

SIGNAL PROCESSOR

MQ4130

SERVICE MANUAL



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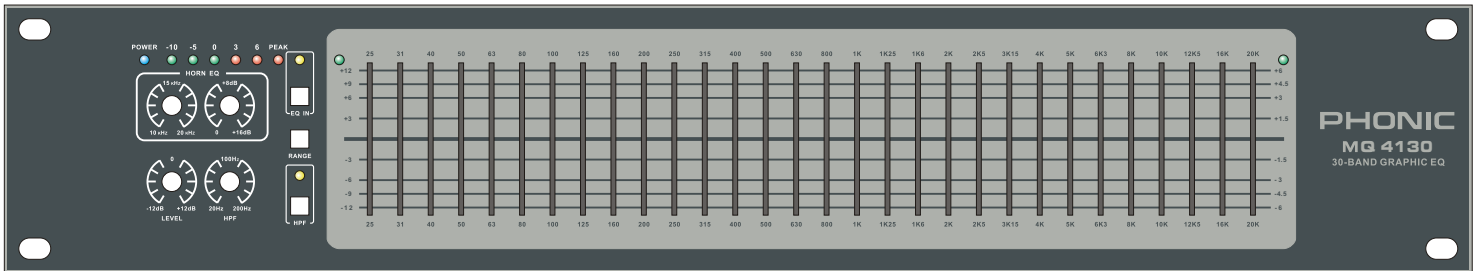
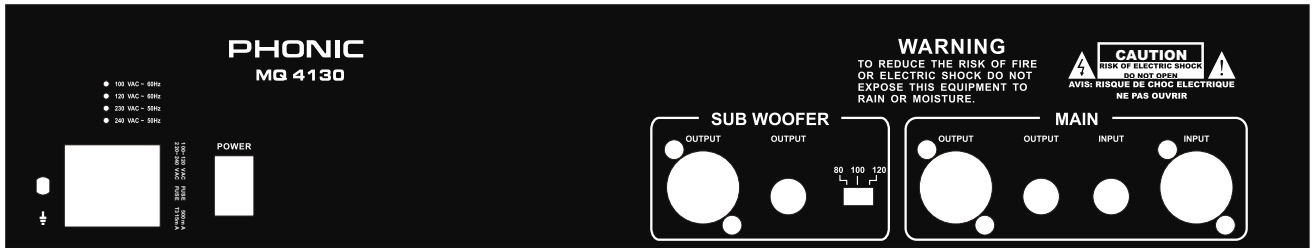
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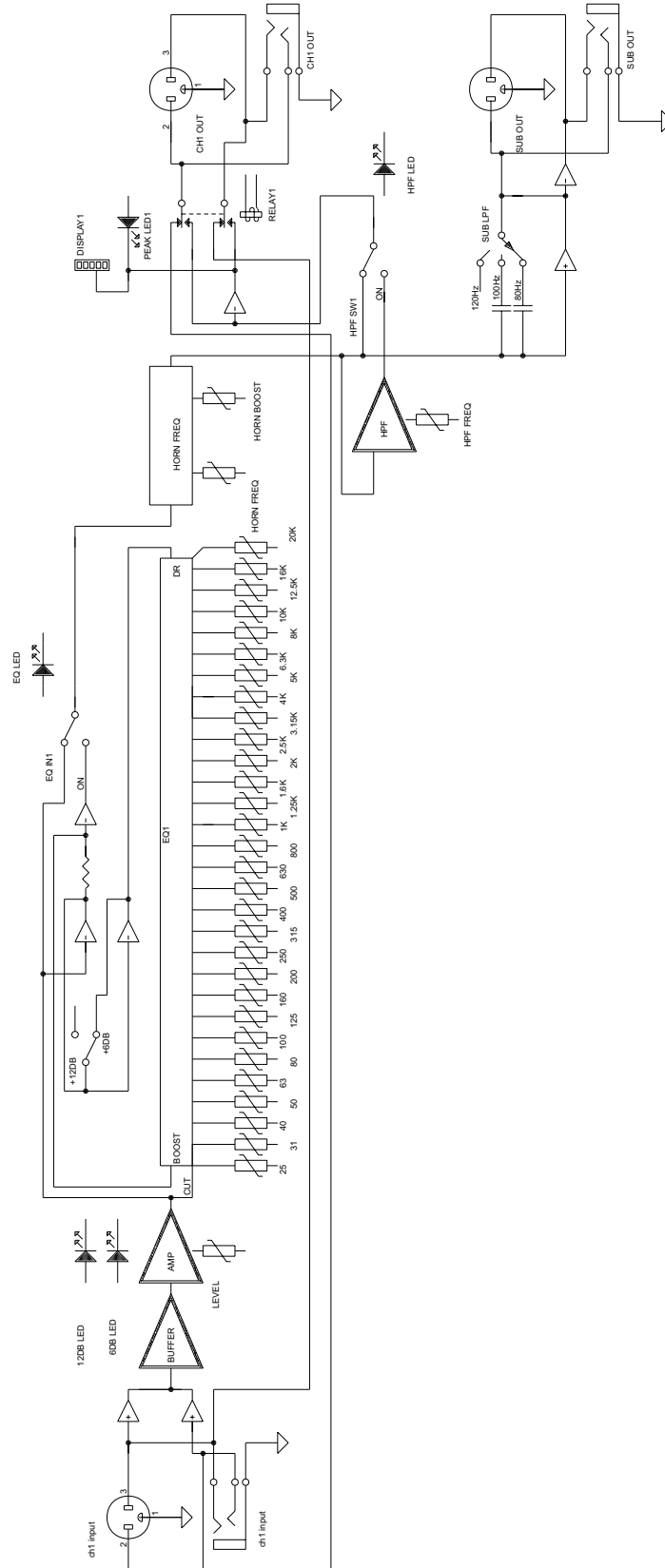
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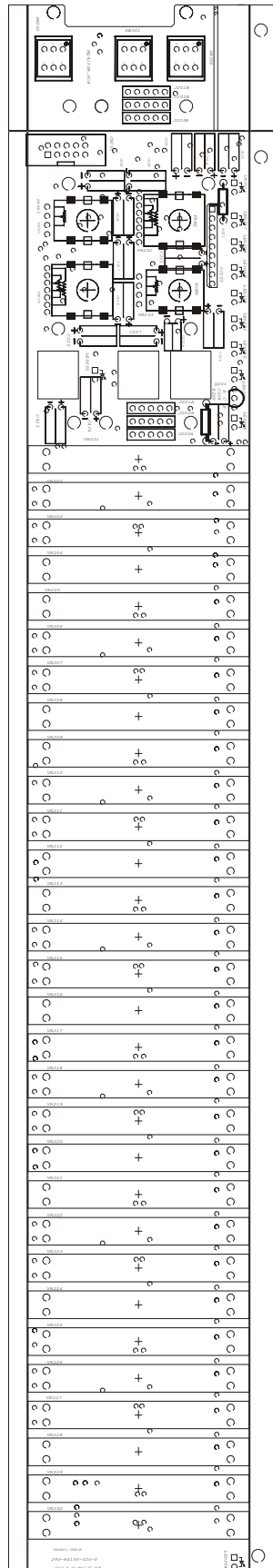
PANEL LAYOUT



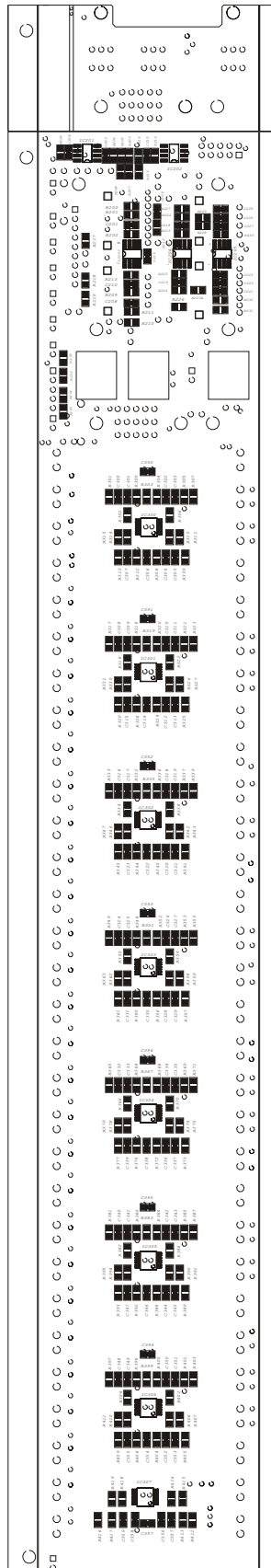
SYSTEM BLOCK DIAGRAM



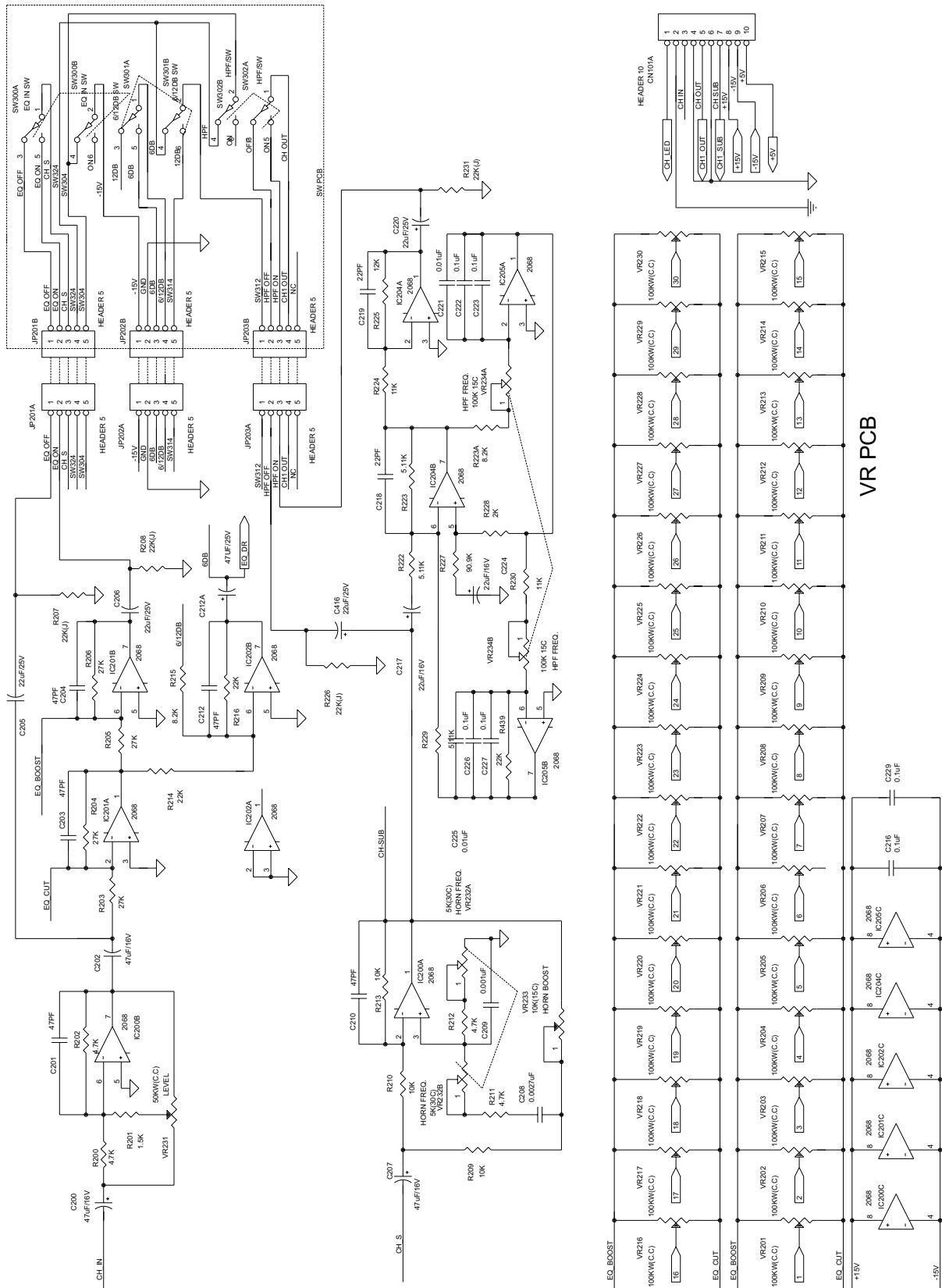
MAIN BOARD PCB- FRONT SIDE



MAIN BOARD PCB- REAR SIDE

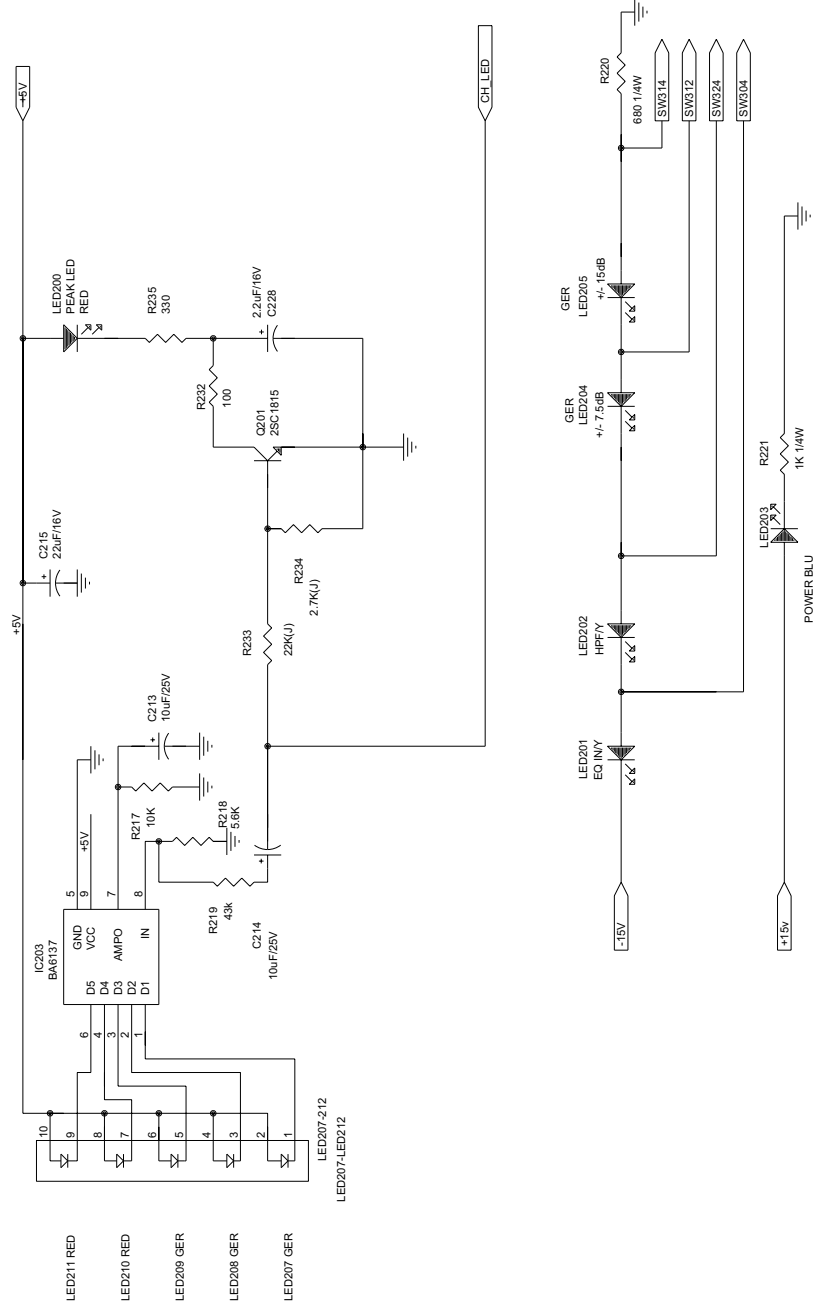


CONTROL SCHEMATIC

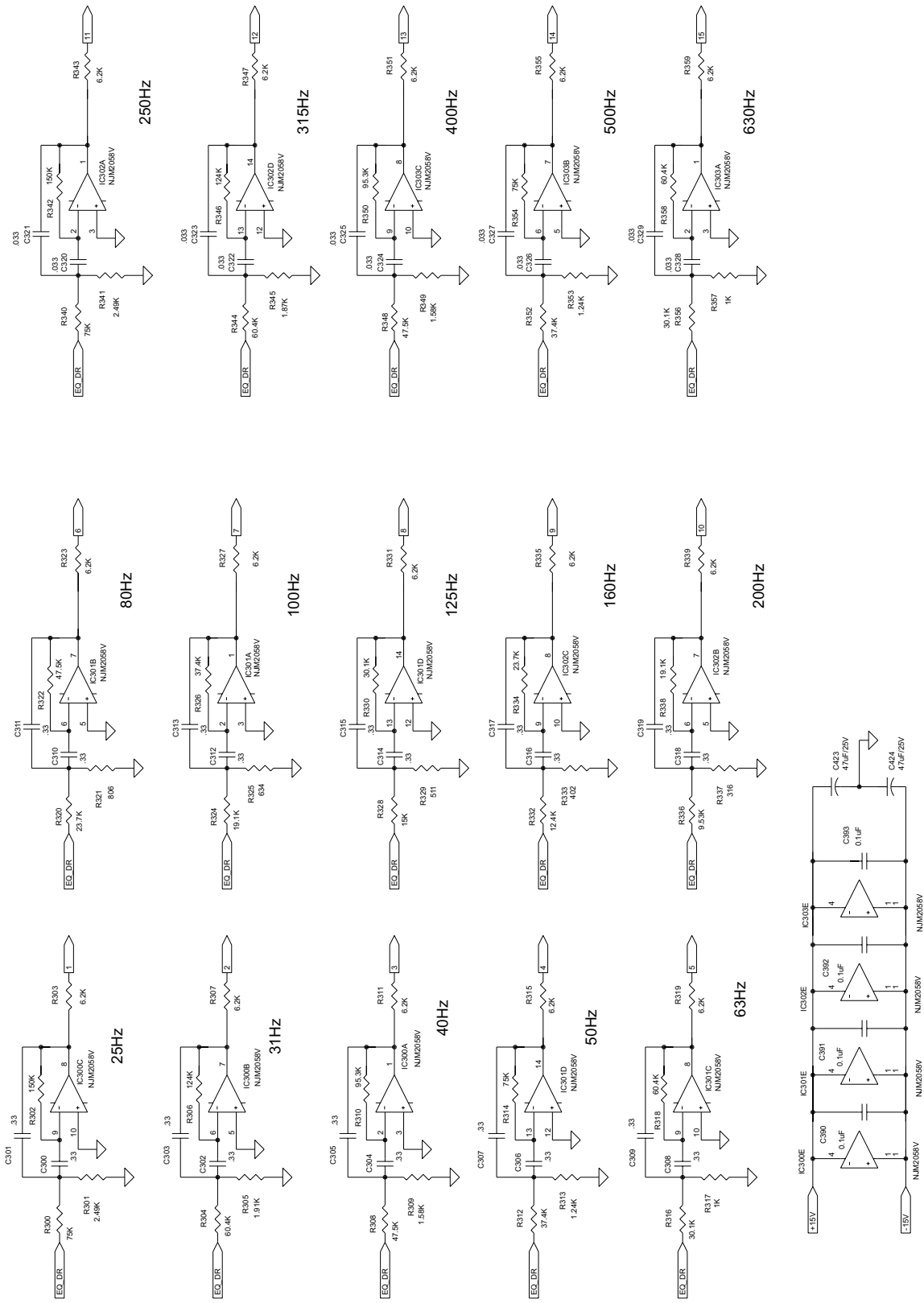


VR PCB

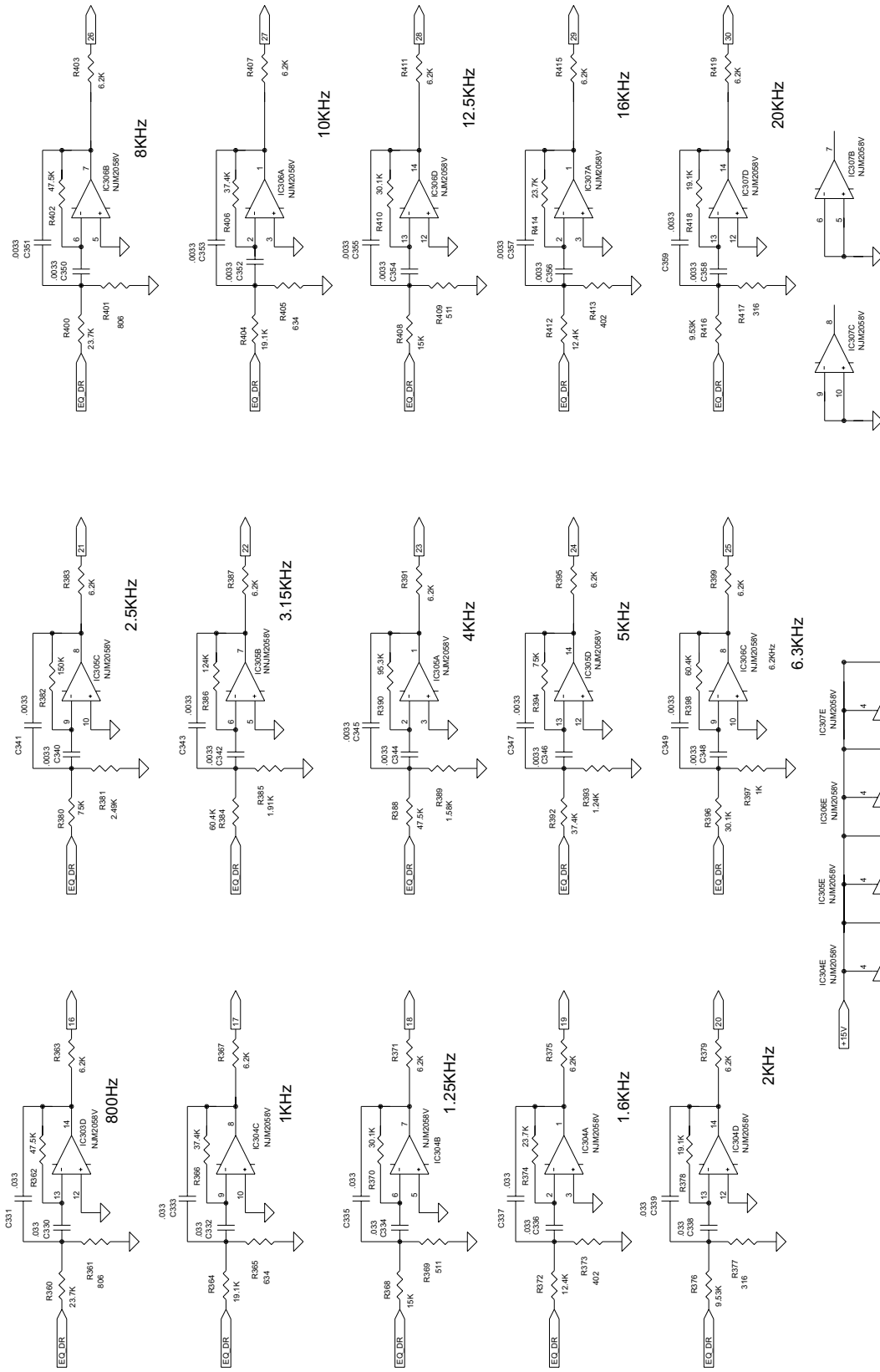
DISPLAY SCHEMATIC



30 BAND 2-1 SCHEMATIC



30 BAND 2-2 SCHEMATIC



CH2 CIRCUIT IS THE SAME AS CH1

MAIN BOARD PCB- PART LIST

Ref.	Phonic Part No.	Specifications
	290-64130-020-0	PCB MQ4130/4230 VRPCB
ALL LED BOSS*11	615-60037-620-0	LED BOSS H=10 LED-10
C200.202.207	035-47626-0A0-0	MINI E/C 47MF M 16V5*7 T
C201.203.204.210.212	039-47024-220-0	CHIP C/C 47PF J 50V 0603
C205.206.220.416	035-22636-0A0-0	MINI E/C 22MF M 25VT
C208	039-27224-220-0	CHIP C/C 0.0027MF J50V0603
C209	039-10224-220-0	CHIP C/C 0.001MF J50V0603
C212A.423.424	035-47636-0A0-0	MINI E/C 47MF M 25VT
C213.214	035-10635-0A0-0	MINI E/C 10MF K 25VT
C215.217.224	035-22626-0A0-0	MINI E/C 22MF M 16VT
C216.222.223.226.227.390-397	039-10425-000-0	CHIP C/C 0.1MF K 50V 0805
C218.219	039-22024-220-0	CHIP C/C 22PF J 50V603
C221.225	039-10324-220-0	CHIP C/C 0.01MF J 50V0603
C228	035-22556-0A0-0	MINI E/C 2.2MF M 50V T
C300-319	039-33435-220-0	CHIP. C/C 0.33MF 10V K0603
C320-339	039-33325-220-0	CHIP C/C 0.033MF K50V0603 +/-10%
C340-359	039-33225-220-0	CHIP C/C 0.0033MF K50V0603 10%
CN101A	211-11210-000-6	10P I.D.C CONNECTORS AND FLAT RIBBON CABLE 250MM
IC200.201.202.204.205	160-00021-300-0	IC NJM2068 SMD JRC
IC203	160-00019-100-0	IC BA6137 (VERTICAL)
IC300-307	160-00022-710-0	IC NJM2058V (SMD)
JP201.202.203	211-09051-010-0	5P B.E./S (PIN HEADER)
LED200.210.211	100-00010-030-0	LED BL-B5141 RED
LED2010.202	100-00040-000-0	LED 204YD YLW
LED203	100-00070-030-0	LED 204UBD D3 BLUE
LED204.205.207.208.209	100-00050-000-0	LED BL-B2141 GRN
Q201	120-00000-800-0	TRAN. 2SC1815 GR TOSHIBA
R200.202.211.212	008-04722-600-0	CHIP RES. 4.7K J0603
R201	008-01522-600-0	CHIP RES. 1.5K J0603
R203.204.205.206	008-02732-600-0	CHIP RES. 27K J0603
R207.208.216.226.231.233. 214.439	008-02232-600-0	CHIP RES. 22K J0603

MAIN BOARD PCB- PART LIST

Ref.	Phonic Part No.	Specifications
R209.210.213.217	008-01032-600-0	CHIP RES. 10K J0603
R218	008-05622-600-0	CHIP RES. 5.6K J0603
R219	008-04332-600-0	CHIP RES. 43KJ 0603
R220	000-68126-400-0	CF RES. 680 J 0.25W T
R221	000-10226-400-0	CF RES. 1K J 0.25WT
R222.223.229	008-51112-400-0	CHIP RES. 5.11K F 0603
R223A.215	008-08222-600-0	CHIP RES. 8.2K J0603
R224.230	008-01132-600-0	CHIP RES. 11K J0603
R225	008-01232-600-0	CHIP RES. 12K J0603
R227	008-90922-400-0	CHIP RES. 90.9K F 0603
R228	008-02022-600-0	CHIP RES. 2K J0603
R232	008-01012-600-0	CHIP RES. 100 J0603
R234	008-02722-600-0	CHIP RES. 2.7K J0603
R235	008-03312-600-0	CHIP RES. 330 J0603
R300.314.340.354.380.394	008-07532-600-0	CHIP RES. 75K J0603
R301.341.381	008-24912-400-0	CHIP RES. 2.49K F 0603
R302.342.382	008-01542-600-0	CHIP RES. 150K J0603
R303.307.311.315.319.323.327. 331.335.339.343.347.351.355. 359.363.367.371.375.379	008-06222-600-0	CHIP RES. 6.2K J0603
R304.318.344.358.384.398	008-60422-400-0	CHIP RES. 60.4K F 0603
R305.385	008-19112-400-0	CHIP RES. 1.91K F 0603
R306.346.386	008-12432-400-0	CHIP RES. 124K F0603
R308.322.348.362.388.402	008-47522-400-0	CHIP RES. 47.5K F 0603
R309.349.389	008-15812-400-0	CHIP RES. 1.58K F 0603
R310.350.39	008-95322-400-0	CHIP RES. 95.3K F 0603
R312.326.352.366.392.406	008-37422-400-0	CHIP RES 37.4K F0603
R313.353.393	008-12412-400-0	CHIP RES. 1.24K F 0603
R316.330.356.370.396.410	008-30122-400-0	CHIP RES. 30K1 F0603
R317.357.397	008-01022-600-0	CHIP RES. 1K J0603
R320.334.360.374.400.414	008-23722-400-0	CHIP RES. 23.7K F 0603
R321.361.401	008-80602-400-0	CHIP RES. 806 F0603
R324.338.364.378.404.418	008-19122-400-0	CHIP RES. 19.1K F 0603

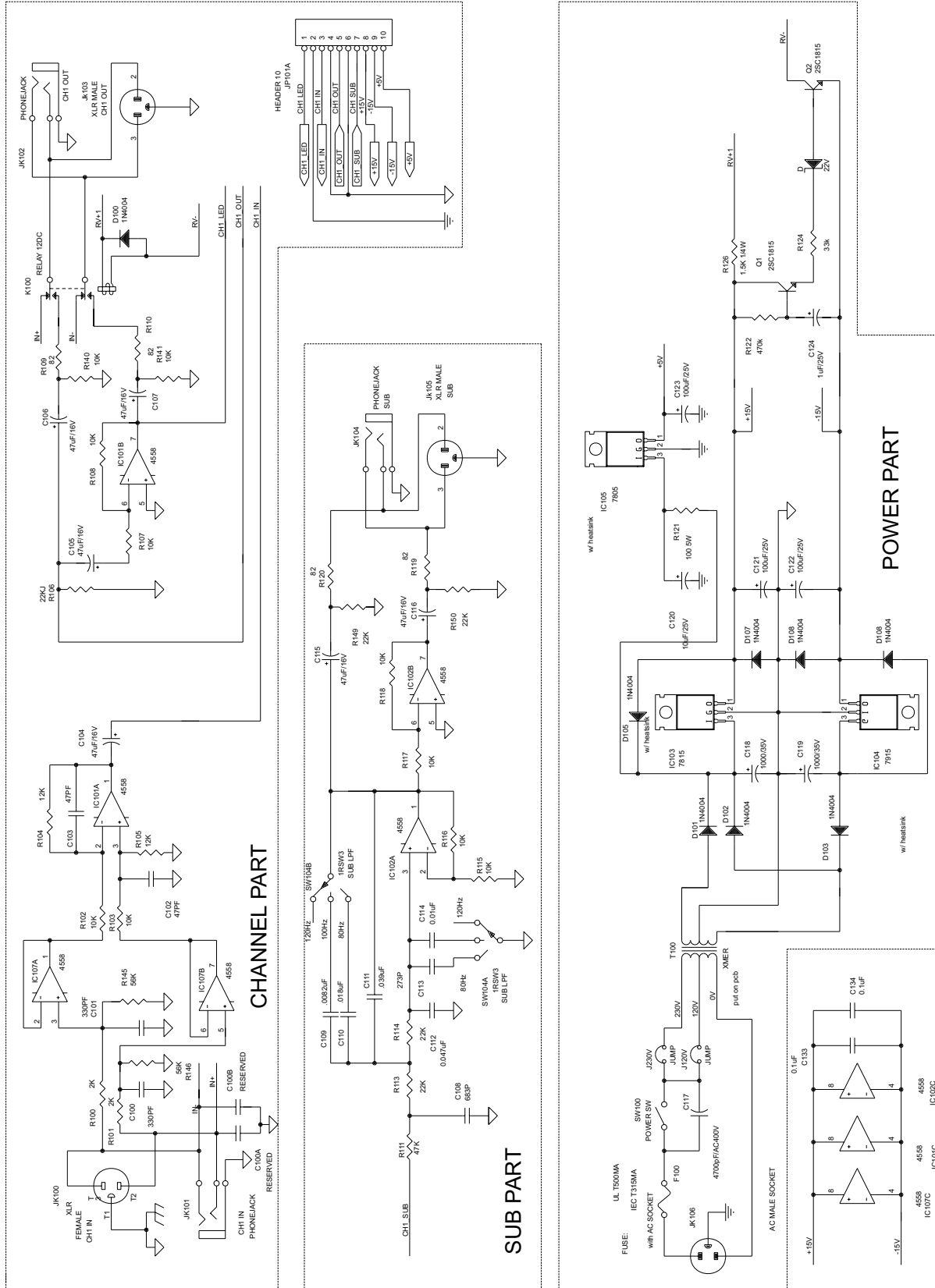
MAIN BOARD PCB- PART LIST

Ref.	Phonic Part No.	Specifications
R325.365.405	008-63402-400-0	CHIP RES. 634 F0603
R328.368.408	008-01532-600-0	CHIP RES. 15K J0603
R332.372.412	008-12422-400-0	CHIP RES. 12.4K F 0603
R333.373.413	008-40202-400-0	CHIP RES. 402 F0603
R336.376.416	008-95312-400-0	CHIP RES. 9.53K F 0603
R337.377.417	008-31602-400-0	CHIP RES. 316 F0603
R345	008-18712-400-0	CHIP RES. 1.87K F 0603
R369.329.409 R383.387.391. 395.399. 403.407.411.415.419	008-51102-400-0	CHIP RES. 511 F0603
SW300.301.302	210-02201-270-0	PSH/SW SPEC12LC05-PJ
VR PCB	590-43012-100-0	M/E PAN SCR. M3.0*12 NI
VR PCB	600-00302-010-0	HEX. NUT M3.0*2.0NI
VR PCB	610-00300-518-0	FIBER WAS. D3*D7*0.5 RED
VR PCB*4	615-60036-620-0	BOSS H4.5 D3.2 3-4.5
VR201-230	026-10425-050-0	S.SLD/VR100K (C.C)W15MM P
VR231	022-50330-160-0	S.ROT/VR 50KW (C.C)20MM P
VR232	023-50230-030-0	D.ROT/VR 5K30C 20MMP
VR233	022-10330-160-0	S.ROT/VR 10K 15C 20MM P
VR234	023-10430-100-0	D.ROT/VR 15C100K 20MM P

REAR BOARD PCB



INPUT / OUTPUT SCHEMATIC



REAR BOARD PCB- PART LIST

Ref.	Phonic Part No.	Specifications
	382-20005-010-0	TINNER WIRE 5.0MMD0.6
	382-20010-010-0	TINNER WIRE 10MM D0.6
	382-20015-010-0	TINNER WIRE 15MM D0.6
	382-20020-010-0	TINNER WIRE 20MM D0.6
	290-64215-000-0	MQ4215 IN OUT PCB
C100.101	040-33125-160-6	ML/C 330PF K 50V P=5MM T
C102.103	040-47024-160-6	ML/C 47PF J 50V P=5MM T
C104.105.106.107.115.116	030-47626-0A0-0	E/C 47MF M 16V 5*11 T
C108	040-68325-160-6	MHC 0.068UF K 50V CC5MM T
C109	040-82225-160-0	ML/C 0.0082UF K 50VP=5 T
C110	040-18325-160-0	ML/C 0.018UF 50V K5 T
C111	040-39325-160-0	ML/C 0.039UF K 50V5 T
C112	040-47325-100-0	ML/C 0.047MF K 50VP 5 T
C113	040-27325-160-0	ML/C 0.027MF K 50V5 T
C114	040-10325-160-6	ML/C 0.01UF 50V P5T
C118.119	030-10846-000-0	E/C 1000MF M 35V 10*21 T
C120	030-10638-0A0-0	E/C 10MF Z 25V 5*11 T
C121-123	030-10738-0A0-0	E/C 100MF Z 25V 8*11 T
C124	030-10538-0A0-0	E/C 1UF Z 25V 5*11T
C133.134	040-10428-140-0	ML/C 0.1UF Z 50V 5T
CONNECT WITH R124	090-01223-000-0	Z/DIODE 22V 0.5W IN5251B
D100-103.105-108	090-00007-020-0	DIODE IN4004 SILTEKT
IC101.102.107	160-00017-900-0	IC NJM4558LD JRC
IC103	160-00005-909-0	IC 7815
IC103.104.105	526-20040-010-0	UTYPE HEAT.SINK POD1860 20*18
IC103.104.105	590-43010-100-0	M/E PAN SCR. M3.0*10 NI
IC103.104.105	600-00302-010-0	HEX. NUT M3.0*2.0NI
IC103.104.105	610-00300-518-0	FIBER WAS. D3*D7*0.5 RED
IC103.104.105	610-60300-700-0	PAN SPR WAS. D3.0*6.0*0.7ZN
IC104	160-00002-909-0	IC 7915
IC105	160-00004-114-0	IC UPC7805H NEC (KIA)
J120V.230V	211-06044-010-0	PIN/S PHDRST-02 6MM
JK100	211-03400-003-0	XLR/J 91M-107P2

REAR BOARD PCB- PART LIST

Ref.	Phonic Part No.	Specifications
JK101.102.104	211-01602-550-0	6D3/J PJB0661-6
JK103.105	211-03300-131-0	XLR/J 93M-108P/1
JP101A	211-10102-010-6	10P.WAFER/S P=2.5490 DEGREE DUAL
K100	076-02432-000-6	RELAY 12VDC OVR-SH-212L
Q1.2	120-00000-800-0	TRAN. 2SC1815 GR TOSHIBA
R100.101	000-20206-400-0	CF RES 2K J 0.0625WT
R102.103.107.108.115-118.140. 141	000-10306-400-0	CF RES. 10K J 0.0625W T
R104.105	000-12306-400-0	CF RES. 12K J 0.0625W T
R106	006-22020-440-0	MF RES 22K F 0603.0625W T
R109.110.119.120	000-82006-400-0	CF RES. 82 J 0.0625W T
R111	000-47306-400-0	CF RES. 47K J 0.0625W T
R113.114.149.150	000-22306-400-0	CF RES. 22K J 0.0625W T
R121	003-10003-601-6	CEMENT RES. 100J 5W HORIZONTAL
R122	000-47426-400-0	CF RES. 470K J 0.25W T
R124	000-33326-400-0	CF RES. 33K J 0.25W T
R126	000-15226-400-0	CF RES. 1K5 J 0.25W T
R145.146	000-56306-400-0	CF RES.56K J 0.0625W T
SW104	210-60001-000-0	SLD/SW SLD-43-10

MISCELLANEOUS ITEMS- PART LIST

Ref.	Phonic Part No.	Specifications
	070-60068-803-0	X'MER AC115/230V MQ4130/4215
	321-00000-070-0	CABLE TIE HW-100MM
	510-60720-101-0	PANEL AL T=2.6 MQ4130
	511-60360-100-0	BACK PANEL T=1.0 SECC
	516-60010-100-0	TOP COV T=1.0MM SECC
	517-60163-101-0	BOT COV T=1.0MM SECC
	525-60010-000-0	FEET SIZE:20*20*8.0MM SF-006
	540-60142-120-0	R/KNOB F TYPE13.0 BLACK BODY+WHITE POINT
	541-20220-120-0	SLD/KNOB 14*7.5*8.25MM MQ4215 WHT+BLK
	542-20240-120-0	P/KNOB 5.5*5.5*9.2HBLK INNER HOLE3.3*30.3
	550-60035-000-0	CHASSIS SECC T=1.0MQ4130
	552-60009-000-0	X'MER FIXED
	560-60087-000-0	CARTON MQ4130 SIZE:555*340*485MM A=B
	561-60077-000-0	G/B SIZE:545*230*155 MQ4130
	565-60074-000-0	POLYLON MQ4215/4130
	568-10068-000-0	PE BAG 700*430*0.05
	572-00000-050-0	DRYER 5g
	573-10124-010-0	GND LABEL MAR2
	573-60240-000-0	BAR CODE LABEL PHONIC
	573-60343-000-0	LABEL LEVEL METER PVC BLUE D=8mm
	574-6A062-010-0	OWN. MANU MQ4215/4130/4230
	630-60038-410-0	MAYLA
	631-10025-000-0	HEMELON 20*70
	631-60010-000-0	HEMLON 300*60MM MQ4130
AC SOCKET GND*1	379-05800-1B1-6	M/WIRE UL1007#18 80MM YLW/GRN
AC SOCKET-SW	379-28101-191-0	M.WIRE UL1617#22 100MM WHT
AC-SOCKET-SW	379-28121-121-0	M.WIRE UL1617 #22 120MM RED
C117	058-47236-001-0	LINE/C 0.0047MF M 400V

MISCELLANEOUS ITEMS- PART LIST

Ref.	Phonic Part No.	Specifications
EARTH BOSS*1	315-00005-000-0	LUG 6D
EARTH BOSS*1	600-00602-010-0	HEX. NUT M6.0*2.0NI
EARTH BOSS*1	610-30600-601-0	TOOTH WAS. D6.0*D11*0.6 NI
EARTH BOSS*1	615-10001-130-0	EARTH BOSS 2+5 NI
EARTH BOSS*1	615-10002-130-0	EARTH BOSS 10+5 NI(EARTH BOSS)
FOR POWER LINE*1	568-30011-000-0	PE BAG 300*110*0.05
IN/OUTPCB*1 VR PCB&CH PCH*2	566-10013-000-0	SPONGE 150*10*5MM
J120.230V	212-06020-200-0	PIN/P MJ-020
JK106	211-12300-040-0	AC/S 0717-1-PS
LED	631-20029-000-0	HEMELON 10*10
OUT/INJACK*6	591-03008-200-0	T/P FLT SCR. D3.0*8 BLK
PANEL&CHASSIS*16	590-03004-100-0	M/E FLT SCR. M3.0*4 NI
PCB&REAT PCB*5	610-00300-518-0	FIBER WAS. D3*D7*0.5 RED
PCB-GND	379-28121-1B1-6	M.WIRE UL1617#22 200MM YLW/GRN
SELECTIVE VOLTAGE	618-14180-662-0	SPEC FIXED PIN SR-2 WHT
SLD VR&CHASSIS*60	590-42003-100-0	M/E PAN SCR. M2.0*3 NI
SW100	210-03102-002-0	SSA/SW BR-12B-11S
SW104	631-10027-000-0	HEMELON 24*12
TOP COV&T/B PANEL*9 T/COV&B/COV*4 X'MER*2	590-53006-200-0	M/E SET SCR. M3.0*6 BLK
VR PCB TO CHIS PCB*4	600-00302-010-0	HEX. NUT M3.0*2.0NI
VR PCB&CHASSIS	615-60040-620-0	BOSS H=7 D3-7
VR PCB&REAT PCB TO CHASSIS*1	590-43020-100-0	M/E PAN SCR. M3*20NI
VR PCBTO CHASSIS*2	590-43014-100-0	M/E PAN SCR M3.0*14NI
X'MER*2	590-03006-200-0	M/E FLT SCR. M3.0*6 BLK
X'MER*2	590-53010-200-0	M/E SET SCR. M3.0*10 BLK
X'MER*2	600-20302-500-0	NUT M3.0*2.5ZW L20*W10 SQUARE

POWER REQUIREMENT CLASSIFICATION

Ref.	Phonic Part No.	Specifications
<u>120VAC UL</u>		
	280-50161-000-0	FUSE 0.5A 250V UL S
	370-08010-721-0	P/CORD 120V 10A 6F 3PUL/CSA
<u>230VAC IEC</u>		
	280-3E065-000-0	FUSE T315MA 250V SMK S
	370-15010-921-0	P/CORD IEC 10A 6F 3P VDE
<u>240VAC BS</u>		
	280-3E065-000-0	FUSE T315MA 250V SMK S
	370-01010-921-0	P/CORD 240V 10A 6F3P
	573-10032-010-0	POWER LABEL
<u>240VAC SA</u>		
	280-3E065-000-0	FUSE T315MA 250V SMK S
	370-06010-321-6	P/CORD 10A/250V SA 2.5M 3P
<u>240VAC SAA</u>		
	280-3E065-000-0	FUSE T315MA 250V SMK S
	370-11010-821-0	P/CORD 240V10A 6F 3P SAA SVT

DIMENSIONS

