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Brand:	**Hill**	
Model	**Multimix**	
Product:	**Mixing Board**	
Description:	**Service Manual**	**Dated: 1986**

Musicparts Document Number: 41322 TechTips: 0 Pages: 11

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MULTIMIX

SPECIFICATIONS

LEVEL	Maximum	+21dBm
	0dB (desk)	+4dBm / -10dBv selectable
HEADROOM	Input	17dB
	All others	17dB
GAIN	Input	0dB to +60dB
	Overall	+70dB
NOISE	-126dB (A) EIN	
	-80dB (residual)	
DISTORTION	mid THD	<0.005%
	wide THD	<0.01%
	IMD SMPTE	<0.01%

(Mid THD measured 400Hz to 80kHz)

FREQUENCY RESPONSE		+/- 0.1dB (20Hz-20kHz)
PHANTOM POWER		+48v
IMPEDANCE		
	input	1.2k mic (balanced) 10k line (unbalanced)
	output	<50 ohms (unbalanced) <240 ohms (unbalanced) (-10dBv)
IC type	NE5532 throughout	
0dB ref	.775V	
Size	19" rack mount	(482mm)
	8 rack units high (14")	(355.6mm)
	3-1/2" deep	(82.55mm)

PS-1 POWER SUPPLY UNIT

The fully regulated power supply unit is 19" rack mountable and occupies 1 rack space.

FRONT PANEL

ON/OFF switch with status led.

Phantom Power ON/OFF switch with status led.
Depressing this switch applies 48v phantom power to ALL the microphone inputs. A 3 second 'soft start' is featured

BACK PANEL

Voltage selector switch
The PS-1 is switchable 115/230volts AC (nominal)
WARNING: verify the position of the voltage selector switch BEFORE turning on your PS-1.

EARTH LIFT switch. This switch isolates the 0v [technical ground]rail of the power supply from the chassis ground.
AC ground is permanently connected to chassis ground

IEC 'Euro' AC input socket

5 pin Low voltage output connector
This connector links the power supply unit to your MULTIMIX

pin#1	0v (technical ground)
pin#2	+17.5v main rail
pin#3	-17.5v main rail
pin#4	+15v auxiliary rail
Pin#5	+48v phantom power

SPECIFICATIONS:

Output :	+/- 17.5V 1A max
	+ 15V 1A max
	+ 48V 100mA max
Ripple :	less than 1 mV
Input :	110-120V ac 50-60Hz 1A
	220-240V ac 50-60Hz 500mA
Protection :	internal fuses to above ratings
Size :	435W x 120D x 44H (17.125W x 4.75D x 1.75H)
Weight :	6lb

INTERFACING THE MULTIMIX

Input channels

16	XLR microphone inputs balanced pin #1 ground pin #2 signal (-) pin #3 signal (+)
16	1/4" line level inputs unbalanced
4	1/4" RIAA equalised inputs

Subgroups

4	1/4" subgroup outputs unbalanced

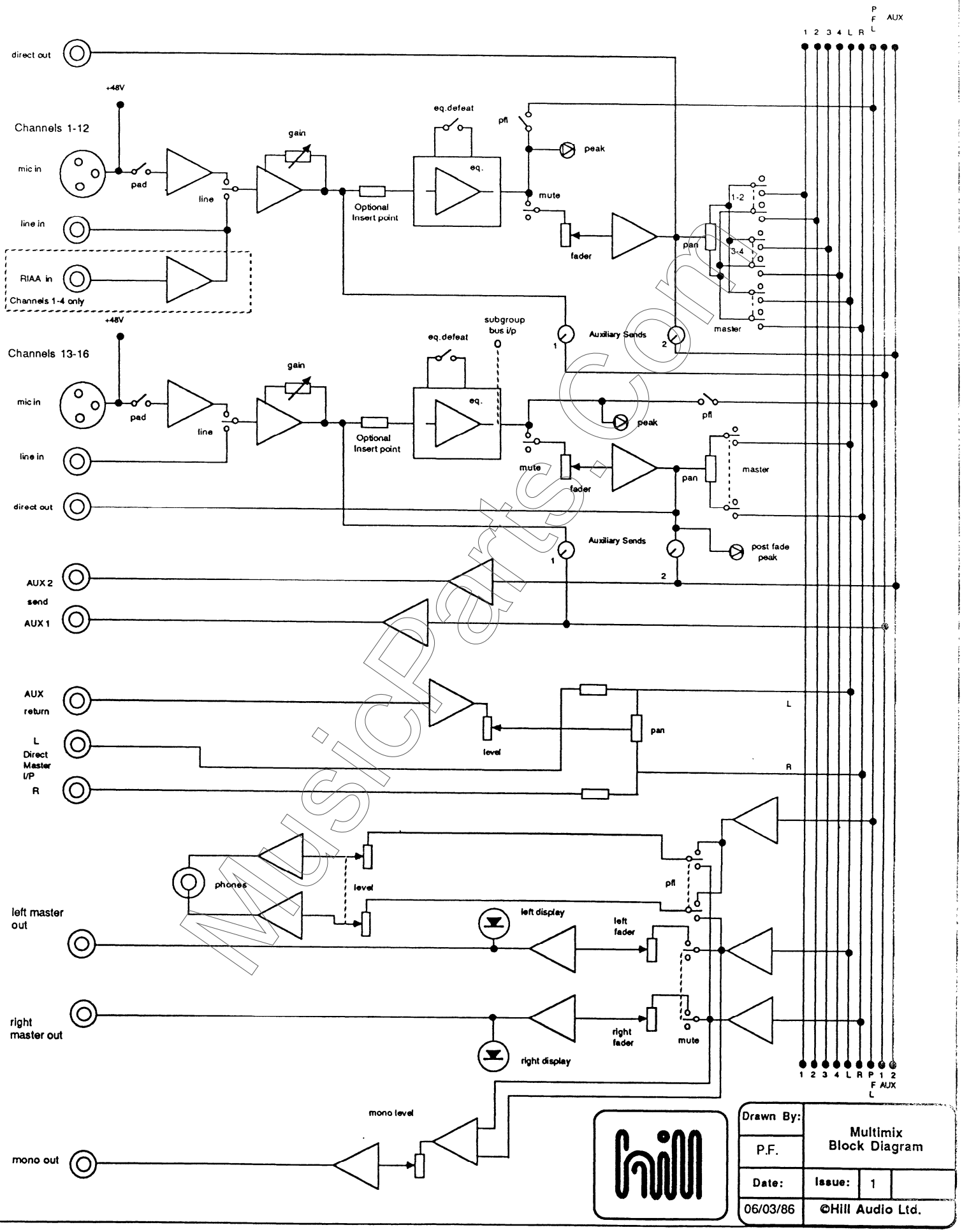
Masters

2	1/4" master stereo outputs unbalanced
1	1/4" mono output unbalanced
2	Direct master inputs unbalanced

Auxiliary

2	1/4" auxiliary send output unbalanced
1	1/4" auxiliary return input unbalanced

An internal link is present in the Multimix which allows external jacks to be wired in easily as insert points for the inputs. If insert points are wired in this position they are pre-fader and pre-eq.



Drawn By:	Multimix Block Diagram		
P.F.			
Date:	Issue:	1	
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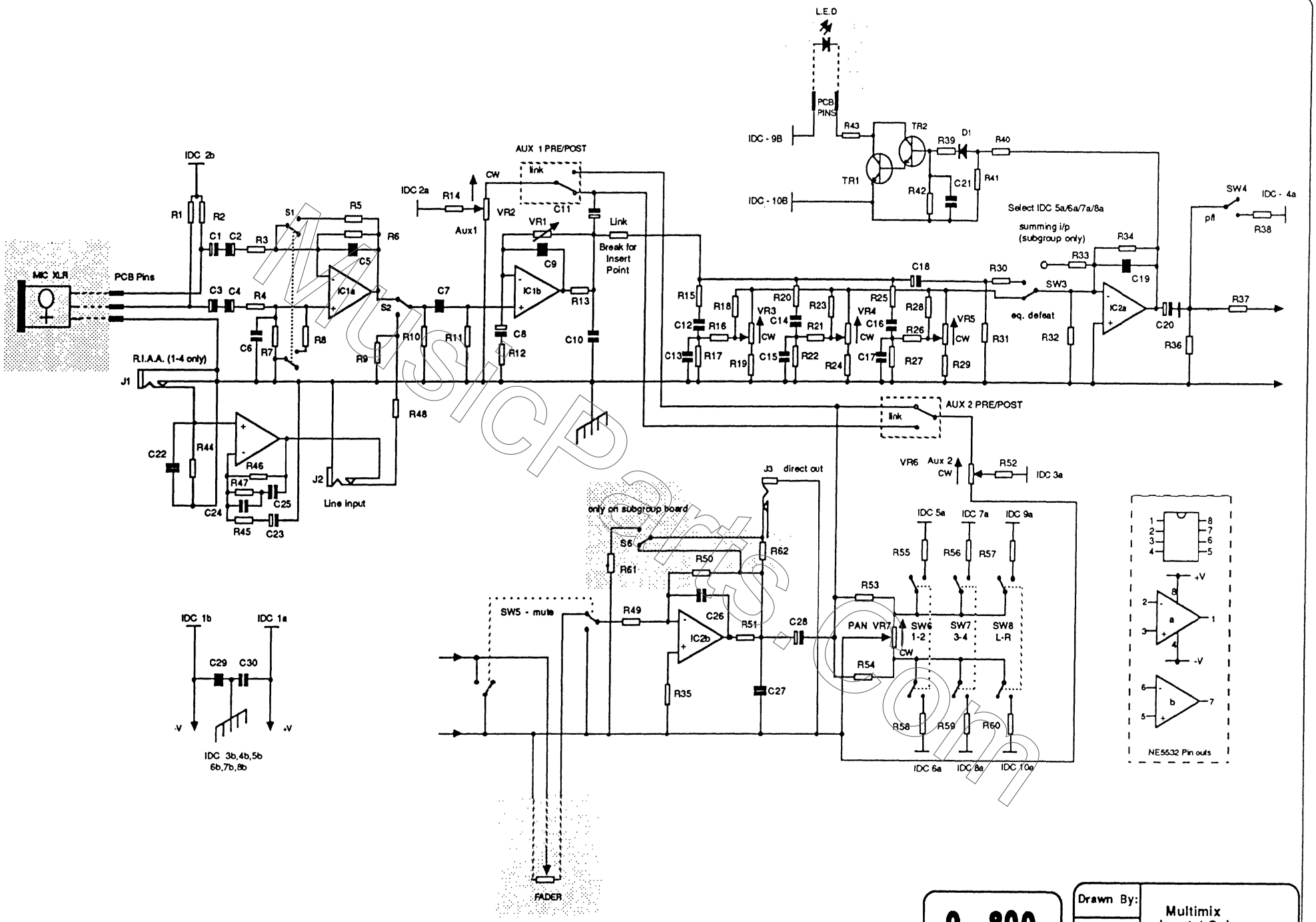
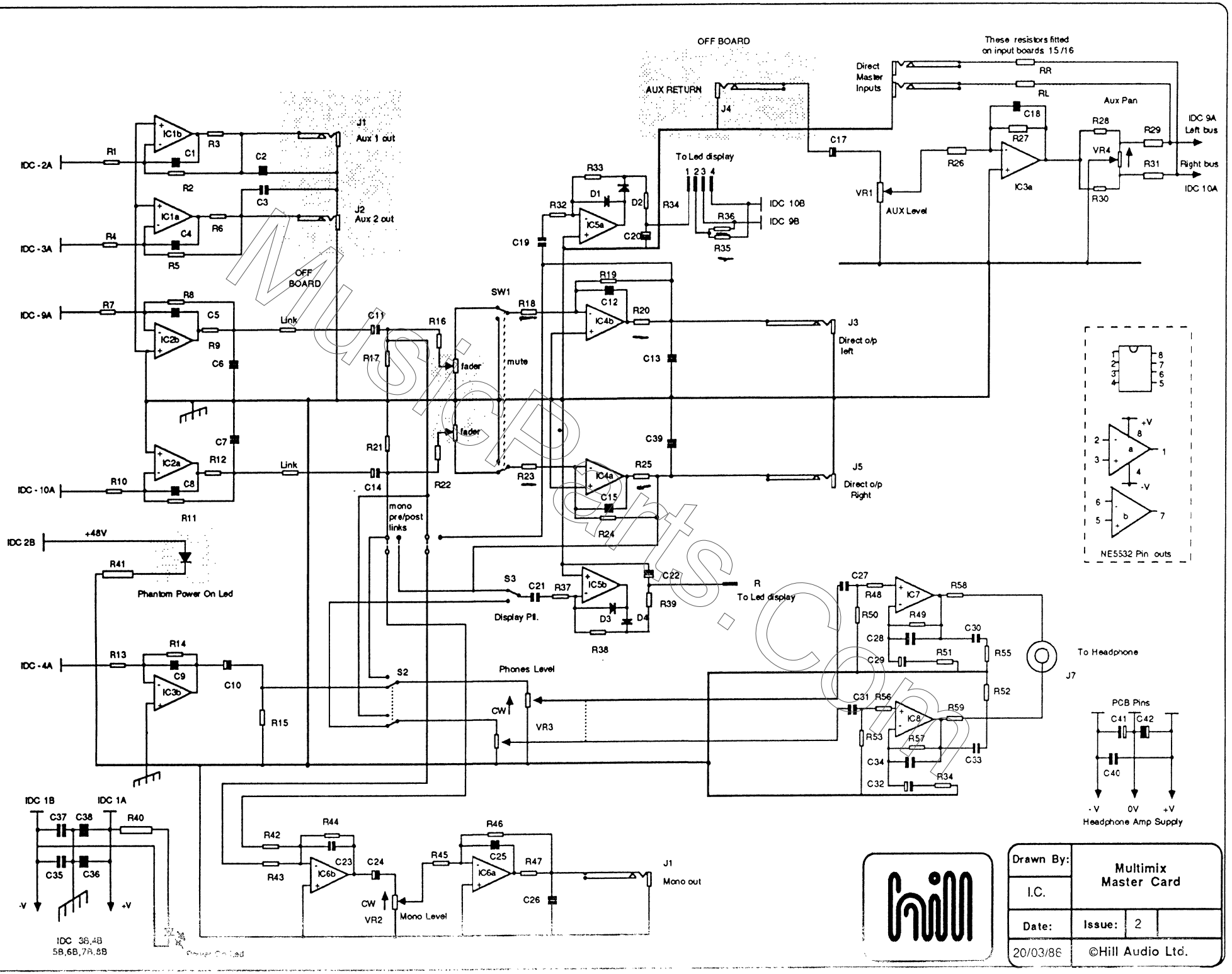


Drawn By:	Multimix Input / Subgroup	
I.C.		
Date:	Issue:	
27/04/87	3	


OFF BOARD
These resistors fitted on input boards 15/16
Direct Master Inputs
AUX RETURN
J4
RR
RL
Aux Pan
IDC 9A Left bus
Right bus
IDC 10A
IDC -2A
IDC -3A
IDC -9A
IDC -10A
J1 Aux 1 out
J2 Aux 2 out
OFF BOARD
Link
SW1
fader
mute
To Led display
IDC 10B
IDC 9B
AUX Level
J3 Direct o/p left
J5 Direct o/p Right
mono pre/post links
IDC 2B
+48V
Phantom Power On Led
S3
Display Pll.
S2
Phones Level
CW
VR3
To Headphone
J7
PCB Pins
-V 0V +V
Headphone Amp Supply
NE5532 Pin outs
IDC 1B
IDC 1A
IDC 3B,4B 5B,6B,7B,8B
Power On Led
CW
VR2
Mono Level
J1 Mono out
Drawn By:
I.C.
Multimix Master Card
Date:
20/03/86
Issue: 2
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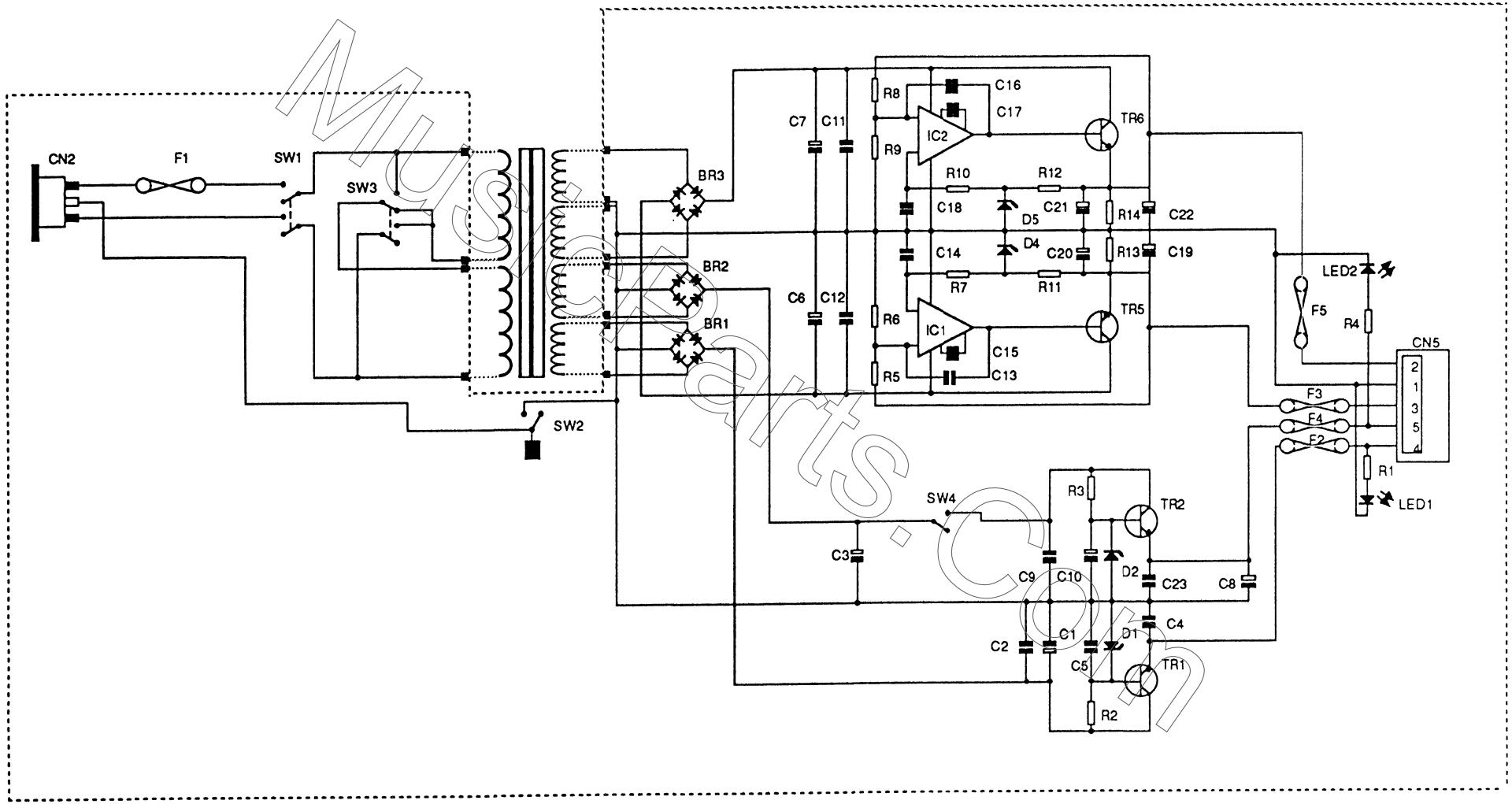
PS1



Drawn By:		Power Supply (PS1)	
I.C./P.F.			
Date:	Issue:	1	
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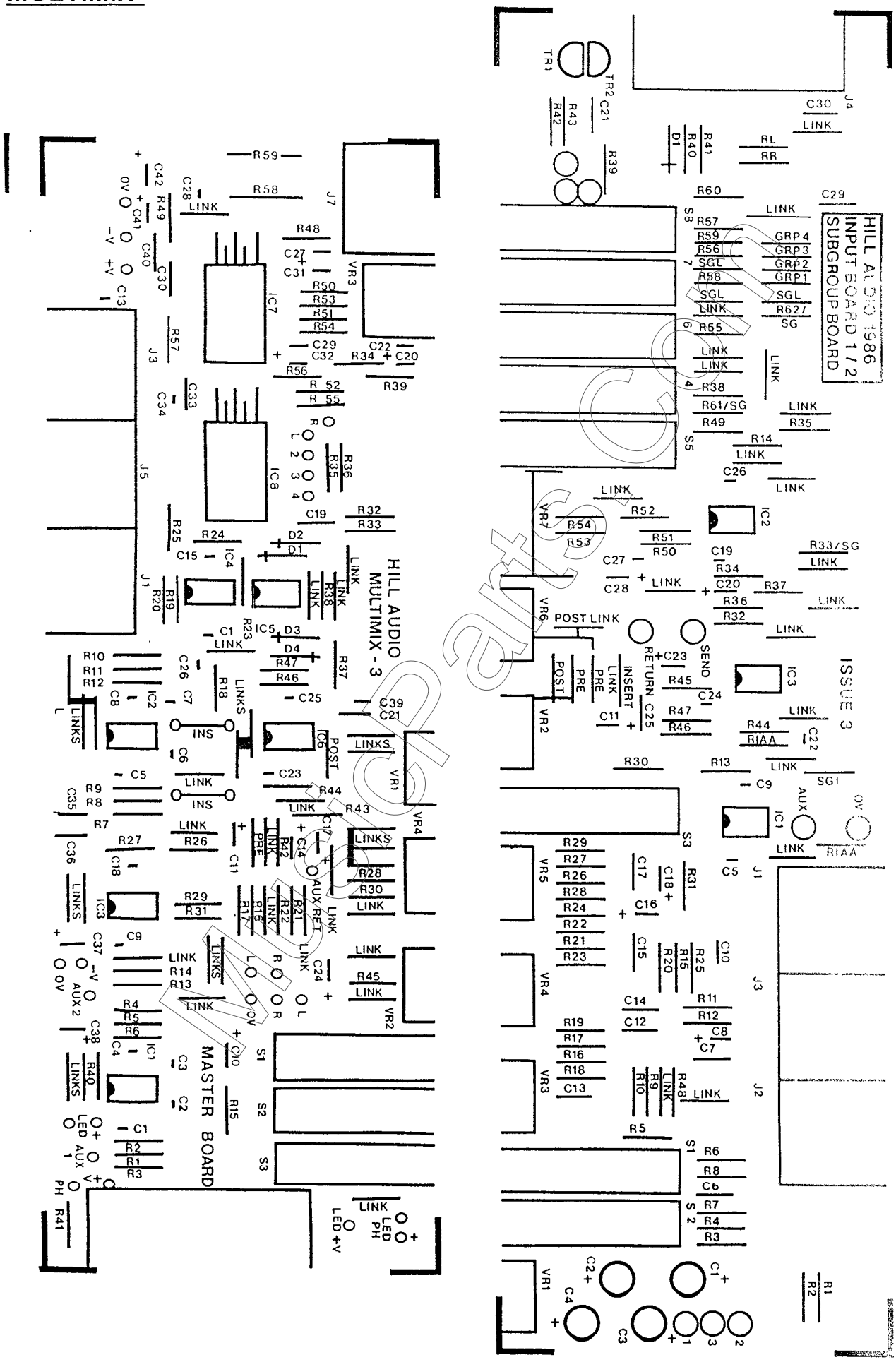
MULTIMIX

MULTIMIX



MULTIMIX 'INPUT/SUBGROUP' COMPONENT LIST

R1= 6K8 1%
R2= 6K8 1%
R3= 560R
R4= 560R
R5= 560R
R6= 5K6
R7= 5K6
R8= 560R
R9= 2K2
R10= 2K2
R11= 100K
R12= 560R
R13= 47R
R14= 51K
R15= 5k6
R16= 5K6
R17= 5K6
R18= 15K
R19= 560R
R20= 5K6
R21= 5K6
R22= 5K6
R23= 15K
R24= 560R
R25= 5K6
R26= 5K6
R27= 5K6
R28= 15K
R29= 560R
R30= 75K
R31= 51K
R32= 51K
R33= 27R
R34= 75K
R35= 10K
R36= 51K
R37= 5K6
R38= 51K
R39= 4K7
R40= 56K
R41= 150K
R42= 1M
R43= 560R
R44= 51K
R45= 1K
R46= 1M
R47= 100K
R48= 10K
R49= 10K
R50= 39K
R51= 47R
R52= 51K
R53= 10K
R54= 10K
R55= 22K
R56= 22K
R57= 22K
R58= 22K
R59= 22K
R60= 22K
R61= 240R
R62= 680R

C1= 100uF LE
C2= 100uF LE
C3= 100uF LE
C4= 100uF LE
C5= 180pF PC
C6= 180pF PC
C7= .47uF PL
C8= 100uF ST
C9= 10pF PC
C10= 100pF PC
C11= 10uF ST
C12= 4.7nF PL
C13= 1nF PL
C14= 68nF PL
C15= 22nF PL
C16= 10uF ST
C17= .33uF PL
C18= 22uF ST
C19= 10pF PC
C20= 22uF ST
C21= .33uF PL
C22= 100pF PC
C23= 22uF ST
C24= 680pF PC
C25= 3.3nF PL
C26= 22pF PC
C27= 100pF PC
C28= 22uF ST
C29= 10nF PC
C30= 10nF PC

IC1,2&3= 5532
VR1>6= 47K LOG B
TR1+2= 2N3708
VR7= 10K LIN A
D1= 1N4148

MULTIMIX 'MASTER' COMPONENT LIST

R1= 27R
R2= 51K
R3= 47R
R4= 27R
R5= 51K
R6= 47R
R7= 27R
R8= 75K
R9= 47R
R10= 27R
R11= 75K
R12= 47R
R13= 27R
R14= 51K
R15= 51K
R16= 5K6
R17= 51K
R18= 10K
R19= 39K
R20= 47R
R21= 51K
R22= 5K6
R23= 10K
R24= 39K
R25= 47R
R26= 51K
R27= 100K
R28= 10K
R29= 22K
R30= 10K
R31= 22K
R32= 150K
R33= 150K
R34= 3K9
R35= 20K
R36= 4K7
R37= 150K
R38= 150K
R39= 3K9
R40= 3K3
R41= 4K7
R42= 22K
R43= 22K
R44= 15K
R45= 51K
R46= 51K
R47= 47R
R48= 10K
R49= 3K9
R50= 51K
R51= 1K
R52= 8R2
R53= 51K
R54= 1K
R55= 8R2
R56= 10K
R57= 3K9
R58= 4R7 2W5
R59= 4R7 2W5

C1= 22pF PC
C2= 100pF PC
C3= 100pF PC
C4= 22pF PC
C5= 22pF PC
C6= 100pF PC
C7= 100pF PC
C8= 22pF PC
C9= 22pF PC
C10= 22uF ST
C11= 22uF ST
C12= 22pF PC
C13= 100pF PC
C14= 22uF ST
C15= 22pF PC
C16
C17= 22uF ST
C18= 10pF PC
C19= .22uF PL
C20= 2.2uF ST
C21= .22uF PL
C22= 2.2uF ST
C23= 22pF PC
C24= 10uF ST
C25= 22pF PC
C26= 100pF PC
C27= 1uF ST
C28= 100pF PC
C29= 10uF ST
C30= 47nF PL
C31= 1uF ST
C32= 10uF ST
C33= 47nF PL
C34= 100pF PC
C35= 10nF PL
C36= 10nF PL
C37= 22uF ST
C38= 22uF ST
C39= 100pF PC
C40= 10nF ST
C41= 1uF ST
C42= 1uF PL

PC= Sub-miniature plate ceramic type.
ST= Miniature bead, resin dipped, dry, solid tantalum.
PL= Miniature metallised polyester layer type.
LE= Low-leakage electrolytic type.

IC1>6 = 5532
VR1&2 = 47K LOG B
IC7&8 = 2030
VR4 = 10K LIN A
D1,2,3&4 = 1N4148
VR3 =10K DUAL LIN A

POWER SUPPLY CARD (1A) COMPONENT LIST

R1= 1K5
R2= 1K
R3= 51K
R4= 4K7
R5= 2K7
R6= 1K
R7= 10K
R8= 2K7
R9= 1K
R10= 10K
R11= 3K3
R12= 3K3
R13= 3K3
R14= 3K3

C1= 4700uF 25V
C2= 10nF PL
C3= 2200uF 63V
C4= 10nF PL
C5= 10nF PL
C6= 4700uF 25V
C7= 4700uF 25V
C8= 47uF 50V
C9= 10nF PL
C10= 47uF 50V
C11= 1uF ST
C12= 1uF ST
C13= 10nF PL
C14= 10nF PL
C15= 22pF PC
C16= 10nF PL
C17= 22pF PC
C18= 10nF PL
C19= 470uF 25V
C20= 10nF PL
C21= 10nF PL
C22= 470uF 25V

PC= Sub-miniature plate ceramic type.
PL= Miniature metallised polyester layer type.
ST= Miniature bead type, resin dipped, dry, solid tantalum.
All unnamed caps are electolytic type.

D1= 15V ZENER
D2= 47V ZENER
D4+D5= 4V7 ZENER

TR1,2+6= MJ3001
TR5= MJ2501

IC1+2= 5534