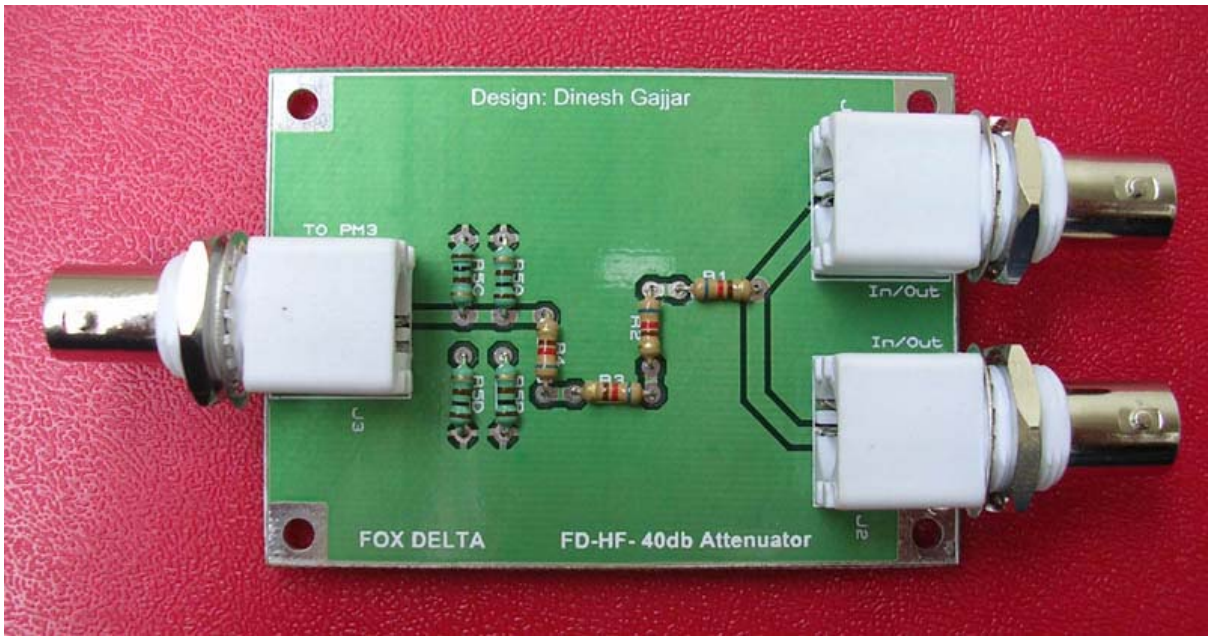
Fox Delta

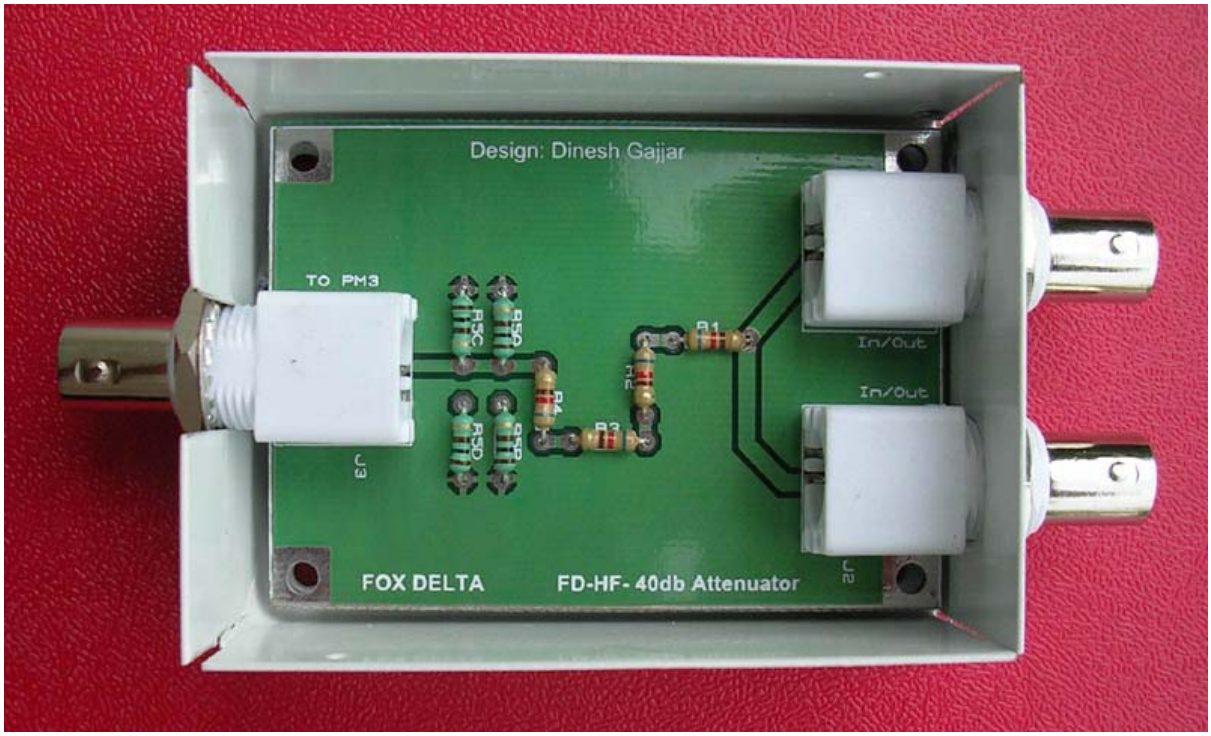
Amateur Radio Projects & Kits

HF-Attenuator

Technical Info Doc: A simple HF Power Attenuator for PM3 RF Meter

HF 40db Attenuator for PM3



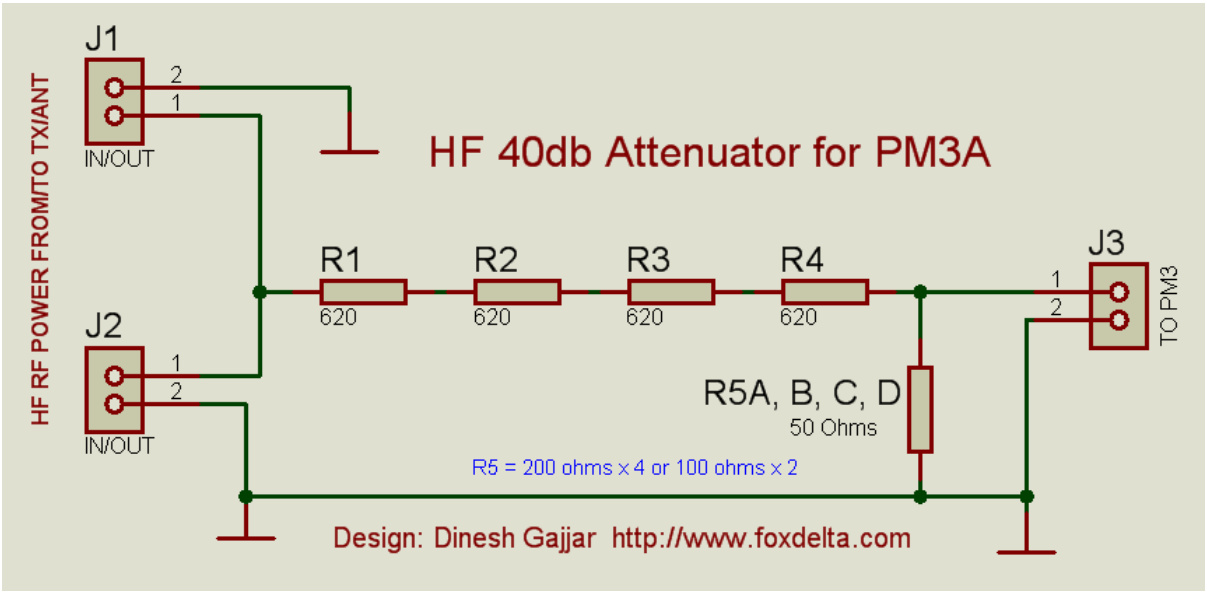


40db attenuator is designed for measurement of RF Power at higher level than the PM3A can support.

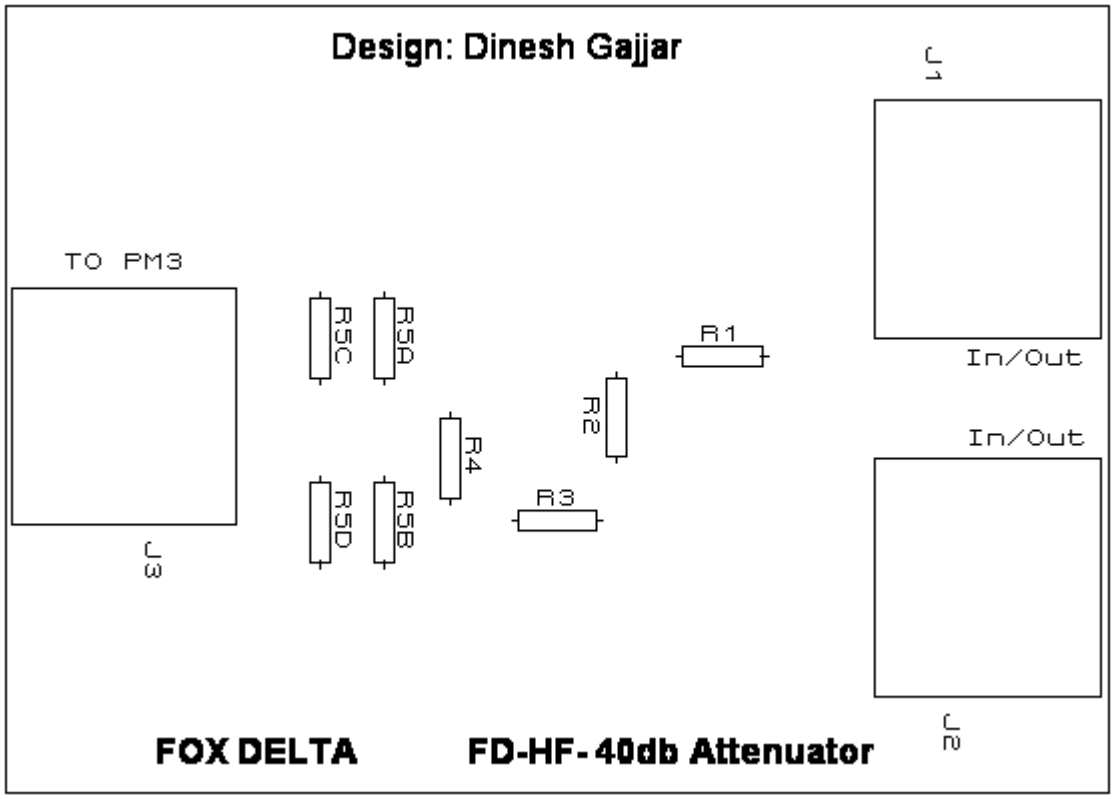
Parts List:

3	**J1, 2, 3**	**BNC R/A PCB Connectors**
1	**PCB**	**HF 40db DSPTH PCB**
4	**R1 to R4**	**620 Ohms ¼ W Resistors**
2	**R5**	**100 Ohms ¼ W Resistors**
1	**Case**	**Powder Coated Metal Case**

Schematic:



Silk Snap:



To get - 40dB a 100:1 voltage divider is made with 50 Ohm output impedance. When this output is loaded, the total load resistance would be 25 Ohm.

With output bottom resistance of 25 Ohm we can calculate the total resistance of the 100:1 voltage divider:
100 * 25 = 2500 Ohm
2500 - 25 = 2475 Ohm (2475 / 4 = 618.75 Ohm or use standard 620 ohms)

Power in the 620 Ohms resistors will be 1/4W X 4 = 1 Watt

MAX RF power level:
U = square root P * R
1W and 2500 Ohm give 50 Volt, which equals to about 50 W

However, resistors can withstand double the power for about 1 minute and 4 times for a few seconds.

73s
Dinesh Gajjar / 071010

For more details on this project please visit http://www.foxdelta.com