Calculations

CalcColorSpaceTransform

- Funktionen zum Umrechnen von Farbmodellen.

Für einzelne Tripel:

```
export function cvtRGBtoXYZ(rgb_array, colorSpace =
"709") {...}
export function cvtHSVtoRGB(HSV_array) {...}
export function cvtRGBtoHSV(RGB_array) {...}

export function cvtXYZtoxy(XYZ_array) {...}
export function cvtXYZtoxyY(XYZ_array) {...}
```

Für Singal-Arrays:

```
export function cvtSignalRGBtoXYZ(signalRGB, colorSpace =
"709") {...}

export function cvtSignalXYZtoxy(signalXYZ) {...}
export function cvtSignalXYZtoxyY(signalXYZ) {...}
```

CalcComponentSignal

- Funktionen zum Rechnen mit Komponentensignalen.

Für einzelne Tripel:

```
export function cvtRGBtoYCBCR(RGB, standard = "709") {...}
export function cvtYCBCRtoRGB(YCBCR, standard = "709") {...}

export function upscaleYCBCR(YCBCR, bitDepth = 10) {...}
export function downscaleYCBCR(YCBCR, bitDepth = 10) {...}
```

```
export function limiterYCBCR(YCBCR, bitDepth, fullVideoData =
false) {...}
```

Für Singal-Arrays:

```
export function cvtSignalRGBtoYCBCR(signalRGB, videoStandard =
"709" ) {...}
export function cvtSignalYCBCRtoRGB(signalYCBCR, videoStandard
= "709" ) {...}

export function upscaleSignalYCBCR(signalSmallYCBCR, bitDepth =
10 ) {...}
export function downscaleSignalYCBCR(signalYCBCR, bitDepth = 10
) {...}

export function limiterSignalYCBCR(signalYCBCR, bitDepth,
fullVideoData = false) {...}
export function limiterSignalSmallRGB(signalSmallRGB,
fullVideoData = false) {...}
```

CalcHelpers

- Sonstige Hilfs-Funktionen.

```
export function rgbToString(rgbArray){...}

export function rgbToComplColorString(rgbArray){...}

export function clamp(value, min = 0, max = 1) {...}
```

CalcRGBSignal

- Funktionen des Correctors.

Für einzelne Tripel:

```
export function upscaleRGB(RGB, bitDepth = 10) {...}
export function downscaleRGB(RGB, bitDepth = 10) {...}
```

Für Singal-Arrays:

```
export function upscaleSignalRGB(signalSmallRGB, bitDepth = 10
) {...}
export function downscaleSignalRGB(signalRGB, bitDepth = 10 )
{...}
```

CalcSignalCorrector

- Funktionen des Correctors.

Für einzelne Tripel:

```
function offsetContrast(pixelValue = [0, 0, 0], m = 1) {...}
function offsetBrightness(pixelValue = [0, 0, 0], b = 0) {...}
function offsetGamma(pixelValue = [0, 0, 0], gamma = 1,
maxValue = 1) {...}
```

Für Singal-Arrays:

```
export function offsetSignalContrast(signalRGB, m = 1) {...}
export function offsetSignalBrightness(signalRGB, b = 0) {...}
export function offsetSignalGamma(signalRGB, gamma = 1,
maxValue = 1) {...}
```

CalcSignalGenerator

- Funktionen der Signal-Generatoren.

```
export function generateRGBSignalFullColor(valueRGB, width,
height){...}
export function generateRGBSignalBars(width = 8, height = 1,
type100 = true){...}
export function generateRGBSignalGradient(startRGB, endRGB,
width, height, directionHorizontal=true){...}

function blendColor(firstRGB, secondRGB, ratio = 0.5){...}
```

CalcHelpers

- Sonstige Hilfs-Funktionen.

```
export function rgbToString(rgbArray){...}

export function rgbToComplColorString(rgbArray){...}

export function clamp(value, min = 0, max = 1) {...}
```
