



**FACULTY OF ELECTRICAL ENGINEERING
MARA UNIVERSITY OF TECHNOLOGY
PENANG**

FINAL REPORT OF PROJECT II

KEU 380

DATE : 20 APRIL 2000

TITLE :

**PULSED FREQUENCY MODULATED INFRARED
COMMUNICATOR**

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ABSTRACT

Electronic communication system has developed and progressed very rapidly. It began with copper wire as the only type of link between the sender and the receiver. Later broadcasting was developed which allowed signal to be transmitted through the air (free space), without any wire.

Radio transmitter used radio wave to transmit the signal, but this project Pulse-Frequency Modulated Infrared Communicator used pulsed-frequency modulated infrared which is safe to transmit voice or any signal to the receiver. Figure (a) and (b) illustrates a block diagram of the transmitter and receiver.

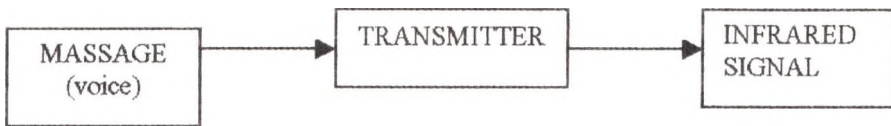


Figure (1a)



Figure (2b)

In many situation it is impractical to used direct wiring techniques, especially when transmitter and receiver are located in placed where there are in accessible or when it is inconvenient to operate them. Infrared communicator is a useful option for short range wiring from transmitter to the receiver. Infrared technology uses the atmosphere as its transmission medium and it is a practical and cost effective solution in many communication situations. This systems eliminate the need for expensive cabling and the installation challenges associated with hard wire system.

ACKNOWLEDGMENT

Assalamualaikum,

In the name of ALLAH (S.W.T) the most gracious and merciful, thank to ALLAH for giving us opportunity to complete this Project 2 (KEU 380) although we have some problems to complete it successfully.

We would like to express our deep sense of gratitude and appreciation to our project Supervisor Pn. Nonitawati for her consistent advise and guidance as well as provision of her valuable time, encouragement and patience during the period of completing this project. We also grateful to all staff members of the Uitm computer laboratory for their support and their technical expertise a special thanks to En. Ahmad Ismail for his support during the duration of the project.

We are grateful to have adviser like her and we never forget everything , especially their co-operation to us and we appreciate it a lot.

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Wassalam.

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CHAPTER 1

PRINCIPLE OF OPERATION

SPECIFICATION

COMPONENT USED

TRANSMITTER

RESISTOR:

R1, R2 – 5.6k

R3, R4 – 100k

R5 – 10k

R6 – 100k

CAPACITOR :

C1 – 0.1u

C2 – 470u

SEMICONDUCTOR:

LED

MICROPHONE

MISCELLANEOUS:

OP AMP - IC 741

TIMER – IC 555 (ASTABLE MULTIVIBRATOR)