LINEAR AMPLIFIER
TYPE : LA 520

Technical Data

Linear Amplifier LA 520 is a solid state pulse amplifier designed to shape and faithfully amplifies detector pre-amplifier output pulses to operable levels. Many of the Nuclear Detectors give small amplitude pulse outputs. These output pulses cannot be directly counted or analysed by scalers, countrate meters and single channel analyser, without being first amplified. Featuring excellent non-overload characteristics, a high gain, low equivalent input noise and flexibility of pulse shaping, LA 520 is ideally suited for use with Nuclear Counting Systems such as Gamma ray Spectrometers and other similar units.

This unit features compact modular construction and its power requirements are met by Instrumentation bin and power supplies including minibin and power supply MB403 of Nucleonix make or its equivalent.

FEATURES :

- ❑ Solid state design
- ❑ Input : Accepts both positive or negative input
- ❑ Typical gain : 600 +/-10%
- ❑ Adj. pulse shaping from 0.1 to 5 micro seconds
- ❑ Output : 0 to 8 volts positive
- ❑ Two bit module

SPECIFICATIONS

Input Polarity : Positive or Negative

Input Impedance : 93 ohms

Total Gain : Typical 600 +/-10% with 1 micro second time constant

Gain Adjustment :
Controlled by three gain controls
Accuracy : +/-10%

a. Input attenuator : Attenuator factors x2.5 & x 1
b. Coarse gain : 0.2, 0.5, 1,2,3,5 & 8 by rotary switch
c. Fine gain : About adjustable by a ten turn helipot and knob/ precision dial.

Pulse shaping : Differentiating and integration RC time constants variable from 0.1 micro second to 5 micro second in sequence of 0.5, 1, 2, 3, 6, 10 with a provision of switching integration IN/OUT

Amplifier Rise Time : Better than 100 nano seconds with no integration and 0.1 micro second differentiation constant.

Output : 0 to 8V positive, 12V maximum unipolar.

Output Impedance : Approximately 93 ohms

Amplifier noise : Equivalent input noise 10 micro volts rms typical at maximum gain and 1 microsecond integration and differentiation

Linearity : The integral non-linearity is less than 0.15% from 200 mV to 8 mV at 1 micro sec time constant, integration IN.

Power Requirement :
+24V at 45mA
-24V at 40mA
+12V at 20mA
-12V at 5mA

Dimensions : Standard two width module

Temperature Stability :
0.01% per degree centigrade

Module connector :
Amphenol connector type 26-159-24P-H (24 pin type) by default or NIM standard, as per AEC specifications TID 20893 (Rev) Type AMP 204186-5.