Sea Researcher's Bio Parameter Monitoring Though Water Channel

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Abstract: Today Underwater water wireless information transfer is of great interest to the military, industry, as it plays a important role in monitoring of parameter, climate change etc.. Now we can see alternate way of transferring information through the water channel is amplifier, Amplifier generate some level of minimal voltage and its received by receiver side and the signal or information are transmitted same way. And its information help many scuba driver life.

Keywords: Amplifier, Arudino, LM35 senor, Heartbeat senor, power source, modulation and coding.

I. INTRODUCTION

An Emergency is a serious, unexpected and usually dangerous crisis that require prompt attention. In the event of emergency the bio parameter to detect, assess and resue people should be lesser time. which makes the parameter show the Temperature or Heartbeat below the normal level it indicate the person is suffer from some illness or health problem .That time sensor will monitor the user parameter and is transmit the data to receiver through water as a communication medium. It's the one ways of communication.

In recent few year Emerging water communication is optical communication, fiber optical cable, Radio frequency ,now we can see optical communication Has increased for terrestrial, space and under water links and its provide a high data rates with low power and mass requirement. However under water optical wireless links are explored as it is more challenging than atmospheric link. The hurdle for reliable under water communication is wide range of physical process in types of underwater environments ranging from shallow coastal water to sea

However various underwater vehicle, Sensor and observation require a communication Links with data rate ranging from few

DISTANCE	RANGE(Km)	Bandwidth(khz)	Data Rate
very long	1000	<1	600kbs
Long	10-100	2-5	5kbs
Medium	110	10	1kbs
Short	0.1-1	2050	30kbs
Very short	<0.1	>100	500kbs

mbs . In fiber cable or copper cables are used to achieve a high data rates but they require a maintenance issues .

II. EXISTING SYSTEM

LIMA proposed a recreating of frequency Domain; Optical communication is a potential technology to realize underwater wireless communication. The experiment of underwater optical communication in the laboratory is different with that in the real water environment because the physical scale is limited. Although since recent several decades, artificial scattering agents are used to recreate underwater optical communication channels under different water quality conditions, but the similarity between experimental water and natural water is not reliable, such as the similarity in frequency domain characteristics. In this paper, several kinds of agents are evaluated to change the optical coefficients of experimental water precisely. Then, seemed as criterion for the reliability of water recreation, the frequency domain characteristic of optical communication channel in experimental water is measured and compared

In recent years, underwater acoustic (UWA) communications have received much attention as their applications are beginning to shift from military towards commercial. UWA communications are made difficult by the combined effect of multipath propagation and high temporal and spatial variability of the channel conditions. Until recently, the design of communication systems has mostly relied on the use of no coherent modulation techniques. However, to achieve high data

rates on the severely band limited UWA channels, bandwidth-efficient modulation techniques must be considered, together with array processing for exploitation of spatial multipath diversity. The new generation of underwater communication systems employing phase-coherent modulation techniques will achieve at least a tenfold increase in data throughput. The communication scenario in which the modern UWA systems will operate is that of an underwater network consisting of stationary and mobile nodes. Current research focuses on the development of efficient signal processing algorithms, multiuser communications in the presence of interference, and design of efficient modulation and coding schemes.

III. UTILIZED HARDWARE

Arduino Uno is a microcontroller-based evelopment board with an ATmega328P microcontroller. ATmega328P has 14 digital I/O pins in which 6 can provide PWM output, 6 analog pins. The clock speed of ATmega328P is 16 MHZ. It's operating voltage is 5 V. Arduino Uno can accept voltage between 7 to 20 V. But normally it is powered by USB cable or 9V battery. Arduino Uno can be programmed with Arduino IDE with the help of type A to Type B USB cable.

LM35SENSOR

LM35 is a temperature sensor it's a low cost digital sensor to sense the temperature in human body the working of temperature sensor is 0-50c The humidity range of Temperature (LM35) is from 20 to 80 % with 5% accuracy. The operating voltage of lm#% is 3V to 5 V. The maximum current used while measuring is 2.5Ma

HEARTBEAT SENSOR

heartbeat sensor is a low digital senor to sense the heart beat of human body. If the heart of human body is below the 50 that indicate the he need help if the heart beat is continuously drop the user may face the critical situation its may lead to death.The operating voltage is 5v

Amplfier

The amplifier is the basic principle of converting dc to ac power sorce. The main principle Of the amplifiers used to increase the voltage of input signal if the input signal is very low it may covert the some desired voltage signal

Proposed system

It is an alternate way of transmitting signal is water medium like the RF,IF .In water communication they are mainly two thing one is transmitter another is receiver. The transmitter are handled by user and they check the user human body temperature and heart beat. suppose the user face some problem and there is an emergency button if an user click the emergency button in the receiver side they understand he was in trouble and the rescue team will help user we are mainly concentrate scuba driver, if it is further develop it willused to transport or support for milltary,
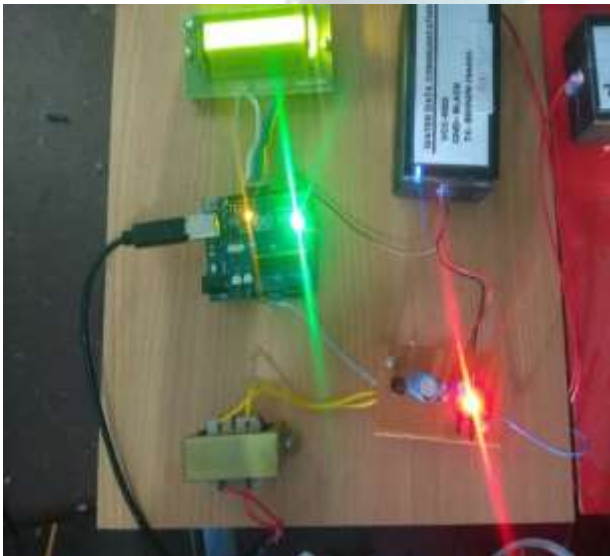
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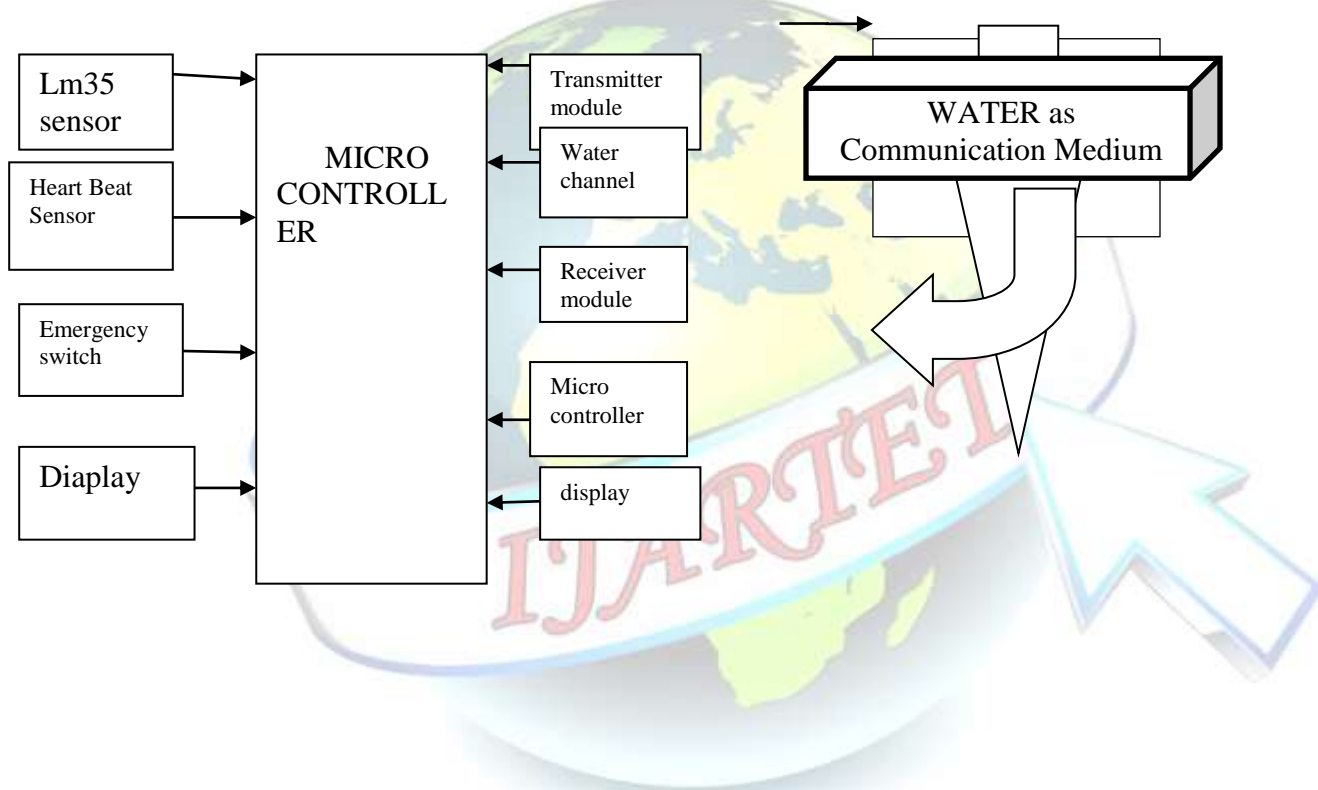
IV. RESULT AND DISCUSSION

Hardware Output;

TRANSMITTER SIDE ON WATER MODULE

Transmitter on Receiver Side

V. CONCLUSION

we have discussed several techniques of underwater sensor networks. The objective of the reviewed techniques is to overcome the underwater challenges and to give directions to future researchers. Also, we presented a vibrant view to academia by providing a base for a better solution. In this perspective, we have presented future directions which are still not yet explored in this research area. A better communication technique can be proposed by considering environmental effect during communication. In the development of underwater communication technique utmost care must be taken regarding the life of marine animals and their communication. The deep digging out in the areas regarding nonlinear sound propagation of acoustic signals can be more useful for designing future communication techniques. The future identified research areas include cognitive networks area and underwater spectrum for their efficient use.

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