



**for sound applications in MATLAB®  
and GNU Octave**

ASIO Sound-Toolkit for MATLAB®  
<http://www.soundmexpro.de>

*Interface description  
Version 1.0*



Copyright Hörzentrum Oldenburg gGmbH, Marie-Curie-Str. 2,  
D-26129 Oldenburg, Germany  
<http://www.hz-ol.de>  
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SoundMexPro uses the libsndfile library written by Erik de Castro Lopo and others (<http://www.mega-nerd.com/libsndfile/>). It is published under the GNU Lesser General Public License (LGPL) either version 2.1 or optionally version 3 (see files libsndfile\_lgpl\_v2\_1.txt and libsndfile\_lgpl\_v3.txt shipped with SoundMexPro).



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# 1 Introduction

This manual describes how to use SoundMexPro without MATLAB® by calling the main DLL “SoundDllPro.dll” shipped with SoundMexPro directly. You will need a valid license (dongle) as well, when using “SoundDllPro.dll” directly.

# 2 Restrictions

Currently the following restrictions apply when using “SoundDllPro.dll”:

1. The main DLL of SoundMexPro “SoundDllPro.dll” is a 32-bit Windows-DLL and therefore it can only be loaded into / be called from 32-bit processes.
2. Most commands of SoundMexPro can be used directly, only the following commands are NOT supported: `loadmem`, `setbutton`, `recgetdata`, `showerror`, `getlasterror`.
3. Furthermore MATLAB script plugins are not supported (arguments 'plugin???' of command 'init' and commands 'plugingetdata' and 'pluginsetdata').

# 3 Interface

The DLL “SoundDllPro.dll” exports one function that can be loaded by the name “\_SoundDllProCommand” using `GetProcAddress`. The prototype of this function is

```
int cdecl _SoundDllProCommand(const char* lpszCommand,
                              char* lpszReturnValue,
                              int nLength
                              );
```

Parameter	Description
<code>lpszCommand</code>	command and arguments to be passed to DLL
<code>lpszReturnValue</code>	buffer for return values or error string respectively.
<code>nLength</code>	size of <code>lpszReturnValue</code> in bytes.

The function will return 1 if a command was successful or smaller values otherwise.

The syntax for calling SoundMexPro commands from SoundDllProLoader is differs the syntax used from MATLAB®, the command name and the arguments have to be passed within one zero terminated string in `lpszCommand`:

```
command=COMMANDNAME; ARGUMENT1=VALUE1; ARGUMENT2=VALUE2; ....
```

The command name must be stated after the keyword ‘command’ followed by pairs of arguments and values, e.g.



```
command=init;track=4;output=0,1,4,5;input=0,1
```

Command and arguments must be separated by ';', arguments and values are separated by '='. Multiple values in 'vectors' (e.g. for a list of output channels) must be separated by ','.

**Important note:** if you specify filenames containing blanks, you have to enclose the complete parameter (parameter name **and** value) in quotes, e.g.

```
command=loadfile;"filename=c:\program files\eurovision_a.wav";loopcount=1
```

The existing commands and their parameters are listed in the main manual (exception see above).

The source code for a simple command line application in C++ is shipped with SoundMexPro in the example subdirectory (file SoundMexProCmd.cpp)

