STYPE HF PROTOCOL
# TEST RESULTS

1.   INTRODUCTION

This document provides a few test results of correct implementation of Stype HF protocol. It can be used to compare the output of a given implementation with the correct (desired output) in order to verify the implementation of a protocol.

2.   TEST PATTERN

Generate test pattern as described on a picture. It is a rectangular grid with its edges touching the edges of a screen. Adjust scale or field of view in order to fit it. Point B and Point D are not crucial for his test, but are given as a reference to see where Point A and E will need to fall after distorting the image.
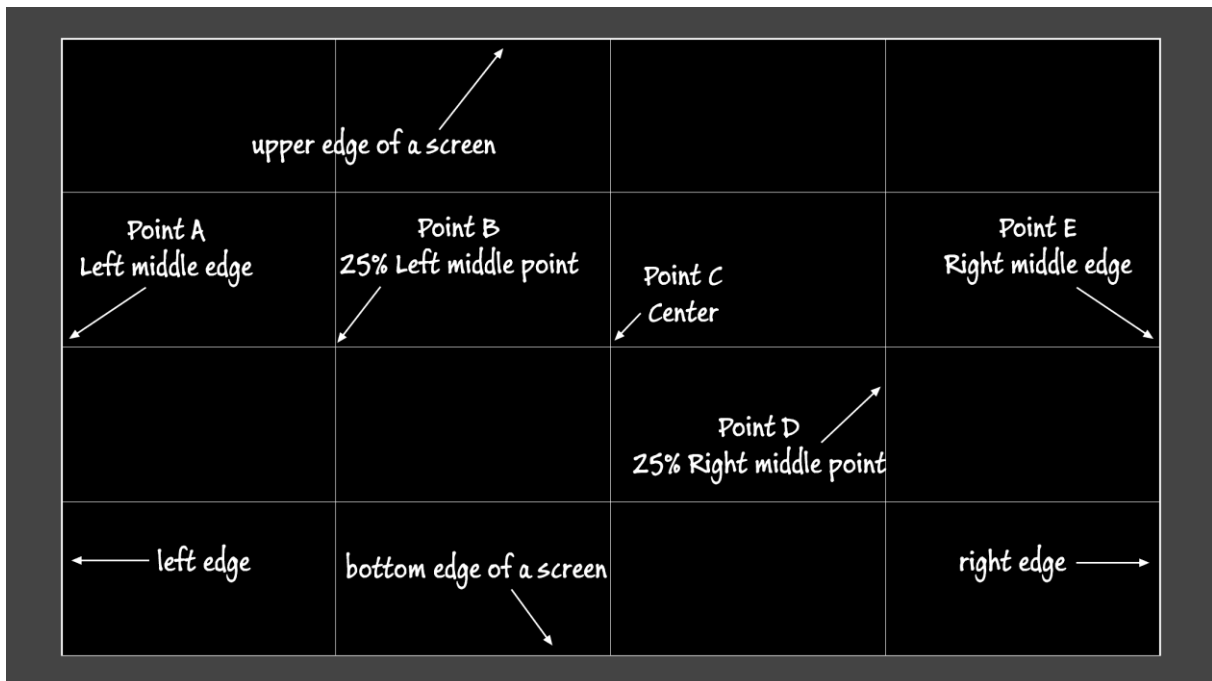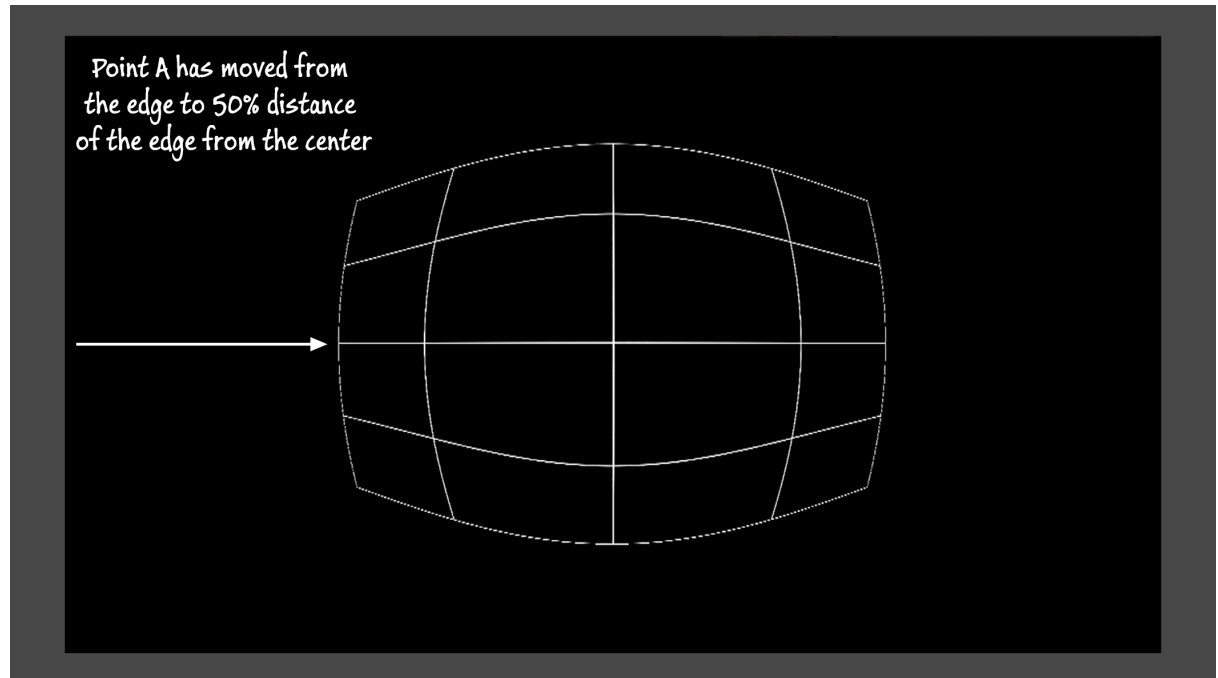

3.   TEST #1

Fix the following input variables to the following values:

```
PA_width         =    9,59mm
A.R.             =    1,77778
Center_shift_x   =    0
Center_shift_y   =    0
Resolution       is   1920x1080
```

Using the abovementioned values, make the following tests:

3.1 Testing K1

K1 value of 0,173973 (while K2 is zero) will cause the pixel on the right edge of a screen (vertically in the middle) to shrink to the 50% of the distance from the center to the edge of a screen, where Point B previously was.

3.2 Testing K2

K2 value of 0,030267 (while K1 is zero) will cause the pixel on the right edge of a screen (vertically in the middle) to shrink to the 50% of the distance from the center to the edge of a screen, where point B previously was.
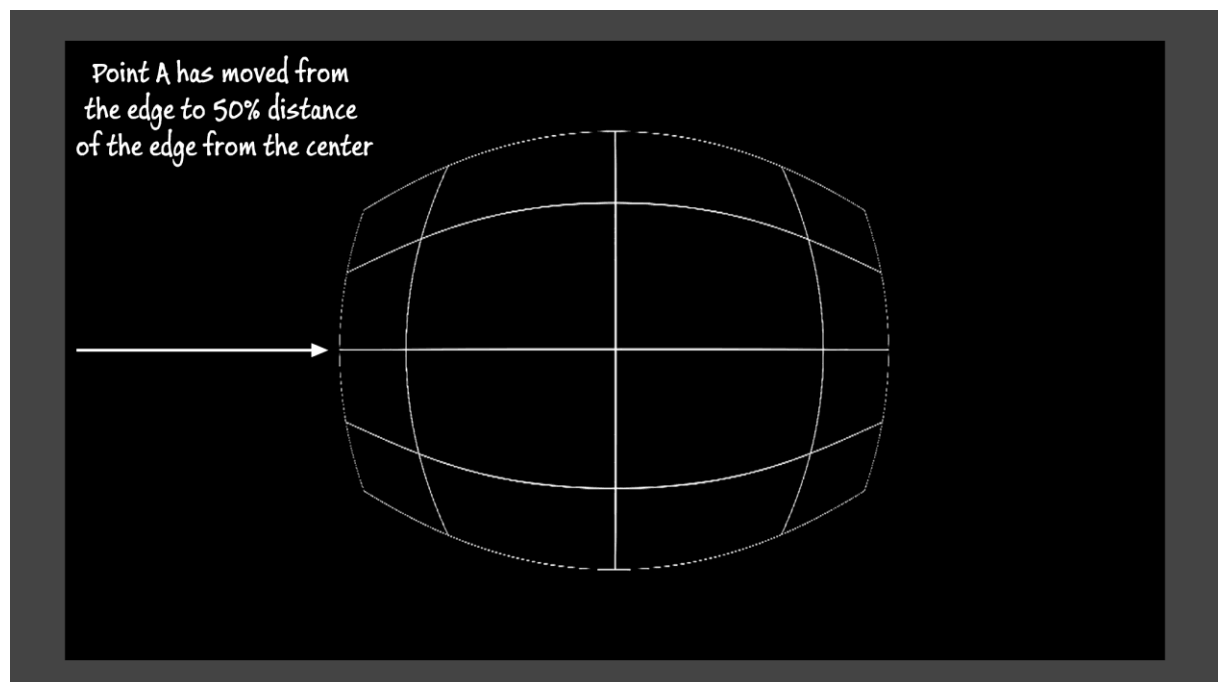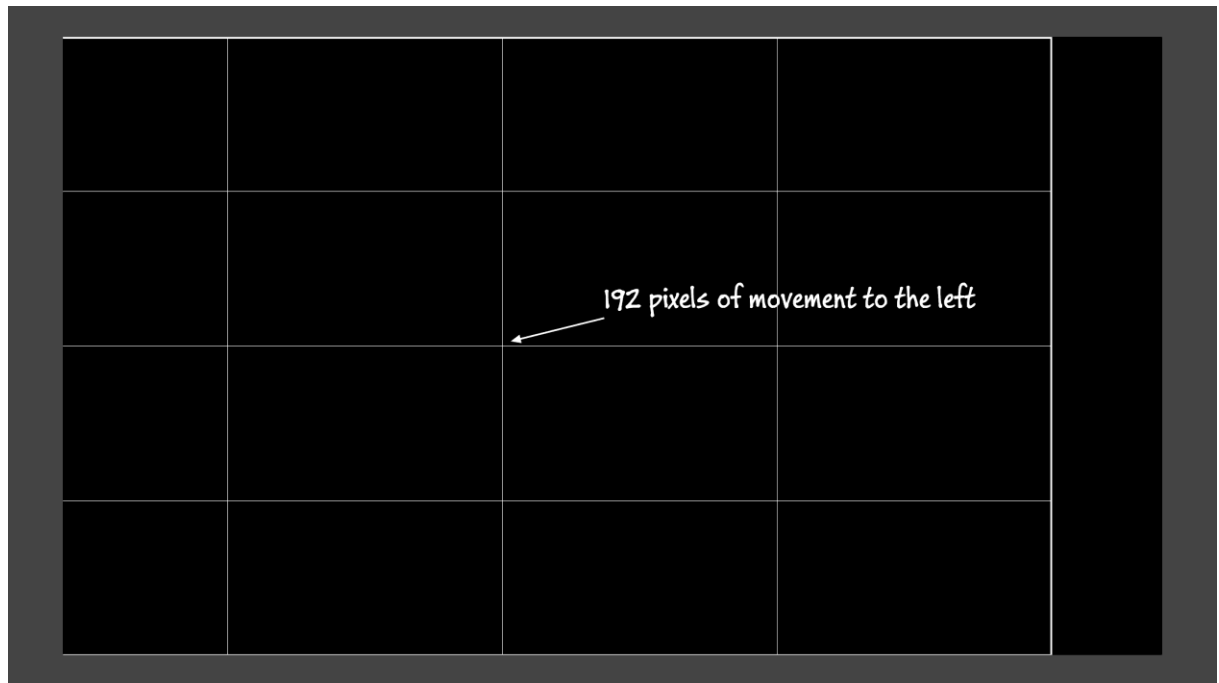
3.3 Testing center shift x

Center shift x of +0.959 mm will move the center pixel on the screen for 192 pixels to the left (10% of the screen resolution).

192 pixels of movement to the left

3.4 Testing center shift y

Center shift y of +0.539 mm will move the projection center on the screen for 108 pixels to the bottom (10% of the screen resolution).

108 px of shift towards bottom

4. TEST #2

Fix the following input variables to the following values:

```
PA_width        =   12mm
A.R.            =   1,77778
Center_shift_x  =   0
Center_shift_y  =   0
Resolution      is  1920x1080
```

4.1 Testing K1

K1 value of 0,111111 (while K2 is zero) will cause the pixel on the right edge of a screen (vertically in the middle) to shrink to the 50% of the distance from the center to the edge of a screen.

4.2 Testing K2

K2 value of 0,012345 (while K1 is zero) will cause the pixel on the right edge of a screen (vertically in the middle) to shrink to the 50% of the distance from the center to the edge of a screen.

4.3 Testing center shift x

Center shift x of +1.2 mm will move the projection center on the screen for 192 pixels to the left (10% of the screen resolution).

4.4 Testing center shift y

Center shift y of +0.675 mm will move the projection center on the screen for 108 pixels to the bottom (10% of the screen resolution).

Same pictures as in chapter 3 apply respectively.