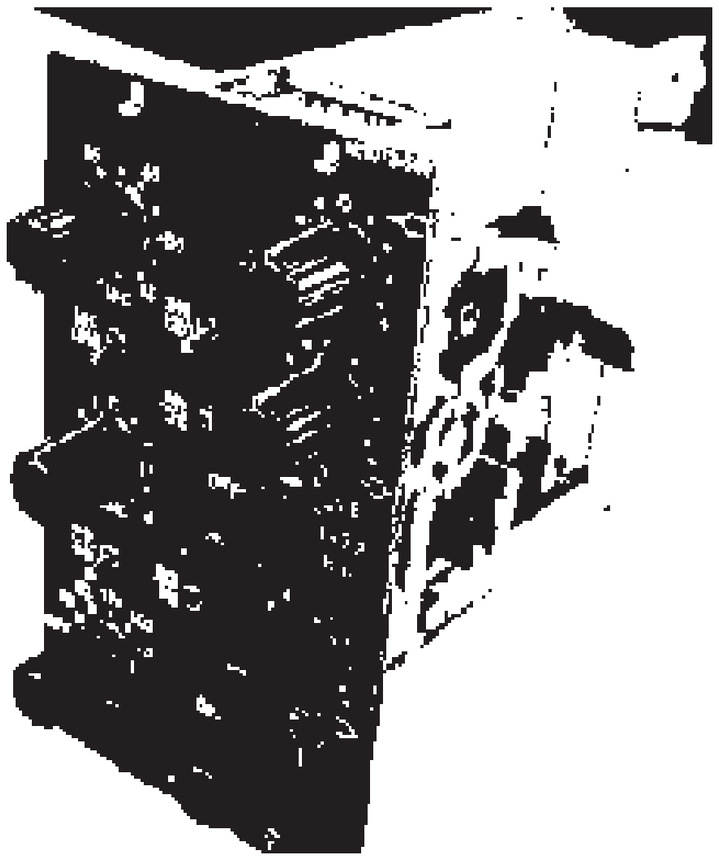
ez1073-500 Lunchbox Mic/Line EQ - Assembly manual
[“Colourbook” Issue 1g]



Ez1073-500 “Colourbook” Contents.

Section 1 - “Colourbook” assembly guide

Section 2 - Schematics diagrams and PCB Overlays

Section 3 - Parts List

Section 4 - Setup and Calibration

Ez1073-500 “Colourbook” revision history

Revisions 1 to 1a;

Minor corrections and additions

Revisions 1a to 1b;

Faceplate fitting and heatsink clarification

Revisions 1b to 1c;

Output link cable drawing
Schematics and overlays added
Test/Calibration procedure added

Revisions 1c to 1d;

Output transistor heatsink change
AP Plots added

Revisions 1d to 1e;

Shakeproof washer missing from heatsink screw

Revisions 1e to 1f;

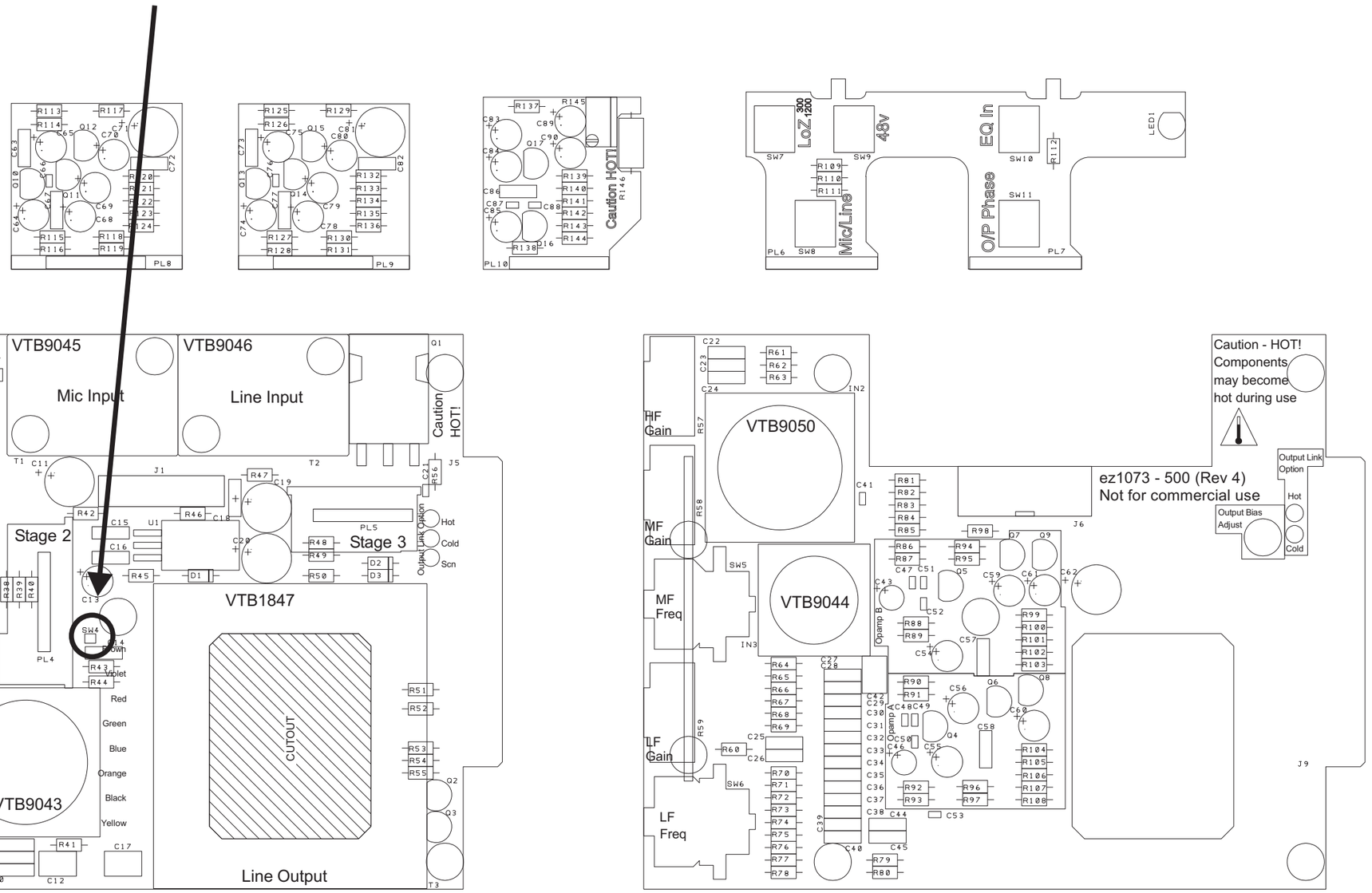
Output transistor orientation clarification
R143 and C89 description clarification

Revisions 1f to 1g;

Warning added about length of pins on
switch card / clash with R2, R3 & R4
Calibration procedure “R49 alternative method” added
for setting bias.

Output Termination

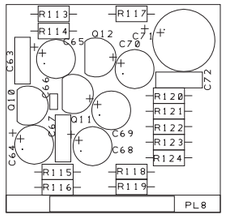
Place a “blob” of solder across the two pads for 600 Ohm termination

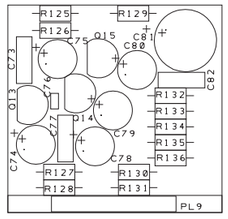


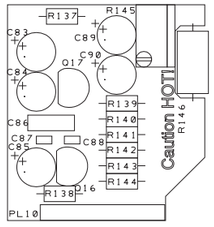
Diodes

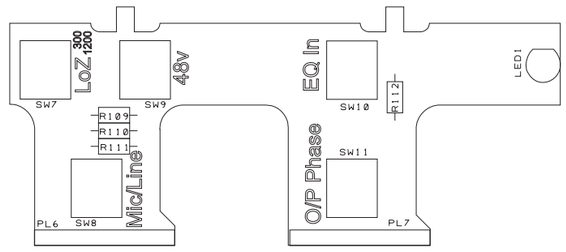


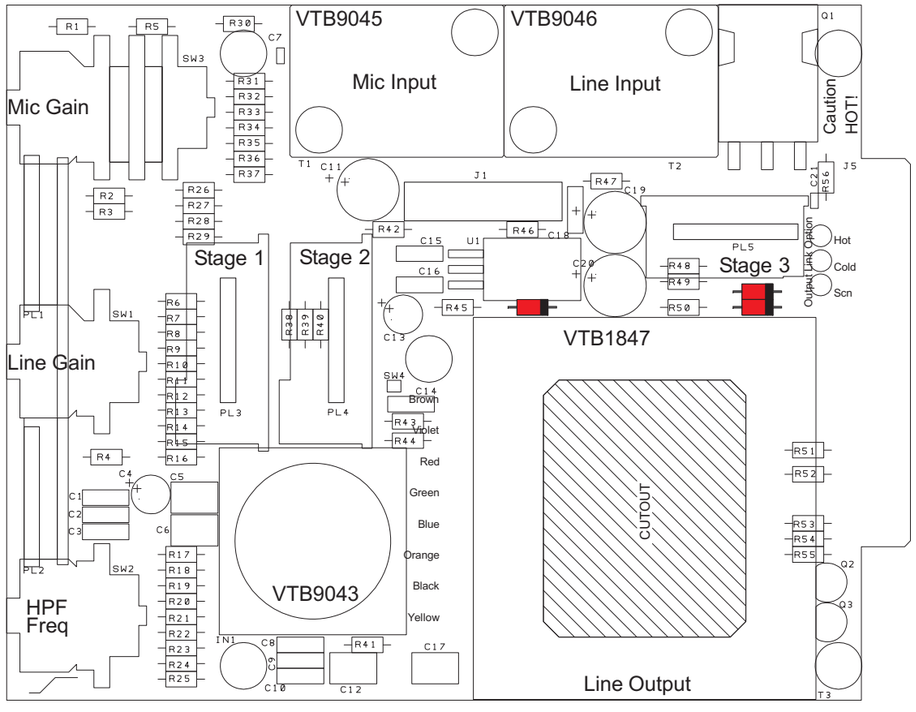
D1, D2, D3 = 1N4001 or 1N4007 (3)

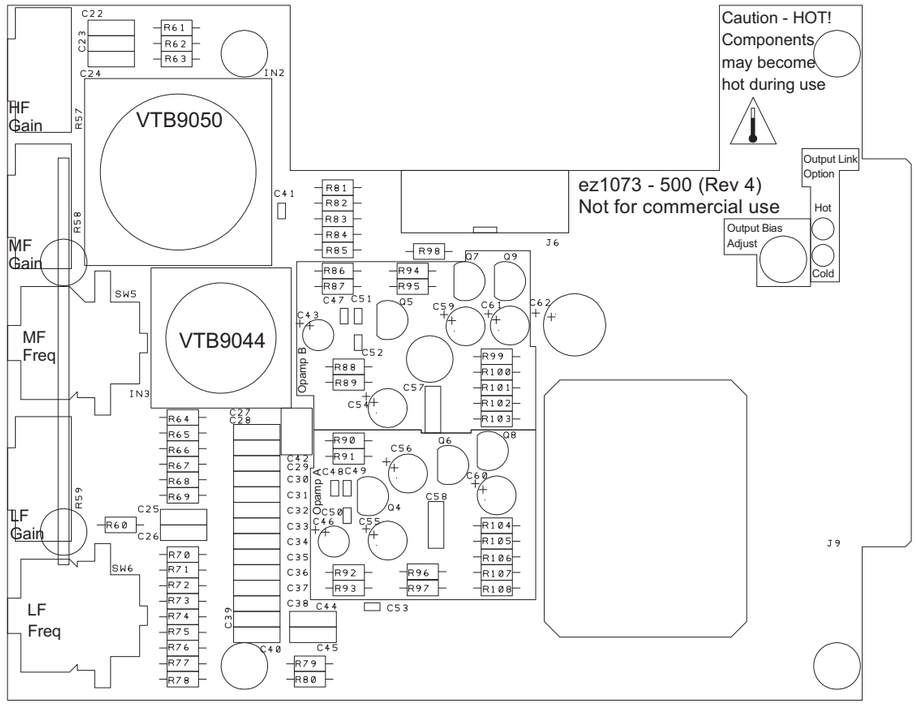






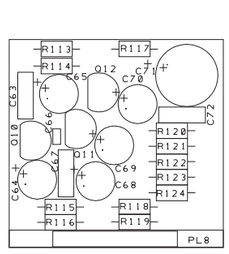


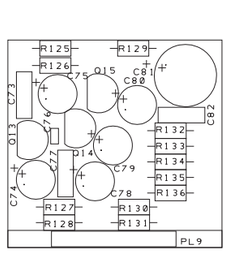


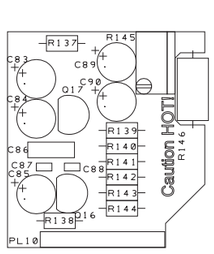


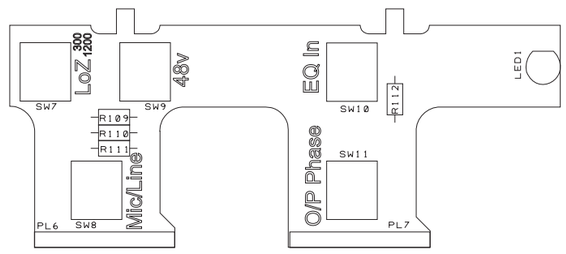
Resistors

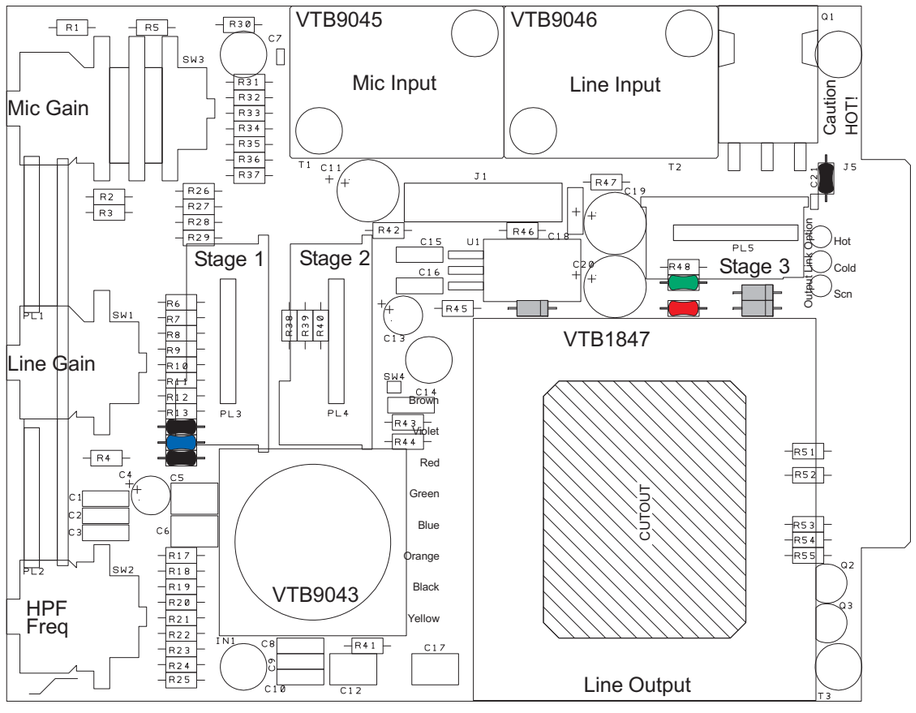
- R50 = 0R (1)
- R49 = 1R0 (1)
- R15 = 5R6 (1)
- R14, R16, R56 = 10R (3)

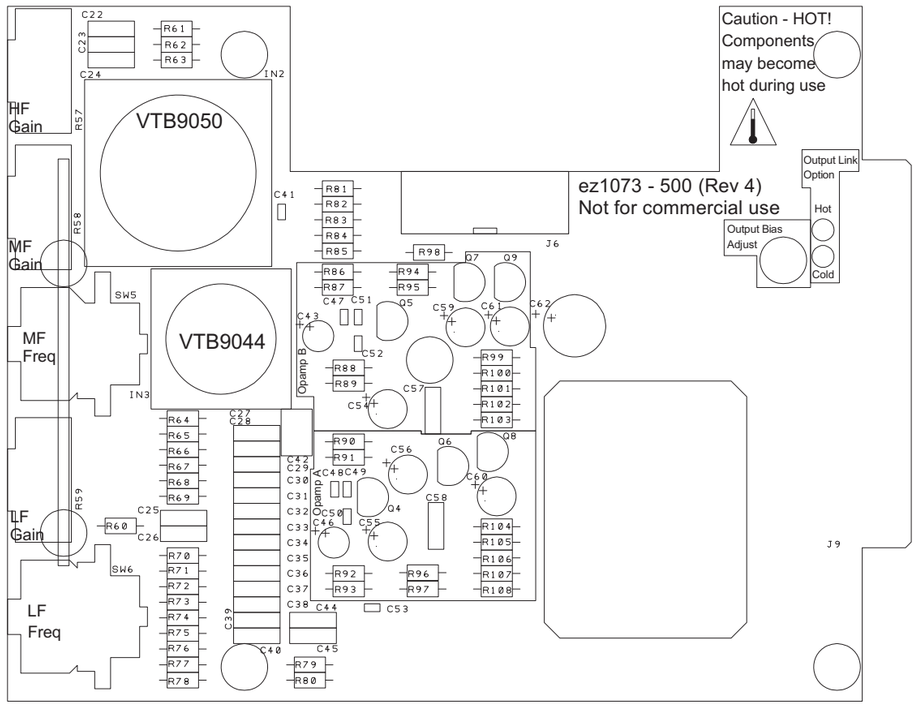






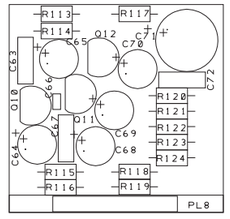


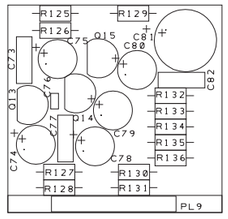


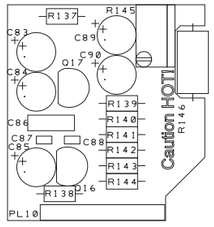


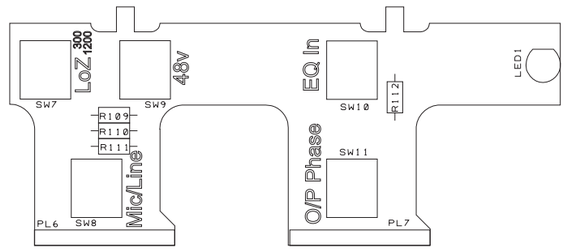
Resistors

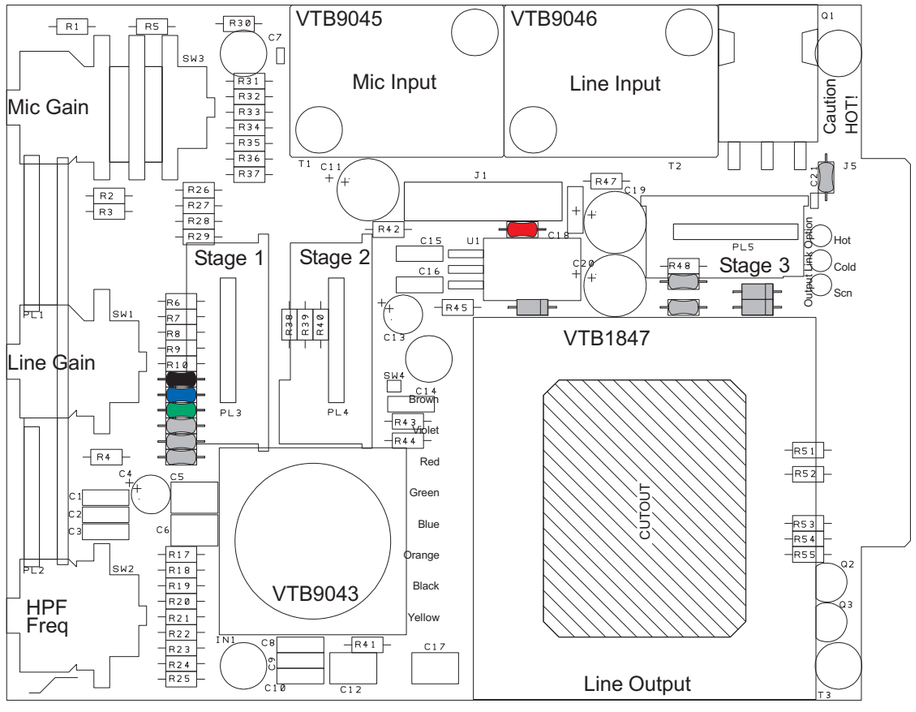
- R46 = 12R (1)
- R13 = 15R (1)
- R12 = 22R (1)
- R11 = 39R (1)

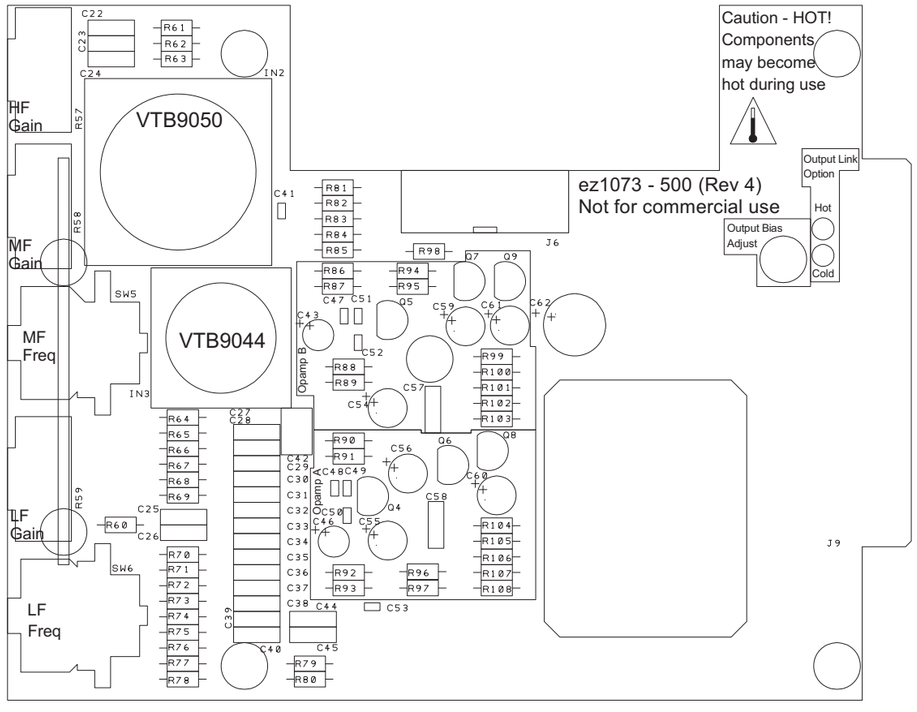






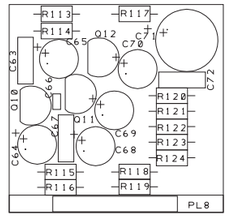


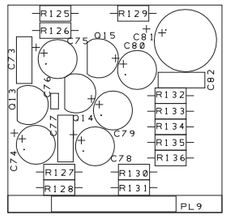


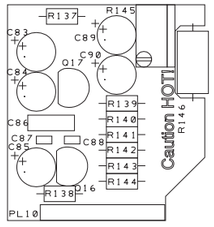


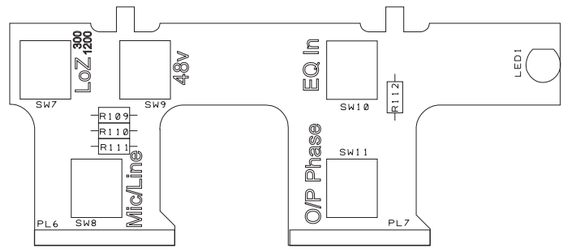
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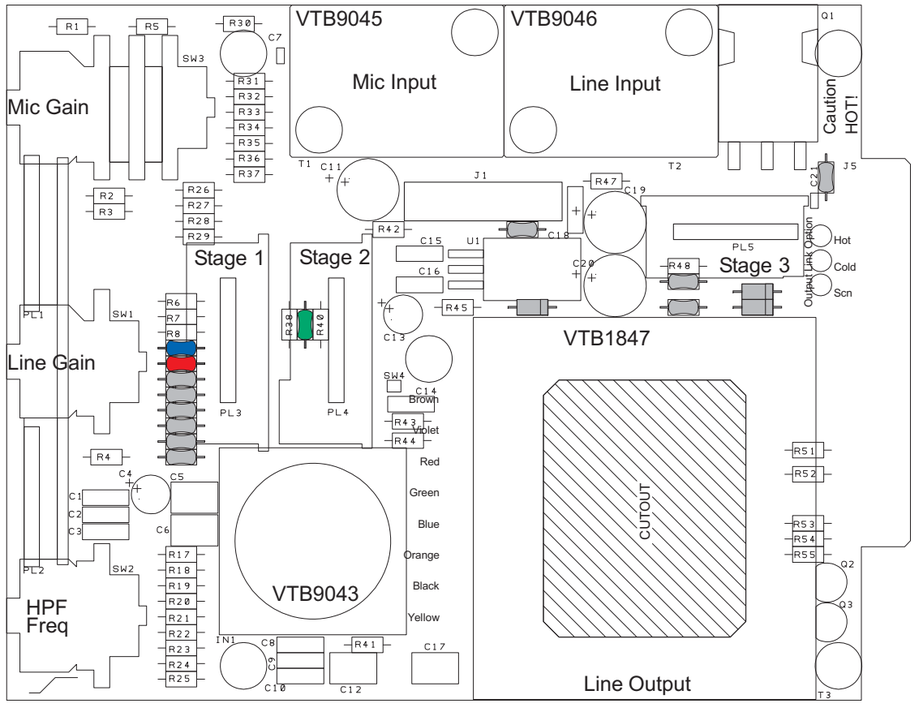
- R10 = 56R (1)
- R39 = 82R (1)
- R9 = 91R (1)
- R98 = 120R (1)

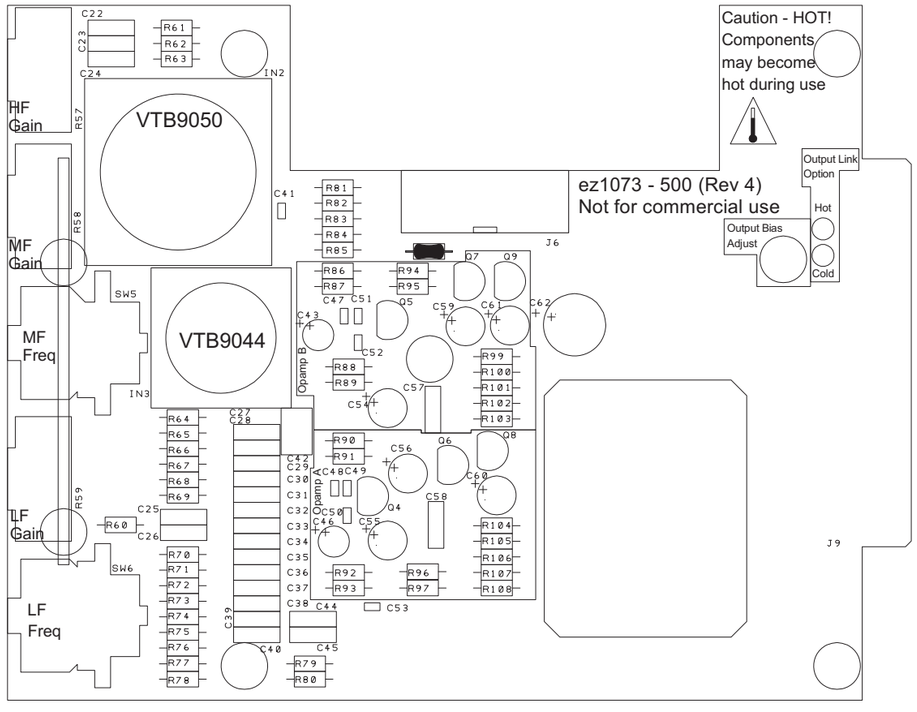






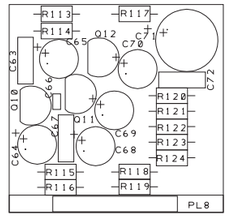


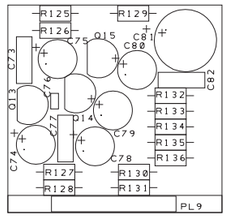


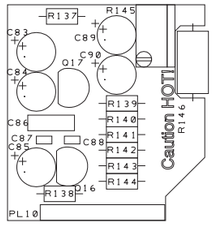


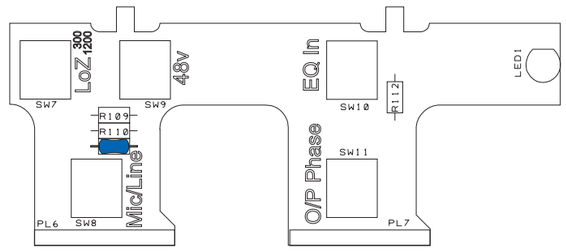
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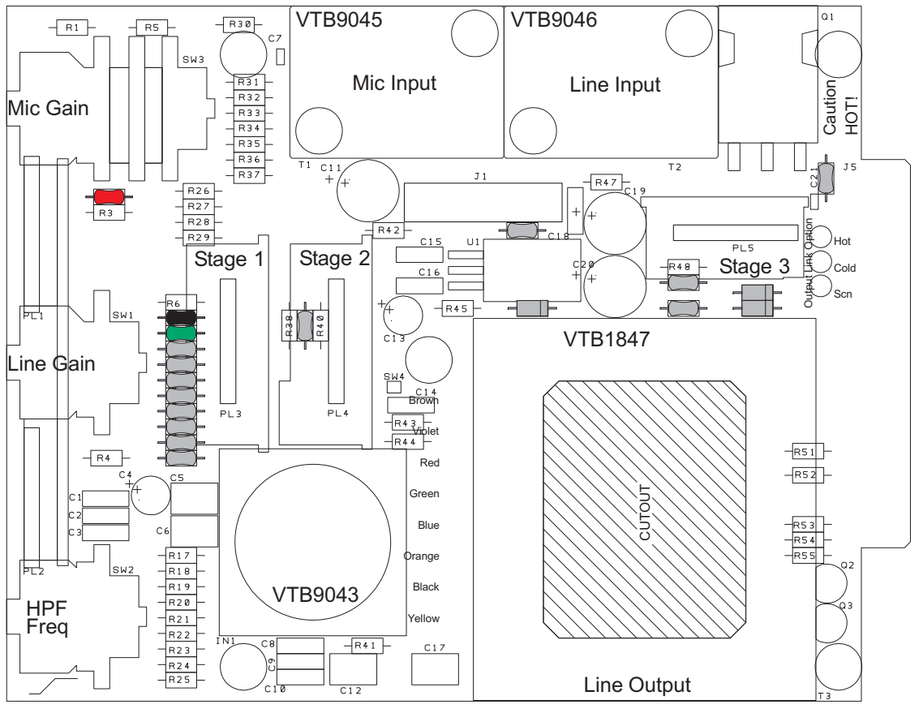
- R2 = 130R (1)
- R8 = 150R (1)
- R111 = 220R (1)
- R7 = 240R (1)

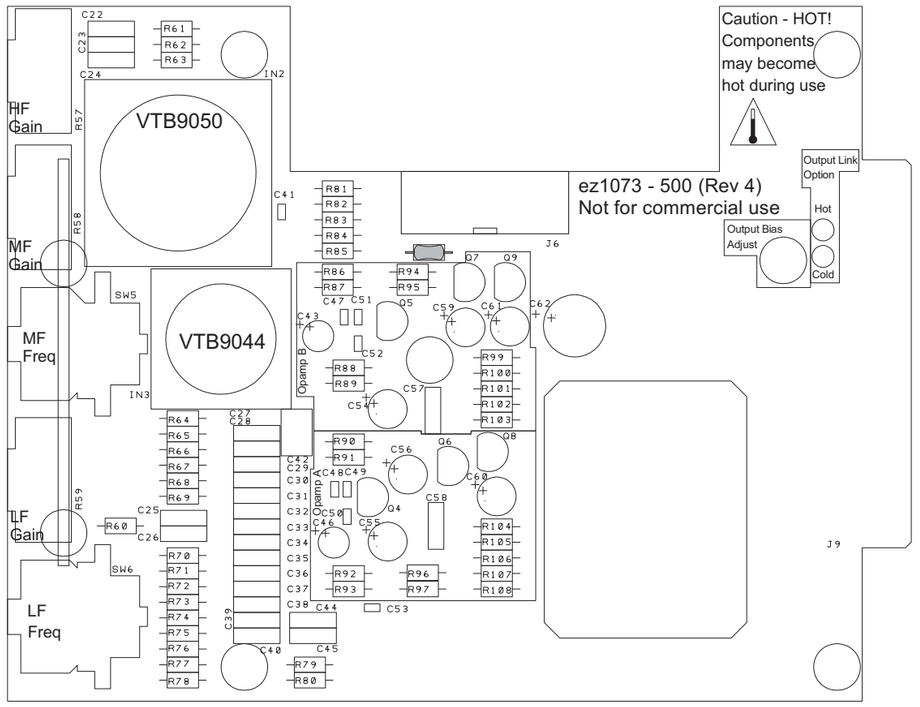






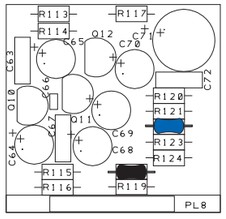


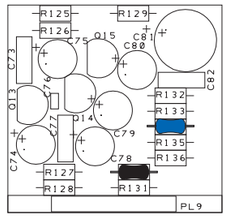


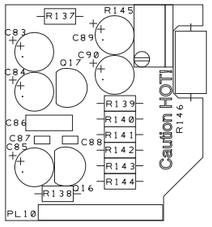


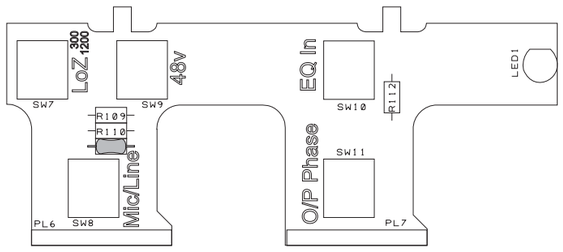
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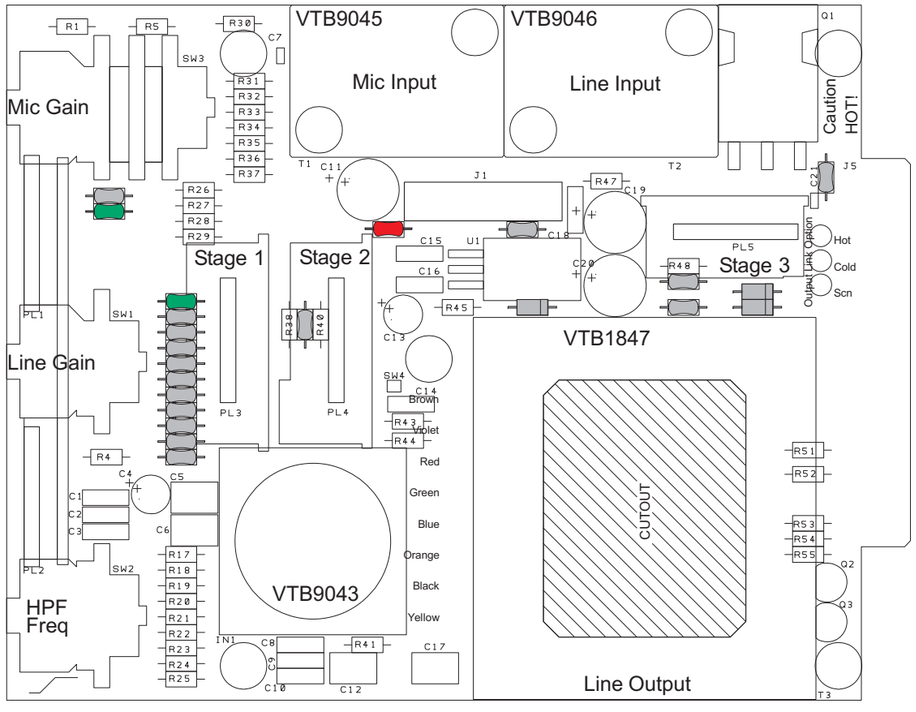
- R42 = 270R (1)
- R3, R6 = 360R (2)
- R122, R134 = 390R (2)
- R118,R130 = 470R (2)

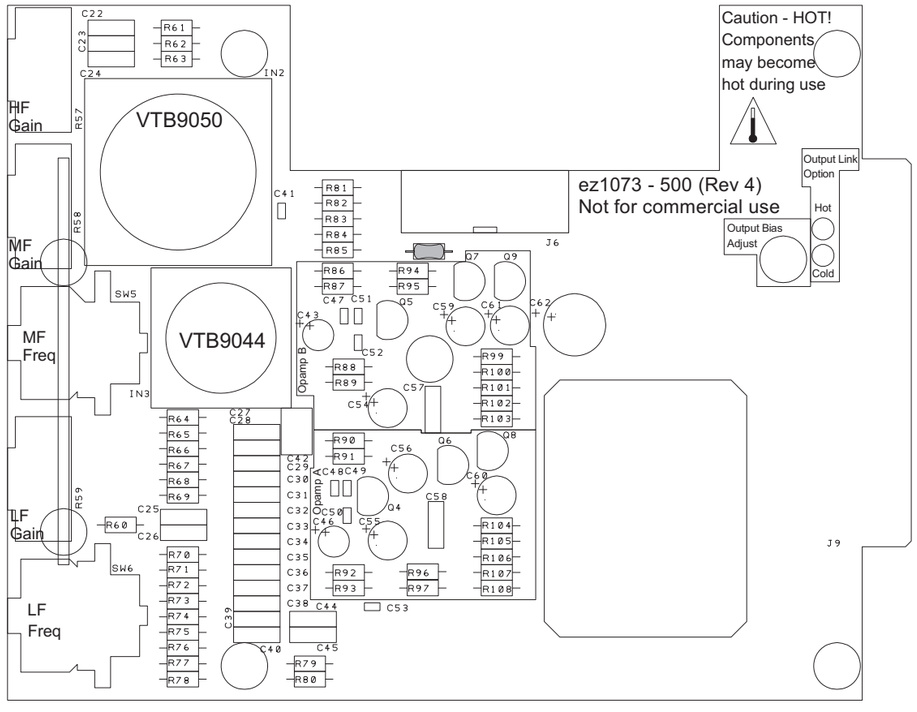






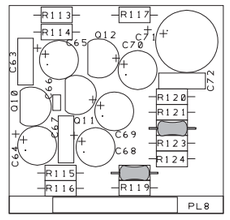


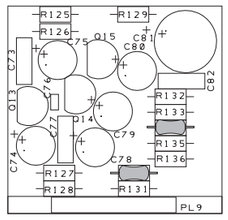


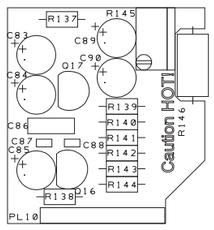


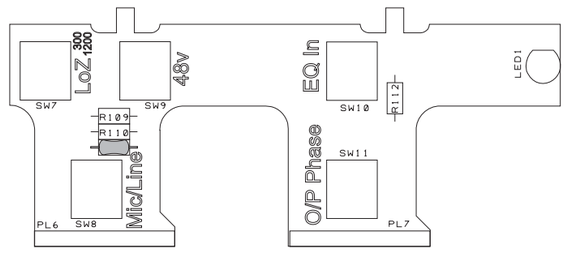
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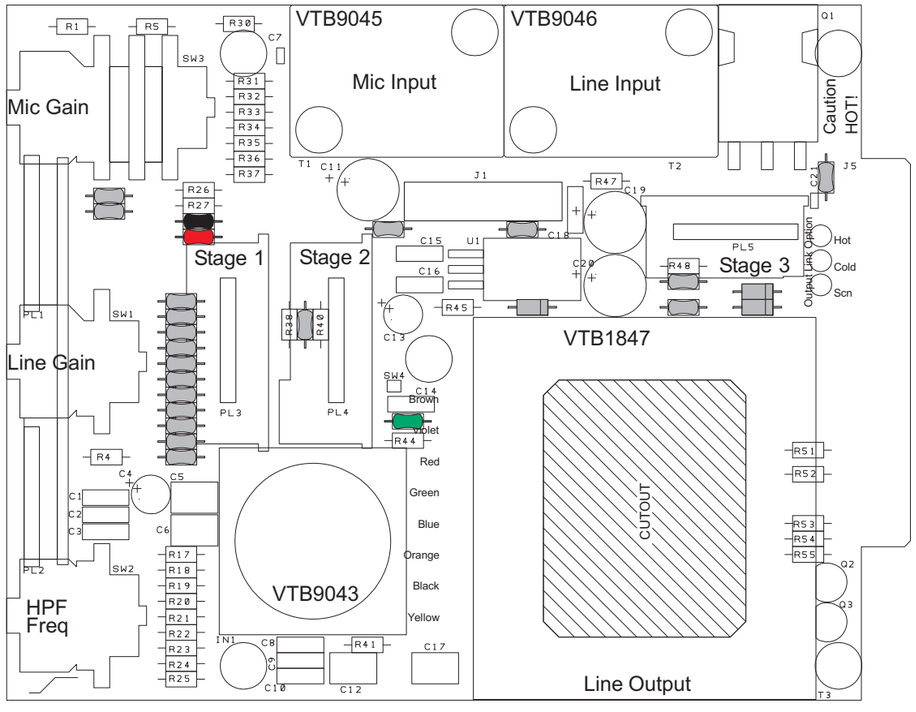
- R29 = 510R (1)
- R43, R61, R62 = 620R (3)
- R102, R107 = 820R (2)
- R28 = 1k0 (1)

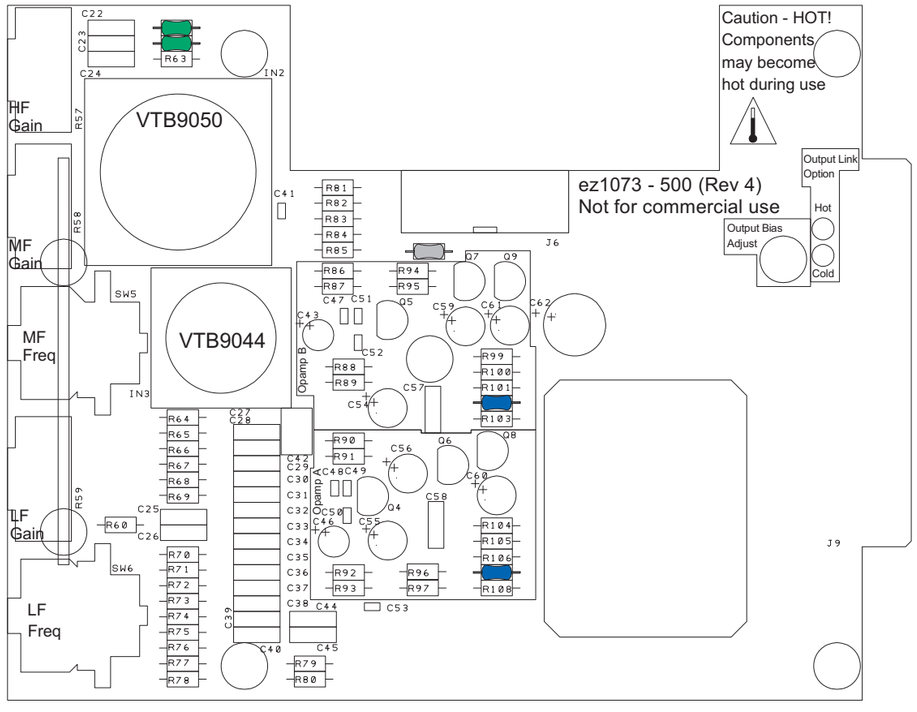






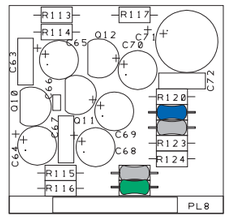


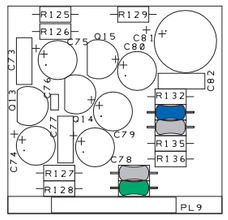


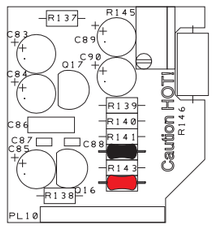


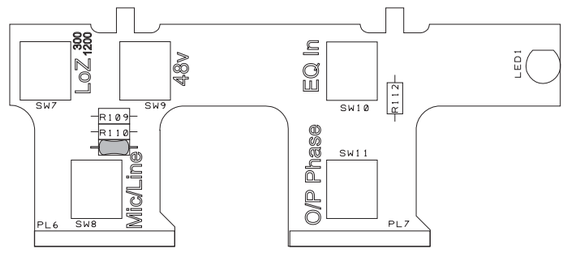
Resistors

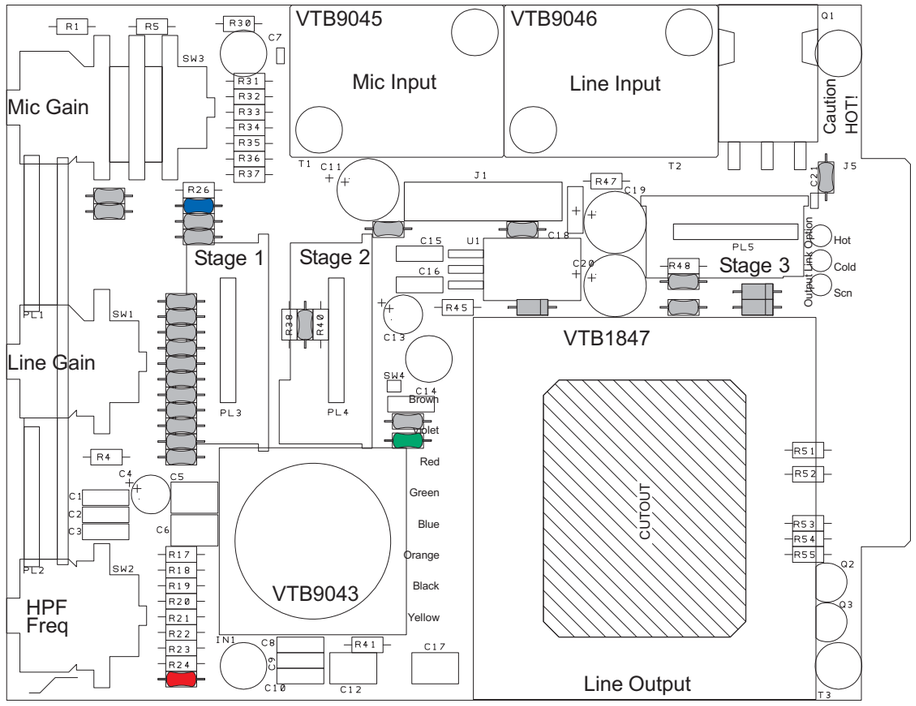
- R25, R144 = 1k2 (2)
- R44, R119, R131 = 1k5 (3)
- R27, R121, R133 = 1k8 (3)
- R142 = 2k0 (1)

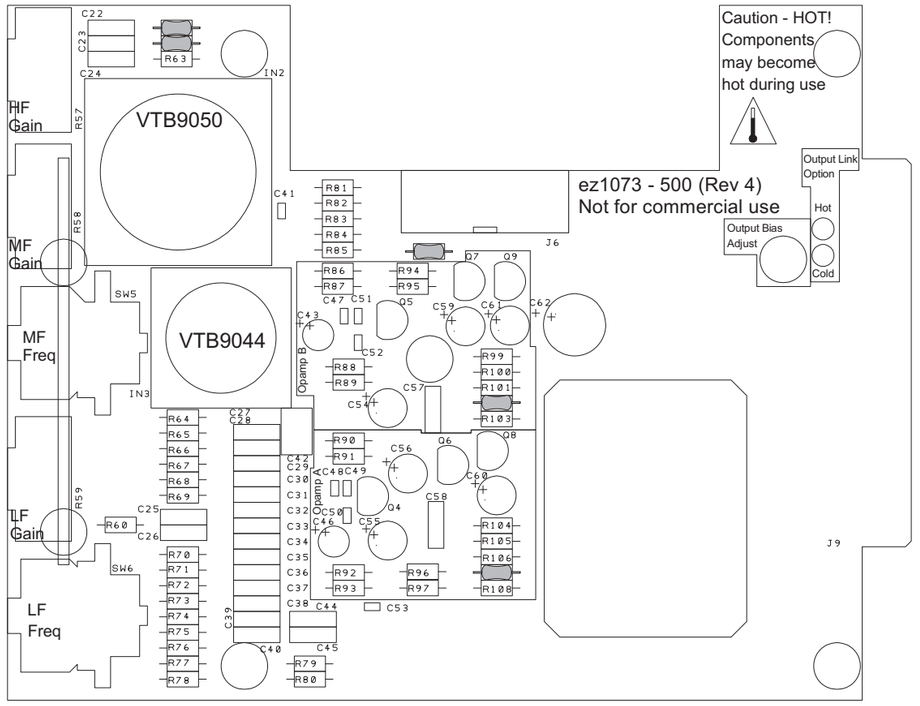






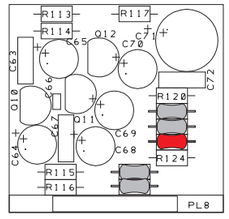


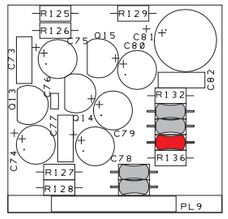


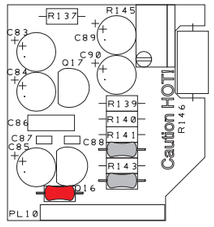


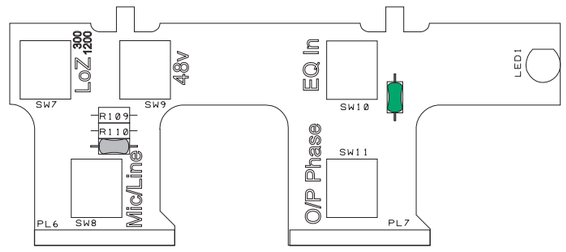
Resistors

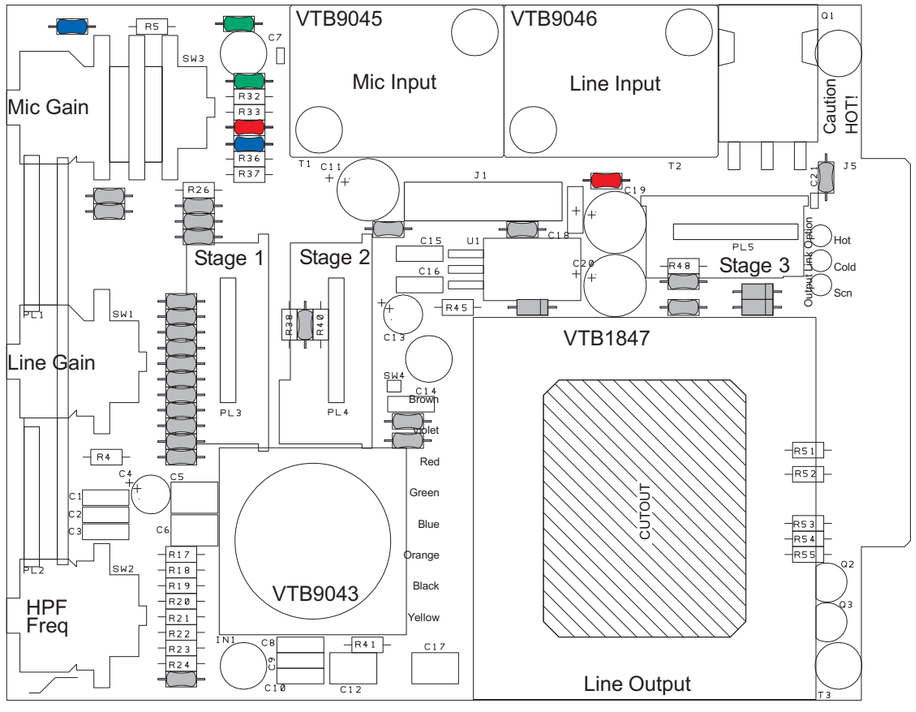
- R34, R47, R123, R135, R138 = 2k2 (5)
- R30, R31, R84, R112 = 2k7 (4)
- R1, R35, R89, R92 = 3k3 (4)
- R103, R108 = 3k6 (2)

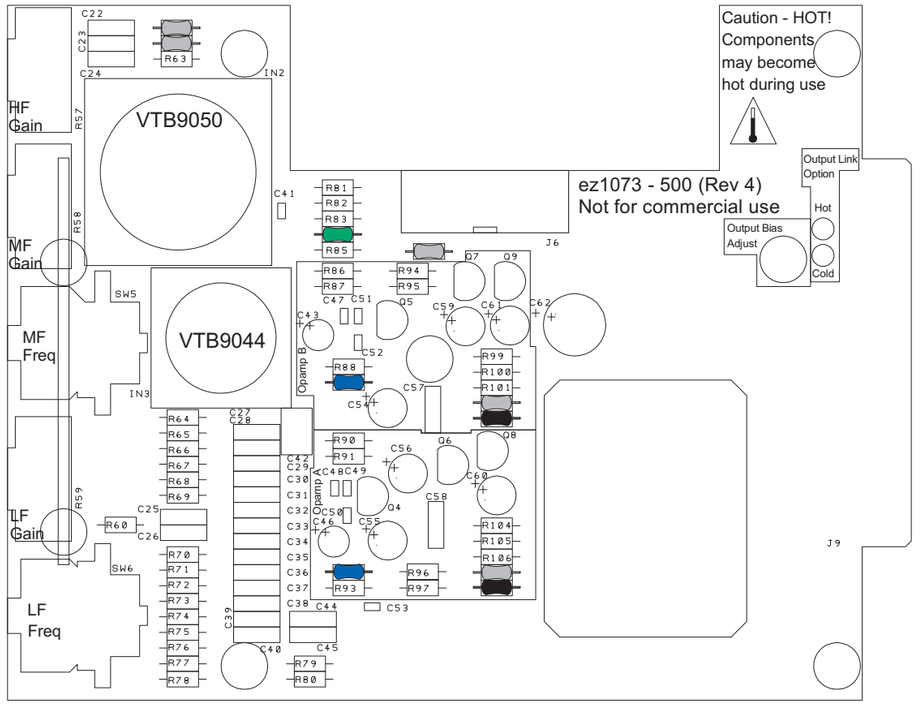






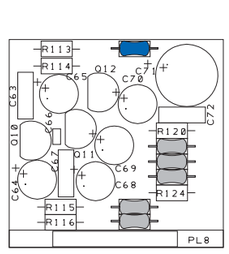


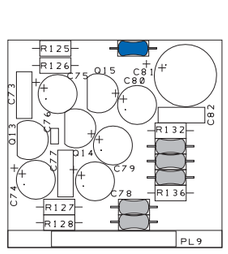


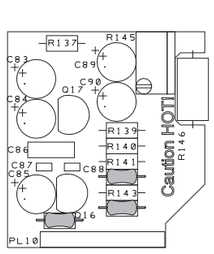


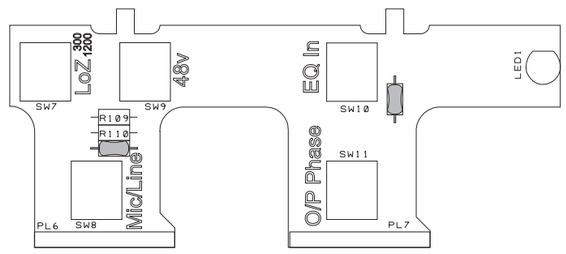
Resistors

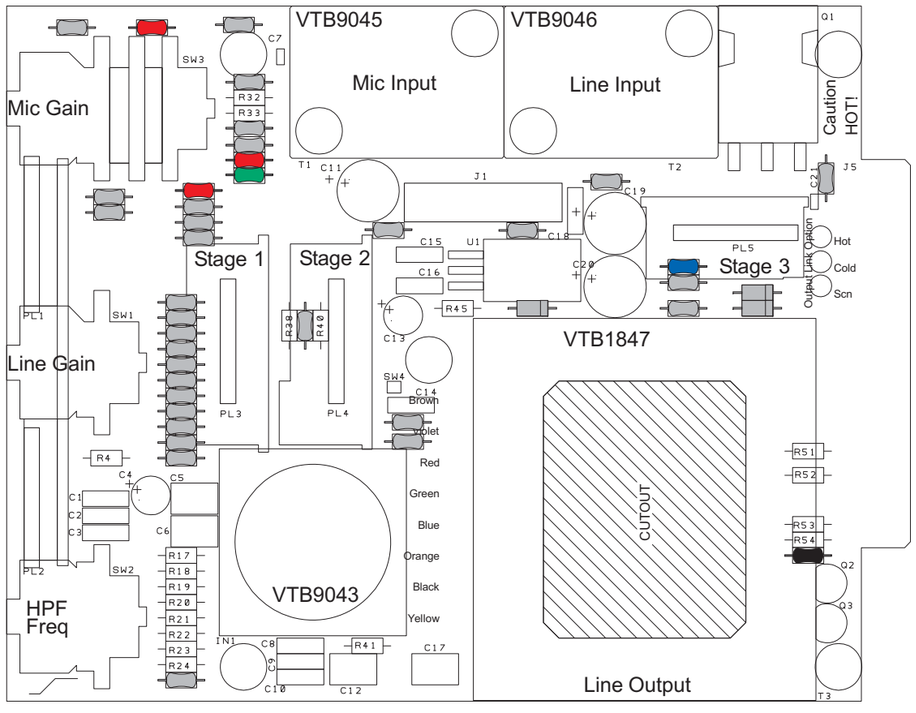
- R5, R26, R36, R100, R105 = 3k9 (5)
- R37 = 4k3 (1)
- R48, R117, R129 = 5k1 (3)
- R55 = 5k6 (1)

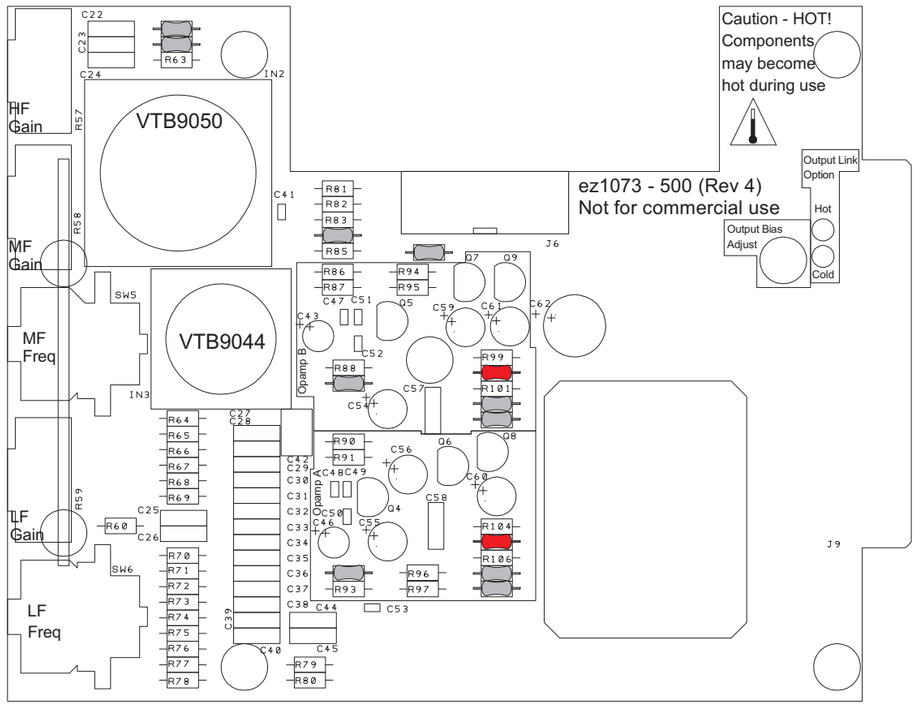






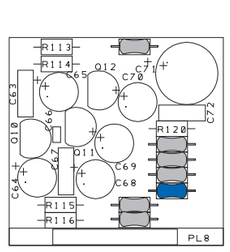


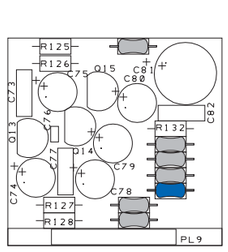


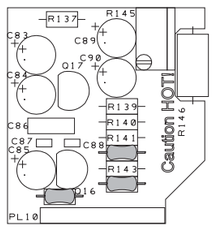


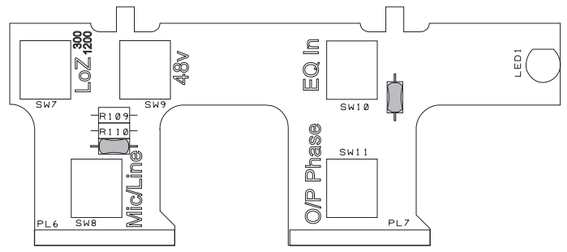
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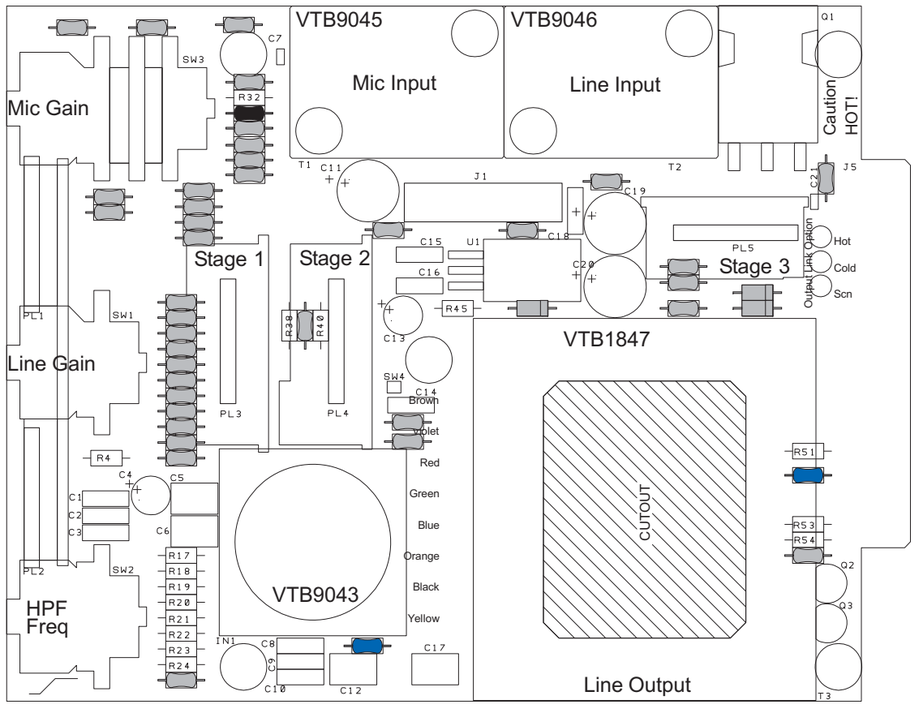
- R60, R78, R81, R82 = 6k8 (4)
- R83 = 8k2 (1)
- R41, R52, R99, R104, R124, R136 = 10k (6)
- R33, R63, R79 = 12k (3)

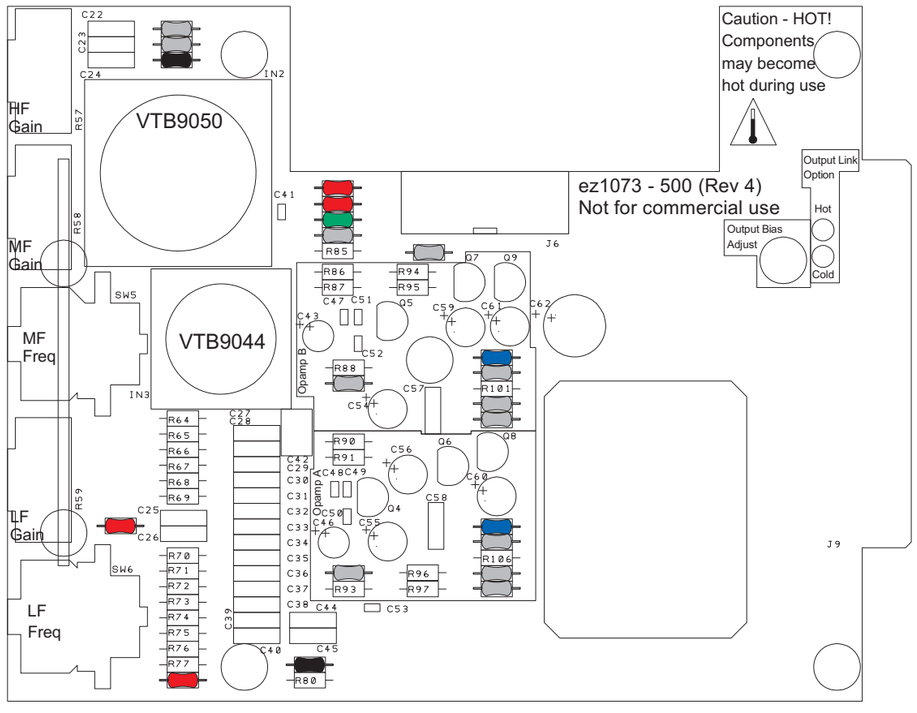






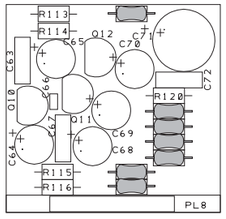


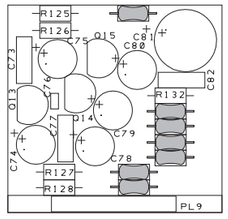


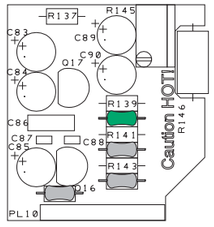


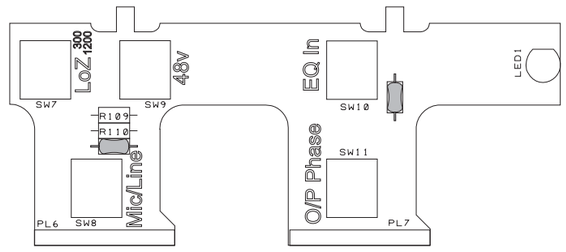
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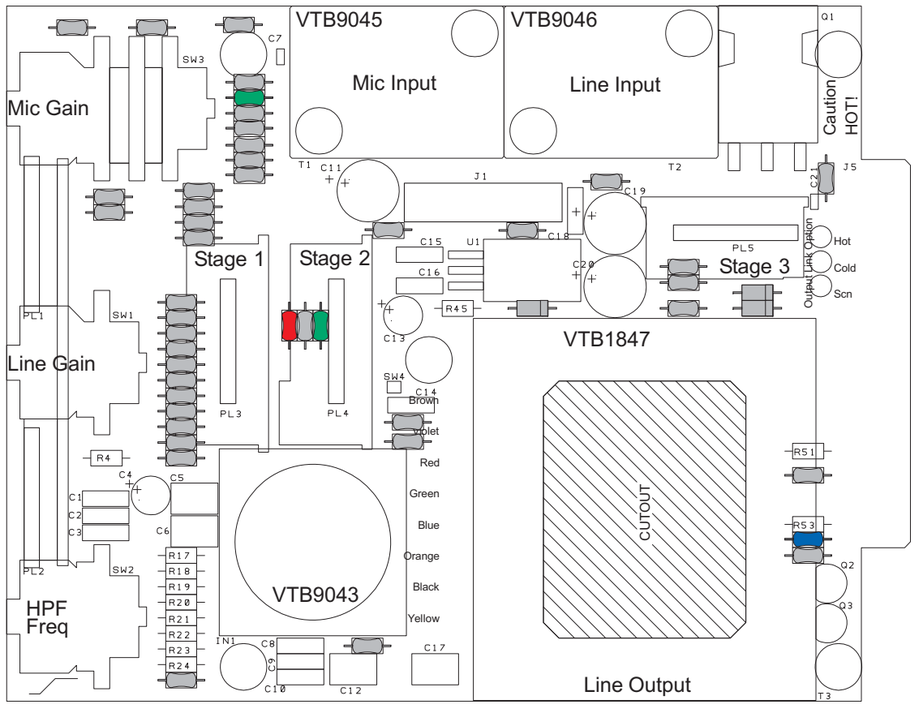
- R38 = 15k (1)
- R32, R40, R140 = 18k (3)
- R54 = 22k (1)
- R87, R90 = 27k (2)

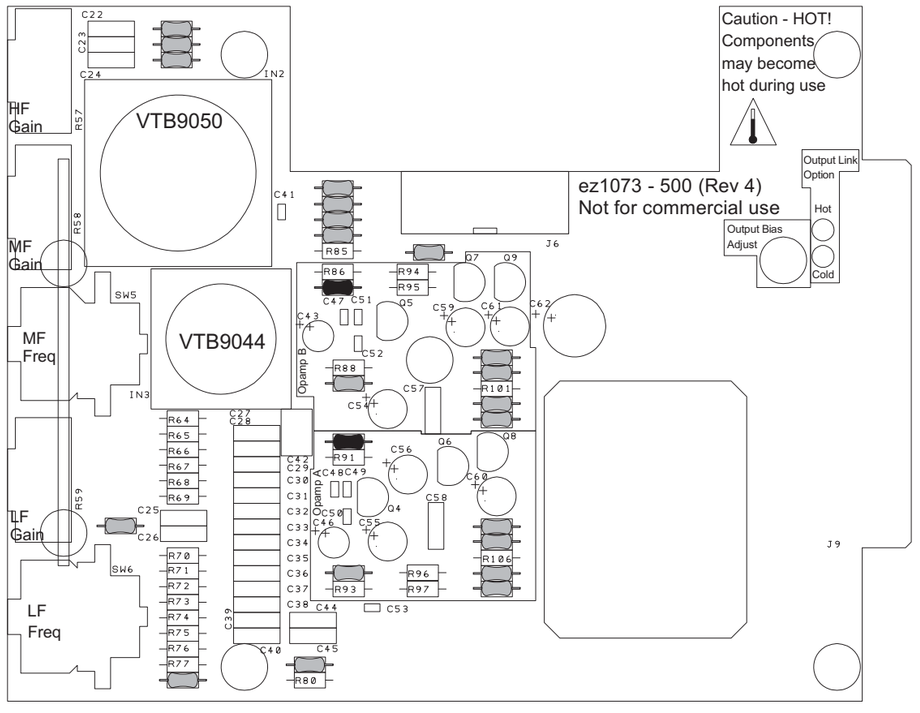






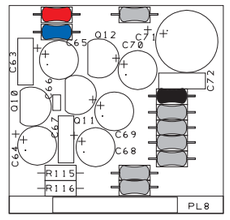


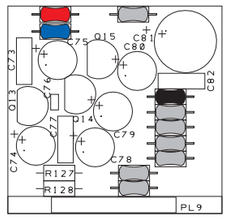


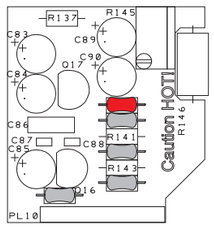


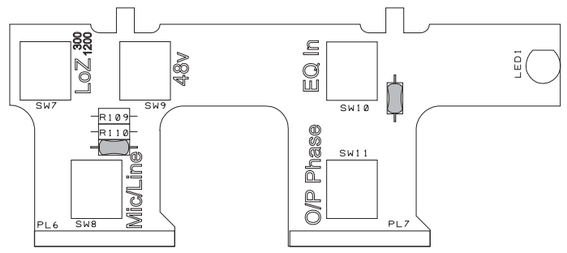
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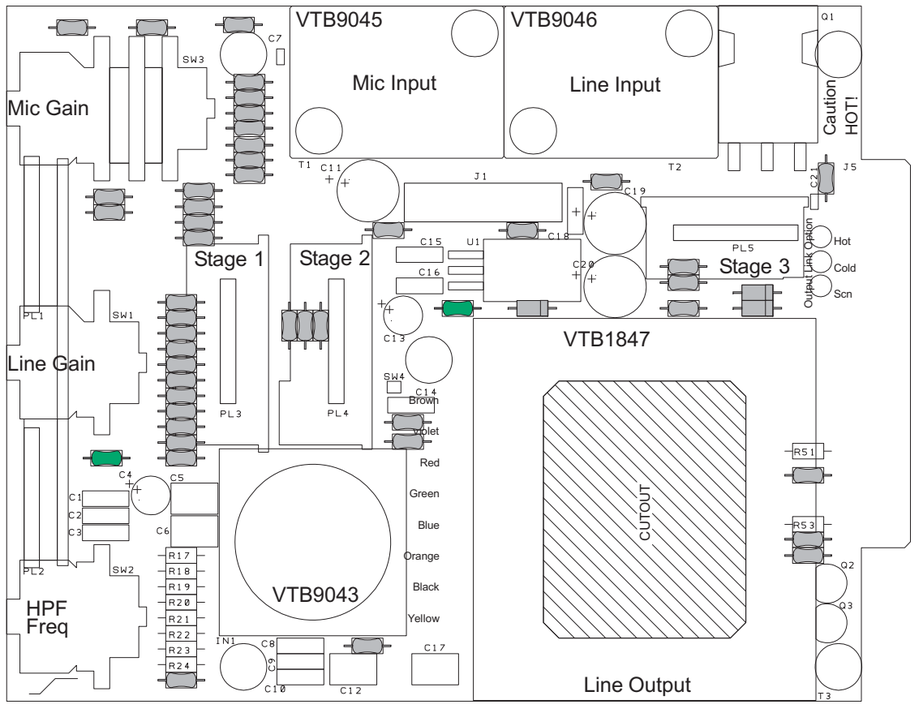
- R113, R125, R139 = 33k (3)
- R4, R45, R80, R88, R91 = 39k (5)
- R114, R126 = 47k (2)
- R120, R132 = 51k (2)

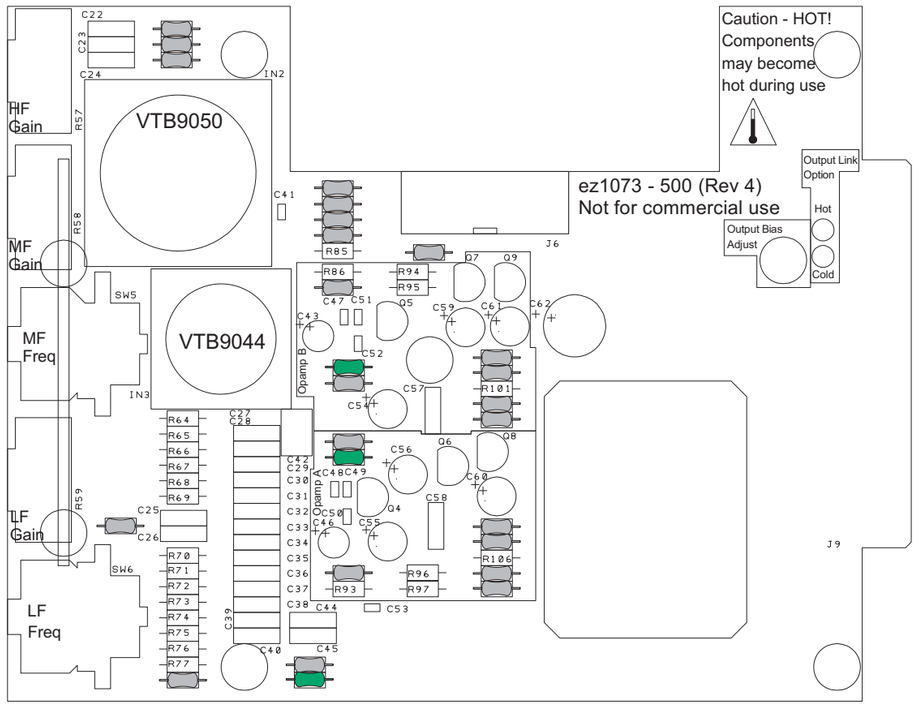






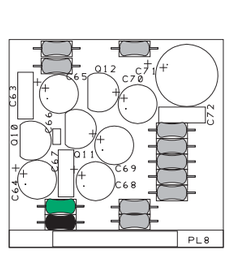


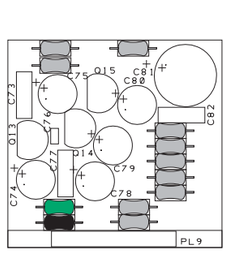


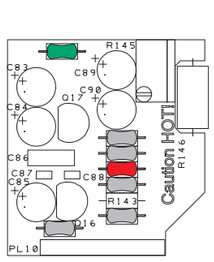


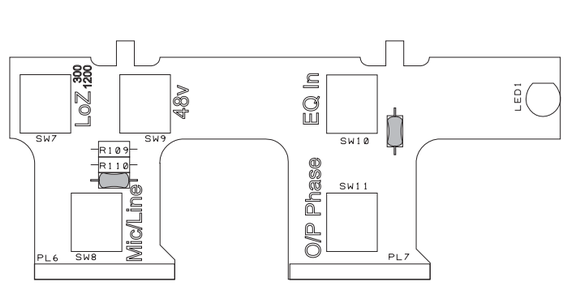
Resistors

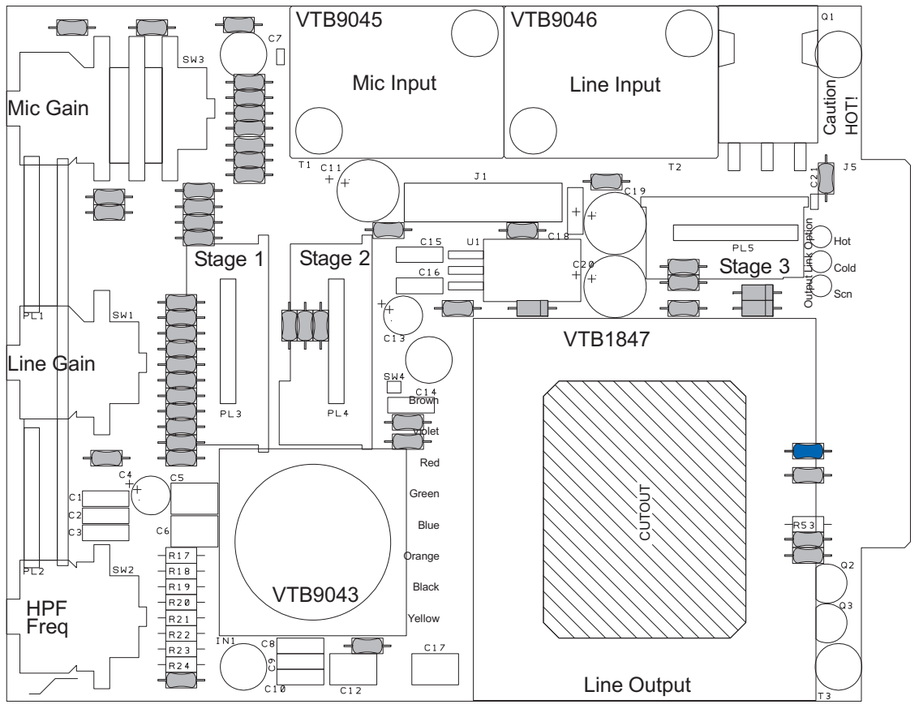
- R141 = 56k (1)
- R115, R127, R137 = 68k (3)
- R51, R86, R93 = 100k (3)
- R95, R96, R116, R128 = 120k (4)

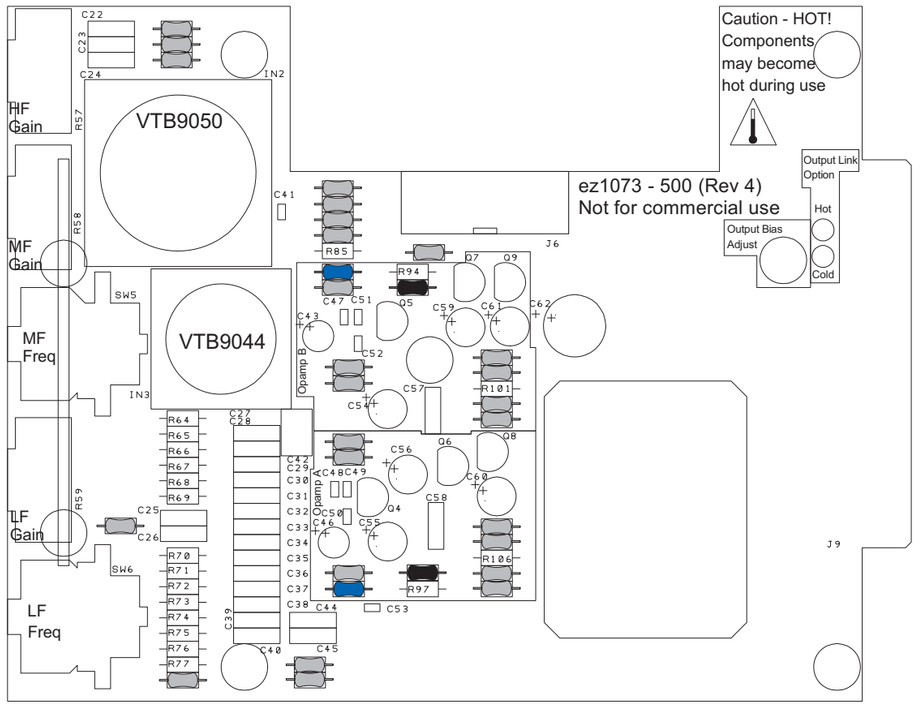






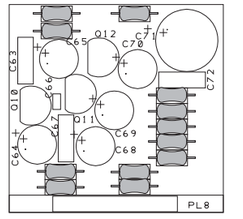


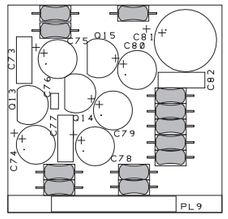


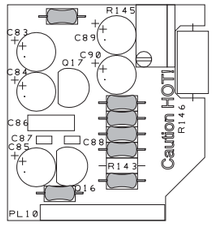


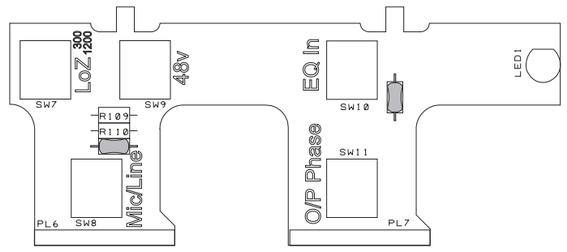
Resistors

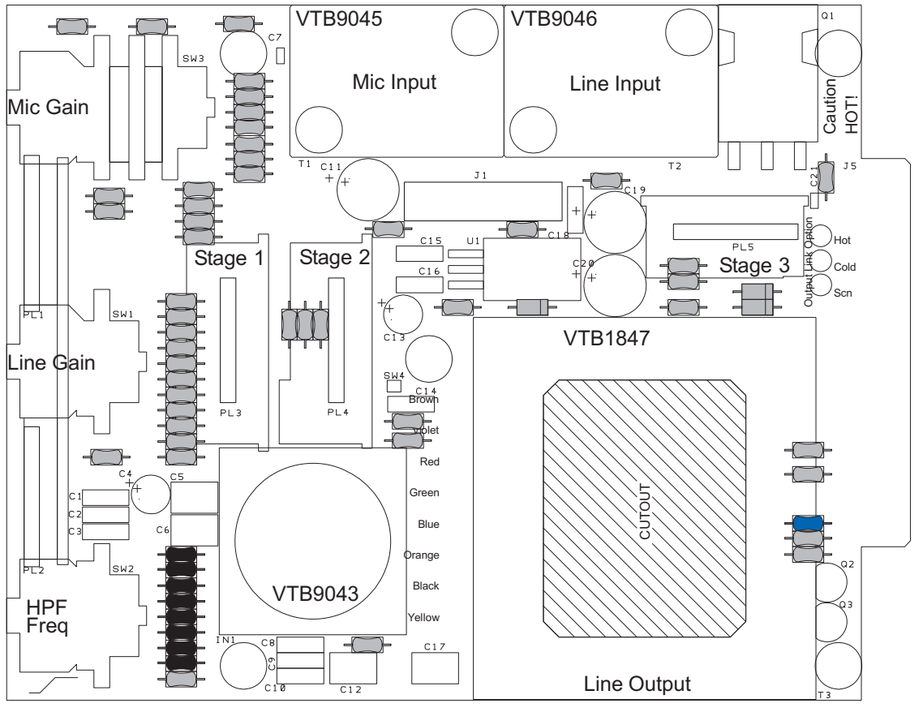
- R94, R97, R101, R106 = 180k (4)
- R85 = 220k (1)
- R53 = 1M0 (1)
- R17-R24, R64-R77 = 4M7 (22)

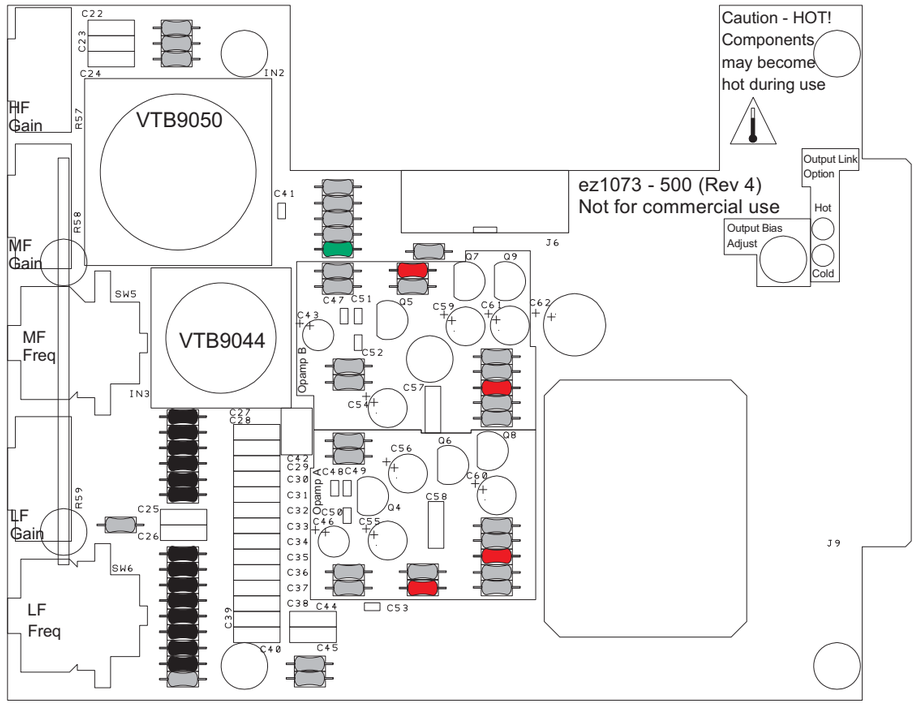












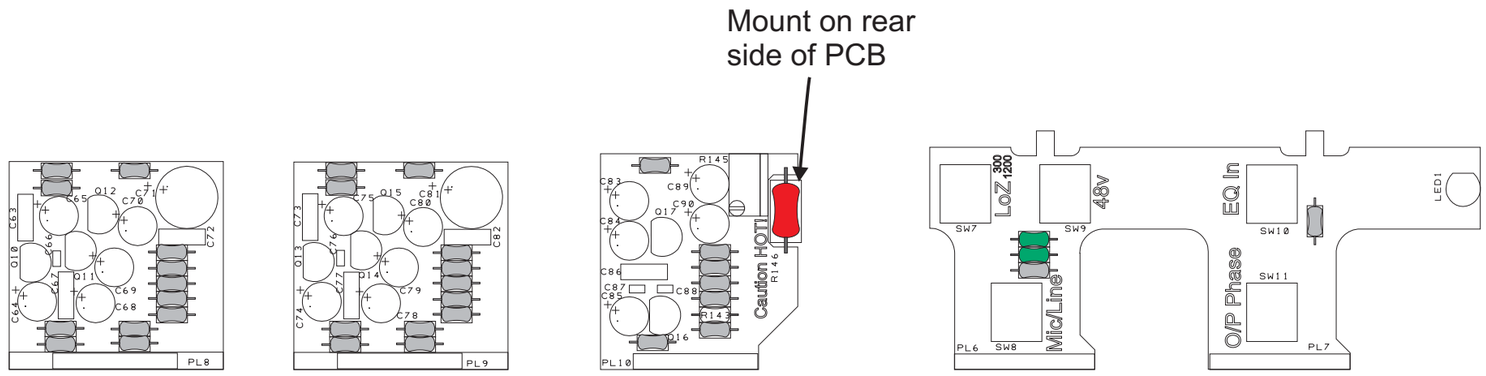
Resistors

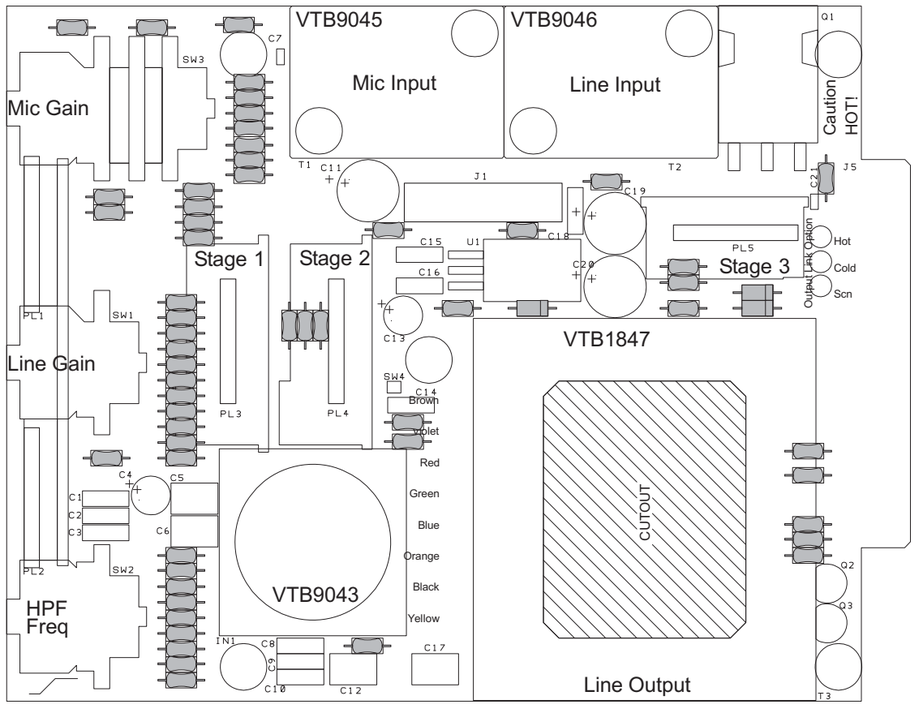
R146 = 47R / 3Watt (1) - (Mount on rear side of PCB)

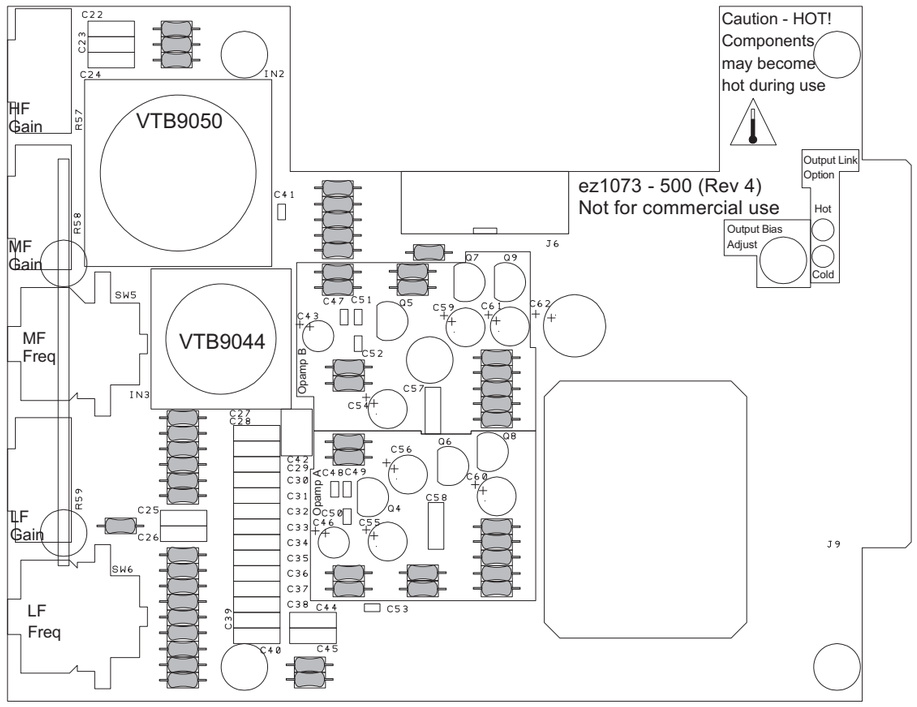
R109, R110 = 6k81 - 0.1% (2)

The actual value of R109 and R110 is less important than their closeness of matching.
2 accurately matched 1% resistors are better than 2 inaccurately matched 0.1% resistors

R143 = Omitted (leave empty) (1)

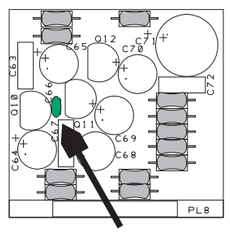


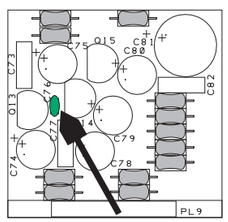


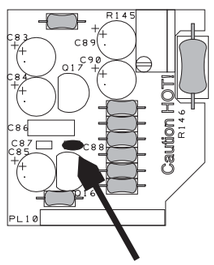


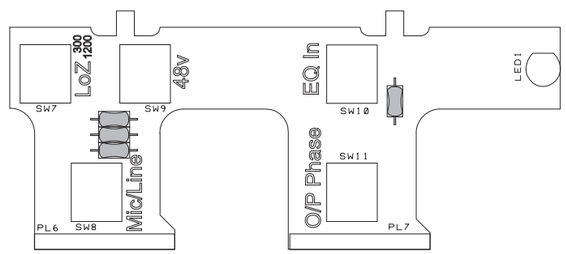
Ceramic Capacitors

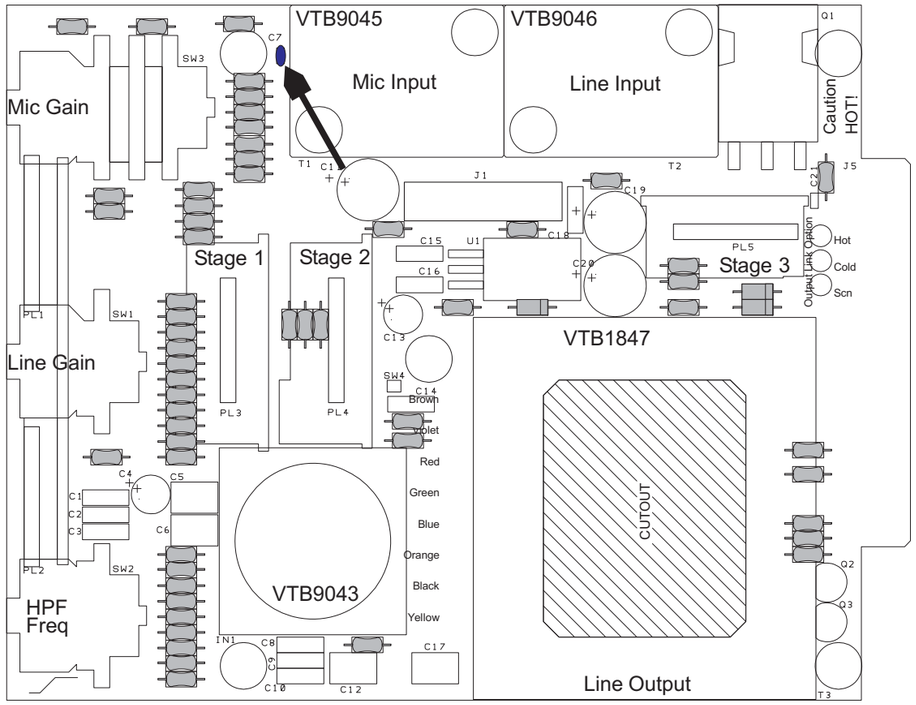
- C49, C51 = 47pF (2)
- C66, C76 = 100pF (2)
- C7, C41 = 180pF (2)
- C88 = 220pF (1)

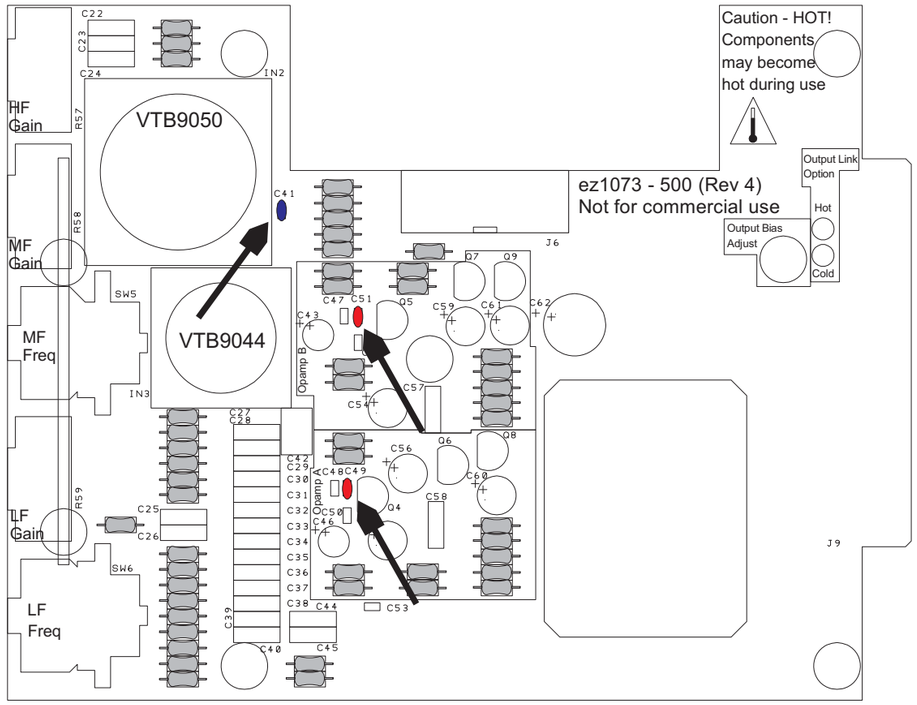






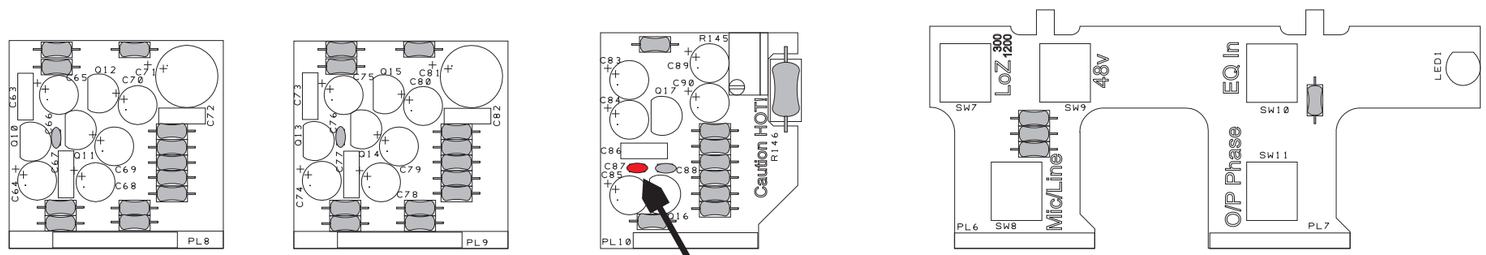


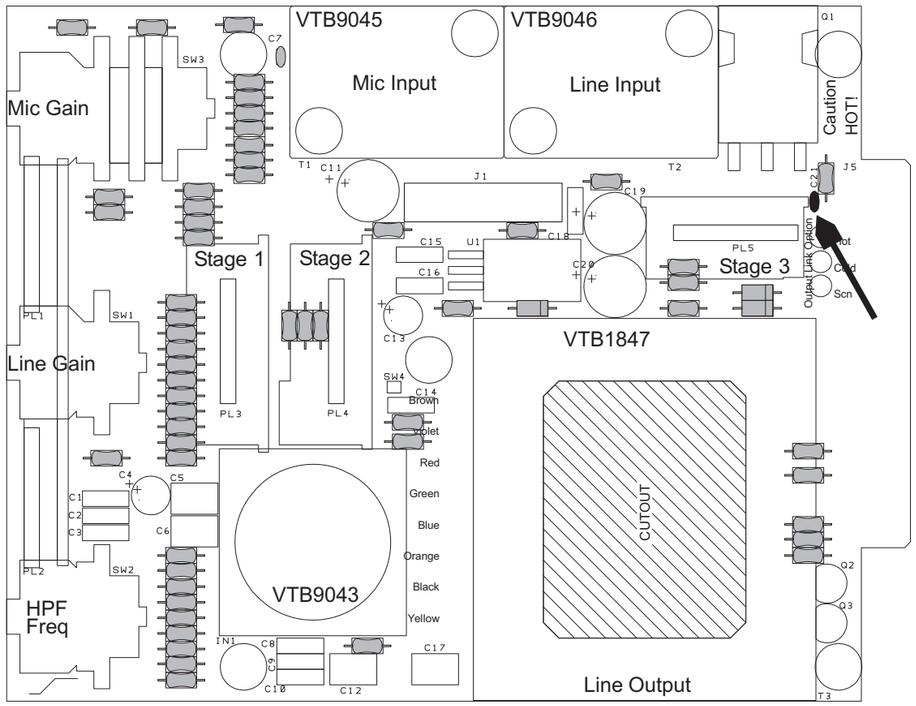


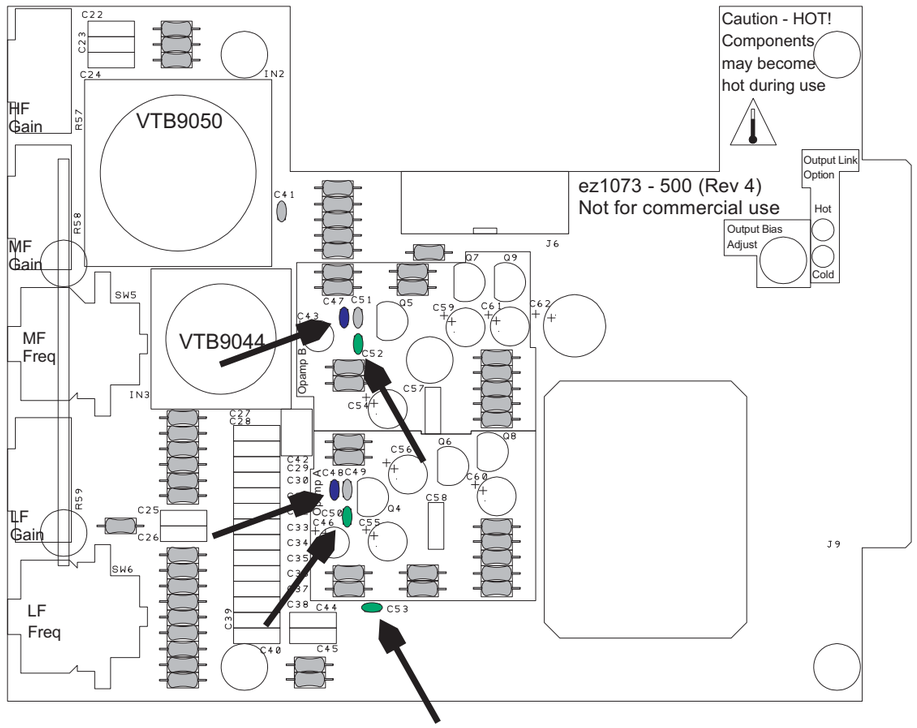


Ceramic Capacitors

- C87 = 330pF (1)
- C50, C52, C53 = 470pF (3)
- C47, C48 = 680pF (2)
- C21 = 100nF (1)

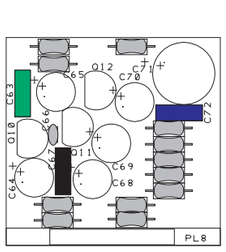


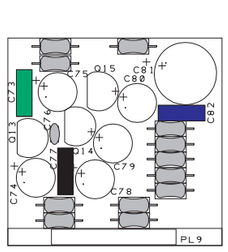


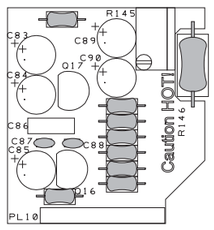


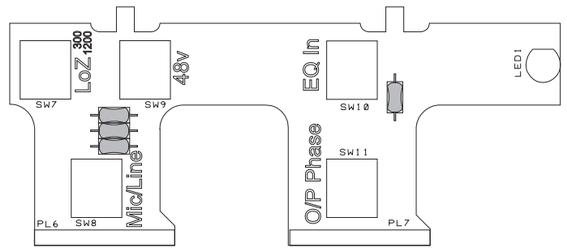
Film Capacitors

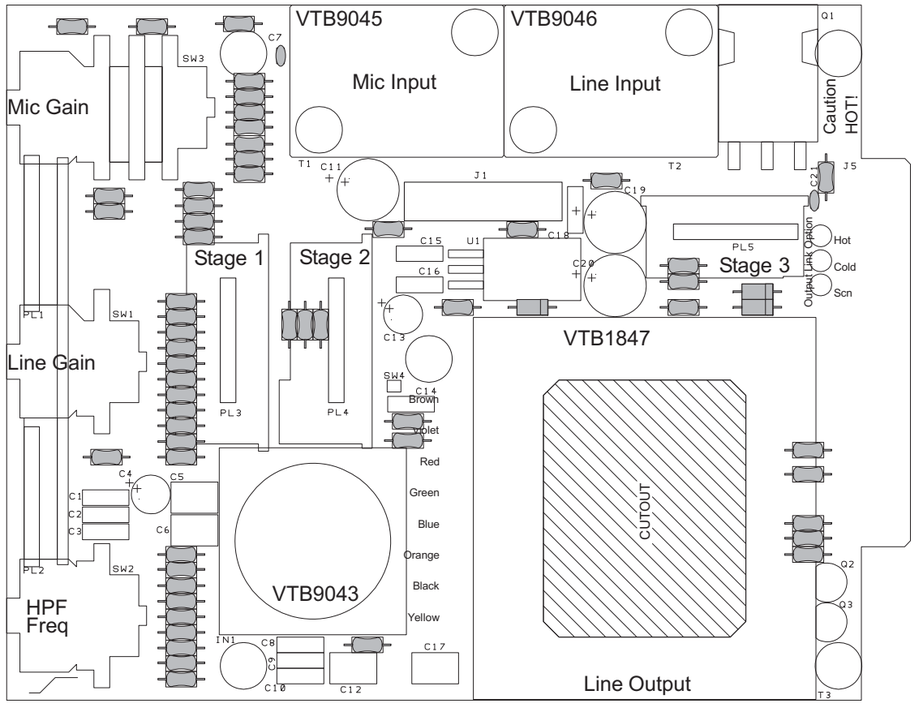
- C42 = 220pF (1)
- C63, C73 = 680pF (2)
- C57, C58, C72, C82 = 1nF (4)
- C67, C77 = 1n5F (2)

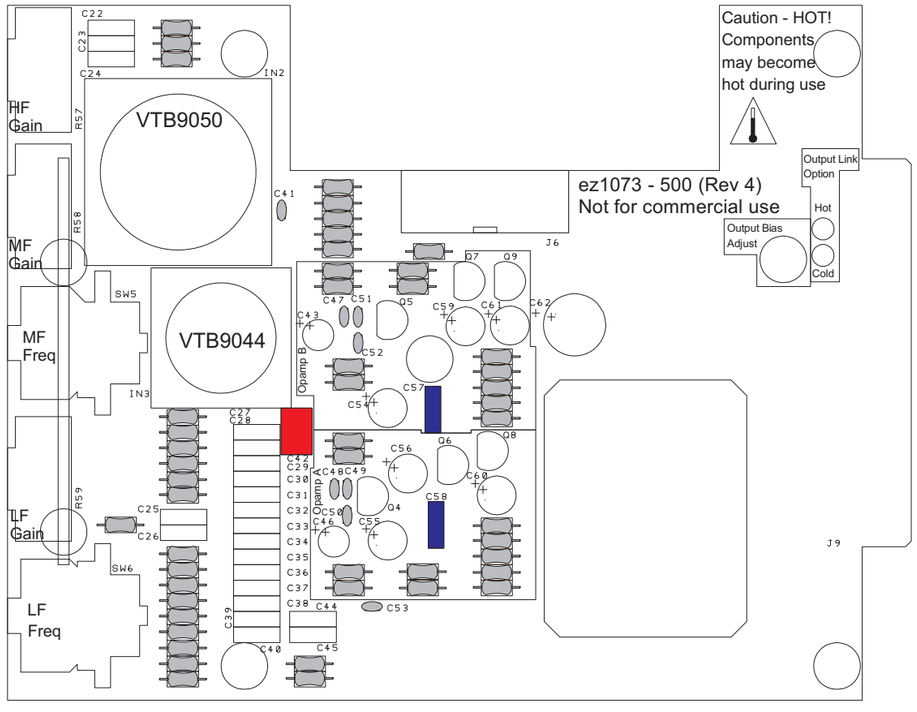






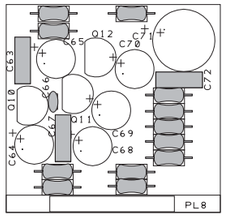


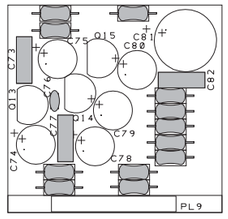


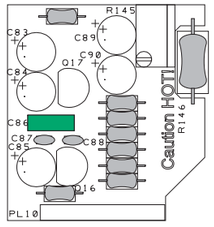


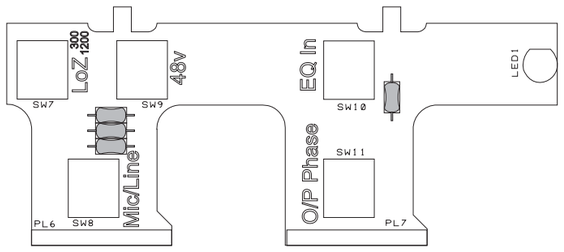
Film Capacitors

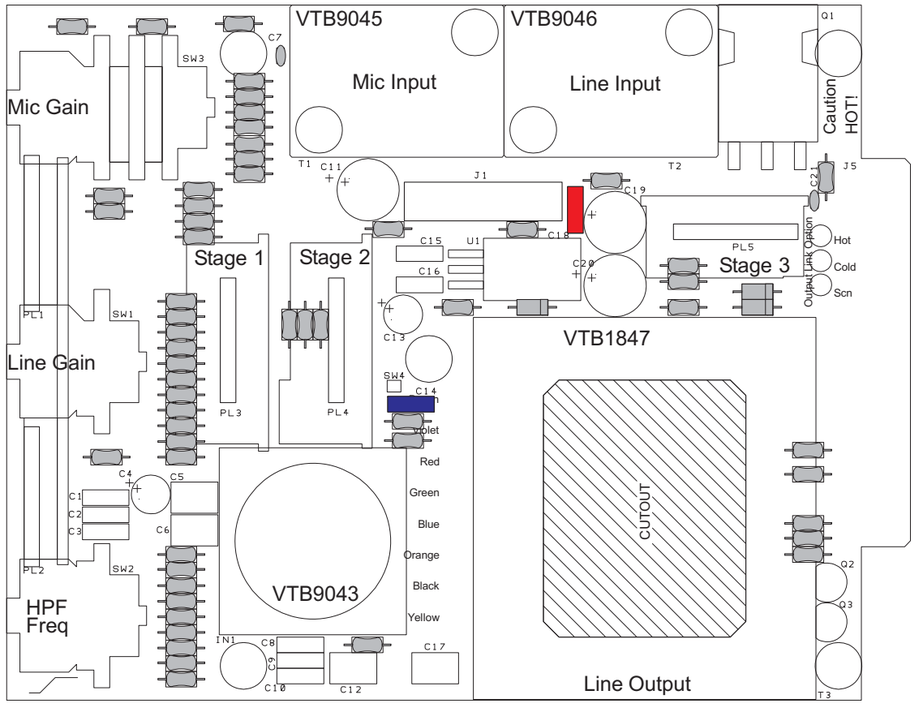
- C18, C27, C30 = 2n2F (3)
- C28, C86 = 4n7F (2)
- C14, C29, C44 = 10nF (3)
- C24, C25, C34 = 15nF (3)

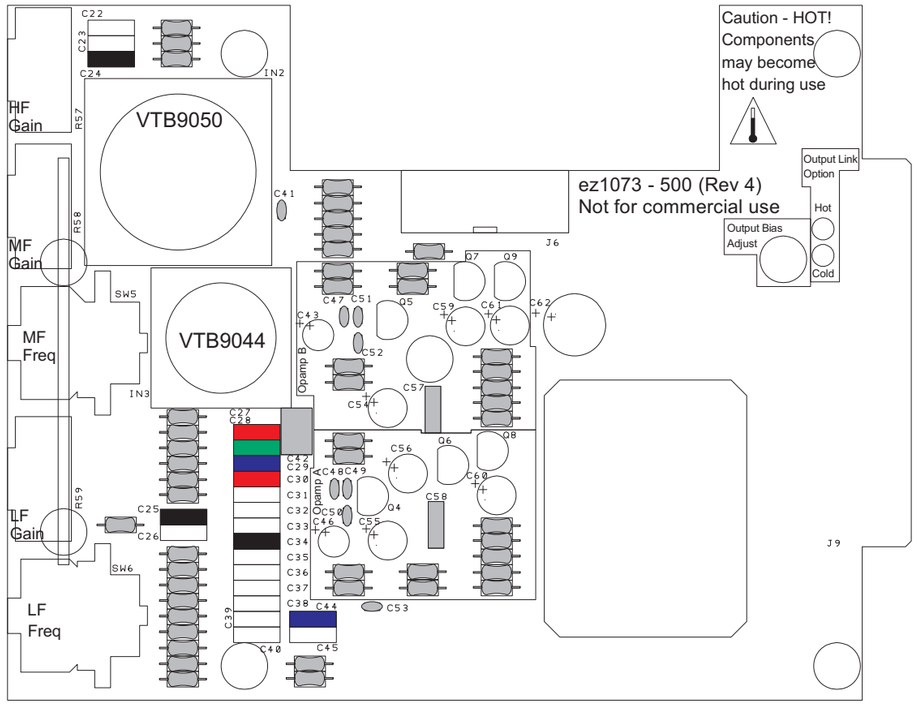






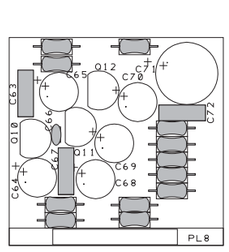


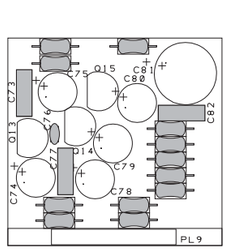


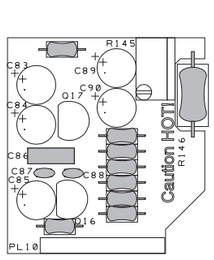


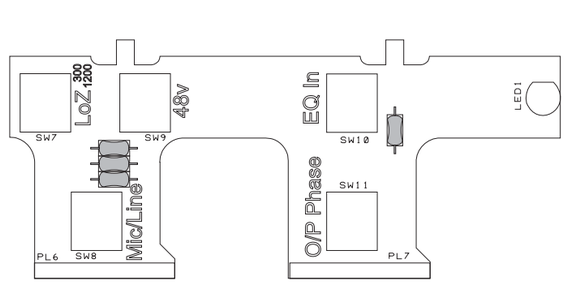
Film Capacitors

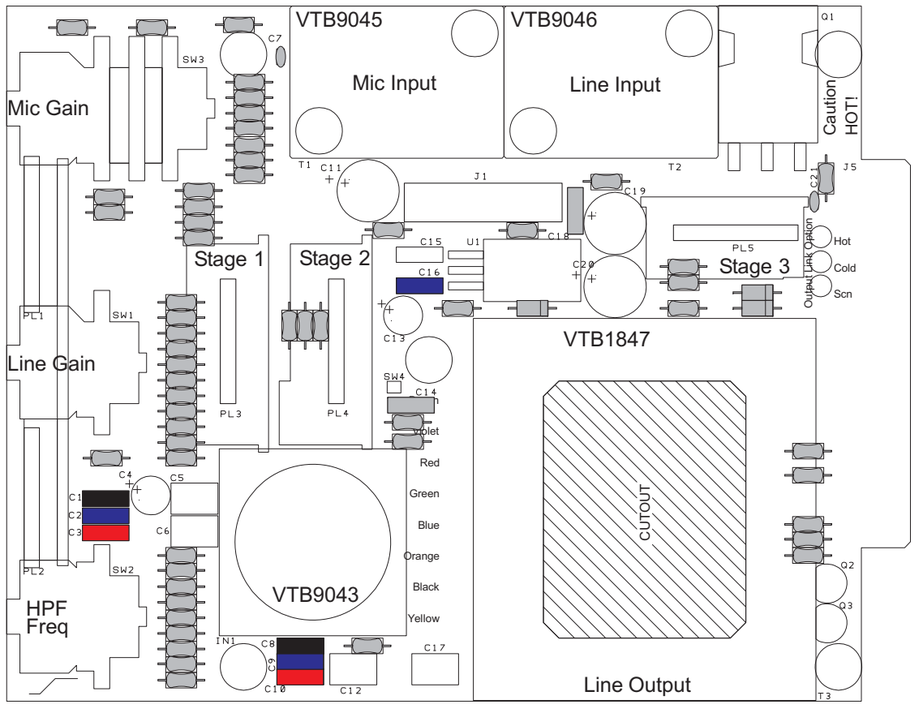
- C3, C10, C22, C23, C31 = 22nF (5)
- C26, C32, C38 = 47nF (3)
- C2, C9, C16, C33, C35, C36, C37, C39, C40, C45 = 100nF (10)
- C1, C8 = 220nF (2)

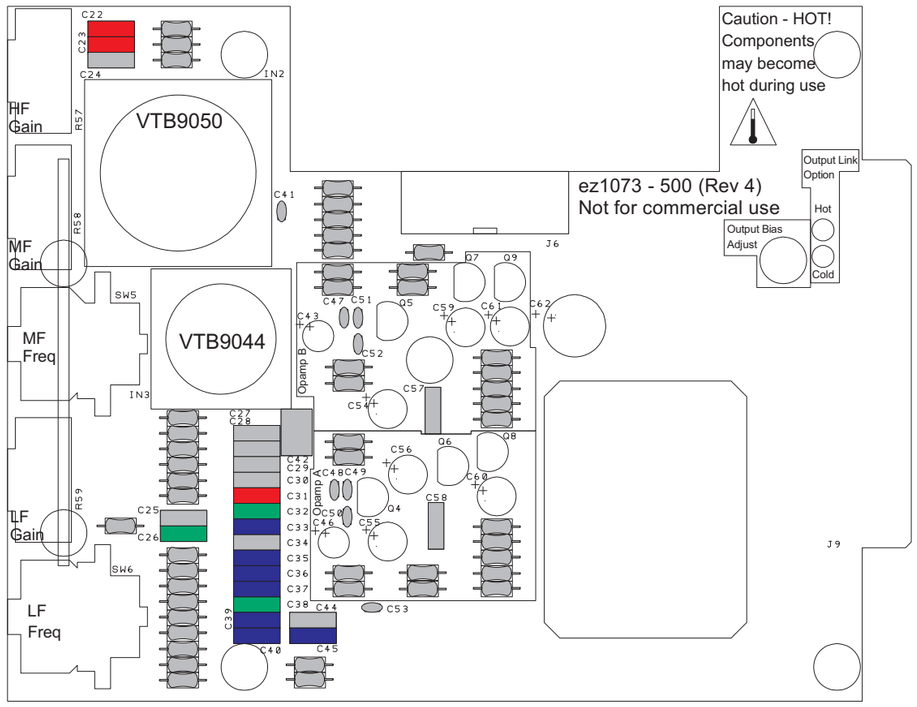










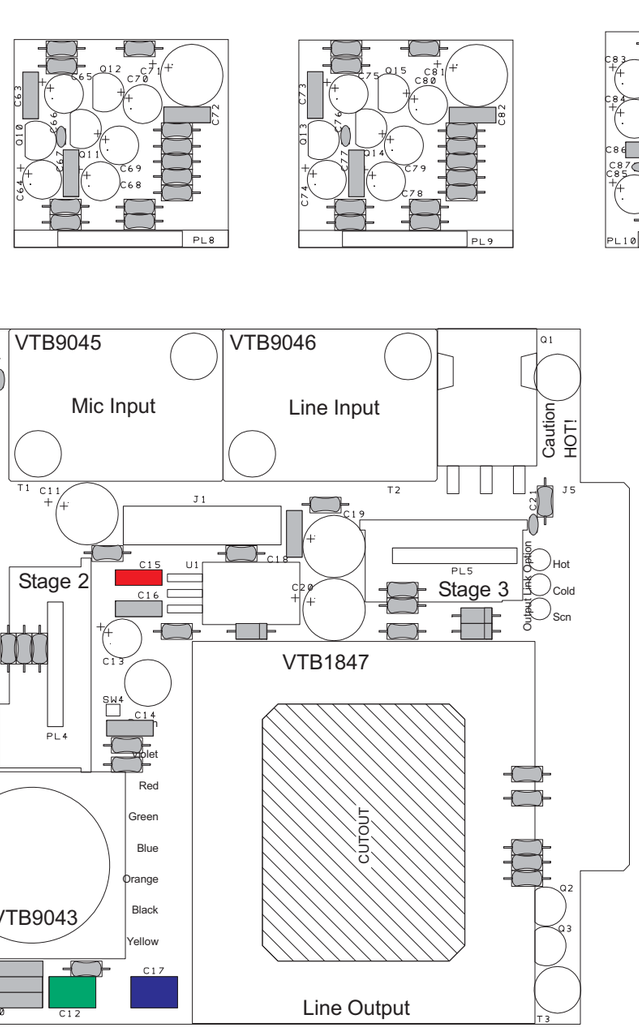


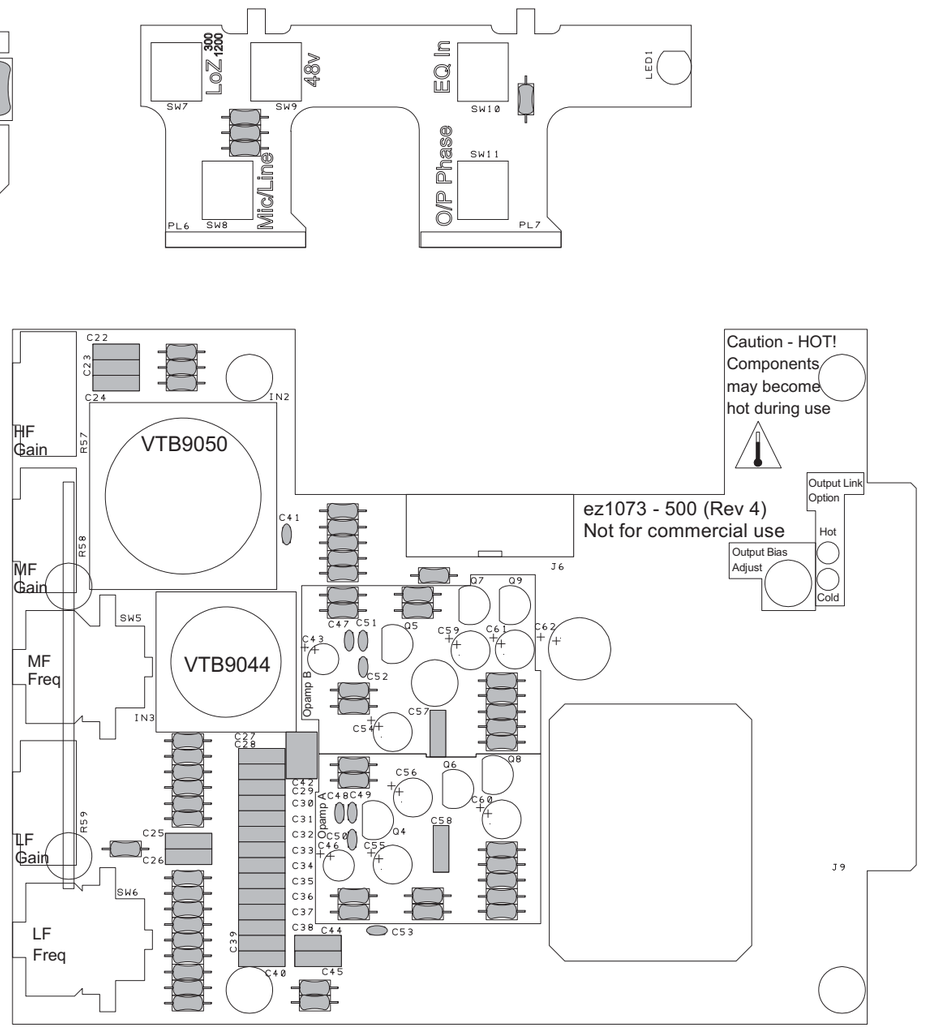
Film Capacitors

C15 = 330nF (1)

C5, C12 = 470nF (2)

C6, C17, = 1uF (2)





Electrolytic Capacitors

C43, C46, C64, C74, C85 = 10uF / 50v (5)

C4, C13, C56, C59, C60, C61, C65, C69, C70, C75, C79, C80 = 22uF / 63v (12)

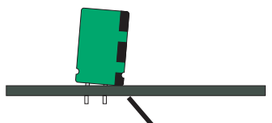
C54, C55, C68, C78, C83, C84, C90 = 100uF / 25v (7)

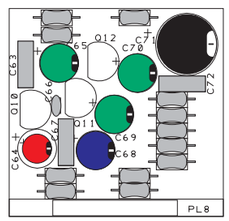
C71, C81 = 470uF / 16v (2)

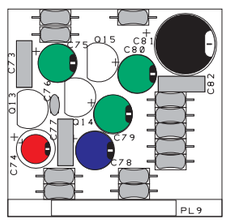
C89 = Omitted (Leave empty) (1)

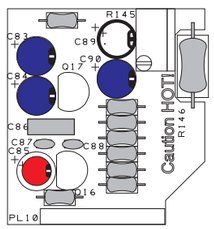
All positive terminals towards left

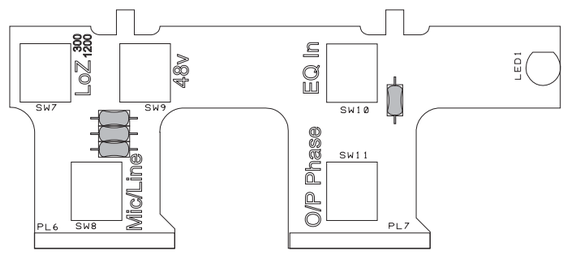
Fit C13 like this else it will touch the rear of the stage 2 subcard.

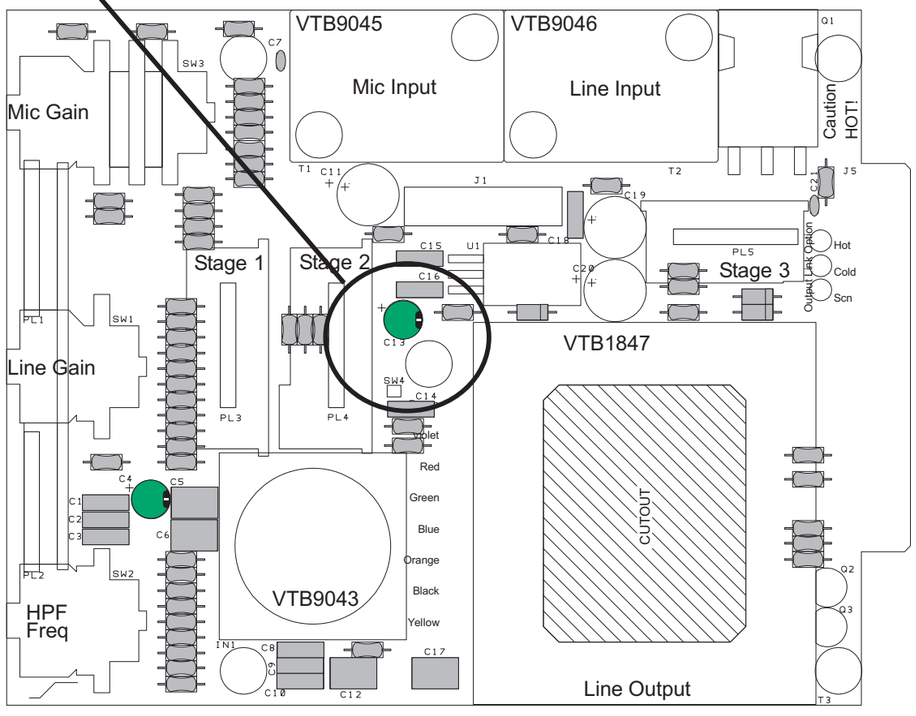


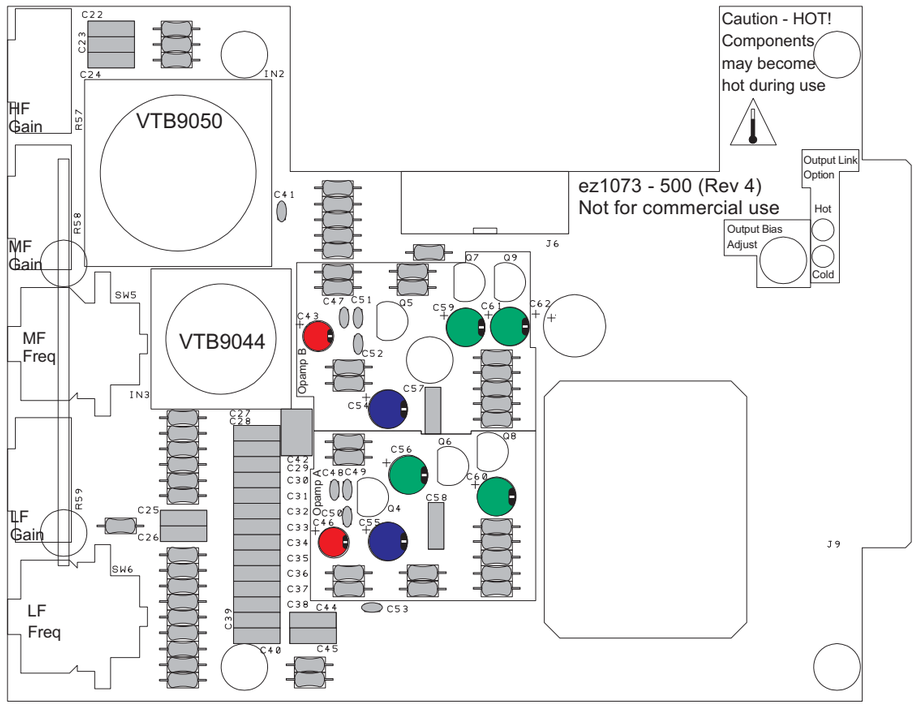










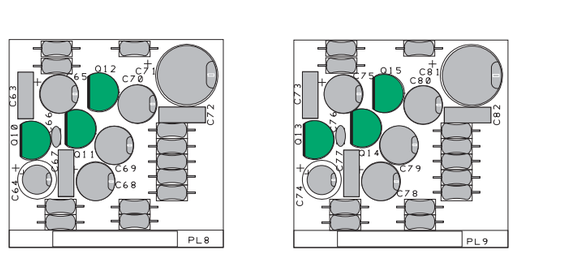


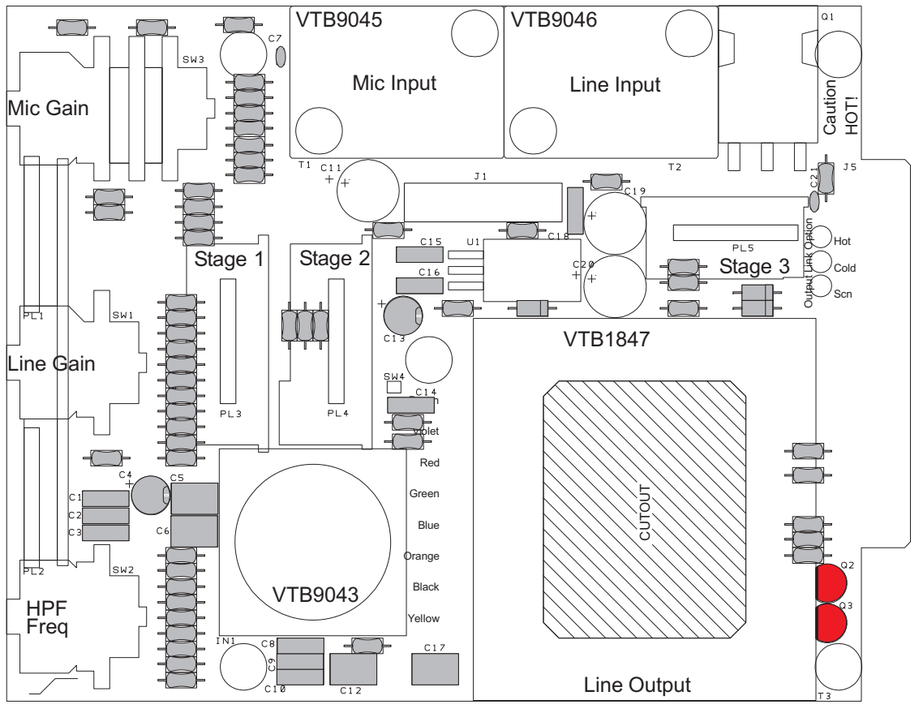
Small Signal Transistors (All “flat side to the left”)

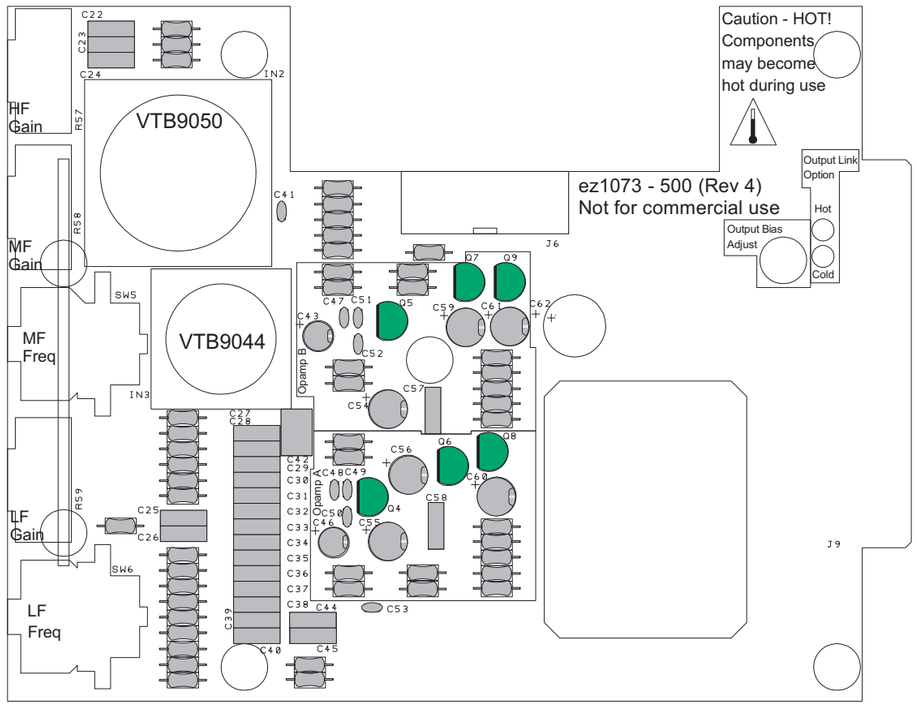
Q2, Q3 = BC560C (2)

Q4-Q17 = BC184C (14)

R145 = 4K7 (or 5k) (1) - Side adjust style



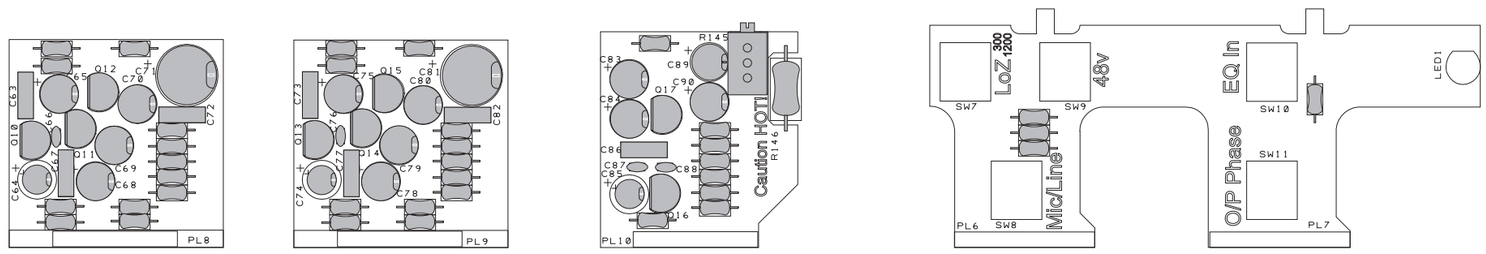


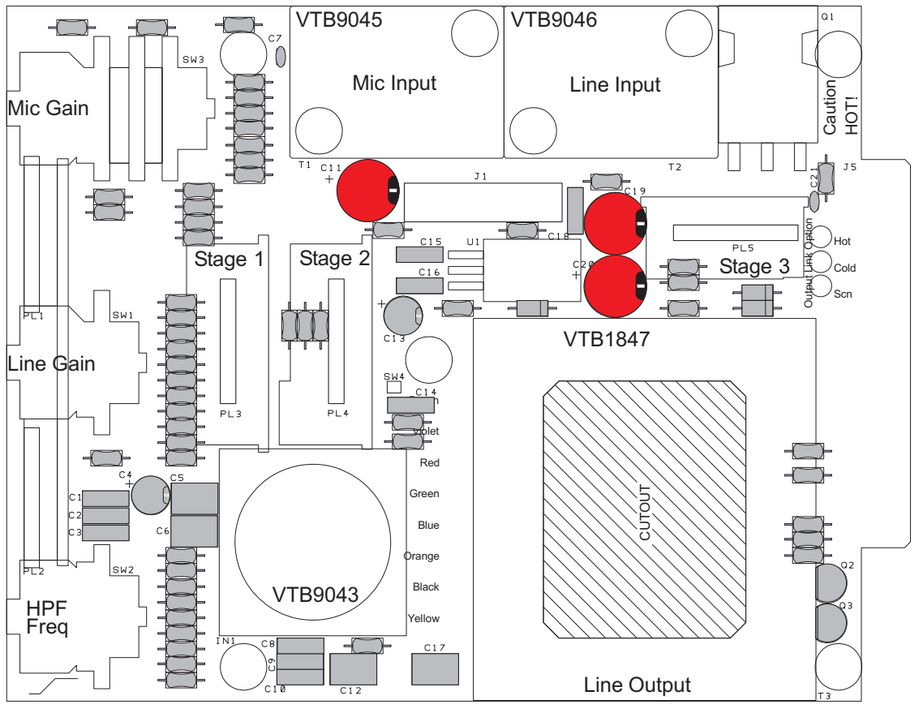


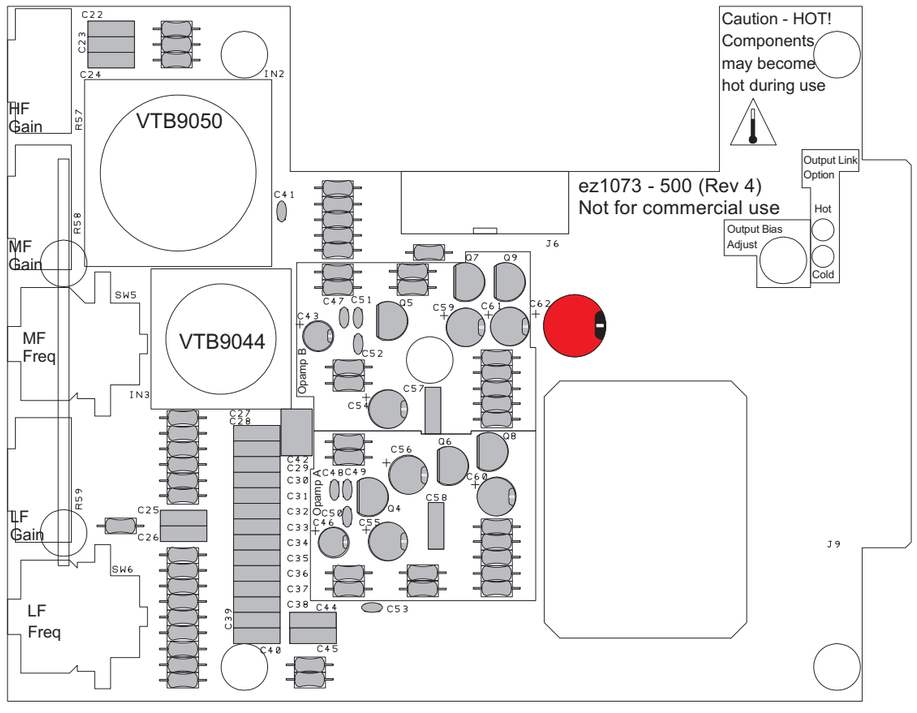
Electrolytic Capacitors

C11, C19, C20, C62 = 470uF / 35v (4)

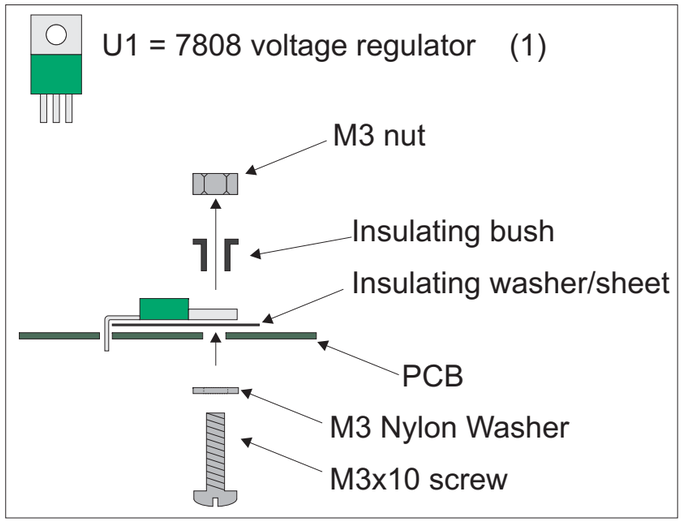
All positive terminals towards left

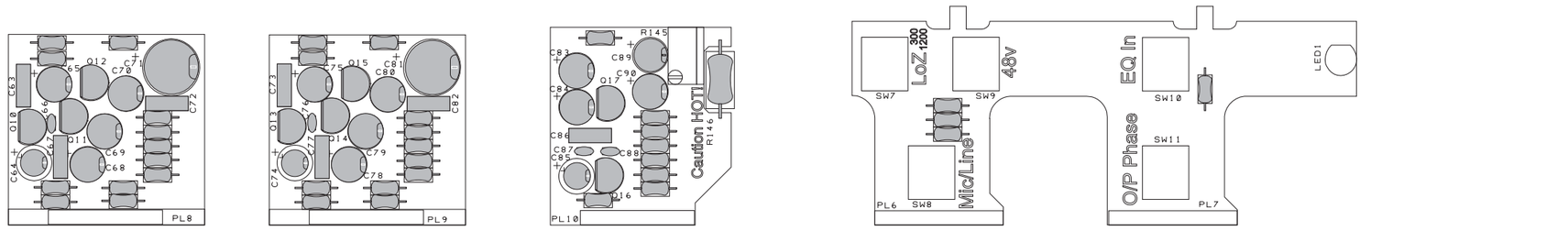


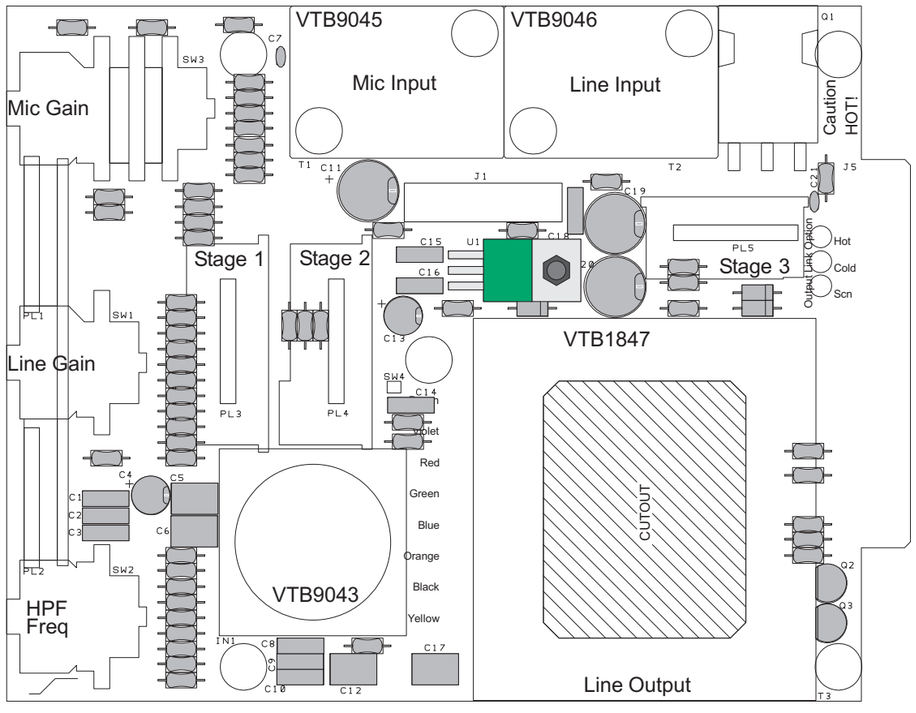


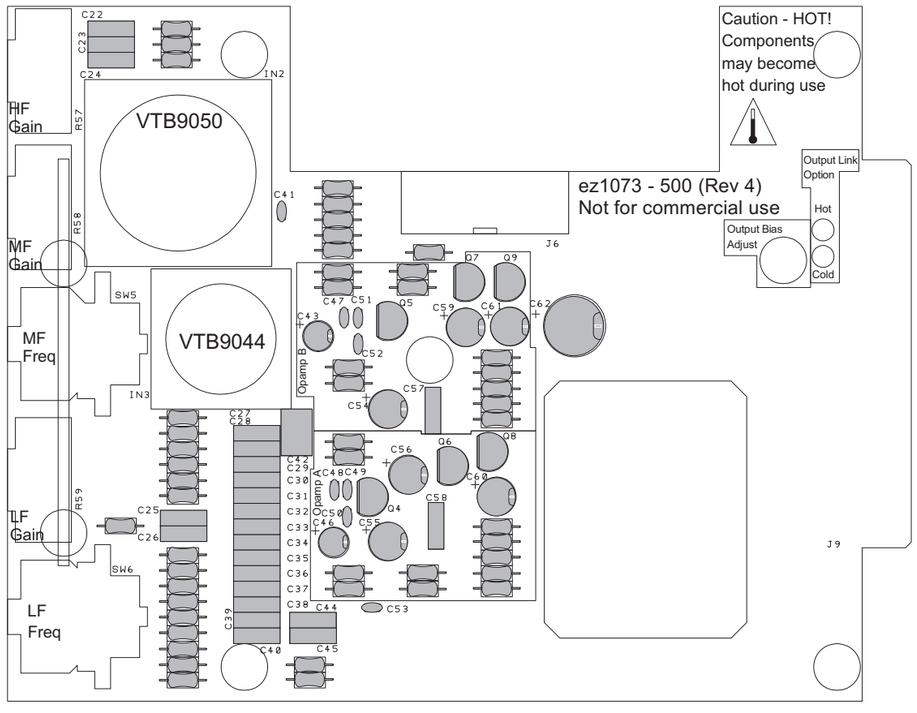


Voltage Regulator

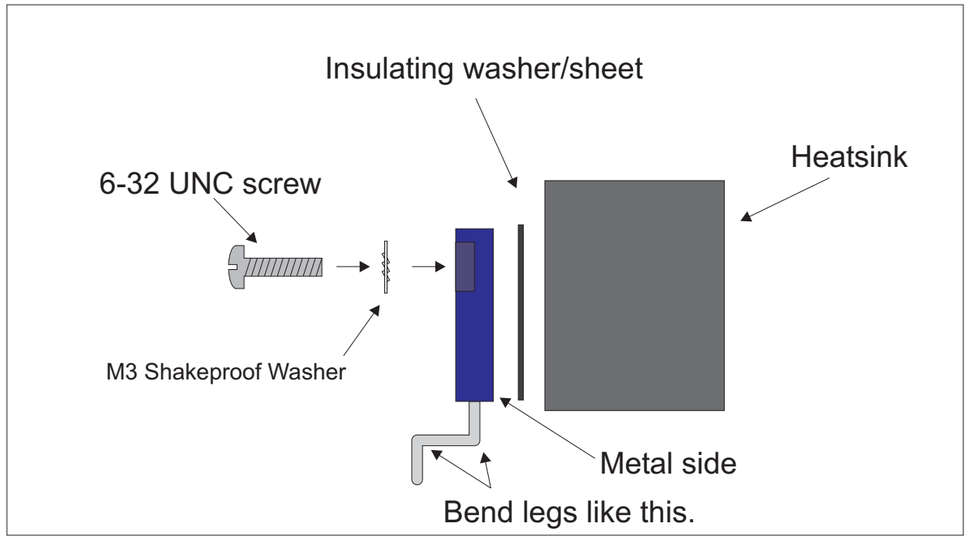


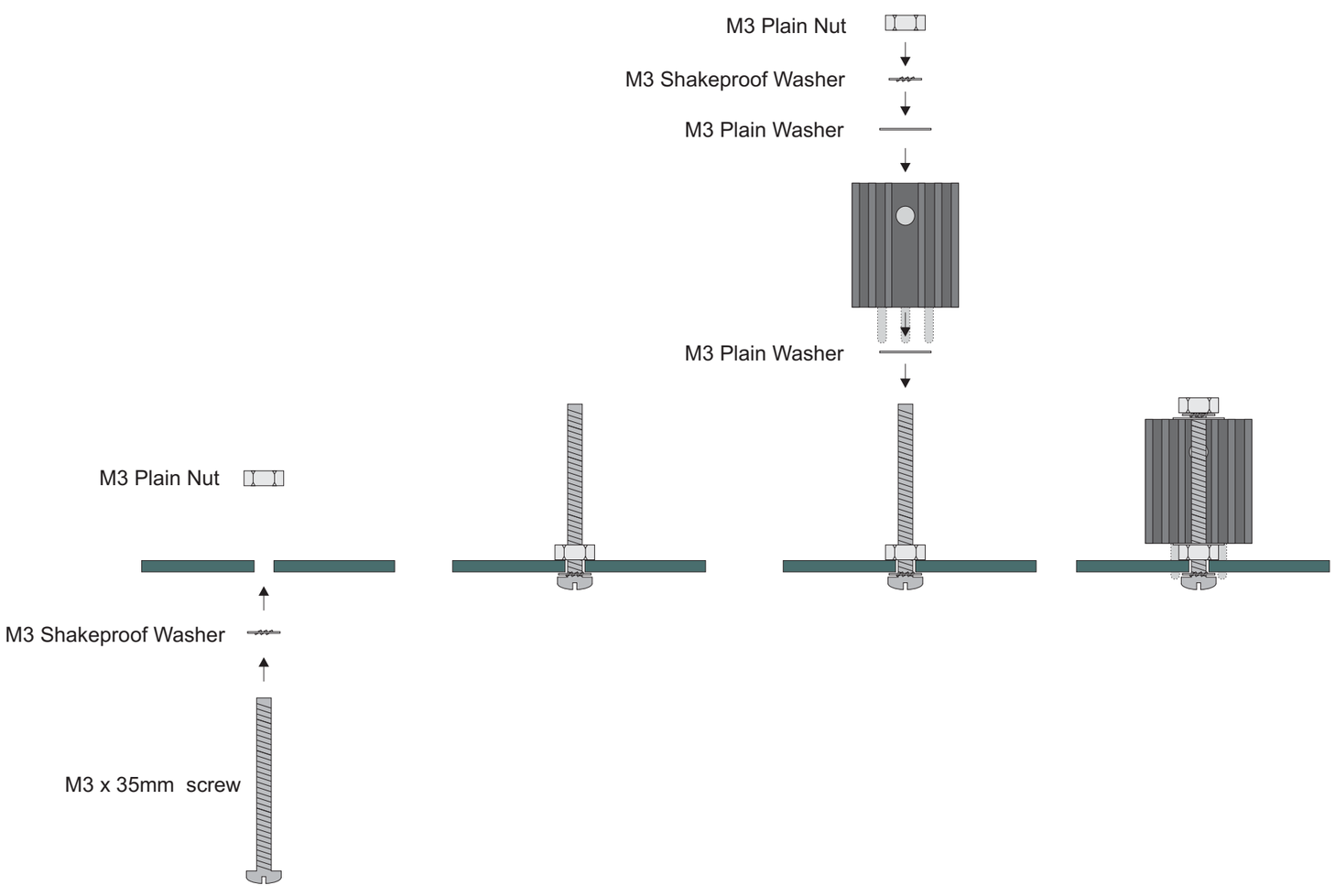


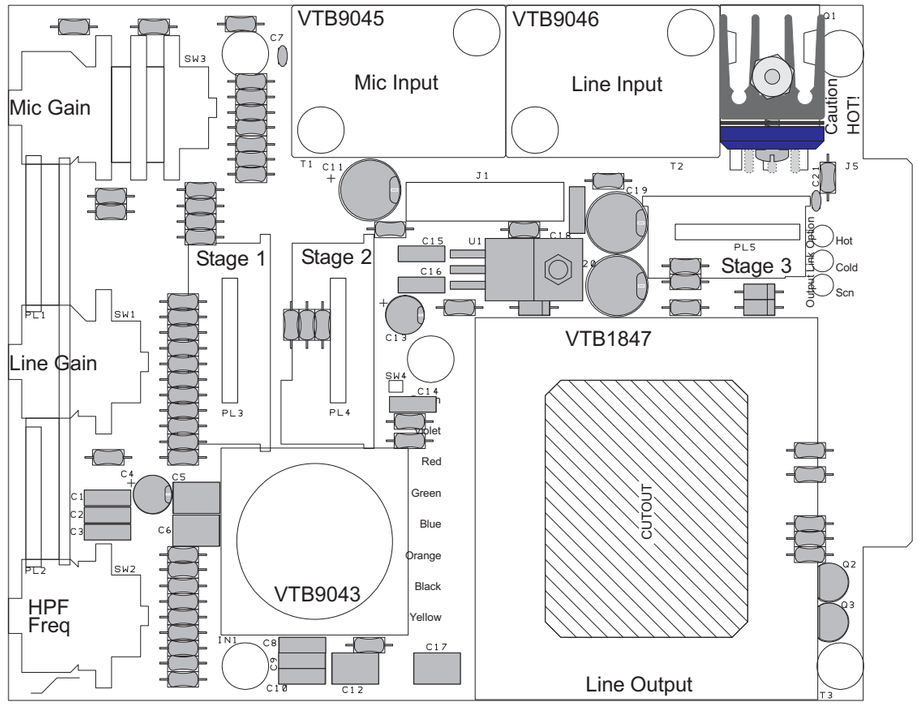




Output Transistor TIP3055







Inductors



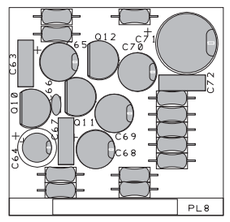
IN1 = VTB9043

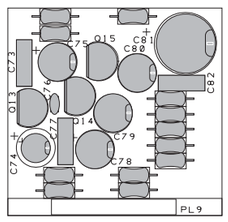


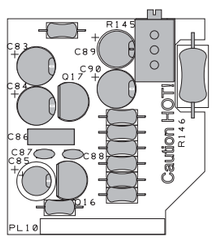
IN1 = VTB9050

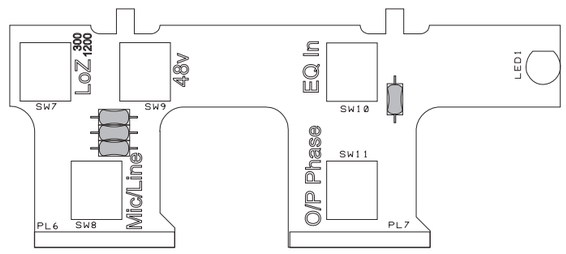


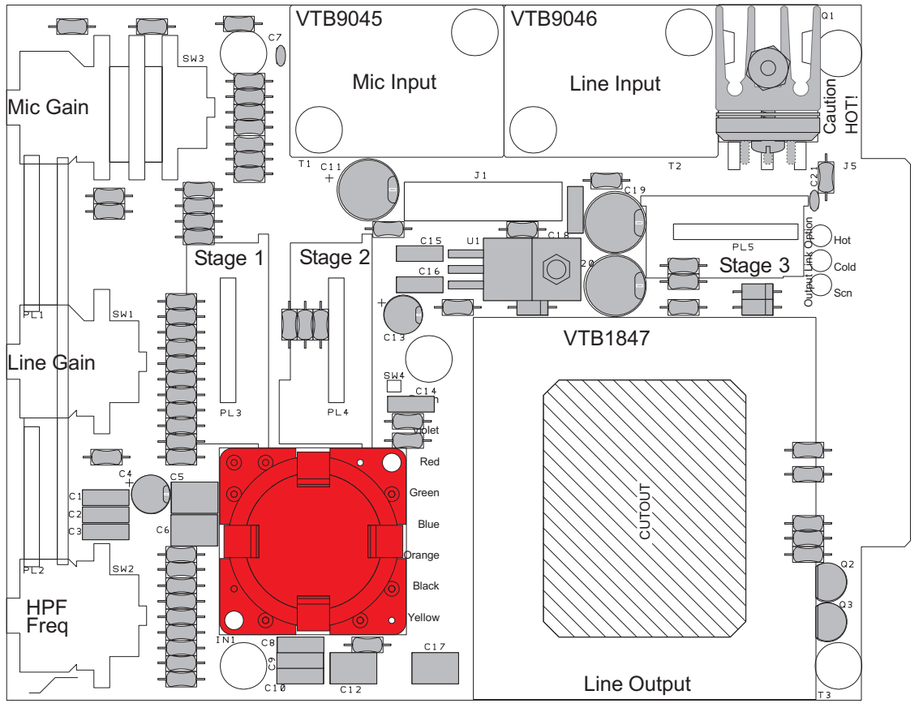
IN1 = VTB9044

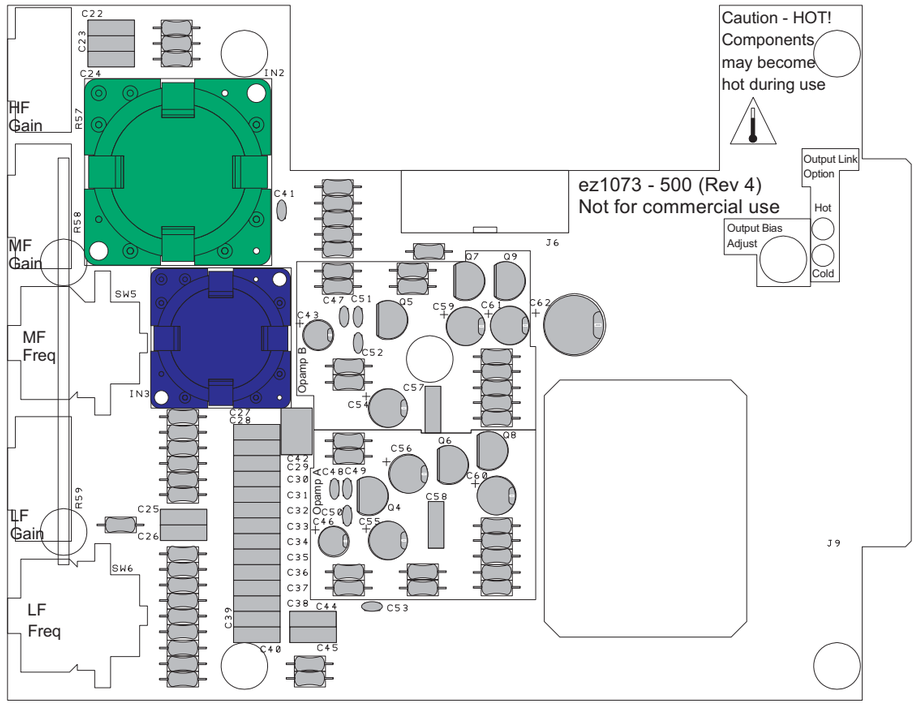












Rotary Switches



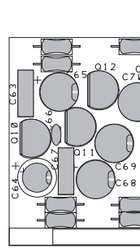
SW3 = GR-03-001 (1) - 12 position, 1 pole, 3 gang

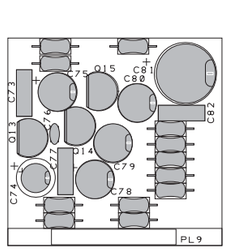


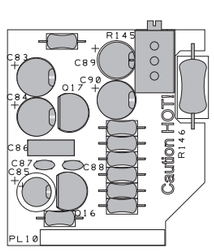
SW1, SW5 = GR-03-002 (2) - 12 position, 1 pole, 1 gang

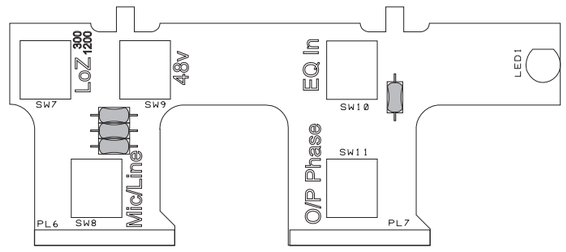


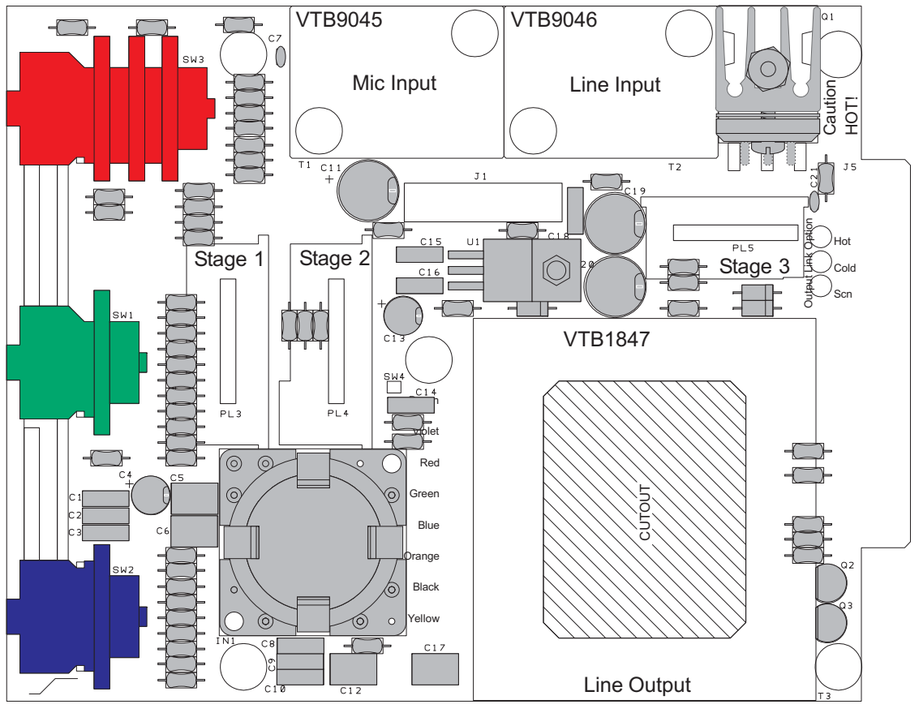
SW2, SW6 = GR-03-003 (2) - 6 position, 2 pole, 1 gang

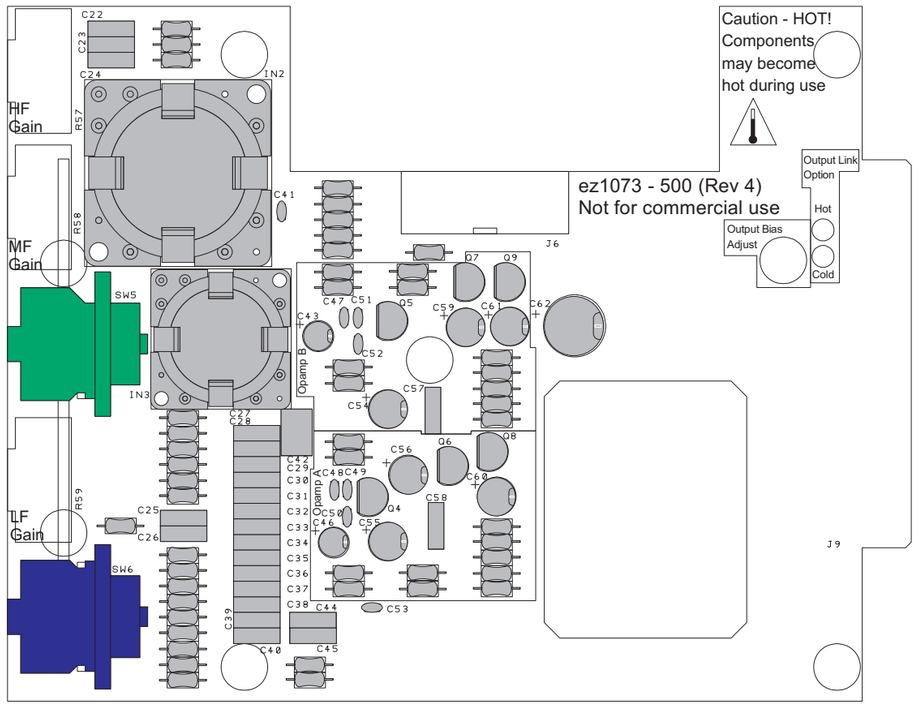








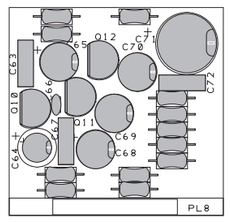


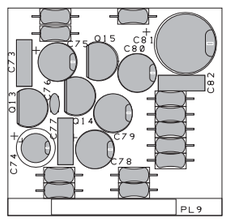


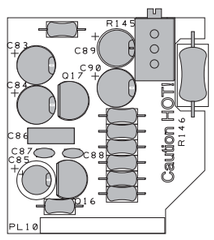
Potentiometers

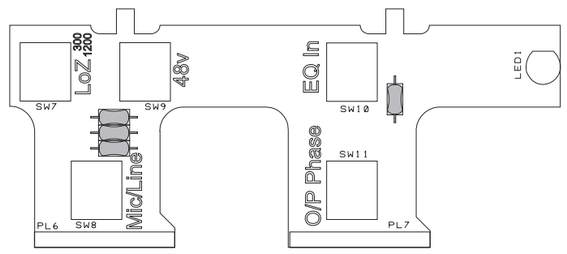
R57, R58 = OM-01-082 (2) - 10k Linear 20mm

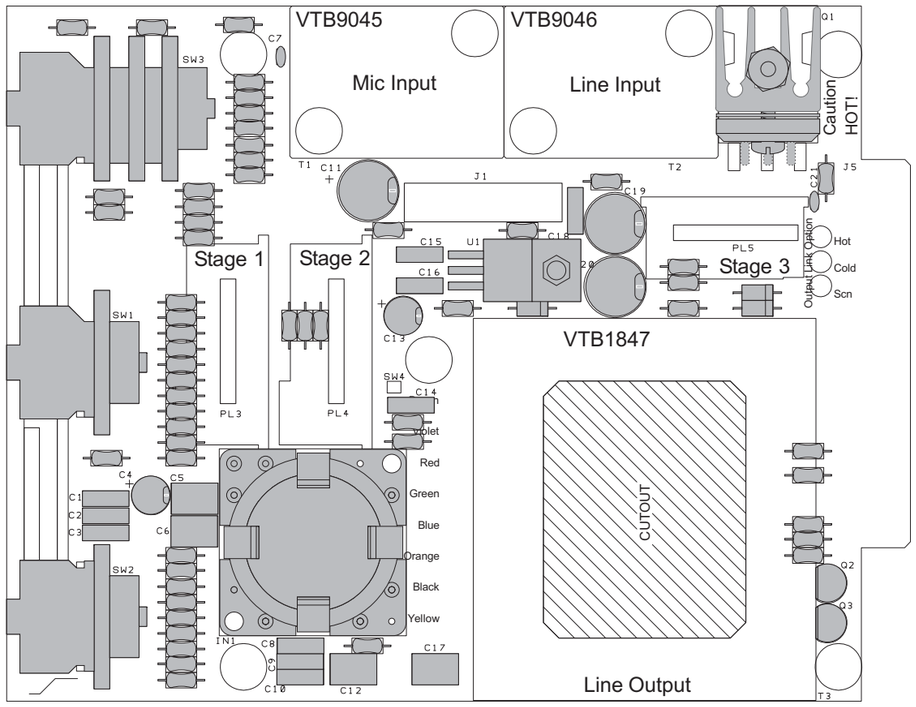
R59 = OM-01-083 (1) - 47k Linear 20mm

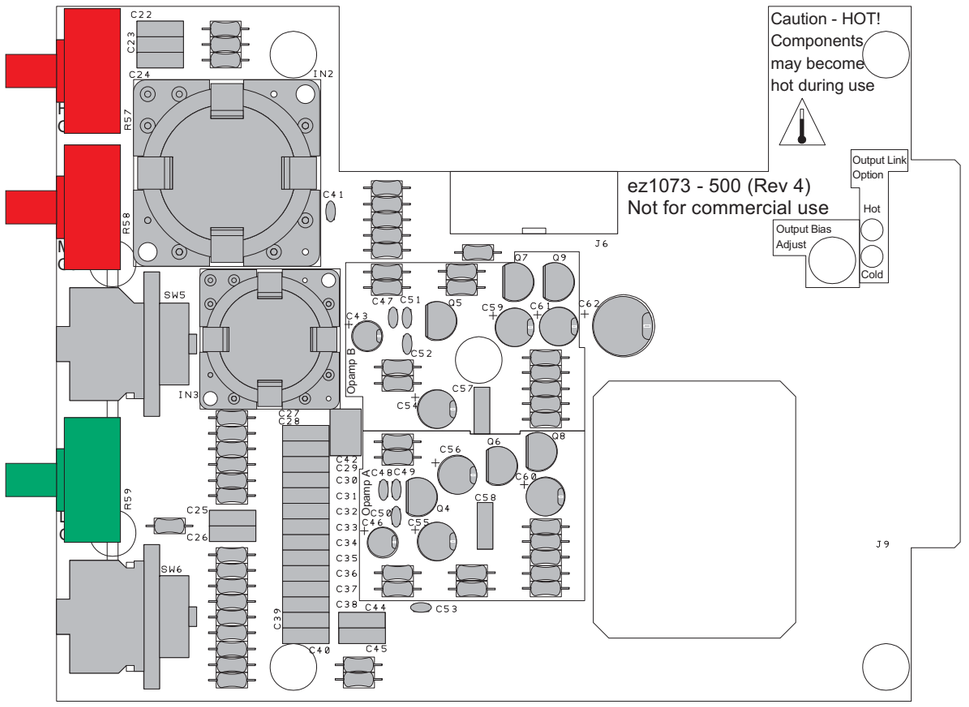










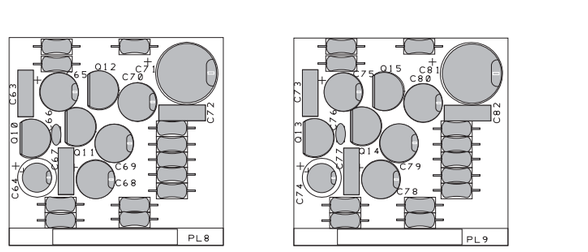


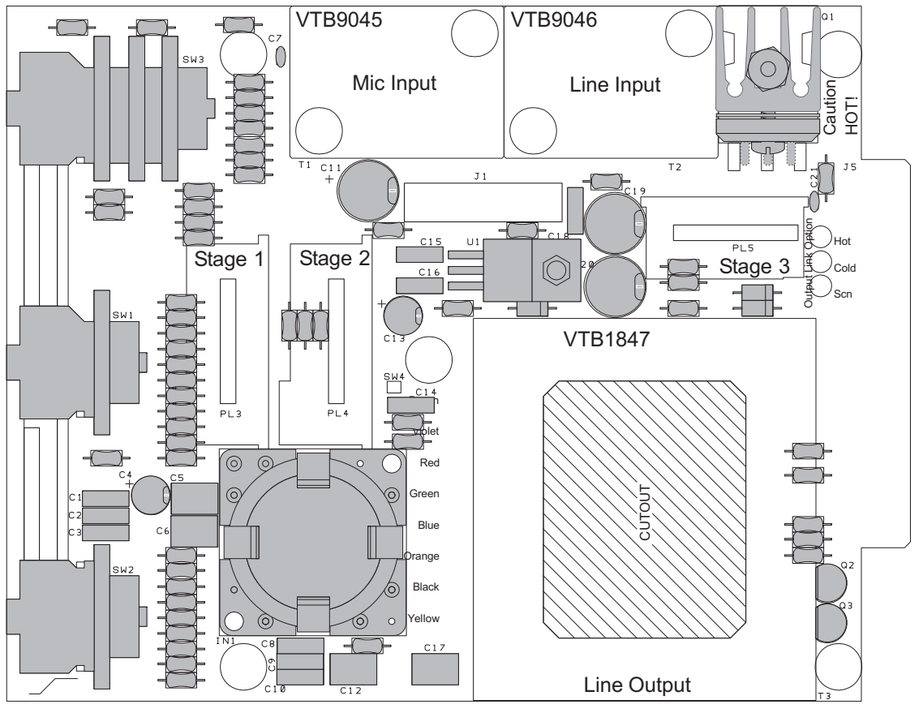
Toggle Switches

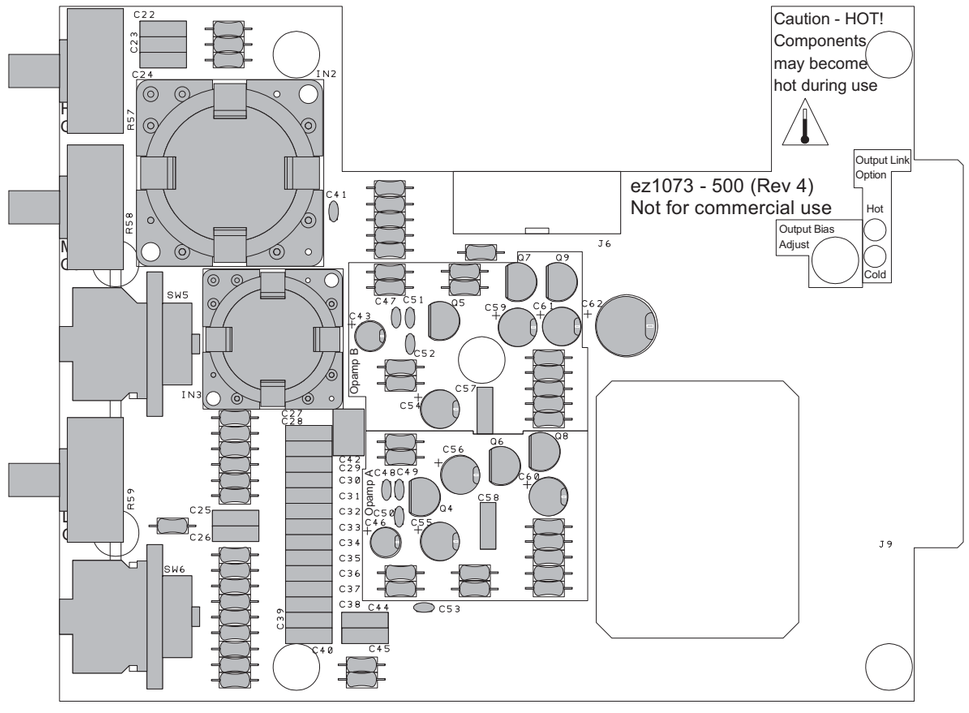
SW7, SW8, SW9, SW10, SW11 = 2 Position DPDT (on-on) (5)

Make absolutely certain they stand perpendicular to the PCB !

Use the faceplate as a guide before soldering them completely.







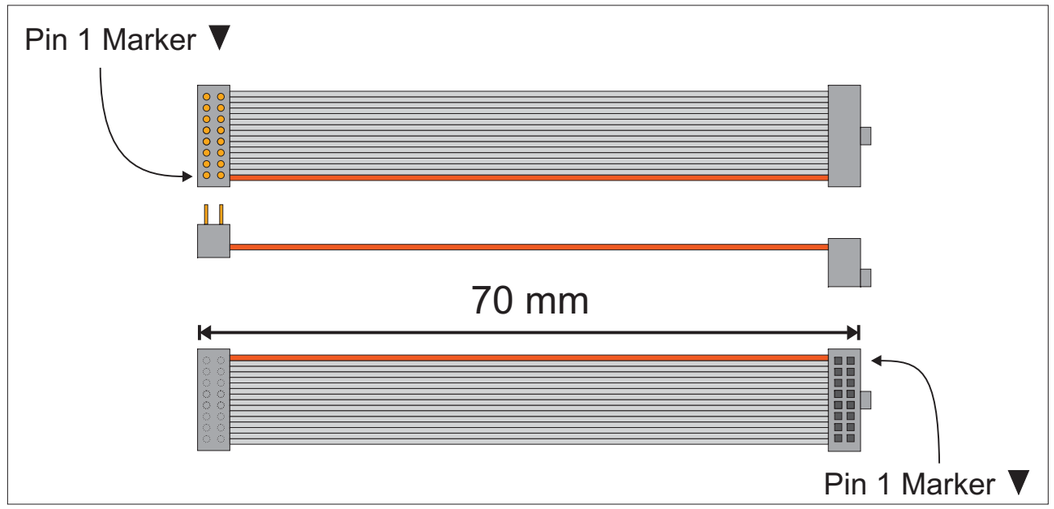
Ribbon Cable

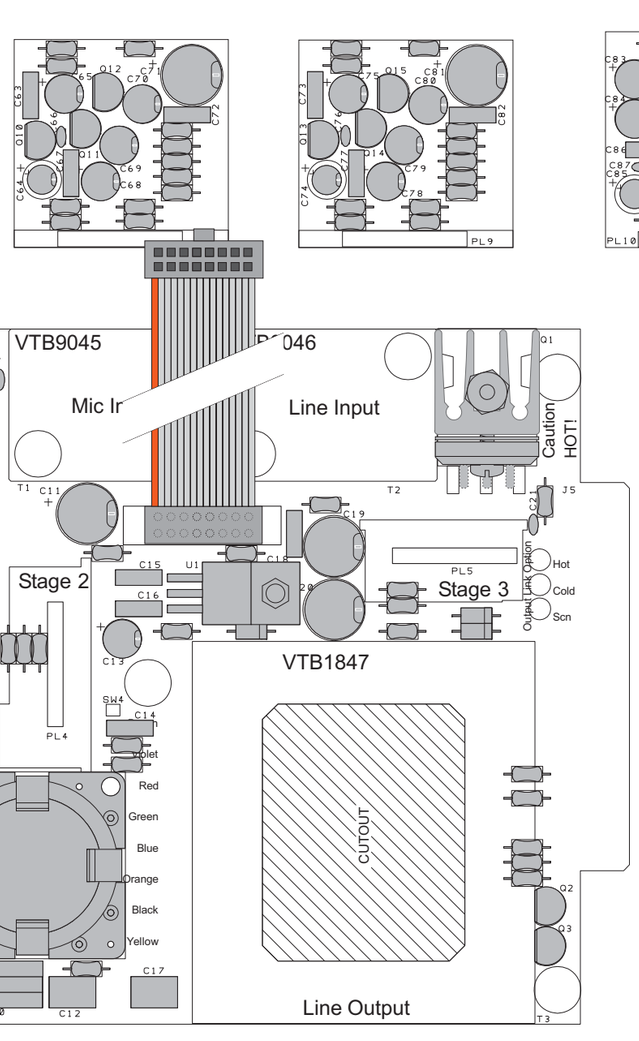


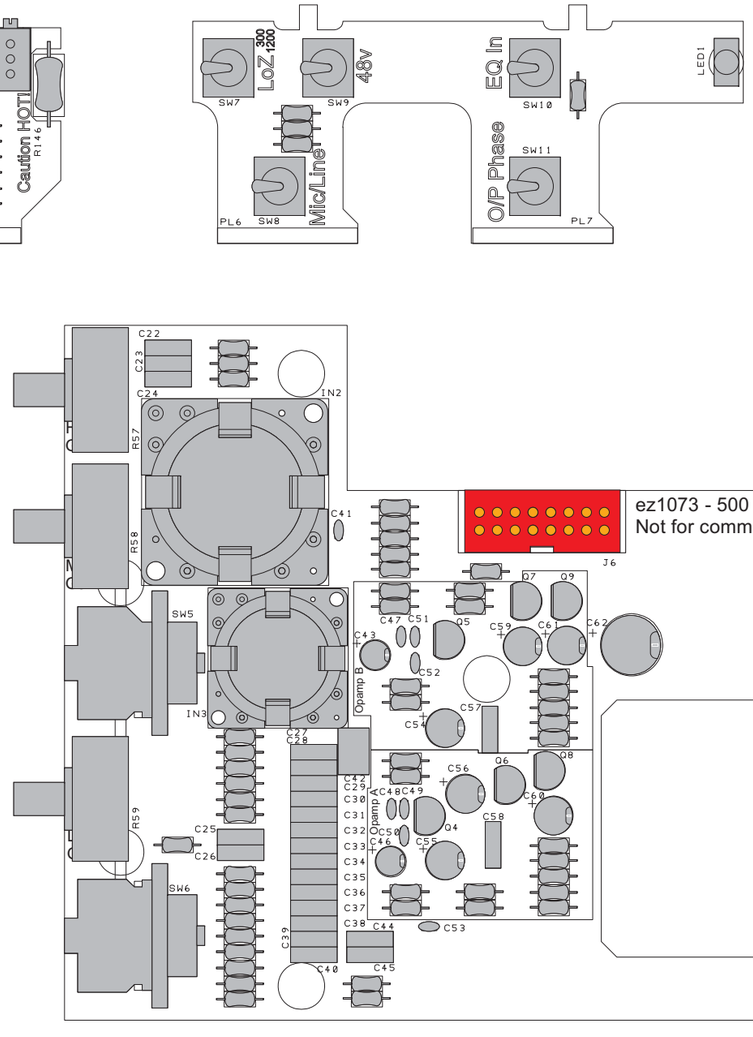
J6 = 16 Way Box Header (1)



J1 = 16 Way Ribbon/Transition Header (1)



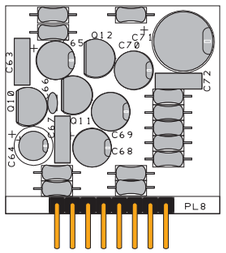


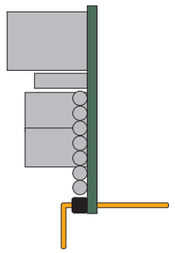


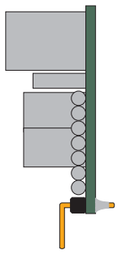
Separate PCB into individual sub-boards and fit headers

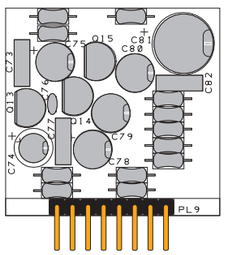
Long pin goes through PCB

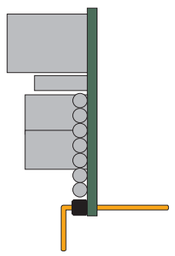
Cut off excess pin and solder

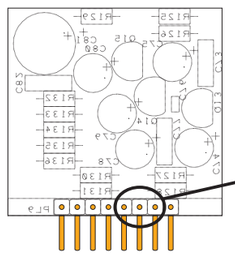




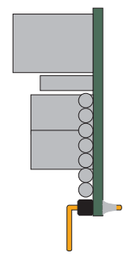


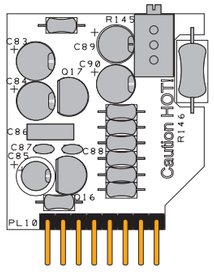


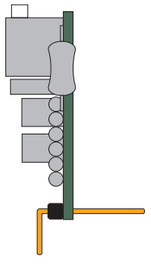


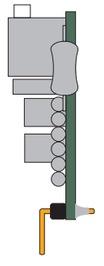


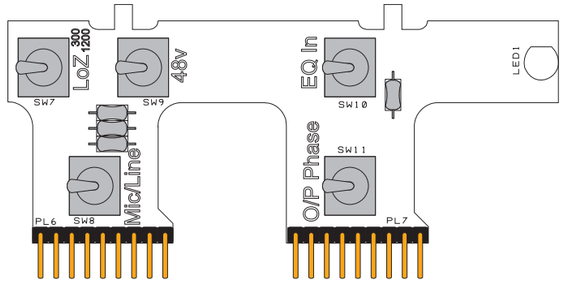
Trim these 3 pins very short so as not to clash with C13

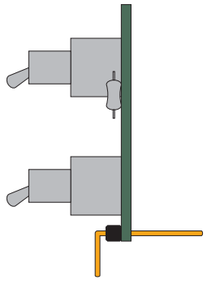


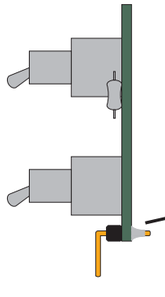








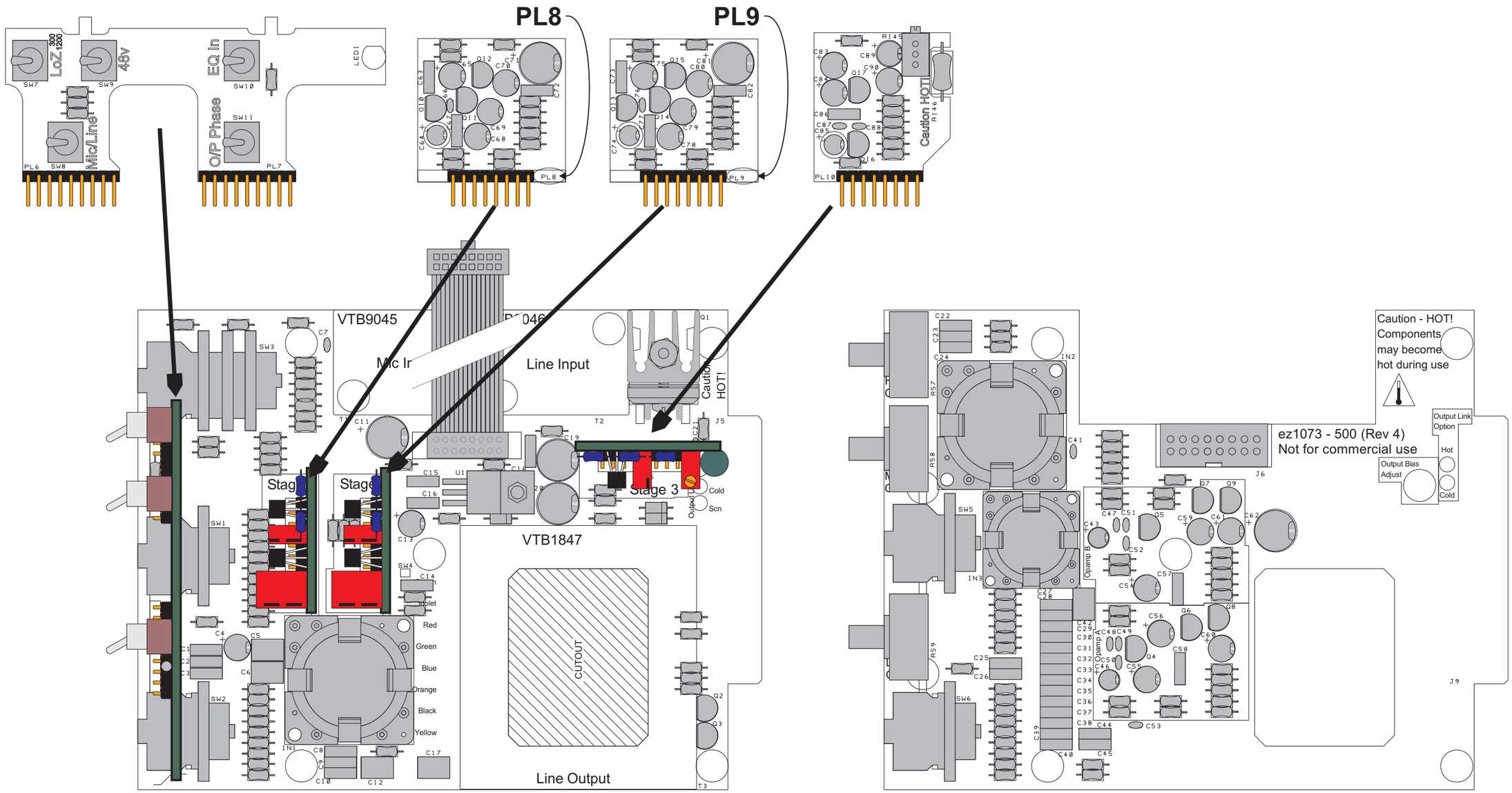




Trim these pins very short so as not to clash with R2, R3 and R4

Fit sub-boards to main board

These 2 are identical but should be fitted in the order shown so that the component numbers agree with the schematic



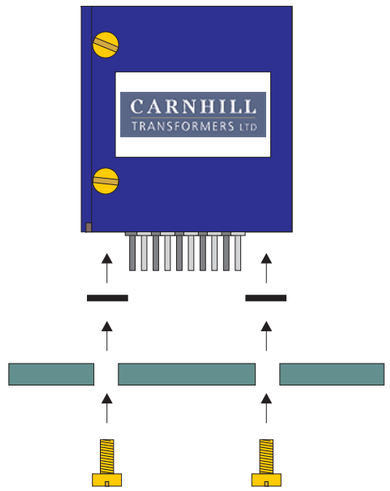
Input Transformer Assembly and Fitting



T1 = VTB9045 (1)



T2 = VTB9046 (1)



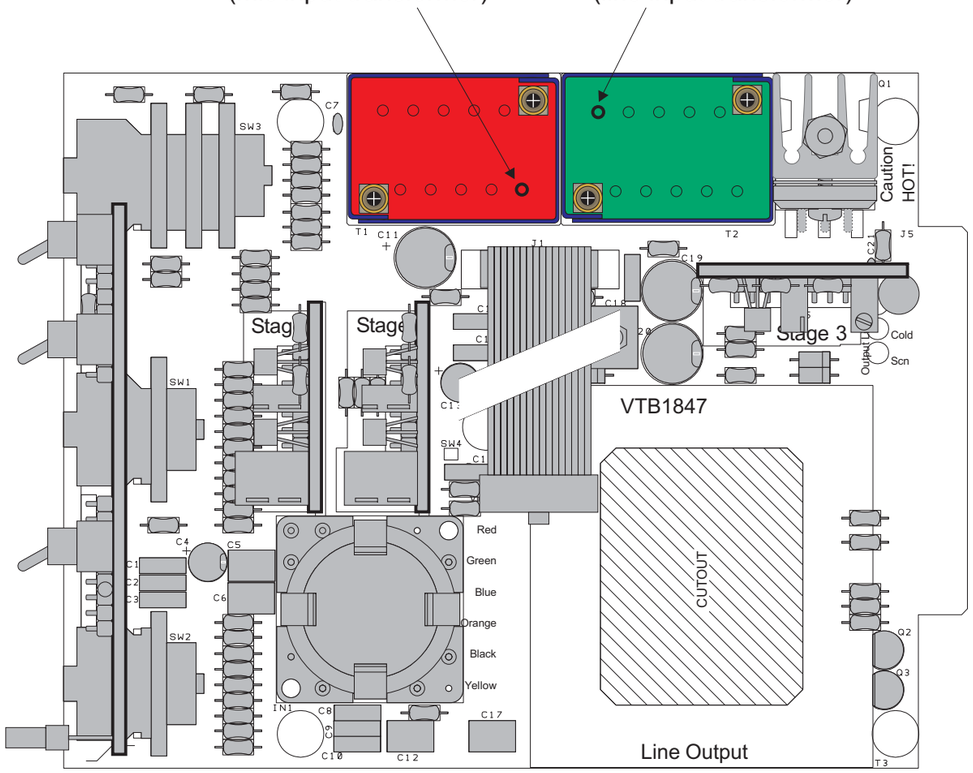
M3 Nylon Washers
(between transformer and PCB)

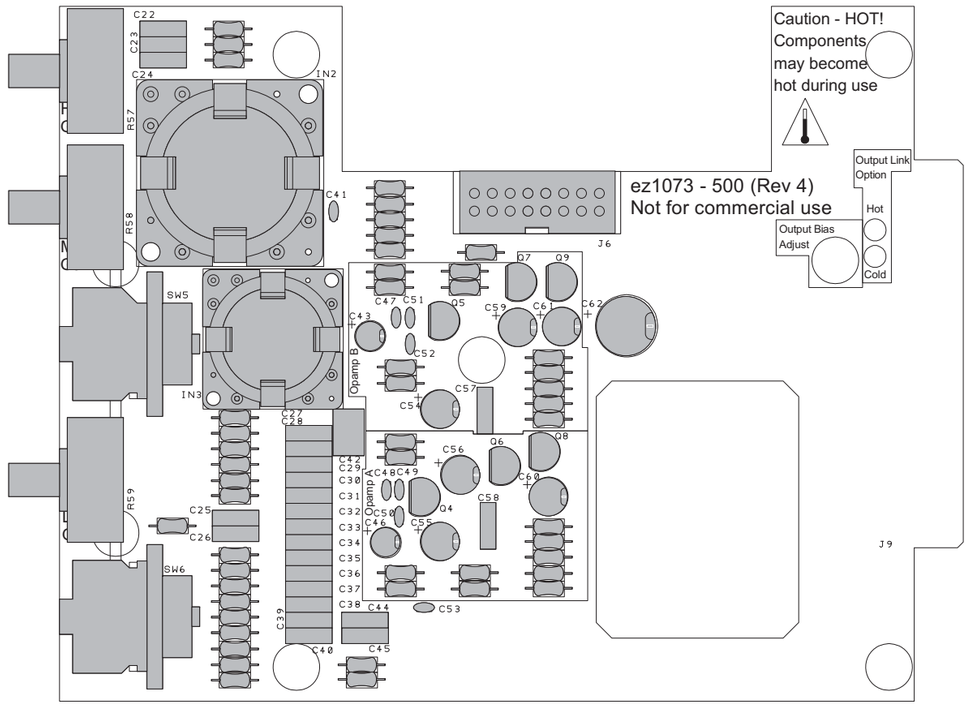
6BA x ¼ inch screws

Make sure you put them the correct way round

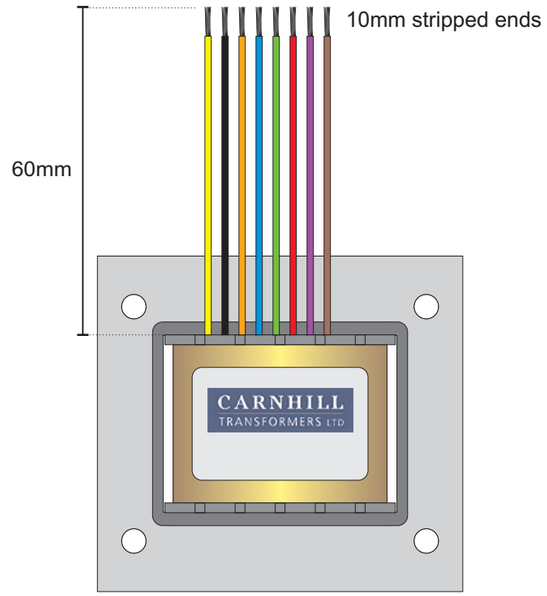
Pin 6 in this position
for VTB9045
(mic input transformer)

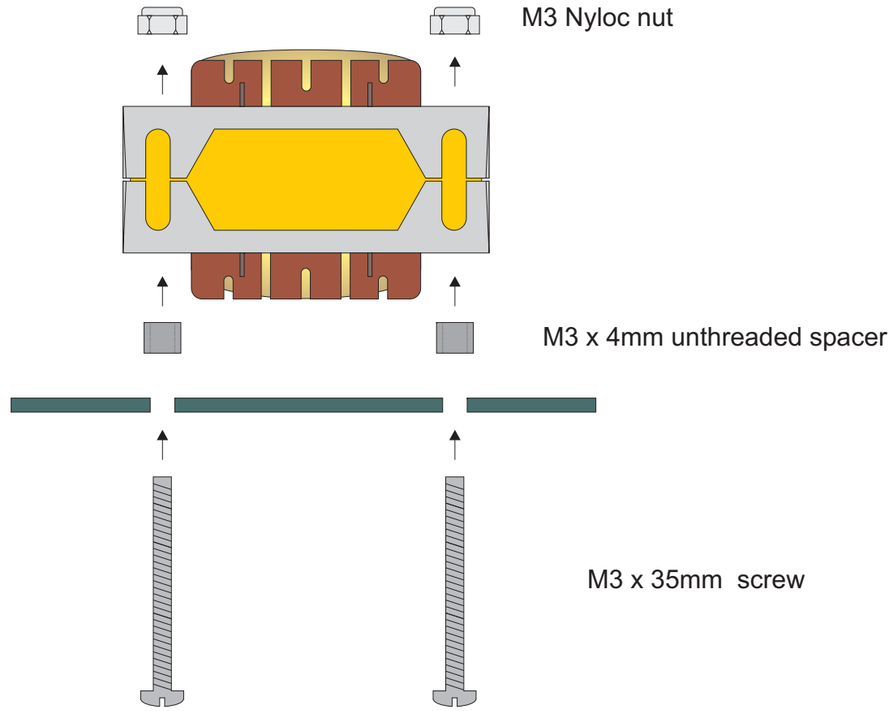
Pin 6 in this position
for VTB9046
(line input transformer)

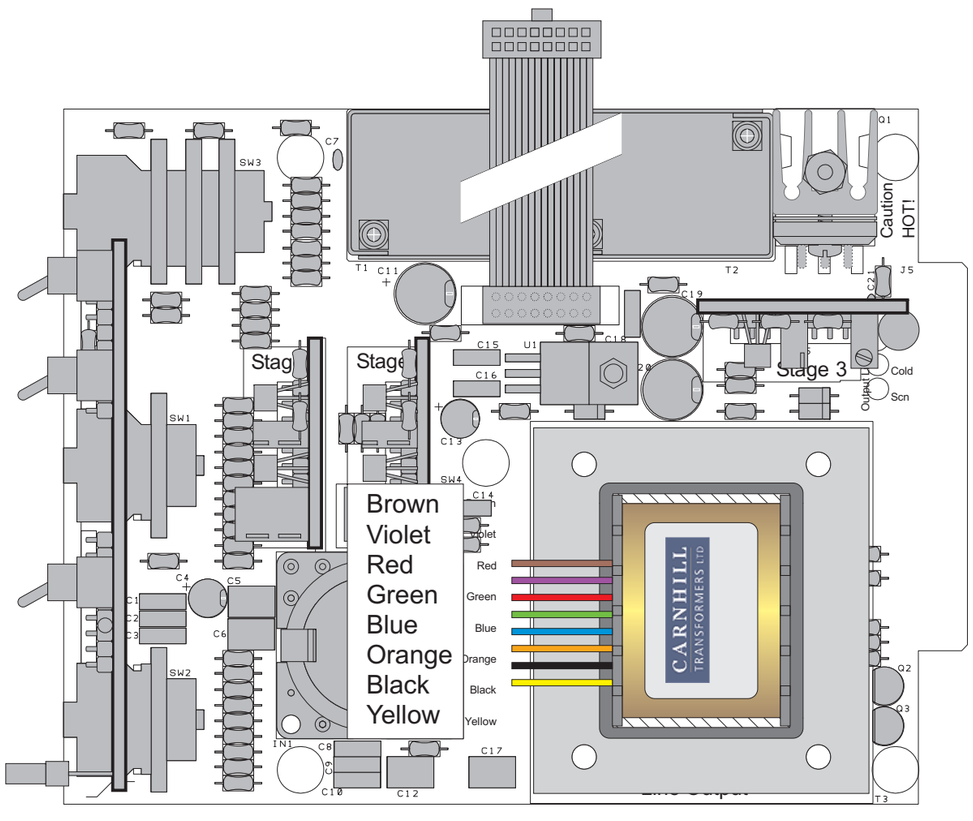


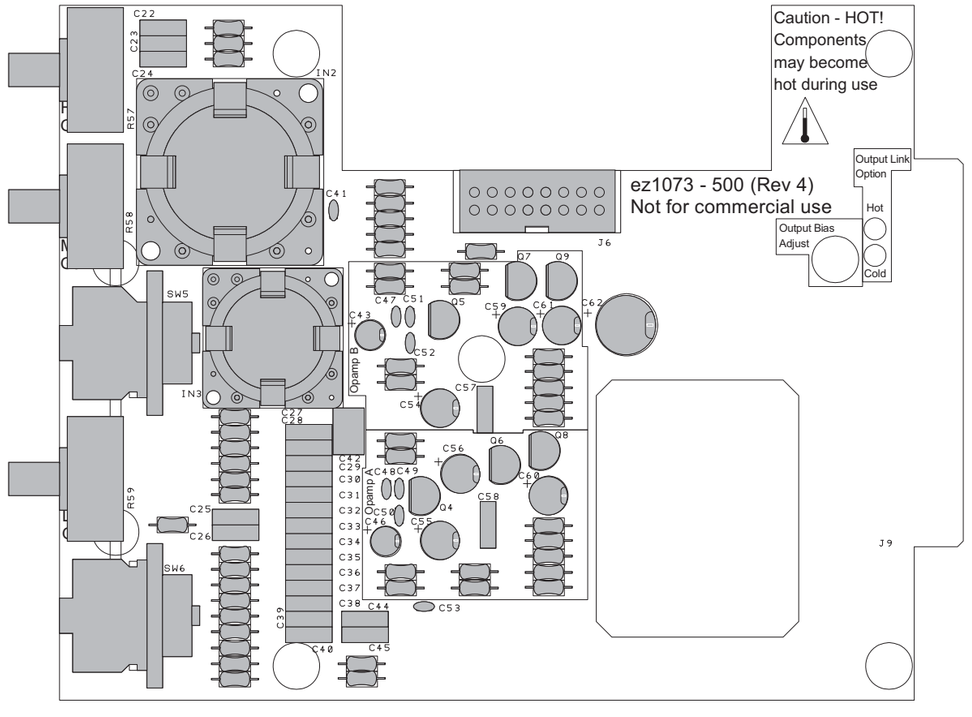


Output Transformer Assembly and Fitting



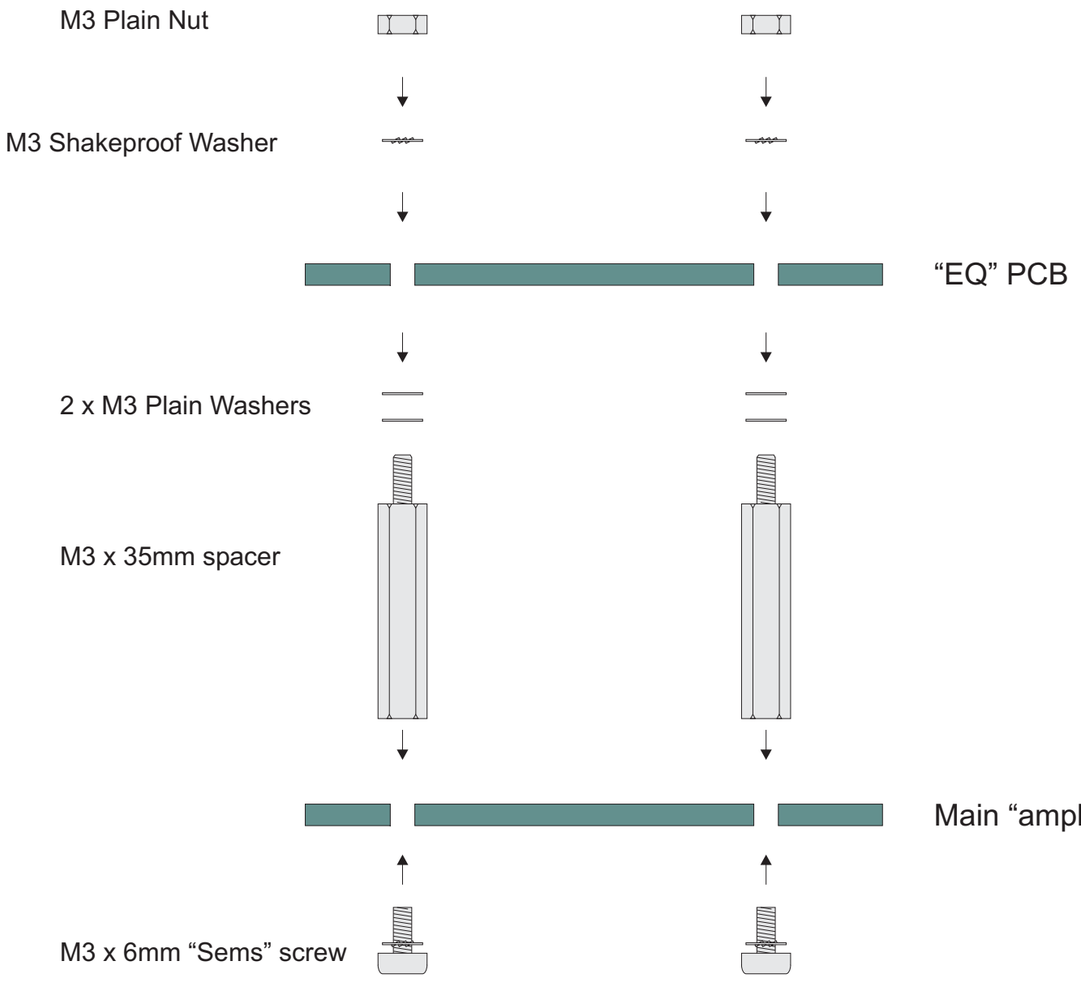


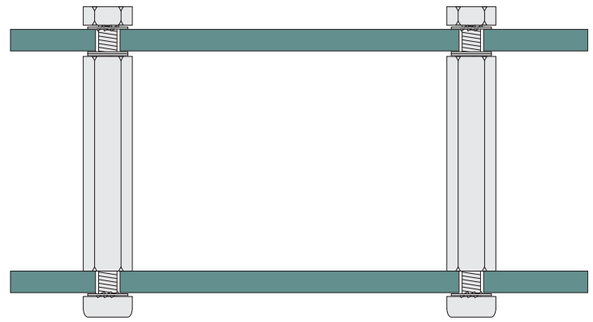




PCB Assembly

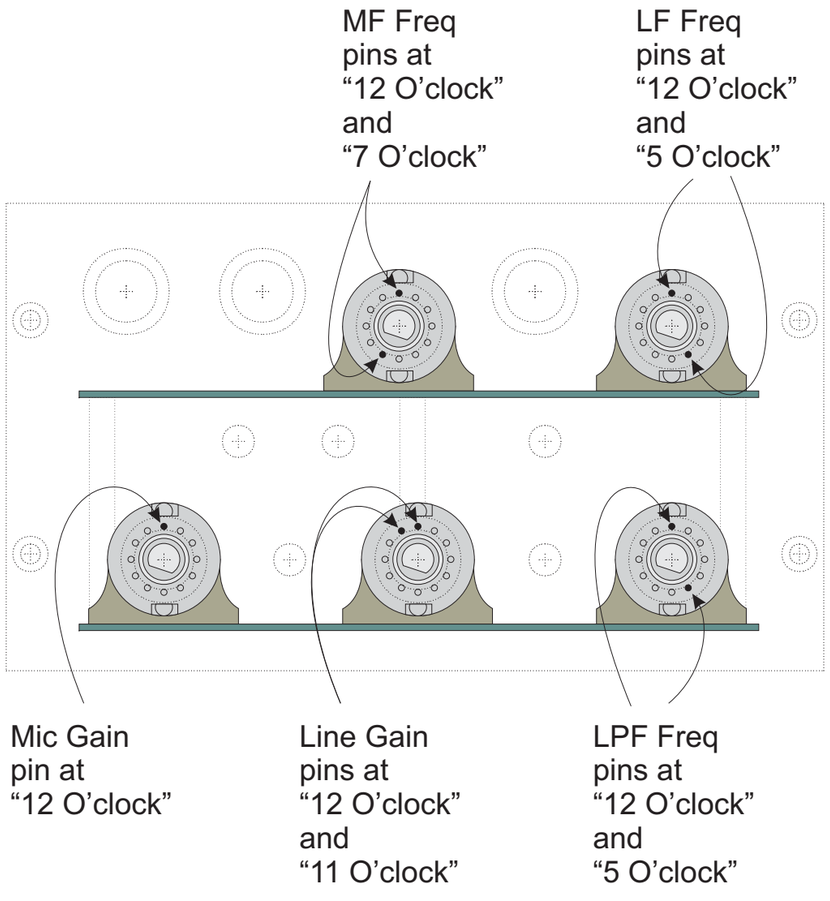
5 spacers required (only 2 shown for clarity)





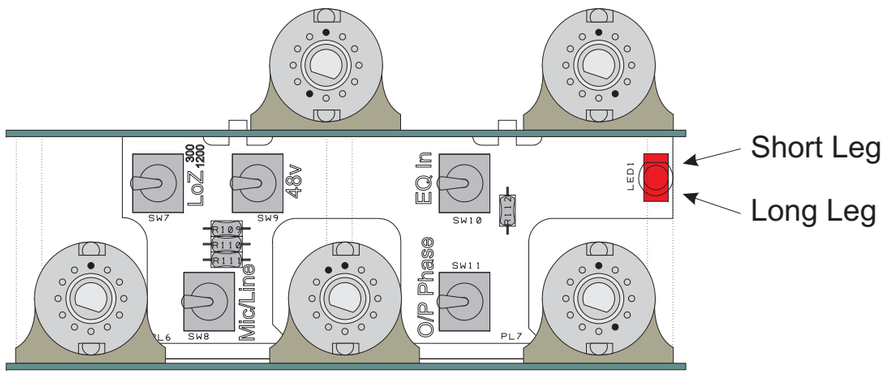
Rotary Switch Adjustment Pins

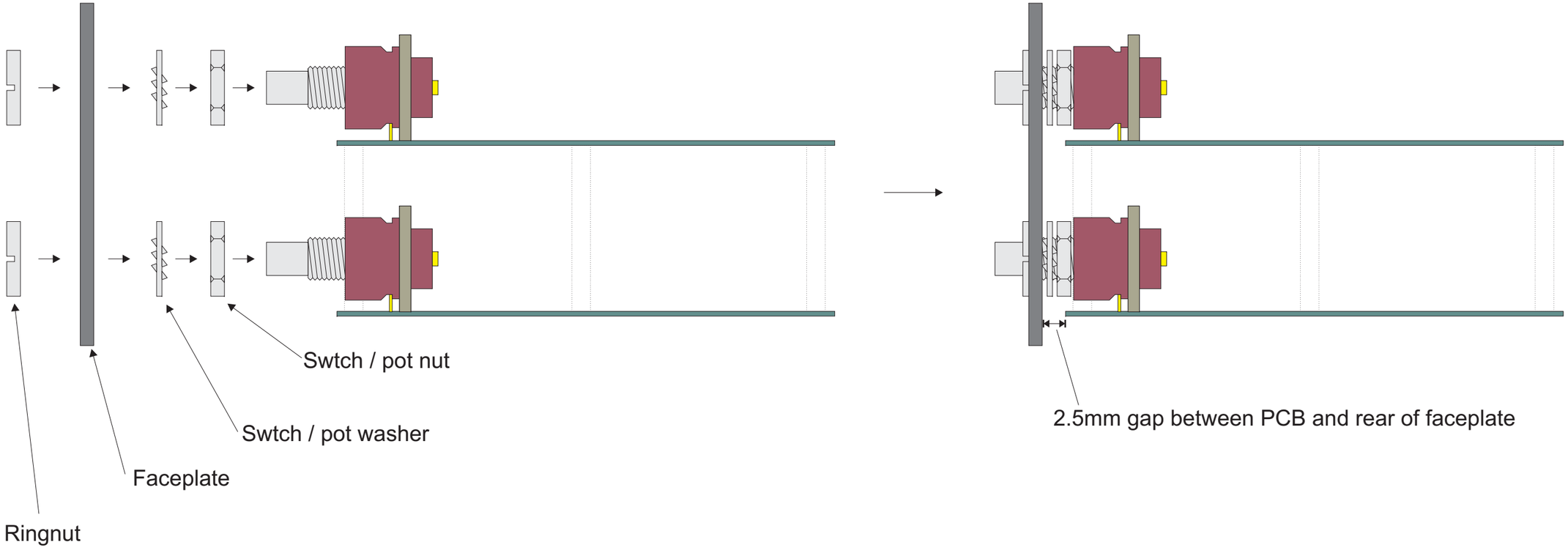
Fit pins in positions shown then apply the self adhesive silver washers over the pin holes to stop the pins coming out.



Fitting Faceplate

LED1 = 2mm Red LED (1)



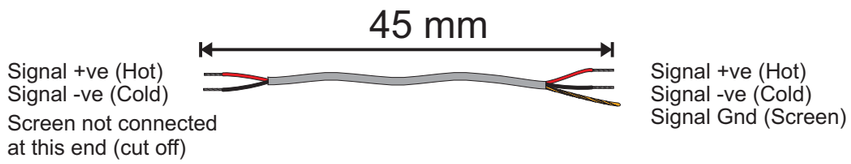


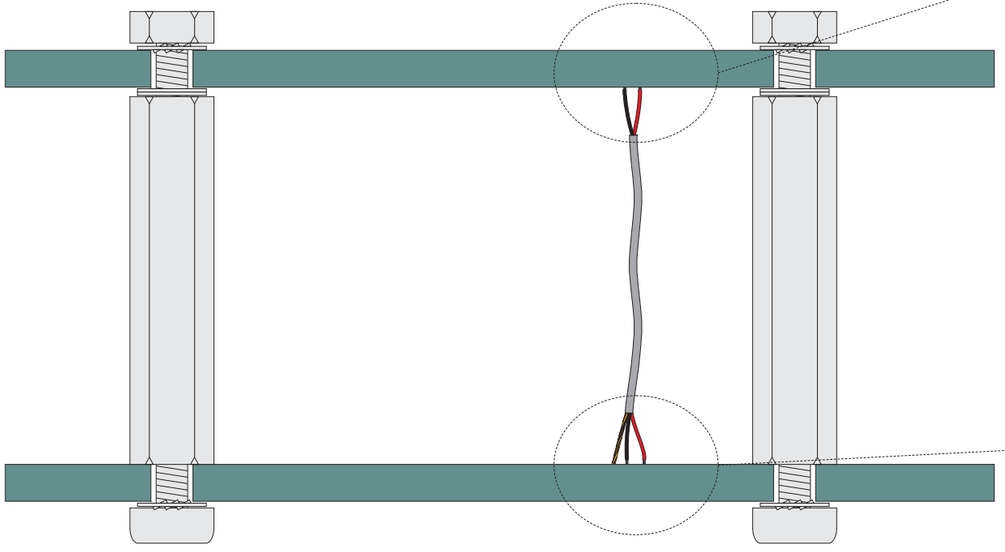
Faceplate Assembly Sequence:

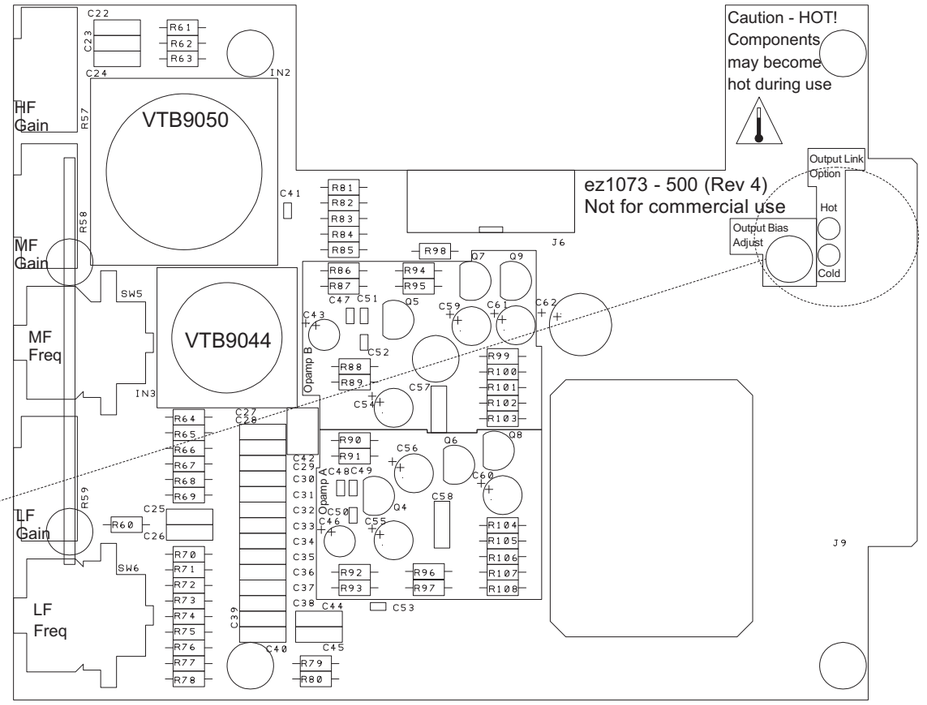
1] Drop LED into switch PCB (don't solder yet)
2] Put nuts onto rotary switches and pots... All the way down but do not tighten them against the shoulder
3] Put washers onto rotary switches and pots
4] Fit faceplate
5] Loosely fit ring nuts to stop faceplate falling off
6] Place a 2.5mm drill bit shank between the faceplate and PCB near to the mic gain switch
7] Tighten the ring nut for the mic gain switchso it "grips" the faceplate… Not too tight that you cannot remove the drill bit.
8] Do the same for the other 4 switches
9] "Unscrew" the nuts of the rotary switches so that they tighten up against the rear of the faceplate
10] Tighten the rotary switch ring nuts fully
11] Repeat 9&10 for the 3 pots
12] Push the LED through its faceplate hole so it is flush and solder it in place (cutting off excess legs).
13] Fit switch knobs (see test procedure for correct allignment of HF, MF, LF gain pot knobs).

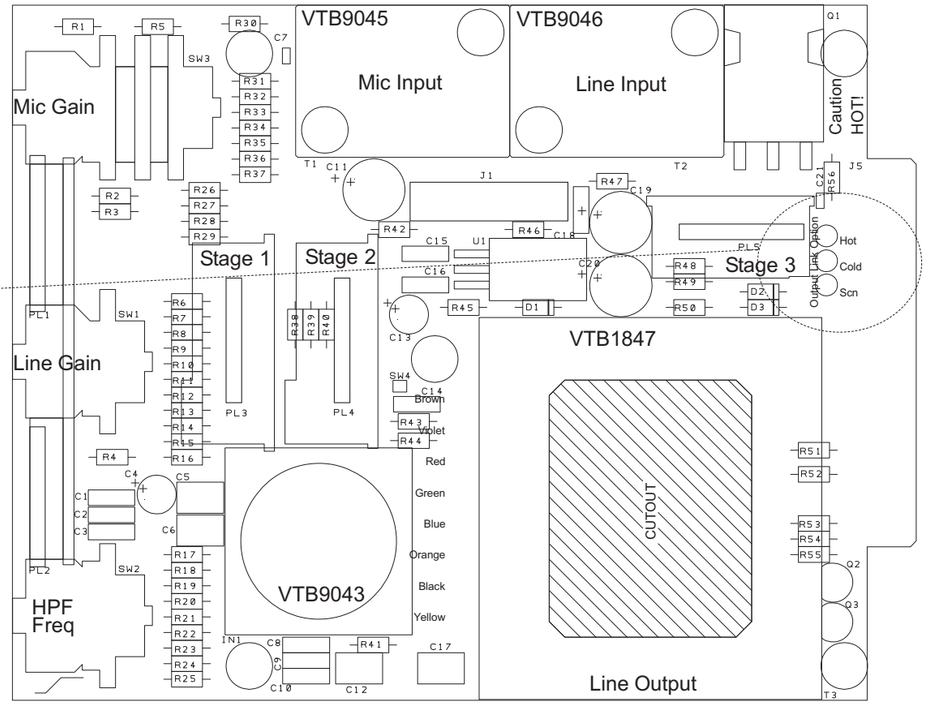
Optional link cable (to give parallel output on right hand male XLR)
[This is probably best fitted after the unit has been fully tested]

Output Signal Cable (1 required)









+48v (Pin 15)

48v

LoZ

SW9a

SW9b

R119 6.1K

R120 6.1K

Mic Input Hi

Mic Input Lo

SW7a

SW7b

Switch subcard

VTB9045

T1

C7 100pF

V Ref Negative*

Increasing Gain

SW3c

+10 +15 +20 +25 +30 +35 +40 +45 +50 +55 +60 +65

R37 4K3 R36 3K9 R35 3K3 R34 2K2

R29 510R R28 1K0 R27 1K8 R26 3K9 R33 12K R32 18K

R31 2K7 R30 2K7 R1 3K3 R5 3K9

SW3b

Increasing Gain

SW3a

R3 360R R2 130R

Gain Stage 1 (subcard)

V Stage 1 + 2

Gain Stage 1 Feedback

R28 15K

Gain Stage 1 Input

Gain Stage 1 Output

R113 33K R117 5K1 Q12 BC184C R114 47K C55 22UF/63v

C46 100pF Q11 BC184C C54 22UF/63v C78 22UF/63v R123 2K2

C44 10UF/50v Q10 BC184C C43 1nF C72 1nF R120 11K

C47 1nF R115 68K C48 100UF/25v R119 1K5 R124 10K C71 470uF/16v

R116 47K R118 470R R122 390R R121 1K8 R39 82R

C45 680pF

Gain Stage 1 Output

V Ref Negative*

Phase

SW11a

SW11b

Output Hi

Output Lo

Switch subcard

V Stage 3 +

Yellow Blue Orange Green Red Black Brown Violet

R44 1K5 R43 620R C14 10n

T3

SW4

Chass Gnd

Q1 TIP35SS

Heatsink

Output Stage (subcard)

C98 100UF/25v C99 220pF Q17 BC184C C83 100UF/25v C84 100UF/25v

C85 10UF/50v R138 2K2 Q16 BC184C C86 47pF R147 47R C87 330pF

R141 56K R145 47R R142 39K11

R143 1K5 - OMIT R144 1K2 R140 10K R139 33K

C89 100UF/25v-OMIT

R49 5K1

R45 39K

C13 22UF/63v

R12 2K7

SW10a SW10b

Switch subcard

EQ In

Gain Stages PCB | "EQ" PCB

EQ Send (to EQ input)

EQ Return (form EQ output)

Gain Stage 2 Boost

R48 10K

Mic/Line

SW8a SW8b

R11 220R

Switch subcard

Gain Stage 2 (subcard)

Gain Stage 2 Input

R125 33K R129 5K1 Q15 BC184C R126 47K C75 22UF/63v

C76 100pF Q14 BC184C C79 22UF/63v C80 22UF/63v

C74 10UF/50v Q13 BC184C C73 680pF R138 470R R135 2K2 C82 1nF

C77 1nF R127 68K C81 47UF/16v R132 51K

R124 10K R136 10K R134 390R R123 1K8

C78 100UF/25v R131 1K5

R133 2K2

V Ref Negative*

VTB9046

Line Input Hi

Line Input Lo

T2

C18 2n2F R7 2K2

V Ref Negative*

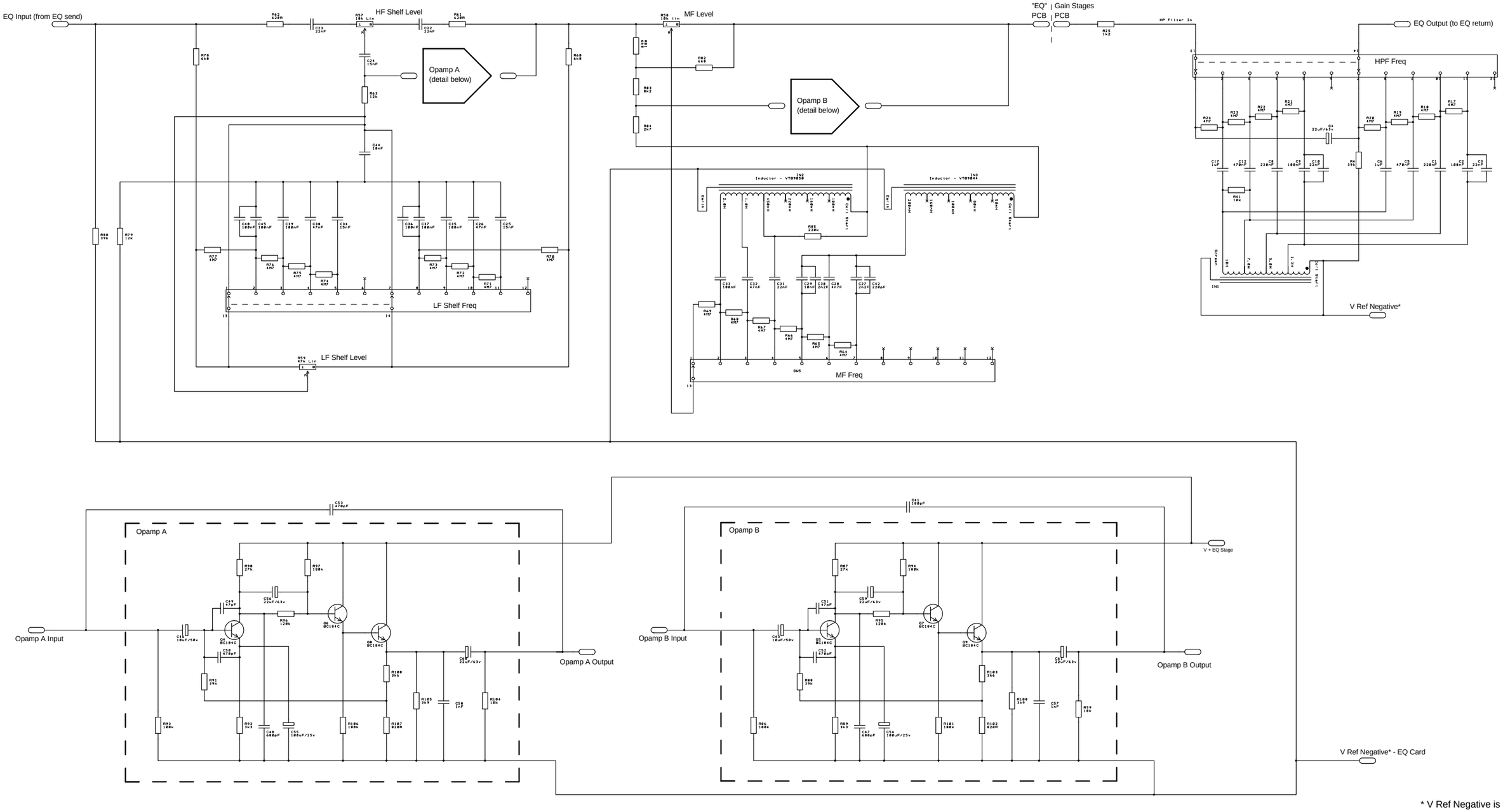
R4 24R R7 24R R8 24R R9 24R R10 24R R11 24R R12 24R R13 24R R14 24R R15 24R R16 24R

+20 +16 +12 +8 +4 0dB -4 -8 -12 -16 -20

Increasing Gain (Decreasing pad)

* V Ref Negative is at -16volts

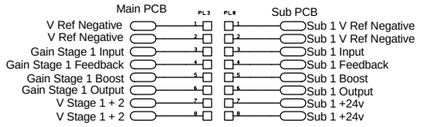
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Number	ez1073 - 500 (Rev 4)
Rev	
Date	30th Mar 2011
Drawn by	
File	
Sheet	1 of 3



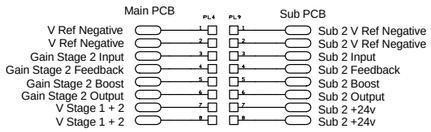
* V Ref Negative is at -16volts

Title	Prodigy ez1073 - 500 (EQ Stage)
Number	ez1073 - 500 (Rev 4)
Rev	
Date	30th Mar 2011
Drawn by	
File	
Sheet	2 of 3

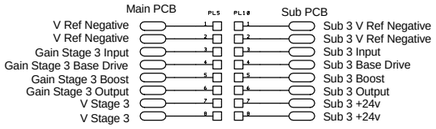
Gain Stage 1 Sub PCB Connections



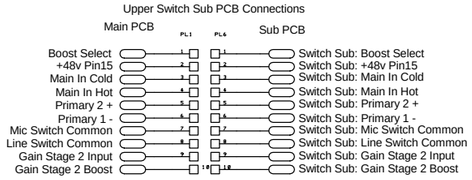
Gain Stage 2 Sub PCB Connections



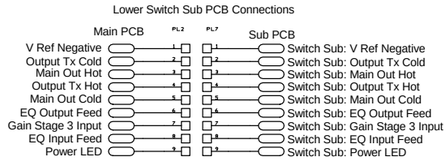
Gain Stage 3 Sub PCB Connections



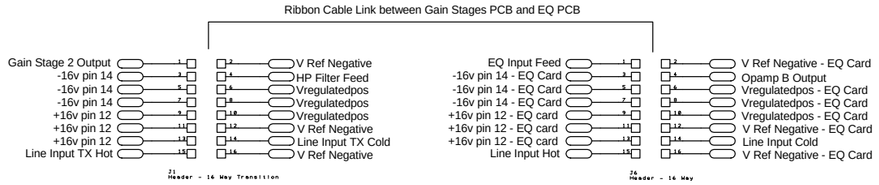
Upper Switch Sub PCB Connections



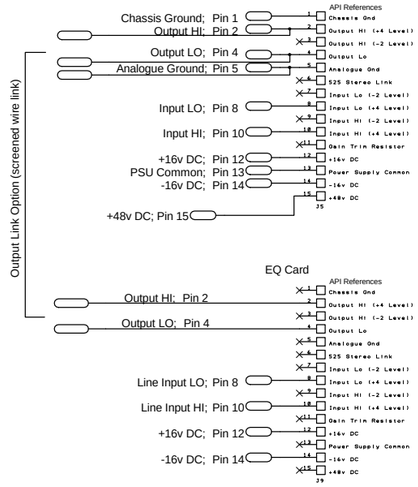
Lower Switch Sub PCB Connections



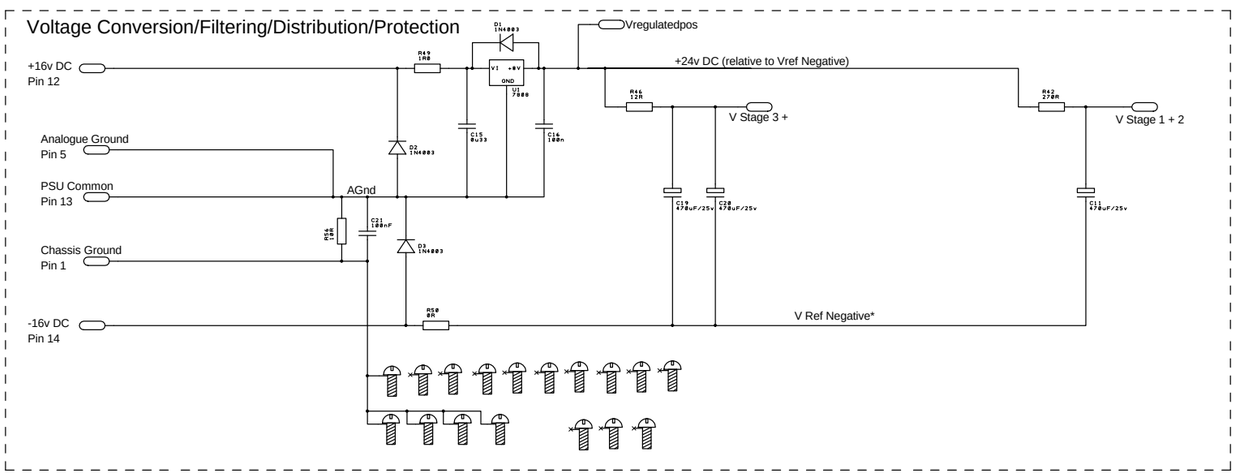
Ribbon Cable Link between Gain Stages PCB and EQ PCB



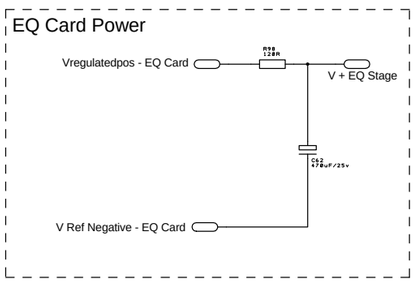
Mic/Line Card



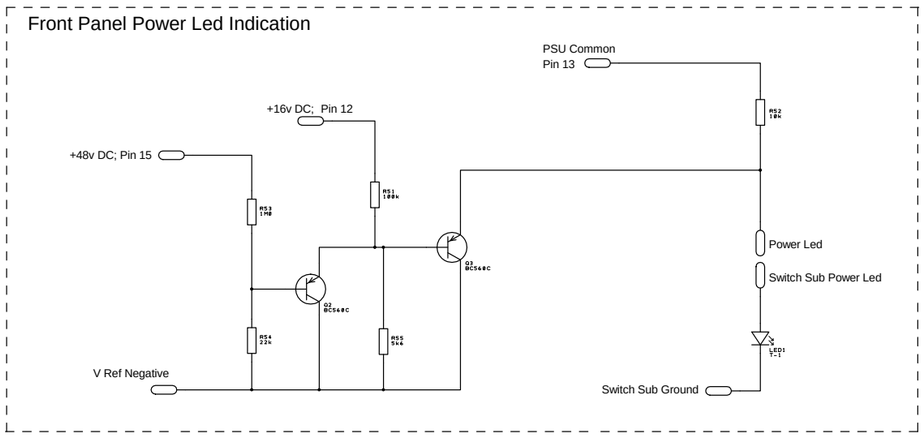
Voltage Conversion/Filtering/Distribution/Protection



EQ Card Power

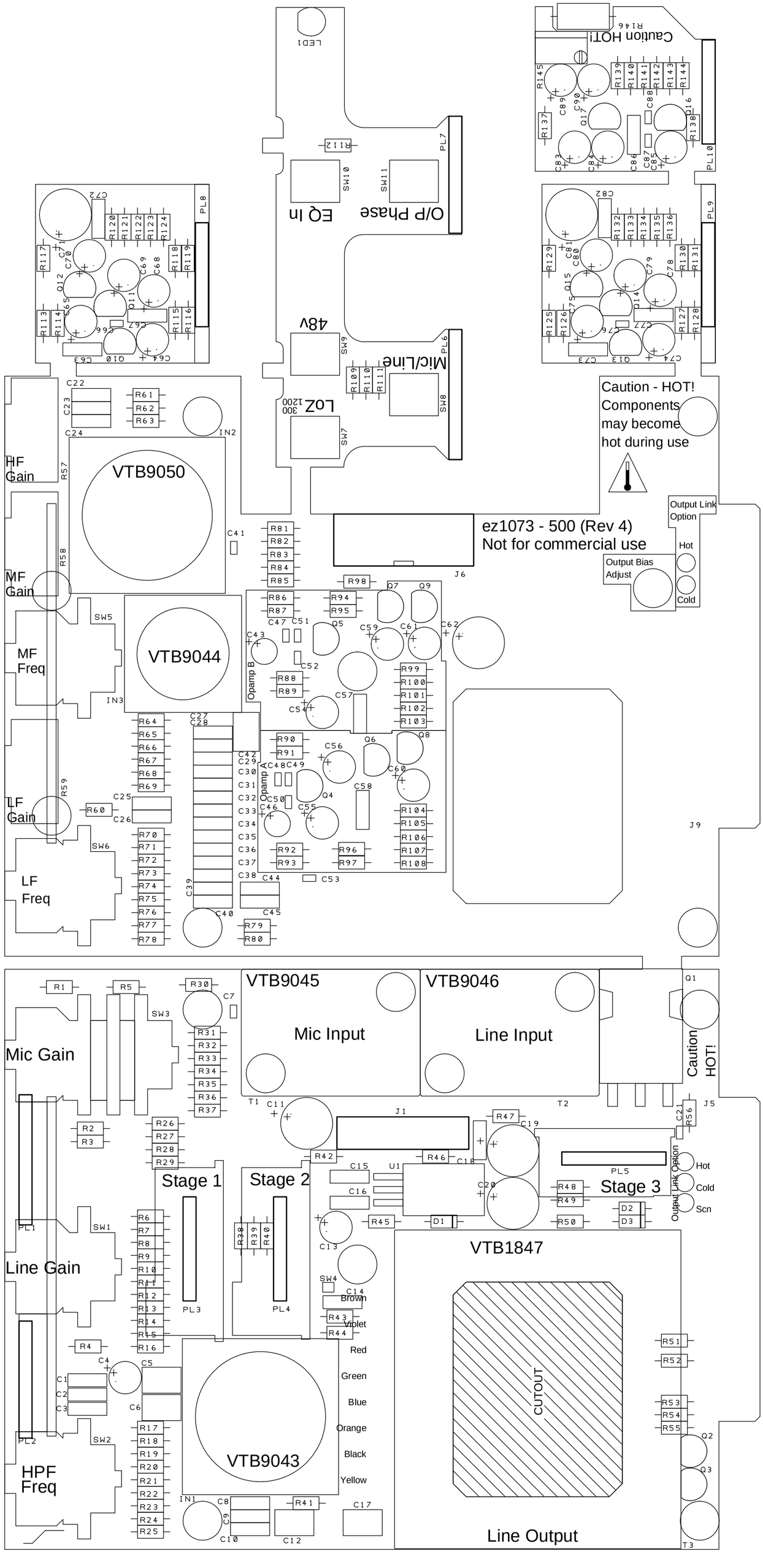


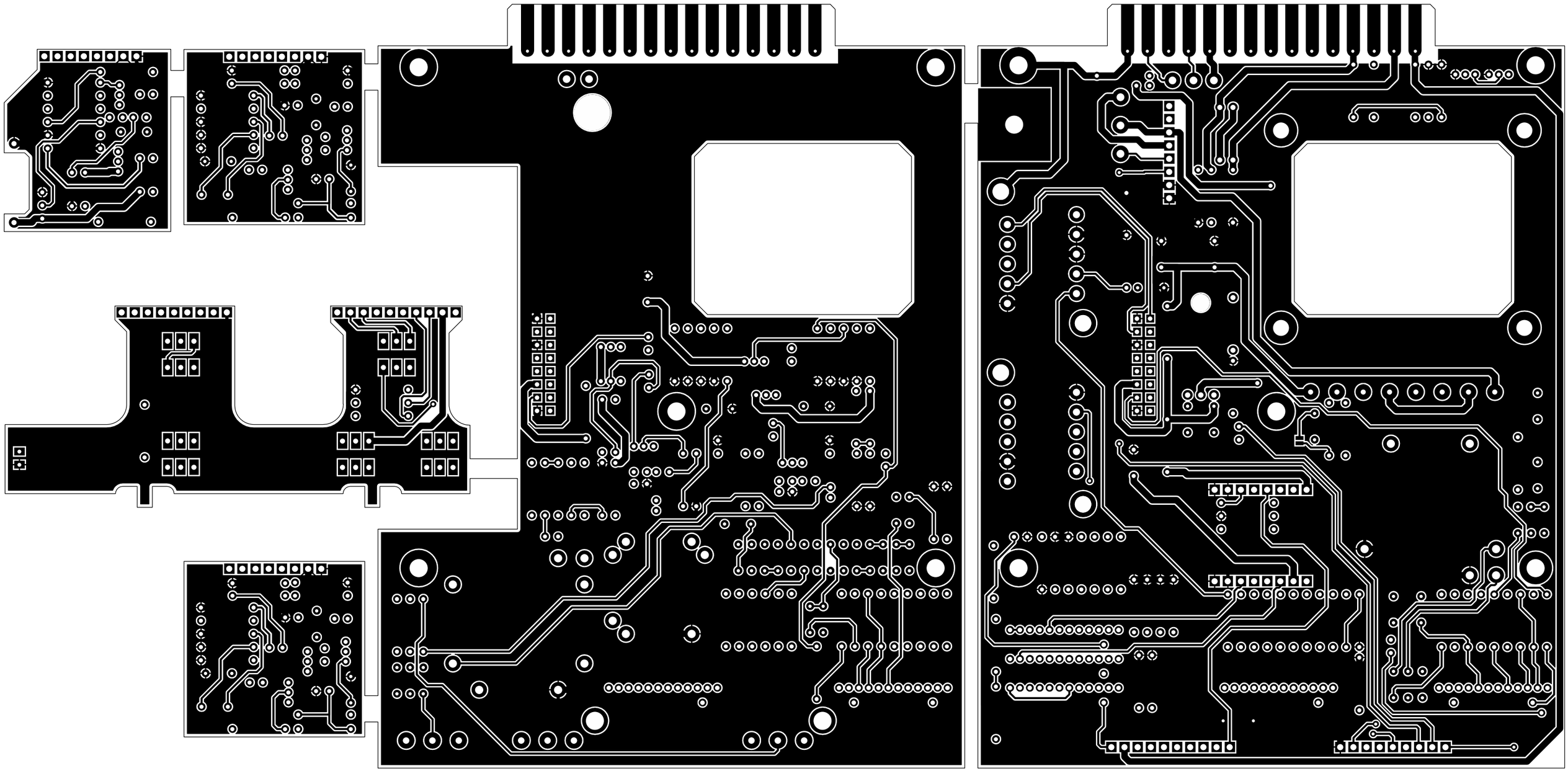
Front Panel Power Led Indication

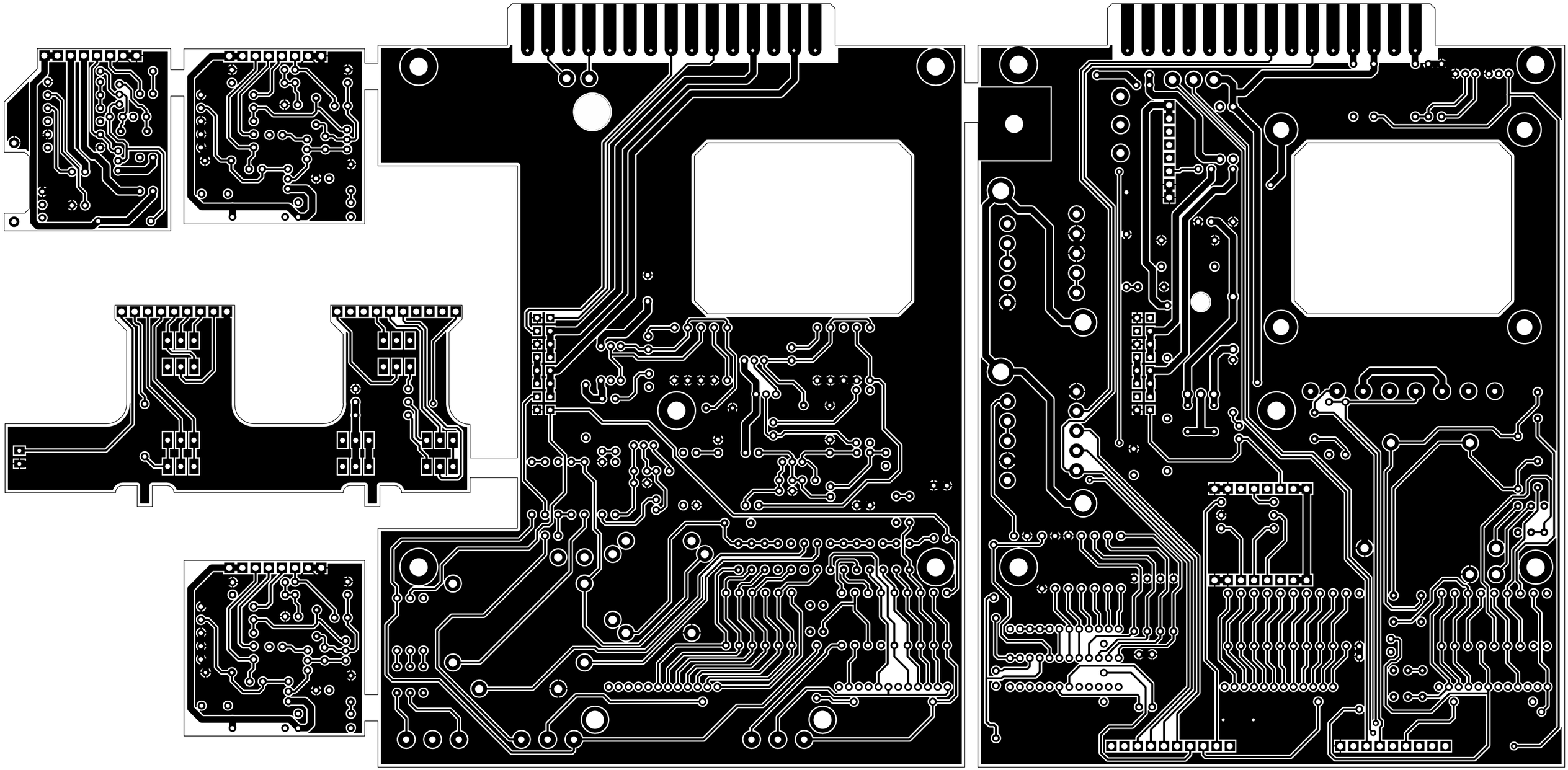


* V Ref Negative is at -16volts

Title: Prodigy ez1073 - 500(PSU)	
Number: ez1073 - 500 (Rev 4)	Rev
Date: 30th Mar 2011	Drawn by
File	Sheet: 3 of 3


LED1
R112
SW10
SW11
PL7
EQ In
O/P Phase
48v
SW9
SW8
PL6
Mic/Line
LOZ
300
1200
SW7
PL8
PL9
PL10
Caution HOT!
R146
Caution - HOT!
Components
may become
hot during use
Output Link
Option
Hot
Cold
Output Bias
Adjust
ez1073 - 500 (Rev 4)
Not for commercial use
J6
VTB9050
HF
Gain
MF
Gain
MF
Freq
LF
Gain
LF
Freq
VTB9044
SW5
SW6
IN2
IN3
Opamp B
Opamp A
J9
VTB9045
Mic Input
VTB9046
Line Input
Caution
HOT!
Mic Gain
Line Gain
HPF
Freq
VTB9043
Stage 1
Stage 2
Stage 3
VTB1847
CUTOUT
Line Output
Brown
Violet
Red
Green
Blue
Orange
Black
Yellow
Hot
Cold
Scn
Output Link Option
PL1
PL2
PL3
PL4
PL5
T1
T2
T3
J1
J5
Q1
Q2
Q3
IN1
U1
SW1
SW2
SW3
SW4

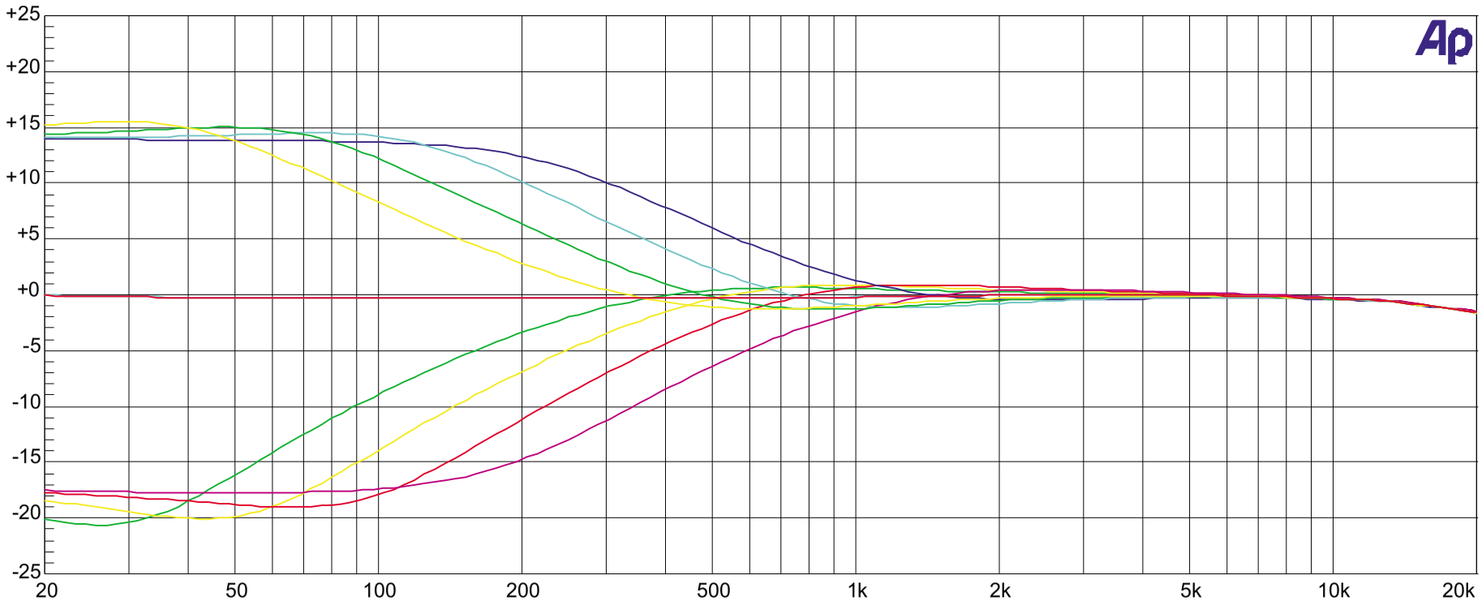




Test Procedure

Much of this is unnecessarily pedantic....
You can just fit the EQ gain knobs “by eye”.... And simply set the “Bias Current” adjustment trimmer to draw a supply current of 110mA per rail
(or by measuring the voltage across the 1 Ohm resistor R49 [110mV])

1] Ideally power up the module on a jig from a current limiting bench power supply (+/- 16v) and check that the current settles to about 70mA per rail
2] Trim “Bias Current” adjustment trimmer to increase the current from 70mA to about 110mA (will be adjusted accurately later).
This can be done either by direct measurement of the current taken from the bench power supply or by measuring the voltage across the 1 Ohm resistor R49
3] Fit unit into lunchbox (with space to its right hand side as you will re-adjust the bias trimmer later)
4] Put a 0dBu 1000Hz signal into the line input (right hand XLR of its lunchbox slots) and measure the output (left hand XLR of its lunchbox slots)
5] Select “line” (mic/line switch), EQ out, 48v off, +phase.
6] Check that output changes from -20dBu to +20 dBu as line gain switch is turned through its range (4dB steps) ..... Set it to 0dBu (centre).
7] Change signal input frequency to 3000hz.
8] Switch EQ in, set HPF, LF, MF to “off”.... You should get 3000hz output at about -8dBu if HF put is fully counterclockwise.
9] Adjust HF pot (turn the shaft) until output is 0dBu..... Then fit the knob on its shaft with the pointer at the “0” position....
10] Change signal input frequency to 3200hz.
11] Adjust MF frequency switch to 3.2k.....You should get 3200hz output at about -18dBu if MF put is fully counterclockwise.
12] Adjust MF pot (turn the shaft) until output is 0dBu..... Then fit the knob on its shaft with the pointer at the “0” position....
13] Adjust MF frequency switch back to “off”
14] Change signal input frequency to 110hz.
15] Adjust LF frequency switch to 110Hz.....You should get 110hz output at about -18dBu if LF put is fully counterclockwise.
16] Adjust LF pot (turn the shaft) until output is 0dBu..... Then fit the knob on its shaft with the pointer at the “0” position....
17] Switch the EQ to “Out”
18] Change signal input frequency to 20hz.
19] Measure the THD+N (probably about 0.5%) .... Adjust the “Bias Current” adjustment trimmer clockwise until the distortion begins to increase
20] Adjust the “Bias Current” adjustment trimmer back (counter clockwise) one full turn.
21] Put a -10dBu 1000Hz signal into the mic input (left hand XLR of its lunchbox slots) and measure the output (left hand XLR of its lunchbox slots)
22] Select “mic” (mic/line switch), EQ out, 48v off, +phase..... Mic gain switch fully counter-clockwise
23] Check the output measures 0dBu
24] Decrease the signal input level by 5dBu and turn the mic gain switch one “click” clockwise
25] Check the output measures 0dBu
26] Repeat for all mic gain switch positions.
27] Toggle the 300/1200 switch to the 300 position, the output should increase to approx. +3.5dBu
28] Toggle the phase switch to the “-” phase position.... The output phase should invert.
29] Disconnect the input XLR
30] Toggle the 48v switch to the “on” position
31] Measure the voltage between pin 2 and pin 1 of the XLR input (it should be 48v)
32] Measure the voltage between pin 3 and pin 1 of the XLR input (it should be 48v)
32] Toggle the 48v switch to the “off” position... The voltage on pin 2 & 3 should decay to zero.
33] Put a 0dBu 1000Hz signal into the line input (right hand XLR of its lunchbox slots) and measure the output (left hand XLR of its lunchbox slots)
34] Select “line” (mic/line switch), EQ in, 48v off, +phase.
35] Plot the frequency response for all EQ frequency ranges and gain min/max settings and check against graphs.


+25
+20
+15
+10
+5
+0
-5
-10
-15
-20
-25
20
50
100
200
500
1k
2k
5k
10k
20k

+25
+20
+15
+10
+5
+0
-5
-10
-15
-20
-25
20
50
100
200
500
1k
2k
5k
10k
20k
Hz
+25
+20
+15
+10
+5
+0
-5
-10
-15
-20
-25
20
50
100
200
500
1k
2k
5k
10k
20k
Hz
+5
+0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
20
50
100
200
500
1k
2k
5k
10k
20k