Fox Delta

Amateur Radio Projects & Kits

Menu Config for 2X20 LCD PIC16F876A RF Power Meter

PM2 : PIC16F876A LCD 500MHZ RF Power Meter: Dual Channel

In above picture, push buttons from Left To Right are:
SW4, SW3 (Left – Right Control) SW2, SW1 (Menu & Select)

The main startup screen shows:

If no attenuator is used, the dBm readout goes from -63 (noise floor) to +30 dBm (1W)

The status readout show the selected frequency band, and attenuator mode
Use the **SW3 & 4** (Left-Right) to change between LF, HF, VHF, UHF and SHF calibration memories

I have calibrated my wattmeter 0 dBm at: LF=3.5MHz, HF=14MHz, VHF=145MHz, UHF=430MHz, SHF=440MHz

But you can calibrate at your own favorite frequencies for best performance.

In the RF-power meter screen, use the **SELECT** button to enter **RELATIVE** mode. In this mode dbm and bar graph is shown, when entering this mode the dB readout is zeroed.

The menu operation:

To enter the menu / settings, use the **MENU** button **(S1)**
When in menu, use the Push Buttons **SW3 & 4** (Left-Right) to get the desired setting, at the right setting use **SELECT (S2)** to activate, this is also shown in the display.

Here are the menu points:

0: 0dB, no attenuator is mounted 1W max. !
1: -10dB attenuator is mounted, 10W max. !
2: -20dB attenuator is mounted, 100W max. !
3: -30dB attenuator is mounted, 1kW max. !
4: -40dB attenuator is mounted, 10kW max. !
5: -50dB attenuator is mounted, 100kW max. !
6: DC Voltmeter, actual and min. and max.
7: RF Power Meter, the default startup screen.
8: SSB PEP Wattmeter, with peak hold and variable decay
9: Return loss with SWR readout, usable with a SWR bridge
10: Calibrate 0 dBm at the selected band
11: Read all calibration values
12: Zero all calibration memories
13: Display update delay 2-80mS, and Peak hold and decay speed
14: About Info, shows software version and so on.

DC voltmeter:

The DC voltmeter can measure from 0 to 20 volt only positive, with a resolution of 20mV. Nothing is burned if input is reversed, it just cannot measure!

Calibration is done in hardware: use one or two 10meg resistors to parallel R19 or R16 until correct voltage is shown.

In the DC voltmeter screen, actual voltage, minimum and maximum is displayed. To reset min and max press select button

The voltmeter can be used to monitor the battery voltage if a battery supply is used, or what ever you want to measure, but remember the input impedance is about 80 k Ohm.

I have used OZ2CPU firmware for this RF Power Meter Project, you may downloaded it from:

http://www.webx.dk/oz2cpu/radios/milli-soft103-dk.htm

Also visit OZ2CPU web page at:

http://www.webx.dk/oz2cpu/radios/miliwatt.htm

73s
Dinesh Gajjar/VU2FD Updated: 10th Dec 06

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