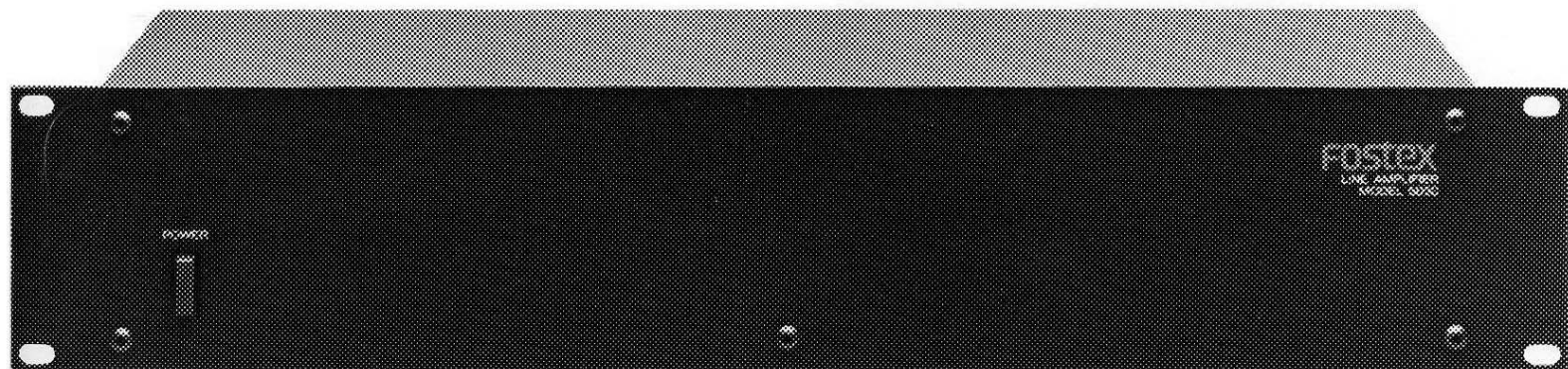


Model 5030

LINE AMPLIFIER

Owner's/Service Manual



FOSTEX®

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SAFETY INSTRUCTIONS

WARNING

“READ BEFORE OPERATING”

1. Read Instructions—All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions—The safety and operating instructions should be retained for future reference.
3. Heed Warnings—All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions—All operating and use instructions should be followed.
5. Water and Moisture—The appliance should not be used near water—for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. Ventilation—The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
7. Heat—The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
8. Power Sources—The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
9. Power-Cord Protection—Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
10. Cleaning—The appliance should be cleaned only as recommended by the manufacturer.
11. Nonuse Periods—The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
12. Object and Liquid Entry—Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
13. Damage Requiring Service—The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
14. Servicing—The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

WARNING: To avoid possible electric shock hazard, do not expose this appliance to rain or moisture. There are no user serviceable parts inside. Refer servicing to qualified service personnel.

1. INTRODUCTION

The Model 5030 contains eight each of INPUT LINE AMPLIFIERS and OUTPUT LINE AMPLIFIERS for converting +4dBm balanced lines to -10dBV unbalanced lines or -10dBV unbalanced lines to +4dBm balanced lines.

The connectors for the +4dBm signals are, XLR 3-31 for the inputs and, XLR 3-32 for the outputs. The XLR pin designations are, shield at pin 1, cold at pin 2 and, hot at pin 3.

A BALANCE/UNBALANCE switch is provided at the +4dBm output and when it is set at UNBALANCE, the output level will be 0dBm and pin 1 and 2 will be shield, and pin 3 will be hot.

2. SPECIFICATION

INPUT SECTION

Input level	+4dBm, +30dBm (max.)
Input impedance	40K Ω , balanced, XLR 3-31
Output level	-10dBV (0.3V), +16dBV (max.)
Output load impedance	5K Ω or higher, RCA phono
Frequency response	20Hz ~ 30KHz, \pm 0.5dB
S/N	90dB unweighted, 92dB weighted
T.H.D.	0.02% at 1KHz

OUTPUT SECTION

Input level	-10dBV (0.3V)
Input impedance	50K Ω , unbalanced, RCA phono
Output level	+4dBm, +25dBm (max.), balanced, 0dBm, +19dBm (max.), unbalanced
Output load impedance	600 Ω or higher, XLR 3-32
Frequency response	20Hz ~ 30KHz, \pm 0.5dB
S/N	90dB unweighted, 92dB weighted
T.H.D.	0.02% at 1KHz
Power requirements	120V, 60Hz, 17W (USA/CANADA) 220V, 50Hz, 17W (EUROPE) 240V, 50Hz, 17W (UK/AUS)
Dimensions	88(H) x 482(W) x 135(D)mm 3-1/2"(H) x 19"(W) x 5-3/8"(D)
Weight	4.5kg (10 lbs.)

3. PARTS LIST

NOTES

* Adjustment procedures are given in this manual which also includes a Parts List and schematic diagrams to assist the service technician in maintaining the Model 5030.

Please feel free to contact the nearest Fostex Dealer and Distributor, or write directly to a Fostex office, the addresses of which are printed on the back cover of this manual.

CAUTION

△ Parts marked with this sign are safety critical components. They must always be replaced with identical components. Refer to the Fostex Parts List and ensure exact replacement.

Ref. No.	Parts No.	Nomenclature	Ref. No.	Parts No.	Nomenclature
	8226 0130 00	Button, push B		△ 8276 0050 00	Cord, power, HYDRO
	8260 1550 00	Panel ass'y, dress, 5030		△ 8276 3130 00	" " , 3 wire, EUR
	8204 0190 01	Screw, button head, HDB M4x10BZn		△ 8276 3140 00	" " " , UK
		Washer, W φ4, BZn		△ 8276 3150 00	" " " , AUS
	8220 2420 00	Cover, 5030		△ 8276 0030 00	" " , DM
		Screw, PTP, M3x6, BZn		8270 2230 00	Panel ass'y, rear A
	8214 0170 05	Washer, fiber, blk, 3mm			Screw, PTP, 3x6, BZn
	8270 2250 00	Main frame, sub-ass'y, common, 5030		8204 0140 01	Washer, Mylar, φ3
	8273 1380 01	PCB ass'y, connector board, FCA/CND		8220 2431 00	Cover, bottom
	8273 1380 02	" " " " , EUR/UK/AUS		8207 0003 02	Plastifoot, 1492
	8273 1380 03	" " " " , EX/DM		8207 0008 01	Stay, tapping support, 4N
	△ 8242 0611 00	Transformer, power, 220/240V			Screw, PTP, 3.5x6
	△ 8242 0601 00	" " , 120V		8273 1390 00	PCB ass'y, input amplifier
	△ 8242 0631 00	" " , 100V		8273 1400 00	PCB ass'y, output amplifier
		Screw, P4x8, CZn		8220 2440 00	Bracket, switch
		Washer, LWE, φ4			Screw, PTP, 3x6, CZn
		Nut, M4		8273 1430 00	PCB ass'y, LED
	8216 0320 00	Cover, switch			Screw, PTP, 3x6, CZn
Z001	△ 8256 0080 00	Sparkiller, DM, NSKG-115	S001	△ 8253 0350 00	Switch, push, power, SDGA3P
"	△ 8256 0090 00	" , UL, NSK-135		△ 8253 0340 00	" " " , SDGA1P
"	△ 8256 0100 00	" , CSA, NSK-132		8216 0720 00	Sheet, fiber
"	△ 8256 0110 03	" , SEMKO, PME265			Screw, P3x4, CZn
		Screw, PTP, 4x8, CZn		8207 0002 14	Bushing, SR5N-4
		Lug, L, φ4		8207 0002 08	" , 4N-4
		Washer, LWE, φ4, CZn		8220 2450 00	Bracket, PCB
				8216 0820 00	Cushion, PCB
					Screw, PTP, 3x6, CZn

INPUT AMPLIFIER PCB ASSEMBLY, Ass'y No. 8273 1390 00

Ref. No.	Parts No.	Nomenclature
	8251 1521 00	PCB, Input amplifier
		IC's
U001, 002	8236 0212 00	Analog, NJM4560DX
CARBON RESISTORS		
All resistors $\frac{1}{2}$ W, $\pm 5\%$ unless otherwise noted.		
R001, 002	8230 0122 23	Vertical mounting, 22K Ω , $\pm 2\%$
R003 ~ 005	8230 0125 62	" " 5.6K Ω "
R006	8230 0041 01	" " 100 Ω
R007	8230 0041 04	" " 100K Ω
R008, 009	8230 0122 23	" " 22K Ω , 2%
R010 ~ 012	8230 0125 62	" " 5.6K Ω "
R013	8230 0041 01	" " 100 Ω
R014	8230 0041 04	" " 100K Ω
CAPACITORS		
C001, 002	8232 0054 75	Electrolytic, 35V, 4.7 μ F, 20%, SM
C003	8232 0041 06	" 25V, 10 μ F, " "
C004, 005	8232 0054 75	" 35V, 4.7 μ F, " "
C006	8232 0041 06	" 25V, 10 μ F, " "
C007	8232 0351 03	Ceramic, 50V, 0.01 μ F, YF
C008	8232 0041 06	Electrolytic, 25V, 10 μ F, 20%, SM
C009	8232 0351 03	Ceramic, 50V, 0.01 μ F, YF
C010	8232 0041 06	Electrolytic, 25V, 10 μ F, 20%, SM
MISCELLANEOUS		
J001	8245 0110 13	Jack, 3024-13AH, wht
	8276 0020 04	Wire, jumper, 10mm, IPS-1041-4

OUTPUT AMPLIFIER PCB ASSEMBLY, Ass'y No. 8273 1400 00

Ref. No.	Parts No.	Nomenclature
	8251 1511 00	PCB, Output amplifier
		IC's
U001, 002	8236 0212 00	Analog, NJM4560DX
TRANSISTORS		
Q001	8234 0002 03	2SC1815GR
Q002	8234 0003 03	2SA1015GR
Q003	8234 0053 02	2SC3298Y
Q004	8234 0054 02	2SA1306Y
Q005	8234 0002 03	2SC1815GR
Q006	8234 0003 03	2SA1015GR
Q007	8234 0053 02	2SC3298Y
Q008	8234 0054 02	2SA1306Y
Q009	8234 0002 03	2SC1815GR
Q010	8234 0003 03	2SA1015GR
Q011	8234 0053 02	2SC3298Y
Q012	8234 0054 02	2SA1306Y
Q013	8234 0002 03	2SC1815GR

Ref. No.	Parts No.	Nomenclature
Q014	8234 0003 03	2SA1015GR
Q015	8234 0053 02	2SC3298Y
Q016	8234 0054 02	2SA1306Y
DIODES		
D01 ~ 08	8234 0035 00	MA150FVS
CARBON RESISTORS		
All resistors $\frac{1}{2}$ W, $\pm 5\%$ unless otherwise noted.		
R001	8230 0045 13	Vertical mounting, 51K Ω
R002	8230 0124 37	" " 4.3K Ω , 2%
R003	8230 0041 03	" " 10K Ω
R004, 005	8230 0044 72	" " 4.7K Ω
R006	8230 0042 02	" " 2K Ω
R007, 008	8230 0041 00	" " 10 Ω
R009	8230 0124 72	" " 4.7K Ω , 2%
R010	8230 0121 53	Vertical mounting, 15K Ω , 2%
R011, 012	8230 0044 72	" " 4.7K Ω
R013	8230 0042 02	" " 2K Ω
R014, 015	8230 0041 00	" " 10 Ω
R016	8230 0121 53	" " 15K Ω , 2%
R017, 018	8230 0072 20	Flat mounting, $\frac{1}{2}$ W, 22 Ω
R019	8230 0045 13	Vertical mounting, 51K Ω
R020	8230 0124 32	" " 4.3K Ω , 2%
R021	8230 0041 03	" " 10K Ω
R022, 023	8230 0044 72	" " 4.7K Ω
R024	8230 0042 02	" " 2K Ω
R025, 026	8230 0041 00	" " 10 Ω
R027	8230 0124 72	" " 4.7K Ω , 2%
R028	8230 0121 53	" " 15K Ω , "
R029, 030	8230 0044 72	" " 4.7K Ω
R031	8230 0046 81	" " 680 Ω
R032, 033	8230 0041 00	" " 10 Ω
R034	8230 0121 53	" " 15K Ω , 2%
R035, 036	8230 0072 20	Flat mounting, $\frac{1}{2}$ W, 22 Ω
CAPACITORS		
C01	8232 0054 75	Electrolytic, 35V, 4.7 μ F, 20%, SM
C02, 03	8232 0511 00	Ceramic, 50V, 10pF, ± 1 pF, SL
C04	8232 0054 75	Electrolytic, 35V, 4.7 μ F 20%, SM
C05, 06	8232 0511 00	Ceramic, 50V, 10pF, ± 1 pF, SL
C07	8232 0041 06	Electrolytic, 25V, 10 μ F, 20%, SM
C08	8232 0351 03	Ceramic, 50V, 0.01 μ F, YF
C09	8232 0041 06	Electrolytic, 25V, 10 μ F, 20%, SM
C10	8232 0351 03	Ceramic, 50V, 0.01 μ F, YF
C11 ~ 14	8232 0511 00	" " 10pF, ± 1 pF, SL
MISCELLANEOUS		
J001	8245 0110 13	Jack, 3024-13AH, wht
	8276 0020 04	Wire, jumper, 10mm, IPS-1041-4

LED PCB ASSEMBLY, Ass'y No. 8273 1430 00

Ref. No.	Parts No.	Nomenclature
	8251 1540 00	PCB, LED
D001	8234 0051 00	Opto, LED, red, GL-2PR5
	8212 0800 00	Spacer, LED
	8276 2790 20	Cable ass'y, 2P, wht, 200mm

CONNECTOR BOARD PCB ASSEMBLY, Ass'y No. 8273 1380 00

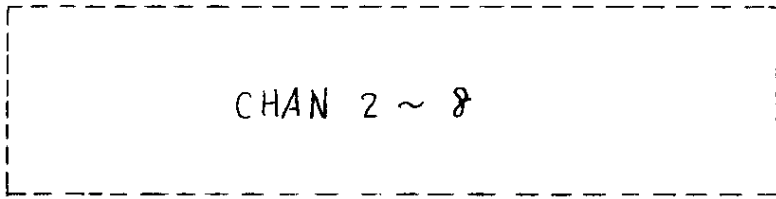
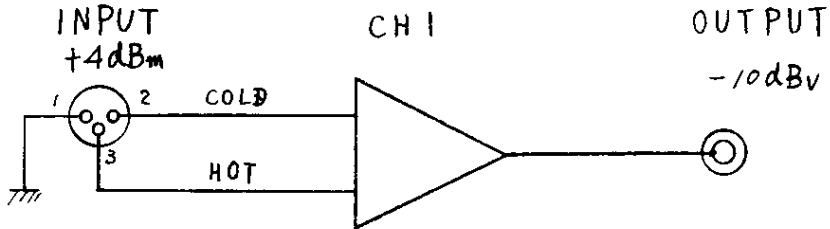
Ref. No.	Parts No.	Nomenclature
	8273 1450 00	PCB sub-ass'y, connector board
	8239 0012 00	Fuse holder, S-N5056
	8239 0001 00	" " SN5051
△ F01, 02	8239 0005 20	Fuse, normal, 2A, Dentori
△ " "	8239 0003 20	" " " UL/CSA
△ " "	8239 0007 05	" time lag, 0.5A, 250V, SEMCO

CONNECTOR BOARD PCB SUB-ASSEMBLY, Ass'y No. 8273 1450 00

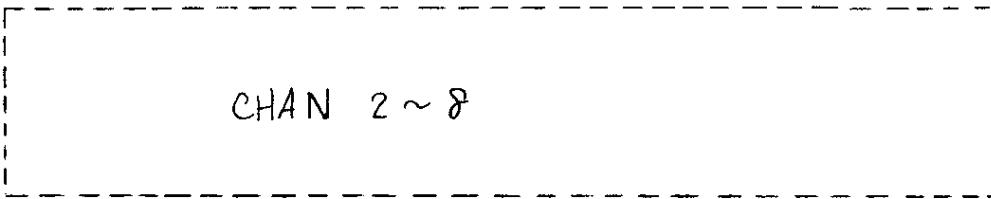
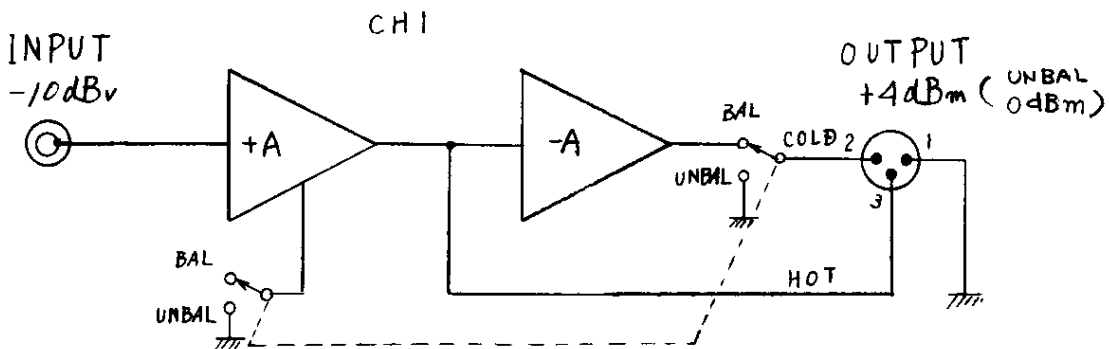
Ref. No.	Parts No.	Nomenclature
	8251 1530 00	PCB, connector board
		IC's
△ U001	8236 0282 00	Analog, 7815A
△ U002	8236 0244 00	" NJM7915A
		DIODE
△ D001	8234 0017 03	Diode stack, W02
R001	8230 0041 52	Resistor, carbon, $\frac{1}{4}$ W, 1.5K Ω , \pm 5%, vertical mtg.
C001, 002	8232 0051 08	Electrolytic, 35V, 1000uF, 20%, SM
C003, 004	8232 0041 06	" 25V, 10uF, 20%, SM
J01 ~ 08	8245 0490 13	Jack, 5256-13A, wht
J09	8245 0530 07	" 8263, 7, straight, wht
J10	8245 0530 06	" 8263, 6, " "
J11	8245 0530 46	" 8263, 6, " blk
J12	8245 0530 06	" 8263, 6, " wht
J13	8245 0530 09	Jack, 8263, 9, straight, wht
J14	8245 0530 46	" " 6, " blk
J15	8245 0530 06	" " " " wht
J16	8245 0530 46	" " " " blk
J17	8245 0530 06	" " " " wht
J18	8245 0530 09	" " 9, " "
J19	8245 0530 02	" " 2, " "
J20	8245 0530 23	" " 3, " red
J21	8245 0530 03	" " " " wht
	8276 3180 15	Cable ass'y, ground lug, 150mm
	8276 0020 04	Wire, jumper, 10mm, IPS-1041-4

4. SCHEMATICS

BLOCK DIAGRAM

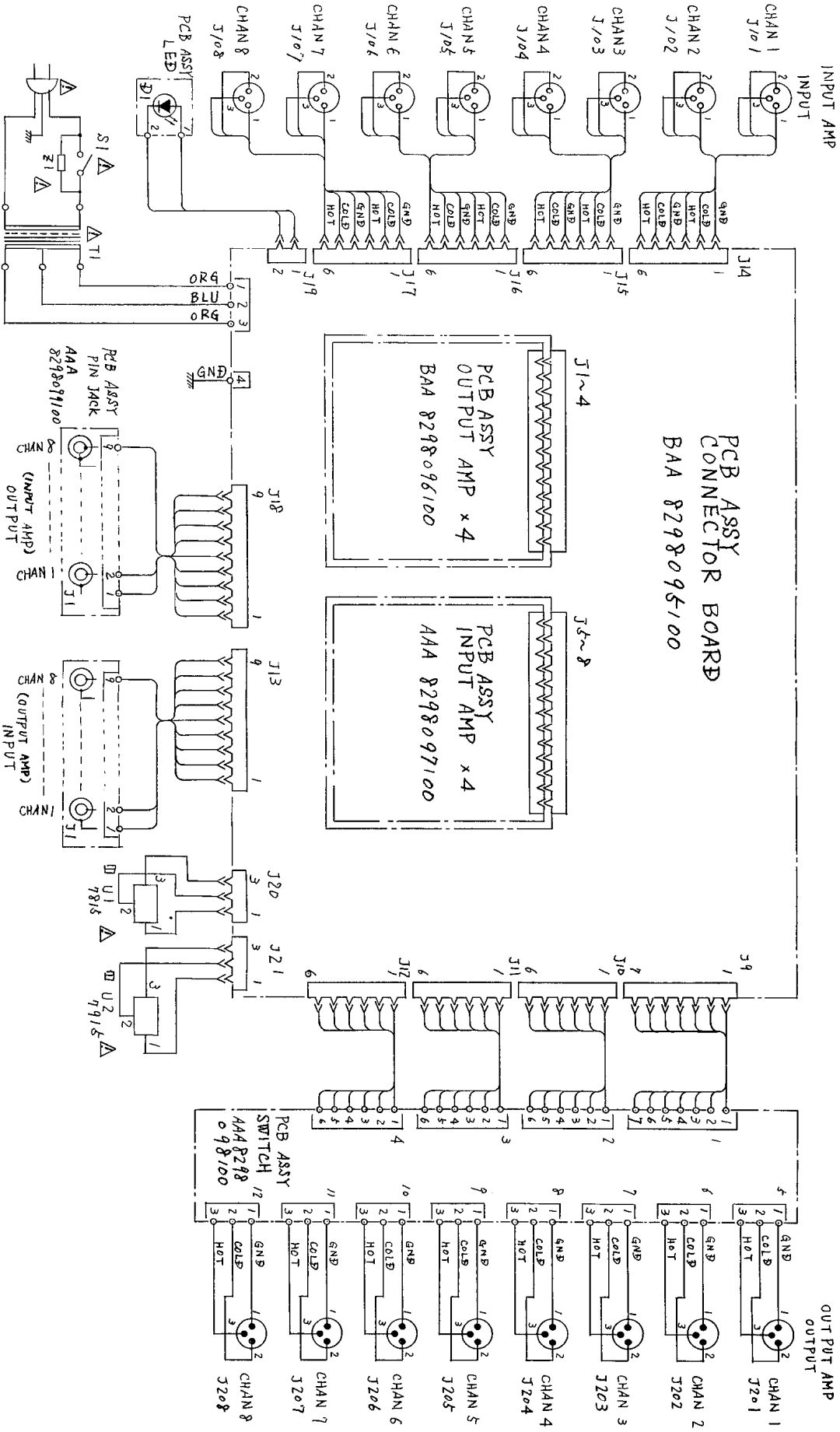


INPUT AMP

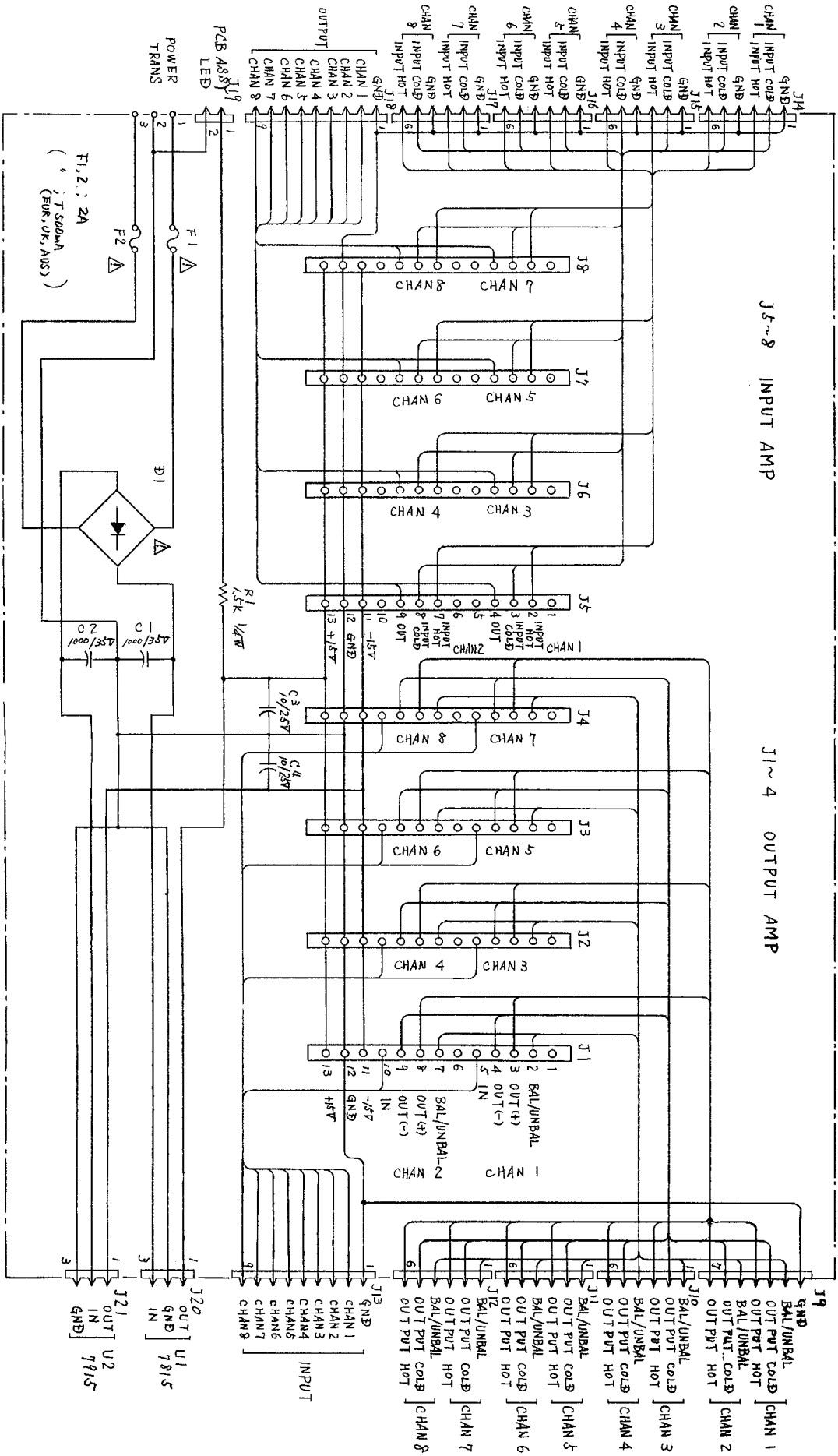


OUTPUT AMP

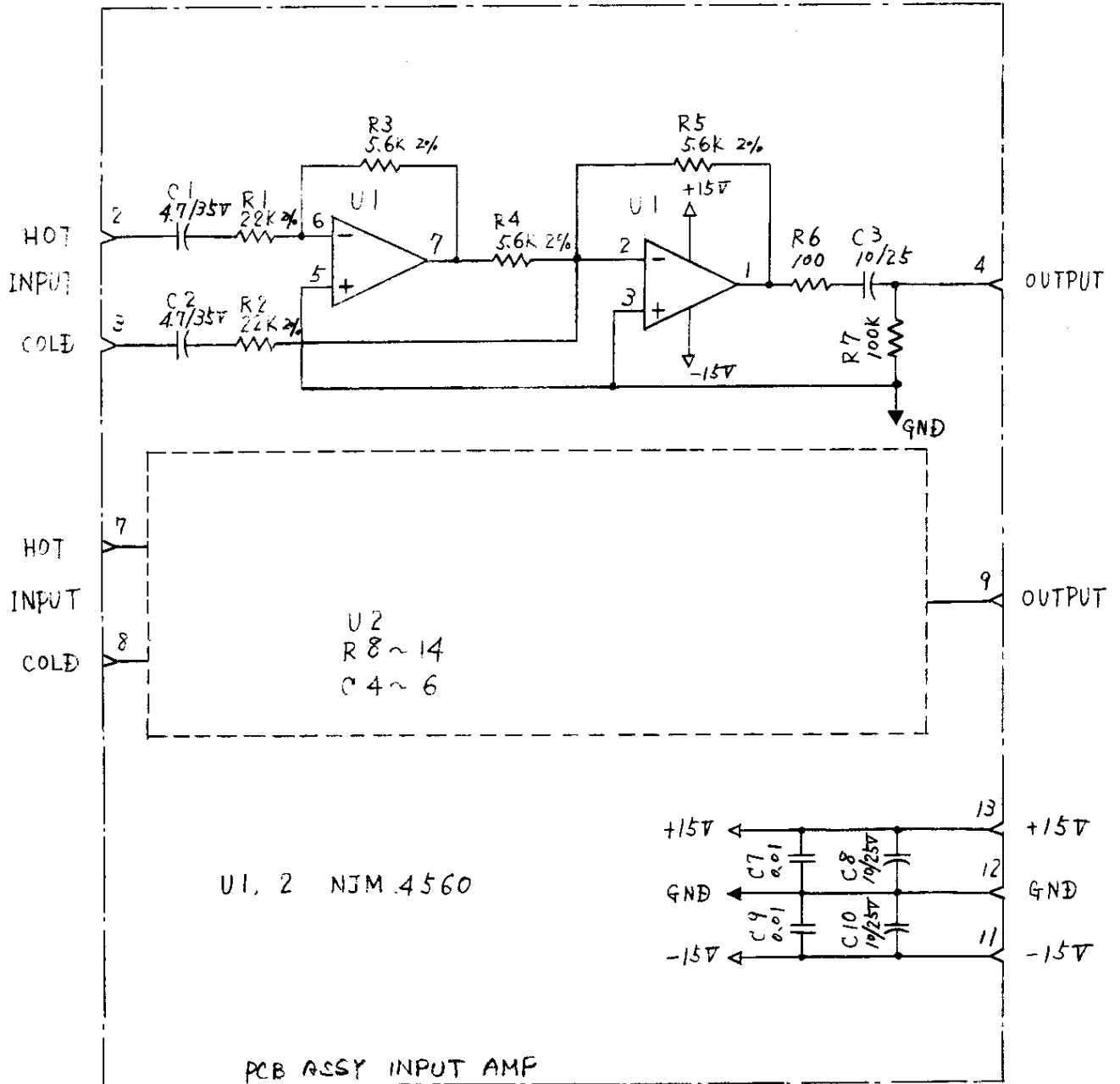
CABLING INTERCONNECTION



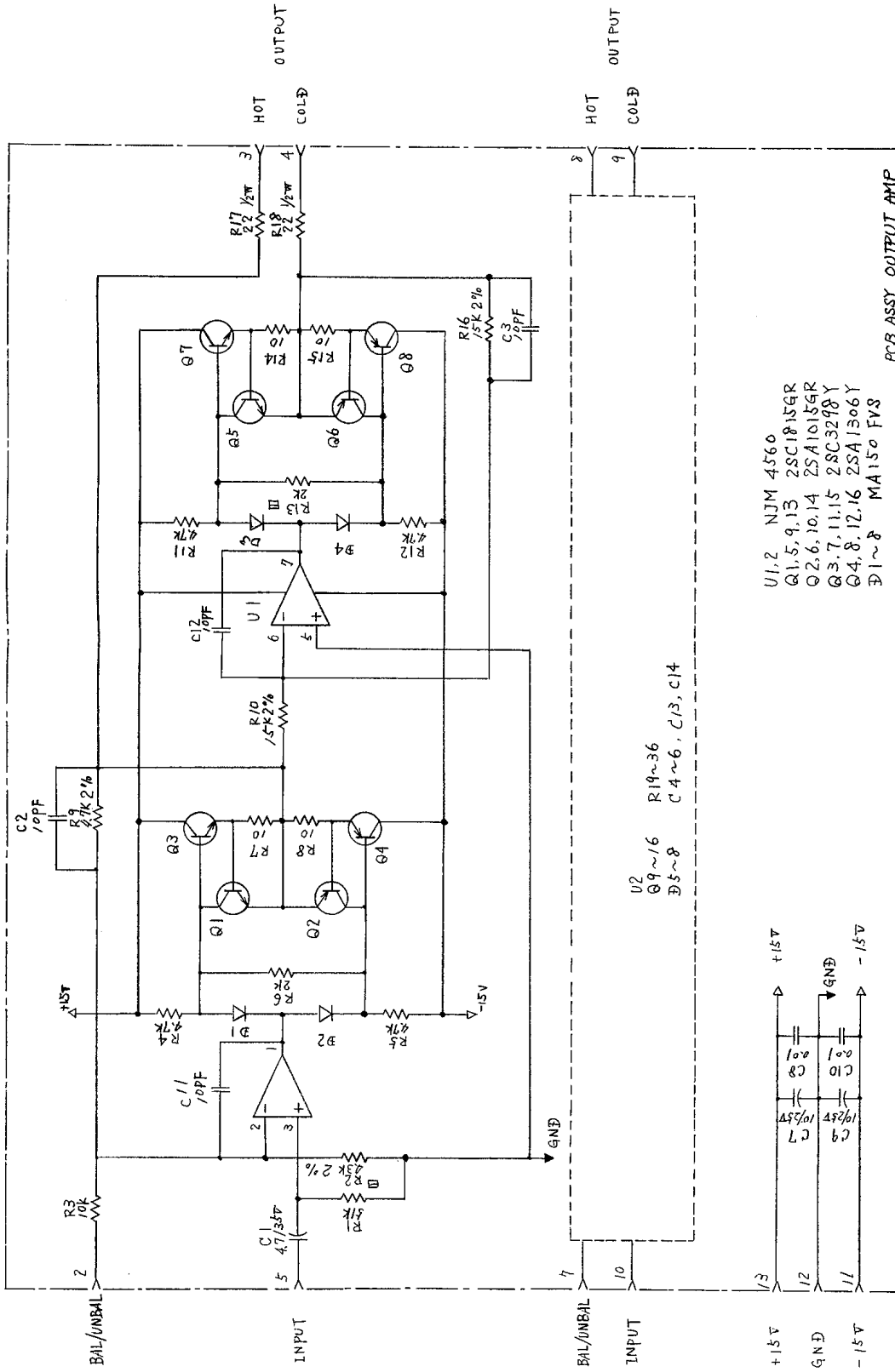
CONNECTOR BOARD PCB ASSY



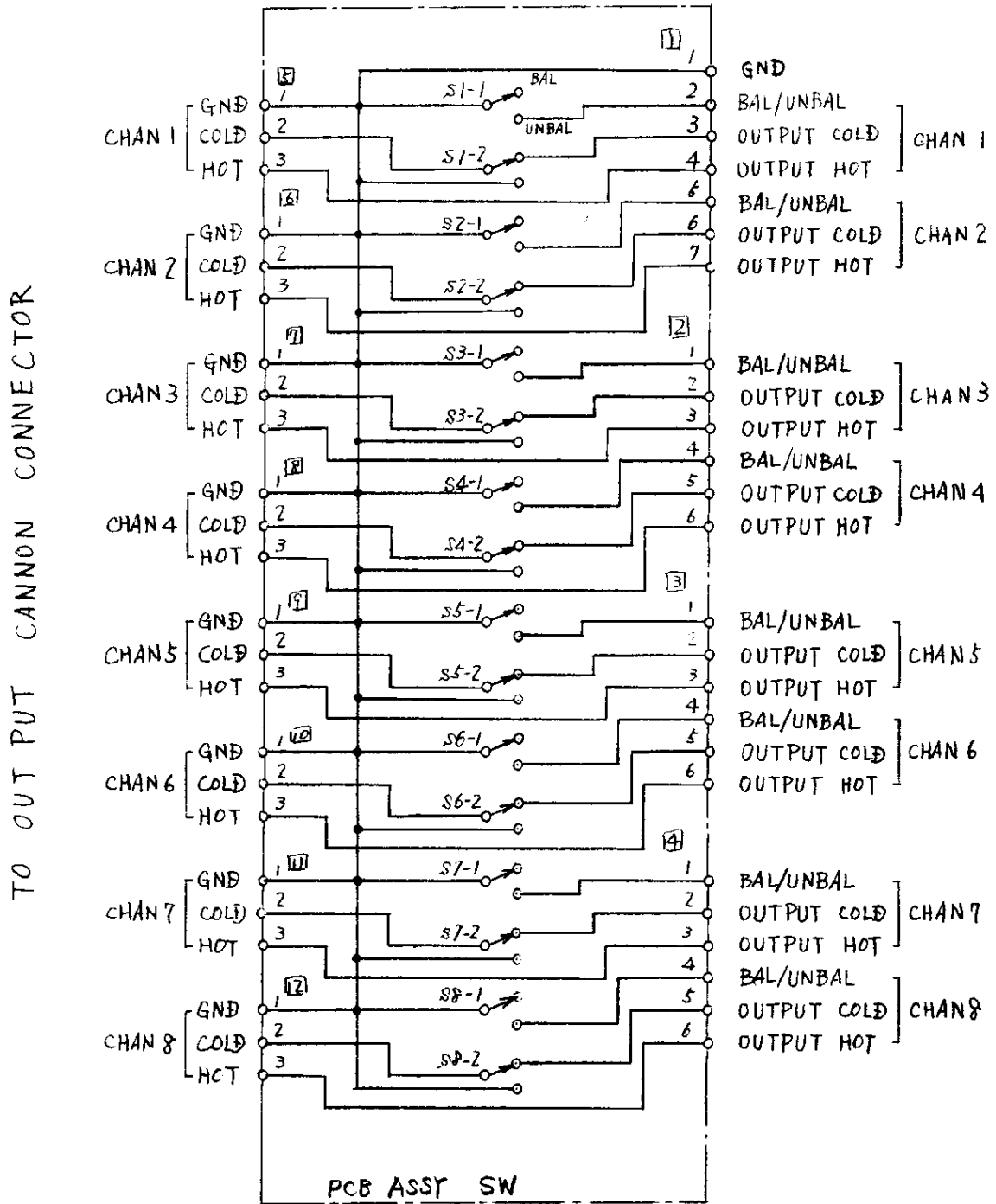
INPUT AMPLIFIER PCB ASS'Y



OUTPUT AMPLIFIER PCB ASSY



SWITCH PCB ASS'Y



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