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May 9, 2009

The RCX1-6 Converter is a basic converter for 6 Meters. It is intended to be used with the microR2 40 meter receiver, but any 7 MHz receiver can be used as the IF.

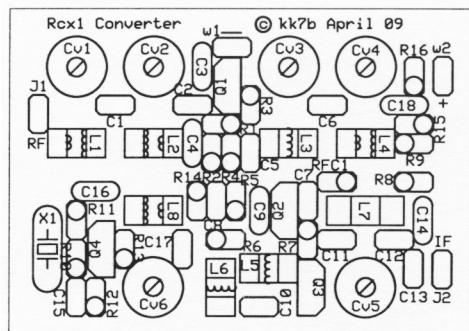
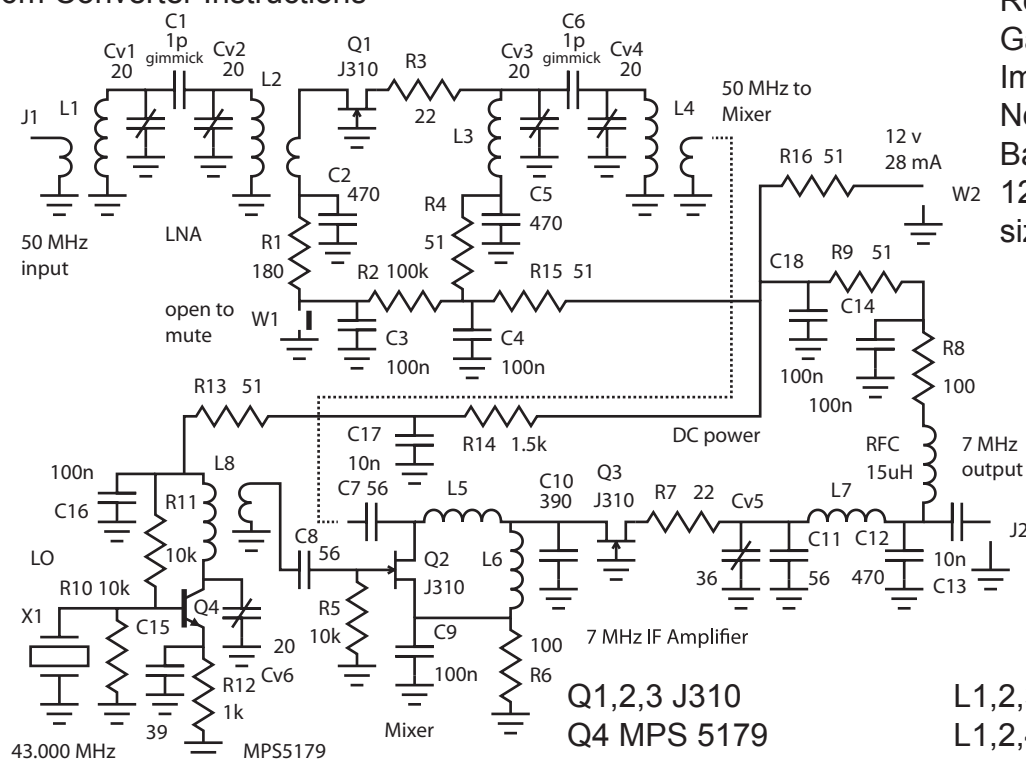
Depending on availability, different sizes of toroids may be supplied. Use the table below to determine the number of turns to be used on the toroids supplied with the kit

|    | T25            | T30    | T37     |
|----|----------------|--------|---------|
| L1 | 14T pri 2T sec | 12T 2T | 13T 2 T |
| L2 | 14T pri 2T sec | 12T 2T | 13T 2 T |
| L3 | 14T            | 12T    |         |
| L4 | 14T pri 2T sec | 12T 2T | 13T 2 T |
| L5 | 10T            | 9T     | 9T      |
| L6 | 18T            | 16T    | 17T     |
| L7 | 38T            | 34T    | 35T     |
| L8 | 16T pri 4T sec | 14T 4T | 15T 4T  |

Due to some last minute minor design tweaks you will find some extra resistors in your kit (10k, 51, 100, and 150 ohms). The values were changed, and it was easier just to leave the original values in the kit when the new ones were added to the parts bag! Please put them to good use in some other project!

Have fun on 6 meters!  
73 – Bill – N8ET  
Kanga US

## 6m Converter Instructions



Q1,2,3 J310  
Q4 MPS 5179  
X1 43.000 MHz 3rd OT  
RFC 15 uH molded

C1,6 1p gimmick  
C2,5,12 470p  
C3,4,9,14,16,18 100n  
C7,8,11 56p  
C10 390p  
C13,17 10n  
C15 39p

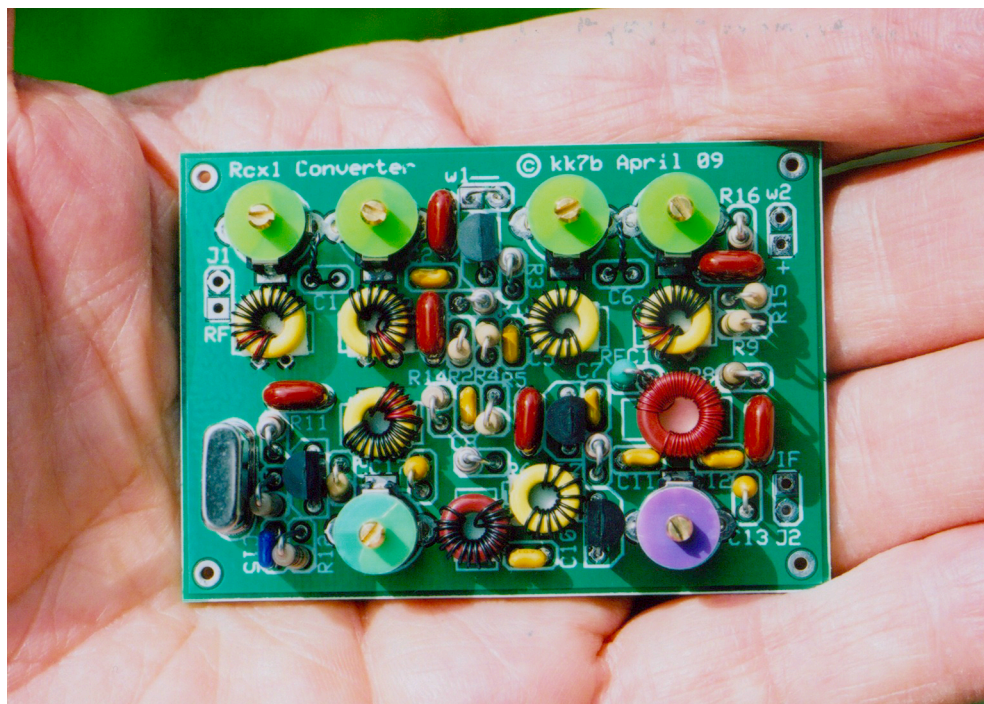
## Rcx1 6m Converter Specs

Gain 12 dB  
Image Rejection >75 dB  
Noise Figure 6 dB  
Bandwidth 300 kHz  
12 volts at 28 mA  
size 1 11/16" x 2 3/8"

R1 180  
R2 100k  
R3,7 22  
R4,9,13,15,16 51  
R5,10,11 10k  
R6,8 100  
R12 1k  
R14 1.5k

L1,2,3,4 14 turns #28 T25-6  
L1,2,4 secondary 2 turns #28  
L5 10 turns #28 T25-6  
L6 18 turns #28 T25-2  
L7 38 turns #32 T30-2  
L8 16 turns #28 T25-2  
L8 secondary 4 turns #28

gimmick: make a loop in 2" of #28 enamelled wire and tightly twist. Scrape ends and solder into board. Then cut even with top of green cap. Zoom in on photo for detail.



Alignment: preset 6 trimmers to half mesh. Connect to 40m receiver and tune Cv5 for maximum noise. Then tune Cv6 for more noise. Connect 6m antenna and tune for maximum band noise, starting with Cv3, then Cv4, then Cv1 and Cv2. Done.

73 de kk7b May 09

| <b>RCX1 6 Meter Converter</b> |                         |                |                  |
|-------------------------------|-------------------------|----------------|------------------|
| <b>Part</b>                   | <b>Value</b>            | <b>Digikey</b> | <b>Mouser</b>    |
| C1                            | 1p gimmick              |                |                  |
| C2                            | 470p                    |                | 581-sr151A471j   |
| C3                            | 100n                    | P4525-ND       |                  |
| C4                            | 100n                    | P4525-ND       |                  |
| C5                            | 470p                    |                | 581-sr151A471j   |
| C6                            | 1p gimmick              |                |                  |
| C7                            | 56p                     |                | 581-sr151a560jar |
| C8                            | 56p                     |                | 581-sr151a560jar |
| C9                            | 100n                    | P4525-ND       |                  |
| C10                           | 390p                    |                | 581-sr151a391j   |
| C11                           | 56p                     |                | 581-sr151a560jar |
| C12                           | 470p                    |                | 581-sr151A471j   |
| C13                           | 10n                     | P4513-ND       |                  |
| C14                           | 100n                    | P4525-ND       |                  |
| C15                           | 39p                     |                | 581-sr151a390jar |
| C16                           | 100n                    | P4525-ND       |                  |
| C17                           | 10n                     | P4513-ND       |                  |
| C18                           | 100n                    | P4525-ND       |                  |
| CV1                           | 20p green               | SG3003-ND      |                  |
| CV2                           | 20p green               | SG3003-ND      |                  |
| CV3                           | 20p green               | SG3003-ND      |                  |
| CV4                           | 20p green               | SG3003-ND      |                  |
| CV5                           | 20p green               | SG3003-ND      |                  |
| CV6                           | 20p green               | SG3003-ND      |                  |
| L1                            | T25-6 14T#28 sec 2T #28 |                |                  |
| L2                            | T25-6 14T#28 sec 2T #28 |                |                  |
| L3                            | T25-6 14T #28           |                |                  |
| L4                            | T25-6 14T#28 sec 2T #28 |                |                  |
| L5                            | T25-6 10T #28           |                |                  |
| L6                            | T25-2 18T #28           |                |                  |
| L7                            | T30-2 38T #32           |                |                  |
| L8                            | T25-2 16T #28           |                |                  |
| Q1                            | J310                    |                | 512-J310D26Z     |
| Q2                            | J310                    |                | 512-J310D26Z     |
| Q3                            | J310                    |                | 512-J310D26Z     |
| Q4                            | MPS 5179                |                | 512-PN5179       |
| RFC                           | 15uh molded             |                | 434-22-150       |
| R1                            | 180 ohms                | 180qbk-nd      |                  |

Sheet2

|          |                                     |             |  |
|----------|-------------------------------------|-------------|--|
| R2       | 100k                                | 100kqb-k-nd |  |
| R3       | 22 ohms                             | 22qb-k-nd   |  |
| R4       | 51 ohms                             | 51qb-k-nd   |  |
| R5       | 10k                                 | 10kqb-k-nd  |  |
| R6       | 100 ohms                            | 100qb-k-nd  |  |
| R7       | 22 ohms                             | 22qb-k-nd   |  |
| R8       | 100 ohms                            | 100qb-k-nd  |  |
| R9       | 51 ohms                             | 51qb-k-nd   |  |
| R10      | 10k                                 | 10kqb-k-nd  |  |
| R11      | 10k                                 | 10kqb-k-nd  |  |
| R12      | 1k                                  | 1kqb-k-nd   |  |
| R13      | 51 ohms                             | 51qb-k-nd   |  |
| R14      | 1.5k                                | 1.5kqb-k-nd |  |
| R15      | 51 ohms                             | 51qb-k-nd   |  |
| R16      | 51 ohms                             | 51qb-k-nd   |  |
| X1       | 43.000 MHz 3 <sup>rd</sup> overtone |             |  |
| PC board |                                     |             |  |