

## Comparison of D4D and 13 transistors

OriginalBD6CRBD6CR7/14

Both are QRP machines specially designed for FT8. D4D is a DSB machine. It launches one watt at 40 meters, half a watt at 20 meters, 13 transistors 40 meters is SSB, launches one watt, and 20 meters is DSB, launches half a watt. The comparison of the photos is as follows, the depth is all 103 mm, and the length and width of the 13 transistors are larger.



More discrete components are contained in the larger volume of the 13 transistors, and the production time is 2-3 hours. Like D4D, the debugging is very simple, and there is no error when it is installed. In addition, the 13 transistors can also be equipped with a No. 5 battery box, and the use of three No. 5 lithium batteries can provide about 4 hours of use.

In the 20-meter band, both machines are DSB half-watts. But the 13 transistors have a wider allowable range for the input signal amplitude. In terms of stray suppression, the 13 transistors use three low-flux magnetic rings, which can properly achieve -43dBc, which is also slightly better than D4D. If the power supply voltage is increased to 13.8V, the power of the 13 transistors is slightly larger.

In the 40-meter band, the 13 transistors use a crystal filter to provide SSB transmission and reception. Although the available audio frequency spectrum is 1500-3000Hz, it can also reduce IMD, make the emission band cleaner, and avoid interference to nearby machines. The 1-watt SSB power also provides more opportunities for successful communication than the 1-watt DSB of D4D.

The same is VOX sound control launch, 13 transistors have a lower control range, which is suitable for ordinary computer integrated sound card. There is no need for a special USB sound card unless the integrated sound card of some models is indeed unavailable.