



Replace magnetic waves instead of a laser to read data signals (RML.ID)

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Paper Reference Number:02-2536

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Abstract

Nowadays lots of people use of RFID system & because of the abilities of RFID, users will be more and more each day. As you know conveying the DATA and POWER by magnetic waves will be done by armature winder (Sender and receiver) that the receiver is doing the most important role & making a more powerful field according to the sender & in this way it can read the data. In this essay we tried to omit the armature winder, receiver, and magnetic field which are in between, in order to read DATA and produce POWER for the sender, just by laser signals.

In general, We laser waves with the power given by the receiver to the transmitter can send data, Laser or laser sensors, laser waves to the receiver into a electrical signal to be fed out of memory, After the data was read from the memory with a modulated laser signals and data are sent to the receiver. The waves of the carrier signal at the receiver are implemented and the laser waves are evident.

Key words: read the data-Wave laser-Modulation of lasers

Introduction:

Today, many applications are in using RFID. Day by day the number of residents who use the advantages of this system, it is added. In here we will show you some of the usage of RFID system.

1.1 passport:

Using of RFID label in passport is very common in some countries. The first RFID passport was made in 1998 in Malaysia. And we produce 10 million RFID passports in 2005. And it estimates that in 2006 we could produce 13 million passports. Chip in the passport is the same information that an ordinary passport can be included.

It also owns a digital photo through the mail there. This type of transition in a thin metal lining is placed. Normally the sender by other devices - RFID receivers are not identified and the information about the theft of severe thalassaemia.

1.2 Transportation taxes:

In all the countries of Europe and especially in France, Portugal and Italy are cars with RFID porch's and yet the road toll. Roads, especially those with high traffic are done digitally.

1.3 recognition of goods:

We can use of RFID labels instead of load labels. Figure (1-0) can see an example of this type.

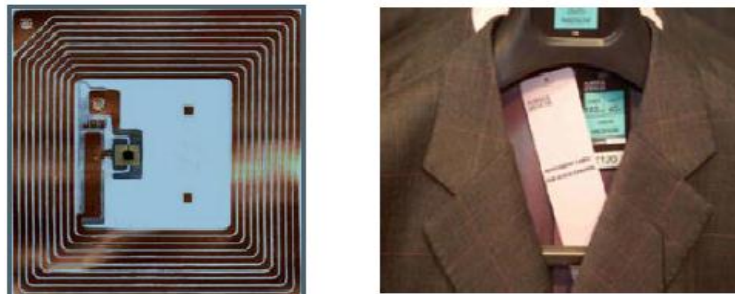


Fig.(1-0)How to Place RFID

1.4 car keys:

Of the RFID tags have a high range of the microwave can also be used as remote control and car ignition switch. So the car is turned on only when the label is real close to it. Figure (1-1) can see an example of this type.



Fig.(1-1) Using RFID In-car switch

1.5 recognition of animals:

By placing an RFID tag beneath the skin of animals and livestock, they can be identified. In this way, the modernization of farms and cattle are very common.

1.6 RFID in libraries:

RFID technology is slowly starting to replace old code with the library once a century. RFID tags in this type of user information such as name or type of book (genus) are books. RFID technology for the first time in 1999 was America's libraries and then it was England and Japan.

1.7 other usage of RFID:

RFID is now a wide range of applications. For example, to identify people as a substitute for the room key in hotels and so on. Park meter. In prisons to identify prisoners. Identify patients at a hospital and to identify any situation in which action is needed.

There is a kind of RFID tag which is designed for typographical replacements in human skin and with a simple level it can be put under the skin. Figure (1-2) will see an example of this type tags.

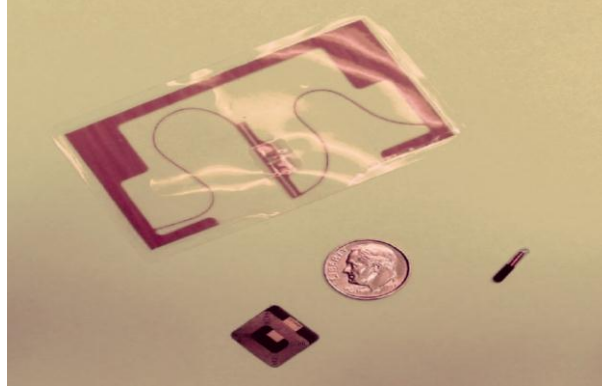


Fig (2-1).In the form of an RFID tag implanted in the skin with a coin you can see below.

2. Main text:

As you can see a wide variety of RFID applications ,but also significant limitations, for example, can include:

1. Magnetic waves are used because of its low noise is high.
2. If the RFID tag was close to a magnetic field such as electric motors with low noise, it is still high.
3. Magnetic waves are far less than the speed of light waves.

We'll explain how to send RFID data and on it and found how to send data using light waves to send and receive data by RFID is that we like.

2-1.Report of a practical circuit

An RFID system has two parts:

Transmitter - receiver and an RFID tag in the form of these two Figures(1-3-2) and formFigure (2.3.2) can be seen below.

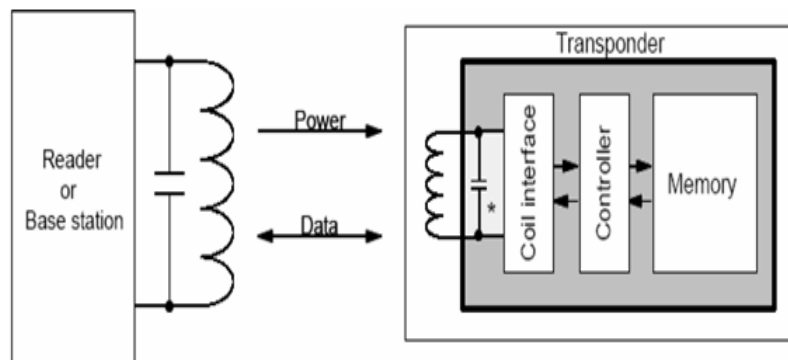


Fig (1-3-2).datagram's block an RFID system

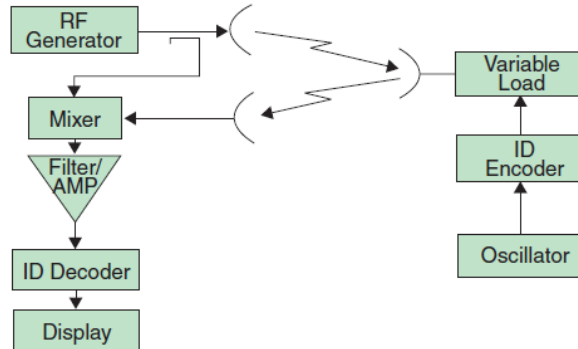


Fig (1-3-2).

As you can see the data and power through magnetic induction coil receiver and the transmitter is on, the receiver can do the main role and the transmitter can be a stronger field, to be able to read data from the transmitter.

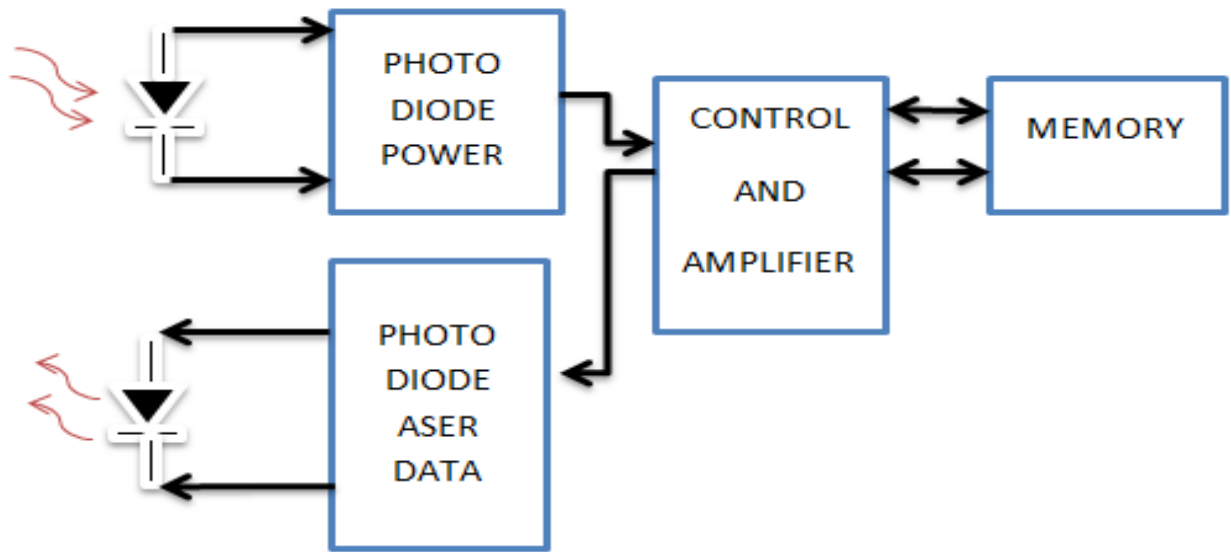
In this paper, we have our SY transmitter and receiver coils and magnetic field have been eliminated between the reading and a power source for transmitting optical signals make it through.

We first look at how to implement the modulation of light waves and light waves of data on pay and we examined a variety of optical spectrum. The spectrum of light waves is a number of them are visible and some of them are invisible.

Those are invisible waves that have a high frequency. Very far it is very difficult. We are going to use a visible wave, visible laser with a power-frequency waves that it is appropriate that we data how we use it.

In general we laser waves with the power given by the receiver to the transmitter can send data. Until the receiver laser or laser sensors, laser waves into electrical signals used for memory power. After the data was read from the memory with a wave and modulated laser and data is sent to the receiver and the receiver of the signal carrier waves that may slip off the waves and how can we make this system as we Jazzy:

Figure (4-2) under the circuit block diagram of the transmitter with power supply circuit is shown.



Fig(4-2). Block diagram of the transmitter4

Figure (5-2) under the receiver block diagram and the transmitter circuit power supply is shown:

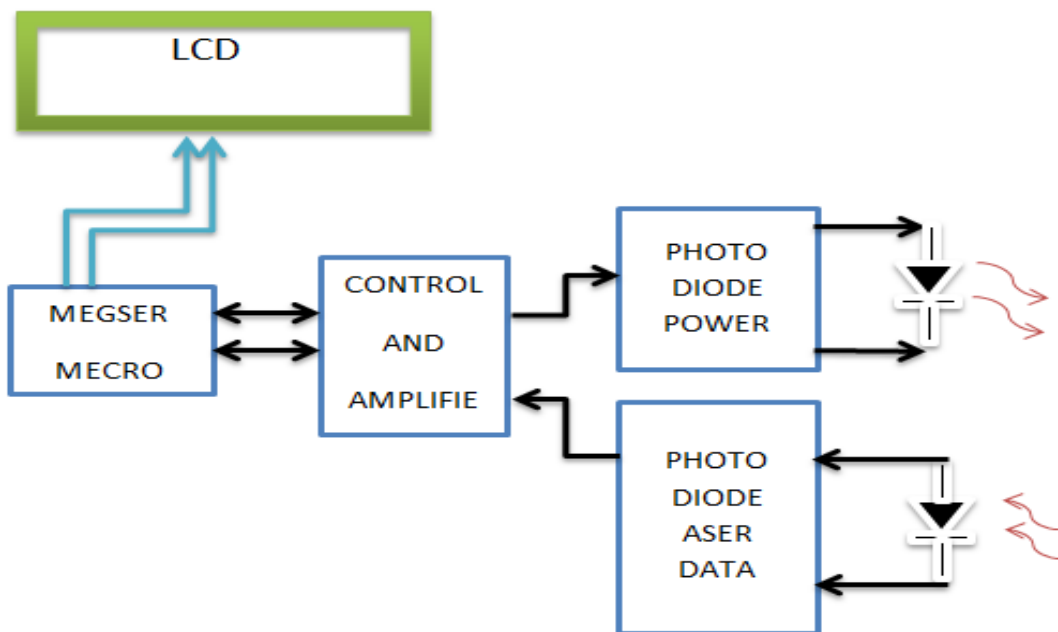


Fig (5-2): Block diagram of the receiver

Circuit of Figure (5-2) is to send data.

Figure (6-2) below is an example of a laser diode transmitter and receiver can see:

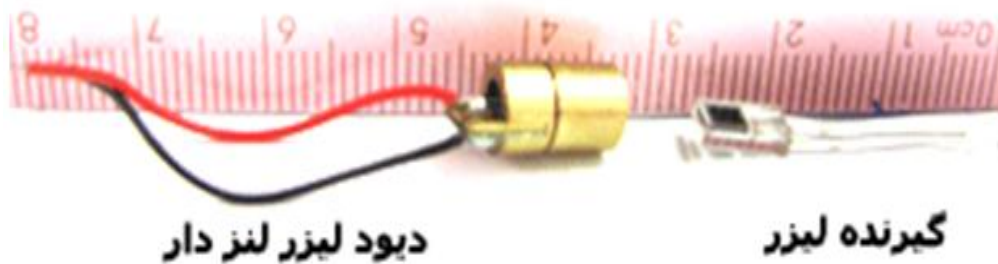


Fig. (6-2)

Conclusion:

This method to read the information read by the RFID data is plenty of advantages over the previously mentioned article, it has been. More time for me to repeat this advantage explains:

- 1 - Magnetic waves have been used in RFID because of its low noise is high. The laser radiation due to high operating frequency and cannot be too much noise.
- 2 - If the RFID tag is close to a magnetic field such as electric motors, low noise, it is still high. The laser waves are sensitive to magnetic fields.
- 3- Magnetic waves are far less than the speed of light waves.

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