

BADLANDS™

SERVICE MANUAL

Konami/cenluri.

SALES DEPT: 305-558-7200 / SERVICE: 1-800-327-7710

BADLANDS
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USER INFORMATION - F.C.C.

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS.

IT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" COMPUTING DEVICE PURSUANT TO SUB-PART J OF PART 15 OF F.C.C. RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE WHEN OPERATED IN A COMMERCIAL ENVIRONMENT.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE, THE USER AT HIS OWN EXPENSE, WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

INTRODUCTION

"BADLANDS" IS A MICROPROCESSOR BASED COIN-OPERATED ELECTRONIC GAME, THAT MAKES EXTENSIVE USE OF DIGITAL INTEGRATED CIRCUITRY AND TELEVISION MONITOR CONCEPTS. THIS MANUAL IS DESIGNED FOR THE USE OF QUALIFIED MAINTENANCE TECHNICIANS WHO POSSESS A GENERAL KNOWLEDGE OF SOLID-STATE CIRCUITRY AND VIDEO MONITOR THEORY. ANY INDIVIDUAL NOT KNOWLEDGEABLE IN THESE AREAS SHOULD NOT ATTEMPT REPAIR OF THE ELECTRONIC PORTIONS OF THE GAME.

IN ADDITION TO THIS MANUAL AND KNOWLEDGE IN ELECTRONICS, TROUBLE-SHOOTING AND REPAIR WILL BE FACILITATED BY ACCESS TO GENERAL-TYPE HANDTOOLS, A MULTIMETER, A 50 OR 100 MHZ OSCILLOSCOPE AND A LOGIC PROBE WOULD BE HELPFUL.

TECHNICAL ASSISTANCE IS AVAILABLE BY CALLING (305) 558-5200 OR OUR TOLL FREE LINE LISTED BELOW.
QUESTIONS OR COMMENTS CONCERNING "BADLANDS" OR ANY OF OUR GAMES ARE WELCOME AND SHOULD BE DIRECTED TO:

CENTURI, INC.
CUSTOMER SERVICE DEPARTMENT
#800-327-7710 (OUTSIDE THE STATE OF FLA.)

NOTES

NEVER REPLACE ANY COMPONENT WITH ANYTHING OTHER THAN THE EXACT REPLACEMENT PART.

NEVER REMOVE CIRCUIT BOARD CONNECTIONS WHILE POWER IS ON.

DO NOT REPLACE A FUSE WITH ANYTHING OTHER THAN THE PROPER VALUE. A BLOWN FUSE INDICATES AN OVERLOAD CONDITION WITHIN THE GAME, REPLACING A FUSE WITH A HIGHER VALUE CAN CAUSE SEVERE DAMAGE TO INTERNAL COMPONENTS IF AN OVERLOAD OCCURS.

ALWAYS CONSULT THE SERVICE MANUAL BEFORE ATTEMPTING REPAIRS.

LASER DISC PLAYER
USER SAFETY SUGGESTIONS

BEFORE USING THE UNIT, BE SURE TO READ APPLICABLE ITEMS OF THE OPERATING INSTRUCTIONS AND TAKE SPECIAL PRE-CAUTION TO FOLLOW THE WARNINGS INDICATED ON THE UNIT AS WELL AS IN THE OPERATION MANUAL.

- * DO NOT DISASSEMBLE THE UNIT.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK OR HAZARD, DO NOT DISASSEMBLE THE UNIT. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
- * DO NOT ALLOW LIQUID OR FOREIGN OBJECTS TO GET INSIDE THE UNIT. DO NOT PLACE ANYTHING CONTAINING LIQUID OR SMALL METAL OBJECTS ON OR NEAR THE UNIT.
- * DO NOT USE OR STORE THE UNIT:
 - IN EXTREMELY HOT OR COLD PLACES.
 - WHERE VENTILATION IS INADEQUATE.
 - WHERE IT WILL BE EXPOSED TO DIRECT SUN RAYS.
 - NEAR DAMP OR DUSTY AREAS.
 - NEAR ELECTRO-MAGNETIC EQUIPMENT.
- * DO NOT OBSTRUCT VENTILATION HOLES.
DO NOT COVER VENTILATION HOLES WITH ANY MATERIAL OR PLACE THE UNIT IN A POOR AIR CIRCULATION AREA.
- * DO NOT EXPOSE THE UNIT TO SHOCK OR VIBRATIONS.
DO NOT DROP OR INDUCE SUDDEN SHOCK TO THE UNIT.
- * DO NOT MOVE THE UNIT WHILE THE DISC IS ROTATING.
MOVING THE UNIT WHILE THE DISC IS ROTATING MAY CAUSE DAMAGE TO THE DISC OR PLAYER OR BOTH.

LASER DISC PLAYER
USER SAFETY SUGGESTIONS

- * DO NOT OPERATE UNIT IMMEDIATELY AFTER RAPID CHANGES IN TEMPERATURE.
AVOID OPERATING THE UNIT AFTER EXPOSURE TO RAPID CHANGES IN TEMPERATURE.
- * DO NOT OPERATE THE UNIT IN A VERTICAL OR TILT POSITION. OPERATING THE UNIT IN OTHER THAN A HORIZONTAL POSITION WILL CAUSE DAMAGE TO DISC OR PLAYER OR BOTH.
- * CHECK THE VOLTAGE RATING OF THE UNIT BEFORE CONNECTING THE UNIT TO A POWER SUPPLY.
BE SURE TO CONNECT THE UNIT ONLY TO THE POWER SUPPLY INDICATED IN THE OPERATION MANUAL OR AS SPECIFIED ON THE UNIT.
- * REPAIRS
DO NOT ATTEMPT TO REPAIR THE UNIT YOURSELF. EXCEPT FOR THE MINOR OPERATIONAL SET-UP, REFER ALL SERVICE TO A QUALIFIED TECHNICIAN OR YOUR NEAREST SERVICE CENTER.

BADLANDS

GAME INSTRUCTIONS

BUCK, A HARD-WORKING FAMILY MAN WHOSE WIFE AND CHILDREN HAVE BEEN BRUTALLY SLAIN BY A VICIOUS BAND OF THUGS LED BY THE RUTHLESS LANDOLF. BUCK HAS ONLY ONE MISSION: TO AVENGE THE DEATH OF HIS FAMILY. NOT UNTIL LANDOLF AND EACH MEMBER OF HIS MOB IS DEALT WITH WILL BUCK HAVE HIS REVENGE.

THERE'S A PRICE TAG ON THE HEAD OF LANDOLF AND EACH MEMBER OF HIS GANG. BUT REMEMBER, THE BADLANDS IS NO PLACE FOR THE FAINT OF HEART.

PLAY INSTRUCTIONS

- * SHOOT OUTLAWS AS SOON AS THEY THREATEN TO ATTACK BUCK.
- * SHOOT FEROCIOUS ANIMALS AS SOON AS THEY APPEAR.
- * SHOOT OUTLAWS TOO LATE AND BUCK WILL BE SHOT.
- * SHOOT OUTLAWS TOO EARLY AND BUCK WILL BE JAILED OR HANGED.
- * SHOOTING INNOCENT CITIZENS OR ANIMALS RESULTS IN BUCK BEING JAILED OR HANGED.
- * SHOWDOWN WITH LANDOLF; SHOOT THE MOMENT THE COIN THROWN HITS THE GROUND.
- * GAME IS OVER WHEN ALL LIVES ARE LOST.
- * USE "PASS" BUTTON TO OMIT OPENING DIALOGUE.

OPTIONAL DIP SWITCH SETTINGS

1. DIP SWITCH NO.1 (8P DIP SWITCH)

CREDITS

COIN	PLAYS	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
1	1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	2	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
1	3	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
1	4	ON	ON	OFF	OFF	ON	ON	OFF	OFF
1	5	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
1	6	ON	OFF	ON	OFF	ON	OFF	ON	OFF
1	7	OFF	ON	ON	OFF	OFF	ON	ON	OFF
2	1	ON	ON	ON	OFF	ON	ON	ON	OFF
2	3	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
2	5	ON	OFF	OFF	ON	ON	OFF	OFF	ON
3	1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
3	2	ON	ON	OFF	ON	ON	ON	OFF	ON
3	4	OFF	OFF	ON	ON	OFF	OFF	ON	ON
4	1	ON	OFF	ON	ON	ON	OFF	ON	ON
4	3	OFF	ON	ON	ON	OFF	ON	ON	ON
FREE PLAY		ON	ON	ON	ON	ON	ON	ON	ON

2. DIP SWITCH NO.2 (8P DIP SWITCH)

NUMBER OF LIVES

NUMBER	SW1	SW2
2	OFF	OFF
3	ON	OFF
5	OFF	ON
7	ON	ON

SW3	SW4	SW5	SW6	SW7
OFF	OFF	OFF	OFF	OFF
SWITCHES SW3 THROUGH SW7 NOT IN USE. KEEP SWITCHES IN "OFF" POSITION.				

AUDIO ATTRACTION

AUDIO MODE	SW8
SOUND ON	ON
SOUND OFF	OFF

ON-BOARD DIAGNOSTIC PROGRAM

SELF TEST:

THE PC BOARD IN THIS GAME CONTAINS A FUNCTIONAL TEST TO CHECK IF ANYTHING IS WRONG WITH THE CABINET OR THE PC BOARD ITSELF.

WHEN POWER IS SWITCHED ON, THE BOARD WILL ALWAYS CHECK THE BASIC BLOCK, AND IF NORMAL, WILL INDICATE OK ON THE MONITOR DISPLAY AND THEN THE GAME WILL START.

IF IT IS NOT NORMAL, THE MONITOR DISPLAY WILL READ BAD AND THE VIDEO WILL STOP. IT WILL AGAIN REPEAT THE CHECK OF THE BASIC BLOCK.

MANUAL TEST:

A) STARTING

TURN THE POWER ON AND PRESS BOTH "PASS" (NO DIALOGUE) AND "START" (DIALOGUE) BUTTONS WHILE RAM ROM CHECK APPEARS ON THE SCREEN.

RELEASE THE BUTTONS AFTER THE COLOR TEST BEGINS.

SWITCH THE POWER OFF ONCE, BEFORE STARTING THE GAME.

B) TEST ITEM SELECTION

TEST ITEMS WILL ADVANCE IN THE FOLLOWING ORDER EACH TIME THE "START" (DIALOGUE) BUTTON IS PRESSED.

TEST ITEM WILL REMAIN ON THE SCREEN UNTIL THE "START" BUTTON IS AGAIN PRESSED. ITEMS WILL BE REPEATED AFTER ITEM 6 ENDS.

C) TEST PROGRAM

<u>ITEM</u>	<u>DETAILS</u>
1. COLOR CONDITION.	STANDARD COLOR-BARS AND SEVEN COLOR BLOCKS ARE DISPLAYED.
2. CONDITION OF PICTURE.	FULL SCREEN CROSS-HATCH IS DISPLAYED.
3. CONTROLS CHECK.	DISPLAYS NAMES OF ALL SWITCHES (COIN SW, ETC.). ACTIVATING EACH SWITCH WILL CHANGE THE "0" NEXT TO EACH SWITCH TO "1".
4. COIN COUNTER CHECK.	TO CHECK COUNTERS, ACTIVATE EACH COUNTER 8 TIMES, THEN PROCEED WITH TEST ITEM 5.
5. DIP SW SET.	DIP SW SET IS DISPLAYED.
6. SOUND CHECK.	AUTOMATICALLY TESTS EACH SOUND WITH A DELAY OF 8 SECONDS BETWEEN EACH. CAN ALSO ADVANCE TO NEXT SOUND BY PRESSING ON "START" BUTTON.

INSTALLATION

YOUR GAME WAS SHIPPED FROM THE FACTORY IN READY-TO-PLAY CONDITION.

A BRIEF INSPECTION IS SUGGESTED BEFORE THE MACHINE IS REMOVED FROM THE CARTON. IF THERE IS DAMAGE TO THE SHIPPING CARTON, CONTACT THE FREIGHT CARRIER FOR CLAIM PURPOSES. EXTERNAL DAMAGE COULD INDICATE POSSIBLE DAMAGE TO THE CABINET AND/OR ELECTRONICS COMPONENTS.

AFTER THE CARTON HAS BEEN SATISFACTORILY INSPECTED, REMOVE THE MACHINE FROM THE SHIPPING CARTON.

EXAMINE THE INTERIOR OF THE GAME FOR DISCONNECTED WIRES, CABLES OR HARNESSSES. MAKE SURE THE ELECTRONIC DEVICES ARE SECURELY MOUNTED IN THEIR SOCKETS, ETC. RECORD THE GAME SERIAL NUMBER, SINCE IT WILL BE REQUIRED FOR REFERENCE AND SERVICING.

ELECTRICAL REQUIREMENTS

UNLESS OTHERWISE SPECIFIED, THIS GAME IS SET TO OPERATE AT 110 VOLTS A.C.. FOR 220 VOLTS A.C. OPERATION REFER TO 110/220 VAC CONVERSION INSTRUCTIONS FOUND IN THIS MANUAL.

D.C. POWER SUPPLY CHASSIS SCHEMATIC INFORMATION AND PARTS LIST ARE INCLUDED IN THIS MANUAL.

ROUTINE MAINTENANCE & SERVICE

THIS GAME WILL REQUIRE PERIODIC PREVENTATIVE MAINTENANCE AND OCCASIONAL ADJUSTMENT.

SOUND CONTROLS

THE MASTER SOUND TRIMMER, FACTORY PRESET, LOCATED ON THE PRINTED CIRCUIT BOARD PROVIDES ADJUSTMENT OF THE INPUT SIGNAL TO THE SOUND AMPLIFIER AND CAN BE ACCESSED THROUGH THE REAR CABINET DOOR. THE VOLUME CONTROL, LOCATED ON THE FRONT OF THE CABINET, PROVIDES OVER-ALL VOLUME ADJUSTMENT TO THE SPEAKERS AND CAN BE ACCESSED THROUGH THE COIN DOOR.

VIDEO MONITOR

THE VIDEO MONITOR HAS BEEN PROPERLY ADJUSTED BEFORE SHIPPING. OCCASIONALLY MINOR ADJUSTMENTS ARE NECESSARY. ADJUSTMENT CONTROLS FOR THE MONITOR ARE LOCATED ON THE REAR OF THE MONITOR. TECHNICAL INFORMATION, ALONG WITH SCHEMATICS, CAN BE FOUND IN THIS MANUAL.

AIR FILTER

THIS MACHINE COMES EQUIPPED WITH A RE-USABLE BLOWER MOTOR FILTER. FILTER SHOULD BE KEPT CLEAN. EVERY TWO WEEKS, WASH FILTER WITH SOAPY WATER, RINSE, AND DRY THOROUGHLY BEFORE REUSING.

POWER SUPPLY

THE COMPUTER BOARD IN THIS GAME OPERATES MOST EFFICIENTLY AND RELIABLY WHEN THE POWER SUPPLY IS SET SO THE VOLTAGE ON THE BOARD IS 5.0 VOLTS, ± 0.1 VOLT. TO CHECK THIS, PLACE A METER ACROSS + 5.0 VOLTS AND GROUND, AT THE EDGE CONNECTOR. IF NECESSARY, ADJUST THE SCREWDRIVER CONTROL ON THE POWER SUPPLY, SO THE METER READS BETWEEN 4.9 AND 5.1 VOLTS.

LASER DISC PLAYER

REFER TO "LASER DISC PLAYER OPERATION MANUAL".
CAUTION: FOR POWER TO THE DISC PLAYER, USE ONLY THE A.C. OUTLETS PROVIDED IN THIS GAME.

110/220 VAC CONVERSION INSTRUCTIONS

THIS GAME CONTAINS A HARNESS CONFIGURATION WHICH ALLOWS THE MACHINE TO BE OPERATED FROM EITHER A 110 VAC OR 220 VAC, 50 HZ OR 60 HZ POWER SOURCE. ALL GAMES SHIPPED FROM CENTURI, INC., ARE IN THE 110 VAC CONFIGURATION. TO CHANGE TO THE 220 VAC CONFIGURATION FOLLOW THE PROCEDURE BELOW.

FIRST: UNPLUG THE MACHINE FROM THE WALL OUTLET TO COMPLETELY ELIMINATE SHOCK HAZARDS.

SECOND: REMOVE AND DISCARD THE 110 VAC PLUG FROM THE AC POWER CORD AND REPLACE WITH A 220 VAC PLUG. ATTACH THE GREEN WIRE FROM THE AC CORD TO THE GREEN SCREW OF THE 220 VAC PLUG. ATTACH THE WHITE WIRE (NEUTRAL) AND THE BLACK WIRE (HOT) OF THE AC CORD TO THE 220 VAC PLUG.

THIRD: REMOVE THE SINGLE 3 AMP SLOW-BLOW FUSE FOUND IN THE A.C. DISTRIBUTION BRACKET, AND INSTALL TWO, 1.5 AMP SLOW-BLOW FUSES. NEXT, CUT THE #18 AWG. WHITE JUMPER WIRE AT BOTH ENDS OF THE FUSE HOLDER AND REPLACE THE FIBER COVER.

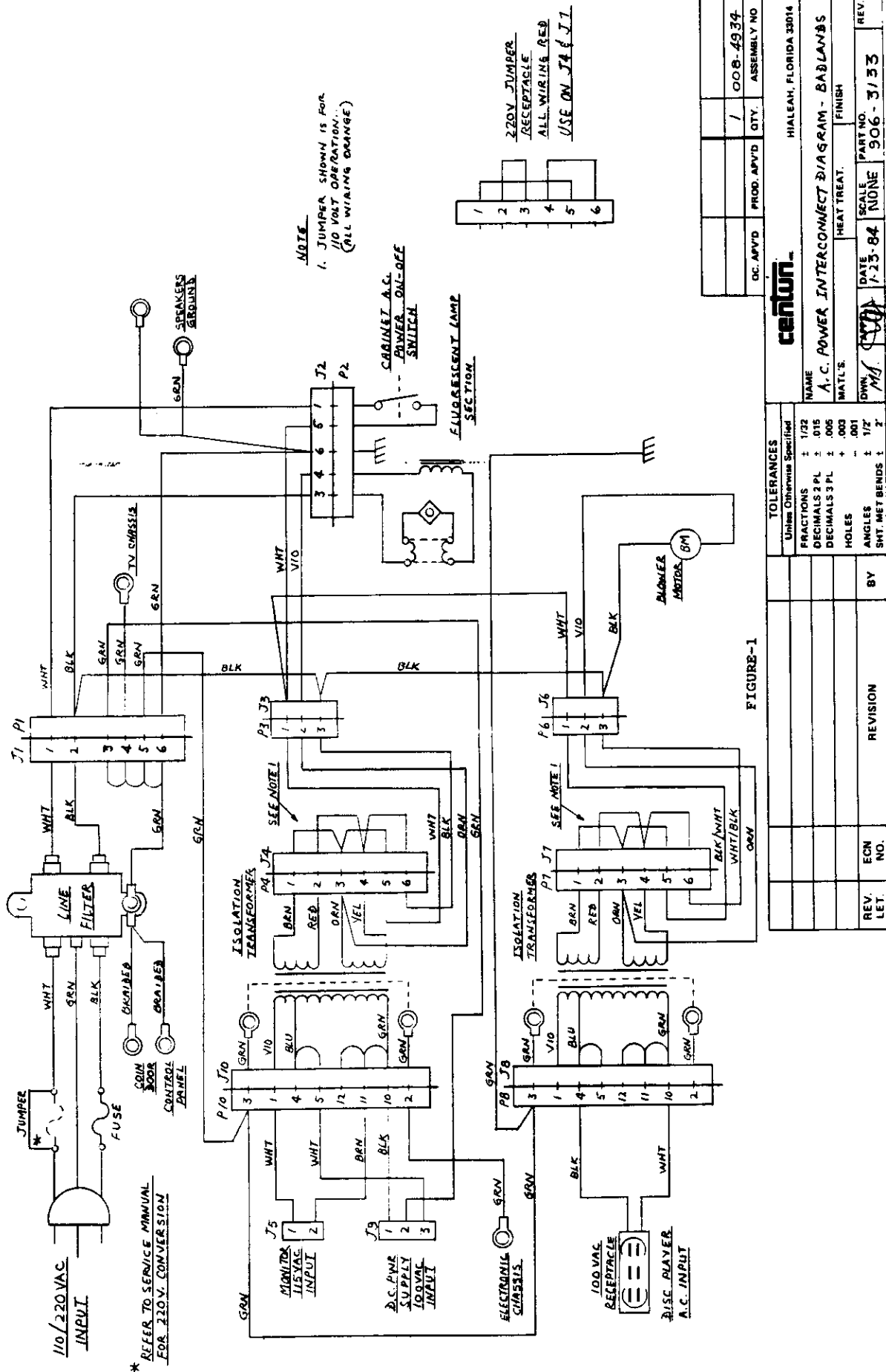
FOURTH: ON THE GAME POWER TRANSFORMERS, LOCATE THE TWO "ORANGE" JUMPER PLUGS WHICH ARE MARKED, 110 VAC. UNPLUG THE TWO "ORANGE" JUMPERS, AND PLUG IN THE "RED" JUMPER PLUGS MARKED 220 VAC.

TO REVERT BACK TO 110 VAC OPERATION, REPLACE THE COMPONENTS ORIGINALLY REMOVED FROM THE PROCEDURE STEPS ABOVE.

REFER ALSO TO THE 110/220 VAC POWER INTERCONNECT DIAGRAM.

***NOTE: THE COMMON SIDE OF THE A.C. LINE MUST NOT BE FUSED IN THE 110 VAC CONFIGURATION, REPLACE THE #18 AWG. WHITE JUMPER WIRE REMOVED ON THIRD STEP ABOVE.

THE MATERIAL CONTAINED HEREIN IS CONFIDENTIAL
AND NO PART OF IT CAN BE REPRODUCED WITHOUT THE
EXPRESSED PERMISSION OF CENTURI, INC.



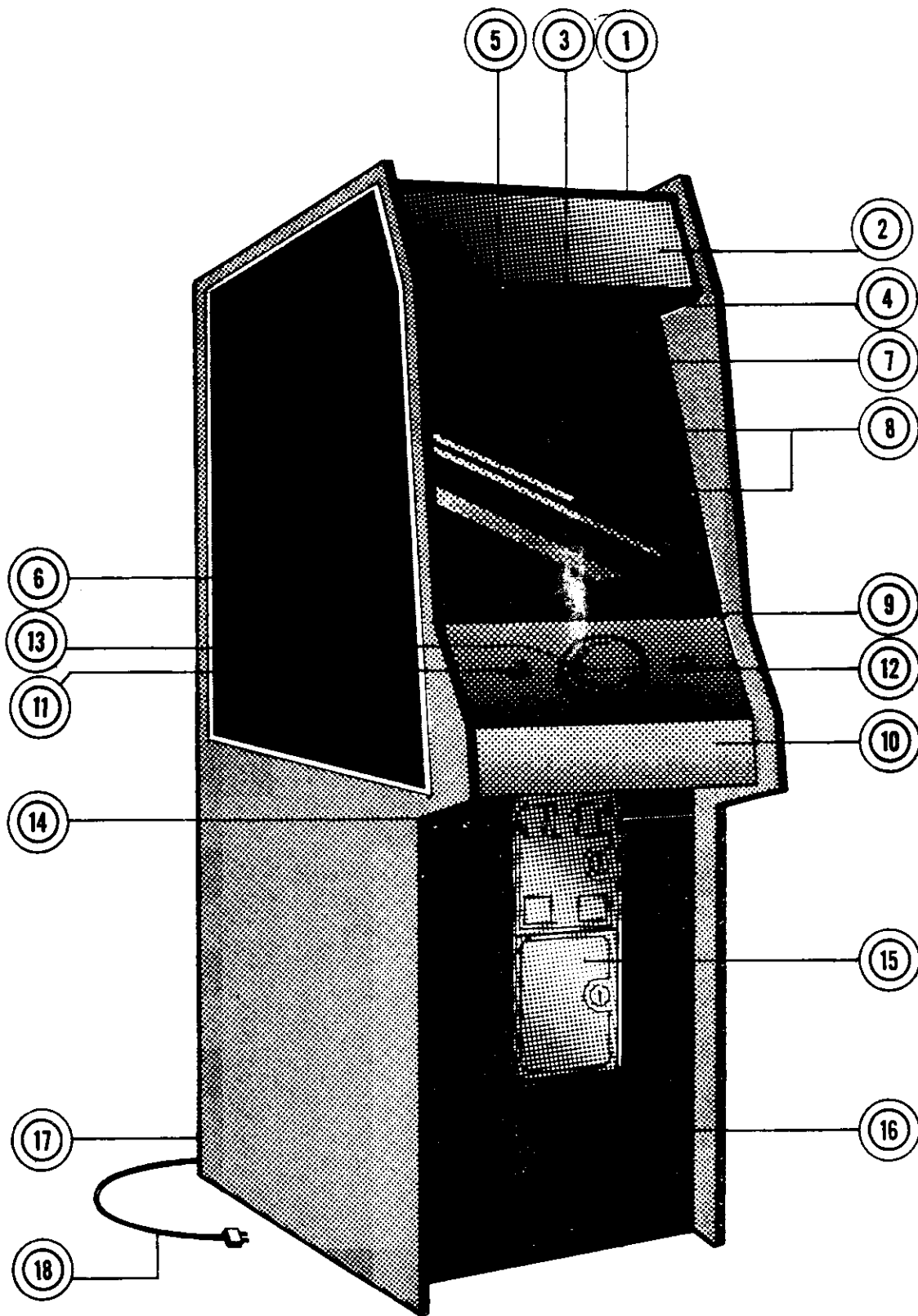


FIGURE-2
FRONT VIEW OF CABINET

CABINET FRONT VIEW

PARTS LIST

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	302-2705	MARQUEE HOLDING BRACKET
2	802-3116	MARQUEE, BADLANDS
3	302-2862	MARQUEE LOWER HOLDING BRACKET
4	403-1171	SPEAKER, 8 OHM, 6 WATT, 5 $\frac{1}{4}$ IN. RD.
	305-2650	SPEAKER SCREEN
5	302-2863	VIEWING GLASS TOP HOLDING BRACKET
6	801-3100	RIGHT SIDE DECAL, BADLANDS
	801-3101	LEFT SIDE DECAL, BADLANDS
7	804-3135	BLACK PLASTIC BEZEL, 19" MONITOR
8	605-0975	VIEWING GLASS
	406-2063	19" COLOR MONITOR, W/G MODEL 19K4923
9	302-2861	CONTROL PANEL ANGLE BRACKET
10	609-3181	CONTROL PANEL W/OVERLAY, BADLANDS
	801-3103	CONTROL PANEL OVERLAY (ONLY)
11	701-1170	PUSH BUTTON, WHITE
12	701-1171	PUSH BUTTON, RED
	409-1163	LEAF SWITCH W/HOLDER
	103-0951	PAL NUT
13	701-1183	FIRE BUTTON ASS'Y, 3 $\frac{1}{2}$ IN.
14	306-2675	CONTROL PANEL HINGE
15	009-4699	COIN DOOR ASS'Y, COIN CONTROLS #10-3106-00
16	421-0001	LASER DISC PLAYER, PIONEER LD-V1001
	421-0002	VIDEO DISC, BADLANDS
17	416-1662	FAN MOTOR, 4.5 IN., 115V. 12W. (LOCATED ON REAR OF CABINET)
18	402-1511	A.C. POWER CORD, 12 FT.

EXPLODED VIEW CONTROL PANEL

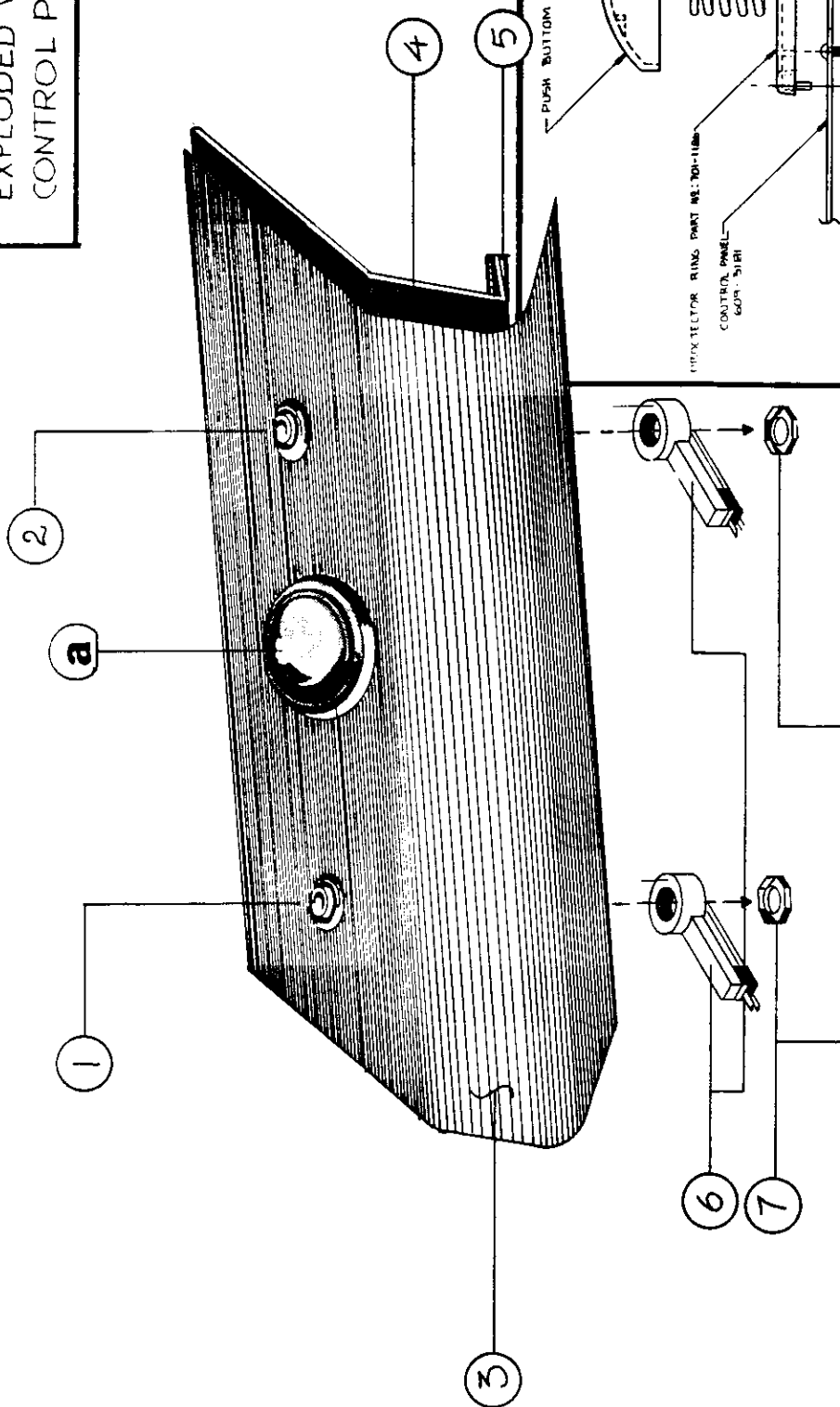
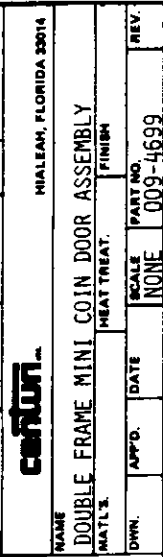
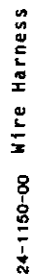


FIGURE-3

a	701-1183	FIRE BUTTON ASS'Y
1	701-1170	PUSH BUTTON, WHITE
2	701-1171	PUSH BUTTON, RED
3	201-3103	CNTRL PANEL OVERLAY
4	301-2530	CNTRL PANEL
5	306-2675	HINGE
6	409-1163	SWITCH W/HOLDER
7	103-0951	PAL NUT



1	GROUND
2	LEFT COIN
3	RIGHT COIN
4	+5 VOLTS
5	COUNTER
6	SERVICE
7	-5 VOLTS
8	GROUND
9	

9 PIN MOLEX RECEPTICLE
P/N 03-09-1091
PART OF CPU HARNESS

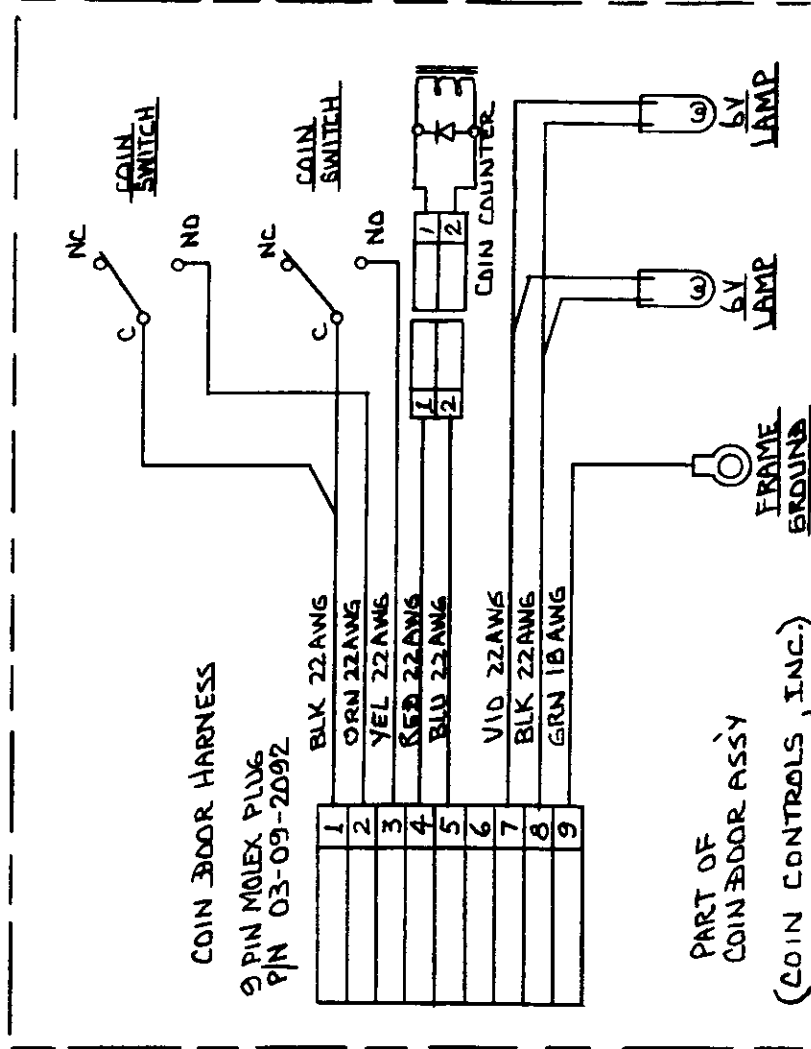


FIGURE-5

TOLERANCES		Unless Otherwise Specified	
FRACTIONS	±	1/32	
DECIMALS 2 PL	±	.015	
DECIMALS 3 PL	±	.005	
HOLES	±	.003	
ANGLES	±	.001	
SHT. MET BENDS	±	1/2"	
REV. LET.	ECN NO.	REVISION	BY
NAME			
HIALEAH, FLORIDA 33014			
NAME			
BLE FRAME MINI - COIN 300R WIRING DIAGRAM			
MATERIALS			
HEAT TREAT.			
FINISH			
DWN. M.J.			
APPR. [Signature]			
DATE 11-30-83			
SCALE 2			
PART NO.			
REV.			
QC. APV'D			
PROD. APV'D			
QTY.			
ASSEMBLY NO			

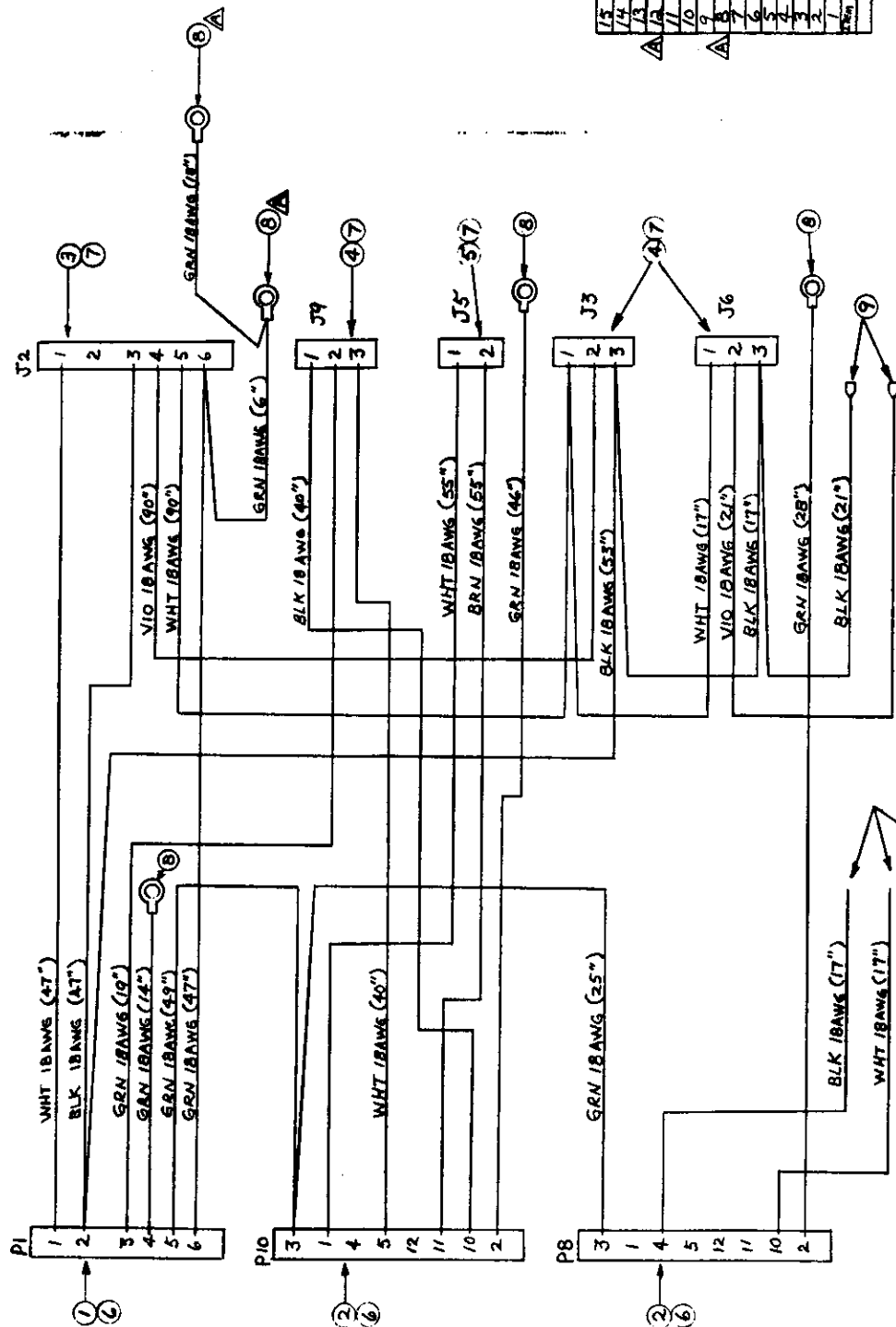


FIGURE-6

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QTY	PART NO.	DESCRIPTION
15	134	HT-1401 4" TY WRAP
14	55	402-1331 INSULATED WIRE 18AWG, BROWN
13	171	402-1337 INSULATED WIRE 18AWG, VIOLET
12	133	402-1335 INSULATED WIRE 18AWG, GREEN
11	195	402-1409 INSULATED WIRE 18AWG, BLACK
10	144	402-1310 INSULATED WIRE 18AWG, WHITE
9	141	402-1300 18 AWG BROWN TERMINAL
8	5	401-1300 18 AWG BROWN TERMINAL
7	14	401-1300 18 AWG BROWN TERMINAL
6	16	401-1300 18 AWG BROWN TERMINAL
5	1	401-1300 18 AWG BROWN TERMINAL
4	3	401-1300 18 AWG BROWN TERMINAL
3	1	401-1300 18 AWG BROWN TERMINAL
2	2	401-1300 18 AWG BROWN TERMINAL
1	1	401-1300 18 AWG BROWN TERMINAL
QTY	PART NO.	DESCRIPTION

LIST OF MATERIALS



centuri		HIALEAH, FLORIDA 33014	
NAME		CPU WIRE HARNESS - BABLANAS	
MAT'L'S		HEAT TREAT: FINISH	
QTY.	PROD. APVD	QTY.	ASSEMBLY NO
OC. APVD			
DATE	SCALE	PART NO.	REV.
APPROV			

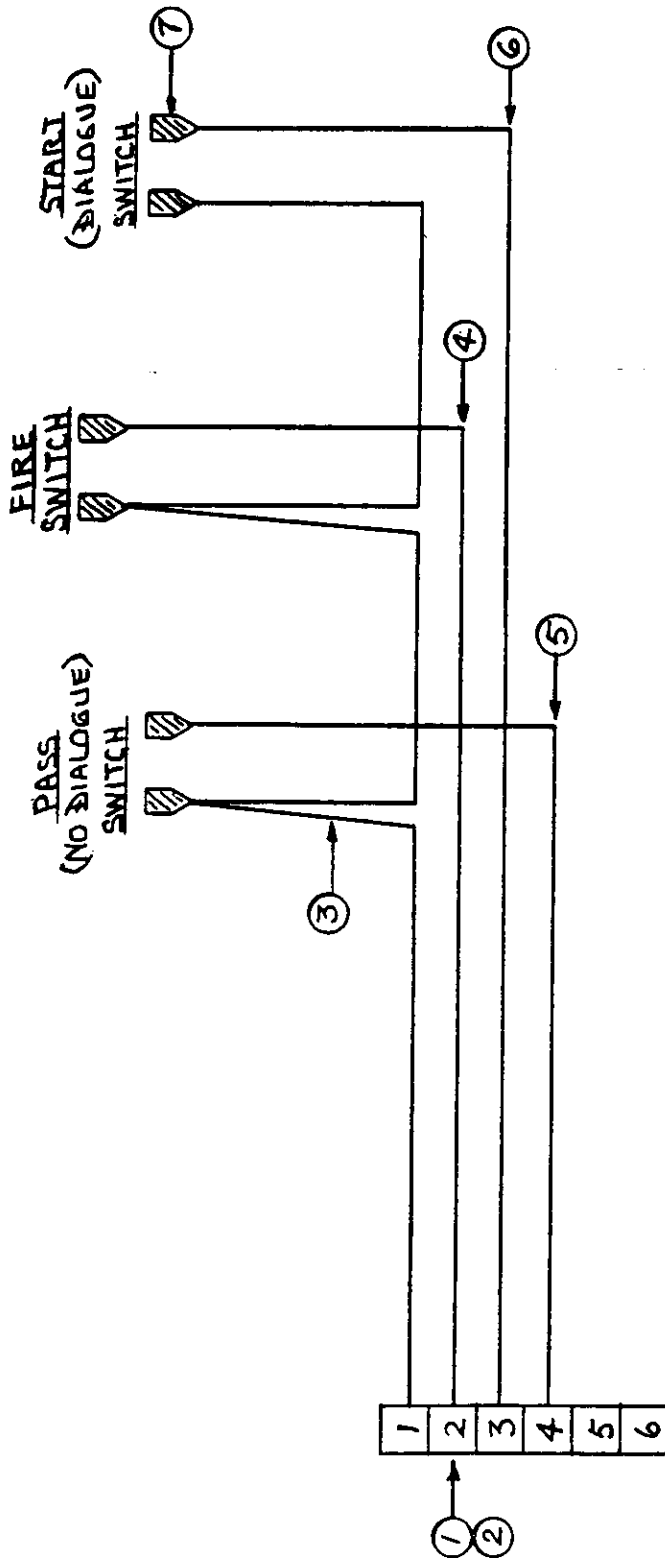


FIGURE-8

4	33"	402-1521	INSULATED WIRE, 22AWG, YELLOW	5	417-1601	4" TY WRAPS
3	48"	402-1517	" " " BLACK	7	401-1302	3/16" PUSH ON TERMINAL ETC #895
2	4	401-1222	MALE PIN MOLEX #02-09-2116	6	37" 402-1520	INSULATED WIRE, 22AWG, ORANGE
1	1	401-1229	6 PIN PLUG MOLEX #03-09-2061	5	25" 402-1524	" " " VIOLET
REV. LET.		ECN NO.	REVISION	BY	DESCRIPTION	
BILL OF MATERIALS						
TOLERANCES						
Unless Otherwise Specified						
FRACTIONS ± 1/32						
DECIMALS 2 PL ± .015						
DECIMALS 3 PL ± .005						
HOLES ± .003						
ANGLES ± .001						
SHT. MET BENDS ± 1/2°						
SHT. MET BENDS ± 2°						
REV. NO.						
APP'D. DATE SCALE PART NO. REV.						
MS 2-2-84 NONE 008-4935						
HIALEAH, FLORIDA 33014						
NAME						
CONTROL PANEL HARNESS - BABLANDS						
MATERIALS						
HEAT TREAT. FINISH						
QC. APV'D PROD. APV'D QTY. ASSEMBLY NO						

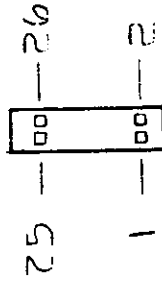
THE MATERIAL CONTAINED HEREIN IS CONFIDENTIAL
AND NO PART OF IT CAN BE REPRODUCED WITHOUT THE
EXPRESSED PERMISSION OF CENTURI, INC.

BILL OF MATERIALS

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	401-1404	24P PLUG AMPHENOL # 5730240
2	75"	402-1304	26 CONDUCTOR 22AWG FLAT CABLE ANSLEY # 171-2
3	1	401-1405	26 P PLUG SCOTCHFLEX # 3399-600

AMPHENOL CONNECTOR PIN #	FLAT CABLE CONNECTOR PIN #
16	1
12	2
15	3
12	4
14	5
23	6
13	7
24	8
4	9
18	10
3	11
19	12
2	13
20	14
1	15
21	16
7	17
22	18
17	19
23	20
11	21
18	22
19	23
20	24
21	25
22	26

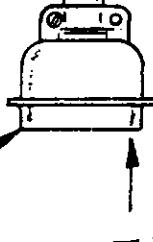
BOTTOM VIEW



①

②

③



PIN # 1

BOTTOM SIDE

PIN # 1

OUTSIDE VIEW

CABLE BLUE LINE

FIGURE-9

				TOLERANCES	
				Unless Otherwise Specified	
				FRACTIONS	± 1/32
				DECIMALS 2 PL	± .015
				DECIMALS 3 PL	± .005
				HOLES	± .003
				ANGLES	± .001
				SHT. MET BENDS	± 1/2°
					± 2°
REV. LET.	ECN NO.	REVISION	BY		

QC. APV'D	PROD. APV'D	QTY.	ASSEMBLY NO
		1	
centuri HIALEAH, FLORIDA 33014			
NAME CPU TO DISC PLAYER, RIBBON CABLE ASSY.			
MAT'L'S. HEAT TREAT. FINISH			
DWN. L.A.	APP'D Jug	DATE 1-30-84	PART NO. 008-4936
SCALE NONE		REV.	

FLAT CABLE CONNECTOR (26P)

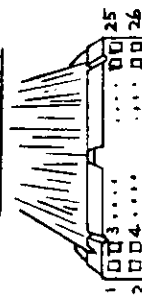
AMPHENOL CONNECTOR

PIN NO.	SIGNAL LINE
1	D101
2	D102
3	D103
4	D104
5	NC
6	NC
7	COMMAND REQUEST *
8	NC
9	NC
10	NC
11	STATUS STROBE *
12	GNB
13	D105
14	D106
15	D107
16	D108
17	ENTER SIGNAL
18	GNB
19	GNB
20	GNB
21	GNB
22	GNB
23	GNB
24	GNB

* WARNING: DO NOT SHORT TO GROUND.

PIN No.	SIGNAL LINE
1	D108
2	GND
3	D107
4	GND
5	D106
6	GND
7	D105
8	GND
9	D104
10	GND
11	D103
12	GND
13	D102
14	GND
15	D101
16	GND
17	COMMAND REQUEST
18	GND
19	ENTER SIGNAL
20	GND
21	STATUS STROBE
22	GND
23	GND
24	GND
25	GND
26	GND

PIN LAYOUT



FLAT CABLE CONNECTOR (Z6P)
3M SCOTCHFLEX 3399-6000

AMPHENOL CONNECTOR (24P)
(57-30240)

PIN LAYOUT- FRONT VIEW

1 2 3 4 5 6 7 8 9 10 11 12

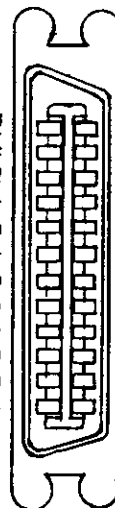


FIGURE-10

[illegible]

THE MATERIAL CONTAINED HEREIN IS CONFIDENTIAL
AND NO PART OF IT CAN BE REPRODUCED WITHOUT THE
EXPRESSED PERMISSION OF CENTURI, INC.

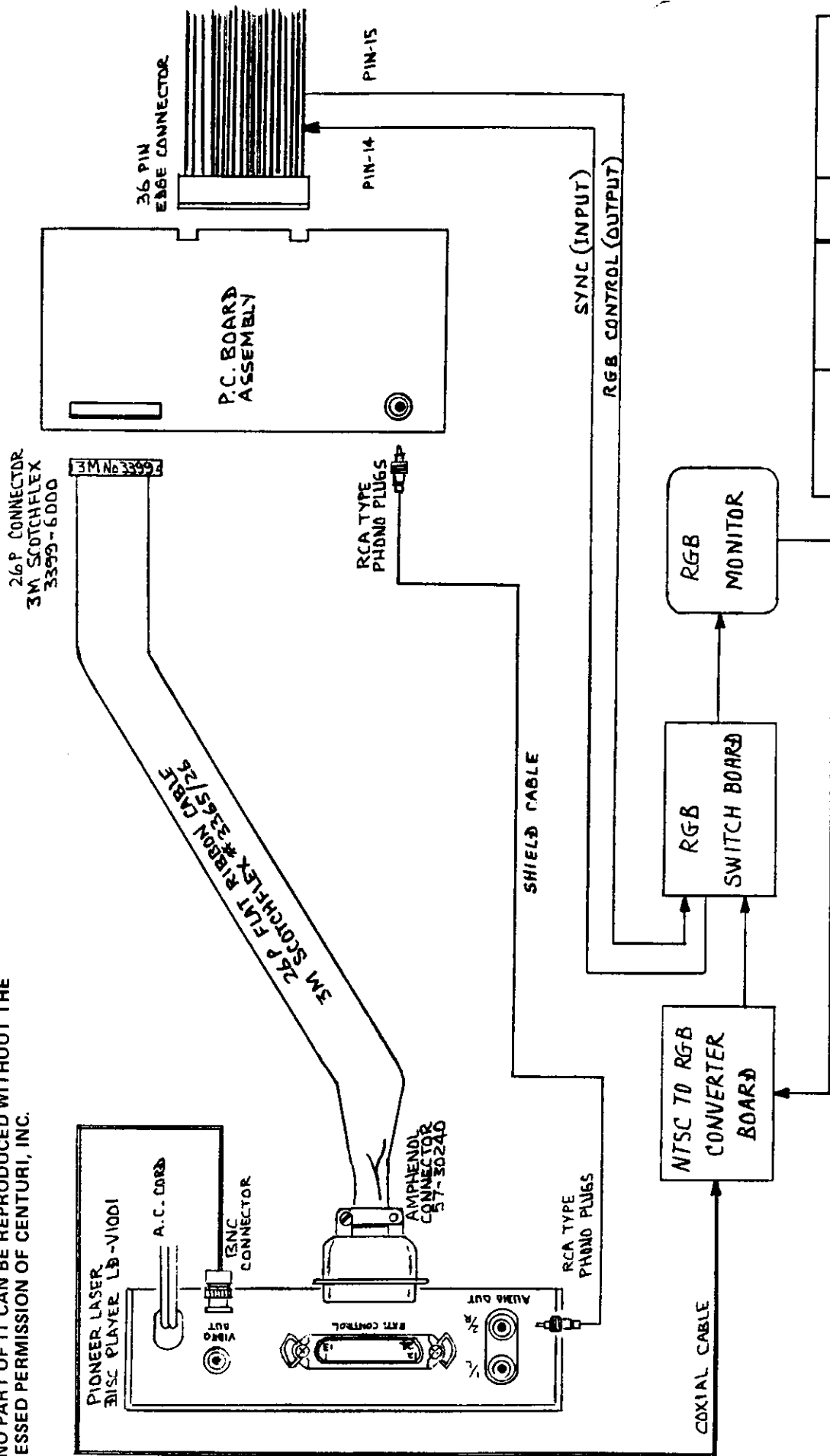
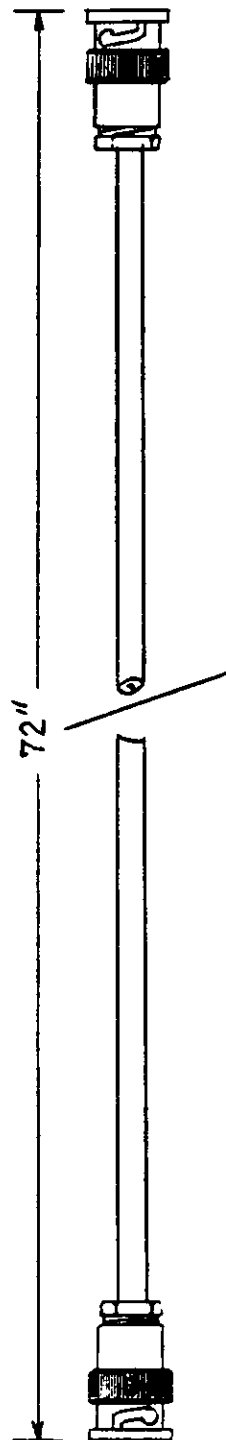


FIGURE-11

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RG-59/U CABLE WITH BNC MALE CONNECTORS AT BOTH ENDS.

FIGURE-12

[illegible]

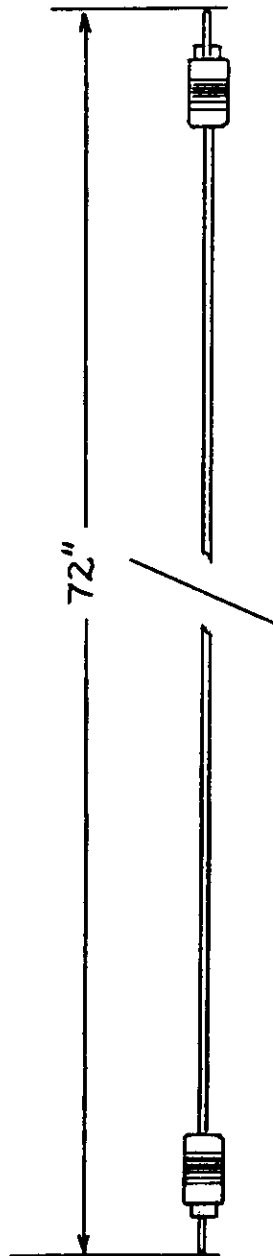
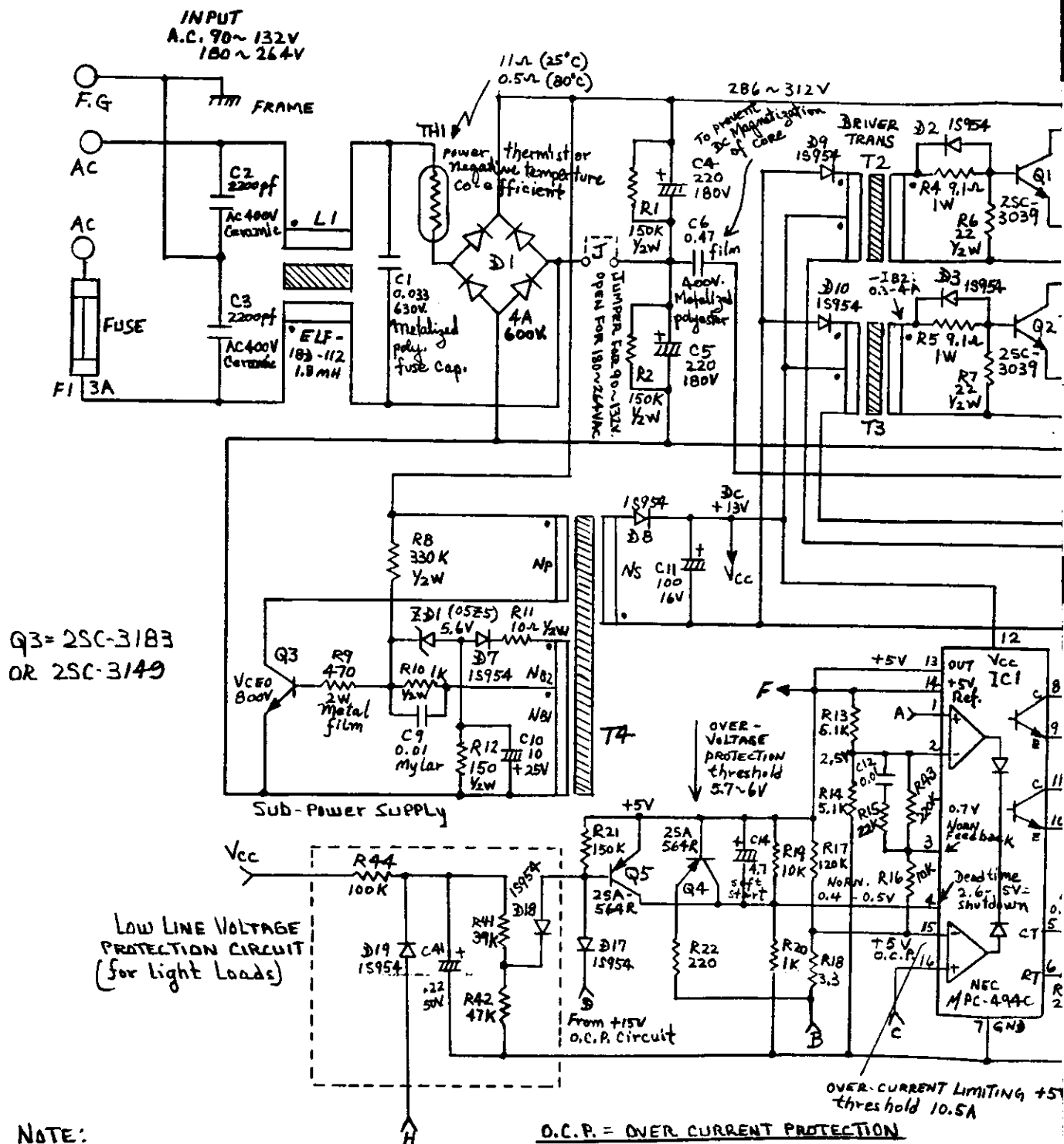


FIGURE-13

REV. LET.	ECN NO.	REVISION	BY	TOLERANCES Unless Otherwise Specified				centuri ^{INC.}				QC. APV'D	PROD. APV'D	QTY.	ASSEMBLY NO
				FRACTIONS	±	1/32									
				DECIMALS 2 PL	±	.015									
				DECIMALS 3 PL	±	.005									
				HOLES	+	.003									
				ANGLES	-	.001									
				SHT. MET BENDS	±	1/2'									
					±	2'									
				NAME				HIALEAH, FLORIDA 33014							
				CPU TO DISC PLAYER AUDIO CABLE ASSY											
				MATERIALS				HEAT TREAT.				FINISH			
DWN				APP'D				DATE				SCALE			
MS				2-6-84				2-6-84				NCNE			
				PART NO.				008-4938				REV.			



Power Supply PSR-1105AP

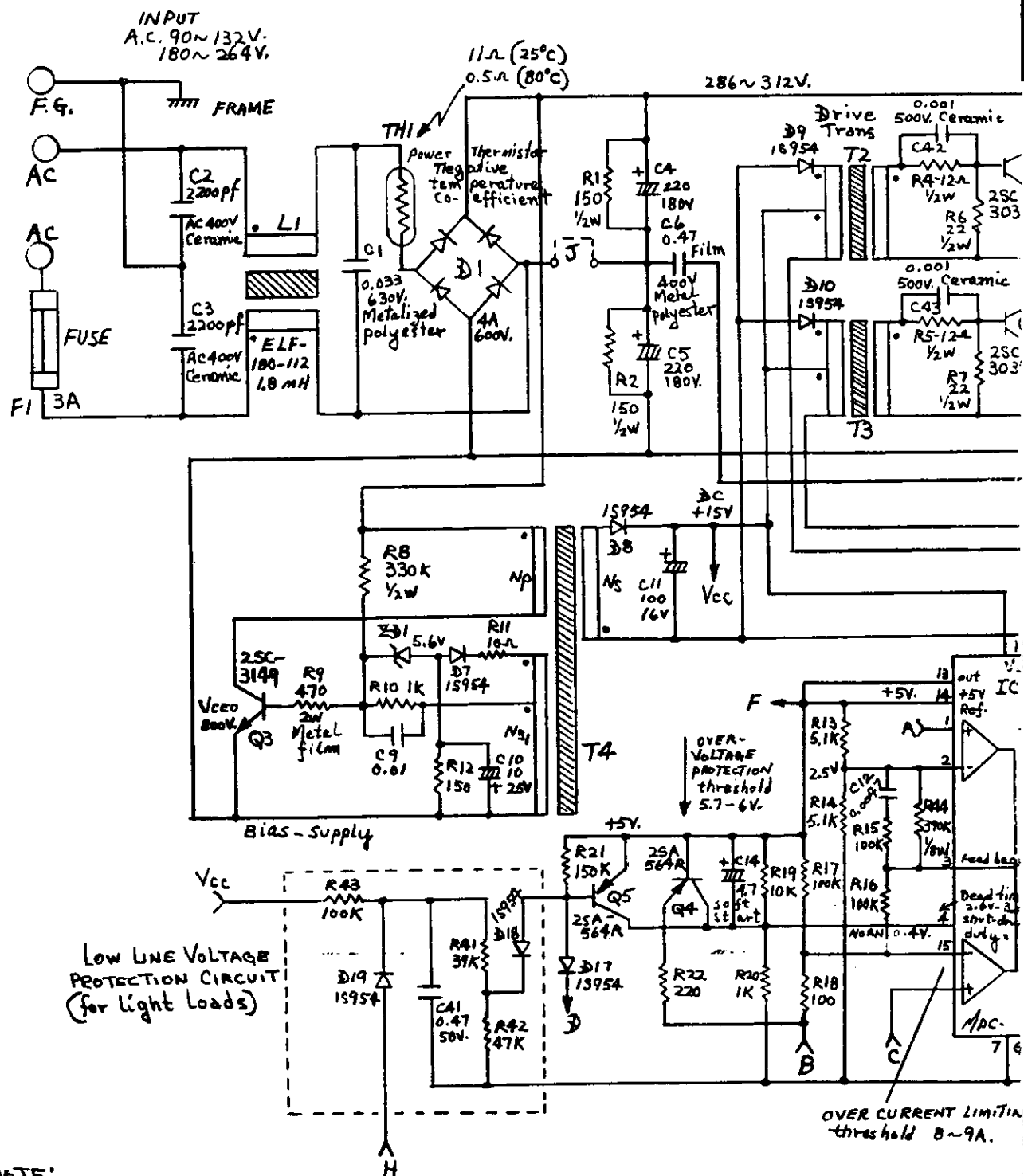
PARTS LIST (414-2021)

<u>Symbol</u>	<u>Description</u>	<u>Qty</u>
D1	Bridge Rectifier, S4VB-600V	1
D2,3,7,8,9, 10,17,18,19	Switching Diode, 1S954	9
D4,5	Fast Recovery Diode, 1GH62, 400V	2
D12,13,14,15	Fast Recovery Diode, 10DF-2, 200V	4
D11	Fast Recovery Diode, S5KC20H, 200V	1
D16	Schottky Barrier Diode, C16P04Q	1
ZD1	Zener Diode, 05Z5, 6A, 5.6V, 500mw	1
Q1,2	Power Transistor, 2SC3039	2
Q3	Power Transistor, 2SC3149	1
Q4,5	Transistor, 2SA564R	2
Q6,7	Transistor, 2SC828R	2
IC1	Switching Control, mPC494C, NEC	1
IC2	Regulator, 78M05	1
IC3	Regulator, 7815	1
IC4	Regulator, 7812	1
T1	Power Transformer, SM-2405	1
T2,3	Driver Transformer, SM-2215B	2
T4	Sub-Power Supply Transformer, SM-2399	1
CH1	EE-25, Choke Inductor, SM-2374	1
CH2,3	EE-16, Choke Inductor, SM-2367	2
CH4	EI-28, Choke Inductor, SM-2391	1
L1	AC Line Filter, ELF-18D-112	1
TH1	Power N.T.C. Thermistor, TD18-010	1
C1,32,33	Capacitor, Metalized Polyester, 0.033mf, 630V	3
C2,3	Capacitor, Ceramic, 2200pf, AC 400V, $\pm 20\%$	2
C4,5	Capacitor, Electrolytic, 220mf, 180V	2
C6	Capacitor, Metalized Polyester, 0.47mf, 400V	1
C7	Capacitor, Ceramic, 470pf, 1KV	1
C9,12,34,35,37	Capacitor, Mylar Film, 0.01mf, 50V	5
C10	Capacitor, Electrolytic, 10mf, 25V	1
C11	Capacitor, Electrolytic, 100mf, 16V	1
C14,42	Capacitor, Electrolytic, 4.7mf, 25V	2
C15	Capacitor, Polyester Film, 0.001mf, 50V	1
C17,19	Capacitor, Electrolytic, 470mf, 25V	2
C18	Capacitor, Ceramic, 50pf, 50V	1
C20,23,27,28	Capacitor, Ceramic, 0.1mf, 16V	4
C21,25	Capacitor, Electrolytic, 220mf, 35V	2
C22,26	Capacitor, Electrolytic, 470mf, 16V	2
C24	Capacitor, Ceramic, 0.01mf, 50V	1
C29,30	Capacitor, Electrolytic, 2200mf, 10V	2
C31	Capacitor, Mylar Film, 0.1mf, 50V	1
C41	Capacitor, Electrolytic, 0.22mf, 50V	1
R1,2	Resistor, Carbon Film, 150K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	2
R3	Resistor, Metal Film, 100 Ohm, 2W, $\pm 5\%$	1
R4,5	Resistor, Metal Film, 9.1 Ohm, 1W, $\pm 5\%$	2
R6,7	Resistor, Carbon Film, 22 Ohm, $\frac{1}{2}$ W, $\pm 5\%$	2

Power Supply PSR-1105AP

PARTS LIST (414-2021)

<u>Symbol</u>	<u>Description</u>	<u>Qty</u>
R8	Resistor,Carbon Film, 330K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R9	Resistor,Metal Film, 470 Ohm, 2W, $\pm 5\%$	1
R10	Resistor,Mini-Metal Film,1K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R11	Resistor,Mini-Metal Film, 10 Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R12	Resistor,Mini-Metal Film,150 Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R13,14,35	Resistor,Carbon Film, 5.1K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	3
R15	Resistor,Carbon Film, 22K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R16,19,28	Resistor,Carbon Film, 10K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	3
R17,33	Resistor,Carbon Film, 120K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	2
R18	Resistor,Carbon Film, 3.3 Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R20	Resistor,Carbon Film, 1K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R21,25	Resistor,Carbon Film, 150K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	2
R22	Resistor,Carbon Film, 220 Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R23	Resistor,Carbon Film, 20K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R24	Resistor,Metal Film, 470 Ohm, 2W, $\pm 5\%$	1
R26	Resistor,Carbon Film, 1.8K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R29	Resistor,Carbon Film, 15K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R30	Resistor,Carbon Film, 150 Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R31	Resistor,Metal Film, 150 Ohm, 3W, $\pm 5\%$	1
R32	Resistor,Carbon Film, 1K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R34	Resistor,Metal Film, 33 Ohm, 3W, $\pm 5\%$	1
R36,39	Resistor,Metal Film, 5.1 Ohm, $\frac{1}{2}$ W, $\pm 5\%$	2
R37	Resistor,Carbon Film, 5.1 Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R40	Resistor,Carbon Film, 4.3K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R41	Resistor,Carbon Film, 39K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R42	Resistor,Carbon Film, 47K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
R43	Resistor,Carbon Film, 220K Ohm,1/8W, $\pm 5\%$	1
R44	Resistor,Carbon Film, 100K Ohm, $\frac{1}{2}$ W, $\pm 5\%$	1
RS1	Resistor,Wire Manganin,A-2145,0.005 Ohm,2 $\emptyset$	1
RS2	Resistor,Wire Manganin,A-2256,0.03 Ohm, 1 $\emptyset$	1
VR1	Potentiometer, Mini Type, 2K Ohm	1
F1	Fuse, 3 Ampere	1



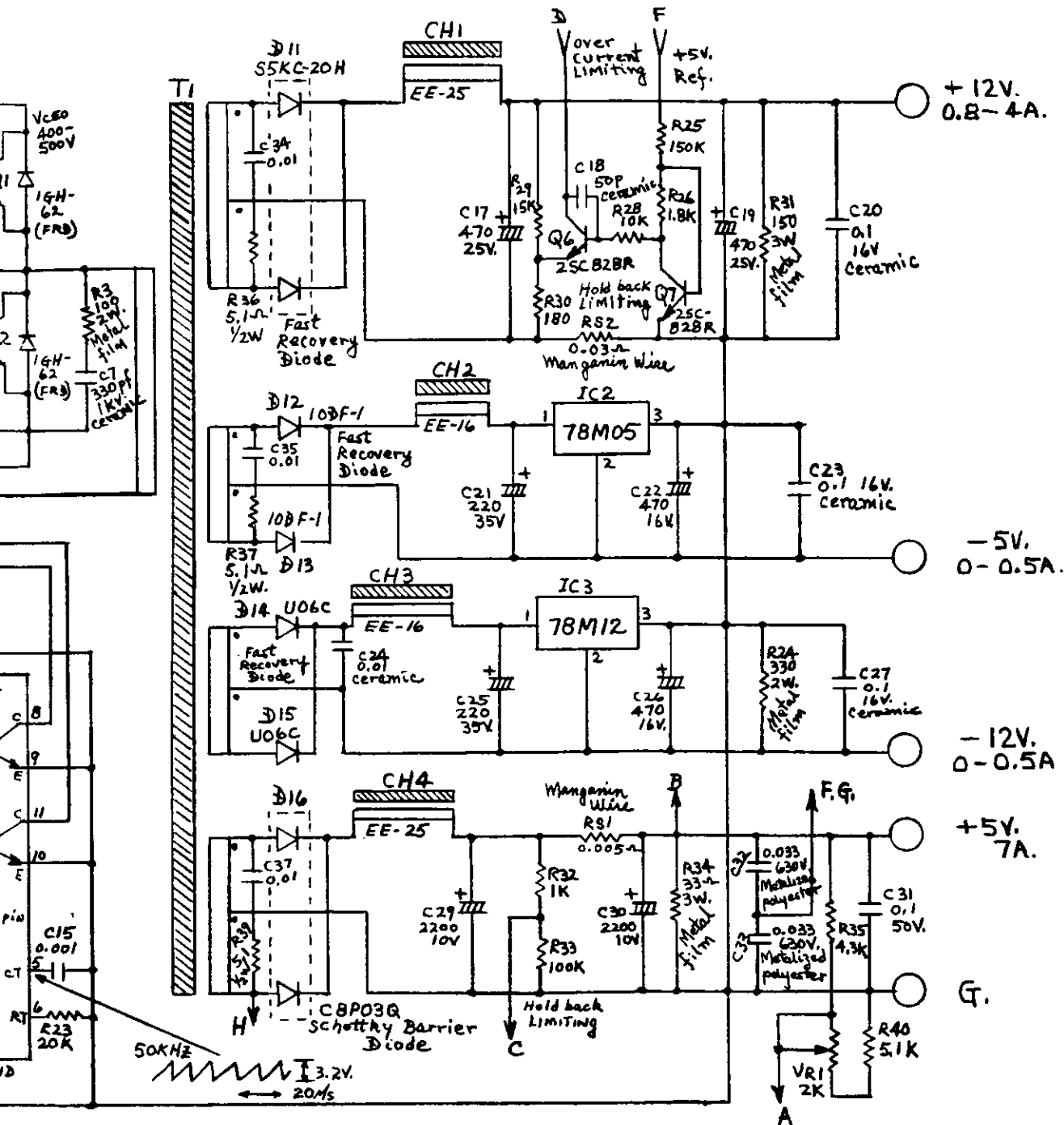


FIGURE-15

POWER SUPPLY P/N
414-2023

QC. APV'D	PROD. APV'D	QTY.	ASSEMBLY NO
centuri HIALEAH, FLORIDA 33014 NAME PAL SWITCHING POWER SUPPLY, PSR-804-AT MAT'L'S. HEAT TREAT. FINISH DWN. APP'D. DATE SCALE PART NO. REV. <i>MS. [Signature]</i> 7-23-83 <i>2</i> 905-4914			

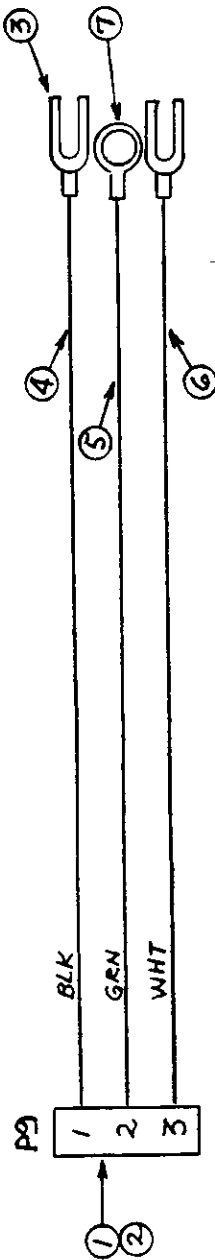
Power Supply PSR-804AT
PARTS LIST (414-2023)

<u>Symbol</u>	<u>Description</u>	<u>Qty</u>
D1	Bridge Rectifier, RB-40, 600V	1
D4,5	Fast Recovery Diode, 1GH62	2
D7,8,9,10		
D17,18,19	Switching Diode, 1S954	7
D11	Fast Recovery Diode, S5KC20H	1
D12,13,14,15	Fast Recovery Diode, 10DF1	4
D16	Shottky Barrier Diode, C8P03Q	1
ZD1	Zener Diode, 05Z5, 5.6V, 500mW	1
Q1,2	Power Transistor, 2SC3039	2
Q3	Power Transistor, 2SC3149	1
Q4,5	Transistor, 2SA564R	2
Q6,7	Transistor, 2SC828R	2
IC1	Control I.C., PC494C	1
IC2	Regulator, 78M05	1
IC3	Regulator, 78M12	1
T1	Power Transformer, SM-2385	1
T2,3	Driver Transformer, SM-2215B	2
T4	Sub-Power Supply Transformer, SM-2399	1
CH1	EE25 Choke, SM-2374	1
CH2,3	EE16 Choke, SM-2367B	2
CH4	EE25 Choke, SM-2366	1
L1	Line Filter, ELF-18D-112	1
TH1	Power Thermistor, TD18-010	1
C1,32,33	Capacitor, Metalized polyester, 0.033, 630V.	3
C2,3	Capacitor, Ceramic, 2200pf, AC400V.	2
C4,5	Capacitor, Electrolytic, 220mf, 180V.	2
C6	Capacitor, Metalized polyester, 0.47mf, 400V.	1
C7	Capacitor, Ceramic, 330pf, 1KV	1
C9,34,35,37	Capacitor, Mylar Film, 0.01mf, 50V.	4
C10	Capacitor, Electrolytic, 10mf, 25V.	1
C11	Capacitor, Electrolytic, 100mf, 16V.	1
C12	Cap. Mylar Film, 0.0047mf, 50V.	1
C14	Capacitor, Electrolytic, 4.7mf, 25V.	1
C15	Capacitor, Polyester, 0.001mf, 50V.	1
C17,19	Capacitor, Electrolytic, 470mf, 25V.	2
C18	Capacitor, Ceramic, 50pf	1
C20,23,27	Capacitor, Ceramic, 0.1mf, 16V.	3
C21,25	Capacitor, Electrolytic, 220mf, 35V.	2
C22,26	Capacitor, Electrolytic, 470mf, 16V.	2
C24	Capacitor, Ceramic, 0.01mf, 50V.	1
C29,30	Capacitor, Electrolytic, 2200mf, 10V.	2
C31	Capacitor, Mylar Film, 0.1mf, 50V.	1
C41	Capacitor, Electrolytic, 0.47mf, 50V.	1
C42,43	Capacitor, Ceramic, 0.001mf, 500V.	2
R1,2	Resistor, Carbon, 150K Ohm, $\frac{1}{2}$ W.	2
R3	Resistor, Metal Oxide, 100 Ohm, 2W	1
R4,5	Resistor, Carbon, 12 Ohm, $\frac{1}{2}$ W	2
R6,7	Resistor, Carbon, 22 Ohm, $\frac{1}{2}$ W.	2
R8	Resistor, Carbon, 330K Ohm, $\frac{1}{2}$ W.	1

Power Supply PSR-804AT
PARTS LIST (414-2023)

<u>Symbol</u>	<u>Description</u>	<u>Qty</u>
R9	Resistor, Metal Oxide, 470 Ohm, 2W.	1
R10,20,32	Resistor, Carbon, 1K Ohm, $\frac{1}{4}$ W.	3
R11	Resistor, Carbon, 10 Ohm, $\frac{1}{4}$ W.	1
R12	Resistor, Carbon, 150 Ohm, $\frac{1}{4}$ W.	1
R13,14,40	Resistor, Carbon, 5.1K Ohm, $\frac{1}{4}$ W.	3
R15,16,17,33	Resistor, Carbon, 100K Ohm, $\frac{1}{4}$ W.	4
R18	Resistor, Carbon, 100 Ohm, $\frac{1}{4}$ W.	1
R19,28	Resistor, Carbon, 10K Ohm, $\frac{1}{4}$ W.	2
R21,25	Resistor, Carbon, 150K Ohm, $\frac{1}{4}$ W.	2
R22	Resistor, Carbon, 220 Ohm, $\frac{1}{4}$ W.	1
R23	Resistor, Carbon, 20K Ohm, $\frac{1}{4}$ W.	1
R24	Resistor, Metal Oxide, 330 Ohm, 2W.	1
R26	Resistor, Carbon, 1.8K Ohm, $\frac{1}{4}$ W.	1
R29	Resistor, Carbon, 15K Ohm, $\frac{1}{4}$ W.	1
R30	Resistor, Carbon, 180 Ohm, $\frac{1}{4}$ W.	1
R31	Resistor, Metal Oxide, 150 Ohm, 3W.	1
R34	Resistor, Metal Oxide, 33 Ohm, 3W.	1
R35	Resistor, Carbon, 4.3K Ohm, $\frac{1}{4}$ W.	1
R36,37,39	Resistor, Carbon, 5.1 Ohm, $\frac{1}{4}$ W.	3
R41	Resistor, Carbon, 39K Ohm, $\frac{1}{4}$ W.	1
R42	Resistor, Carbon, 47K Ohm, $\frac{1}{4}$ W.	1
R43	Resistor, Carbon, 100K Ohm, $\frac{1}{4}$ W.	1
R44	Resistor, Carbon, 390K Ohm, $\frac{1}{8}$ W.	1
RS1	Resistor, Manganin wire, 0.005 Ohm (A2145)	1
RS2	Resistor, Manganin wire, 0.03 Ohm (A2256)	1
VR1	Mini-Potentiometer, 2K Ohm	1
F1	Fuse, 3 Ampere	1
FH1	Fuse Holder, F207	1

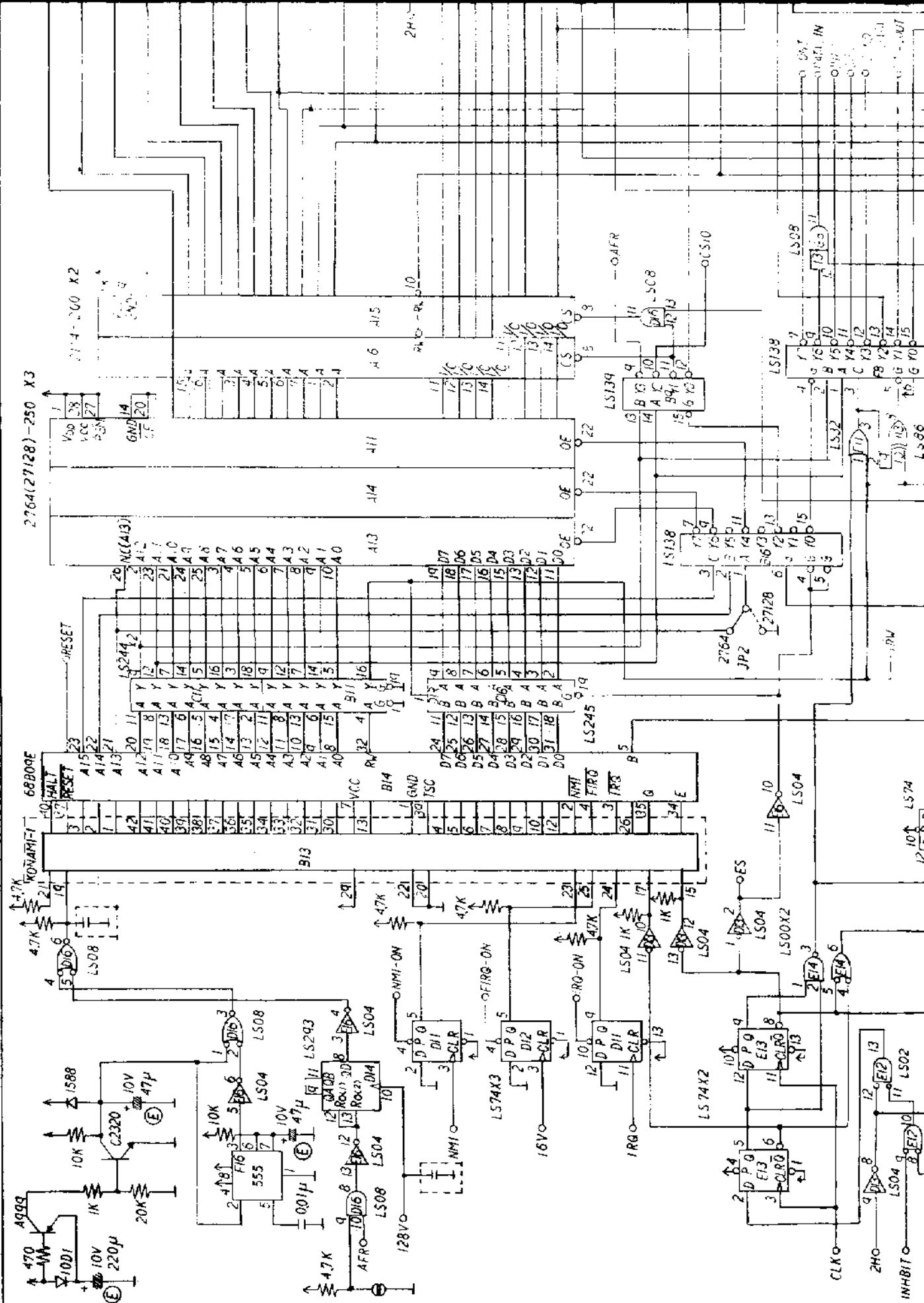
THE MATERIAL CONTAINED HEREIN IS CONFIDENTIAL
AND NO PART OF IT CAN BE REPRODUCED WITHOUT THE
EXPRESSED PERMISSION OF CENTURI, INC.



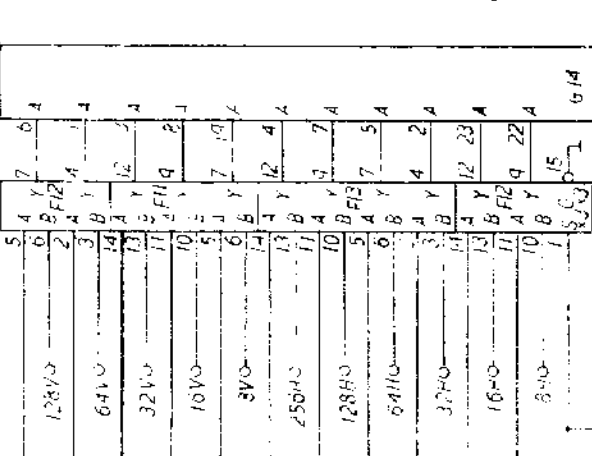
8	2	417-1601	4" TY WRAPS
7	1	401-1204	RINGS LUG, ETC # B-137-107
6	12"	402-1536	INSULATED WIRE 18 AWG, WHITE
5	13"	402-1532	" " GREEN
4	12"	402-1527	" " BLACK
3	2	401-1246	INSULATED OPEN LUG
2	3	401-1222	MALE PIN MOLEX # 02-09-2116
1	1	401-1224	3PIN PLUS MOLEX # 03-09-2031
ITEM	QTY	PART NO.	DESCRIPTION
			BILL OF MATERIALS

FIGURE-16

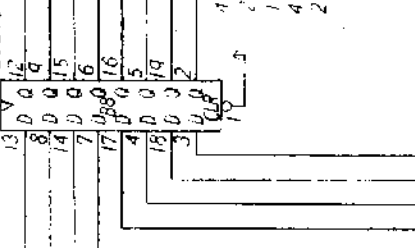
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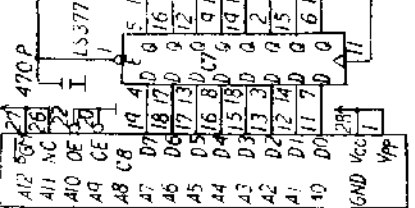
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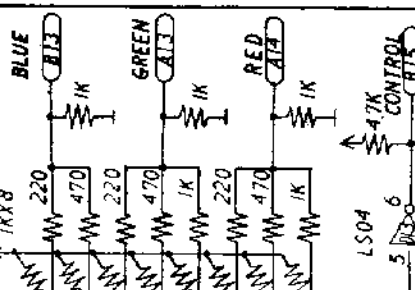
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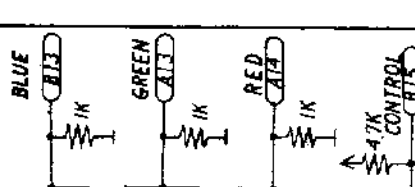
2764(27128)-250



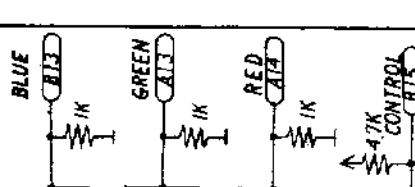
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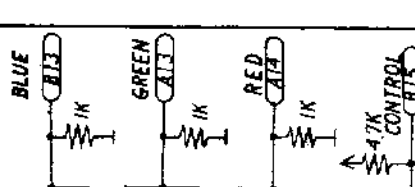
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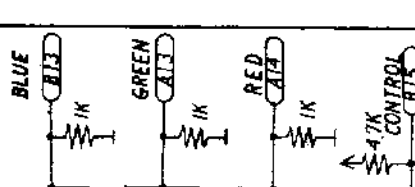
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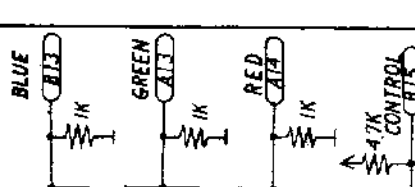
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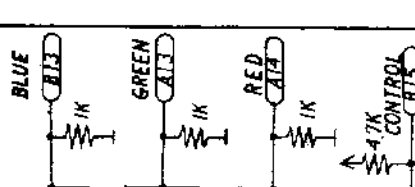
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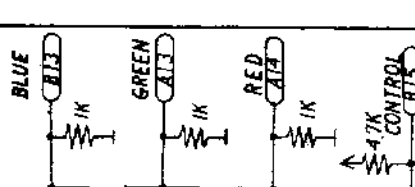
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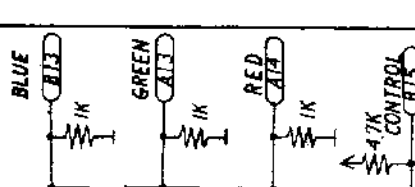
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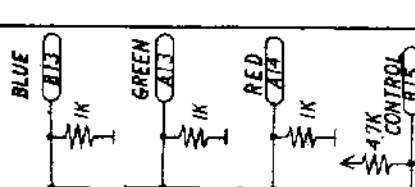
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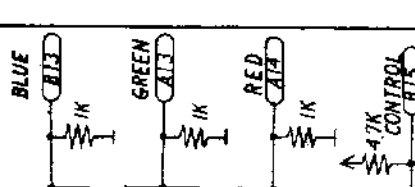
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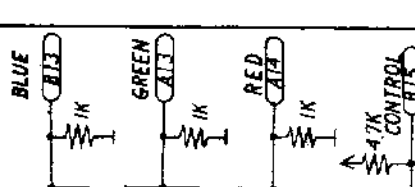
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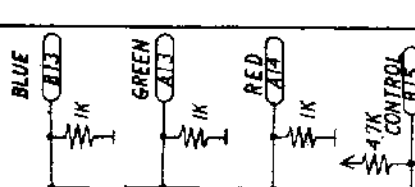
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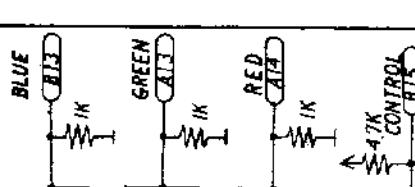
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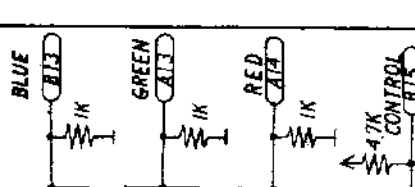
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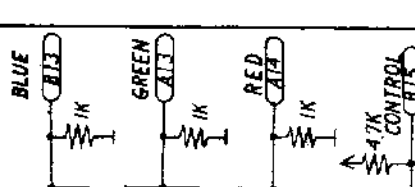
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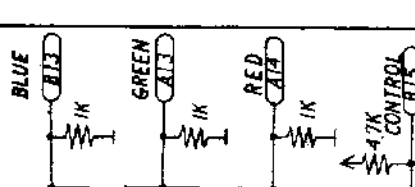
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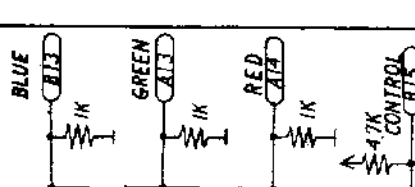
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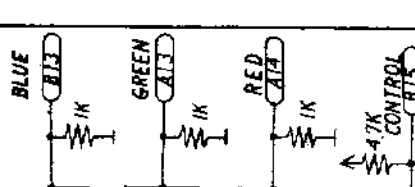
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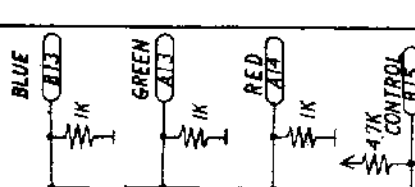
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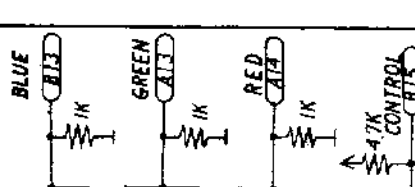
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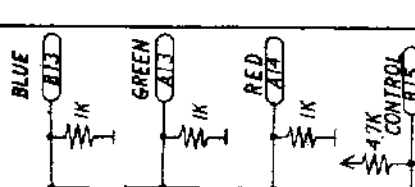
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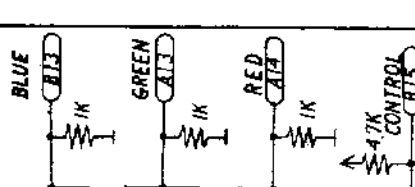
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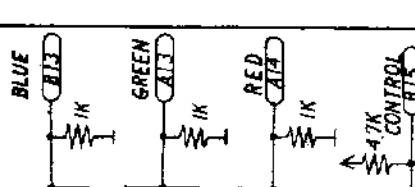
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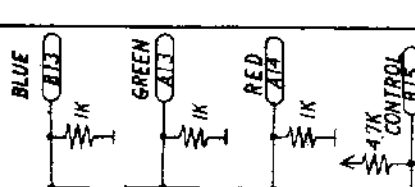
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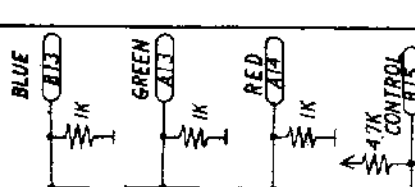
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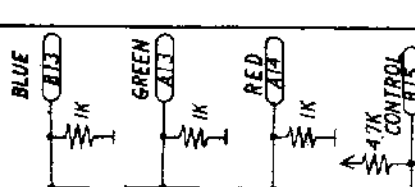
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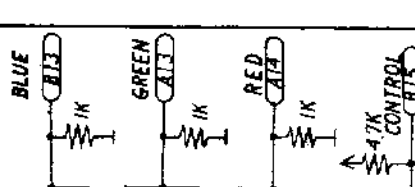
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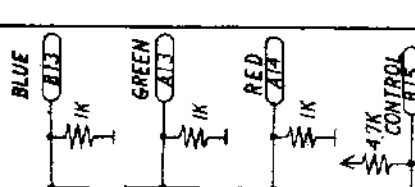
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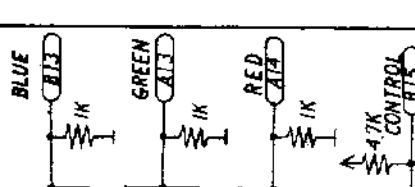
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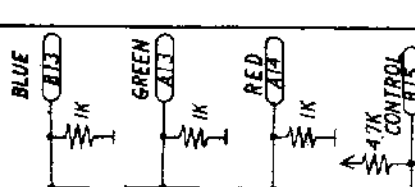
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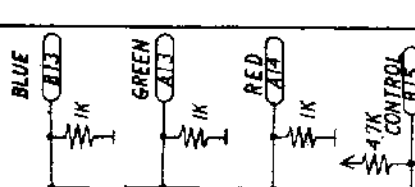
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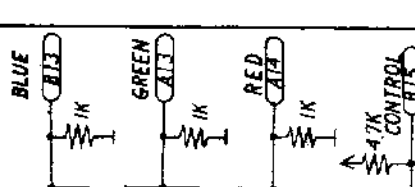
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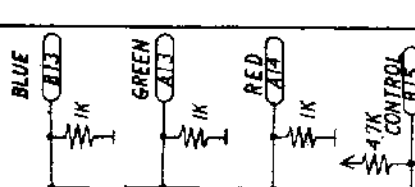
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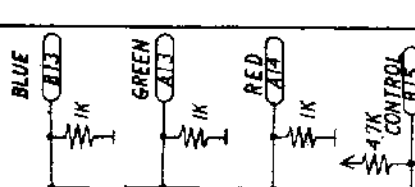
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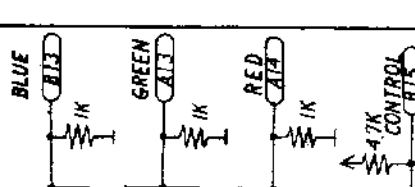
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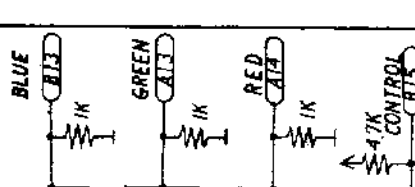
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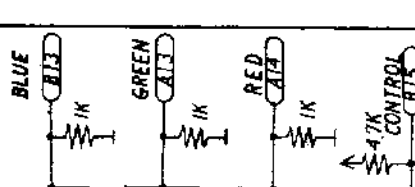
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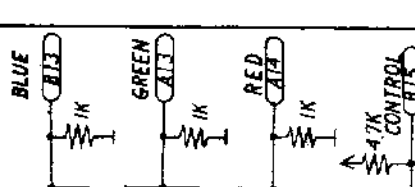
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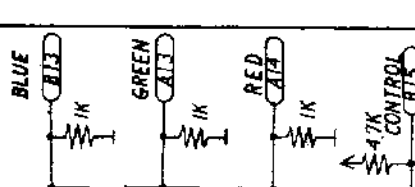
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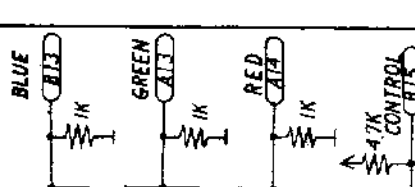
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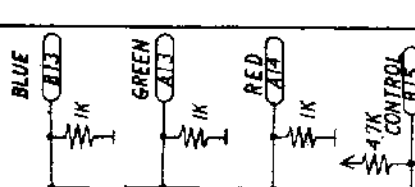
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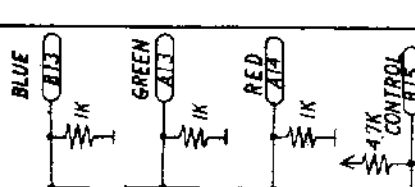
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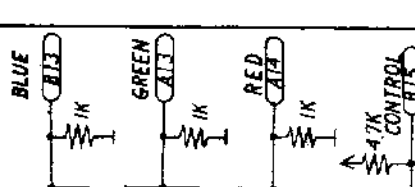
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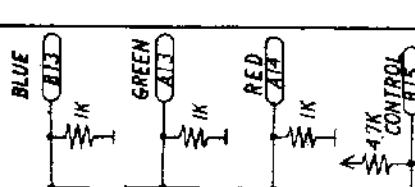
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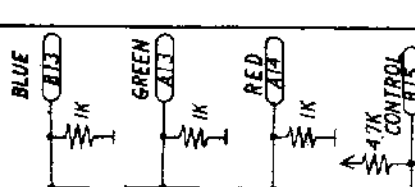
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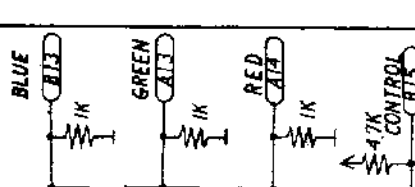
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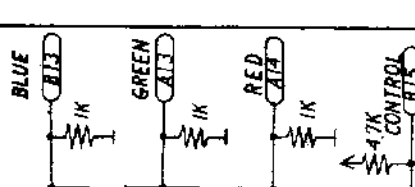
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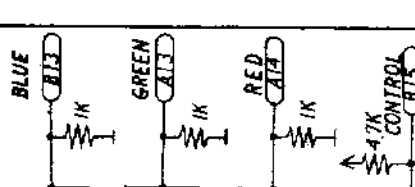
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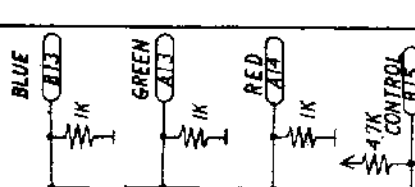
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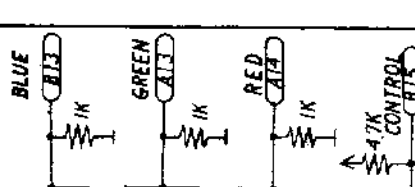
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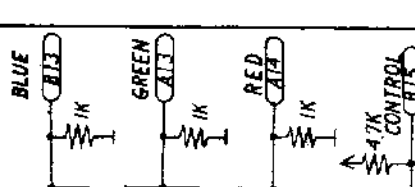
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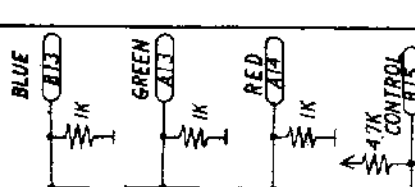
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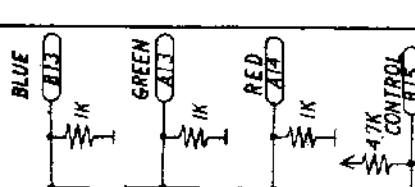
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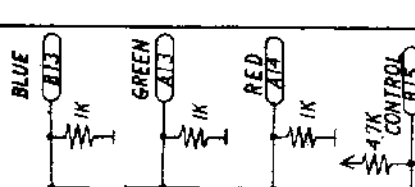
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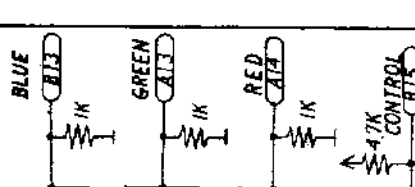
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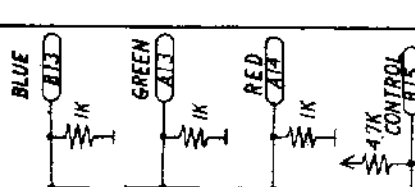
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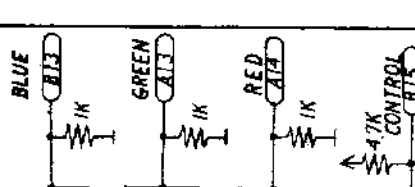
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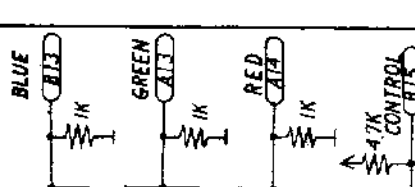
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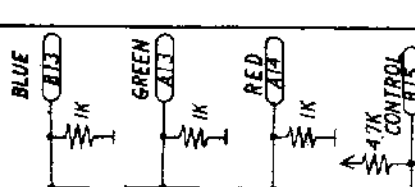
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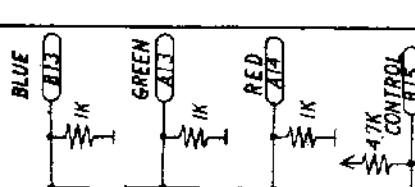
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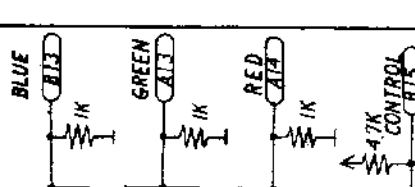
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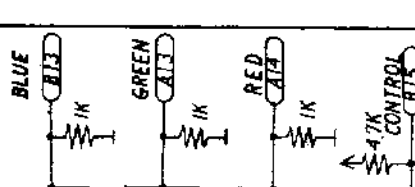
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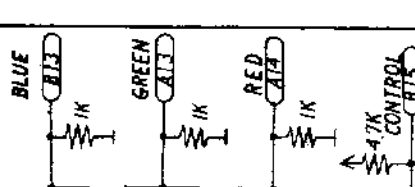
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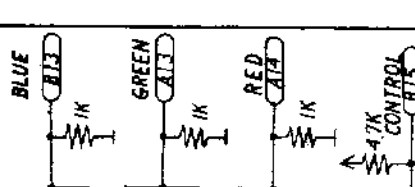
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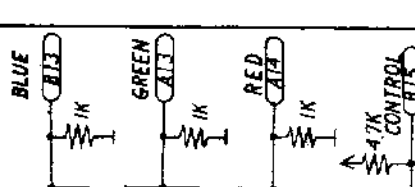
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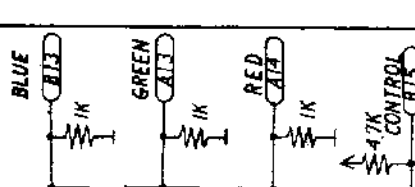
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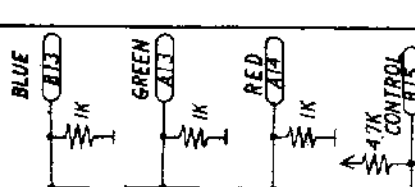
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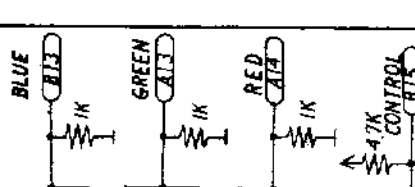
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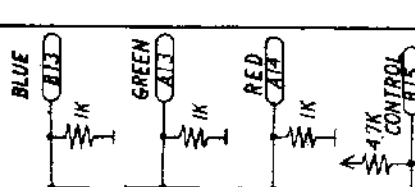
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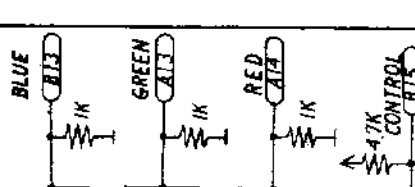
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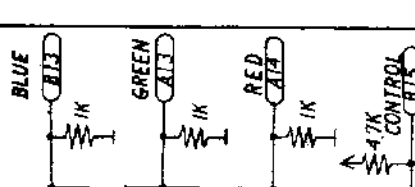
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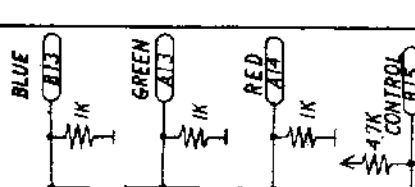
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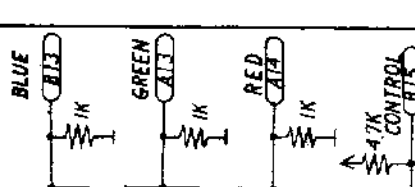
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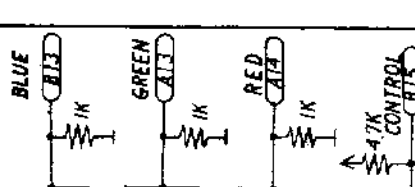
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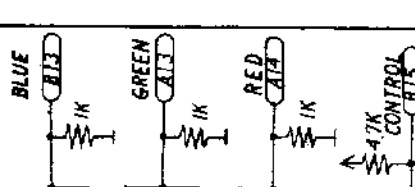
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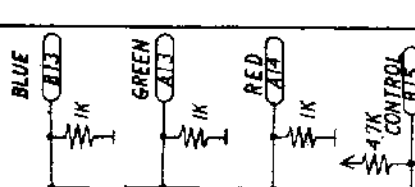
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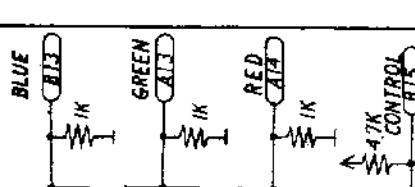
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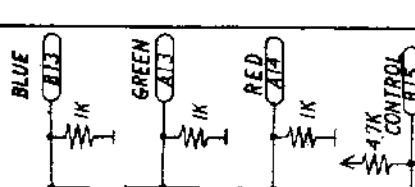
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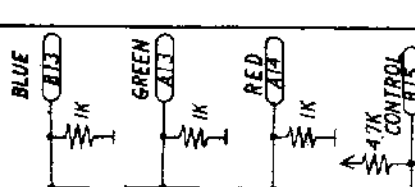
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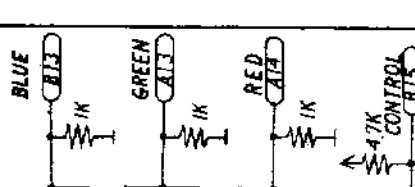
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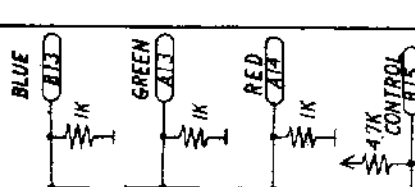
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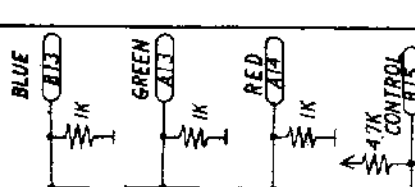
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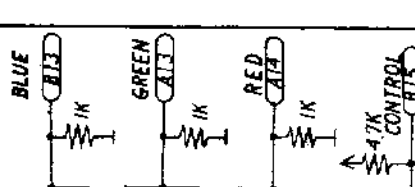
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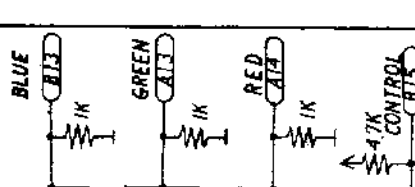
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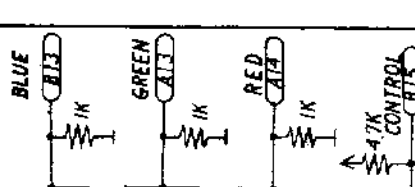
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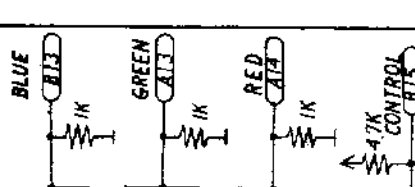
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