

Lab #1: Laboratory Equipment

Illya Starikov

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1 Objective

To familiarize self with lab equipment, namely the DC Power Supply, Function Generator, Frequency Counter/Timer, Digital Multimeter, and Mixed Signal Oscilloscope.

2 Equipment Used

- DC Power Supply
- Function Generator
- Frequency Counter/Timer
- Digital Multimeter
- Mixed Signal Oscilloscope

3 Procedures

1. Generate a square wave with an amplitude of 3 V and frequency of 900 Hz.
 - Offset DC by 2 V.
2. Generate 3 signals:
 - 1 kHz

- 10 kHz
 - 50 kHz
3. Generate 7 V DC, measuring with the Digital Multimeter.
 4. Follow the steps of category 5.

4 Conclusion and Results

4.1 Function Generator

4.2 Frequency Counter/Timer

Function Generator	Function Counter
1.017 kHz	1.1 kHz
10.02 kHz	10.1 kHz
49.99 kHz	50.1 kHz

4.3 Digital Multimeter (DMM)

Multimeter:	7.015 V
Power Supply:	7.1 V

4.4 Mixed Signal Oscilloscope

At approximately 2.430 MHz the square wave starts becoming indistinguishable, taking the shape of a sinusoidal wave.

5 Notes And Comments

- $v_{rms} = \frac{VP}{\sqrt{2}}$
- $p - p$ means peak to peak.