Ilda Reader

1.0

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1.1 Data Structures

Here are the data structures with brief descriptions:

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2.1 File List

Here is a list of all files with brief descriptions:

3   Data Structure Documentation

3.1   header_ilda Struct Reference

Data structure which contains the ilda header fields.

```
#include <ilda_reader.h>
```

Data Fields

- char ilda [5]
- byte format_code
- char frame_name [9]
- char company_name [9]
- uint16_t number_of_records
- uint16_t frame_number
- uint16_t total_frames
- byte proj_number

3.1.1   Detailed Description

Data structure which contains the ilda header fields.

3.1.2   Field Documentation

3.1.2.1   char header_ilda::company_name[9]

3.1.2.2   byte header_ilda::format_code

3.1.2.3   char header_ilda::frame_name[9]

3.1.2.4   uint16_t header_ilda::frame_number

3.1.2.5   char header_ilda::ilda[5]

3.1.2.6   uint16_t header_ilda::number_of_records

3.1.2.7   byte header_ilda::proj_number

3.1.2.8   uint16_t header_ilda::total_frames

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

- ilda_reader.h

3.2 palette Struct Reference

format 2, colour palette for the formats using colour index

```
#include <ilda_reader.h>
```

Data Fields

- byte blue
- byte green
- byte red

3.2.1 Detailed Description

format 2, colour palette for the formats using colour index

3.2.2 Field Documentation

3.2.2.1 byte palette::blue

3.2.2.2 byte palette::green

3.2.2.3 byte palette::red

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

- ilda_reader.h

3.3 point2_d Struct Reference

format 1, size of 6 bytes. 2D point with colour index

```
#include <ilda_reader.h>
```

Data Fields

- int16_t x_coord
- int16_t y_coord
- byte status_code
- byte color_index

3.3.1 Detailed Description

format 1, size of 6 bytes. 2D point with colour index

3.3.2 Field Documentation

3.3.2.1 byte point2_d::color_index

3.3.2.2 byte point2_d::status_code

3.3.2.3 int16_t point2_d::x_coord

3.3.2.4 int16_t point2_d::y_coord

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

- ilda_reader.h

3.4 point2_d_true Struct Reference

format 5, size of 8 bytes. 2D point with true colour structure

```
#include <ilda_reader.h>
```

Collaboration diagram for point2_d_true:

Data Fields

- int16_t x_coord
- int16_t y_coord
- byte status_code
- struct true_color colors

3.4.1 Detailed Description

format 5, size of 8 bytes. 2D point with true colour structure

3.4.2 Field Documentation

3.4.2.1 struct true_color point2_d_true::colors

3.4.2.2 byte point2_d_true::status_code

3.4.2.3 int16_t point2_d_true::x_coord

3.4.2.4 int16_t point2_d_true::y_coord

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

- ilda_reader.h

3.5 point3_d Struct Reference

format 0, size of 8 bytes. 3D point with colour index

```
#include <ilda_reader.h>
```

Data Fields

- int16_t x_coord
- int16_t y_coord
- int16_t z_coord
- byte status_code
- byte color_index

3.5.1 Detailed Description

format 0, size of 8 bytes. 3D point with colour index

3.5.2 Field Documentation

3.5.2.1 byte point3_d::color_index

3.5.2.2 byte point3_d::status_code

3.5.2.3 int16_t point3_d::x_coord

3.5.2.4 int16_t point3_d::y_coord

3.5.2.5 int16_t point3_d::z_coord

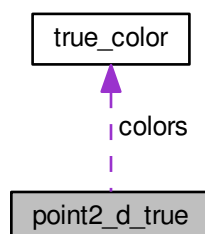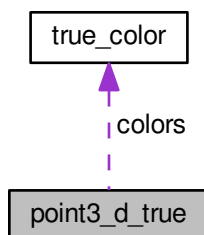The documentation for this struct was generated from the following file:

- ilda_reader.h

3.6 point3_d_true Struct Reference

format 4, size of 10 bytes. 3D point with true colour structure.

```
#include <ilda_reader.h>
```

Collaboration diagram for point3_d_true:

Data Fields

- int16_t x_coord
- int16_t y_coord
- int16_t z_coord
- byte status_code
- struct true_color colors

3.6.1 Detailed Description

format 4, size of 10 bytes. 3D point with true colour structure.

3.6.2 Field Documentation

3.6.2.1 struct **true_color** point3_d_true::colors

3.6.2.2 byte point3_d_true::status_code

3.6.2.3 int16_t point3_d_true::x_coord

3.6.2.4 int16_t point3_d_true::y_coord

3.6.2.5 int16_t point3_d_true::z_coord

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

- ilda_reader.h

3.7 true_color Struct Reference

Colour data structure for the true colour formats.

```
#include <ilda_reader.h>
```

Data Fields

- byte blue
- byte green
- byte red

3.7.1 Detailed Description

Colour data structure for the true colour formats.

3.7.2 Field Documentation

3.7.2.1 byte true_color::blue

3.7.2.2 byte true_color::green

3.7.2.3 byte true_color::red

The documentation for this struct was generated from the following file:
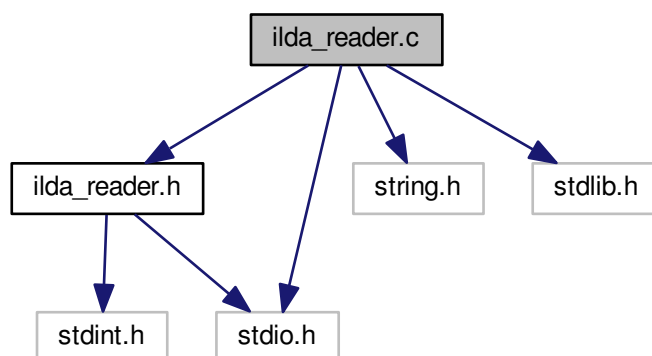
- ilda_reader.h

4 File Documentation

4.1 ilda_reader.c File Reference

```
#include "ilda_reader.h"
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
```

Include dependency graph for ilda_reader.c:

Macros

- #define HEADER_SIZE 32
- #define LITTLE_ENDIAN 1
- #define B 8∗LITTLE_ENDIAN
- #define L 8∗(!LITTLE_ENDIAN)

Functions

- void print_header (struct header_ilda hdr)
- int read3_d (struct point3_d ∗point, FILE ∗ins)
- int read2_d (struct point2_d ∗point, FILE ∗ins)
- int read_palette (struct palette ∗point, FILE ∗ins)
- int read3_dt (struct point3_d_true ∗point, FILE ∗ins)
- int read2_dt (struct point2_d_true ∗point, FILE ∗ins)
- int read_ilda_header (FILE ∗ins, struct header_ilda ∗hdr)
- void read_ilda ()

4.1.1   Macro Definition Documentation

4.1.1.1   #define B 8∗LITTLE_ENDIAN

4.1.1.2   #define HEADER_SIZE 32

4.1.1.3   #define L 8∗(!LITTLE_ENDIAN)

4.1.1.4   #define LITTLE_ENDIAN 1

4.1.2   Function Documentation

4.1.2.1   void print_header (struct header_ilda *hdr*)

4.1.2.2   int read2_d (struct point2_d ∗ *point,* FILE ∗ *ins*)

4.1.2.3   int read2_dt (struct point2_d_true ∗ *point,* FILE ∗ *ins*)

4.1.2.4   int read3_d (struct point3_d ∗ *point,* FILE ∗ *ins*)

4.1.2.5   int read3_dt (struct point3_d_true ∗ *point,* FILE ∗ *ins*)

4.1.2.6   void read_ilda (   )

4.1.2.7   int read_ilda_header (FILE ∗ *ins,* struct header_ilda ∗ *hdr*)
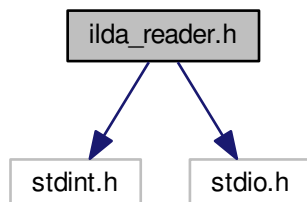
4.1.2.8   int read_palette (struct palette ∗ *point,* FILE ∗ *ins*)

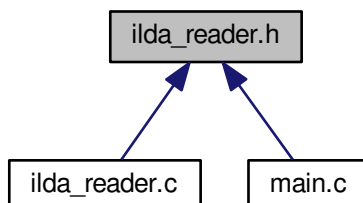### 4.2 ilda_reader.h File Reference

```
#include <stdint.h>
#include <stdio.h>
```
Include dependency graph for ilda_reader.h:

This graph shows which files directly or indirectly include this file:

Data Structures

- struct header_ilda

    Data structure which contains the ilda header fields.

- struct true_color

    Colour data structure for the true colour formats.

- struct palette

    format 2, colour palette for the formats using colour index

- struct point2_d

    format 1, size of 6 bytes. 2D point with colour index

- struct point3_d

    format 0, size of 8 bytes. 3D point with colour index

- struct point3_d_true

    format 4, size of 10 bytes. 3D point with true colour structure.

- struct point2_d_true

    format 5, size of 8 bytes. 2D point with true colour structure

Typedefs

- typedef unsigned char byte

    byte typedef

Functions

- int read_ilda_header (FILE ∗ins, struct header_ilda ∗hdr)
- int read3_dt (struct point3_d_true ∗point, FILE ∗ins)
- int read2_dt (struct point2_d_true ∗point, FILE ∗ins)
- int read3_d (struct point3_d ∗point, FILE ∗ins)
- int read2_d (struct point2_d ∗point, FILE ∗ins)
- int read_palette (struct palette ∗point, FILE ∗ins)
- void read_ilda ()

4.2.1   Typedef Documentation

4.2.1.1   typedef unsigned char **byte**

byte typedef

4.2.2   Function Documentation

4.2.2.1   int read2_d (struct **point2_d** ∗ *point,* **FILE** ∗ *ins*)

4.2.2.2   int read2_dt (struct **point2_d_true** ∗ *point,* **FILE** ∗ *ins*)

4.2.2.3   int read3_d (struct **point3_d** ∗ *point,* **FILE** ∗ *ins*)

4.2.2.4   int read3_dt (struct **point3_d_true** ∗ *point,* **FILE** ∗ *ins*)

4.2.2.5   void read_ilda (   )

4.2.2.6   int read_ilda_header (**FILE** ∗ *ins,* struct **header_ilda** ∗ *hdr*)

4.2.2.7   int read_palette (struct **palette** ∗ *point,* **FILE** ∗ *ins*)

4.3 main.c File Reference

```
#include "ilda_reader.h"
#include <stdio.h>
```
Include dependency graph for main.c:
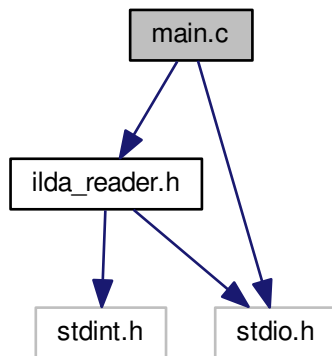
Functions

- int main (int argc, char ∗argv[ ])

4.3.1 Function Documentation

4.3.1.1 int main (int *argc,* char ∗ *argv[ ]*)