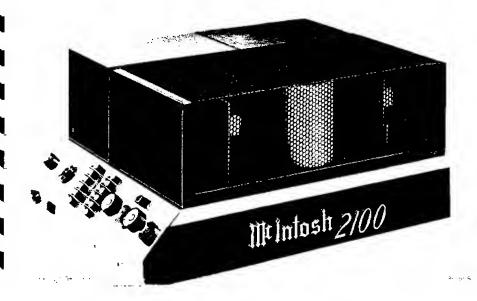
# **OWNER'S MANUAL**



- In MC 2100 Stereo Amplifier in the you many years of pleasant if satisfactory performance, if you have any questions, please contact:
- Mointosh Laboratory Inc.
  2 Chambers Street
  30 Shamton, New York 13903
  Phone: 607-723-3512
- ARNING, TO PREVENT FIRE OR SHOCK AZARD, DO NOT EXPOSE THIS UNIT TO RAIN A MOISTURE.

Take Advantage of 3 years of FREE Service . . . Fill in the Application NOW.

SERVICE CONTRACT , 1	
INSTALLATION 2	
HOW TO CONNECT 2,3	
CONTROL PANEL INFORMATION 4	
LISTENING TO YOUR STEREO SYSTEM 4	
PERFORMANCE LIMITS AND RATINGS 5	
PERFORMANCE CHARTS 6	
TECHNICAL DESCRIPTION 7	
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An application for a FREE THREE YEAR SERVICE CONTRACT is included with this manual.

#### The terms of the contract are:

- 1 Motntosh will provide all parts, materials and labor needed to return the measured performance of the instrument to the original performance limits free of any charge like SERVICE CONTRACT does not cover any shipping costs to and from the authorized service agency or the factory.
- Any Mointosh authorized service agency will repair all Mointosh instruments at normal service rates. To receive the free service under the terms of the SERVICE CONTRACT, the SERVICE CONTRACT CERTIFICATE must accompany the instrument when taken to the service agency.
- 3. Always have service done by a Mcintosh authorized service agency. If the instrument is modified or damaged, as a result of unauthorized repair the SERVICE CONTRACT will be cancelled. Damage by improper use or mishandling is not deverse by the SERV.

#### ICE CONTRACT

- The SERVICE CONTRACT is issued to you as the original purchaser. To protect you from misrepresentation this contract cannot be transferred to a second owner.
- 5. For your protection Mointosh selects only dealers who have technical competence to guide purchasors fairly, and provide service when necessary. To receive the SERVICE CONTRACT your purchase must be made from a Mointosh franchised gealer.
- Your completely filled in application for a SERVICE CONTRACT must be postmarked within 30 days of the date of purchase of the instrument.
- To receive the SERVICE CONTRACT all information on the application must be finled in. The SERVICE CONTRACT will be issued when the completely filled in application is received at MoIntosh Laboratory incorporated in Bingmanton, New York.

1

Adequate ventilation extends the trouble-free life of electronic instruments, it is generally found that cach 10° centigrade (18° F) rise in temporative reduces the life of electrical insulation by one half. Adequate ventilation is an inexpensive and effective means of preventing insulation breakdown that results from unnocessarily high operating temporatures. The direct benefit of adequate ventilation is longer, trouble-free life.

The suggested minimum space for mounting the MC 9100 is 20 inches deep x 912 inches high x 12 inches wide. Always allow for all flow by either verification holes or space next to the bottom of the amplifier and a means for the warm sin to escape at the top.

If is recommended that the MC 2180 be mounted in a normal or horizontal position. However with adequate ventitation, the amplifier can be mounted in any position except upside down. If the amplifier is to be installed on a verticel surface it is recommended that the autoformors be on the down side. This position permits greater air flow around the transisters and component parts thereby extending the troubis-free life of the amplifier.

#### APUT-STEREO

The shielden cable from the left octour of the Matchash prosphalities is plagged into the left lack. The melded cable from the dight output in the Matchash complifier is plugged into the right lack. The INPUT which must be in the STEREO position and the OUT-IT property connected to the stoneo loudspeakers distortion and loss of cover may result.

#### INPUT-MONO

The shielded cable from the program source is 19364 into the right, ack. The INPUT switch must in the MONO position and the OUTPUT properly checked for more loudspeaker operation or distormant ose of power may result.

#### GUTPUT-STEREO OR TWIN AMPLIFIERS

For stered or twin channel operation it is not nectionly to use the same imperiond loudstocker on such cutout. Simply connect coch channel to the tockance discharge.

#### SPEAKERS

Speakers are connected at the pernier stitps, marked OUTPUT on the sloped panel of the winglifer. Use temporal field wire, or wire with suntillar type of insufation to connect the speakers to the amplifier. For the normally short discenses of under 50 feet between the amplifier and speaker. =18 wire or larger can be used. For bistoness over 50 feet between the amplifier and speaker use larger wine.

The oudspeaker impedance is usually identified on the loudspeaker itself. Connect ont of the leads from the left loudspeaker to the serow marked DOM on the LEFT OUTPLIT terminer stilp. Connect the other workfrom the left loudspeaker to the serow marked with the number corresponding to the secoker impedance on the LEFT OUTPLIT barrier step. Connect one of the loads from the right loudspeaker to the scriw marked COM on the RIGHT OUTPLIT reprier step. Connect the other lead from the right purspeaker in the secoker marked with the number corresponding to the speaker impodence on the RIGHT OUTPLIT barrier step.

The only adverse effect on the operation of a Mothissit popition when it is improperly matched is a reduction in the emount of distoment free power leads able to the educationary. Close imposance matching to desirable for maximum distortion-free power.

#### SPEAKER CONNECTIONS

Use this table to determine propor speaker connocition:

If the speaker	impedance	Speaker		
is between:		between		and:
3.2 to 6.5	o'rms	-1	onms	
€.5 to 13	ohms	3	ohms	
13 to 26	oitms	*6	ดำกร	

#### STEREO OUTPUT-CONNECTING TO BARRIER STRIPS

Use this table for stereo connections using the carrier scips:

		Connections light sheaker lead to this screwmarked
" the speaker	LEFT-COM and	RIGHT-COM and
impedance is:	differ for	the other to:
4 ohma	EU.1 3-4	RIGHT-4
8 ohms	LCF-T-3	RIGHT-6
16 ohers	LEFT-16	RIGHT 16

For 25 velf line operation connect one of the left loads to the screw marked GOM on the LEFT QUIPUT barrier stric. The other left lead is connected to the screw marked 6 on the LEFT QUIPUT barrier stric. Gornect the right leads in the same manner on the RIGHT QUIPUT barrier strip.

When connected as above the MC 2100 operates as a 135 wall be: channel stored amplifler.

\_\_\_...

## MONOPHONIC OUTPUT—CONNECTING TO PARRIER STRIPS

or the MC 2100 is to operate as a menophonic molfier. He two channes are combined to produce a gie 210 watt output. This chart lists the grouper contions and interconnections for monophosis operations.

11.51	Connect one speaks	ī
F.8767	lead to the screw	Correct a
pedactio	marked LEFT-COM	wire between:
•	and the other for	
		LEFT # and
phns	LEF <sup>-</sup> -4	RIGHT-4
		SEFT-8 god
4 ohous	LLFT-8	BIGHT-8
		LEF7-16 and
5 phms	LEFT 16	BIGHT-19
in exhibitant	voltage	
		LEFT-8 and
T Verille	197 F-8	RIGHT-8

non connected as above the MO 2100 operates as a 710 wall per observe improponents amplifier

### STEREO OUTPUT—CONNECTING TO THE OCTAL SOCKET

invicotal socker marked OUTFUT can be used for all this culput impodences and voltages. Connections my made in the following fashion:

If the impedance is:	Solder the left chennel leads botween:	Solder the right Channet leads between:			
4 ohms	Pirr 1 gnd 2	Piri 5 and 6			
8 ohins	Pin 1 and 3	Pin 5 and 7			
16 ahma	Pin 1 and 4	Pin 5 and 8			
eer constant vo	tage				
25 voits	Pin 1 and 3	Pic 5 and 7			

When connected as cutlined the MC 2100 operates as a 105 wait per channel stereo emplifier.

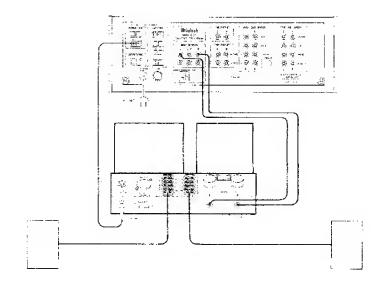
### MONOPHONIC OUTPUT—CONNECTING TO THE OCTAL SOCKET

If the		Solder the
impedance is:	CONNECT	leads to:
2 อากาล	2 And 6	1 and 2
4 dimis	3 and 7	1 and 3
8 ohms	4 ar# 8	1 and 4
25 volts	3 and 7	1 and 3

When connected as outlined the MC 2100 operates as a 210 with monophoric simplifier.

#### AC POWER:

The MC 2100 operates on 117 to 130 volt. 50/60 Hz, ne amptifier will be turned on and off it its power cord is obtaged in one of the auxiliary AC outlets on the program source.



#### INP 37

The input of the MC 2100 has a two position switch or remail the amolifier to be used in any one of three

- \* As a monophonic 210 watt amplifier.
- As twin 105 watt amplifiers used with an electropic crossover network, or as two completely separate amplifiers.
- As a stereo amplifier used with a Mointosh preamplifier or other high output stereo program sources.

abher position of the input switch the input sanstdisher is 0.5 wolfs for full rated output. The input imperiance is 200,000 ohms.

The STEREO position each Input is controlled by
 DAIN control. The GAIN control abows signal structed of 0.5 voit up to 30 volts to be connected with-

the MONO position of the input to the amplifier. The MONO position of the input awitch parallels like traits of both amplifiers. When the outputs are properly connected the MO 2100 necomes a 210 wat monocorpic amplifier. The RIGHT/MONO GAIN control calmits connecting signal sources up to 30 voits without procloseding the amplifier's input. To operate the MO 2100 as a 210 wat monocorpic amplifier the INPUT switch must be in the MONO position and the OUTPUT risk be properly connected for monopolic operation.

#### OUTPUT

The two barrier terminal strips marked LEFT OUT-PUT and RICHT OUT-2LT provide stered connections for the normal speaker indedances of 4 drims. 8 chims, and 36 chims, or monopheric operation connections for 2 chims, 4 drims, and 8 chims. The terminal strips may also be connected for a constant veltage outsit of 25 volts in either steroology mono.

#### OUTPUT (Octal Socket)

The outal socket marked QUTPUT has swere domnormals for 4 others 8 oftens. 16 online, and 25 wills. For monophoric operation the edial socket provides connections for 2 others, 4 online, 5 ormal, and 25 voits.

#### FUSE

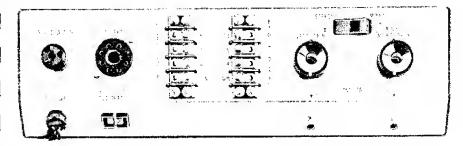
The MC 2100 uses a 5 ampere sto-biblitize luse. The auxiliary AC outlet is not fused.

#### AC OUTLET

The auxiliary AO bubblics on a used to supply newor to other aquirment in the system. The not et will one vide a nex mum of 300 watts of power. The AO pages is not lessed.

#### LINE VOLTAGE

The MC 2100 operates on any time shiftage, between 117 volts and 100 voits,  $60.95\,\rm Mz.$ 



#### STITTING THE GAIN CONTROLS:

- It set the GAIN controls for a stered system use a percent is an interest of the program source. A mono rice arginer supplies the same voltage to continue to the voltage to continue to the source options in the source options in the source options.
  - are so the LEFT GAIN control onto the foudness

in the room is about as fould as you like tull later. Then turn the OAIN portfor on the AIGHT REPUT that it is equally as thick as hid of channel. The evision is now balancer for loveness and provides the previous report of operation and reuteness interior when rating the volume control on the secret equipment.

NOW SIT BACK AND ENJOY YOUR MCINTOSH

the partitioned Limits are the maximum deviation from year tenion permitted for a Molntosh Instrument. We primitise you that the MC 2100 you buy must be depable or performance at or exceeding these limits or you get your money back, Molntosh is the only manufacturer that makes this guarantee.

At ribeh audio power ratings are in accordance with the Fereral Trate Commission Regulation of Novemtion 4, 1974 concerning power output claims for ampli-Fere pastd in home entertainment products.

#### POWER OUTPUT

STEREO

\*05 watts minimum sine wave continuous average power output, per channel, both channels operating into 4 ohms, 8 ohms, or 16 ohms load impedance, which is:

> 20.5 volts RMS across 4 ohms 29.0 volts RMS across 8 ohms 41.0 volts RMS across 16 ohms

#### -WWO

210 watts minimum sine wave continuous aparage power output, operating into 2 or ms, 4 ohms, or 8 ohms load impedance, which is:

20.5 volts RMS across 2 ohms 29.0 volts RMS across 4 ohms 41.0 volts RMS across 8 ohms

#### CUTPUT LOAD IMPEDANCE

501870

ৰ চালাঙ, 8 ohms, or 16 ohms; separate ter-শেলগ্ৰাs are provided for each cutput

W1120

Timms, 4 ohms, 8 ohms; separate terminals are provided for each output

#### RATED POWER BAND

25 Hz to 20,000 Hz

#### TOTAL HARMONIC DISTORTION

HEREO

25% maximum harmonic distortion at power level from 250 milliwatts to 105 and per channel from 20 Hz to 20,000 St. both channels operating

Million C

CLSS maximum distortion at any power 1859 from 250 milliwatts to 210 watts from 20 dz to 20,000 Hz

#### INTERMODULATION DISTORTION

STEREO

0.25% if instantaneous peak power output is 210 waits or less per channel with both channels operating for any combination of frequencies, 20 Hz to 20,000 Hz

#### MONO

0.25% if instantaneous peak power output is 420 watts or less per channel with both channels operating for any combination of frequencies, 20 Hz to 20,000 Hz

#### FREQUENCY RESPONSE (at 1 watt output)

20 Hz to 20,000 Hz ±0 --0.25 dB 10 Hz to 100,000 Hz ±0 - 3.0 dB

#### NOISE AND HUM

90 dB below rated output

#### **OUTPUT VOLTAGES**

STEREO AND MONO
25 volts for distribution lines

#### DAMPING FACTOR

20 at 4 ohms output 14 at 8 ohms output 11 at 16 ohms output

#### INPUT IMPEDANCE

200,000 ohms

#### INPUT SENSITIVITY

0.5 volt. Level control provided for higher input voltage

#### POWER REQUIREMENTS

120 volts, 50 60 Hz. 50 watts at zero signal output. 450 watts at rated output.

#### SEMICONDUCTOR COMPLEMENT

32 silicon transistors 14 rectifiers and diodes

#### SIZE

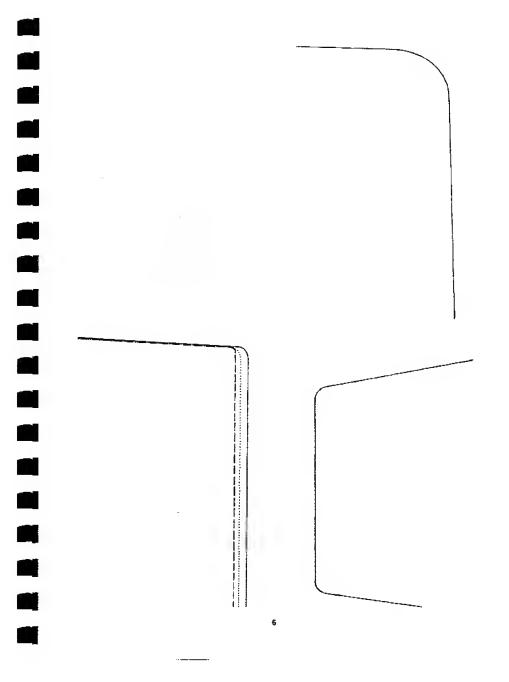
7% inches high (19.69 cm), 11% inches wide (29.85 cm), 17 inches deep (43.18 cm)

#### CHASSIS

Chrome and black

#### WEIGHT

57 pounds (25.86 kg) net, 83 pounds (25.58 kg) in shipping carton



stage presidentialities with three transistors in the perasses the right voltage 16 dB.

or 15 itensisters in each nower amother sociative stage changefrer is led to a pair of cans store averaged as an emitter couplind with two inputs and one output. The signal also matter sout on connects its one of these with AC and TC negative feedback are applied near nout. This large quantity of feedback is usual naive and distortion. The signal is then office amptitle. The voltage amolitier is followed their type diver transisters.

retroit sention is arranged as a series push-pull co. The power transistors used in the output of your MC 2000 are selected for their night pasignitive capability, wide frequency response, the lisate operating area." In addition, each consister is given four separate tests before the your MC 2100, This auditional testing makes are MC 2100 will deliver its rated power from a 20 kHz with low distortion and comprehensels.

gower transistors are mounted on oversized at freetis his. The heat sinks assure that under sparation the transistors will operate at a low sever. If temperatures increase due to a shorted on restricted variitation, an automatic temperatures governing device turns of the MO 2100. The missions automatically at a preset temperature. If 2100 will turn on again when the temperature remains to cooral tinks. This additional feature of MO 2100 complete tellability under the most operating coordinates.

rulput stages are unatched to the load by the encutation more. The fidentish autoformor is corrected using Moletosh triffer winding and intertaction to the fidential of the moletosh autoformors exceptional bandwidth. The firm resperty match the power transistors to it 16 chm reads at All audio frequencies.

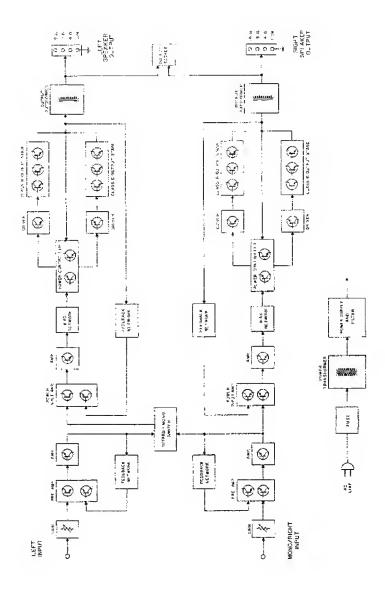
iso of the Mointosh designed tritilar autoformer. The Mointosh spillo state applifiers the only are that deliver FULL POWER AT ALL SPEAKER - 4075. You have not been power behalized for cace of loudspeakers whom using the Mointosh 50.

car of the advantages of the autoformers is the lightful for a constant voltage distribution system the MG 2160 several sets of speakers on be of independently throughout your home.

urther insure reliability is special power output in MONITORING CIRCUIT prevents failure of we output transitions due to excessive mismaid: of the output. When your MC 2150 operates normally the SENTRY MONITORING CIRCUIT has no officer on eigents passing through the power amplifier. In the power dissipution should rise above normal operation, the SENTRY MONITORING CIRCUIT restricts the drive to the output transistors. The SENTRY MONITORING CIRCUIT acts instantaneously for any input signal or load combination. This arrangement assures complete circuit reliability. Only Molintokin gives you this strange of protection.

There are three seconds to power supply sections. One positive and one negative high current supply is used for the oxious stages. The other positive supply is used for the criving amplifier stages. All supplies are full wave and use silicon rectifiers, Accounte filtering is used to assure an absolute minimum of hum. The power output stage filter capabilities have very high capability, which allows full power output below 20 Hz. The power transformer is generous in size and runs cool, even under heavy use.





# Milntosh

McINTOSH LABORATORY INC.
2 CHAMBERS ST., BINGHAMTON, N. Y. 13903

607-723-3512

Design subtect to strenge without notice Printed in U.S.A 158-849

# Milntosh

# MC 2100

POWER AMPLIFIER



## SERVICE INFORMATION

STARTING WITH SERIAL NO. 10W01

#### PERFORMANCE

McIntosh audio power ratings are in accordance with the Federal Trade Commission Regulation of November 4, 1974 concerning power output claims for amplifiers used in home entertainment products.

#### POWER OUTPUT

STEREO

105 watts minimum sine wave continuous average power output, per channel, both channels operating into 4 ohms, 8 ohms, or 16 ohms load impedance, which is:

20.5 volts RMS across 4 ohms 29.0 volts RMS across 8 ohms 41.0 volts RMS across 16 ohms

#### MONO

210 watts minimum sine wave continuous average power output, operating into 2 ohms, 4 ohms, or 8 ohms load impedance, which is:

20.5 volts RMS across 2 ohms 29.0 volts RMS across 4 ohms 41.0 volts RMS across 8 ohms

OUTPUT LOAD IMPEDANCE STEREO

4 ohms, 8 ohms, or 16 ohms; separate terminals are provided for each output

#### MONO

2 ohms, 4 ohms, 8 ohms; separate terminals are provided for each output

RATED POWER BAND 20 Hz to 20,000 Hz

TOTAL HARMONIC DISTORTION

TOTAL HARMONIC DISTORTION STEREO

0.25% maximum harmonic distortion at any power level from 250 milliwatts to 105 watts per channel from 20 Hz to 20,000 Hz. both channels operating

#### MONO

0.25% maximum distortion at any power level from 250 millwatts to 210 watts from 20 Hz to 20.000 Hz

FREQUENCY RESPONSE (at 1 watt output) 20 Hz to 20,000 Hz +0 --0.25 dB 10 Hz to 100,000 Hz +0 --3.0 dB

#### INTERMODULATION DISTORTION

STEREO

0.25% if instantaneous peak power output is 210 watts or less per channel with both channels operating for any combination of frequencies, 20 Hz to 20,000 Hz

MONO

0.25% if instantaneous peak power output is 420 watts or less per channel with both channels operating for any combination of frequencies, 20 Hz to 20,000 Hz

NOISE AND HUM

90 dB below rated output

#### RATINGS

OUTPUT VOLTAGES STEREO AND MONO

25 volts for distribution lines

DAMPING FACTOR 20 at 4 ohms output

14 at 8 ohms output 11 at 16 ohms output

INPUT IMPEDANCE 200,000 ohms

INPUT SENSITIVITY

0.5 volt. Level control provided for higher input voltage

#### GENERAL INFORMATION

POWER REQUIREMENTS

120 volts, 50/60 Hz, 75 watts at zero signal output, 430 watts at rated output

SEMICONDUCTOR COMPLEMENT

32 silicon transistors 14 rectifiers & diodes

#### MECHANICAL INFORMATION

SIZE

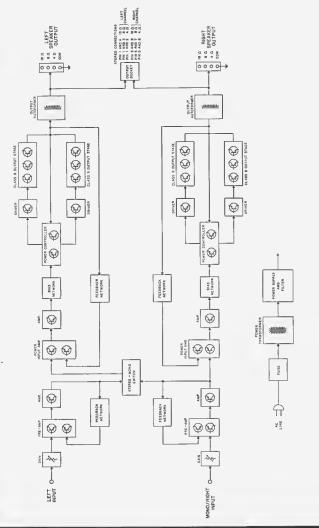
7% inches high (19.69 cm), 11% Inches wide (29.85 cm), 17 inches deep (43.18 cm)

CHASSIS

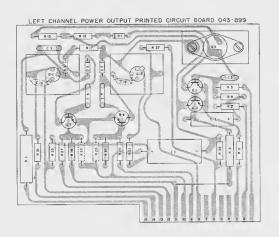
Chrome and black

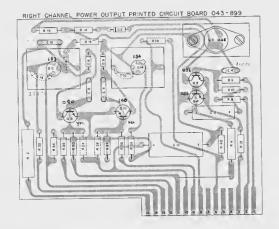
WEIGHT

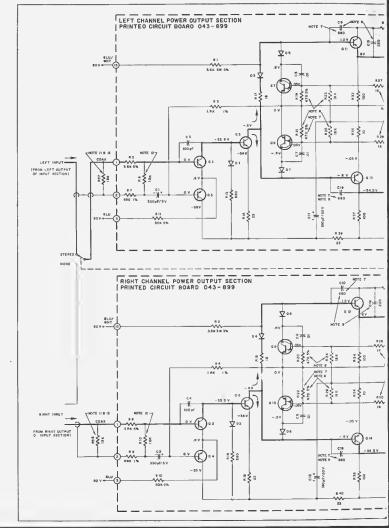
57 pounds (25.86 kg) net, 63 pounds (25.58 kg) in shipping carton

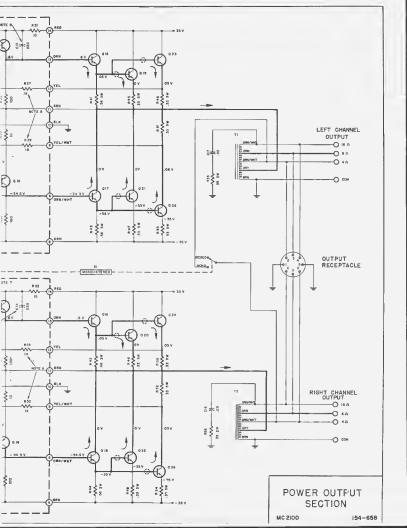


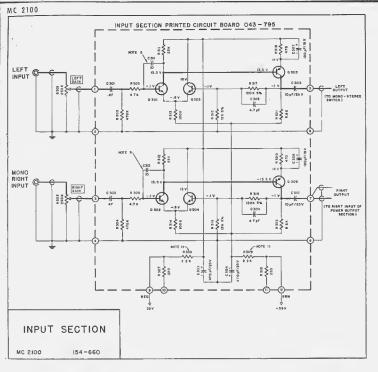
MC 2100 BLOCK DIAGRAM

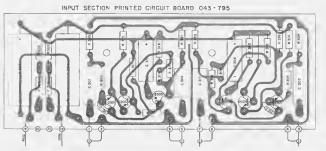








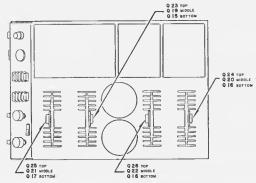




#### SCHEMATIC NOTES

- Unless otherwise specified: Resistance values are in ohms, 1/2 watt, and 10% tolerance: capacitance values smaller than 1 are in microfarads (µF); capacitance values greater than 1 are in picofarads (pF); inductors are in microhenries (µF).
- Printed circuit board components are outlined on the schematics by dotted lines. The circled numbers on the dotted lines correspond to the numbers on the PC board layouts.
- 3. The heavy lines on the schematics denote the primary 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 Impedance VTVM.
    - b. All voltages ± 10% with respect to chassis ground.
    - c. No signal at input terminals.
    - d. AC input at 117 volts AC, 50/60Hz.
  - e. Front panel controls at: Left Gain Right Gain Right Gain Mode
- 6. In units with Serial No.'s below 10W84, C311 & C312 are not used.
- 7. In units with Serial No.'s below 13W25: R21 & R22 are 1200 and C9, C10, C15, & C16 are 680pF.
- 8. In units with Serial No.'s below 59W75: R27, R28, R29 & R30 are 1000; R19 & R20 are 1200; R21 & R22 are 1500 and R23, R24, R25 & R26 are used.
- In units with Serial No.'s below 99W26; C13 ε C14 are used; R17 and R18 are 22π and C9, C10, C15 ε C16 are .0012μF.
- 10. In units with Serial No.'s below 99W26 F2O2 Is not used.
- 11. In units with Serial No.'s below 86W06: R55 & R56 are 10K and R308 & R309 are 3.3K.
- 12. In units with Serial No.'s below 86W00: R9 & R10 are 3.3K and R33 & R56 are not used.

#### LOCATION OF TRANSISTORS NOT ON PRINTED CIRCUIT BOARDS



MC 2100

2100								_		
	REPLAC	EMENT PAR	TS			0301,302	SI. NPN tr	ansistor		132-092
All parts not listed are common items obt				htain-		Q303,304	Si. NPN tr	ansistor		132-092
able from radio parts jobbers.						Q305,306	Si. PNP tr	anslstor		132-056
Replacement parts may be obtained when ordered by PART NUMBER from:							POTEN	TIOMETERS		
1	Acintosh La	boratory, In	10.			R 301	Left galn		2.9	134-206
1	2 Chambers	rvice Depart Street				R302	Right gain			1 34- 206
E	Binghamton, (telephone	New York 607-723-3512	3903							
								SISTORS		
1	C.A	PACITORS				R1,2	Wirewound	3.6k	5W	139-096
Symbol Number	0 e	scription		Part Number		R41,42	Wlrewound	.56n	5W	139-081
C1,2	Elect.	330 µF	3 V	066-105		R43,44	Wirewound	.56₽	5W	139-081
C11,12	Elect.	150µF	63V	066-205		R45,46	Wirewound	.33₽	5W	139-080
C201,202	Elect.	39000µF	40V	066-119		R47,48	Wirewound	.33₽	5W	139-080
C203	Elect.	80/80/150	750pF	066-095		R49,50	Wirewound	.33₽	5W	139-080
8301 300	Most and			064-045		R51,52	Wirewound	+ 33 n	5W	139-080
C301,302	Mylar Elect.	.47µF 470µF	250V 25V	066-228	1 1	R53,54	Wirewound	.33Ω	5W	139-080
0303,304			127	066-227	1	R201,202	Thermistor			144-012
C307,308	Elect.	100µF 10µF	25V	066-222			sw	ITCHES		
6309,310	Elect.	10111	234	000-222		\$1	Mode seleć	tor		153-008
		ORODES				\$201,202	Thermal cu	t-out		153-007
D1,2	Si. signa	diode		070-047			TDAN	SFORMERS		
03,4	Blas dloc	le		070-046		T1,2	Audlo auto			043-694
05,6	Si. signa	l diode		070-047		T201	Power tran			043-693
07,8	Si. sígna	dlode		070-047		(20)	rower tran			042-053
0201,202	Si. recti	fler		070-038			MISCELL	ANEOUS IT	EMS	
0203,204	Si. recti	fier		070-039			Plastic fe	et		017-144
D205,206	SI rectif	Ter		070-031			Owners man	ua l		038-848
		FUSES					Gain contr	ol knob		090-017
F201	Fuse 5	amp, slo-ble	0	089-007	1		Shipping c	arton		033-099
							AC power c	ord		170-021
		ANSISTORS					Fuseholder			178-001
Q1,2		ransistor		172-056						
03,4		ransistor		132-056						
Q5,6		ransistor		132-028						- 1
Q7,8		ransistor		132-090						1
09,10		ranslstor		132-100						
Q11,12		ransistor		132-153						
Q13,14		ransistor		132-154						
Q15,16		ransistor		132-070						
Q17,18		ransistor		132-070						
Q19,20		ransistor		132-070						
Q21,22		ransistor		132-070						
Q23,24		ransistor		132-070						45007
Q25,26		ransistor'		132-070	Į l			1	5C081157-	/upgu/
SCHEMATI	C PART	NO. 038-9	07							