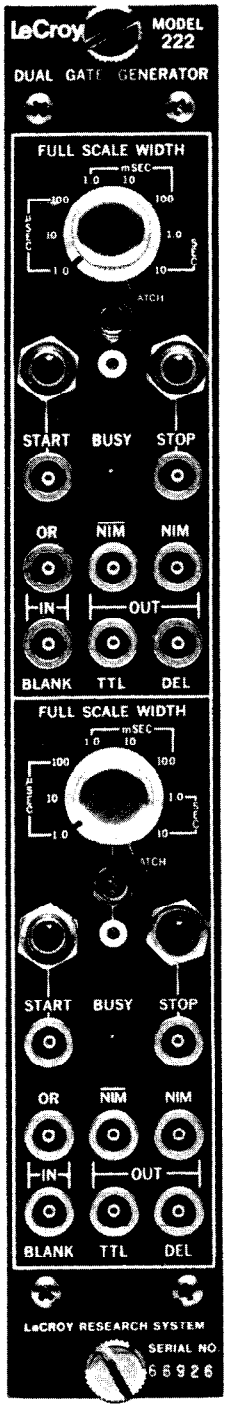

NIM Model 222

Dual Gate and Delay Generator

- **No dead time**
- **Responds to TTL or fast NIM inputs**
- **"OR" input to permit extending gate with external signal**
- **Fast NIM (normal and complement) and TTL outputs**
- **NIM level blanking input**
- **NIM level delayed output**
- **Built-in bin gate drivers**
- **Presettable gate durations from < 100 nsec to > 11 sec**
- **Front panel monitor point to permit determination of gate duration with standard voltmeter**
- **Does not require 6-volt NIM bin**

The LeCroy Model 222 Dual Gate and Delay Generator provides two complete delay/gate channels in a single NIM module, combining in one compact package many important features formerly requiring separate expensive circuits.

The Model 222 eliminates the problems exhibited by previously available gate generators. There is negligible recovery time associated with the unit at any width setting; it may be retriggered immediately after the gate returns to its quiescent state in all ranges. Each channel of this single module can also be used to provide delays and gate outputs and to drive bin gates in its own bin and several external bins. In addition, an "OR" input for each channel permits the gate and delay interval to be extended by an external input.

The Model 222 provides a range switch and a screwdriver-adjustable potentiometer to permit continuous adjustment of gate durations from less than 100 nsec to greater than 11 seconds. The approximate gate setting may be easily determined without an oscilloscope by means of the front panel monitor point which provides a DC voltage related to the gate duration. A conversion graph is enclosed with the unit. In addition to preset width ranges, the range switch has a "latch" position to provide a continuous gate controllable by either the "Start" and "Stop" inputs or by the "Start" and "Stop" pushbuttons.

Innovators in Instrumentation

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SPECIFICATIONS
NIM Model 222
DUAL GATE AND DELAY GENERATOR

EACH CHANNEL

INPUT CHARACTERISTICS

Start Input: One: responds to both fast NIM-level and TTL-level inputs.

Fast NIM Input Requirements: Greater than −600 mV enables; minimum width 5 nsec; 50 Ω impedance for any input from + 100 mV to −5.0 V.

TTL Input Requirements: Greater than +2.5 volts enables; minimum width approx. 20 nsec; high impedance for any input from +400 mV to +6 volts. (Requires +5 mA at +2.5 V.)

Stop Input: One: Characteristics same as for "Start" input. Used when range switch is in Latch position. Can be used in Preset position but will cause a "delayed stop".

Blanking Input: One: Requires fast NIM-level inputs (≥ −600 mV) 50 Ω impedance; blanks all outputs which occur during its presence, including the delayed output.* Maximum blanking rate, 80 MHz.

"OR" Input: One: Requires fast NIM-level inputs (≥ −600 mV); 50 Ω impedance; extends preset gate duration by the portion of its input signal that occurs after the preset output time.

OUTPUT CHARACTERISTICS

Gate Outputs: One standard fast NIM-level output (quiescently 0 volts; −750 mV during pulse) of approx. 2 nsec risetime; falltime slightly longer on wide widths.

One complementary fast NIM-level output (quiescently −750 mV; 0 volts into 50 Ω during pulse).

One TTL-level output (quiescently 0 volts; > +2.5 volts into 50 Ω during pulse).

Delayed Output:* Delivers 10 nsec (FWHM) fast NIM-level signal into 50 Ω. Occurs approximately at the trailing edge of the preset or start-stop gate output (including any gate extension due to input "OR"); ≤ 2.5 nsec risetime.

Presettable Gate Durations: Continuous from < 100 nsec to > 11 sec. plus latched position; full scale switch determines range. On single width version, screwdriver-adjustment vernier permits fine adjustment from ≤ 10% to > 110% of full scale (screwdriver included). Front panel test point gives DC voltage related to gate width (in % of range switch setting). Conversion chart included with module. On double width version, front panel locking potentiometer replaces the screwdriver adjust pot and monitor point. Output width jitter, approx. 0.05% of setting.

GENERAL

Recovery Time: None; unit may be retriggered immediately after gate output returns to its quiescent state.

Input-Output Delay: 14 nsec.

Manual: Front panel "Start" and "Stop" pushbuttons permit manual operation when full scale switch set on "latch", and single-shot presettable operation when full scale switch is in any other position.

Bin Gate Driver: Each channel has one rear panel Lemo type connector which switch selectably drives external bins in either normal or inverted direction. Logic 1: < 1 volt at 200 mA; logic 0.5 volts into high impedance (2 kΩ).

Channel Select Switch: Rear panel 3-position switch (A/B/OFF) determines which channel drives the bin in which the Model 222 is located.

Busy Indicator: Front panel LED remains on when gate output is present, even if extended by "OR" input.

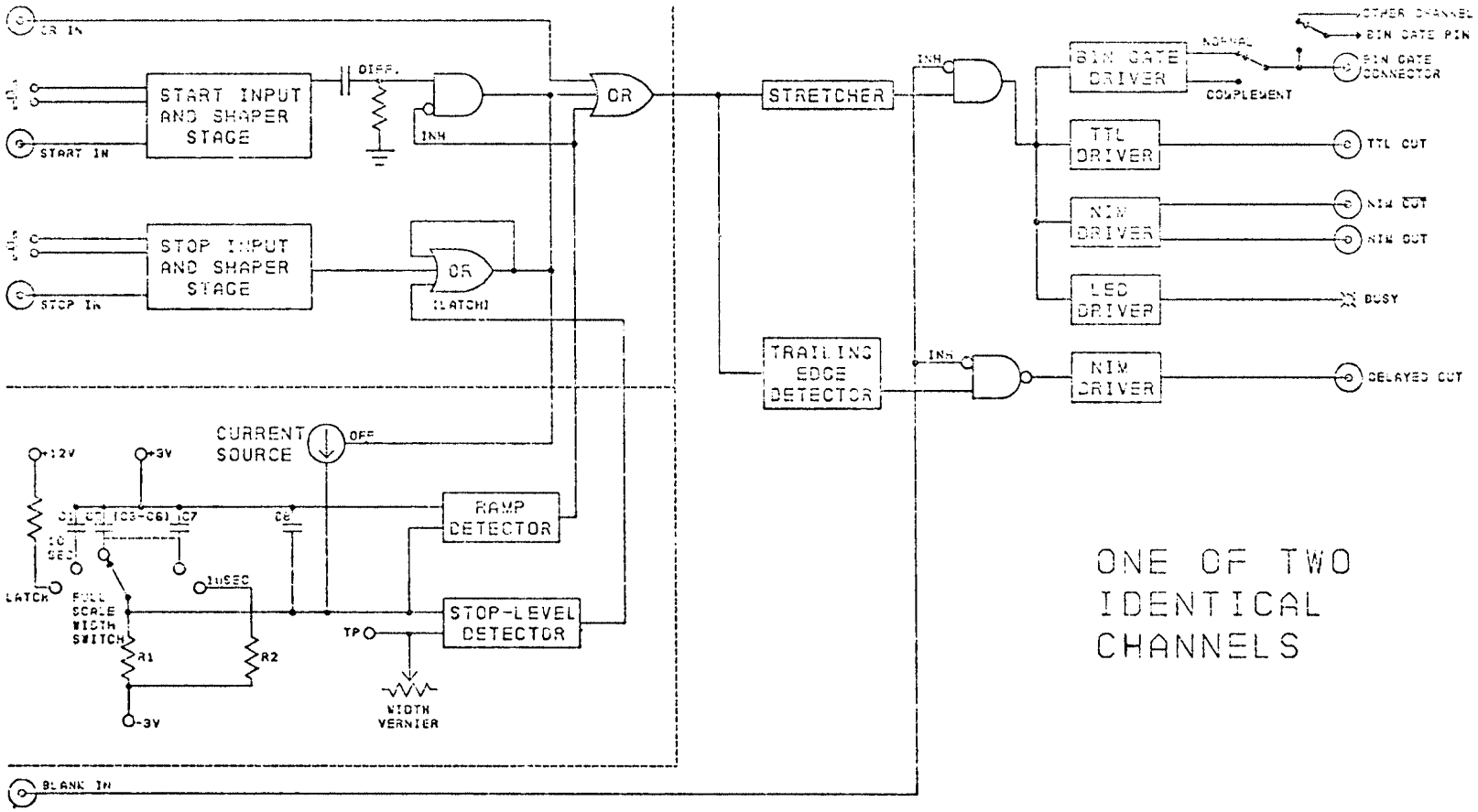
Packaging: NIM-standard single width module; Lemo type connectors.

Current Requirements:

+12 V at 95 mA	+24 V at 45 mA	+ 6 V at 235 mA (drawn from
−12 V at 180 mA	−24 V at 80 mA	+12 V if unavailable)

*Blanking of the delayed output may be disabled by factory option.

SPECIFICATIONS SUBJECT TO CHANGE



ONE OF TWO IDENTICAL CHANNELS

FUNCTIONAL BLOCK DIAGRAM-MODEL 222 DUAL GATE GENERATOR