



True count-by-twelve circuit

An ordinary divide-by-twelve circuit gives a logical sequence of output states that go from zero to eleven, whereas a true count-by-twelve circuit will do so from the count 1 through 12 and will come back to 1 with no zero. One application of such a circuit is in a 12-hour digital clock. The design is fairly straight-forward and relies on the truth table of the J-K flip-flop. On resetting, all the outputs go to logical zero but, on clocking, the zero state does not recur.

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