



# Design and Synthesis of BPSK/QPSK using Simulink

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**Abstract:**

In this paper we are describing two techniques that are BPSK and QPSK using simulink. Simulink is one of the best software that we are using today. Its takes less time to implement the circuit. QPSK is better than BPSK and QPSK performance is faster than BPSK. In this paper we will show simulation result of BPSK/QPSK.

**Index:** BPSK, QPSK and simulink.

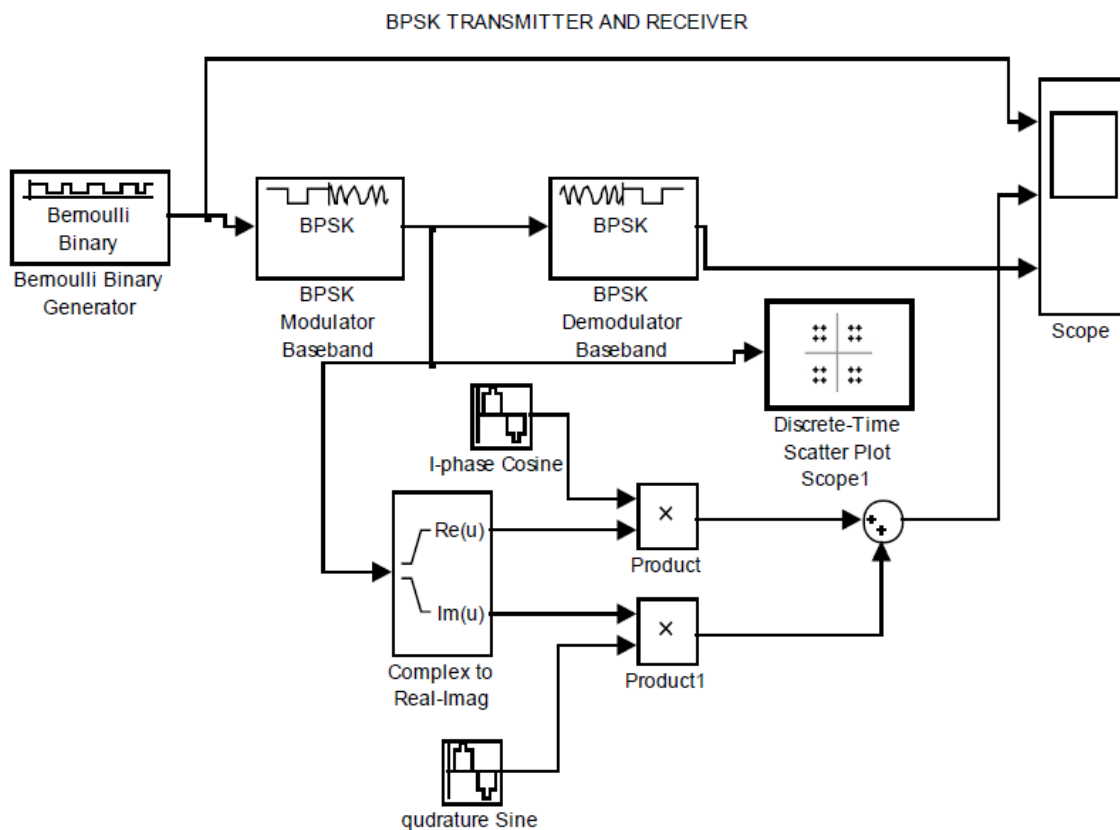
## 1. INTRODUCTION

### BPSK

One of the simplest forms of digital intonation is binary or Bi-Phase Shift Keying (BPSK) [7-8]. One relevance where this is used is for bottomless space telemetry. The stage of a steady

amplitude transporter signal moves flanked by zero and 180 degrees. On an *I* and *Q* diagram, the *I* state has two dissimilar values. There are two possible locations in the state diagram, so a binary one or zero can be sent. The pictogram rate is one bit per symbol [1-6]. In this we have only one phase

**BPSK Transmitter and Receiver simulink diagram**



**Figure.1. BPSK Transmitter and Receiver diagram [1]**

## 2. QPSK

If we want good performance then one should have very low probability of error. This is one of the main things in digital communication. Channel bandwidth should be used in an efficient way. In QPSK we also transmit the information. But in this symbol bit rate is more. It is divided into two four phases. It is not better than DP-QPSK. It is used extensively in

applications including CDMA (Code Division Multiple Access) cellular service, wireless local loop, Iridium (a voice/data satellite system) and DVB-S (Digital Video Broadcasting -Satellite). Quadrature means that the signal shifts between phase states which are separated by 90 degrees [1-6].

## QPSK Transmitter and Receiver diagram

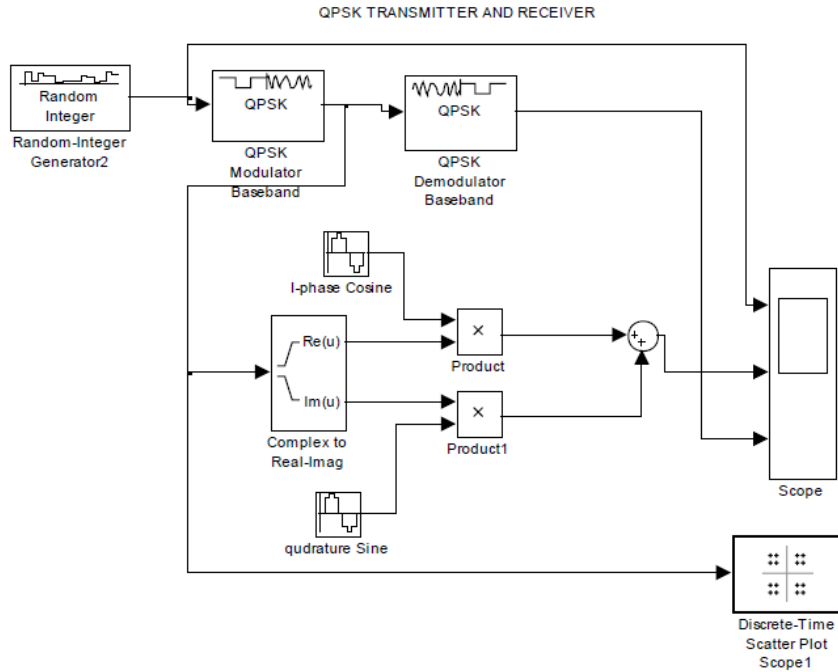


Figure.2. QPSK Transmitter and Receiver diagram [2]

### 3. SIMULATION RESULT:-

#### 3.1 simulation result for BPSK

#### 3.2 Simulation result for QPSK

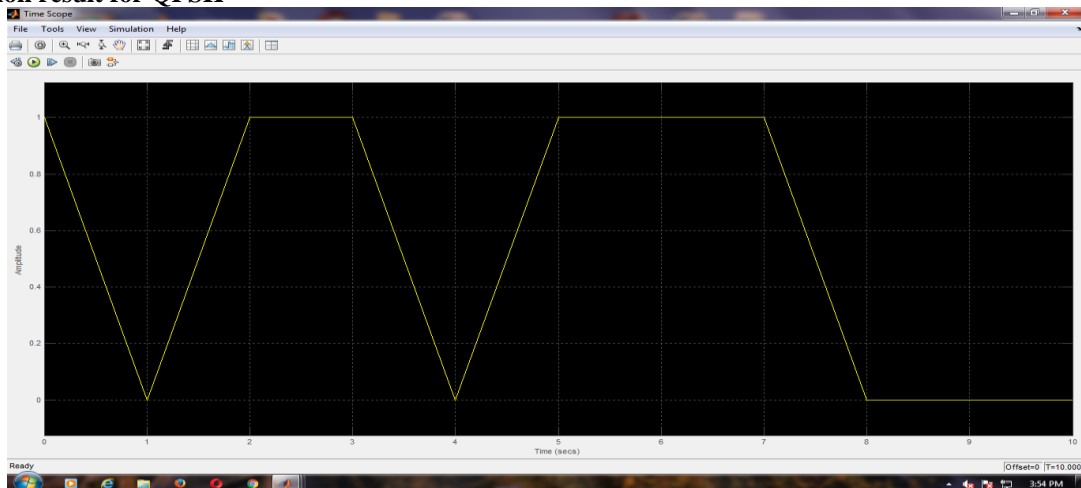


Figure.3.BPSK Transmitter and Receiver output wave form

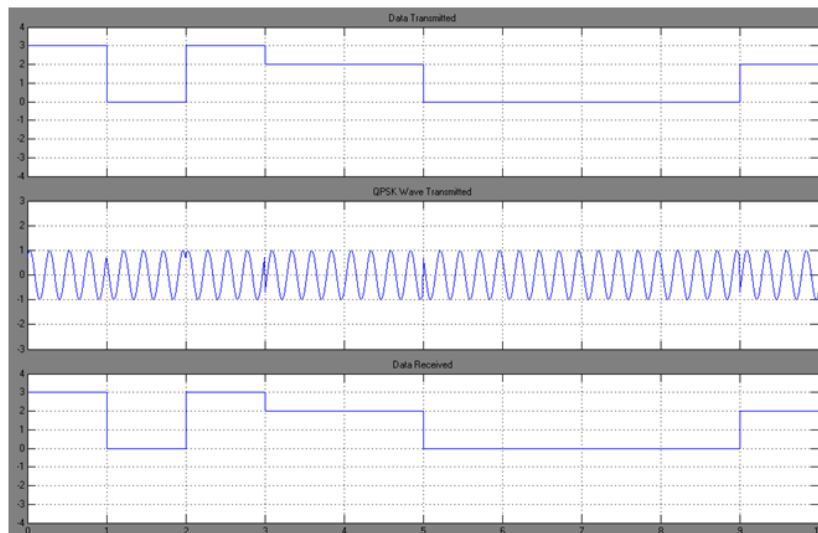


Figure.4. QPSK Transmitter and Receiver output wave form

#### 4. REFERENCES

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