



# Fox Delta

Amateur Radio Projects & Kits

FC3 - 0915

Schematic & Parts List: PIC18F4550 50/500MHZ Frequency Counter & RF Meter

This project is developed for Amateur Radio Community by:

[Antonio Alfinito / I2TZK](#)

[Dinesh Gajjar / VU2FD](#)

[Frank Dzuirda / K7SFN](#)

**FC3-0915 50/500MHZ Frequency Counter and RF Meter Kit Parts List:**

Quantity	Part ID	Details
1	U1	PIC18F4550 DIP40 with FW2.04 pre-loaded
1	PCB	FD-FC3-0915
1	IC Socket	40 PIN DIP
1	U3	AD8307 SO8
1	U2	LM385-2.5V
1	U6	7805
1	U4	MC12080 SO8
1	U5	74VHC00 SO14
1	Q1	IRFD110
1	Q2	ERA-3SM / SGA3486
1	Q3	BFR93A
1	OSC	Oscillator 20MHZ Full size (DIP14)
1	P1	10K Preset
1	D1	1N4007 Diode
2	D2, D3	1N4148
1 each	RFC5+BD	82-100uH+Ferrite Bead (1206)
4	RFC1, 2, 3, 4,	33-47uH
4	FBX1, 2, 3, 4,	FB Inductors
1set	LCD Header	16PIN SIL 0.1INCH (Male+Ribbon) 8+8
1set	KB Header	8PIN SIL 0.1INCH (Male+Ribbon)
2	KB Buttons	12mm push buttons
2	LED	3MM RED, Green
1	KB PCB	FC3-0915-1
1	J3	BNC R/A Connector
1	RLY	OEN42 or Similar 12V 1CO Relay
1	LCD	2x16 LCD with BL
1	J2	USB Connector
1	J1	DC Connector
1	Case	Free powder coated metal case.
1	Set	LCD and KB mounting hardware

## Resistors – All 1/4W 5% unless specified

Quantity	Part ID	Details
3	R1, 2, 3	18 ohms
2	R4, 5	100 ohms
1	R23	2.2 ohms
1	R6	470K
1	R7	10
1	R8	100K
1	R9	820
1	R10	150
2	R11, 19	750K
2	R14, 27	470
1	R16	1.5K
1	R12	820K
1	R18	680K
2	R13, 17	220
3	R25, 26, 30,	10K
3	R21, 22, 28	1K
2	R20, 24	4.7K
1	R29	3.3K
1	R15	33 ohms

## Capacitors:

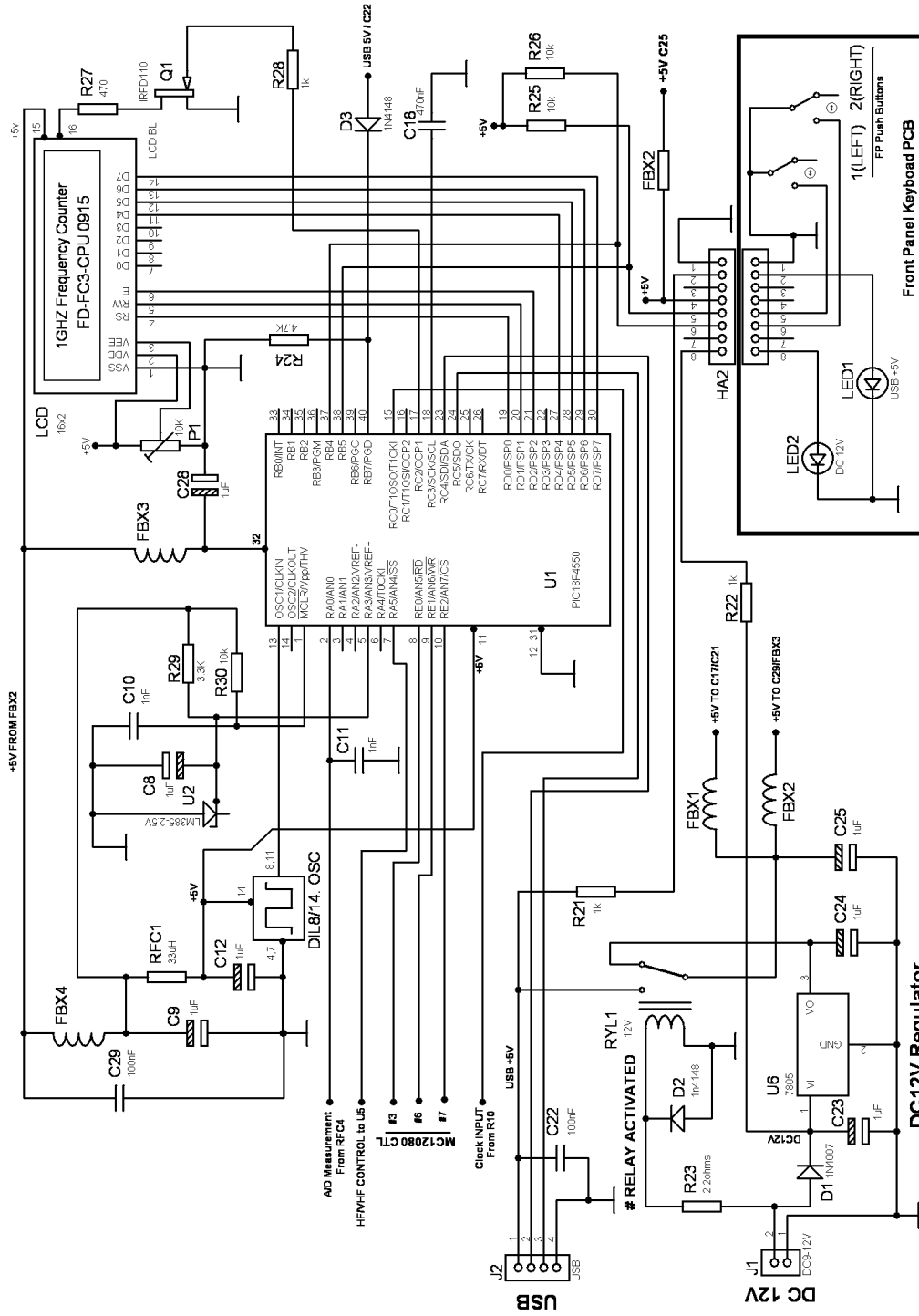
Quantity	Part ID	Details
4	C10, 11, 27, 26	0.001uF Ploy
4	C4, 17, 22, 29	0.1uF Ploy
8	C5, 2, 14, 1, 15, 16, 20, 19	0.01uF Poly
12	C3, 6, 7, 8, 9, 12, 13, 21, 25, 23, 24, 28	1uF Tantalum
1	C18	0.47uf

## Hardware:

Three set of hardware are included with kits:

1. Case Hardware: 8 bolts, 4 spacers and 4 metal screw.
2. KB Hardware: 4 bolts , 2 spacers.
3. LCD Hardware: 8 bolts and 4 spacers.

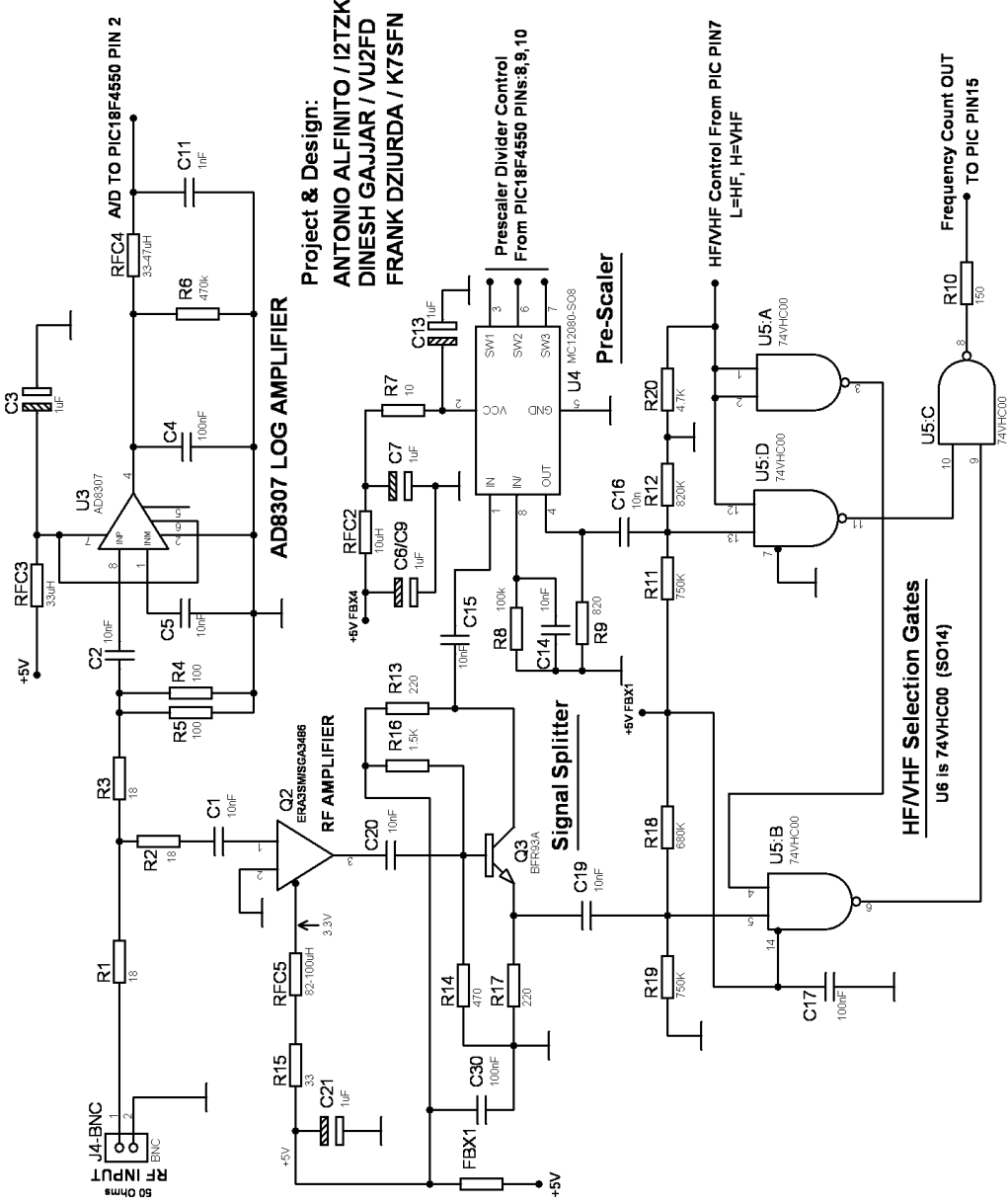
# FC3-0915 CPU Schematic:



Project & Design by: Antonio Alfinito / I2TZK, Dinesh Gajjar / VU2FD, Frank Dziurda / K7SFN  
 Fox Delta FC3-0915 PART-1 <http://www.foxdelta.com> Rev-0915

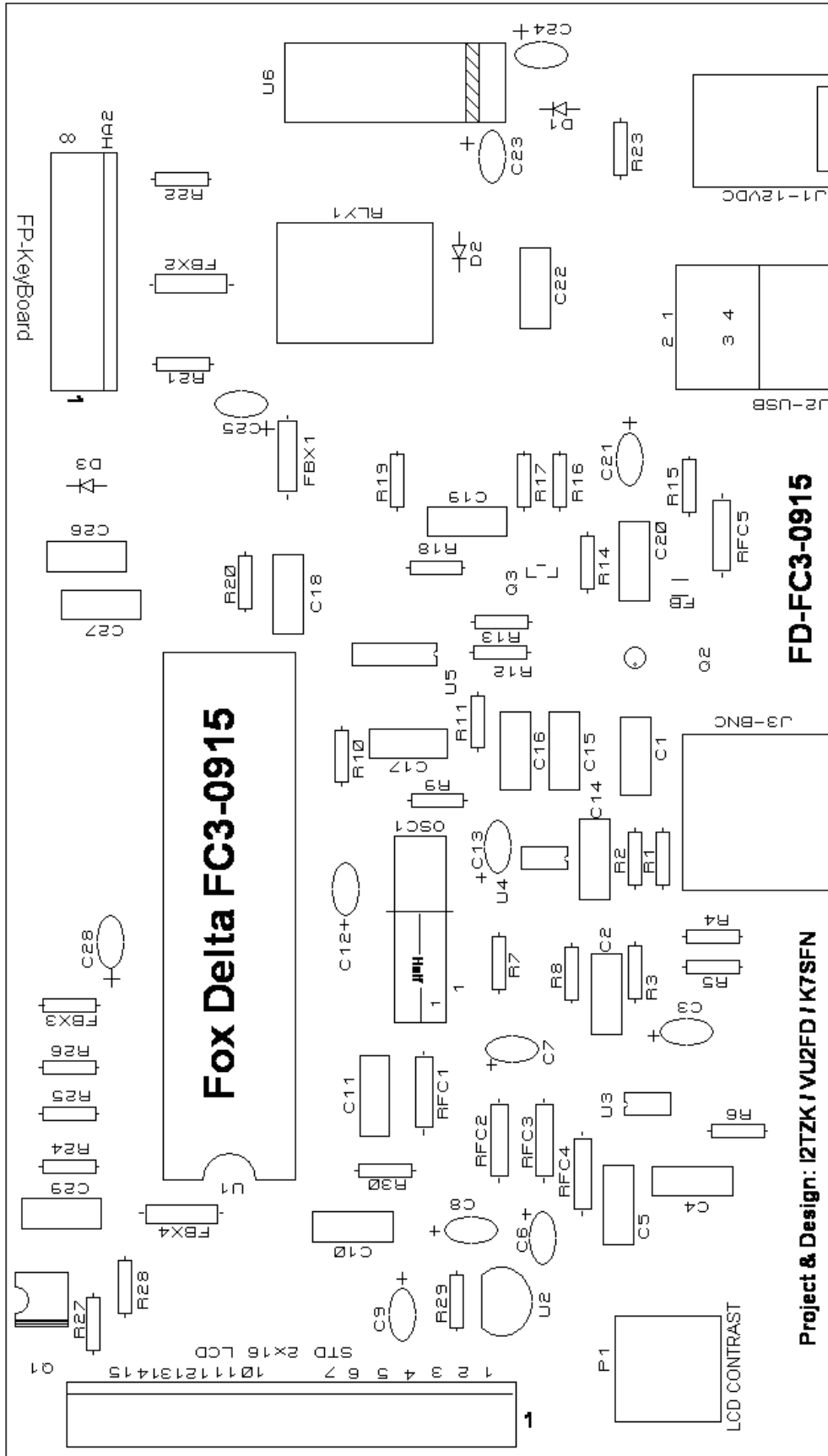
FC3-0915 INPUT Schematic:

FC3-0915 500MHZ LCD Frequency Counter & RF Meter



Project & Design:  
 ANTONIO ALFINITO / I2TZK  
 DINESH GAJJAR / VU2FD  
 FRANK DZIURDA / K7SFFN

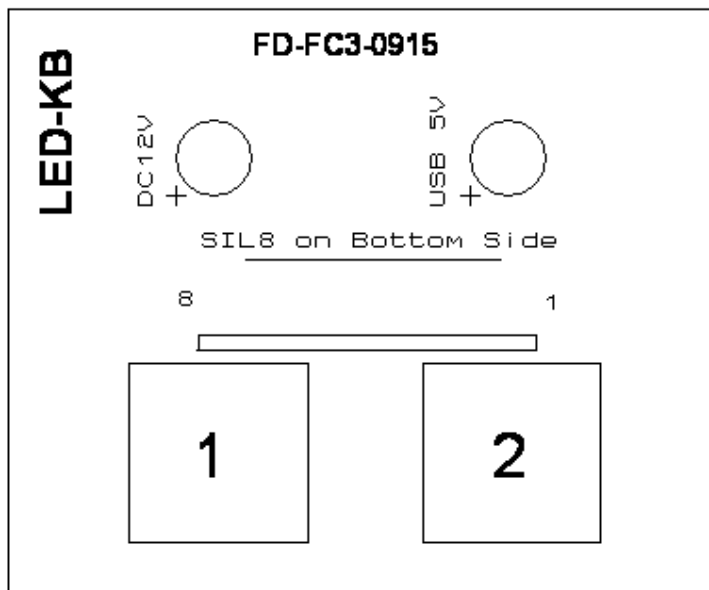
FC3-0915 PCB TOP SILK:



FD-FC3-0915

Project & Design: I2TZK / VU2FD / K7SFN

## FC3- 0915 Key Board PCB SILK:



### Notes:

1. SMT Parts: AD8307, MC12080, ERA3SM/74HC, BFR and Ferrite Bead are **pre-soldered on PCB**
2. Be careful while bending leads of RFCs. Check RFC continuity before bending, after bending and make sure they are good after soldering. One extra RFC is included in kits for the reason that **they get open circuited** while bending leads.
3. Ensure that you pay attention to OSCILLATOR **orientation**. OSC pin 1 is marked by a dot and by way of square edge on body.
4. Q1 is IRFD110. Make sure that you two pins which are together goes to pads **marked by black line on SILK**.
5. LCD header: 2 X 8SIL headers and 2 set of 8PIN ribbon cables are supplied. Make sure that **Marking "1"** on PCB matches **"1" of LCD**
6. Keyboard: 8PIN SIL header and ribbon cable is supplied for keyboard. Ensure that you install SIL male on KB PCB on the backside. **Match "1" marking on PCB to "1" on KB PCB.**

73s

Dinesh Gajjar  
230915

Support email: [esales@foxdelta.com](mailto:esales@foxdelta.com) or [vu2fd@yahoo.com](mailto:vu2fd@yahoo.com)

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