

# Package: dwdradar (via r-universe)

August 28, 2024

**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.

**License** GPL (>= 2)

**Encoding** UTF-8

**Suggests** testthat, terra, berryFunctions, R.utils

**NeedsCompilation** yes

**RoxygenNote** 7.2.3

**Repository** <https://brry.r-universe.dev>

**RemoteUrl** <https://github.com/brry/dwdradar>

**RemoteRef** HEAD

**RemoteSha** 759fe88964e10f4add9bb0353d625f959fc3ebe3

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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 <a href="#">readBin</a>
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](#)

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readHeader

*Read header part of binary DWD files*

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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
```

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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](mailto: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
```

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