



*NOTE THAT THESE TYPE "D" FLIP-FLOPS HAVE HAD THEIR OUTPUT TERMINALS REDEFINED. COMPARE THESE PIN CONNECTIONS WITH THOSE IN M206 DESCRIPTION.

TWO REPRESENTATIVE STAGES

The M208 is an internally connected 8-bit buffer/shift register. Provisions are made for gated single-ended parallel load, bipolar parallel output, and serial input. The shift register is divided into three segments:

Bits 0 through 3: Serial input to bit 0, bipolar outputs from bits 0 through 3.

Bits 4 through 6: Serial input to bit 4, bipolar outputs from bits 4 through 6.

Bit 7: Serial input to 7, bipolar outputs from bit 7.

Each of these groups shares a common shift line (the ORed CLOCK 1 and CLOCK 2 inputs) and a common parallel load line (LOAD ENABLE). To form a 6-bit shift register, for example, the true output of bit 3 is connected to the serial input of stage 4. A shift register of 8 bits may be constructed from a single module. Modules may be cascaded to form shift registers of any desired length. A few additional stages may be formed more economically from NAND and AND/NOR gates plus a D-type flip-flop. A representative stage of this type is illustrated.

Two clock inputs are provided so that individual Load and Shift clock sources may be used. Care must be taken that the clock inputs remain in the high state in the off condition because either input going to the low state will produce a positive edge at the output of the NAND gate and trigger the D type flip-flop. Data shifted or parallel loaded into the M208 will appear on the outputs within 55 nsec (max) of the clock pulse leading edge threshold. Load or Shift Enable levels and parallel data must be present at least 50 nsec prior to a clock pulse. Propagation delay from the leading edge of a CLEAR pulse to the outputs is 40 nsec max.

Inputs: Serial data, dc set, and enable inputs present one unit load each to the source module. Each clock input presents $2\frac{1}{2}$ unit loads. The CLEAR input presents two unit loads.

Outputs: Parallel outputs are capable of driving 10 unit loads each.

Power: +5 volts, 112 ma (avg)

M208 — \$84.00
