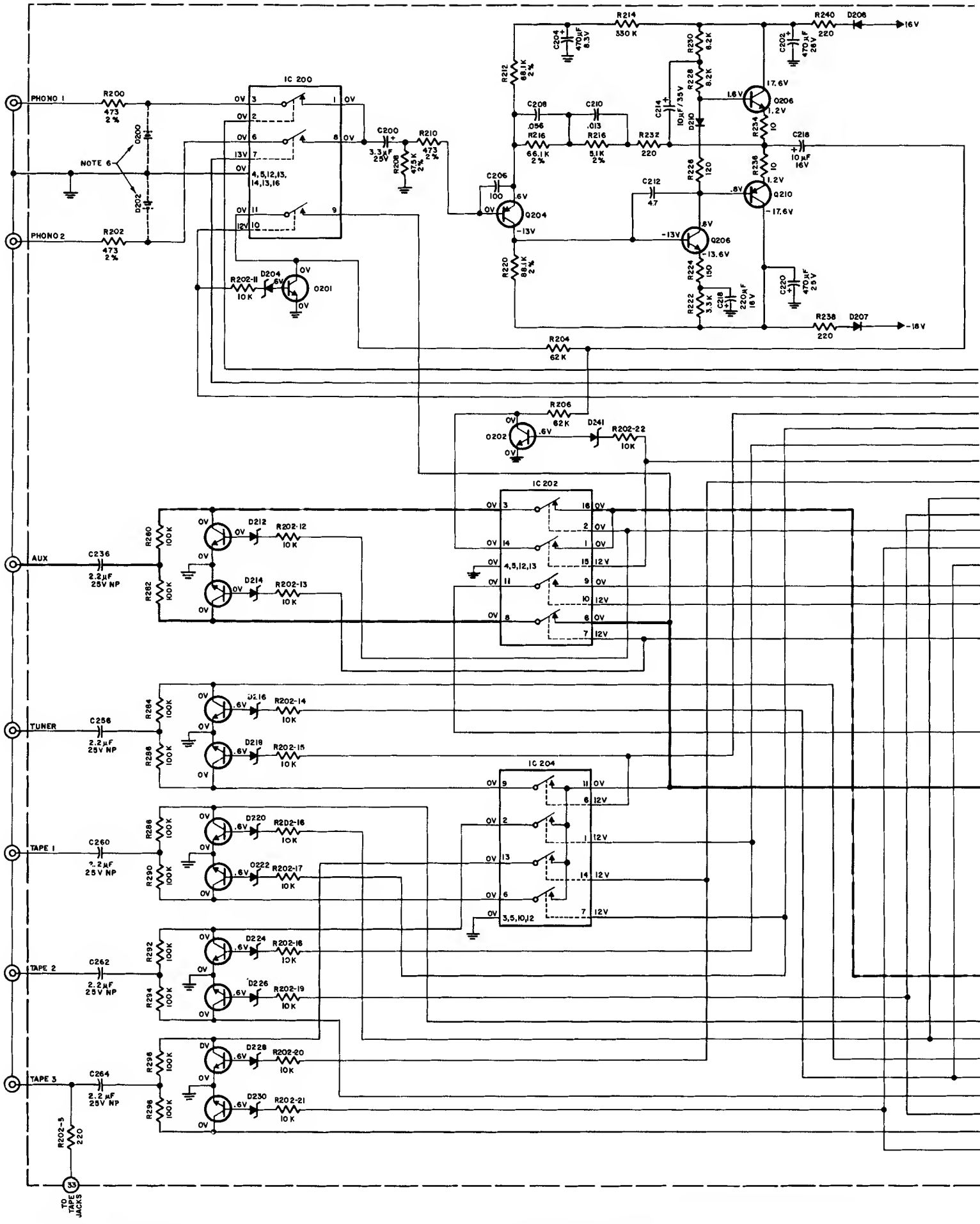

PHONO 1
PHONO 2
AUX
TUNER
TAPE 1
TAPE 2
TAPE 3
NOTE 6
R201 475 2%
R203 475 2%
D201
D203
IC201
C201 3.3µF 25V
R209 47.5K 2%
R211 475 2%
R201-11 10K
D205
Q201
R205 82K
R207 82 K
Q203
D241
R201-22
R213 68.1K 2%
R215 330K
C205 470µF 6.3V
C209 .056
C211 .015
R217 68.1K 2%
R219 5.1K 2%
R233 220
C207 100
Q205
R221 68.1K 2%
R231 8.2K
R229 8.2K
C215 10µF/35V
D211
R227 120
C213 4.7
Q207
R225 150
R223 3.3K
C219 220µF 16V
Q209
Q211
R235 10
R237 10
C217 10µF 16V
C203 470µF 25V
C221 470µF 25V
R241 220
D209
18V
R239 220
D207
-18V
IC203
IC205
C257 2.2µF 25V NP
C259 2.2µF 25V NP
C261 2.2µF 25V NP
C263 2.2µF 25V NP
C265 2.2µF 25V NP
R281 100K
R283 100K
R285 100K
R287 100K
R289 100K
R291 100K
R293 100K
R295 100K
R297 100K
R299 100K
Q217
Q219
Q221
Q223
Q225
Q227
Q229
Q231
Q233
Q235
D213
D215
D217
D219
D221
D223
D225
D227
D229
D231
R201-12 10K
R201-13 10K
R201-14 10K
R201-15 10K
R201-16 10K
R201-17 10K
R201-18 10K
R201-19 10K
R201-20 10K
R201-21 10K
R201-5 220
33
TO TAPE JACKS


R241 220
D209
+18V
C203 470µF 25V
R231 8.2K
R229 8.2K
C215 10µF/35V
D211
17.8V
1.8V
0209
1.2V
R235 10
C217 10µF 16V
R227 120
R237 10
1.2V
.6V
0211
-17.8V
.6V
-13V
0207
-13.6V
R225 150
C221 470µF 25V
R223 3.3K
C219 220µF 16V
R239 220
D207
-18V
1 PHONO 1
2 PHONO 2
3 RECORD MON
4 PHONO
5 AUX
6 TUNER
7 TAPE 1
8 TAPE 2
9 TAPE 3
0V
16V
R243 270K
R245 270K
R247 270K
R249 47K
R251 47K
R253 47K
R255 47K
R257 47K
R259 47K
C223 47 50V
C225 47 50V
C227 47 50V
C229 3.3µF 25V
C231 3.3µF 25V
C233 3.3µF 25V
C235 3.3µF 25V
C237 3.3µF 25V
C239 3.3µF 25V
18V
R201-7 270K
R279 1M .6
0213
0V
0215
C259 8.2
R201-1 100K
C267 10µF 16V
IC 207
+18V
-18V
C271 10µF 16V
R201-2 100
R201-3 1M
C275 15
R201-4 100K
C273 10µF 16V
IC 211
R201-10 100K
D239
C227 10µF 16V
R201-6 220
IC 209
12V
3,5 10,12
11



LEFT INPUT SWITCHING
045-149

LEFT INPUT SWITCHING



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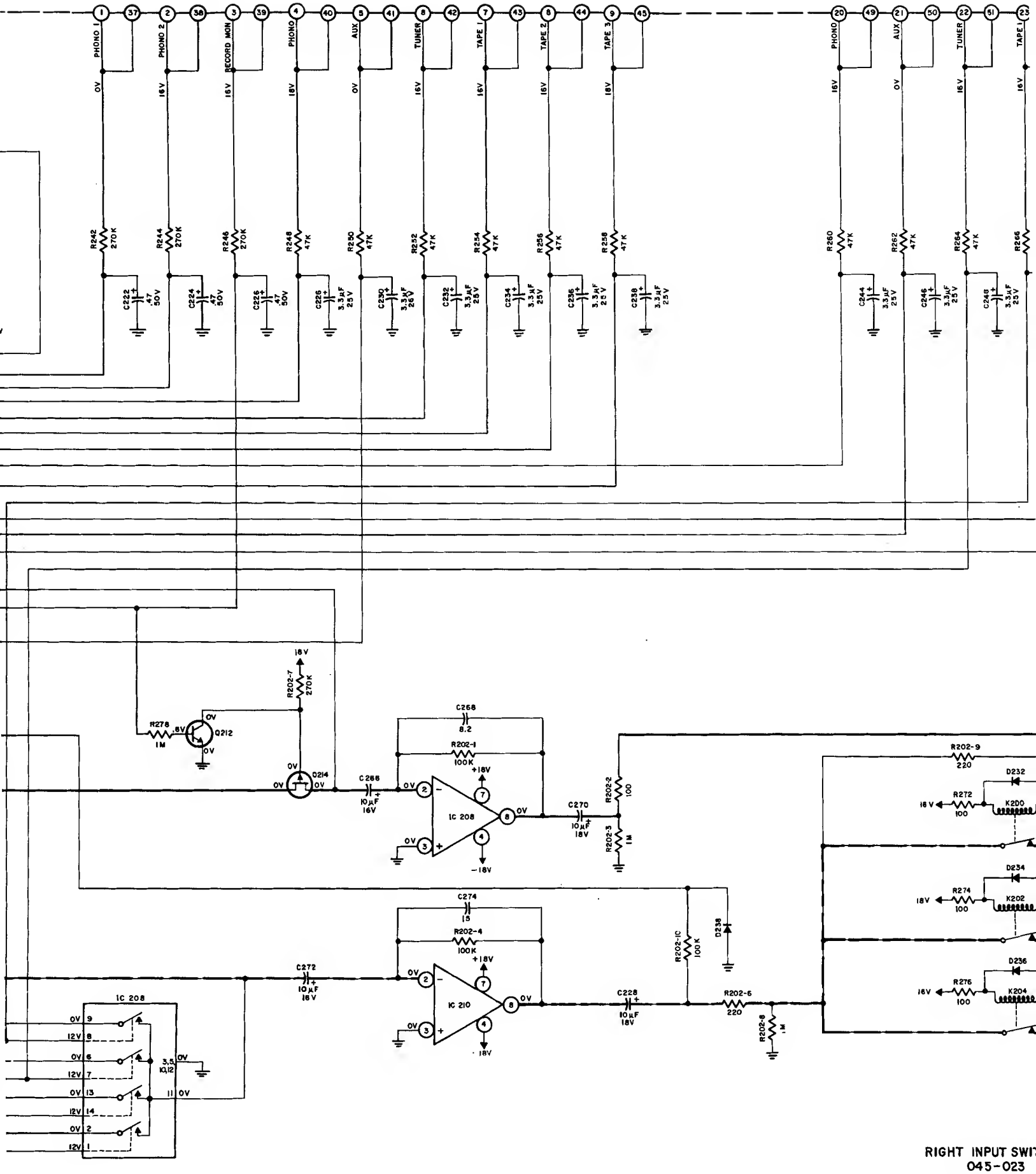
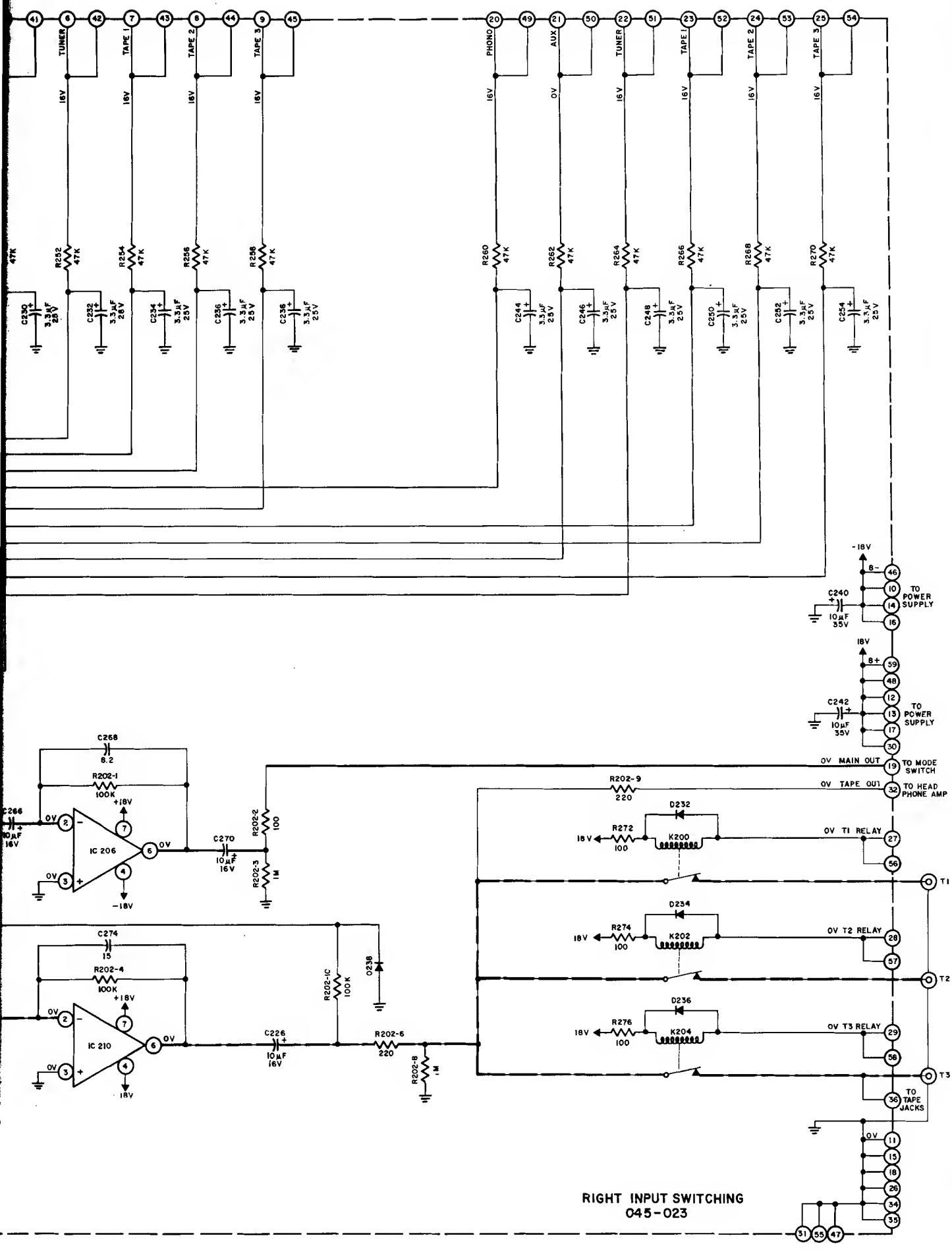
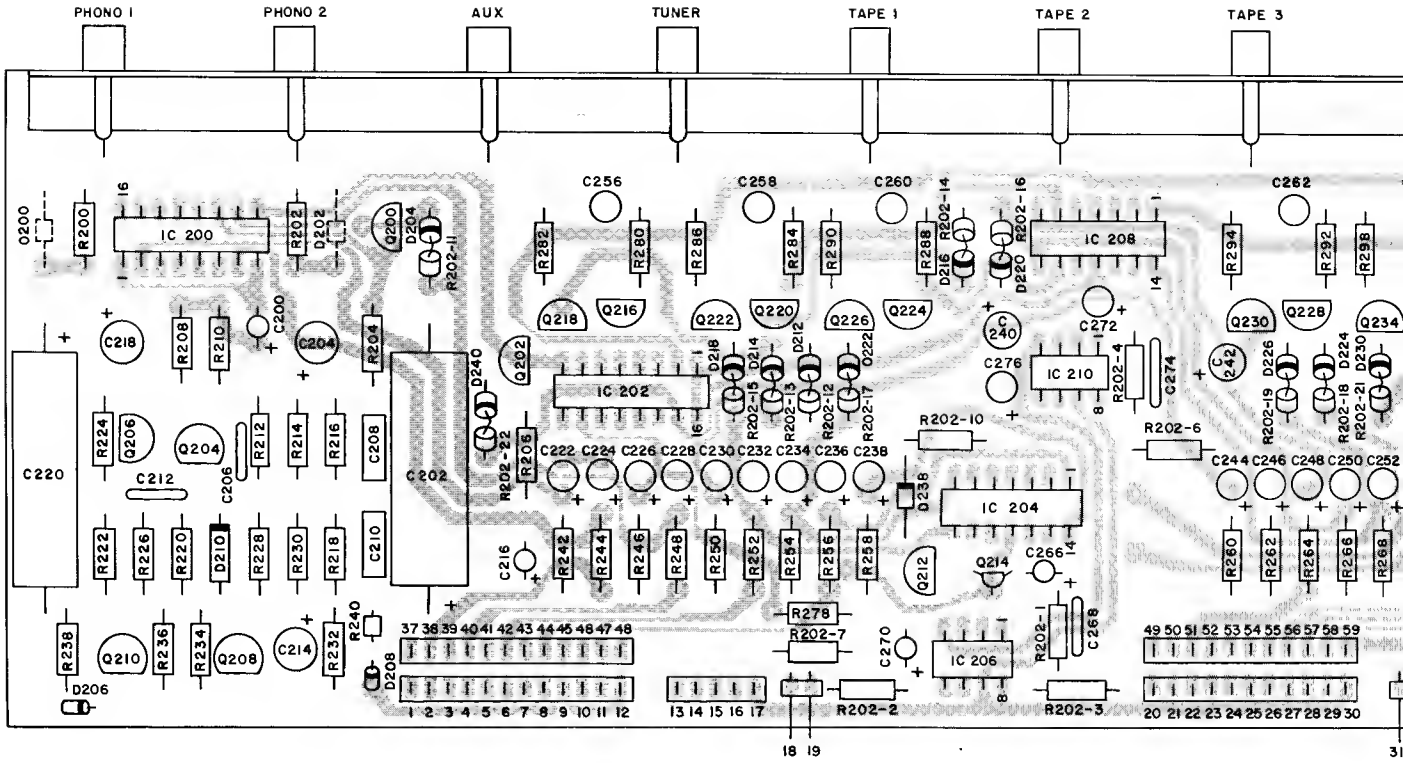


RIGHT INPUT SWI
045-023



RIGHT INPUT SWITCHING
045-023



RIGHT INPUT SWITCHING
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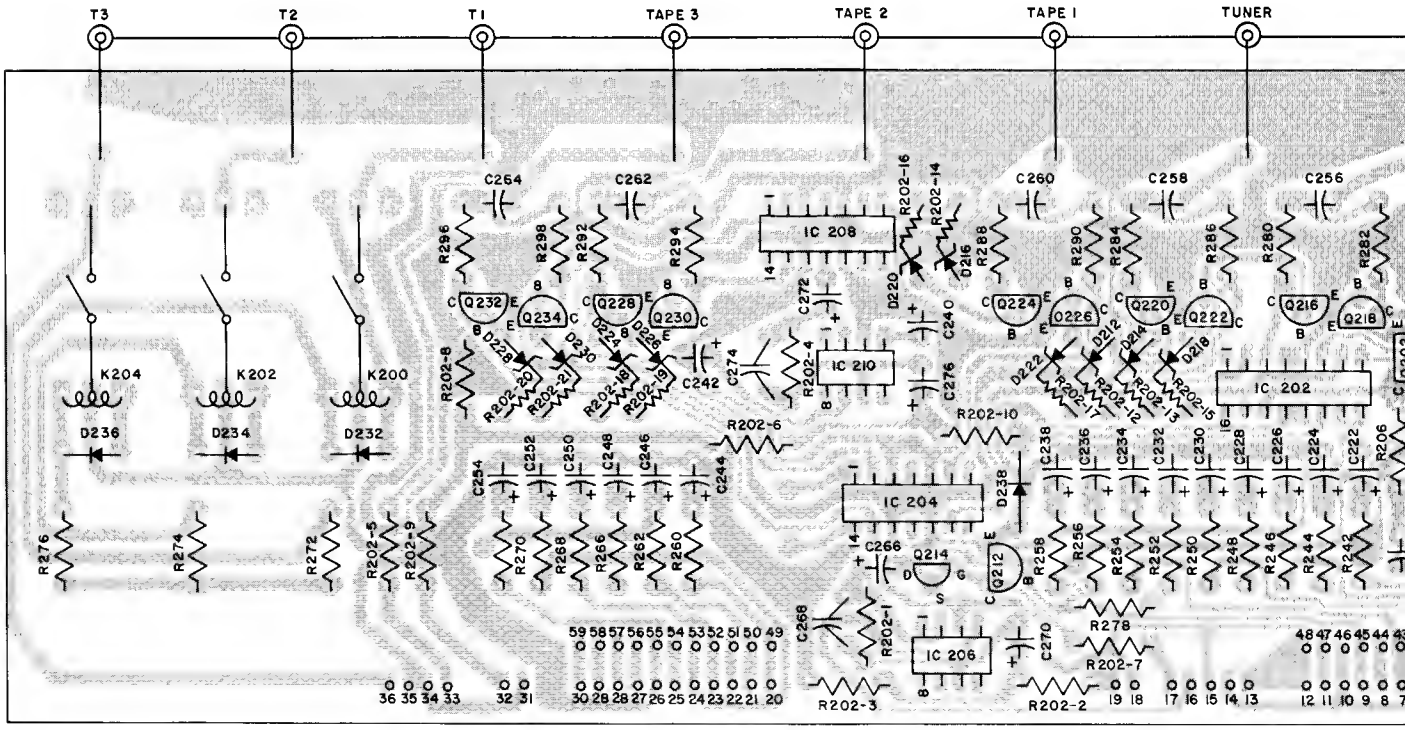

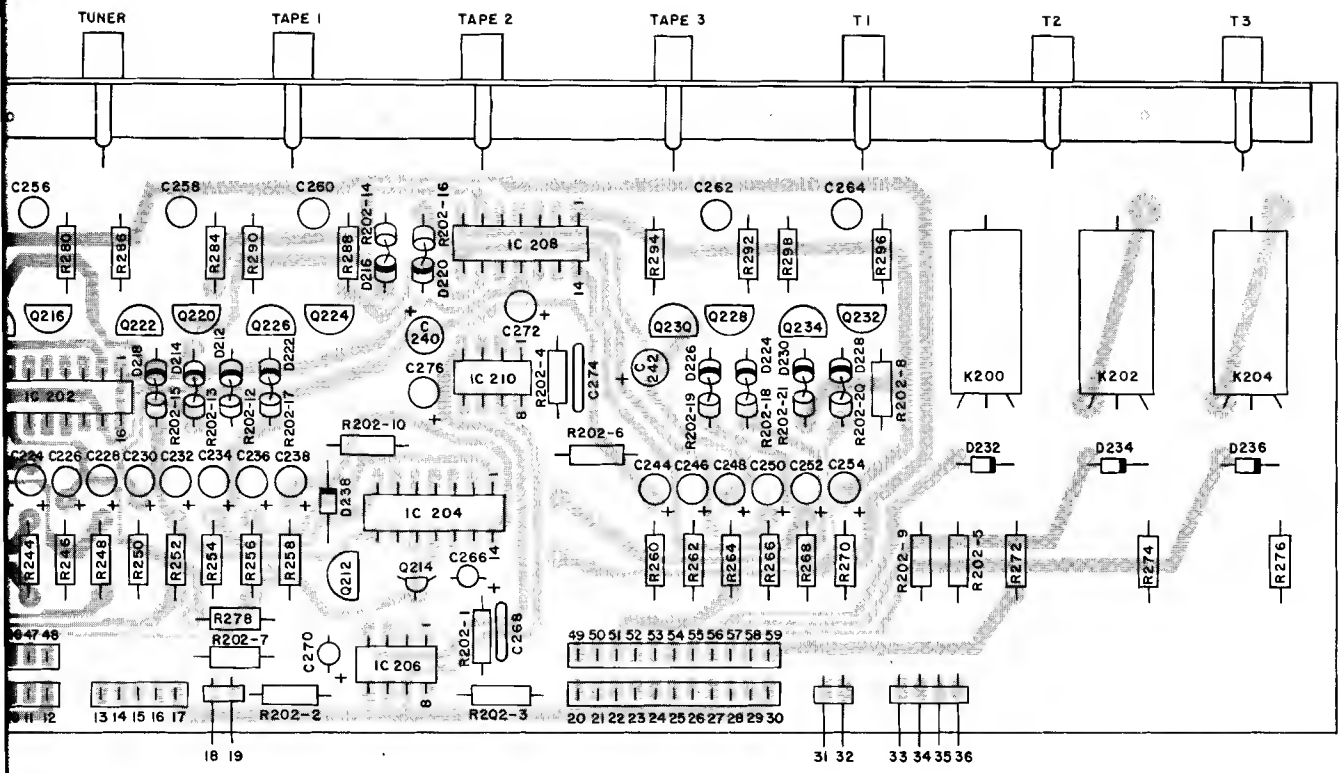

RIGHT INPUT SWITCHING
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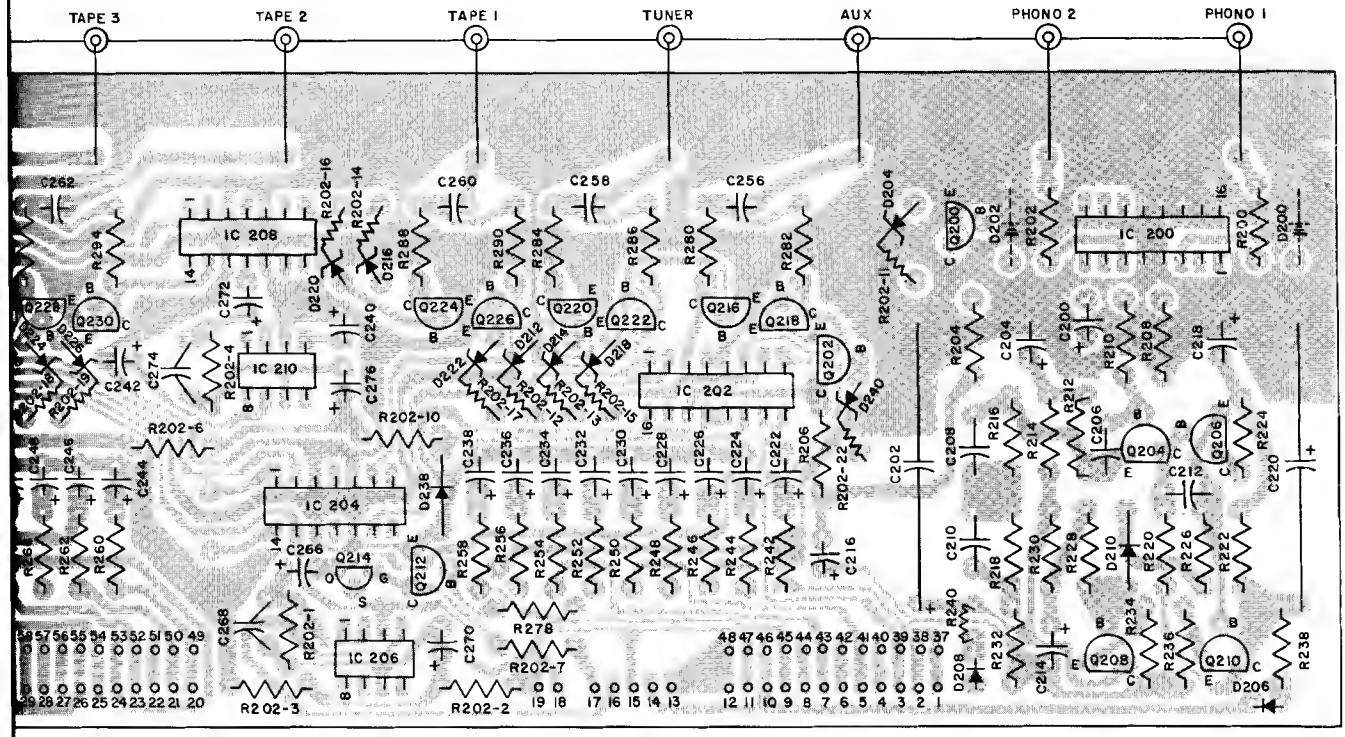
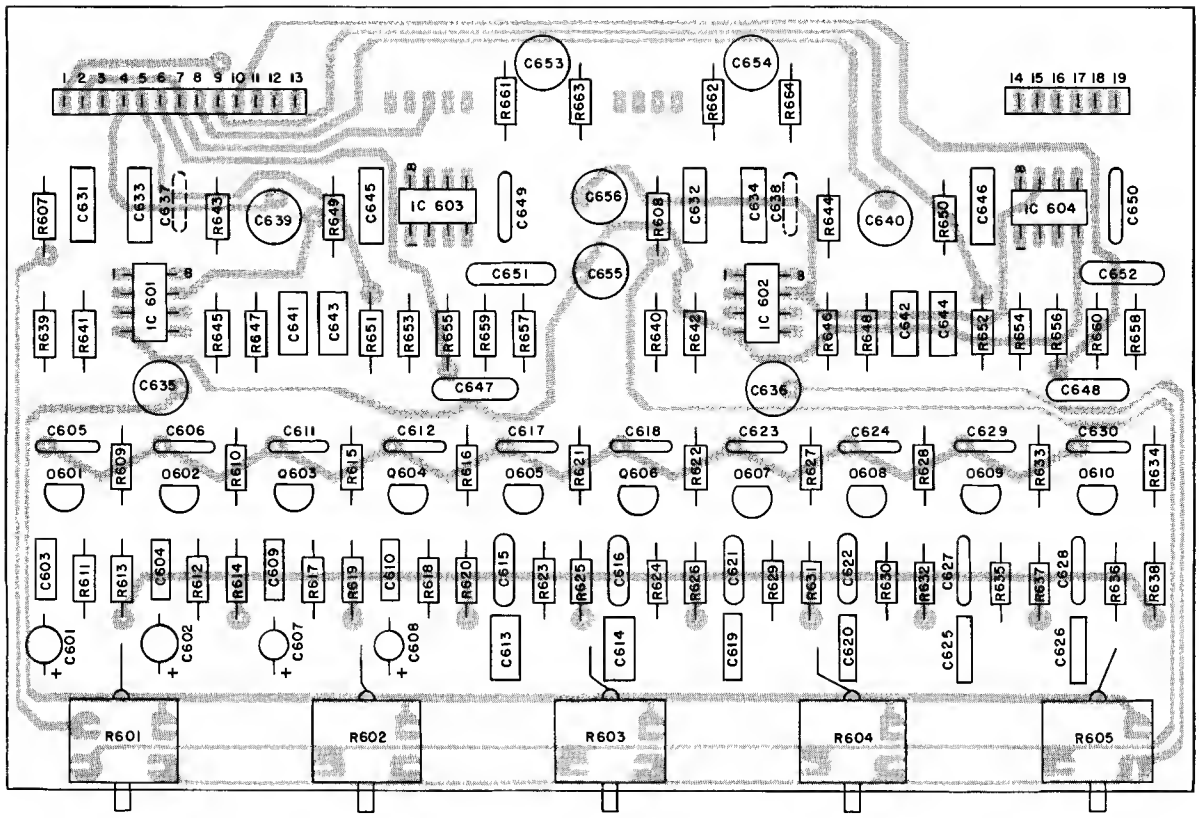
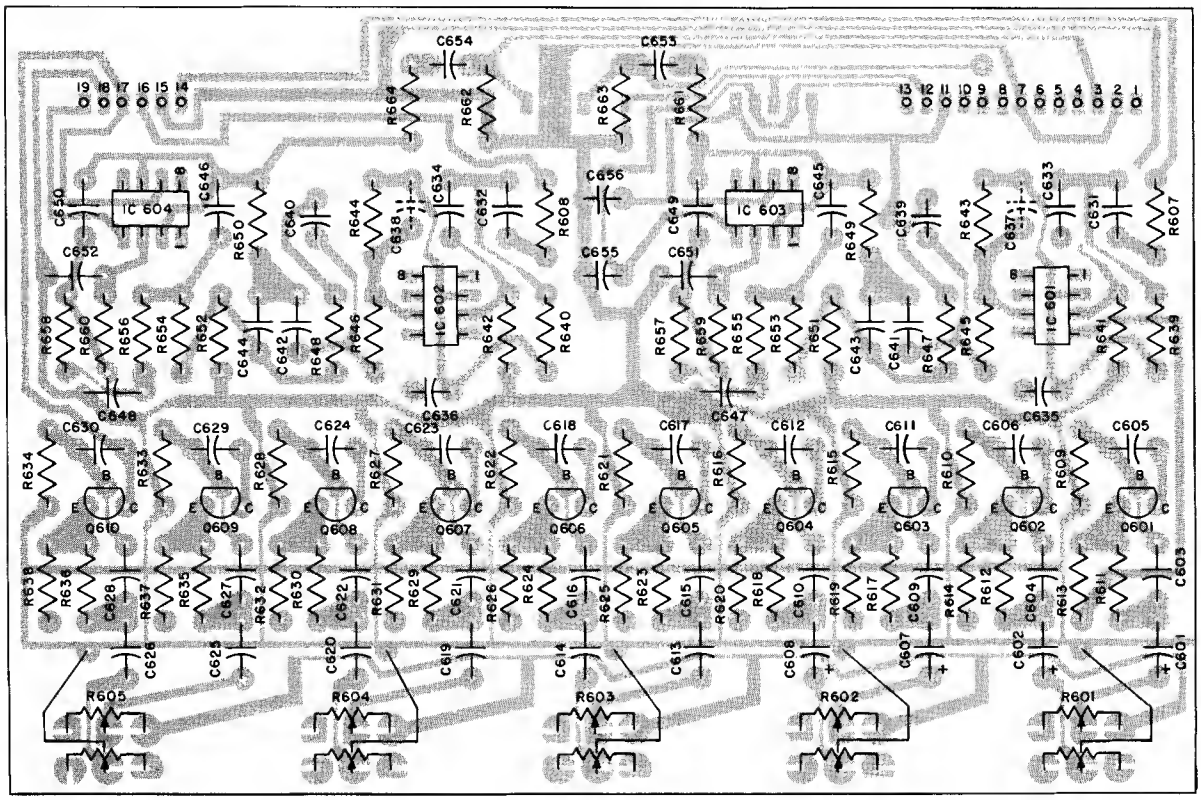
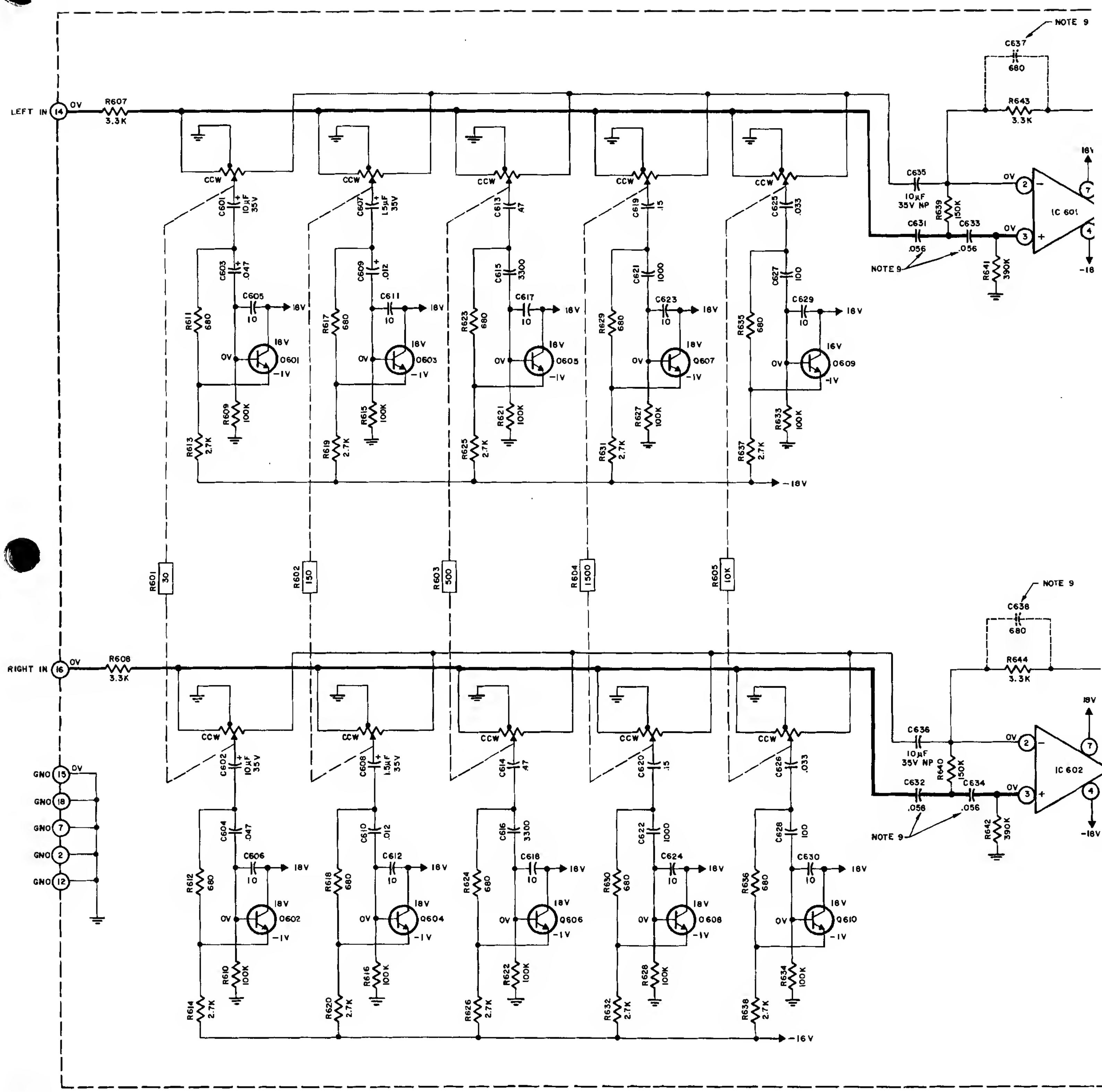


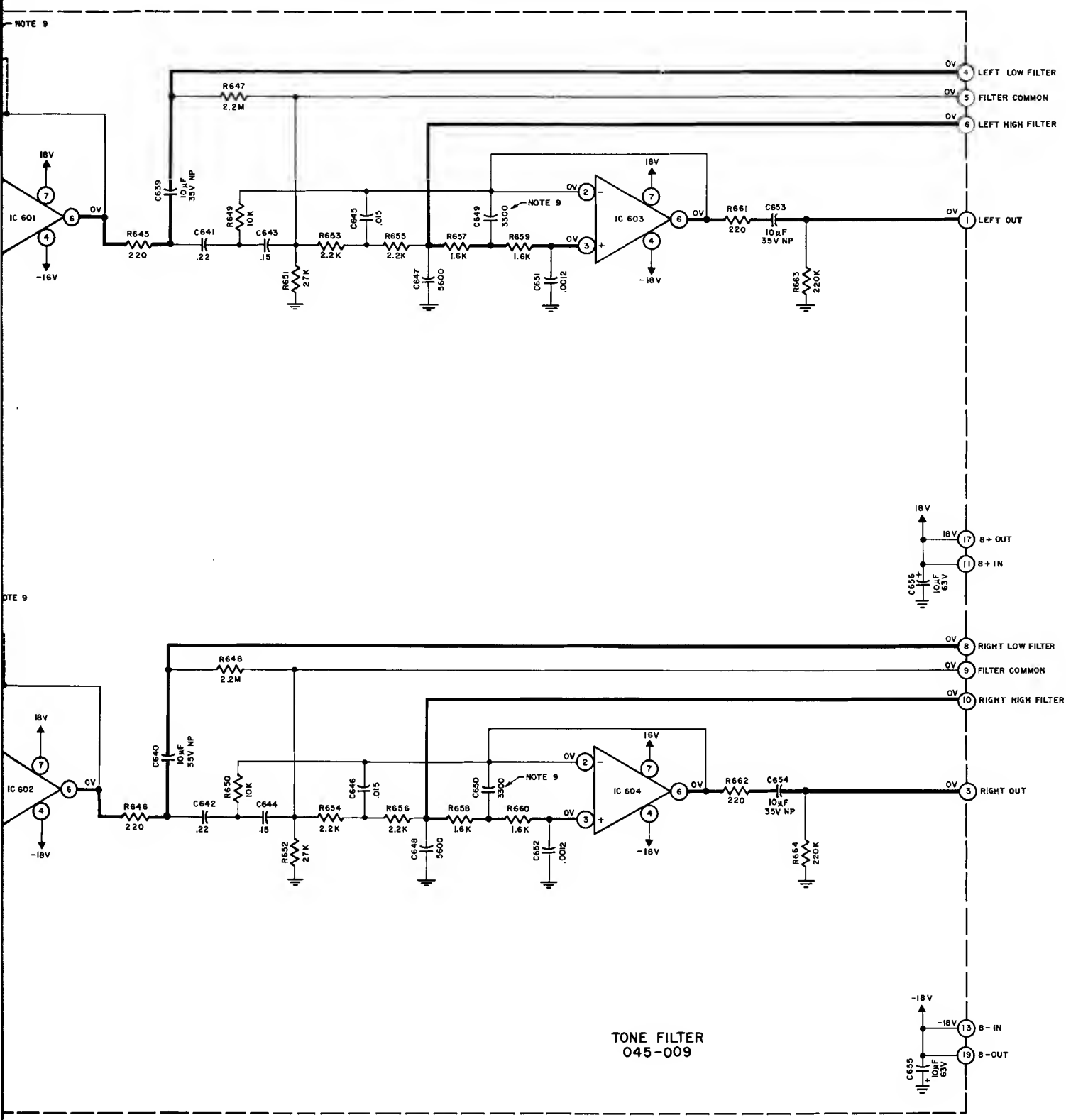


TONE FILTER PC BOARD
045-009

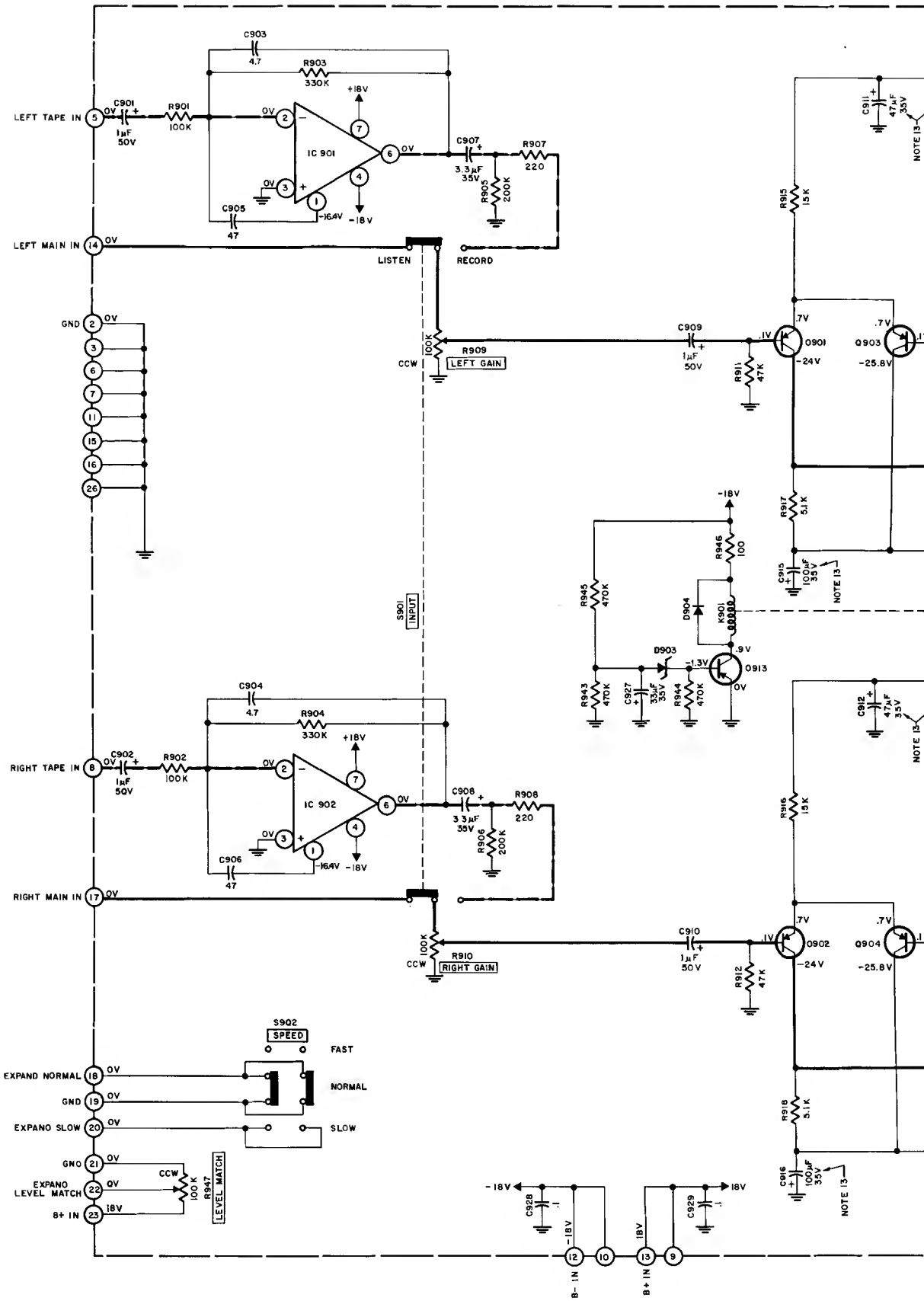




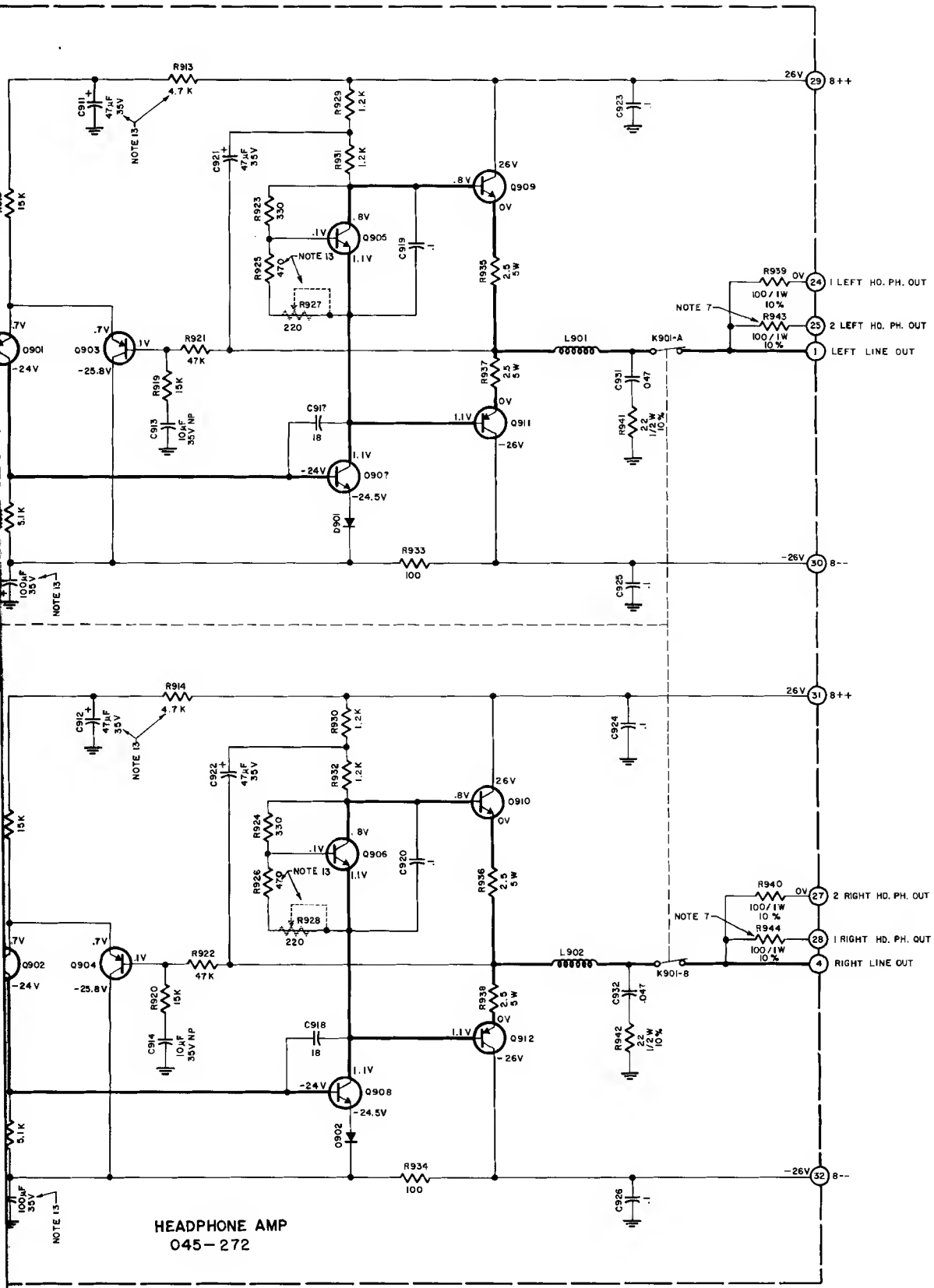
NOTE 9
C637
680
R643
3.3K
LEFT IN
14
OV
R607
3.3K
CCW
C601
10µF
35V
C607
1.5µF
35V
C613
.47
C619
.15
C625
.033
C603
.047
C609
.012
C615
3300
C621
1000
C627
100
C605
10
C611
10
C617
10
C623
10
C629
10
18V
R611
680
R617
680
R623
680
R629
680
R635
680
Q601
Q603
Q605
Q607
Q609
-1V
R609
100K
R615
100K
R621
100K
R627
100K
R633
100K
R613
2.7K
R619
2.7K
R625
2.7K
R631
2.7K
R637
2.7K
-18V
C635
10µF
35V NP
R639
150K
C631
.056
C633
.056
R641
390K
IC 601
NOTE 9
R601
30
R602
150
R603
500
R604
1500
R605
10K
NOTE 9
C638
680
R644
3.3K
RIGHT IN
16
R608
3.3K
C602
10µF
35V
C608
1.5µF
35V
C614
.47
C620
.15
C626
.033
C604
.047
C610
.012
C616
3300
C622
1000
C628
100
C606
10
C612
10
C618
10
C624
10
C630
10
R612
680
R618
680
R624
680
R630
680
R636
680
Q602
Q604
Q606
Q608
Q610
R610
100K
R616
100K
R622
100K
R628
100K
R634
100K
R614
2.7K
R620
2.7K
R626
2.7K
R632
2.7K
R638
2.7K
-16V
C636
10µF
35V NP
R640
150K
C632
.056
C634
.056
R642
390K
IC 602
NOTE 9
GND 15
GND 18
GND 7
GND 2
GND 12


NOTE 9
LEFT LOW FILTER
FILTER COMMON
LEFT HIGH FILTER
LEFT OUT
IC 601
IC 603
R647 2.2M
R645 220
C641 .22
C643 .15
R649 10K
R651 27K
R653 2.2K
C645 .015
R655 2.2K
C647 5600
R657 1.6K
C649 3300
R659 1.6K
C651 .0012
R661 220
C653 10µF 35V NP
R683 220K
C639 10µF 35V NP
18V
-16V
-18V
0V
8+ OUT
8+ IN
C656 10µF 63V
RIGHT LOW FILTER
FILTER COMMON
RIGHT HIGH FILTER
RIGHT OUT
IC 602
IC 604
R648 2.2M
R646 220
C642 .22
C644 .15
R650 10K
R652 27K
R654 2.2K
C646 .015
R656 2.2K
C648 5600
R658 1.6K
C650 3300
R660 1.6K
C652 .0012
R662 220
C654 10µF 35V NP
R664 220K
C640 10µF 35V NP
16V
8- IN
8-OUT
C655 10µF 63V
TONE FILTER
045-009

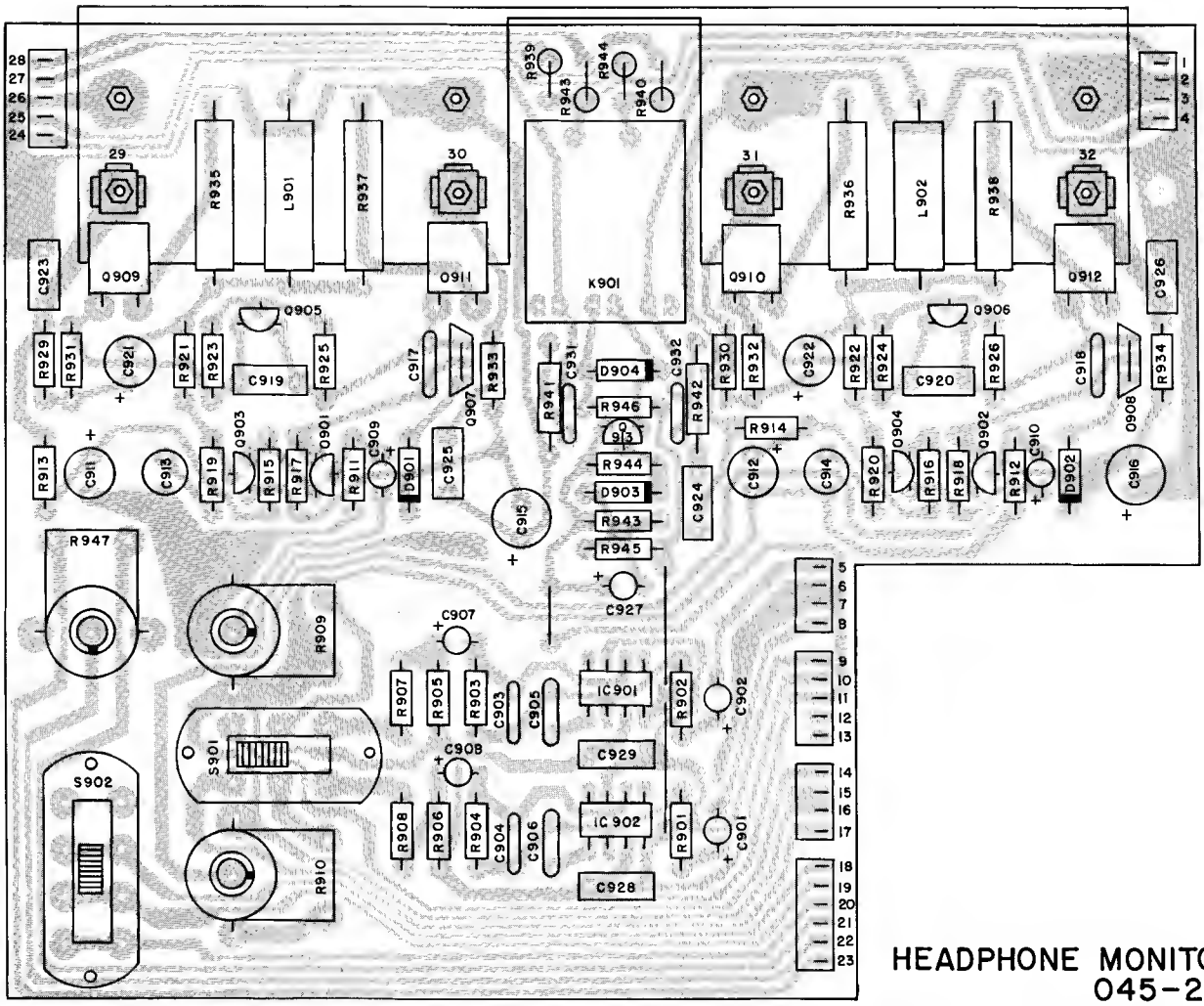
TONE FILTER



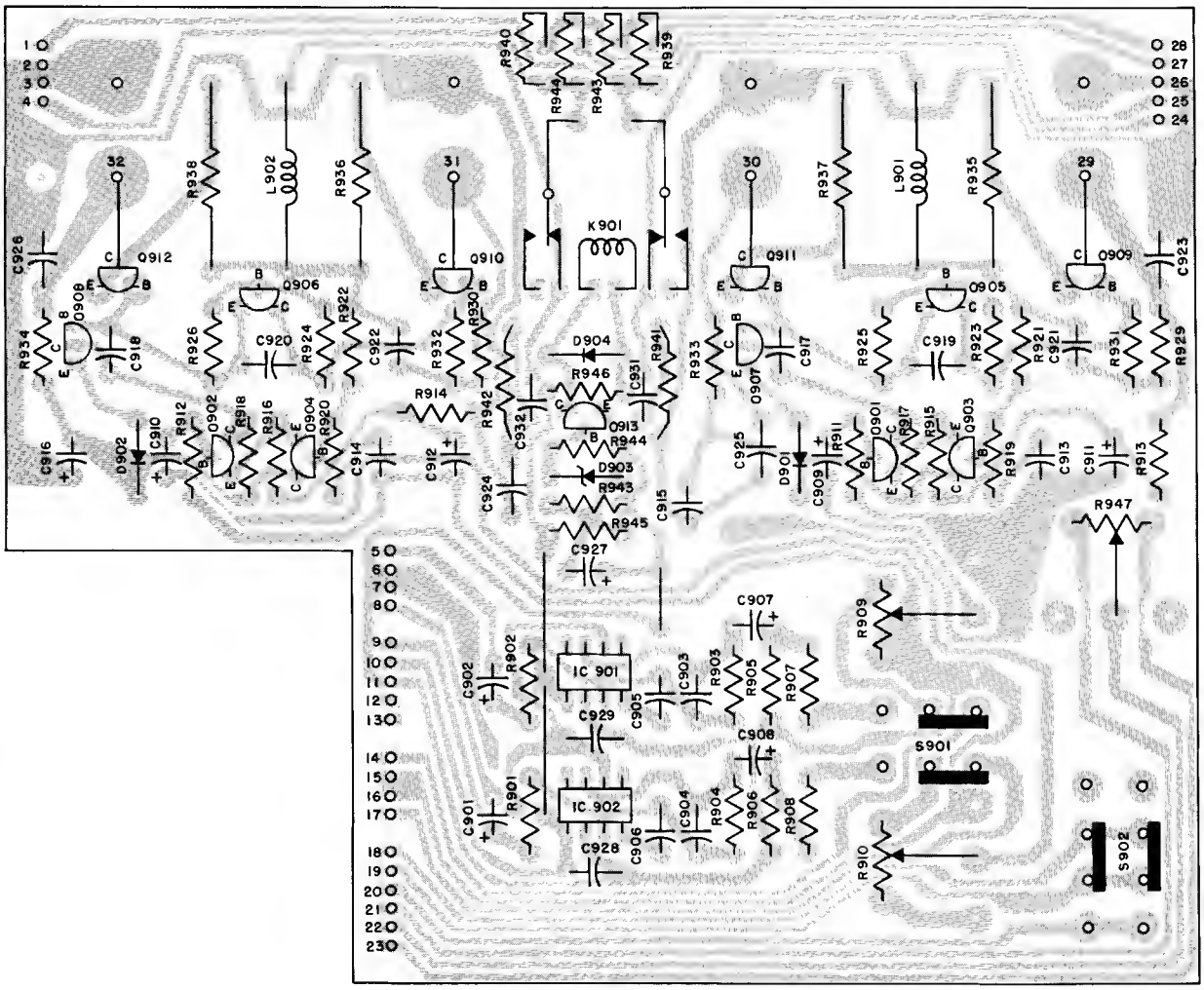
HEADPHONE AMP.

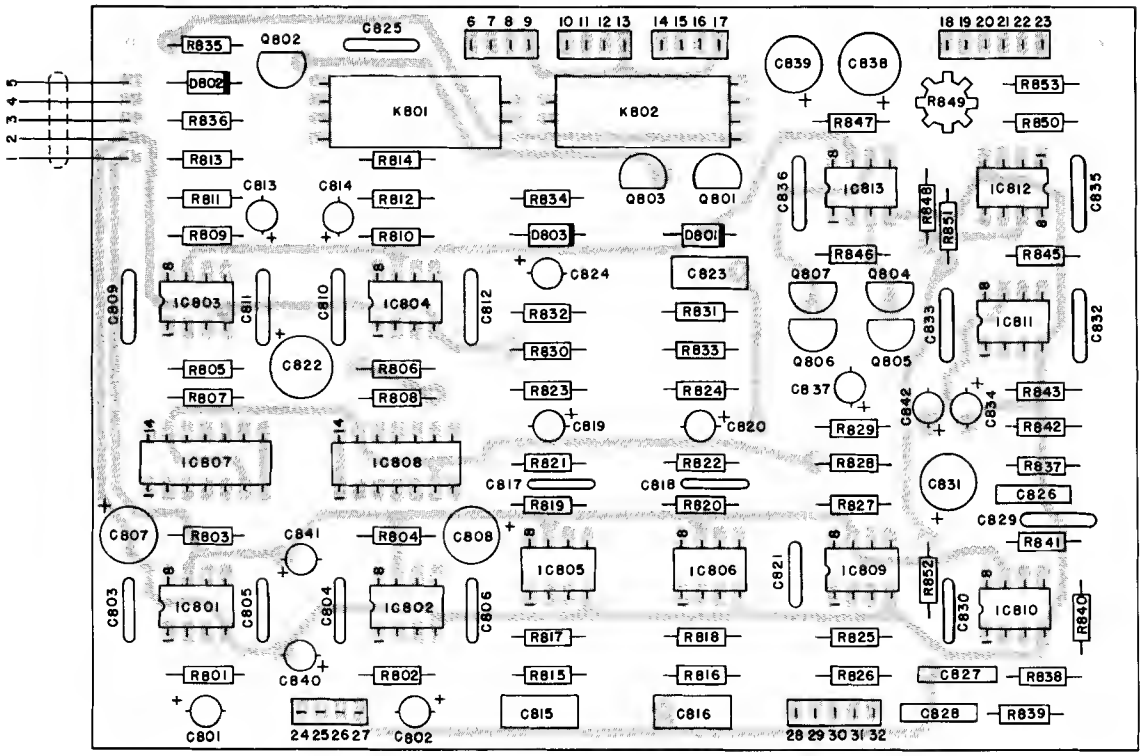


HEADPHONE AMP
045-272

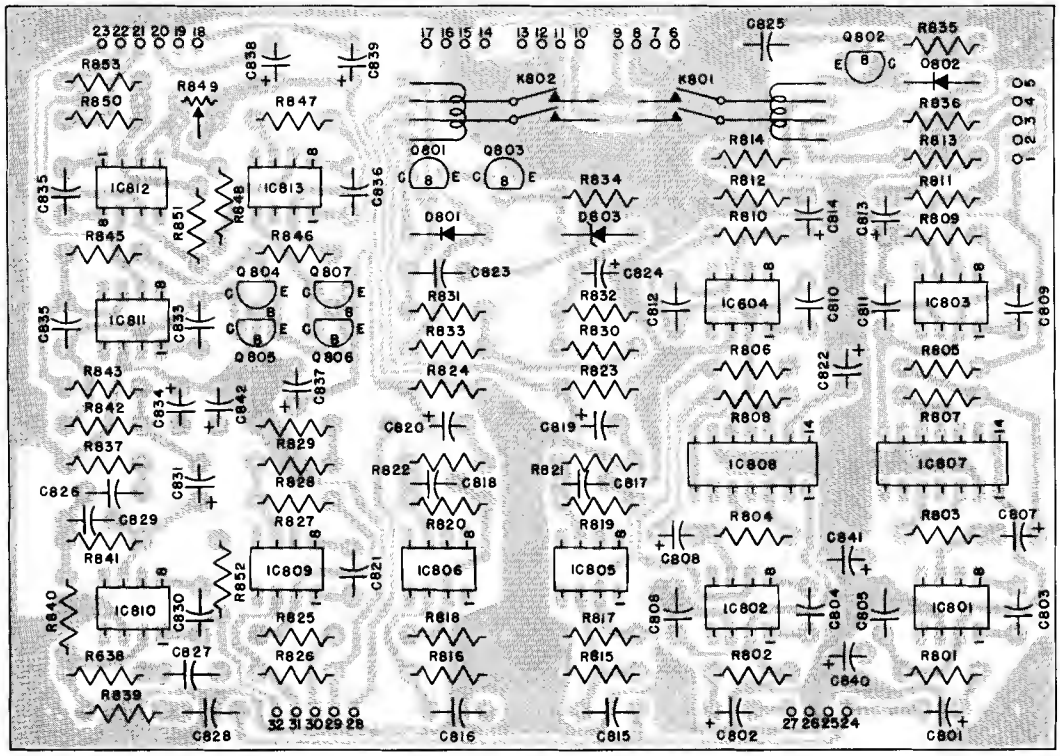


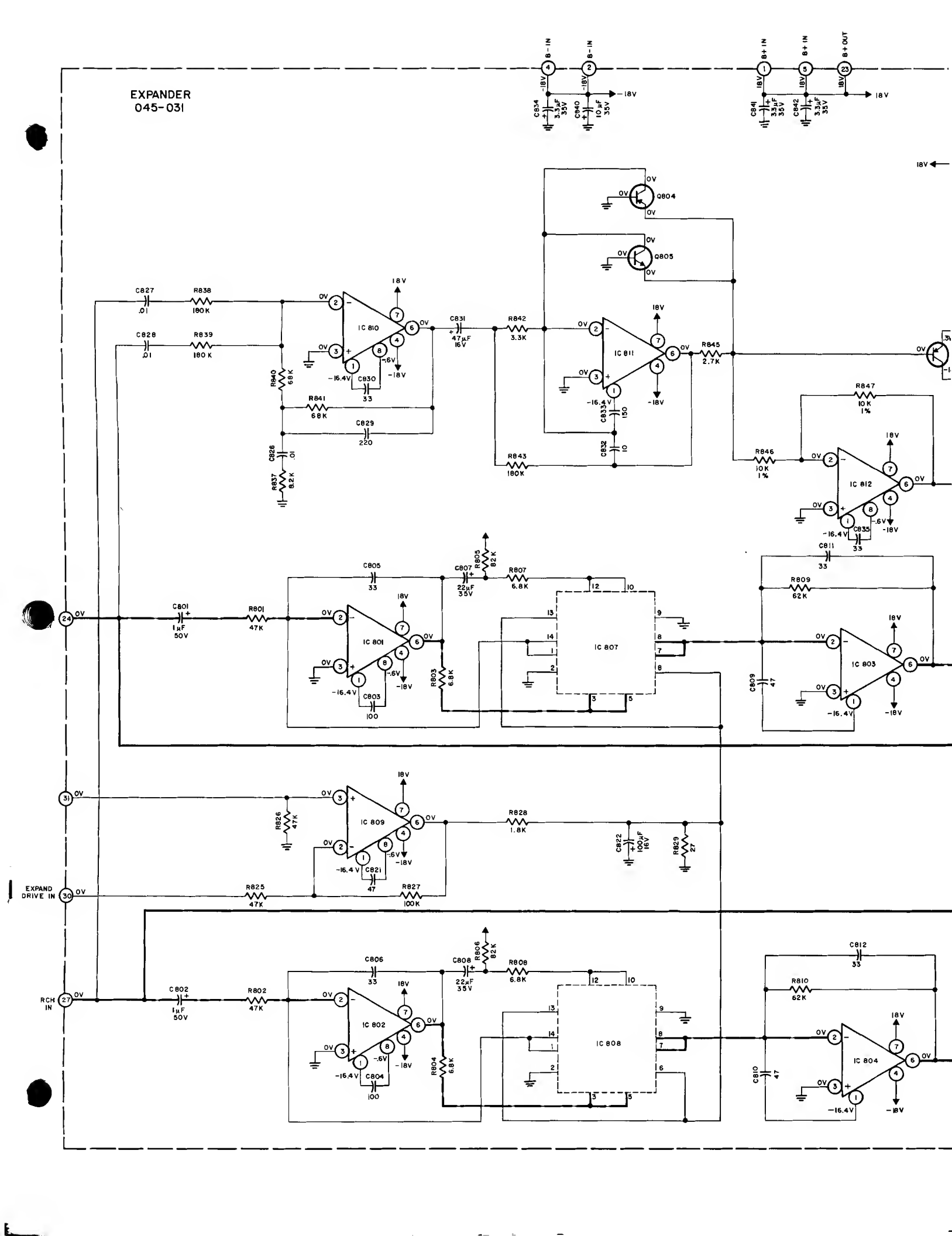
HEADPHONE MONITOR PC BOARD
045-272

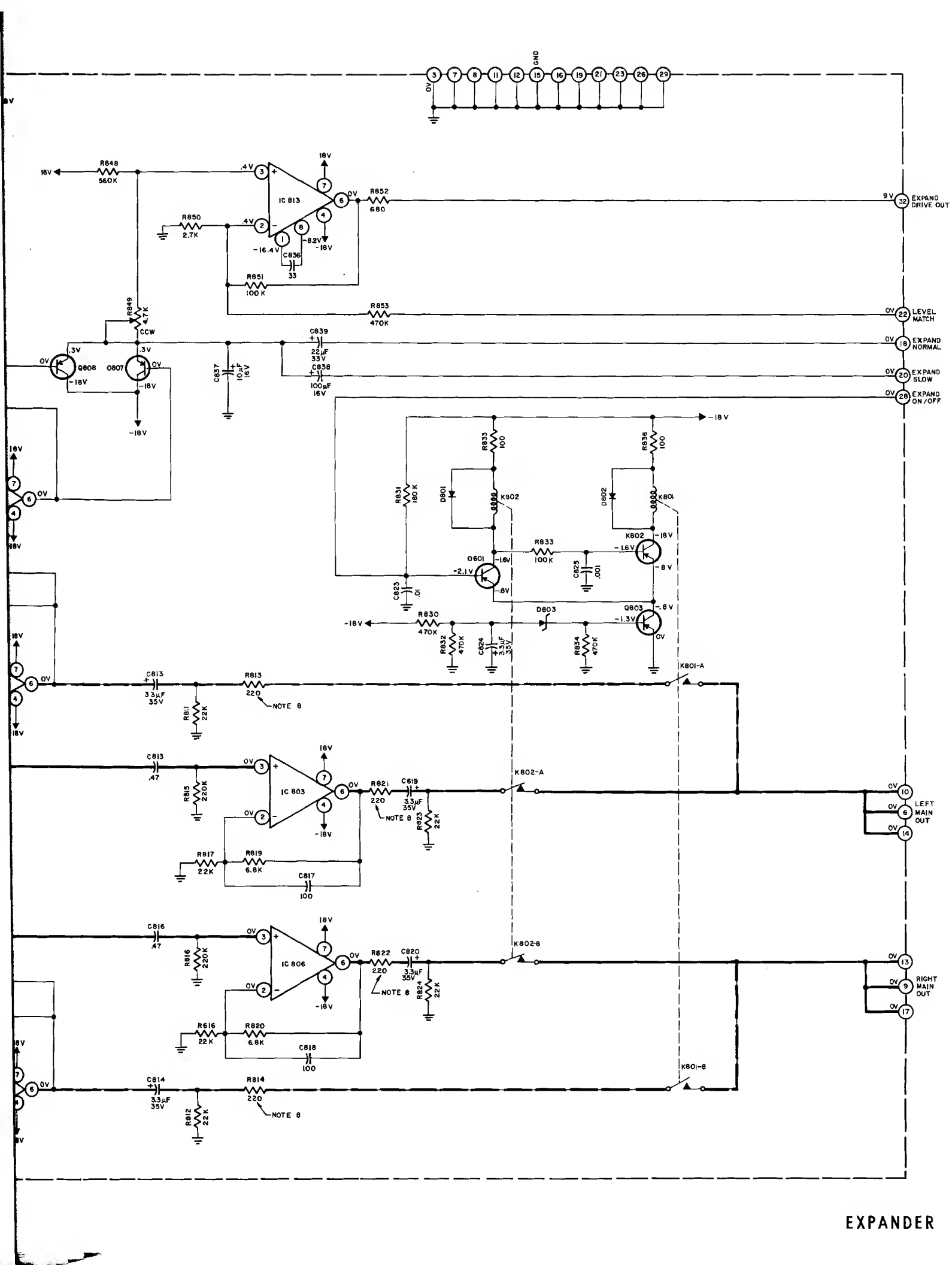




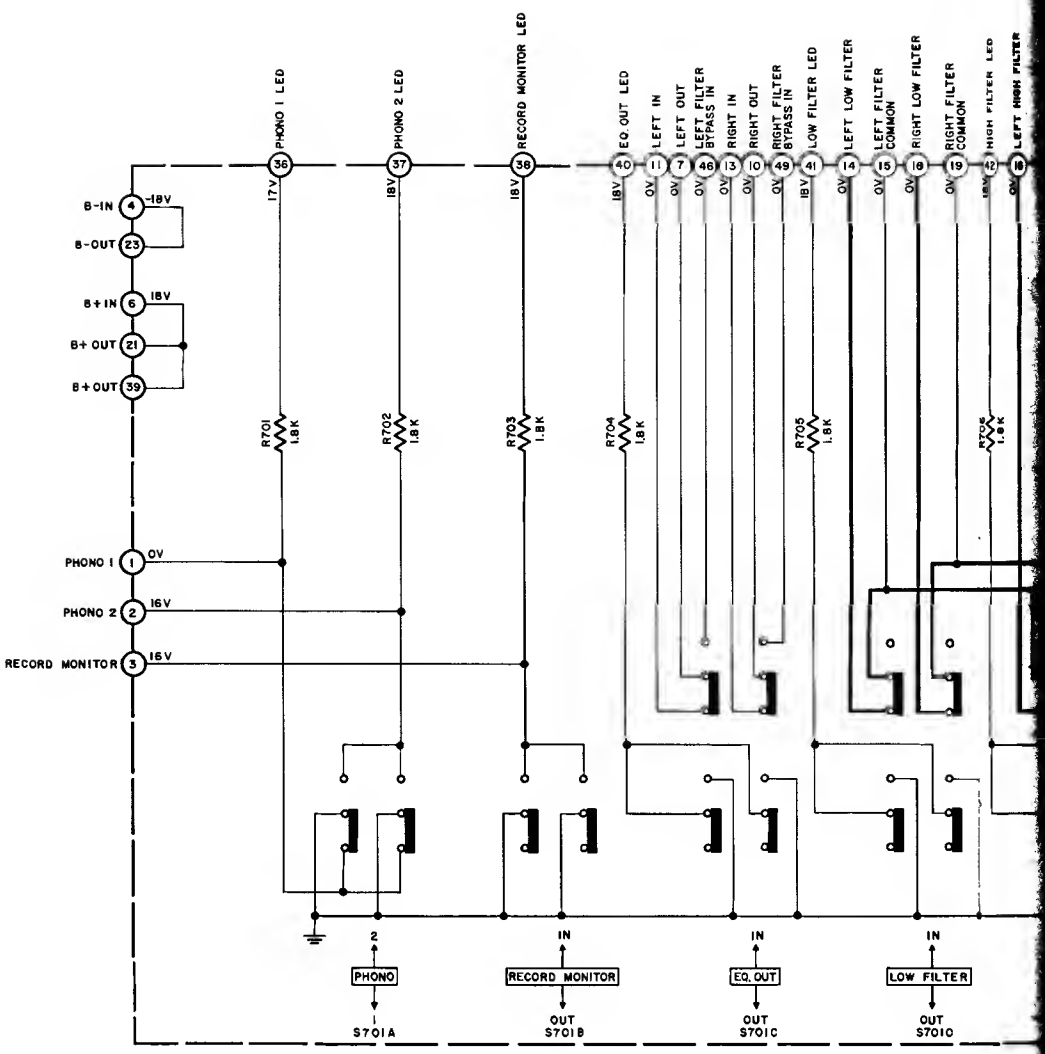
EXPANDER PC BOARD
045031



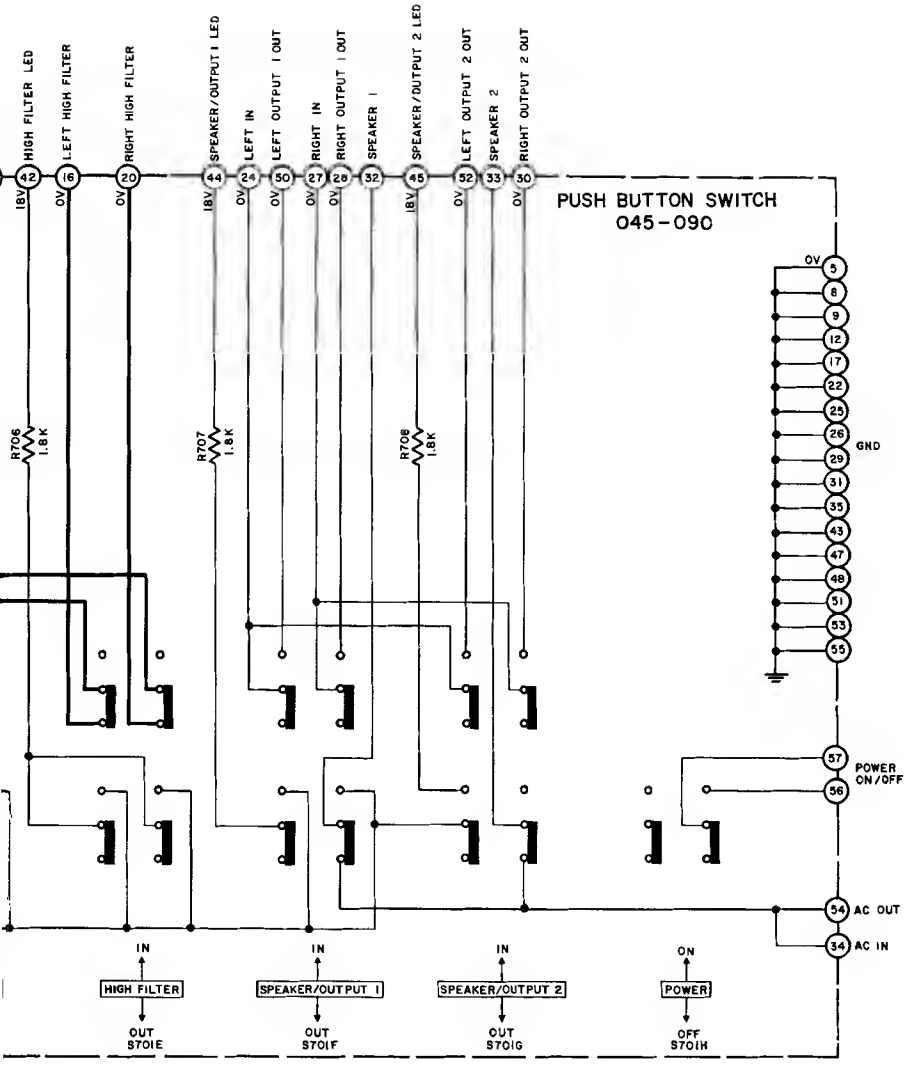

EXPANDER
045-031
B- IN
B- IN
B+ IN
B+ IN
B+ OUT
-18V
18V
C834
3.3µF 35V
C840
10 µF 35V
C841
3.3µF 35V
C842
3.3µF 35V
Q804
Q805
IC 810
IC 811
IC 812
IC 801
IC 802
IC 803
IC 804
IC 807
IC 808
IC 809
C827 .01
C828 .01
R838 180K
R839 180K
R840 68K
R841 68K
C829 220
C826 .01
R837 8.2K
C830 33
C831 47µF 16V
R842 3.3K
C833 150
C832 10
R843 180K
R845 2.7K
R847 10K 1%
R846 10K 1%
C835 33
C811 33
R809 62K
C809 47
C801 1µF 50V
R801 47K
C805 33
C807 22µF 35V
R805 82K
R807 6.8K
R803 6.8K
C803 100
C802 1µF 50V
R802 47K
C806 33
C808 22µF 35V
R806 82K
R808 6.8K
R804 6.8K
C804 100
C812 33
R810 62K
C810 47
R826 47K
C821 47
R825 47K
R827 100K
R828 1.8K
C822 100µF 16V
R829 27
EXPAND DRIVE IN
RCH IN

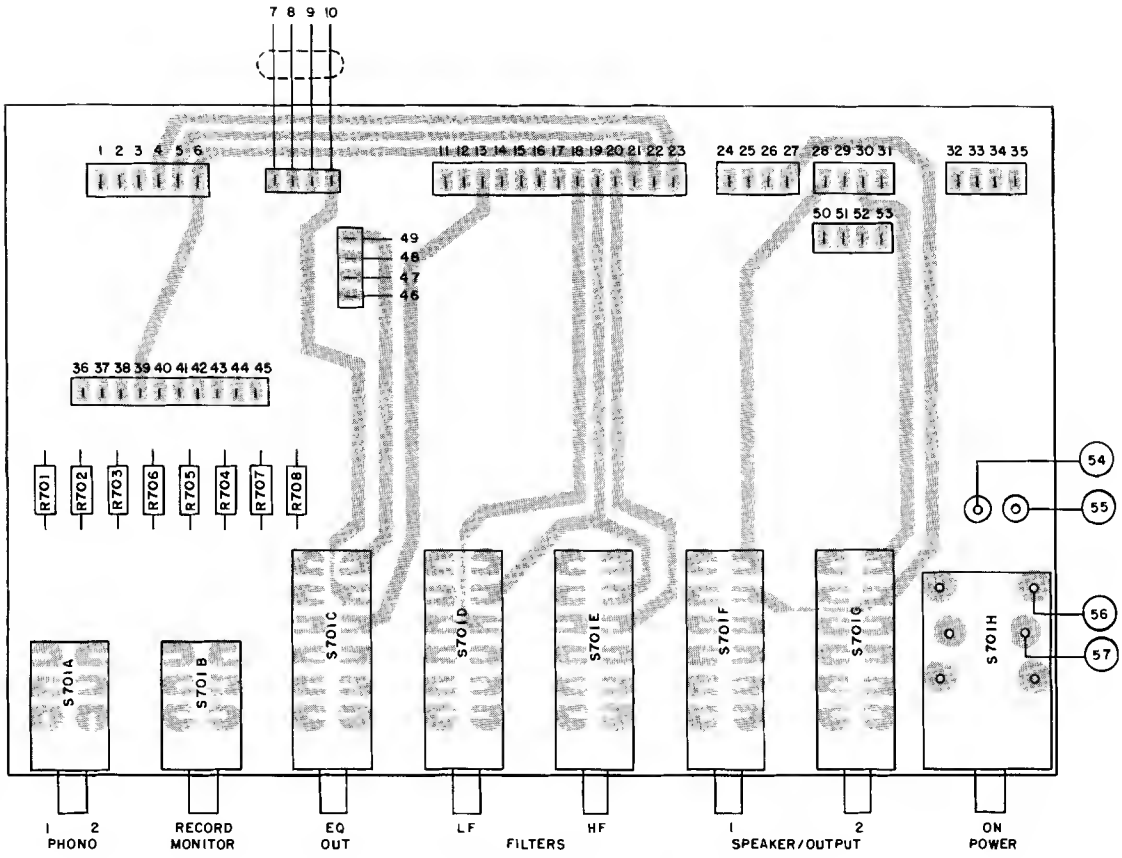

GND
3 7 8 11 12 15 16 19 21 23 26 29
0V
18V
R848 560K
IC 813
R850 2.7K
R852 680
9V 32 EXPAND DRIVE OUT
C836 33
R851 100K
R853 470K
0V 22 LEVEL MATCH
R849 4.7K CCW
C839 22µF 33V
C838 100µF 16V
C837 10µF 16V
Q808
Q807
0V 18 EXPAND NORMAL
0V 20 EXPAND SLOW
0V 28 EXPAND ON/OFF
R831 180K
R833 100
R836 100
D801
D802
K802
K801
Q601
R833 100K
C825 .001
C823 .01
R830 470K
D803
Q803
R832 470K
C824 3.3µF 35V
R834 470K
C813 3.3µF 35V
R811 22K
R813 220
NOTE 8
K801-A
C813 .47
R815 220K
IC 803
R821 220
C819 3.3µF 35V
R823 22K
K802-A
R817 22K
R819 6.8K
C817 100
0V 10
0V 6 LEFT MAIN OUT
0V 14
C816 .47
R816 220K
IC 806
R822 220
C820 3.3µF 35V
R824 22K
K802-B
R616 22K
R820 6.8K
C818 100
0V 13
0V 9 RIGHT MAIN OUT
0V 17
C814 3.3µF 35V
R812 22K
R814 220
NOTE 8
K801-B

EXPANDER

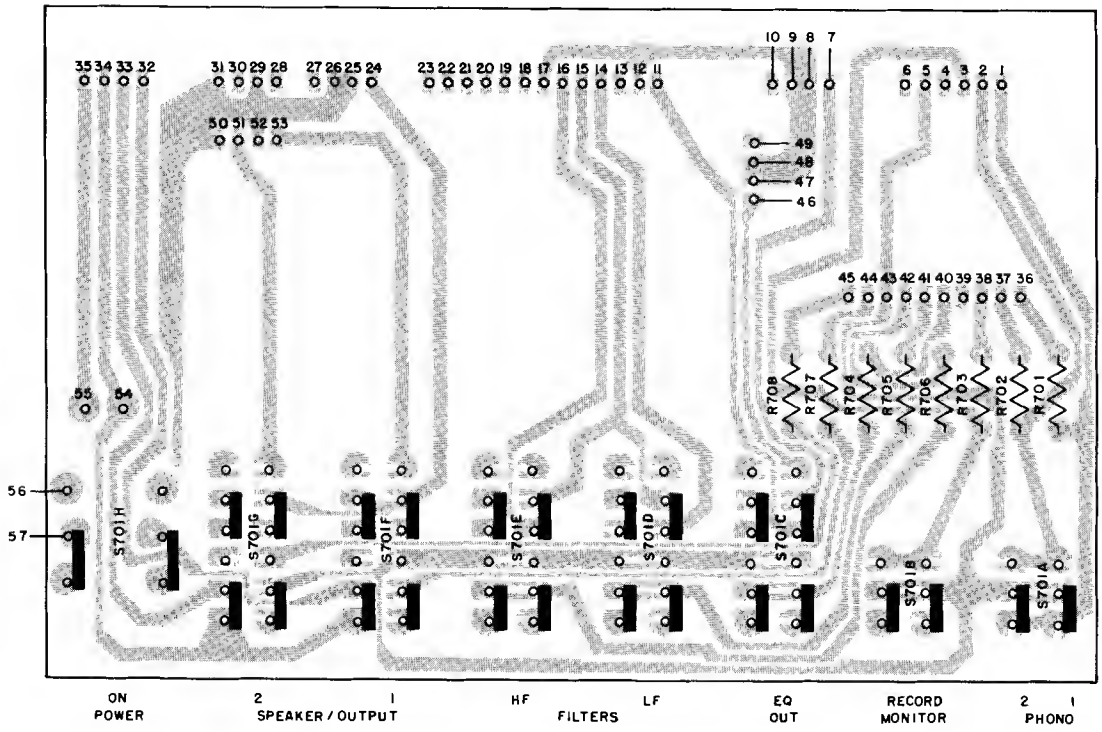


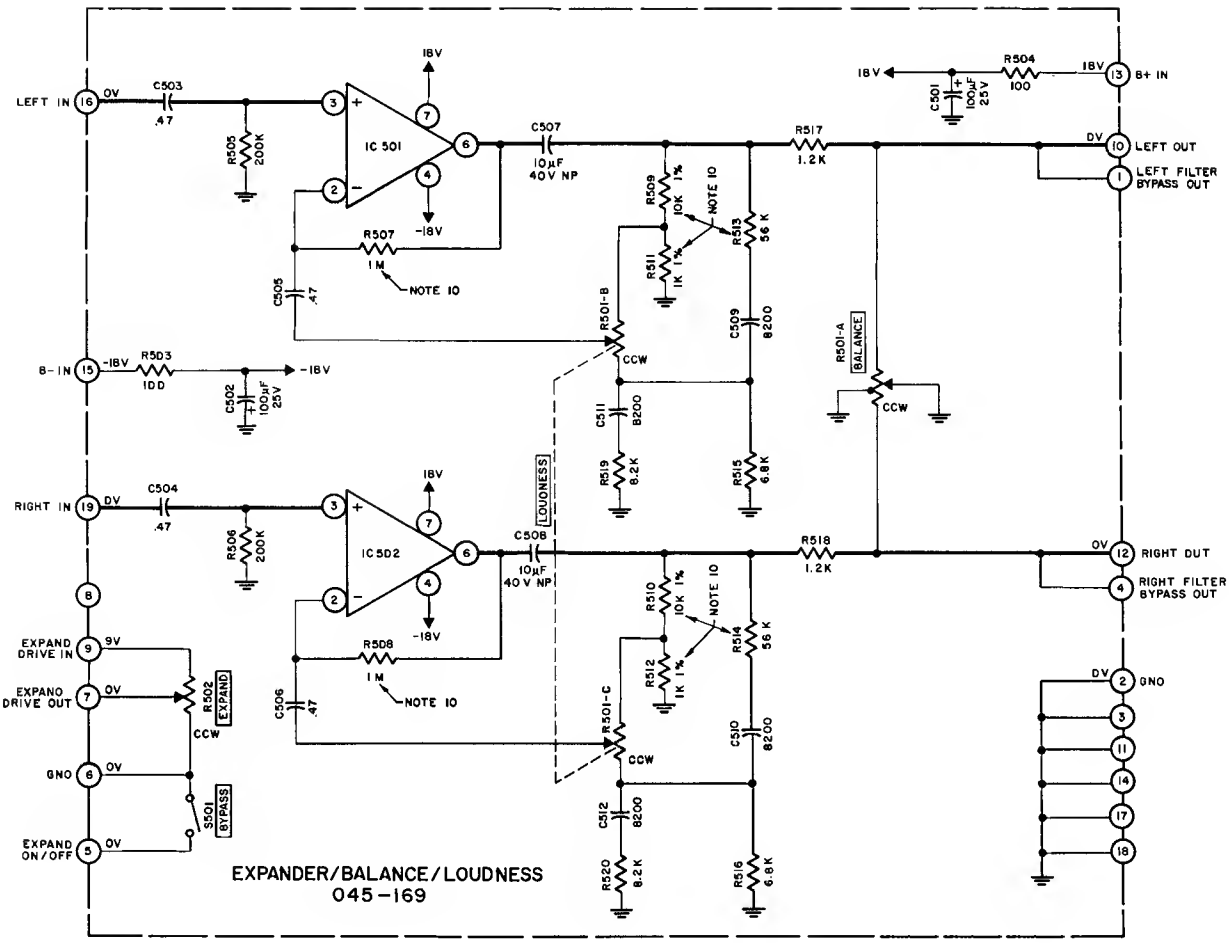
PUSHBUTTON SWITCH


HIGH FILTER LED
LEFT HIGH FILTER
RIGHT HIGH FILTER
SPEAKER/OUTPUT 1 LED
LEFT IN
LEFT OUTPUT 1 OUT
RIGHT IN
RIGHT OUTPUT 1 OUT
SPEAKER 1
SPEAKER/OUTPUT 2 LED
LEFT OUTPUT 2 OUT
SPEAKER 2
RIGHT OUTPUT 2 OUT
42
16
20
44
24
50
27
28
32
46
52
33
30
18V
0V
R706 1.8K
R707 1.8K
R708 1.8K
PUSH BUTTON SWITCH
045-090
5
8
9
12
17
22
25
26
29
31
35
43
47
48
51
53
55
GND
57
56
POWER ON/OFF
54
AC OUT
34
AC IN
IN
HIGH FILTER
OUT
S701E
IN
SPEAKER/OUTPUT 1
OUT
S701F
IN
SPEAKER/OUTPUT 2
OUT
S701G
ON
POWER
OFF
S701H

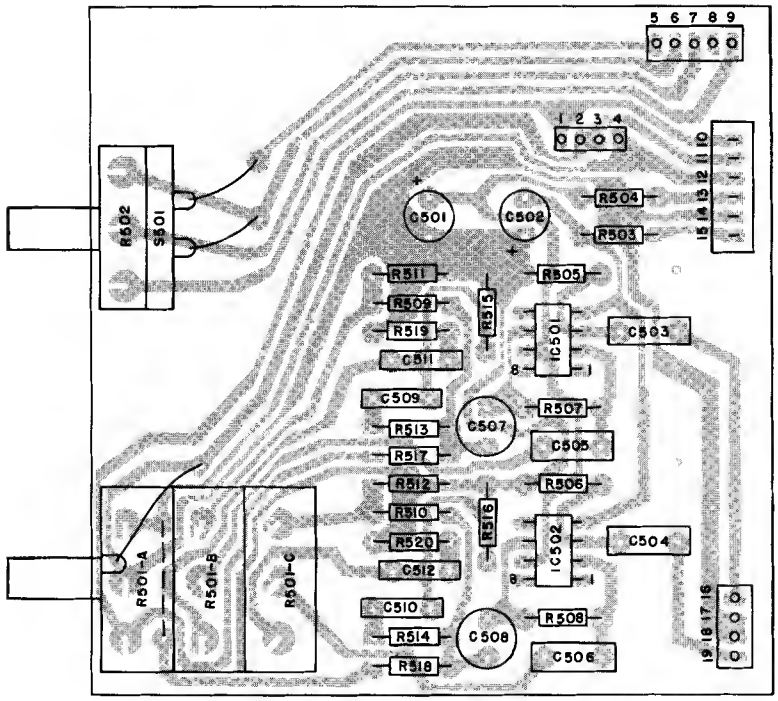


PUSH BUTTON SWITCH PC BOARD
045-090

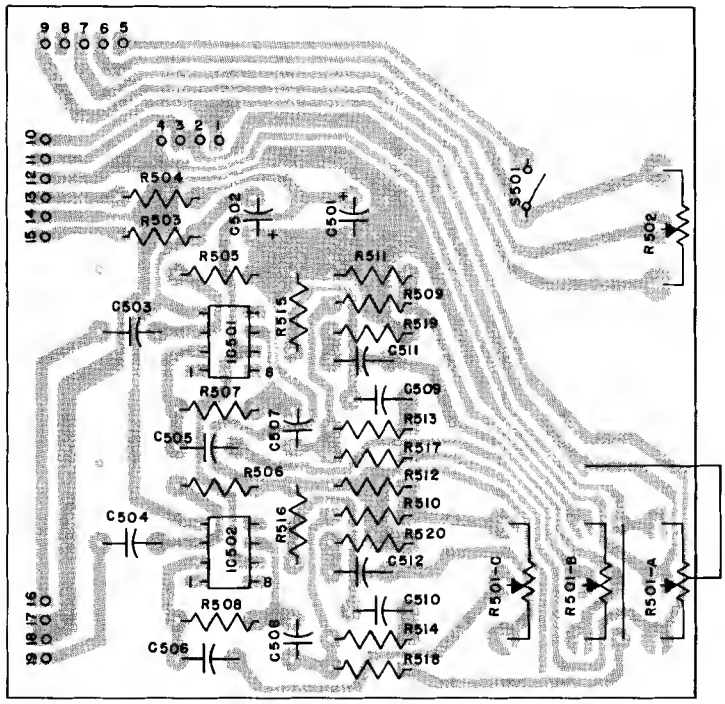


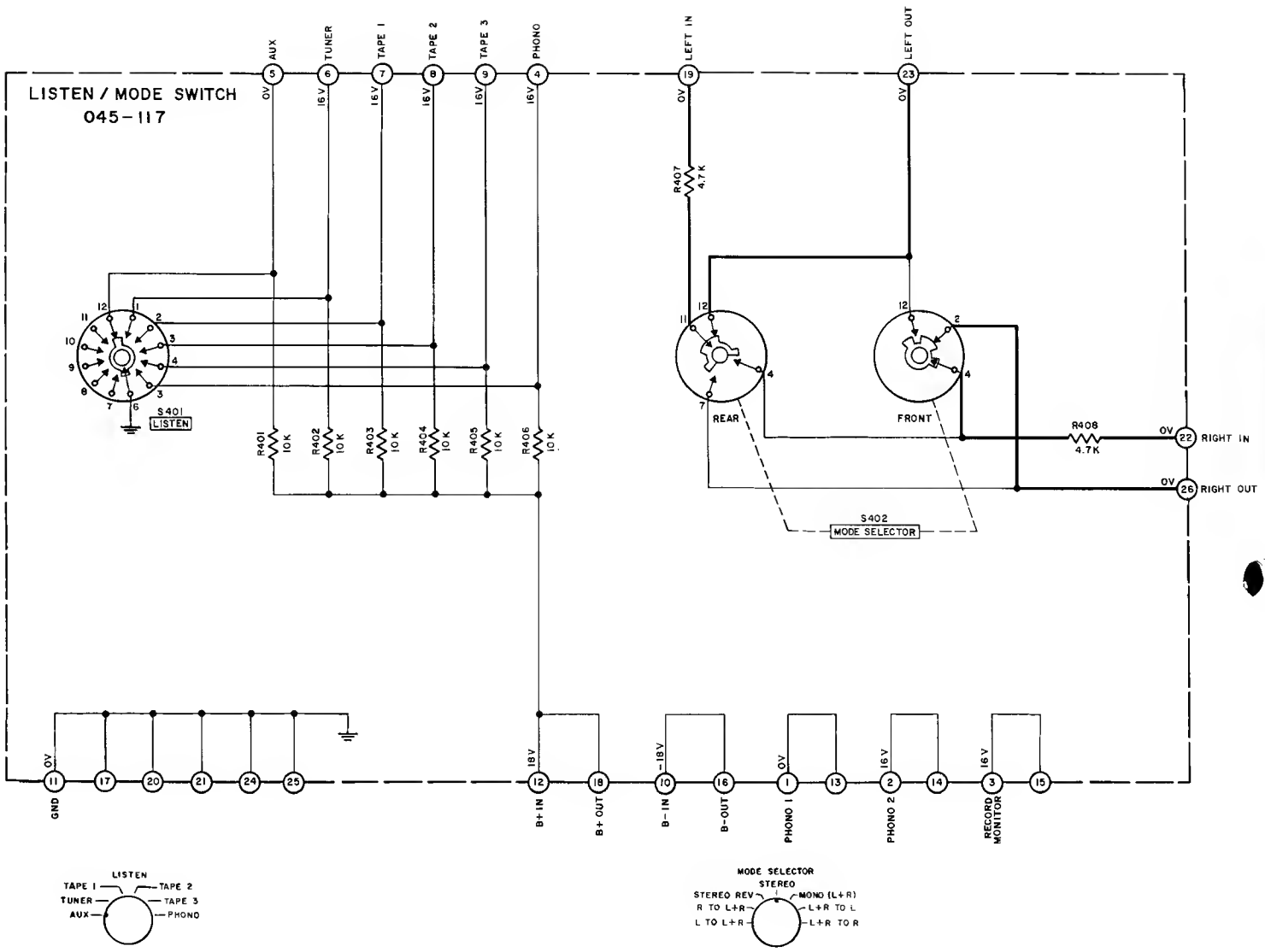

LEFT IN
RIGHT IN
B- IN
B+ IN
LEFT OUT
LEFT FILTER BYPASS OUT
RIGHT OUT
RIGHT FILTER BYPASS OUT
GND
EXPAND DRIVE IN
EXPAND DRIVE OUT
EXPAND ON/OFF
IC 501
IC 502
+18V
-18V
C503
C504
C505
C506
C507
C508
C509
C510
C511
C512
C501
C502
R505 200K
R506 200K
R507 1M
R508 1M
R509 10K 1%
R510 10K 1%
R511 1K 1%
R512 1K 1%
R513 56 K
R514 56 K
R515 6.8K
R516 6.8K
R517 1.2K
R518 1.2K
R519 8.2K
R520 8.2K
R503 100
R504 100
R501-A BALANCE
R501-B
R501-C
R502 EXPAND
S501 BYPASS
LOUDNESS
NOTE 10
CCW
EXPANDER/BALANCE/LOUDNESS
045-169

C32

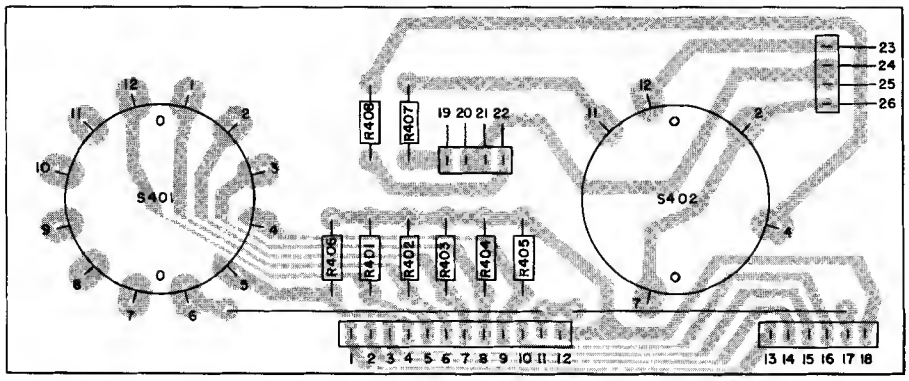


EXPANDER, BALANCE & LOUDNESS PC BOARD
045-169

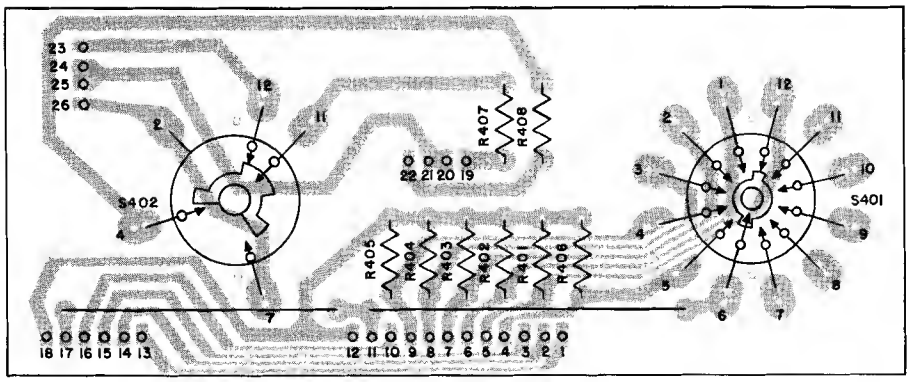


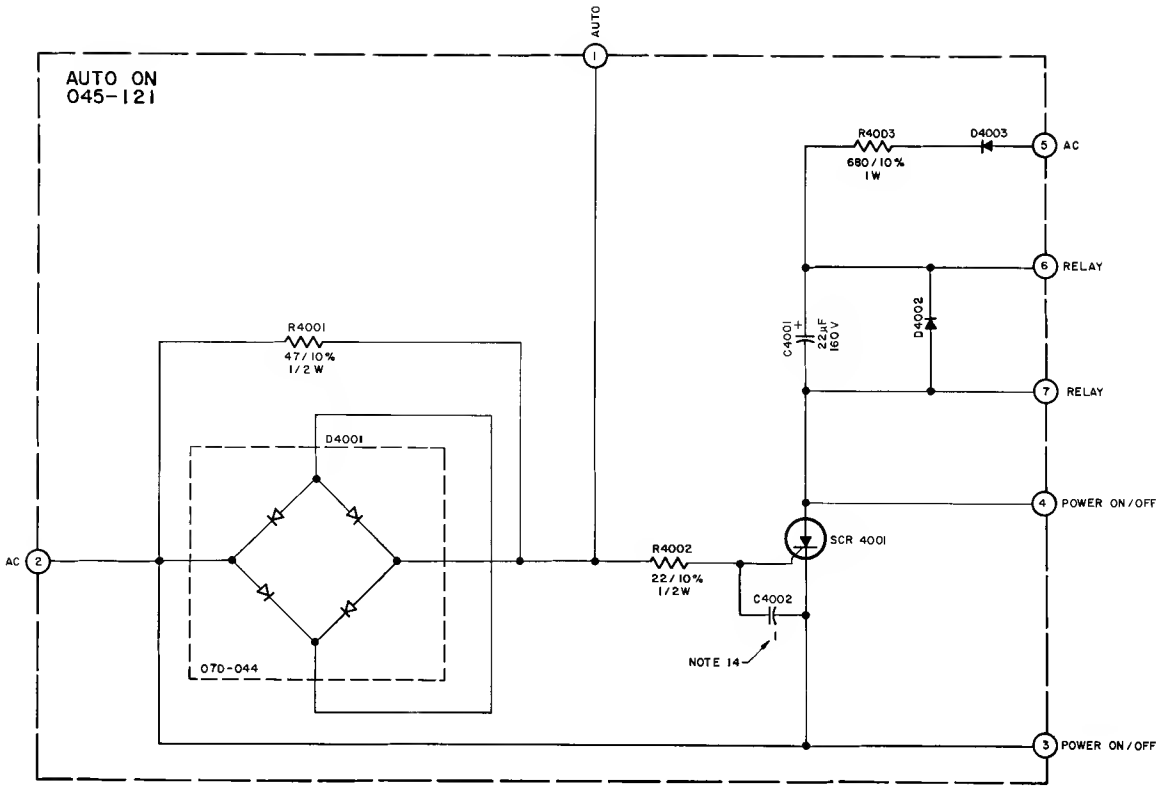


LISTEN/MODE SWITCH

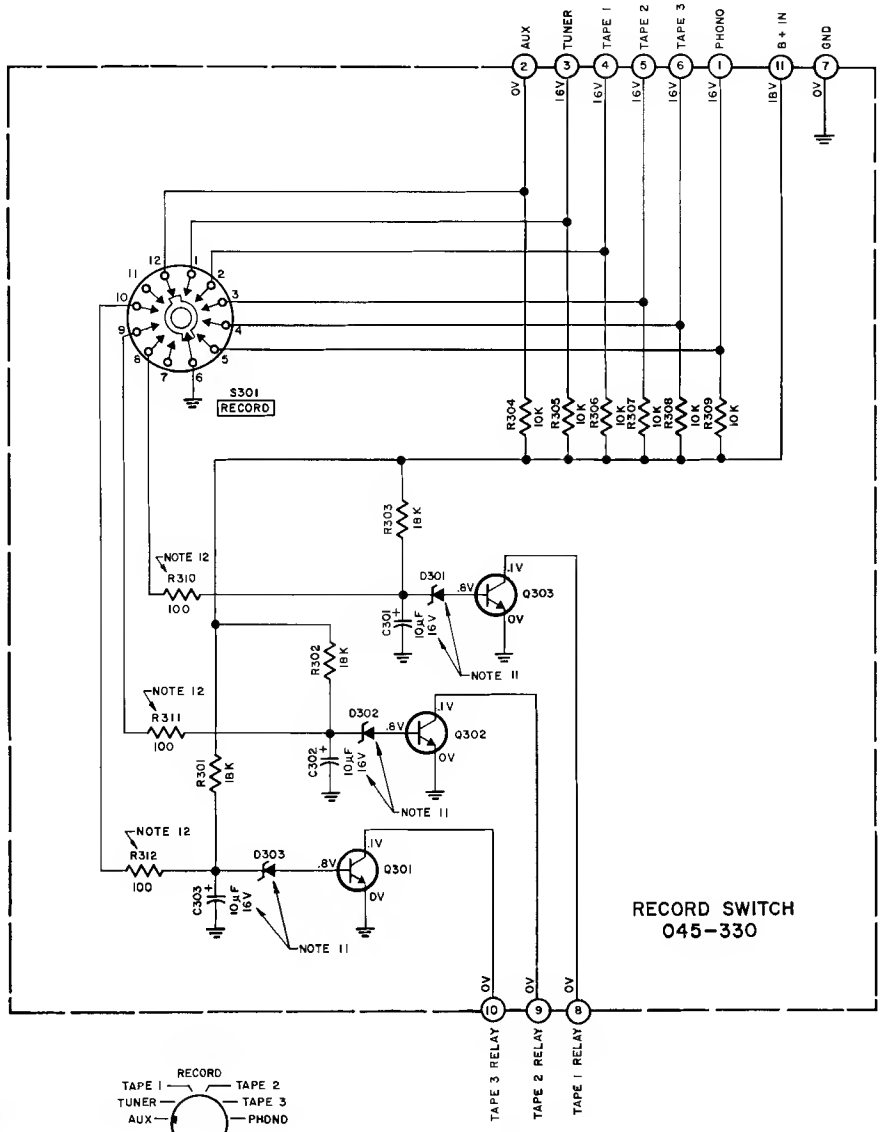


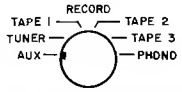
LISTEN-MODE SWITCH PC BOARD
045-117



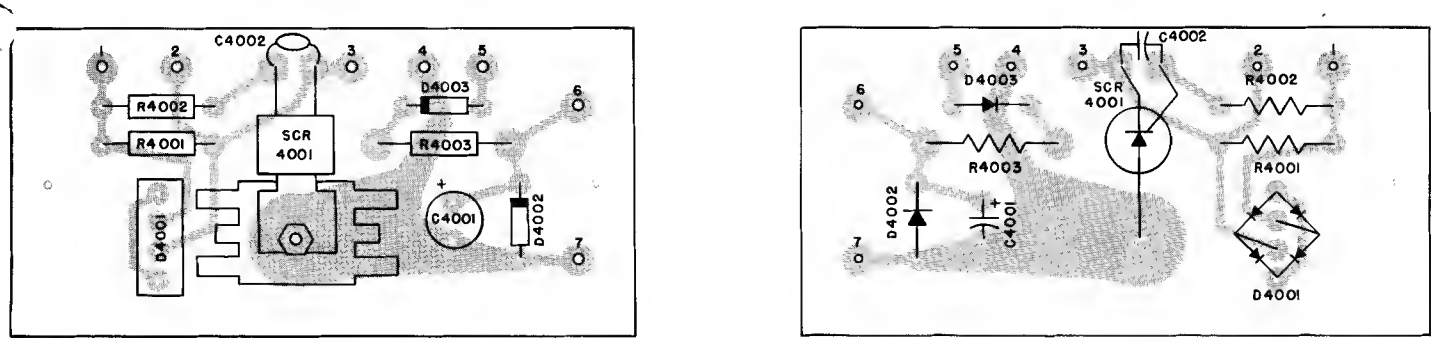


AUTO TURN ON

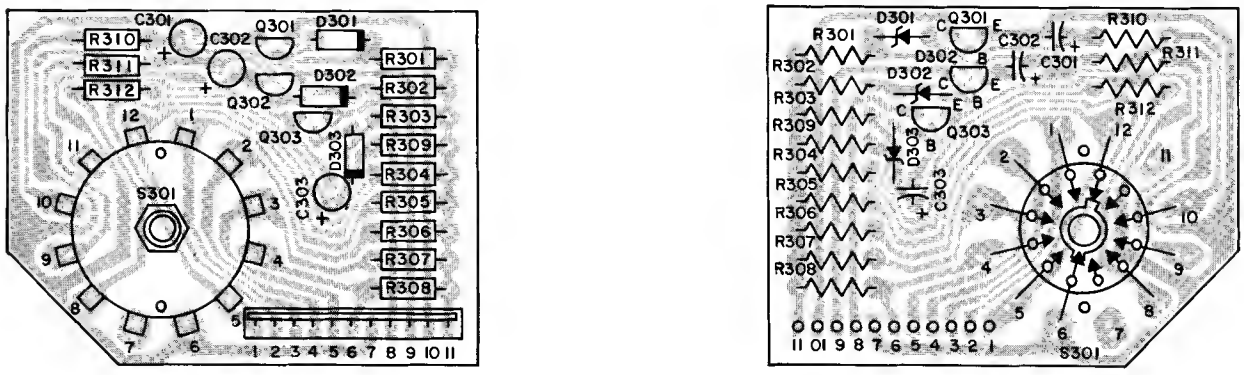




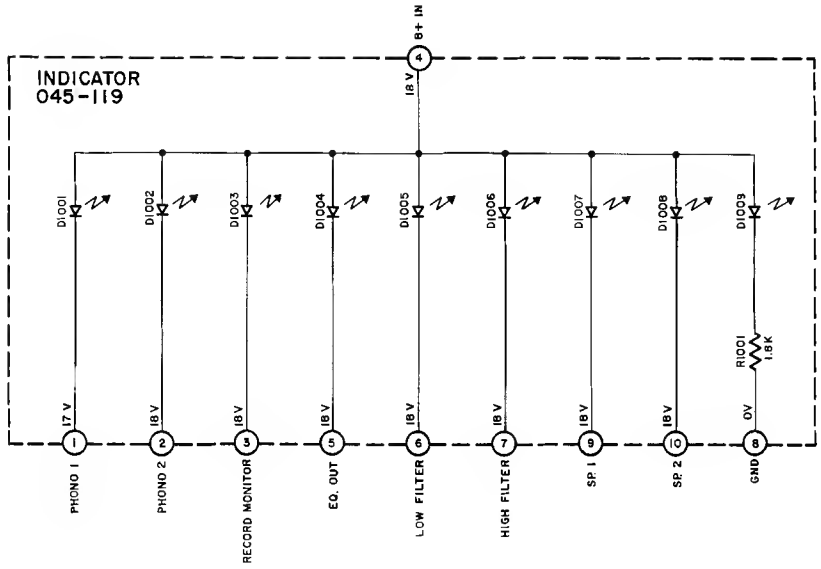
RECORD SWITCH



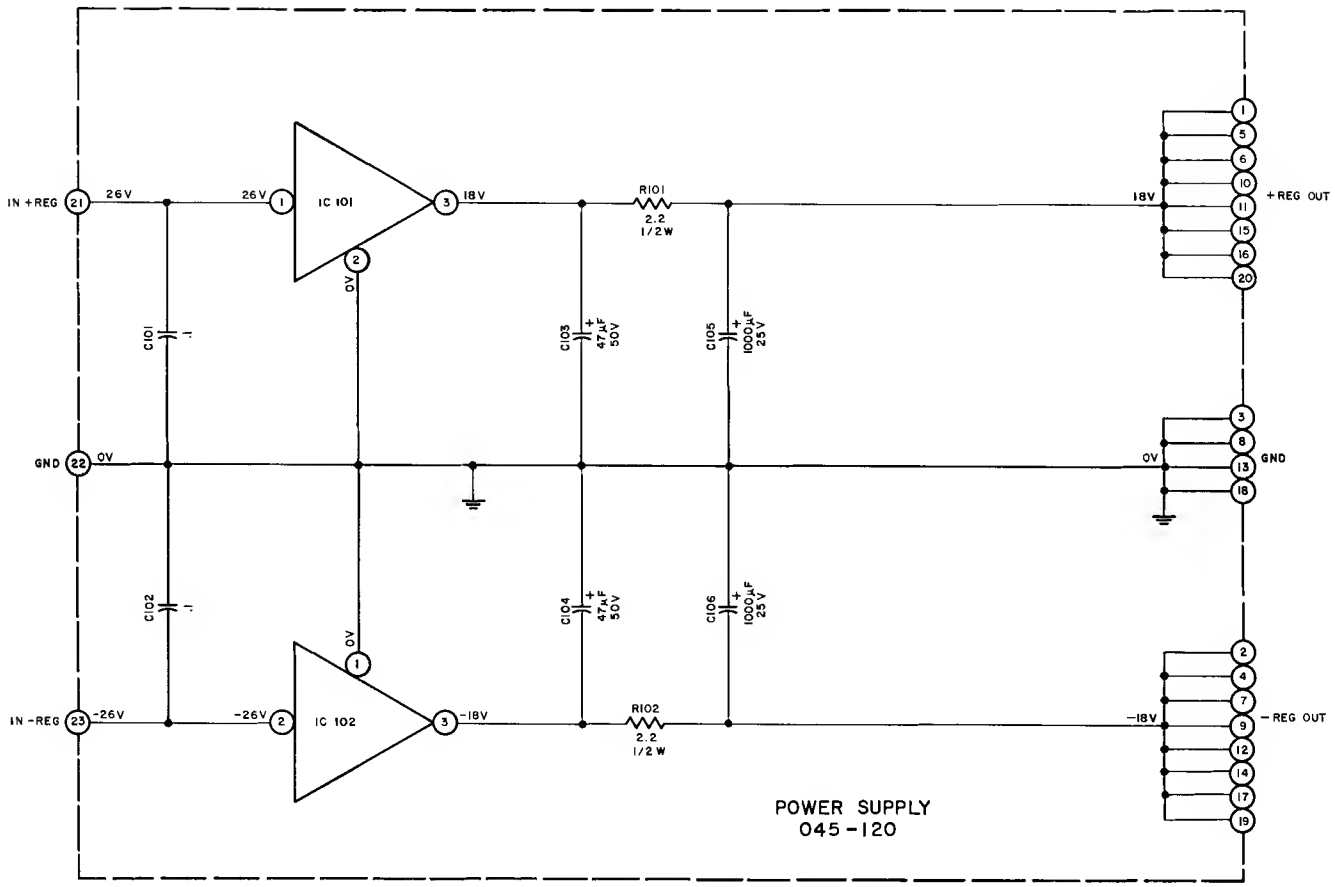
AUTO-ON PC BOARD
045-121



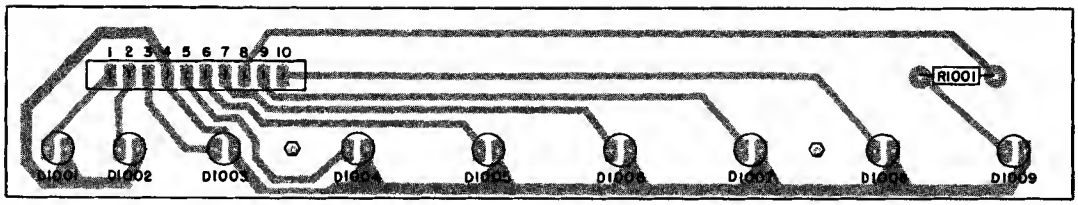
RECORD SWITCH PC BOARD
045-330



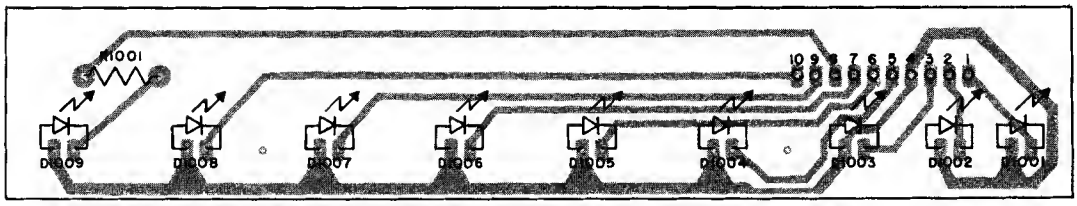
INDICATOR

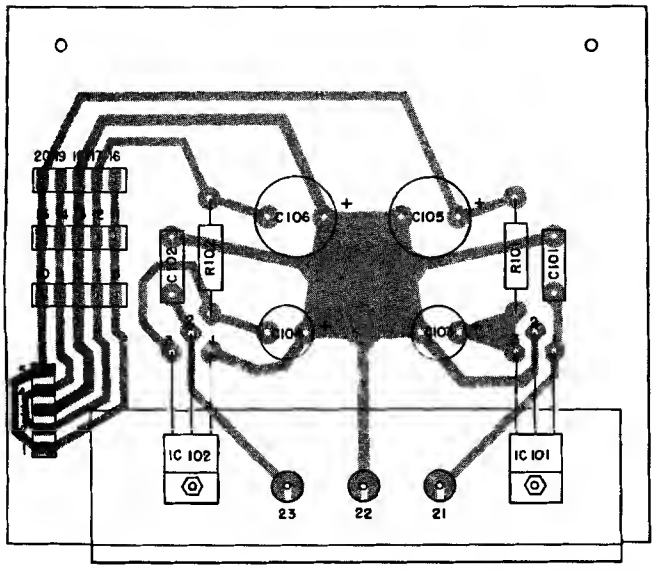


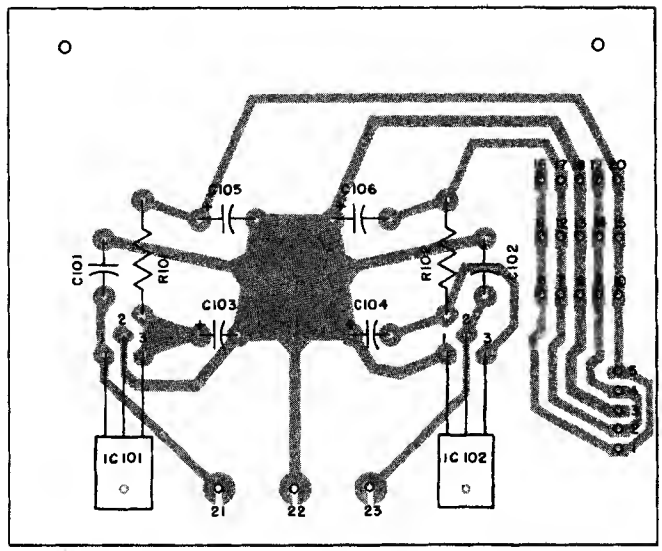
POWER SUPPLY



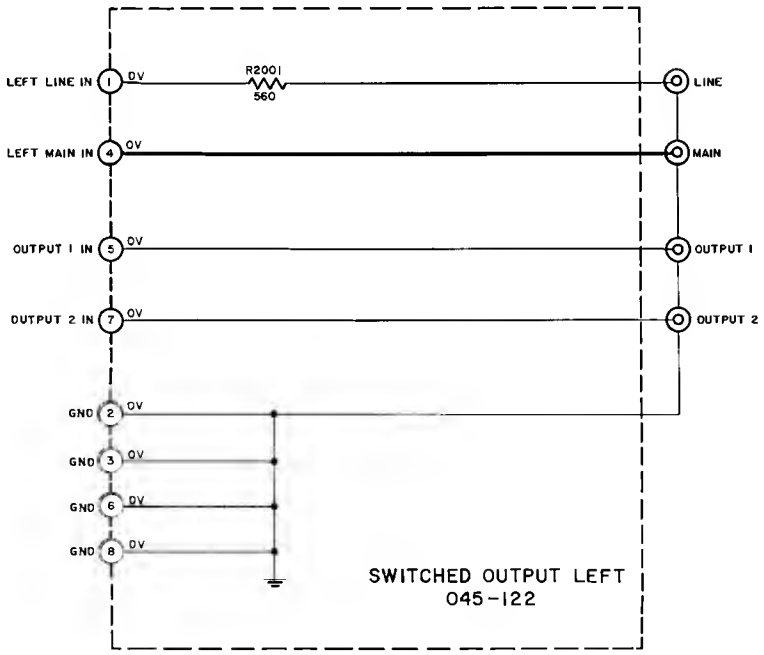
PUSH BUTTON SW. IND. PC BOARD
045-119

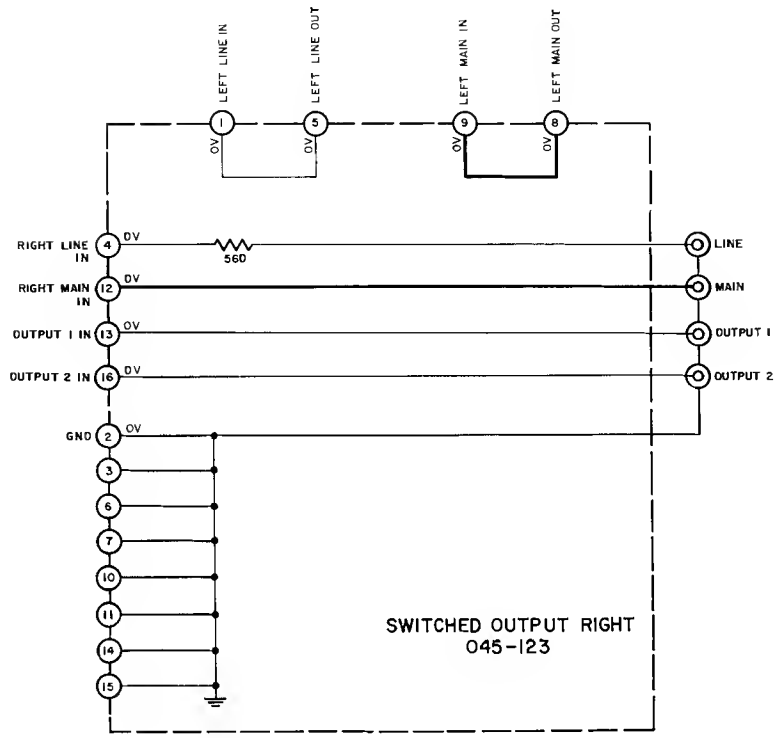


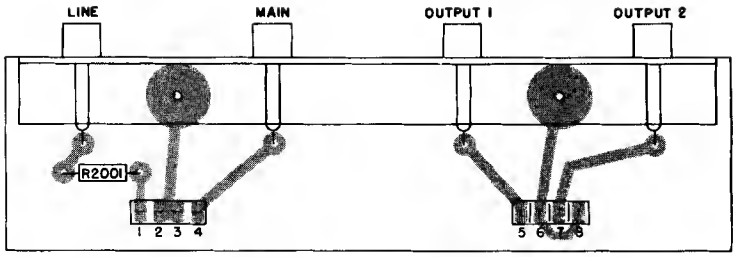




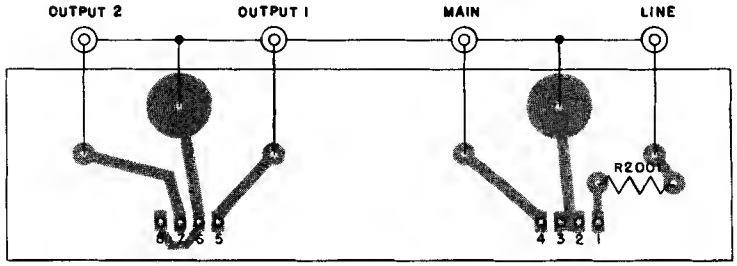
POWER SUPPLY PC BOARD
045-120

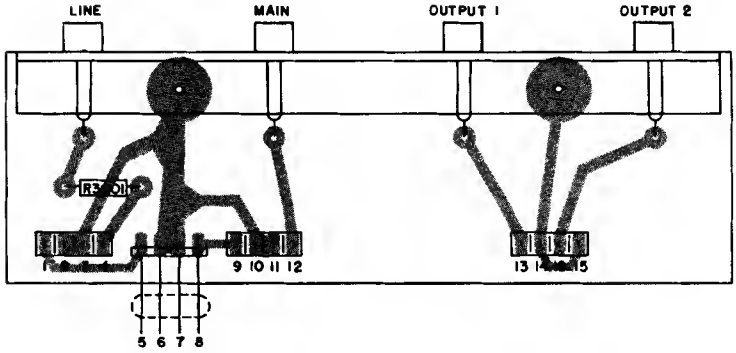

LEFT LINE IN
1
0V
R2001
560
LINE
LEFT MAIN IN
4
0V
MAIN
OUTPUT 1 IN
5
0V
OUTPUT 1
OUTPUT 2 IN
7
0V
OUTPUT 2
GND
2
0V
GND
3
0V
GND
6
0V
GND
8
0V
SWITCHED OUTPUT LEFT
045-122


LEFT LINE IN
LEFT LINE OUT
LEFT MAIN IN
LEFT MAIN OUT
1
5
9
8
0V
RIGHT LINE IN
4
0V
560
LINE
RIGHT MAIN IN
12
0V
MAIN
OUTPUT 1 IN
13
0V
OUTPUT 1
OUTPUT 2 IN
16
0V
OUTPUT 2
GND
2
0V
3
6
7
10
11
14
15
SWITCHED OUTPUT RIGHT
045-123

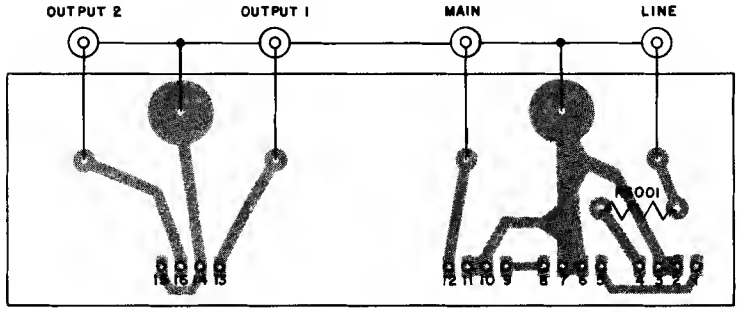


LEFT SWITCH OUTPUT PC BOARD
045-122





RIGHT SWITCH OUTPUT PC BOARD
045-123



All parts not listed are common items obtainable from radio parts jobbers.

Replacement parts may be obtained when ordered by PART NUMBER from:

McIntosh Laboratory, Inc.
Customer Service Department
2 Chambers Street
Binghamton, New York 13903
(Telephone 607-723-3512)

DIODES

Symbol Number	Description		Part Number
D1	Bridge		070-044
D204,205	Zener	12V	070-099
D206,207	Si. signal diode		070-047
D208,209	Si. signal diode		070-047
D210,211	Si. signal diode		070-096
D212,213	Zener	12V	070-099
D214,215	Zener	12V	070-099
D216,217	Zener	12V	070-099
D218,219	Zener	12V	070-099
D220,221	Zener	12V	070-099
D222,223	Zener	12V	070-099
D224,225	Zener	12V	070-099
D226,227	Zener	12V	070-099
D228,229	Zener	12V	070-099
D230,231	Zener	12V	070-099
D232,233	Si. signal diode		070-047
D234,235	Si. signal diode		070-047
D236,237	Si. signal diode		070-047
D238,239	Si. signal diode		070-047
D240,241	Zener	12V	070-099
D301,302	Zener	6.2V	070-085
D303	Zener	6.2V	070-085
D801,802	Si. signal diode		070-047
D803	Zener	6.2V	070-085
D901,902	Si. signal diode		070-046
D903	Zener	6.2V	070-085
D901,902	Si. signal diode		070-046
D903	Zener	6.2V	070-085
D904	Si. signal diode		070-047
D1001,1002	LED lamp		070-093
D1003,1004	LED lamp		070-093
D1005,1006	LED lamp		070-093
D1007,1008	LED lamp		070-093
D1009	LED lamp		070-093
D4001	Bridge Rectifier		070-044
D4002	Si. Rectifier		070-031
D4003	Si. Rectifier		070-059
SCR4001	SCR		131-008

TRANSISTORS

Q200,201	NPN Si Transistor	132-093
Q202,203	NPN Si Transistor	132-093
Q204,205	PNP Si Transistor	132-096
Q206,207	NPN Si Transistor	132-094
Q208,209	NPN Si Transistor	132-094
Q210,211	PNP Si Transistor	132-096
Q212,213	NPN Si Transistor	132-094
Q214,215	Junction FET	132-170
Q216,217	NPN Si Transistor	132-093
Q218,219	NPN Si Transistor	132-093
Q220,221	NPN Si Transistor	132-093
Q222,223	NPN Si Transistor	132-093
Q224,225	NPN Si Transistor	132-093
Q226,227	NPN Si Transistor	132-093
Q228,229	NPN Si Transistor	132-093
Q230,231	NPN Si Transistor	132-093
Q232,233	NPN Si Transistor	132-093
Q234,235	NPN Si Transistor	132-093
Q236,237	NPN Si Transistor	132-093
Q301,302	NPN Si Transistor	132-093
Q303	NPN Si Transistor	132-093
Q601,602	Si NPN Darlington	132-090
Q603,604	Si NPN Darlington	132-090
Q605,606	Si NPN Darlington	132-090
Q607,608	Si NPN Darlington	132-090
Q609,610	Si NPN Darlington	132-090
Q801,802	Si PNP Darlington	132-182
Q803	Si PNP Darlington	132-182
Q804	Si PNP Transistor	132-096
Q805	Si NPN Transistor	132-093
Q806,807	Si PNP Transistor	132-096
Q901,902	Si PNP Transistor	132-056
Q903,904	Si PNP Transistor	132-056
Q905,906	Si NPN Darlington	132-090
Q907,908	Si NPN Transistor	132-149
Q909,910	NPN Power Transistor	132-167
Q911,912	PNP Power Transistor	132-166
Q913	Si PNP Darlington	132-182

INTEGRATED CIRCUITS

IC101	Regulator + 18V	133-045
IC102	Regulator - 18V	133-044
IC200,201	Integrated Circuit	133-042
IC202,203	Integrated Circuit	133-042
IC204,205	Integrated Circuit	133-051
IC206,207	Integrated Circuit	133-043
IC208,209	Integrated Circuit	133-051
IC210,211	Integrated Circuit	133-043
IC501,502	Integrated Circuit	133-066
IC601 602	Integrated Circuit	133-043
IC603,604	Integrated Circuit	133-043
IC801,802	Integrated Circuit	133-068
IC803,804	Integrated Circuit	133-068
IC805,806	Integrated Circuit	133-043
IC807,808	Integrated Circuit	133-040
IC809,810	Integrated Circuit	133-068
IC811,812	Integrated Circuit	133-068
IC813	Integrated Circuit	133-068
IC901,902	Integrated Circuit	133-068

CAPACITORS

C3,4	Elect 4700µF 30V	066-276

RELAYS

K1	Relay SPST	087-020
K201,202	Reed Relay	087-023
K203,204	Reed Relay	087-023
K205,206	Reed Relay	087-023
K801,802	Reed Relay	087-024
K901	Reed Relay	087-029

POTENTIOMETERS

R2	Volume Control	134-305
R501	Balance/Loudness	134-312
R502	Expand	134-313
R601,602	Equalizer Freq.	134-316
R603,604	Equalizer Freq.	134-316
R605	Equalizer Freq.	134-316
R909,910	Right/Left Gain	134-306
R947	Level Match	134-306

CAPACITORS

C3,4	Elect 4700µF 30V	066-276

SWITCHES

S301	Record Switch	146-187
S401	Listen Switch	146-187
S402	Mode Selector	146-186
S501	Bypass Switch	134-310
S701	Pushbutton Switch	150-024

FUSES

F1,2	Fuse 1A Norm Blo	089-002

TRANSFORMERS

T1	Power Transformer	045-342

LAMPS

	Front Panel #634	058-043

FRONT PANEL & TRIM

Front Panel Glass	016-153
End Caps	018-160
Knob-Listen	090-156
Knob-Record	090-156
Knob-Mode	090-159
Knob-Volume	090-170
Knob-Eq. Frequency	090-171
Knob-Expander	090-171
Knob-Balance	090-187
Knob-Loudness	090-186

MISCELLANEOUS

Shipping Carton	045-321
Mounting Temp #100	038-178
Hardware Package	045-124
Front Panel Lamp Grommet	078-005
Fuseholder	178-099
Line Cord	170-019
Audio Cable	170-015

McIntosh SERVICE BULLETIN

CORRECT POSSIBLE SHORTING CONDITION

MODEL: C 32 Preamplifier Serial No.: Below AY1295

PURPOSE OF MODIFICATION: To correct the condition where by the preamplifier's headphone amplifier channels are shorted together when plugging headphones into the top headphone jack.

WHEN MODIFICATION SHOULD BE MADE: When any other service is performed on the unit.

McINTOSH MODIFICATION KIT NO.: No kit available.

PARTS REQUIRED:

QUANTITY	PART NUMBER	DESCRIPTION
2	136453	Res. = 100Ω, 10%, 1W R943,944

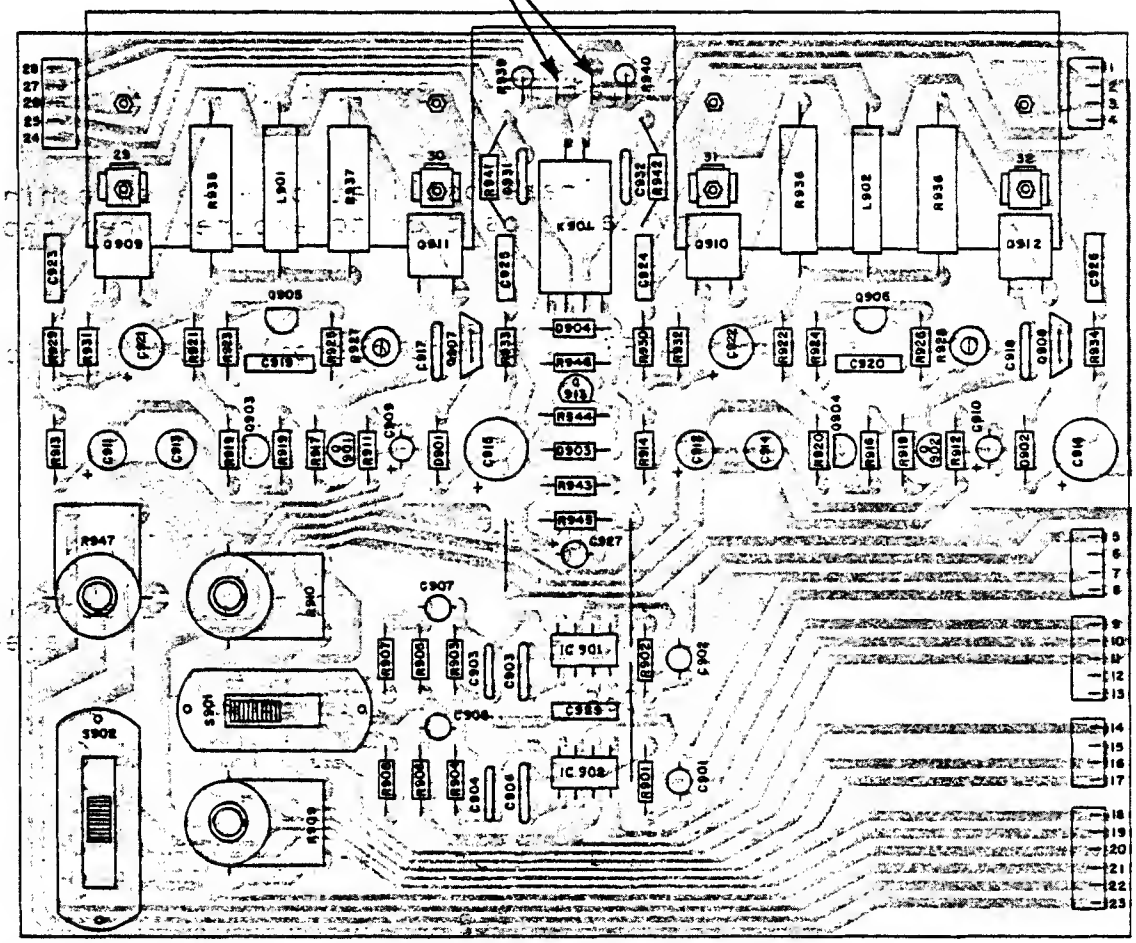
PROCEDURE:

1. Remove top cover.
2. Make a sketch of the connectors connections to the headphone monitor PC boards.
3. Remove the connectors from headphone monitor PC board and remove headphone monitor PC board from the chassis.
4. Replace jump wire that jumps K901 to connector pin 28 with a 136453 100Ω 10% 1W resistor.
5. Replace jump wire that jumps K901 to connector pin 24 with a 136453 100Ω 10% 1W resistor.
6. Reinstall the headphone monitor PC board and replace top cover.

(OVER)

C 32
S.B. No. 1

REMOVE JUMPERS AND REPLACE
WITH 100Ω 10% 1W RESISTORS.



HEADPHONE MONITOR PC BOARD
045-116

039-061A

SERVICE BULLETIN

ELIMINATION OF FEEDBACK FROM TAPE OUTPUTS

MODEL: C 32 Preamplifier Serial No.: Below AY2076

PURPOSE OF MODIFICATION: To eliminate oscillation when switching the record switch from any tape position to another when tape outputs are in use.

WHEN MODIFICATION SHOULD BE MADE: When the customer complains of the oscillation.

PARTS REQUIRED:

QUANTITY	PART NUMBER	DESCRIPTION
3	066216	10µF, 16V Electrolytic Capacitor
3	070085	6.2V Zener Diode

PROCEDURE:

1. Remove front panel and bottom cover.
2. Remove record switch with PCB.
3. Lift the base leg of each transistor (Q301, Q302, and Q303) off the PCB.
4. Insert banded end of zener diode into holes on component side of PCB and solder other end to the transistor's base leg.
5. Solder the capacitors from zener to emitter of each transistor on the foil side of PCB. Connect (+) terminal of capacitor to zener.
6. Install record switch. Insert and tape ribbon cable.
7. Replace front panel and bottom cover.

C 32
S.B. No. 2

McIntosh Laboratory Incorporated 2 Chambers Street Binghamton, New York 13903 Phone: Area Code 607-723-3512

SERVICE BULLETIN

PREVENT FALSE TURN ON OF PREAMP

MODEL: C 32 Preamplifier

PURPOSE OF MODIFICATION: To prevent false turn on of preamp by auto "ON" circuit.

WHAT UNITS ARE AFFECTED: All units with Serial No's. below AY2289

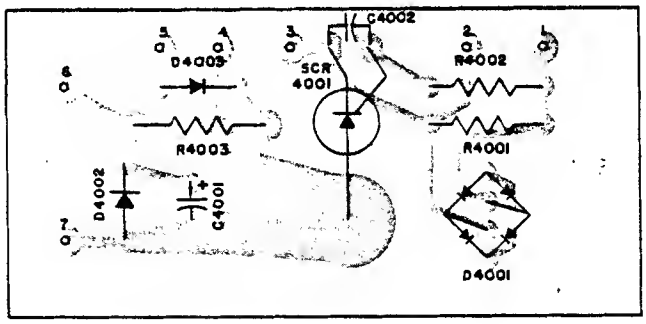
WHEN MODIFICATION SHOULD BE MADE: When any other service is performed on the unit.

PARTS REQUIRED:

QUANTITY	PART NUMBER	DESCRIPTION
1	061113	Disc. Cap. 0.1µF 100V +80 -20% (Dual)

PROCEDURE:

1. Remove bottom cover.
2. Locate the 045121 - Auto-On PC board.
3. As indicated, solder disc. capacitor on to the foil-side of the PC board, between the cathode and gate of SCR 4001.
4. Replace bottom cover.
5. Check unit for normal operation



AUTO-ON PC BOARD
045-121

C 32
S.B. No. 3

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