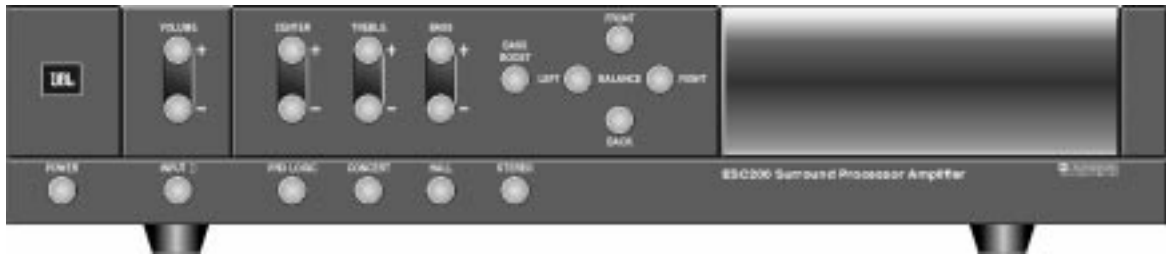




ESC200

Dolby Pro-Logic® Surround
Processor/Amplifier

SERVICE MANUAL



JBL Consumer Products Inc.
250 Crossways Park Drive
Woodbury, N.Y. 11797
1-800-336-4JBL in the USA

H A Harman International Company

Part No.: 1112-ESC200 Rev A 10/98

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ESC200 SPECIFICATIONS

	Satellite Speaker	Subwoofer
Power Handling (RMS)	20 Watts	60 Watts
Frequency Response	120Hz - 20kHz	35Hz - 200Hz
Sensitivity (1 Watt/1 meter)	87dB.	90dB
Nominal Impedance.	8 ohms.	6 ohms
Woofer Size	3"	6-1/2"
Tweeter Size.	1"	
Dimensions (HxWxD)	4-1/16 x 7-1/2 x 7-3/8"	7-3/4 x 13-7/8 x 17-3/4"
	103 x 190 x 187mm	198 x 354 x 451mm

Processor Amplifier

Total Maximum Amplifier Output - 100 Watts

Dimensions (HxWxD) - 2-11/16 x 13-1/2 x 9" (69 x 343 x 230mm)

Occasional refinements may be made to existing products without notice, but will always meet or exceed original specifications unless otherwise stated.

ESC200 SPECIFICATIONS

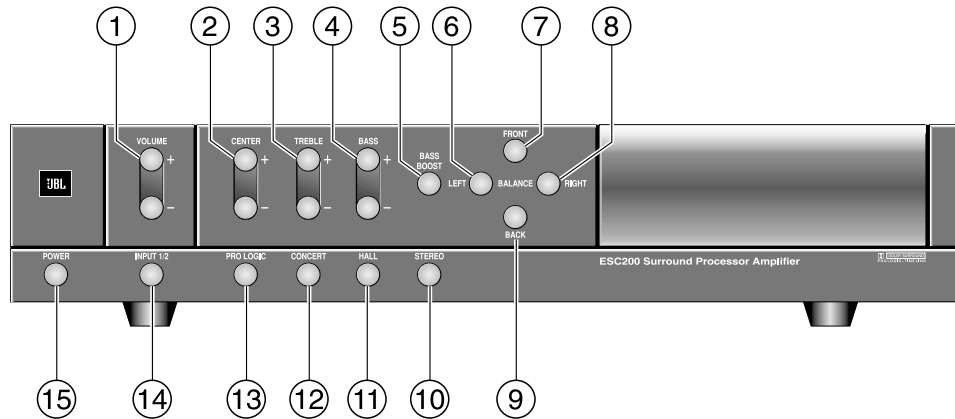
ESC200 Pro-Logic Surround Theater System

Power source: 117V/60Hz 230Hz/50Hz
 Test conditions: 8 ohm loading each channel (6X)
Bass & Treble - flat
Boost - off
Mode - stereo
Fader - front channel = back channel
Balance - left = right
Volume - 300 mV input for 1W (to nearest step)
Center Trim - center
Surround Trim - center

Technical Performance Readings

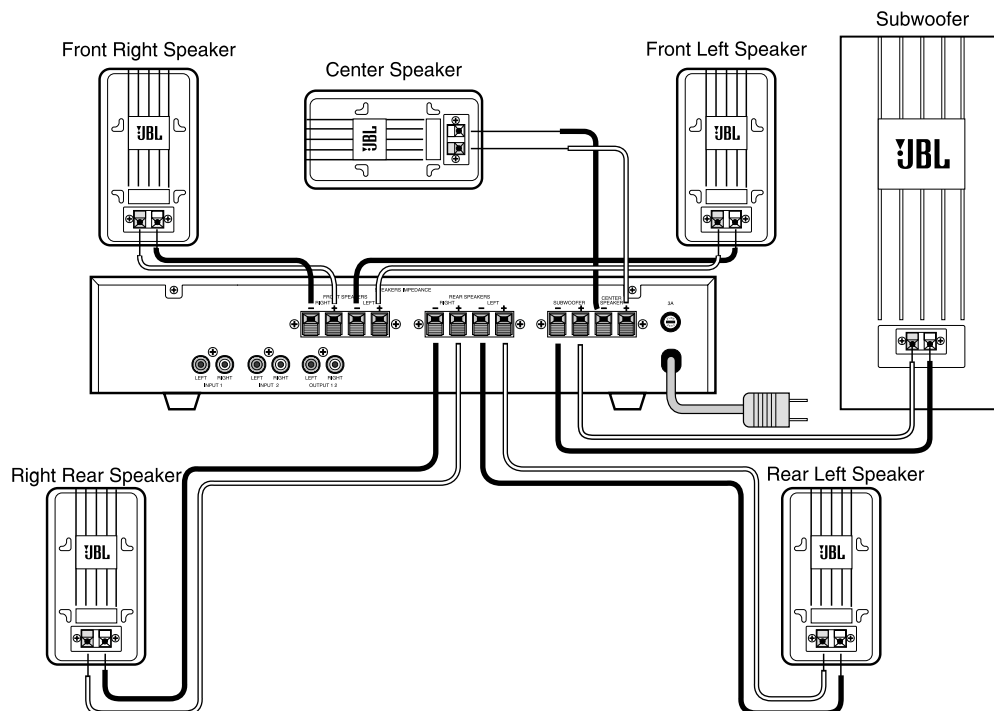
Parameters	Unit	Typical	Limit
1. THD at 8W, 1KHz, output	%	0.5%	1%
2. THD at 15W, 50Hz, Sub out	%	1.0%	3%
3. Frequency Response at five output re 1KHz, -3dB			
a.	Hz	125	100-150
b.	Hz	50K	>30K
4. Frequency Response at five output re 50Hz, -3dB			
a.	Hz	110	85-125
b.	Hz	18	<25
5. Volume Control at 1KHz (from Max)	db	60	>50
6. Balance Control at 1KHz	db	40	>30
7. Fader Control at 1KHz	db	40	>30
8. Bass			
a. Boost at 100Hz	db	7	>5
b. Cut at 100Hz (Bass control)	db	10	>8
9. Treble			
a. Boost at 10KHz	db	8	>6
b. Cut at 10KHz (Treble control)	db	8	>6
10. Bass Boost at 80Hz (Boost function)	db	6	>5
11. Input Z at 1KHz			
a. Input 1	ohm	20K	>15K
b. Input 2	ohm	20K	>15K
12. S/N Ratio "A" re 1W input short	db	72	>70
13. Noise level w/30K LPF input short	mV	0.8	1.0
14. S/N Ratio "A" re 1W			
Surround Mode L, C, R, SUB	db	70	>65
Input Short Surround	db	63	>60
15. Noise level w/30K LPF			
Surround Mode L, C, R, SUB	mV	1.2	1.5
Input Short Surround	mV	1.5	2.0
16. Input Sensitivity at 8W (Vol at Max, 1kHz) at FL, FR, RL, RR, A. RCA	mV	350	270-420
17. Separation at 1W, 1kHz	db	45	>40

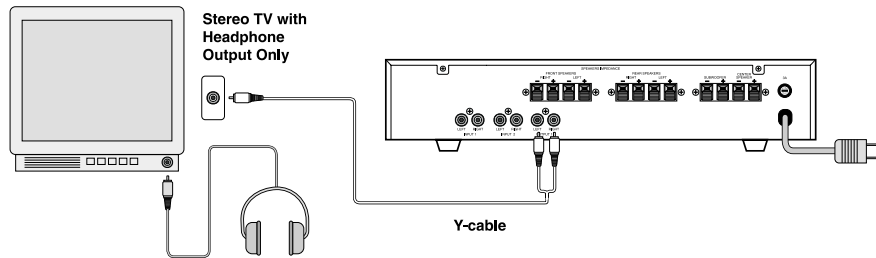
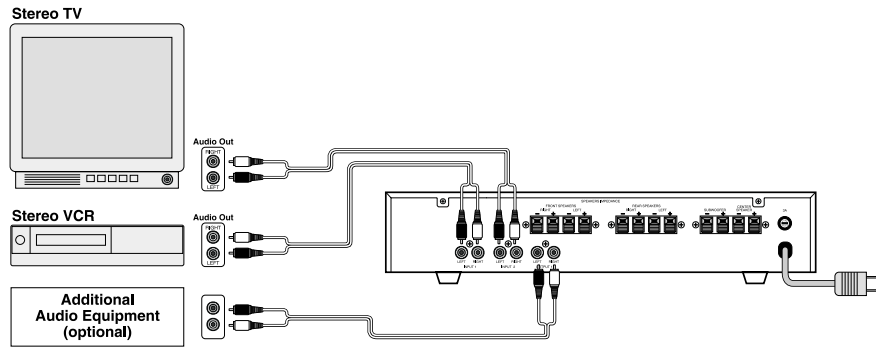
CONTROLS AND THEIR FUNCTION



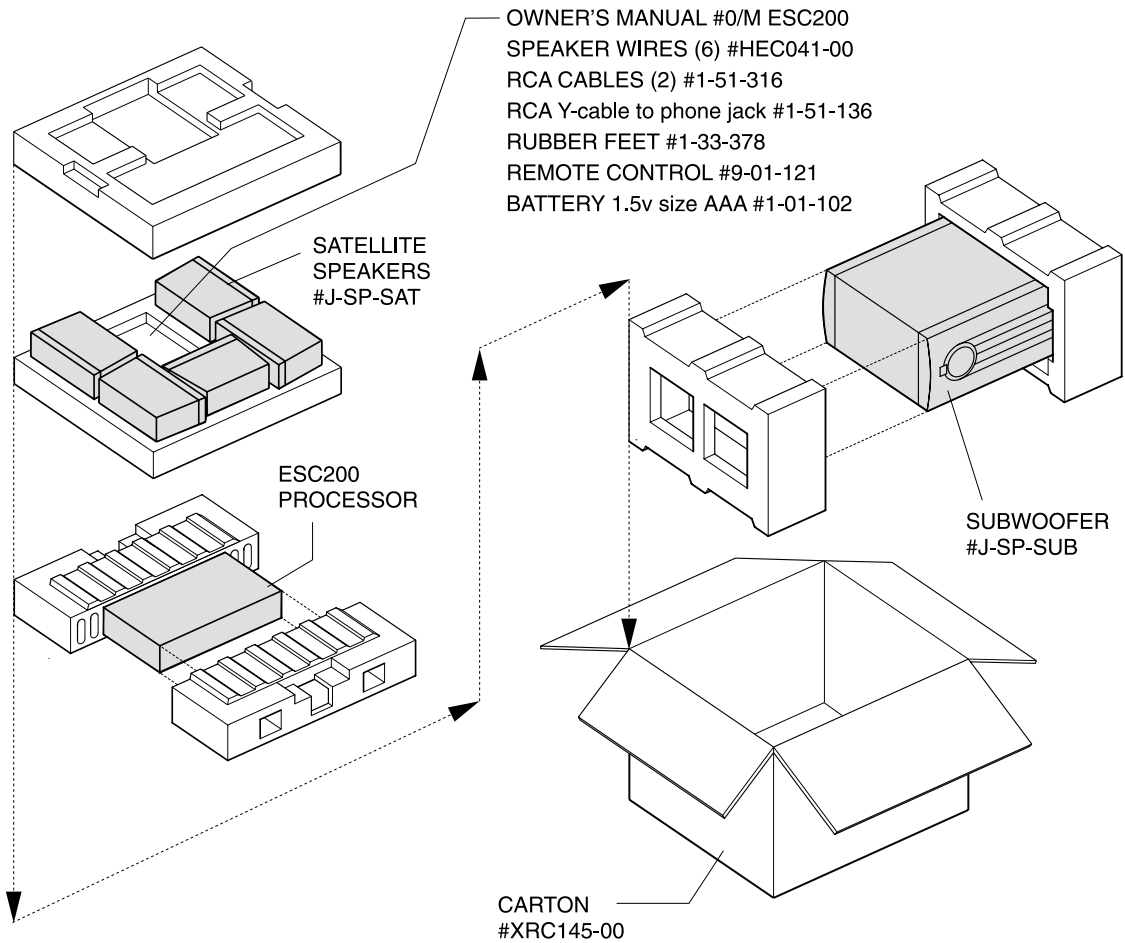
- 1. **VOLUME** - This controls an increase (+) or decrease (-) in volume.
- 2. **CENTER** - This controls the volume of the Center Speaker.
- 3. **TREBLE** - This controls the level of the treble.
- 4. **BASS** - This controls the overall bass output.
- 5. **BASS BOOST** - This increases the bass output to the subwoofer.
- 6-9. **BALANCE** - These buttons balance the front and rear as well as the left and right speaker strengths.
- 10. **STEREO** - This turns on and off the stereo mode.
- 11. **HALL** - This changes the sound to Hall mode.
- 12. **CONCERT** - This changes the sound to Concert mode.
- 13. **PRO-LOGIC** - This turns on the Pro-Logic mode.
- 14. **INPUT 1/2** - This switches to either music source connected to Input 1 or Input 2 (RCA jacks).
- 15. **POWER** - This button turns on the ESC200.

ESC200 SPEAKER AND SOURCE CONNECTIONS

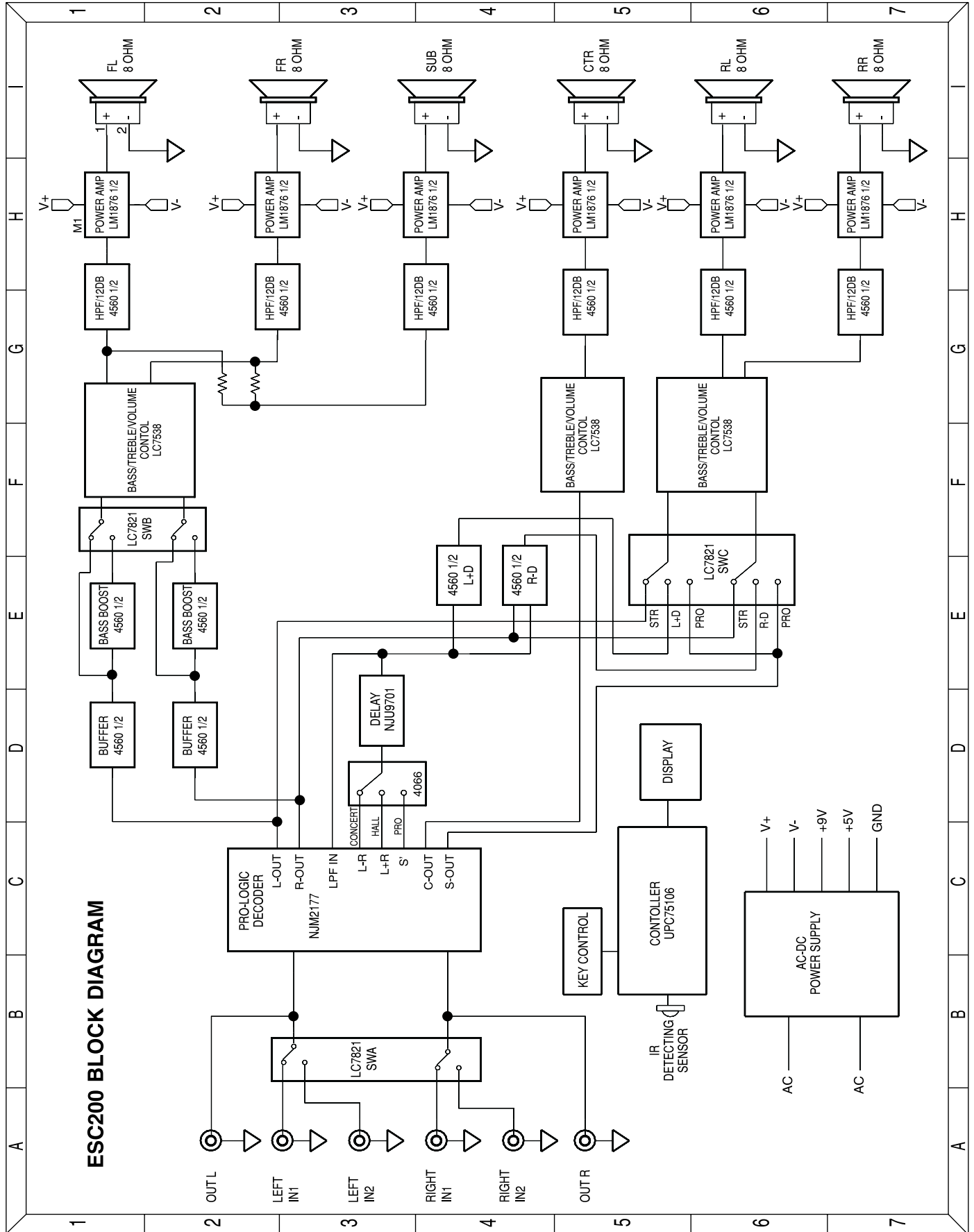




ESC200 PACKING



ESR200 BLOCK DIAGRAM

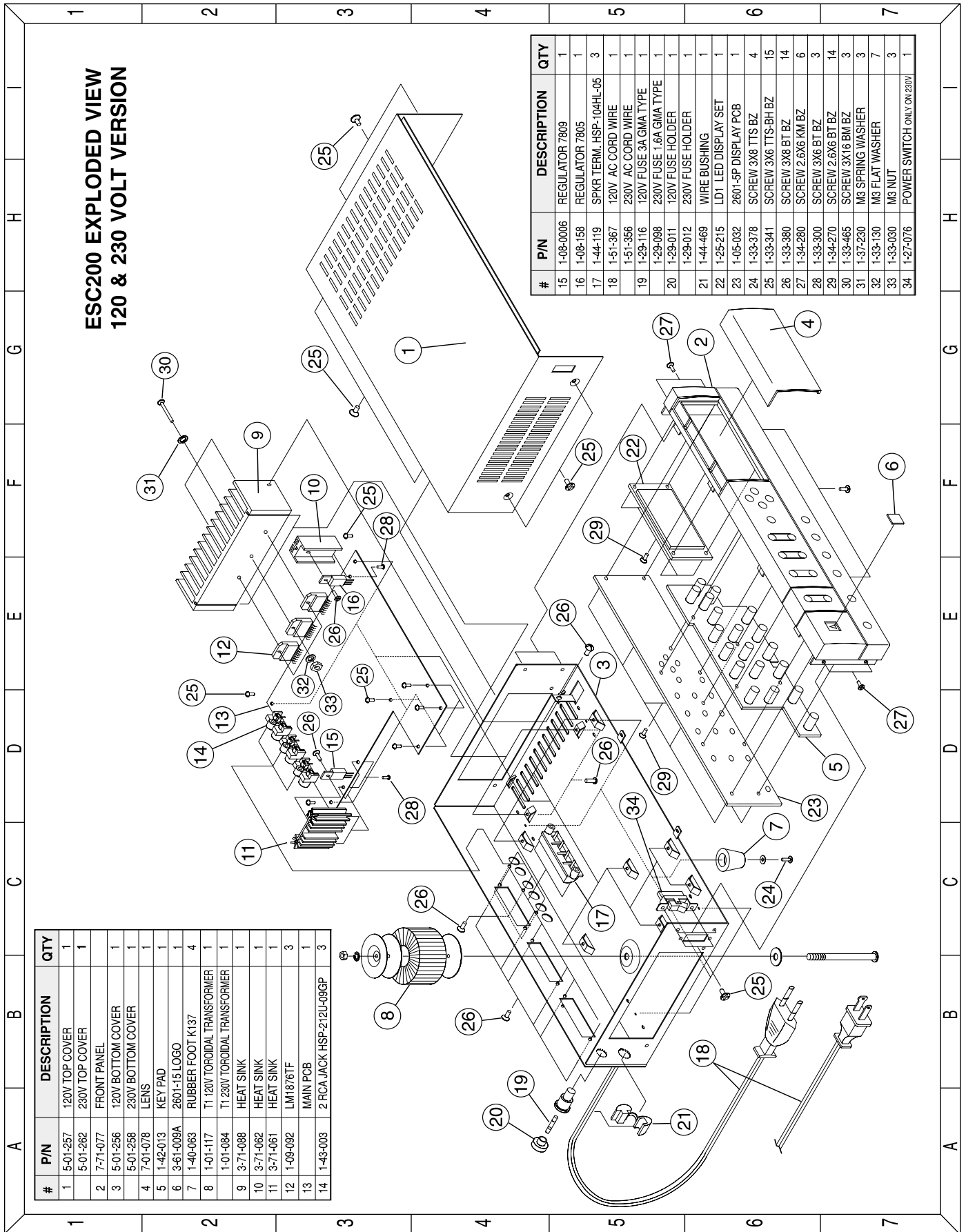


ESC200 UNIT EXPLODED VIEW

ESC200 EXPLODED VIEW
120 & 230 VOLT VERSION

#	P/N	DESCRIPTION	QTY
1	5-01-257	120V TOP COVER	1
	5-01-262	230V TOP COVER	1
2	7-71-077	FRONT PANEL	1
3	5-01-256	120V BOTTOM COVER	1
	5-01-258	230V BOTTOM COVER	1
4	7-01-078	LENS	1
5	1-42-013	KEY PAD	1
6	3-61-009A	2601-15 LOGO	1
7	1-40-063	RUBBER FOOT K137	4
8	1-01-117	T1 120V TOROIDAL TRANSFORMER	1
	1-01-084	T1 230V TOROIDAL TRANSFORMER	1
9	3-71-088	HEAT SINK	1
10	3-71-062	HEAT SINK	1
11	3-71-061	HEAT SINK	1
12	1-09-092	LM1876TF	3
13		MAIN PCB	1
14	1-43-003	2 RCA JACK HSP-212U-09GP	3

#	P/N	DESCRIPTION	QTY
15	1-08-0006	REGULATOR 7809	1
16	1-08-168	REGULATOR 7805	1
17	1-44-119	SPKR TERM. HSP-104HL-05	3
18	1-51-367	120V AC CORD WIRE	1
	1-51-356	230V AC CORD WIRE	1
19	1-29-116	120V FUSE 3A GMA TYPE	1
	1-29-098	230V FUSE 1.6A GMA TYPE	1
20	1-29-011	120V FUSE HOLDER	1
	1-29-012	230V FUSE HOLDER	1
21	1-44-469	WIRE BUSHING	1
22	1-25-215	LD1 LED DISPLAY SET	1
23	1-05-032	2601-5P DISPLAY PCB	1
24	1-35-378	SCREW 3X8 TTS BZ	4
25	1-33-341	SCREW 3X6 TTS-BH BZ	15
26	1-33-380	SCREW 3X8 BT BZ	14
27	1-34-280	SCREW 2.6X6 KM BZ	6
28	1-33-300	SCREW 3X6 BT BZ	3
29	1-34-270	SCREW 2.6X6 BT BZ	14
30	1-33-465	SCREW 3X16 BM BZ	3
31	1-37-230	M3 SPRING WASHER	3
32	1-33-190	M3 FLAT WASHER	7
33	1-33-030	M3 NUT	3
34	1-27-076	POWER SWITCH ONLY ON 230V	1



ESC200 PARTS LISTS

Ref. #	Part #	Description	Qty	Ref. #	Part #	Description	Qty
MAIN-PCB SECTION							
Capacitors							
C1, 2, 35, 60, 86, 158, 179	1-12010PI	1µF E.CAP, 50V+-20% 5x11	7	C56	1-12147LI	47µF 16V+-20% 5x11	1
C3	1-12310KI	1000µF 10V+-20% 8x16	1	C59, 143	1-12210KI	100µF 10V+-20% 5x11	2
C5, 199, 202, 205, 208, 211, 214	1-11447RH	0.0047µF 100V+-10% MINI	7	C63, 141	1-12247MI	470µF 25V+-20% 8x16	2
C6, 11, 21, 24, 25, 97, 102, 118, 126, 154	1-11122RH	0.22µF 100V+-10%MINI	10	C90, 91	1-16110PH	100pF 50V+- 10%	2
C7, 48, 73, 77, 144, 153, 165	1-11322RH	0.022µF 100V+-10% MINI	7	C109, 119, 120, 127, 128, 133	1-12133NI	33µF 35V+-20% 6x11	6
C8, C27, C31, C54, C55	1-11347RH	0.047µF 100V+-10% MINI	5	C139, 148, 149, 172	1-12524MI	2200µF 25V+-20% 16x26 85C	4
C9, 41, 43, 61, 104, 178, 180	1-14091PI	0.1µF MONO CAP 50V +-20% HB-TYPE	7	C177, 186, 187, 188, 189, 190, 197	1-11201RH	0.01µF 100V+-10% MINI	7
C10, 12	1-12122LI	22µF 16V+-20% 5x11	2	C181	1-12922PI	22µF 50V+-20% 5x11 LL	1
C11, 39, 44, 45, 47, 62, 64, 66, 69, 70, 72, 88, 89, 94, 98, 99, 103, 107, 115, 123, 137, 140, 161, 162, 164, 171	1-12110LI	10µF 16V+-20% 5x11	26	C191, 192, 193, 194, 195	1-16115PH	150pF 50V +-10% CERAMIC	5
C13, 14, 16, 17, 20, 32, 33, 40, 53, 57, 80, 81, 82, 83, 84, 92, 93, 105, 106, 113, 114, 121, 122, 129, 130, 150, 156, 182, 183, 184, 185, 219, 220	1-11101RH	0.1µF M.CAP, 100V+-10% MINI	33	C198, 201, 204, 207, 210, 213	1-16122PH	220pF 50V +-10% CERAMIC	6
C15, 67, 75, 79, 95, 96, 100, 108, 111, 116, 117, 124, 125, 132, 136, 138, 147, 160, 167, 169	1-12020PI	2.2µF 50V+-20% 5x11	20	C200, 203, 206, 209, 212, 215, 216	1-16301PH	0.001µF 50V +-10% CERAMIC	7
C18, 19, 37, 38, 101	1-12047PI	4.7µF 50V+-20% 5x11	5	C221	1-16010PH	10pF 50V +-10% CERAMIC	1
C22	1-12968PI	0.68µF 50V+-20% 5x11 LL	1	Diodes			
C23, 58, 87	1-16147PH	470pF 50V+-10%	3	D1, 2, 3, 4	1-05-031	DIODE 6A1-4	4
C26	1-11439RH	0.0039µF 100V+-10% MINI	1	D5	1-05-009	DIODE 1N4148 T/R	1
C28, 42	1-12220KI	220µF 10V+-20% 6x11	2	Z1, 2	1-06-001	ZENER 1/2W+-5% 5.1V T/R	2
C29, 154, 155	1-11456RH	0.0056µF 100V+-10% MINI	3	Z3	1-06-003	ZENER, 1/2W+-5% 8.2V T/R	1
C30	1-12002PI	0.22µF 50V+-20% 5x11	1	Integrated Circuits			
C36, 145	1-16168PH	680pF 50V+-10%	2	U1	1-09-058	IC, NJM2177AL, DOLBY PRO-LOGIC SURROUND DECODER	1
C49, 74, 78, 152, 157, 166	1-11433RH	0.0033µF 100V+-10% MINI	6	U2	1-09-057	NJU9701D/NJU9702D DIGITAL DELAY	1
C50, 51	1-16031PH	30pF C.CAP, 50V+-10% NPO	2	U3	1-09-305	CD 4066D QUAD BILATERAL SWITCH	1
C52, 63, 141, 142, 146	1-12247KI	470µF 10V+-20% 8x12	5	U4	1-09-024	BA14741 ROHM QUAD OP AMP	1
				U5, 10, 11, 12	1-09-421	BA4560/4560D ROHM/NJRC DUAL OP AMP	4
				U6, 7, 8	1-09-054	LC7538NM SANYO, ELECTRONIC VOLUME CONTROL	3
				U9	1-09-053	LC7821N SANYO, ANALOG SWITCH	1
				U13, 14, 15	1-09-092	LM1876TF NS, 20W POWER AMP	3
				U16	1-08-006	REG. NJM7809FA/7809A +9V REGULATOR	1
				U17	1-08-158	REG. NJM7805FA/7805A +5V REGULATOR	1
				Resistors			
				R1, 2, 23, 27, 30, 46, 47, 77, 79	1-17-415	1/8W+-5% PS 15K OHM T/B	9
				R3, 4, 9, 10, 29, 35, 96, 104, 105, 120, 121, 122	1-17-482	1/8W+-5% PS 100K OHM T/B	12
				R5, 6, 12, 25, 39, 54, 57, 67, 80, 90, 108, 109, 111, 113, 123, 124, 125, 126, 164, 165, 166, 170	1-17-410	1/8W+-5% PS 10K OHM T/B	22

Ref. #	Part #	Description	Qty
R7, 8	1-17-510	1/8W+5% PF 100K OHM	2
R11	1-17-439	1/8W+5% PS 39K OHM T/B	1
R15, 99	1-22-127	3W+5% WIRE WOUND 27 OHM	2
R16, 102	1-17-412	1/8W+5% PS 12K OHM T/B	2
R17, 74	1-17-382	1/8W +5% PS 8.2K OHM T/B	2
R18, 78, 101, 110	1-17-422	1/8W+5% PS 22K OHM T/B	4
R19, 51, 87, 92	1-17-327	1/8W+5% PS 2.7K OHM T/B	4
R20	1-17-420	1/8W+5% PS 20K OHM T/B	1
R21, 24, 69	1-17-375	1/8W +5% PS 7.5K OHM T/B	3
R22, 26	1-17-447	1/8W+5% PS 47K OHM T/B	2
R28	1-17-647	1/8W+5% PS 4.7M OHM T/B	1
R31, 33, 162, 163, 167, 168, 169, 171	1-17-351	1/8W +5% PS 5.1K OHM T/B	8
R32, 34	1-17-510	1/8W+5% PS 82K OHM T/B	2
R36	1-17-610	1/8W+5% PS 1M OHM T/B	1
R37, 55, 65, 88, 103	1-17-324	1/8w+5% PS 2.4K OHM T/B	5
R38, 56, 66, 75 76, 89, 100	1-17-430	1/8W+5% PS 30K OHM T/B	7
R40, 63	1-17-418	1/8W+5% PS 18K OHM T/B	2
R41, 45, 52, 59, 64, 68, 73, 82, 86, 91, 97, 175	1-17-515	1/8W+5% PS 150K OHM T/B	12
R42, 49, 60, 70, 83, 93	1-19-010	1/2W+5% PS 1 OHM T/B	6
R43, 50, 61, 71, 84, 94, 98	1-19-110	1/2W+5% PS 10 OHM T/B	7
R44, 62, 72	1-17-356	1/8W +5% PS 5.6K OHM T/B	3
R48, 95	1-17-339	1/8W +5% PS 3.9K OHM T/B	2
R53, 58	1-17-120	RES, 1/8W+5% PS 20 OHM T/B	2
R85, 112	1-17-215	1/8W+5% PS 150 OHM T/B	2
R106, 107	1-17-312	1/8W+5% PS 1.2K OHM T/B	2
R114, 115, 116, 117	1-17-310	1/8W+5% PS 1K OHM T/B	4
R118, 119	1-17-351	1/8W+5% PF 5.1K OHM	2
R127	1-17-310	1/8W+5% PF 1K OHM	1
R128	1-17-433	1/8W+5% PS 33K OHM T/B	1
R155	1-17-533	1/8W+5% PS 330K OHM T/B	1
R172, 173	1-17-410	1/8W+5% PF 10K OHM	2
Transistors			
Q15, 16, 17, 18	1-07-004	NPN NEC 9014C	4
Q19	1-07-107	NPN MPSA06	1

MISCELLANEOUS SECTION

Ref. #	Part #	Description	Qty
L1, 2, 3, 4, 5, 6	1-04-011	COIL, SPRING COIL 0.8mm 12T D=5.5mm	6
LD1	1-25-215	LED DISPLAY SET	1
XTAL1	1-03-109	C-RES, CER-RESONATOR, CSA2.0MHZ MURATA	1
		FLAT CABLE PITCH=2mm UL 3 PINS 160MM(10+10)	1
	1-58-017	WAFER, 12 PINS PITCH=2.5mm	1
	1-58-010	WAFER, 3 PINS PITCH=2.5mm	1
	1-58-009	WAFER, 4 PINS PITCH=2.5mm	1
		FLAT CABLE PITCH=2.54mm 16 PINS 60MM(10+3) HOUSINGFEMALE/MALE HOUSING P=2.5mm	1
	1-51-372	SET, 12PINS 100mm FEMALE/MALE	1
	1-51-373	SET, 4PINS 200mm FEMALE/MALE	1
	1-51-374	SET, 3PINS 160mm FEMALE/MALE	1
	9-01-122	PCB, 2601-5P UL94V0 SWITCH PCB (230V)	1

KEY PCB SECTION

Ref. #	Part #	Description	Qty
C34	1-12110LI	E.CAP, 16V +20% 5x11 10UF	1
C168, 173	1-12220KI	10V +20% 6x11 220UF	2
C174	1-12247KI	10V +20% 8x12 470UF	1
C175, 176	1-16031PH	C.CAP, 50V+10% 30PF NPO	2
PD1	1-05-039	PHOTO MODULE TSOP1838	1
R130, 132, 134, 136, 138, 140, 142, 144, 150	1-17-147	RES, 1/8W+5% PS 47 OHM T/B	9
R147, 148	1-17-247	1/8W +5% PS 470 OHM T/B	2
R153, 174	1-17-310	1/8W +5% PS 1K OHM T/B	2
R151	1-17-351	1/8W +5% PS 5.1K OHM T/B	1
R129, 131, 133, 135, 137, 139, 141, 143, 156, 157, 158, 159, 160	1-17-410	1/8W +5% PS 10K OHM T/B	13
R161	1-17-447	1/8W +5% PS 47K OHM T/B	1
R154	1-17-610	1/8W +5% PS 1M OHM T/B	1
R152	1-17-147	1/8W +5% PF 47 OHM	1
R145, 146, 149	1-17-247	1/8W +5% PF 470 OHM	3
Q1, 2, 3, 4, 5, 6, 7, 8	1-07-003	NPN NEC 9013H	8
Q9, 10, 11, 12, 13	1-07-002	PNP NEC 9012H	5

Ref. #	Part #	Description	Qty	Ref. #	Part #	Description	Qty
Q14	1-07-001	NPN NEC 9011G	1	30	1-33-465	SCREW 3x16 PM BZ FOR IC BRACKET	3
U18	1-09-056A	IC, UPD75106CW-240 NEC -2552B MICROPROCESSOR	1	31	1-37-230	M3 SPRING WASHER ZNC	3
XTAL2	1-03-107	CER-RESONATOR, CSA4.19MHZ MURATA	1	32	1-37-130	M3 FLAT WASHER BZ	7
				33	1-37-030	M3 NUT	3
				34	1-27-076	POWER SWITCH (ONLY ON 230V)	1

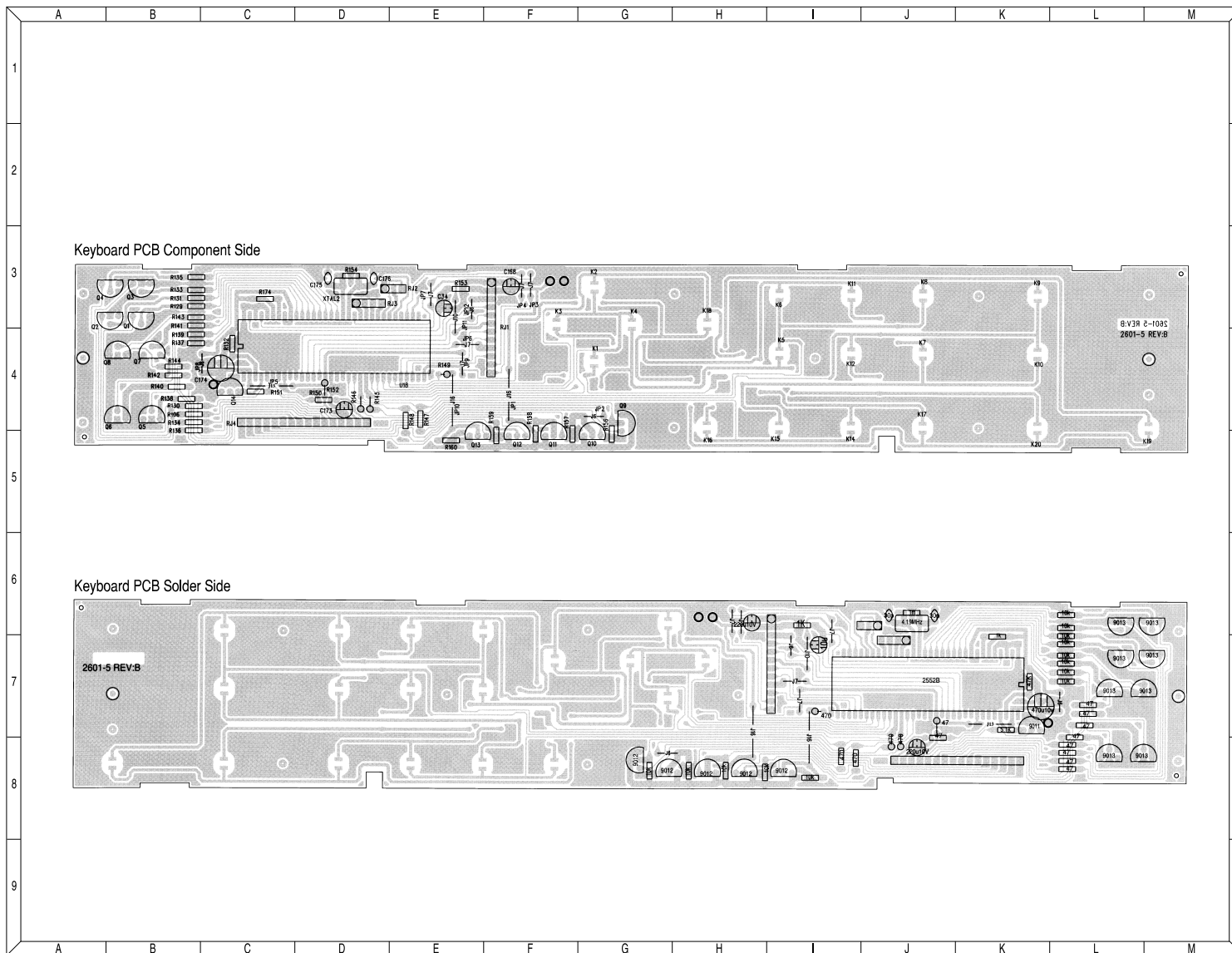
MECHANICAL PARTS LIST

1	5-01-257 5-01-262	120V TOP COVER 230V TOP COVER	1 1
2	7-71-077	FRONT PANEL	1
3	5-01-256 5-01-258	120V BOTTOM COVER 230V BOTTOM COVER	1 1
4	7-01-078	LENS ACRYLIC	1
5	1-42-013	KEYPAD FOR PANEL	1
6	3-61-009A	LOGO BADGE	1
7	1-40-063	RUBBER FOOT K137	4
8	1-01-117 1-01-084	T1 120V TOROIDAL TRANS. T1 230V TOROIDAL TRANS.	1 1
9	3-71-088	HEAT SINK	1
10	3-71-062	HEAT SINK FOR 7805	1
11	3-71-061	HEAT SINK FOR 7809	1
12	1-09-092	LM1876TF	3
13		MAIN PCB	1
14	1-43-003	2 RCA JACK HSP-212V-09 GP	3
15	1-08-0006	REGULATOR 7809	1
16	1-08-158	REGULATOR 7805	1
17	1-44-119	SPEAKER TERMINAL HSP-104HL-05	3
18	1-51-367 1-51-356	120V AC CORD 230V AC CORD	1 1
19	1-29-116 1-29-098	120V FUSE 3A GMA TYPE 230V FUSE 1.6A GMA TYPE	1 1
20	1-29-011 1-29-012	120V FUSE HOLDER 230V FUSE HOLDER	1 1
21	1-44-469	WIRE BUSHING	1
22	1-25-215	LD1 LED DISPLAY SET	1
23	1-05-032	2601-5P DISPLAY PCB	1
24	1-33-378	SCREW 3x8 TTS BZ FOR THE RUBBER FEET	4
25	1-33-341	SCREW 3x6 TTS-BH BZ FOR PCB & COVER	13
26	1-33-380	SCREW 3x8 BT BZ FOR RCA JACK & HEATSINK	14
27	1-34-280	SCREW 2.6x6 KM BZ FOR KEY PCB	6
28	1-33-300	SCREW 3x6 BT BZ -7809 HEATSINK	3
29	1-34-270	SCREW 2.6x6 BT BZ FOR DISPLAY	13

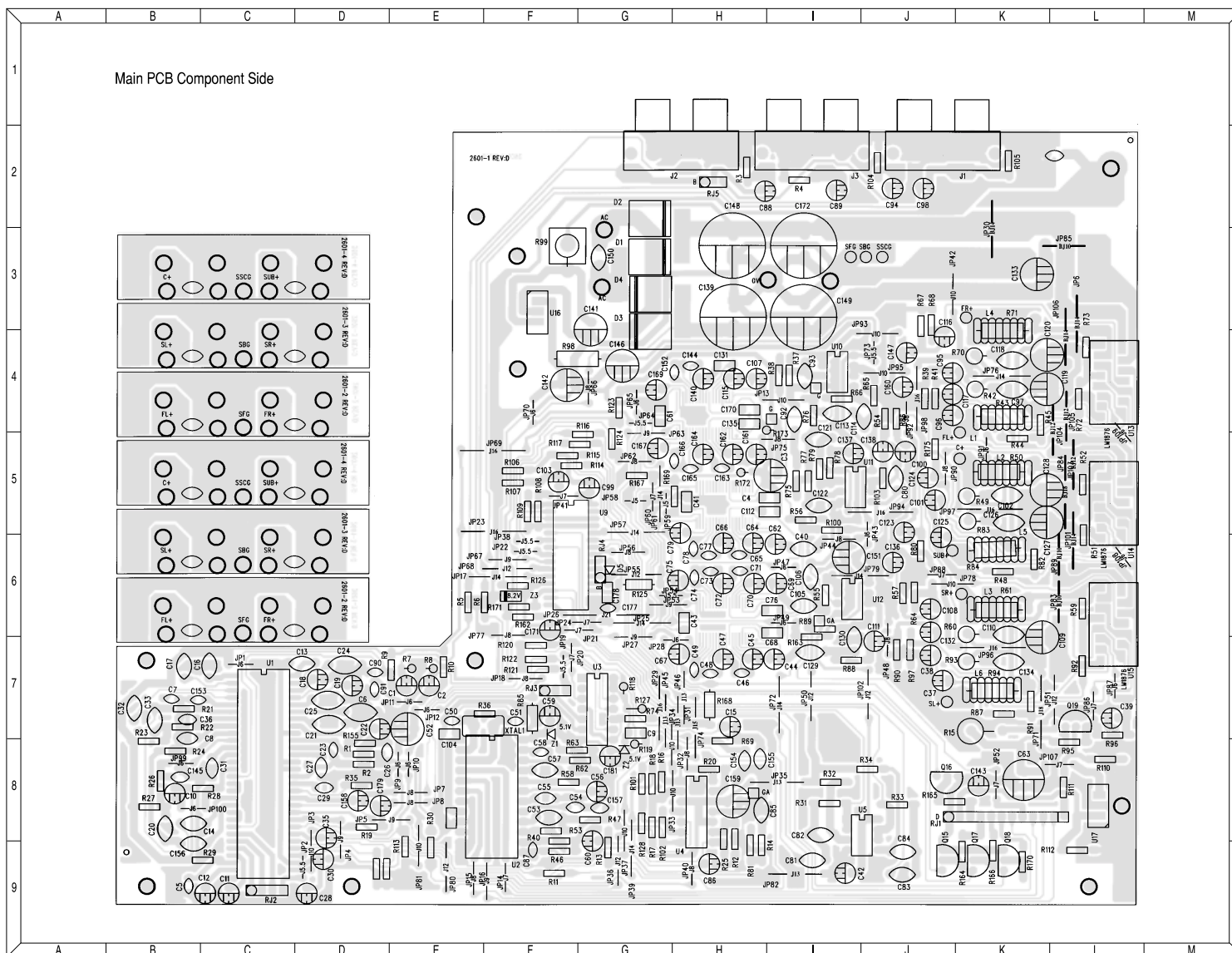
PACKING SECTION

BATTERY	1-01-102	BATTERY GP24G 1.5V SIZE AAA ZINC CHLORIDE BATT. PACKAGE 2 IN 1	2
RCA Y-CABLE	1-51-136	WIRE, 2 RCA PHONE PLUG RED(R)/BLK(L) PLUG, +3.5mm STEREO PLUG/BLK, WITH 2MT 2C100121/2C28012SX2652P BLK SPIRAL SHIELD WIRE	1
RCA CABLE	1-51-316	WIRE, 1MT 100121/28012SSX2652P BLK PLUG, SPIRAL SHIELD WIRE RCA PHONE PLUG NICKLE-PLATED RED/BLK BOTH END	2
WIRES	HEC041-00	SPEAKER WIRES	6
OWNER'S MANUAL	0/M ESC200	ESC200 MANUAL	1
REMOTE	9-01-121	REMOTE CONTROL	1
FEET	1-33-378	RUBBER FEET	4
SATELLITES	J-SP-SAT	ESC200 SATELLITE SPEAKERS	5
SUBWOOFER	J-SP-SUB	ESC200 SUBWOOFER	1
CARTON	XRC145-00	DISPLAY CARTON	1

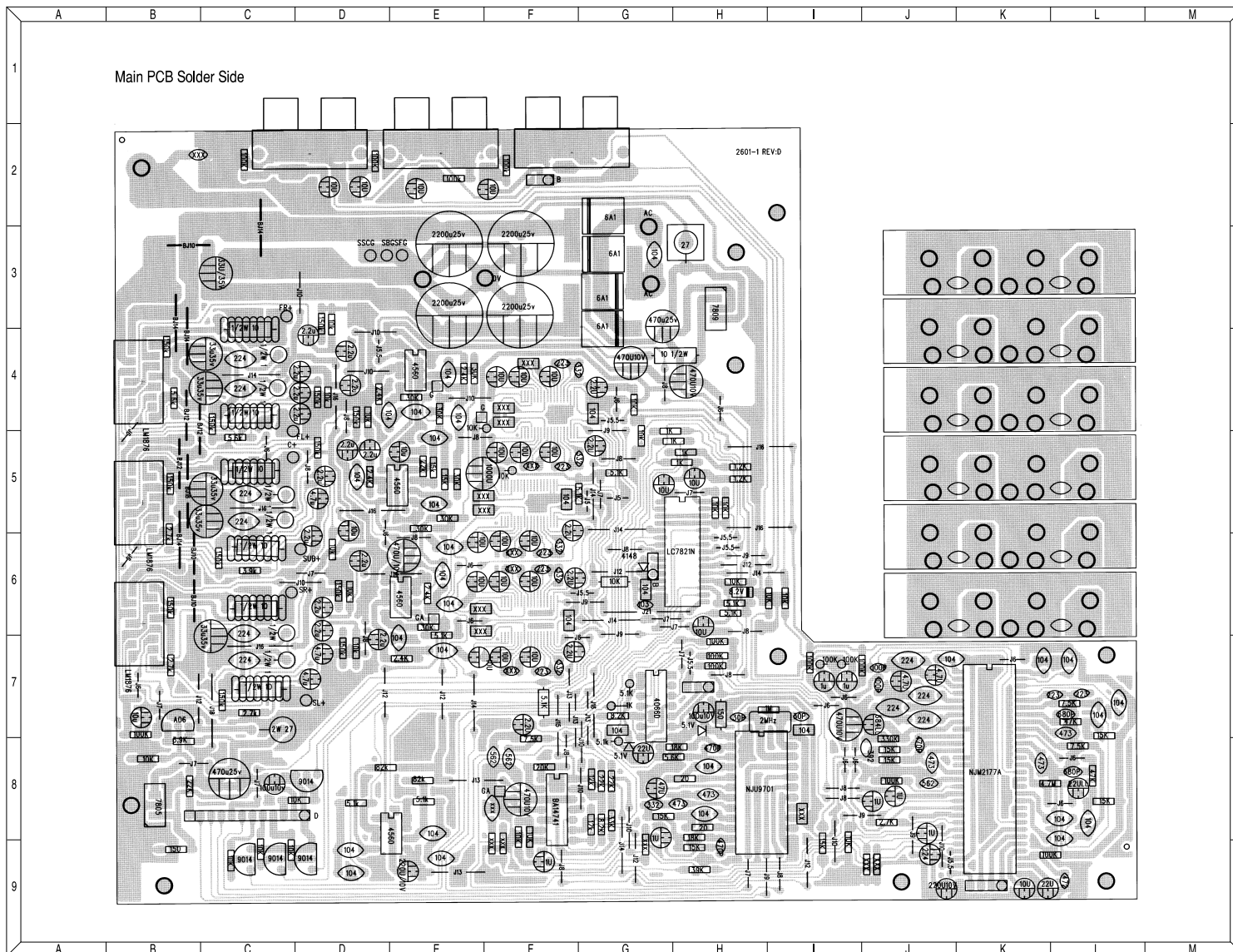
ESC200 KEYPAD PCB



ESC200 MAIN PCB (Component Side)

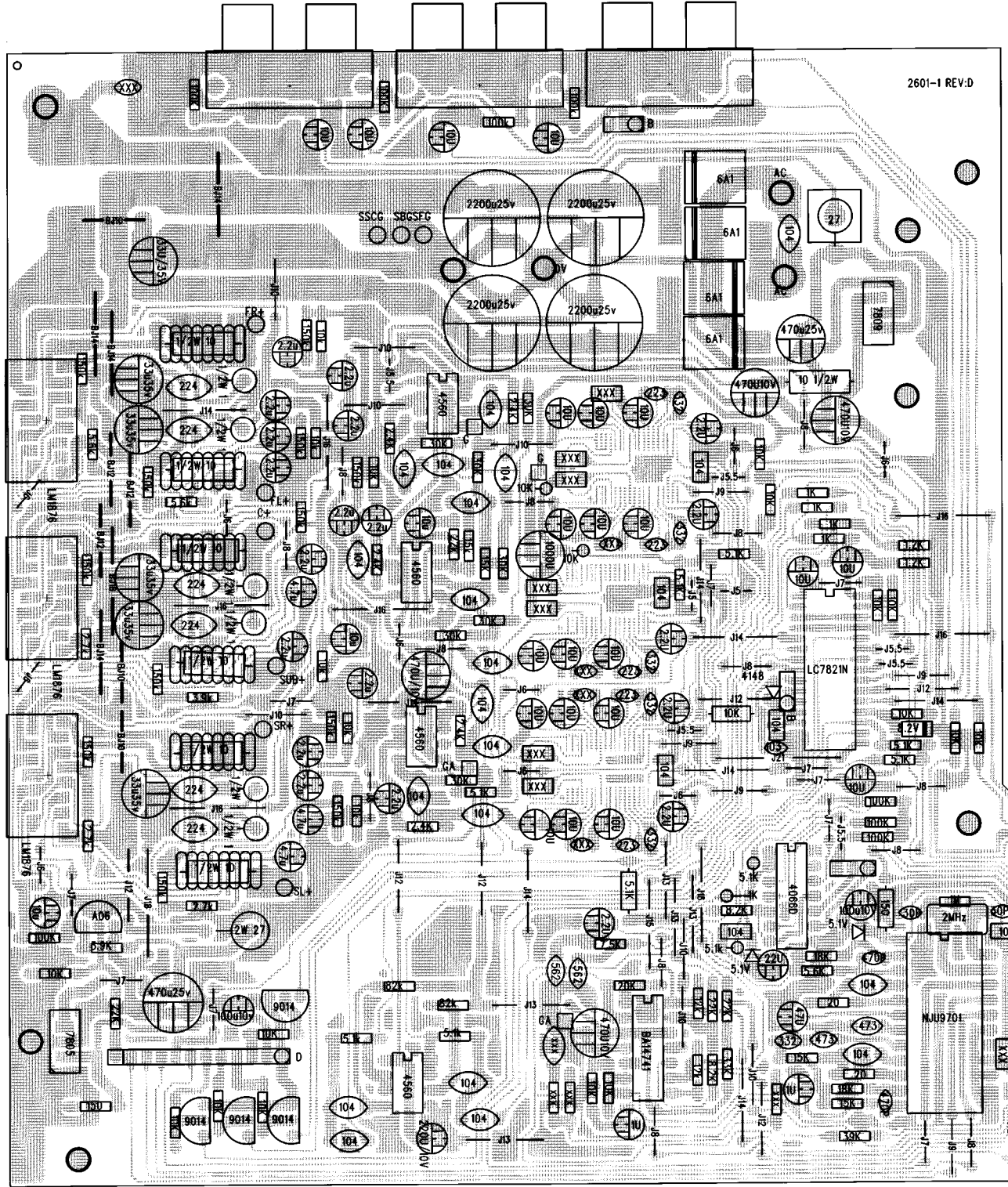


ESC200 MAIN PCB (Solder Side)



Main PCB Solder Side

2601-1 REV.D



E F G H I J K L M

1

2

3

4

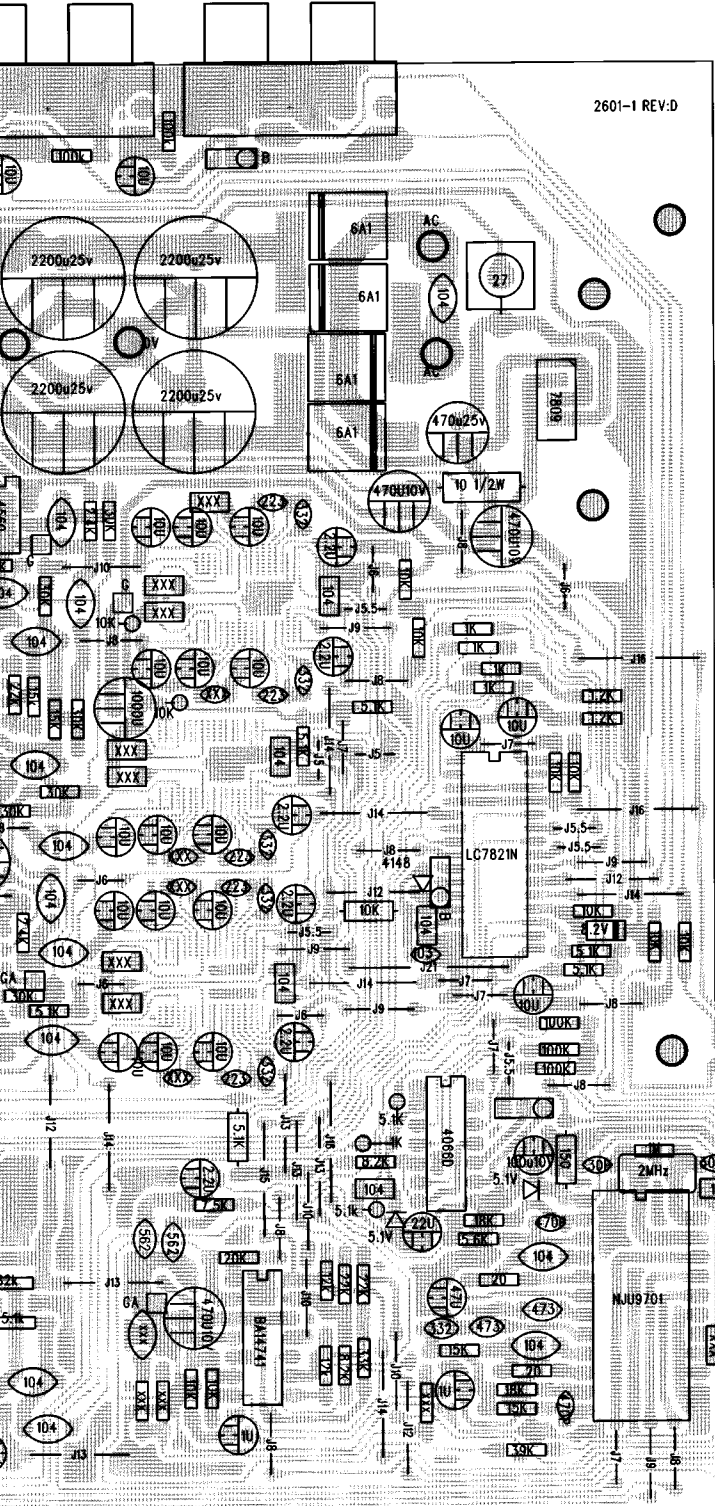
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6

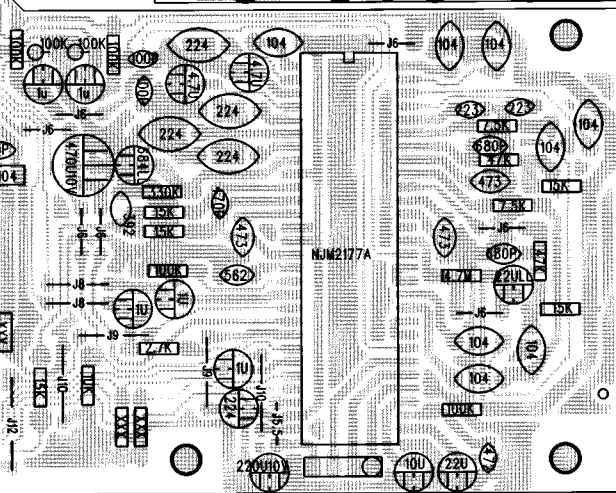
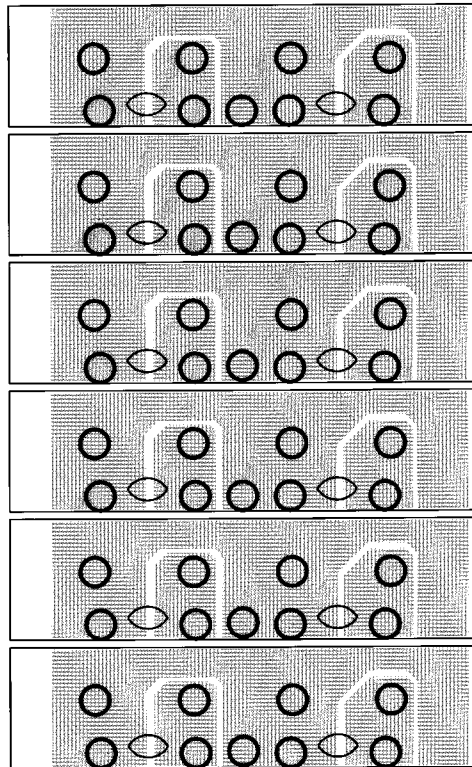
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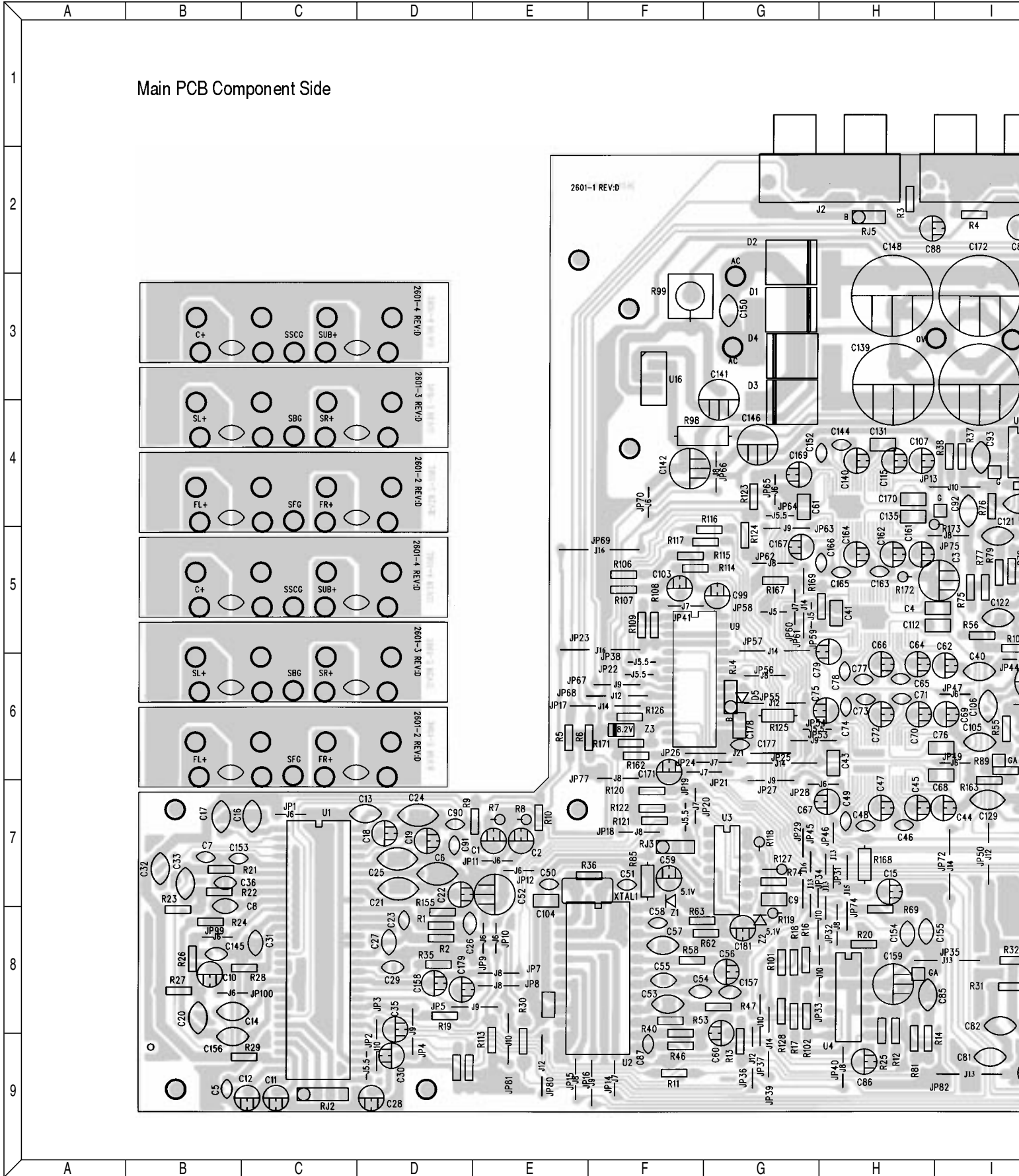
2601-1 REV:D



E F G H I J K L M

Main PCB Component Side

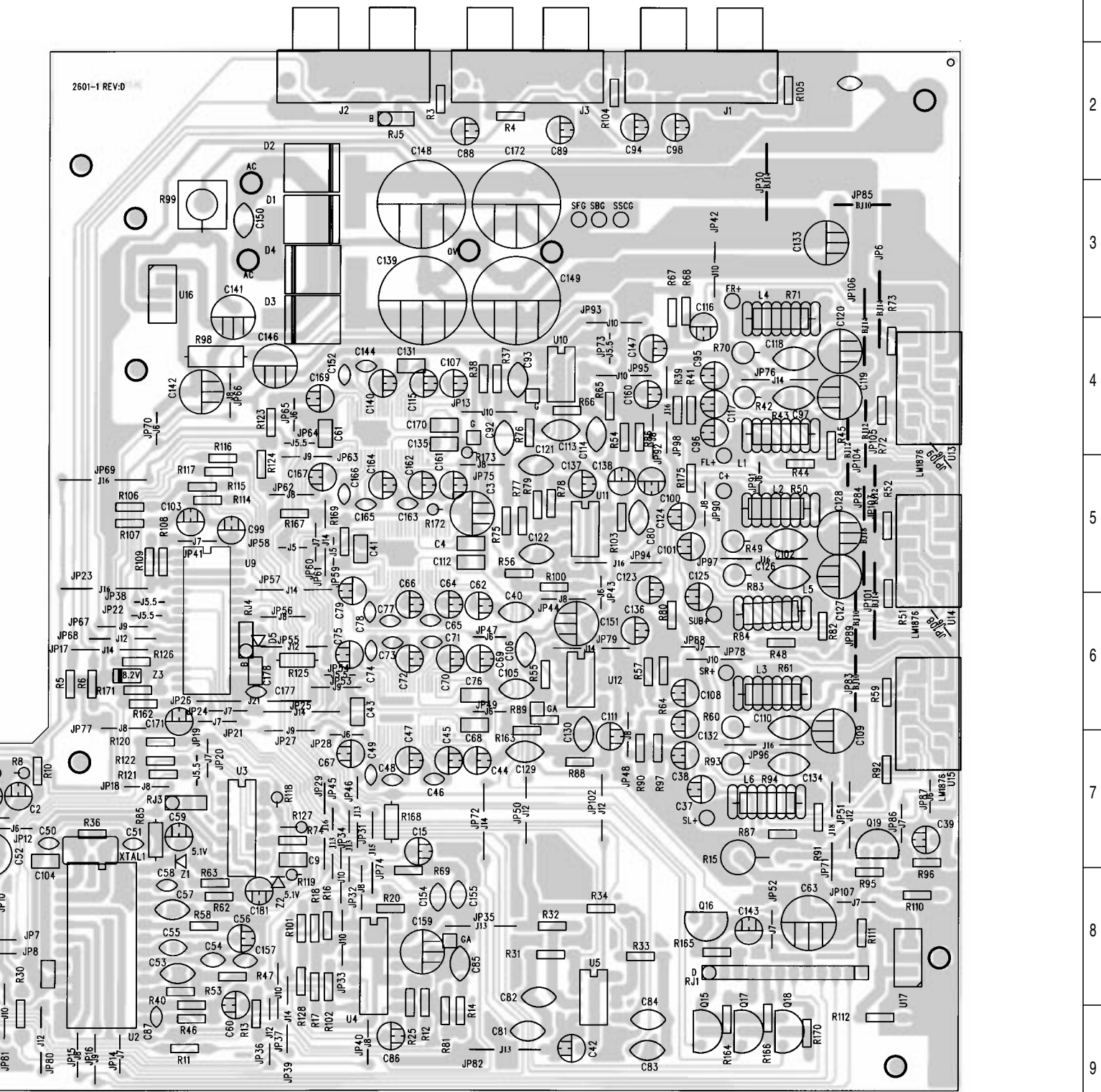
2601-1 REV:D



E F G H I J K L M

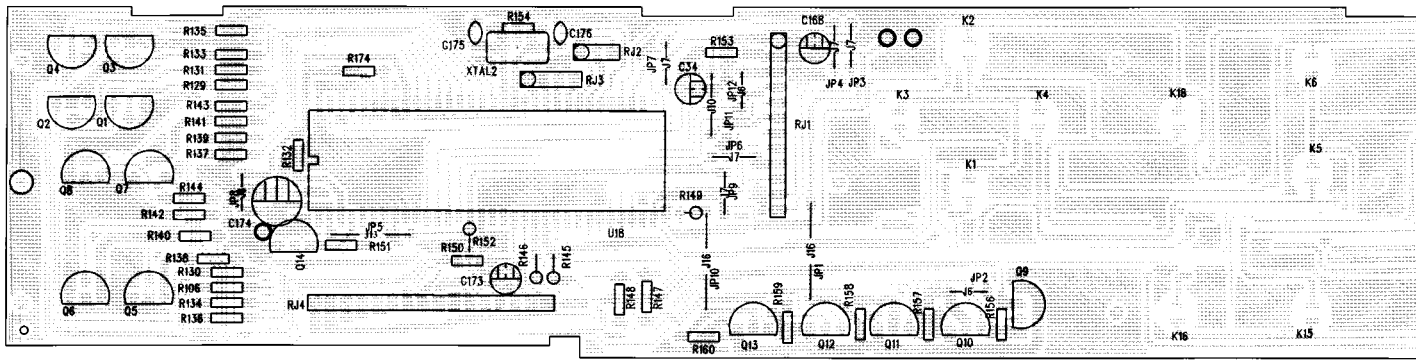
1
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2601-1 REV.D

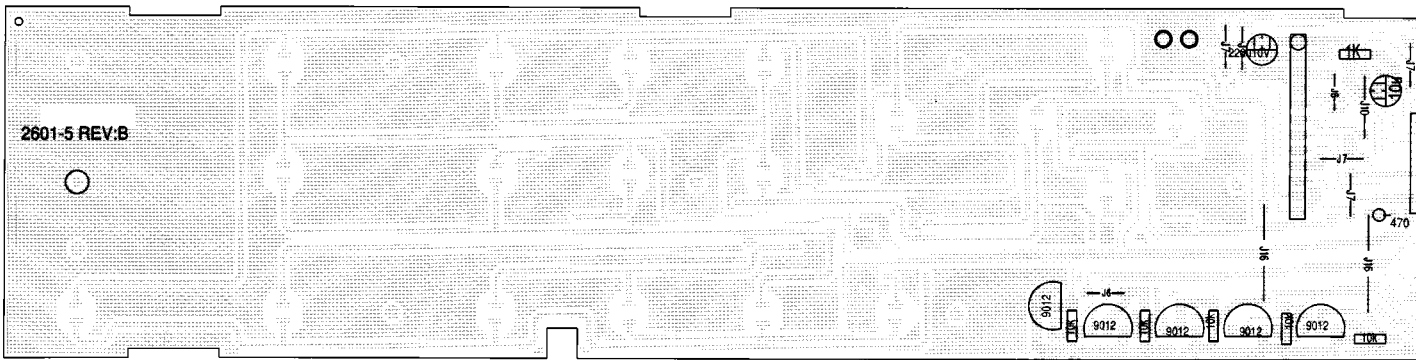


E F G H I J K L M

Keyboard PCB Component Side



Keyboard PCB Solder Side



E F G H I J K L M

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3

4

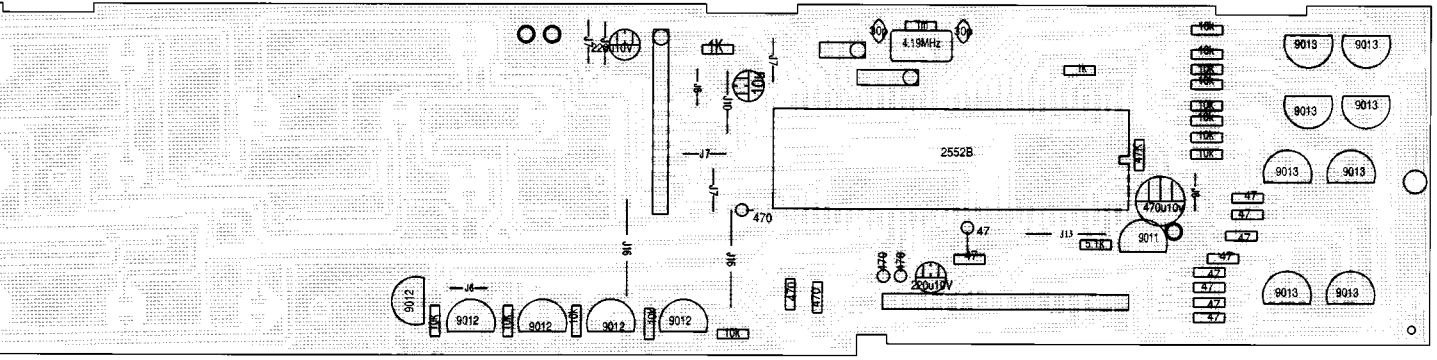
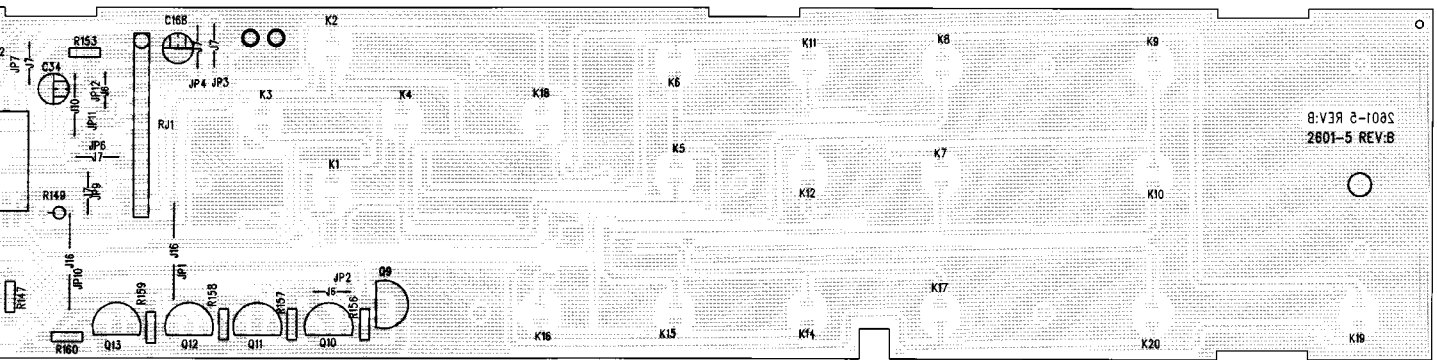
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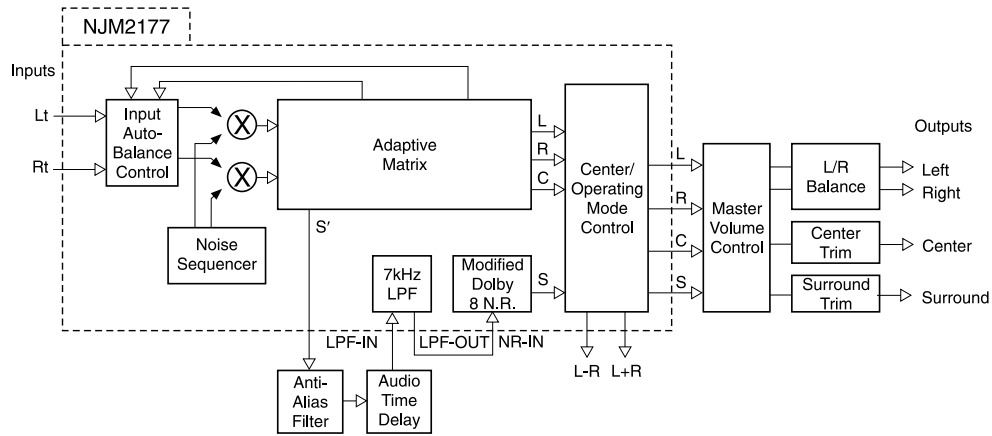
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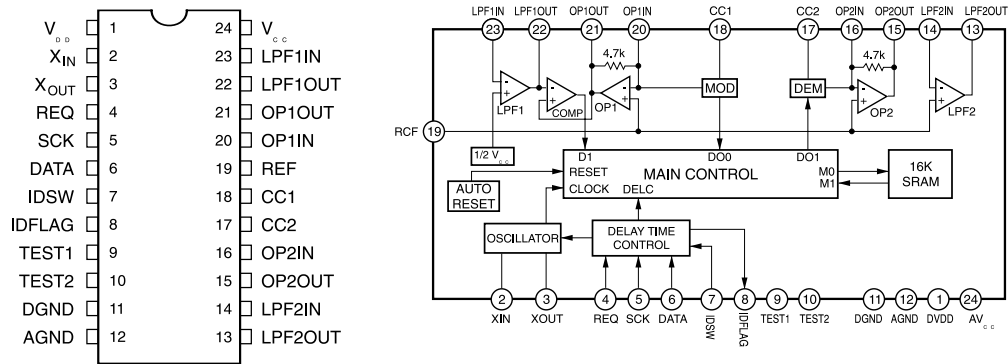
E F G H I J K L M

INTEGRATED CIRCUIT DIAGRAMS

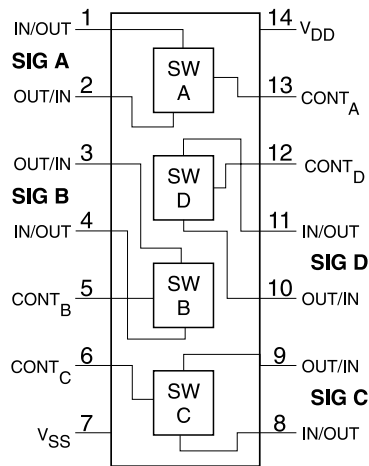
IC U1 - NJM2177AL Dolby Pro-Logic Surround Decoder



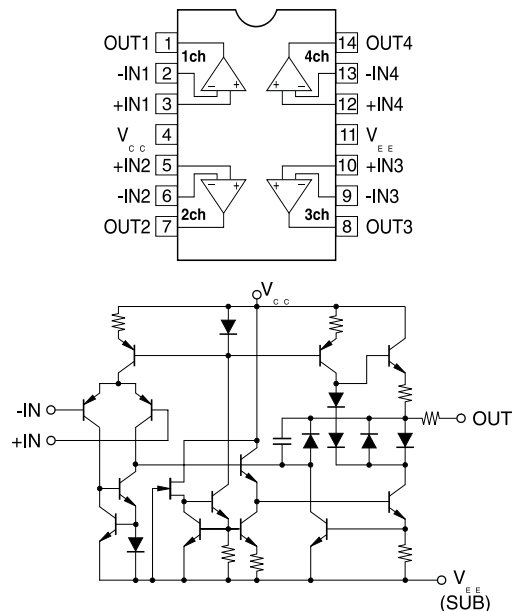
IC U2 - NJU9701D/NJU9702D Digital Delay



IC U3 - CD 4066D QUAD BILATERAL SWITCH

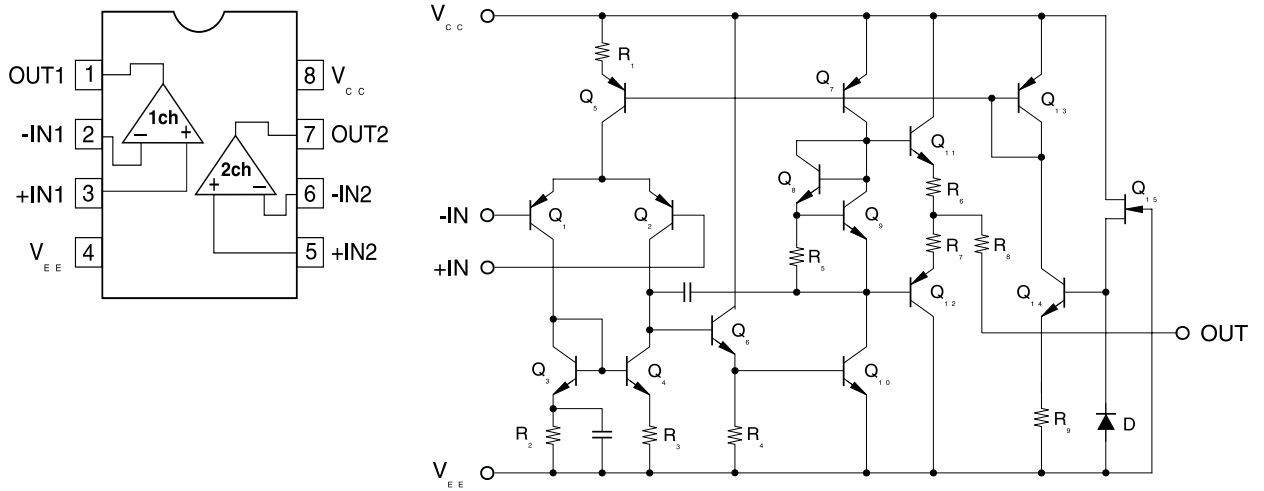


IC U4 - BA14741 ROM QUAD OP AMP

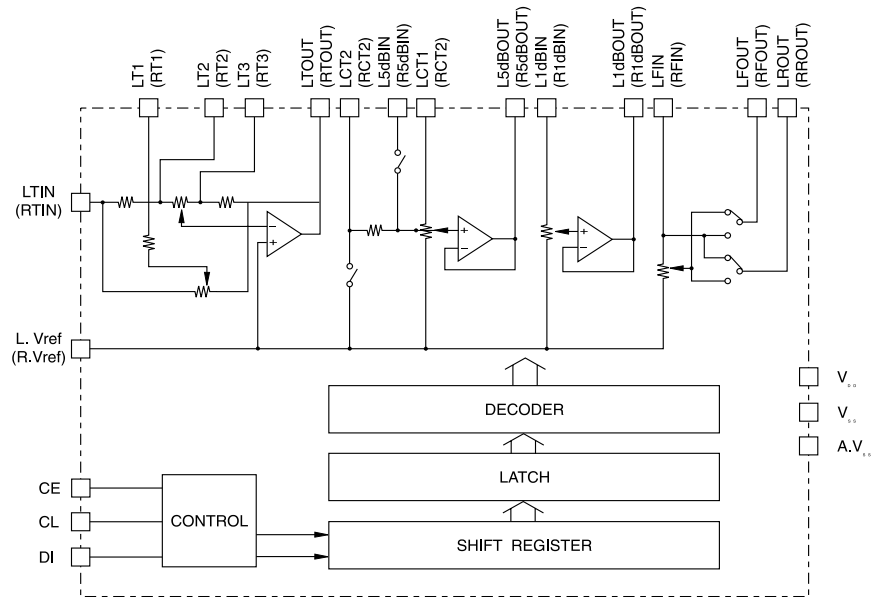


INTEGRATED CIRCUIT DIAGRAMS

IC U5, U10, U11, U12 - BA4560/4560D DUAL OP-AMP

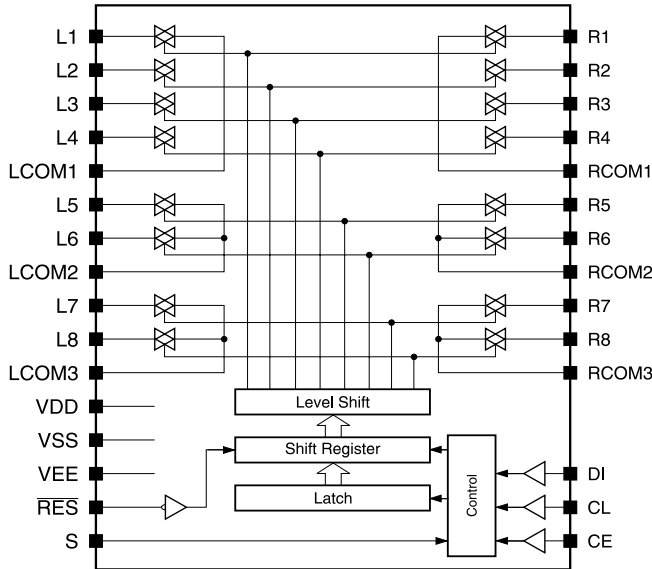


IC U6, U7, U8 - LC7538NM ELECTRONIC VOLUME CONTROL

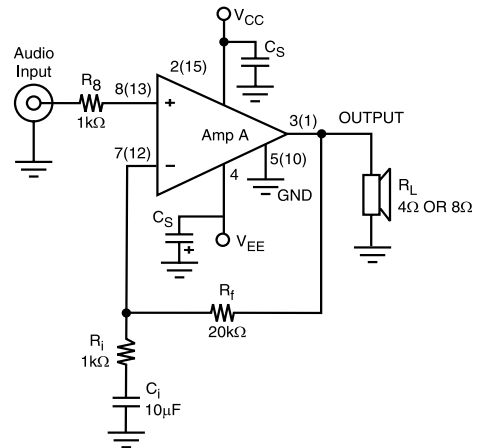
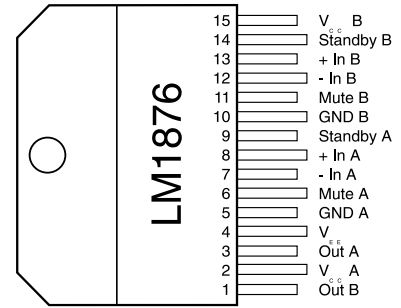


INTEGRATED CIRCUIT DIAGRAMS

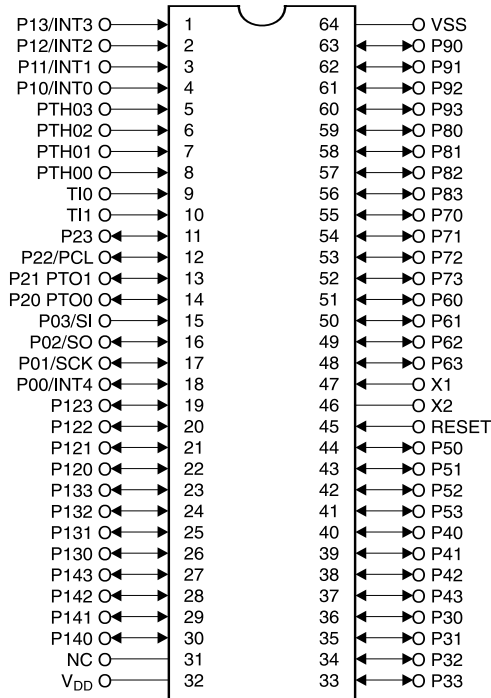
IC U9 - LC7821N ANALOG SWITCH



IC U13, U14, U15 - LM1876TF
20W POWER AMP

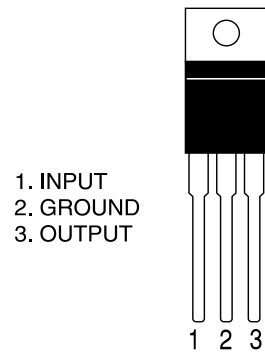


IC U18 - UPD75106CW-240 NEC-2552B
MICROPROCESSOR

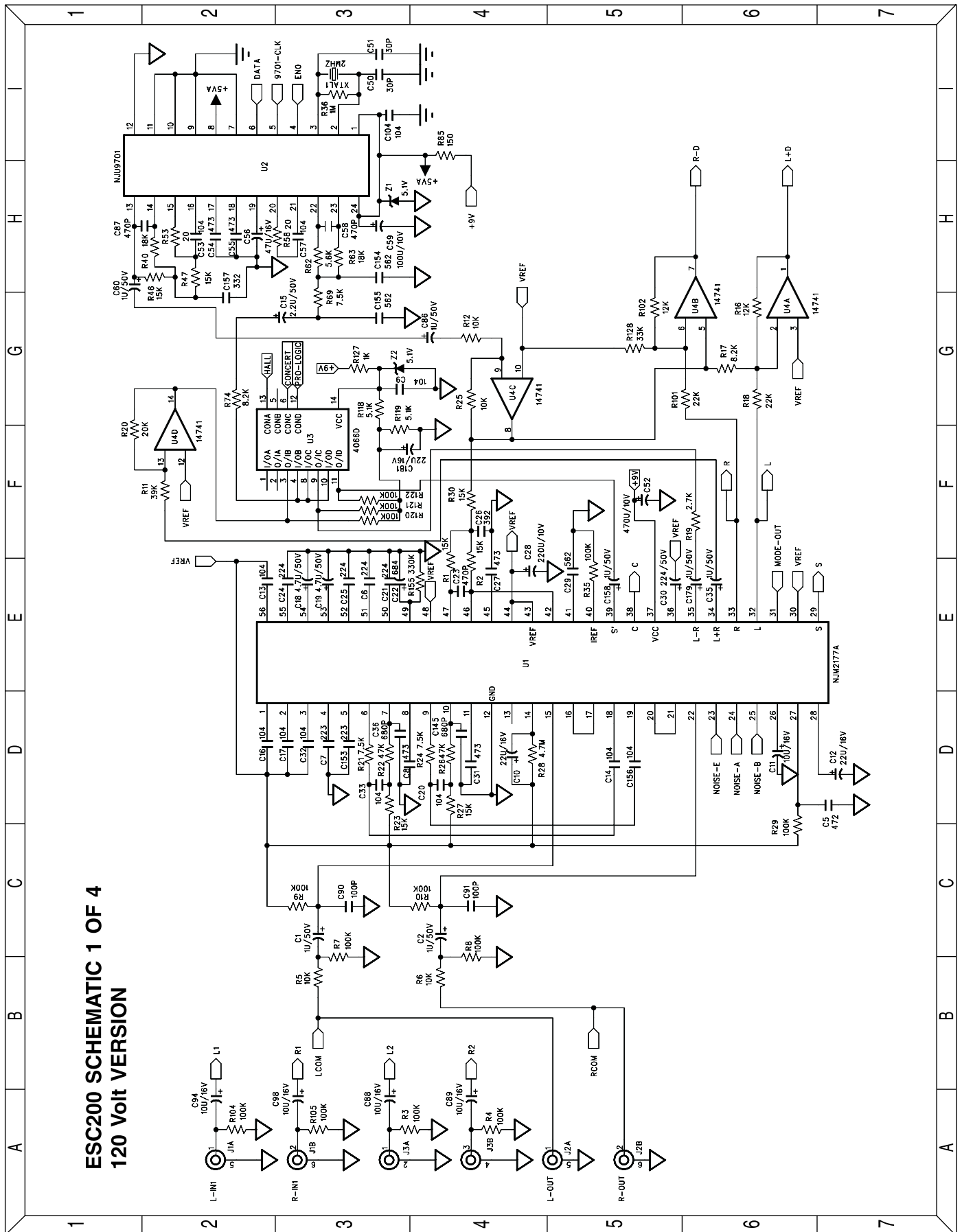


IC U16 - NJM7809FA/7809A
+9V REGULATOR

IC U17 - NJM7805FA/7805A
+5V REGULATOR

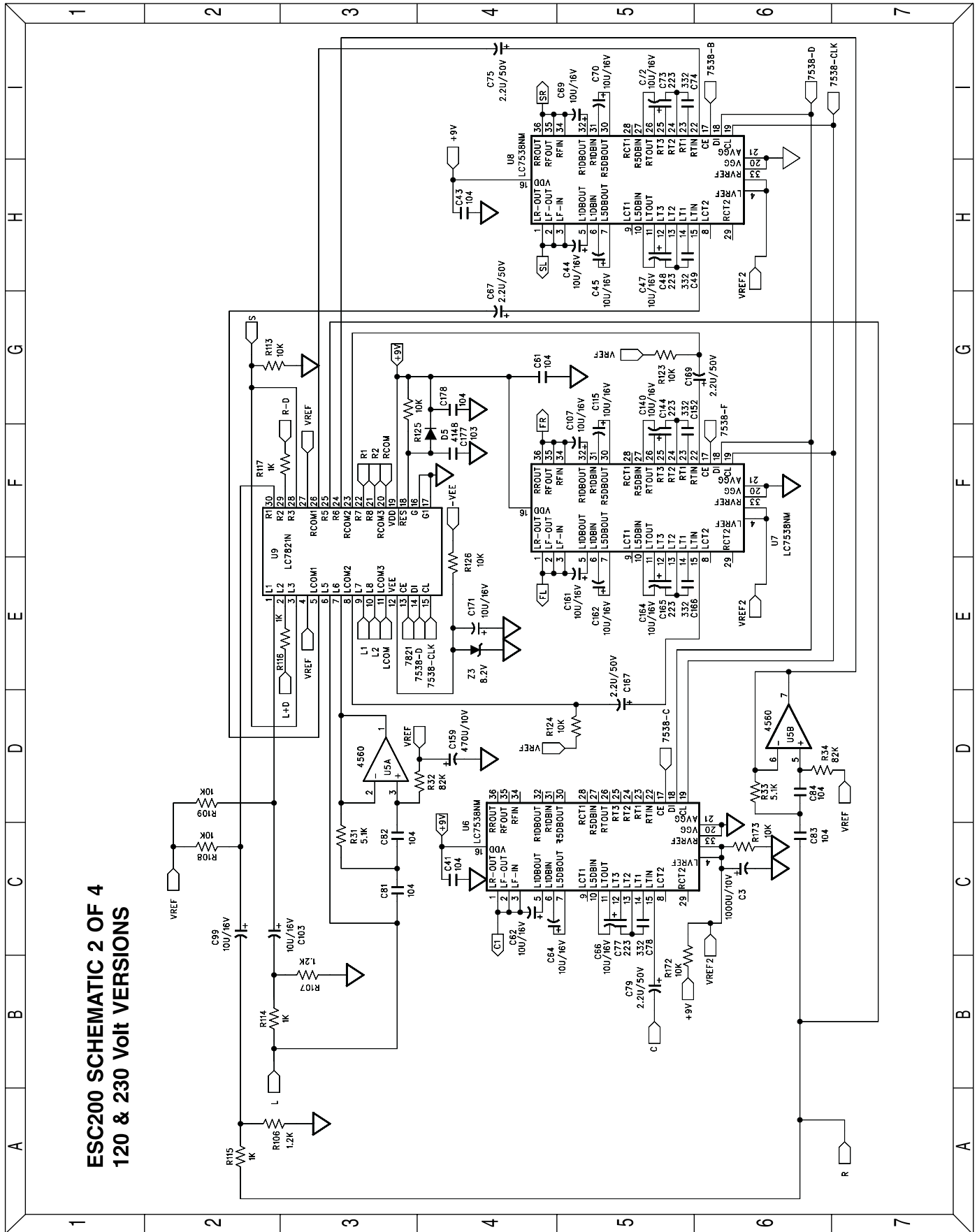


SCHEMATIC DIAGRAM 1 120V VERSION



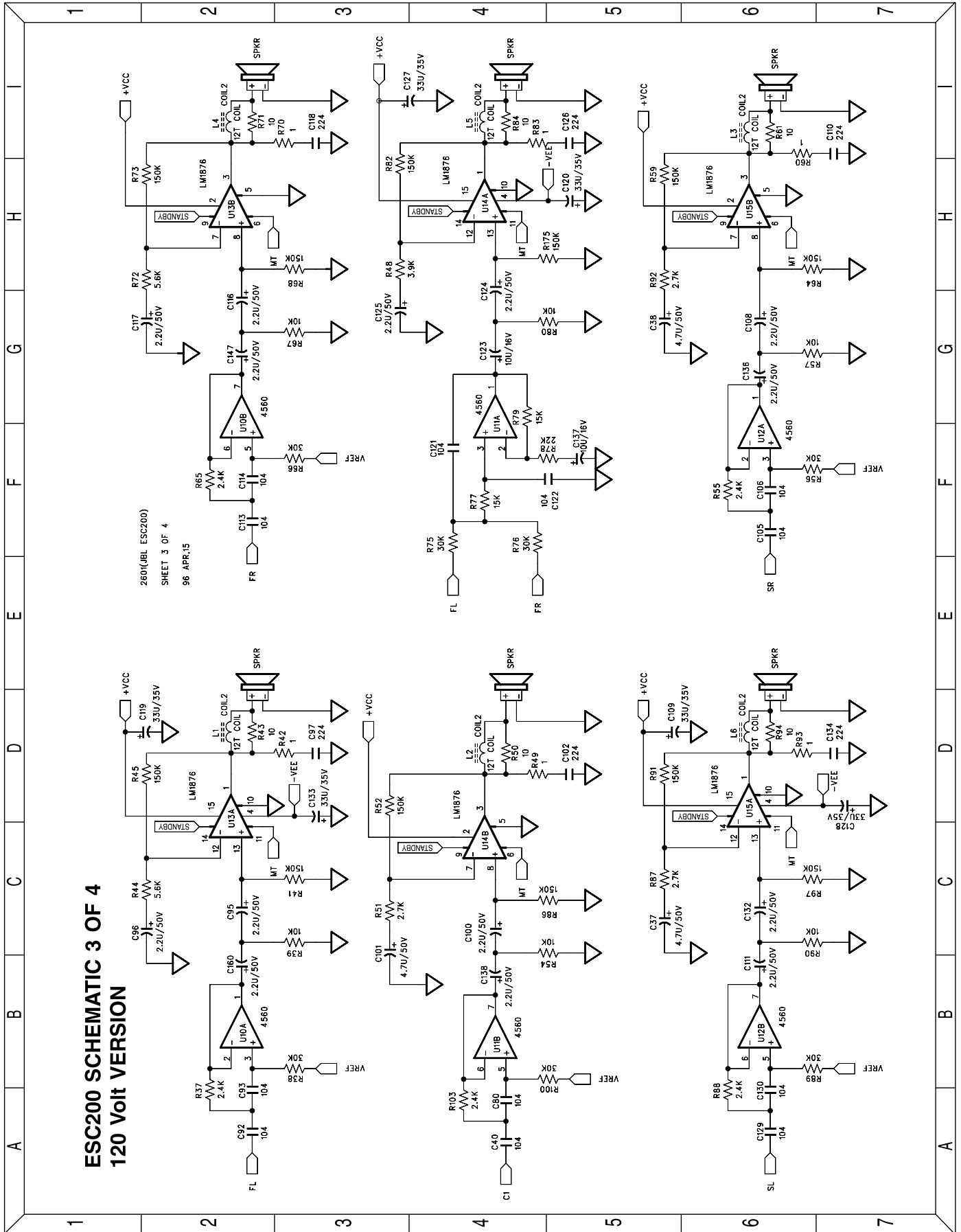
ESC200 SCHEMATIC 1 OF 4
120 Volt VERSION

SCHEMATIC DIAGRAM 2 120V VERSION



**ESC200 SCHEMATIC 2 OF 4
120 & 230 Volt VERSIONS**

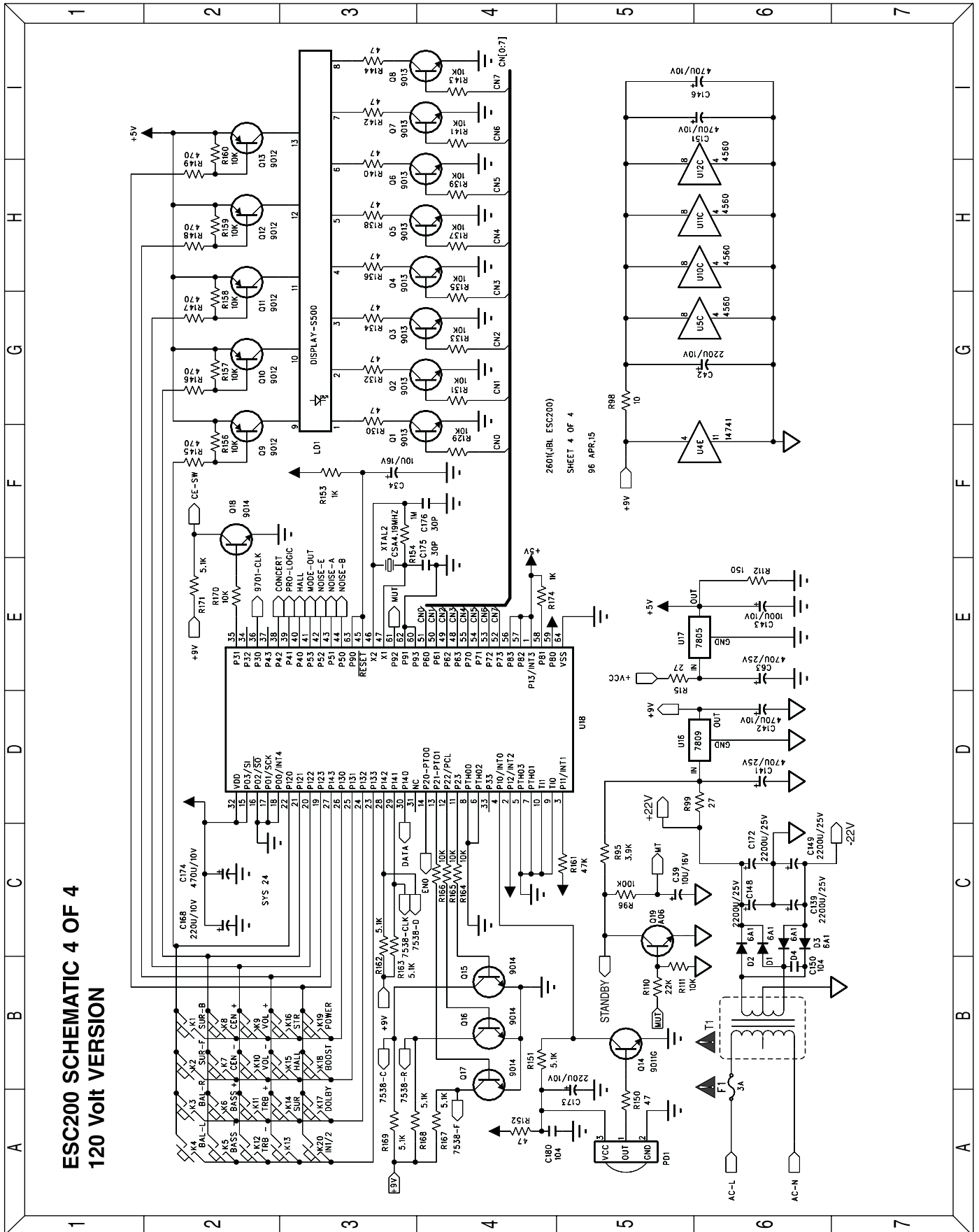
SCHEMATIC DIAGRAM 3 120V VERSION



**ESC200 SCHEMATIC 3 OF 4
120 Volt VERSION**

260(LBL ESC200)
SHEET 3 OF 4
96 APR.15

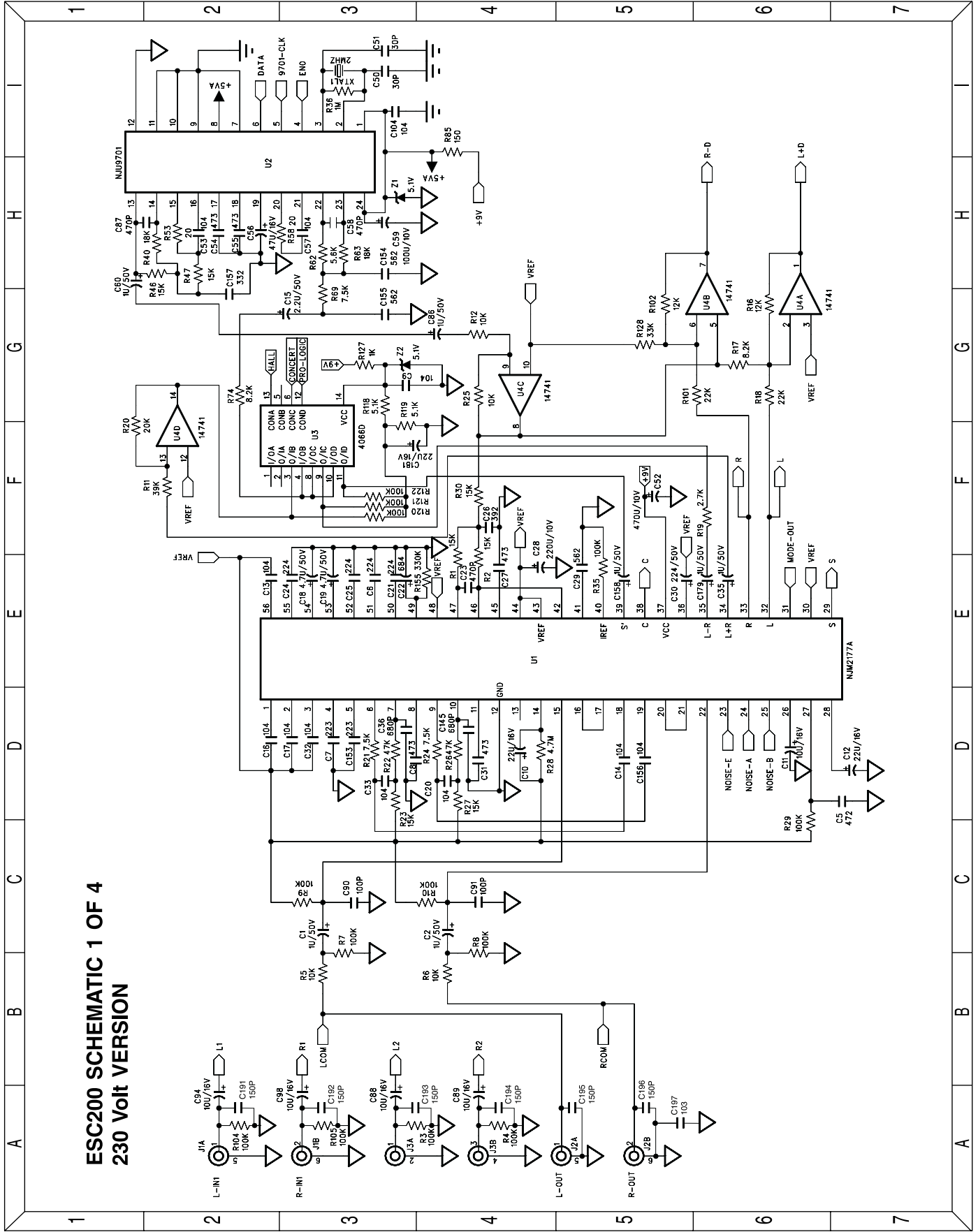
SCHEMATIC DIAGRAM 4 120V VERSION



ESC200 SCHEMATIC 4 OF 4
120 Volt VERSION

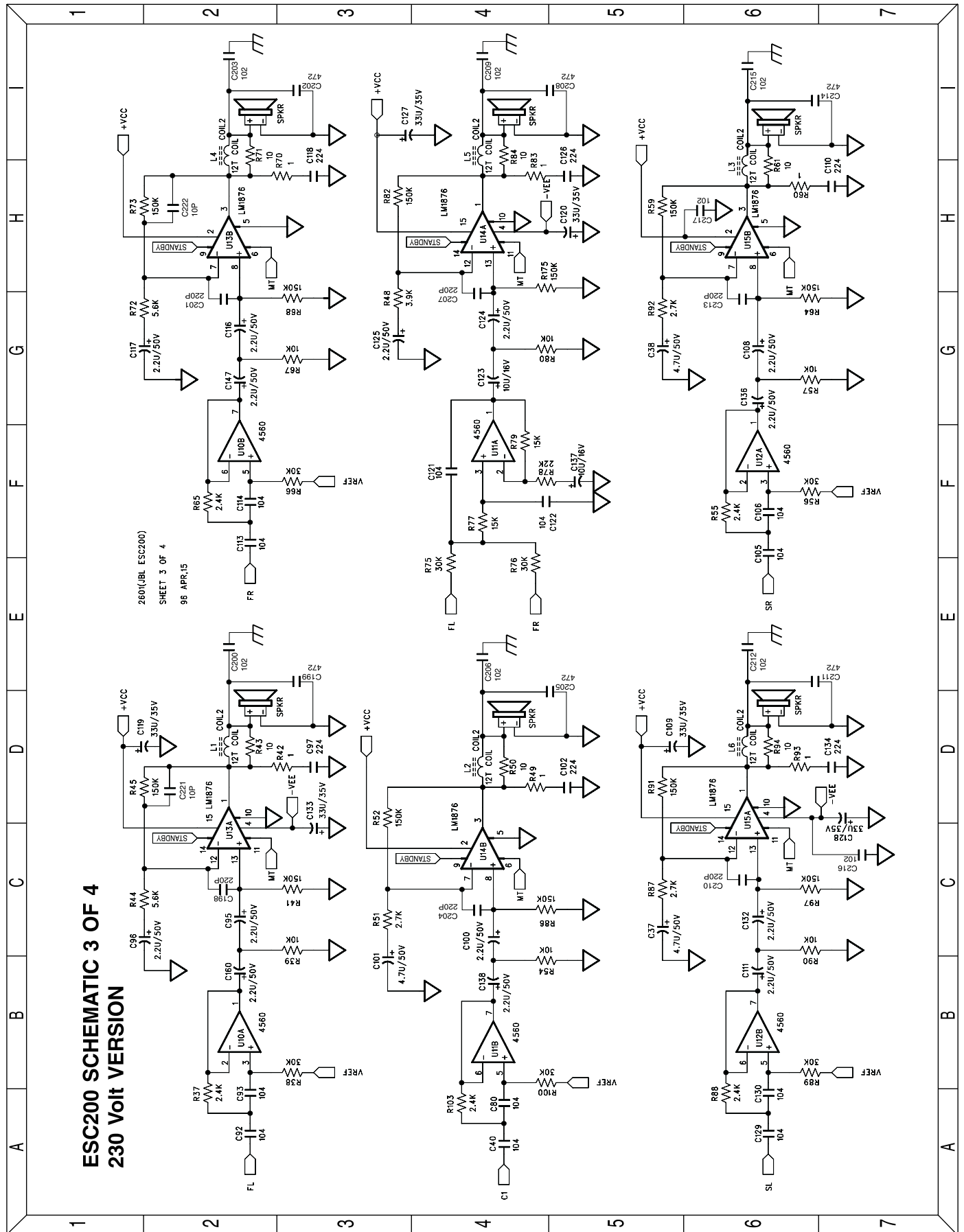
2600 (JBL ESC200)
SHEET 4 OF 4
96 APR.15

SCHEMATIC DIAGRAM 1 230V VERSION

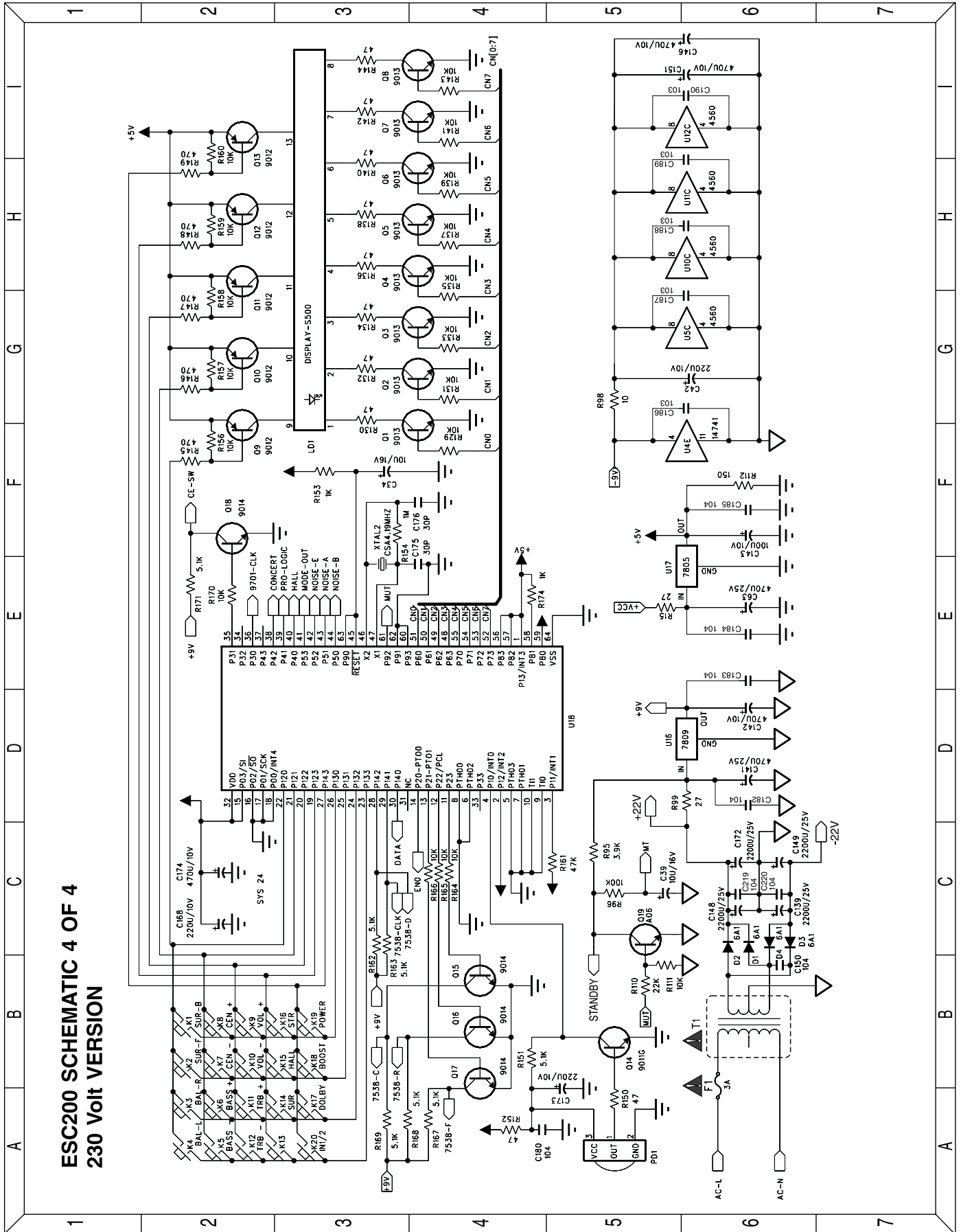


ESC200 SCHEMATIC 1 OF 4
230 Volt VERSION

SCHEMATIC DIAGRAM 3 230V VERSION



SCHEMATIC DIAGRAM 4 230V VERSION



ESC200 SCHEMATIC 4 OF 4
230 Volt VERSION

ESC200 IC VOLTAGE READINGS

IC VOLTAGE CHART OF ESC200

CPU(2552B) U18

PIN	VOLT	PIN	VOLT
1	5	33	5
2	5	34	5
3	5	35	5
4	0.1	36	5
5	0	37	0
6	0	38	0
7	0	39	0
8	0	40	5
9	0	41	5
10	0	42	5
11	4.9	43	5
12	4.9	44	5
13	4.9	45	5
14	5	46	2.6
15	5	47	2.5
16	0	48	0
17	0	49	0
18	0	50	0
19	4.1	51	2
20	4.1	52	2
21	4.1	53	2
22	4.1	54	3
23	5	55	3
24	5	56	5
25	5	57	5
26	5	58	5
27	4.1	59	5
28	8.7	60	0
29	0.1	61	5
30	0.1	62	0
31	0	63	5
32	5	64	0

NJM2177A U1

PIN	VOLT	PIN	VOLT
1	3.9	29	4
2	3.9	30	4.1
3	4	31	5.1
4	4.1	32	4
5	4	33	4
6	4.1	34	4
7	4	35	4.1
8	4	36	4.1
9	4	37	9
10	4	38	4.1
11	4	39	4.1
12	0	40	1.4
13	8.2	41	4
14	3.7	42	4.1
15	4	43	4.1
16	4	44	4.1
17	4	45	4.1
18	4	46	4.1
19	4	47	4.1
20	4	48	4.1
21	4	49	0
22	4	50	4
23	5	51	4
24	5	52	4
25	5	53	4
26	4.1	54	4
27	4.1	55	4
28	2.7	56	4

14741 U4

PIN	VOLT	PIN	VOLT
1	4.1	8	4.1
2	4.1	9	4.1
3	4.1	10	4.1
4	9	11	0
5	4.1	12	4.1
6	4.1	13	4.1
7	4.1	14	4.1

NJU9701\NJU9702 U2

PIN	VOLT	PIN	VOLT
1	5.1	13	2.6
2	2.2	14	2.6
3	2.4	15	2.6
4	5	16	2.6
5	5	17	0.7
6	0.1	18	0.7
7	0	19	2.6
8	5.1	20	2.6
9	0	21	2.6
10	0	22	2.6
11	0	23	2.6
12	0	24	5.1

LC7821 U9

PIN	VOLT	PIN	VOLT
1	4.1	16	0
2	4.1	17	0
3	4	18	9
4	4.1	19	9
5	4	20	0
6	4	21	0.3
7	4.1	22	0
8	4.1	23	4.1
9	0	24	4.1
10	0.3	25	4
11	0	26	4
12	-8.2	27	4.1
13	0	28	4
14	8.7	29	4.1
15	0.1	30	4.1

4560 U5,U11-12

PIN	VOLT	PIN	VOLT
1	4.1	5	4.1
2	4.1	6	4.1
3	4.1	7	4.1
4	0	8	9

4066D U3

PIN	VOLT	PIN	VOLT
1	1.3	8	2.6
2	1.4	9	2.6
3	4.1	10	2.6
4	2.6	11	2.6
5	0	12	0
6	5	13	5.1
7	0	14	5.1

LC7538 U6-8

PIN	VOLT	PIN	VOLT
1	4.5	19	0.1
2	4.5	20	0
3	4.5	21	0
4	4.6	22	0
5	4.6	23	1.4
6	4.6	24	0
7	4.6	25	0
8	4.6	26	0
9	0.2	27	4.6
10	4.6	28	1.4
11	4.6	29	4.6
12	4.6	30	8
13	4.6	31	4.6
14	4.6	32	8
15	4.6	33	4.6
16	9	34	4.6
17	0	35	4.6
18	8.6	36	4.6

LM1876 U13-15

PIN	VOLT	PIN	VOLT
1	0	9	0.1
2	22	10	0
3	0	11	0.1
4	-22	12	0
5	0	13	0
6	0.1	14	0.1
7	0	15	22
8	0		