



Fox Delta

Amateur Radio Projects & Kits

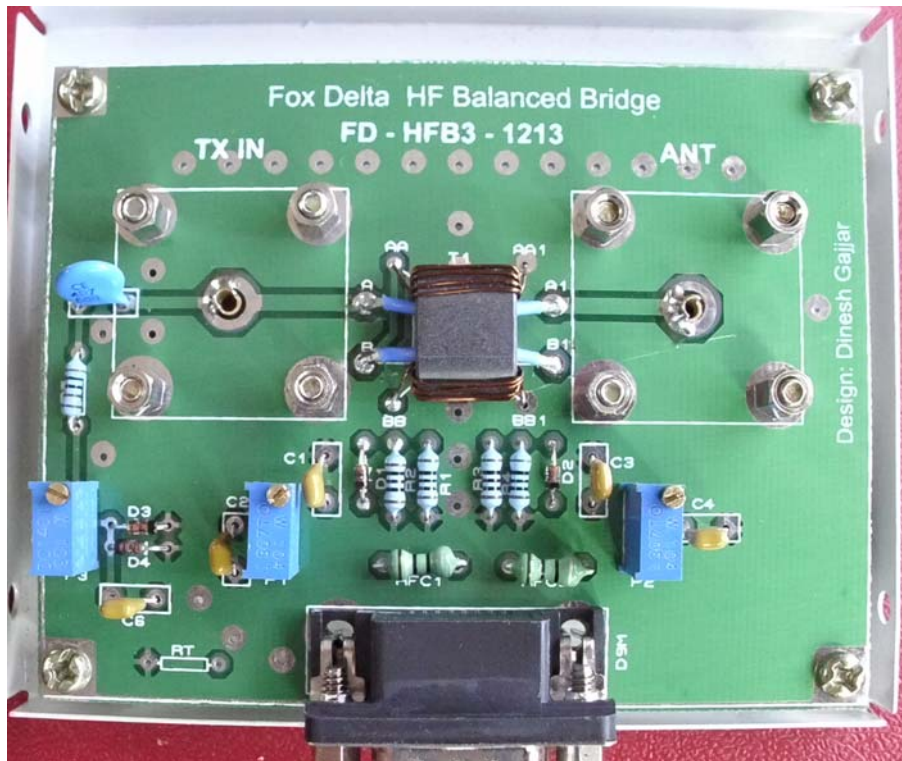
HFB3-1213

Schematic & Parts list: 100W HF Balanced Bridge for SWM3 or SWM4-INF

HF 100W Balanced Bridge for SWM3 CPU or SWM4-INF (GCPU):



Completed HF 100W Balanced Bridge: HFB3-1213



100W HF Balanced Bridge Tech Info:

HF Bridge 3 is a simple Tandem Match Directional Coupler. Bridge is made out of a Dual Hole Binocular type core with #43 broadband material. Supplied core is good to 100W. At higher power level, core may get heated up.

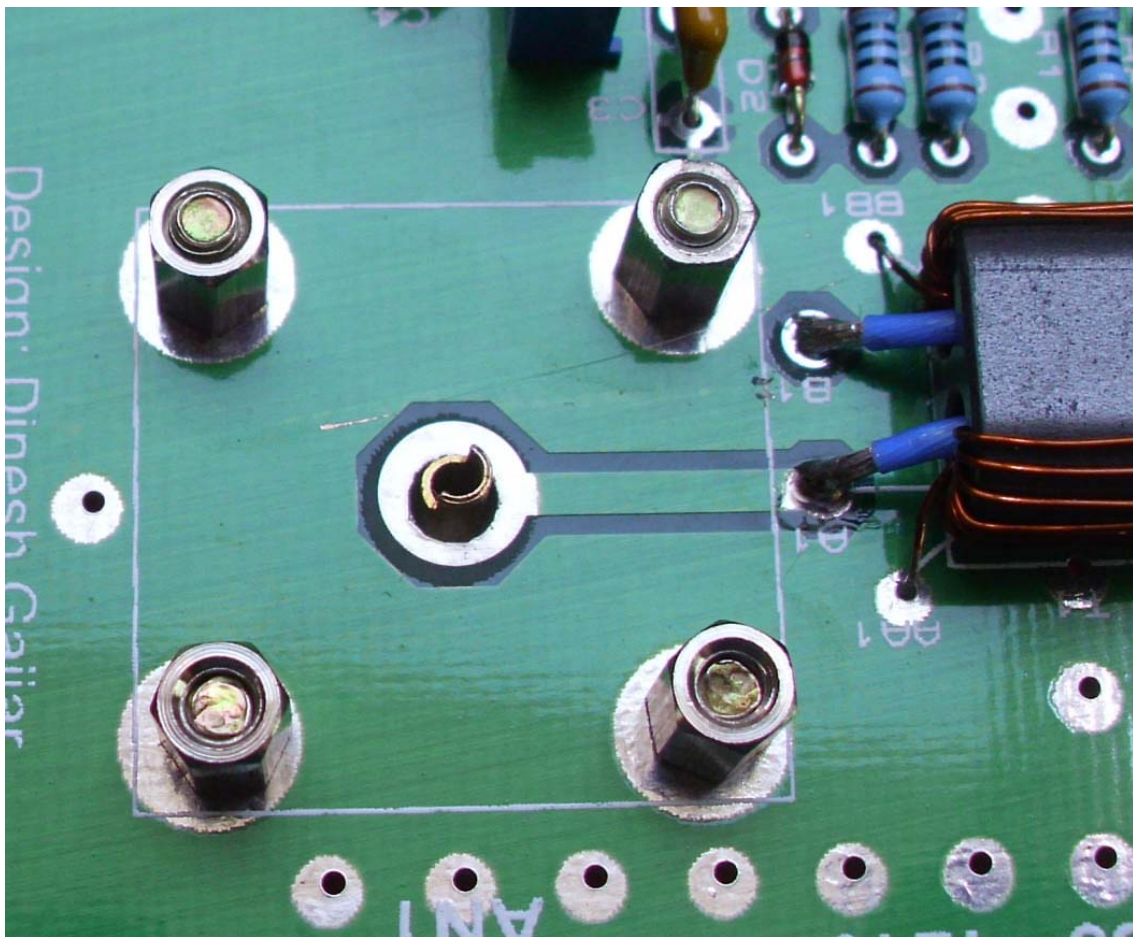
This bridge generates detected analog voltages suitable for SWM3-CPU or SWM4-INF interface for GCPU.

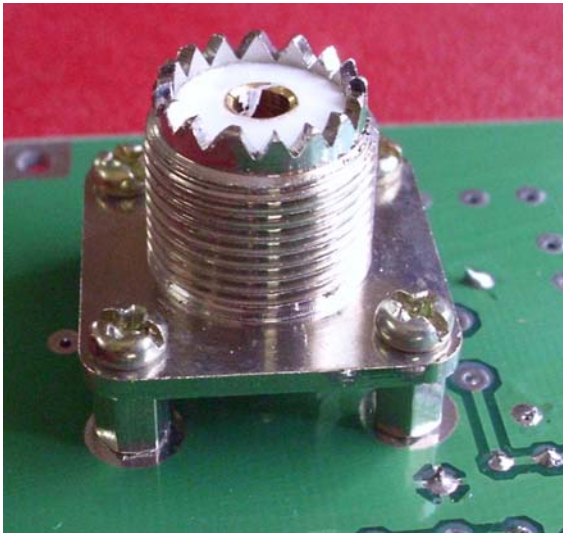
Assembly:

Bridge kit is simple to assemble and may be assembled within 30 minutes. However, some extra time may be required to wind T1 Transformer.

SO239 connectors are suspended by 6mm spacers and bolted to PCB directly. SO239 center pin is soldered directly to PCB.

SO239 Mounting:





SO239 connectors are suspended by 6MM long brass hex nuts and mounted directly on PCB



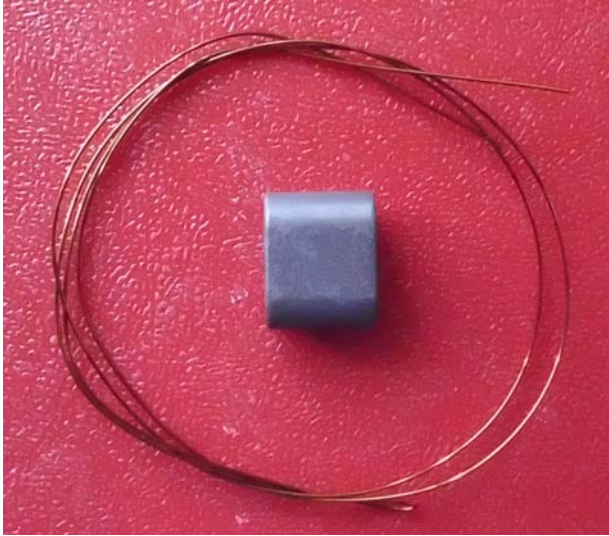
**SO239 uses 6mm spacers:
Ready for installation**



T1 Binocular core ready for use

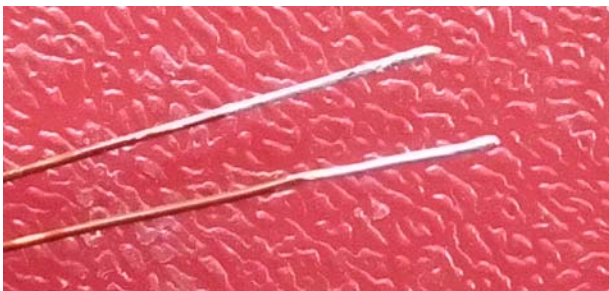


Winding Guide for T1:



2 X 25cm Long copper wire and a binocular core is supplied with kit

Prepare two ends of 25cm long wire by tinning them:



Start first winding like this:



Complete this winding till wire is finished. Tin the other end of wire and proceed for second winding

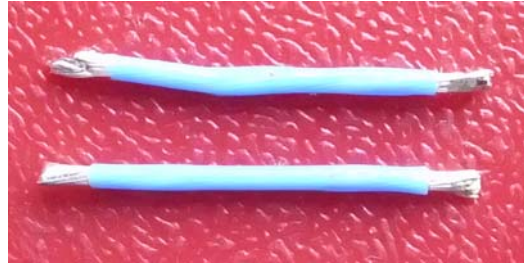


Wind second winding to complete:

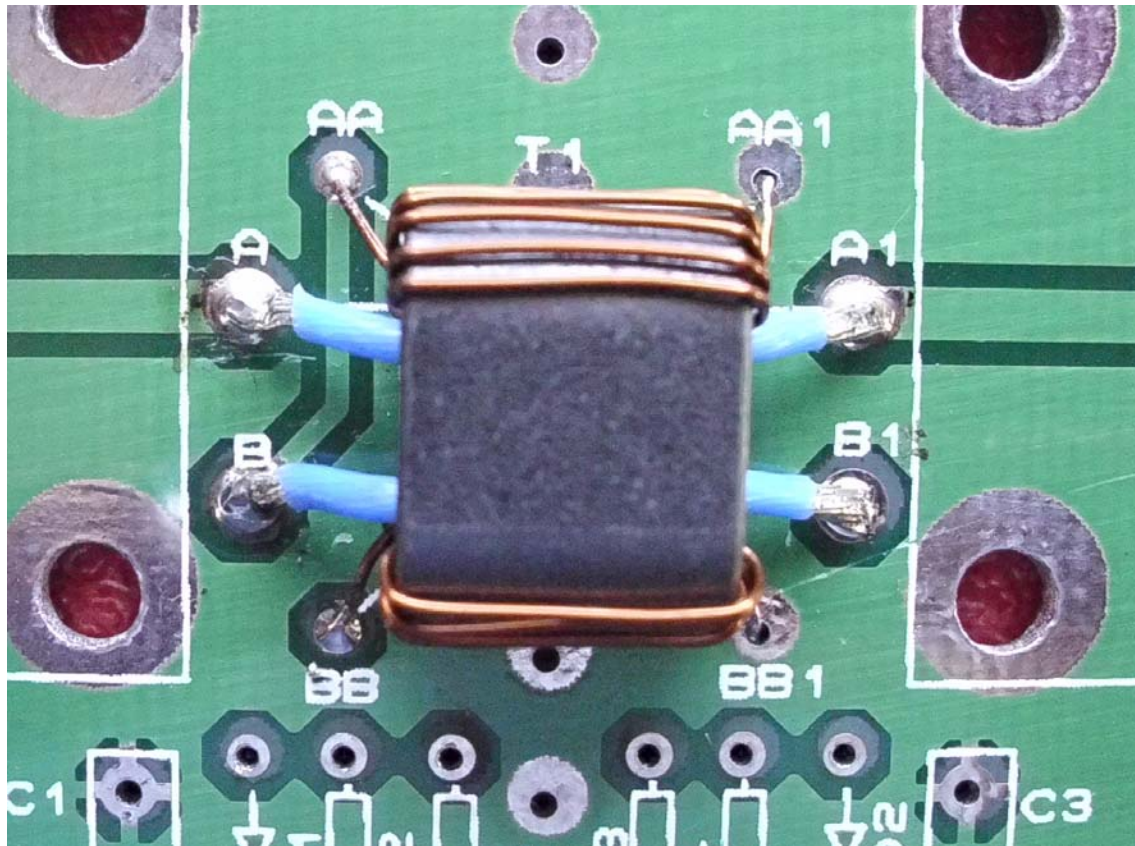


Note:
Windings are opposite to each other

Supplied 2.5CM links



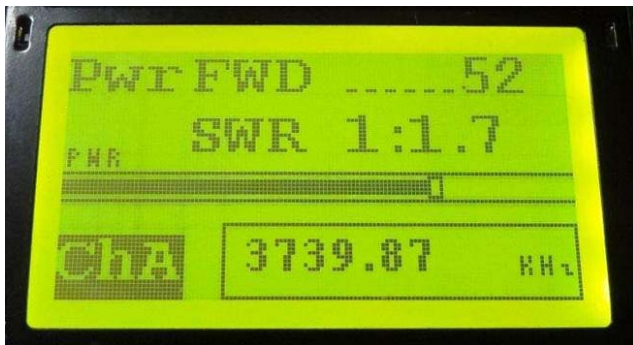
Complete installation of core on PCB and add two 2.5CM links:



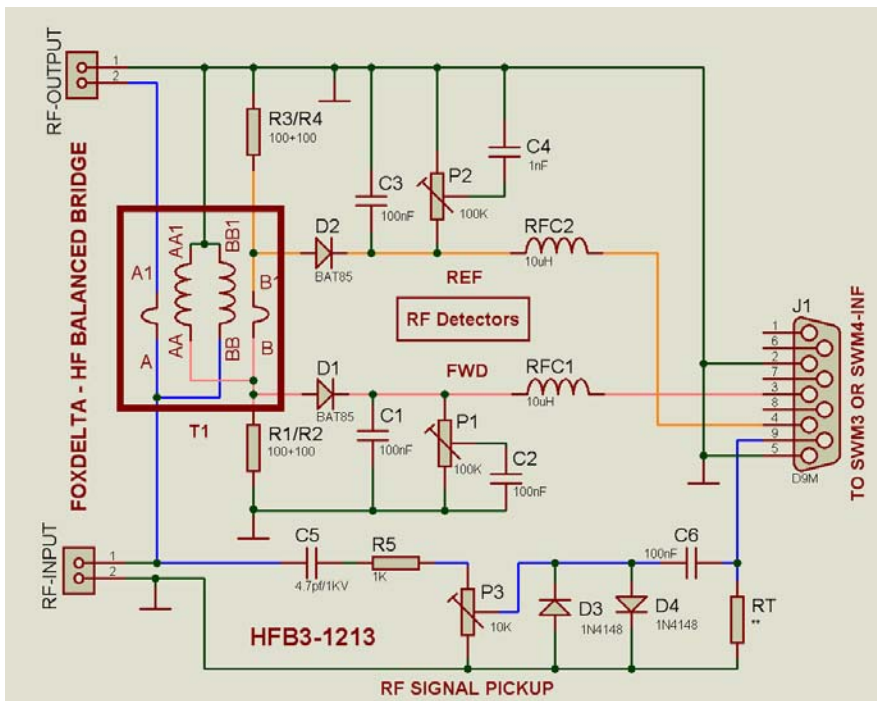
HFB3 Measurement on GCPU CPU: (Thru SWM4-INF)



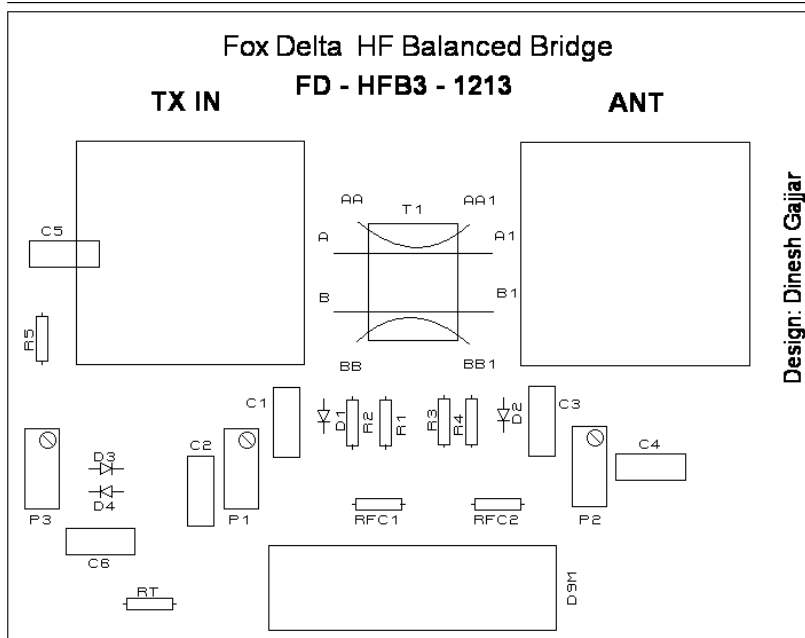
Display of SWR and Frequency on GCPU:



Schematic of the Balanced Bridge HFB3-1213:



Balanced HF Bridge SILK:



HFB3-1213 HF Balanced Bridge Parts List:

Quantity	Part ID	Part Details
1	PCB	HFB3-1213 Double Sided PTH Board
2	Connectors	SO239 Panel Mount
1	D9 Connector	D9 Male Right Angle PCB
1	T1	Binocular Core Fair-Rite
2	P1, P2	100K Bourns
1	P3	10K Bourns
2	RFC1, 2	RFC 10uH
5	C1, 2, 3, 4, 6,	0.1uF Poly Capacitors
1	C5	4.7pf / 1KV Ceramic Capacitor
2	D1, D2	BAT85 Diodes
2	D3, D4	1N4148 Diodes
4	R1, 2, 3, 4,	Resistors 100 Ohms 1%
1	R5	Resistor 1K
2	Wire	25cm X 2 #28 copper wire
2	Links	2.5CM Long Multi-strand Teflon
1	Case	Free Powder Coated Metal Case
1 set	Hardware	SO239 Mounting: 16, 6mm nuts, 8 Bolts
1 set	Hardware	4 spacers, 4 bolts and 4 metal screws

73s

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12th May 2014

For more details, please visit Project Page: <http://www.foxdelta.com>