

# Service Manual

## VOX CAMBRIDGE 30R

### CONTENTS

1) Electrical Specification	2
2) Circuit Diagram	3
3) Parts List	6

Revision: 1.00  
Issued date: Jul.17.2000  
Issued by: KORG INC.

# ELECTRICAL SPECIFICATION

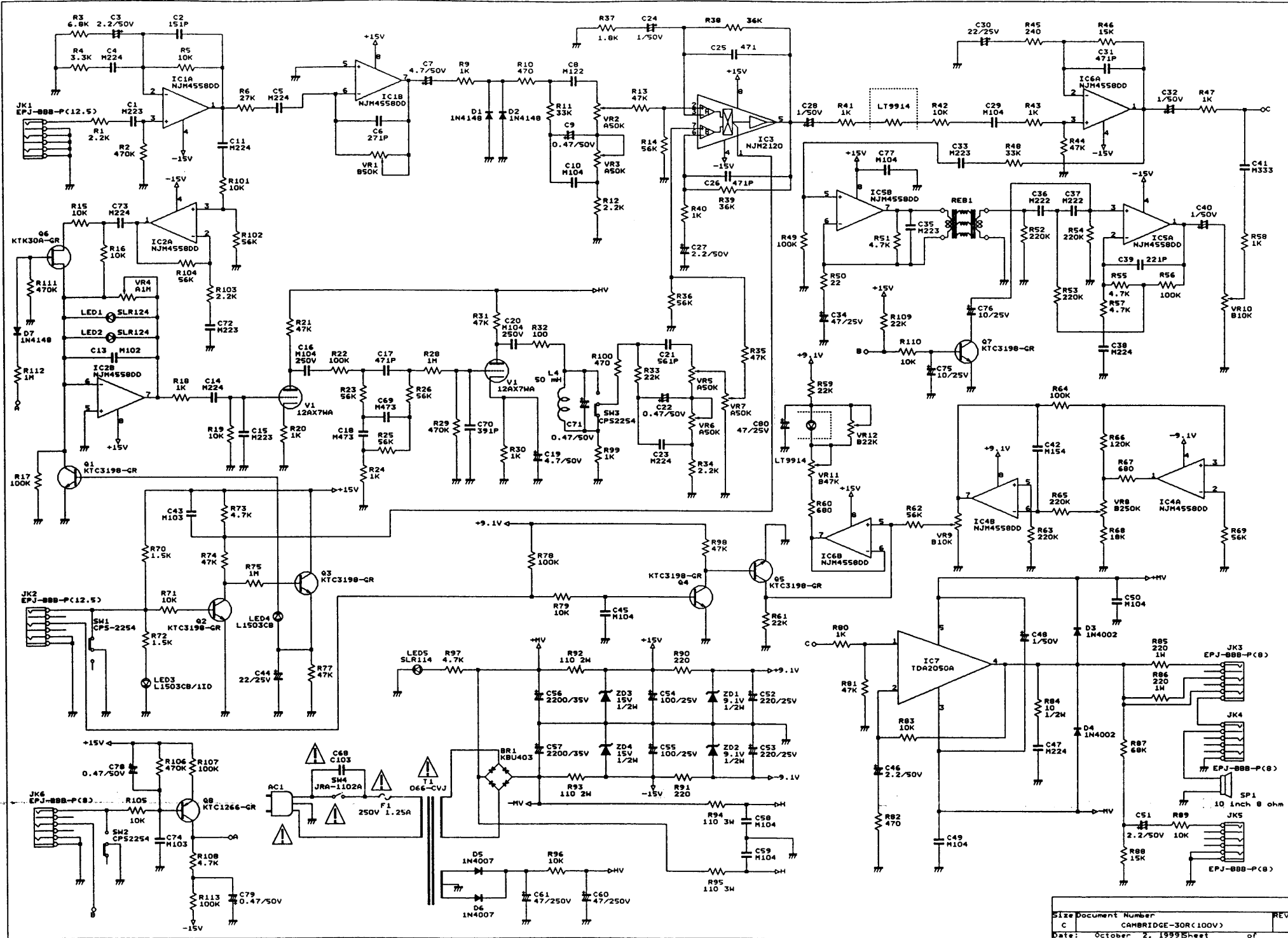
**MODEL : CAMBRIDGE 30R/30RT**

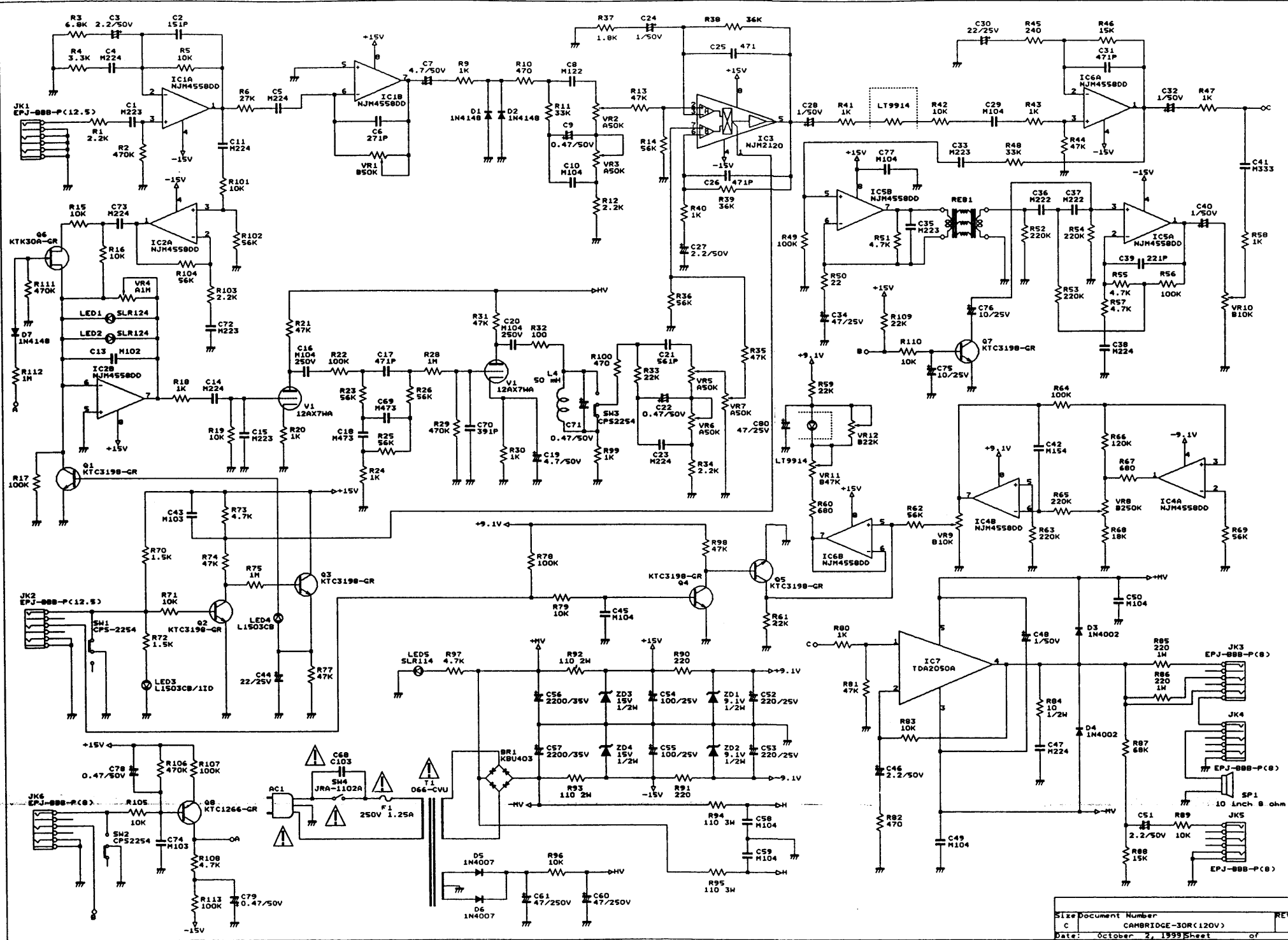
**<<CONDITION>>**

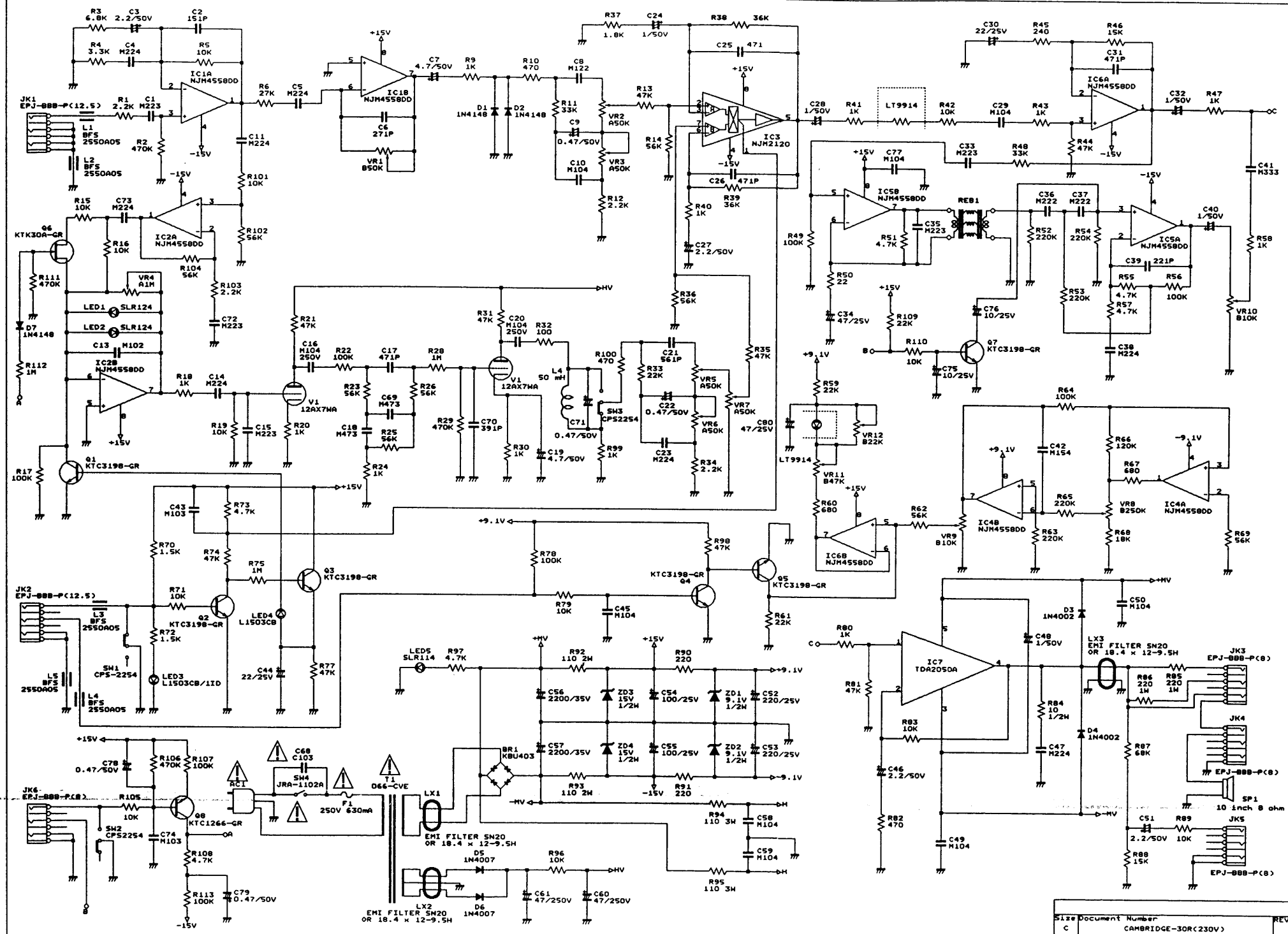
AC INPUT : 100V 50Hz

INPUT SIGNAL : 30m Vrms 1KHz

ITEM		CONDITION	VALUE	UNIT	REMARK	
CH1	OUTPUT		AT 1KHz THD5%	30W		
	TONE/VARIABLE/LANGE	BASS	AT 200Hz	10dB		
		TREBLE	AT 5KHz	18dB		
	S/N		AT MAXIMUM OUTPUT	65dB		
	LINE OUT			9dB		
CH2	TONE/VARIABLE/LANGE	BASS	AT 200Hz	5.5dB		
		TREBLE	AT 5KHz	7dB		
	GAIN BOOST	ON	1KHz	5.5dB		
	MID RANGE BOOST	ON	1KHz	7dB		
	S/N	GAIN	MID	AT MAXIMUM OUTPUT	45dB	
		BOOST	ON			
		GAIN	MID	AT MAXIMUM OUTPUT	51dB	
		BOOST	OFF			







## Cambridge 30R Parts List

Quantity	Location	ID NO.	Parts Number	100V	120V	230V
1	BR1	KBU403	BRIDGE DIODE KBU403	0	0	0
1	L4	50mH	COIL 50mH	0	0	0
1	Q6	KTK30A-GR	FIELD EFFECT TRANSISTOR N CHANNEL	0	0	0
2	F1A, F1B	007A	FUSE CLIP PCB TYPE 007A	0	0	0
5	IC1, IC2, IC4, IC5, IC6	NJM4558DD	IC DUAL OP AMP NJM4558DD	0	0	0
1	IC7	TDA2050A	IC POWER AMP TDA2050A	0	0	0
1	IC3	NJM2120	IC SWITCHING DUAL OP AMP NJM2120	0	0	0
2	LED1, LED2	SLR124	LED 3 RED SLR124	0	0	0
2	LED3, LED4	L1503CB/1ID	LED 5 RED L1503CB/1ID	0	0	0
1	LED5	SLR114	LED 5 RED SLR114	0	0	0
1	PH1	LT9914	OPTOCOUPLER OPTO-MODULE LT9914	0	0	0
1	JK4	EPJ-BBB-0(8)	PHONE JACK EPJ-BBB-0(8) MONO	0	0	0
2	JK1, JK2	EPJ-BBB-P(12.5)	PHONE JACK EPJ-BBB-P(12.5) STEREO	0	0	0
3	JK3, JK5, JK6	EPJ-BBB-P(8)	PHONE JACK EPJ-BBB-P(8) STEREO	0	0	0
1	VR4	A1M	POTENTIOMETER 1601-A1M 15M/M	0	0	0
5	VR2, VR3, VR5, VR6, VR7	A50K	POTENTIOMETER 1601-A50K 15M/M	0	0	0
2	VR9, VR10	B10K	POTENTIOMETER 1601-B10K 15M/M	0	0	0
1	VR8	B250K	POTENTIOMETER 1601-B250K 15M/M	0	0	0
1	VR1	B50K	POTENTIOMETER 1601-B50K 15M/M	0	0	0
1	SW4	JRA-1102A	POWER SWITCH JRA-1102A	0	0	0
3	SW1, SW2, SW3	CPS-2254	PUSH SWITCH CPS-2254	0	0	0
1	REB1	3E-2T1A	REVERB UNIT 3 SPRING	0	0	0
1	VR12	B22K	SEMI VOLUME B22K	0	0	0
1	VR11	B47K	SEMI VOLUME B47K	0	0	0
2	D3, D4	1N4002	SILICON RECTIFIER DIODE 1N4002	0	0	0
2	D5, D6	1N4007	SILICON RECTIFIER DIODE 1N4007	0	0	0
3	D1, D2, D7	1N4148	SILICON SWITCHING DIODE 1N4148	0	0	0
2	SP1, SP2	G10C30-8ohm	SPEAKER 10" 8ohm G10C30-S1978	0	0	0
6	Q1, Q2, Q3, Q4, Q5, Q7	KTC3198-GR	TRANSISTOR NPN KTC3198-GR	0	0	0

1	Q8	KTA1266-GR	TRANSISTOR PNP KTA1266-GR	0	0	0
1	V1B	SHIELD TUBE-1	TUBE SHIELD CASE TUBE-1	0	0	0
1	V1A	VT9-P-2	TUBE SOCKET VT9-P-2	0	0	0
1	V1	12AX7WA	TUBE VACUUME TUBE 12AX7A	0	0	0
2	ZD3, ZD4	15V 1/2W	ZENER DIODE 1/2 WATT 15V	0	0	0
2	ZD1, ZD2	9.1V 1/2W	ZENER DIODE 1/2 WATT 9.1V	0	0	0
4	C9,L C22, C78, C79	0.47/50V	CHEMICAL CONDENSOR 50V SK0.47uF	0	0	0
5	C24, C28, C32, C40, C48	1/50V	CHEMICAL CONDENSOR 50V SK1uF	0	0	0
3	C3, C27, C 46, C51	2.2/50V	CHEMICAL CONDENSOR 50VB SK 2.2uF	0	0	0
2	C7, C19	4.7/50V	CHEMICAL CONDENSOR 50V SK4.7uF	0	0	0
2	C75, C76	10/25V	CHEMICAL CONDENSOR 25V SK10uF	0	0	0
1	C43	10/50V	CHEMICAL CONDENSOR 50V SK 10uF	0	0	0
2	C30, C44	22/25V	CHEMICAL CONDENSOR 25V SK 22uF	0	0	0
2	C34, C80	47/25V	CHEMICAL CONDENSOR 25V SK 47uF	0	0	0
2	C60, C61	47/250V	CHEMICAL CONDENSOR 250V SK 47uF	0	0	0
2	C54, C55	100/25V	CHEMICAL CONDENSOR 25V SK 100uF	0	0	0
2	C52, C53	220/25V	CHEMICAL CONDENSOR 25V SK 220uF	0	0	0
2	C56, C57	2200/35V	CHEMICAL CONDENSOR 35V SK 2200uF	0	0	0
1	C2	151P	AXIAL CERAMIC CAPACITOR 50V J YB 150pF	0	0	0
1	C39	221P	AXIAL CERAMIC CAPACITOR 50V J YB 220pF	0	0	0
1	C6	271P	AXIAL CERAMIC CAPACITOR 50V J YB 270pF	0	0	0
1	C70	391P	AXIAL CERAMIC CAPACITOR 50V J YB 390pF	0	0	0
4	C17, C25, C26, C31	471P	AXIAL CERAMIC CAPACITOR 50V J YB 470pF	0	0	0
1	C21	561P	AXIAL CERAMIC CAPACITOR 50V J YB 560pF	0	0	0
2	C13	M102	PLASTIC FILM CAPACITOR 50V PE 0.001uF	0	0	0
1	C8	M122	PLASTIC FILM CAPACITOR 50V PE 0.0012uF	0	0	0
4	C36, C37, CX7, CX16	M222	PLASTIC FILM CAPACITOR 50V PE 0.0022uF	0	0	0
1	C74	M103	PLASTIC FILM CAPACITOR 50V PE 0.01uF	0	0	0
6	C1, C15, C33, C35, C72, C81	M223	PLASTIC FILM CAPACITOR 50V PE 0.022uF	0	0	0
1	C41	M333	PLASTIC FILM CAPACITOR 50V PE 0.033uF	0	0	0
2	C18, C69	M473	PLASTIC FILM CAPACITOR 50V PE 0.047uF	0	0	0
8	C10, C29, C45, C49, C50, C58, C59, C77	M104	PLASTIC FILM CAPACITOR 50V PE 0.1uF	0	0	0
2	C16, C20	M104 250V	PLASTIC FILM CAPACITOR 250V J 0.1uF	0	0	0

1	C42	M154	PLASTIC FILM CAPACITOR 50V PE 0.01uF	0	0	0
8	C4, C5, C11, C14, C23, C38, C47, C73	M224	PLASTIC FILM CAPACITOR 50V PE 0.02uF	0	0	0
1	C68	KC103P	CERAMIC CAPACITOR AC400V 0.01uF	0	0	0
1	R50	22 OHM	CARBON RESISTOR 1/4 WATT J22OHM	0	0	0
1	R32	100 OHM	CARBON RESISTOR 1/4 WATT J100OHM	0	0	0
2	R90, R91	220 OHM	CARBON RESISTOR 1/4 WATT J220OHM	0	0	0
1	R45	240 OHM	CARBON RESISTOR 1/4 WATT J240OHM	0	0	0
3	R10, R82, R100	470 OHM	CARBON RESISTOR 1/4 WATT J470OHM	0	0	0
2	R60, R67	680 OHM	CARBON RESISTOR 1/4 WATT J680OHM	0	0	0
12	R9, R18, R20, R24, R30, R40, R41, R43,R47, R58, R80, R99	1k OHM	CARBON RESISTOR 1/4 WATT J1KOHM	0	0	0
2	R70, R72	1.5K OHM	CARBON RESISTOR 1/4 WATT J1.5KOHM	0	0	0
1	R37	1.8K OHM	CARBON RESISTOR 1/4 WATT J1.8KOHM	0	0	0
4	R1, R12, R34, R103	2.2K OHM	CARBON RESISTOR 1/4 WATT J2.2KOHM	0	0	0
1	R4	3.3K OHM	CARBON RESISTOR 1/4 WATT J3.3KOHM	0	0	0
6	R51, R55, R57, R73, R97, R108	4.7K OHM	CARBON RESISTOR 1/4 WATT J4.7KOHM	0	0	0
1	R3	6.8K OHM	CARBON RESISTOR 1/4 WATT J6.8KOHM	0	0	0
12	R5, R15, R19, R42, R71, R79, R83, R89, R96, R101, R105, R110	10K OHM	CARBON RESISTOR 1/4 WATT J10KOHM	0	0	0
2	R46, R88	15K OHM	CARBON RESISTOR 1/4 WATT J15KOHM	0	0	0
1	R68	18K OHM	CARBON RESISTOR 1/4 WATT J18KOHM	0	0	0
3	R59, R61, R109	22K OHM	CARBON RESISTOR 1/4 WATT J22KOHM	0	0	0
1	R6	27K OHM	CARBON RESISTOR 1/4 WATT J27KOHM	0	0	0
2	R11, R48	33K OHM	CARBON RESISTOR 1/4 WATT J33KOHM	0	0	0
2	R38, R39	36K OHM	CARBON RESISTOR 1/4 WATT J36KOHM	0	0	0
9	R13, R21, R31, R33, R44, R74, R77, R81, R98	47K OHM	CARBON RESISTOR 1/4 WATT J47KOHM	0	0	0
10	R14, R16, R23, R25, R26, R36, R62, R69, R102, R104	56K OHM	CARBON RESISTOR 1/4 WATT J56KOHM	0	0	0
1	R87	68K OHM	CARBON RESISTOR 1/4 WATT J68K OHM	0	0	0
8	R17, R22, R49, R56, R64, R78, R107, R113	100K OHM	CARBON RESISTOR 1/4 WATT J100KOHM	0	0	0
1	R66	120K OHM	CARBON RESISTOR 1/4 WATT J120KOHM	0	0	0
5	R52, R53, R54, R63, R65, R116	220K OHM	CARBON RESISTOR 1/4 WATT J220KOHM	0	0	0
3	R2, R29, R106	470K OHM	CARBON RESISTOR 1/4 WATT J470KOHM	0	0	0
3	R28, R75, R112	1M OHM	CARBON RESISTOR 1/4 WATT J1MOHM	0	0	0
1	R84	10 1/2W	CARBON RESISTOR 1/2 WATT J10OHM	0	0	0
2	R85, R86	220 1W	OXIDE RESISTOR 1 WATT J220OHM	0	0	0



2	R92, R93	110 2W	OXIDE RESISTOR 2 WATT J110OHM	O	O	O
4	R94, R95	110 3W	OXIDE RESISTOR 3 WATT J110OHM	O	O	O
1	W1	150M/M	RING/TER UL1007 AWG18 BLK 150M/M	O	O	O
1	W12	120M/M	FLAT WIRE UL1007 AWG26 RD, BK 2P 120M/M	O	O	O
1	W13	110M/M	FLAT WIRE UL1007 AWG24 5P 110M/M	O	O	O
<b>PARTS for 100V and/or 120V</b>						
1	AC1	KKP-30	AC POWER CORD KKP-30		O	
1	AC1	KKP-120	AC POWER CORD KKP-210	O		
1	T1	066-CVJ	POWER TRANSFORMER 066-CVJ	O		
1	T1	066-CVU	POWER TRANSFORMER 066-CVU	O	O	
1	F1	250V 1.25AT	FUSE 250V=1.25AT	O	O	
<b>PARTS for 230V(240V)</b>						
1	T1	066-CVE	POWER TRANSFORMER 066-CVE			O
1	AC1	KKP-4819R	AC POWER CORD KKP-4819R			O
1	F1	250V 630mA	FUSE 250V=630mA			O
5	L1, L2, L3, L4, L5	SN20	BEAD FILTER BFS2550AO5			O