



Fox Delta

Amateur Radio Projects & Kits

FC3-0812

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

This project is developed for Amateur Radio Community by:

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FC3-0812 50/500MHZ Frequency Counter and RF Meter Kit Parts List:

Quantity	Part ID	Details
1	U1	PIC18F4550 DIP40
1	PCB	FD-FC3-0812
1	IC Socket	40 PIN DIP
X	U3*	MCP1702-3.3 (for TCXO – Option)
1	U4	AD8307 SO8
1	U2	MCP1525 2.5V Reference
1	U7	7805
1	U5	MC12080 SO8
1	U6	74VHC00 SO14
1	Q1	IRFD110
1	Q2**	ADA-4789 (ERA-5SM)
1	Q3	BFR93A
1	OSC	Oscillator 20MHZ Full size (DIP14)
1	P1	10K Preset
X	P2	50K Preset (Not part of this kit)
1	D1	1N4007 Diode
1	RFC9+BD	82uH+Ferrite Bead
6	RFC3, 4, 5, 6, 7, 8	33-39uH
2	RFC1, 2	10uH
1set	LCD Header	16PIN SIL 0.1INCH (Male+Ribbon)
1set	KB Header	10PIN SIL 0.1INCH (Male+Ribbon)
2	KB Buttons	12mm push buttons
2	Push Switches	Front Panel ON/OFF and USB/DC select
1	KB PCB	FC3-0812-1
1	J3	RJ45 R/A PCB Connector
1	J4	BNC R/A Connector
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

X = Not part of this kit. May be offered as an option.

Resistors – All 1/4W 5% unless specified

Quantity	Part ID	Details
3	R1, 2, 3	18 ohms 1%
2	R4, 4A	100 ohms 1%
X	R5	22K (Not part of this kit)
1	R6,	470K
1	R7	10
1	R8	100K
1	R9	820
1	R10	39 (10 Ohms with ERA5SM)
2	R11, 14	220
2	R12, 22	470
1	R13	1.5K
1	R15	820K
2	R16, 18	750K
1	R17	680K
1	R19	150
3	R20, 24, 25,	10K
1	R21	1K
2	R23, 26	4.7K

Capacitors:

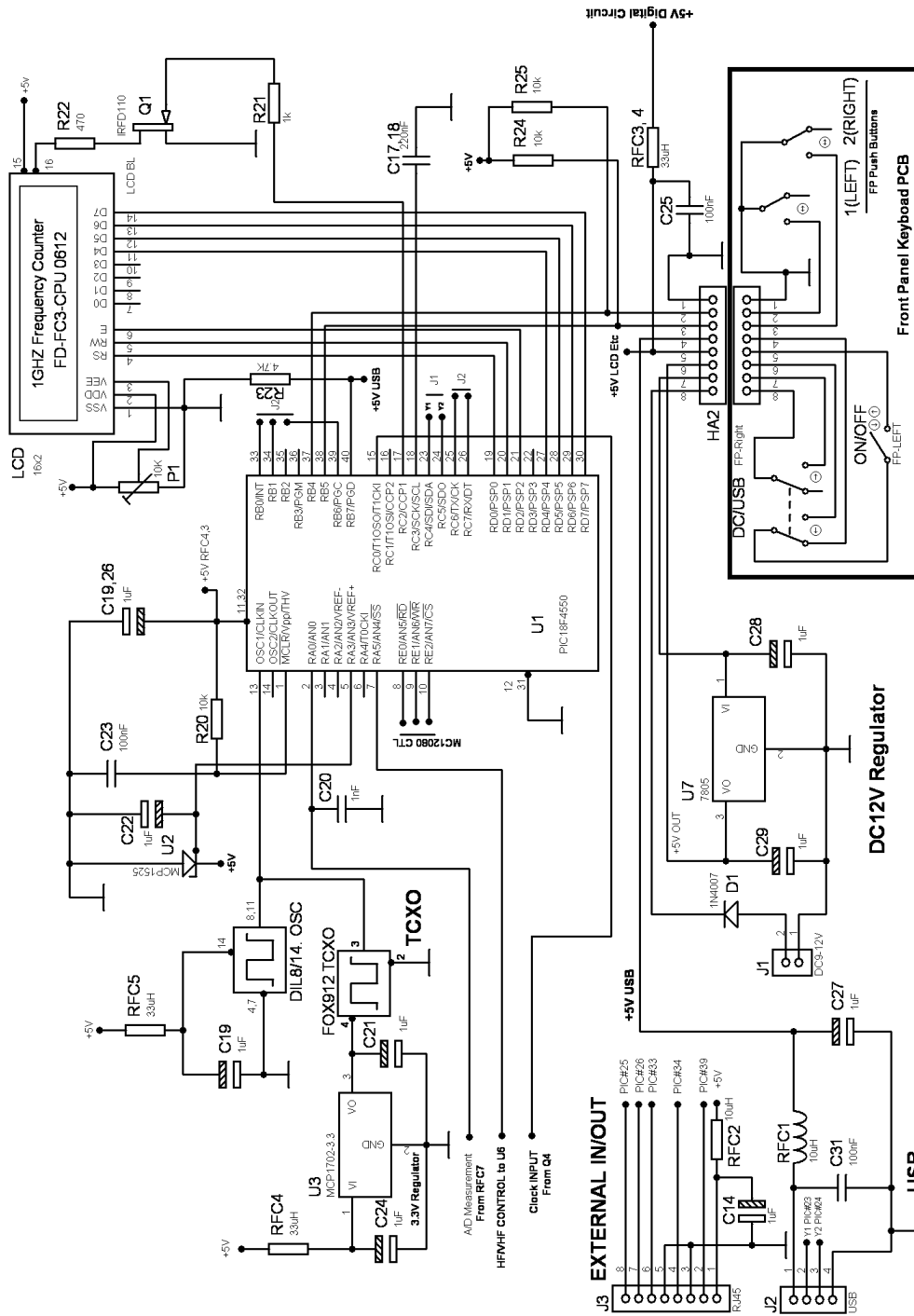
Quantity	Part ID	Details
10	C1, 2, 6, 11, 12, 15, 16, 20, CX, CX	0.001uF Ploy
7	C5, 23, 25, 13, 10, 31, 30 (and C4*)	0.1uF Ploy (*C4 is not part of this Kit)
12	C3, 7, 8, 24, 26, 19, 9, 14, 32, 27, 28, 29	1uF Tantalum
1	C22	10uF Tantalum
1	C17,(or C18)	0.47uf

Note*:

1. R5, P2 and C4 are not part of this kit. (For experimental use only)
2. CX are key bounce caps. Install them if needed.
3. U3 and TCXO not part of this kit.
4. U4, U5, U6 and Q2 are supplied Pre-Soldered on PCB
5. Extension PCB FD-FC3-0812-2 and associated parts are part of this kit.
6. **Q2 may be either ADA4789 or ERA5SM

Note: Values of RFC9+BD and R10 are revised from Schematic

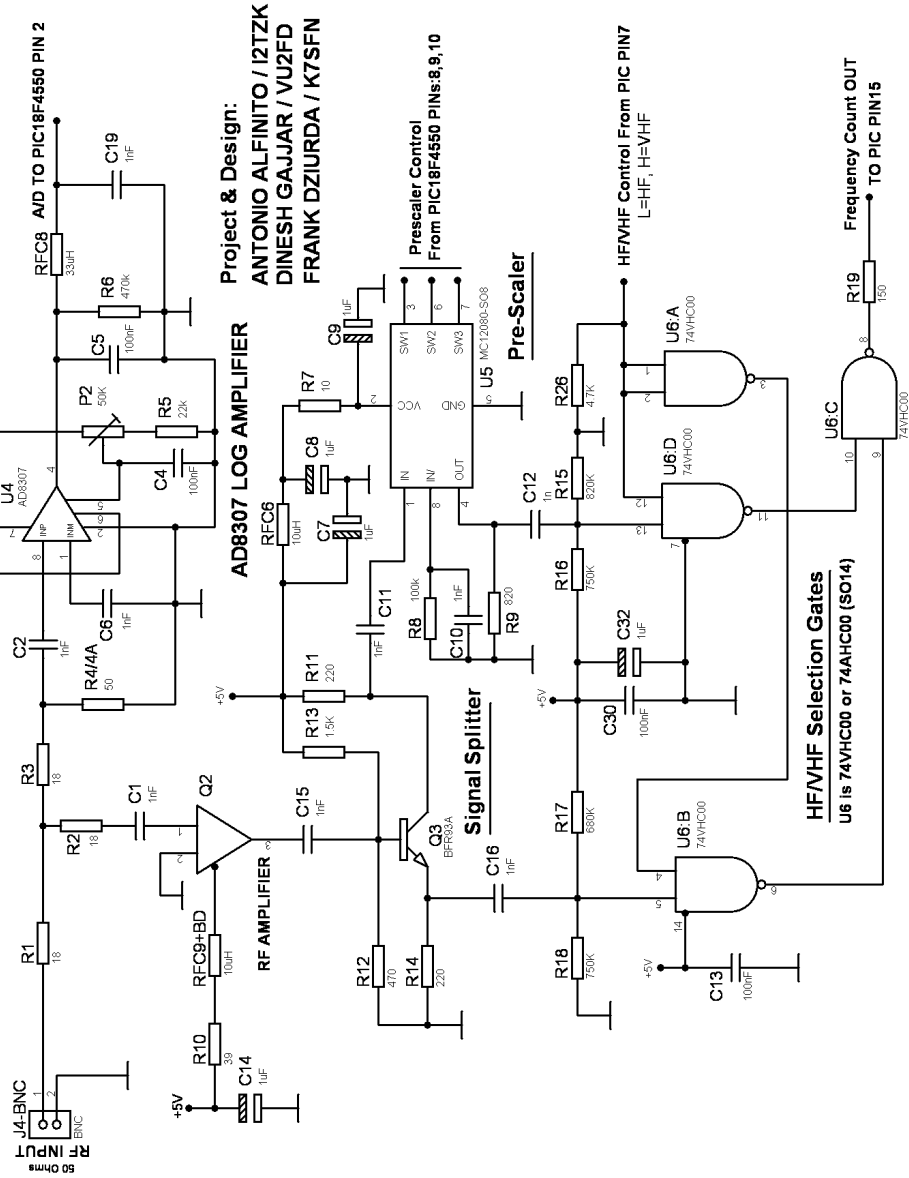
FC3-0812 CPU Schematic:



Project & Design by: Antonio Alfinito / I2TZK, Dinesh Gajjar / VU2FD, Frank Dziurda / K7SFN
 Fox Delta FC3-CPU-0812 PART-1 <http://www.foxdelta.com>

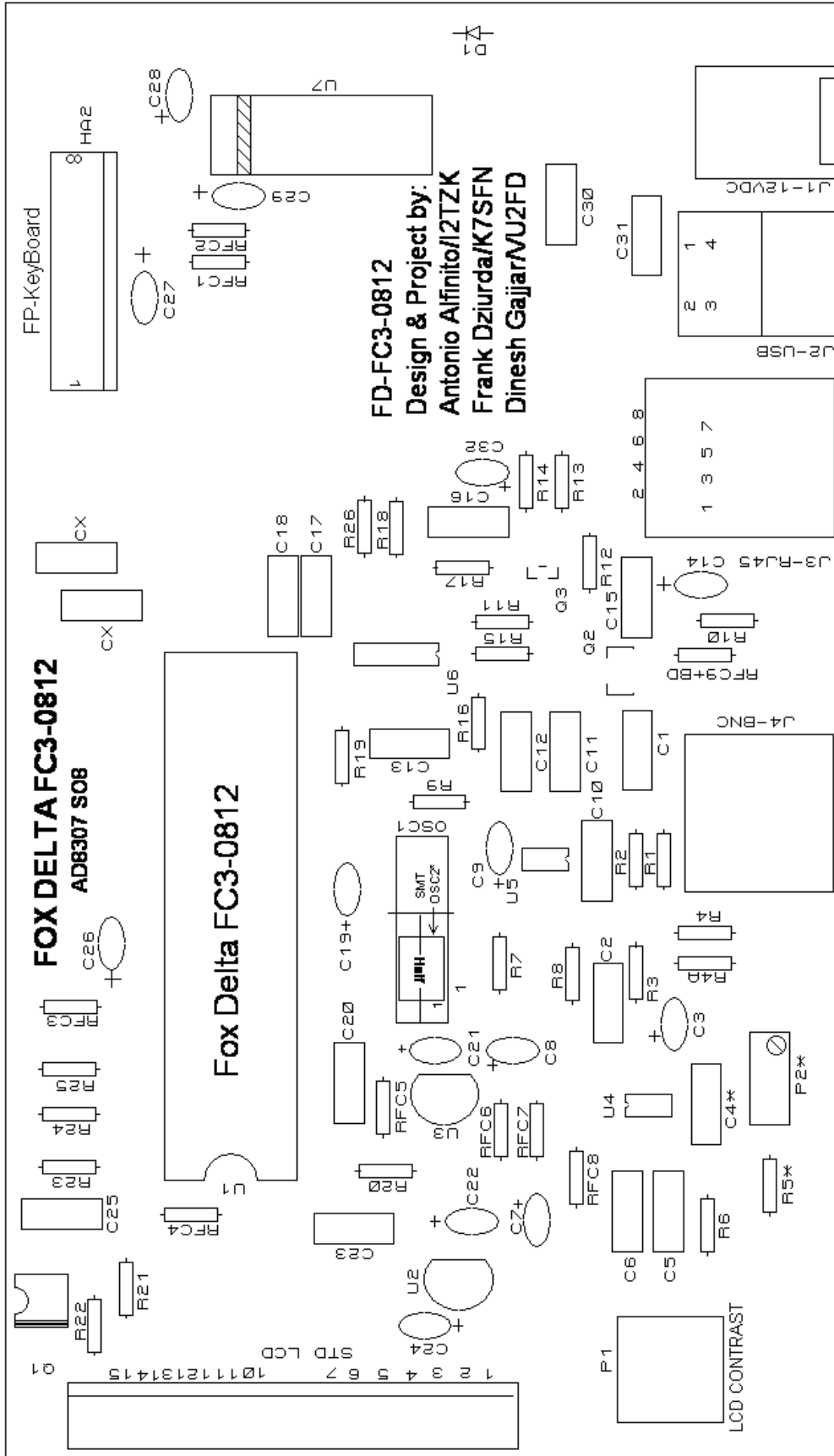
FC3 INPUT Schematic:

FC3 500MHZ (1.1GHZ) LCD Frequency Counter & RF Meter

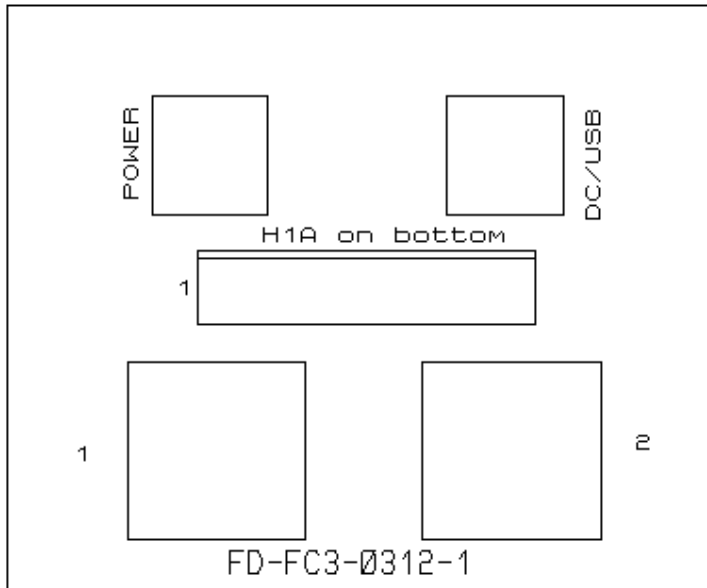


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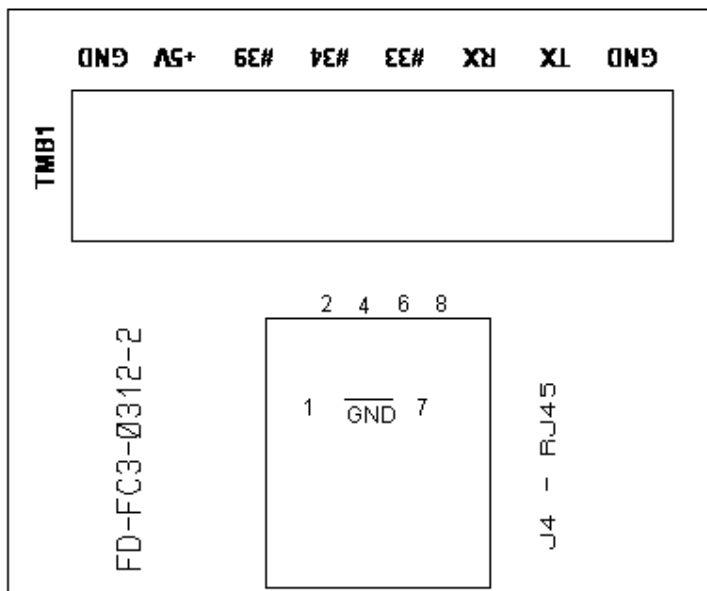
FC3-0812 PCB TOP SILK:



FC3-0812 KB SILK:



FC3-0812 Extension Board Silk: (OPTION)



An extension board is available for FC3 kits for experimenter. It is included with kits consisting: 1xRJ45 PCB Connector, 1x PCB, 1x8pin SIL Terminal Connector.

User need to be aware that all connections from this board are directly connected to CPU and it may damage CPU if CPU maximum parameters are exceeded. Please refer to PIC18F4550 datasheet for maximum ratings of CPU.

73s

Dinesh Gajjar / 220812 Updated 10th June 2013

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