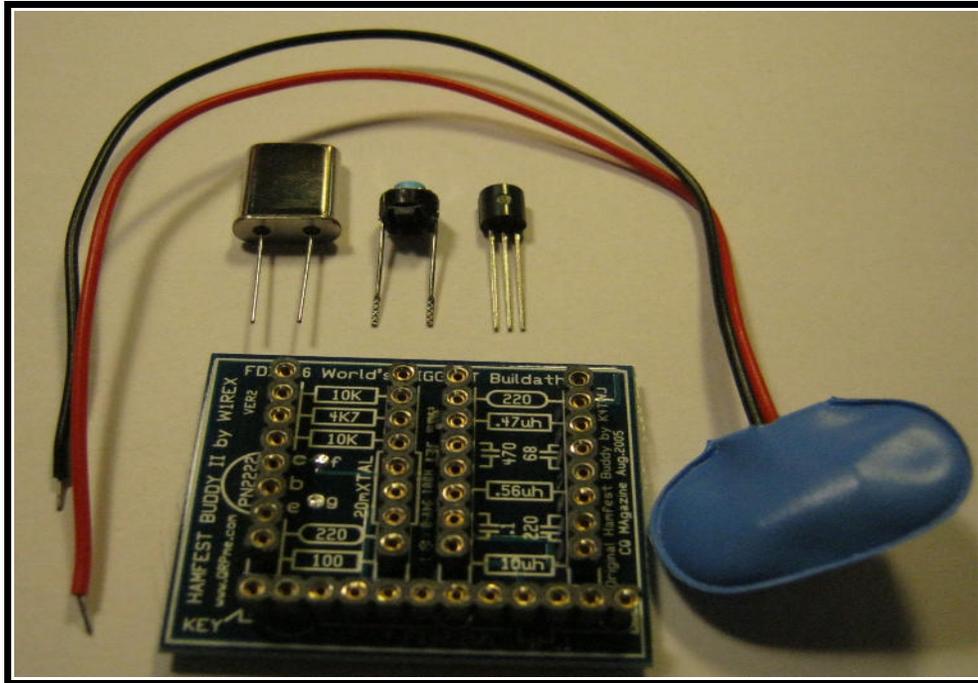


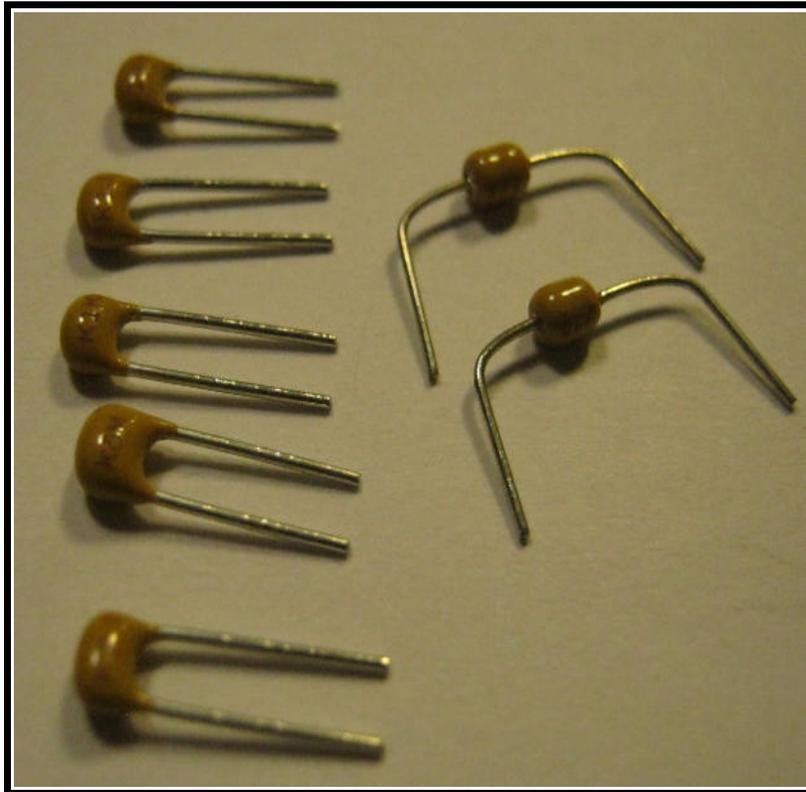
## The KIT, the KIT!

The WBB, World's BIGGEST Buildathon, kit is pictured above. The kit contains a single small circuit board with 5 SIP sockets preinstalled on the pcb. The bag of parts also contains the 21 components that make up the little 20m transmitter which has 2 selectable operating frequencies.



**THEM!**

The **BIG** components are easy to tell apart from the little ones...so sort **THEM!** out first!



## CAPital City

The caps are very easy to sort out from the rest of the parts but very difficult to sort one from another due to the similar shapes and TINY lettering. Here is where you need some good eyes, or a magnifier, and some good light, or a lighted magnifier! Let's get it over with, so sort out the 5 caps with .1" spacing on the leads and then use your eyes and/or magnifier to sort them out. Send the 2 caps (220pf) with .4" spacing to their sort points.



## Choke Hold

The Chokes look like resistors but a a little tubbier....and they are NOT BLUE. The 2.2uh is easy to tell by the 2 lead off RED stripes. AND the fact that has been cut for a hair pin installation. The choke with the GREEN body is also pretty easy to tell from the others; well, because its GREEN and the GREEN lead off stripe also helps place it as the .56uh. The BROWN double BLACK translates as 100 but that doesn't mean 100uh but; 1 followed by a zero with an additional 0 zeros so 10uh. By process of elimination, the remaining YELLOW VIOLET SILVER SILVER is a .47uh choke.



## Putting the Band back together...these Blue Brothers are all resistors.

Four Easy Pieces: on the bottom row, 2 of the resistors with .4" spacing have an ORANGE third stripe (10K) one has a RED (4.7K) and the remaining resistor has a BROWN (100 ohms). The Two Amigos on the top row are cut to make 'hair pin' insertions into the sockets. You bend the long lead right around at its base junction with the body by 180 degrees resulting in both leads being on the same side of the resistor and about the same length but now spaced at .1" to in order to insert it into adjacent holes in a SIP socket. One Amigo has a single BLK stripe (ZERO ohms) while the second Amigo leads off with a GREEN stripe which means it is the 51 ohm dummy load resistor.

**Congratulations! The sorting is now complete and you can start installing the components. The technique we will use to build the kit is like good BBQ.... Low & Slow! We will install the lowest components first thereby leaving plenty of vertical air space. Parts slightly higher, like the capacitors, install next followed by the taller transistor and crystal.**

**Orient the circuit board so that there are four 8 pin SIP strips oriented vertically with a horizontally oriented 12 pin SIP just below them. Lets call the vertical rows A, B, C and D with the individual connections 1 through 8 going down each SIP strip.**

**The silk screen calls out each part by value. We will install the 10K, 4K, 10K and 100 ohm resistors at A1 to B1, A2 to B2, A3 to B3 and A8 to B8 respectively.**

**Next, we will install the TWO .4" spaced 220pf caps at A7 to B7 and C1 to D1.**

**On the right side pair of connectors, we install the three chokes: .47uh, .56uh and 10uh at C2 to D2, C5 to D5 and C8 to D8.**

**The .4" spaced parts that lay relatively flat on the board are now installed. We now can do some taller components.**

**The 470pf cap between C3 and C4, .1uf cap between C6 and C7, 68pf cap between D3 & D4 and finally the 220pf between D6 and D7.**

The Pn2222 transistor can now be inserted at A4, A5 & A6 with the flat side towards the center of the board.

Lets now call the horizontal 12 pin SIP connector E. Bend the longer lead of the 51 ohm resistor back at the body and form it into a hair pin mounted device. Install it at E11 to E12. The final cap (.1uf) goes right next to it at E9 to E10. Very carefully insert the positive 9 volt battery lead at E5 and the negative lead at E4. The 2.2uh axial choke need to be hair pin-ized. Install the choke at E6 and E7. The tiny push button switch is now installed in location E1 and E3.

Your WBB kit is now ready to test. Attach a 9 volt battery to the snap and key the switch. You should be able to hear your signal somewhere in the vicinity of 14.060.

# **CAPital City**