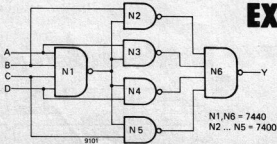


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E. Dickopp



The circuit described here is a four input 'exclusive or' gate. When all inputs are logic '1', the output

of N1 is logic '0'. One input of each of the following gates is now driven to logic '0' from N1 and the other input

of each gate is driven to logic '1' by the inputs. The outputs of N2, N3, N4 and N5, and thus also the inputs of N6 are now high, so that output Y is logic '0'. Similarly, when the inputs are all logic '0' output Y will be '0'. If only one of the input signals is low, say B, the output of N1 (and with it the common inputs of the following gates) becomes logic '1'. The outputs of gates N3, N4 and N5 now all produce a '0', so that Y becomes logic '1'. For all other combinations (14 in total) the output will always be logic '1'.