

Comparison of Parallel vs. Serial Band Decoding

The current working frequency of the transceiver can be extracted in two ways: parallel or serial. Currently, only Yaesu transceivers provide parallel band data information. However, similar information is provided on the the parallel port by many logging programs.

The band information is encoded into 4 bit BCD format: 1H is for 160m, 2H is for 80m etc. Decoding of this information is very fast and this method is often used by other band decoders. It is useful also when using cross band operation, where the band decoder can act upon band change immediately. The drawback of this method is, that the band decoder does not know the exact frequency so it cannot switch devices within one band (e.g. separate antennas for 80m CW and 75m SSB). Another drawback of using the computer's parallel port is that the band decoder has no band information if the computer is not running and it is not possible to automatically switch the appropriate antenna (or BPF, etc.) to the RIG (this also applies if the computer must be rebooted during operation).

Serial decoding is based on communication to the radio via its computer port. A big advantage of this method is that the band decoder knows the actual frequency of the transceiver and this allows advanced functions such as dividing a band into several parts and to use a different output for each part, or to disable keying, if the transceiver is tuned out of a given range.

Another advantage of serial band data collection is that the band decoder works with all types of transceivers, with or without a computer connected. If a computer is connected the band decoder transparently forwards all commands of the logging program to the transceiver, while learning the working frequency from the data. The only drawback of this method is a somewhat slower switching (reaction to band change delays of several hundreds of milliseconds), given by the speed of serial communication between decoder (computer) and radio.