North Texas NTMS Microwave Society

SoftRock RXTXv6.2 for 10 Meters

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W5LUA

January 10, 2009

http://groups.yahoo.com/group/softrock40/

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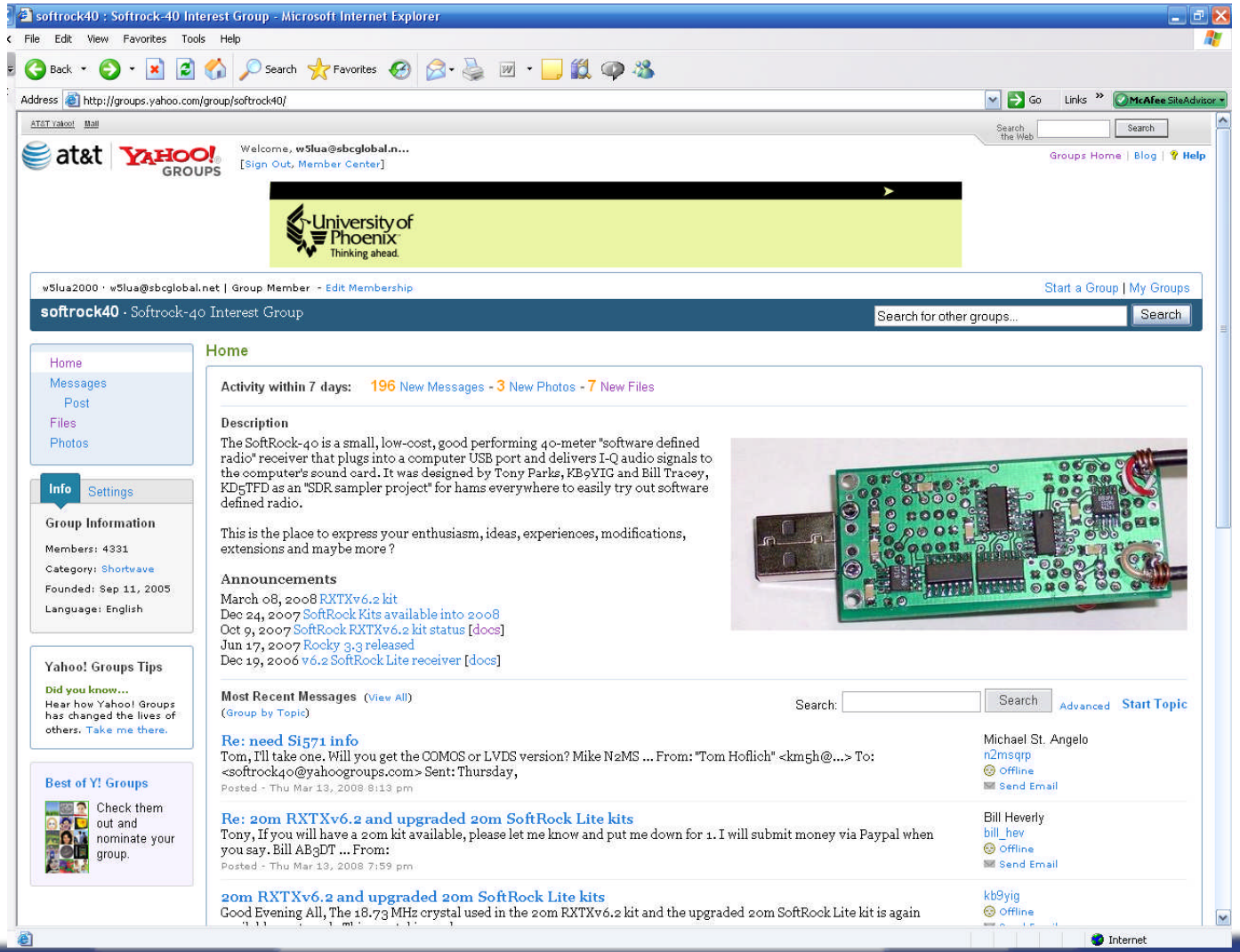

SDR-1000

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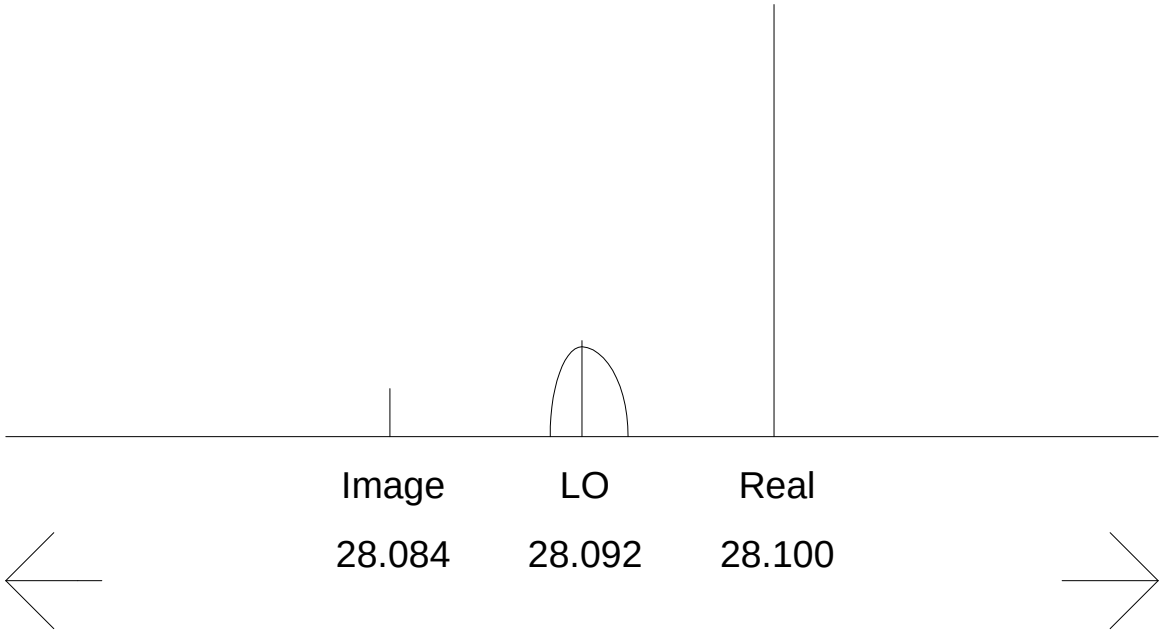

IF = 8kHz for receive only
LO is offset to receive frequency for transmit

RXTXv6.2

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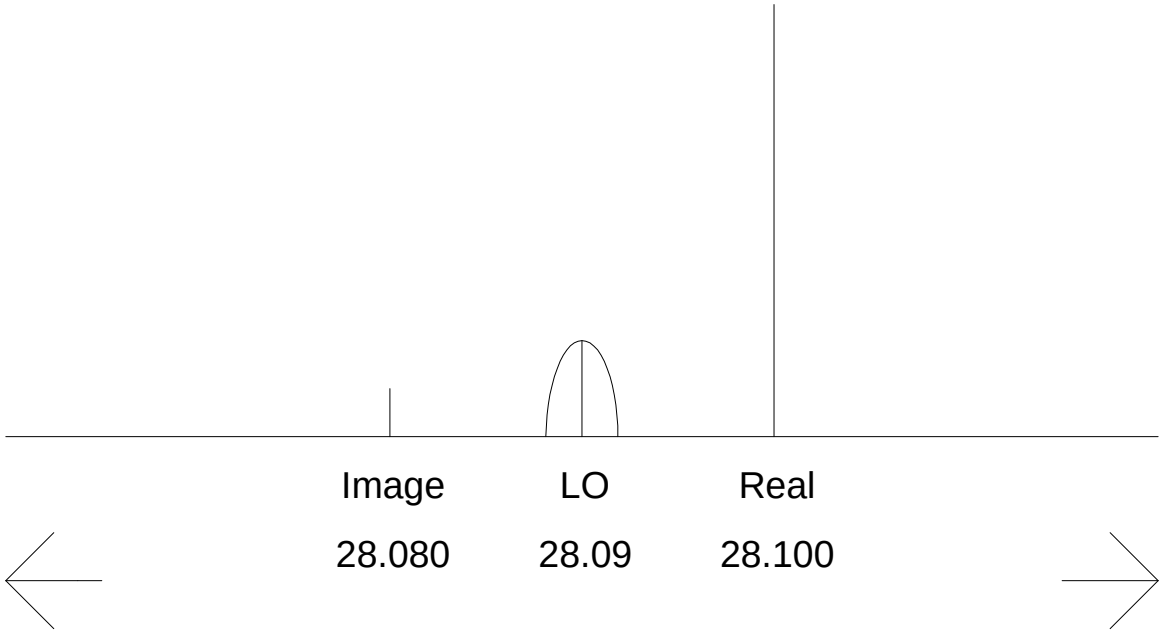

For an LO of 28.090, to receive a signal at 28.100, requires an IF of 10kHz. IF same for transmit. IF can also be as high as samplig rate / 2

Note: Can NOT use standard Flex-Radio software

RXTXv6.2 for 10Meters

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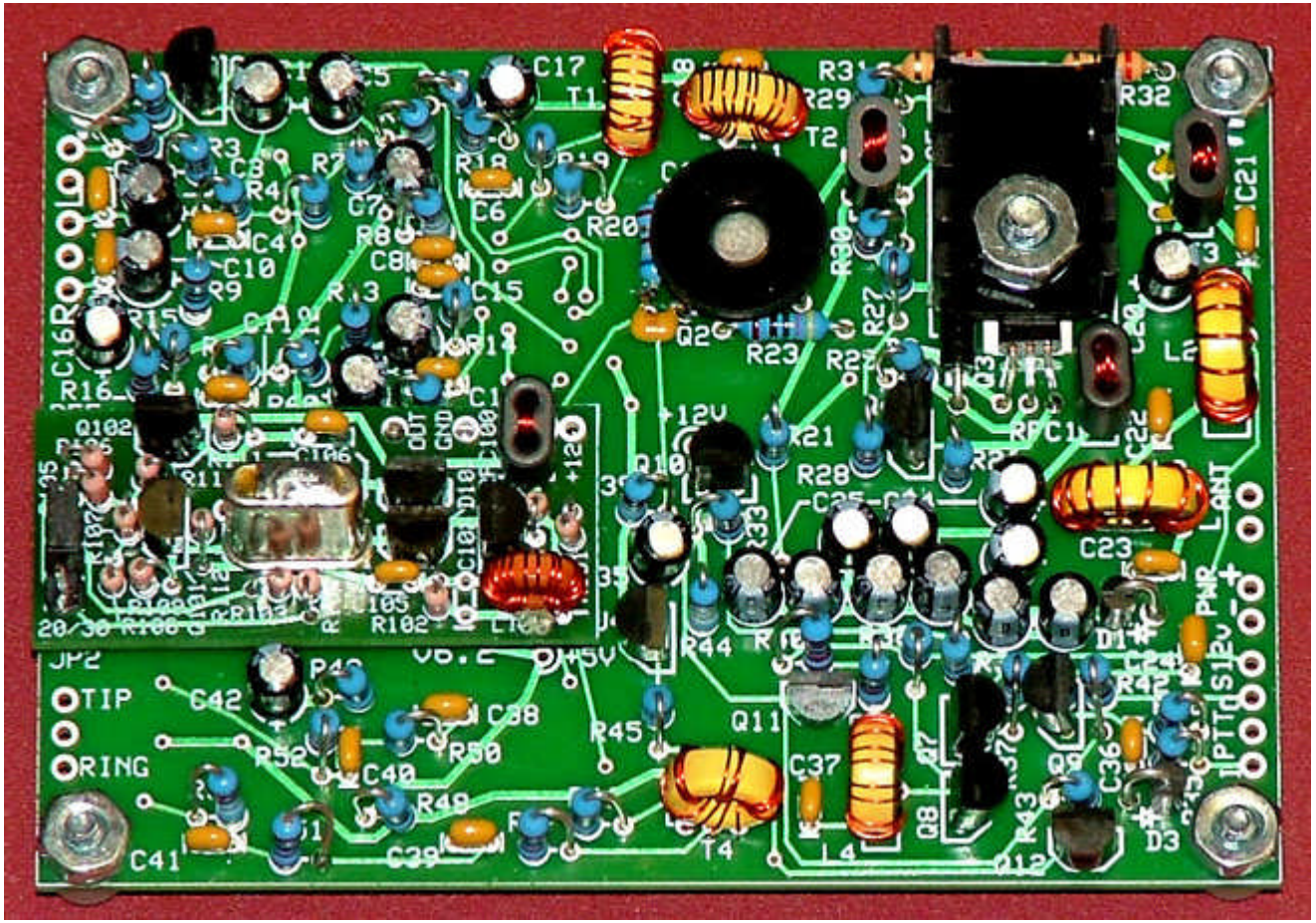

Produced by Tony Parks – KB9YIG
Cost $50

Just add soundcard and computer
Runs 1 watt @ 28 MHz, all modes supported by software

Builders notes by WB5RVZ on SoftRock web site were invaluable during assembly

K0AWU's RXTXv6.2 Installation

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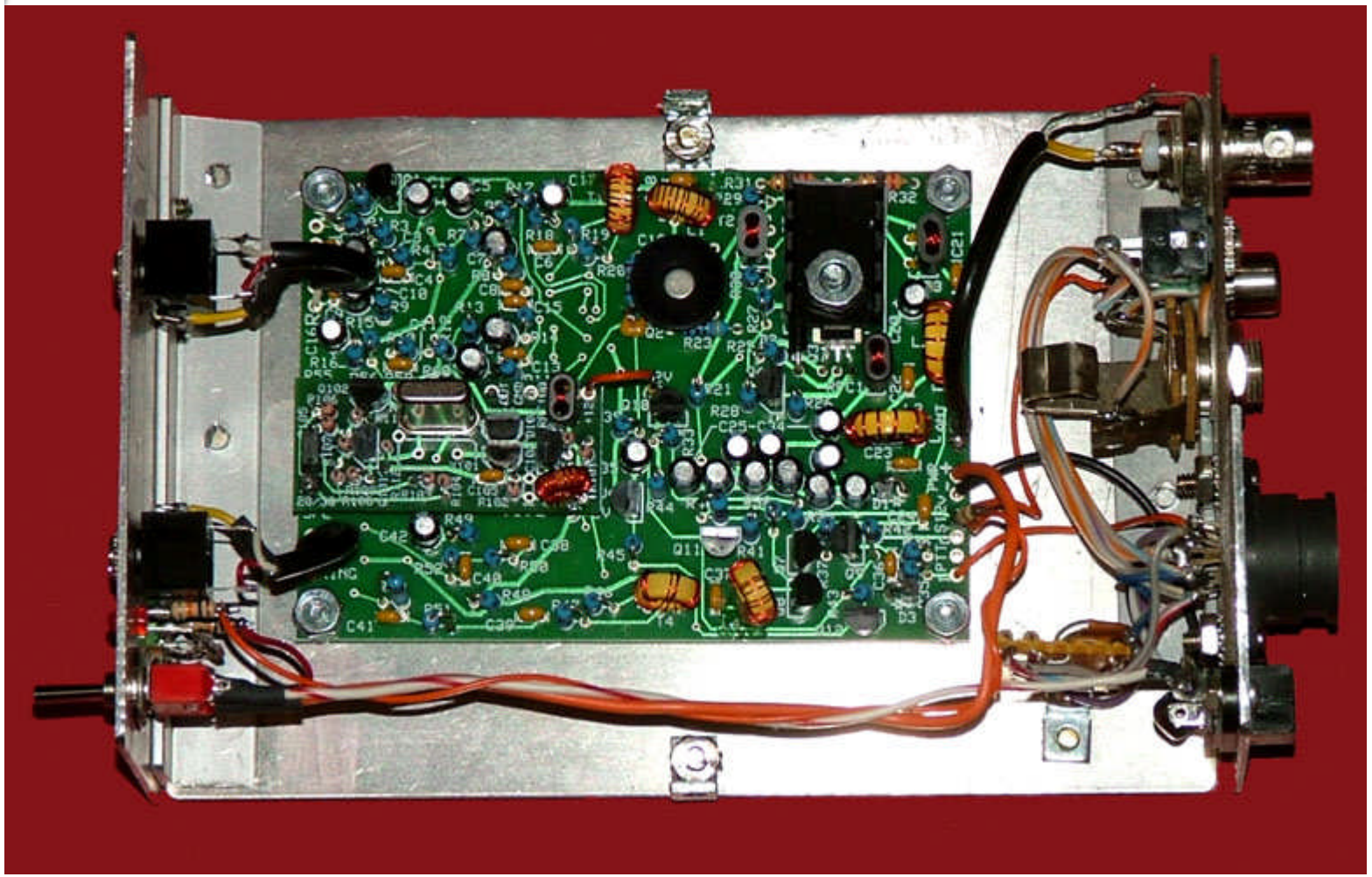

Bill's assistance was also invaluable during assembly

K0AWU's Setup for 2M/MW IF Using RXTXv6.2 from KB9YIG

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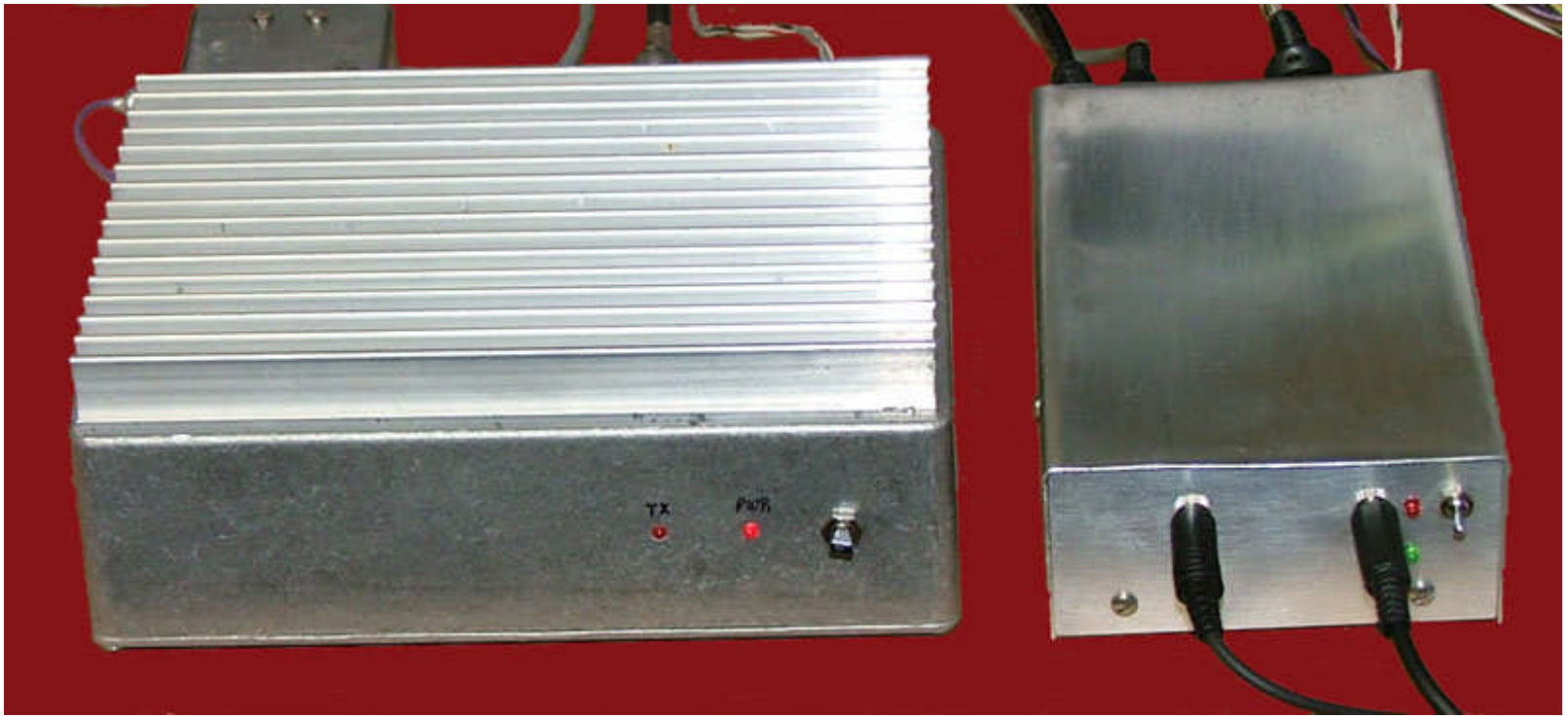

RXTXv6.2 Receiver Section

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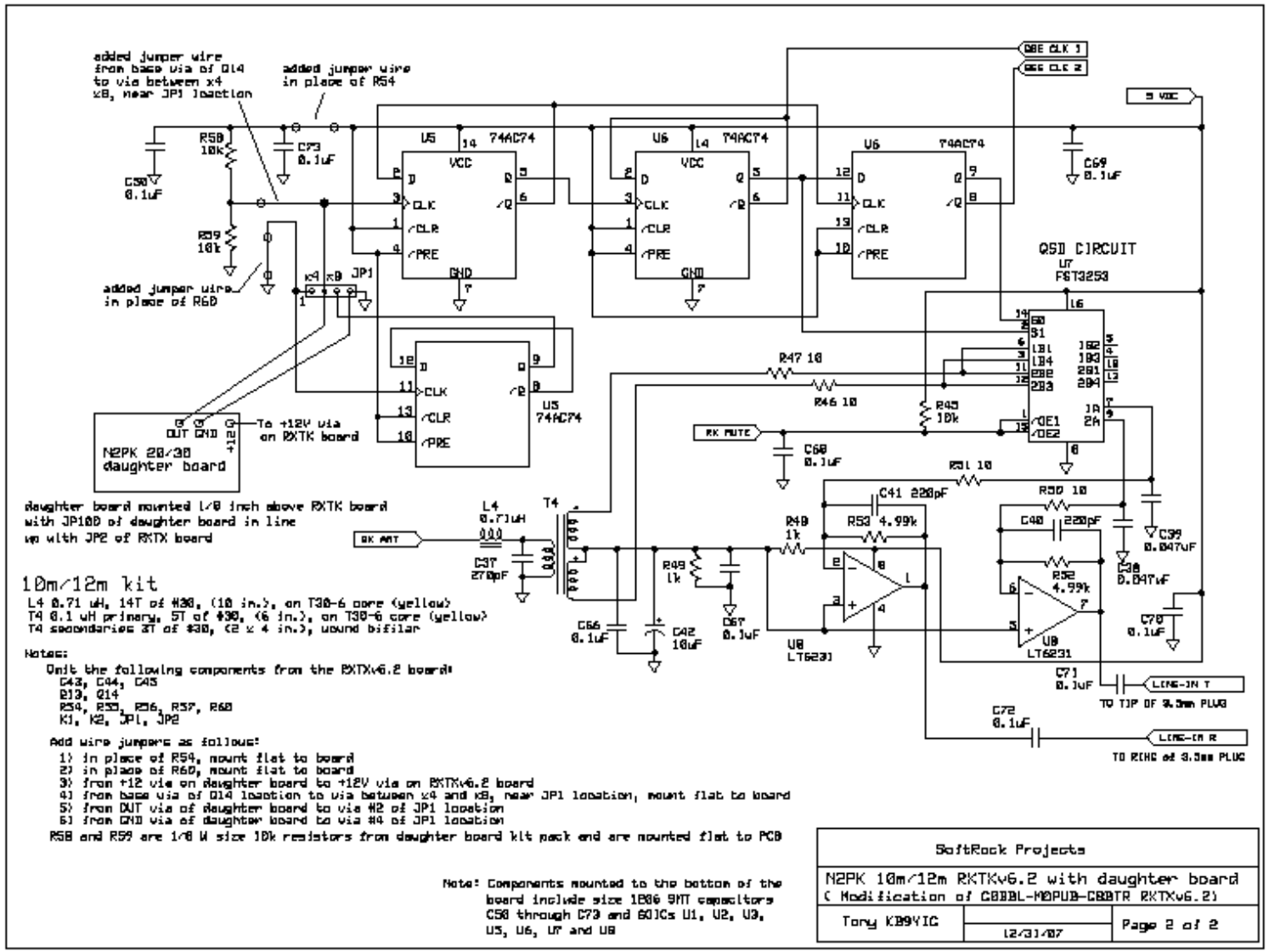

RXTXv6.2 Transmitter Section

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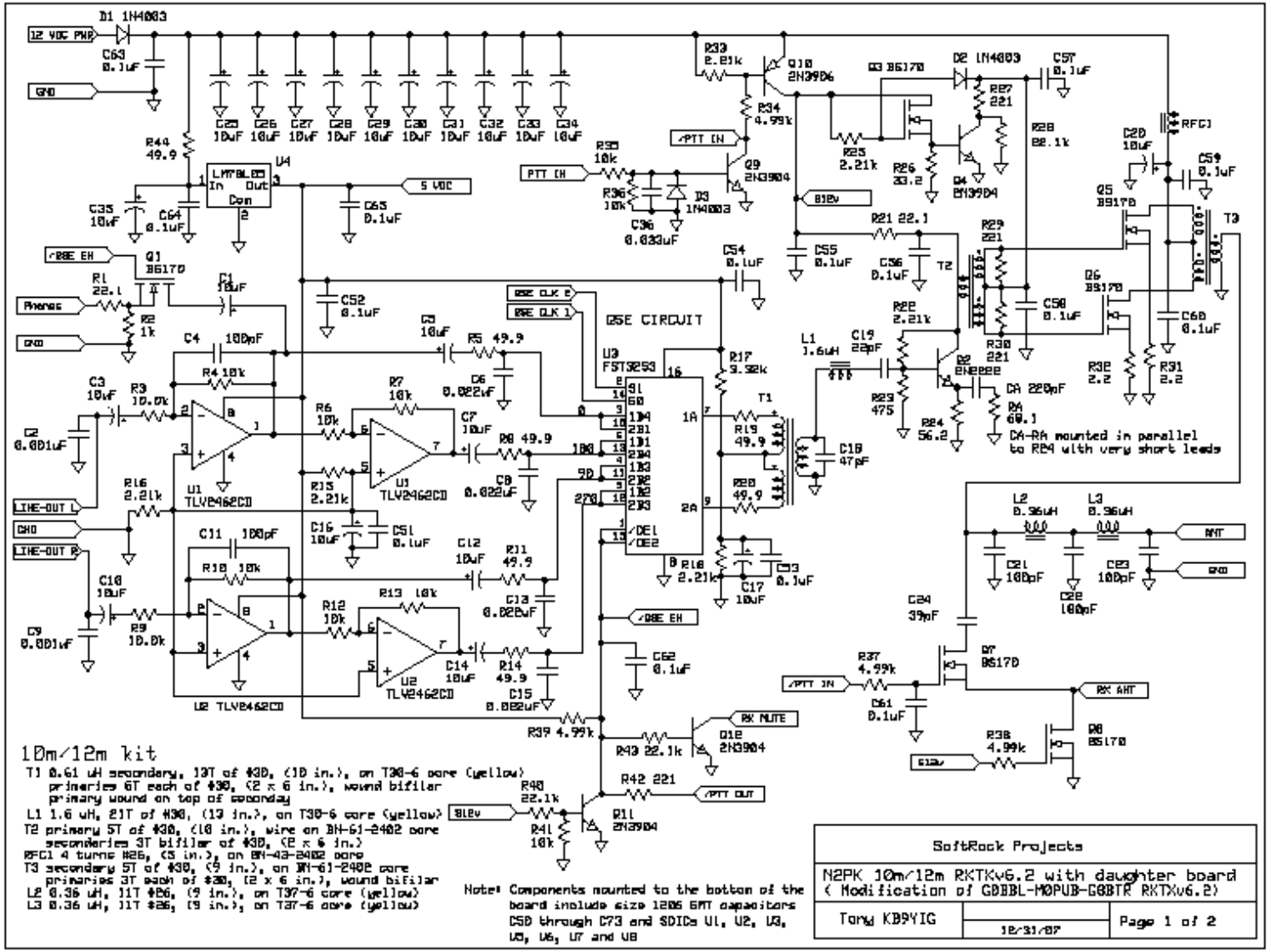

RXTXv6.2 LO Daughter Board

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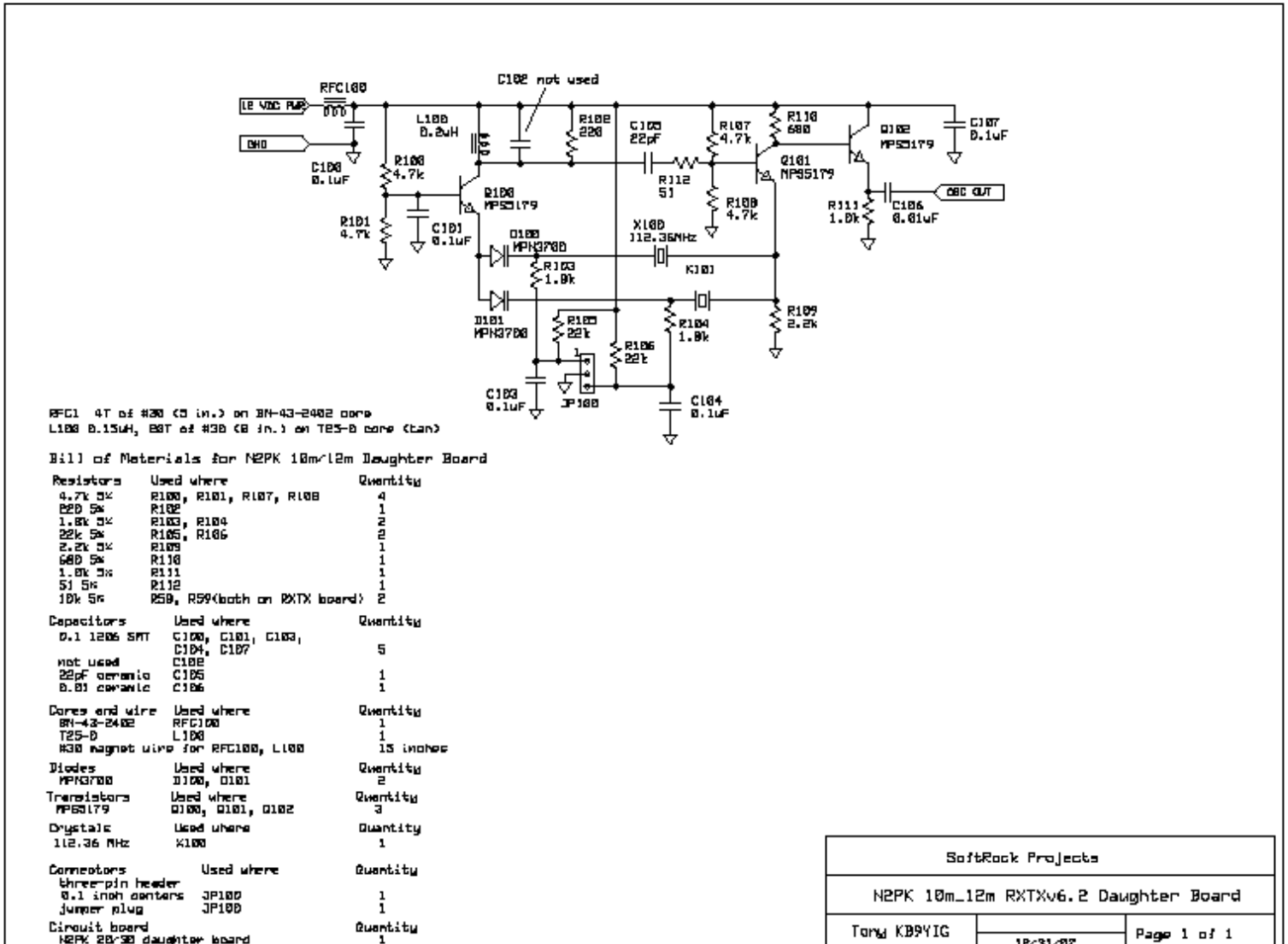

RFC1 4T of #30 (5 in.) on BN-43-2402 core
L100 0.15uH, 8BT of #30 (8 in.) on T25-8 core (tan)

Bill of Materials for N2PK 10m/12m Daughter Board

Resistors	Used where	Quantity
4.7k 5%	R100, R101, R107, R108	4
220 5%	R102	1
1.8k 5%	R103, R104	2
22k 5%	R105, R106	2
2.2k 5%	R109	1
680 5%	R110	1
1.0k 5%	R111	1
51 5%	R112	1
10k 5%	R59, R59(both on RXTX board)	2

Capacitors	Used where	Quantity
0.1 1206 SMT	C100, C101, C103, C104, C107	5
not used	C102	
22pF ceramic	C105	1
0.01 ceramic	C106	1

Cores and wire	Used where	Quantity
BN-43-2402	RFC100	1
T25-8	L100	1
#30 magnet wire	for RFC100, L100	15 inches

Diodes	Used where	Quantity
MPN3700	D100, D101	2

Transistors	Used where	Quantity
MPS5179	Q100, Q101, Q102	3

Crystals	Used where	Quantity
112.36 MHz	X100	1

Connectors	Used where	Quantity
three-pin header 0.1 inch centers	JP100	1
jumper plug	JP100	1

Circuit board	Quantity
N2PK 28/50 daughter board	1

SoftRock Projects		
N2PK 10m_12m RXTXv6.2 Daughter Board		
Tony KB9YIG	12/31/07	Page 1 of 1

Location of 10 .01uF chip capacitors on 10M version

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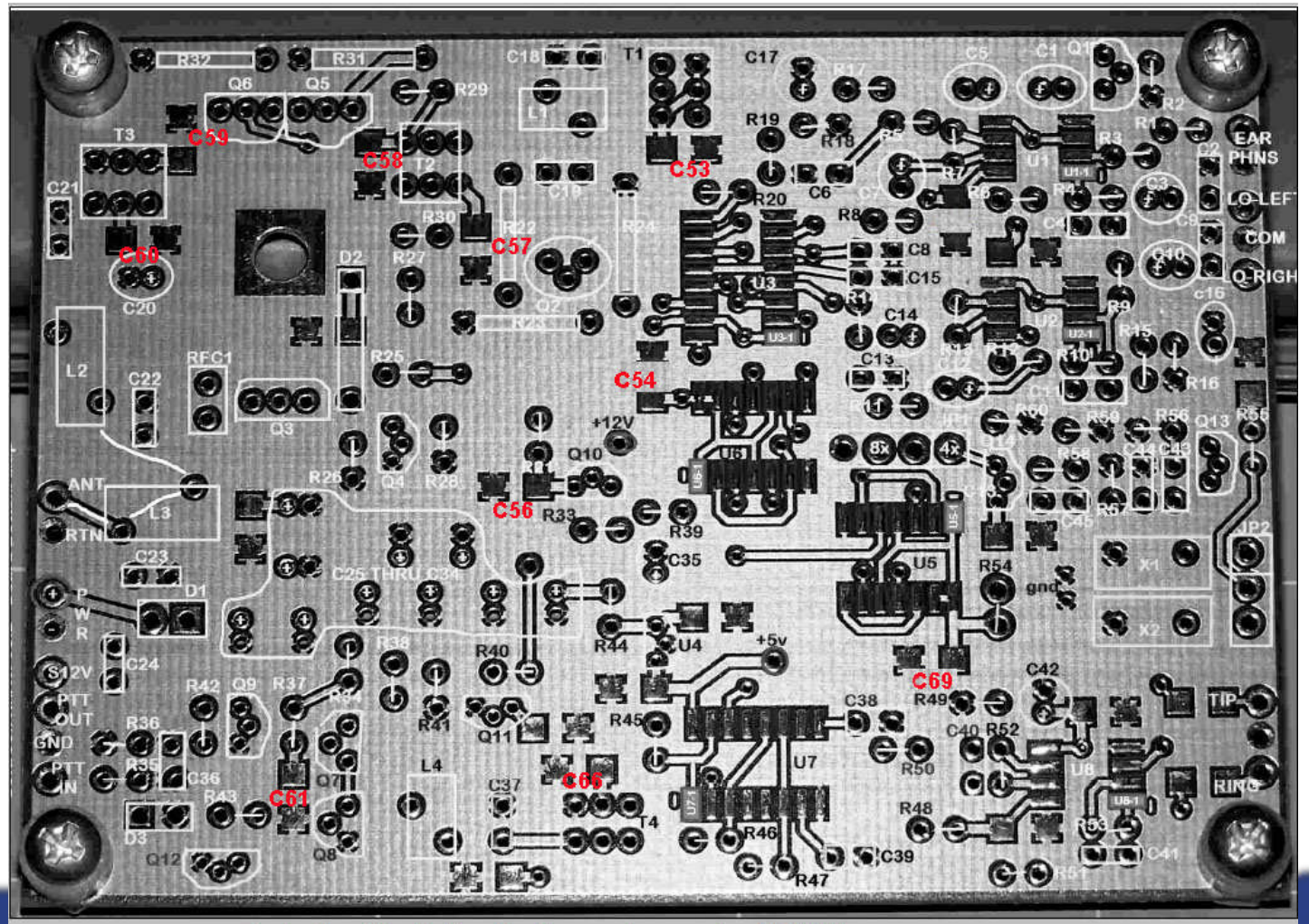

Production 10m RxTx .01mfb cap placement KØAWU

W5HN

K0AWU's Web Site

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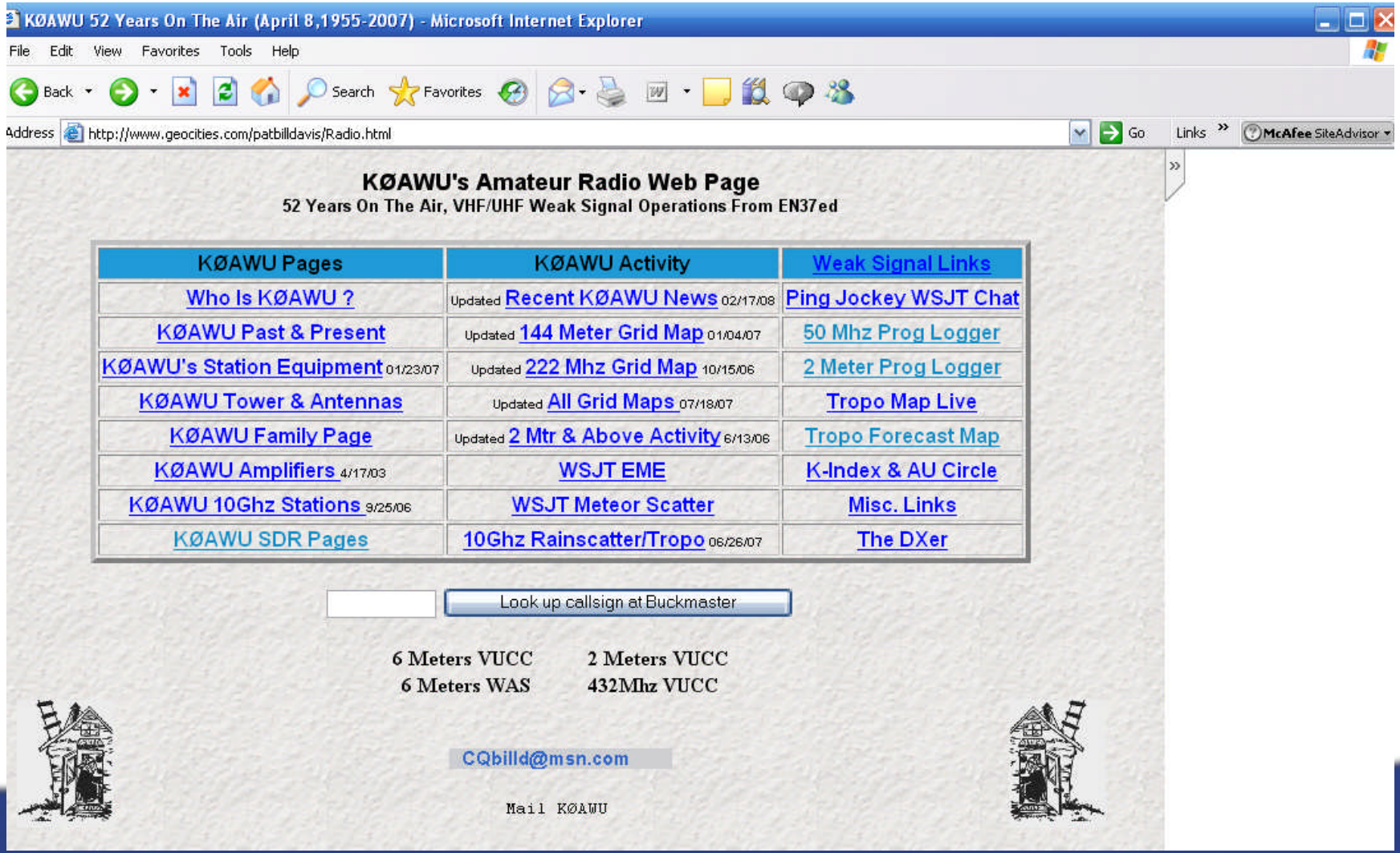

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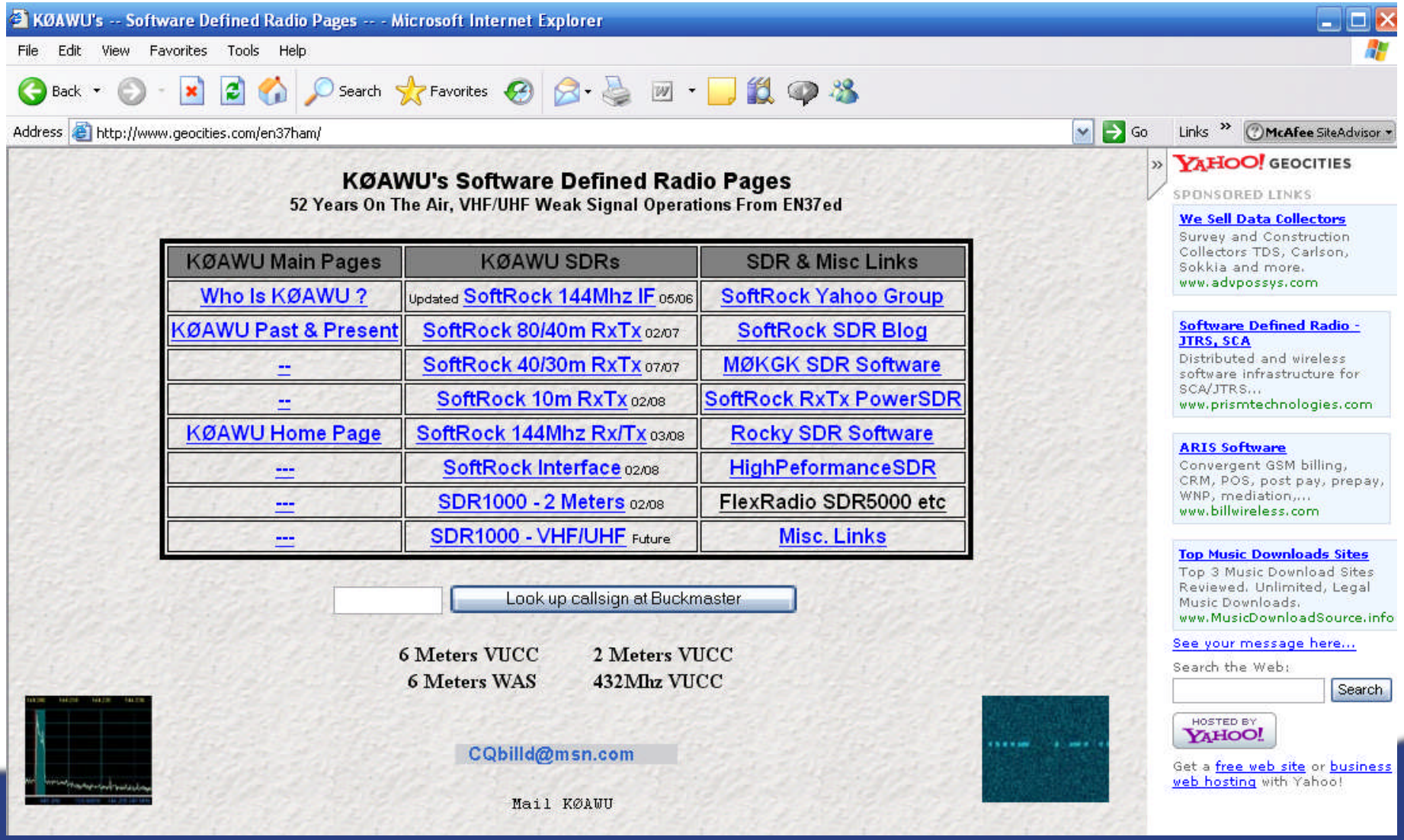

Using Rocky to drive RXTXv6.2

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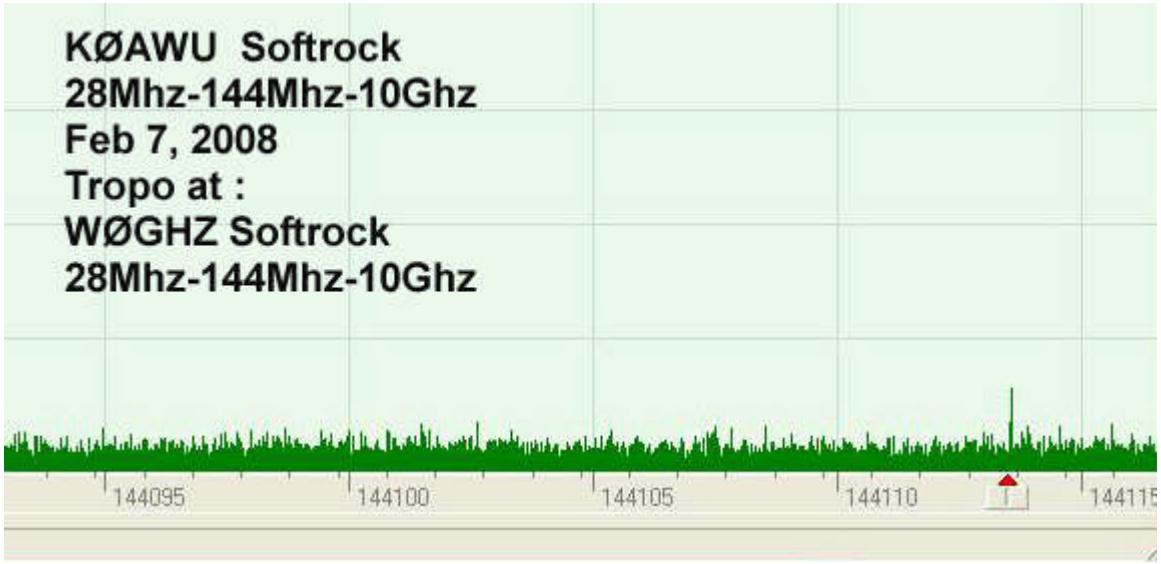


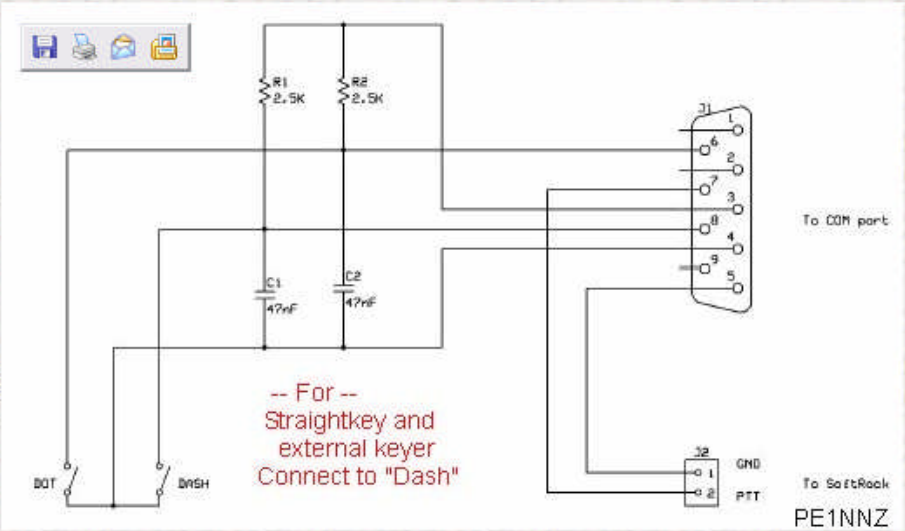
Rocky does not support SSB on transmit

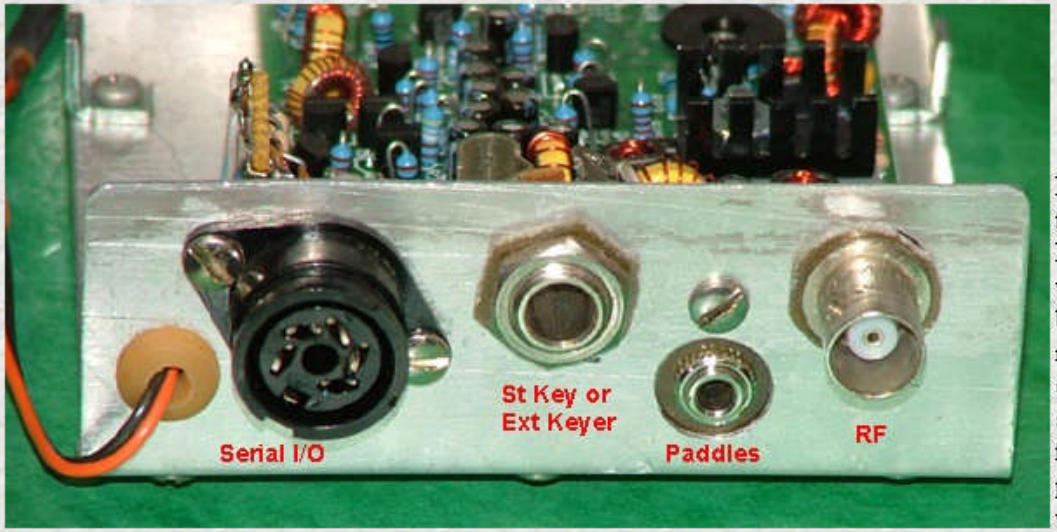
KØAWU's SoftRock Interface

Feb 2007 - Softrock Universal Interface

When I first started testing my 80/40m Ver6.1 RxTX I was using MØKGK's Transceiver 1.1 software. Once I had things running I wanted to try some of the other software. I liked Rocky for weak signal operations plus Rocky now has integrated PSK31 which would be fun. PowerSDR has just an outstanding sound to it, I wanted to be able to run it as well.

Some software had a integrated keyer and some require a separate keyer. I needed a universal Softrock-Computer interface. Fortunately that was not difficult and the MØKGK software could be configured to where all three programs would be compatible.





My rear panel contains a DIN connector that I use for my serial connections where I can change to various SoftRocks I use, without having to change cables on the back of the computer. The "key common" must be above ground ,so both the paddle connector (1/8" stereo connector) and the straight key/keyer connectors are isolated from chassis ground. I did that with a piece of glass circuit board. As long as I was isolating things from ground, I

Special Flex Radio Software by PE1NNZ to run RXTX Boards

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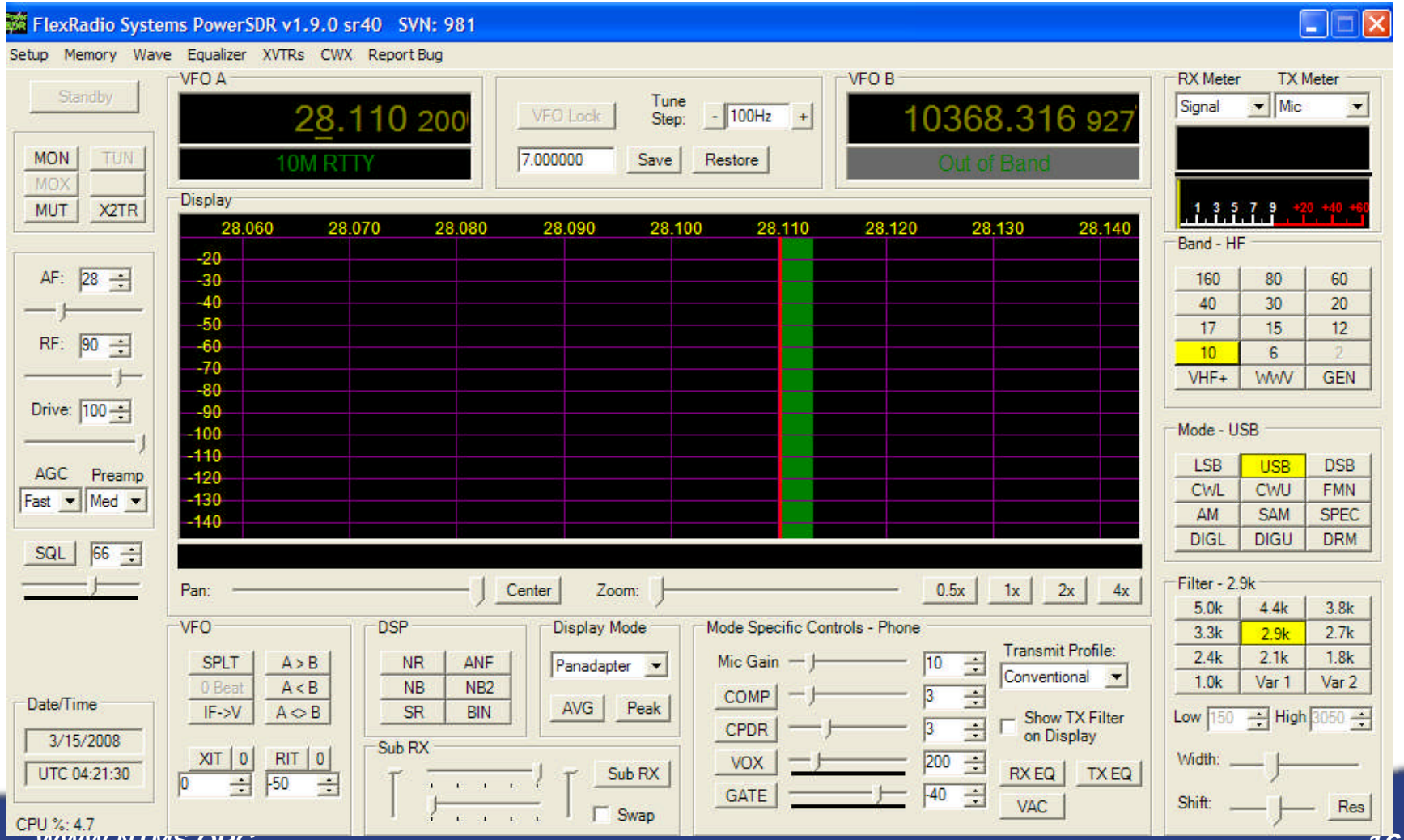

USB Synthesizer PCB

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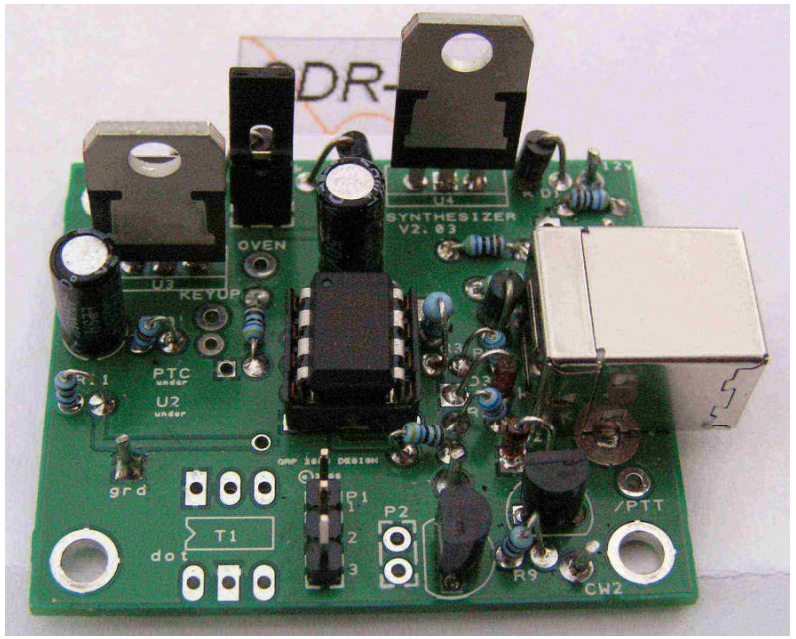
- www.sdr-kits.net
- Developed by the QRP2000; group DG8SAQ, G8BTR, M0PUB, PE1NNZ, G0XAR, G0BBL
- Uses Silicon Labs Si570 chip
- Internal ref osc
- CMOS chip provides >10dBm at over 100 MHz
- Great for 4X LO input for 10M soft-rock radios
- Link to KM5H for US orders
- CMOS version with Si570 $37
- Software available for controlling frequency



Si570 Power output vs Frequency

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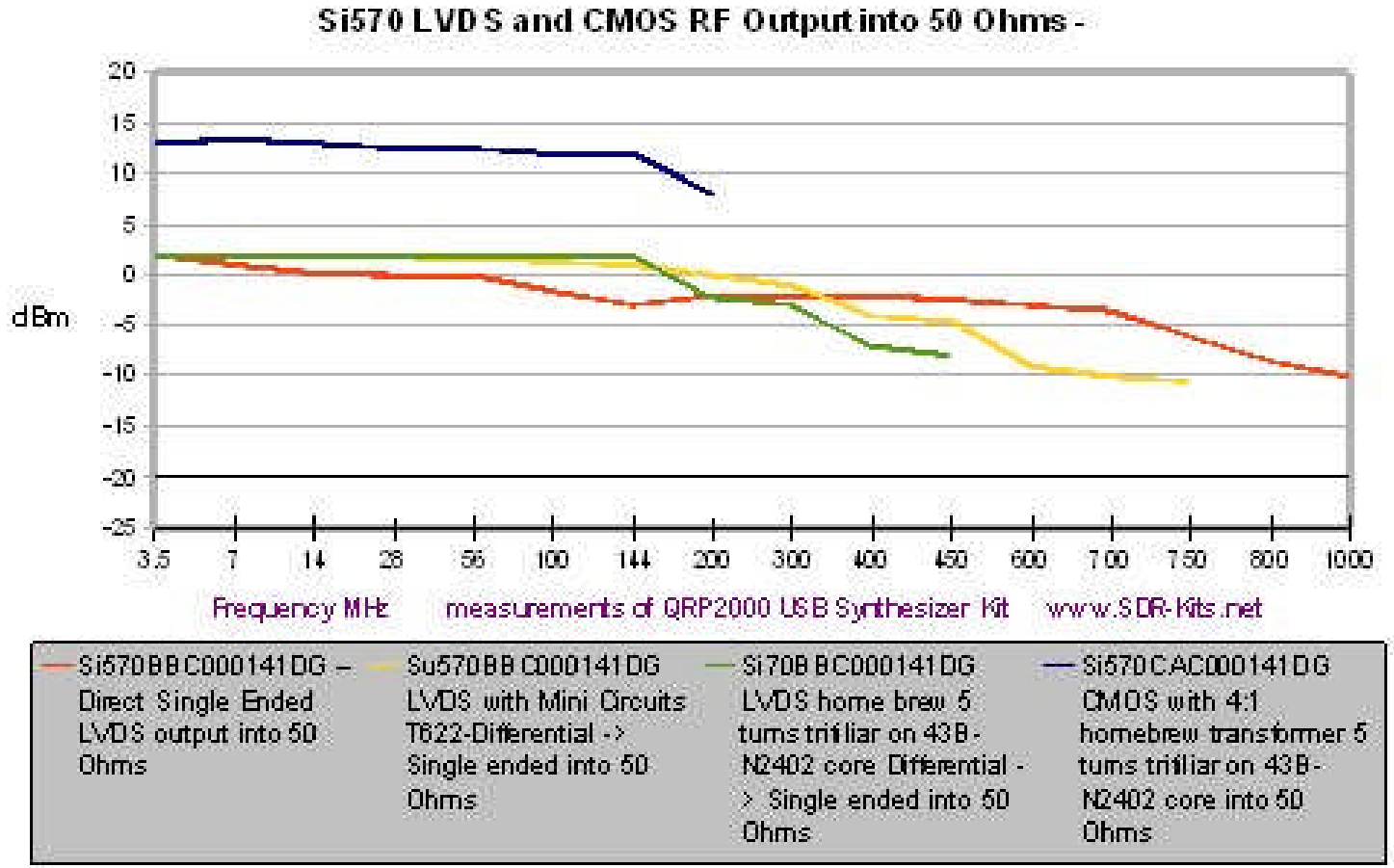

RxTx6.2 with Si570 Synthesizer run with Compaq nc8230 and PreSonus Firebox

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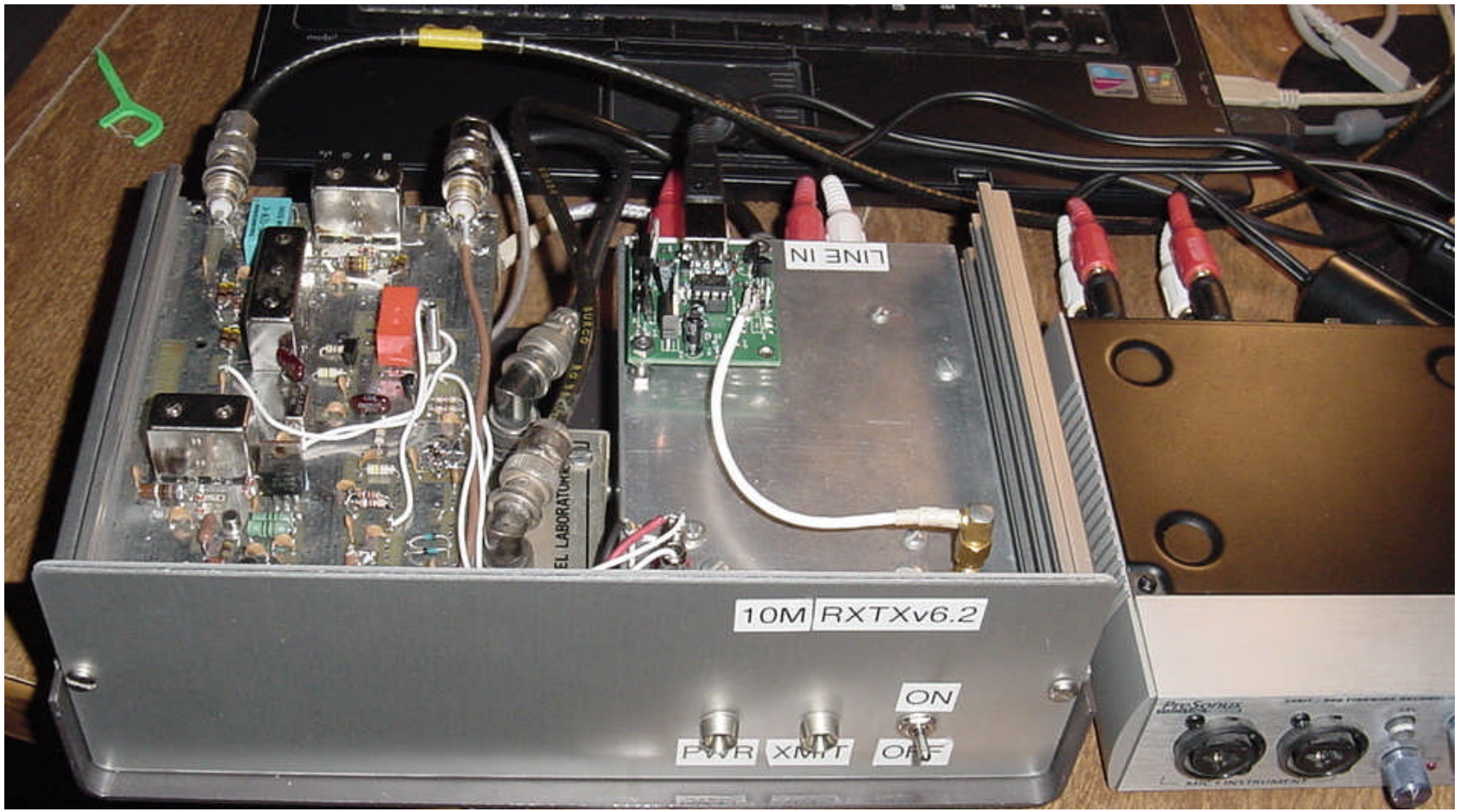

10 GHz W5HN/B from TWU as received on Rover 10 GHz XVTR into RxTx6.2 with Si570 Synthesizer

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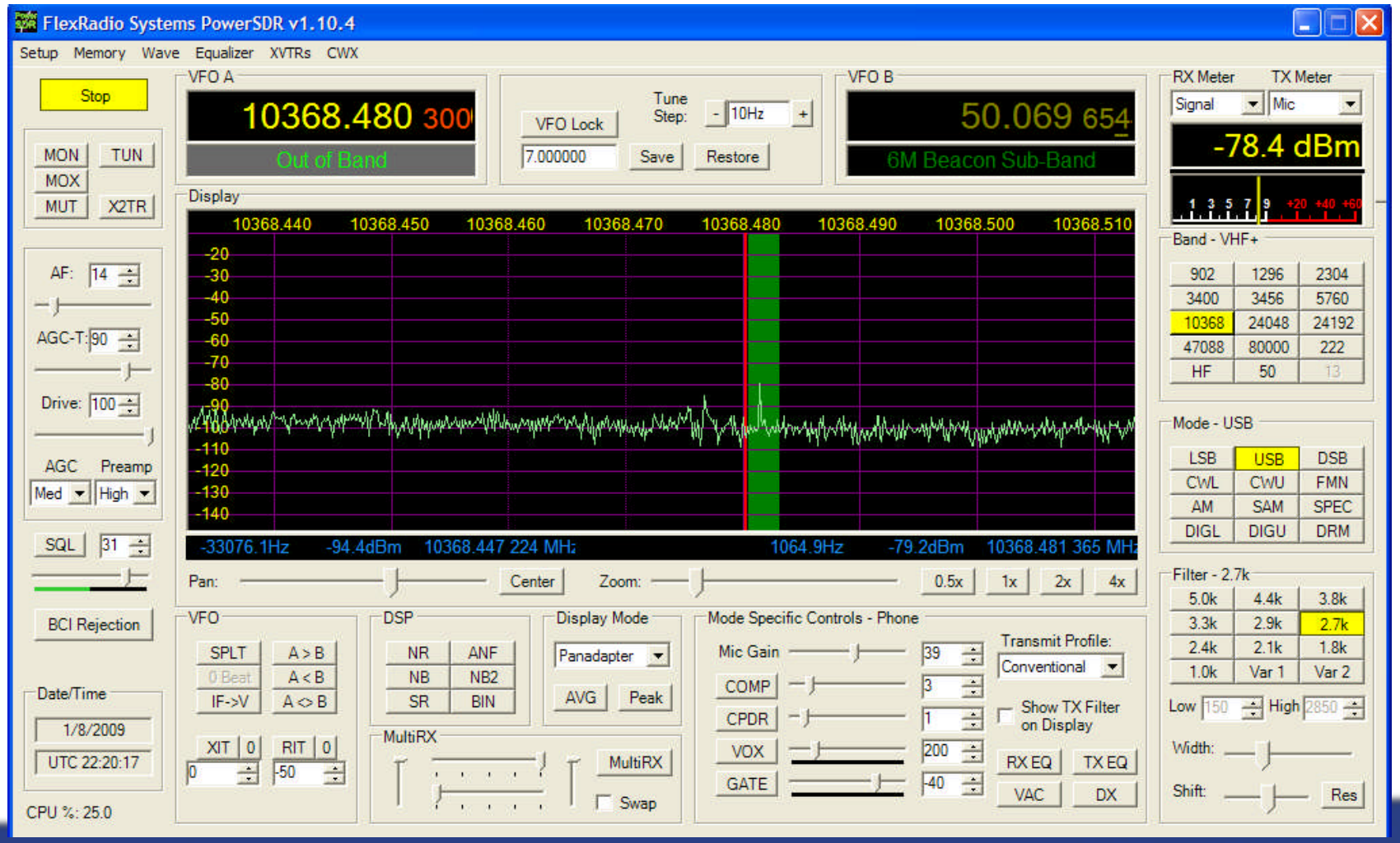

SoftRock RXTXv6.2

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- Thanks to K0AWU for his support during the assembly of my SoftRock!
- Now for a live Demo!
- 73 de W5LUA