

Video Quality Tool

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Contents

1	Data Structure Index	1
1.1	Data Structures	1
2	File Index	3
2.1	File List	3
3	Data Structure Documentation	5
3.1	string_t Struct Reference	5
3.1.1	Field Documentation	5
3.1.1.1	name	5
4	File Documentation	7
4.1	main.c File Reference	7
4.1.1	Macro Definition Documentation	7
4.1.1.1	MAX_HEIGHT	7
4.1.1.2	MAX_WIDTH	7
4.1.2	Function Documentation	7
4.1.2.1	main(int argc, const char *argv[])	8
4.2	mse.c File Reference	8
4.2.1	Function Documentation	8
4.2.1.1	mse(uint32_t wxh, double *mse_luma, double *mse_cr, double *mse_cb, const uint8_t *src, const uint8_t *cmp)	8
4.3	mse.h File Reference	8
4.3.1	Function Documentation	8
4.3.1.1	mse(uint32_t wxh, double *mse_luma, double *mse_cr, double *mse_cb, const uint8_t *src, const uint8_t *cmp)	8
4.4	psnr.c File Reference	9
4.4.1	Macro Definition Documentation	9
4.4.1.1	TWENTY_MULTIPLAY_LOG_BASE_10_OF_MAX	9
4.4.2	Function Documentation	9
4.4.2.1	psnr(double mse)	9
4.5	psnr.h File Reference	10
4.5.1	Function Documentation	10

4.5.1.1	psnr(double mse)	10
Index		11

Chapter 1

Data Structure Index

1.1 Data Structures

Here are the data structures with brief descriptions:

string_t	5
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Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

main.c	7
mse.c	8
mse.h	8
psnr.c	9
psnr.h	10

Chapter 3

Data Structure Documentation

3.1 string_t Struct Reference

Data Fields

- char [name](#) [256]

3.1.1 Field Documentation

3.1.1.1 char string_t::name[256]

The documentation for this struct was generated from the following file:

- [main.c](#)

Chapter 4

File Documentation

4.1 main.c File Reference

```
#include <stdint.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <sys/time.h>
#include <fcntl.h>
#include <unistd.h>
#include <math.h>
#include "mse.h"
#include "psnr.h"
```

Data Structures

- struct [string_t](#)

Macros

- #define [MAX_WIDTH](#) 3840
- #define [MAX_HEIGHT](#) 2160

Functions

- int [main](#) (int argc, const char *argv[])

4.1.1 Macro Definition Documentation

4.1.1.1 #define [MAX_HEIGHT](#) 2160

4.1.1.2 #define [MAX_WIDTH](#) 3840

4.1.2 Function Documentation

4.1.2.1 `int main (int argc, const char * argv[])`

4.2 mse.c File Reference

```
#include <stdint.h>
#include <stdio.h>
#include <math.h>
```

Functions

- `int mse (uint32_t wxh, double *mse_luma, double *mse_cr, double *mse_cb, const uint8_t *src, const uint8_t *cmp)`

Compute Mean Square Error between two frames.

4.2.1 Function Documentation

4.2.1.1 `int mse (uint32_t wxh, double * mse_luma, double * mse_cr, double * mse_cb, const uint8_t * src, const uint8_t * cmp)`

Compute Mean Square Error between two frames.

The **mse** function computes Mean Square Error between source frame and frame to be compared.

Parameters

<i>wxh</i>	width x height
<i>mse_luma</i>	output address of luma mse
<i>mse_cr</i>	output address of cr mse
<i>mse_cb</i>	output address of cb mse
<i>src</i>	input address of source frame
<i>cmp</i>	input address of frame to be compared

Returns

- 0: Successful
- 1: Failed

4.3 mse.h File Reference

Functions

- `int mse (uint32_t wxh, double *mse_luma, double *mse_cr, double *mse_cb, const uint8_t *src, const uint8_t *cmp)`

Compute Mean Square Error between two frames.

4.3.1 Function Documentation

4.3.1.1 `int mse (uint32_t wxh, double * mse_luma, double * mse_cr, double * mse_cb, const uint8_t * src, const uint8_t * cmp)`

Compute Mean Square Error between two frames.

The **mse** function computes Mean Square Error between source frame and frame to be compared.

Parameters

<i>wxh</i>	width x height
<i>mse_luma</i>	output address of luma mse
<i>mse_cr</i>	output address of cr mse
<i>mse_cb</i>	output address of cb mse
<i>src</i>	input address of source frame
<i>cmp</i>	input address of frame to be compared

Returns

- 0: Successful
- 1: Failed

4.4 psnr.c File Reference

```
#include <math.h>
```

Macros

- `#define TWENTY_MULTIPLAY_LOG_BASE_10_OF_MAX` (48.130804)

Functions

- double `psnr` (double `mse`)
Compute Peak signal-to-noise ratio.

4.4.1 Macro Definition Documentation

4.4.1.1 `#define TWENTY_MULTIPLAY_LOG_BASE_10_OF_MAX` (48.130804)

Precomputed the value of the formula: $20 * \log_{10}(255)$

4.4.2 Function Documentation

4.4.2.1 `double psnr (double mse)`

Compute Peak signal-to-noise ratio.

The **psnr** function computes peak signal-to-noise ratio.

Parameters

<i>mse</i>	mean square error
------------	-------------------

Returns

psnr

4.5 psnr.h File Reference

Functions

- double `psnr` (double `mse`)
Compute Peak signal-to-noise ratio.

4.5.1 Function Documentation

4.5.1.1 double `psnr` (double `mse`)

Compute Peak signal-to-noise ratio.

The **psnr** function computes peak signal-to-noise ratio.

Parameters

<code>mse</code>	mean square error
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Returns

`psnr`

Index

MAX_HEIGHT
 main.c, [7](#)
MAX_WIDTH
 main.c, [7](#)
main
 main.c, [7](#)
main.c, [7](#)
 MAX_HEIGHT, [7](#)
 MAX_WIDTH, [7](#)
 main, [7](#)
mse
 mse.c, [8](#)
 mse.h, [8](#)
mse.c, [8](#)
 mse, [8](#)
mse.h, [8](#)
 mse, [8](#)

name
 string_t, [5](#)

psnr
 psnr.c, [9](#)
 psnr.h, [10](#)
psnr.c, [9](#)
 psnr, [9](#)
 TWENTY_MULTIPLAY_LOG_BASE_10_OF_MAX, [9](#)
psnr.h, [10](#)
 psnr, [10](#)

string_t, [5](#)
 name, [5](#)

TWENTY_MULTIPLAY_LOG_BASE_10_OF_MAX
 psnr.c, [9](#)