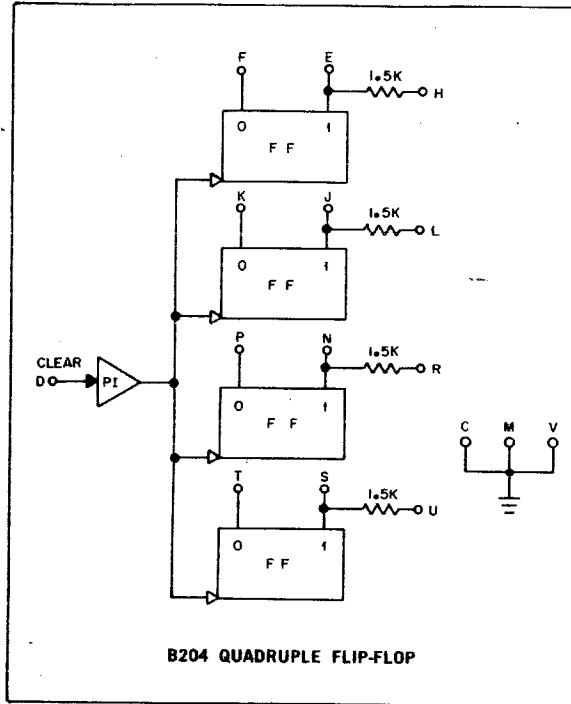


QUADRUPLE FLIP-FLOP TYPE B204

B
SERIES



Module B204 contains four bits of unbuffered flip-flop memory. Each flip-flop comprises two B105-type inverters, two 10-ma clamped loads, a common clear input, and an indicator driver resistor.

INPUT: Each flip-flop may be individually set by grounding the 0 output and may be cleared by grounding the 1 output. The collector of an inverter, whose emitter is tied directly to ground, may be used to ground a flip-flop output. Diode gates such as B113, B115, B117, etc., may also be used, but due to their slower operation they must be conditioned "on" for at least 70 nsec to provide drive equivalent to an inverter driven by a 40-nsec pulse. A negative pulse at least 40 nsec wide applied to the input of the pulse inverter will clear all four flip-flops. Clear input loading is equivalent to one inverter base input.

OUTPUT: Each flip-flop output can drive 6 ma at

—3 v. Flip-flops driven by inverters with 40-nsec pulse inputs can have up to 200 pf of total dynamic loading at each output, counting internal loading of 68 pf, and up to 2 ma of static load at —3 v. When the input conditions are present for longer than 40 nsec, output loading may be increased until the estimated fall time is 1½ times as long as the grounded output is held at ground externally. (See "Fall Time" under "Special Instructions for 10 mc Logic Design"). No gated-emitter inverters may be driven.

The 1500-ohm resistor outputs allow a control panel indicator with amplifier (4910) to be driven through Indicator Connector W020 without excessive loading of the flip-flop by the capacitance of the interconnecting wire. When used, this output may be counted as 1 ma of static base load on the appropriate 1 output, if the wire to the W020 is short.

POWER: +10(A)/0 ma; —15(B)/94 ma.