



# Fox Delta

Amateur Radio Projects & Kits

Mini-TNC

## Schematic & Parts List of Mini-TNC: A 1200 Baud Simple TNC using PIC16F88

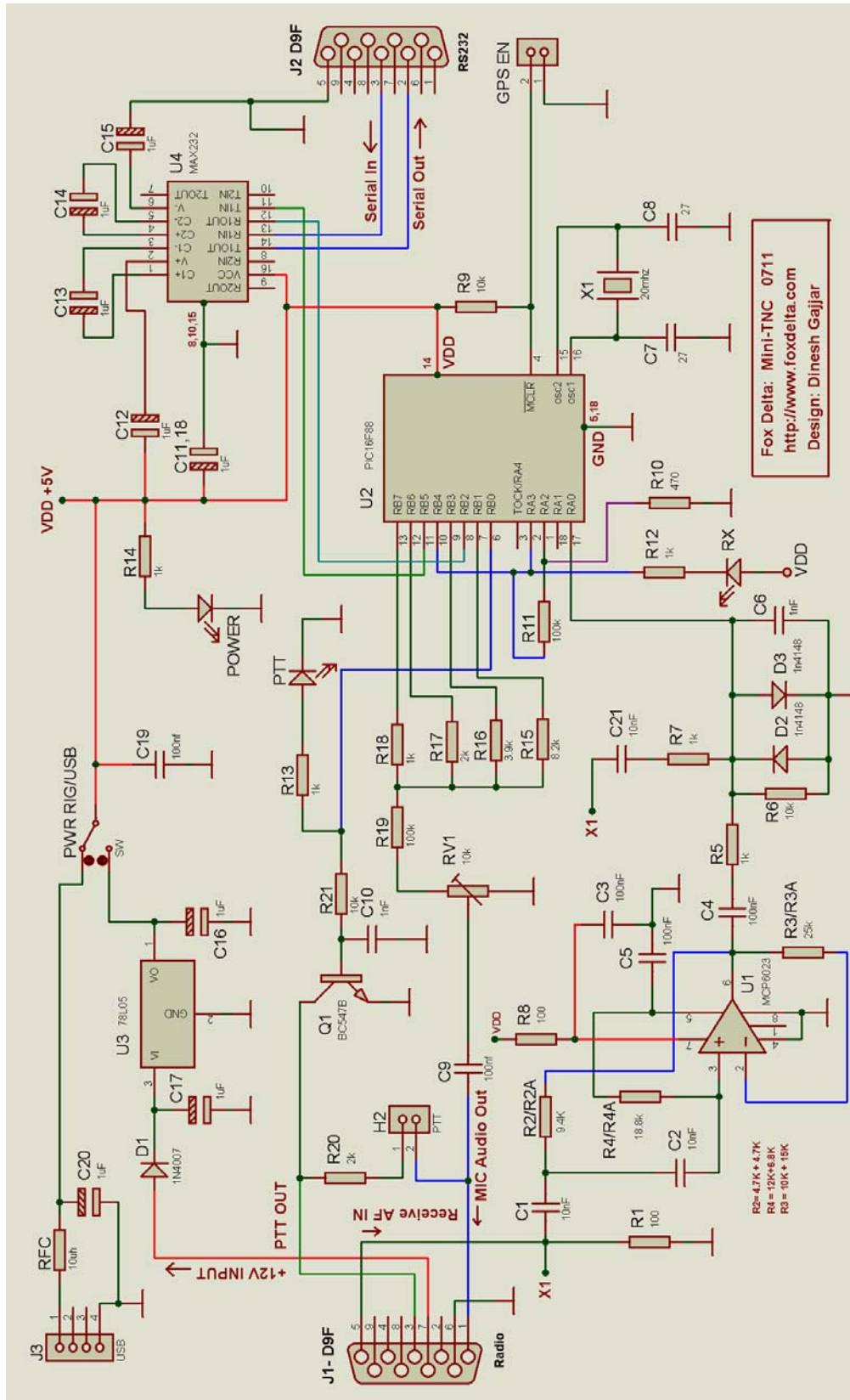
REV 0711

### Mini-TNC Parts List:

Qty	ID	Details
1	U2	PIC16F88, Pre-Programmed With Firmware V1.09
1	U4	MAX232 or Equiv. RS232 Driver
1	PCB	Mini-TNC Double Sided PTH Board Rev0711
1	U3	78L05
1	U1*	MCP6023, Audio Filter/Amplifier
1	Q1	BC547B, PTT Switch
2	J1, 2	D9 Female Right Angle Connector PCB
1	SW1	Push Switch "USB 5V OR 12V From J2 PIN 7"
3	LED	3mm: RX, TX & Power
1	X1	Crystal 20MHZ HC49US
1	RV1	Preset Bourns 10K
1	D1	1N4007
2	D2, 3	1N4148
1	DIP8*	IC Socket for U1
1	DIP18	IC Socket for U2
1	DIP16	IC Socket for U4
1	D9M	D9 Male Connector for Transceiver Connection
1	Case	Powder Coated Metal Case
Qty	ID	Details
9	C11, 12, 13, 14, 15, 18, 16, 17, 20	1uf 35V Tantalum
5	C3, 4, 5, 9, 19,	100nf Poly
3	C1*, 2*, 21**	10nf Poly
2	C10, 6	1nf Poly
2	C7, 8	22 or 27pf Ceramic
2	R1, 8*,	100 ohms 1/4W
1e	R2/R2A*	2 X 4.7K = 9.4k
1e	R3/R3A*	10K + 15K = 25k
1e	R4/R4A*	12K + 6.8K = 18.8k
1	R10	470
3	R6, 9, 21	10K
2	R11, 19	100k
6	R5*, 7**, 12, 13, 14, 18,	1K
1	R15	8.2k
1	R16	3.9K
2	R17, 20	2K

- \*= Parts used if MCP6023 is installed. (Do not install C21 in this case).
- \*\* = Parts required if direct audio input to PIC16F88's PIN 17 is opted. (omit all \* Parts)

# Schematic: Mini-TNC Rev0711:



Fox Delta: Mini-TNC 0711  
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Please visit <http://www.foxdelta.com> for more information on this project.