SERVICE MANUAL

PMX-80

Stereo Preamp Mixer

CONTENT'S:

Gemini Sound Products Corp.
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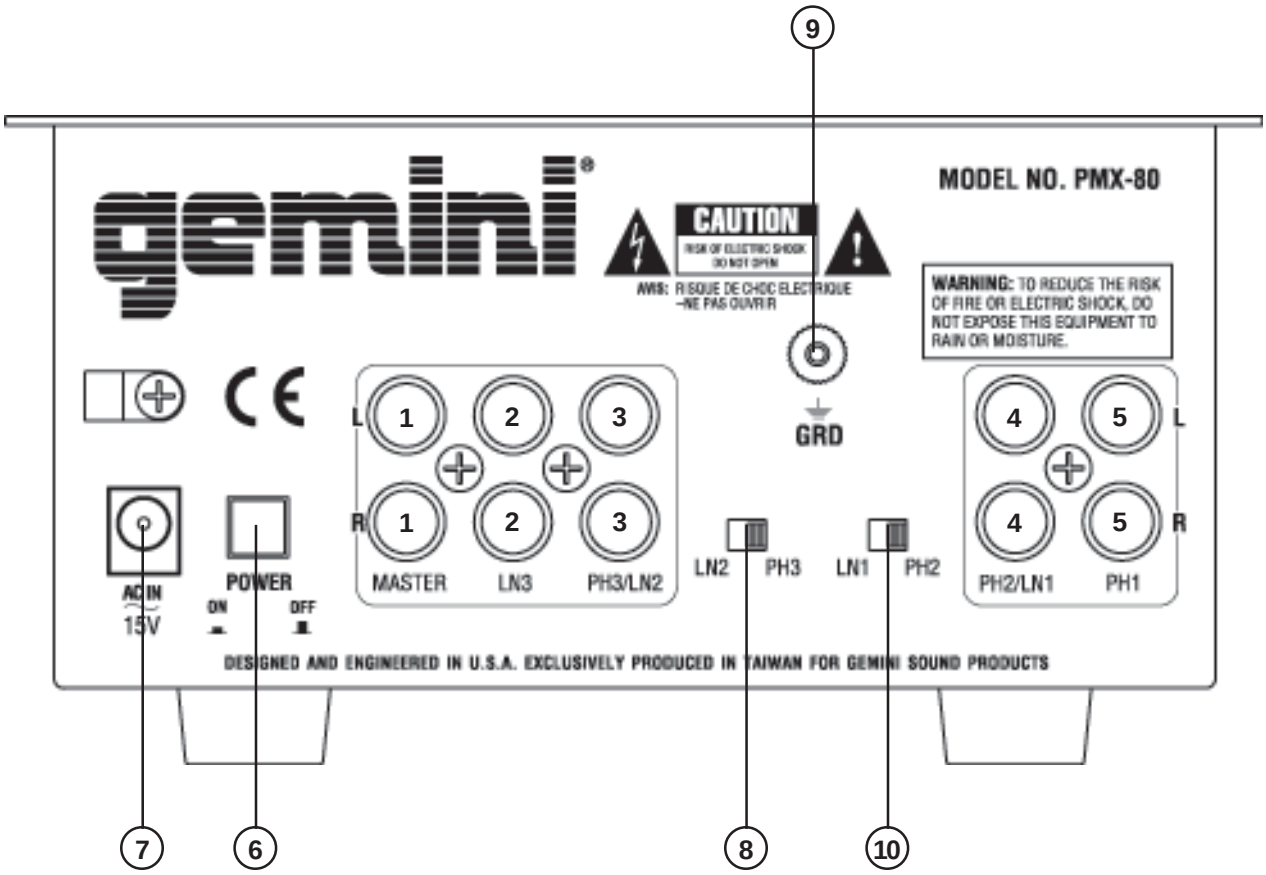
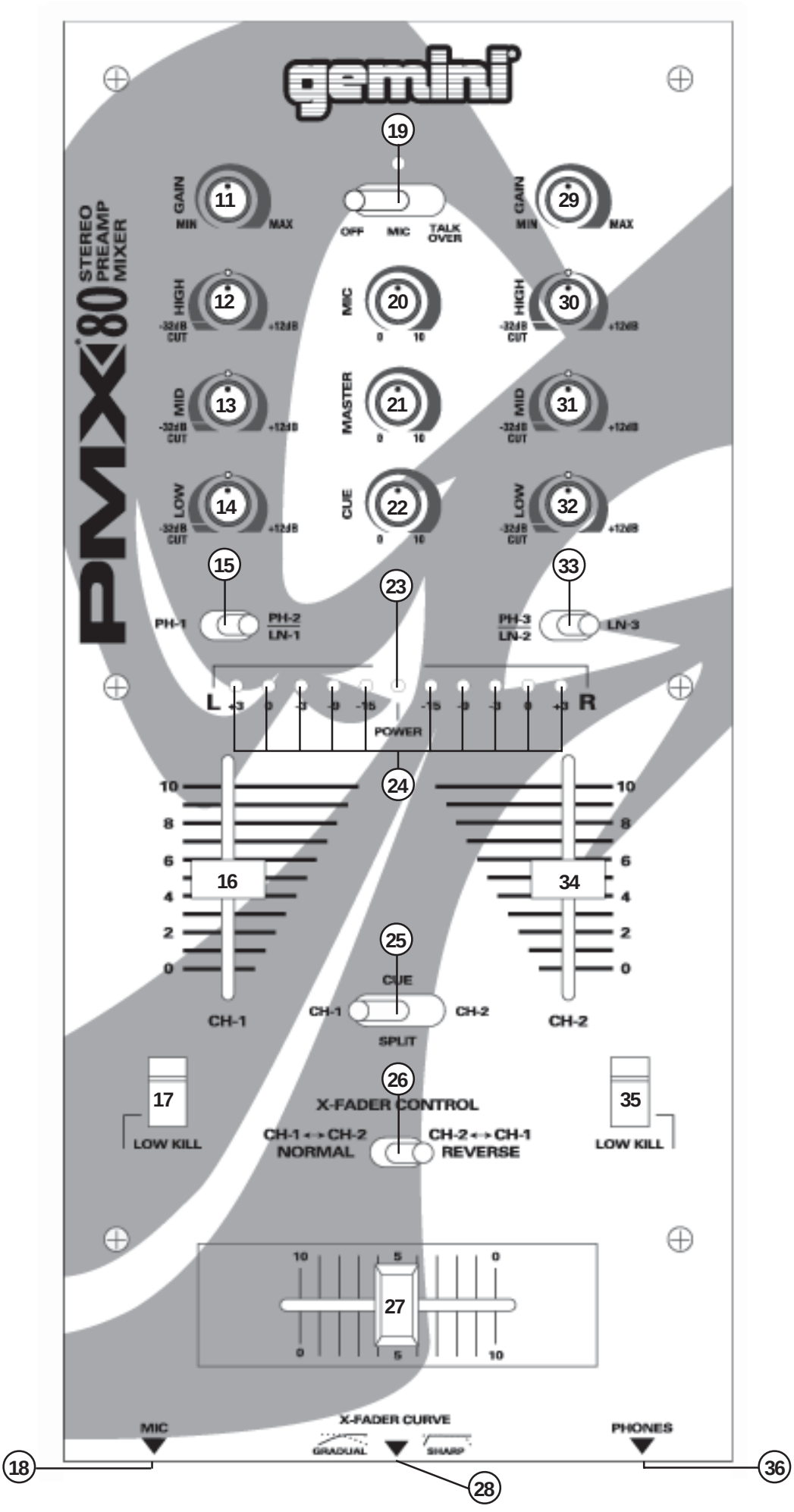

9
gemini
MODEL NO. PMX-80
CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
AVIS: RISQUE DE CHOC ELECTRIQUE
–NE PAS OUVRIR
WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.
GRD
L
1
2
3
R
1
2
3
MASTER
LN3
PH3/LN2
LN2
PH3
LN1
PH2
4
5
L
4
5
R
PH2/LN1
PH1
AC IN
15V
POWER
ON
OFF
DESIGNED AND ENGINEERED IN U.S.A. EXCLUSIVELY PRODUCED IN TAIWAN FOR GEMINI SOUND PRODUCTS
7
6
8
10


gemini
PMX 80 STEREO PREAMP MIXER
19
GAIN
MIN
MAX
11
OFF
MIC
TALK OVER
29
HIGH
-32dB CUT
+12dB
12
MIC
20
0
10
30
MID
13
MASTER
21
31
LOW
14
CUE
22
32
15
PH-1
PH-2
LN-1
23
33
PH-3
LN-2
LN-3
L
R
-15
-9
-3
0
+3
POWER
24
10
8
6
4
2
0
16
34
CH-1
CH-2
25
CUE
SPLIT
17
LOW KILL
26
X-FADER CONTROL
CH-1 ↔ CH-2
NORMAL
CH-2 ↔ CH-1
REVERSE
35
5
27
MIC
X-FADER CURVE
GRADUAL
SHARP
PHONES
18
28
36

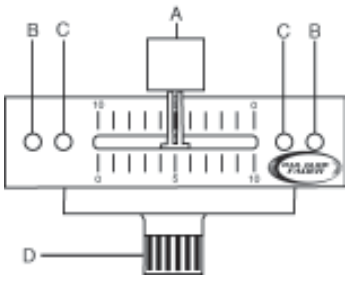
Connections

1. Make sure that the **POWER (6)** switch is in the OFF position. This unit comes supplied with a 15 volt AC adaptor. Plug the male pin of the adaptor into the rear panel **POWER JACK (7)**. Then plug the adaptor into a proper power source.
2. The **MASTER OUTPUT (1)** jacks are unbalanced and used to connect to your main amplifier.
3. The **DJ MIC (18)** input (found on the front panel) accepts a 1/4" connector and balanced and unbalanced microphones.
4. On the rear panel are 2 stereo **PHONO/LINE (3, 4)** inputs, 1 stereo **PHONO (5)** input and 1 stereo **LINE (2)** input. The **PHONO/LINE SWITCHES (8, 10)** enable you to set the **(3, 4)** inputs to Phono or Line. The phono inputs will accept only turntables with a magnetic cartridge. A **GROUND SCREW (9)** for you to ground your turntables is located on the rear panel. The stereo line inputs will accept any line level input such as a CD player, a cassette player, etc.
5. Headphones can be plugged into the front panel mounted **PHONES (36)** jack.

Operation

1. POWER ON: Once you have made all the equipment connections to your mixer, press the **POWER (6)** switch. The power will turn on and the **POWER LED (23)** will glow RED.
2. CHANNEL 1: The **GAIN (11)**, **HIGH (12)**, **MID (13)**, and **LOW (14)** controls allow you to fully adjust the selected source. Switch # **(15)** allows you to select either the **PHONO 1 (5)** or the **PHONO 2/LINE 1 (4)** input. The **CHANNEL SLIDE (16)** controls the output level of this channel.
3. CHANNEL 2: The **GAIN (29)**, **HIGH (30)**, **MID (31)**, and **LOW (32)** controls allow you to fully adjust the selected source. Switch # **(33)** allows you to select either the **PHONO 3/LINE 2 (3)** or the **LINE 3 (2)** input. The **CHANNEL SLIDE (34)** controls the output level of this channel.
4. KILLING LOW FREQUENCIES: You can use the Kill Feature on each channel to remove Low band frequencies to create special effects and improve your mix. Move the **KILL SWITCH (17)** down to remove the low band of Channel 1 from your mix. Move the **KILL SWITCH (35)** down to remove the low band of Channel 2 from your mix.
5. CROSSFADER SECTION: The **CROSSFADER (27)** allows the mixing of one source into another. The left side of the **CROSSFADER (27)** is CHANNEL 1 and the right side is CHANNEL 2. The **CROSSFADER (27)** in your unit is removable and if the need arises can be easily replaced. Crossfader units are available in three varieties. Part # RF-45 (which is identical to the crossfader supplied with the mixer) has a 45 mm travel from side to side. Part # RF-30 is available with a 30 mm travel distance. Also available is the PSF-45 with a special curve designed for scratch mixing. Just purchase one of these crossfader units from your Gemini dealer and follow these instructions:

   1. Unscrew the outside FADER PLATE SCREWS (B). Do not touch the INSIDE SCREWS (C).
   2. Carefully lift the fader and unplug the CABLE (D).
   3. Plug the new fader into the cable and place it back in the mixer.
   4. Screw the fader to the mixer.



   The **CROSSFADER CURVE SWITCH (28)** allows you to adjust the kind of curve the crossfader has. When the switch is in the left position, the curve is gradual and gentle. When the switch is in the right position, the curve is steep and cutting (perfect for scratching). The **CROSSFADER REVERSE SWITCH (26)** allows you to reverse the crossfader so that CHANNEL 2 is controlled by the left side of the crossfader and CHANNEL 1 is controlled by the right side of the crossfader.

NOTE: When the CROSSFADER REVERSE SWITCH (26) is activated (moved to the right), only the crossfader reverses. The Channel Slides, Gain, Kill Switches and tonal controls do not reverse.

6. OUTPUT CONTROL SECTION: The level of the **MASTER OUTPUT (1)** is controlled by the **MASTER (21)** control.
7. TALKOVER SECTION: The purpose of the talkover section is to allow the program playing to be muted so that the mic can be heard above the music. The **MIC/TALKOVER (19)** switch has three settings. When the **MIC/TALKOVER (19)** switch is in the left position, the mic and talkover are both off. When the **MIC/TALKOVER (19)** switch is in the center position the mic is on, the **MIC INDICATOR** will glow, but talkover is off. When the **MIC/TALKOVER (19)** switch is in the right position, the mic and talkover will be on and the volume of all sources except the Mic input are lowered by 16 dB. **MIC LEVEL (20)** controls the level of the MIC.
8. CUE SECTION: By connecting a set of headphones to the **PHONES (36)** jack, you can monitor either channel or both together. Move the **CUE SWITCH (25)** to the left to monitor CHANNEL 1. Move the **CUE SWITCH (25)** to the right to monitor CHANNEL 2. Move the **CUE SWITCH (25)** to the center position to split the signals from each channel so that CHANNEL 1 will be heard in one earphone and CHANNEL 2 will be heard in the other earphone. Use the **CUE LEVEL (22)** control to adjust the headphone volume without effecting the overall mix.
9. DISPLAY: The **DISPLAY (24)** indicates the **MASTER** output.

Specifications

INPUTS:

DJ Mic.....1.5mV 600 Ohm
Phono.....3mV 47Kohm
Line.....150 mV 27Kohm

OUTPUTS:

Amp.....0 dB 1V 400ohm
Max.....20V Peak to Peak

GENERAL:

Low (Channels 1 - 2).....+ 12dB/-32 dB
Mid (Channels 1 - 2).....+ 12dB/-32 dB
High (Channels 1 - 2).....+ 12dB/-32 dB
Gain (Channels 1 - 2).....0 to -20dB
Frequency Response.....20Hz - 20KHz +/- 2dB
Distortion.....0.02%
S/N Ratio.....better than 80dB
Talkover Attenuation.....-16dB
Headphone Impedance.....16ohm
Power Source.....115V/15V AC 7.5W
230V/15V AC 7.5W
Dimensions.....6.5" x 14" x 3" (165 x 355 x 85 mm)
Weight.....5 lbs (2.27 kg)

Parts Lists

Cabinet Parts and Packing

Item #	Description	Part #
1	PANEL CONTROL	002-223
2	PANEL REAR	034-020
3	BOTTOM COVER	032-027
4	BRACKET VR (SUB CHASSIS)	021-776
5	HOLDER FADER	022-367
6	KNOB SWING (LONG)	023-674
7	KNOB PUSH (SMALL)	002-531
8	KNOB SLIDE (BIG)	002-704
9	KNOB ROTARY (B TYPE)	003-110
10	INLAY KNOB (BLACK)	148-236
11	INLAY KNOB (GRAY)	148-239
12	INLAY KNOB (RED)	148-238
13	TRIM VR	003-970
14	HOLDER LED (3f 17mm)	003-969
15	PAD FOOT	049-206
16	DUST PROOF CLOTE-VR	159-171
17	SWING DUST PROOF CLOTH	159-216
18	GND SCREW	146-710
19	BUSHING WIRE	049-190
20	BAND-HEAD TAPPING SCREW/TW-E 3×6(AB)	121-003A
21	FLAT-HEAD TAPPING SCREW 3f×6(AB)	111-043A
22	BAND-HEAD TAPPING SCREW 3×6(AB)	111-046A
23	FLAT-HEAD TAPPING SCREW 3f×12(AB)	111-049A
24	BAND-HEAD TAPPING SCREW 3f×5(AB)	111-051A
25	BAND-HEAD TAPPING SCREW (TWIN) 3f×8 (AB)	110-172A
26	PAN-HEAD MACHINE SCREW 2.6f×4(B)	102-025

Printed Circuit Boards

Item #	Description	Part #
1	PRINTED CIRCUIT BOARD PMX80-1	262-073
2	PRINTED CIRCUIT BOARD PMX80-2	262-074
3	PRINTED CIRCUIT BOARD PMX80-3	262-075

Parts Lists - PCB1 Input Output

ICs

Item #	Designators	Description	Part #
1	IC1, IC2, IC3	INTEGRATED CIRCUIT NJM2068LD	074-145
2	IC5	INTEGRATED CIRCUIT NJM7912FA	074-114
3	IC4	INTEGRATED CIRCUIT NJM7812FA	074-107

Electrical Parts

Item #	Designators	Description	Part #
1	D3, D4	RECTIFIER DIODE 1N4002 (1N4003,1N4004)	079-027
2	D1, D2	ZENER DIODE 1/2W 12V	079-012
3	SW3	SLIDE SWITCH	081-038
4	J4	DC JACK 2.5	092-135
5	J1	4P RCA JACK	161-105
6	J2	6P RCA JACK	161-106

Parts Lists - PCB2 Main

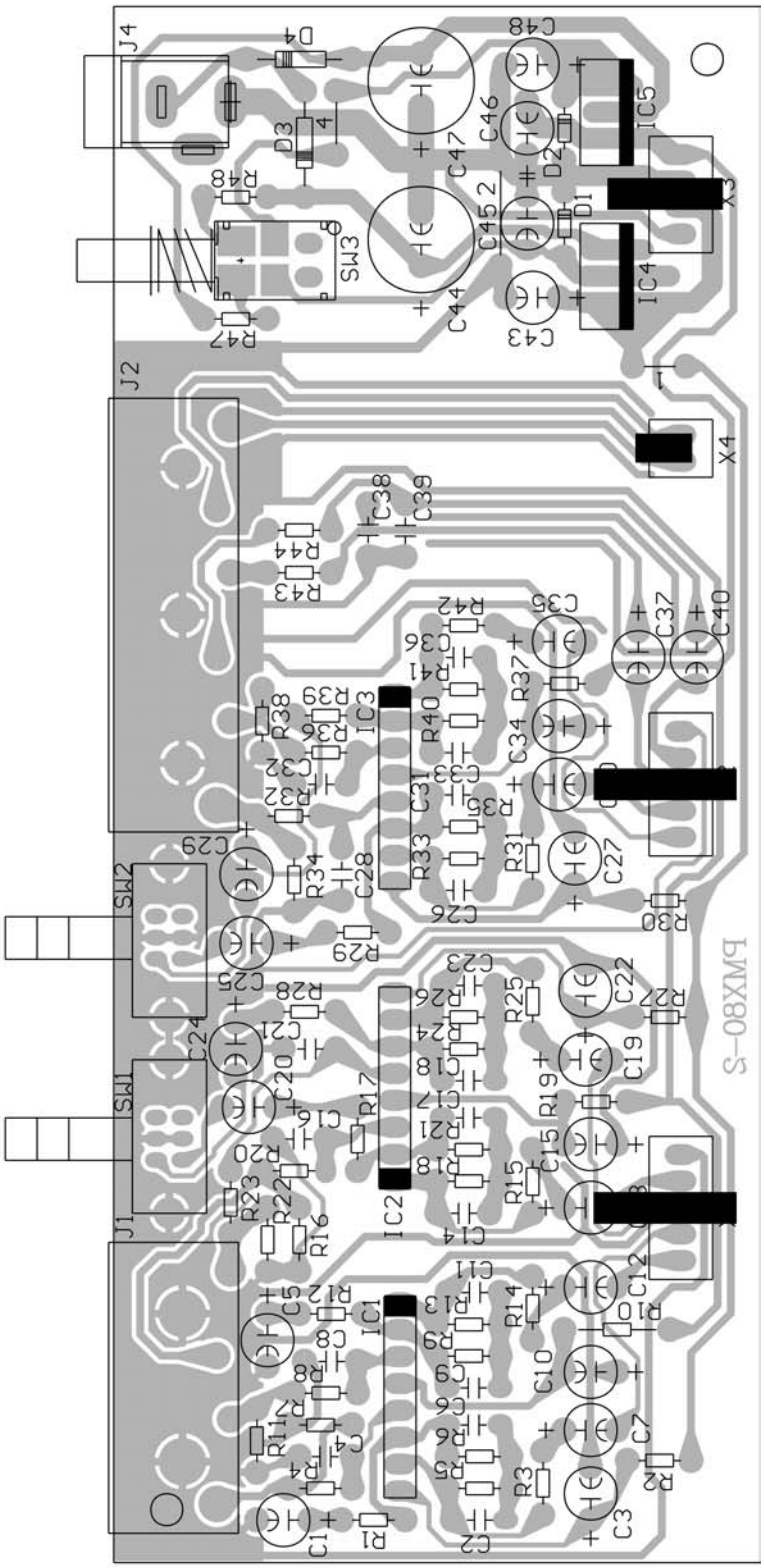
ICs

Item #	Designators	Description	Part #
1	IC4	INTEGRATED CIRCUIT NJM2068LD	074-145
2	IC10	INTEGRATED CIRCUIT NJM4556AD	074-100
3	IC1-2, IC6, IC8, IC9	INTEGRATED CIRCUIT NJM4558LD	074-104
4	IC3, IC7	INTEGRATED CIRCUIT OR LB1423N	074-154

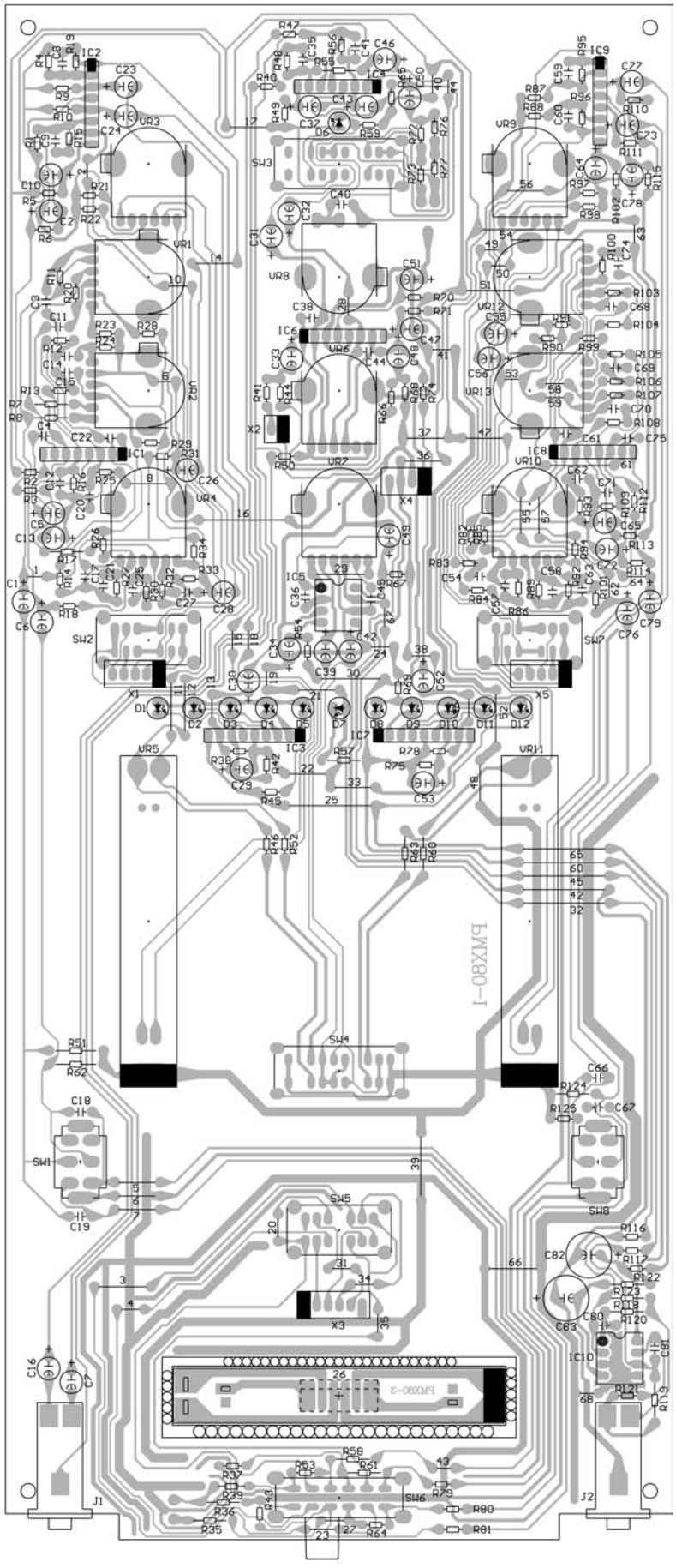
Electrical Parts

Item #	Designators	Description	Part #
1	D9-12	LIGHT EMITTING DIODE (GREEN) 3.15f	080-104
2	SW4	SLIDE SWITCH	081-038
3	SW2, SW5, SW7	LEVER SWITCH 4P2C	082-019
4	VR3, VR9	ROTARY VR 16f L=20 GAIN 10KA×2	071-161
5	VR8	ROTARY VR 16f L=20 MIC 50KA	071-066
6	VR6	ROTARY VR 16f L=20 MASTER, 500KA×2	071-158

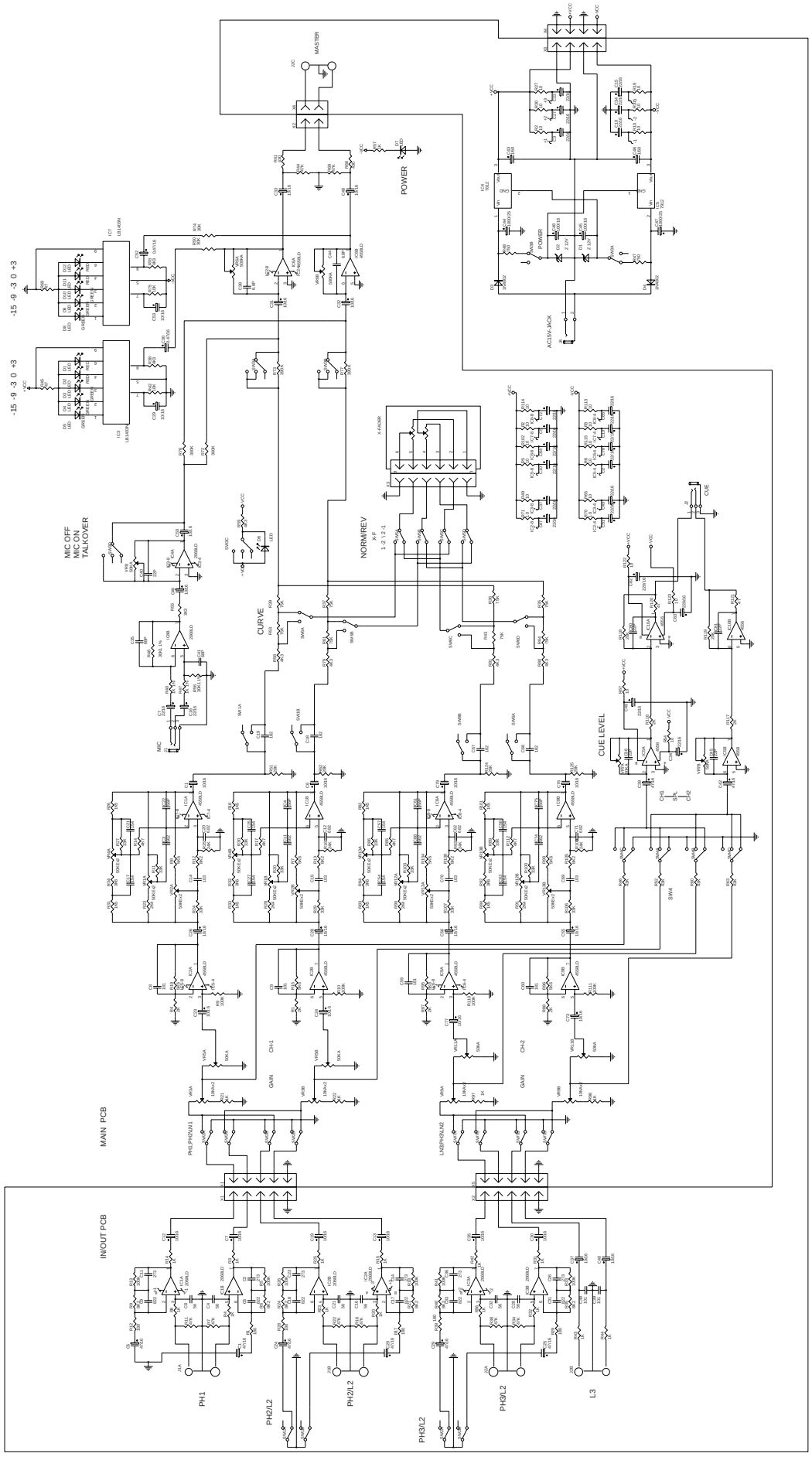
PCB1 - Input Output



PCB2 - Main



Schematic


MASTER
POWER
MIC OFF
MIC ON
TALKOVER
NORM/REV
CURVE
CUE LEVEL
CUE
MIC
CH1
CH2
GAIN
MAIN PCB
IN/OUT PCB
PH1
PH2/L2
PH3/L2
PH3/L2
L3