

HF to VHF UpConverter.

This upconverter is built around TA7358AP, a cheap FM Front End. This mixer has a clipping diode on output, it can produce distortion in case of strong signal.

The 50MHz local oscillator was salvaged from the junk box. Any other oscillator from 50MHz to 140MHz can be used, need to recalculate the low pass filter formed by C1, C2 and L2, and output high pass filter (C11, C13, C15, C16, L3, L4 and L5).

The input LPF has a cut frequency around 45MHz.

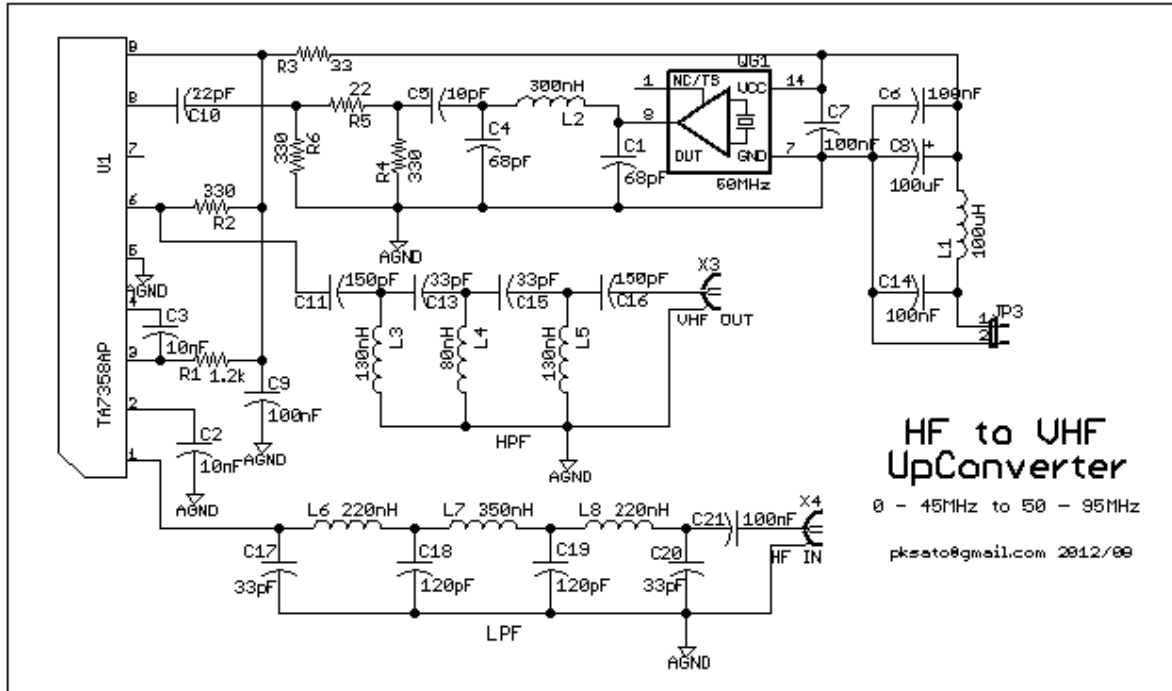
The power supply is 5V, can be from USB.

The coil winding is not accurate, avoid to use my windings.

Final board, a transformer was added to reduce common mode interference.



Schematics

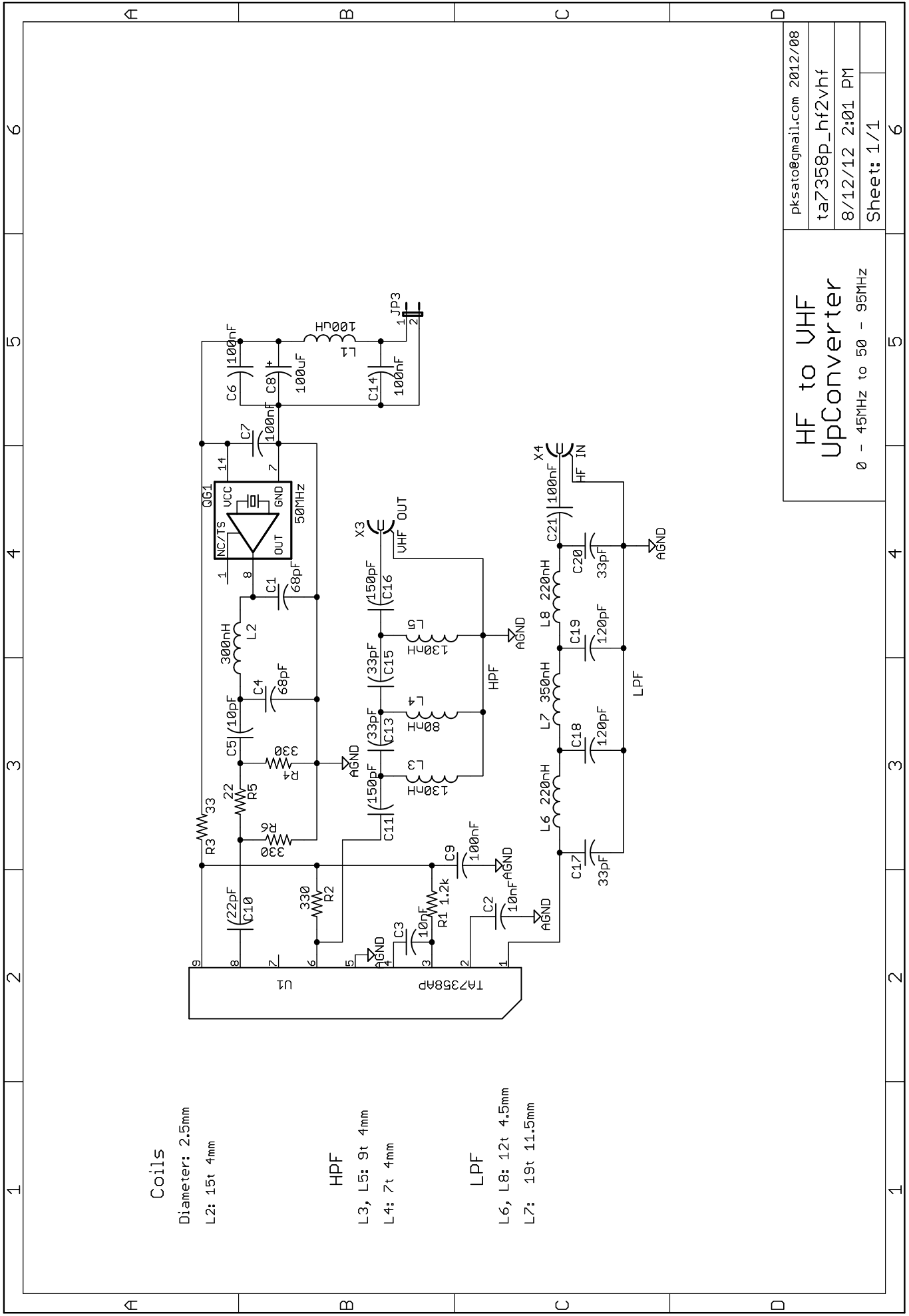


To calculate filter use this site

<http://www.wa4dsy.net/filter/filterdesign.html>

and, to check coils

http://www.66pacific.com/calculators/coil_calc.aspx



Coils

Diameter: 2.5mm
L2: 15t 4mm

HPF

L3, L5: 9t 4mm
L4: 7t 4mm

LPF

L6, L8: 12t 4.5mm
L7: 19t 11.5mm

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**HF to VHF
UpConverter**

0 - 45MHz to 50 - 95MHz

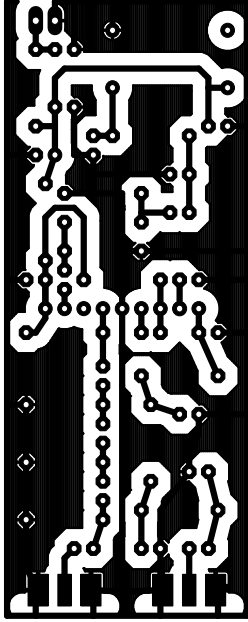
1 2 3 4 5 6

1 2 3 4 5 6

A B C D

A B C D

TOP VIEW (component side)



BOTTOM VIEW (solder side, mirror)

