NIM Model 222/222N Dual Gate Generator

* No deadtime
* Combined gate and delay generator
* 2 channels in a single NIM module
* "OR" input to permit extending gate with external signal
* Responds to NIM and TTL inputs
* 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 < 1 00 ns to > 1 1 sec.
* Front-panel monitor point to permit determination
of gate duration with standard voltmeter*

The LRS Model 222 Dual Gate 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 ns to greater than 1 1 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.

The Model 222 is packaged in a NIM standard #1 width module with Lemo-type connectors. It is also available in a #2 width module with BNC connectors as the Model 222N.

*Front-panel monitor point available only in Lemo version.

Specifications

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 ns; 50 ohm impedance for any input from + 100 mV to -5.0 V. TTL Input Requirements: Greater than +2.5volts enables; minimum width approx. 20 ns; high impedance for any input from +400 mV to +6 volts. (Requires +4.5 mA at +2.5 V.)
Stop Input:	One: Characteristics same as for "Start" input.
Blanking Input:	One: Requires fast NIM-level inputs (> -600 mV) 50ohm impedance; blanks all outputs which occur during its presence, including the delayed output.'
"OR" Input:	One: Requires fast NIM-level inputs (> -600 mV); 50ohm 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 ns risetime; falltime slightly longer on wide widths. One complementary fast NIM-level output (quiescently -750 mV; 0 volts during pulse). One TTL-level output (quiescently 0 volts; > +2.5 volts into 50 ohm during pulse).
Delayed Output:	Delivers 10 ns (FWHM) fast NI M-level signal into 50 ohm. Occurs at trailing edge of gate output (including any gate extension due to input "OR"); < 2.5 ns risetime.
Presettable Gate Durations:	Continuous from < 1 00 ns to > 1 1 sec.; f ull-scale switch determines range. On Lemo version, screwdriver-adjustment vernier permits fine adjustment from < 1 0% to > 1 1 0% of full scale (screwdriver included). On BNC version, front panel locking potentiometer replaces the screwdriver adjust pot and monitor point.
GENERAL	
Recovery Time:	None; unit may be retriggered immediately after gate output returns to its quiescent state.
Input-Output Delay:	14 ns.
Front-Panel Monitor Point:	On Lemo version, front-panel test point gives DC voltage related to gate width. Conver-sion chart included with module. On BNC version, monitor point is eliminated.
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 of inverted direction.
Channel Select Switch:	Rear panel 3-position switch (A/B/OFF) determines which channel drives the bin in which the Model 222 is located.
Gate Monitor:	Front panel LED remains on when gate output is present, even if extended by "OR" input.
Packaging:	Model 222: NIM-standard single-width module; Lemo-type connectors. Model 222N: NIM-standard double-width module; BNC connectors.
Current	+12V at 95mA +24 V at 45 mA +6 V at 235 mA.

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

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