LAMPIRAN J

POLITEKNIK MALAYSIA

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT *INFORMATION*
Program *Program*	DEP 5
Jabatan *Department*	JKE
Semester/ Tahun *Semester/ Year*	5
Tajuk Projek *Project Title*	ELECTRONIC MOSQUITO REPELLENT CIRCUIT
Jenis Projek *Type of Project*	HARDWARE
Kategori Kluster Penyelidikan *Category/ research Cluster*	Tanda " / " pada yang berkenaan: *Please tick " / " where applicable:* ( ) Sains tulen (*Pure Science*) ( ) Sains gunaan (*Applied Science*) ( ) Teknologi dan kejuruteraan (*Technology and Engineering*) ( ) Sains kesihatan dan klinikal (*Clinical and Health Sciences*) ( ) Sains sosial (*Social Sciences*) ( ) Sastera dan sastera ikhtisas (*Arts and Applied Arts*) ( ) Warisan alam dan budaya (*Natural Sciences and National Heritage*) (/) Teknologi maklumat dan komunikasi (*Information and Communication Technology*)
Ahli Kumpulan *Group member*	1. Name:MUHAMMAD NAJMI BIN MATSIN No. Identification card:14DEP16F1049 2. Name:AZUAN BIN AMIR No. Identification card:14DEP16F2010 3. Name: No. Identification card:
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Penyelia Bersama *Co-Supervisor*	1. Name: No. Identification card:
Abstrak *Abstract*	Design a smart MOSQUITO REPELLER CIRCUITusing ultrasonic sensor is a project that using an ultrasonic sensor as it's based on generate frequency which can repel insects in small places. It is design to be a low cost ultrasonic insect repeller. Human beings can't hear these high-frequency sounds. Unfortunately, all insects do not react at the same ultrasonic frequency. While some insects get repelled at 35 kHz, some others get repelled at 38 to 40 kHz. Thus to increase the effectiveness, frequency of ultrasonic oscillator has to be continuously varied between certain limits. By using this circuit design, frequency of emission of ultrasonic sound is continuously varied step-by-step automatically. For each clock pulse output from op-amp IC1 CA3130 (which is wired here as a low-frequency square wave oscillator), the logic 1 output of IC2 CD4017 (which is a well-known decade counter) shifts from Q0 to Q4. Five presets VR2 through VR6 (one each connected at Q0 to Q4 output pins) are set for different values and connected to pin 7 of IC3 (NE555)

	electronically. VR1 is used to change clock pulse rate. IC3 is wired as an astable multivibrator operating at a frequency of nearly 80 kHz. Its output is not symmetrical. IC4 is CD4013, a D-type flip-flop which delivers symmetrical 40kHz signals at its Q and Q outputs which are amplified in push-pull mode by transistors T1, T2, T3 and T4 to drive a low-cost, high-frequency piezo tweeter.
Keyword *Keyword* (max 5 word)	INSECT REPELLER
Objektif Projek *Project Objectives*	• Implementation of 555 Timer based astable circuit as the oscillator circuit which can produce ultrasound in the frequency range of 20 KHz to 38 KHz. • Using a piezo buzzer to produce ultrasound that can repel the mosquitos away.
Skop Projek *Project scope*	• The data used in the research is gathered through observation and steam distillation technique • Only to repell mosquito • Repell mosquito in 5 meters diameter • Using 9V DC
IP No	NIL
Dapatan *Finding* (*500 words max*)	We should adjust the frequency using the variable resistor to the mosquito frequency . Mosquito frequency range in 38 KHz to 44 KHz .We should use the piezo buzzer to make the ultrasound .So when the mosquito heard that sound we adjust , the mosquito will run away or will die in a few minutes.

Cadangan untuk kerja-kerja akan datang *Suggestion for future work* (*500words*)	We try to drive other animals by adding different frequencies to drive the animal as an example of wild animals such as snakes	
Gambar berkaitan projek *Picture related to project* (700kb)	 *Figure 1*	 *Figure 2*
Rating/Level	Jabatan/ Politeknik/ Kebangsaan/ Antarabangsa *Departments / Institutes / National / International*	

***** *Borang ini perlu diisi oleh pelajar dan dihantar kepada penyelia/ penyelaras projek dalam bentuk hardcopy dan softcopy (borang LAMPIRAN J dan gambar hasil projek dalam format jpeg/bitmap) bersama laporan akhir dan hasil projek.*