



NIM Model 430

Octal Logic Fan-Out

- * 8 channels in a single-width module
- * 4 outputs per channel
- * Maximum rate >150 MHz
- * Direct coupled
- * Stage delay <2.5 nsec
- * Low power dissipation permits up to 96 fan-out channels (384 outputs) per standard bin

The LeCroy Model 430 Octal Logic Fan-out provides a unique combination of high fan-out and performance in an exceptionally compact unit. Designed for flexibility in both small and large scale experiments, the 430 offers eight independent channels, each of which supplies three normal and one inverted outputs.

The input to each channel is terminated in 50 Ohm and may be driven with either single or double amplitude NIM level signals. The output amplitude is independent of input signal overdrive and the high-speed circuitry accurately restandardizes amplitudes of all input signals of width greater than 4 nsec. The normal outputs are generated by a current source which delivers -48 mA into three bridged connectors. The voltage swing is limited to approximately -900 mV, and unused outputs do not require termination to control signal amplitude. The complementary output delivers -16 mA in a 50 Ohm load.

The circuitry of the Model 430 is completely direct coupled and compatible with normal or complementary logic signals in any duty ratio. The wideband design permits operation at rates in excess of 150 MHz. Stage delays of less than 2.5 nsec assist in minimizing logic system decision time and provide good time resolution (absolute delay and jitter) between all channels.

The 430 is packaged in an RF-shielded single-width NIM Module utilizing LEMO connectors. Power dissipation is within standard limits, permitting 12 modules (96 independent fan-out channels) to be housed in one bin.

SPECIFICATIONS

NIM Model 430

OCTAL LOGIC FAN-OUT

Number of Sections: Eight.

INPUT CHARACTERISTICS

Number of Inputs: One per section.

Impedance: 50 Ohm +/-5%.

Reflections: <10% for input risetimes >= 2nsec.

Quiescent Level: 0 volts dc.

Signal Level Requirements: Standard NIM logical 1 input levels; -12 mA to -36 mA

Signal Width Requirements: 4 nsec minimum, FWHM.

Coupling: Direct.

OUTPUT CHARACTERISTICS

Number of Outputs: 3 normal (bridged); 1 complementary.

Output Levels: Normal: quiescently 0 volts, >-700 mV into 50 Ohm during output; complementary; quiescently >-700 mV into 50 Ohm, 0 volts during output.

Risetimes & Falltimes: <2.5 nsec.

Duration: Equal to the input duration.

Time Variation Between Channels: <0.5 nsec.

GENERAL

Rate: >150 MHz.

Stage Delay: <2.5 nsec.

Duty Cycle Limitations: None.

Packaging: Single-width NIM module; in conformance with AEC standard for nuclear modules (AEC Report TID-20893): Lemo-type connectors.

Current Requirements: +6 V at 100 mA
-6 V at 510 mA

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