Literature Survey:

1.<http://blog.lookfar.com/blog/2016/01/28/ultrasonic-data-transmission-so-much-harder-than-it-should-be/>

Inference from this reference:

Problems faced while designing the receiver and transmitter circuit.

Audio Hardware Limitations

Transmission of binary data(square wave) through normal speakers is not possible as they do not respond to such signals.This particular problem led us to explore about the possibilities of using other transducers to transmit binary data.

1. <https://hackaday.com/2018/06/01/dead-simple-ultrasonic-data-communication/>
2. <http://www.pcserviceselectronics.co.uk/arduino/Ultrasonic/electronics.php>

4.<http://www.kerrywong.com/2011/01/22/a-sensitive-diy-ultrasonic-range-sensor/>

Inference from these reference:

We learnt about working of HC-SR04 ultrasonic sound sensor and the internal circuitry of the sensor.The ultrasonic transducers used in this particular sensors respond to binary data(square wave). This led us to designing of a receiver and transmitter circuit using the ultrasonic transducer.

Another approach for data transmission -

5.<https://lisnr.com/resources/blog/ultrasonic-data-transmission-compares-rf/>

IEEE papers referred :

6.<https://ieeexplore.ieee.org/document/8080245>