

PENGENALAN KUNCI GITAR AKUSTIK BERBASIS ARDUINO

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ABSTRAK

Dalam tugas akhir ini dapat dijelaskan dengan abstraksi atau ringkasan intisari dari pembuatan tugas akhir yang berjudul "PENGENALAN KUNCI GITAR AKUSTIK BERBASIS ARDUINO" yaitu merancang dan membangun alat media pembelajaran kunci nada gitar akustik bagi pemula pemain gitar. Adapun materi dan bahannya meliputi modul arduino, rangkaian tone decoder ICLM567, gitar akustik Yamaha seri F310, kunci nada dasar yang dianalisa menurut perhitungan nilai frekwensi A,B,C,D,E,F, dan G, perhitungan nilai frekwensi kunci nada masing-masing menggunakan software sound forge pro 10.0. Dari beberapa bahan dan materi diatas adalah yang dibahas dalam tugas akhir. Intisari dari rancangan alat ini adalah membandingkan nilai frekwensi dari masing-masing nada dengan memanfaatkan 7 filter disetiap nada kunci pada rangkaian tone decoder ICLM.567. Hasil dari pengujian akan dibuat prosentase (%). Hasil akurat yang sesuai dipetik (digenjreng) nada kunci gitar akustik yaitu diatas 50% dinyatakan akurat , dan hasil tidak akurat atau tidak sesuai nada yang dipetik (digenjreng) dibawah yaitu 50%.

Kata Kunci : ICLM567 sebagai penyaring dan pendeteksi nilai frekwensi pada kunci nada gitar

INTRODUCING GUITAR CORD ACOUSTICS ARDUINO BASE

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In this thesis , entitled RECOGNITION BASED ACOUSTIC GUITAR KEY Arduino media tools designed and built key learning acoustic guitar tone . The usual beginner guitar players use a guitar cord guide books as a learning tool . It is considered less effective in key learning standard guitar tone . Seeing that there are problems emerging idea or ideas to design and create instructional media tools by utilizing materials and components that comprise the module arduino uno as a comparison value in loloskan by tone , tone decoder circuit ICLM567 . IC LM567 is the principle of just passing the frequency value . Yamaha F310 acoustic guitar series which will be used to produce a major key tones A , B , C , D , E , F , and G. Tones generated keys will be searched each frequency value using sound forge pro 10.0 software .

Frequency value of each note by using a series of filters every 7 key tone on tone decoder circuit ICLM567 . How to compare the value of the frequency of the tone is the key to delivering value on each frequency tone with 3 hz range and set manually by a variable resistor .

The test results are shown in X_CTU software on a computer or laptop that will display the key tones . Accuracy value expressed in percent (%) . If the value accuracy above 50 % then , the test results accurately expressed and otherwise if less than 50 % is submitted inaccurate . A key test results tones major 10 times the accuracy of 100 % . Tone B key 10 times 7 times the experiment failed and succeeded so 3 times the percentage rate of 30 % . Tone key C major 7 in 10 attempts failed , and 3 times the percentage is 30 % successful . Tone D major key in 10 attempts failed 2 times , and 8 times the percentage is 80 % successful . E major keynote in 10 attempts failed 4 times , and 6 times the percentage is 60 % successful . Tone key F major in 10 attempts fail 7 times , and 3 times the percentage is 30 % successful . G major keynote in 10 attempts 10 times the percentage is 100 % successful . Experiment testing this tool out of seven samples tested turned out to tone key 4 key tone works is A major , D major , E major , G major , and 3 key tone that fails is B major , C major and F major . So making tool in this thesis should be developed on key tone that fails is B major , C major , F major was caused because the value of the tone frequency is so narrow that the filter on the tone detector circuit can not pass the value of the tone.

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Â Keywords : Arduino Uno , LM567 tone detector , sound forge pro 10.0

Keyword : ICLM567 as filters and detection frequency value at key guitar tone