

## TABLES OF FIGURES

Figure 2.1 Differences between time domain and frequency domain.....	7
Figure 2.2 (a) Continuous Time Signal dan (b) Discrete Time Signal.....	10
Figure 2.3 Signal Sampling.....	11
Figure 2.4 Arduino UNO Pin Out.....	18
Figure 2.5 Arduino MEGA Pin Out.....	19
Figure 2.6 Toolbar Arduino Display.....	20
Figure 3.1 Diagram Scheme.....	23
Figure 3.2 Amplifier Connected to the Line Port.....	25
Figure 3.3 Headphone Connected to the Line Port.....	25
Figure 3.4 Arduino Program Diagram.....	27
Figure 3.5 Low Pass Filter Circuit.....	32
Figure 3.6 ADC Result Analysis.....	32
Figure 3.7 ADC Result Chart.....	33
Figure 4.1 TFT LCD Result.....	34
Figure 4.2 The Result of ADC Output Value from Serial Monitor.....	35
Figure 4.3 The Result of FFT Output Value from Serial Monitor.....	36
Figure 4.4 Spectrum 32-Band Audio Section Setup Script Program.....	37
Figure 4.5 Spectrum 32-Band Audio Section Loop Script Program.....	39
Figure 4.6 32 Band Audio Spectrum Analyzer Product Design.....	43
Figure 4.7 Low Pass Filter Result Analysis on 32-Band Audio Spectrum Analyzer.....	44
Figure 4.8 LPF Circuit on LTspice.....	46
Figure 4.9 LPF on Spectrum Analyzer using LTspice Application.....	47
Figure 4.10 Cut-Off Frequency Value.....	47