

Inside MADLibrary 4.01

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16 BD Tranchées

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Available for Think C - Symantec - CodeWarrior - MPW - XCMD (HyperCard, MacroMind)

MADLibrary is a collection of routines that you can use to implement music in your applications. You can use MADLibrary to...

- play music
- play sounds during music
- read different formats available in plugs : MAD, MOD, XM, S3M, MTM, etc.
- create your own soundtracker editor or player

MADLibrary Installation

To use the MADLibrary functions, install the library in your project and make an `#include "RDriver.h"` in your file ".c". You'll need 3 files: MAD.h, RDriver.h and MADLibrary.

WARNING

For previous users:

- Version 4.0 doesn't need anymore BGGB resource. Delete it!
- MADLibrary internal music format is MADH, not MADF anymore. You'll have to resave your musics with last version of PlayerPRO to use them with this library.
- MADGetBestDriver replaces GetBestDriver in previous examples.
- Structure names have changed...

MADLibrary Reference

This section serves as a reference to the routines MADLibrary provides.

MADInitLibrary

This function initializes the MADLibrary package.

```
OSErr MADInitLibrary(Str255 PlugsFolderName);
```

DESCRIPTION

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The `MADInitLibrary` function is used to initialize the MADLibrary package. `MADInitLibrary` performs some checks to see if MADLibrary can run, and then sets up some internal data structures (it allocates about 20kb). You must call `MADInitLibrary` before calling any other MADLibrary routine. It will also check if there are some

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Import/Export plugs available: it checks application directory and the `PlugsFolderName` directory if it exists: you can give a "\p" filename, but not a 0L !

`MADInitLibrary` returns an error code is initialization fails, other wise it returns `noErr`.

MADDisposeLibrary

This function shuts down the MADLibrary package.

```
void MADDisposeLibrary(void);
```

DESCRIPTION

The `MADDisposeLibrary` function is used to shut down the MADLibrary package. It should be called when the application is finished using MADLibrary to balance the original call to `MADInitLibrary`. At this point no further calls should be made to any MADLibrary routines until `MADInitLibrary` is called again.

MADGetBestDriver

This will check current Mac hardware and fill the `MADDriverSettings` structure with the best settings for current Mac. This function doesn't call any other functions of MADLibrary.

```
OSErr MADGetBestDriver( MADDriverSettings *driverParam);
```

`driverParam` A pointer to your driver settings:

`numChn` Active tracks, automatically updated when a new music is loaded (2-32).

`outPutBits` 8 or 16 bits

`outPutRate` Fixed number, by example: `rate44Khz`, `rate22050khz`, `rate11khz`, etc...

`outPutMode` `MonoOutPut`, `StereoOutPut` or `DeluxeStereoOutPut` ?

`driverMode` This should always be `SoundManagerDriver`

`antiAliasing` Use anti-aliasing filter?

`repeatMusic` When music will be over, repeat it?

`sysMemory` Allocate memory in application heap(false) or in system heap(true).

`Interpolation` Sound Interpolation active?

`MicroDelay` Micro delay active? Used only in `DeluxeStereoOutPut` `outPutMode`.

`MicroDelaySize` Micro delay duration (in ms, max 1 sec = 1000 ms)

`surround` Surround effect active?

DESCRIPTION

This will check current Mac hardware and fill the MADDriverSettings structure with the

best settings for current Mac. This function doesn't call any other functions of MADLibrary. The common usage is to use it just before MADCreateDriver function.

MADCreateDriver

Use This function will create a new music driver, allowing you to specify the settings to be used.

```
OSErr MADCreateDriver(MADDriverSettings *driverParam);
```

driverParam A pointer to your driver settings:

numChn Active tracks, automatically updated when a new music is loaded (2-32).

outPutBits 8 or 16 bits

outPutRate Fixed number, by example: rate44Khz, rate22050khz, rate11khz, etc...

outPutMode MonoOutPut, StereoOutPut or DeluxeStereoOutPut ?

driverMode This should always be SoundManagerDriver

antiAliasing Use anti-aliasing filter?

repeatMusic When music will be over, repeat it?

sysMemory Allocate memory in application heap(false) or in system heap(true).

DESCRIPTION

You have to call this function before calling loading and playing functions. The MADCreateDriver function is used to create a new music driver. It is strongly advised to launch this routine at the beginning of your program. See example.c to see parameters how you can perform an automatic set up of driverParam by using MADGetBestDriver. This functions allocates about 10kb. You have to call MADDisposeDriver if you want to call this function many times.

MADDisposeDriver

This function delete current music driver created with MADCreateDriver.

```
OSErr MADDisposeDriver(void);
```

DESCRIPTION

This function delete current music driver created with MADCreateDriver. You cannot use loading and playing function after this call (you have to call MADCreateDriver again.)

MADLoadMusicFile

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This will load a music file into memory. The music file has to be a 'MADH' file, created with PlayerPRO last version.

```
OSErr MADLoadMusicFile(Str255 name);
```

name Music file name in current directory.

DESCRIPTION

The `MADLoadMusicFile` function is used to load a PlayerPRO music file in memory. You have to set directory to the music file directory, otherwise it will return a file error.

This call is equivalent to `MADImportMusicFile('MADH', filename);`

MADLoadMusicRsrc

This will load a music resource into memory. The music resource has to be a 'MADH' file, created with PlayerPRO last version.

```
OSErr MADLoadMusicRsrc(OSType resType, short resID);
```

resType Resource type
resID Resource ID

DESCRIPTION

The `MADLoadMusicRsrc` function is used to load a PlayerPRO music resource in memory. You have to open your resource file before if resource is not in application resources, otherwise it will return a file error.

MADLoadMusicPtr

This will load a music pointer into memory. The music pointer has to be a 'MADH' file, created with PlayerPRO last version.

```
OSErr MADLoadMusicPtr(Ptr musicPtr);
```

musicPtr A pointer on music data

DESCRIPTION

The `MADLoadMusicPtr` function is used to load a PlayerPRO music pointer in memory. You can dispose your pointer after this call, MADLibrary will not access data on your pointer.

MADImportMusicFile

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This will load a music file into memory. This function will check if there is a 'Plug-ins' to load this music.

```
OSErr MADImportMusicFile(OSType type, Str255 name);
```

OSType File type : 'MADH', 'MADF', 'XM' , 'S3M', etc.

DESCRIPTION

The `MADImportMusicFile` function is used to load a PlayerPRO music file into memory. It will check if there are some Import/Export plugs available for this type of music: it checks application directory and the 'Plugs' directory if it exists.

MADDisposeMusic

This will dispose current music in memory after a load function.

```
OSErr MADDisposeMusic( void);
```

DESCRIPTION

The `MADDisposeMusic` function is used to dispose the current music in memory.

MADPlay

This will play current music in memory.

```
OSErr MADPlay( void);
```

DESCRIPTION

The `MADPlay` function is used to play the current music in memory.

MADStop

This will stop playing current music in memory.

```
OSErr MADStop( void);
```

DESCRIPTION

The `MADStop` function is used to stop playing the current music in memory.

MADReset

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This will reset reading position of current music in memory to startup position.

```
OSErr MADReset( void);
```

DESCRIPTION

The MADReset function is used to reset reading position of current music in memory to startup position.

MADPlaySndHandle

This will play a sound handle of 'snd ' type on a MADLibrary driver channel.

```
OSErr MADPlaySound( Handle sndRsrc, long channel, long note);
```

sndRsrc	Handle on a 'snd ' handle (see Inside Macintosh)
channel	Channel ID which will be used to play this sound
note	note ID: from 0 (C0) to 95 (B7) or 0xFF (play this sound at normal rate)

DESCRIPTION

The MADPlaySndHandle function is used to play a sound 'snd ' on a MADLibrary driver channel. WARNING: This function will change the sndRsrc handle, you will not be able to use it with normal SoundManager functions: you will have to reload it. (It will inverse amplitude of data).

MADPlaySoundData

This will play a sound data on a MADLibrary driver channel. If you want to play a snd resource, use MADPlaySndHandle function instead of this one.

```
OSErr MADPlaySound( Ptr soundData, long soundDataSize, long channel, long
                    note, long amp, long loopBegin, long loopSize, unsigned
                    long rate);
```

soundData	Pointer on raw data
soundDataSize	Sound size
channel	Channel ID which will be used to play this sound
note	note ID, 0xFF : play this sound at normal rate
amp	amplitude of this sound, 8 or 16
loopBegin	Loop begin
loopSize	Loop size

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rate

sample rate of this sound data

DESCRIPTION

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The `MADPlaySound` function is used to play a sound data pointer on a MADLibrary driver channel.