

# **MAINTENANCE MANUAL**

**McIntosh  
C20**

**STEREO PREAMPLIFIER**

(Serial No. 6L700 & above)

Special components used in the C20 are listed below. These components are designed and built specifically for the C20. They may be purchased directly from Customer Service, McIntosh Laboratory Inc. When you

order parts be sure to give the SCHEMATIC NO. and DESCRIPTION from Table 2 below, and serial and model number for your amplifier.

**Table 2. SPECIAL COMPONENTS  
(Schematic No. SC119-201)**

COMPONENT NO.	DESCRIPTION	COMPONENT NO.	DESCRIPTION
C102	Filter Capacitor, 20/20/40 MF at 300/350/350V	S1	Switch, Input Selector
C103	Filter Capacitor, 40/40 MF at 350/350V	S2	Switch, Bass Compensator
C104	Filter Capacitor, 1000/1000 MF at 15/15V	S3	Switch, Treble Compensator
R1	Control, Bass	S4	Switch, High Frequency Cutoff Filter
R2	Control, Treble	S5	Switch, Rumble Filter
R3	Control, Loudness (Aural Compensator)	S6	Switch, Mode Selector
R4	Control, Volume —4 Section combined with power on-off switch	S7	Switch, Tape Compare
R5	Control, Balance	S8	Switch, Tape Jack
R7 (2used)	Control, Bass Trim (Lo Bass) on rear panel	S9	Switch, Phase
		S1, S2	Silicon Rectifier, 50 PIV at 1.6A
		M199A	Transformer, Power

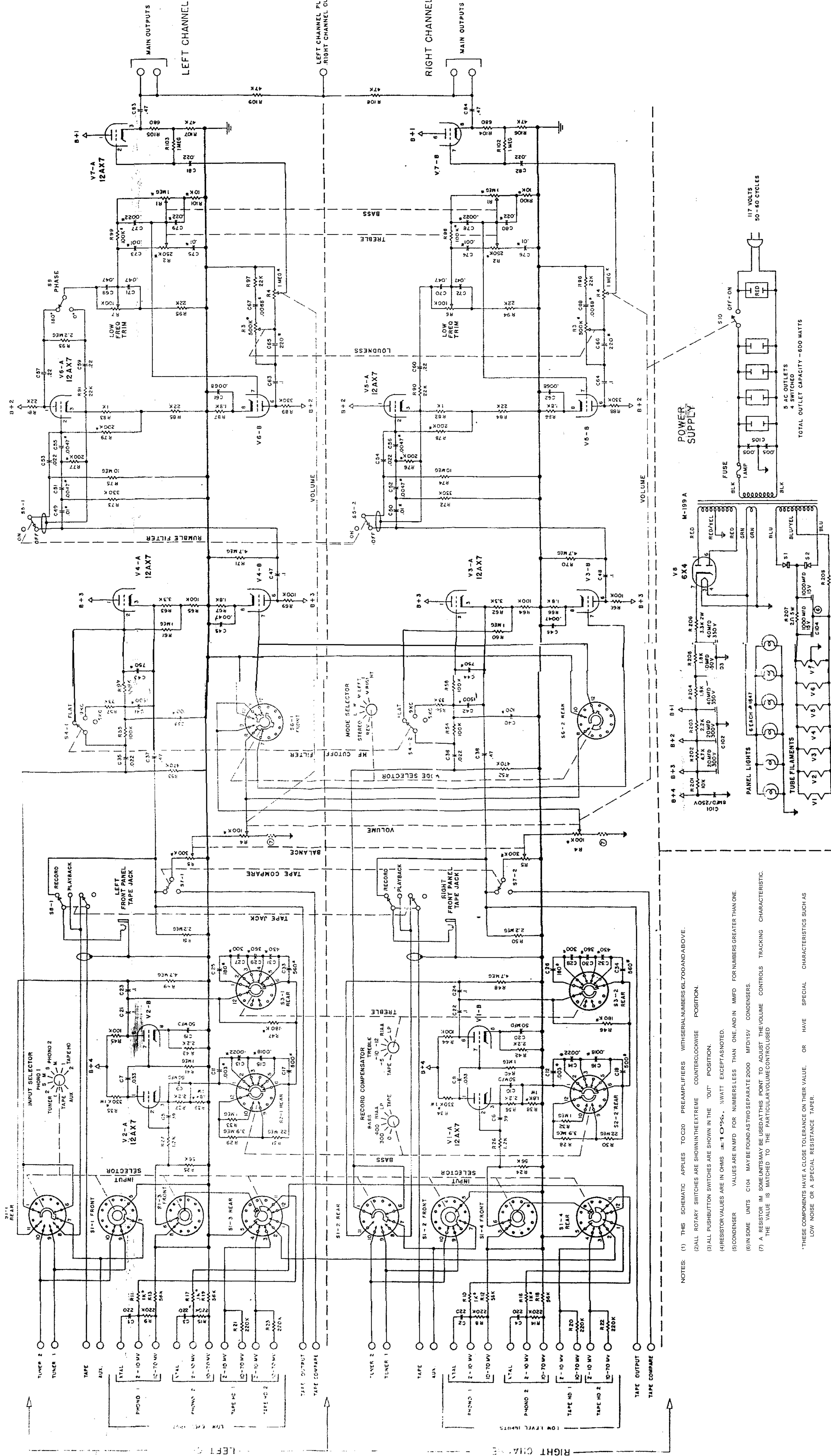
**Table 1. C20 VOLTAGE AND RESISTANCE CHART  
(Schematic No. SC117-201)**

Tube	Pin No.	DC Volts No. Signal	Resistance in Ohms Unit Off
12AX7 (V1)	1	146	130K*
	2	0	1M
	3	1.0	2.2K
	4	5.6	5
	5	-5.6	5
	6	110	360K*
	7	0	56K
	8	1.0	4K
	9	—	
12AX7 (V2)	1	146	130K*
	2	0	1M
	3	1.0	2.2K
	4	5.6	5
	5	-5.6	5
	6	110	360K*
	7	0	56K
	8	1.0	4K
	9	—	
12AU7 (V3)	1	64	120K*
	2	0	<50
	3	2.4	1.8K
	4	5.6	5
	5	-5.6	5
	6	198	14K*
	7	62	1.1M
	8	120	100K
	9	—	
12AU7 (V4)	1	64	120K*
	2	0	<50
	3	2.4	1.8K
	4	5.6	5
	5	-5.6	5
	6	198	14K*
	7	62	MM
	8	120	100K
	9	—	
12AX7 (V5)	1	104	330K*
	2	0	110K
	3	.7	1.8K
	4	5.6	5
	5	-5.6	5
	6	230	9K
	7	22	222K
	8	29	22K
	9	—	
12AX7 (V6)	1	104	330K*
	2	0	110K
	3	.7	1.8K
	4	5.6	5
	5	-5.6	5
	6	200	31K*
	7	22	222K
	8	29	22K
	9	—	
12AX7 (V7)	1	250	7K*
	2	20	1M
	3	70	47K
	4	5.6	5
	5	-5.6	5
	6	250	7K*
	7	20	1M
	8	70	47K
	9	0	0
6X4 (V8)	1	315 AC	580
	2	—	
	3	6.3 AC	.1
	4	0	0
	5	—	
	6	315 AC	560
	7	335	*

- NOTES: 1. High impedance VTVM is used to measure operating voltages.  
2. Resistance measured to grid, (chassis)  
3. \* Denotes pin 7 of V8 grounded for this test.  
4. Control positions for tests are as follows;

MODE SELECTOR	STEREO
BALANCE	0
PHASE	0
H.F. FILTER	FLAT
LOUDNESS	FLAT
INPUT SELECTOR	TAPE HD 2
BASS COMPENSATOR	0
TREBLE COMPENSATOR	TAPE
BASS	0
TREBLE	0
RUMBLE FILTER, } TAPE JACK, } TAPECOMPARE }	OUT
VOLUME	ON, CCW
LOW FREQUENCY TRIM	0

C20 Schematic  
(Schematic No. SC117-201)



- NOTES: (1) THIS SCHEMATIC APPLIES TO C20 PREAMPLIFIERS WITH SERIAL NUMBERS 6L700 AND ABOVE.  
 (2) ALL ROTARY SWITCHES ARE SHOWN IN THE EXTREME COUNTERCLOCKWISE POSITION.  
 (3) ALL PUSHBUTTON SWITCHES ARE SHOWN IN THE "OUT" POSITION.  
 (4) RESISTOR VALUES ARE IN OHMS  $\pm 1\%$ ,  $\frac{1}{2}$  WATT EXCEPT AS NOTED.  
 (5) CONDENSER VALUES ARE IN MFD FOR NUMBERS LESS THAN ONE AND IN MMFD FOR NUMBERS GREATER THAN ONE.  
 (6) IN SOME UNITS C104 MAY BE FOUND AS TWO SEPARATE 2000 MFD/15V CONDENSERS.  
 (7) A RESISTOR IN SOME UNITS MAY BE USED AT THIS POINT TO ADJUST THE VOLUME CONTROLS TRACKING CHARACTERISTIC. THE VALUE IS MATCHED TO THE PARTICULAR VOLUME CONTROL CHARACTERISTIC.  
 \* THESE COMPONENTS HAVE A CLOSE TOLERANCE ON THEIR VALUE, OR HAVE SPECIAL CHARACTERISTICS SUCH AS LOW NOISE OR A SPECIAL RESISTANCE TAPER.



Your C20 will give you many years of pleasant and satisfactory performance. If you have any questions concerning the operation or maintenance of this pre-amplifier please contact:

Customer Service  
McIntosh Laboratory Inc.  
2 Chambers Street  
Binghamton, New York

Our telephone number is 723-5491.  
The direct dial area code is 607.

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