

TECHNICAL SPECIFICATIONS

500 Series

Model 501 Active Filter Main Amplifier

MODEL 501 MAIN AMPLIFIER

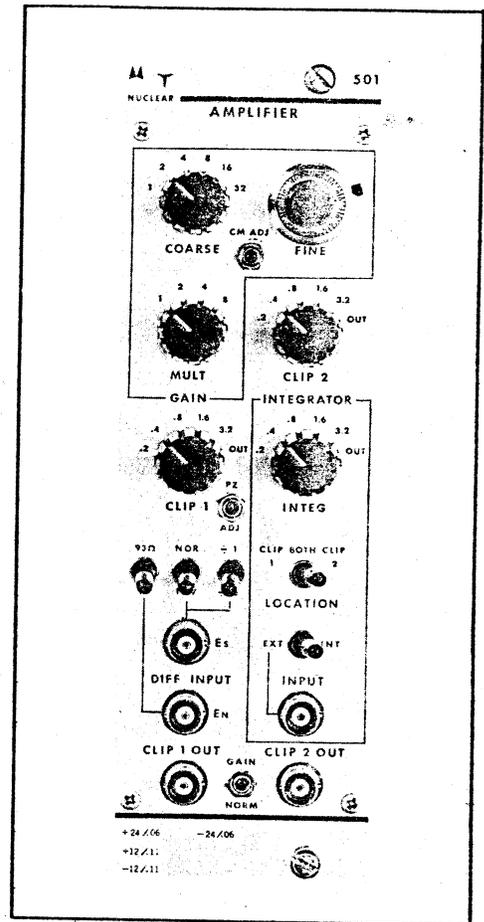
- Sectionalized Design
- Independently Adjustable Shaping Elements
- Fast Output Capability
- Integral Linearity $\pm 0.02\%$

GENERAL DESCRIPTION

The Mech-Tronics Nuclear Model 501 Amplifier is unexcelled by any commercially available main amplifier. The 501's superior performance specifications, versatile pulse shaping modes and input-output capabilities provide the experimenter with the tools required to insure highest possible resolution over a broad range of experimental situations.

The monopolar output pulse shape can be made nearly gaussian for best signal to noise ratio. The independently adjustable 1st differentiator and integrator allow further optimization as a function of the relative contribution of detector-preamp flicker noise (high frequency) and current noise (low frequency).

The bi-polar output pulse shape approaches the second derivative of a gaussian waveform. A major to minor lobe ratio of 1.4 to 1 is maintained with near critical damping. At maximum gain, the bi-polar output recovers from 1000 times overload to within 2% of baseline in less than 2 non-overloaded pulse widths. No measureable baseline shift occurs at rates up to 100 KHZ.



SPECIFICATIONS

INPUT/OUTPUT

INPUTS:

Differential:

E_s

E_n

Two sets of differential inputs are provided; a front panel BNC and another associated with the Preamp power plug (P2) on the rear panel.

Input impedance 1000 ohms d.c. coupled, front panel BNC and Pin D of preamp power plug.

Input impedance 1000 ohm d.c. coupled, front panel BNC AND Pin E of preamp power plug.