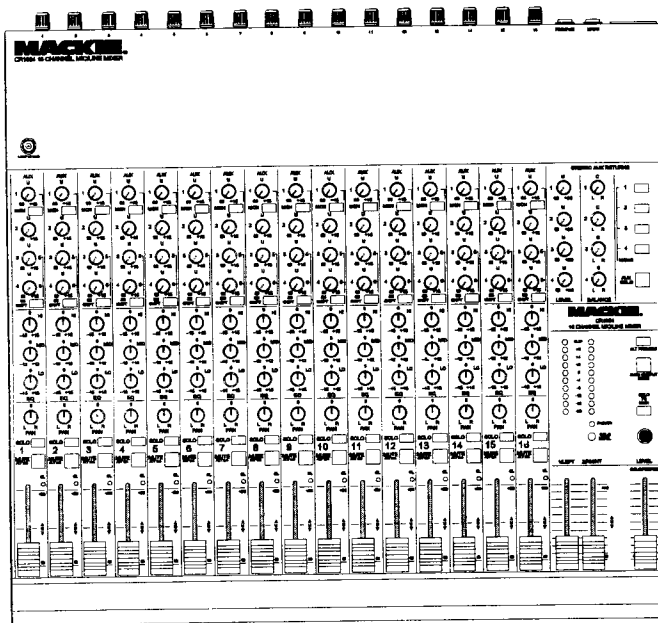




MACKIE®


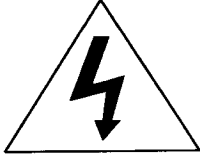
CR1604

16-CHANNEL MIC/LINE MIXER



SERVICE MANUAL

 SERVICE ON THIS EQUIPMENT IS TO BE PERFORMED BY
EXPERIENCED REPAIR TECHNICIANS ONLY
CONFIER L'ENTRETIEN AU PERSONNEL QUALIFIE 

 **CAUTION AVIS** 
RISK OF ELECTRIC SHOCK
DO NOT OPEN
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF
ELECTRIC SHOCK DO NOT REMOVE
THE COVER (OR BACK)
NO USER SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED
PERSONNEL

WARNING: TO REDUCE THE RISK OF
FIRE OR ELECTRIC SHOCK, DO NOT
EXPOSE THIS PRODUCT TO RAIN OR
MOISTURE

TO PREVENT ELECTRIC SHOCK, DO
NOT USE THIS POLARIZED PLUG WITH
AN EXTENSION CORD, RECEPTACLE OR
OTHER OUTLET UNLESS THE BLADES
CAN BE FULLY INSERTED TO PREVENT
BLADE EXPOSURE.

ATTENTION: POUR EVITER LES
RISQUES DE CHOC ELECTRIQUE, NE
PAS ENLEVER LE COUVERCLE. AUCUN
ENTRETIEN DE PIECES INTERIEURES
PAR L'USAGER. CONFIER L'ENTRETIEN
AU PERSONNEL QUALIFIE.

AVIS: POUR EVITER LES RISQUES
D'INCENDIE OU D'ELECTROCUTION,
N'EXPOSEZ PAS CET ARTICLE A LA
PLUIE OU A L'HUMIDITE.

POUR PREVENIR LES CHOCS
ELECTRIQUES NE PAS UTILISER CETTE
FICHE POLARISEE AVEC UN
PROLONGATEUR, UN PRISE DE
COURANT OU UNE AUTRE SORTIE DE
COURANT, SAUF SI LES LAMES
PEUVENT ETRE INSEREES A FOND
SANS LAISSER AUCUNE PARTIE A
DECOUVERT.

This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

ATTENTION :Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le règlement sur le brouillage radioélectrique édicté par les ministere des communications du Canada.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio energy and, if not installed properly and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Le symbole éclair avec point de flèche à l'intérieur d'un triangle équilatéral est utilisé pour alerter l'utilisateur de la présence à l'intérieur du coffret de "voltage dangereux" non isolé d'ampleur suffisante pour constituer un risque d'électrocution.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est employé pour alerter les utilisateurs de la présence d'instructions importantes pour le fonctionnement et l'entretien (service) dans le livret d'instruction accompagnant l'appareil.

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INTRODUCTION



This manual contains basic service information. It is essential that you have a copy of the user's manual as this contains the complete operating instructions.



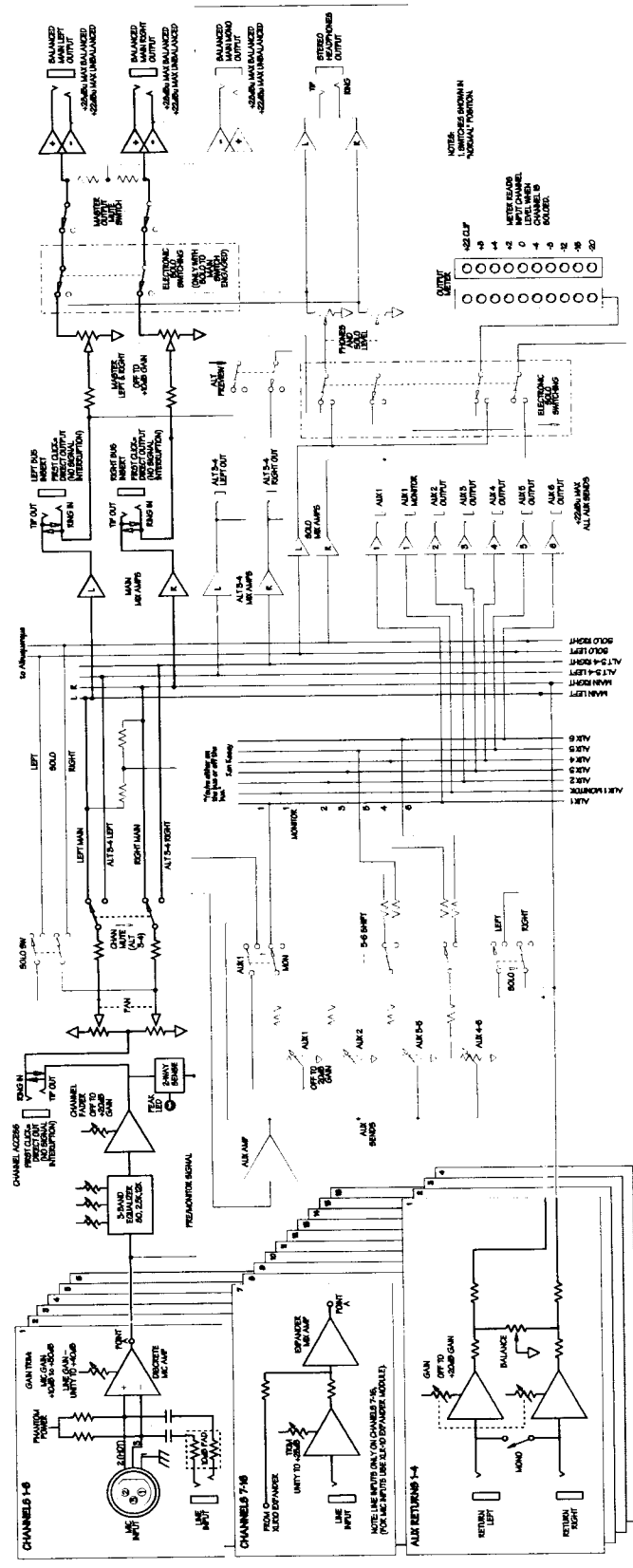
SERVICE TECHNICAL ASSISTANCE

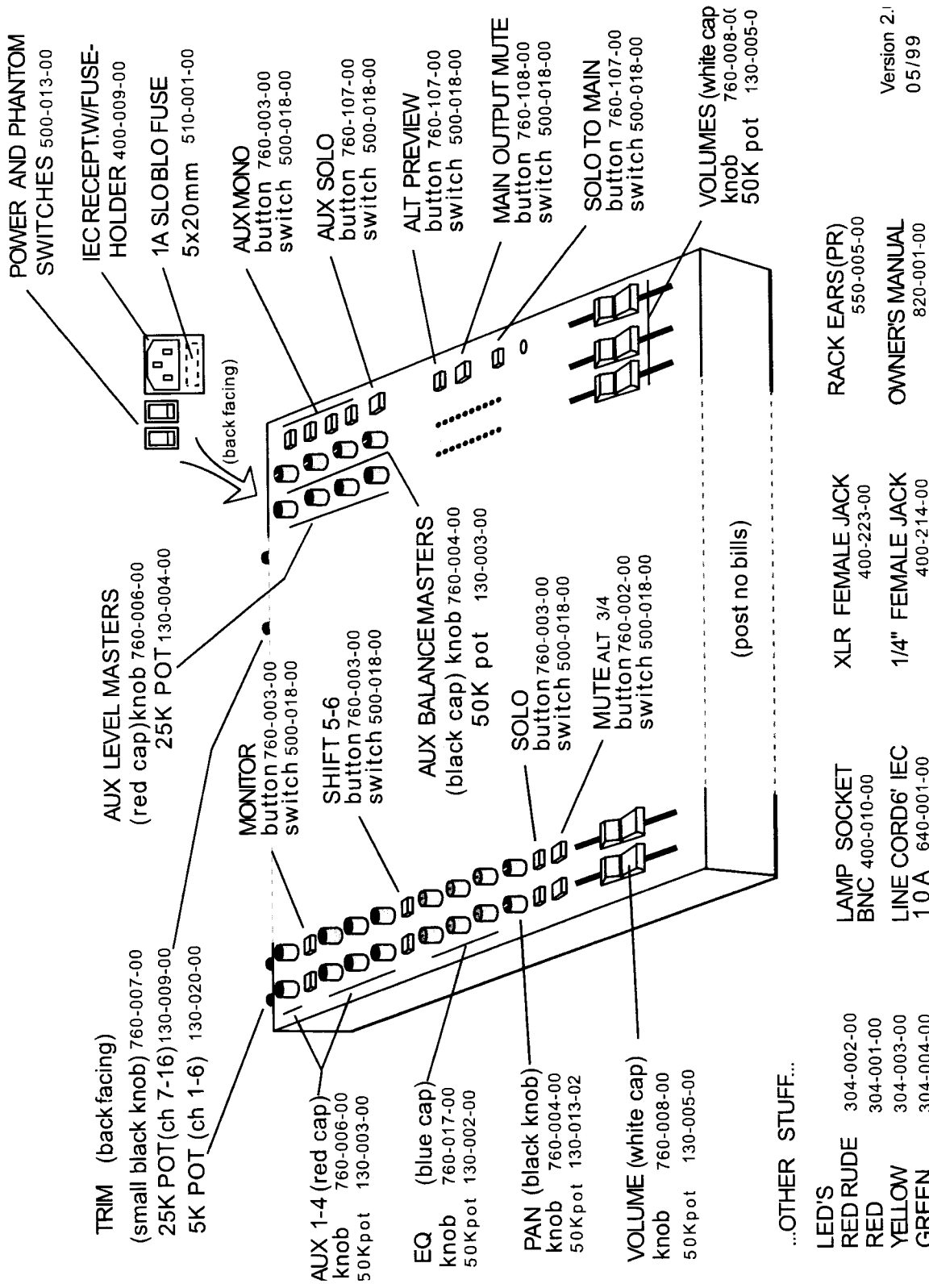
Mackie Designs, Service Technical Assistance, is available 8AM - 5PM PST, Monday through Friday for Authorized Mackie Service Centers, at 1-800-258-6883. Feel free to call with any questions and speak with a carefully-calibrated technician. If one is not available, leave a detailed message and a qualified Mackoid will return your call asap.

DISCLAIMER

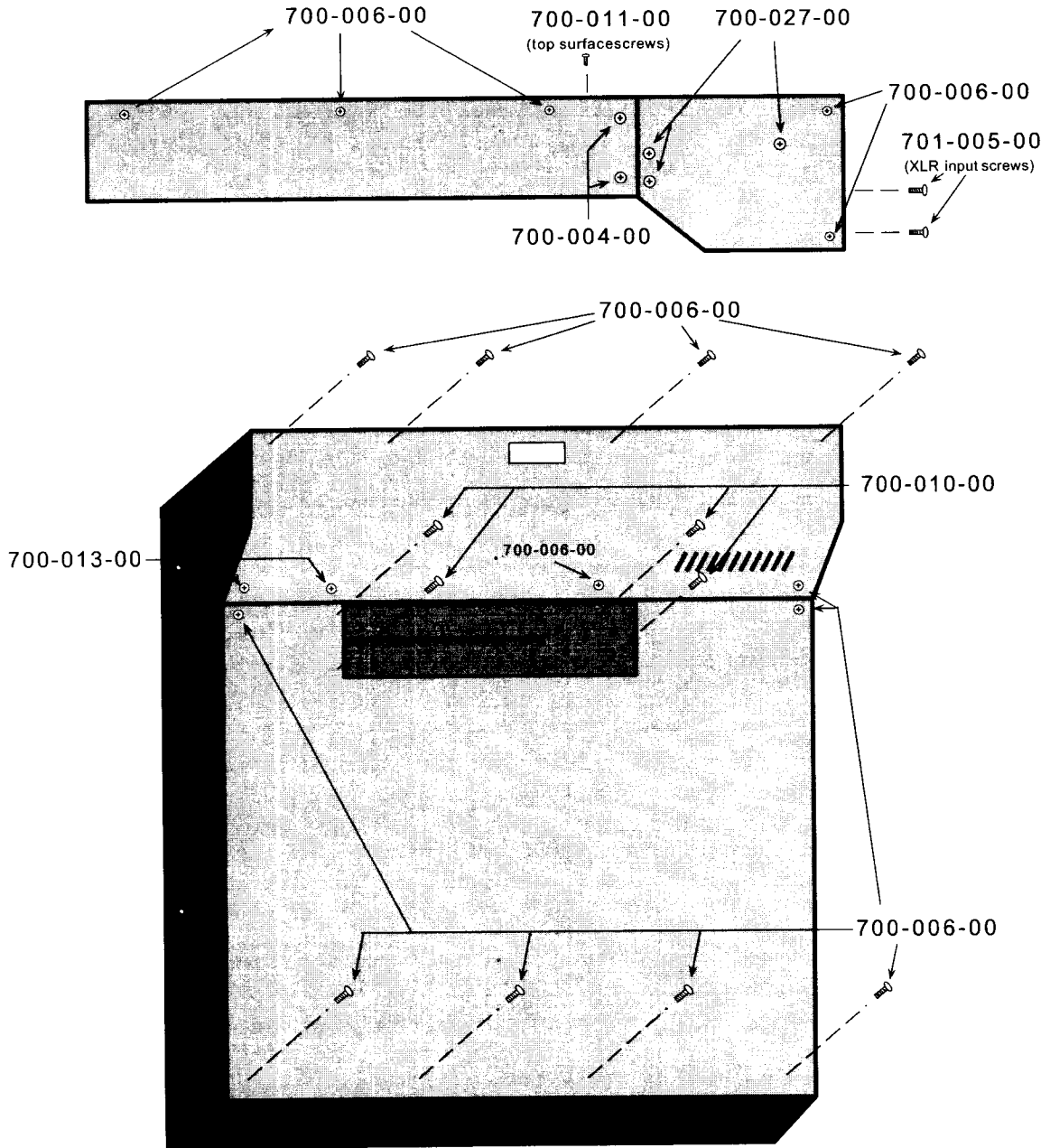
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BLOCK DIAGRAM



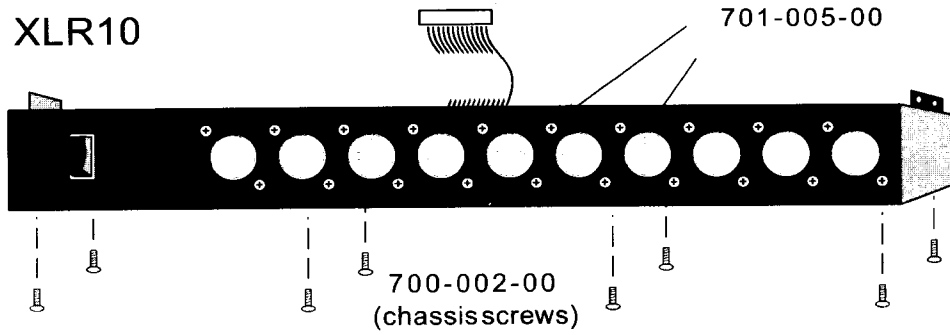


MACKIE. CR1604 SERVICE MANUAL

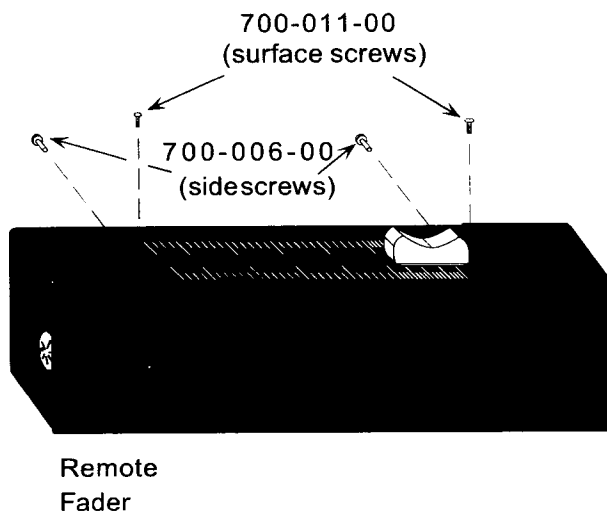


Version 1.0
6/95

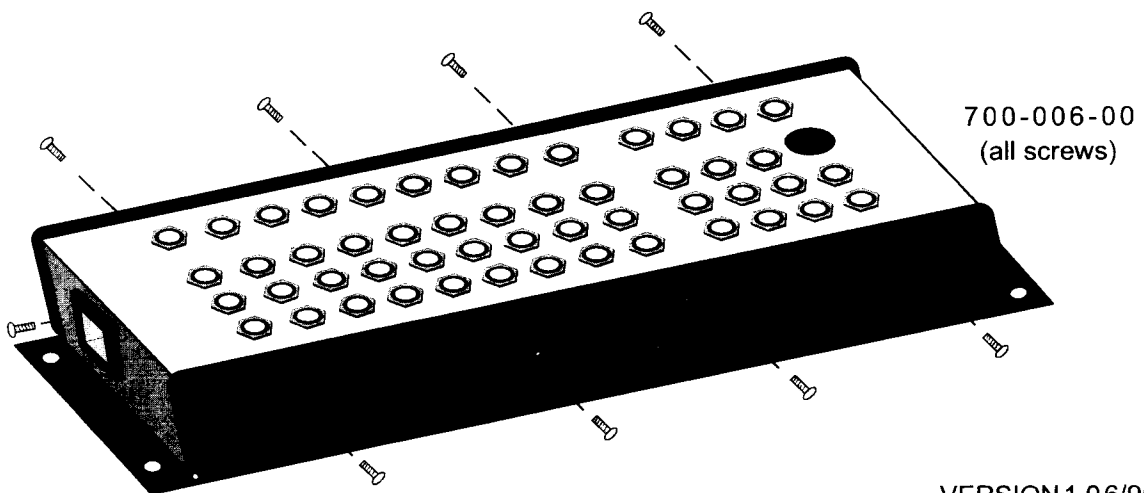
XLR10



REMOTE FADER

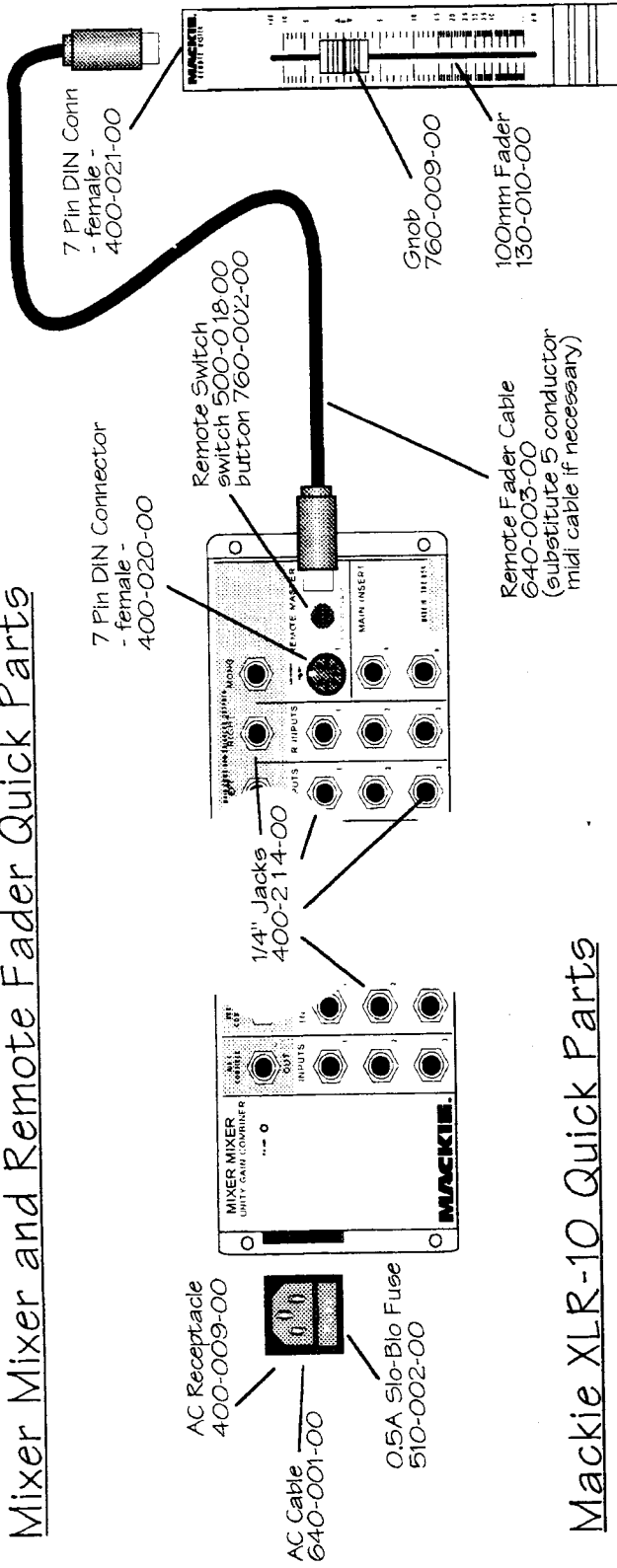


MIXER/MIXER



VERSION 1.06/95

Mixer Mixer and Remote Fader Quick Parts



Mackie XLR-10 Quick Parts

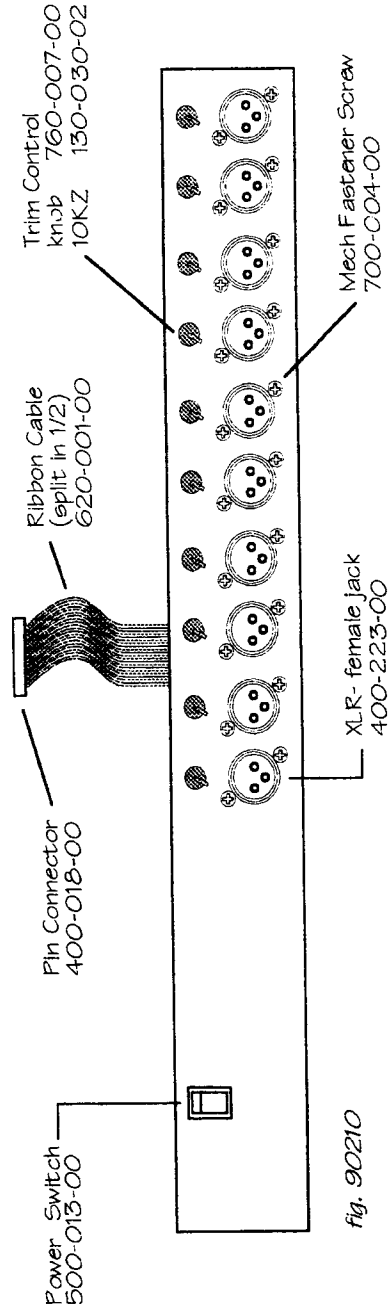


fig. 90210

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K	INCORPORATED MISC. PCB REFINEMENTS	KR		4-26-95

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		CHECKED:
		ISSUED:
		DATE:

UNLESS OTHERWISE SPECIFIED	FRACCTIONS:	DECIMALS:
TOLERANCES ARE:	±.1% ±.01 ±.1% ±.1%	±.01 ±.01 ±.01

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SCALE:	NONE
SHEET:	1 OF 17

706-009-00	LED SPACER .440
760-002-00	BUTTON SW 9X9 MM
760-003-00	BUTTON SW 9X5 MM
760-003-00	BUTTON SW 9X5 MM
760-003-00	BUTTON SW 9X5 MM
760-003-00	BUTTON SW 9X5 MM

MACKIE	
Mackie Designs Inc. Woodinville, Wd.	
SCHEMATIC	
CR-1604 MAIN	

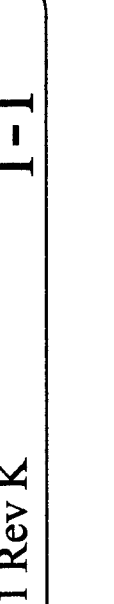
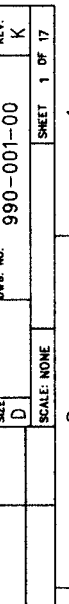
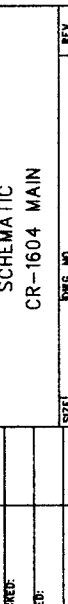
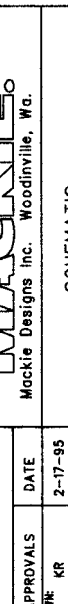
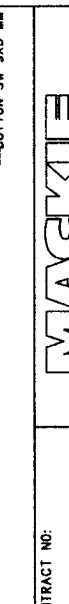
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REV.:	K

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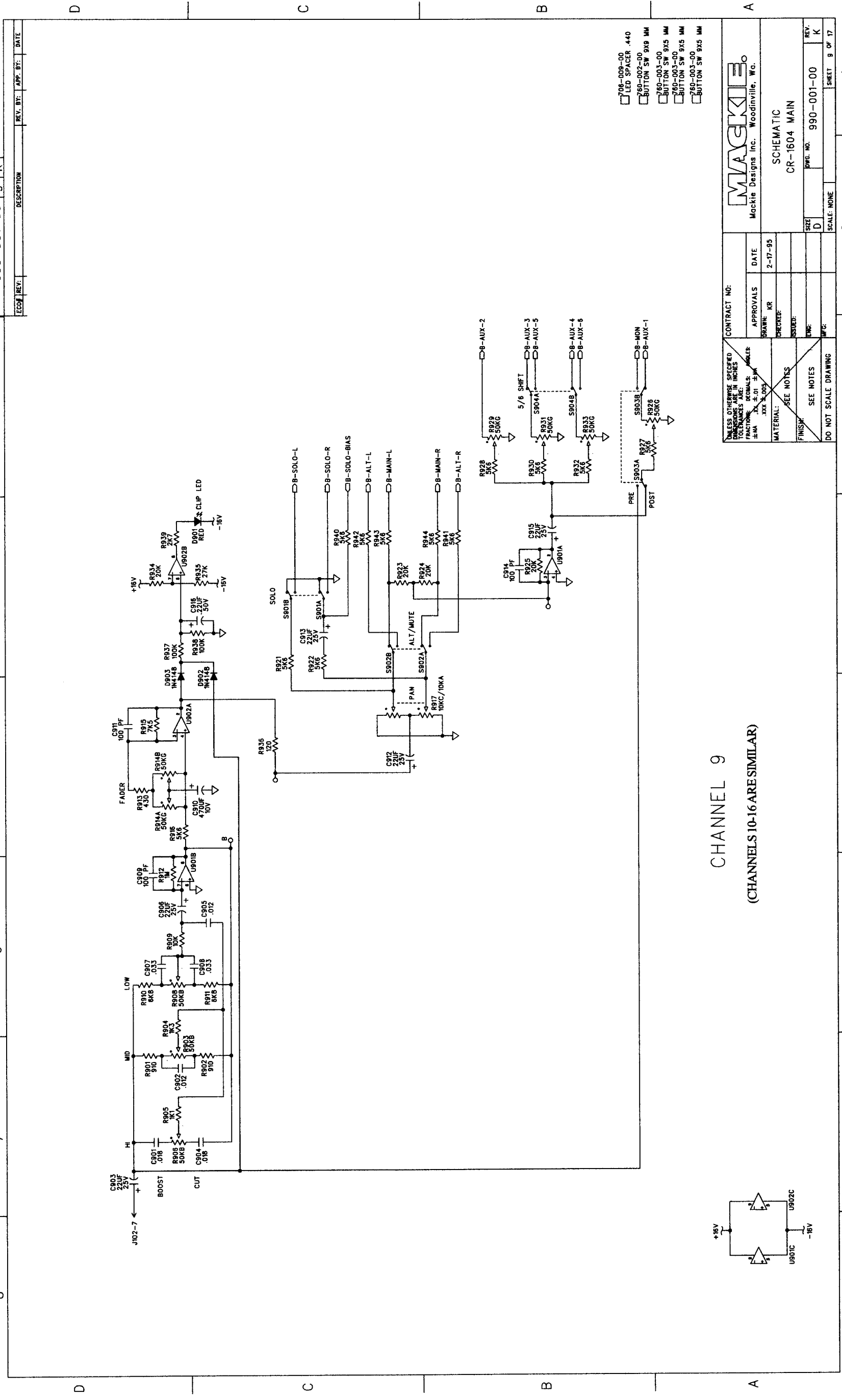
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CHANNEL 1

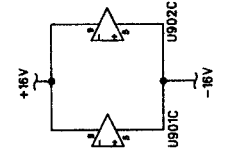
(CHANNELS 2-8 ARE SIMILAR)



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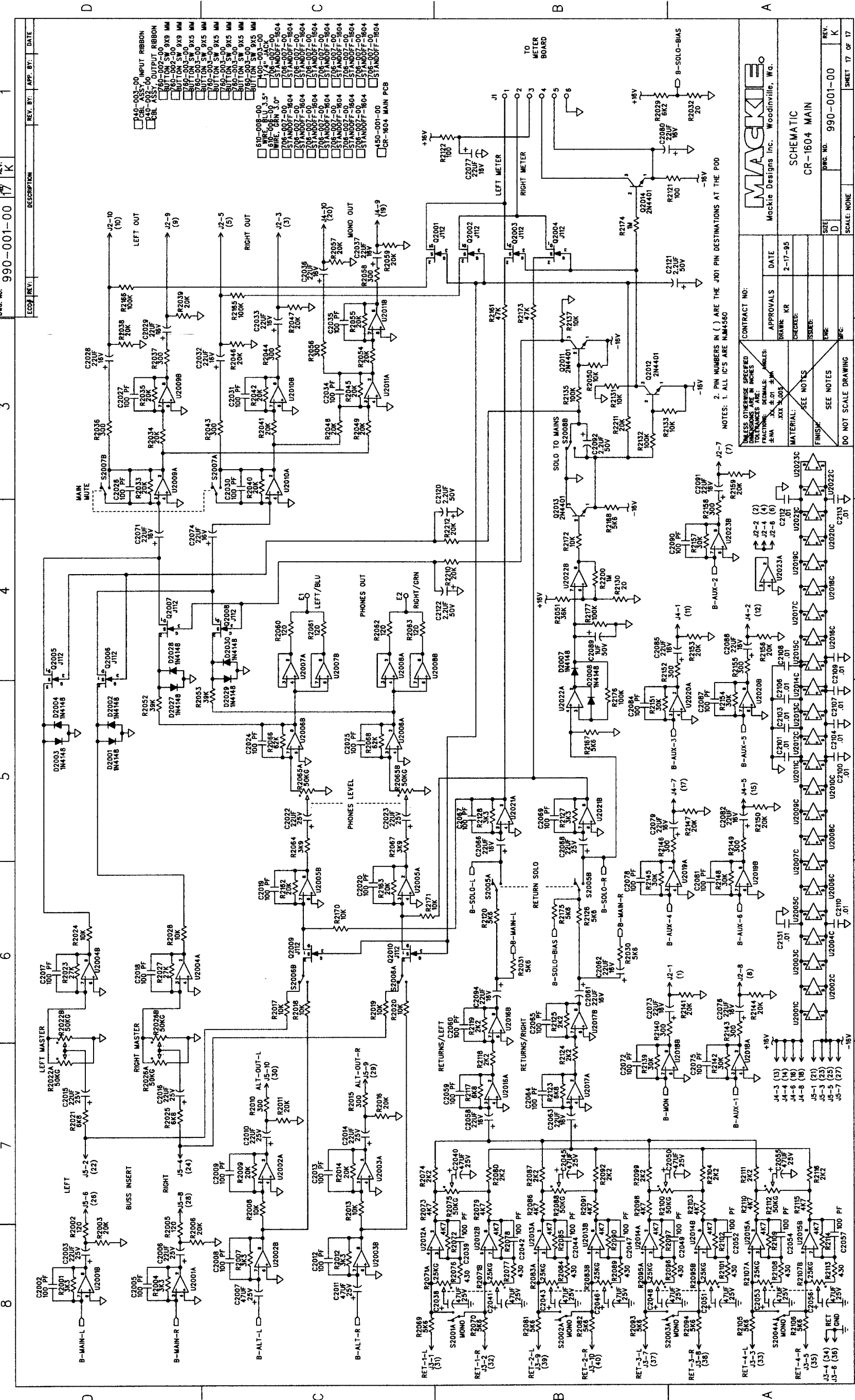


CHANNEL 9
(CHANNELS 10-16 ARE SIMILAR)



- 706-006-00 LED SPACER .440
- 769-002-00 BUTTON SW 9X5 MM
- 769-003-00 BUTTON SW 9X5 MM
- 769-003-00 BUTTON SW 9X5 MM
- 769-003-00 BUTTON SW 9X5 MM

CONTRACT NO.		DATE	
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CHECKED			
SKETCHED			
FINISH			
DO NOT SCALE DRAWING			
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MACKIE		SCHEMATIC	
Mackie Designs Inc. Woodinville, W.G.		CR-1604 MAIN	
DWG. NO. 990-001-00		REV. K	



MACKIE
Mackie Designs Inc. Woodville, Wg.

CONTRACT NO. _____
APPROVALS: _____
DATE: 2-17-95

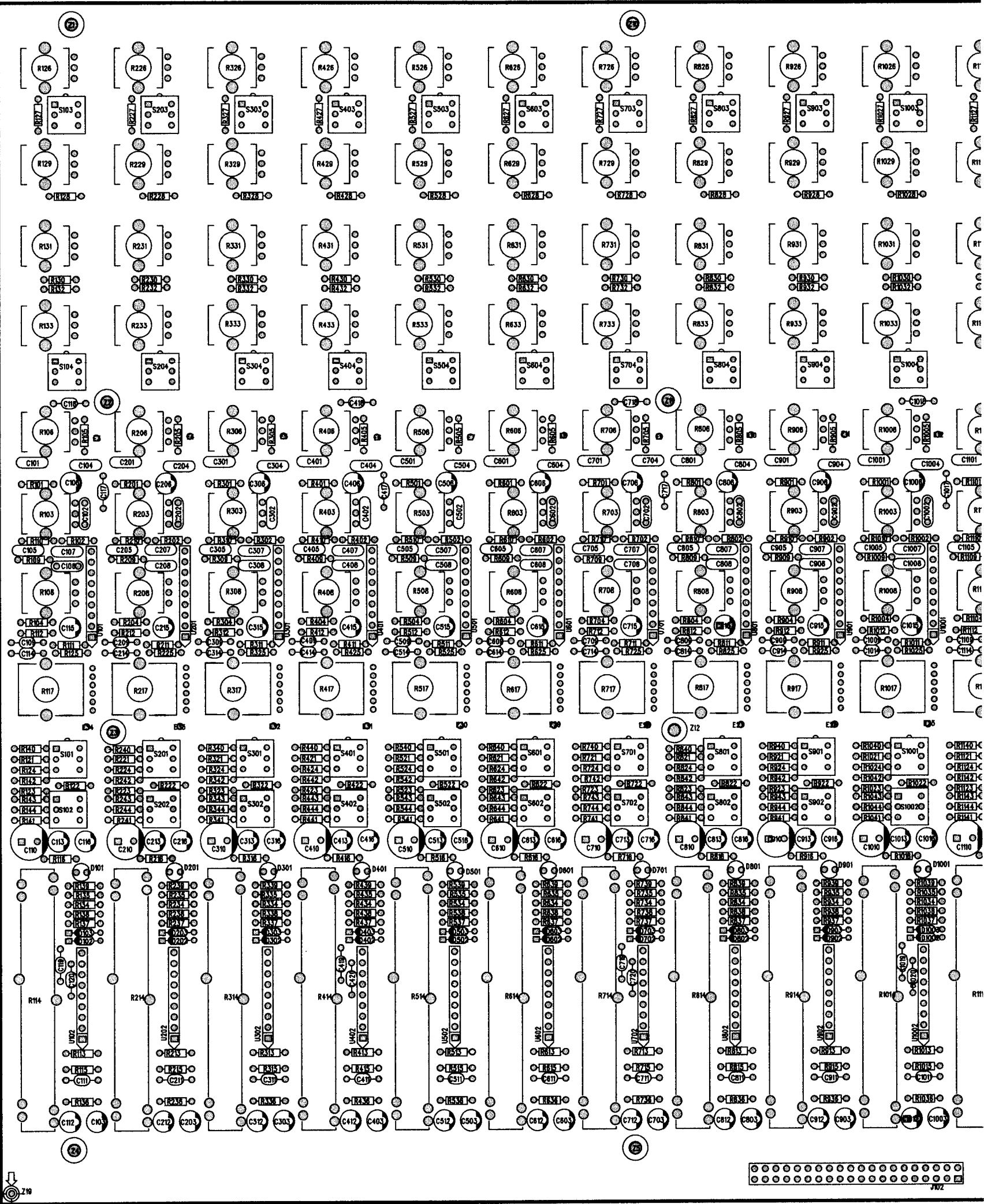
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SCHEMATIC
CR-1604 MAIN

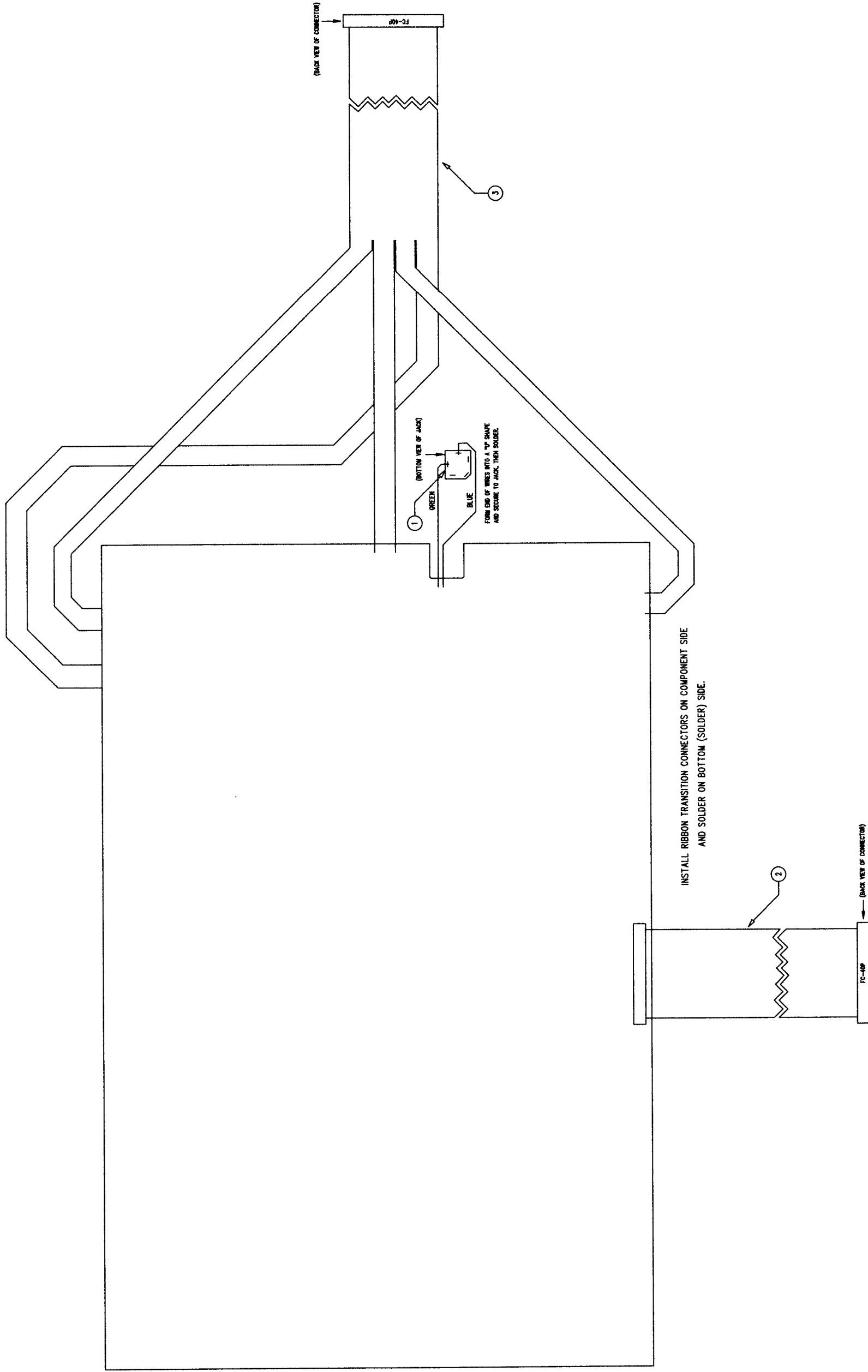
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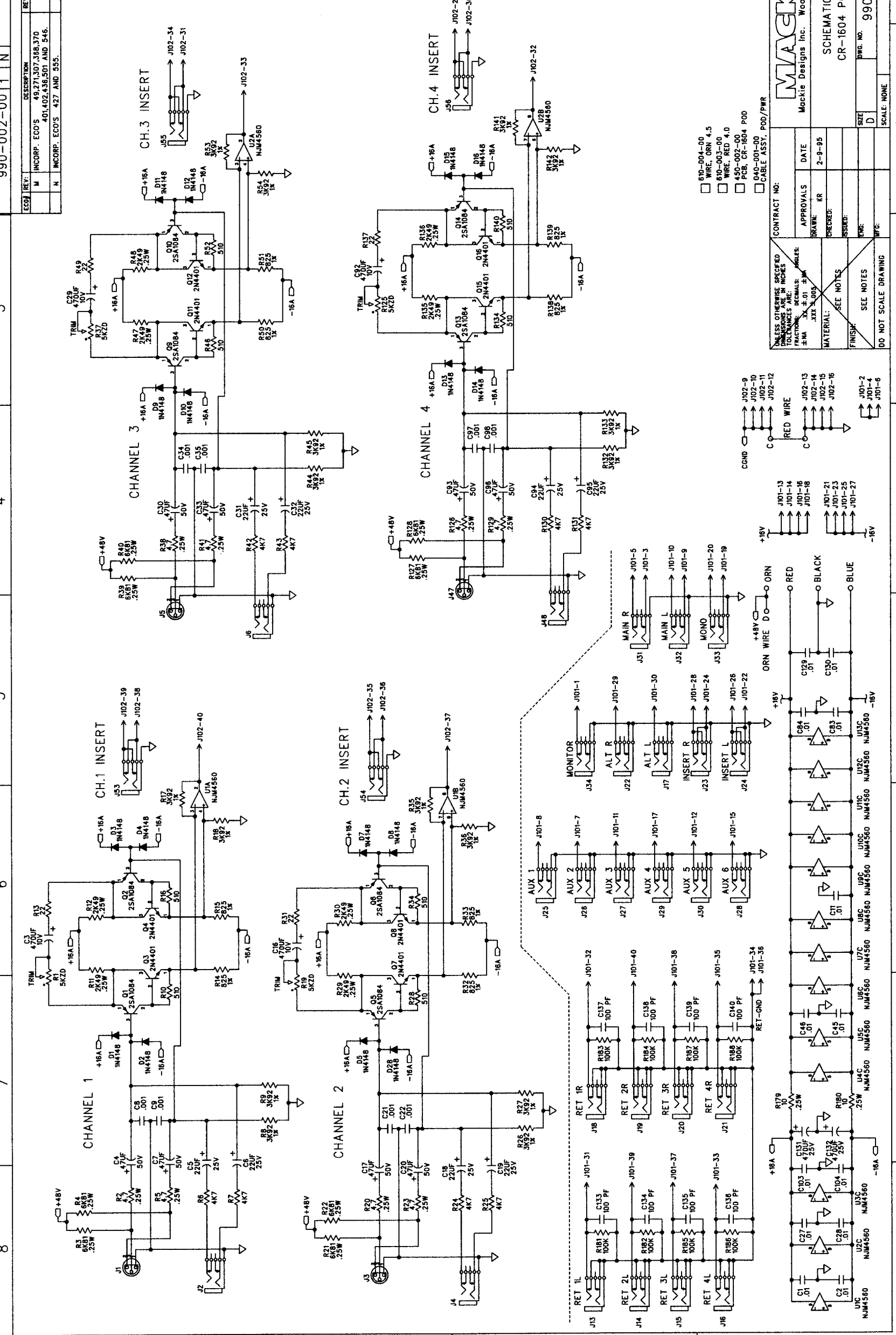
1-3



MAIN BOARD 01 Rev K

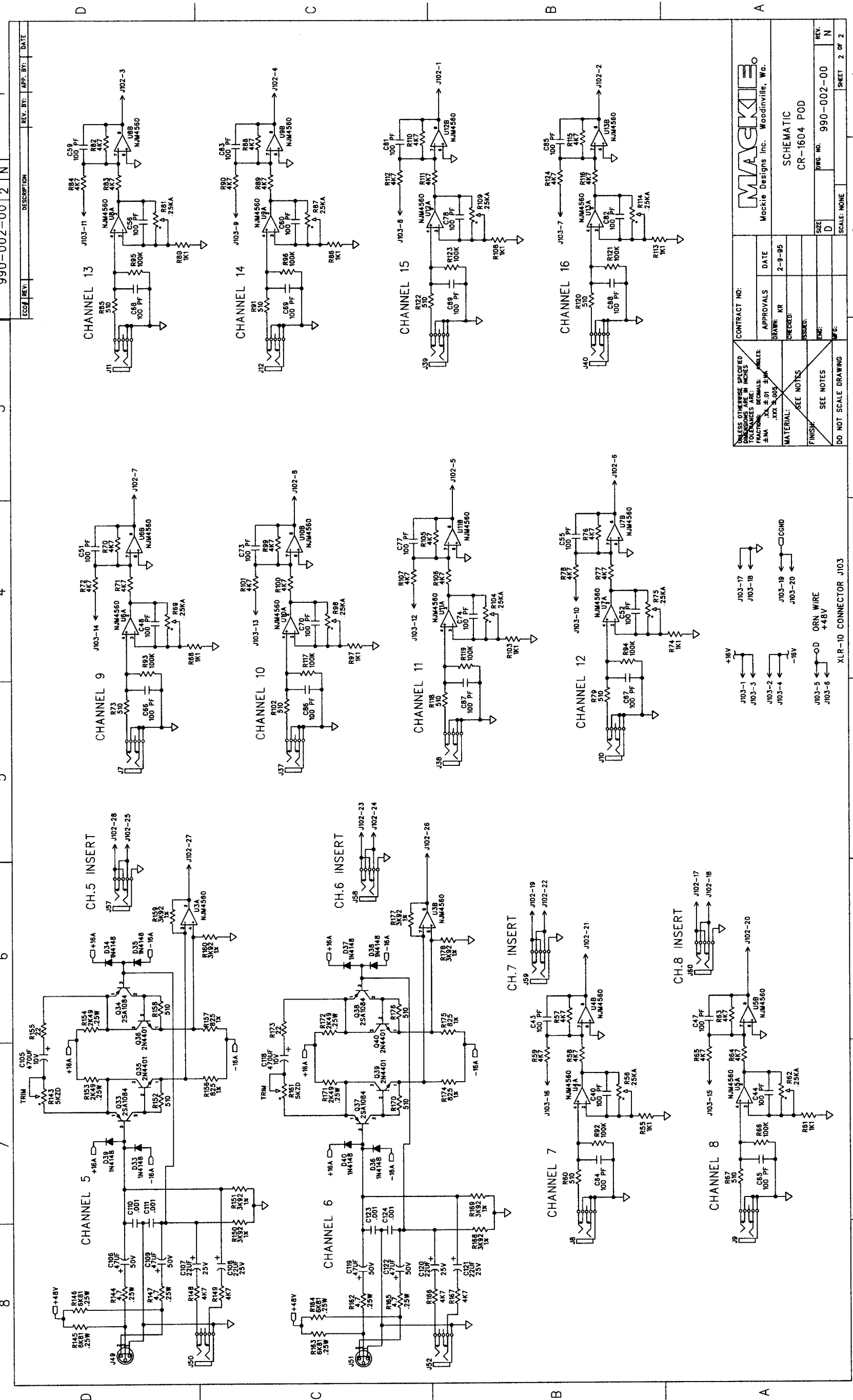


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N	INCORP. ECO'S	427 AND 555.	KR	4-13-95	



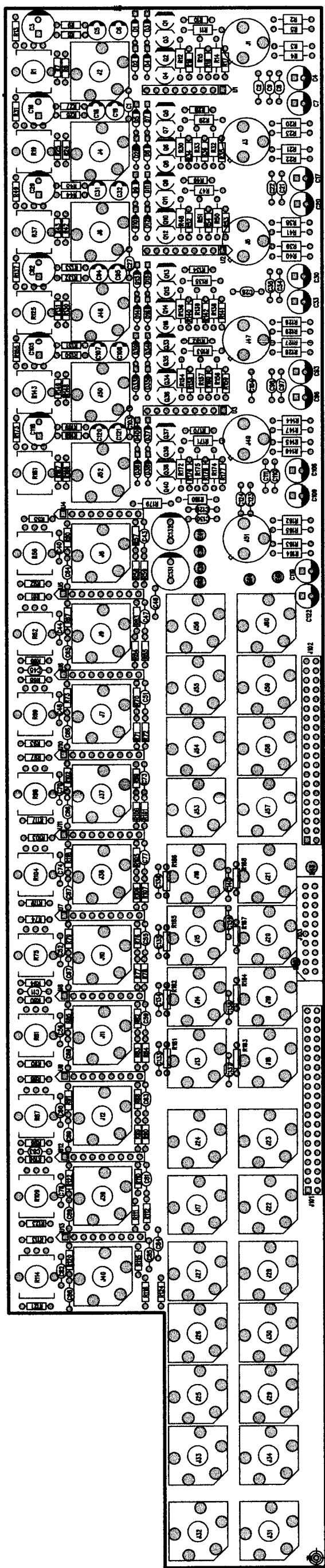
- 610-004-00 WIRE, ORN 4.5
- 610-003-00 WIRE, RED 4.0
- 450-002-00 PCB, CR-1604 POD
- 040-001-00 CABLE ASSY, POD/PWR

CONTRACT NO:		MACKIE	
Mackie Designs Inc. Woodinville, Wa.		DATE	
APPROVALS		2-9-95	
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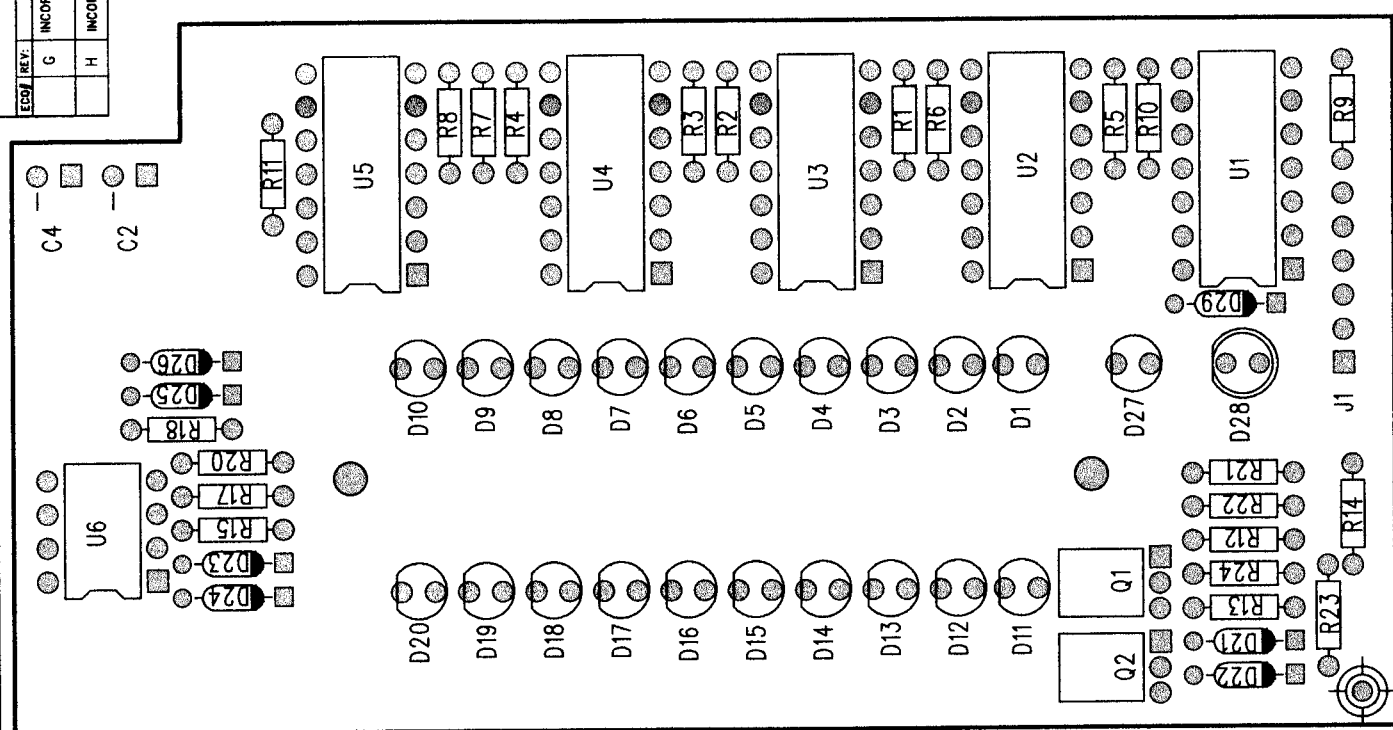
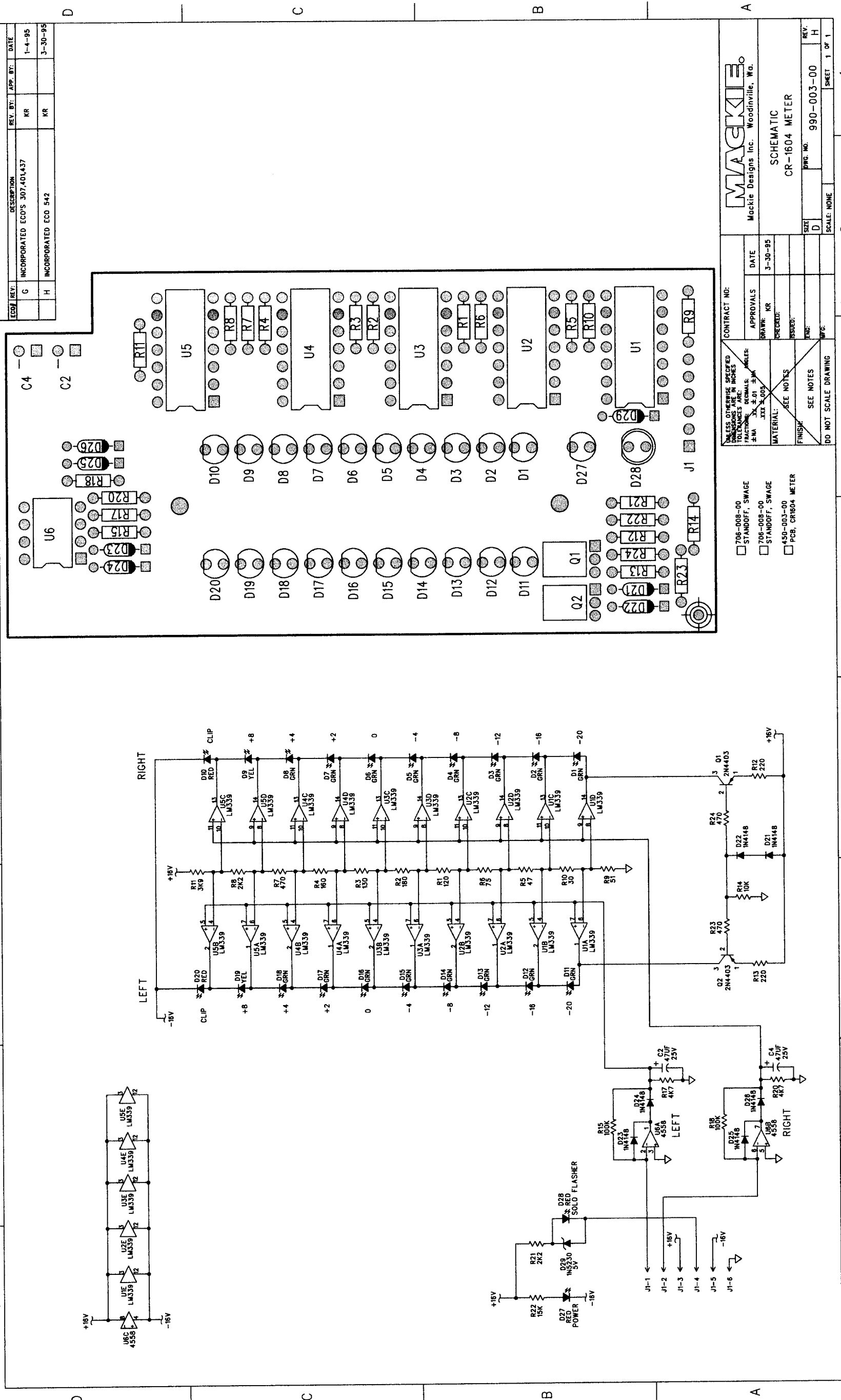


2-2

POD BOARD 02 Rev N



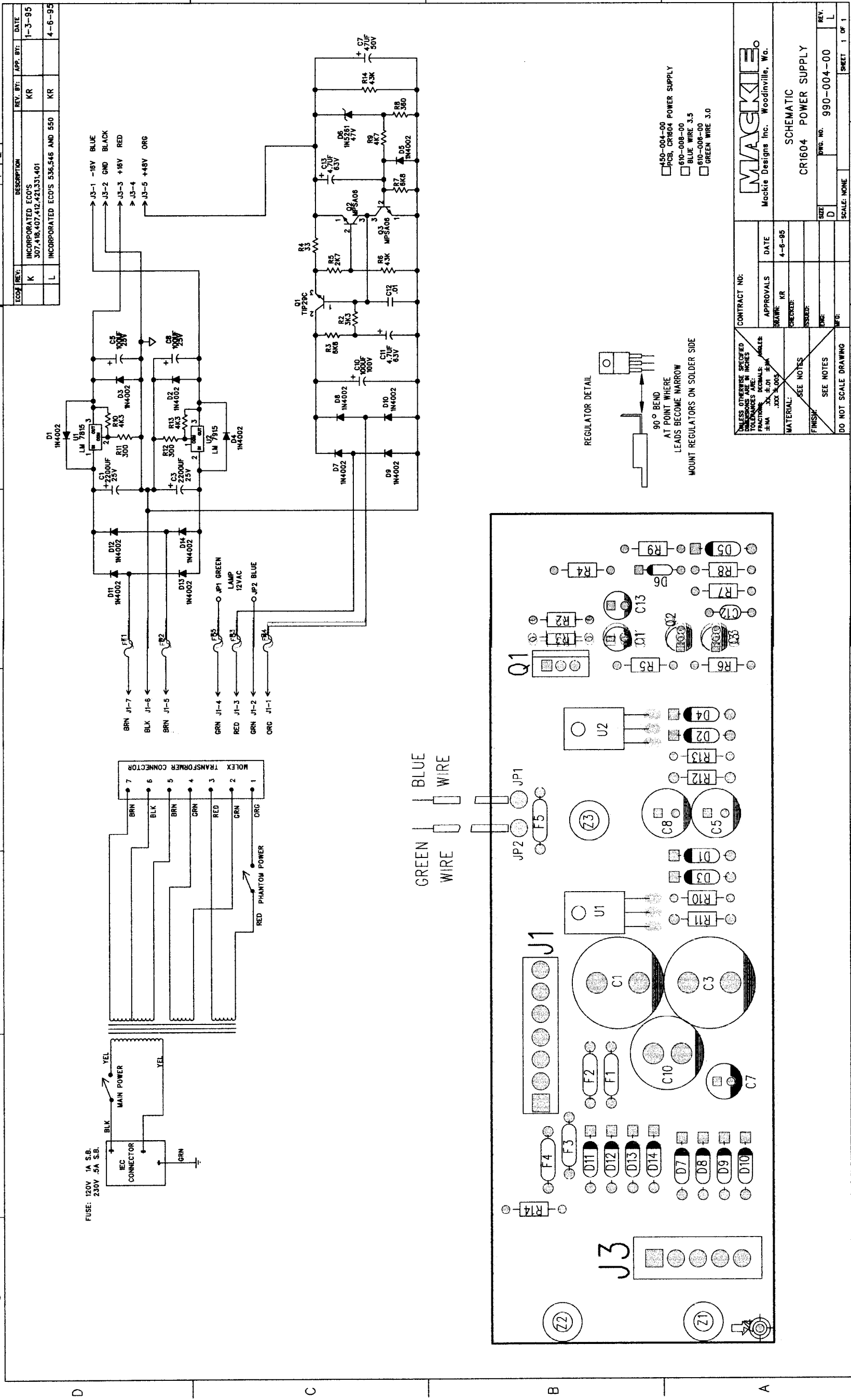
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DATE	3-30-95	REV.	KR
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- 708-008-00 STANDOFF, SWAGE
- 708-008-00 STANDOFF, SWAGE
- 450-003-00 PCB, CR1604 METER

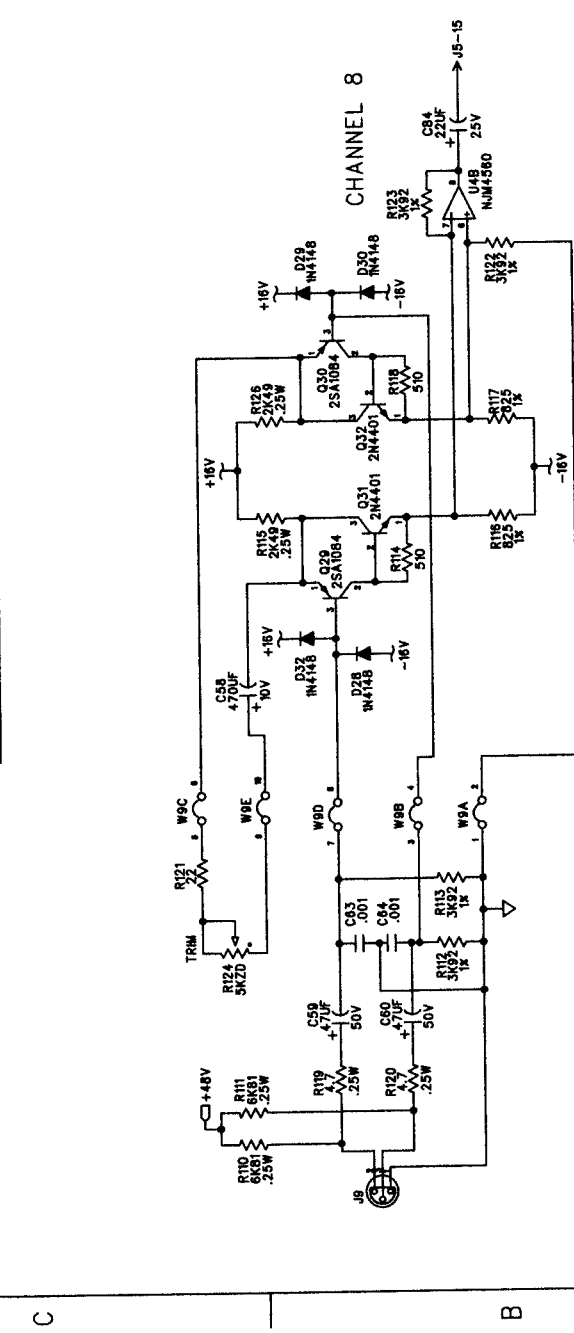
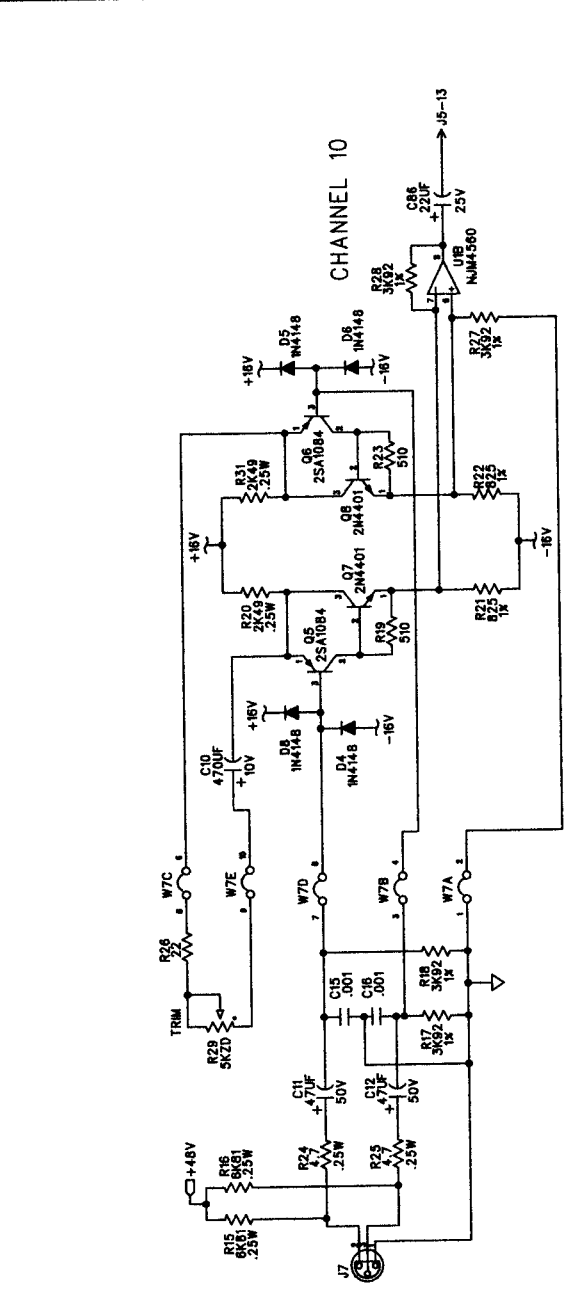
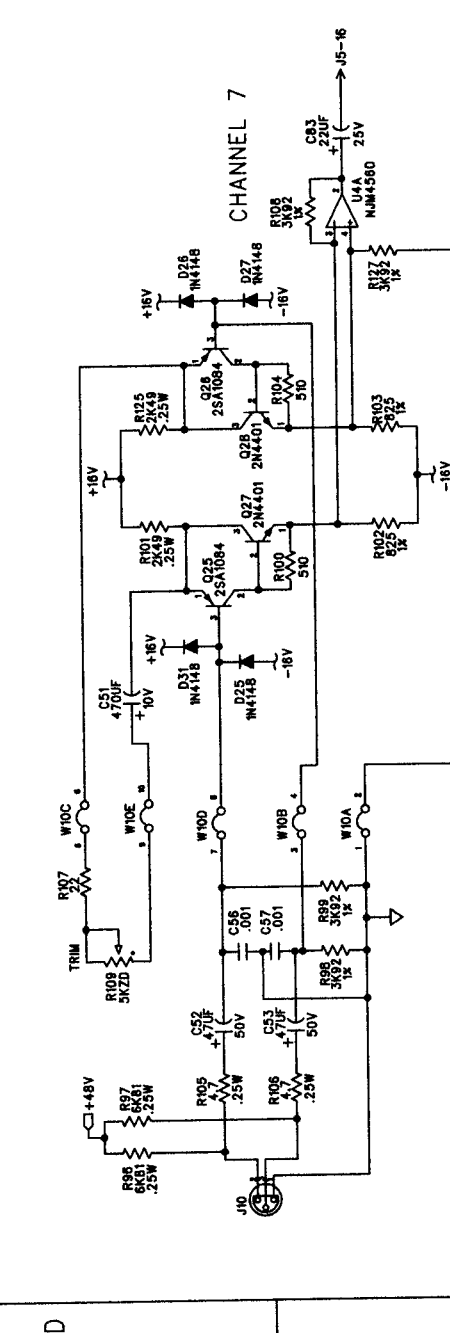
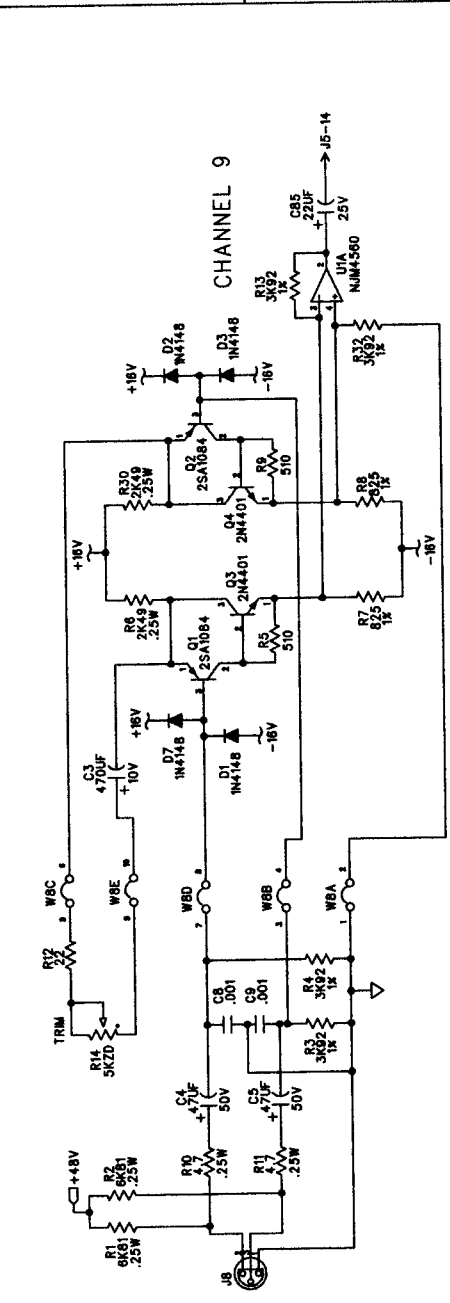
METER BOARD 03 Rev H **3-1**



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L	INCORPORATED ECO'S 536,546 AND 550	KR	KR	4-6-95

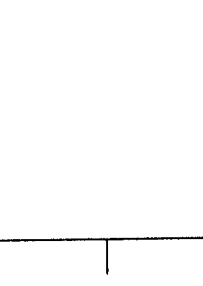
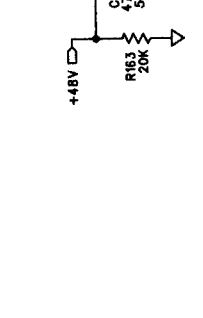
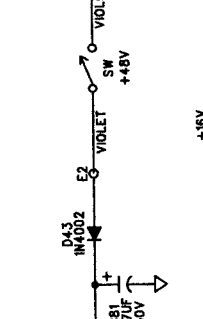
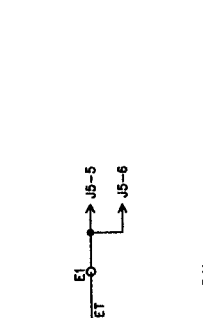
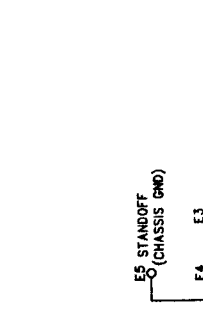
CONTRACT NO. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS AND DECIMALS SHALL BE TO THE NEAREST .005 INCHES MATERIAL - SEE NOTES FINISH - SEE NOTES DO NOT SCALE DRAWING		APPROVALS DRAWN: KR CHECKED: ENGINEER: DATE: 4-6-95	SCALE: NONE SHEET 1 OF 1
MACKIE Mackie Designs Inc. Woodville, W. Va.		SCHEMATIC CR1604 POWER SUPPLY	

REV:	DESCRIPTION	REV. BY:	APP. BY:	DATE
H	INCORPORATED ECO'S 49,145,307, 387,401.	KR	KR	1-10-95
J	INCORPORATED ECO 427	KR	KR	4-12-95



- 706-013-00 STANDOFF, XLRI0
- 706-015-00 STANDOFF, XLRI0
- 706-016-00 STANDOFF, XLRI0
- 706-017-00 STANDOFF, XLRI0
- 706-018-00 STANDOFF, XLRI0
- 706-019-00 STANDOFF, XLRI0
- 706-020-00 STANDOFF, XLRI0
- 706-021-00 STANDOFF, XLRI0

- 916-007-00 WIRE, 6.5" VIOLET
- 916-008-00 WIRE, 6.5" VIOLET
- 916-009-00 WIRE, 2.5" YELLOW
- 916-010-00 WIRE, 2.5" YELLOW
- 916-011-00 WIRE, 2.5" YELLOW
- 916-012-00 WIRE, 2.5" YELLOW



CONTRACT NO:		MACKIE	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		Mackie Designs Inc. Woodinville, Wa.	
APPROVALS	DATE	SCHEMATIC XLR-10	
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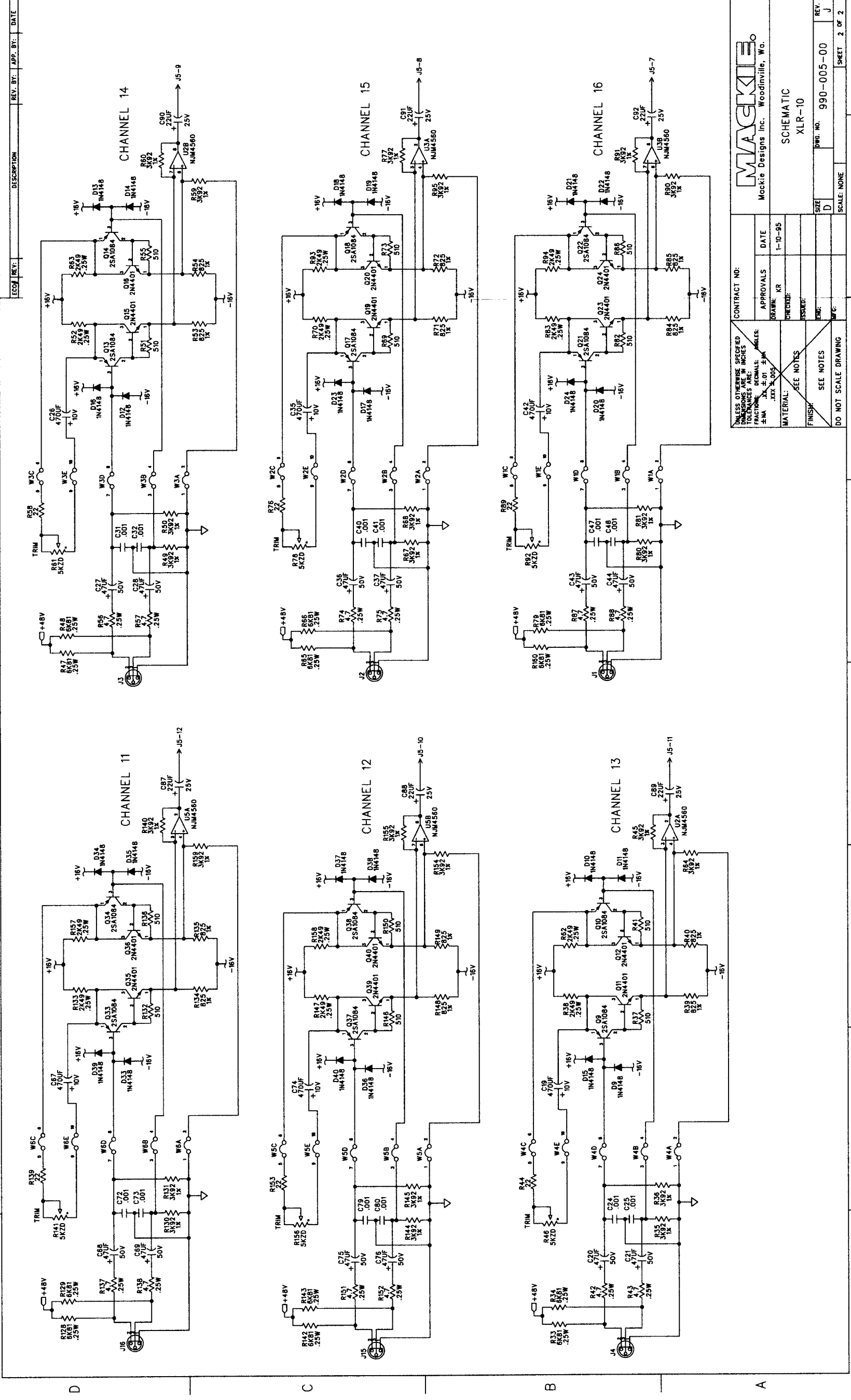
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XLR10 BOARD 05 Rev J

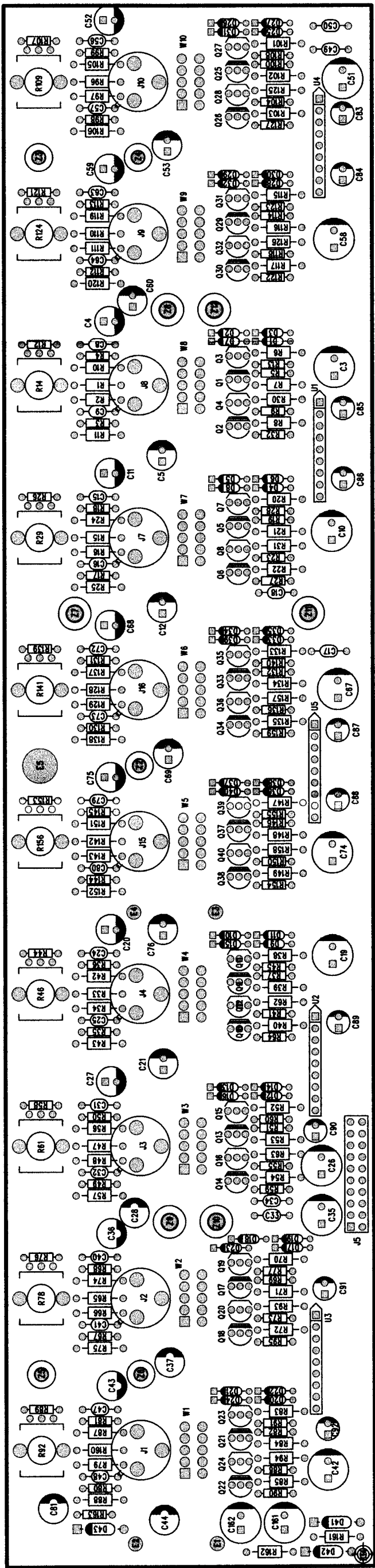
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5-1

990-005-00 2 J

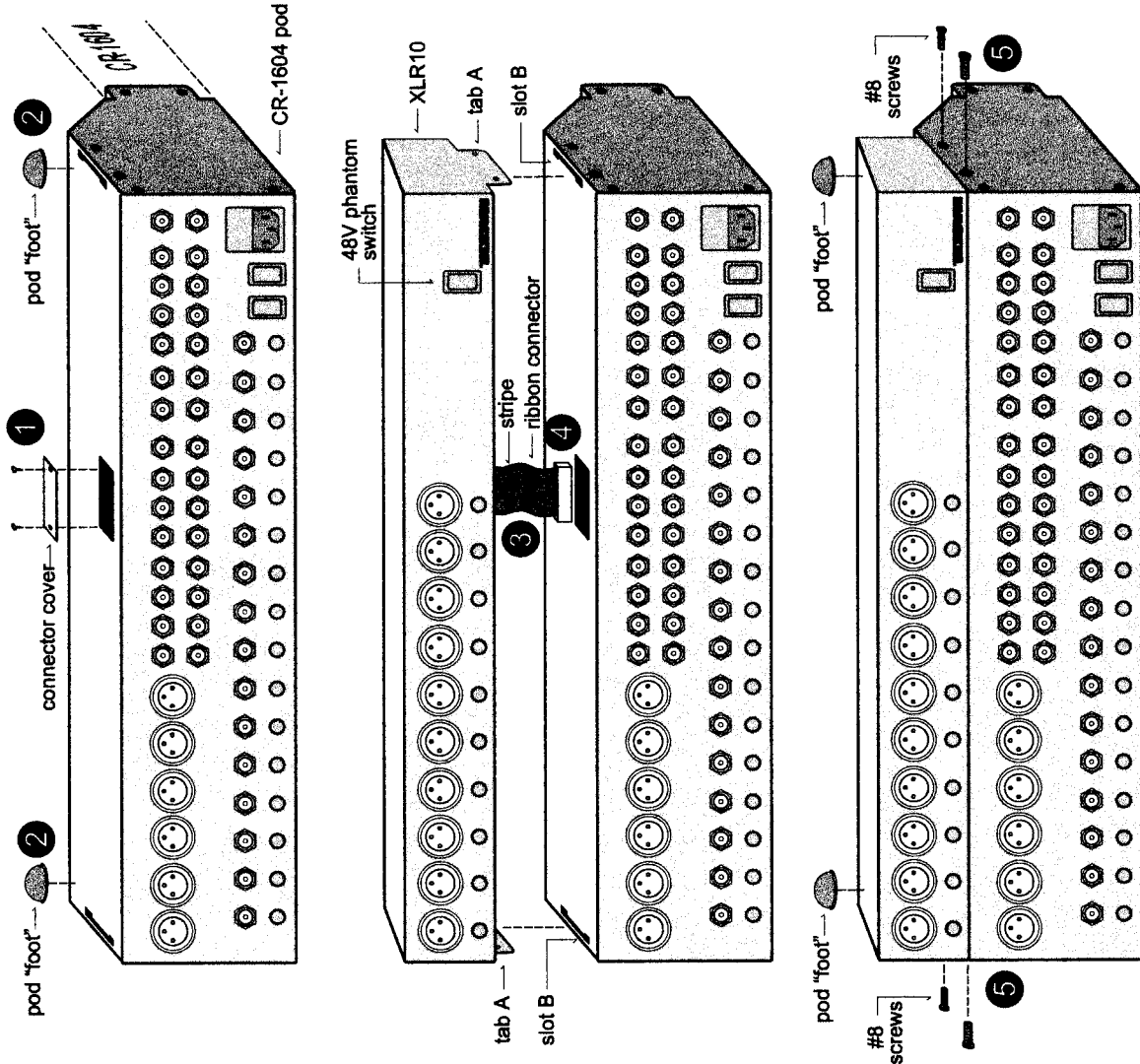


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FINISH: SEE NOTES		REV. J	
DO NOT SCALE DRAWING		D	
		990-005-00	
		XLR-10	
		SHEET 2 OF 2	



XLR-10 Installation

- First make sure that the CR-1604 is turned off. Flip it upside down with the jacks facing you (there is no need to actually remove the pod) and remove the small connector cover near the pod's center. Save the cover and screws by taping them to the bottom of the mixer.
 - Remove the pod's rubber feet.
 - Install the ribbon connector which extends out of the XLR 10 by pressing the plug onto the exposed pins. Make sure that the stripe on the ribbon is on the side closest to the XLR 10's phantom switch (the right side in our drawing).
 - As you lower the XLR10 towards the CR-1604 pod, work the excess ribbon cable back into the XLR10 by wiggling it gently.
 - Slide the tabs on the sides of the XLR10 into the slots on the top of the CR-1604 and secure them with the four #8 screws provided. Don't push on the screws while attaching them, since doing so may dislodge the mounted nuts on the inside of the pod.
 - Install the new pod feet.
- Happy mixing!

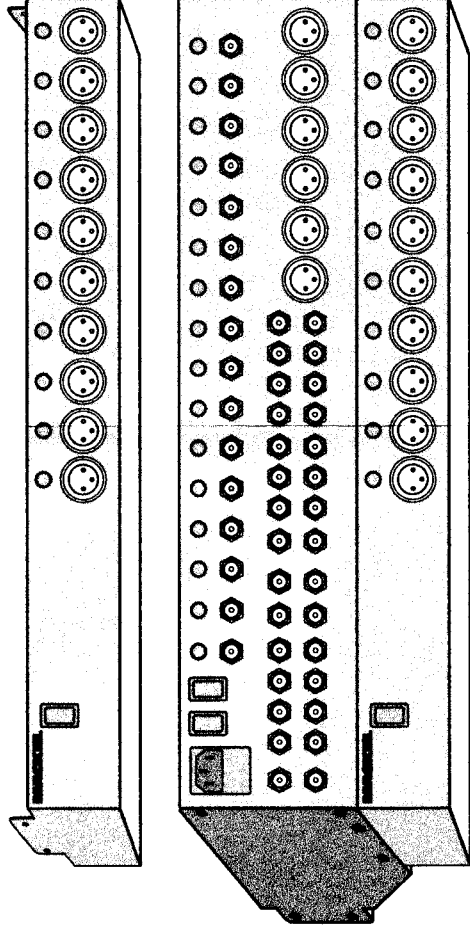


Operating Instructions

When you combine the CR-1604 with the XLR10 you can use the added mic inputs by themselves or, if you're starved for inputs, you can use both mic and line inputs simultaneously. In other words, with the XLR10, you actually get 10 more inputs. On Channels 7 through 16 only, the XLR mic inputs can be used with the existing line inputs. Each has its own sensitivity control. Set the sensitivity controls as you normally would. Put the channel into SOLO to read its

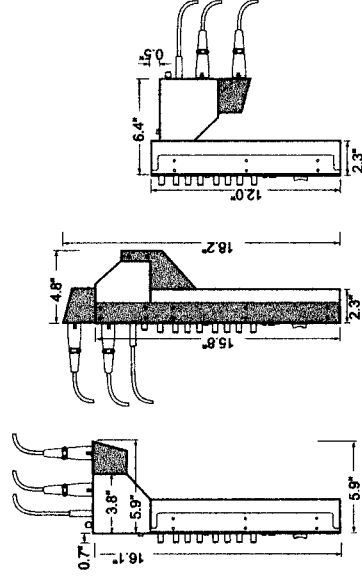
operating level on the main output meter.

1. Adjust the mic sensitivity control first
2. With the mic placed where it will normally operate in relation to the acoustic source, start at minimum (fully counterclockwise), then turn the gain up until you get a reading of around 0dB on the meter.
3. Finally, adjust the line input sensitivity until you get the desired balance between mic and line signals.

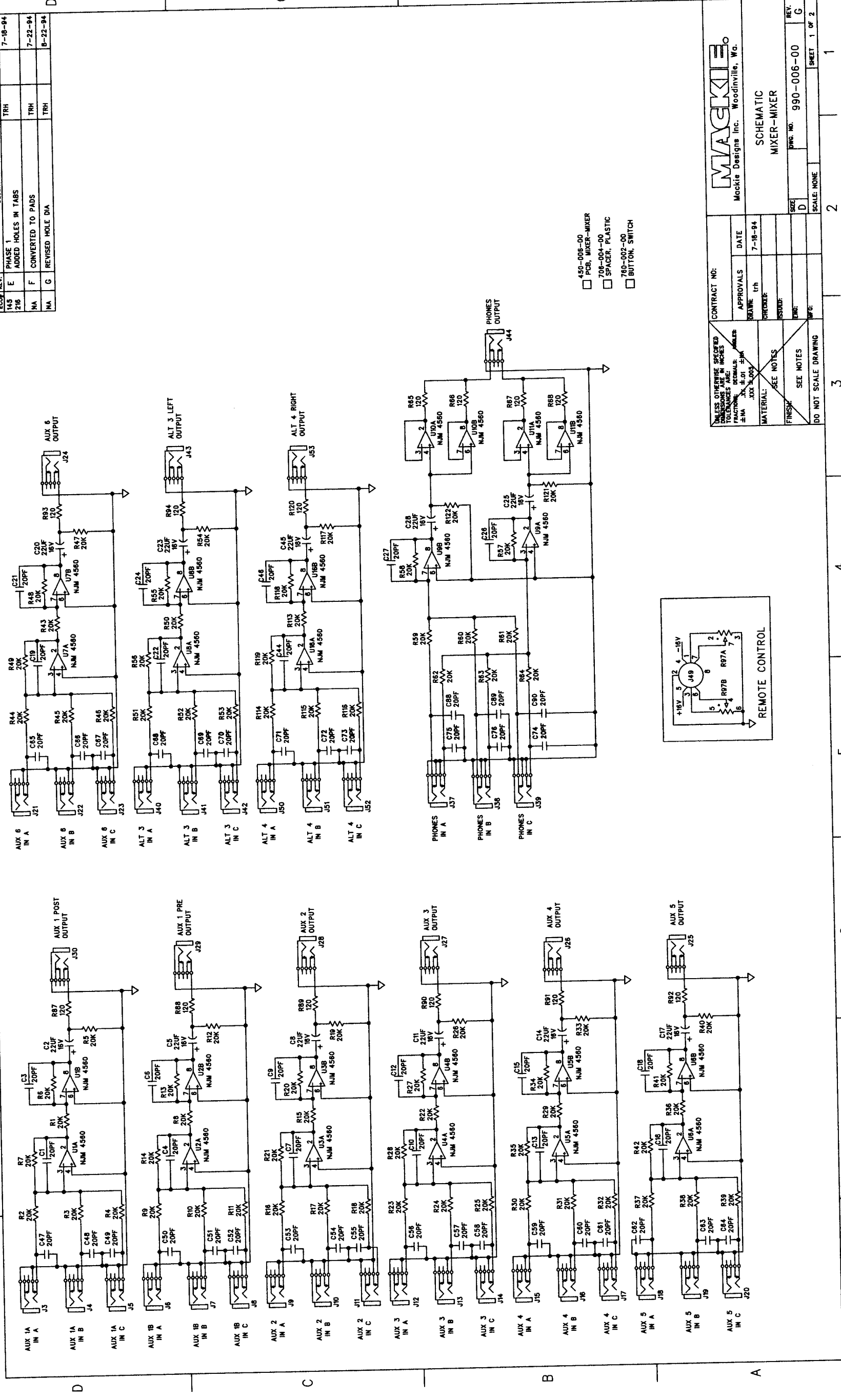


Famous XLR10 Interview Questions

- Q. Can the XLR10 be used in all of the three pod variations?
- A. Yes, see the drawing below.
- Q. Can the XLR10 be used with anything other than the CR-1604?
- A. No, it utilizes the internal power supply of the CR-1604 and is not free standing.



ECO#	REV.	DESCRIPTION	REV. BY:	APP. BY:	DATE
145	E	PHASE 1	TRH		7-18-94
216	F	ADDED HOLES IN TABS	TRH		7-22-94
NA	G	CONVERTED TO PADS	TRH		8-22-94
NA	G	REVISED HOLE DIA.	TRH		8-22-94



- 450-006-00 PCB, MIXER-MIXER
- 708-004-00 SPACER, PLASTIC
- 760-002-00 BUTTON, SWITCH

MACKIE
Mackie Designs Inc. Woodville, Wa.

CONTRACT NO: _____
DATE: 7-18-94

APPROVALS: _____
DRAWN: TRH
CHECKED: _____
ISSUED: _____
ENG: _____
MFG: _____

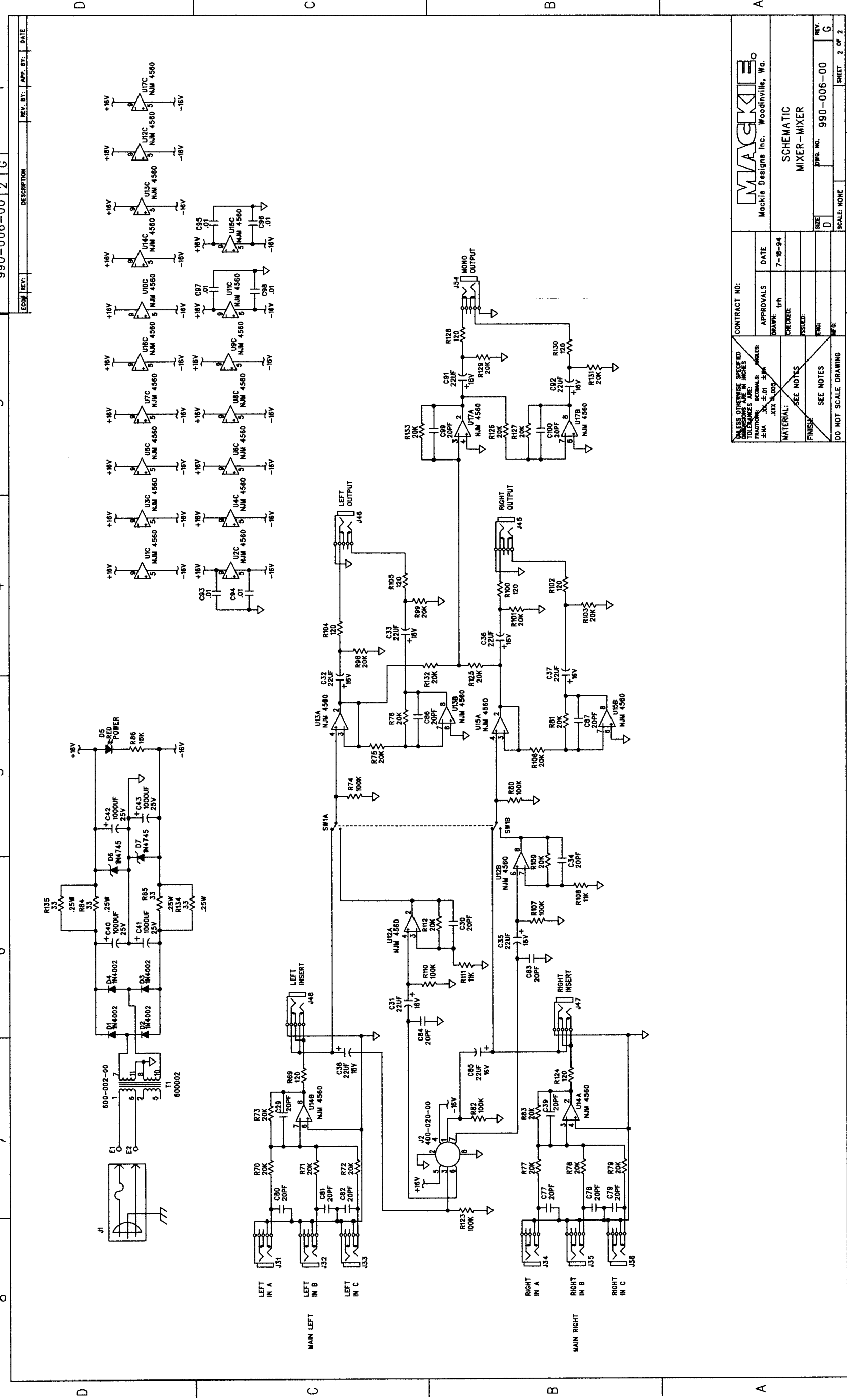
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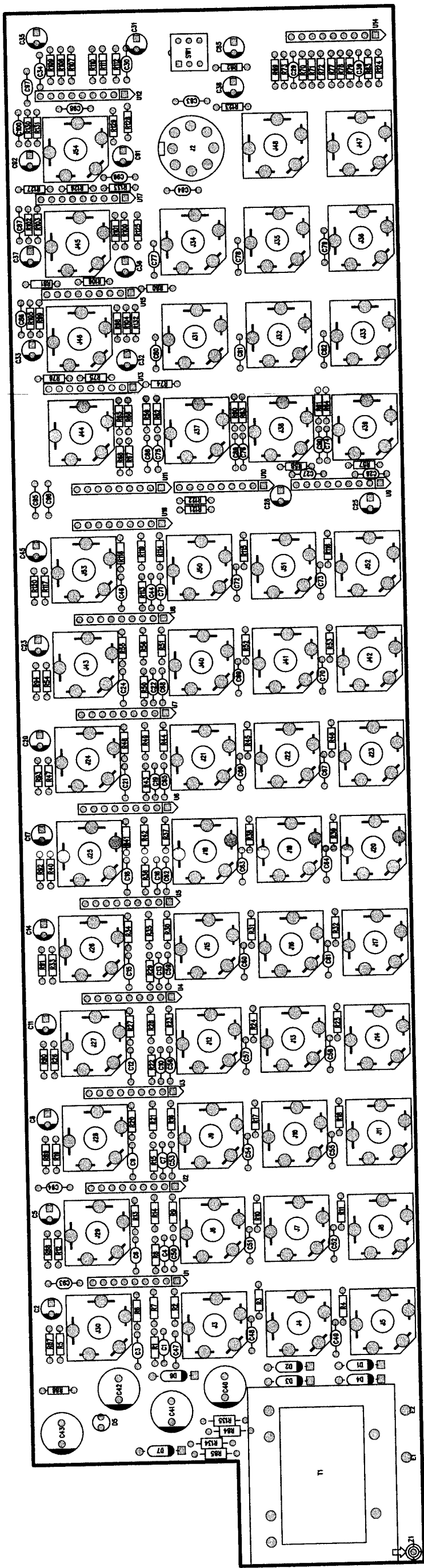
SHEET 1 OF 2

FIG. NO.	990-006-00	SHT	REV.	1	2	3	4	5	6	7	8
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APP. BY:											
DATE											



CONTRACT NO:		MACKIE	
Mackie Designs Inc. Woodville, Wv.		MACKIE	
APPROVALS	DATE	7-18-94	
DRAWN: lth	CHECKED:		
ISSUED:	SCALE:	NONE	
FINISH:	DO NOT SCALE DRAWING		
SEE NOTES	SEE NOTES		
DO NOT SCALE DRAWING	DO NOT SCALE DRAWING		
SIZE	DWG. NO.	990-006-00	
SCALE	REV.	C	
SHEET	2 OF 2	1	

MIXER MIXER BOARD 06 Rev G 6-2



CR1604 CLASSIC PARTS LIST

Part #	Description	Date	Pg
090-001-00 REV A	CR1604 FINAL ASSEMBLY 120V		2
055-001-00 REV L	MAIN PCB ASSEMBLY	7-13-95	4
055-002-00 REV N	POD PCB ASSEMBLY	04/14/1995	9
055-003-00 REV H	METER PCB ASSEMBLY	03/30/1995	10
055-004-00 REV L	POWER SUPPLY PCB ASSEMBLY	04/07/1995	11

090-001-00 REV A CR1604 CLASSIC 120V

PART#	REV	DESCRIPTION	QTY	NOTES
055-001-00	L	PCB ASSY MAIN - 1604	1	See page A-4
055-002-00	N	PCB ASSY POD - 1604	1	See page A-9
055-003-00	H	PCB ASSY METER - 1604	1	See page A-10
055-004-00	L	PCB ASSY PWR SPLY - 1604	1	See page A-11
400-009-00	A	IEC W/FUSEHOLDER	1	
400-010-00	A	BNC PANEL MOUNT	1	
410-002-00	A	INSL SILPAD .007 SELF ADH	2	
500-013-00	A	SW RCKR SPST 6A PWR SFTY	2	
510-001-00	A	FUSE SB 1A 5X20MM 250V UL	1	
550-001-00	G	SCREEN CHASSIS TOP - 1604	1	
550-002-00	J	PAINT CHAS BOTTOM - 1604	1	
550-003-00	L	SCREEN POD TOP	1	
550-004-00	F	PAINT POD BOTTOM - 1604	1	
550-005-00	B	PAINT RACK EAR - 1604	2	
550-009-00	A	PAINT EXTRUSION ARMREST	1	
550-010-00	D	PAINT CBL COVER - 1604	1	
550-011-00	C	SHIELD TRANSFORMER - 1604	1	
550-012-00	A	PAINT PLATE ACC COVER	1	
600-006-00	C	XFMR CR1604 120V	1	
610-013-00	B	WIR 22GA 1007 ORN 14 ST1	1	
611-006-00	B	WIR 18G 1010 BLK 1.25 ST2	1	
611-015-00	C	WIR 18G 1015 GRN 3.25 ST2	1	
640-001-00	C	LC IEC SJT 10A/125V 6FT	1	
700-004-00		SEMS 8-32X1/4 PHP BLKZC	4	
700-027-00	A	SEMS 8-32X3/8 PHP BLKZC	3	
700-006-00	A	MCH 6-32X1/4 PHP BLKZC	10	
700-010-00	A	TF 6-32X1/4 PHP BLKZC	6	
700-011-00	A	MCH 4-40X1/4 BTNSKT BLKX	18	
700-013-00		TF 6-32X3/16 SERR BLKZC	2	
700-031-01	A	MCH 6-32X1/4 BTNPIN BLKZC	1	
701-002-00	A	SM B 6X1/4 PHP BLKZC	12	
701-005-00	A	SM A-AB 6X1/4 PHP BLKZC	12	
705-001-00	A	KEPNUT 6-32	4	
705-003-00	A	NUT HEX-SPLD W/400-214-00	AR	
705-009-00	B	NUT J CLIP NO.8 .705X.408	3	
706-001-00	A	STDF .187LX.25ODX.14ID AL	2	
710-001-00	A	WASH STAR 3/8 OD .02 THK	46	
710-002-00	A	WASHER-SPLD W/400-214-00	AR	
710-004-00		WASH STAR 3/8 OD .032 THK	1	
711-001-00	A	LUG NO.6 SOLDER STAR	1	
720-001-00	A	TAPE DS 60MIL X 1.0W URTH	AR	
720-002-00	A	TAPE DS 10MIL X .75W CLR	AR	
740-001-00	A	TYRAP 3-1/4L	5	
740-002-00	B	TYRAP MOUNT .75 X .75	2	

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CR1604 Classic parts list for 1995



...final assembly continued

PART#	REV	DESCRIPTION	QTY	NOTES
750-001-00	A	BUMPON ROUND BLK .63X.31	5	
760-007-00		BTN 10MM SMALL BLK	16	
760-008-00		KNOB SLIDE POT	19	
760-016-00	B	KNOB 11MM MAGENTA	68	
760-017-00	C	KNOB 11MM BLUE/GRAY	48	
760-018-00	B	KNOB 11MM DARK GRAY	20	
780-001-00	C	PLASTIC SHIELD - 1604	1	
790-001-00	A	BAG POLY 20 X 30 4MIL	1	
790-002-00	A	BAG POLY 12 X 18 2MIL	2	
800-001-00		BOX CR1604	1	
810-001-00		FOAM LEFT 1604	1	
810-002-00		FOAM RIGHT 1604	1	
820-001-00		OWN MNL - CR1604	1	
830-001-00	1	3YR WARRANTY CARD	1	
840-001-00	D	LBL SN A CR1604 VLZ	1	
830-003-00		APPLICATION GUIDE 1604	1	
830-004-00		MACKIE BUMPER STICKER-OBS	1	
840-024-00	D	LBL DATE CODE	1	
840-153-00	A	LBL BLANK CLEAR SN	1	

055-001-00 Rev L CR1604 Main Board 7-13-95

Part #	Description	Value	Tol.	Qty	Reference Designator
040-002-00	CBL ASSY, OUT RIBBON			1	
040-003-00	CBL ASSY, INPUT RIBBON			1	
100-008-00	RESISTOR CF	20	5%	2	R2032 R2130
100-025-00	RESISTOR CF	100	5%	2	R2121-2122
100-027-00	RESISTOR CF	120	5%	22	R136 R236 R336 R436 R536 R636 R736 R836 R936 R1036 R1136 R1236 R1336 R1436 R1536 R1636 R2002 R2005 R2060-2063
100-036-00	RESISTOR CF	300	5%	15	R2010 R2015 R2036-2037 R2043-2044 R2056 R2058 R2140 R2143 R2146 R2149 R2152 R2155 R2158
100-040-00	RESISTOR CF	430	5%	24	R113 R213 R313 R413 R513 R613 R713 R813 R913 R1013 R1113 R1213 R1313 R1413 R1513 R1613 R2076-2077 R2084 R2089 R2096 R2101 R2108 R2113
100-048-00	RESISTOR CF	910	5%	32	R101-102 R201-202 R301-302 R401-402 R501-502 R601-602 R701-702 R801-802 R901-902 R1001-1002 R1101-1102 R1201-1202 R1301-1302 R1401-1402 R1501-1502 R1601-1602
100-050-00	RESISTOR CF	1K1	5%	16	R105 R205 R305 R405 R505 R605 R705 R805 R905 R1005 R1105 R1205 R1305 R1405 R1505 R1605
100-052-00	RESISTOR CF	1K3	5%	16	R104 R204 R304 R404 R504 R604 R704 R804 R904 R1004 R1104 R1204 R1304 R1404 R1504 R1604
100-057-00	RESISTOR CF	2K2	5%	12	R2074 R2080 R2087 R2092 R2099 R2104 R2111 R2116 R2118-2119 R2124-2125
100-059-00	RESISTOR CF	2K7	5%	48	R119-120 R139 R219-220 R239 R319-320 R339 R419-420 R439 R519-520 R539 R619-620 R639 R719-720 R739 R819-820 R839 R919-920 R939 R1019-1020 R1039 R1119-1120 R1139 R1219-1220 R1239 R1319-1320 R1339 R1419-1420 R1439 R1519-1520 R1539 R1619-1620 R1639
100-061-00	RESISTOR CF	3K3	5%	6	R2001 R2004 R2007 R2012 R2127-2128
100-063-00	RESISTOR CF	3K9	5%	2	R2064 R2067
100-065-00	RESISTOR CF	4K7	5%	16	R2072-2073 R2078-2079 R2085-2086 R2090-2091 R2097-2098 R2102-2103 R2109-2110 R2114-2115

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CR1604 Classic parts list for 1995



...main pcb continued

Part #	Description	Value	Tol.	Qty	Reference Designator
100-067-00	RESISTOR CF	5K6	5%	207	R116 R121-122 R127-128 R130 R132 R140-144 R216 R221-222 R227-228 R230 R232 R240-244 R316 R321-322 R327-328 R330 R332 R340-344 R416 R421-422 R427-428 R430 R432 R440-444 R516 R521-522 R527-528 R530 R532 R540-544 R616 R621-622 R627-628 R630 R632 R640-644 R716 R721-722 R727-728 R730 R732 R740-744 R816 R821-822 R827-828 R830 R832 R840-844 R916 R921-922 R927-928 R930 R932 R940-944 R1016 R1021-1022 R1027-1028 R1030 R1032 R1040-1044 R1116 R1121-1122 R1127-1128 R1130 R1132 R1140-1144 R1216 R1221-1222 R1227-1228 R1230 R1232 R1240-1244 R1316 R1321-1322 R1327-1328 R1330 R1332 R1340-1344 R1416 R1421-1422 R1427-1428 R1430 R1432 R1440-1444 R1516 R1521-1522 R1527-1528 R1530 R1532 R1540-1544 R1616 R1621-1622 R1627-1628 R1630 R1632 R1640-1644 R2030-2031 R2069-2070 R2081-2082 R2093-2094 R2105-2106 R2120 R2126 R2167-2168 R2175
100-068-00	RESISTOR CF	6K2	5%	1	R2029
100-069-00	RESISTOR CF	6K8	5%	36	R110-111 R210-211 R310-311 R410-411 R510-511 R610-611 R710-711 R810-811 R910-911 R1010-1011 R1110-1111 R1210-1211 R1310-1311 R1410-1411 R1510-1511 R1610-1611 R2021 R2025 R2117 R2123
100-070-00	RESISTOR CF	7K5	5%	16	R115 R215 R315 R415 R515 R615 R715 R815 R915 R1015 R1115 R1215 R1315 R1415 R1515 R1615
100-073-00	RESISTOR CF	10K	5%	31	R109 R209 R309 R409 R509 R609 R709 R809 R909 R1009 R1109 R1209 R1309 R1409 R1509 R1609 R2008 R2013 R2017-2020 R2024 R2028 R2050 R2131 R2133 R2137 R2170-2172
100-080-00	RESISTOR CF	20K	5%	99	R123-125 R134 R223-225 R234 R323-325 R334 R423-425 R434 R523-525 R534 R623-625 R634 R723-725 R734 R823-825 R834 R923-925 R934 R1023-1025 R1034 R1123-1125 R1134 R1223-1225 R1234 R1323-1325 R1334 R1423-1425 R1434 R1523-1525 R1534 R1623-1625 R1634 R2003 R2006 R2009 R2011 R2014 R2016 R2033-2035 R2038-2042 R2045-2049 R2054-2055 R2057 R2059 R2141 R2144 R2147 R2150 R2153 R2156 R2159 R2162-2163 R2210-2212
100-083-00	RESISTOR CF	27K	5%	18	R135 R235 R335 R435 R535 R635 R735 R835 R935 R1035 R1135 R1235 R1335 R1435 R1535 R1635 R2023 R2027
100-084-00	RESISTOR CF	30K	5%	7	R2139 R2142 R2145 R2148 R2151 R2154 R2157
100-086-00	RESISTOR CF	36K	5%	1	R2051
100-087-00	RESISTOR CF	39K	5%	2	R2052-2053
100-089-00	RESISTOR CF	47K	5%	2	R2161 R2173
100-092-00	RESISTOR CF	62K	5%	2	R2066 R2068

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...main pcb continued

Part #	Description	Value	Tol.	Qty	Reference Designator
100-097-00	RESISTOR CF	100K	5%	38	R137-138 R237-238 R337-338 R437-438 R537-538 R637-638 R737-738 R837-838 R937-938 R1037-1038 R1137-1138 R1237-1238 R1337-1338 R1437-1438 R1537-1538 R1637-1638 R2132 R2135 R2165-2166 R2176-2177
100-109-00	RESISTOR CF	1M	5%	18	R112 R212 R312 R412 R512 R612 R712 R812 R912 R1012 R1112 R1212 R1312 R1412 R1512 R1612 R2174 R2200
130-002-02	RESISTOR POT 9MM HORIZ	50KB		48	R103 R106 R108 R203 R206 R208 R303 R306 R308 R403 R406 R408 R503 R506 R508 R603 R606 R608 R703 R706 R708 R803 R806 R808 R903 R906 R908 R1003 R1006 R1008 R1103 R1106 R1108 R1203 R1206 R1208 R1303 R1306 R1308 R1403 R1406 R1408 R1503 R1506 R1508 R1603 R1606 R1608
130-003-00	RESISTOR POT 9MM HORIZ	50KG		68	R126 R129 R131 R133 R226 R229 R231 R233 R326 R329 R331 R333 R426 R429 R431 R433 R526 R529 R531 R533 R626 R629 R631 R633 R726 R729 R731 R733 R826 R829 R831 R833 R926 R929 R931 R933 R1026 R1029 R1031 R1033 R1126 R1129 R1131 R1133 R1226 R1229 R1231 R1233 R1326 R1329 R1331 R1333 R1426 R1429 R1431 R1433 R1526 R1529 R1531 R1533 R1626 R1629 R1631 R1633 R2075 R2088 R2100 R2112
130-004-00	POT 12MM HORIZ DUAL	25KG		4	R2071 R2083 R2095 R2107
130-005-00	POT SLIDE 45MM DUAL	50KG		19	R114 R214 R314 R414 R514 R614 R714 R814 R914 R1014 R1114 R1214 R1314 R1414 R1514 R1614 R2022 R2026 R2065
130-013-00	POT 12MM HORIZ DUAL	5KB		16	R117 R217 R317 R417 R517 R617 R717 R817 R917 R1017 R1117 R1217 R1317 R1417 R1517 R1617
200-001-02	CAPACITOR MYLAR TAPE	.012		32	C102 C105 C202 C205 C302 C305 C402 C405 C502 C505 C602 C605 C702 C705 C802 C805 C902 C905 C1002 C1005 C1102 C1105 C1202 C1205 C1302 C1305 C1402 C1405 C1502 C1505 C1602 C1605
200-002-02	CAPACITOR MYLAR TAPE	.018	10%	32	C101 C104 C201 C204 C301 C304 C401 C404 C501 C504 C601 C604 C701 C704 C801 C804 C901 C904 C1001 C1004 C1101 C1104 C1201 C1204 C1301 C1304 C1401 C1404 C1501 C1504 C1601 C1604
200-003-02	CAPACITOR MYLAR TAPE	.033	10%	32	C107-108 C207-208 C307-308 C407-408 C507-508 C607-608 C707-708 C807-808 C907-908 C1007-1008 C1107-1108 C1207-1208 C1307-1308 C1407-1408 C1507-1508 C1607-1608
211-001-00	CAPACITOR CERAMIC	.01	10%	36	C117-120 C417-420 C717-720 C1017-1020 C1317-1320 C1617-1620 C2100-2101 C2103-2104 C2106-2110 C2112-2113 C2131

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CR1604 Classic parts list for 1995

MACKIE®

...main pcb continued

Part #	Description	Value	Tol.	Qty	Reference Designator
211-002-00	CAPACITOR CERAMIC AX	100 PF	10%	87	C109 C111 C114 C209 C211 C214 C309 C311 C314 C409 C411 C414 C509 C511 C514 C609 C611 C614 C709 C711 C714 C809 C811 C814 C909 C911 C914 C1009 C1011 C1014 C1109 C1111 C1114 C1209 C1211 C1214 C1309 C1311 C1314 C1409 C1411 C1414 C1509 C1511 C1514 C1609 C1611 C1614 C2002 C2005 C2008-2009 C2012-2013 C2017-2020 C2024-2027 C2030-2031 C2034-2035 C2039 C2042 C2044 C2047 C2049 C2052 C2054 C2057 C2059-2060 C2064-2065 C2067 C2069 C2072 C2075 C2078 C2081 C2084 C2087 C2090
220-001-02	CAPACITOR LYTIC	22UF	10%	89	C103 C106 C112-113 C115 C203 C206 C212-213 C215 C303 C306 C312-313 C315 C403 C406 C412-413 C415 C503 C506 C512-513 C515 C603 C606 C612-613 C615 C703 C706 C712-713 C715 C803 C806 C812-813 C815 C903 C906 C912-913 C915 C1003 C1006 C1012-1013 C1015 C1103 C1106 C1112-1113 C1115 C1203 C1206 C1212-1213 C1215 C1303 C1306 C1312-1313 C1315 C1403 C1406 C1412-1413 C1415 C1503 C1506 C1512-1513 C1515 C1603 C1606 C1612-1613 C1615 C2003 C2006 C2010 C2014-2016 C2022-2023 C2068
220-002-02	CAPACITOR LYTIC	47UF	10%	14	C2007 C2011 C2038 C2040-2041 C2043 C2045-2046 C2048 C2050-2051 C2053 C2055-2056
220-004-00	CAPACITOR LYTIC	470UF	10%	16	C110 C210 C310 C410 C510 C610 C710 C810 C910 C1010 C1110 C1210 C1310 C1410 C1510 C1610
220-008-02	CAPACITOR LYTIC	1UF	10%	1	C2089
220-010-02	CAPACITOR LYTIC	22UF	10%	23	C2028-2029 C2032-2033 C2036-2037 C2058 C2061-2063 C2066 C2071 C2073-2074 C2076-2077 C2079-2080 C2082 C2085 C2088 C2091 C2094
220-013-02	CAPACITOR LYTIC	.22UF	10%	16	C116 C216 C316 C416 C516 C616 C716 C816 C916 C1016 C1116 C1216 C1316 C1416 C1516 C1616
220-014-02	CAPACITOR LYTIC	2.2UF	10%	4	C2092 C2120-2122
300-001-00	DIODE SIGNAL	1N4148		42	D102-103 D202-203 D302-303 D402-403 D502-503 D602-603 D702-703 D802-803 D902-903 D1002-1003 D1102-1103 D1202-1203 D1302-1303 D1402-1403 D1502-1503 D1602-1603 D2001-2004 D2007-2008 D2027-2030
304-001-00	DIODE LED T1	RED		16	D101 D201 D301 D401 D501 D601 D701 D801 D901 D1001 D1101 D1201 D1301 D1401 D1501 D1601
310-005-00	TRANSISTOR JFET	J112		10	Q2001-2010
310-007-00	TRANSISTOR NPN	2N4401		4	Q2011-2014
320-001-00	I.C. LINEAR	NJM4560		55	U101-102 U201-202 U301-302 U401-402 U501-502 U601-602 U701-702 U801-802 U901-902 U1001-1002 U1101-1102 U1201-1202 U1301-1302 U1401-1402 U1501-1502 U1601-1602 U2001-2023

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...main pcb continued

Part #	Description	Value	Tol.	Qty	Reference Designator
400-003-00	1/4" JACK			1	
450-001-00	CR-1604 MAIN PCB			1	
500-001-00	SWITCH PUSH VERT PC MTG	2P2T		72	S101-104 S201-204 S301-304 S401-404 S501-504 S601-604 S701-704 S801-804 S901-904 S1001-1004 S1101-1104 S1201-1204 S1301-1304 S1401-1404 S1501-1504 S1601-1604 S2001-2008
610-006-00	WIRE, GRN 3.0"			1	
610-008-00	WIRE, BLU 3.5"			1	
706-007-00	STANDOFF-1604			16	
706-009-00	LED SPACER .440			16	
760-002-00	BUTTON SW 9X9 MM			18	
760-003-00	BUTTON SW 9X5 MM			54	

CR1604 Classic parts list for 1995



CR-1604 POD PCB Assembly 055-002-00 REV. N 04/14/1995

Part #	Description	Value	Tol.	Qty	Reference Designator
040-001-00	CABLE ASSY, POD/PWR			1	
100-009-00	RESISTOR CF	22	5%	6	R13 R31 R49 R137 R155 R173
100-042-00	RESISTOR CF	510	5%	22	R10 R16 R28 R34 R46 R52 R60 R67 R73 R79 R85 R91 R102 R118 R120 R122 R134 R140 R152 R158 R170 R176
100-050-00	RESISTOR CF	1K1	5%	10	R55 R61 R68 R74 R80 R86 R97 R103 R108 R113
100-065-00	RESISTOR CF	4K7	5%	42	R6-7 R24-25 R42-43 R57-59 R63-65 R70-72 R76-78 R82-84 R88-90 R99-101 R105-107 R110-112 R115-116 R124 R130-131 R148-149 R166-167
100-097-00	RESISTOR CF	100K	5%	18	R66 R92-96 R117 R119 R121 R123 R181-188
105-063-00	RESISTOR MF	3K92	1%	24	R8-9 R17-18 R26-27 R35-36 R44-45 R53-54 R132-133 R141-142 R150-151 R159-160 R168-169 R177-178
110-001-00	RESISTOR CF	10	5%	2	R179-180
111-017-00	RESISTOR CF	4.7	5%	12	R2 R5 R20 R23 R38 R41 R126 R129 R144 R147 R162 R165
115-281-00	RESISTOR CF	825	1%	12	R14-15 R32-33 R50-51 R138-139 R156-157 R174-175
115-331-00	RESISTOR CF	2K49	1%	12	R11-12 R29-30 R47-48 R135-136 R153-154 R171-172
115-373-00	RESISTOR CF	6K81	1%	12	R3-4 R21-22 R39-40 R127-128 R145-146 R163-164
130-009-02	RESISTOR POT 9MM HOZ	25KA		10	R56 R62 R69 R75 R81 R87 R98 R104 R109 R114
130-020-02	RESISTOR POT 9MM HOZ	5KZD		6	R1 R19 R37 R125 R143 R161
211-001-00	CAPACITOR CERAMIC	.01	10%	13	C1-2 C11 C27-28 C45-46 C83-84 C103-104 C129-130
211-002-00	CAPACITOR CERAMIC AX	100 PF	10%	38	C40 C43-44 C47-48 C51-52 C55-56 C59-60 C63-70 C73-74 C77-78 C81-82 C85-89 C133-140
211-003-00	CAPACITOR CERAMIC AX	.001	10%	12	C8-9 C21-22 C34-35 C97-98 C110-111 C123-124
220-001-02	CAPACITOR LYTIC RADIAL	22UF	10%	12	C5-6 C18-19 C31-32 C94-95 C107-108 C120-121
220-003-02	CAPACITOR LYTIC RADIAL	47UF	10%	12	C4 C7 C17 C20 C30 C33 C93 C96 C106 C109 C119 C122
220-004-00	CAPACITOR LYTIC RADIAL	470UF	10%	6	C3 C16 C29 C92 C105 C118
220-005-02	CAPACITOR LYTIC RADIAL	470UF	10%	2	C131-132
300-001-00	DIODE SIGNAL	1N4148		24	D1-5 D7-16 D28 D33-40
310-003-00	TRANSISTOR PNP	2SA1084		12	Q1-2 Q5-6 Q9-10 Q13-14 Q33-34 Q37-38
310-007-00	TRANSISTOR NPN	2N4401		12	Q3-4 Q7-8 Q11-12 Q15-16 Q35-36 Q39-40
320-001-00	I.C. LINEAR	NJM4560		13	U1-13
400-002-01	CONNECTOR XLR PC MTG VERT FML			6	J1 J3 J5 J47 J49 J51
400-003-00	CONNECTOR JACK 1/4" VERT PC MOUNT			46	J2 J4 J6-34 J37-40 J48 J50 J52-60
400-005-00	CONNECTOR STR 40PIN .10 X 2			2	J101-102
400-013-00	CONNECTOR RTA 20PIN .10 X 2			1	J103
450-002-00	PCB, CR-1604 POD			1	
610-003-00	WIRE, RED 4.0			1	
610-004-00	WIRE, ORN 4.5			1	

CR 1604 Meter PCB Assembly 055-003-00 REV H 03/30/1995

Part #	Description	Value	Tol.	Qty	Reference Designator
100-012-00	RESISTOR CF	30	5%	1	R10
100-017-00	RESISTOR CF	47	5%	1	R5
100-018-00	RESISTOR CF	51	5%	1	R9
100-022-00	RESISTOR CF	75	5%	1	R6
100-027-00	RESISTOR CF	120	5%	1	R1
100-028-00	RESISTOR CF	130	5%	1	R3
100-030-00	RESISTOR CF	160	5%	1	R4
100-031-00	RESISTOR CF	180	5%	1	R2
100-033-00	RESISTOR CF	220	5%	2	R12-13
100-041-00	RESISTOR CF	470	5%	3	R7 R23-24
100-057-00	RESISTOR CF	2K2	5%	2	R8 R21
100-063-00	RESISTOR CF	3K9	5%	1	R11
100-065-00	RESISTOR CF	4K7	5%	2	R17 R20
100-073-00	RESISTOR CF	10K	5%	1	R14
100-077-00	RESISTOR CF	15K	5%	1	R22
100-097-00	RESISTOR CF	100K	5%	2	R15 R18
220-002-00	CAPACITOR LYTIC RADIAL	47UF	10%	2	C2 C4
300-001-00	DIODE SIGNAL	1N4148		6	D21-26
302-002-00	DIODE ZENER	1N5230		1	D29
304-001-00	DIODE LED T1	RED		3	D10 D20 D27
304-002-00	DIODE LED T1-3/4 W/FLASHER	RED		1	D28
304-003-00	DIODE LED T1	YEL		2	D9 D19
304-004-00	DIODE LED T1	GRN		16	D1-8 D11-18
310-002-00	TRANSISTOR NPN	2N4403		2	Q1-2
320-002-00	I.C. LINEAR	4558		1	U6
323-001-00	QUAD COMPARATOR	LM339		5	U1-5
450-003-00	PCB, CR1604 METER			1	
620-003-00	RIBBON CABLE 6 POS 1.75"			1	J1
706-008-00	STANDOFF, SWAGE			2	

CR1604 Classic parts list for 1995



CR-1604 Power Supply PCB Assembly 055-004-00 REV. L 04/07/1995

Part #	Description	Value	Tol.	Qty	Reference Designator
110-013-00	RESISTOR CF	33	5%	1	R4
110-036-00	RESISTOR CF	300	5%	2	R11-12
110-038-00	RESISTOR CF	360	5%	1	R8
110-059-00	RESISTOR CF	2K7	5%	1	R5
110-061-00	RESISTOR CF	3K3	5%	1	R2
110-064-00	RESISTOR CF	4K3	5%	2	R10 R13
110-065-00	RESISTOR CF	4K7	5%	1	R9
110-069-00	RESISTOR CF	6K8	5%	2	R3 R7
110-088-00	RESISTOR CF	43K	5%	2	R6 R14
211-001-00	CAPACITOR CERAMIC	0.01	10%	1	C12
220-003-00	CAPACITOR LYTIC RADIAL	47UF	10%	1	C7
220-006-00	CAPACITOR LYTIC RADIAL	2200UF	10%	2	C1 C3
220-007-00	CAPACITOR LYTIC RADIAL	100UF	10%	1	C10
220-011-00	CAPACITOR LYTIC RADIAL	100UF	10%	2	C5 C8
220-012-00	CAPACITOR LYTIC RADIAL	4.7UF	10%	2	C11 C13
301-001-00	DIODE POWER	1N4002		13	D1-5 D7-14
302-001-00	DIODE ZENER	1N5261		1	D6
310-004-00	TRANSISTOR NPN	MPSA06		2	Q2-3
310-006-00	TRANSISTOR POWER NPN	TIP29C		1	Q1
321-001-00	I.C. LINEAR NEG 3 TERM VOLTAGE REGULATOR	LM 7915	U2	1	
321-002-00	I.C. LINEAR POS 3 TERM VOLTAGE REGULATOR	LM 7815		1	U1
400-014-00	CONNECTOR STR 5P .156 X 1			1	J3
400-015-00	CONNECTOR STR 7P .156 X 1			1	J1
450-004-00	PCB, CR1604 POWER SUPPLY			1	
100-000-00	JUMPER			5	F1-5
610-006-00	GREEN WIRE 3.0			1	
610-008-00	BLUE WIRE 3.5			1	