

NEW MODULE NEWS  
 DEC Maynard  
 2/18/65

# 6131 DC ADDER

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| Catalog Item |
| \$134.00     |

When binary addition must be performed with a minimum of time delay, this module with its speedy carry propagation offers a convenient means. It contains a majority-logic carry circuit with a typical 50% point delay of 10 nanoseconds, and sum logic with complementary outputs. This module should not be subjected to marginal checking of +10B voltage.

**REGISTER INPUTS:** The two register inputs and the enable input are each equivalent to two paralleled inverters, requiring 2 ma drive at -3 volts. Each is a dynamic load of 120 pf.

**CARRY INPUTS:** Depending on the register inputs, the carry input to the majority gate at pin L can require up to 5 ma at either ground or -3 volts. If this input is to be conditioned by other than a 6131 pin K output, it must be tied to a clamped load and to an external silicon clamp diode connected to the reference output at pin J. The complemented carry input to the sum logic at pin T is normally driven by the complemented carry output at pin U of the next lower-order 6131 module. This input may also be driven from an ordinary inverter whose emitter is grounded, and constitutes a 13 ma load at ground.

**SUM OUTPUTS:** Each output can drive 5 ma at ground and 10 ma at -3 volts. Indicator amplifiers with no input resistors may be driven over long wires from the 3000 ohm resistor output at pin W without sacrificing switching speed due to shunt capacitance of the wire.

**CARRY OUTPUTS:** For maximum speed, the carry output at pin K should be connected only to the pin L carry input of an adjacent 6131 module. It has a driving capability equivalent to a 15 ma inverter with 10 ma clamped load attached. Complementary carry output at pin U is equivalent to a 15 ma inverter with 1-1/2 ma clamped load attached, except that it cannot be used to drive emitters.

**POWER REQUIREMENTS:** -15 V/105 ma; +10 V(A)/0 ma; +10 V(B)/70 ma.

