

# Package ‘eyelinker’

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**Type** Package

**Title** Load Raw Data from Eyelink Eye Trackers

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**Description** Eyelink eye trackers output a horrible mess, typically under the form of a '.asc' file. The file in question is an assorted collection of messages, events and raw data. This R package will attempt to make sense of it.

**Depends** R (>= 3.1.1)

**Imports** plyr, stringi, stringr, readr, magrittr, intervals

**License** GPL-3

**RoxygenNote** 5.0.1

**Suggests** testthat, knitr, rmarkdown, dplyr, ggplot2, tidy

**VignetteBuilder** knitr

**NeedsCompilation** no

**Repository** CRAN

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 eyelinker

*eyelinker: read raw data from Eyelink eyetrackers*


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### Description

Eyelink eye trackers output a horrible mess, typically under the form of an .asc file. The file in question is an assorted collection of messages, events and raw data. This R package will attempt to make sense of it.

### Details

The main function in the package is read.asc.

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 read.asc

*Read EyeLink ASC file*


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### Description

Read EyeLink ASC file

### Usage

```
read.asc(fname)
```

### Arguments

fname            file name

### Details

ASC files contain raw data from EyeLink eyetrackers (they're ASCII versions of the raw binaries which are themselves in EDF format). This utility tries to parse the data into something that's usable in R. Please read the EyeLink manual before using it for any serious work, very few checks are done to see if the output makes sense. read.asc will return data frames containing a "raw" signal as well as event series. Events are either system signals (triggers etc.), which are stored in the "msg" field, or correspond to the EyeLink's interpretation of the eye movement traces (fixations, saccades, blinks). ASC files are divided into blocks signaled by START and END signals. The block structure is reflected in the "block" field of the dataframes. If all you have is an EDF file, you need to convert it first using edf2asc from the EyeLink toolbox. The names of the various columns are the same as the ones used in the EyeLink manual, with two exceptions. "cr.info", which doesn't have a name in the manual, gives you information about corneal reflection tracking. If all goes well its value is just "...". "remote.info" gives you information about the state of the remote setup, if applicable. It should also be just a bunch of ... values. Refer to the manual for details.

**Value**

a list with components raw: raw eye positions, velocities, resolution, etc. msg: messages (no attempt is made to parse them) fix: fixations blinks: blinks sacc: saccades info: meta-data

**Author(s)**

Simon Barthelme

**Examples**

```
#Example file from SR research that ships with the package
fpath <- system.file("extdata/mono500.asc.gz",package="eyelinker")
dat <- read.asc(fpath)
plot(dat$raw$time,dat$raw$xp,xlab="Time (ms)",ylab="Eye position along x axis (pix)")
```

---

whichInterval	<i>From a set of intervals, find which interval values belong to</i>
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**Description**

This utility function is a replacement for findIntervals that works even when the set of intervals is discontinuous. It wraps "which\_nearest" from the intervals package.

**Usage**

```
whichInterval(x, Intv)
```

**Arguments**

x	a set of numeric values
Intv	a two-column matrix or an object of class Intervals

**Value**

for each value in x: if x[i] in in the set of intervals, the index of the corresponding interval(s), NA if no interval contains x[i]

**Author(s)**

Simon Barthelme

**See Also**

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**Examples**

```
start <- c(0,1,2)
end <- c(.5,1.3,3)
intv <- cbind(start,end) #The first interval is 0-0.5, second is 1-1.3, etc.
whichInterval(seq(0,3,l=10),intv)
```

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%In%

*Find if value belongs to a set of intervals*

---

**Description**

Wrapper around `distance_to_nearest` from the `Intervals` package.

**Usage**

```
x %In% Intv
```

**Arguments**

x	a set of numeric values
Intv	a set of intervals, defined by a two-column matrix of endpoints or an <code>Intervals</code> object

**Value**

a vector of logicals, which are true if `x[i]` belongs to any of the intervals in the set.

**Author(s)**

Simon Barthelme

**Examples**

```
start <- c(0,1,2)
end <- c(.5,1.3,3)
intv <- cbind(start,end) #The first interval is 0-0.5, second is 1-1.3, etc.
c(0,.6,1.5,3) %In% intv
```

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