

# MiscTimedEntry

Inherits From:	MiscThreadedObject
Declared In:	MiscTimedEntry.h

## Class Description

This class defines a thread-safe timer that will call back a target object with a selectable message. The timer may be set up to go off once, repeat a N times, or repeat indefinitely. The timer may be run in another thread.

A timed entry blocks, waiting for a timer return, then sends the action message to the target. A timed entry may be run in it's own thread, providing an asynchronous interrupt, or run, providing a thread safe blocking timer. Of course, when run in it's own thread, the call back will be run in the timer's thread.

Time is measured in milliseconds. Action methods *must* be of the form " - methodName:sender"; when sent, 'sender' will be the TimedEntry instance.

An example:

```
{
    BOOL async = (random() & 1);
    id te = [[MiscTimedEntry alloc] initWithTarget:self
        action:@selector(someAction:)
```

```

        interval:5*1000
        data:somePtr];
    if (async)
        [te runInNewThread]; /* returns immediately with async callbacks */
    else
        [te run];             /* sender blocked until timer goes off */
}

```

## Instance Variables

```

void *userdata;
id target;
SEL action;
int interval;
port_t port;
int repeatCount;

```

userdata	A handle to data that may be set to provide a context for the target.
target	The receipt of the action method.
action	Message sent to target after the timer goes off.
interval	The time in milliseconds to sleep before messaging target.
port	Used to sleep.
repeatCount	The number of times to sleep & wake up.

## Method Types

- action
- free
- init
- initWithTarget:action:interval:data:
- interval
- port
- repeatCount
- run
- setAction:
- setInterval:
- setPort:
- setRepeatCount:
- setTarget:
- setUserData:
- stop
- target
- userData

## Instance Methods

### **action**

- (SEL)**action**

Returns the timer's action.

### **See also:**

### **free**

- **free**

Stops the timer if necessary and frees the instance. This message may be sent from any thread.

**See also:** `stop`

## **init**

- `init`

Initializes a timer with the default values by sending *[self initWithTarget:NULL action:(SEL)0 interval:500 data:NULL]*

**See also:** `initWithTarget:action:interval:data:`

## **initWithTarget:action:interval:data:**

- `initWithTarget:aTarget  
action:(SEL)anAction  
interval:(int)ival  
data:(void *)data`

Initializes a timer instance with the given values. RepeatCount is initialized to -1: repeat forever.

**See also:** `setAction:`, `setInterval`, `setData:`, `setTarget:`, `setRepeatCount:`

## **interval**

- `(int)interval`

Returns the sleep interval.

**See also:** `setInterval:`

## **port**

- `(int)port`

Returns the mach port that the instance waits on.

## **repeatCount**

- (int)**repeatCount**

Returns the repeat count, the number of times the timer will interrupt *target*. A repeat count of -1 indicates forever.

**See also:** **setRepeatCount**

## **run**

- **run**

Starts the timer waiting.

This method causes the caller to block until sleeping *repeatCount* times. If a non blocking interrupt is desired, use `runInNewThread`.

The `run` method, coupled with a `repeatCount` of 1 provides a simple thread-safe alternative to `sleep(3)`.

Returns **nil** if the target object is nil or does not respond to **action**.

**See also:** **runInNewThread**, **stop**.

## **runInNewThread**

- **runInNewThread**

Causes the timer to be run in a separate thread and control returned immediately back to the caller. The target's action method will be dispatched in the timer's thread.

**See also:** **stop**, **run**, **runInNewThread** (MiscThreadedObject)

**setAction:**

- (void)**setAction:**(SEL)*anAction*

Set the action message. ***action*** is the message sent to the target object when the interval has elapsed. **action** has the form of an InterfaceBuilder<sup>™</sup> action method, i.e. - *actionMethod:sender*.

If the timer is running in a different thread, the action method will be dispatched from that thread.

**setInterval:**

- (void)**setInterval:**(int)*anInterval*

The interval, in milliseconds, between messaging target.

**setRepeatCount:**

- (void)**setRepeatCount:**(int)*count*

The number of times to perform the wait/message cycle. A repeat count of -1 will cause the timer to repeat until a stop message is received.

**See also:** **run**, **stop**

**setTarget:**

- (void)**setTarget:***sender*

Sets the target object .

**See also:** **setAction:**

**setUserData:**

- (void)**setUserData:**(void \*)*userData*

Allows the sender to place data in the timer. Upon receipt of the *action* message, the target object may retrieve this data using the **userData** method.

**See also:** **userData**

### **stop**

- **stop**

Stops the timer but does not free it.

### **target**

- **target**

Returns the receipient object of the action message.

### **userData**

- (void \*)**userData**

Returns the data given in the **setUserData:** method.

**See also:** **setUserData:**