
Power Manager Reference

[Carbon](#) > [Resource Management](#)



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Power Manager Reference

Framework:	CoreServices/CoreServices.h
Declared in	Power.h

Overview

The Power Manager controls power to the internal hardware devices of battery-powered Macintosh computers (such as PowerBook computers). The Power Manager automatically shuts off power to internal devices to conserve power whenever the computer has not been used for a predetermined amount of time. In addition, the Power Manager allows your application or other software to

- install a procedure that is executed when power to internal devices is about to be shut off or when power has just been restored
- set a timer to wake up the computer at some time in the future
- set or disable the wakeup timer and read its current setting
- enable, disable, or delay the CPU idle feature
- read the current CPU clock speed
- control power to the internal modem and serial ports
- read the status of the internal modem
- read the state of the battery charge and the status of the battery charger

Most applications do not need to know whether they are executing on a battery-powered Macintosh computer because the transition between power states is largely invisible. As a result, most applications do not need to use Power Manager routines. You need Power Manager only if you are writing a program—such as a device driver—that must control power to some subsystem of a battery-powered Macintosh computer or that might be affected by the idle or sleep state.

Carbon supports Power Manager functions prior to Power Manager 2.0. However, many of these functions do nothing on Mac OS X; these calls have been retained in Carbon as the only means for implementing power management on Mac OS 8 and 9. Before using any of the Power Manager API, you should call the `PMFeatures` function to check the availability of the feature you wish to use. On Mac OS X, use the functions provided in IOKit for power management. For more information on IOKit, see I/O Kit Fundamentals.

Functions by Task

Function descriptions are grouped by the tasks for which you use the functions. For an alphabetical list of functions, go to the API index at the end of the document.

Controlling the Idle State

[CurrentProcessorSpeed](#) (page 12)

Returns the current effective clock speed of the CPU in megahertz.

[DisableIdle](#) (page 57) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

[EnableIdle](#) (page 58) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

[IdleUpdate](#) (page 67) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use `UpdateSystemActivity` instead.)

Controlling and Reading the Wakeup Timer

[DisableWUTime](#) (page 58) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

[GetWUTime](#) (page 65) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

[SetWUTime](#) (page 75) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Controlling the Sleep Queue

[SleepQInstall](#) (page 16)

Adds an entry to the sleep queue.

[SleepQRemove](#) (page 16)

Removes an entry from the sleep queue.

Controlling Serial Power

[A0ff](#) (page 53) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

[A0n](#) (page 53) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

[A0nIgnoreModem](#) (page 54) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

[B0ff](#) (page 55) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

[BOn](#) (page 56) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Reading the Status of the Internal Modem

[ModemStatus](#) (page 70) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Reading the Status of the Battery and of the Battery Charger

[BatteryStatus](#) (page 55) **Deprecated in Mac OS X v10.0**

Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Miscellaneous

[BatteryCount](#) (page 12)

[DisposeHDSpindownUPP](#) (page 12)

Unimplemented.

[DisposePMgrStateChangeUPP](#) (page 13)

Unimplemented

[DisposeSleepQUPP](#) (page 13)

[GetCPUSpeed](#) (page 13)

Returns the current effective clock speed of the CPU in megahertz.

[InvokeHDSpindownUPP](#) (page 14)

Unimplemented.

[InvokePMgrStateChangeUPP](#) (page 14)

Unimplemented.

[InvokeSleepQUPP](#) (page 14)

[MaximumProcessorSpeed](#) (page 14)

[MinimumProcessorSpeed](#) (page 15)

[NewHDSpindownUPP](#) (page 15)

Unimplemented.

[NewPMgrStateChangeUPP](#) (page 15)

Unimplemented.

[NewSleepQUPP](#) (page 16)

[UpdateSystemActivity](#) (page 17)

- [FullProcessorSpeed](#) (page 76) **Deprecated in Mac OS X v10.5**
Unimplemented.
- [PMFeatures](#) (page 77) **Deprecated in Mac OS X v10.5**
- [PMSelectorCount](#) (page 77) **Deprecated in Mac OS X v10.5**
Unimplemented.
- [SetProcessorSpeed](#) (page 77) **Deprecated in Mac OS X v10.5**
Unimplemented.
- [SetSpindownDisable](#) (page 78) **Deprecated in Mac OS X v10.5**
Unimplemented.
- [AutoSleepControl](#) (page 54) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [DelaySystemIdle](#) (page 56) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [DimmingControl](#) (page 57) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [EnableProcessorCycling](#) (page 59) **Deprecated in Mac OS X v10.0**
Unimplemented.
- [GetBatteryTimes](#) (page 59) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetBatteryVoltage](#) (page 59) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetDimmingTimeout](#) (page 60) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetDimSuspendState](#) (page 60) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetHardDiskTimeout](#) (page 61) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetIntModemInfo](#) (page 61) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetLastActivity](#) (page 62) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetScaledBatteryInfo](#) (page 62) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetSCSIDiskModeAddress](#) (page 63) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetSleepTimeout](#) (page 63) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetSoundMixerState](#) (page 64) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetStartupTimer](#) (page 64) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [GetWakeUpTimer](#) (page 65) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

- [HardDiskPowered](#) (page 66) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [HardDiskQInstall](#) (page 66) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [HardDiskQRemove](#) (page 67) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [IsAutoSlpControlDisabled](#) (page 68) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [IsDimmingControlDisabled](#) (page 68) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [IsProcessorCyclingEnabled](#) (page 69) **Deprecated in Mac OS X v10.0**
Unimplemented.
- [IsSpindownDisabled](#) (page 69) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [PMgrStateQInstall](#) (page 70) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [PMgrStateQRemove](#) (page 71) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SetDimmingTimeout](#) (page 71) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SetDimSuspendState](#) (page 72) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SetHardDiskTimeout](#) (page 72) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SetIntModemState](#) (page 72) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SetSCSIDiskModeAddress](#) (page 73) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SetSleepTimeout](#) (page 73) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SetSoundMixerState](#) (page 74) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SetStartupTimer](#) (page 74) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SetWakeUpTimer](#) (page 75) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)
- [SpinDownHardDisk](#) (page 76) **Deprecated in Mac OS X v10.0**
Unimplemented. (**Deprecated.** Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Functions

BatteryCount

```
short BatteryCount (
    void
);
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

CurrentProcessorSpeed

Returns the current effective clock speed of the CPU in megahertz.

```
short CurrentProcessorSpeed (
    void
);
```

Return Value

The clock speed of the CPU in megahertz (MHz). One MHz represents one million cycles per second.

Special Considerations

Prior to Mac OS X 10.4, this function returns the maximum clock speed, not the current effective clock speed.

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

DisposeHDSpindownUPP

Unimplemented.

```
void DisposeHDSpindownUPP (
    HDSpindownUPP userUPP
);
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

DisposePMgrStateChangeUPP

Unimplemented

```
void DisposePMgrStateChangeUPP (
    PMgrStateChangeUPP userUPP
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

DisposeSleepQUPP

```
void DisposeSleepQUPP (
    SleepQUPP userUPP
);
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

GetCPUSpeed

Returns the current effective clock speed of the CPU in megahertz.

```
long GetCPUSpeed (
    void
);
```

Return Value

The clock speed of the CPU in megahertz.

Discussion

For more information, see [CurrentProcessorSpeed](#) (page 12).

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

InvokeHDSpindownUPP

Unimplemented.

```
void InvokeHDSpindownUPP (  
    HDQueueElement *theElement,  
    HDSpindownUPP userUPP  
);
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

InvokePMgrStateChangeUPP

Unimplemented.

```
void InvokePMgrStateChangeUPP (  
    PMgrQueueElement *theElement,  
    long stateBits,  
    PMgrStateChangeUPP userUPP  
);
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

InvokeSleepQUPP

```
long InvokeSleepQUPP (  
    long message,  
    SleepQRecPtr qRecPtr,  
    SleepQUPP userUPP  
);
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

MaximumProcessorSpeed

```
short MaximumProcessorSpeed (  
    void  
);
```

Version Notes

MaximumProcessorSpeed is unimplemented on versions of Mac OS X prior to Mac OS X 10.1.

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

MinimumProcessorSpeed

```
short MinimumProcessorSpeed (  
    void  
);
```

Special Considerations

MinimumProcessorSpeed is unimplemented on versions of Mac OS X prior to Mac OS X v10.1.

Availability

Available in Mac OS X v10.1 and later.

Declared In

Power.h

NewHDSpindownUPP

Unimplemented.

```
HDSpindownUPP NewHDSpindownUPP (  
    HDSpindownProcPtr userRoutine  
);
```

Return Value

See the description of the `HDSpindownUPP` data type.

Discussion

See the callback [HDSpindownProcPtr](#) (page 17) for more information.

Special Considerations

The I/O Kit Framework header file `IOPMLib.h` (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

NewPMgrStateChangeUPP

Unimplemented.

```
PMgrStateChangeUPP NewPMgrStateChangeUPP (  
    PMgrStateChangeProcPtr userRoutine  
);
```

Return Value

See the description of the `PMgrStateChangeUPP` data type.

Availability

Available in Mac OS X v10.0 and later.

Declared In

`Power.h`

NewSleepQUPP

```
SleepQUPP NewSleepQUPP (  
    SleepQProcPtr userRoutine  
);
```

Return Value

See the description of the `SleepQUPP` data type.

Discussion

See the callback [SleepQProcPtr](#) (page 19) for more information.

Availability

Available in Mac OS X v10.0 and later.

Declared In

`Power.h`

SleepQInstall

Adds an entry to the sleep queue.

```
void SleepQInstall (  
    SleepQRecPtr qRecPtr  
);
```

Parameters

qRecPtr

A pointer to a sleep queue record that you must provide.

Availability

Available in Mac OS X v10.0 and later.

Declared In

`Power.h`

SleepQRemove

Removes an entry from the sleep queue.


```
void SleepQRemove (  
    SleepQRecPtr qRecPtr  
);
```

Parameters

qRecPtr

A pointer to a sleep queue record that you provided when you added your routine to the sleep queue.

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

UpdateSystemActivity

```
OSErr UpdateSystemActivity (  
    UInt8 activity  
);
```

Return Value

A result code. See [“Power Manager Result Codes”](#) (page 51).

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

Callbacks

HDSpindownProcPtr

```
typedef void (*HDSpindownProcPtr) (  
    HDQueueElement * theElement  
);
```

If you name your function `MyHDSpindownCallback`, you would declare it like this:

```
void MyHDSpindownCallback (  
    HDQueueElement * theElement  
);
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

PMgrStateChangeProcPtr

```
typedef void (*PMgrStateChangeProcPtr) (
    PMgrQueueElement * theElement,
    long stateBits
);
```

If you name your function `MyPMgrStateChangeCallback`, you would declare it like this:

```
void MyPMgrStateChangeCallback (
    PMgrQueueElement * theElement,
    long stateBits
);
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

`Power.h`

PowerHandlerProcPtr

```
typedef OSStatus (*PowerHandlerProcPtr) (
    UInt32 message,
    void * param,
    UInt32 refCon,
    RegEntryID * regEntryID
);
```

If you name your function `MyPowerHandlerCallback`, you would declare it like this:

```
OSStatus MyPowerHandlerCallback (
    UInt32 message,
    void * param,
    UInt32 refCon,
    RegEntryID * regEntryID
);
```

Return Value

A result code. See [“Power Manager Result Codes”](#) (page 51).

Availability

Available in Mac OS X v10.0 and later.

Declared In

`Power.h`

SleepQProcPtr

```
typedef long (*SleepQProcPtr) (
    long message,
    SleepQRecPtr qRecPtr
);
```

If you name your function `MySleepQProc`, you would declare it like this:

```
long MySleepQProc (
    long message,
    SleepQRecPtr qRecPtr
);
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

`Power.h`

Data Types

ActivityInfo

```
struct ActivityInfo {
    short ActivityType;
    unsigned long ActivityTime;
};
typedef struct ActivityInfo ActivityInfo;
```

Fields

`ActivityType`

A short representing the type of activity to fetch.

`ActivityTime`

An unsigned long representing the time of the last activity in ticks.

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

`Power.h`

BatteryByte

```
typedef SInt8 BatteryByte;
```

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

Power.h

BatteryInfo

```
struct BatteryInfo {
    UInt8 flags;
    UInt8 warningLevel;
    UInt8 reserved;
    UInt8 batteryLevel;
};
typedef struct BatteryInfo BatteryInfo;
```

Fields

flags

An unsigned, 8-bit integer representing battery state information.

warningLevel

An unsigned, 8-bit integer representing a scaled warning level. The value of this field is in the range of 0-255.

reserved

This field is reserved for internal use.

batteryLevel

An unsigned, 8-bit integer representing a scaled battery level. The value for this field is in the range of 0-255.

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

Power.h

BatteryTimeRec

```
struct BatteryTimeRec {
    unsigned long expectedBatteryTime;
    unsigned long minimumBatteryTime;
    unsigned long maximumBatteryTime;
    unsigned long timeUntilCharged;
};
typedef struct BatteryTimeRec BatteryTimeRec;
```

Fields

expectedBatteryTime

An unsigned long representing in seconds, the estimated battery time remaining.

minimumBatteryTime

An unsigned long representing in seconds, the minimum battery time remaining.

maximumBatteryTime

An unsigned long representing in seconds, the maximum battery time remaining.

timeUntilCharged

An unsigned long representing in seconds, the time remaining until the battery is fully charged.

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

Power.h

DevicePowerInfo

```
struct DevicePowerInfo {
    UInt32 version;
    RegEntryID regID;
    OptionBits flags;
    UInt32 minimumWakeTime;
    UInt32 sleepPowerNeeded;
};
typedef struct DevicePowerInfo DevicePowerInfo;
```

Fields

version

The version of this structure.

regID

The Registry Entry ID for the device.

flags

A value of type `OptionBits` representing device power information.

minimumWakeTime

The minimum number of seconds before the device sleeps again.

sleepPowerNeeded

The milliwatts the device requires in the sleep state.

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

Power.h

HDQueueElement

```
struct HDQueueElement {
    struct HDQueueElement * hdQLink;
    short hdQType;
    short hdFlags;
    HDSpindownUPP hdProc;
    long hdUser;
};
typedef struct HDQueueElement HDQueueElement;
```

Fields

hdQLink

A pointer to the next queue element.

hdQType

A value of type short representing the queue element type.

hdFlags

A value of type short representing flags.

hdProc

A pointer to the hard drive spindown routine to call.

hdUser

A user-defined value.

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

HDSpindownUPP

```
typedef HDSpindownProcPtr HDSpindownUPP;
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

ModemByte

```
typedef SInt8 ModemByte;
```

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

Power.h

PMgrQueueElement

```
struct PMgrQueueElement {  
    struct PMgrQueueElement * pmQLink;  
    short pmQType;  
    short pmFlags;  
    long pmNotifyBits;  
    PMgrStateChangeUPP pmProc;  
    long pmUser;  
};  
typedef struct PMgrQueueElement PMgrQueueElement;
```

Fields

pmQLink

A pointer to the next queue element.

`pmQType`

A value of type `short` representing the queue element type.

`pmFlags`

A value of type `short` representing flags.

`pmNotifyBits`

A bitmap representing the changes of which you wish to be notified.

`pmProc`

A pointer to the routine to call.

`pmUser`

A user-defined value.

Availability

Available in Mac OS X v10.0 and later.

Declared In

`Power.h`

PMgrStateChangeUPP

```
typedef PMgrStateChangeProcPtr PMgrStateChangeUPP;
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

`Power.h`

PMResultCode

```
typedef long PMResultCode;
```

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

`Power.h`

PowerLevel

```
typedef UInt32 PowerLevel;
```

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

`Power.h`

PowerSourceID

```
typedef SInt16 PowerSourceID;
```

Availability

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared In

Power.h

PowerSourceParamBlock

```
struct PowerSourceParamBlock {
    PowerSourceID sourceID;
    UInt16 sourceCapacityUsage;
    UInt32 sourceVersion;
    OptionBits sourceAttr;
    OptionBits sourceState;
    UInt32 currentCapacity;
    UInt32 maxCapacity;
    UInt32 timeRemaining;
    UInt32 timeToFullCharge;
    UInt32 voltage;
    SInt32 current;
    UInt32 lowWarnLevel;
    UInt32 deadWarnLevel;
    UInt32 reserved[16];
};
typedef struct PowerSourceParamBlock PowerSourceParamBlock;
typedef PowerSourceParamBlock * PowerSourceParamBlockPtr;
```

Fields

sourceID

A unique ID assigned by the Power Manager.

sourceCapacityUsage

An unsigned, 16-bit integer representing current capacity usage.

sourceVersion

An unsigned, 32-bit integer indicating the version of this record.

sourceAttr

A value of type `OptionBits` representing power source attributes.

sourceState

A value of type `OptionBits` representing power source states.

currentCapacity

The current capacity represented in milliwatts or percentage.

maxCapacity

The full capacity represented in milliwatts.

timeRemaining

The time remaining represented in milliwatt-hours.

timeToFullCharge

The time required to charge represented in milliwatt-hours.

voltage

The voltage represented in millivolts.

current

The current represented in milliamperes. This value may be negative if the power source is consuming.

lowWarnLevel

The low warning level represented in milliwatts, or percentage depending on the representation of sourceCapacityUsage.

deadWarnLevel

The dead warning level represented in milliwatts, or percentage depending on the representation of sourceCapacityUsage.

reserved

This field is reserved for future expansion.

Availability

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared In

Power.h

PowerSourceParamBlockPtr

```
typedef PowerSourceParamBlock* PowerSourceParamBlockPtr;
```

Availability

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared In

Power.h

PowerSummary

```
struct PowerSummary {
    UInt32 version;
    OptionBits flags;
    UInt32 sleepPowerAvailable;
    UInt32 sleepPowerNeeded;
    UInt32 minimumWakeTime;
    ItemCount deviceCount;
    DevicePowerInfo devices[1];
};
typedef struct PowerSummary PowerSummary;
```

Fields

version

An unsigned, 32-bit integer indicating the version of this record.

flags

A value of type OptionBits representing power summary information.

sleepPowerAvailable

An unsigned, 32-bit integer indicating the milliwatts available during sleep.

sleepPowerNeeded

An unsigned, 32-bit integer indicating the milliwatts needed during sleep.

minimumWakeTime

An unsigned, 32-bit integer indicating the minimum number of seconds required before sleeping again.

deviceCount

The number of device power info records.

devices

An array of device power info records.

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

Power.h

SleepQRec

```
struct SleepQRec {
    SleepQRecPtr sleepQLink;
    short sleepQType;
    SleepQUPP sleepQProc;
    short sleepQFlags;
};
typedef struct SleepQRec SleepQRec;
typedef SleepQRec * SleepQRecPtr;
```

Fields

sleepQLink

A pointer to the next element in the queue. This pointer is maintained by the Power Manager; your application should not modify this field.

sleepQType

A short indicating the type of the queue, which must be the constant `sleepQType (16)`.

sleepQProc

A pointer to the routine that you provide.

sleepQFlags

A short containing flags which is reserved for use by Apple Computer, Inc.

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

SleepQRecPtr

```
typedef SleepQRec *SleepQRecPtr;
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

SleepQUPP

```
typedef SleepQProcPtr SleepQUPP;
```

Availability

Available in Mac OS X v10.0 and later.

Declared In

Power.h

SoundMixerByte

```
typedef SInt8 SoundMixerByte;
```

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

Power.h

StartupTime

```
struct StartupTime {  
    unsigned long startTime;  
    Boolean startEnabled;  
    SInt8 filler;  
};  
typedef struct StartupTime StartupTime;
```

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

Power.h

WakeupTime

```
struct WakeupTime {  
    unsigned long wakeTime;  
    Boolean wakeEnabled;  
    SInt8 filler;  
};  
typedef struct WakeupTime WakeupTime;
```

Availability

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared In

Power.h

Constants

Apple Event Types and Errors

```
enum {
    kAEMacPowerMgtEvt = 'pmgt',
    kAEMacToWake = 'wake',
    kAEMacLowPowerSaveData = 'pmsd',
    kAEMacEmergencySleep = 'emsl',
    kAEMacEmergencyShutdown = 'emsd'
};
```

BatteryByte Bits

```
enum {
    chargerConnBit = 0,
    hiChargeBit = 1,
    chargeOverflowBit = 2,
    batteryDeadBit = 3,
    batteryLowBit = 4,
    connChangedBit = 5
};
```

Constants

chargerConnBit

When this bit is set, it indicates the charger is connected.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in Power.h.

hiChargeBit

When this bit is set, it indicates charging at fastest rate.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in Power.h.

chargeOverflowBit

When this bit is set, it indicates the hicharge counter has overflowed.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in Power.h.

batteryDeadBit

Always 0.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

batteryLowBit

When this bit is set, it indicates the battery is low.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

connChangedBit

When this bit is set, it indicates the charger connection has changed.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

BatteryByte Masks

```
enum {  
    chargerConnMask = 0x01,  
    hiChargeMask = 0x02,  
    chargeOverflowMask = 0x04,  
    batteryDeadMask = 0x08,  
    batteryLowMask = 0x10,  
    connChangedMask = 0x20  
};
```

Constants

chargerConnMask

The charger is connected.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

hiChargeMask

Charging at fastest rate.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

chargeOverflowMask

The hicharge counter has overflowed.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

batteryDeadMask

The battery is dead.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

batteryLowMask

The battery is low.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

connChangedMask

The connection has changed.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

BatteryInfo Bits

```
enum {  
    batteryInstalled = 7,  
    batteryCharging = 6,  
    chargerConnected = 5,  
    upsConnected = 4,  
    upsIsPowerSource = 3  
};
```

Constants

batteryInstalled

When this bit is set, it indicates the battery is currently connected.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

batteryCharging

When this bit is set, it indicates the battery is being charged.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

chargerConnected

When this bit is set, it indicates the charger is connected.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`upsConnected`

When this bit is set, it indicates there is an uninterruptable power source (UPS) connected.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`upsIsPowerSource`

When this bit is set, it indicates the UPS is the source of power.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

Client Notification Bits

```
enum {
    pmSleepTimeoutChanged = 0,
    pmSleepEnableChanged = 1,
    pmHardDiskTimeoutChanged = 2,
    pmHardDiskSpindownChanged = 3,
    pmDimmingTimeoutChanged = 4,
    pmDimmingEnableChanged = 5,
    pmDiskModeAddressChanged = 6,
    pmProcessorCyclingChanged = 7,
    pmProcessorSpeedChanged = 8,
    pmWakeupTimerChanged = 9,
    pmStartupTimerChanged = 10,
    pmHardDiskPowerRemovedbyUser = 11,
    pmChargeStatusChanged = 12,
    pmPowerLevelChanged = 13,
    pmWakeOnNetActivityChanged = 14
};
```

Client Notification Masks

```
enum {
    pmSleepTimeoutChangedMask = (1 << pmSleepTimeoutChanged),
    pmSleepEnableChangedMask = (1 << pmSleepEnableChanged),
    pmHardDiskTimeoutChangedMask = (1 << pmHardDiskTimeoutChanged),
    pmHardDiskSpindownChangedMask = (1 << pmHardDiskSpindownChanged),
    pmDimmingTimeoutChangedMask = (1 << pmDimmingTimeoutChanged),
    pmDimmingEnableChangedMask = (1 << pmDimmingEnableChanged),
    pmDiskModeAddressChangedMask = (1 << pmDiskModeAddressChanged),
    pmProcessorCyclingChangedMask = (1 << pmProcessorCyclingChanged),
    pmProcessorSpeedChangedMask = (1 << pmProcessorSpeedChanged),
    pmWakeupTimerChangedMask = (1 << pmWakeupTimerChanged),
    pmStartupTimerChangedMask = (1 << pmStartupTimerChanged),
    pmHardDiskPowerRemovedbyUserMask = (1 << pmHardDiskPowerRemovedbyUser),
    pmChargeStatusChangedMask = (1 << pmChargeStatusChanged),
    pmPowerLevelChangedMask = (1 << pmPowerLevelChanged),
    pmWakeOnNetActivityChangedMask = (1 << pmWakeOnNetActivityChanged)
};
```

DevicePowerInfo Flags

```
enum {
    kDevicePCIPowerOffAllowed = (1L << 0),
    kDeviceSupportsPMIS = (1L << 1),
    kDeviceCanAssertPMEDuringSleep = (1L << 2),
    kDeviceUsesCommonLogicPower = (1L << 3),
    kDeviceDriverPresent = (1L << 4),
    kDeviceDriverSupportsPowerMgt = (1L << 5)
};
```

Constants

`kDevicePCIPowerOffAllowed`

If the bit specified by this mask is set, PCI power off is allowed for this device.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kDeviceSupportsPMIS`

If the bit specified by this mask is set, the device supports Power Manager Interface Specifications.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kDeviceCanAssertPMEDuringSleep`

If the bit specified by this mask is set, the device can assert the PME# line during sleep.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kDeviceUsesCommonLogicPower`

If the bit specified by this mask is set, the device uses common-logic power.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kDeviceDriverPresent`

If the bit specified by this mask is set, the device driver is present.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kDeviceDriverSupportsPowerMgt`

If the bit specified by this mask is set, the device driver installed a power handler.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

HDPwrQType Constants

```
enum {
    HDPwrQType = 0x4844,
    PMgrStateQType = 0x504D
};
```

Constants

`HDPwrQType`

The hard disk spindown queue element type.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

PMgrStateQType

The Power Manager state queue element type.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

HDQueueElement Flags

```
enum {
    kHDQueuePostBit = 0,
    kHDQueuePostMask = (1 << kHDQueuePostBit)
};
```

Constants

kHDQueuePostBit

When this bit is set, it indicates the routine will be called on the second pass.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

kHDQueuePostMask

If the bit specified by this mask is set, it indicates the routine will be called on the second pass.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

kMediaPowerCSCode Constants

```
enum {
    kMediaPowerCSCode = 70
};
```

kUseDefaultMinimumWakeTime Constants

```
enum {
    kUseDefaultMinimumWakeTime = 0,
    kPowerSummaryVersion = 1,
    kDevicePowerInfoVersion = 1
};
```

Constants

kUseDefaultMinimumWakeTime

Defaults to 5 minutes.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

kPowerSummaryVersion

Version of PowerSummary structure.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in Power.h.

kDevicePowerInfoVersion

Version of DevicePowerInfo structure

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in Power.h.

Modem State Bits

```
enum {
    hasInternalModem = 0,
    intModemRingDetect = 1,
    intModemOffHook = 2,
    intModemRingWakeEnb = 3,
    extModemSelected = 4,
    modemSetBit = 15
};
```

Constants

hasInternalModem

When this bit is set, it indicates an internal modem is installed.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in Power.h.

intModemRingDetect

When this bit is set, it indicates the internal modem has detected a ring.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in Power.h.

intModemOffHook

When this bit is set, it indicates the internal modem is off the hook.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in Power.h.

intModemRingWakeEnb

When this bit is set, it indicates wakeup on ring is enabled.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in Power.h.

`extModemSelected`

When this bit is set, it indicates external modem is selected.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`modemSetBit`

When this bit is set, it indicates set bit. If 0, clear bit.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

Discussion

These bits are in the bit field returned by the [GetIntModemInfo](#) (page 61) function and set by the [SetIntModemState](#) (page 72) function.

ModemByte Bits

```
enum {
    modemOnBit = 0,
    ringWakeUpBit = 2,
    modemInstalledBit = 3,
    ringDetectBit = 4,
    modemOnHookBit = 5
};
```

Constants

`modemOnBit`

When this bit is set, it indicates the modem is on.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`ringWakeUpBit`

When this bit is set, it indicates ring wakeup is enabled.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`modemInstalledBit`

When this bit is set, it indicates an internal modem is installed.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`ringDetectBit`

When this bit is set, it indicates an incoming call is detected.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

modemOnHookBit

When this bit is set, it indicates the modem is off the hook.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

ModemByte Masks

```
enum {  
    modemOnMask = 0x01,  
    ringWakeUpMask = 0x04,  
    modemInstalledMask = 0x08,  
    ringDetectMask = 0x10,  
    modemOnHookMask = 0x20  
};
```

Constants

modemOnMask

The modem is on.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

ringWakeUpMask

Ring wakeup is enabled.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

modemInstalledMask

An internal modem is installed.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

ringDetectMask

An incoming call is detected.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

modemOnHookMask

The modem is off the hook.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

Net Activity Wake Options

```
enum {
    kConfigSupportsWakeOnNetBit = 0,
    kWakeOnNetAdminAccessesBit = 1,
    kWakeOnAllNetAccessesBit = 2,
    kUnmountServersBeforeSleepingBit = 3,
    kConfigSupportsWakeOnNetMask = (1 << kConfigSupportsWakeOnNetBit),
    kWakeOnNetAdminAccessesMask = (1 << kWakeOnNetAdminAccessesBit),
    kWakeOnAllNetAccessesMask = (1 << kWakeOnAllNetAccessesBit),
    kUnmountServersBeforeSleepingMask = (1 << kUnmountServersBeforeSleepingBit)
};
```

PCI Bus PMIS Power Levels

```
enum {
    kPMDevicePowerLevel_On = 0,
    kPMDevicePowerLevel_D1 = 1,
    kPMDevicePowerLevel_D2 = 2,
    kPMDevicePowerLevel_Off = 3
};
```

Constants

`kPMDevicePowerLevel_On`

When this bit is set, it indicates the PCI bus is fully powered.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kPMDevicePowerLevel_D1`

Reserved.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kPMDevicePowerLevel_D2`

Reserved.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kPMDevicePowerLevel_Off`

When this bit is set, it indicates the main PCI bus power is off, but PCI standby power is available.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

Power Capacity Types

```
enum {
    kCapacityIsActual = 0,
    kCapacityIsPercentOfMax = 1
};
```

Constants

`kCapacityIsActual`

The capacity is expressed as actual capacity in the same units as `maxCapacity`.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kCapacityIsPercentOfMax`

The capacity is expressed as a percentage of `maxCapacity`.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

Power Handler Wake Results

```
enum {
    kDeviceDidNotWakeMachine = 0,
    kDeviceRequestsFullWake = 1,
    kDeviceRequestsWakeToDoze = 2
};
```

Constants

`kDeviceDidNotWakeMachine`

The device did not wake the computer.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kDeviceRequestsFullWake`

The device did wake the computer and requests full wakeup.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kDeviceRequestsWakeToDoze`

The device did wake the computer and requests partial wakeup.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

Discussion

On query by the Power Manager, these are result values returned by a power handler if the device the power handler represents woke the computer.

Power Manager Features Bits

```
enum {
    hasWakeupTimer = 0,
    hasSharedModemPort = 1,
    hasProcessorCycling = 2,
    mustProcessorCycle = 3,
    hasReducedSpeed = 4,
    dynamicSpeedChange = 5,
    hasSCSIDiskMode = 6,
    canGetBatteryTime = 7,
    canWakeupOnRing = 8,
    hasDimmingSupport = 9,
    hasStartupTimer = 10,
    hasChargeNotification = 11,
    hasDimSuspendSupport = 12,
    hasWakeOnNetActivity = 13,
    hasWakeOnLid = 14,
    canPowerOffPCIBus = 15,
    hasDeepSleep = 16,
    hasSleep = 17,
    supportsServerModeAPIs = 18,
    supportsUPSIntegration = 19,
    hasAggressiveIdling = 20,
    supportsIdleQueue = 21
};
```

Constants

`hasWakeupTimer`

When this bit is set, it indicates the wakeup timer is supported.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasSharedModemPort`

When this bit is set, it indicates the modem port is shared by the serial communications chip (SCC) and the internal modem.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasProcessorCycling`

When this bit is set, it indicates processor cycling is supported.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`mustProcessorCycle`

When this bit is set, it indicates processor cycling should not be turned off.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasReducedSpeed`

When this bit is set, it indicates the processor can be started up at a reduced speed.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`dynamicSpeedChange`

When this bit is set, it indicates the processor speed can be switched dynamically.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasSCSIDiskMode`

When this bit is set, it indicates SCSI disk mode is supported.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`canGetBatteryTime`

When this bit is set, it indicates battery time can be calculated.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`canWakeUpOnRing`

When this bit is set, it indicates wakeup when the modem detects a ring.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasDimmingSupport`

When this bit is set, it indicates dimming support is built in—display power management system (DPMS) standby by default.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasStartupTimer`

When this bit is set, it indicates the startup timer is supported.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasChargeNotification`

When this bit is set, it indicates the client can determine charge connect status change notification available.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasDimSuspendSupport`

When this bit is set, it indicates support of dimming LCD and CRT to DPMS suspend state.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasWakeOnNetActivity`

When this bit is set, it indicates hardware supports wake on network activity.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasWakeOnLid`

When this bit is set, it indicates hardware can wake when opened.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`canPowerOffPCIBus`

When this bit is set, it indicates hardware can power off PCI bus during sleep if cards allow.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasDeepSleep`

When this bit is set, it indicates hardware supports deep sleep (hibernation) mode.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`hasSleep`

When this bit is set, it indicates hardware supports normal sleep.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`supportsServerModeAPIs`

When this bit is set, it indicates hardware supports server mode API.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`supportsUPSIntegration`

When this bit is set, it indicates hardware supports UPS integration and reporting.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

hasAggressiveIdling

When this bit is set, it indicates Power Manager only resets OverallAct on UserActivity.

Available in Mac OS X v10.1 and later.

Not available to 64-bit applications.

Declared in Power.h.

supportsIdleQueue

When this bit is set, it indicates Power Manager supports the idle queue.

Available in Mac OS X v10.1 and later.

Not available to 64-bit applications.

Declared in Power.h.

Discussion

These bits are in the bit field returned by the [PMFeatures](#) (page 77) function.

Power Source Attribute Bits

```
enum {
    bSourceIsBattery = 0,
    bSourceIsAC = 1,
    bSourceCanBeCharged = 2,
    bSourceIsUPS = 3,
    bSourceProvidesWarnLevels = 4,
    kSourceIsBatteryMask = (1 << bSourceIsBattery),
    kSourceIsACMask = (1 << bSourceIsAC),
    kSourceCanBeChargedMask = (1 << bSourceCanBeCharged),
    kSourceIsUPSMask = (1 << bSourceIsUPS),
    kSourceProvidesWarnLevelsMask = (1 << bSourceProvidesWarnLevels)
};
```

Constants

bSourceIsBattery

When this bit is set, it indicates the power source is a battery.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in Power.h.

bSourceIsAC

When this bit is set, it indicates the power source is AC.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in Power.h.

bSourceCanBeCharged

When this bit is set, it indicates the power source can be charged.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in Power.h.

bSourceIsUPS

When this bit is set, it indicates the power source is an uninterruptable power supply (UPS).

bSourceIsBattery and bSourceIsAC should be set as well if appropriate.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in Power.h.

`bSourceProvidesWarnLevels`

When this bit is set, it indicates power source provides low power and dead battery warning levels.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kSourceIsBatteryMask`

If the bit specified by this mask is set, the power source is a battery.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kSourceIsACMask`

If the bit specified by this mask is set, the power source is AC.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kSourceCanBeChargedMask`

If the bit specified by this mask is set, the power source can be charged.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kSourceIsUPSMask`

If the bit specified by this mask is set, the power source is a UPS.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kSourceProvidesWarnLevelsMask`

If the bit specified by this mask is set, the power source provides low power and dead battery warning levels.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

Power Source Capacity Usage Types

```
enum {  
    kCurrentCapacityIsActualValue = 0,  
    kCurrentCapacityIsPercentOfMax = 1  
};
```

Constants

`kCurrentCapacityIsActualValue`

The current capacity is expressed as a real value in the same units as `maxCapacity`.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kCurrentCapacityIsPercentOfMax`

The current capacity is expressed as a percentage of `maxCapacity`.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

Power Source State Bits

```
enum {
    bSourceIsAvailable = 0,
    bSourceIsCharging = 1,
    bChargerIsAttached = 2,
    kSourceIsAvailableMask = (1 << bSourceIsAvailable),
    kSourceIsChargingMask = (1 << bSourceIsCharging),
    kChargerIsAttachedMask = (1 << bChargerIsAttached)
};
```

Constants

`bSourceIsAvailable`

When this bit is set, it indicates a power source is installed.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`bSourceIsCharging`

When this bit is set, it indicates a power source is charging.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`bChargerIsAttached`

When this bit is set, it indicates a charger is connected.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kSourceIsAvailableMask`

If the bit specified by this mask is set, the power source is installed.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kSourceIsChargingMask`

If the bit specified by this mask is set, the power source is charging.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

`kChargerIsAttachedMask`

If the bit specified by this mask is set, a charger is connected.

Available in Mac OS X v10.0 through Mac OS X v10.4.

Declared in `Power.h`.

Power Source Version

```
enum {
    kVersionOnePowerSource = 1,
    kVersionTwoPowerSource = 2,
    kCurrentPowerSourceVersion = kVersionTwoPowerSource
};
```

Power Summary Flags

```
enum {
    kPCIPowerOffAllowed = (1L << 0)
};
```

Constants

kPCIPowerOffAllowed

If the bit specified by this mask is set, it indicates PCI power off is allowed.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

Sleep Commands

Not recommended

```
enum {
    sleepRequest = kSleepRequest,
    sleepDemand = kSleepDemand,
    sleepWakeUp = kSleepWakeUp,
    sleepRevoke = kSleepRevoke,
    sleepUnlock = kSleepUnlock,
    sleepDeny = kSleepDeny,
    sleepNow = kSleepNow,
    dozeDemand = kDozeDemand,
    dozeWakeUp = kDozeWakeUp,
    dozeRequest = kDozeRequest,
    enterStandby = kEnterStandby,
    enterRun = kEnterRun,
    suspendRequestMsg = kSuspendRequest,
    suspendDemandMsg = kSuspendDemand,
    suspendRevokeMsg = kSuspendRevoke,
    suspendWakeUpMsg = kSuspendWakeUp,
    getPowerLevel = kGetPowerLevel,
    setPowerLevel = kSetPowerLevel
};
```

Constants

sleepRequest

A sleep request.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`sleepDemand`

A sleep demand.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`sleepWakeUp`

A wakeup demand.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`sleepRevoke`

A sleep request revocation.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

sleepQFlags Bits

```
enum {
    noCalls = 1,
    noRequest = 2,
    slpQType = 16,
    sleepQType = 16
};
```

Constants

`noCalls`

A `noCalls` queue type.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`noRequest`

A `noRequest` queue type.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`slpQType`

A `sleepQType` queue.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`sleepQType`

A `sleepQType` queue.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

sleepQProc Commands

```
enum {
    kSleepRequest = 1,
    kSleepDemand = 2,
    kSleepWakeUp = 3,
    kSleepRevoke = 4,
    kSleepUnlock = 4,
    kSleepDeny = 5,
    kSleepNow = 6,
    kDozeDemand = 7,
    kDozeWakeUp = 8,
    kDozeRequest = 9,
    kEnterStandby = 10,
    kEnterRun = 11,
    kSuspendRequest = 12,
    kSuspendDemand = 13,
    kSuspendRevoke = 14,
    kSuspendWakeUp = 15,
    kGetPowerLevel = 16,
    kSetPowerLevel = 17,
    kDeviceInitiatedWake = 18,
    kWakeToDoze = 19,
    kDozeToFullWakeUp = 20,
    kGetPowerInfo = 21,
    kGetWakeOnNetInfo = 22,
    kSuspendWakeToDoze = 23,
    kEnterIdle = 24,
    kStillIdle = 25,
    kExitIdle = 26
};
```

Constants

`kSleepDeny`

A non-zero value clients can use to deny requests.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`kDozeRequest`

Additional messages for Power Manager 2.0.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`kEnterStandby`

Idle queue only.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`kEnterRun`

Idle queue only.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`kEnterIdle`

Idle queue only.

Available in Mac OS X v10.1 and later.

Declared in `Power.h`.

`kStillIdle`

Idle queue only.

Available in Mac OS X v10.1 and later.

Declared in `Power.h`.

`kExitIdle`

Idle queue only.

Available in Mac OS X v10.1 and later.

Declared in `Power.h`.

SoundMixerByte Bits

```
enum {
    MediaBaySndEnBit = 0,
    PCISndEnBit = 1,
    ZVSndEnBit = 2,
    PCCardSndEnBit = 3
};
```

SoundMixerByte Masks

```
enum {
    MediaBaySndEnMask = 0x01,
    PCISndEnMask = 0x02,
    ZVSndEnMask = 0x04,
    PCCardSndEnMask = 0x08
};
```

Storage Media Sleep Modes

```
enum {
    kMediaModeOn = 0,
    kMediaModeStandBy = 1,
    kMediaModeSuspend = 2,
    kMediaModeOff = 3
};
```

Constants

`kMediaModeOn`

When this bit is set, it indicates the media is active—the drive is spinning at full power.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kMediaModeStandBy`

When this bit is set, it indicates the media is on standby. This is not implemented.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kMediaModeSuspend`

When this bit is set, it indicates the media is idle. This is not implemented.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

`kMediaModeOff`

When this bit is set, it indicates the media is asleep—the drive is not spinning and is at minimum power and maximum recovery time.

Available in Mac OS X v10.0 and later.

Not available to 64-bit applications.

Declared in `Power.h`.

System Activity Selectors

```
enum {
    OverallAct = 0,
    UsrActivity = 1,
    NetActivity = 2,
    HDActivity = 3,
    IdleActivity = 4
};
```

Constants

`OverallAct`

Delays idle sleep by a small amount. This will only delay power cycling if it's enabled, and will delay sleep by a small amount when `hasAggressiveIdling` is set.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`UsrActivity`

Delays idle sleep and dimming by timeout time.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`NetActivity`

Delays idle sleep and power cycling by small amount.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`HDActivity`

Delays hard drive spindown and idle sleep by small amount.

Available in Mac OS X v10.0 and later.

Declared in `Power.h`.

`IdleActivity`

Delays idle sleep by timeout time. The `IdleActivity` selector is not available unless the `hasAggressiveIdling` bit is set. Use `IdleActivity` where you used to use `OverallAct` if necessary. Don't use `IdleActivity` unless `hasAggressiveIdling` is set; when `hasAggressiveIdling` is not set, the use of `IdleActivity` is undefined, and will do different things depending on which Power Manager is currently running.

Available in Mac OS X v10.1 and later.

Declared in `Power.h`.

Result Codes

The most common result codes returned by Power Manager are listed below.

Result Code	Value	Description
<code>noErr</code>	0	No error Available in Mac OS X v10.0 and later.
<code>pmBusyErr</code>	-13000	Power Manager IC stuck busy Available in Mac OS X v10.0 and later.
<code>pmReplyTOErr</code>	-13001	Timed out waiting to begin reply handshake Available in Mac OS X v10.0 and later.
<code>pmSendStartErr</code>	-13002	Power Manager IC did not start handshake Available in Mac OS X v10.0 and later.
<code>pmSendEndErr</code>	-13003	During send, Power Manager did not finish handshake Available in Mac OS X v10.0 and later.
<code>pmRecvStartErr</code>	-13004	During receive, Power Manager did not start handshake Available in Mac OS X v10.0 and later.
<code>pmRecvEndErr</code>	-13005	During receive, Power Manager did not finish handshake Available in Mac OS X v10.0 and later.

Deprecated Power Manager Functions

A function identified as deprecated has been superseded and may become unsupported in the future.

Deprecated in Mac OS X v10.0

AOff

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void AOff (
    void
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

AOn

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void AOn (
    void
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated Power Manager Functions

Deprecated in Mac OS X v10.0.
Not available to 64-bit applications.

Declared In

Power.h

AOnIgnoreModem

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void AOnIgnoreModem (
    void
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

AutoSleepControl

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void AutoSleepControl (
    Boolean enableSleep
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

BatteryStatus

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```

OSErr BatteryStatus (
    Byte *status,
    Byte *power
);

```

Parameters

Status

On return, the referenced value holds the status of the battery charger and the voltage level of the battery, described in [BatteryByte Bits](#) (page 28). The `connChangedBit` is set when the charger connection is changed—either connected or disconnected. When this bit is set, the Power Manager IC sends an interrupt to the CPU.

The `batteryLowBit` is set whenever battery voltage drops below the value set in parameter `RAM`. The Power Manager IC sends an interrupt to the CPU once every second when battery voltage is low. If the `batteryDeadBit` were set, it would indicate a dead battery; however, the Power Manager automatically shuts the system down when the battery voltage drops below a preset level, so this bit is always 0.

Power

On return, the referenced value contains the `Power` value you can use to estimate the battery voltage:
voltage = ((Power/100) + 5.12) volts

Due to the nature of lead-acid batteries, the battery power remaining is difficult to measure accurately. Temperature, load, and other factors can alter the measured voltage by 30 percent or more. The Power Manager takes as many of these factors into account as possible, but the voltage measurement can still be in error by up to 10 percent. The measurement is most accurate when the Macintosh Portable has been in the sleep state for at least 30 minutes.

Return Value

A result code. See [“Power Manager Result Codes”](#) (page 51).

Special Considerations

The I/O Kit Framework header file `IOPMLib.h` (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

`Power.h`

BOff

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Deprecated Power Manager Functions

```
void BOff (
    void
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

BOn

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void BOn (
    void
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

DelaySystemIdle

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr DelaySystemIdle (
    void
);
```

Return Value

A result code. See [“Power Manager Result Codes”](#) (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

DimmingControl

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void DimmingControl (
    Boolean enableSleep
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

DisableIdle

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void DisableIdle (
    void
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated Power Manager Functions

Deprecated in Mac OS X v10.0.
Not available to 64-bit applications.

Declared In

Power.h

DisableWUTime

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr DisableWUTime (
    void
);
```

Return Value

A result code. See “Power Manager Result Codes” (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

EnableIdle

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void EnableIdle (
    void
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

EnableProcessorCycling

Unimplemented. (Deprecated in Mac OS X v10.0.)

```
void EnableProcessorCycling (
    Boolean enable
);
```

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetBatteryTimes

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void GetBatteryTimes (
    short whichBattery,
    BatteryTimeRec *theTimes
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetBatteryVoltage

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
Fixed GetBatteryVoltage (
    short whichBattery
);
```

Return Value

See the Mac Types documentation for a description of the `Fixed` data type.

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetDimmingTimeout

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
UInt8 GetDimmingTimeout (
    void
);
```

Return Value

See the Mac Types documentation for a description of the UInt8 data type.

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetDimSuspendState

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
Boolean GetDimSuspendState (
    void
);
```

Return Value

See the Mac Types documentation for a description of the Boolean data type.

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetHardDiskTimeout

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
UInt8 GetHardDiskTimeout (
    void
);
```

Return Value

See the Mac Types documentation for a description of the UInt8 data type.

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetIntModemInfo

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
UInt32 GetIntModemInfo (
    void
);
```

Return Value

See the Mac Types documentation for a description of the UInt32 data type.

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetLastActivity

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr GetLastActivity (
    ActivityInfo *theActivity
);
```

Return Value

A result code. See “Power Manager Result Codes” (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetScaledBatteryInfo

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Deprecated Power Manager Functions

```
void GetScaledBatteryInfo (
    short whichBattery,
    BatteryInfo *theInfo
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetSCSIDiskModeAddress

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
short GetSCSIDiskModeAddress (
    void
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetSleepTimeout

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
UInt8 GetSleepTimeout (
    void
);
```

Return Value

See the Mac Types documentation for a description of the UInt8 data type.

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetSoundMixerState

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr GetSoundMixerState (
    SoundMixerByte *theSoundMixerByte
);
```

Return Value

A result code. See “Power Manager Result Codes” (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetStartupTimer

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr GetStartupTimer (
    StartupTime *theTime
);
```

Return Value

A result code. See “Power Manager Result Codes” (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetWakeupTimer

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void GetWakeupTimer (
    WakeupTime *theTime
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

GetWUTime

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr GetWUTime (
    long *wuTime,
    Byte *wuFlag
);
```

Parameters

wuTime

On return, the referenced value holds the current setting of the wakeup timer specified as the number of seconds since midnight, January 1, 1904.

Deprecated Power Manager Functions

WUFlag

On return, the low order bit of the referenced value is set to 1 if and only if the wakeup timer is enabled. The other bits in *WUFlag* are reserved.

Return Value

A result code. See “Power Manager Result Codes” (page 51).

Special Considerations

The I/O Kit Framework header file *IOPMLib.h* (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

HardDiskPowered

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
Boolean HardDiskPowered (
    void
);
```

Return Value

See the Mac Types documentation for a description of the `Boolean` data type.

Special Considerations

The I/O Kit Framework header file *IOPMLib.h* (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

HardDiskQInstall

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Deprecated Power Manager Functions

```
OSErr HardDiskQInstall (
    HDQueueElement *theElement
);
```

Return Value

A result code. See “[Power Manager Result Codes](#)” (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

HardDiskQRemove

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr HardDiskQRemove (
    HDQueueElement *theElement
);
```

Return Value

A result code. See “[Power Manager Result Codes](#)” (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

IdleUpdate

Unimplemented. (Deprecated in Mac OS X v10.0. Use UpdateSystemActivity instead.)

Deprecated Power Manager Functions

```
long IdleUpdate (
    void
);
```

Return Value

The `IdleUpdate` function returns the value in the `Ticks` global variable at the time the function was called.

Special Considerations

This function is unimplemented on Mac OS X. Use `UpdateSystemActivity(IdleActivity)` instead.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

`Power.h`

IsAutoSlpControlDisabled

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
Boolean IsAutoSlpControlDisabled (
    void
);
```

Return Value

See the Mac Types documentation for a description of the `Boolean` data type.

Special Considerations

The I/O Kit Framework header file `IOPMLib.h` (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

`Power.h`

IsDimmingControlDisabled

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
Boolean IsDimmingControlDisabled (
    void
);
```

Return Value

See the Mac Types documentation for a description of the `Boolean` data type.

Deprecated Power Manager Functions

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

IsProcessorCyclingEnabled

Unimplemented. (Deprecated in Mac OS X v10.0.)

```
Boolean IsProcessorCyclingEnabled (
    void
);
```

Return Value

See the Mac Types documentation for a description of the Boolean data type.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

IsSpindownDisabled

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
Boolean IsSpindownDisabled (
    void
);
```

Return Value

See the Mac Types documentation for a description of the Boolean data type.

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated Power Manager Functions

Deprecated in Mac OS X v10.0.
Not available to 64-bit applications.

Declared In

Power.h

ModemStatus

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr ModemStatus (
    Byte *status
);
```

Parameters

Status

On return, the referenced variable has its bits set as indicated in [ModemByte Bits](#) (page 36).

Return Value

A result code. See [“Power Manager Result Codes”](#) (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

PMgrStateQInstall

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr PMgrStateQInstall (
    PMgrQueueElement *theElement
);
```

Return Value

A result code. See [“Power Manager Result Codes”](#) (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Deprecated Power Manager Functions

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

PMgrStateQRemove

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr PMgrStateQRemove (
    PMgrQueueElement *theElement
);
```

Return Value

A result code. See “Power Manager Result Codes” (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SetDimmingTimeout

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void SetDimmingTimeout (
    UInt8 timeout
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Deprecated Power Manager Functions

Declared In

Power.h

SetDimSuspendState

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void SetDimSuspendState (  
    Boolean dimSuspendState  
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SetHardDiskTimeout

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void SetHardDiskTimeout (  
    UInt8 timeout  
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SetIntModemState

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Deprecated Power Manager Functions

```
void SetIntModemState (
    short theState
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SetSCSIDiskModeAddress

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void SetSCSIDiskModeAddress (
    short scsiAddress
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SetSleepTimeout

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

Deprecated Power Manager Functions

```
void SetSleepTimeout (
    UInt8 timeout
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SetSoundMixerState

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr SetSoundMixerState (
    SoundMixerByte *theSoundMixerByte
);
```

Return Value

A result code. See “Power Manager Result Codes” (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SetStartupTimer

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr SetStartupTimer (
    StartupTime *theTime
);
```

Return Value

A result code. See “Power Manager Result Codes” (page 51).

Deprecated Power Manager Functions

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SetWakeupTimer

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void SetWakeupTimer (
    WakeupTime *theTime
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SetWUTime

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
OSErr SetWUTime (
    long wuTime
);
```

Return Value

A result code. See [“Power Manager Result Codes”](#) (page 51).

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Deprecated Power Manager Functions

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

SpinDownHardDisk

Unimplemented. (Deprecated in Mac OS X v10.0. Use I/O Kit instead; see *I/O Kit Fundamentals*.)

```
void SpinDownHardDisk (  
    void  
);
```

Special Considerations

The I/O Kit Framework header file IOPMLib.h (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.0.

Not available to 64-bit applications.

Declared In

Power.h

Deprecated in Mac OS X v10.5

FullProcessorSpeed

Unimplemented. (Deprecated in Mac OS X v10.5.)

```
Boolean FullProcessorSpeed (  
    void  
);
```

Return Value

See the Mac Types documentation for a description of the Boolean data type.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.5.

Not available to 64-bit applications.

Declared In

Power.h

Deprecated Power Manager Functions

PMFeatures

(Deprecated in Mac OS X v10.5.)

```
UInt32 PMFeatures (
    void
);
```

Return ValueSee the Mac Types documentation for a description of the `UInt32` data type.**Availability**

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.5.

Not available to 64-bit applications.

Declared In

Power.h

PMSelectorCount

Unimplemented. (Deprecated in Mac OS X v10.5.)

```
short PMSelectorCount (
    void
);
```

Special Considerations

The I/O Kit Framework header file `IOPMLib.h` (in *I/O Kit Framework Reference*) provides access to common power management facilities, such as initiating system sleep, getting current idle timer values, registering for sleep/wake notifications, and preventing system sleep. For additional information about power management for device drivers, see *I/O Kit Fundamentals* and *I/O Kit Device Driver Design Guidelines*.

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.5.

Not available to 64-bit applications.

Declared In

Power.h

SetProcessorSpeed

Unimplemented. (Deprecated in Mac OS X v10.5.)

```
Boolean SetProcessorSpeed (
    Boolean fullSpeed
);
```

Return ValueSee the Mac Types documentation for a description of the `Boolean` data type.**Availability**

Available in Mac OS X v10.0 and later.

Deprecated Power Manager Functions

Deprecated in Mac OS X v10.5.
Not available to 64-bit applications.

Declared In

Power.h

SetSpindownDisable

Unimplemented. (Deprecated in Mac OS X v10.5.)

```
void SetSpindownDisable (  
    Boolean setDisable  
);
```

Availability

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.5.

Not available to 64-bit applications.

Declared In

Power.h

Document Revision History

This table describes the changes to *Power Manager Reference*.

Date	Notes
2006-07-13	Updated for Mac OS X v10.5.
2006-07-24	Indicated which functions are deprecated and added pointers to I/O Kit documentation.
2005-12-06	Made minor structural corrections; no content change.
2005-04-08	Documented the function <code>CurrentProcessorSpeed</code> .
2003-06-01	Fixed broken links.
2002-11-01	Added list of deprecated functions.
	Corrected names of sample functions in “Power Manager Callbacks” (page 17).
	Added field and constant descriptions.
	Removed carbon status elements.
2002-06-01	First version of this document.

REVISION HISTORY

Document Revision History

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