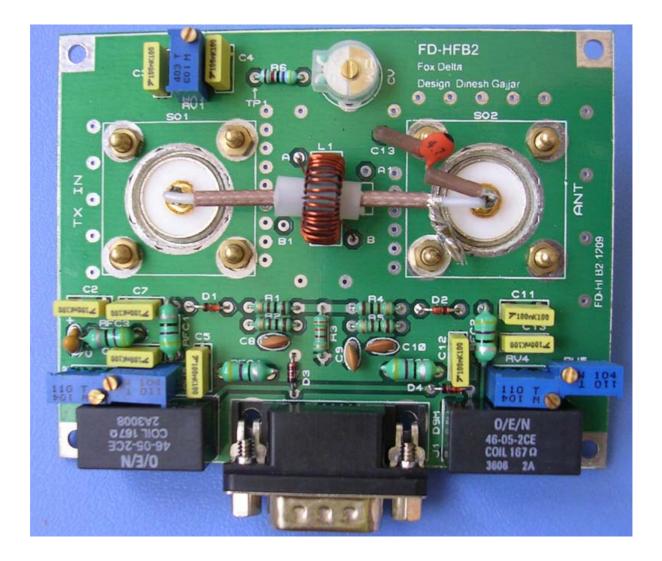
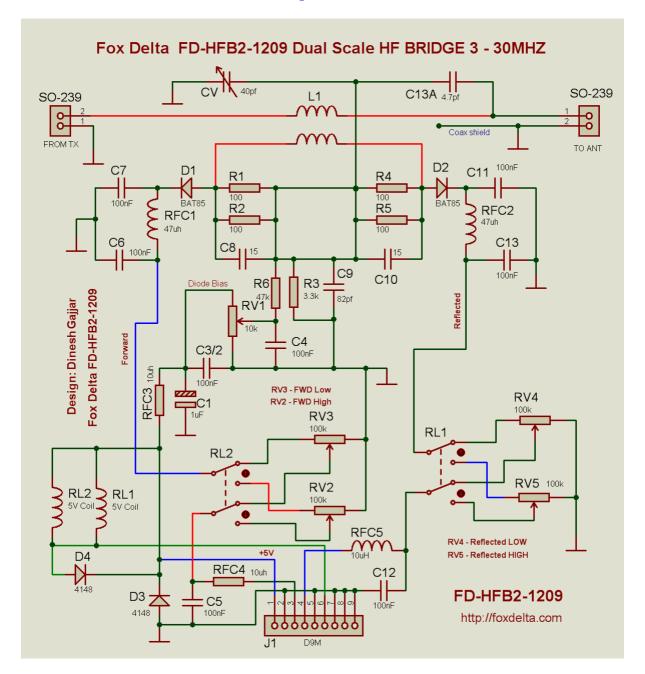


FD- SWM2

Schematic & Parts list: HF Dual scale Bridge for Dual Channel LCD SWR Meter

## HF Dual Scale 100W to 2KW Bridge for DUAL Channel SWR/POWER Meter:





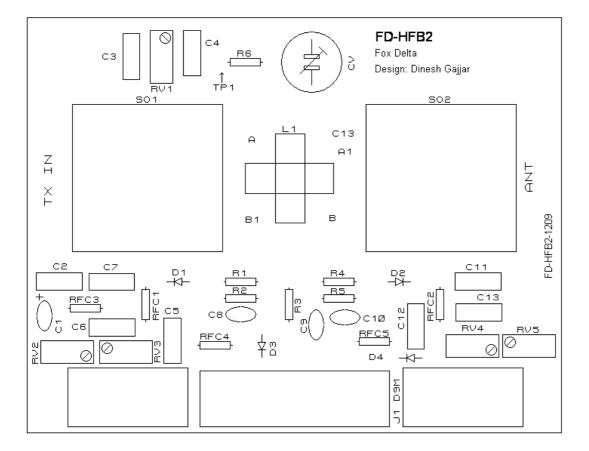
## Schematic of the Dual Scale HF Bridge:

Auto scaling bridge is basically same as Simple HF Bridge but has two 5V relays to scale FWD and REV voltages for CPU.

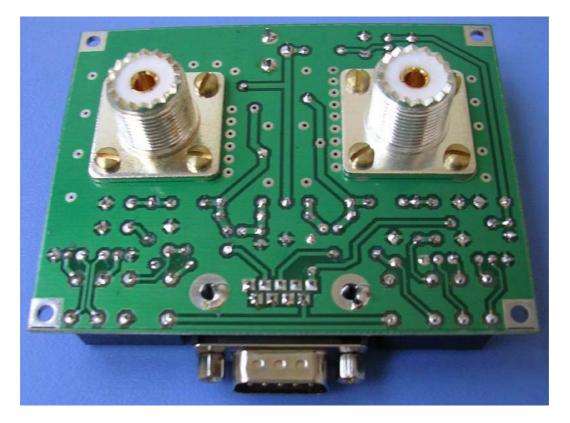
Relays are under control of Front Penal buttons and when selected thru PC for "auto scale", CPU will change scale of the display and bridge.

Two sets of presets are provided for alignment for LOW and HIGH power levels.

Silk:



## HF Dual Scale Bridge Connector side view:



## HF Dual Scale Bridge Kit Parts List:

Quantity Part ID Part Details   2 RF Connectors SO239 Standard. (Type N Option)   1 PCB FD-HFB2-1209   2 RL1, 2 5V Relay OEN 46-05-2CE   4 RV3, 4, 5, 2 100K 10Turn Preset Bourns   2 D1, 2 BAT85   2 D3, 4 1N4148   1 RV1 10K 10Turn Preset – Diode Bias   1 CV 20pf Air Variable   1 L1 #43 Material Round or Tubular core   1 30CM Long #28 copper wire   1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 1uf Tantalum   4			
1 PCB FD-HFB2-1209   2 RL1, 2 5V Relay OEN 46-05-2CE   4 RV3, 4, 5, 2 100K 10Turn Preset Bourns   2 D1, 2 BAT85   2 D3, 4 1N4148   1 RV1 10K 10Turn Preset – Diode Bias   1 RV1 10K 10Turn Preset – Diode Bias   1 RV1 10K 10Turn Preset – Diode Bias   1 CV 20pf Air Variable   1 L1 #43 Material Round or Tubular core   1 J1 D9M R/A PCB Connector   1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 1.uf Tantalum   4			
1 PCB FD-HFB2-1209   2 RL1, 2 5V Relay OEN 46-05-2CE   4 RV3, 4, 5, 2 100K 10Turn Preset Bourns   2 D1, 2 BAT85   2 D3, 4 1N4148   1 RV1 10K 10Turn Preset – Diode Bias   1 RV1 10K 10Turn Preset – Diode Bias   1 RV1 10K 10Turn Preset – Diode Bias   1 CV 20pf Air Variable   1 L1 #43 Material Round or Tubular core   1 J1 D9M R/A PCB Connector   1 J1 D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 <td>2</td> <td><b>RF Connectors</b></td> <td>SO239 Standard. (Type N Option)</td>	2	<b>RF Connectors</b>	SO239 Standard. (Type N Option)
4 RV3, 4, 5, 2 100K 10Turn Preset Bourns   2 D1, 2 BAT85   2 D3, 4 1N4148   1 RV1 10K 10Turn Preset – Diode Bias   1 RV1 10K 10Turn Preset – Diode Bias   1 CV 20pf Air Variable   1 L1 #43 Material Round or Tubular core   1 30CM Long #28 copper wire   1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ½ W Resistors	1	PCB	
2 D1, 2 BAT85   2 D3, 4 1N4148   1 RV1 10K 10Turn Preset – Diode Bias   1 CV 20pf Air Variable   1 L1 #43 Material Round or Tubular core   1 J1 BAT85   1 CV 20pf Air Variable   1 L1 #43 Material Round or Tubular core   1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	2	RL1, 2	5V Relay OEN 46-05-2CE
2 D3, 4 1N4148   1 RV1 10K 10Turn Preset – Diode Bias   1 CV 20pf Air Variable   1 L1 #43 Material Round or Tubular core   1 SOCM Long #28 copper wire   1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	4	RV3, 4, 5, 2	100K 10Turn Preset Bourns
1 RV1 10K 10Turn Preset – Diode Bias   1 CV 20pf Air Variable   1 L1 #43 Material Round or Tubular core   1 J1 #43 Material Round or Tubular core   1 J1 #28 copper wire   1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors		D1, 2	BAT85
1 CV 20pf Air Variable   1 L1 #43 Material Round or Tubular core   1 30CM Long #28 copper wire   1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	2	D3, 4	1N4148
1 L1 #43 Material Round or Tubular core   1 30CM Long #28 copper wire   1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	RV1	10K 10Turn Preset – Diode Bias
1 30CM Long #28 copper wire   1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239   Mounting 1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V 2   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	CV	20pf Air Variable
1 J1 D9M R/A PCB Connector   1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	L1	#43 Material Round or Tubular core
1 Cable D9F to D9F cable   2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	30CM Long	#28 copper wire
2 RFC1, 2 33 to 47uh inductors   2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	J1	D9M R/A PCB Connector
2 RFC3, 4, 5 10uh to 33uH Inductors   1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	Cable	D9F to D9F cable
1 SO239 Hardware 8 bolts, 8 nuts, 1 lug for SO239 Mounting   1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	2	RFC1, 2	33 to 47uh inductors
Mounting   1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	2	RFC3, 4, 5	10uh to 33uH Inductors
1 7CM Long RG316 or similar Teflon coax   1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	SO239 Hardware	8 bolts, 8 nuts, 1 lug for SO239
1 C13A 4.7pf 500V   2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors			Mounting
2 C8, 10 15pf Ceramic   1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	7CM Long	RG316 or similar Teflon coax
1 C9 82pf Ceramic   9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	C13A	4.7pf 500V
9 C2, 3, 4, 5, 6, 7, 11, 12, 13 0.1uf Poly   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	2	C8, 10	15pf Ceramic
11, 12, 13   1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	1	C9	82pf Ceramic
1 C1 1uf Tantalum   4 R1, 2, 4, 5 100 ohms ¼ W Resistors	9	C2, 3, 4, 5, 6, 7,	0.1uf Poly
4 R1, 2, 4, 5 100 ohms ¼ W Resistors		11, 12, 13	
	1	C1	1uf Tantalum
1 R3 3.3K	4	R1, 2, 4, 5	100 ohms ¼ W Resistors
	1	R3	3.3K
1 R6 47K	1	R6	47K

Note: If free case is supplied, required hardware will be included

73s Dinesh Gajjar

20<sup>th</sup> July 2010

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