Fox Delta

Amateur Radio Projects & Kits

FD- PM1A

Technical Details & Schematic: AD8307 & LM3914 RF Power Meter

REV1212

Completed PM1A RF Power Meter and Field Strength Meter:

Project Details:

In this project a quality Double Sided PTH Board is used measuring only 6.5cm x 11cm in size. Same good old AD8307 from Analog Devices is used (SO8 Package) for basic RF measurement up to 500MHZ. However instead of using a PIC and LCD, I am using a simple LM3914 Bar Graph IC for display of dbm levels.

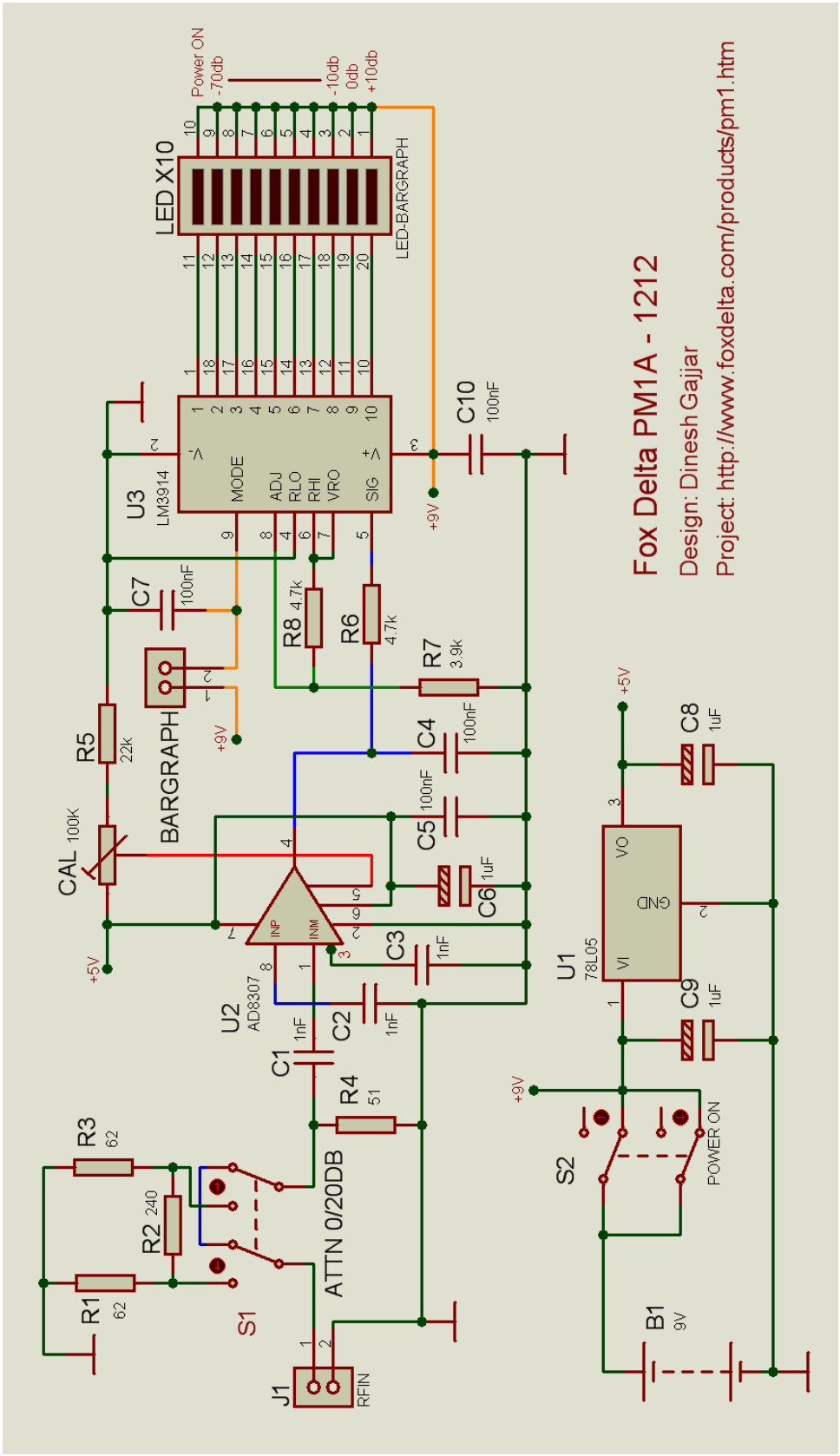
Meter is powered from a 9V battery. A built-in 78L05 regulator is used to power AD8307.

10X LED is used with 4 green, 3 yellow and 3 Red LEDs indicating dbm from –70dbm to +10dbm.

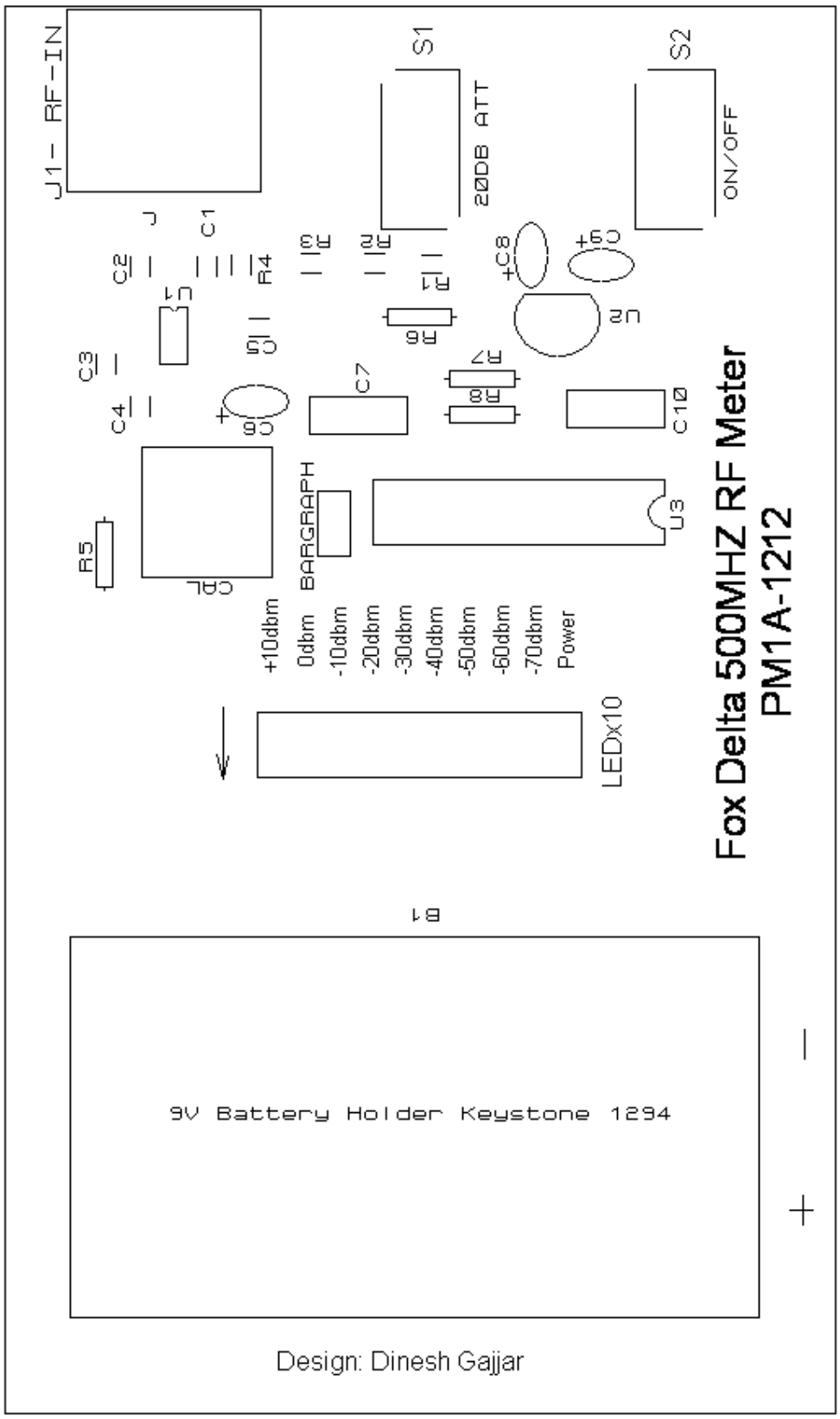
Header H1 is for changing the LED display from Dot to "Bargraph"..

Preset, CAL is available for calibration of measured this unit if you have an accurate measurement device handy!!

Schematic of the simple AD8307 RF Meter: PM1A-1212



Silk Snap: PM1A-1212



Kit Parts List:

Quantity	Check	Part Name / Details
1		U3 IC LM3914 DIP18
1		U3 IC Socket 18pin
1		U1 AD8307 SO8
1		U2 78L05
1		J1 BNC R/A Socket
2		S1, 2 Push DPDT Switches
1		10XLED (SB1000SR1Y3G6 etc)
1		100K Preset (CAL)
1		PCB DSPTH PM1A-1212
2		0.1uf (C7, C10) Poly
3		1uf Tantalum (C6, 8, 9)
1		Battery Holder 9V
1		Free Metal Case (LED window need to be cut by user)
1		2PIN Header and shorting pin ("Bargraph")
1		Mounting Hardware for PCB
		Resistors 1/4W 5%
2		4.7K (R8, R6)
1		3.9K (R7)
1		2.2K (R5)
		SMT Parts – ALL 1206
2		62 ohms (R1, 3)
1		240 ohms (R2)
1		51 ohms (R4)
3		0.1uF (C3, 4, 5)
2		0.001uF (C1, 2)

S1 = 20db Attenuator
S2 = Power ON/OFF

PM1A in a metal case.
LEDs fitted on back of the board.

With in built battery, PM1A is a handy RF Field Strength Meter

73s
Dinesh Gajjar
21st Dec 2012

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