

Technical Service Bulletin no. 14

THIS BULLETIN REPLACES BULLETIN No 8, 9 and 10

Created by: Lab.gruppen AB Service Department

Date: 101219

Reference no: C:X

Affected models

Following models are affected by this technical service bulletin:

C5:4X

C10:4X

C10:8X

C20:8X

Affected boards/modules

AICO4B06a-F01

AICO4B06a-F02

AICO4B06b-F01

AICO4B06b-F02

AICO4B07a-F01

AICO4B07a-F02

AICO4B07b-F01

AICO4B07b-F02

AICO4B07c-F01

AICO4B07c-F02

AICO4BEXT06a-F01

AICO4BEXT06a-F02

AICO4BEXT07a-F01

AICO4BEXT07a-F02

AICO4BEXT07b-F01

AICO4BEXT07b-F02

AICO4BEXT07c-F01

AICO4BEXT07c-F02

A104D-P34001-C

A104D-P34001-D

SP20F

Symptom

Fault on one or more channels. MUTE and VHF (indicating fault).

Solution

Components shall be exchanged on some positions and some additional components shall be added. See below for instruction how to perform the modifications on the different boards.

Note

SMD components can be purchased by the service centre. Just make sure it is the exact same brand, model and type as described in the instruction below.

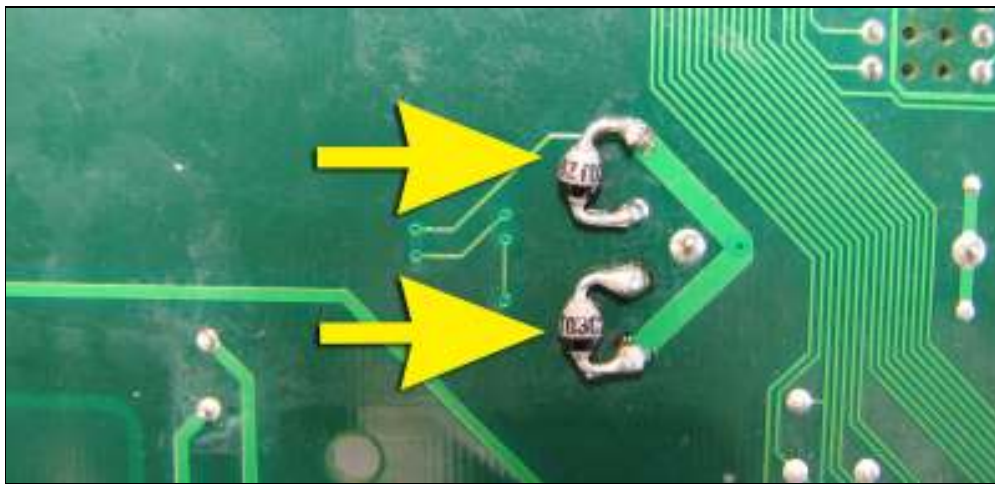
Please note that there is different instruction on how to modify the A104-board depending on if it is revision C or D on the board.

When doing service on a C:X Series the modifications according to this service bulletin shall be made if not already done. When modifying a C:X Series amplifier according to this bulletin it shall be reported as an extra component repair according to service agreement. This means that the fee for repairing will be twice the sum in the agreement.

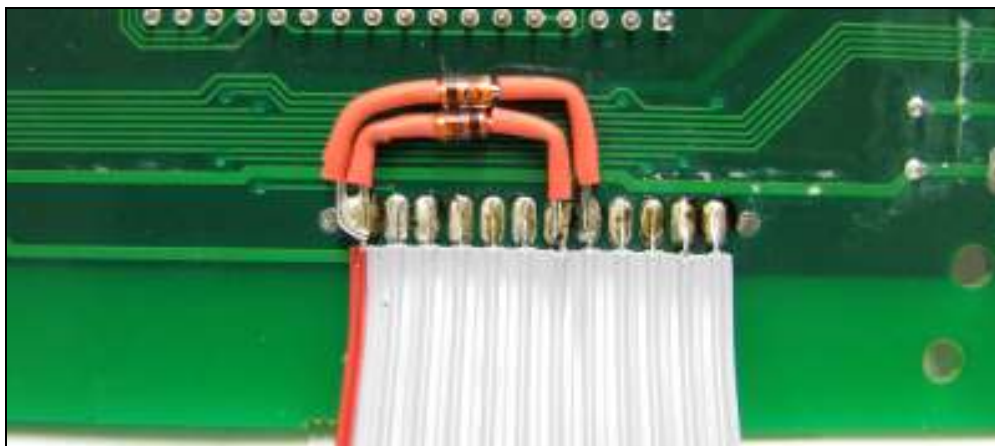
Instruction for AICO4B modification

Part No.	Description	Amount	Info	Pos
20V3.25W5%	Diode Zener 20V 3.25W 5%. SOT57, Manufacture BZT03C20	2		D422, D423
15V1.3W5%	Diode Zener 15V 1.3W 5% Manufacture BZT03-C15	2		D424, D425

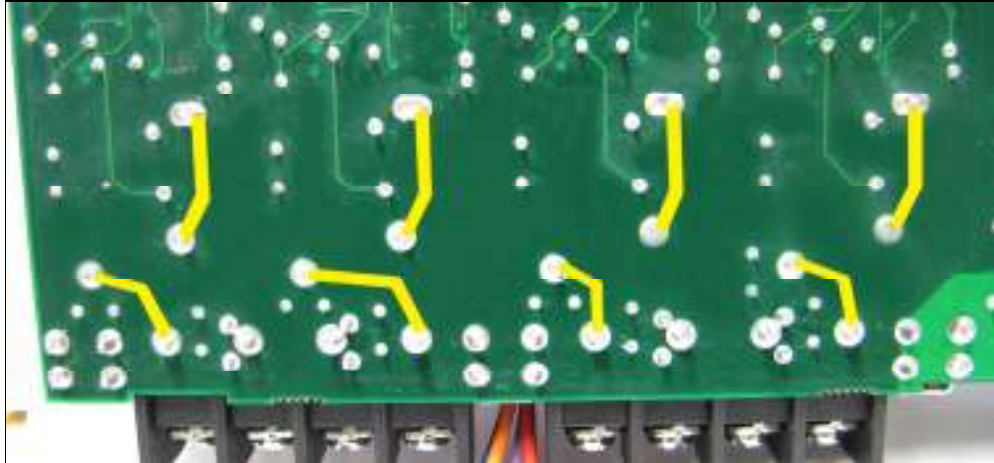
Added components: D422, D423, Diode Zener 20V 3.25W 5%.



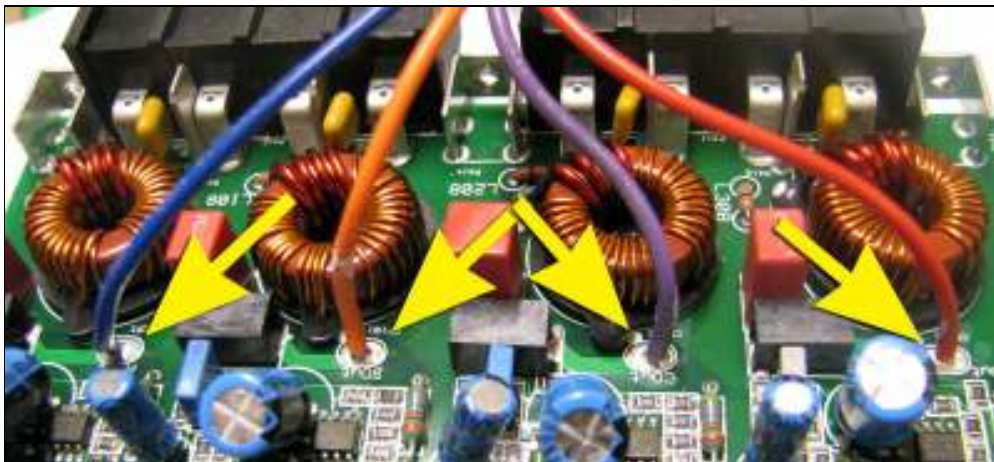
Added components, D424, D425: Diode Zener 15V 1.3W 5%.	Hose!
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Solder jumper 0,8mm outside diameter. See yellow lines. Make sure short circuit to other solder pads is avoided!



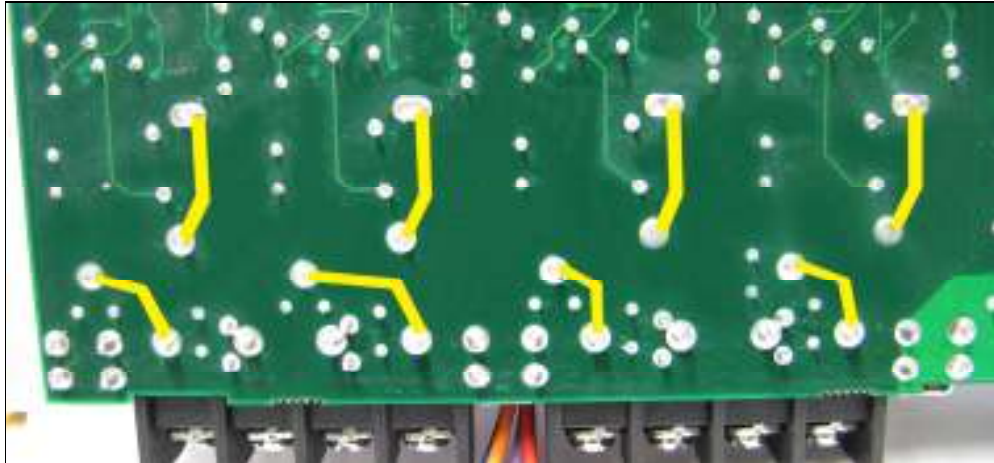
Check that cables are still soldered correctly. (It may from heat from soldering on opposite side come out of its position.)



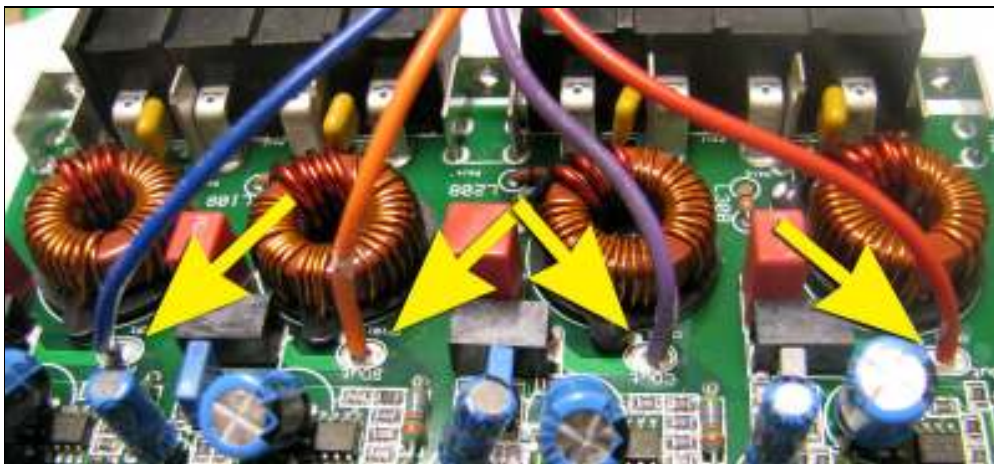
Instruction for AICO4B Ext modification

Part No.	Description	Amount	Info	Pos
R0.8	Resistor Jumper 0r D.8	8		

Solder jumper 0,8mm outside diameter. See yellow lines.



Check that cables are still soldered correctly. (It may from heat from soldering on opposite side come out of its position.)
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Instruction for A104D-P34001-C modification

(NOTE that this instruction is only valid for P34001-C)

110407 CL

Part No.	Description	Amount	Info	Pos
510K.125W 1%0805	Resistor 510K .125W 1% Surface Mounted 0805	4		
430K.125W 1%0603	Resistor 430K .125W 1% Surface Mounted 0603	4		R42, R45, R210, R213
100N250V MKP5%5	Capacitor Polypropylene 100n 250V Mkp 5% 5mm Manufacture 505-MKP20.1/250/5 Wima Polypropylene Film Capacitor	8		C200-201, C204-205, C215-216, C219-220
6p850VC0 G0805	Capacitor 6.8p 50V C0G Surface mounted 0805	8		C105, C110, C116, C117, C118, C119, C120 & C121
IRFB4233	Transistor Mos Power IRFB4233 Manufacture IRFB4233PB International Rectifier	8		Q09, Q10, Q11, Q12, Q27, Q38, Q67, Q68
OPA2227	Manufacture OPA2227UA TEXAS INSTRUMENTS	4	CAA CAB	IC9, IC10, IC13, IC22
SBN	Sticker BomName	1		

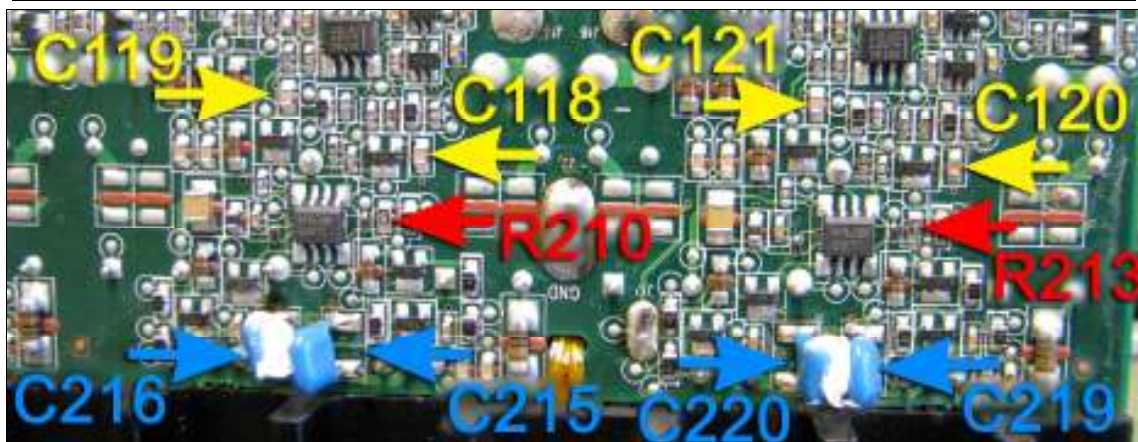
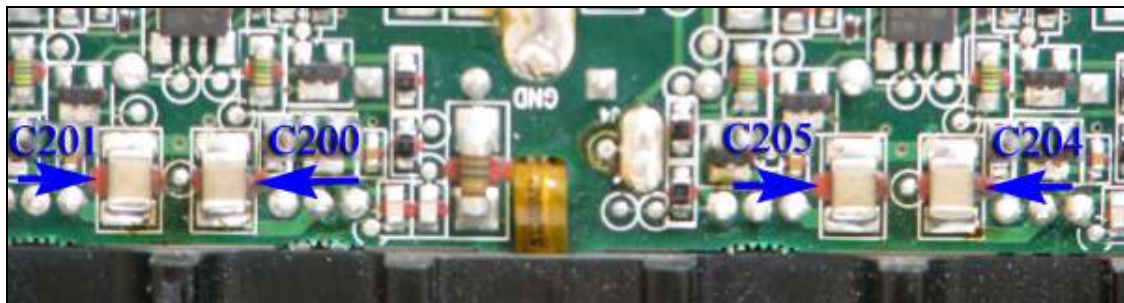
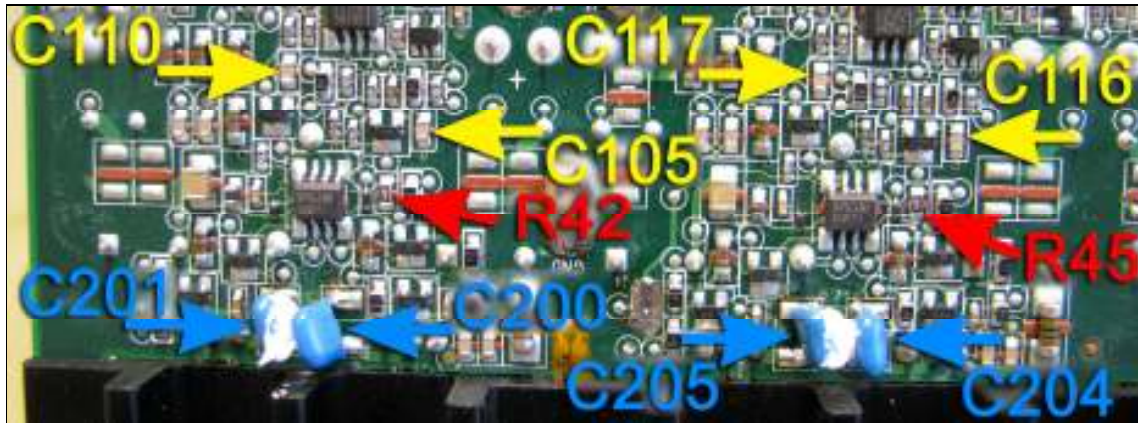
Instruction concerning P34001-C



Remove resistors R42, R45, R210 & R213.

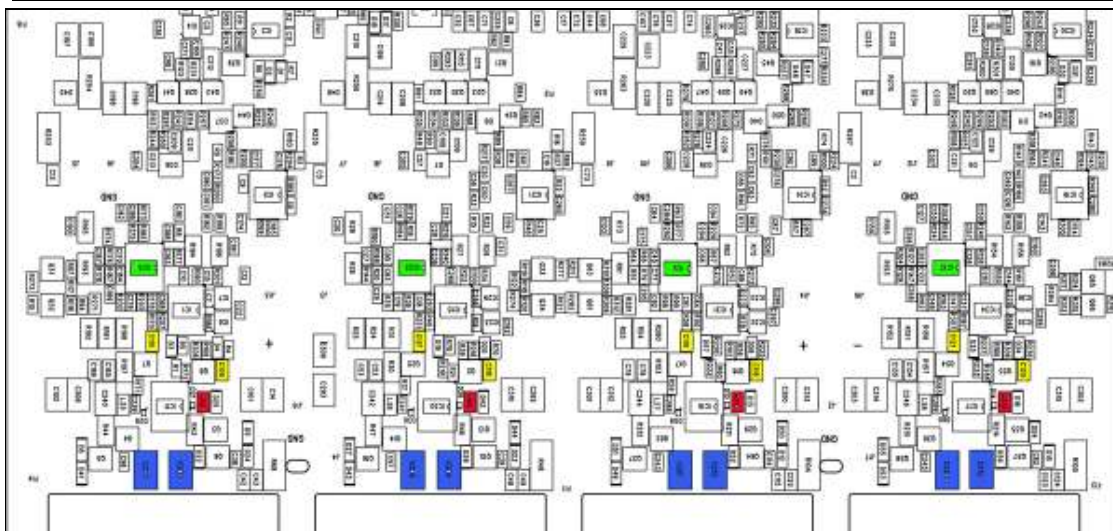
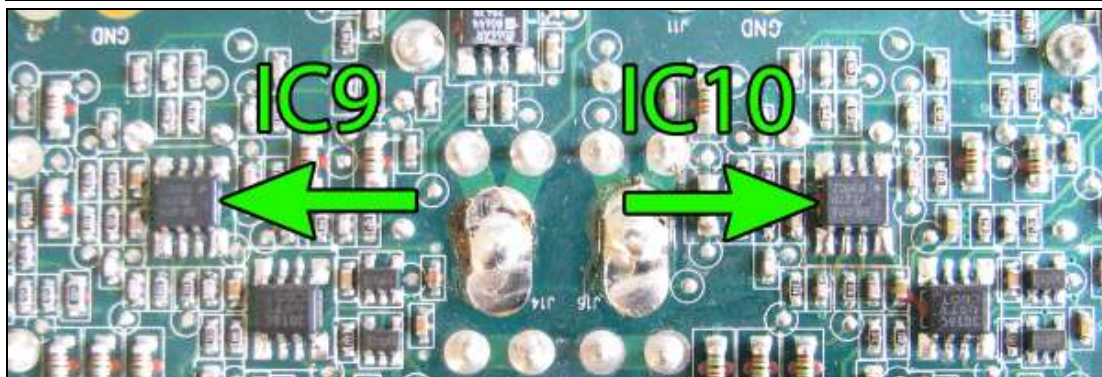
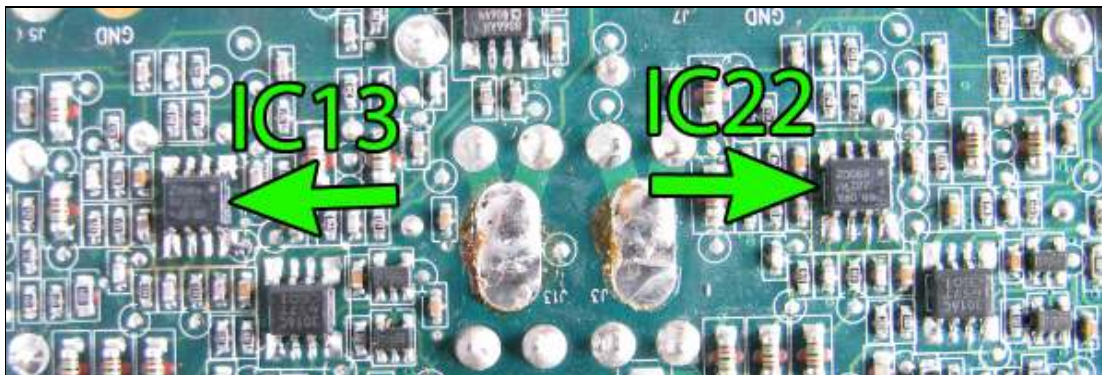
Remove capacitors (capacitors may vary) C200-201, C204-205, C215-216 & C219-220.

Remove capacitors C105, C110, C116, C117, C118, C119, C120 & C121

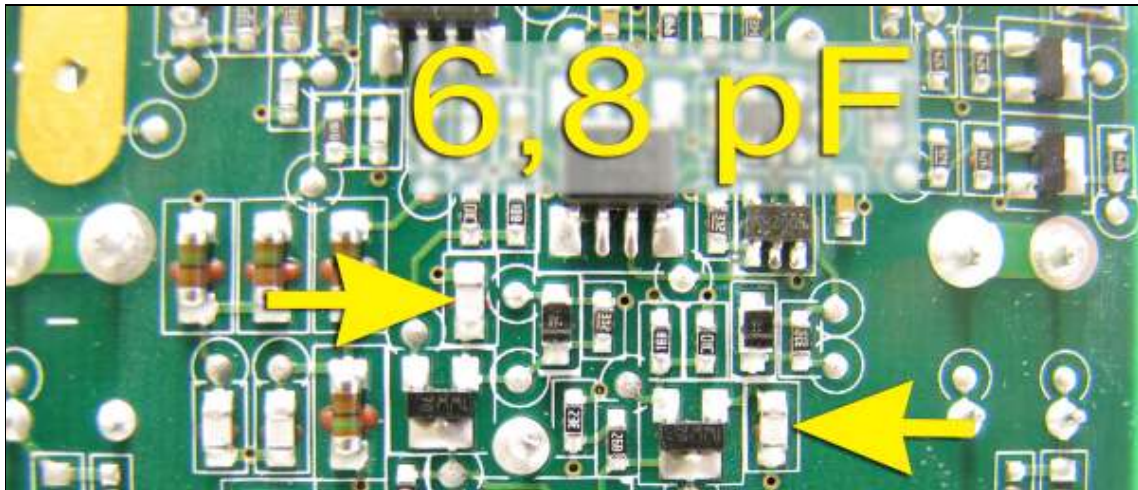


ONLY ON CAA & CAB

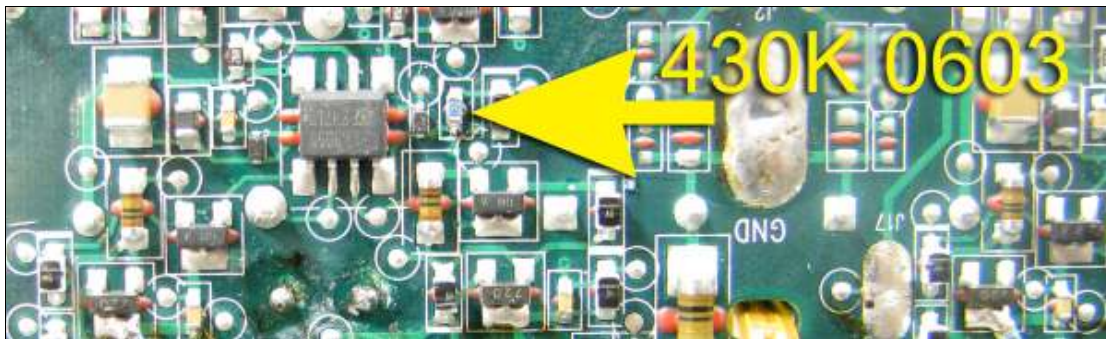
Remove OPamp IC9, IC10, IC13, IC22



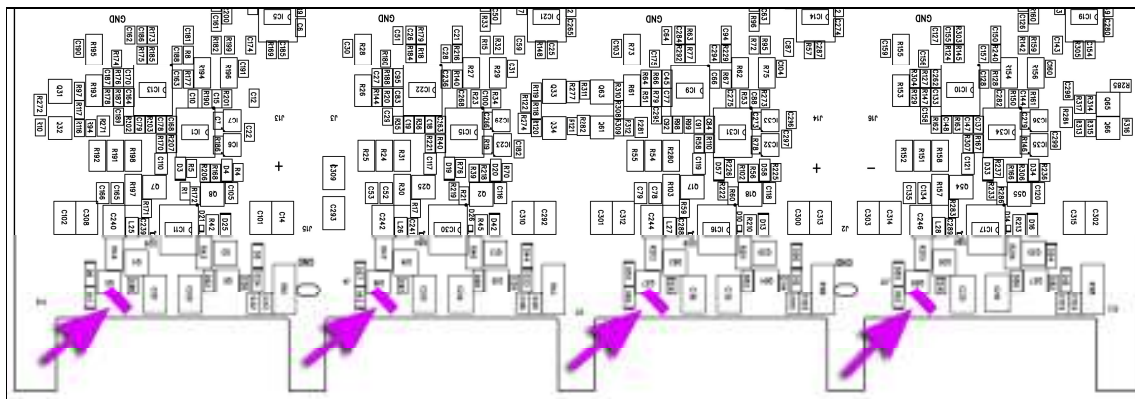
Mount & solder C105, C110, C116, C117, C118, C119, C120 & C121 with 6,8 pF.		
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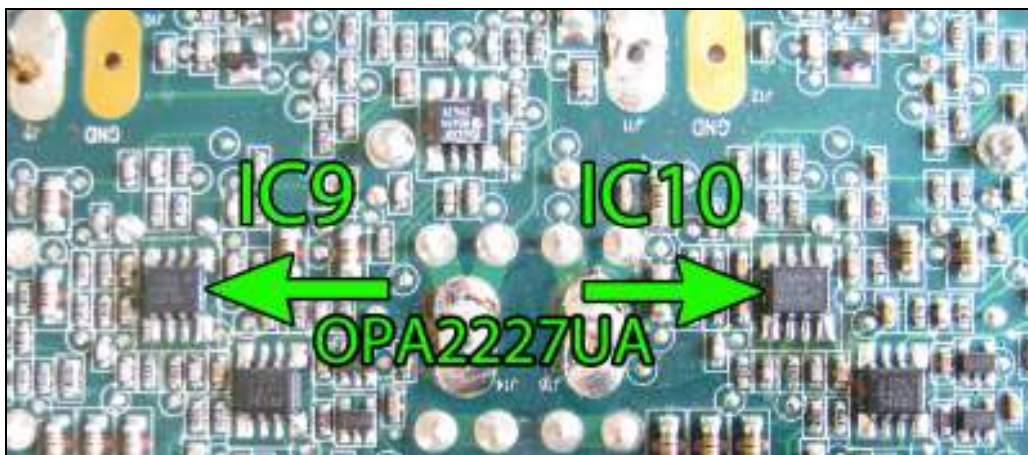
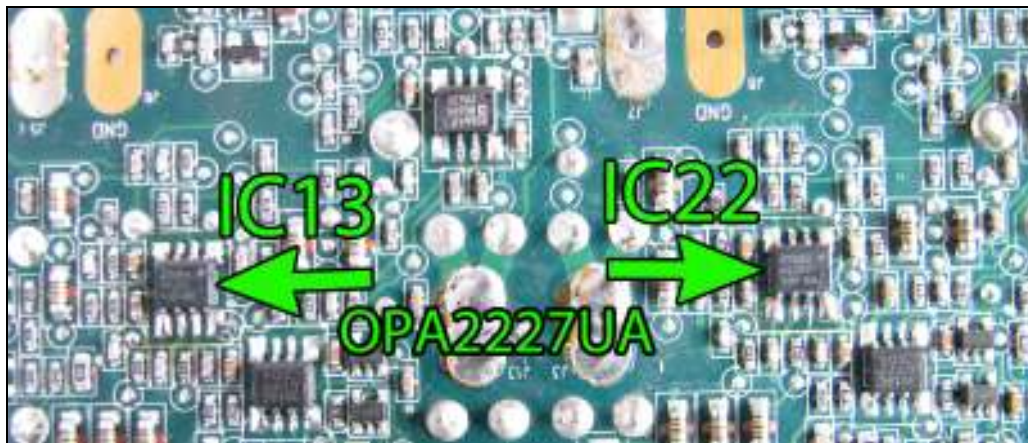
Mount & solder 430K 0603 R42, R45, R210 & R213 resistor according to picture.



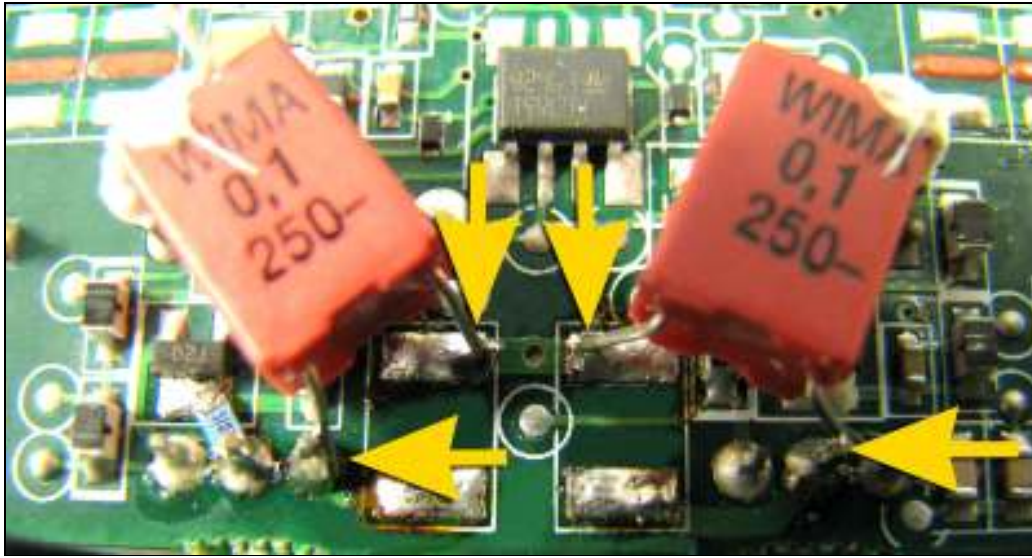
Mount & solder 510K 0805 resistors at all channels according to picture.



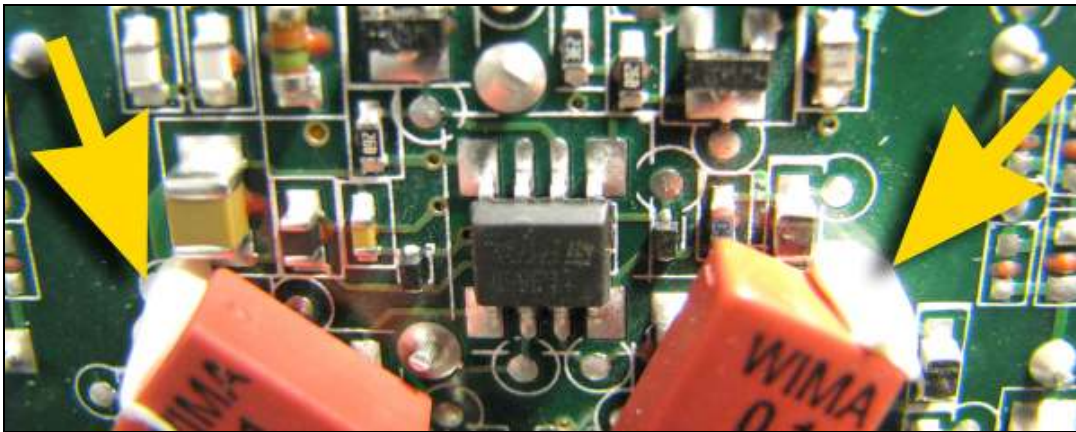
ONLY CAA & CAB Mount & solder OPamp IC9, IC10, IC13, IC22



Solder capacitors 100N250VMKP5%5 at all channels.



Apply Sikaflex according to picture.		
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Make sure that Capacitors & Sikaflex do not cover IC.		
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<p>Check so that IRFB4233 output transistor is mounted on position Q9, Q10, Q11, Q12, Q27, Q38, Q67, Q68. If not exchange to IRFB4233.</p>		
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<p>Mount Sticker BomName</p>	<p>A104D03h-F01</p>
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Instruction for A104D-P34001-D modification

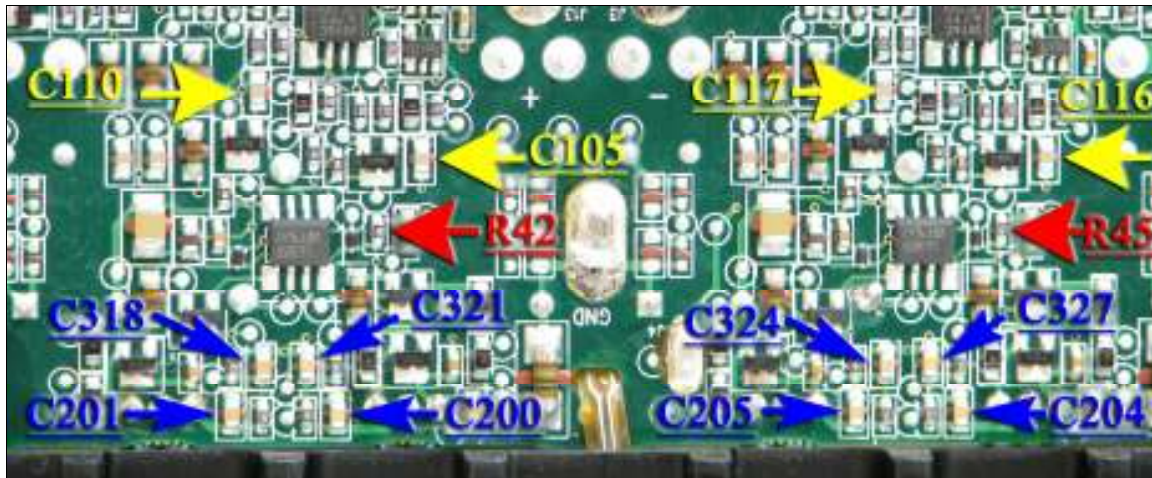
(NOTE that this instruction is only valid for P34001-D)

Part No.	Description	Amount	Info	Pos
510K.125W1 %0805	Resistor 510K .125W 1% Surface Mounted 0805	4		See instruction
430K.125W1 %0603	Resistor 430K .125W 1% Surface Mounted 0603	4		R42, R45, R210, R213
100N250VMK P5%5	Capacitor Polypropylene 100n 250V Mkp 5% 5mm Manufacture 505-MKP20.1/250/5 Wima Polypropylene Film Capacitor	8		C200-201, C204- 205, C215-216, C219-220
6p850VC0G08 05	Capacitor 6.8p 50V C0G Surface mounted 0805	8		C105, C110, C116, C117, C118, C119, C120 & C121

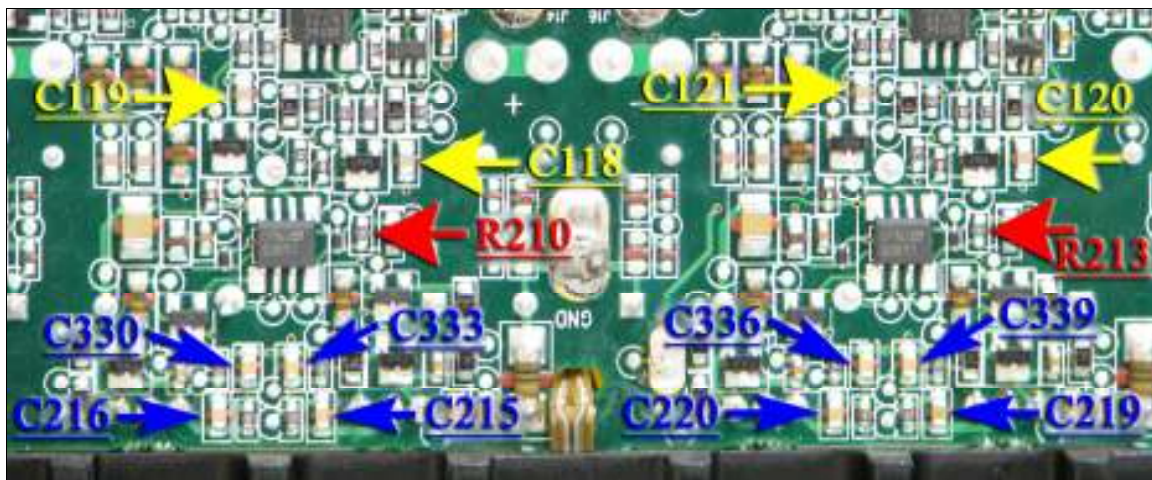
Instruction concerning P34001-D



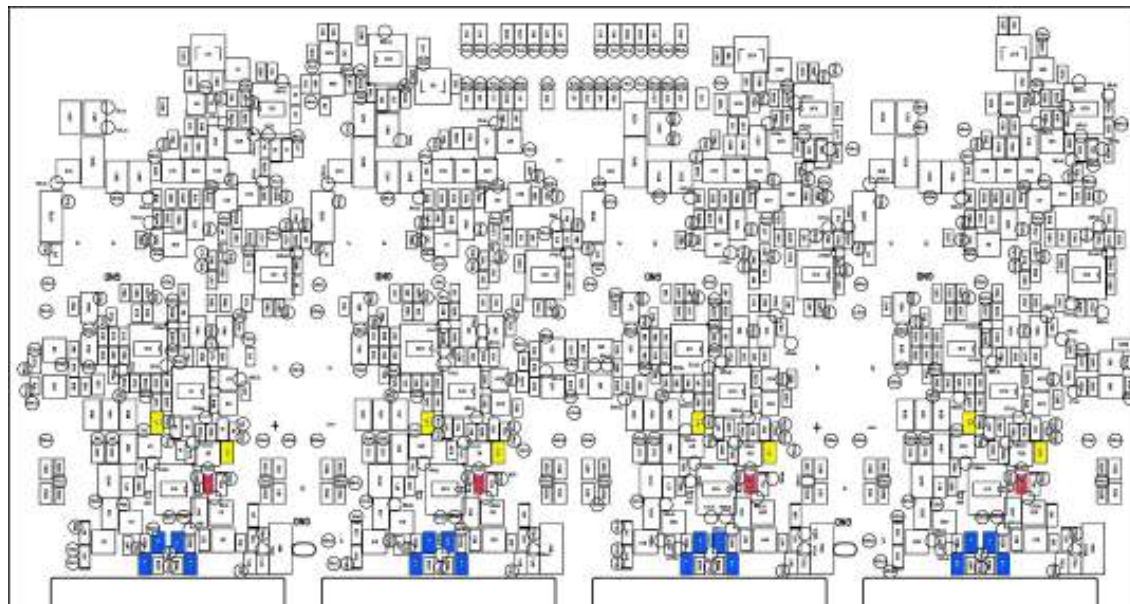
<p>Remove resistors R42, R45, R210 & R213.</p> <p>Remove capacitors (capacitors may vary) C219, C220, C336, C339 & C215, C216, C330, C333 C204, C205, C324, C327 & C200, C201, C318. C321</p> <p>Remove capacitors C105, C110, C116, C117, C118, C119, C120 & C121</p>
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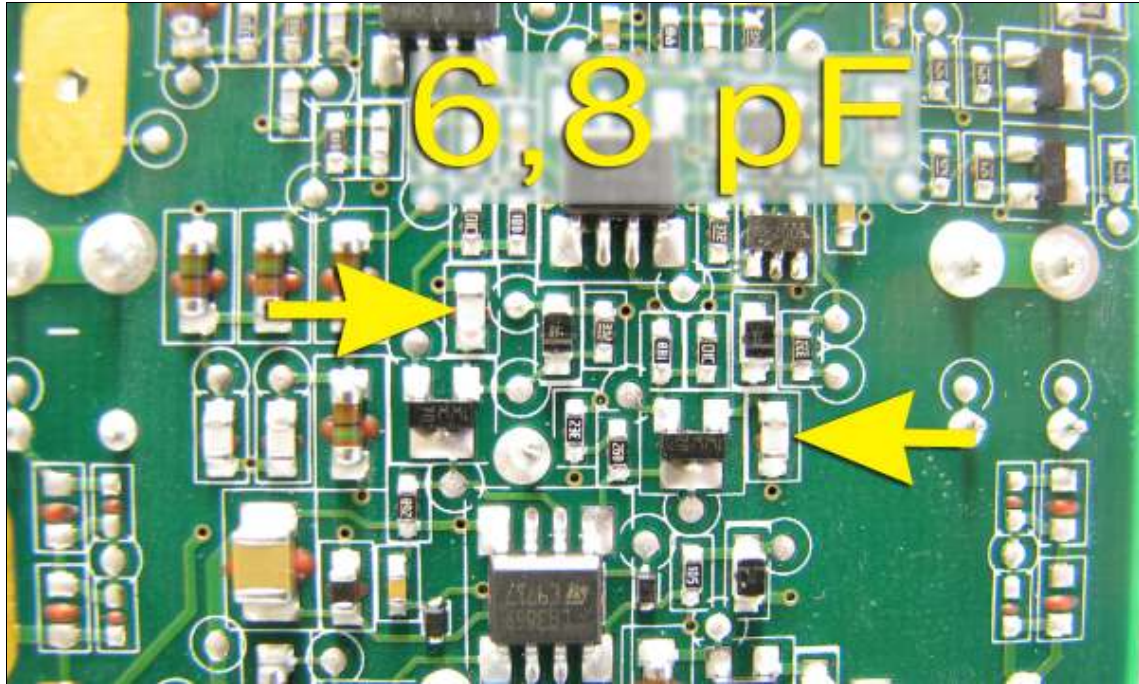
Type2



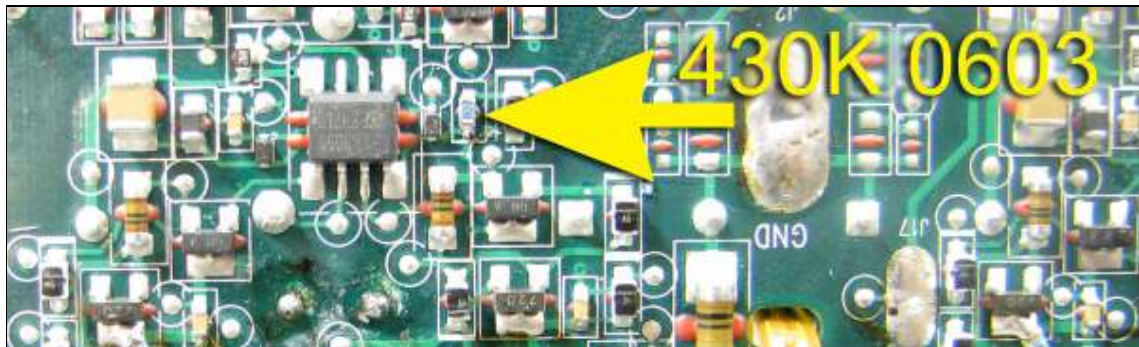
Type2



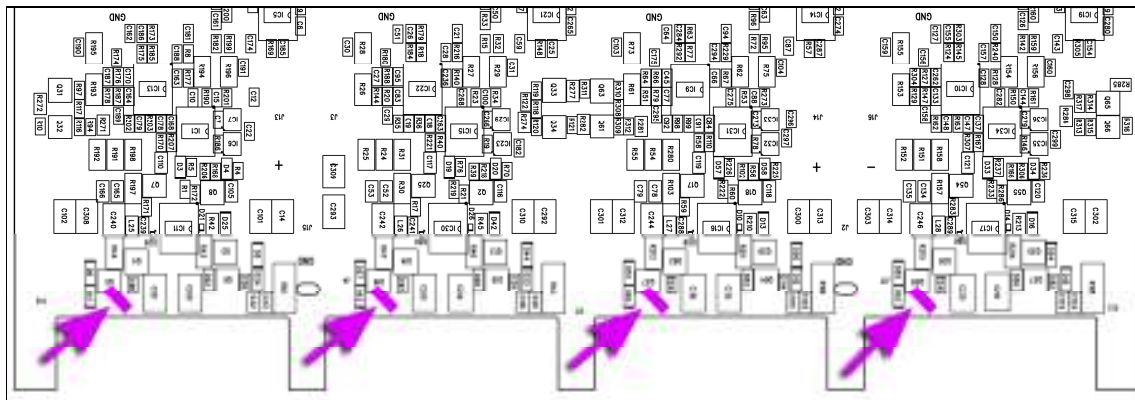
Solder C105, C110, C116, C117, C118, C119, C120 & C121 with 6,8 pF.		
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Mount & solder 430K 0603 R42, R45, R210 & R213 resistor according to picture.



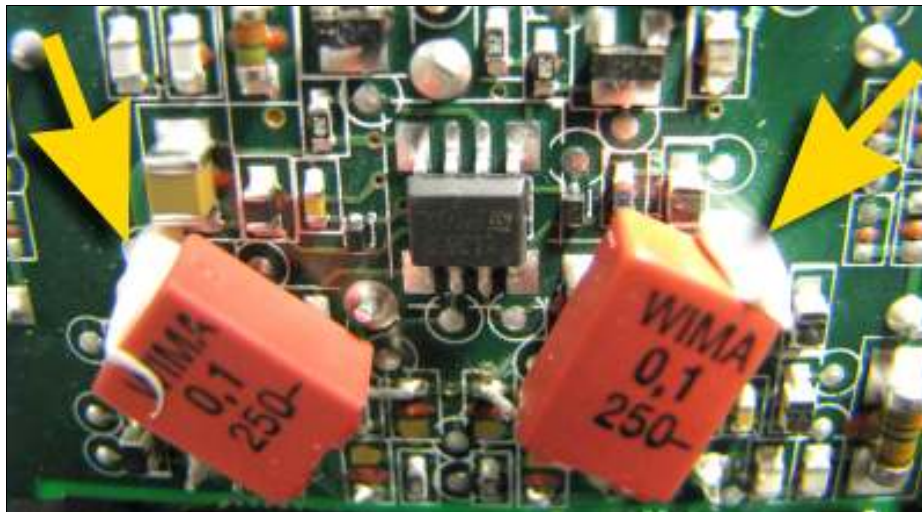
Mount & solder 510K 0805 resistors at all channels according to picture.



Solder capacitors 100N250VMKP5%5 at all channels.		
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Apply SikaFlex according to picture.		
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Do NOT cover IC with Capacitors & Sikaflex.		
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Mount Sticker BomName	A104D04h-F01
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Overview		
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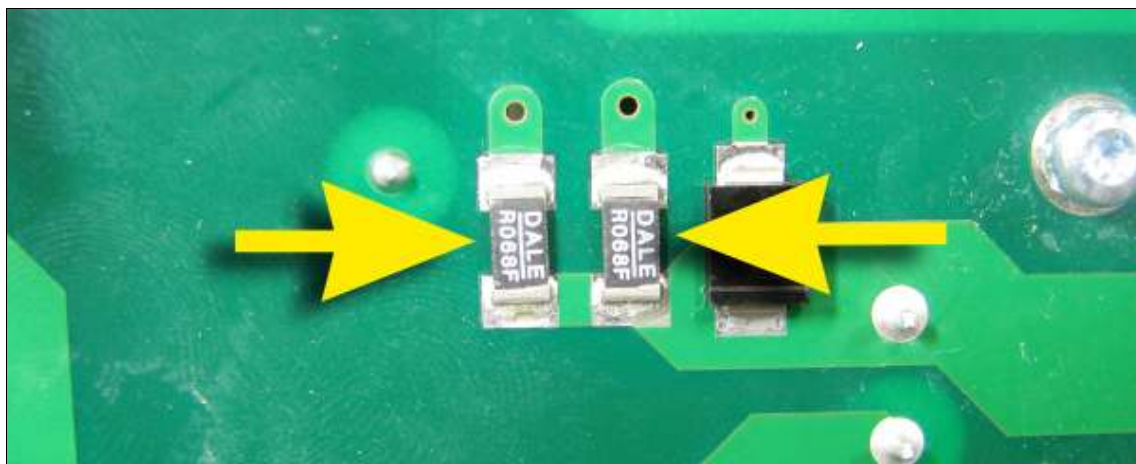


Instruction for SP20F modification

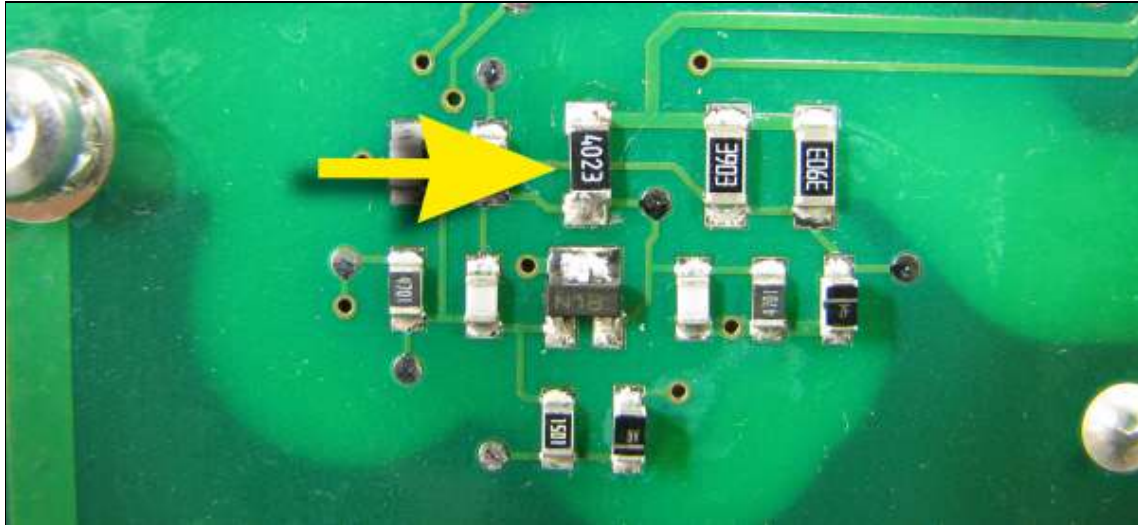
(NOTE this instruction is only valid up until SP20F08a-F01 (HAA))

Part No.	Description	Amount	Info	Pos
0R0681W1% 2512	Resistor Metal Strip 0.068R 1W 1% Surface mounted 2512 Manufacture WSL2512R0680FEA or WSL2512R0680FEB	2		R36, R43
402K.250W1 %1206	Resistor thick film 402K .250W 1% Surface Mounted 1206	1		R103
CT71x1.8	Cable Tie 71x1.8	2		
R0.8	Resistor Jumper 0r D.8	2	a´ 5 mm	R74, R75
3n3250VMK P5%7.5	Capacitor Polypropylene 3n3 250V Mkp 5% 7.5mm Manufacture: MKP10 3300PF 5% 250VDC	2		D29, D27
2N2250VMK P5%7.5	Capacitor Polypropylene 2n2 250V Mkp 5% 7.5mm Manufacture: MKP10 2200PF 5% 250VDC	2		D28, D30
AWG24WHI 300VVW1	Cable Awg24 White UI Style 1061 / 1429 Vw1	1	a´ 18 cm	
P34OVPA- ST01	P34 Over Voltage Protection A, Surfacemounted Top type 01	1		

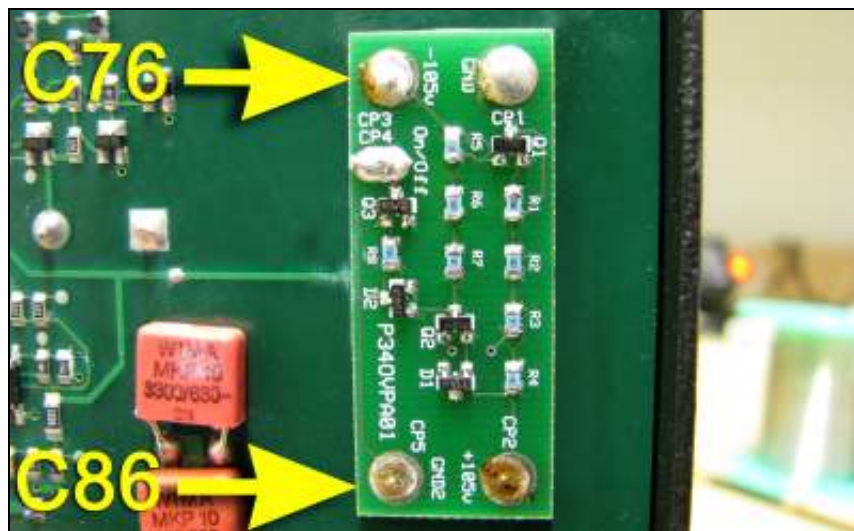
Replace resistor to 0R0681W1%2512. Vishay P/D number WSL2512R068FEA or WSL2512R068FEB	R36, R43
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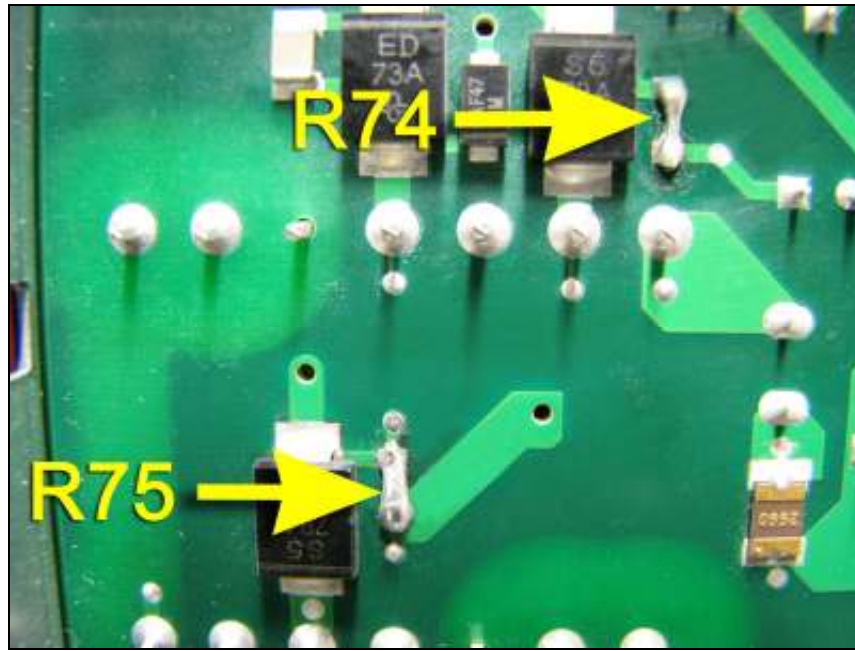
Replace resistor to 402K.250W1%1206	R103
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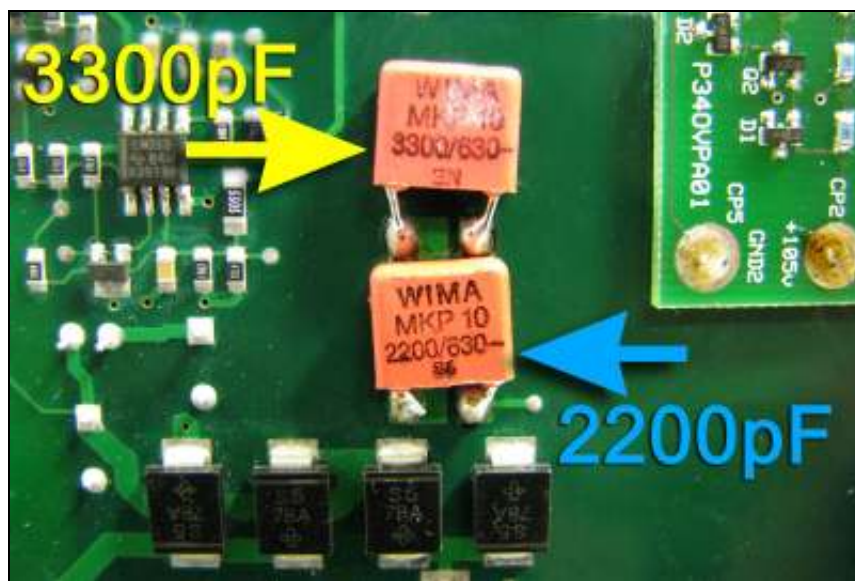
Mount pcb P34OVPA-ST01 at leg of capacitors C76 & C86. Solder pcb. Caution! Control soldering.	
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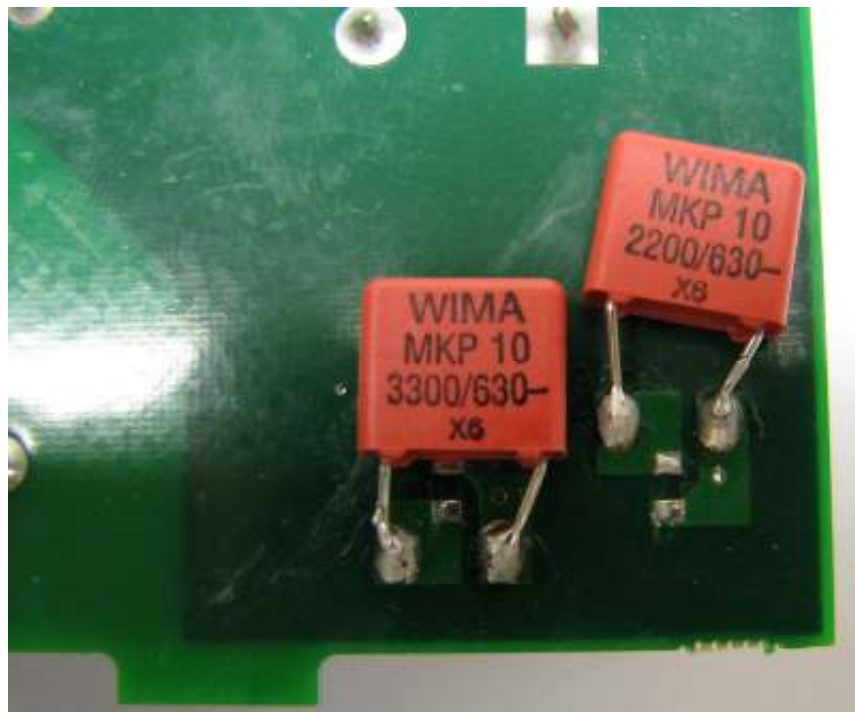
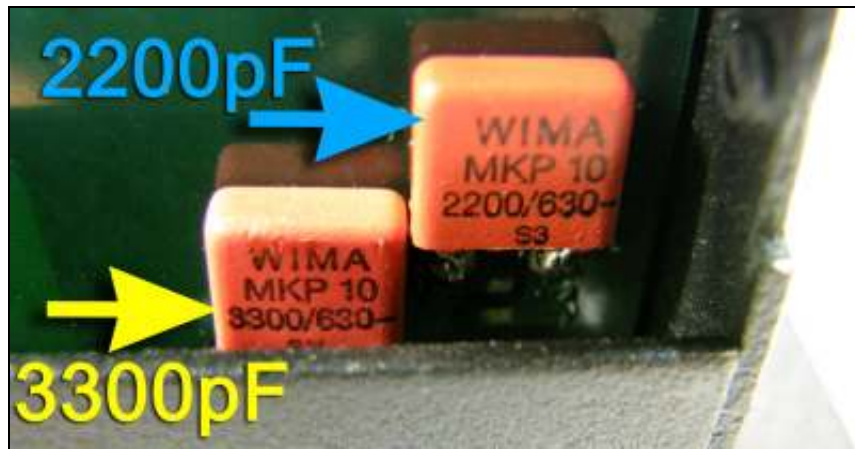
<p>Remove R74-75. Solder Resistor Jumper Or D.8 according to picture</p>		<p>R74-75</p>
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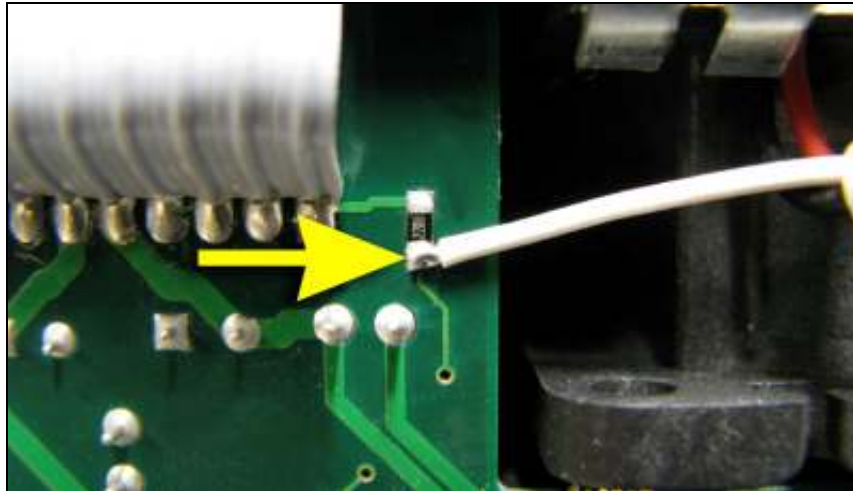
<p>Remove Surface Mounted capacitor. Solder new capacitor according to picture.</p>		<p>D29, D28</p>
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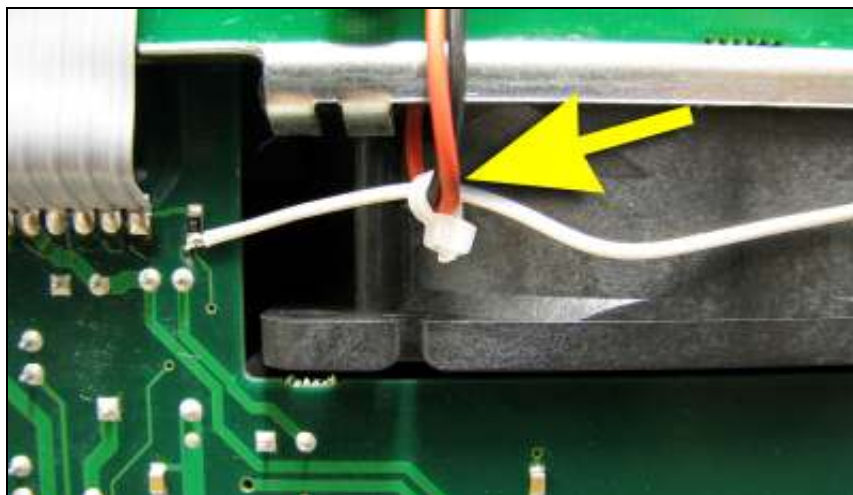
Remove Surface Mounted capacitor. Solder new capacitor according to picture	D27, D30
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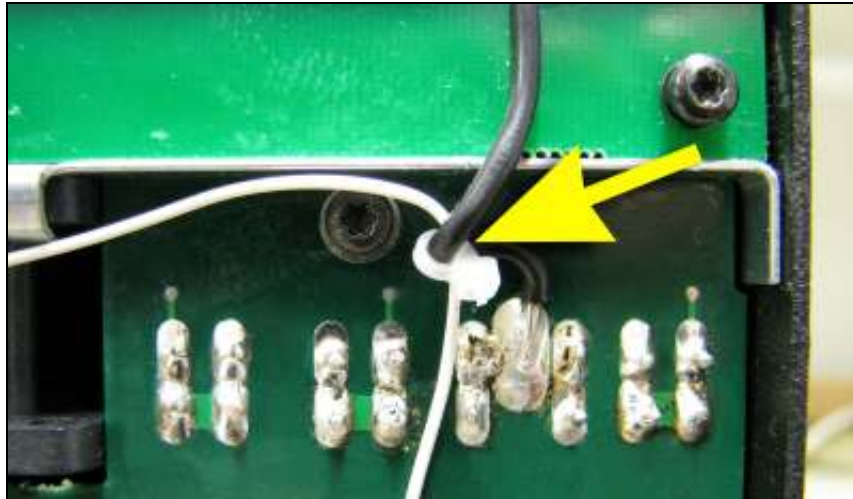
	<p>Solder Awg 24 cable at R51 according to picture. NOTE! (The cable has to be mounted on the marked side of the component)</p>		
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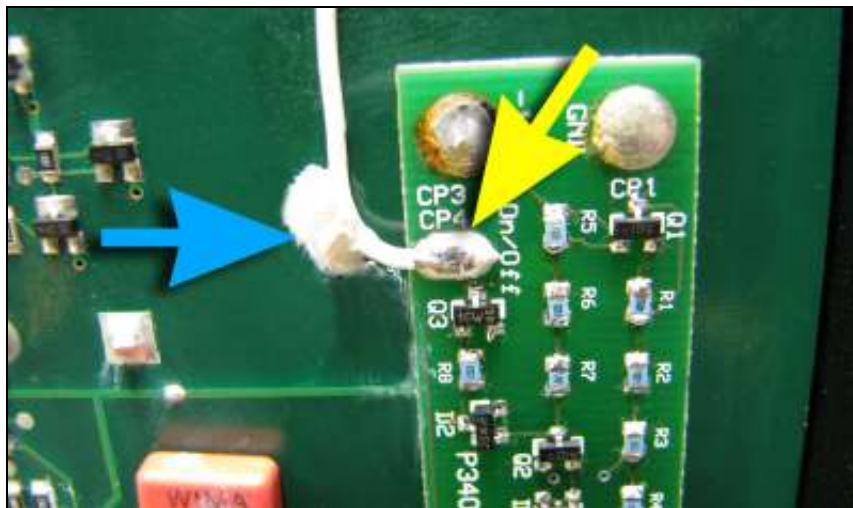
	<p>Place AWG 24 cable under Red & Black fan cables. Tie cables according to picture.</p>		
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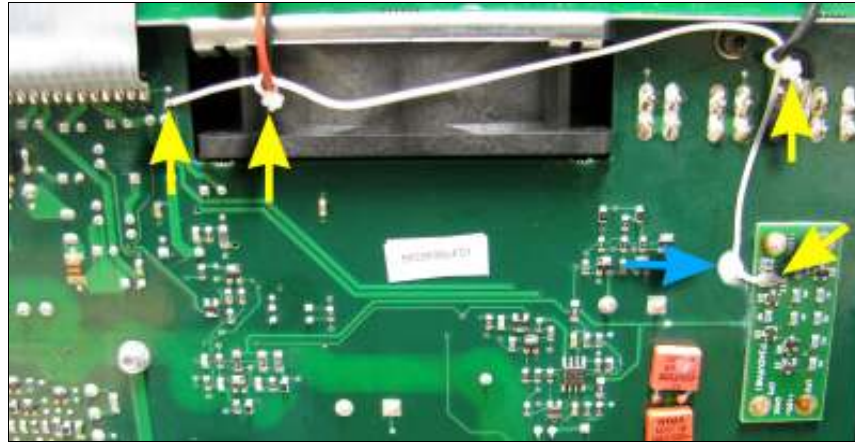
<p>Place AWG 24 cable under Black ground cable. Tie cables according to picture</p>		
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<p>Solder AWG 24 cable at CP4. Apply Sikaflex at AWG 24 cable (se blue arrow)</p>		
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Over view.		
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Part numbers

Model	115V part number	230V part number
All C:X Series	See instructions above	See instructions above

History

Date	Created By	Status	Bulletin no.	Comment
090123	JF	Old	10	Supersedes bulletin no 8 and 9.
090512	JF	Old	10	Update of following pages: 2 (22K removed), 5 and 11 (IRFB4233 information added).
101219	CL	SHARP	14	Correction of typing error. Supersedes bulletin no 8, 9 and 10.