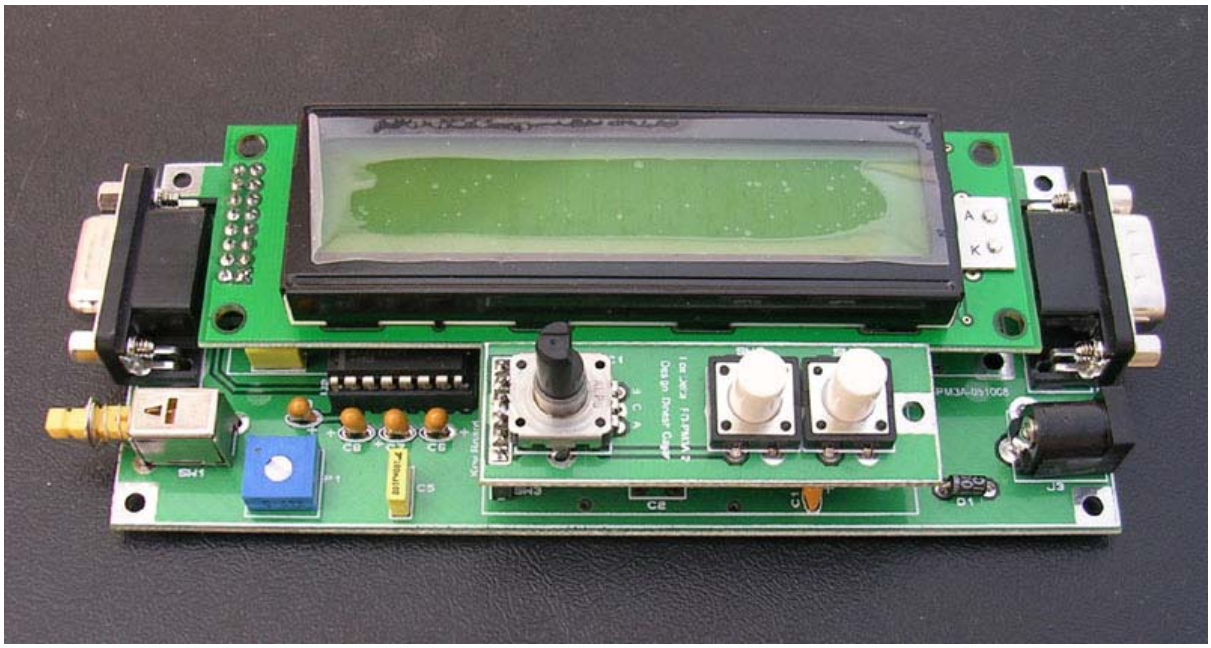
Fox Delta

Amateur Radio Projects & Kits

FD- PM3A

Technical info Doc: 2X20 LCD PIC16F876A RF Power Meter with Data Logger

Assembled PM3A: 500MHZ LCD RF Power Meter with Data Logger



Project Details:

After success of PM2 & PM3 LCD RF Power Meter Kits, with over 400 Users globally, I came to understand small & big changes opted by the radio amateurs. With PM3 a great success, I decided to complete this project by making PM3A with following features:

1. **Hand-held unit**
2. **Metal case to be made soon.**
3. **Separate Sensors (AD8307) with two options: DIP or SMT**
4. **Uses two 78M05. One for CUP+AD power and one for back-light**
5. **Interconnected by D9 standard Male to Female cable.**
6. **Option of Encoder or Push Buttons Key Boards.**
7. **High accuracy 2.5V reference**
8. **Now DC Voltage Measurement supported at Sensor Board**

Following features of previous PM3 are still there:

1. **Data Logger output supported by OZ8JYL Windows Software**
2. **Remote LCD mounting**
3. **Remote Push Button mounting**
4. **Support for AD8307 SMT (by using SMT PCB)**
5. **Data output at true RS232 Levels by using a MAX232.**

Details of PM3A:

Remote Display is still supported if you wish to have LCD elsewhere, away from PM3A CPU Board:

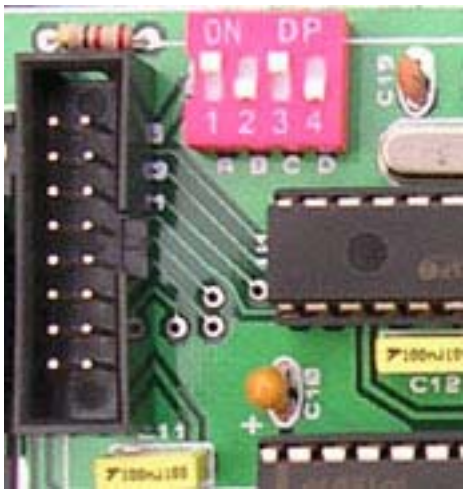
Kit includes One FRC Male connector for PM3A CPU board, One R/A Male For LCD and a 30cm long Female-to-Female Ribbon cable.

Display connector on PM3A Board:

Kit builder now have choice of mounting LCD, away from PM3A CPU Board.

A 16pin FRC Male is to be installed on PM3A board for direct LCD installation. For remote LCD use, a 16PIN FRC R/A is to be installed on LCD, connected by a ribbon cable. (Both items Supplied).

Back Light Diode Polarity Switch:



PM3A includes a DIP Switch to select back light diode polarity to meet market supply conditions. (2x20 LCD display comes with either pin 15 as anode or cathode)

Data Logger Output:

Pin17 of PIC16F876A marked as "TX" on PM2 is now routed thru a MAX232 to D9F connector for data logging purpose.

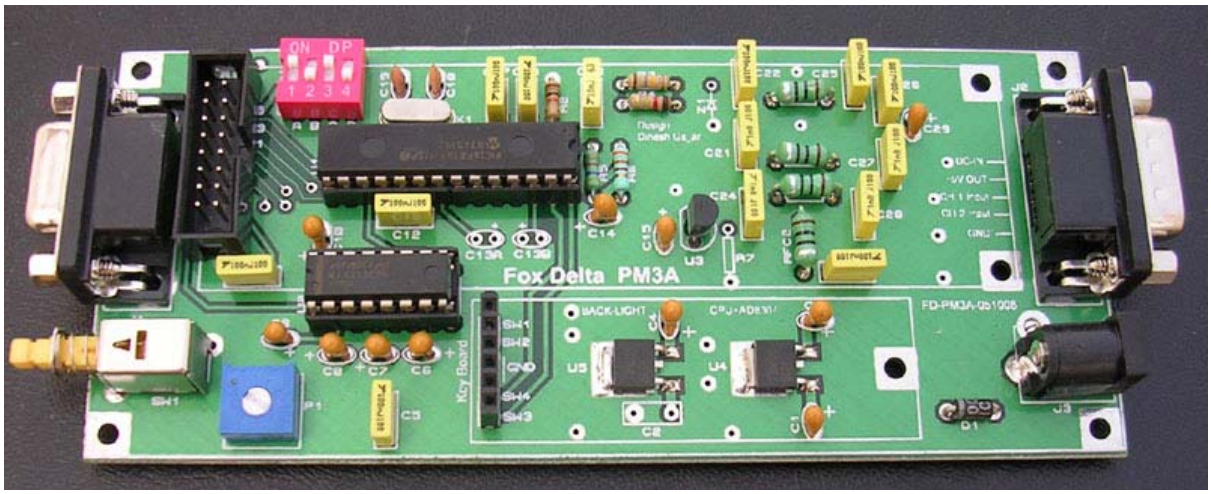
A separate windows software is required to read data output from PM3

Remote Sensor Board:

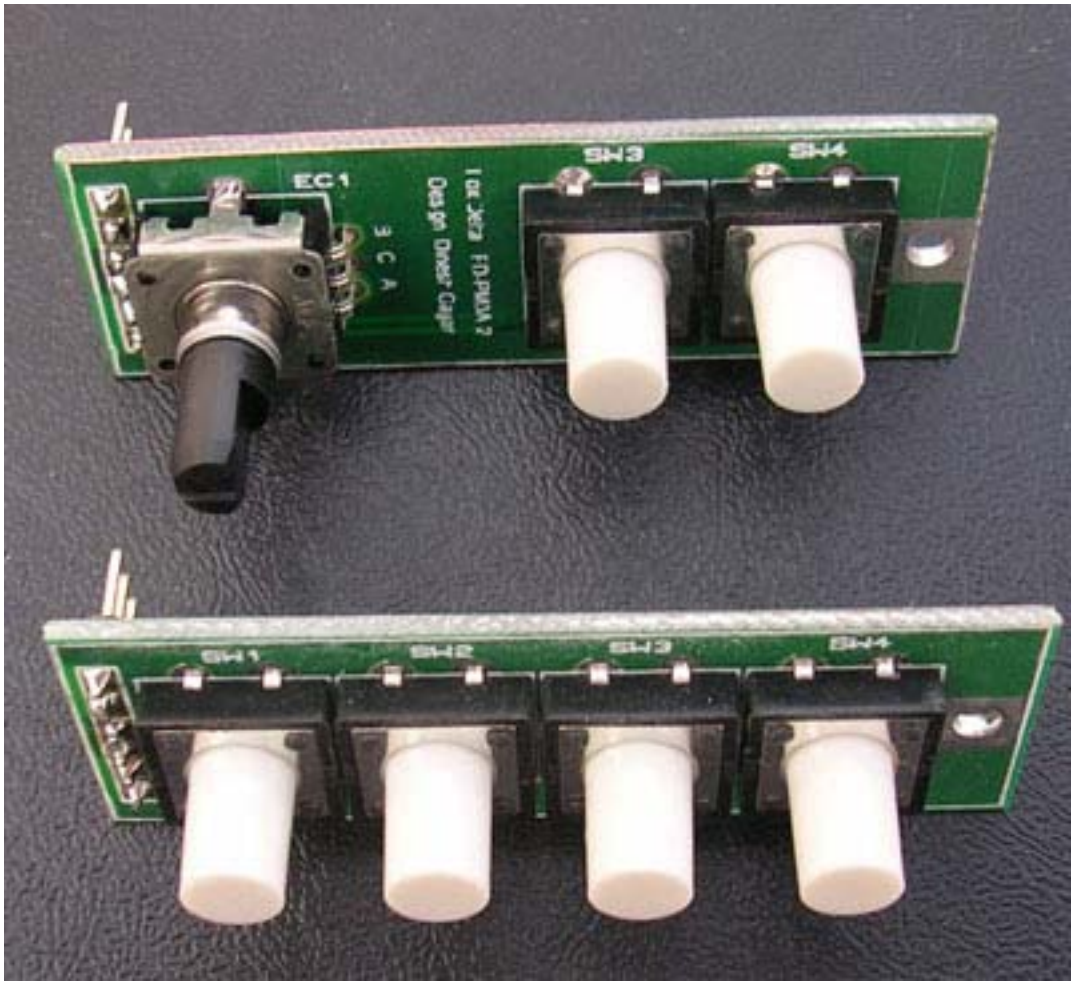
Sensor board is designed to be located away from CPU board.

A D9 Male to Female cable with approx 1 Meter cable, is supplied with Kit for inter connection.

View of the PM3, without LCD & Key Board:

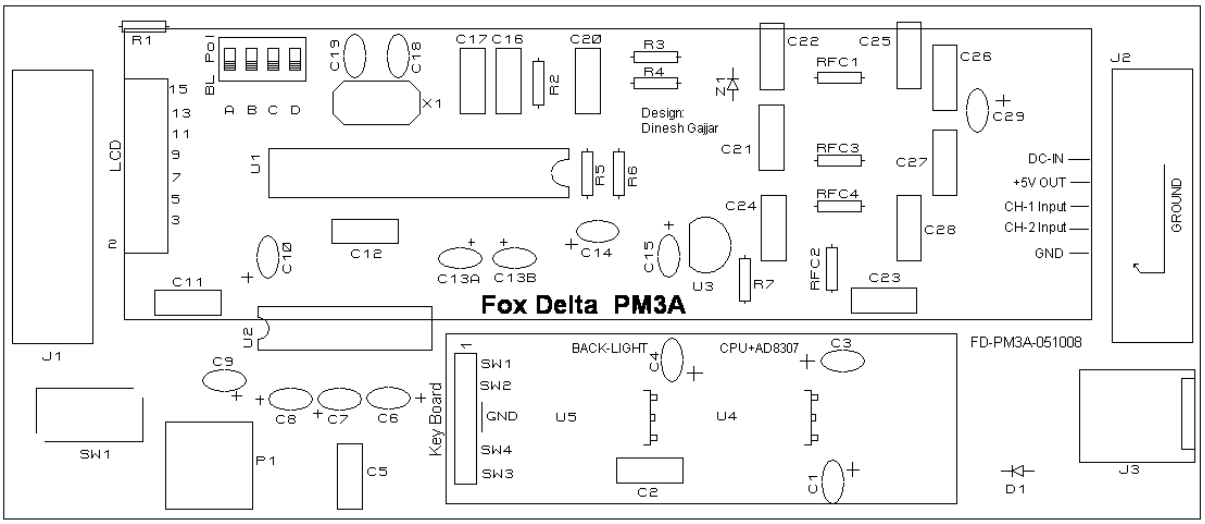


Keyboards for PM3A:

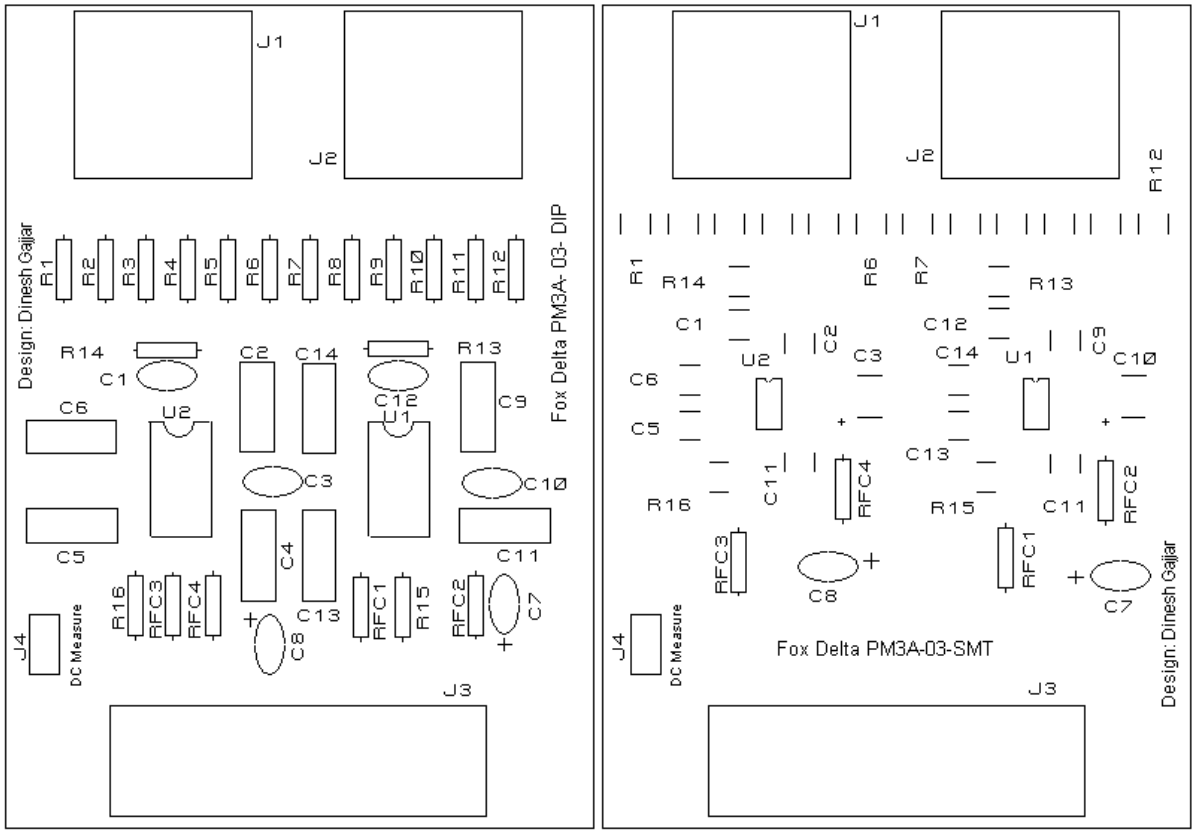


PM3A is now supplied with two keyboard PCBs and all necessary components. Included are: 6pcs of 12mm Push Buttons and an Alps Encoder.

PM3 Main Board Silk:



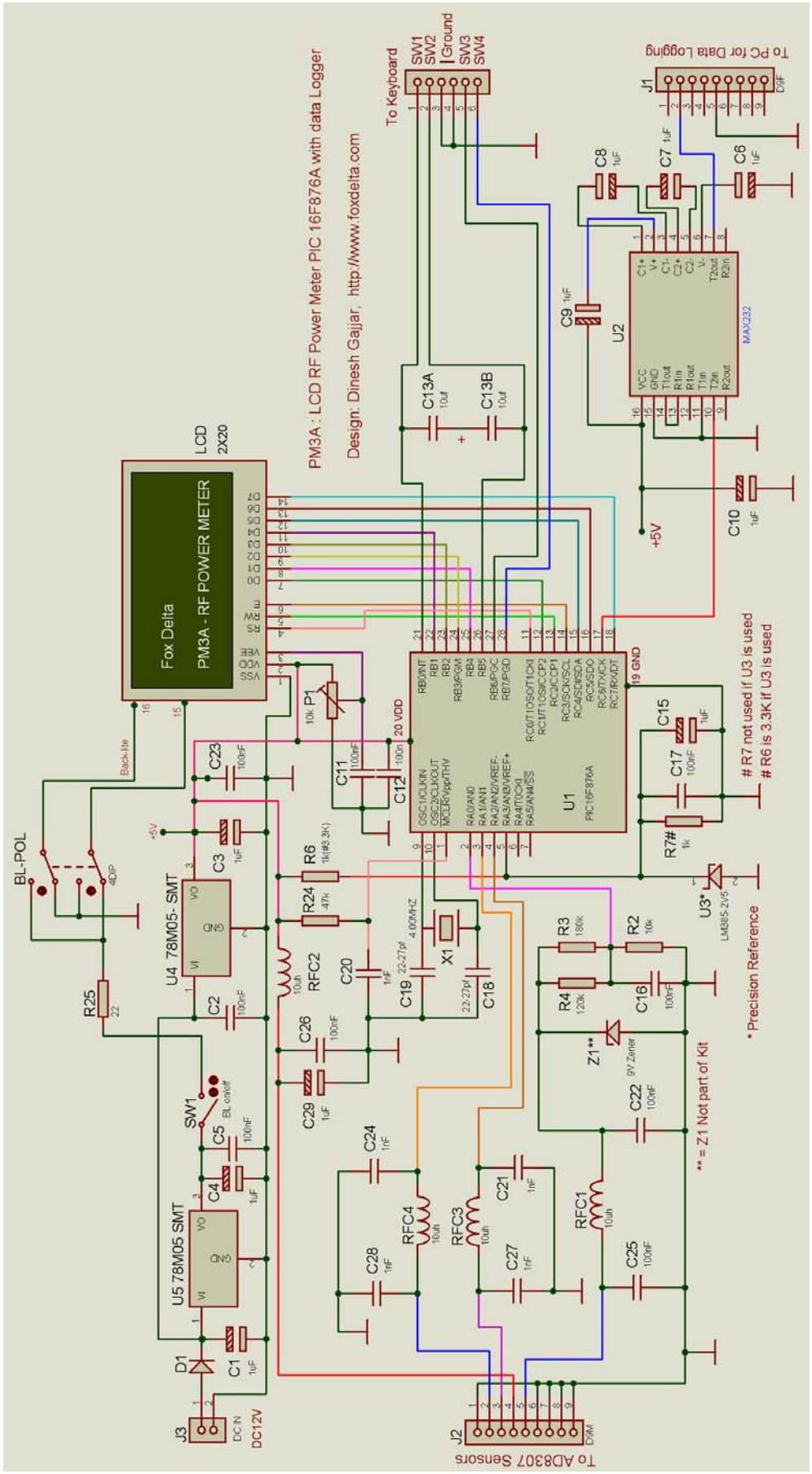
AD8307 Sensor Silk: DIP on left, SMT on Right:



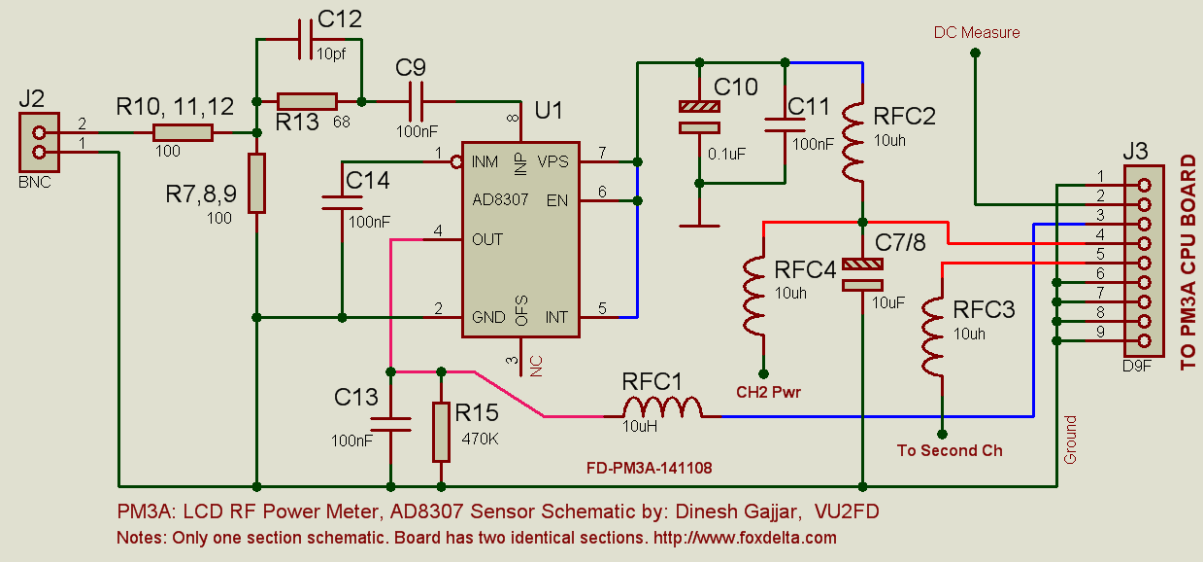
SMT Add-on card for PM3:

A specially designed Sensor board is available for AD8307/SOIC8.
Full Kits may also available soon.

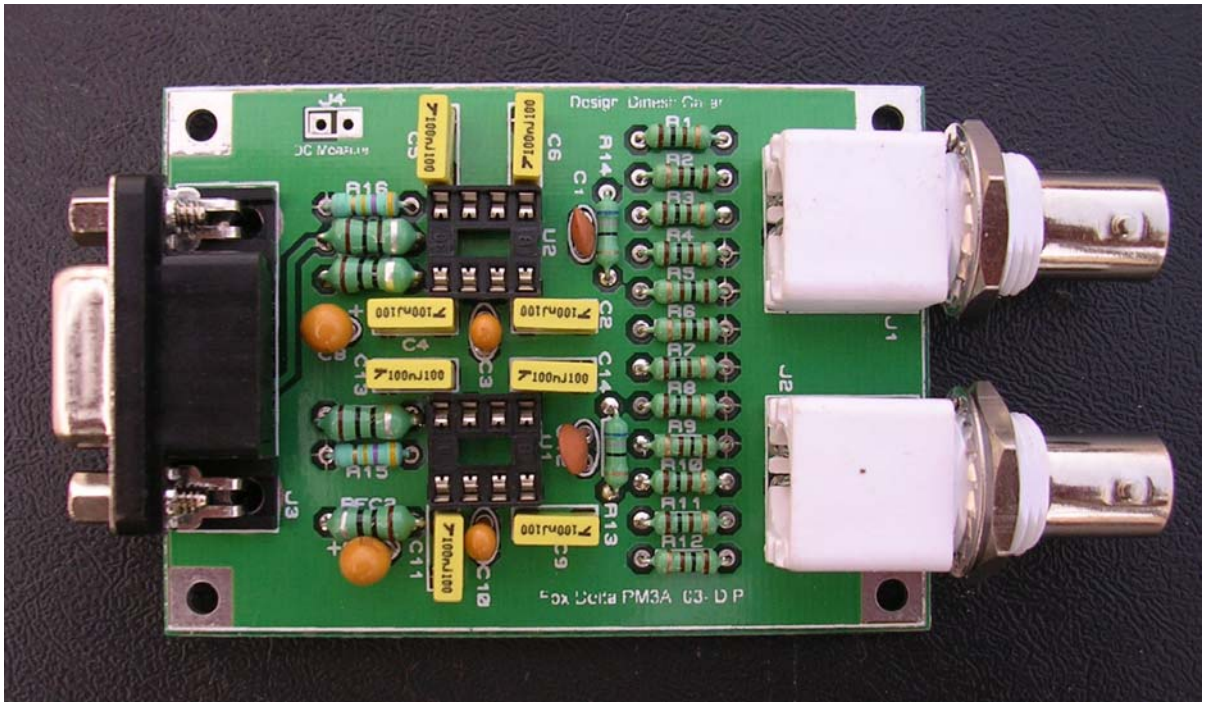
PM3A Schematic:



PM3A AD8307 Sensor Board Schematic:



Completed DIP8 AD8307 Sensor Board:



Dinesh Gajjar
15th Nov 2008

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