N1081

De-Randomising Mixer Buffer Counter

Introduction

The ANTECH N1081 De-Randomising Mixer Buffer provides useful test and diagnostic information for multi-counting chain neutron detectors (e.g. average channel count and count standard deviation) by determining independent software readable neutron totals counting for each input counting chain and statistical data analysis for each counting channel. The system eliminates counting losses and reduces dead time, especially at high count rates. It provides a useful visual indication of the operation of neutron counting systems. The device consists of custom VLSI circuits that are housed in a stand-alone box requiring a 5 Volt power supply. The box also houses the input and output BNC connectors, an RS-232 serial port connector and the indicating LEDs.The design and manufacture of the N1081 is conducted in accordance with the ISO 9001 standard of Quality Assurance.

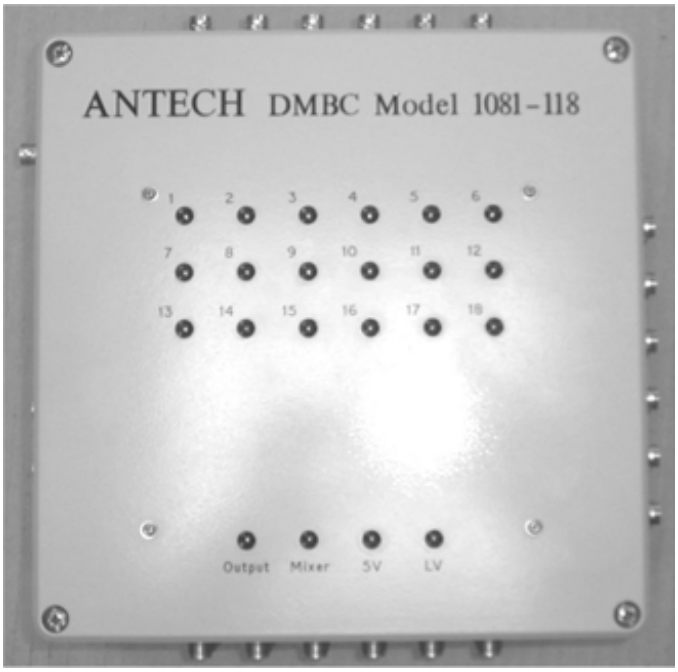
The output of each amplifier/discriminator associated with a set of ^{3}He neutron detector tubes is connected to one of the mixer input channels. The output channel of the device can be connected directly to the input of a neutron coincidence counter or neutron multiplicity counter, such as the N150 Advanced Multiplicity Shift Register operating with INCC 32-B neutron counting software or the N1003 Neutron Time Correlation Analyser.

The N1081 may be used as a passive device, with only the pulse buffer and mixer functions available. These functions are also available if the counters on the input channels are controlled externally. Commands for starting, stopping, reading and resetting the counters are provided. The counters may be controlled using software installed on a PC via a serial port.

ANTECH is able to provide custom software solutions tailored to customers' specific requirements. Mixer data can be appended to the INCC 32 data files.

Features

- Independent software readable neutron totals counting for each input counting chain
- Provides useful test and diagnostic information for multi-counting chain neutron detectors
- Custom VLSI technology for high reliability
- LED displays indicate pulses present on each channel and count activity
- Easy to use computer readable totals counter software
- Developers software tool kit available
- Compact rugged design
- CE/UL compliant



Benefits

- Provides High Voltage distribution from neutron detectors (HV power supply not provided)
- Provides Low voltage distribution to charge sensitive amplifier array
- Units can be cascaded for additional inputs
- Eliminates counting losses and reduced dead time, especially at high count rates

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Specification

	Model 1081-108	Model 1081-118
Dimensions (H x W x D) (excluding connectors)	250 mm x 250 mm x 120 mm (9.84 in x 9.84 mm x 4.72 in)	
Weight (kg)	3.7	
Input	8	18
Output	1	
Maximum input count rate	2 MHz per channel	
Input pulse width	30 ns ± 5 ns	
Output pulse width	50 ns ± 5 ns	
Maximum continuous count rate	10 MHz	
Period between consecutive pulses	100 nS	
Burst pulse buffer size	55 pulses	
Number of bit totals counter on each input	32	
Power requirements	5V dc	
Safety	EN61010-1:2001	
EMC	EN61000-6-4:2001 Emissions EN61000-6-2:2001 Immunity	
Maximum high voltage	2 kV	
Operating range	5°C to 40°C, 20% to 80% RH	
Storage range	0°C to 60°C, 20% to 80% RH	