

SIGNAL PROCESSOR

**PCL 3200**

# SERVICE MANUAL



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SIGNAL PROCESSOR

**PCL3200**

**SERVICE MANUAL**

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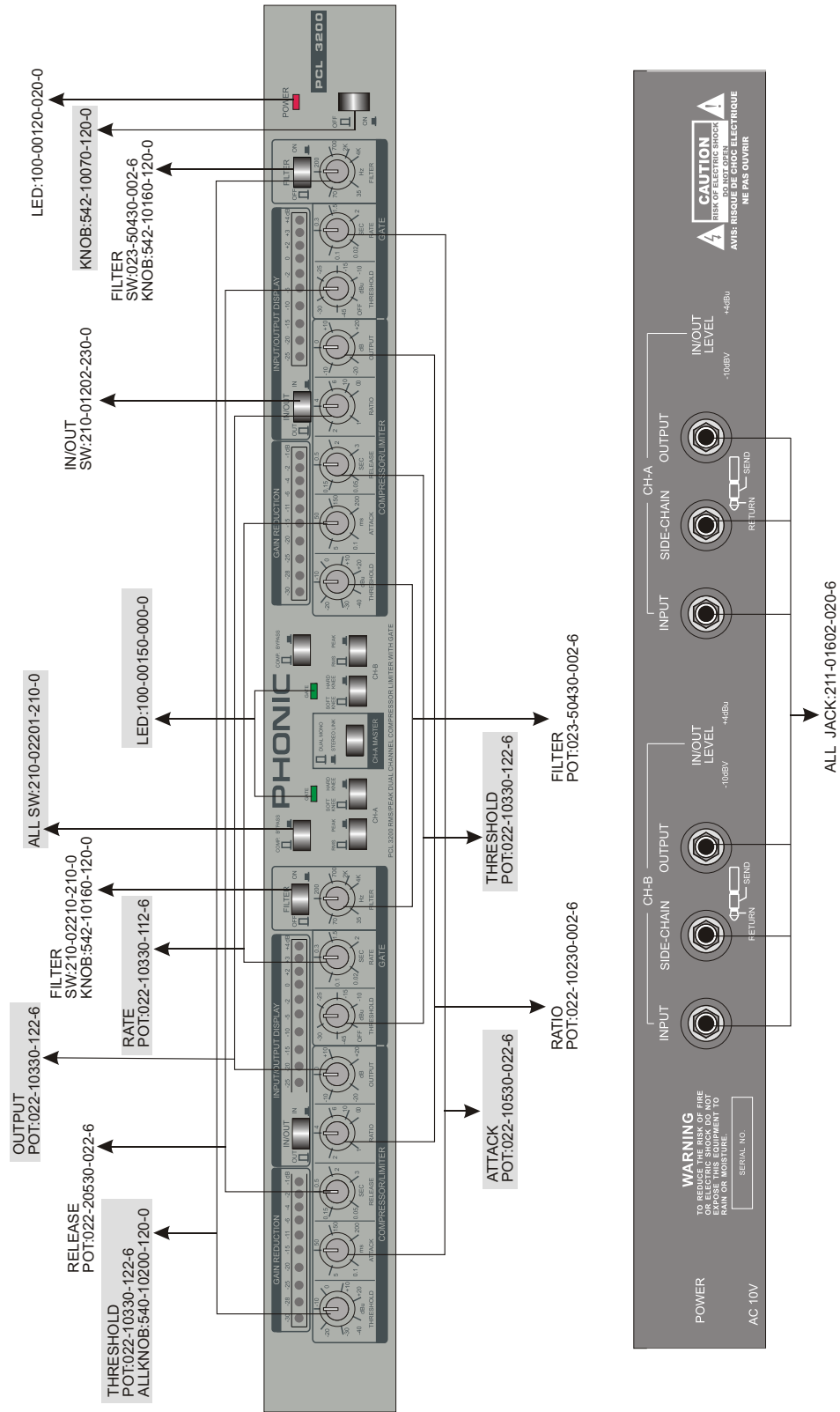
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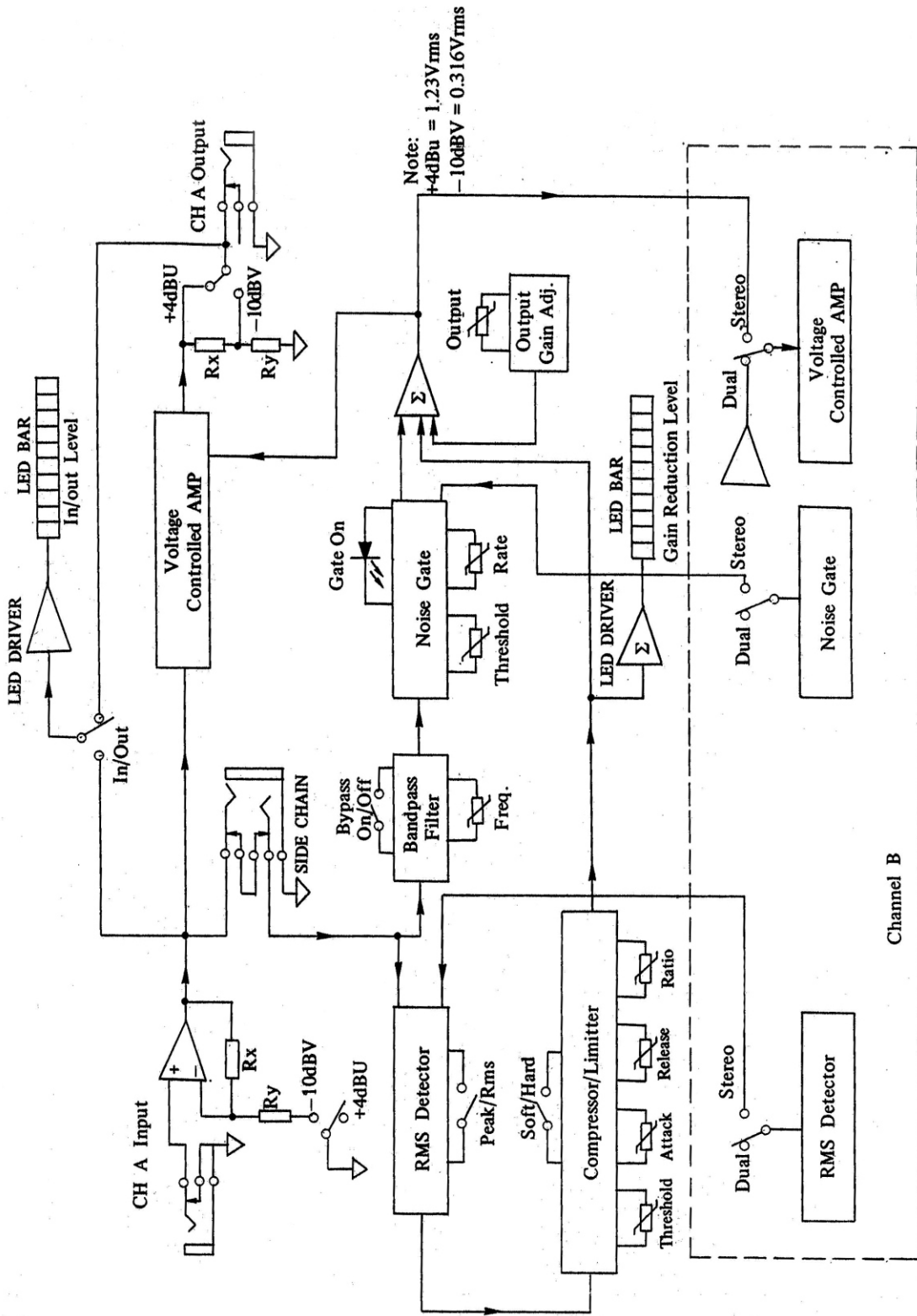
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PCL 3200

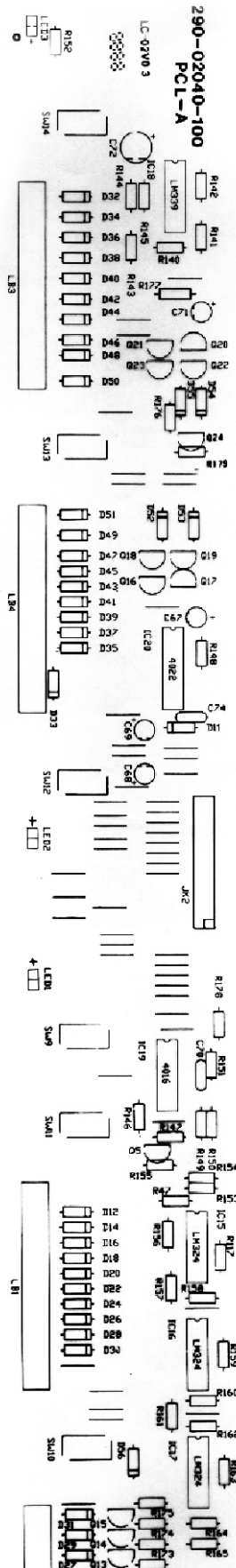


SYSTEM BLOCK DIAGRAM

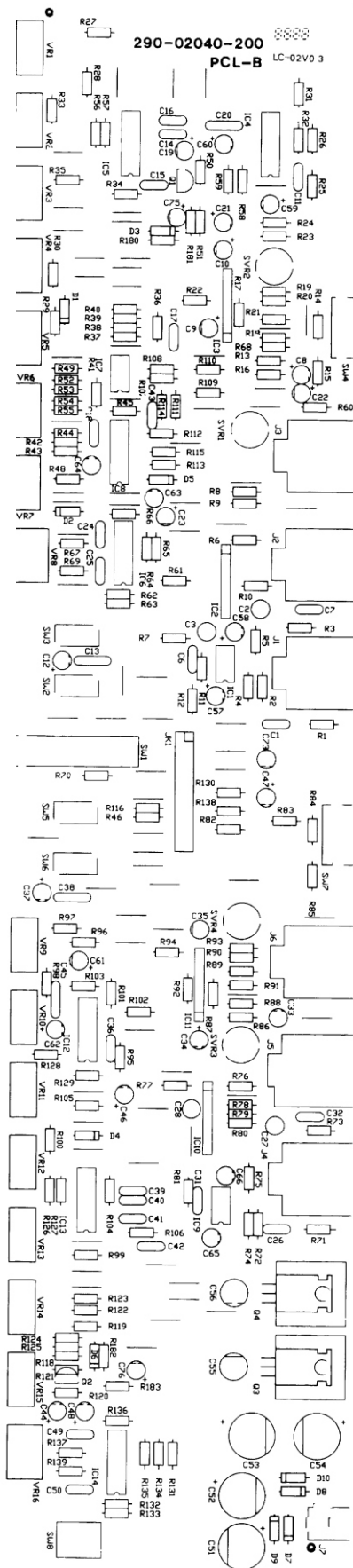
PCL-3200 BLOCK DIAGRAM



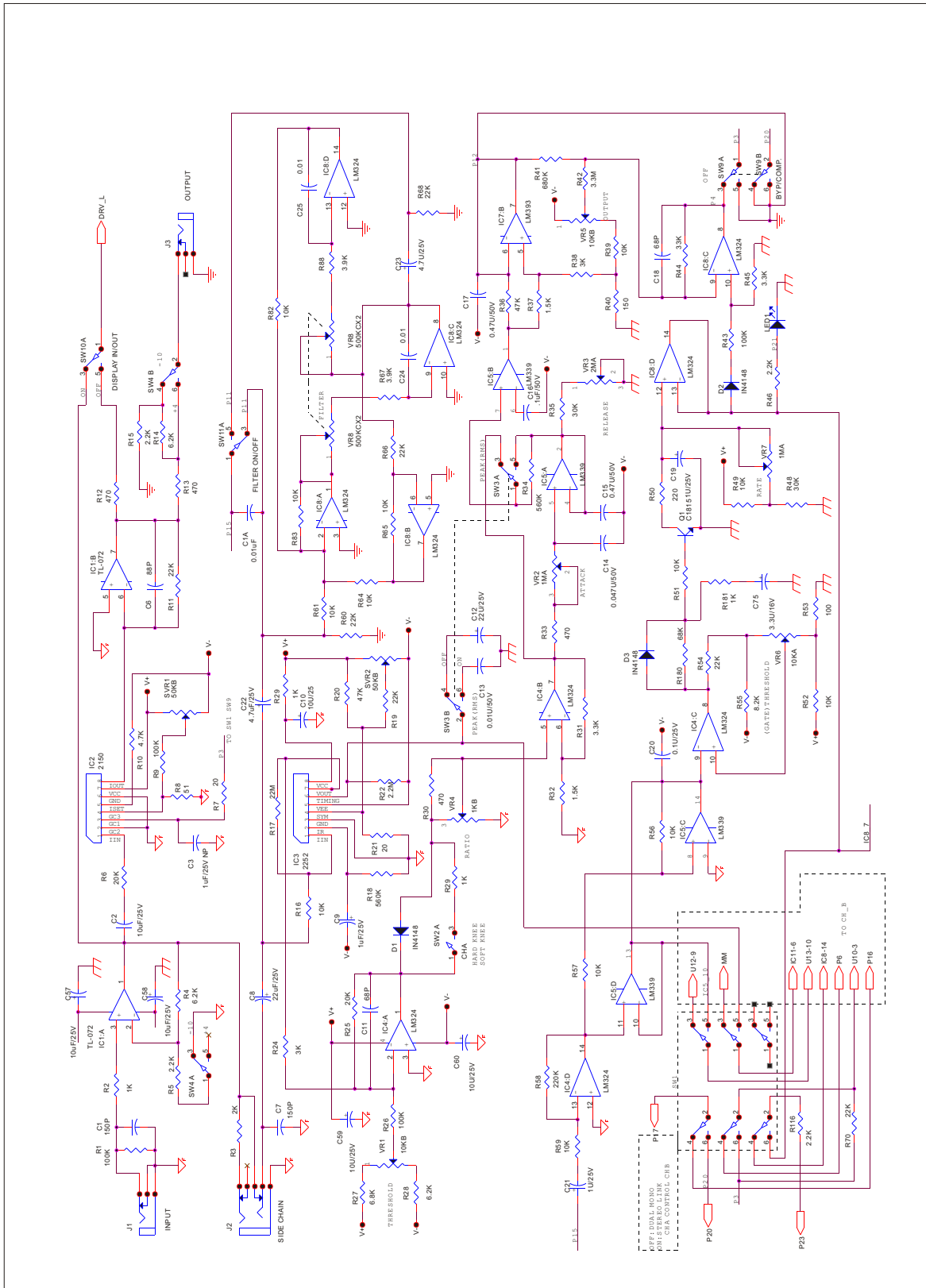
PCL- A PCB



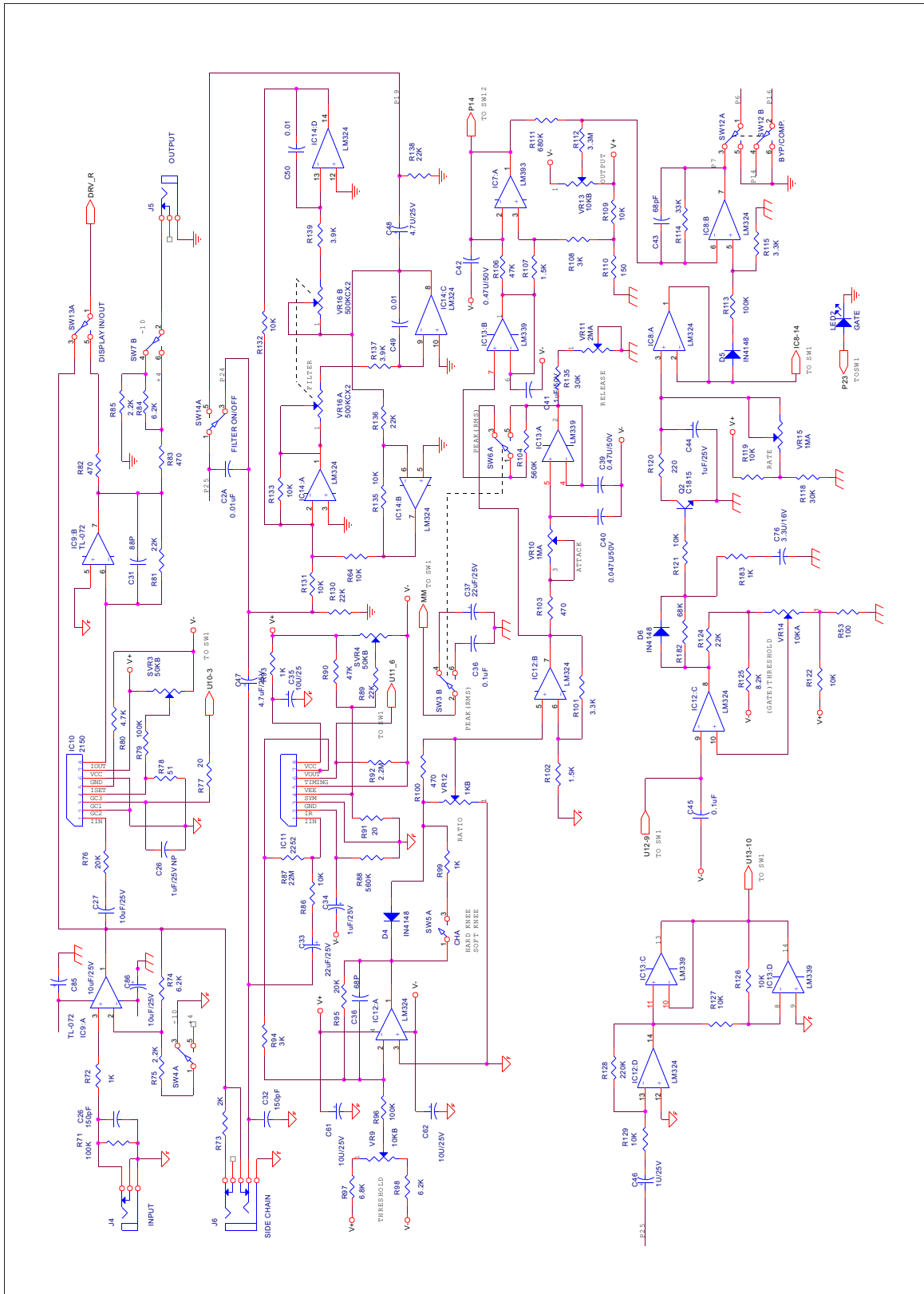
PCL- B PCB



CHANNEL-A SCHEMATIC

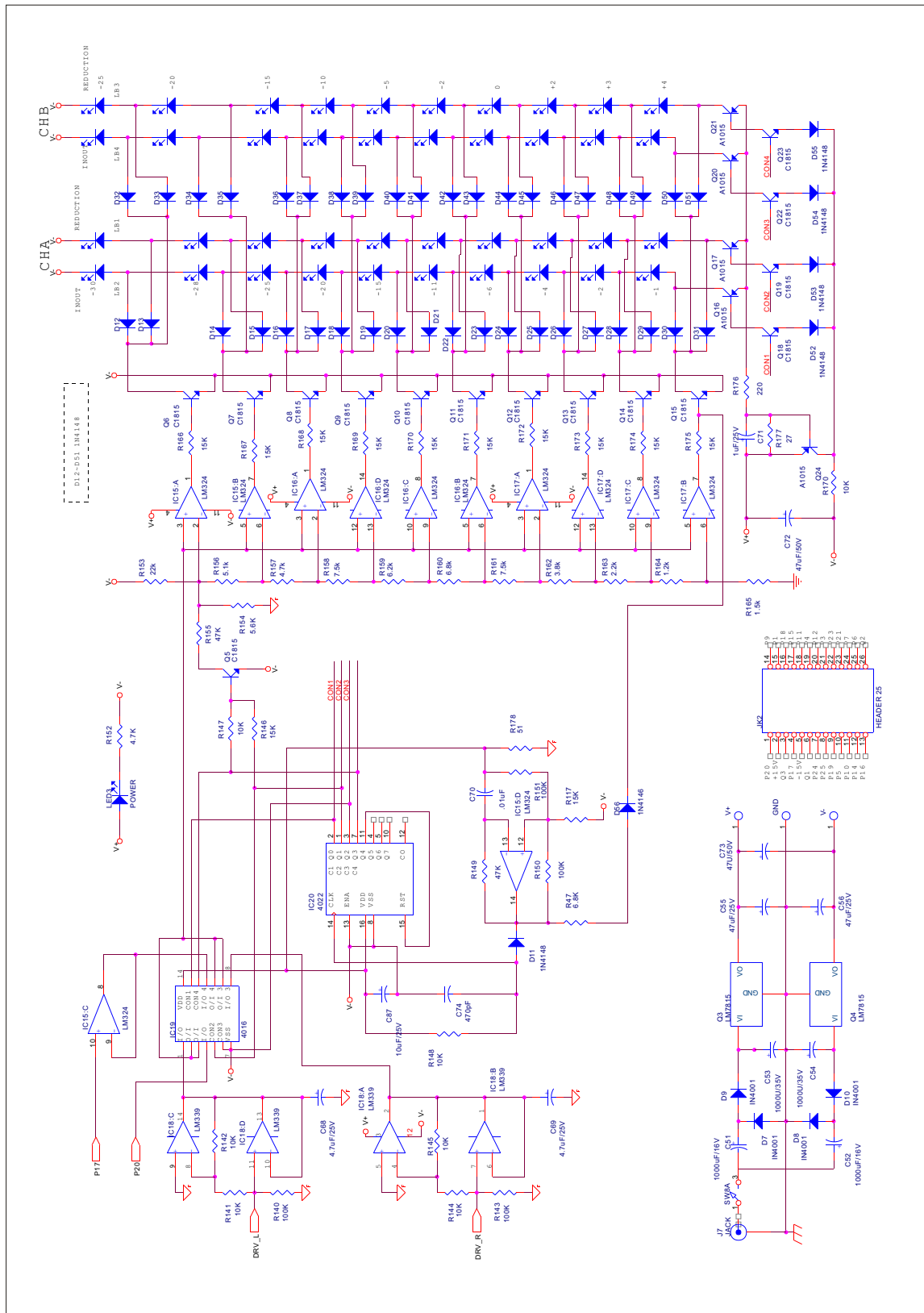


CHANNEL-B SCHEMATIC





DISPLAY SCHEMATIC



## PCL A PCB-PART LIST

Ref.	Phonic Part No.	Specifications
	042-10425-000-0	C/C2 0.1MF K 50V
	322-00800-100-0	TUBE 8MM*D1
	046-10414-060-0	M/C 0.1MF J 100V 5 T
	382-10010-010-0	TINNER WIRE 10MM D0.6
C67	030-10638-000-0	E/C 10MF Z 25V 5*11 P
C68,69	030-47538-000-0	E/C 4.7MF Z 25V 5*11 P
C70	046-10305-060-0	M/C 0.01MF K 50V T
C71	030-10536-000-0	E/C 1MF M 25V 5*11 P
C72	030-47658-000-0	E/C 47MF Z 50V 8*11 P
C74	042-47126-050-0	C/C2 470PF M 50V T
D11-56	090-02000-020-0	DIODE 1N4148 T
IC15,16,17	160-00003-710-0	IC LM324N NS
IC18	160-00006-200-0	IC LM339N NS
IC19	172-00002-000-0	CMOS IC CD4016 RCA
IC20	172-00002-110-0	CMOS IS CD4022 BE/BP
JK2	211-09261-000-0	26P B.E/S 2600S-26G2
LB1.3	100-01010-010-0	LED BAR LA09B/3H2Y5G
LB2.4	100-01010-000-0	LED BAR LA09B/10H
PCB2	290-02040-100-0	PCB PCL-3200 01 PCL-A
Q16,17,20,21,24	121-00000-200-0	TRAN. 2SA1015 GR TOSHIBA
Q5-15,18,19,22,23	120-00000-800-0	TRAN. 2SC1815 GR TOSHIBA
R117,146,147,166-175	000-15326-400-0	CF RES. 15K J 0.25W T
R140,143,150,151	000-10426-400-0	CF RES. 100K J 0.25W T
R141,142,144,145,148,179	000-10326-400-0	CF RES. 10K J 0.25W T
R149,155	000-47326-400-0	CF RES. 47K J 0.25W T
R152,157	000-47226-400-0	CF RES. 4K7 J 0.25W T
R153	000-22326-400-0	CF RES. 22K J 0.25W T
R154	000-56226-400-0	CF RES. 5K6 J 0.25W T
R156	000-51226-400-0	CF RES. 5K1 J 0.25W T
R158,161	000-75226-400-0	CF RES. 7K5 J 0.25W T
R159	000-62226-400-0	CF RES. 6K2 J 0.25W T
R162	000-39226-400-0	CF RES. 3K9 J 0.25W T
R163	000-22226-400-0	CF RES. 2K2 J 0.25W T
R164	000-12226-400-0	CF RES. 1K2 J 0.25W T
R165	000-15226-400-0	CF RES. 1K5 J 0.25W T
R176	000-22126-400-0	CF RES. 220 J 0.25W T

## PCL A PCB-PART LIST

Ref.	Phonic Part No.	Specifications
R178	000-51026-400-0	CF RES. 51 J 0.25W T
R47,160	000-68226-400-0	CF RES. 6K8 J 0.25W T
SW11.14	046-10304-001-0	M/C 0.01MF J 50V 3.5
SW9-14	210-02201-210-0	PH/SW SPPJ22NE01-PJ

## PCL B PCB -PART LIST

Ref.	Phonic Part No.	Specifications
	382-10010-010-0	TINNER WIRE 10MM D0.6
C1,7,26,32	042-15125-050-0	C/C2 150PF K 50V T
C10,35,57-66	030-10638-000-0	E/C 10MF Z 25V 5*11 P
C13,38	046-10406-060-0	M/C 0.1MF M 50V T
C14,39	046-47305-060-0	M/C 0.047MF K 50V T
C15.17.40.42	040-47426-160-0	ML/C 0.47UF M 50V T
C16,20,41,45	042-10428-050-0	C/C2 0.1MF Z 50V T
C2,27	032-10636-000-0	NP E/C 10MF M 25V 6*11 P
C22,23,47,48	030-47538-000-0	E/C 4.7MF Z 25V 5*11 P
C24,25,49,50	046-10305-060-0	M/C 0.01MF K 50V T
C3,28	032-10528-000-0	NP E/C 1MF Z 16V 5*11 P
C55,56	030-47638-000-0	E/C 47MF Z 25V 6*11 P
C6,11,18,31,36,43	042-68025-050-0	C/C2 68PF K 50V T
C73	030-47658-000-0	E/C 47MF Z 50V 8*11 P
C75,76	030-33526-000-0	E/C 3.3MF M 16V 5*11 P
C8,12,33,37	030-22636-000-0	E/C 22MF M 25V 5*11 P
C9,19,21,34,46,44	030-10536-000-0	E/C 1MF M 25V 5*11 P
D1-6	090-02000-020-0	DIODE 1N4148 T
PCB1	290-02040-200-0	PCB PCL-3200 02 PCL-B
Q1,2	120-00000-800-0	TRAN. 2SC1815 GR TOSHIBA
R1,9,26,43,71,79,96,113	000-10426-400-0	CF RES. 100K J 0.25W T
R10,80	000-47226-400-0	CF RES. 4K7 J 0.25W T
R11,60,68,66,54,19,81,89,130,1 36,138,124	000-22326-400-0	CF RES. 22K J 0.25W T
R16,39,49,51,52,56,57,59,61-65 ,86,109,121,122,126,127,129,13 1-135,119	000-10326-400-0	CF RES. 10K J 0.25W T
R17,87	000-22626-400-0	CF RES. 22M J 0.25W T
R180,182	000-68326-400-0	CF RES. 68K J 0.25W T
R2,23,29,181,183,72,93,99	000-10226-400-0	CF RES. 1K J 0.25W T
R20,36,90,106	000-47326-400-0	CF RES. 47K J 0.25W T
R22.92	006-10042-440-0	MF RES 1M F 025W
R24,38,94,108	000-30226-400-0	CF RES. 3K J 0.25W T
R27,97	000-68226-400-0	CF RES. 6K8 J 0.25W T
R3,73	000-20226-400-0	CF RES. 2K J 0.25W T
R31,45,101,115	000-33226-400-0	CF RES. 3K3 J 0.25W T

## PCL B PCB -PART LIST

Ref.	Phonic Part No.	Specifications
R32,37,102,107	000-15226-400-0	CF RES. 1K5 J 0.25W T
R33,103,12,13,82,83,30,100	000-47126-400-0	CF RES. 470 J 0.25W T
R34,104,18,88	000-56426-400-0	CF RES. 560K J 0.25W T
R35,105,48,118	000-30326-400-0	CF RES. 30K J 0.25W T
R4,14,28,74,84,98	000-62226-400-0	CF RES. 6K2 J 0.25W T
R40,110	000-15126-400-0	CF RES. 150 J 0.25W T
R41,111	000-68426-400-0	CF RES. 680K J 0.25W T
R42,112	000-33526-400-0	CF RES. 3M3 J 0.25W T
R44,114	000-33326-400-0	CF RES. 33K J 0.25W T
R5,15,46,75,85,116	000-22226-400-0	CF RES. 2K2 J 0.25W T
R50,120	000-22126-400-0	CF RES. 220 J 0.25W T
R53,123	000-10126-400-0	CF RES. 100 J 0.25W T
R55,125	000-82226-400-0	CF RES. 8K2 J 0.25W T
R58,128	000-22426-400-0	CF RES. 220K J 0.25W T
R6,25,76,95	000-20326-400-0	CF RES. 20K J 0.25W T
R67,69,137,139	000-39226-400-0	CF RES. 3K9 J 0.25W T
R7,21,77,91	000-20026-400-0	CF RES. 20 J 0.25W T
R8,78	000-51026-400-0	CF RES. 51 J 0.25W T

## MISCELLANEOUS ITEMS

Ref.	Phonic Part No.	Specifications
	100-00120-020-0	LED LH5120 HRED
	100-00150-020-0	LED LG5120 GRN
	211-09261-020-0	26P B.E./S 6201S-300-26G
	322-01000-200-0	TUBE 10M/M*D2
	379-01121-107-0	M.WIRE UL1007 #26 120MM BLK
	379-01121-110-0	M.WIRE UL1007 #26 120MM BWN
	510-10760-110-0	FRONT PANEL PCL-3200 PHONIC
	511-11070-100-0	BACK PANEL PCL-3200 PHONIC
	540-10200-120-0	R/KNOB D11*16 BLK/CYAN
	560-10760-301-0	CARTON PCL3200 SIZE:585*332*465 A=B
	561-10660-301-0	G/B PCL3200 SIZE:570*104*220 300g+B9B9
	562-60014-000-0	PULP PANEL 300*288 A3B
	567-60018-000-0	L/EPE DFX256
	567-60019-000-0	R/EPE DFX256
	568-00003-000-0	PE BAG #10 240*340*0.05
	568-20004-000-0	PE BAG 550*300*0.05
	572-00000-050-0	DRYER 5g
	573-10063-012-0	M.I.C LABEL 50*10MM
	573-60343-000-0	LABEL LEVEL METER LABEL BLUE D=8mm
	574-02040-110-0	OWN. MANU PCL-3200 PHONIC
	579-00000-068-0	MINI CATALOG PHONIC SERIES
	590-52606-100-0	M/E SET SCR. M2.6*6 NI
	610-00300-500-0	PLA. WAS. D3.0*D7.0*0.5 ZN
	615-10056-620-0	HEX. BOSS L=30 ( H-30)
	630-20027-100-0	PCB INSU 433*57*0.3
	630-20028-100-0	PCB INSU 433*95*0.3
	631-10027-000-0	HEMELON 24*12
	S02-04000-000-0	PCL3200 PHONIC MATERIAL
	510-10760-110-F	PANEL PCL3200
	511-11070-100-F	BACK PANEL PCL3200
	551-10073-200-F	SIDE BRKT PCL3200
	313-00000-060-0	RUBBER WASHER TO-2203
	314-00000-050-0	BUSHES 602S(V.0) 180DEGREE

## MISCELLANEOUS ITEMS

Ref.	Phonic Part No.	Specifications
	526-10040-110-0	U-HEAT SINK BLK
	550-10036-400-0	CHASSIS PCL-3200
C51,52	030-10828-000-0	E/C 1000MF Z 16V 13*18 P
C53,54	030-10848-001-0	E/C 1000MF Z 35V 13*25 P
D7-10	090-00000-020-0	DIODE 1N4001 SILITEK T
FOR POWER SW	042-10425-050-0	C/C2 0.1MF K 50V 5 T
FOW SW1	610-00301-018-0	FIBER WAS. D3.0*8*1
FRONT PANEL*6	590-03004-100-0	M/E FLT SCR. M3.0*4 NI
IC1,9	160-00000-000-0	IC TL072CP TI
IC2,10	160-00014-000-0	IC THAT 2150A
IC3,11	160-00006-301-0	IC THAT 2252
IC4,6,8,12,14	160-00003-710-0	IC LM324N NS
IC5,13	160-00006-200-0	IC LM339N NS
IC7	160-00001-600-0	IC LM393N NS
INPUT*2,FILTER*2,COMP*2,R MS*2,SOFTKNEE*2	542-10160-120-0	P/KNOB D10*5.2*17 BLK
J1-6	211-01602-020-6	6D3/J EPJ-BBB-P (12.5)
J7	211-02300-040-0	2D DC/J DJ-0702-020
JK1	211-09261-000-0	26P B.E/S 2600S-26G2
LF*1,RT*1	551-10073-200-0	SIDE BRKT BLK
PCB*5	590-53006-200-0	M/E SET SCR. M3.0*6 BLK
POWER SW*1, MASTER*1	542-10070-120-0	P/KNOB 10*5*8 BLK
Q3	160-00005-909-0	IC 7815
Q3,4-HS	590-53010-100-0	M/E SET SCR. M3.0*10 NI
Q3,4-HS	600-00302-200-0	HEX. NUT M3.0*2.2 ZN
Q3.4	610-60300-700-0	PAN SPR WAS. D3.0*6.0*0.7ZN
Q4	160-00002-909-0	IC 7915
R22.92	006-10042-440-0	MF RES 1M F 025W
SIDE BRKT*8	591-53006-200-0	T/P SET SCR. M3.0*6 BLK
SVR1-4	020-50354-000-0	T/VR 50K 0.1W D8 3M S
SW1	210-02601-030-0	PH/SW JDPB-61S-A(N)
SW2,3,5,6	210-02201-210-0	PH/SW SPPJ22NE01-PJ
SW4,7	210-01202-230-0	S/SW SAP 752205-35JJ1
SW8	210-02201-330-0	PH/SW PPD872214-11SNC
SW8	630-60031-451-0	PVC PLATE 20*5*0.5MM
VR1.5.9.13	022-10330-122-6	S.ROT/VR B10K 20MM P

## MISCELLANEOUS ITEMS

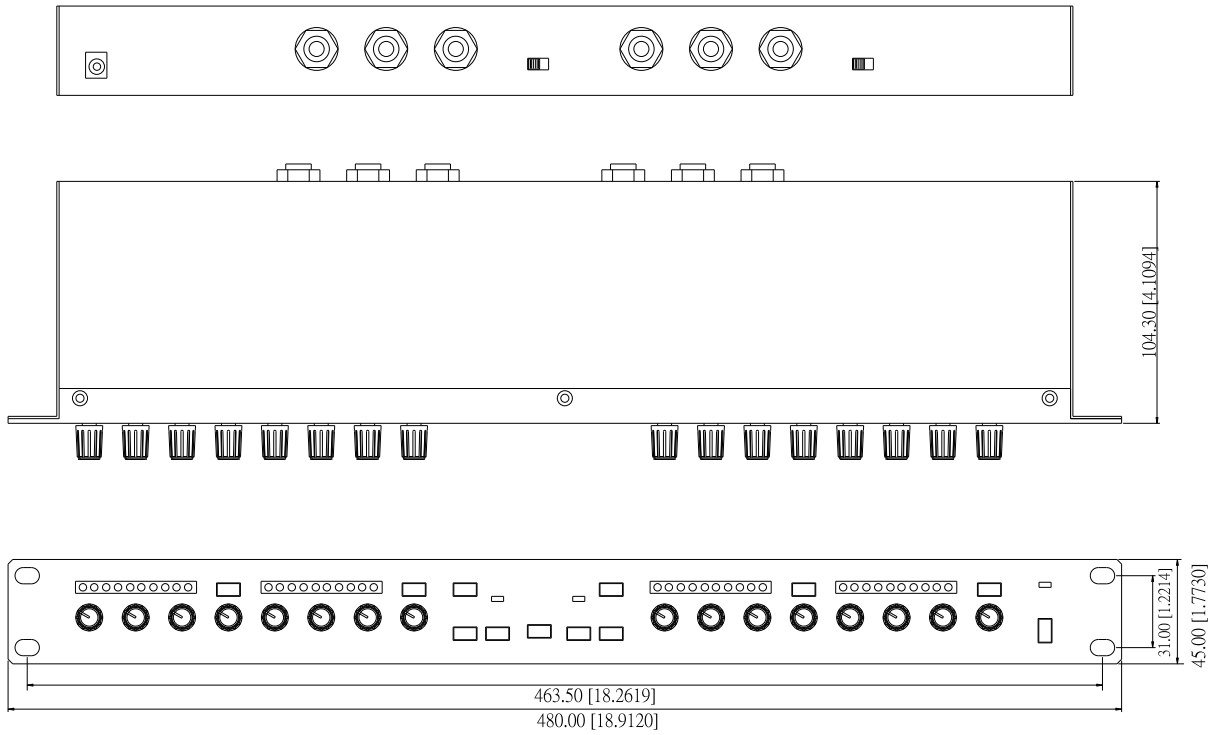
Ref.	Phonic Part No.	Specifications
VR3.11	022-20530-002-6	S.ROT/VR A2M 20MM P
VR4.12	022-10230-002-6	S.ROT/VR B1K 20MM P
VR6.14	022-10330-112-6	S.ROT/VR A10K 20MM P
VR8.16	023-50430-002-6	D.ROT/VR C500K 20MM P



## POWER REQUIREMENT CLASSIFICATION

Ref.	Phonic Part No.	Specifications
<u>DX22 BS</u>	353-20401-200-0	AC ADAPTOR PCL-3200/DX22
	573-10032-010-0	POWER LABEL (ONLY USED IN BS)
	573-60240-000-0	BAR CODE LABEL PHONIC SERIES LABEL
<u>DC100 JIS</u>	353-20401-400-0	AC ADAPTOR PCL-3200/DX22 JIS
	573-60240-000-0	BAR CODE LABEL PHONIC SERIES LABEL
<u>DC230 IEC</u>	353-20401-100-0	AC ADAPTOR PCL-3200/DX22 IEC
	573-60240-000-0	BAR CODE LABEL PHONIC SERIES LABEL
<u>DC240 SA</u>	353-21707-000-0	ADAPTOR VERBIFEX AC240V SA
	573-60240-000-0	BAR CODE LABEL PHONIC SERIES LABEL
<u>DC240 SAA</u>	353-20401-300-0	AC ADAPTOR PCL-3200/DX22 SAA
	573-60240-000-0	BAR CODE LABEL PHONIC SERIES LABEL
<u>DC120 UL</u>	353-20401-010-0	ADAPTOR AC10V 600MA UL PCL/DX22
	573-60240-000-0	BAR CODE LABEL PHONIC SERIES LABEL

DIMENSIONS



Measurements are shown in mm/inch.

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