

Phillips Scientific

16 Channel Logic Level Translator

NIM MODEL 726

FEATURES

- * Converts TTL, NIM and ECL Logic Families
- * High Density - 16 Independent Channels
- * DC - 150 MHz for NIM and ECL Translation
- * DC - 100 MHz for TTL Translation
- * Low Power - Meets Requirements for Single NIM Slot
- * Available in CAMAC Packaging Model 7126

DESCRIPTION

The model 726 is a 16-channel level translator packaged in a single width NIM module. It simultaneously converts in any direction between NIM, TTL and ECL logic families. In addition, a logical "OR" is possible for the ECL input and the NIM/TTL input. The input to output is direct coupled with the output duration equal to the input duration. Each channel has a single input connector which accepts a fast negative NIM level with 50 ohm input impedance and a positive TTL level with 1000 ohms impedance. This produces a positive TTL output capable of driving a 50 ohm load and a bridged NIM output that drives two 50 ohm loads. The NIM output stage is current-switching which allows pulse clipping and is protected from damage due to shorted cables.

INPUT CHARACTERISTICS

NIM/TTL : 16 inputs, one per channel, LEMO style connector; accepts both negative NIM or positive TTL pulses or levels.

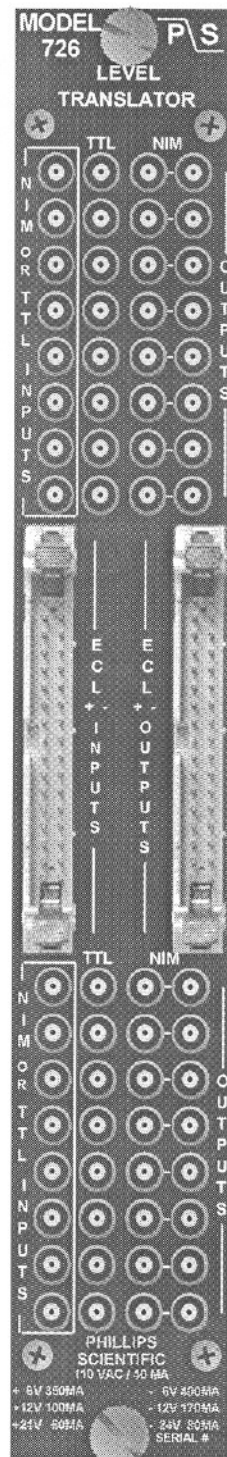
NIM: 50 ohms impedance $\pm 10\%$; -500mV threshold; input protected to ± 8 VDC.

TTL: 1000 ohms impedance $\pm 10\%$; +1.2Volt threshold; input protected to ± 8 VDC.

ECL Input : 16 inputs, one per channel; 2 x 17 pin header with lock and eject feature; accepts complementary ECL inputs; removable 110 ohm input termination; 200mV differential threshold.

OUTPUT CHARACTERISTICS

NIM Outputs : Two NIM outputs per channel; bridged -32mA current switching, LEMO style connectors; delivers one double amplitude NIM level or two normal NIM levels into 50 ohms; 1.5 nSec rise and fall times.



Phillips Scientific

"A THEORY DEVELOPMENT COMPANY"

31 Industrial Ave * Mahwah, NJ 07430 * (201) 934-8015 * Fax (201) 934-8269

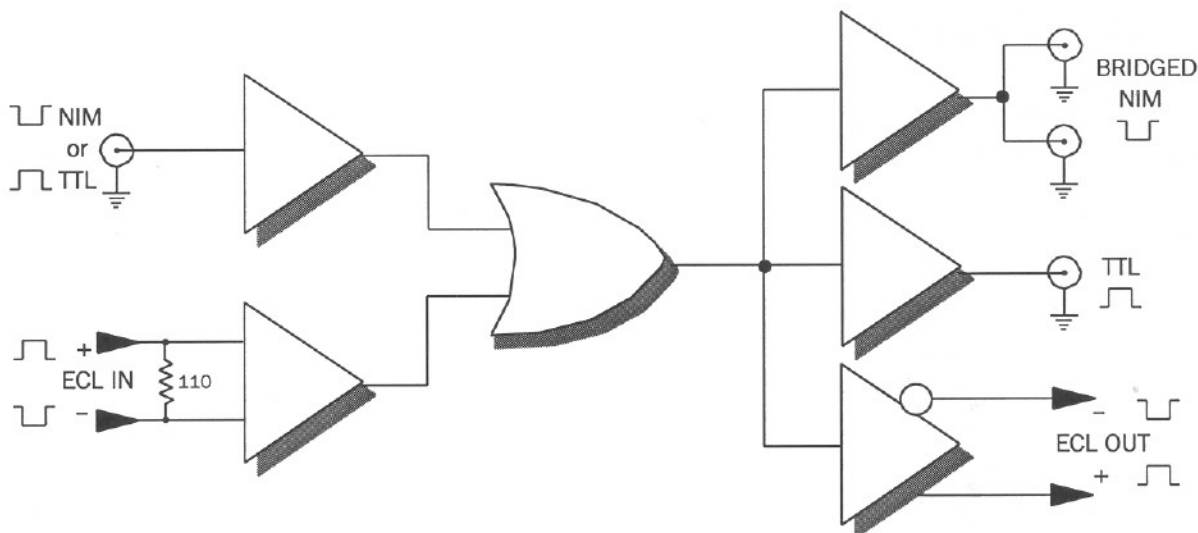
OUTPUT CHARACTERISTICS (continued)

- TTL Output** : One TTL output per channel, LEMO style connector; sources 45mA to drive 50 ohm load or 1000 standard TTL loads, sink current of 100mA; able to drive 100 standard TTL loads. 3.5nSec rise and fall times.
- ECL Output** : Complementary ECL, one per channel; 2 x 17 pin header with lock and eject feature; drives two 110 ohm ECL loads or up to 30 daisy-chained loads. Normal ECL levels of -800mV and -1.7Volts, 2nSec rise and fall times.

GENERAL PERFORMANCE

- Rate** : DC to 150 MHz for NIM and ECL translation;
DC to 100 MHz for TTL translation.
- Minimum Pulse Widths** : 4nSec for NIM and ECL translation;
7nSec for TTL translation.
- Insertion Delay** : NIM, TTL or ECL input to NIM or ECL output = 5nSec.
NIM, TTL or ECL input to TTL output = 10nSec.
- Power Requirements** : + 6 V @ 350 mA - 6 V @ 400 mA
+12 V @ 100 mA -12 V @ 170 mA
+24 V @ 60 mA -24 V @ 80 mA
110 VAC @ 40 mA
- Operating Temp.** : 0 °C to 70 °C ambient.
- Packaging** : Standard single width NIM module in accordance with TID-20893 (Rev).
and Section ND-524.

BLOCK DIAGRAM OF ONE CHANNEL



12/03

MODEL 726 SIXTEEN CHANNEL LOGIC LEVEL TRANSLATOR

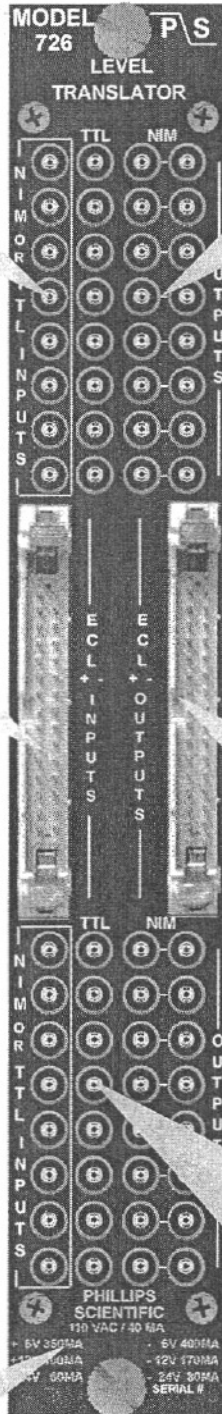
(Front Panel Description)

Standard # 1 NIM Packaging
in accordance with TID-20893

16 Logic Level LEMO Inputs;
Negative NIM or Positive TTL;
NIM=50 ohm, TTL=500 ohm.

16 Differential ECL Inputs;
110 ohm Input Impedance,
Logic OR'D with LEMO Inputs;

NIM Voltage and Current
Requirements



Double-Amplitude Bridged NIM Out,
-32mA (-1.6 Volts into 50 ohms,
-8 Volt into Two 50 ohm Loads)

16 Differential ECL Outputs;
34 Position Header, Can Drive
Two 100 ohm Twisted Pair Cables.

16 TTL Outputs, LEMO Connector;
Capable of Driving 2 Volts into 50 ohms
or 100 Standard TTL Loads.