

HELIX BOARD 12

Integrated Mobile Sound System

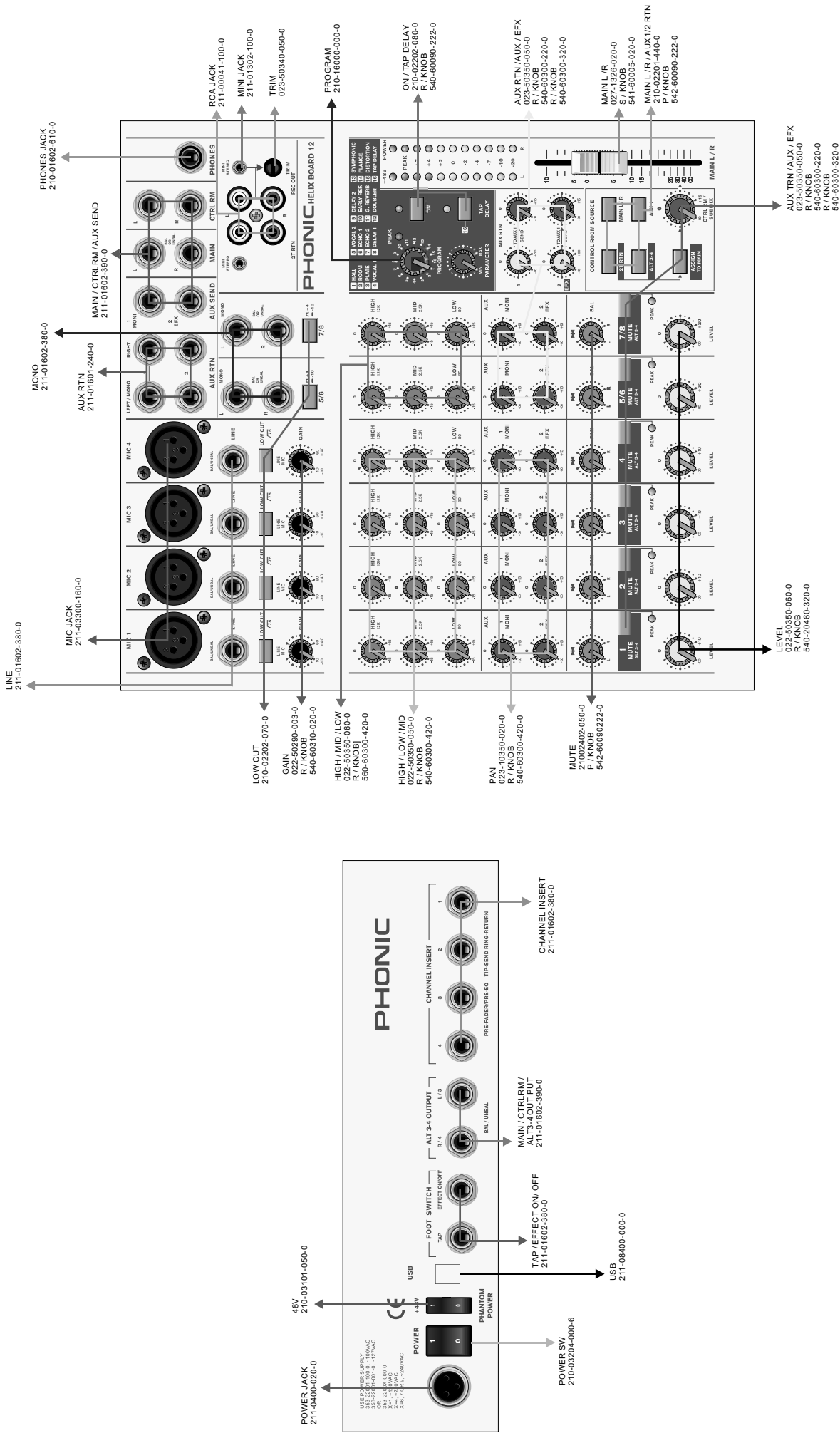
SERVICE MANUAL



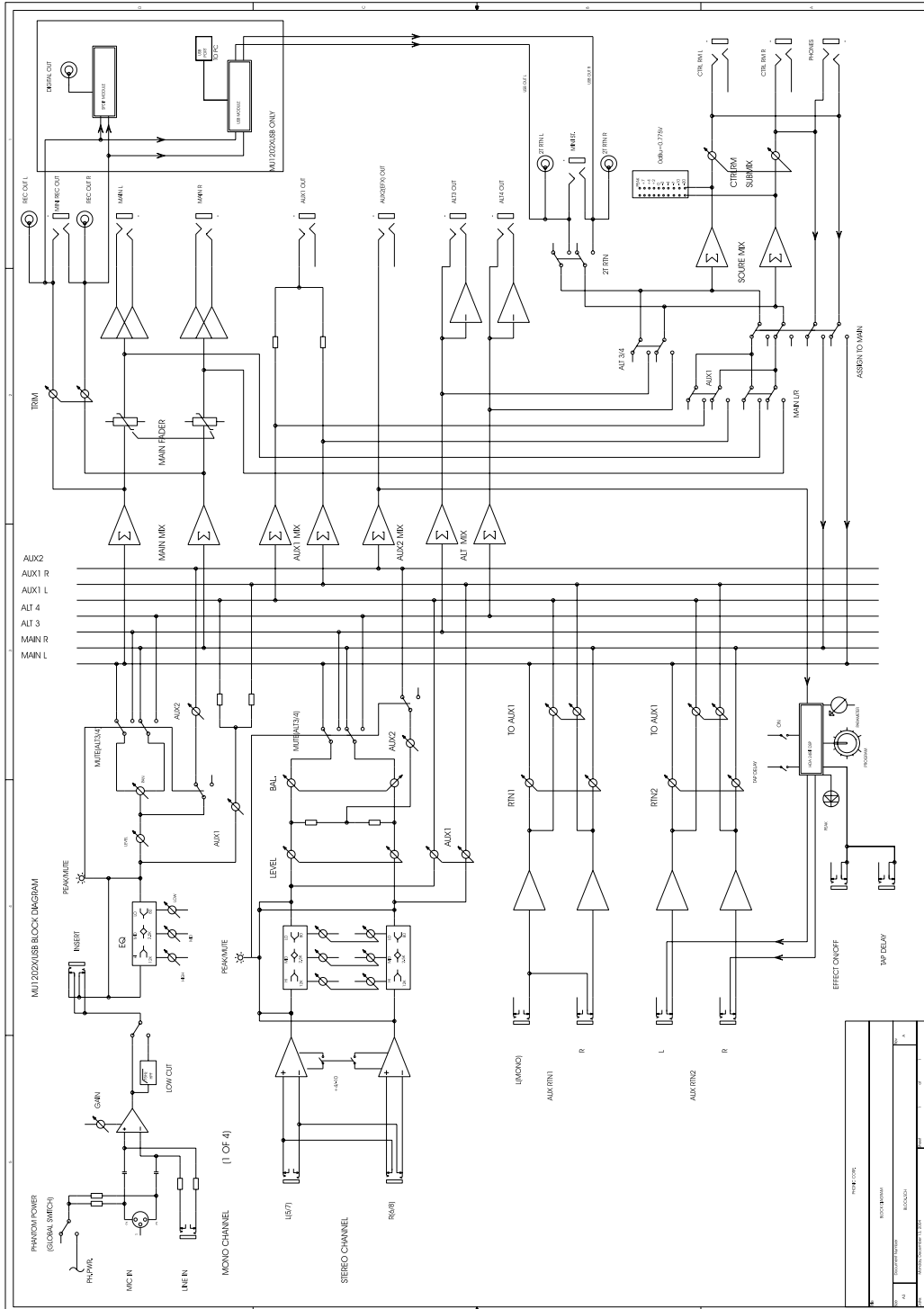
HELIX BOARD 12 SERVICE MANUAL

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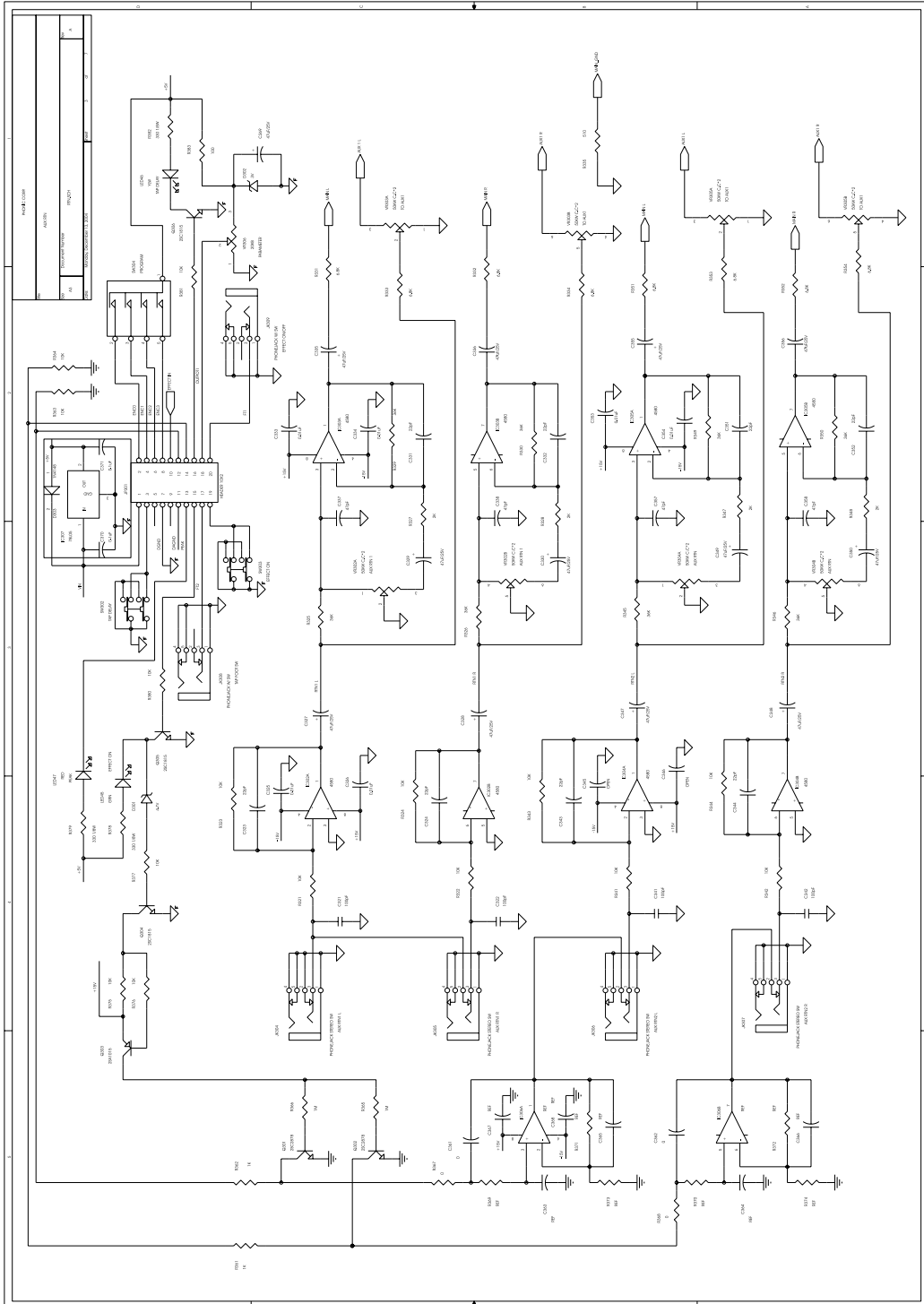
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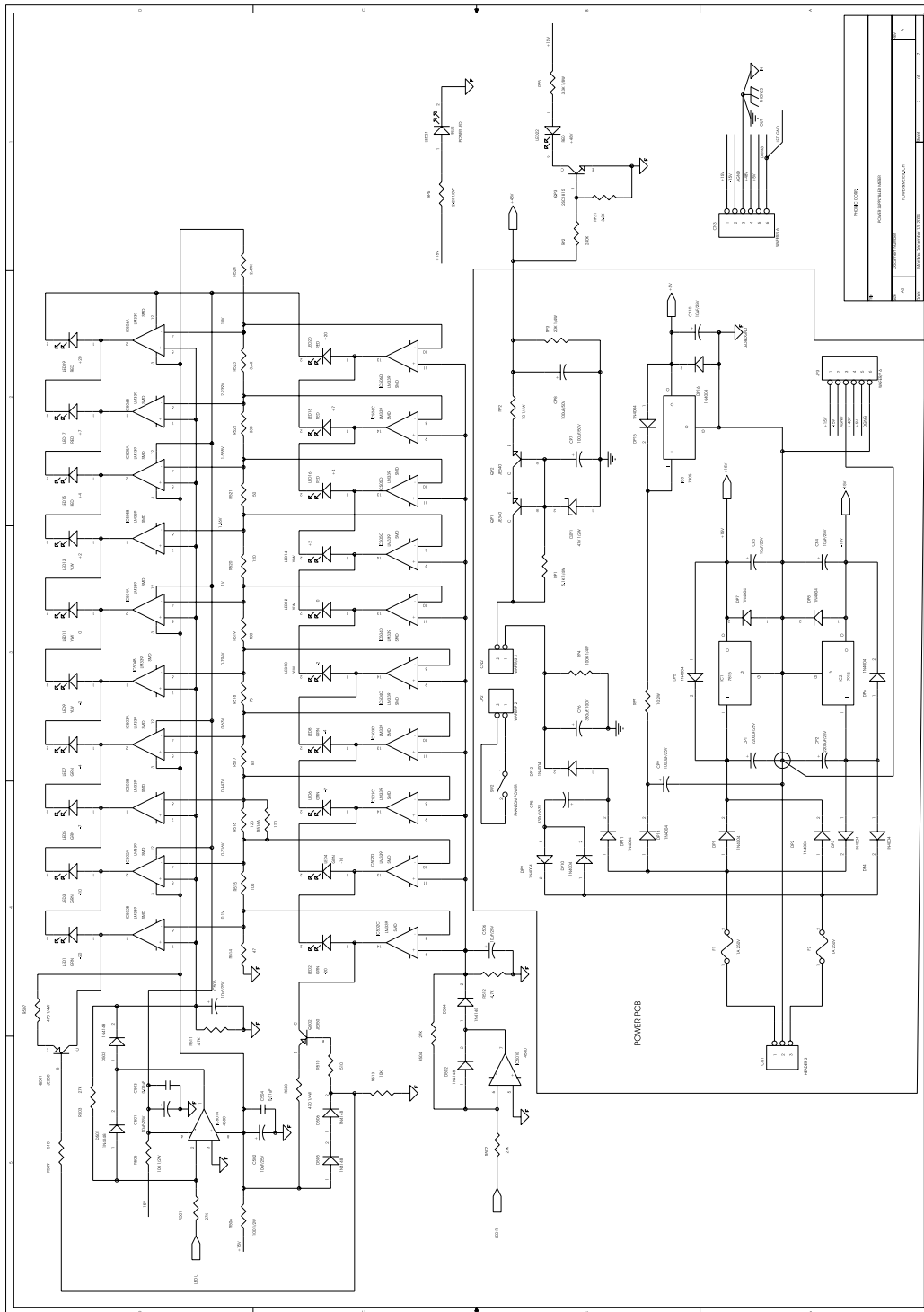
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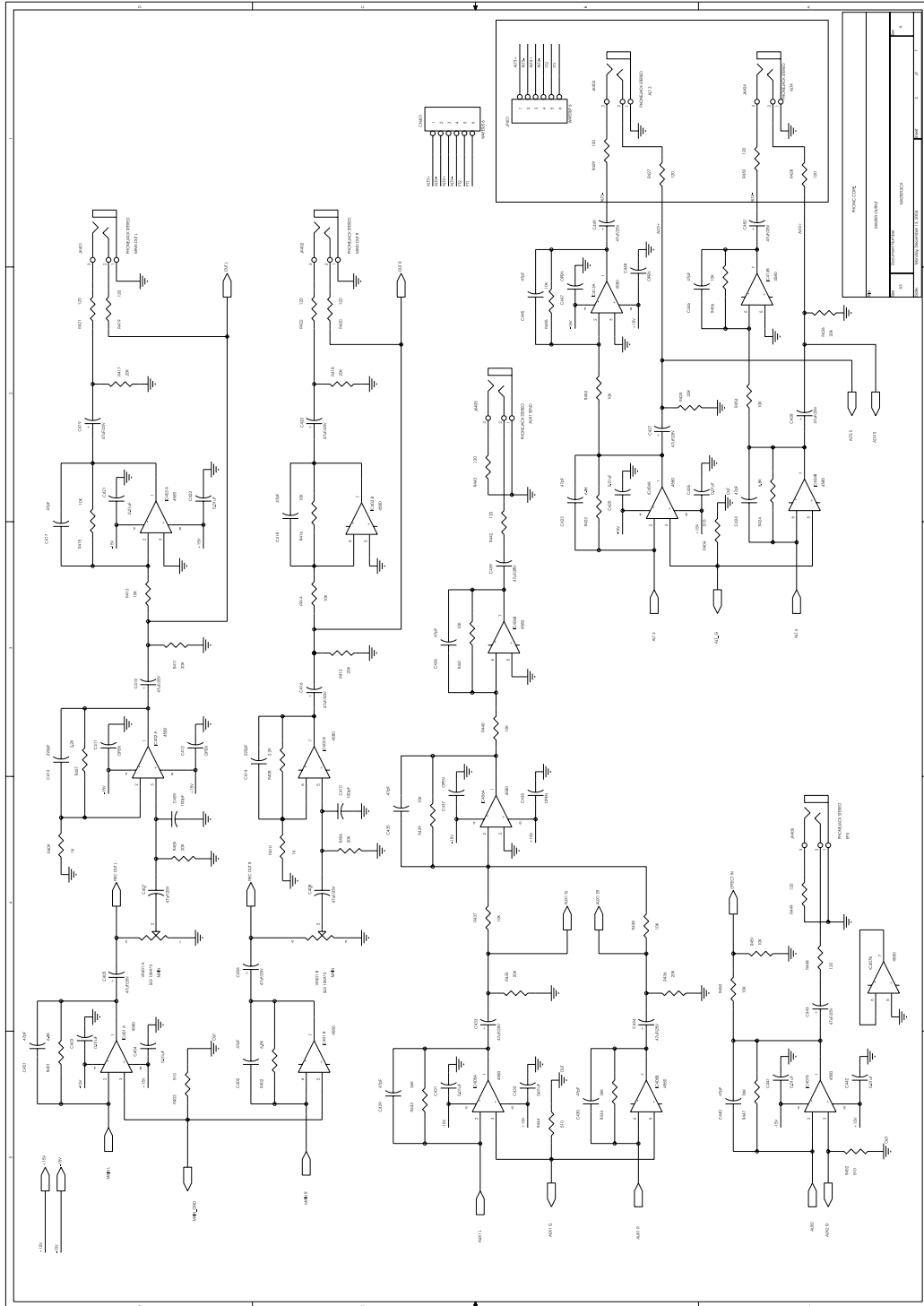
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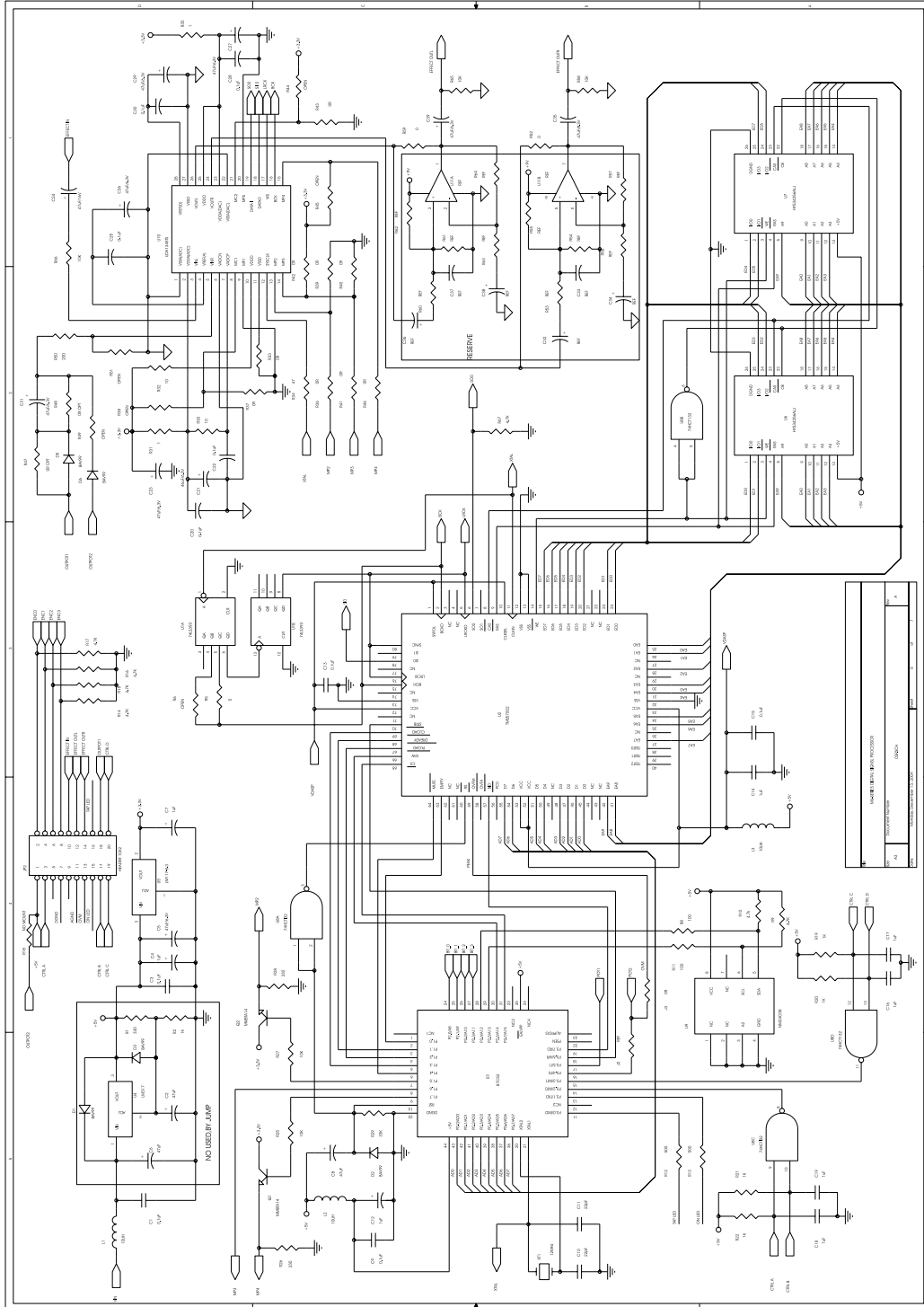
POWER & METER



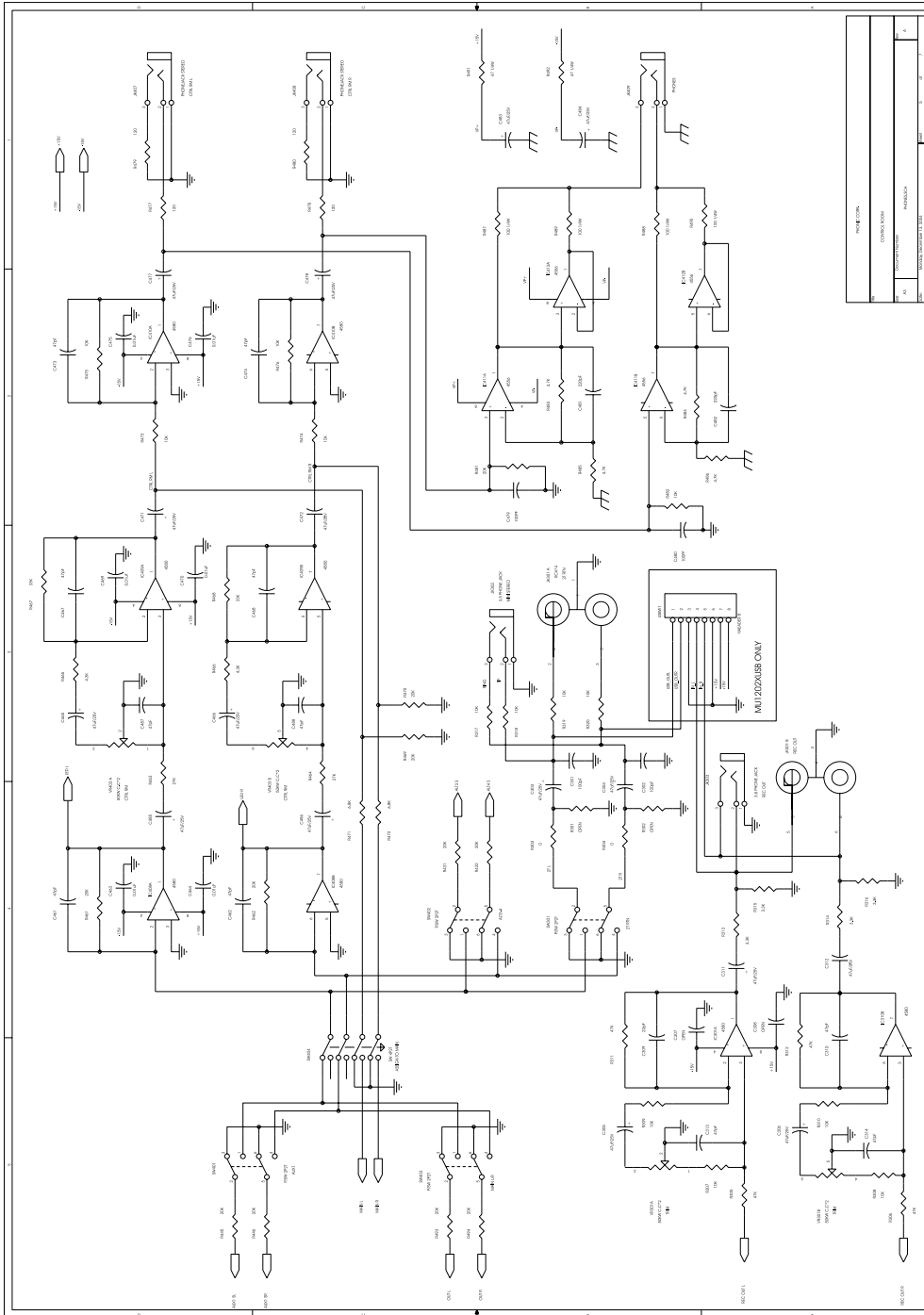
MASTER OUTPUT



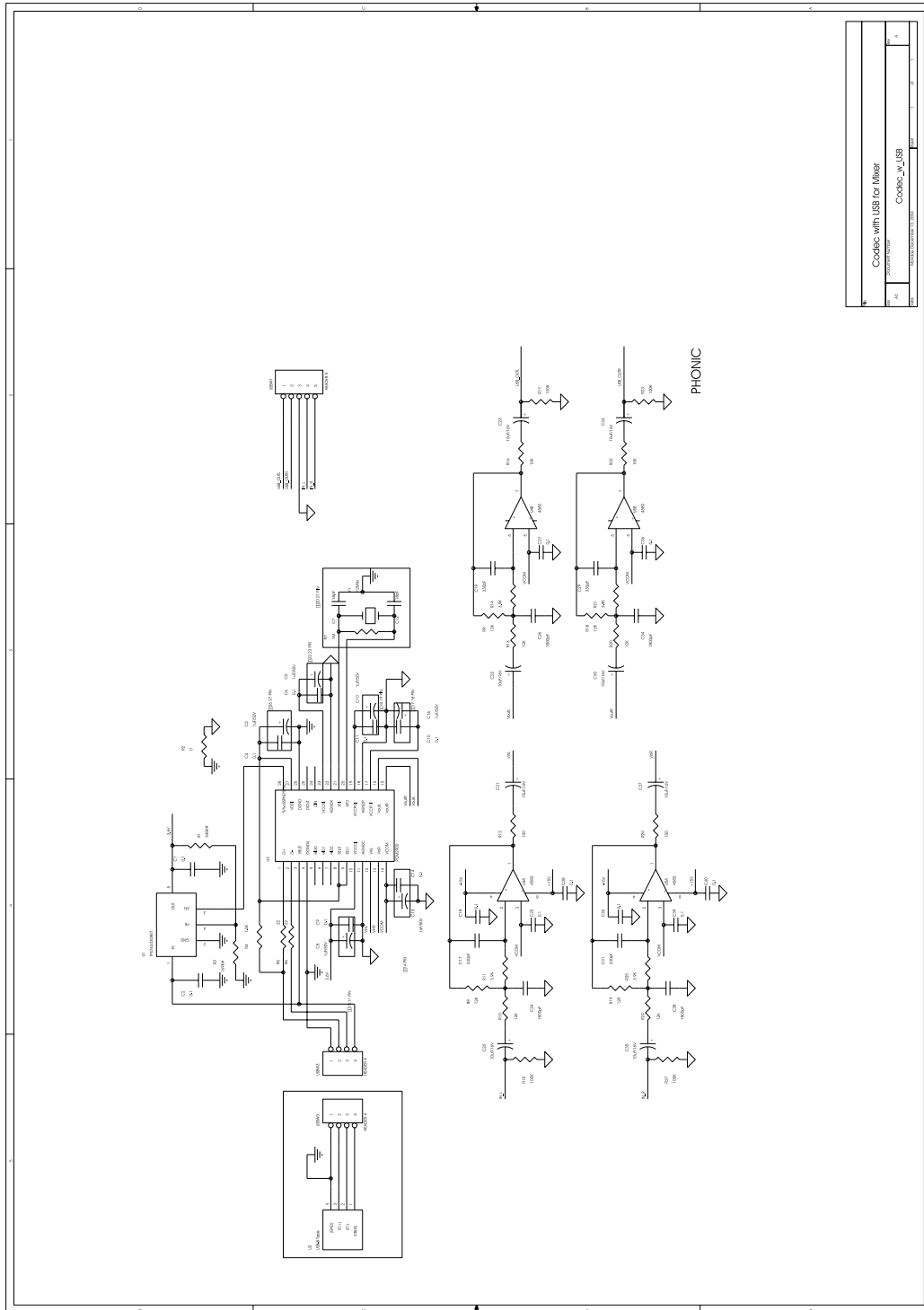
DSP



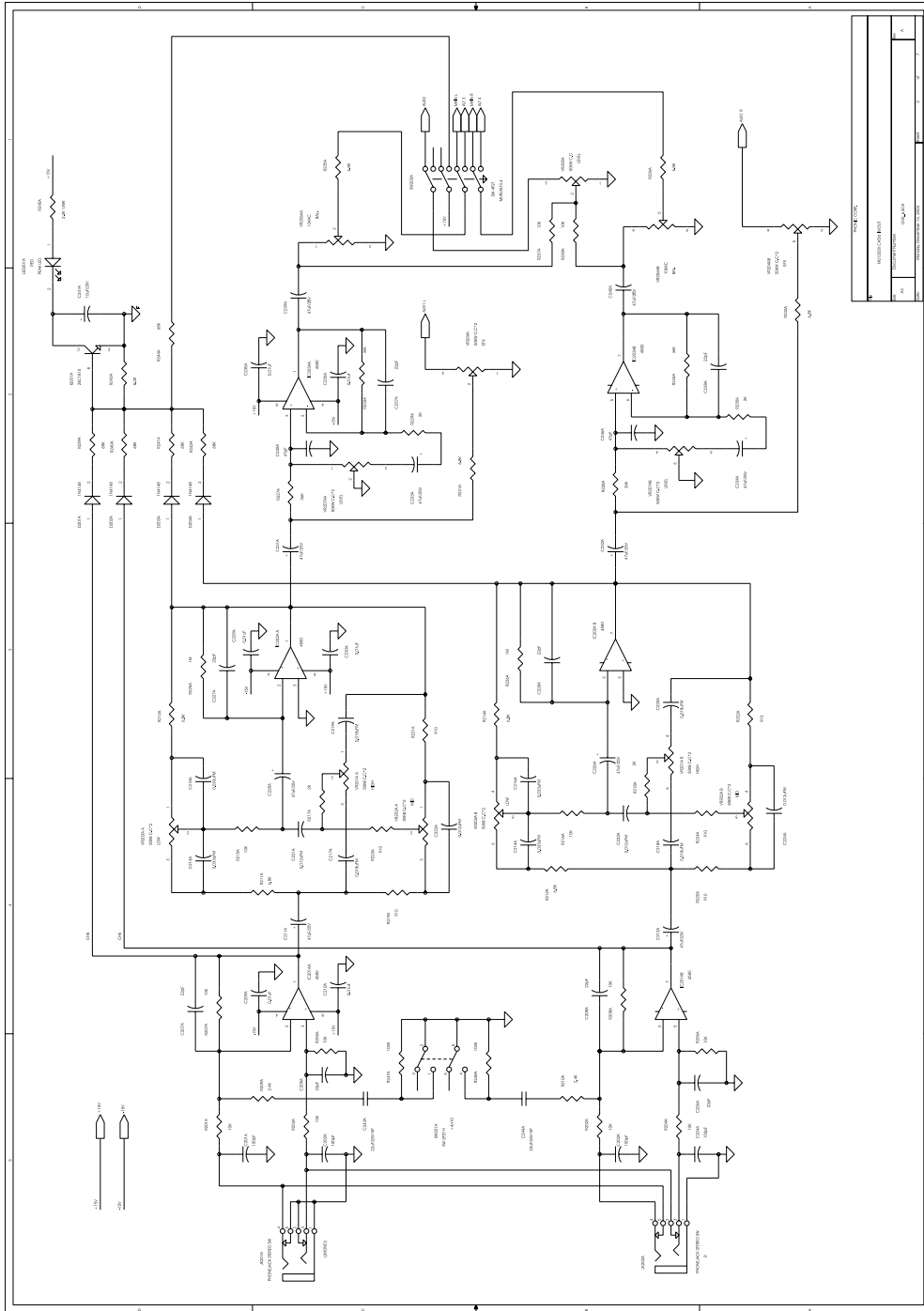
control room



CONTROL WITH USB



Codecs with USB for Mixer	
Rev	Quantity
1.0	1
Codecs_M_USB	
REVISED TO VERSION 12/2009	



USB PCB-PART LIST

Ref.	Phonic Part No.	Specifications
R28	000-33726-400-0	CF RES.3.3 1/4W T
R2	008-00002-600-0	CHIP RES. 0 J 0603
R16.22	008-01032-600-0	CHIP RES. 10K J 0603
R15.17.23.27	008-01042-600-0	CHIP RES. 100K J 0603
R7	008-01052-600-0	CHIP RES. 1M J 0603
R3.8-10.13.18-20.24	008-01232-600-0	CHIP RES. 12K J 0603
R4	008-01522-600-0	CHIP RES. 1.5K J 0603
R5.6	008-02202-600-0	CHIP RES. 22 J 0603
R1.12.26	008-02232-600-0	CHIP RES. 22K J 0603
R11.14.21.25	008-03922-600-0	CHIP RES. 3.9K J 0603
C8.13	033-10664-0A0-0	LN E/C 10MF J 63V T 6*11
C4.5.10.16	035-10556-0A0-0	MINI E/C 1MF M 50V T
C20-23.30.33.35.37	035-10636-0A0-0	MINI E/C 10MF M 25V T
C41	035-10726-0A0-0	MINI E/C 100MF M 16V T (4*7)
C1-3.6.9.11.14.15.18.25.27.28.32.36.39.40	039-10405-220-0	CHIP C/C 0.1UF K 16V 0603
C7.12	039-18024-220-0	CHIP C/C 18PF J 50V 0603
C24.26.34.38	039-18225-220-0	CHIP C/C 0.0018MF K 50V 0603
C17.19.29.31	039-33024-220-0	CHIP C/C 33PF J 50V 0603
U4.5	160-00024-100-0	IC NJM4580M DMP (JRC) 2K SMD
U3	160-00030-400-0	IC PCM2900E 28SSOP
U1	160-00030-500-0	IC REG104GA-A SOT223-5 DCQ
U2	211-08400-000-0	4P DIN/S 3700-4AWTIS1W USB B TYPE
USBW3	211-10041-140-0	4P WAFER/S 2532-04
USBW1	211-10051-151-0	5P WAFER/S TJC3-5A PH=2.5MM 180
USBW3	212-10041-240-0	4P WAFER/P 260MM
USBW1	212-10051-080-6	5p/3p+2p160MM UL2547#28 p=2.5mm
Y1	300-12004-000-0	CRYSTAL 12.000MHZ
	552-60006-000-0	PCB PCB-2

MAIN PCB-PART LIST

Ref.	Phonic Part No.	Specifications
RP2	000-10026-400-0	CF RES. 10 J 0.25W T
R487.490	000-10126-400-0	CF RES. 100 J 0.25W T
R505.506	000-10136-400-0	CF RES. 100 J 0.5W T
RP4	000-10426-400-0	CF RES. 100K J 0.25W T
RP3	000-20326-400-0	CF RES. 20K J 0.25W T
RP6.R245A.245B.R144A-144D	000-22206-400-0	CF RES. 2K2 J 1/8W T
R378.379.382	000-33106-400-0	CF RES. 330 J 1/8W T
RP5	000-33206-400-0	CF RES. 3K3 J 1/8W T
R491.492.	000-47026-400-0	CF RES. 47 J 0.25W T
R507.508	000-47126-400-0	CF RES. 470 J 0.25W T
R105A-105D.106A-106D	000-47726-400-0	CF RES. 4.7 J 0.25W T
RP1	000-51226-400-0	CF RES. 5K1 J 0.25W T
RP7	003-10071-600-0	CEMENT RES. 10 J 2W AL
R111A-111D.112A-112D	006-47010-440-0	MF RES 4K7 F 1/8W T
R109A-109D.110A-110D	006-51100-440-0	MF RES 511J F 1/8W T
R116A-116D.117A-117D	006-56010-440-0	MF RES. 5.6K 1/8W T
R103A-103D.104A-104D	006-68112-440-6	MF RES. 6K81 0.25W 1% T
R114A-114D.115A-115D	006-82000-440-0	MF RES. 820 F 1/8W T
R303.304.C361.C362.R367.R368.	008-00002-600-0	CHIP RES. 0 J 0603
R383.515.519	008-01012-600-0	CHIP RES. 100 J 0603
R361.362.409.410	008-01022-600-0	CHIP RES. 1K J 0603
R201A-208A.201B-208B.215A.215B.216A.216B.237A.237B.238A.238B.307-310.317-320	008-01032-600-0	CHIP RES. 10K J 0603
R341-344.363.364.380.381.413-416.437-441.453-456.473-476.321-324.450.451	008-01032-600-1	
R132A-132D.135A-135D.482.513.375-377	008-01032-600-2	
R247A.247B.248A.248B	008-01042-600-0	CHIP RES. 100K J 0603
R133A-133D.225A.225B.226A.226B.365.366	008-01052-600-0	CHIP RES. 1M J 0603
R148A-148D.419-422.427-430.442.443.448.449.477-480.516.516A.520	008-01212-600-0	CHIP RES. 120 J 0603
R122A-122D	008-01332-600-0	CHIP RES. 13K J 0603
R521	008-01512-600-0	CHIP RES. 150 J 0603
R139A-139D.140A-140D	008-01532-600-0	CHIP RES. 15K J 0603
R129A-129D.217A.217B.218A.218B.229A.229B.230A.230B.327.328.347.348.	008-02022-600-0	CHIP RES. 2K J 0603

Ref.	Phonic Part No.	Specifications
R301.302.405.406.411.412 .417.418.425.426.431.432 .435.436.445.446.461.462. 469.470	008-02032-600-0	CHIP RES. 20K J 0603
R481.493.494.118A- 118D.119A-119D.120A- 120D.124A-124D.127A- 127D	008-02032-600-1	
R407.408	008-02222-600-0	CHIP RES. 2.2K J 0603
R209A.209B.210A.210B	008-02422-600-0	CHIP RES. 2.4K J 0603
RP2.R123A-123D	008-02442-600-0	CHIP RES. 240K J 0603
R134A-134D.463.464.501- 504	008-02732-600-0	CHIP RES. 27K J 0603
R107A-107D.108A-108D	008-03022-600-0	CHIP RES. 3K J 0603
R522	008-03312-600-0	CHIP RES. 330 J 0603
RP21.R313-316	008-03322-600-0	CHIP RES. 3.3K J 0603
R467.468	008-03332-600-0	CHIP RES. 33K J 0603
R523	008-03622-600-0	CHIP RES. 3.6K J 0603
R121A-121D.227A.227B.2 28A.228B.233A.233B.234 A.234B.325.326.329.330.3 45.346.349	008-03632-600-0	CHIP RES. 36K J 0603
R350.433.434.447	008-03632-600-1	
R465.466	008-04322-600-0	CHIP RES. 4.3K J 0603
R136A-136D	008-04332-600-0	CHIP RES. 43KJ 0603
R514	008-04702-600-0	CHIP RES. 47 J 0603
R483.484-486.511.512	008-04722-600-0	CHIP RES. 4.7K J 0603
R305.306.311.312	008-04732-600-0	CHIP RES. 47K J 0603
R145A.146A.147A.150A. 335.403.404.444.452.509 .510	008-05112-600-0	CHIP RES. 510 J 0603
R211A-214A.211B-214B. 231A.231B.232A.232B.23 5A.235B.236A.236B.331- 334.351-354.402	008-06822-600-0	CHIP RES. 6K8 J 0603
R401.423.424.471.472.125 A-125D.126A-126D.137A- 137D.138A-138D.149A- 149D	008-06822-600-1	
R141A-141D.142A- 142D.151A- 151D.239A-242A.239B- 242B.244A.244B.	008-06832-600-0	CHIP RES. 68K J 0603
R518	008-07502-600-0	CHIP RES. 75 J 0603
R113A-113D	008-07572-600-0	CHIP RES. 7.5 J 0603
R517	008-08202-600-0	CHIP RES. 82 J 0603
R143A-143D.243A.243B	008-08222-600-0	CHIP RES. 8.2K J 0603

Ref.	Phonic Part No.	Specifications
R128A-128D.130A-130D.131A-131D.219A-224A.219B-224B	008-09112-600-0	CHIP RES. 910 J 0603
R524	008-24912-400-0	CHIP RES. 2.49K F 0603
VR306	022-20350-010-0	S.ROT/VR 20KB 30MM P
VR101A-101D	022-50290-003-0	S.ROT/VR 5KZY L=30MM RD09F1130001-5KZ
VR102A-102D.103A-103D.104A-104D	022-50350-050-0	S.ROT/VR 50KB(C.C) 30MM P
VR105A-105D.106A-106D.108A-108D.205A.205B	022-50350-060-0	S.ROT/VR 50KW(C.C)30MM P
VR107A-107D.206A.206B	023-10350-020-0	D.ROT/VR 10KA/10KC 30MM P
VR301	023-50340-050-0	D.ROT/VR 50KB*2 (C.C) 25MM P
VR204A.204B.207A.207B.302-305.403	023-50350-050-0	D.ROT/VR 50KW(C.C) 30MM P
VR201A-203A.201B-203B	023-50350-060-0	D.ROT/VR 50KB(C.C) 30MM P
VR401	027-10326-020-0	D.SLD/VR 10KD*2 60MMP
C138A-138D.241A.241B.501.502.505.506.CP3.4.10	030-10638-0A0-0	E/C 10MF Z 25V 5*11 T
CP7.8	030-10758-0A0-0	E/C 100MF Z 50V 8*12 T
C110A-110D	030-10818-000-0	E/C 1000MF Z 10V D8*14 P
CP9	030-10838-006-0	E/C 1000MF Z 25V 10*21 P
CP1.2	030-22838-001-0	E/C 2200MF M 25V OD16*H21 P
CP5	030-33764-000-0	E/C 330MF J 63V 10*21 P
CP6	030-33784-000-0	E/C 330MF J 100V 16*25 P
C211A.211B.212A.212B.225A.225B.231A-234A.231B-234B.239A.239B.240A.240B.303-306.	030-47638-0A0-0	E/C 47MF Z 25V 5*11 T
C311.312.327-330.335.336.347-350.355.356.369.405-408.415.416.419.420.427.428.433	030-47638-0A0-1	
C434.439.443.449.450.465.466.471.472.477.478.483.484.109A-109D.116A-116D.	030-47638-0A0-2	
C117A-117D.118A-118D.122A-122D.123A-123D.132A-132D.133A-133D.137A-137D.226A.226B	030-47638-0A0-3	
C485.486	030-47638-0A0-4	
C243A.243B.244A.244B	032-22626-0A0-0	NP E/C 22MF M 16V 5*11 T
C102A-102D.103A-103D	033-22668-0A0-0	LN E/C 22MF Z 63V 6*11 T
C201A-204A.201B-204B.301.302.321.322.341.342	039-10124-220-0	CHIP C/C 100PF J 50V 0603

Ref.	Phonic Part No.	Specifications
C209A.209B.210A.210B.2 29A.229B.230A.230B.235 A.235B.236A.236B.325.32 6.333.334.	039-10324-220-0	CHIP C/C 0.01MF J 50V 0603
C353.354.403.404.421.422 .425.426.431.432.441.442. 463.464.469.470.475	039-10324-220-1	
C476.503.504.114A- 114D.115A-115D.130A.130 C.131A.131C.134A.134C.1 35A.135C	039-10324-220-2	
C370.371	039-10424-220-0	CHIP C/C 0.1MF J 50V 0603
C409.410.479.480.205A- 208A.205B-208B.227A.227 B.228A.228B.237A.237B.2 38A.238B	039-22024-220-0	CHIP C/C 22PF J 50V 0603
C309.323.324.331.3 32.129A-129D.136A- 136D.343.344.351.352	039-22024-220-1	
C112A-112D.113A- 113D.140A- 140D.413.414.481.482	039-22124-220-0	CHIP C/C 220PF J 50V 0603
C106A-106D.107A-107D	039-33124-220-0	CHIP C/C 330PF J 50V 0603
C310.401.402.417.418.423 .424.429.430.435.436.440 .445.446.461.462.467.468. 473.474	039-47024-220-0	CHIP C/C 47PF J 50V 0603
C139A-139D.245A.245B.2 46A.246B.313.314.337.338 .357.358.487.488.	039-47024-220-1	
C119A-119D.120A- 120D.121A-121D	039-47324-220-0	CHIP C/C 0.047MF J 50V 0603
C104A-104D.105A- 105D.111A-111D	039-68124-220-0	CHIP C/C 680P J 50V 0603
C108A-108D.126A- 126D.221A-224A.221B- 224B	046-12304-060-0	M/C 0.012MF J 50V 5 T
C125A-125D.127A- 127D.217A-220A.217B- 220B	046-18304-060-0	M/C 0.018MF J 50V T
C124A-124D.128A- 128D.213A-216A.213B- 216B	046-33304-060-0	M/C 0.033MF J 50V 5 T
DP1-15	090-00007-020-0	DIODE 1N4004 SILTEK T
DZP1	090-01243-100-0	ZENER DIODE 24V J 1W
D302	090-01302-000-0	ZENER DIODE 1N5225 3V 0.5W
D301	090-01472-020-0	ZENER DIODE 4.7V J 0.5W T

Ref.	Phonic Part No.	Specifications
D201A-204A.201B-204B.501-506.101A-101D.102A-102D.103A-103D.104A-104D	090-02000-020-0	DIODE 1N4148 T26MM MINI
LED15-20.22.47.201A.201B.101A-101D	100-00010-030-0	LED BL-B5141 RED
LED9-14.46	100-00040-000-0	LED BL-B3141 YLW
LED1-8.45	100-00050-000-0	LED BL-B2141 GRN
LED21	100-00070-030-0	LED 204UBD D3 BLUE
QP3.105A-105D.201A.201B.304-306.	120-00000-800-0	TRN 2SC1815 GR TO-92-D REEL(TO)
Q103A-103D.104A-104D	120-00001-010-0	TRN 2SC2240 TO-92-D REEL(TO)
QP1.2	120-00005-000-0	TRN MJE340 SOT32-DIP(ON/MO)
Q301.302	120-00006-200-0	TRN 2SC2878 TO-92-D REEL(TO)
Q303	121-00000-200-0	TRP 2SA1015GR TO-92-D REEL(TO)
Q101A-101D.102A-102D	121-00000-500-0	TRP 2SA970-BL TO-92-D REEL (TO)
Q501.502	121-00006-100-0	TRP MJE350 SOT-93-D (ON)
IC2	160-00002-909-0	IC ST7915 TO-220-D(ST)
IC3	160-00004-114-0	IC 7805 DIP(ST) 400
IC1	160-00005-909-0	IC ST7815 TO-220-D(ST) DIP
IC502-506	160-00006-210-0	IC LM339 SOP-M REEL (ST/NS)
IC411.412.	160-00018-000-0	IC NJM4556AL JRC
IC101A-101D.102A.102C.103A.103C.201A-203A.201B-203B.301-305.401-410.413.501	160-00024-100-0	IC NJM4580M DMP (JRC) 2K SMD
SW301.401-403	210-02201-440-0	PSH/SW 2P2T SFPC12MC03-PF
SW101A-101D.201A.201B	210-02202-070-0	PUSH/SW SPEC12HC11-JP
SW302.303	210-02202-080-0	PUSH SW UNLOCK MR4283
SW102A-102D.202A.202B.404	210-02402-050-0	P/SW SFPE14MD01-PJ
SW304	210-16000-000-0	ENCODER SDB161PVB20F-1-4-16PC
JK301	211-00041-100-0	4P RCA/J RL-1414-4D
JK302.303	211-01302-100-0	3D5/J EJ 3536B
JK304-307	211-01601-240-0	6D3/J JY-6351-02-130 SCJ-0658
JK102A-102D.103A-103D .201A.201B.202A.202B.308.309	211-01602-380-0	6D3/J (SCJ-0658-Y)
JK401-408	211-01602-390-0	6D3/J JY-6351-02-030 SCJ-0658
JK409	211-01602-610-0	6D3/J
JK101A-101D	211-03300-160-0	XLR/J SKCA229-1K3F2
DSP J1	211-06204-010-0	PIN/S PHDRST-10 6MM
JP301 DSP PCB	211-09202-010-0	20P B.E./S PH=2.54MM
CN2	211-10021-161-0	2P WAFER/S TJC3-2A P=2.5MM

Ref.	Phonic Part No.	Specifications
CN1	211-10034-080-0	HEADER AMP 640445-3
CN3.401	211-10061-180-0	6P WAFER/S A2501WV2-6P
CN101	211-10121-050-0	12P WAFER/P 180 P=2.5
JP401	212-10061-050-6	6P WAFER/P UL1007 #24 220MM P=2.5MM
JP3	212-10061-340-0	6P WAFER/P UL1007#24 60MM PH=2.5MM
JP101	212-10120-020-0	12P WAFER/P 120MM UL1007#24 P=2.5
F1.F2	281-00000-020-0	FUSE CLIP FH-1206
	290-61202-701-0	MU1202X/USB MAIN (S/PDIF) PCB FR-4
IC1.2.3	313-00000-000-0	TRANSISTOR WASHER TO-220
IC1.2.3	314-00000-050-0	BUSHES 602S(V.0)
D303	382-20006-010-0	TINNER WIRE 6MM*D0.6
	526-60023-010-0	HEAT SINK NI EX530
IC1.2.3,PCB	590-53012-100-0	M/E SET SCR. M3.0*12 NI
IC1.2.3	600-00302-210-0	HEX. NUT M3.0*2.2 NI
JK101A-101D	610-00000-800-0	XLR/J FIBER WAS. T0.8
VR301*2	610-00000-801-0	FIBER WAS. T1.0
IC	610-00300-501-0	PLA. WAS. D3.0*D7.0*0.5 NI
PCB&HEAT SINK	610-60300-700-0	PAN SPR WAS. D3.0*6.0*0.7ZN
ALL LED	615-60004-620-0	LED BOSS L=13 LEDS=13

DSP PCB-PART LIST

Ref.	Phonic Part No.	Specifications
R5.33.36.37.41.43.46-48.52.59.J3	008-00002-600-0	CHIP RES. 0 J 0603
R30.32	008-01002-600-0	CHIP RES. 10J SMT 0603 PKG
R8.11	008-01012-600-0	CHIP RES. 100 J 0603
R19-22	008-01022-600-0	CHIP RES. 1K J 0603
R25.27.58.65.66	008-01032-600-0	CHIP RES. 10K J 0603
R31.35	008-01072-600-0	CHIP RES. 1 J 0603
R50	008-02012-600-0	CHIP RES. 200 J 0603
R26.28	008-03312-600-0	CHIP RES. 330 J 0603
R29	008-03332-600-0	CHIP RES. 33K J 0603
R34	008-04702-600-0	CHIP RES. 47 J 0603
R9.10.14.15.16.17.67	008-04722-600-0	CHIP RES. 4.7K J 0603
R12.13	008-51002-400-0	CHIP RES. 510 F 0603
C1.3.9.13.15.20.22.25.28.30	039-10426-230-0	CHIP C/C 0.1MF M 50V 0603
C4.7.12.14.16-19	039-10526-900-0	CHIP E/C 1MF M 50V 4*5.4
C35.39	039-10606-900-0	CHIP E/C 10MF M 16V 4*5.4
C10.11	039-22024-200-0	CHIP C/C 22PF J 50V 0603
C5.8.21.23.24.26.27.29.31	039-47646-900-0	CHIP E/C 47MF M 6.3V 4*5.4
L1.2.3	072-10072-100-0	COIL 370MA 10uH
D2	090-00039-000-0	DIODE BAV99 SMD
Q1.2	120-00011-100-0	TRAN. MMBTA14 SOT-23 SMD
U5	160-00027-200-0	IC LD1117S33TR SOT-223-M REEL (ST/NS)
U10	160-00028-800-0	CODEC IC UDA1345TS SSOP28 SMD PHIL-IPS
U1	170-00007-000-0	TTL 74HC393 reel-M (PH) SMD
U8	171-00004-800-0	MOS 74HCT132 SO14-D reel-M (PH) SMD
U2	177-00003-900-0	DSP TMS57002 QFP-M TI SMD
U9	177-01002-320-0	MOM AT24C08AN SMD reel(ATM)
U3	177-01005-500-0	CPU TSB89C54X2 PLCC-M V.C(PH/SST)SMD
U6	177-01302-100-0	DRAM IC MIIB416256A 35T TSOP ESMT
	290-01660-401-0	K12 DSP REV-B
XT1	300-12004-010-0	CRYSTAL 12.000MHz SMD

MISCELLANEOUS ITEMS

Ref.	Phonic Part No.	Specifications
	000-00116-005-0	#5
	000-00116-008-0	#8
PHANJOM SW	210-03101-050-0	SSA/SW R612KKAT0F
POWER SW	210-03204-000-6	POWER/SW 6A 250V 4P 17*12.5
POWER JACK	211-04000-020-0	BNC JACK 91M-701-3P
	212-05400-080-0	USB CABLE 1800MM 9903C007-001
JP2	212-10023-030-0	2P WAFER/P 110MM (PITCH=2.5MM.TIP5MM)
POWER	212-10034-010-6	3P WAFER/P UL1015#22 70MM P=3.96MM
	321-00000-070-0	CABLE TIE HW-100MM
POWER	379-25800-115-0	M WIRE UL1617 #22 80MM BRN
	510-61540-000-0	PANEL Helix Board 12
	510-61540-000-F	PANEL MU1202X USB MATERIAL
	517-61040-000-0	BOT.COV.MU1202X
	517-61040-000-F	BOT.COV.MU1202X MATERIAL
FOR DSP PCB	518-60240-001-0	MU2442X
	524-60009-020-0	HANDLE SIZE:10*50 COLOR:WHT
	525-60010-000-0	FEET SIZE:20*20*8.0MM SF-006
CTRLRM/SUBMIX	540-20460-120-0	R/KNOB D12.25*18mm GREY BODY+RED CAP
DROGRAM	540-20460-220-0	R/KNOB 12 12.25*18 GREY BODY
LEVEL *6	540-20460-320-0	R/KNOB D12.25*18mm GREY BODY+WHT CAP
AUX MONI1,EFX2*12,PA RAMETER*1,AUXRTN*2	540-60300-220-0	R/KNOB GREY BODY+BLUE CAP
AUXRTN*2	540-60300-320-0	R/KNOB GREY BODY+WHT CAP
HIGH*6,MTD*6,LOW*6,PA N*4,BAC*2	540-60300-420-0	R/KNOB GREY BODY+CAP
GAIN*4	540-60310-020-0	R/KNOB 15 BLK
	541-60005-020-0	S/KNOB SIZE 23*9.5 WHITE BODY+BLK POINT
	542-60090-222-0	P/KNOB WHT BODY+COOL GREY 11C
	553-60018-401-0	
	560-61280-000-0	CARTON Helix Board 12
	561-60910-000-0	G/B Helix Board 12
	562-60319-000-0	MU1202X
	565-60107-000-0	RIGHT POLYLON
	565-60108-000-0	LEFT POLYLON
	566-10015-010-0	SPONGE 40*10*5
	568-00003-000-0	#10 240*340*0.05
	568-60102-000-0	PE BAG 380*320*0.05
	572-00000-050-0	DRYER 5g
	573-60240-000-0	BAR CODE LABEL PHONIC
	573-60343-000-0	LABEL BLUE D=8mm

Ref.	Phonic Part No.	Specifications
	574-00D10-110-0	OWN. MANU. Helix Board 12
PANEL&PCB,PANEL&B OT.COV.*3,FIXED USB JACK*2	590-03008-100-0	M/E FLT SCR. M3.0*8 NI
HEX.BOSS&DSP PCB*8	590-43006-100-0	M/E PAN SCR. M3.0*6 NI
FOR PCB BOSS*9	590-43008-100-0	M/E PAN SCR. M3.0*8 NI
	590-43012-100-0	M/E PAN SCR. M3.0*12 NI
PANEL&BOT.COV.*5	590-53006-100-0	M/E SET SCR. M3.0*6 NI
L/R SIDE PANEL *6	590-54008-100-0	M/E SET SCR. M4*8 NI
	591-03008-100-0	T/P FLT SCR. D3.0*8 NI
	591-53010-100-0	T/P SET SCR. D3.0*10 NI
	600-00302-210-0	HEX. NUT M3.0*2.2 NI
	610-00301-018-0	FIBER WAS. D3.0*8*1
USB PCB	610-00301-516-0	FIBER WAS. D3.0*D8.0*1.5 RED
	610-00302-018-0	FIBER WAS. D3.0*D8.0*2.0 RED
	610-20901-001-0	TOOTH WAS D9*12*1 NI
	610-30300-501-0	TOOTH WAS. D3.0*D6.5*0.5 NI
	615-20056-600-0	BOSS H=25
	615-20088-620-0	SPACER SUPPORT H-16
FIXED POWER PCB	615-60038-620-0	MCB-6 PCB BOSS
	615-60085-630-0	HEX. BOSS M3.0*11MM
FIXED HEATSINK	615-60089-630-0	HEX BOSS M3.0*14.8MM
	630-60070-451-0	PVC
LED BAR	631-10025-000-0	HEMELON 20*70
CHANNEL LED	631-20029-000-0	HEMELON 10*10

POWER REQUIREMENT CLASSIFICATION

Ref.	Phonic Part No.	Specifications
<u>UL</u>		
F1.2	280-10261-000-0	FUSE 1A 250V UL/CSA F 5*20
	353-22001-000-0	ADAPTOR MM1002/1202 AC120V UL
<u>JIS</u>		
F1.2	280-1026E-000-0	FUSE T1A 250V S (UL/CSA/JIS/CE)
	353-22001-100-0	ADAPTOR MM1002/1202 AC100V JIS
<u>SA</u>		
F1.2	280-10265-000-0	FUSE T 1A 250V SMK IEC/VDE
	353-22007-000-0	ADAPTOR MM1002/1202 AC240V SA
<u>SAA</u>		
F1.2	280-10265-000-0	FUSE T 1A 250V SMK IEC/VDE
	353-22009-000-0	ADAPTOR MM1002/1202 AC240V SAA
<u>BS</u>		
F1.2	280-10265-000-0	FUSE T 1A 250V SMK IEC/VDE
	353-22006-000-0	ADATPOR 1002/1202 AC240V BS 16.8V*20.5A
<u>IEC</u>		
F1.2	280-10265-000-0	FUSE T 1A 250V SMK IEC/VDE
	353-22004-000-0	ADAPTOR MM1002/1202 AC230V IEC

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