McIntosh®

MC275

SERVICE INFORMATION

STARTING WITH SERIAL NO. 600E0

McINTOSH LABORATORY INC., 2 CHAMBERS STREET, BINGHAMTON, NEW YORK 13903

MC275 Tube Power Amplifier

Specifications

Performance Limits

POWER OUTPUT, STEREO

75 watts into 16, 8 or 4 ohm loads is the minimum sine wave continuous average power output per channel from 20Hz to 20,000Hz.

The output RMS voltage is:
34.6 across 16 ohms
24.5 across 8 ohms
17.3 across 4 ohms

POWER OUTPUT, MONO PARALLEL

150 watts into 8, 4 or 2 ohm loads is the minimum sine wave continuous average power output from 20Hz to 20,000Hz.

OUTPUT LOAD IMPEDANCE
16, 8 or 4 ohms stereo
8, 4 or 2 ohms mono parallel

RATED POWER BAND
20Hz to 20,000Hz

TOTAL HARMONIC DISTORTION

.5% maximum harmonic distortion at any power level from 250 milliwatts to rated power from 20Hz to 20,000Hz.

INTERMODULATION DISTORTION

.5% maximum if instantaneous peak power output does not exceed twice the output rating for any combination of frequencies from 20Hz to 20,000Hz.

FREQUENCY RESPONSE (at 1 watt output)
20Hz to 20,000Hz +0 -0.2dB
10Hz to 100,000Hz +0 -3dB

NOISE AND HUM (A-Weighted)
100dB below rated output.

Ratings

IHF DYNAMIC HEADROOM
1.1dB

DAMPING FACTOR
Greater than 10

INPUT IMPEDANCE
100,000 ohms unbalanced
180,000 ohms balanced

INPUT SENSITIVITY

Unbalanced, 1.0V to 30 volts through gain control.

Balanced, 2.0 volts fixed.

General Information

POWER REQUIREMENTS
120 volts, 50/60Hz
240 watts at zero signal output
400 watts at rated output
The amplifier may be connected for 100, 120, 220 or 240 volt 50/60Hz operation. It is shipped connected for 120V.

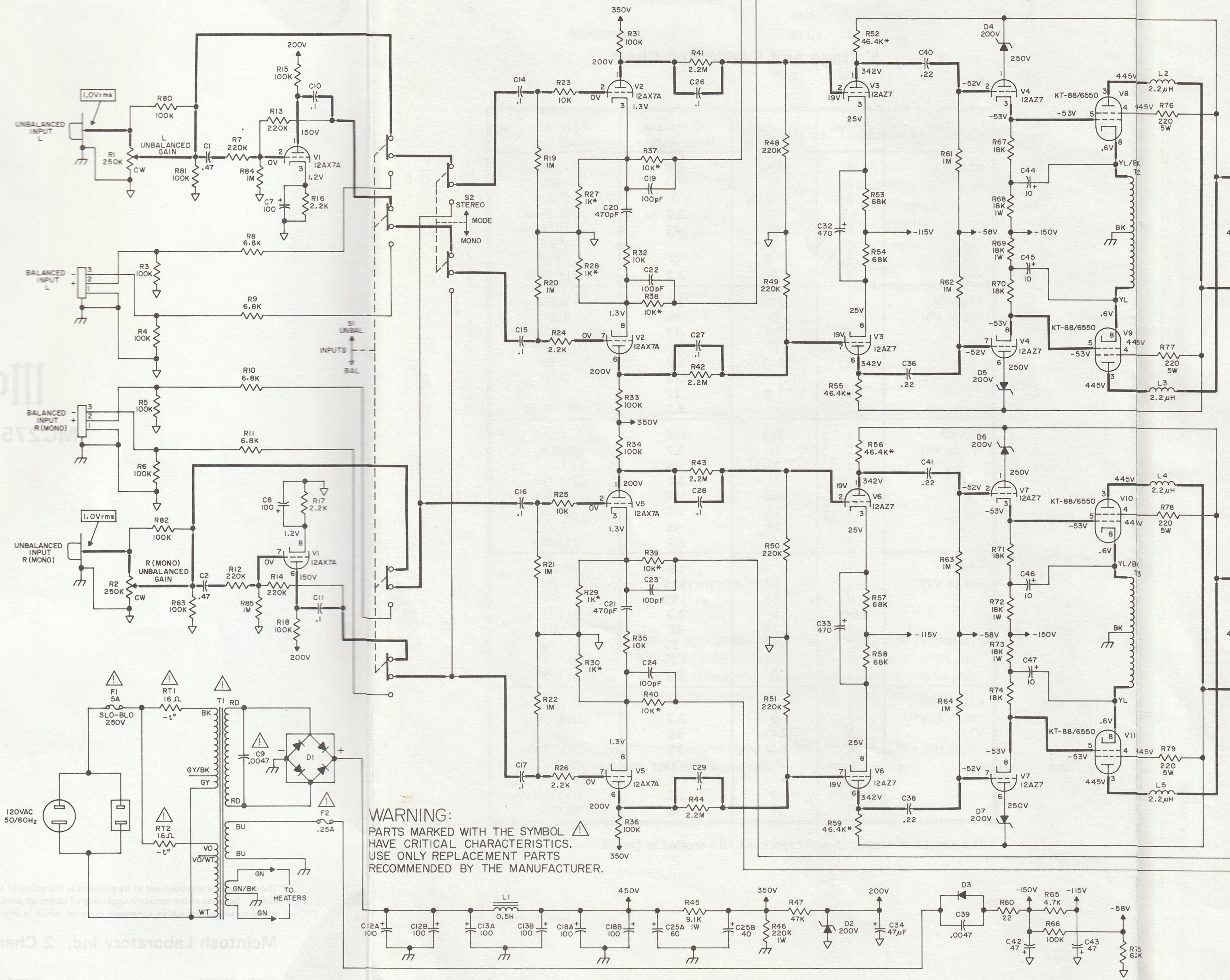
Mechanical Information

SIZE

16" wide (40.6cm) by 7-1/2" high (19.0cm) by 12" deep (30.5cm)

WEIGHT

67 pounds (30.5kg) net, 75 pounds (34.1kg) in shipping carton


UNBALANCED INPUT L
1.0Vrms
L UNBALANCED GAIN
R1 250K CW
R80 100K
R81 100K
C1 .47
R7 220K
R84 1M
R13 220K
R15 100K
200V
C10 .1
150V
V1 12AX7A
1.2V
R16 2.2K
C7 100
BALANCED INPUT L
R3 100K
R4 100K
R8 6.8K
R9 6.8K
BALANCED INPUT R (MONO)
R5 100K
R6 100K
R10 6.8K
R11 6.8K
UNBALANCED INPUT R (MONO)
R (MONO) UNBALANCED GAIN
R2 250K CW
R82 100K
R83 100K
C2 .47
R12 220K
R85 1M
R14 220K
R17 2.2K
C8 100
R18 100K
C11 .1
S2 STEREO MODE MONO
S1 UNBAL INPUTS BAL
350V
R31 100K
R41 2.2M
C26 .1
C14 .1
R23 10K
V2 12AX7A
R19 1M
R27 1K*
R37 10K*
C19 100pF
C20 470pF
R28 1K*
R32 10K
C22 100pF
R38 10K*
R20 1M
C15 .1
R24 2.2K
C27 .1
R42 2.2M
R33 100K
R34 100K
R48 220K
R49 220K
R52 46.4K*
C40 .22
V3 12AZ7
R53 68K
C32 470
R54 68K
-115V
R55 46.4K*
C36 .22
D4 200V
V4 12AZ7
R61 1M
R62 1M
R67 18K
R68 18K 1W
R69 18K 1W
R70 18K
C44 10
C45 10
-150V
-58V
D5 200V
KT-88/6550
V8
V9
L2 2.2µH
R76 220 5W
R77 220 5W
L3 2.2µH
445V
-53V
T2
BU/BK GN/BK GN BN/BK BN GY WT GY/BK BU RD YL/BK YL BK
450V
24.5Vrms
LEFT OUTPUT
16Ω + 8Ω + 4Ω + COM −
TB1
C16 .1
R25 10K
V5 12AX7A
R43 2.2M
C28 .1
R21 1M
R29 1K*
R39 10K*
C23 100pF
C21 470pF
R35 10K
R30 1K*
C24 100pF
R40 10K*
R22 1M
C17 .1
R26 2.2K
C29 .1
R44 2.2M
R36 100K
R50 220K
R51 220K
R56 46.4K*
C41 .22
V6 12AZ7
R57 68K
C33 470
R58 68K
R59 46.4K*
C38 .22
D6 200V
V7 12AZ7
R63 1M
R64 1M
R71 18K
R72 18K 1W
R73 18K 1W
R74 18K
C46 10
C47 10
D7 200V
V10
V11
L4 2.2µH
R78 220 5W
R79 220 5W
L5 2.2µH
T3
RIGHT OUTPUT
TB2
F1 5A SLO-BLO 250V
RT1 16Ω −t°
T1
120VAC 50/60Hz
RT2 16Ω −t°
C9 .0047
D1
F2 .25A
TO HEATERS
C12A 100
C12B 100
C13A 100
C13B 100
L1 0.5H
C18A 100
C18B 100
R45 9.1K 1W
C25A 60
C25B 40
R46 220K 1W
R47 47K
D2 200V
C34 47µF
D3
C39 .0047
R60 22
R65 4.7K
R66 100K
C42 47
C43 47
R75 62K
WARNING:
PARTS MARKED WITH THE SYMBOL ⚠ HAVE CRITICAL CHARACTERISTICS. USE ONLY REPLACEMENT PARTS RECOMMENDED BY THE MANUFACTURER.

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REPLACEMENT PARTS

CAPACITORS

Symbol Number	Description	Part Number
C12,13, 18	Elect 100/100uF 500V	066434
C25	Elect 40/60uF 500V	066425
C34,42, 43	Elect 47uF 250V	066426
C44,45 C46,47	Elect 10uF 160V	066427

DIODES

D1	Bridge Rect 1000V 6A	070145
D2,4-7	Zener 200V 1.5W	070146
D3	1N4004	070131

FUSES

F1	5 Ampere Slo-Blo	089007
F2	1/4 Ampere	089048

CHOKES

L1	Filter Choke 0.5H	122017
L2-5	Choke 2.2uH	122001

RESISTOR & POTENTIOMETERS

R1,2	250k Gain Control	134460
RT1,2	16 ohm Thermistor	144282

SWITCHES

S1	Input Switch	148061
S2	Mode Switch	148052

TUBES

V1,2,5	12AX7A, McIntosh	165065
V3,4,6, 7	12AZ7, McIntosh	165066
V8-11	KT-88/6550, McIntosh	165064

TRANSFORMERS

T1	POWER: POT	047772
T2,3	OUTPUT: POT	047773

MISCELLANEOUS ITEMS

KNOB: 11/16" dia Plastic	090013
Fuse holder UL/CSA	178122
Plastic Foot	017542
Owners Manual MC275	039952
Shipping Carton Inside	033702
Shipping Carton Outside	033709

SCHEMATIC NOTES

1. Unless otherwise specified, resistance values are in ohms, 1/2 watt, and 5% tolerance. Resistors marked with an asterisk (*) are 1% tolerance. Capacitors are in microfarads (uF) unless otherwise noted. Inductors are in microhenries (uH).

2. For single channel mono output, parallel connect the left and right outputs to obtain desired output impedance.

Voltage and Resistance Chart

Tube	Pin No.	DC Volts No. Signal	AC Volts at Rated Output	Resistance with Unit Off*
12AX7A (V1)	1	150	.76	163K
	2	0	- - -	452K
	3	1.2	0	2.16K
	4,5	0	3.2	.011 Ohm
	6	150	.76	163K
	7	0	- - -	435K
	8	1.2	0	2.15K
	9	0	3.2	.011 Ohm
12AX7A (V2 or V5)	1	210	3.7	105K
	2	0	.76	985K
	3	1.4	.72	1K
	4,5	0	3.2	.011 Ohm
	6	210	3.7	105K
	7	0	.76	985K
	8	1.4	.72	1K
	9	0	3.2	.011 Ohm
12AX7 (V3 or V6)	1	342	135	47K
	2	19	3.7	200K
	3	25	.45	- - -
	4,5	0	3.2	.011 Ohm
	6	342	136	47K
	7	19	3.7	200K
	8	25	.45	- - -
	9	0	3.2	.011 Ohm
12AZ7 (V4 or V7)	1	226	98	15M
	2	-52	133	1.2M
	3	-53	133	- - -
	4,5	0	3.2	.011 Ohm
	6	226	98	15M
	7	-52	133	1.2M
	8	-53	133	- - -
	9	0	3.2	.011 Ohm
KT-8816550 (V8, V9, V10, V11)	1	- - -	- - -	- - -
	2	0	3.2	.011 Ohm
	3	441	98	19.5
	4	441	98	238 Ohm
	5	-53	133	- - -
	6	- - -	- - -	- - -
	7	0	3.2	.011 Ohm
	8	.6	98	12 Ohm

* This resistance measured with capacitor C18A shorted to ground.

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