

Technical Data

February 1974

The EG&G F304/NL Quad Fanout contains four independent direct-coupled sections, each having a total **fanout** capability of **four NIM fast logic signals**.

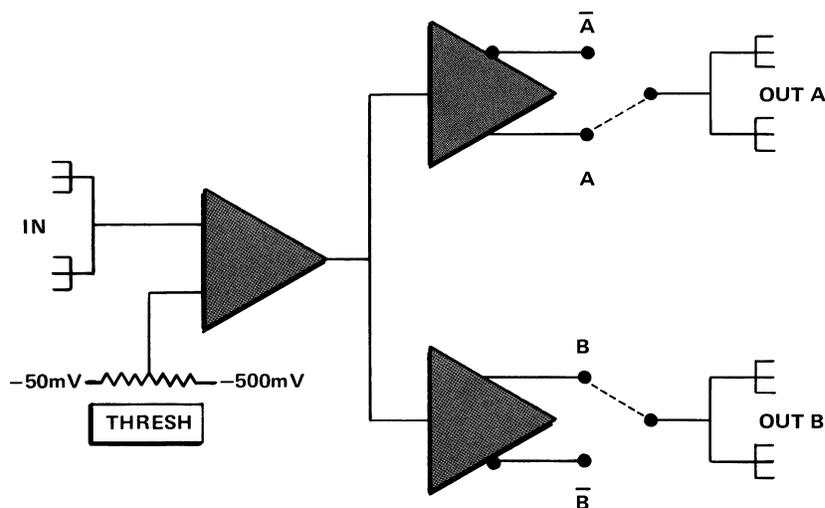
The **input** circuits are of the **high-impedance bridging** type, which permits the input signals to be reused. Thus several **sections** of the F304/NL **can be cascaded** to make either a dual 8-output or single 16-output fanout.

Unlike other fanouts, the F304/NL contains a time-over-threshold input discriminator, which makes the unit extremely

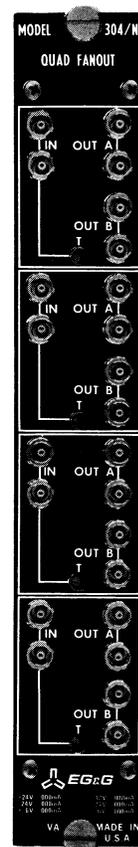
useful for reshaping logic signals that have been attenuated by long cable runs. The discriminator **thresholds** are **adjustable** by front panel potentiometers over the range -50 to -500 mV, with input protection provided to allow the unit to operate directly from detector signals as a low-performance trigger.

Since the dual outputs are driven by a double-amplitude current source, they can be used as two separate signal outputs, a stub-clipped output, a back-terminated output, a double-amplitude output, etc. With open-stub reflection the output width can be doubled.

- Fanout of 4
- Bridging input
- Cascadable sections
- Adjustable threshold



Simplified Diagram of One Section of F304/NL



SPECIFICATIONS

INPUTS

INPUTS 1-4 Four high-impedance bridging inputs per module that can be cascaded; must be terminated in 50Ω for correct operation.

Polarity Accepts negative signal of 3 nsec or greater FWHM.

Protection ± 5 V dc, ± 50 V transient.

Reflections $<10\%$ for 1-nsec rise-time signal when terminated in 50Ω .

OUTPUTS

OUTPUTS A/B Two "dual" NIM fast logic outputs per section; optional selections of complement by internal jumper; current source outputs must be terminated in 50Ω for correct operation.

T_{01}, T_{10} * Typically 1.5 nsec.

Width Determined by input time over threshold.

CONTROLS

T Front panel 10-turn potentiometers, one per section, provide continuous adjustment of the input comparator levels.

Range -50 to -500 mV.

Temperature Coefficient $<200 \mu\text{V}/^\circ\text{C}$.

PERFORMANCE

RATE

CW Rate Typically 160 MHz.

Pulse Pair Response Typically 6 nsec.

DELAY Approximately 6 nsec from threshold crossing to leading edge of output signal.

OPERATING RANGE $0-50^\circ\text{C}$.

ELECTRICAL AND MECHANICAL

DIMENSIONS Single-width NIM module.

CONNECTORS LEMO 00C50.

COLOR Green.

POWER REQUIRED

+6 V	15 mA	+12 V	0 mA	+24 V	0 mA
-6 V	440 mA	-12 V	100 mA	-24 V	0 mA

WEIGHT

Net 1-1/2 lb.

Shipping 3-1/2 lb.

* T_{01} denotes zero-to-one transition; T_{10} denotes one-to-zero transition.



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