

Package ‘dwdradar’

July 22, 2025

Title Read Binary Radar Files from 'DWD' (German Weather Service)

Version 0.2.10

Date 2023-09-27

Description The 'DWD' provides gridded radar data for Germany in binary format.
'dwdradar' reads these files and enables a fast conversion into numerical format.

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Encoding UTF-8

Suggests testthat, terra, berryFunctions, R.utils

NeedsCompilation yes

RoxygenNote 7.2.3

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Date/Publication 2023-09-27 12:40:02 UTC

Contents

bin2num	2
readHeader	2
readRadarFile	3
Index	5

bin2num	<i>binary to numeric</i>
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Description

Call FORTRAN routines

Usage

```
bin2num(dat, len, na = NA, clutter = NA, RX = FALSE)
```

Arguments

dat	Binary data returned by readBin
len	Length of data.
na	Value to be set for missing data (bit 14). DEFAULT: NA
clutter	Value to be set for clutter data (bit 16). DEFAULT: NA
RX	Logical: call rx routine? DEFAULT: FALSE

Value

numerical vector

Author(s)

Berry Boessenkool, <berry-b@gmx.de>, May + Oct 2019

See Also

[readRadarFile](#)

readHeader	<i>Read header part of binary DWD files</i>
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Description

Read and process header of binary radar files

Usage

```
readHeader(file)
```

Arguments

file	Name of a single binary file
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Value

List with original string, nchar, derived information

Author(s)

Berry Boessenkool, <berry-b@gmx.de>, Feb 2020

See Also

Used in [readRadarFile](#)

Examples

```
# See readRadarFile
```

readRadarFile	<i>read binary radolan radar file</i>
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Description

Read a single binary DWD Radolan file. To be used in `rdwd`, especially for proper [1/10 mm] unit correction in `rdwd::readDWD`.

If any files are not read correctly, please let me know, referencing the Kompositformatbeschreibung at <https://www.dwd.de/DE/leistungen/radolan/radolan.html>.

The meta-info is extracted with [readHeader](#) (not exported, but documented).

Binary bits are converted to decimal numbers with Fortran routines, see <https://github.com/brry/dwdradar/tree/master/src>. They are called via [bin2num](#) (not exported, but documented).

Usage

```
readRadarFile(binfile, na = NA, clutter = NA)
```

Arguments

<code>binfile</code>	Name of a single binary file
<code>na</code>	Value to be set for missing data (bit 14). DEFAULT: NA
<code>clutter</code>	Value to be set for clutter data (bit 16). DEFAULT: NA

Value

Invisible list with `dat` (matrix) and `meta` (list with elements from header, see Kompositformatbeschreibung).

Author(s)

Maintained by Berry Boessenkool, <berry-b@gmx.de>, May + Oct 2019.
Original codebase by Henning Rust & Christoph Ritschel at FU Berlin

See Also

real-world usage in rdwd: <https://bookdown.org/brry/rdwd/raster-data.html>

Examples

```
f <- system.file("extdata/raa01_sf_2019-10-14_1950", package="dwdradar")
out <- readRadarFile(f)
out$meta

if(requireNamespace("terra", quietly=TRUE))
  terra::plot(terra::rast(out$dat))

# for more files, see the tests.
# for real-world usage, readDWD.binary / readDWD.radar in the rdwd package
```

Index

- * **binary**

- readHeader, [2](#)
 - readRadarFile, [3](#)

- * **file**

- bin2num, [2](#)
 - readHeader, [2](#)
 - readRadarFile, [3](#)

bin2num, [2](#), [3](#)

readBin, [2](#)

readDWD, [3](#)

readHeader, [2](#), [3](#)

readRadarFile, [2](#), [3](#), [3](#)