# Homodyne Receiver

## Introduction

This super-block compresses the function of the following blocks:

- Local Oscillator;
- Balanced Beamsplitter;
- Photodiode;
- Subtractor;
- Amplifier;
- Discretizer;
- Delayer
- Bit Decider;

This compression allows for a cleaner code.

## Input Parameters

- LocalOscillatorOpticalPower
- LocalOscillatorOpticalPower_dBm
- LocalOscillatorPhase
- TransferMatrix
- Responsivity
- Amplification
- NoiseAmplitude
- SamplingRate
- Delay
- ReferenceValue

## Functional Description

The input signal is evaluated and a binary string is generated from this evaluation.

A diagram of the blocks that constitute this super-block, with the corresponding relations is presented in Figure 1.

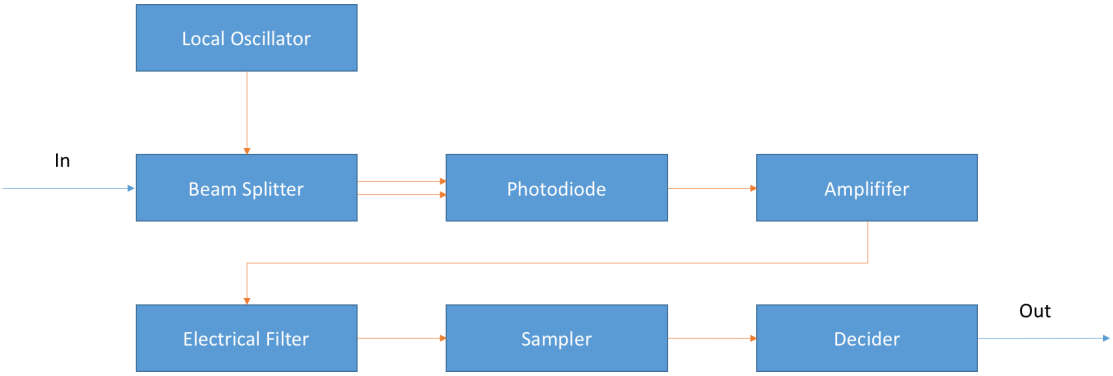


Figure 1: Homodyne Receiver Block Diagram.

## Inputs

**Number**: 1
**Type**: Sequence of impulses modulated by the filter (OpticalSignal)

## Outputs

**Number**: 1
**Type**: Binary String (Binary)