# Package 'Rduino'

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**Title** A Microcontroller Interface

**Description** Functions for connecting to and interfacing with an 'Arduino' or similar device. Functionality includes uploading of sketches, setting and reading digital and analog pins, and rudimentary servo control. This project is not affiliated with the 'Arduino' company, <https://www.arduino.cc/>.

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**License** GPL-3

**Depends** serial

**LazyData** true

**NeedsCompilation** no

**Repository** CRAN

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## R topics documented:

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BoardControlIno *BoardControlIno*

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### Description

Board control file for the arduino and similar devices

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getApin *Get analog pin*

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### Description

Get the value of an analog pin

### Usage

```
getApin(pin)
```

### Arguments

pin             the number of the pin to get (integer)

### Value

the value of the pin.

### Examples

```
## Not run:
rduinoConnect()
# set position of servo to position of potentiometer
off<-getDpin(4)
while (!off)
{
  angle<-getApin(5)
  angle<- 1.68 * angle + 575
  setServo(9,angle)
  off<-getDpin(4)
}
offServo()

rduinoClose()

## End(Not run)
```

---

getDpin *Get digital pin*

---

### Description

Get the value of a digital pin

### Usage

```
getDpin(pin)
```

### Arguments

pin                    the number of the pin to get (integer)

### Value

the binary value of the pin.

### Examples

```
## Not run:
rduinoConnect()
# LED remains on until button is pressed
setDpin(5,1)
isPressed<-getDpin(4)
while (!isPressed){ isPressed<-getDpin(4) }
setDpin(5,0)
rduinoClose()

## End(Not run)
```

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offServo *Off servo*

---

### Description

deactivate a servo

### Usage

```
offServo()
```

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onServo                              *Set servo*

---

### Description

Activate a servo and set a value

### Usage

```
onServo(pin, value)
```

### Arguments

pin                 the number of the pin connected to the servo

value               value to set for the servo

### Examples

```
## Not run:
rduinoConnect()
# set position of servo to position of potentiometer
off<-getDpin(4)
while (!off)
{
  angle<-getApin(5)
  angle<- 1.68 * angle + 575
  setServo(9,angle)
  off<-getDpin(4)
}
offServo()

rduinoClose()

## End(Not run)
```

---

rduinoClose                          *Rduino disconnect*

---

### Description

Disconnect a previously connected Arduino or similar device

### Usage

```
rduinoClose()
```

---

rduinoConnect *Rduino connect*

---

### Description

Make a serial connection to an Arduino or similar device

### Usage

```
rduinoConnect(baud = 38400, mode = "n,8,1", upload = TRUE,
  arduino = NULL)
```

### Arguments

| | |
|---|---|
| baud | baud rate |
| mode | communication mode |
| upload | if TRUE, upload the ino file to the device |
| arduino | command used to run arduino as a shell command including the path |
| | This function does two things - uploads a .ino file to an Arduino, and acts as a wrapper for the `serialConnection` function of the serial package. The options for the communication mode are available via the helpfile for the `serialConnection` command. |

### Examples

```
## Not run:
rduinoConnect()
rduinoClose()

## End(Not run)
```

---

setApin *Set analog pin*

---

### Description

Set a analog pin to on or off

### Usage

```
setApin(pin, value)
```

## Arguments

| | |
|---|---|
| pin | the number of the pin to set (integer) |
| value | the value to which to set the pin (real) |

## Examples

```
## Not run:
rduinoConnect()
# gradually increase intensity of LED
for (i in seq(1,256,by=5))
{
  setApin(11,i)
  Sys.sleep(0.05)
}
rduinoClose()

## End(Not run)
```

---

setDpin                          *Set digital pin*

---

## Description

Set a digital pin to on or off

## Usage

```
setDpin(pin, value)
```

## Arguments

| | |
|---|---|
| pin | the number of the pin to set (integer) |
| value | the value to which to set the pin (binary) |

## Examples

```
## Not run:
rduinoConnect()
# flash LED rapidly
for (i in 0:9)
{
  setDpin(8,1)
  Sys.sleep(0.05)
  setDpin(8,0)
  Sys.sleep(0.05)
}
rduinoClose()
```

```
## End(Not run)
```

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