

OpticalPress.Com  
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# C-00K Packages



# Introduction

- 1. C-OOK Back-to-Back Link Package**
- 2. C-OOK Simulation Package**
- 3. C-OOK Optical Link Package**



# Package 1

## 1. C-OOK Back-to-Back Link Package

This allows for choosing different modulation modes for Tx, configuring (simulated) cameras and channel.

All are live demonstration, which are similar real-world system.



# Transmitter – Tab 1 Configuration

Package 1:  
B2B Link

TX Config | Debug | B2B Link Display

input string to transmit  
OpticalPress.com C-OOK OpenSource

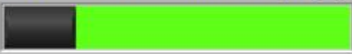
### Config Modulation

Select C-OOK mode  
Mode 1: Man. Code - 8 bits

Tx clock rate (Hz)      #sub-packets/packet  
2200Hz      20

Num of #sub-packets/packet:  
recommend > 10 due to Rx processing

### Config Camera and Channel

Inter-frame Time Gap (%)  
 20

Camera FPS      # pixels/img  
30      1080

Desired Eb/N0 (dB)  
20

string len (char)      number of packets  
0      0

input bit array len      sub-packet len  
0      0

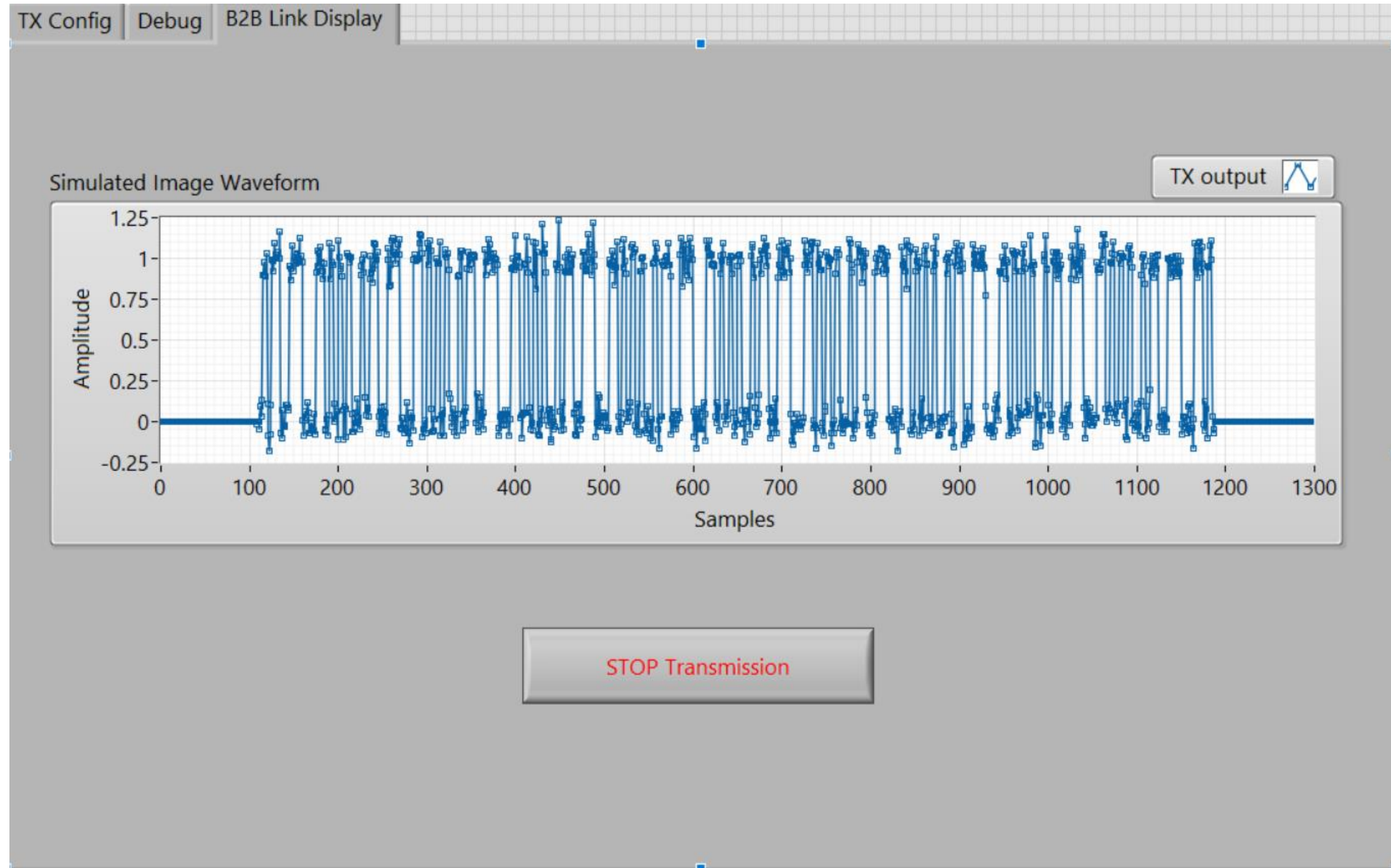
payload (no Abs) len      simulated multi-packet len  
0      0

multi packet len      downsampling rate  
0      5



# Transmitter – Tab 3 Live Waveform Monitoring

Package 1:  
B2B Link



# Receiver – Tab 1 Configuration

Package 1:  
B2B Link

RX Config RX display

Same as TX

Modulation & Coding Information

C-OOK mode  
0

Tx clock rate (Hz)  
2200

Num of packets  
68

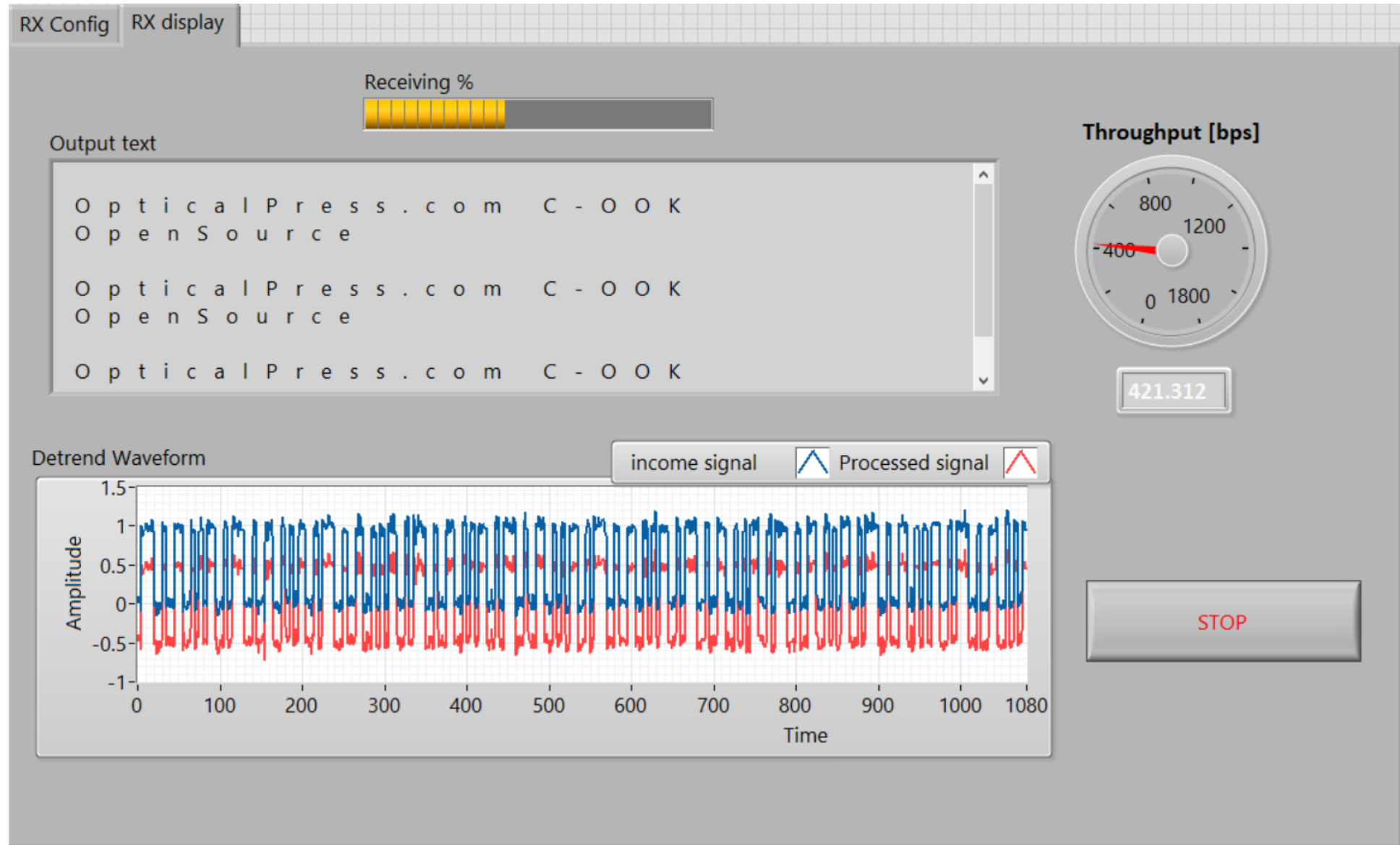
Num of payload bits  
8

downsampling rate  
5



# Receiver – Tab 2 Decoding

Package 1:  
B2B Link



# Package 2

## 2. C-OOK Simulation Package

This allows for testing the decoder performance under different circumstances.

User can propose their own decoding algorithms and test them here.



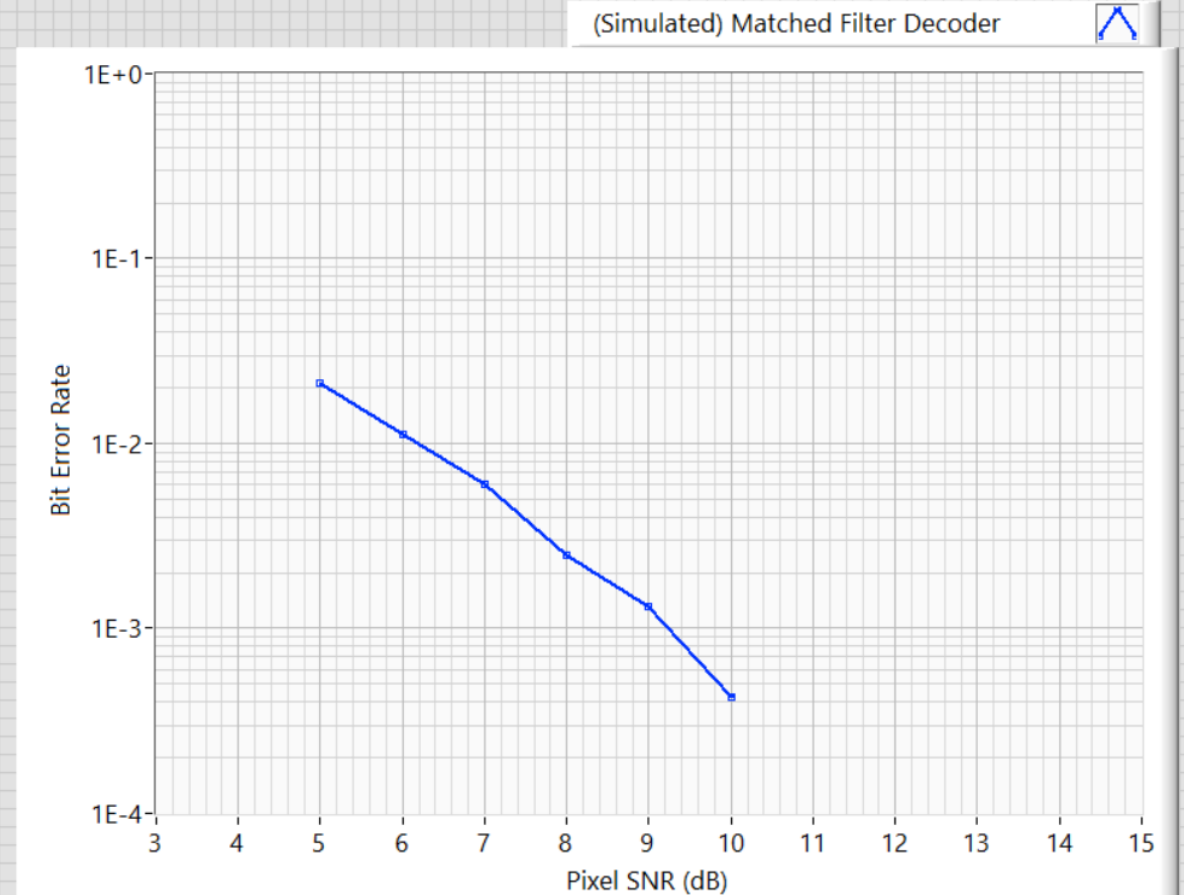


# Config RX and channel for testing BER

Package 2:  
Simulation  
Package

## Config Channel & Decoder for Simulation

|                      |                     |
|----------------------|---------------------|
| Downsampling rate    | Eb/N0 #Samples (>1) |
| 6                    | 6                   |
| # sub-packets/packet | Start Eb/N0 -10(dB) |
| 20                   | 5.00                |
|                      | End Eb/N0 -20(dB)   |
|                      | 10.00               |



# Package 3

## 3. C-OOK Optical Link Package

The optical link requires hardware configuration (ADC board, LED and camera)



**Youtube:** <https://www.youtube.com/watch?v=k4-EpzHixD4>

Package 3:  
Optical Link

The screenshot displays a software interface for a multi-link system. At the top, a red text overlay reads "Mode 2: 411 bps". The interface is divided into several sections:

- Control Panels:** There are two main control panels for "LINK 1" and "LINK 2". Each panel includes fields for "Downsampling rate", "Horizontal pixel size", "# pixels/bit", "Buffer Number Out", "single sub-packet size", "output payload count", "next desired Ab", and "merge payload size". There are also "Run" and "Stop" buttons.
- Video Window:** A window titled "RGB Raw Video" shows a blurred image of a test pattern.
- Output Text:** Two text areas labeled "Output text" and "Output text 2" show the output data for each link.
- Throughput Gauges:** Two circular gauges labeled "Throughput [bps]" and "Throughput 2 [bps]" show the current data rates for each link.

Red text overlays on the screenshot indicate "Link 1 output" and "Link 2 output". The video player interface at the bottom shows a progress bar at 1:34 / 1:48 and a small "optical press" logo in the bottom right corner.

