

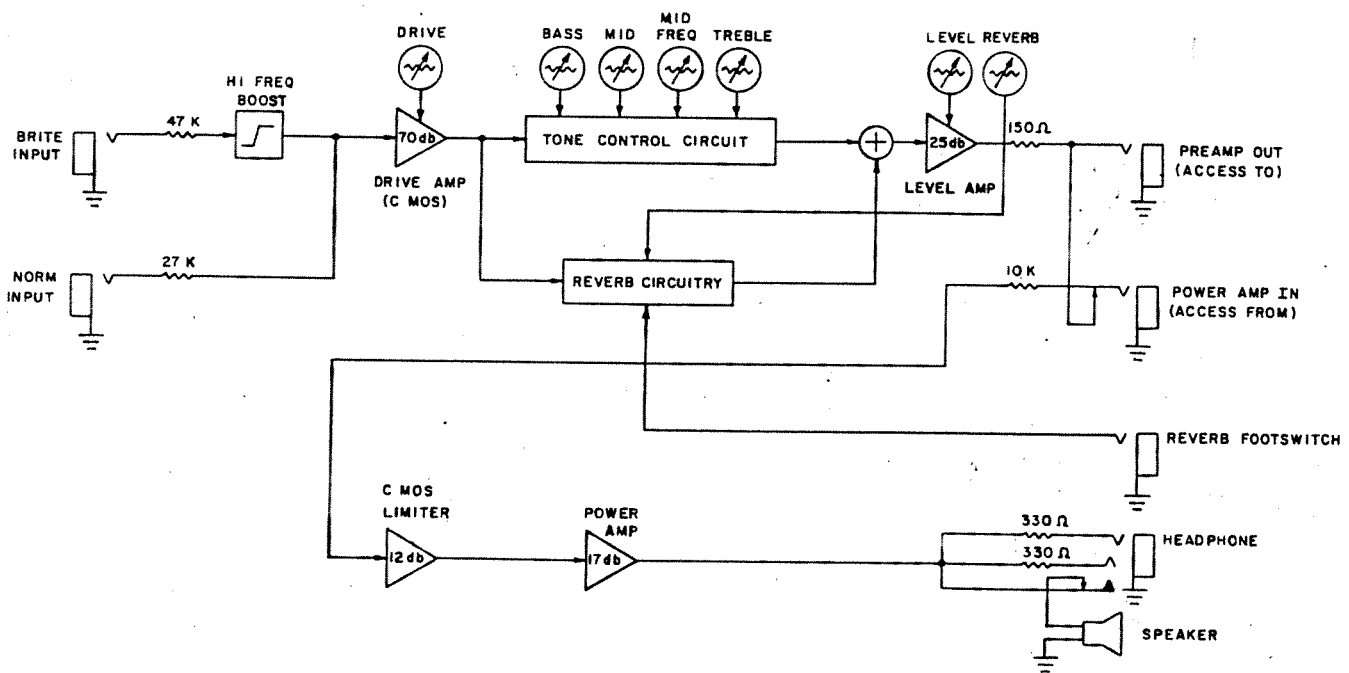
PARTS LIST FOR ALPHA 112 SERIES

I.C.'S	Description	SUNN Part #
	4558	22-4558
	C-Mos 74C04	22-7404
Transistors	BC107 NPN	22-0107
	2N4250 PNP	22-4250
	2N4888 PNP	22-4888
	TIP 29 NPN	22-0028
	TIP 30B PNP	22-0030
	2N3155 NPN	22-3056
	SJ 954 PNP	22-0954
Diodes	1N458A	22-0458
	15V Zener	22-0150
Rectifier	10A 200V	19-0011
Controls		
Drive	1 Meg Log	23-1272
Bass , Mid	25K Linear	23-1111
Mid Freq	25K Rev-log	23-1112
Treble, level	100K Linear	23-1110
Reverb	30K S-Curve	23-6505
Jacks	Open Curcuit standard	67-0011
	Mono Jack	67-3610
	Stereo Jack	67-3620
Transformer		
	Power	28-2115
Cap	Filter	10-3090
Misc.		
	Power Switch	24-0109
	Reverb Pan	29-0008
	Reverb Pan gasket	47-0063
	Reverb Pan Pad	47-0062
	Handle Strap	71-0020
	AC Cord Wrap	48-0000
	Pointer Knobs	59-6001
	Speaker 112, 112R	81-0162-00-90
	Speaker 112P, 112PR	81-0166-00-90

# ALPHA SELF CONTAINED AMPLIFIER OVER ALL SENSITIVITY

Input	Control Settings	Output
135 MV P-P @ 1 Khz to normal input  50 MV P-P @10 Khz to Brite Input	Drive Control 5 Tone Controls mid Level Control 10 Reverb 0	Preamp line out 2.25 V P-P  Power Amp out to 8 ohm Load 52 V P-P

## BLOCK DIAGRAM



## BIAS SETTING

Make sure the heat sink is cool (approximate room temperature). With no load or signal applied, measure the DC voltage across emitter resistors R170 and R172. Adjust R168 for a DC voltage of  $7\text{ MV} \pm 2\text{ MV}$ .

TYPICAL OPERATING SPECIFICATIONS

Alpha Self Contained Amplifiers

TEST EQUIPMENT USED

Scope.....	HP-1201A
Sine Generator.....	General Radio 1309A Heathkit 1G-18
DB Meter.....	HP 400 GL
D.V.M.....	Data Precision 1455

TEST CONDITION

Line Voltage.....	120 VAC
Voltage Tolerances.....	10%
Signal.....	1 Khz
db Tolerances.....	10%
Load.....	8 ohms

ALPHA 112, 112R, 112P, 112PR, 210R, 212R, 115

Preamp input Z (normal).....	27 K ohms
(Brite).....	47 K ohms
Accessory to (Preamp out).....	150 ohms
Accessory from (Power Amp in).....	10 K ohms
Headphone out (Stereo).....	330 ohms
(Mono).....	165 ohms

SYSTEM GAIN

Preamp in to accessory output.....	95 db
Power Amp in to speaker out.....	29 db
TOTAL GAIN.....	124 db

POWER OUTPUT

At 5% distortion.....	50 watts
-----------------------	----------

WEIGHT

112, 112R, 112P, 112PR.....	37 lbs.
210R.....	44 1/2 lbs.
212R.....	47 lbs
115.....	51 lbs

DIMENSIONS

	HEIGHT	LENGTH	DEPTH
112, 112R, 112P, 112PR.....	19 1/4"	X26 1/4"	X9 7/8"
210R - 212R.....	18 1/2"	X26 1/4"	X9 7/8"
115.....	21 1/4"	X26 1/4"	X9 7/8"

56-5

## PARTS LIST

	<u>Description</u>	<u>Sunn Part #</u>
Integrated Circuits	RC 4558	22-4558
	C-MOS 74C04-4069	22-7404
Transistors	MPS A43 NPN	22-5184
	BC 107 NPN	22-0107
	2N4250 PNP	22-4250
	2N4888-2N5401 PNP	22-4888
	TIP 29 NPN	22-0028
	TIP 30B PNP	22-0030
	2N3055 NPN	22-3056
	SJ954 PNP	22-0954
Diodes	1N458A	22-0458
	15 V Zener	22-0150
Rectifier	10 A 200V	19-0011
Controls		
Drive	1 meg log	23-1272
Bass-Mid	25K Linear	23-1111
Mid Freq.	25K Rev-Log	23-1112
Treble Level	100K Linear	23-1110
Reverb	30K S-Curve	23-6505
Jacks		
Open Circuit Standard		67-0011
Mono Jack		67-3610
Stereo Jack		67-3620
Cap		
Filter	3300 uf 50V	10-3090
Misc. Parts		
Power Switch		24-0109
Reverb Pan		29-0008
Reverb Pan Gasket		47-0063
Reverb Pan Pad		47-0062
Handle Strap		71-0020
AC Cord		68-6500
AC Cord Wrap		48-0000
Pointer Knob		59-6001
Speaker	112, 112R	81-0162
Speaker	112P, 112PR	81-0166
Speaker	210	81-0116
Speaker	212	81-0236
Speaker	115	81-0558

1975 NATIONAL BROADCASTING CORPORATION

00-15011

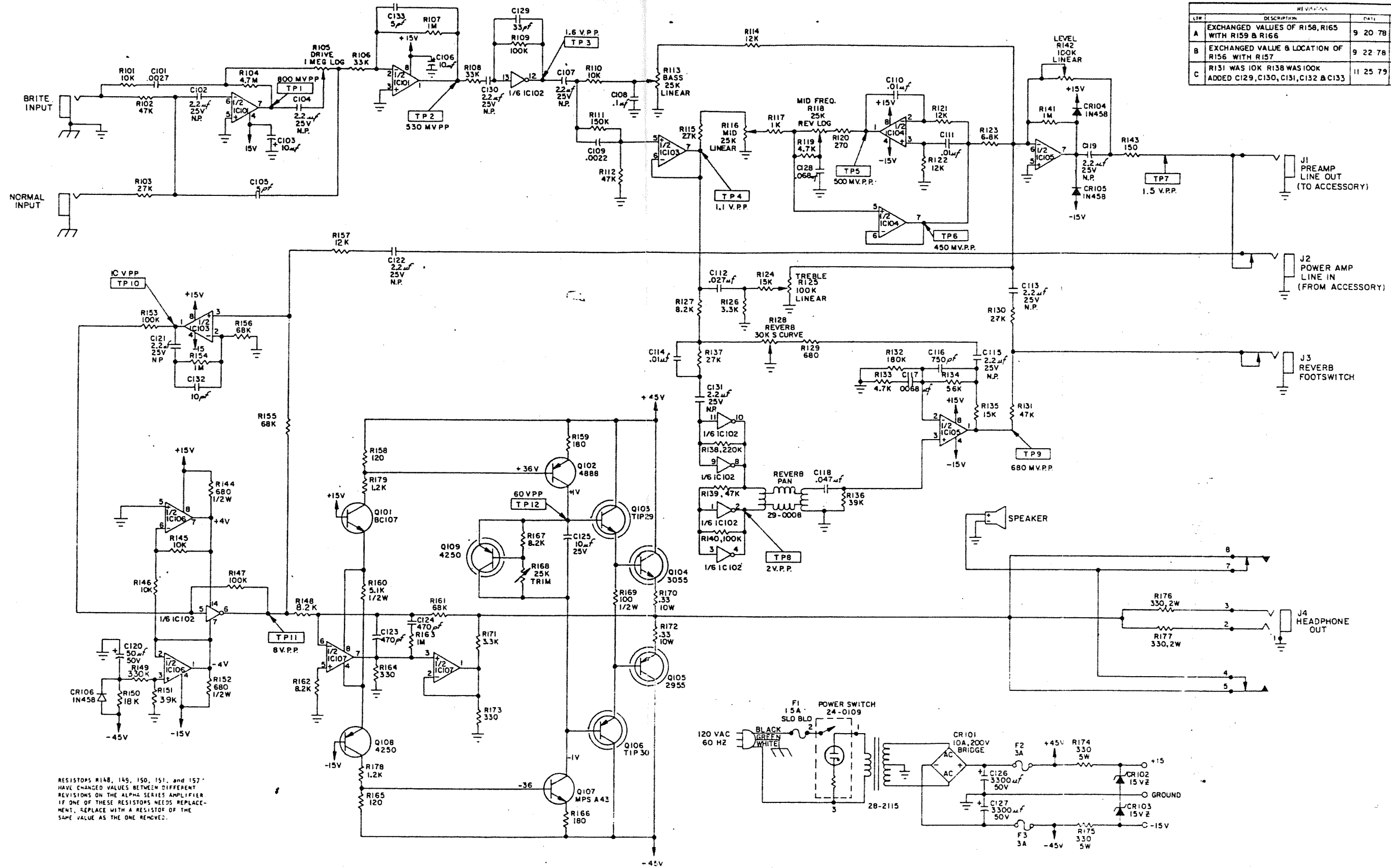
1975 NATIONAL BROADCASTING CORPORATION

1975 NATIONAL BROADCASTING CORPORATION

56-7

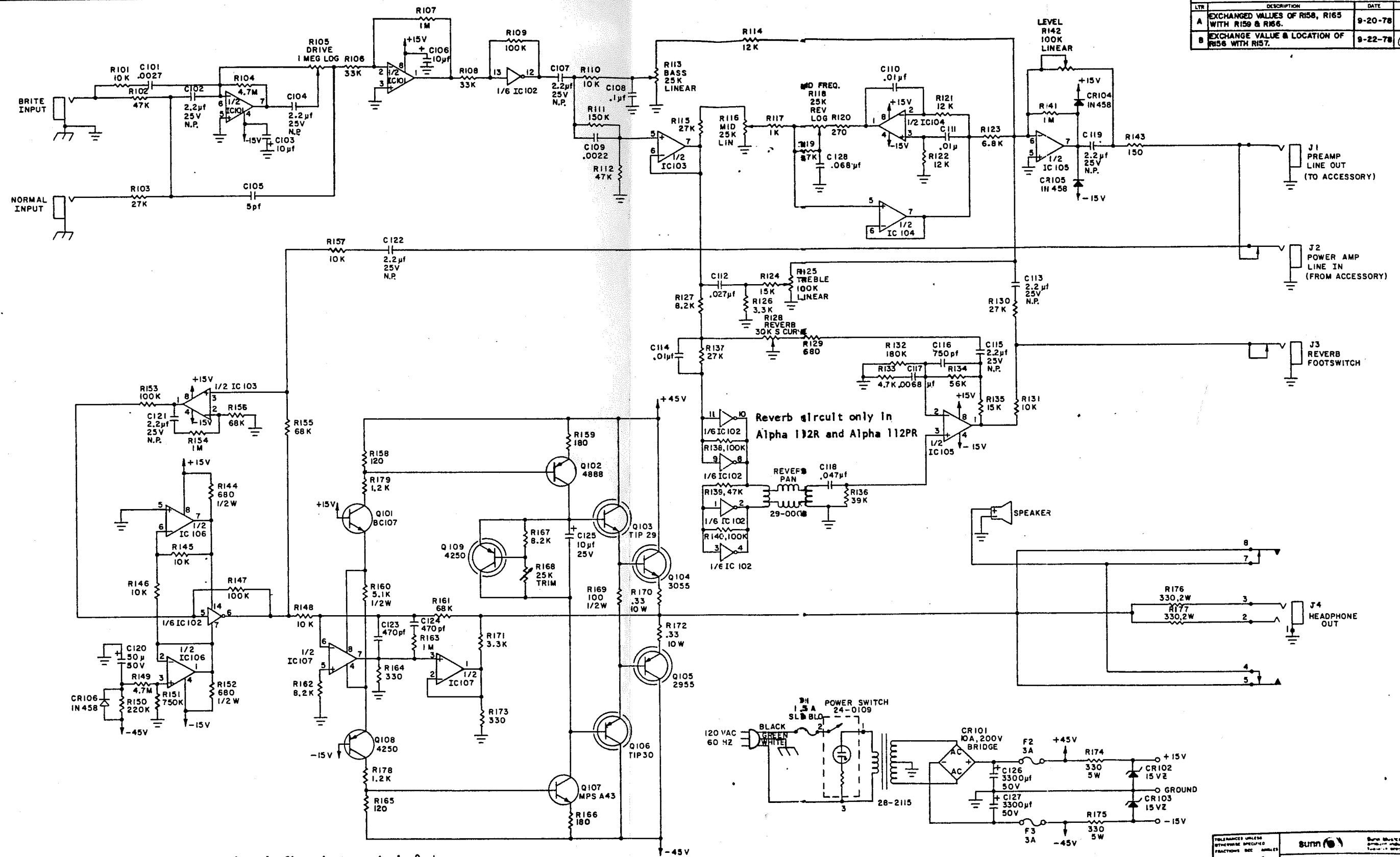
# ALPHA SELF CONTAINED AMPLIFIER SCHEMATIC

REVISIONS			
LT#	DESCRIPTION	DATE	APPROVED BY
A	EXCHANGED VALUES OF R158, R165 WITH R159 & R166	9 20 78	
B	EXCHANGED VALUE & LOCATION OF R156 WITH R157	9 22 78	
C	R131 WAS 10K R138 WAS 100K ADDED C129, C130, C131, C132 & C133	11 25 79	



RESISTORS R148, 149, 150, 151, and 157 HAVE CHANGED VALUES BETWEEN DIFFERENT REVISIONS ON THE ALPHA SERIES AMPLIFIER. IF ONE OF THESE RESISTORS NEEDS REPLACEMENT, REPLACE WITH A RESISTOR OF THE SAME VALUE AS THE ONE REMOVED.

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	EXCHANGED VALUES OF R158, R165 WITH R159 & R166.	9-20-78	TC
B	EXCHANGE VALUE & LOCATION OF R156 WITH R157.	9-22-78	DP



**Bias Setting:** Let unit warm up approximately five minutes. Apply 8 ohm Load to power amp. Disconnect preamp from power amp by inserting shorted plug into "Accessory From" jack. Measure voltage across emitter resistors, R172 and R170. Bias voltage should be 6 mv ± .5 mv.

TOLERANCES UNLESS OTHERWISE SPECIFIED		FRACTIONS DEC		DIMENSIONS	
RESISTORS	CAPACITORS	RESISTORS	CAPACITORS	RESISTORS	CAPACITORS
±1%	±10%	1/2	1/10	±0.001	±0.001
±5%	±20%	1/10	1/100	±0.002	±0.002
±10%	±50%	1/100	1/1000	±0.005	±0.005

APPROVALS: DATE: 9/22/78  
 DRAWN BY: D/4178  
 CHECKED BY: D/4178  
 TITLE: ALPHA 112R & ALPHA 112PR SCHEMATIC  
 DWT: D/1100  
 SHEET 1 OF 1

