

# Color Space Converter(RGB2HSV)

Color Space Converter(RGB2HSV) Intellectual Property (IP).

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## Description

Color space is a simple and robust color definition used in computer systems and the Internet to help ensure that a color is correctly mapped from one platform to another without significant loss of color information. The converters are useful for a number of markets, such as image processing and filtering. Our Color Space Converters provide straight forward, accurate high performance conversion usable in a wide range of video/image applications

## Features

- No latency times.
- Simultaneously 3-Color conversion.
- Internal 18-bit precision for accuracy
- Optimized fixed-point conversion
- RGB2HSV

```
Min = MinValue( R, G, B );  
V = MaxValue( R, G, B );
```

```
Delta = V - Min;
```

```
If( V == 0 ) S = 0;  
Else S = ( Delta * 255 ) / V;
```

```
If( S == 0 ) H = 0;  
Else if( R == V ) H = 60 * ( G - B ) / Delta;  
Else if( G == V ) H = 120 + 60 * ( B - R ) / Delta;  
Else if( B == V ) H = 240 + 60 * ( R - G ) / Delta;
```

```
If( H < 0 )  
H = H + 360;
```



<b>Application area</b>	: Wide range of video/image applications
<b>Available documents</b>	: Data Book
<b>Design file formats</b>	: EDIF File Format , VHDL/Verilog Code
<b>Verification</b>	: Verilog Testbench
<b>Simulation tool used</b>	: Model Technology ModelSim™ 6.4