

G7LTT / DUTCH*Star Mini-HotSpot II

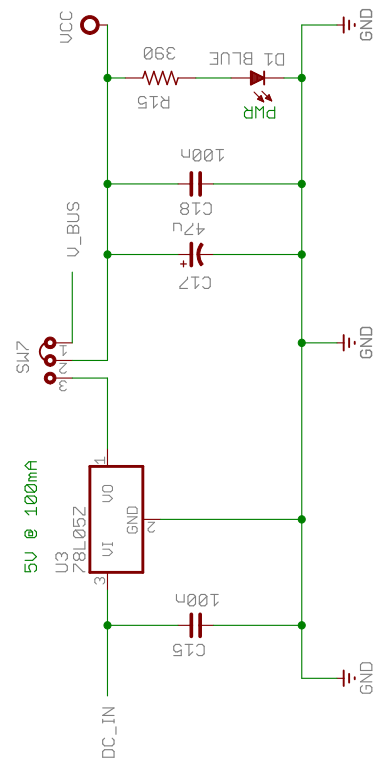
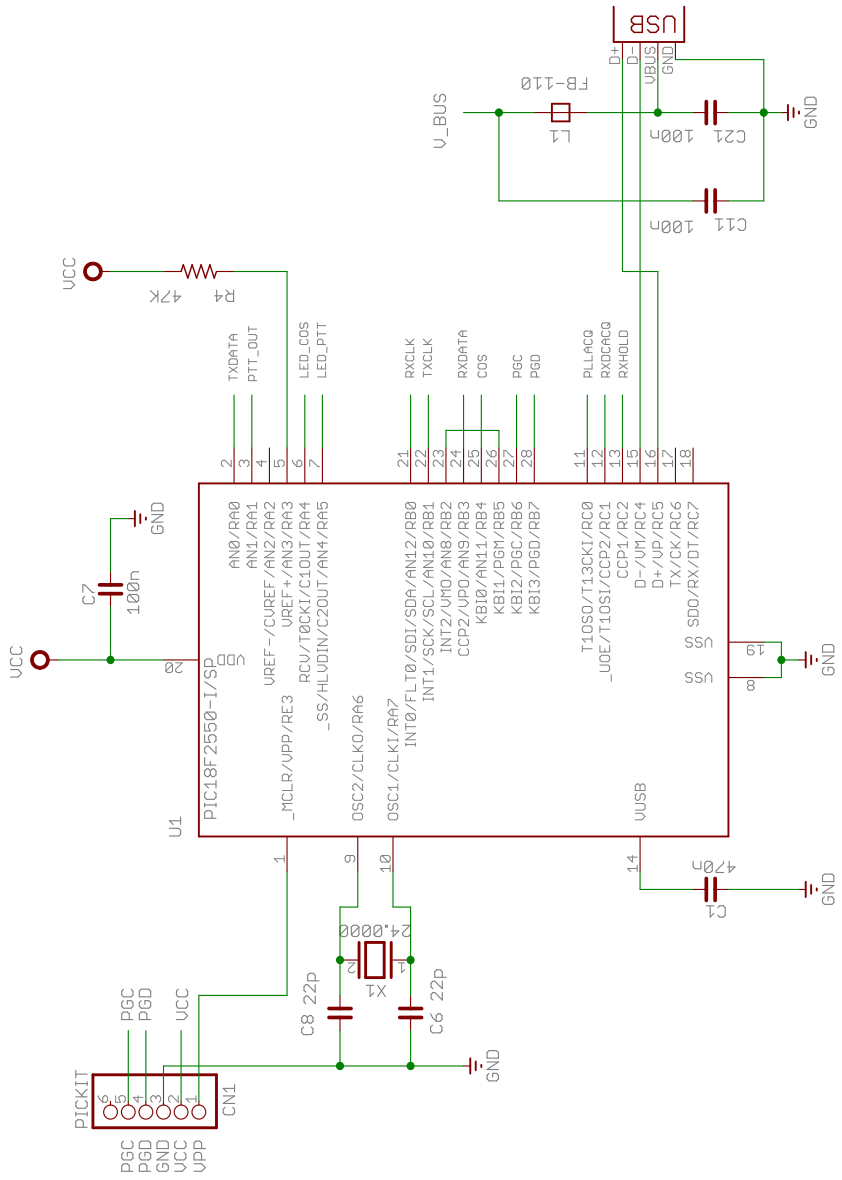


Designers: Mark Phillips G7LTT and Fred N.van Kempen PA4YBR

More information can be found on www.g7ltt.com/hotspot and www.dutch-star.nl

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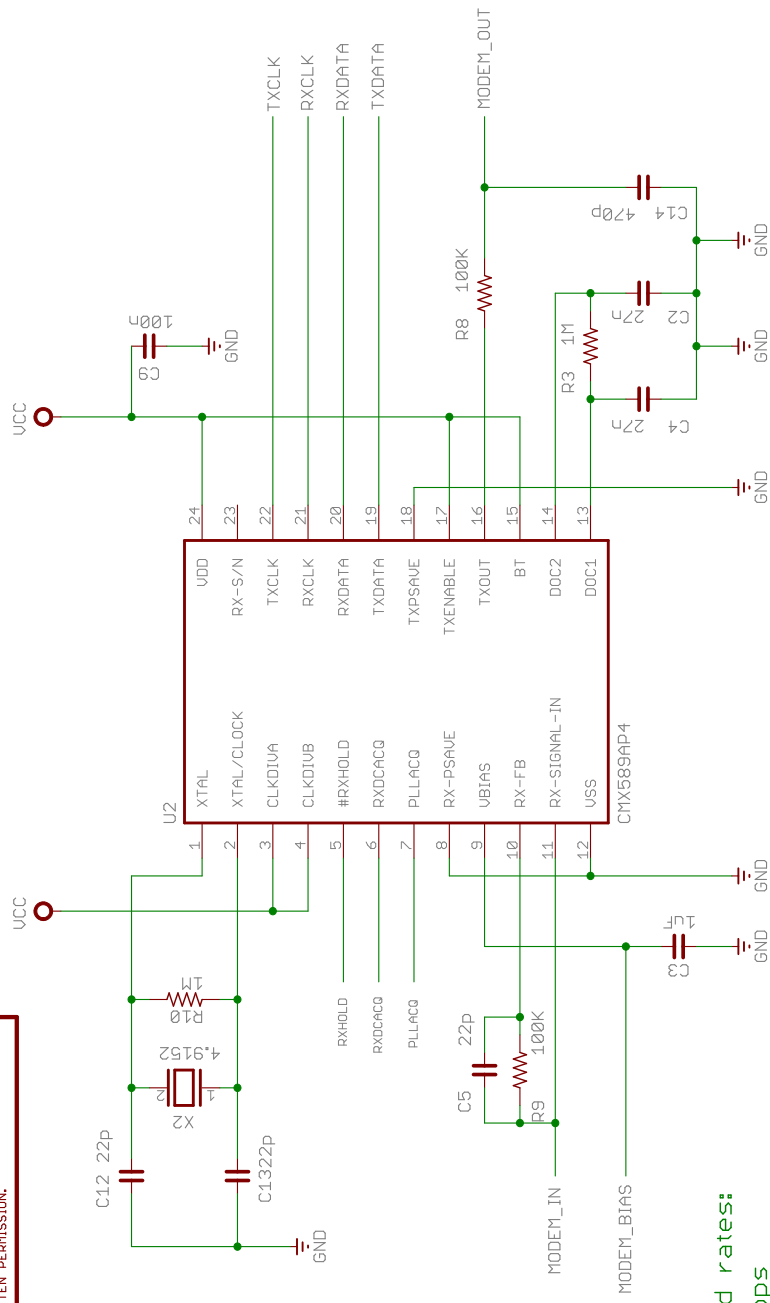
PROPRIETARY



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DRAWN	Fvk	TITLE	REV
CHECKED		DUTCH*Star Mini HotSpot Main CPU control	A01
DATE		DRG N°	
		26-11-2009 13:46:44	
		FILE: mini-hs	PAGE: 1/4

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*** Supported rates:**

- 4800 bps
- 9600 bps
- 19200 bps
- 38400 bps

using the 4.9152MHz XTAL. R9/C5 filter unchanged.

*** Charge pump C2/C4 changes with data rate.**

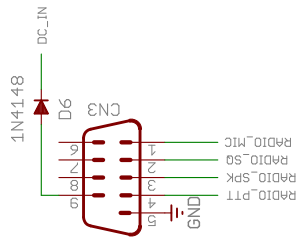
speed	C2/4	R8	C14
4800	27n	100K	470p
9600	12n	47K	470p
19200	6n8	91K	120p
38400	3n3	47K	120p
64000	1n8	51K	68p
128000	860p	82K	22p

- * Resistors and capacitors as per datasheet tables for speed of 4.8Kbps and xtal of 4.9152MHz
- * BT fixed to 0.5
- * R3 only needed if syncing problems occur.

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DRAWN	Fvk	TITLE DUTCH*Star CMX Modem Chip	REV A01
CHECKED		DATE 26-11-2009 13:46:44	DRG N°
DATE		FILE: mini-hs	PAGE: 2/4

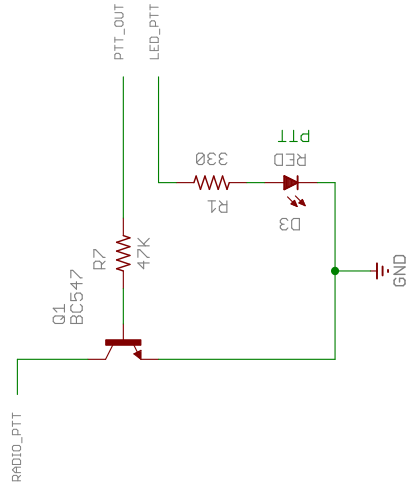
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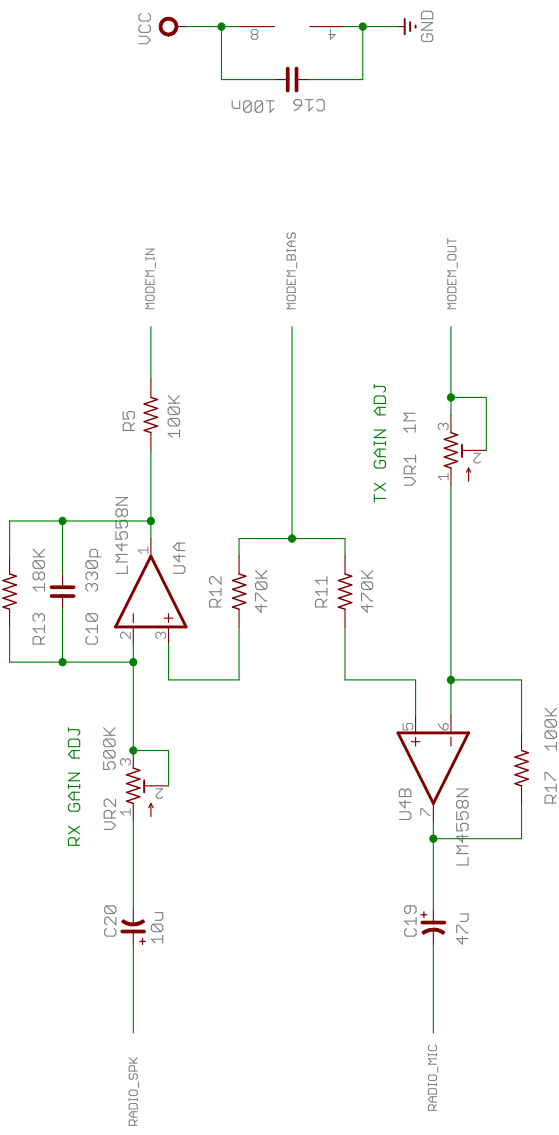


- 1. AUDIO IN (MIC)
- 2. SQUELCH
- 3. AUDIO OUT (SPK)
- 4. PTT (Open Collector)
- 5. GND
- 6. EXT PHR IN

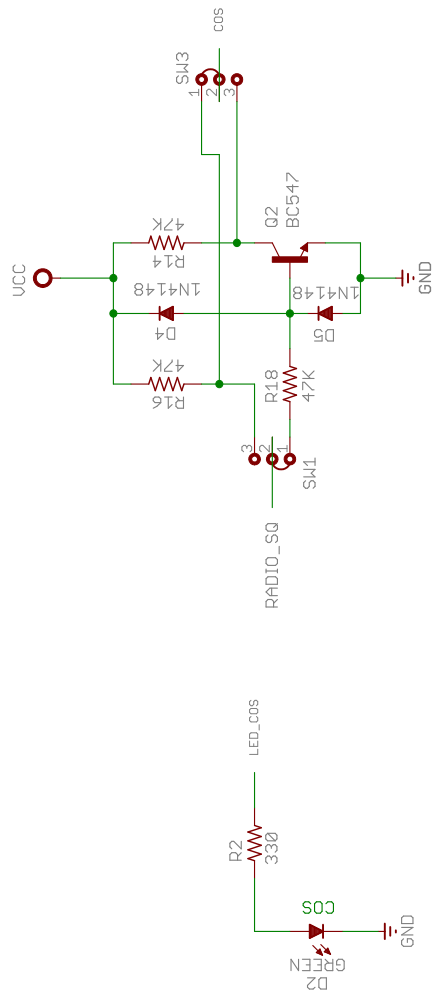
Radio Interface Connector



Radio Interface PTT Control



Radio Interface Analog Frontend



Radio Interface COS Control

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DRAWN	FvK	TITLE	REV
CHECKED		DUTCH*Star Radio Interface	A01
DATE		DATE	DRG N°
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PROPRIETARY

Revision History

- * LED series resistors changed from 2.2K to 330R and 390R (blue)
- * XTAL capacitors changed from 18p to 22p for better stability
- * Diode D5 reversed
- * Q2 changed from 2N7000 to BC547; on PCB in reverse placement
- * RX and TX labels near UR1 and UR2 are swapped;
- * RESET disconnected; resistor R6 removed;
- * R11 and R12 changed from 180K to 470K
- * Jumper SW5 removed (not needed)

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DRAWN	FVK	TITLE	DUTCH*Star Mini HotSpot	REV	A01
CHECKED			Revision History		
DATE		DATE	26-11-2009 13:46:44	DRG N°	
		FILE:	mini-hs		PAGE: 4/4

Partlist exported from mini-hs.sch at 10-8-2009 2:49:03

Qty	Value	Device	Parts
1	PICKIT	PINHD-1X6	CN1
1	USBPTH	USBPTH	CN2
1	RADIO	M09HP	CN3
3	JUMPER	J2JP2	SW1, SW3, SW7
1	FB-110	FB-110	L1
2	330	R_X0204/7	R1, R2
1	390	R_X0204/7	R15
5	47K	R_X0204/7	R4, R7, R14, R16, R18
4	100K	R_X0204/7	R5, R8, R9, R17
1	180K	R_X0204/7	R13
2	470K	R_X0204/7	R11, R12
2	1M	R_X0204/7	R3, R10
1	500K	TRIM_US-LI10	VR2
1	1M	TRIM_US-LI10	VR1
5	22p	C_C025-040X018	C5, C6, C8, C12, C13
1	330p	C_C025-040X018	C10
1	470p	C_C025-040X018	C14
2	27n	C_C025-050X025	C2, C4
7	100n	C_C025-040X018	C7, C9, C11, C15, C16, C18, C21
1	470n	C_C025-040X018	C1
1	1uF	C_C050-075X040	C3
1	10u	CP_E-020X050	C20
2	47u	CP_E-020X050	C17, C19
1	BLUE	LED5MM	D1
1	GREEN	LED5MM	D2
1	RED	LED5MM	D3
3	1N4148	1N4148	D4, D5, D6
2	BC547	BC547	Q1, Q2
1	4.9152	XTAL/S	X2
1	24.0000	XTAL/S	X1
1	PIC18F2550-I/SP	PIC18F2550-I/SP	U1
1	CMX589AP4	CMX589AP4	U2
1	78L05Z	78L05Z	U3
1	LM4558N	LM4558N	U4

