

# 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.

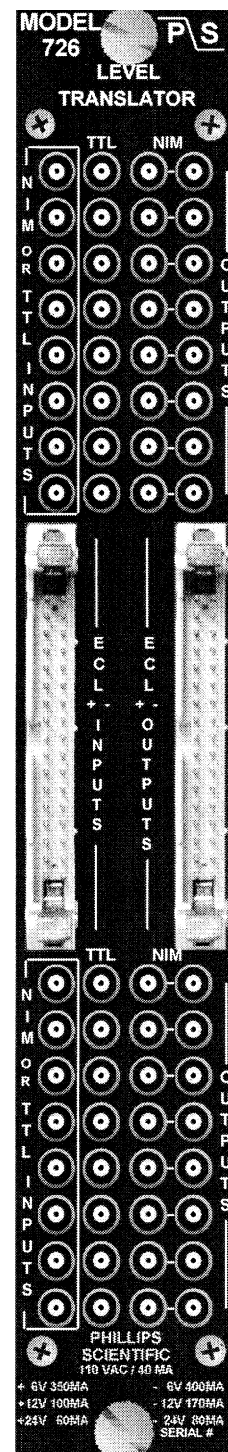
NIM: 50 ohms impedance  $\pm 10\%$ ; -500mV threshold; input protected to  $\pm 8$  VDC.

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



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## 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

