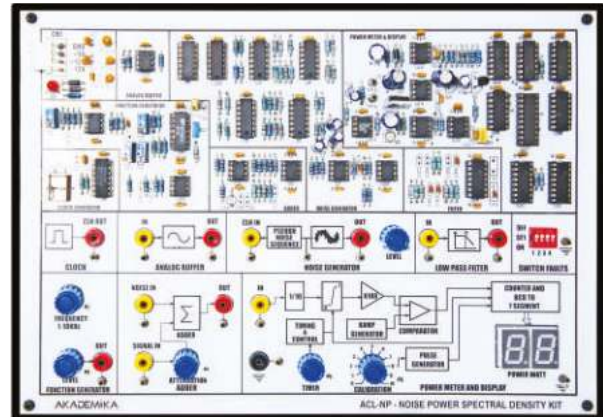


ACL-NP

Noise Power Spectral Density Measurement Kit



FEATURES

- On-board sine wave 1 ~ 10 KHz
- On-board Clock Generator 2MHz
- 32-bit Pseudo Random Noise Generator
- Signal + Noise Adder
- Power Spectral Density Meter
- 2 digit Seven Segment Display
- 4th order Butter-worth Low Pass Filter
- S/N ratio
- Noise Figure Measurement

SPECIFICATIONS

Clock generator

- Frequency : 2 MHz

Onboard signal

- Sine wave
- Frequency : 1 ~ 10 KHz
- Amplitude : 0 ~ 2 Vp-p

Noise generator

Pseudo Random Noise Source

- Number of bits : 32-bit
- Output amplitude : 0 ~ 1V
- Noise bandwidth : 2 MHz

Signal Attenuator and Adder

- Adjustable from 0 to the maximum of input value signal + Noise Adder stage

Low Pass Filter

- 4th Order butterworth filter
- Cut-off frequency : 3.4 KHz

Power meter and display

- Input signal amplitude : 0 ~ 2 Vpp
- Timer : 1 ~ 15 seconds
- Display : 2 digits seven segment

Switch Faults

- 4 switch faults are provided on board to study different effects on circuit

Interconnection

- 2 mm banana socket

Test Points

- 16 test points are provided on board to observe intermediate signals

Power Supply

- GND, +5V, +12V, -12V

EXPERIMENTS

- To observe the effect of noise on various analog systems
- To calculate signal to noise ratio
- To calculate noise figure
- To calculate noise power and noise power spectral density
- To study the effects of low pass filter on noisy signal
- To study the effects of switch faults