

# AUXILLARY RFI (HASH) FILTERING ADDED TO THE SAMLEX SEC-1223 12VDC 23A SWITCHING P/S BY NIGEL HAYTON, ZL2DF

Document preparation by: Tom Hammond, NØSS 12/16/2004

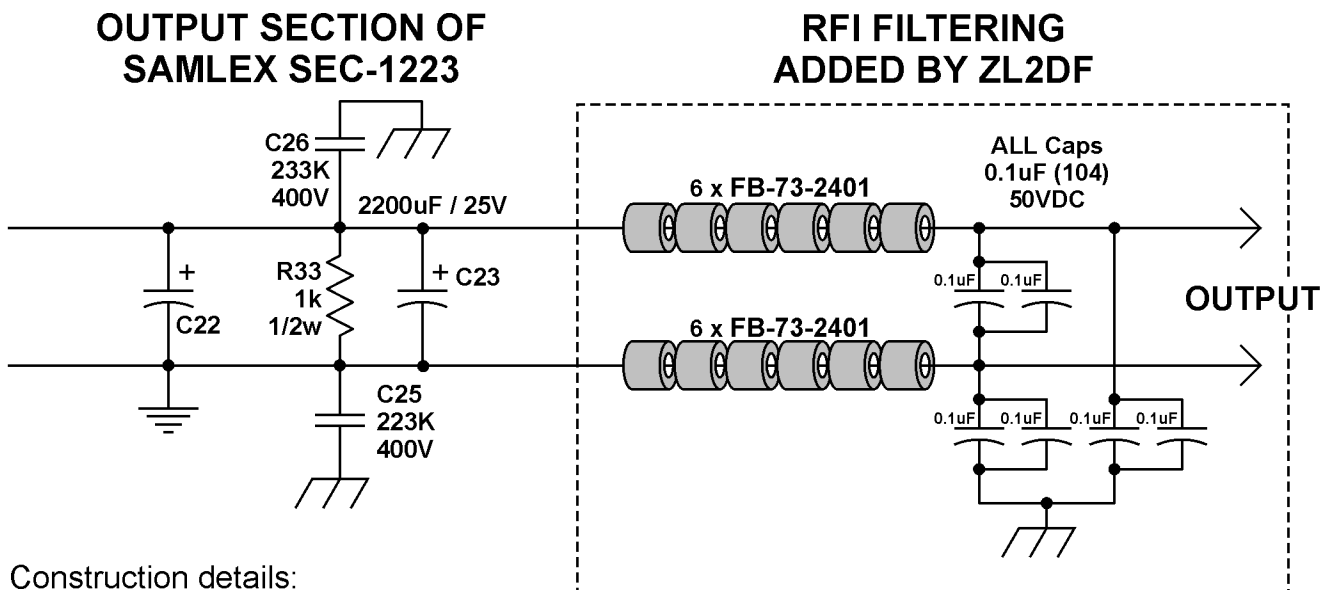
I needed to suppress the S9 80m birdies generated every 20kHz or so up the band by my Samlex SEC-1223 switching power supply.

The attached documentation and photos are the end result which has removed all the 80m birdies, leaving only faint (S1-2) birdies on 160m.

After research on the web, I located XQ2FOD's article on a 13.8V 40A switching supply and duplicated the output filtering he used. Here are some links to Manfred's excellent article:

<http://www.qsl.net/xq2fod/Electron/PS40/PS40.html>  
and  
<http://ludens.cl/Electron/PS40/PS40.html>

There are six (6) FB-73-2401 ferrite beads on each DC output lead, and each lead is also decoupled to circuit ground (and case) with 2x 0.1uf (104) 50VDC ceramics plus a further 2x 0.1uf 50VDC ceramic across the output.



Construction details:

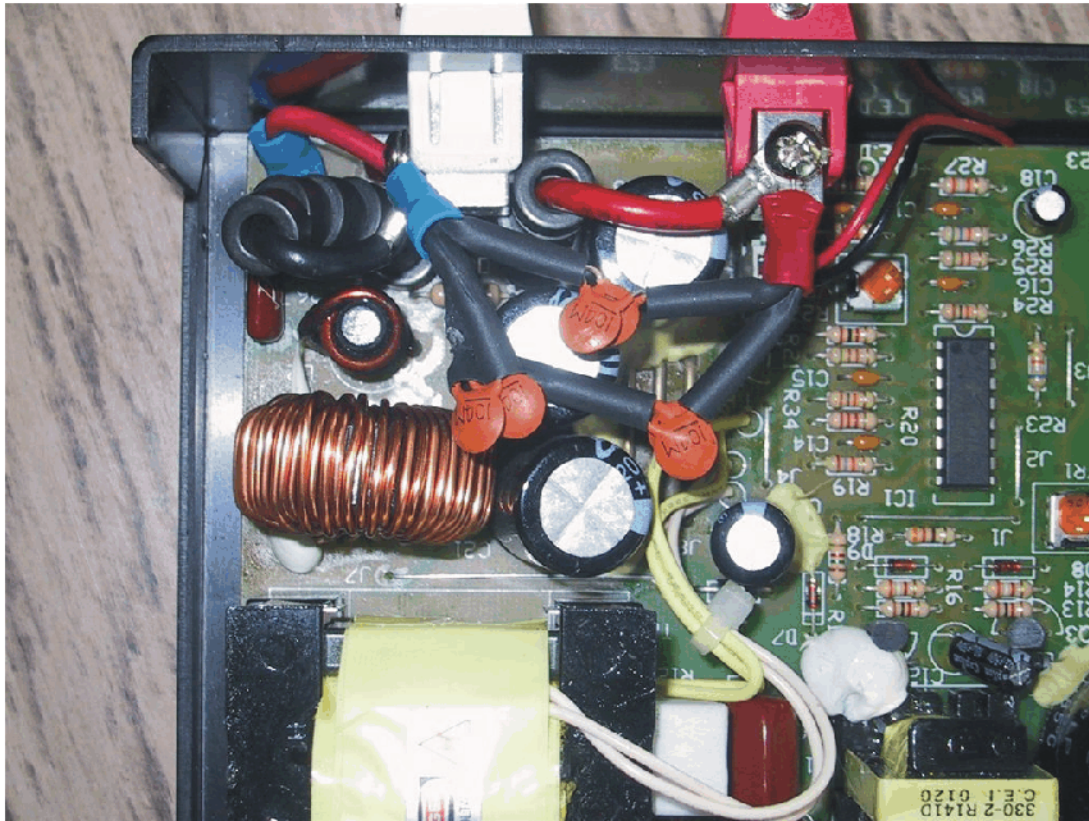
First UNPLUG the power supply from the mains!

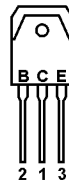
I found it easiest to lift the whole heatsink assembly from the bottom case (2 screws on case bottom), leaving the devices attached and being careful not to get all the thermal grease over oneself. I then unsoldered the output leads, slipped on the beads and resoldered them. The earth of the circuit diagram is connected to the four screws holding down the PCB as they clamp the PCB copper track to the case mounting studs at each of the screw holes. Hence terminating the capacitors at the corner screw.

It turned out easier than I first anticipated.

(Photos of Nigel's efforts are shown on the next page.)

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SAMLEX SEC-1223 12VDC 23A SWITCHING P/S  
BY NIGEL HAYTON, ZL2DF  
(PICTURES OF THE COMPLETED MOD)**

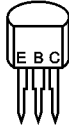




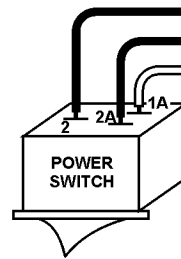
Q1, Q2  
SANKEN 2SC5071  
FUJI 2SC2625



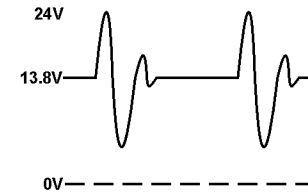
Q3, Q4  
2SC1815



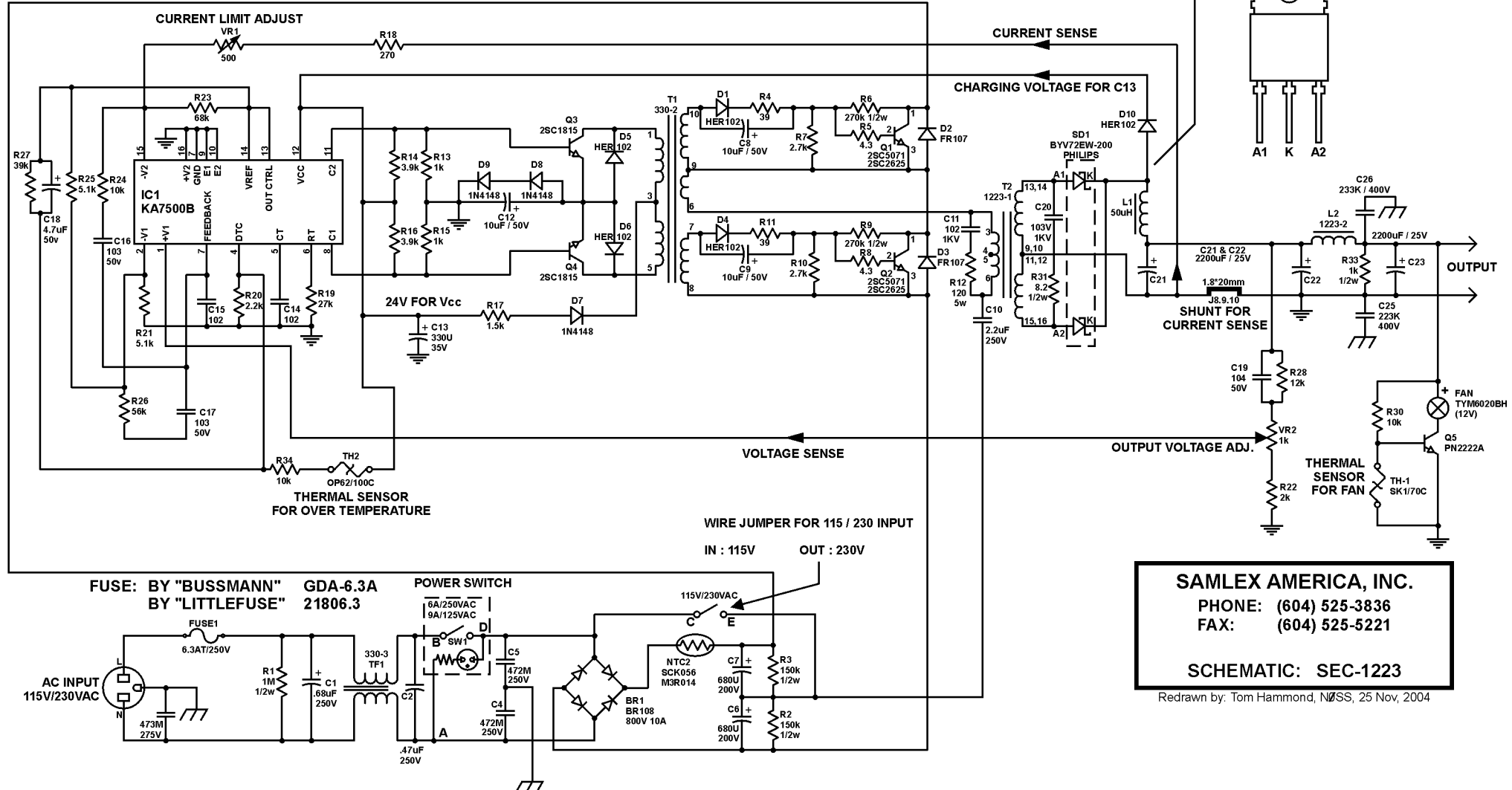
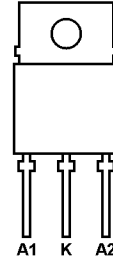
Q5  
PN2222A



BLACK TO "B" (LINE IN)  
BLACK TO "D" (LINE OUT)  
WHITE TO "A" (NEUTRAL IN)



SD1  
PHILIPS: BYV72EW-200



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**SCHEMATIC: SEC-1223**

Redrawn by: Tom Hammond, N7SS, 25 Nov, 2004