

# Upgrade Instructions for LIF2010, LIF 2011 and LIF2012

## ***Who should upgrade***

Everybody that has a LIF201x board and wants to improve the performance of the LIF converter. LIF2012 PCBs that do not already have the components as per upgrade.

## ***What are the improvements***

- Better linearity of the spectrum and equalization of USB –LSB reception
- Better strong signal performance
- Improvement of the noise level and mixer noise

## ***What is needed***

All parts are easy to obtain from local electronic store.

Part	Current Val:	Amt	Chg to:	Description:	Change in:
U3	78L05	1	78L08	8V voltage regulator	All LIF PCBs
R5	120k or 220k		47k	¼ W carbon resistor	LIF2010 & 2011
C14	470pF	1	100nF	Monolithic capacitor	LIF2010 & 2011
C18	470pF		100nF	Monolithic capacitor	LIF2012
na	na	1	220nF	Monolithic capacitor	LIF2010 & 2011
na	na	1	2.2nF	Monolithic capacitor	LIF2010 & 2011
na	na	1	1k	¼ W carbon resistor	LIF2010 & 2011
na	na	2	47k	¼ W carbon resistor	LIF2010 & 2011

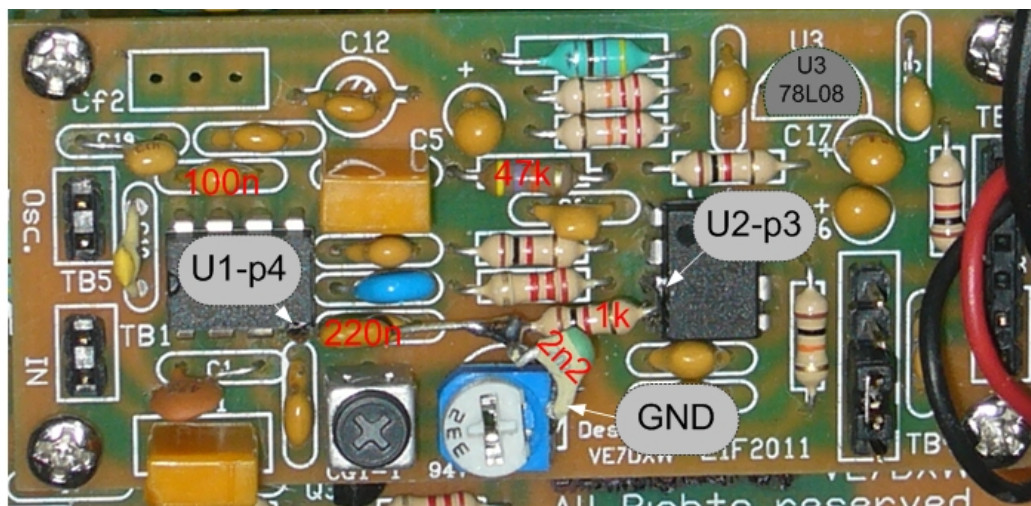
## ***LIF Board 2012 upgrade***

- Remove C18 and replace with 100nF monolithic or ceramic capacitor
- Remove U3 and replace with 78L08 voltage regulator

## ***LIF Board 2010 and 2011 upgrade***

- Remove C14 and replace with 100nF monolithic or ceramic capacitor
- Remove U3 with 78L08 voltage regulator
- Remove R5 and replace with 47k resistor
- Cut trace to isolate U2 pin3 with a exactor knife (solder side – as per pic)
- Solder 47k resistor between pin3 and pin5 of U2 (solder side – as per pic)
- Solder 220nF capacitor to U1 pin4 (component side – as per pic)
- Solder 2.2nF capacitor to the GND connection of the R1 trimmer (comp side)
- Solder 1k resistor to U2 pin3 (component side – as per pic)
- Solder all three components empty leads together (component side – as per pic)

## ***Component and Solder Side view of upgraded LIF2011 PCB***



### ***Calibration***

The PCB and the MDSR software will have to be recalibrated as per instruction in the help file.

### ***Conclusion***

This completes the upgrade procedure for the LIF201x PCBs. If you have any questions or recommendations please post them on the MDSR Yahoo user group.

<http://groups.yahoo.com/group/mdsradio/>

**The MDSR Team**