# Adding Right-Click Render Options (Windows XP only)

**Introduction**

When you install MAYA on your computer scene files automatically get a right-click option to **Render** the scene files (.ma and .mb files). This default Render option will render the scene according the settings set in the scene itself.
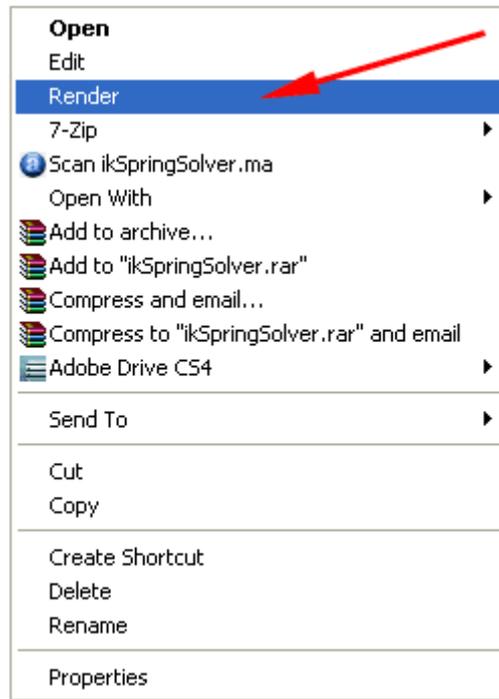


In this tutorial you will add your own right-click **Render** option for MAYA .ma files. You will then learn how to customise the right-click Render option with different render settings. For example you could create a high-res render option and a low-res option..

**Creating a Right-Click Render Option**

To start this tutorial, let's familiarise ourselves with the steps involved in adding your own right-click Render command. We'll call this new command **RenderII**. The outcome won't be any different from the existing right-click **Render** command, but later in the tutorial we'll show you how to customise **RenderII** with your own rendering options (different from the Render Settings in the scene).

1. Open a **Windows Explorer** window.
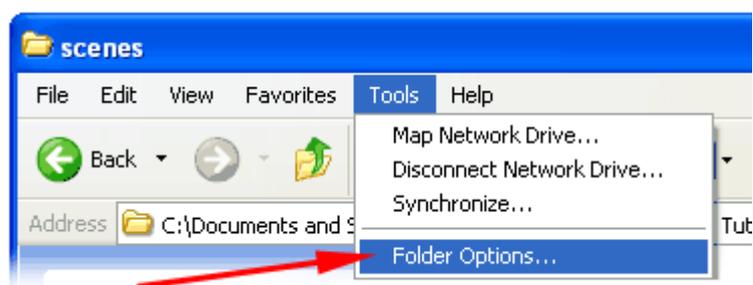
Tools > Folder Options > File Types

2. In the **Registered file types** window..
    select **MA Maya ASCII File** > Click **Advanced**
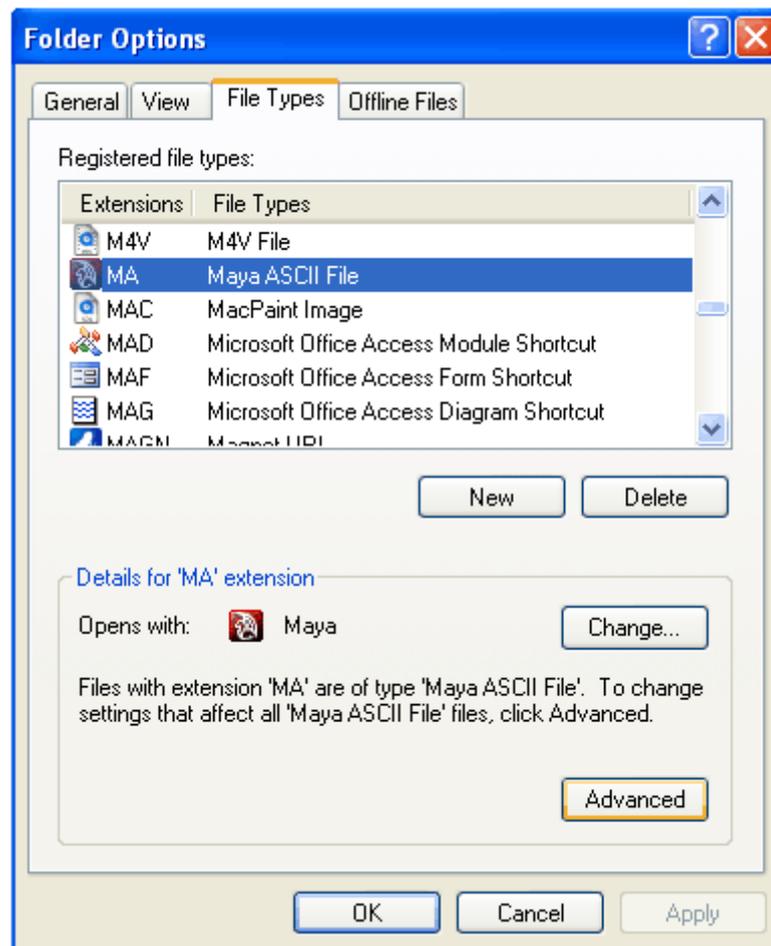
3. In the **Edit File Type** window add a new action by clicking **New**.
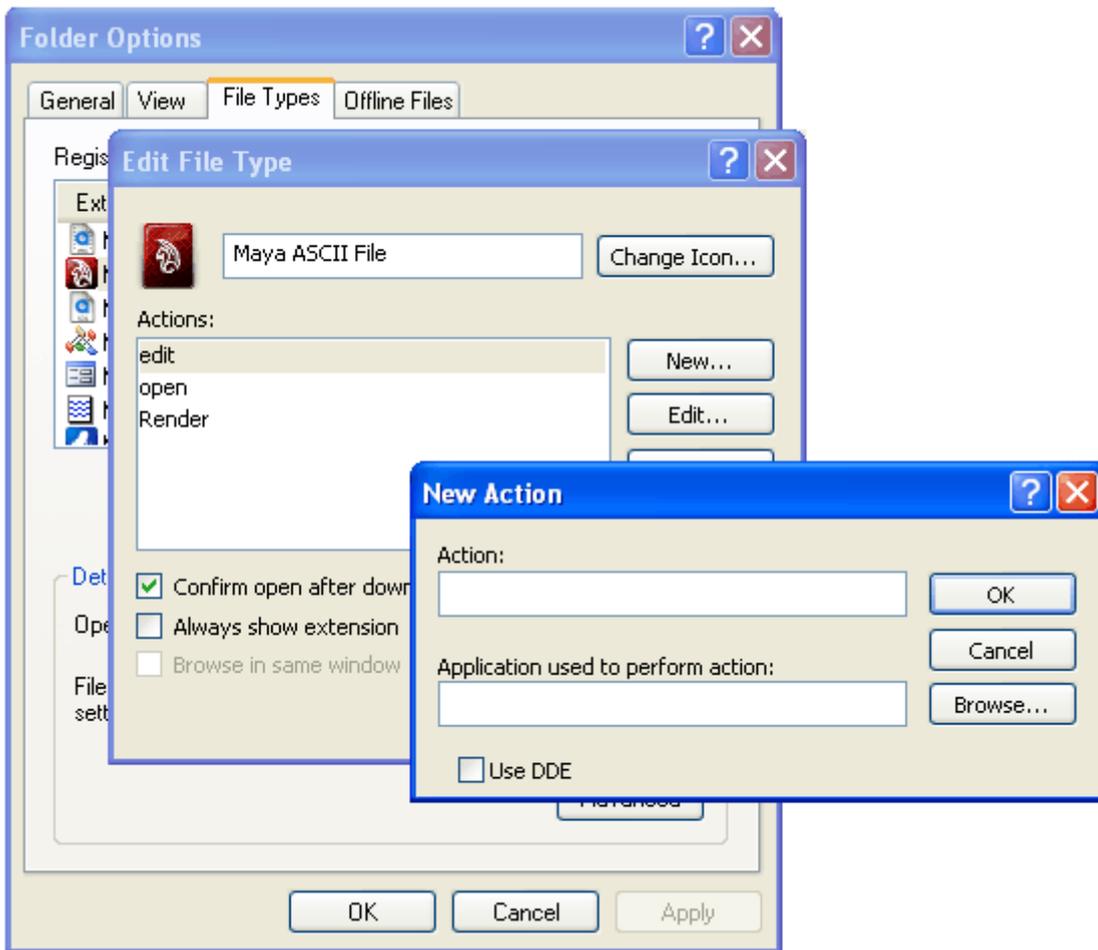


4. In the **Action** field, type **RenderII**.
5. In the **Application used to perform action:** use the **Browse**… button to locate the **MAYA Render Application**.

**Note** : The **MAYA Render application** is located in..

C:\Program Files\AutoDesk\*your_version_of_MAYA*\bin\render.exe

A quick way to locate the path, is to **right-click** on the **MAYA Desktop shortcut** and open the **Properties** window. Copy the **Target** path, but remember to change maya.exe to **render.exe**

6. Click **OK**.
7. Double click on the new **RenderII** Action to open the **Editing action for type** window.

Notice that Windows has added a **%1** to the end of the Application path. The **%1** means that the file name will be included in the command to render – However the **%1** needs to be within quotation marks (**"%1"**) as listed below.

**"**C:\Program Files\AutoDesk\*your_version_of_MAYA*\bin\render.exe**" "**%1**"
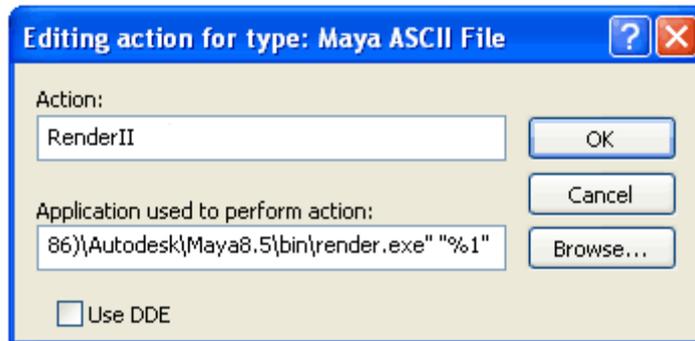
8. Click **OK** and **Close** the Folder Options window.
9. Right-click on the **MA Maya ASCII File,** and notice there is now a **RenderII** option. This will allow you to render the MAYA file without launching MAYA (saving you memory) with the current **Render Settings** as defined in the scene file. Images will be automatically rendered to the **images** folder in the Project folder.



**Note** : At this stage, the **RenderII** function will render the scene as defined in the scenes **Render Settings**.

To customise this function and add more options to **RenderII** follow the steps below.

1. Open a **Windows Explorer** window.
   Tools > Folder Options > File Types
2. In the **Registered file types** window..
   select **MA Maya ASCII File** > Click **Advanced**
3. In the **Edit File Type** window select **RenderII** and then click **Edit...**
4. In the **Action** field, change **RenderII** to **Render - Hardware**.
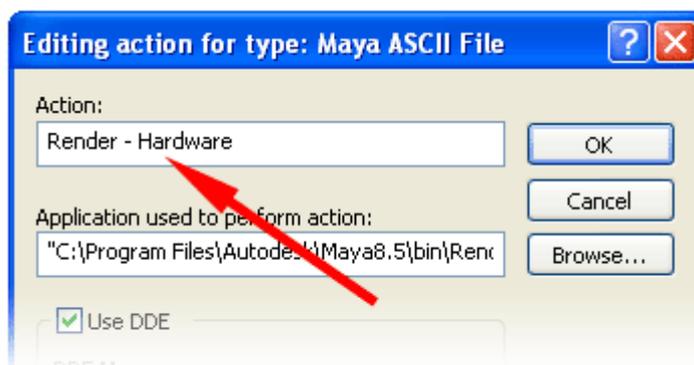
5. In the **Application used to perform action:** enter the path to the MAYA render.exe as listed below.

   **"**C:\Program Files\AutoDesk\*your_version_of_MAYA*\bin\render.exe**" "%1"**

**Note** : This allows you to render the MAYA scene using the default settings. You can add additional flags to customize the Action command.

**"**….Autodesk\ *your_version_of_MAYA* \bin\render.exe**" -r hw -s 1 -e 20 -of jpg "%1"**
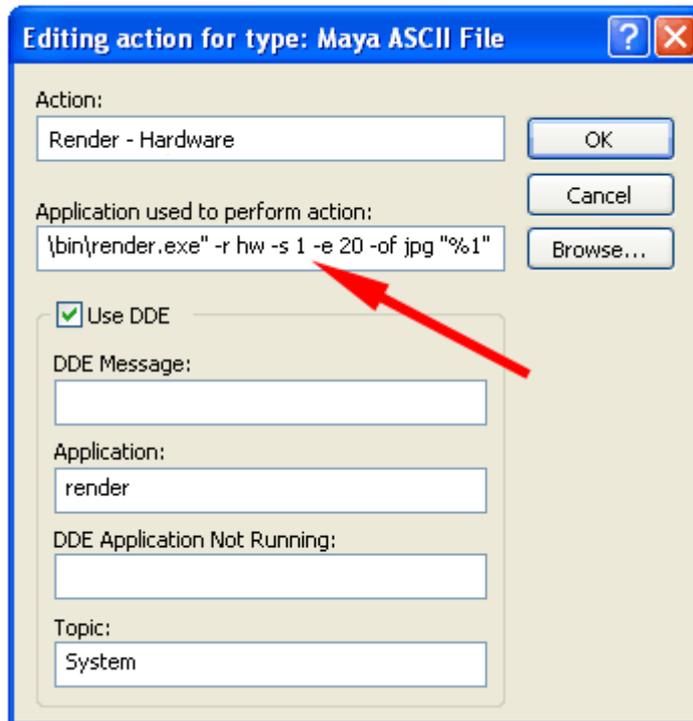


In the example above **-x** is called a **flag**, followed by a **value** or **option** (eg. **-r hw** or **–e 20**):

   **–r hw** : sets the rendering option to **hardware rendering**, which is a lot faster than software rendering.
   **–s 10** : sets the **start frame** to **10.**
   **–e 50** : sets te **end frame** to **50**.

**Note** : Flags are not placed within quotation marks. Only the path to the render application and the file name (%1) need quotation marks.

**Note** : To cancel the render, just close the **Command Prompt** window at any time during the rendering.

**Deleting Right-Click Render Options**

To **delete** the right-click option **RenderII** follow the steps below.

1.  Open a **Windows Explorer** window.
    Tools > Folder Options > File Types
2.  In the **Registered file types** window..
    select **MA Maya ASCII File** > Click **Advanced**
3.  In the **Edit File Type** window select **RenderII** and then click **Remove.**
4.  In the Confirm dialogue box, click **Yes.**

**Render Options**
As discussed earlier in this tutorial, it your render will be much fast is rendered without launching MAYA. This can be accomplished by writing a Right-Click function as outlined above. It also be accomplished by launching the **Render** application using a **Command Prompt**.

The advantage of launching the **Render** application from the **Command Prompt** is not only the render speed, but also the fact that you can include **flags** and values that will over-write the values defined in your scenes **Render Settings**.

To list the **render** application options, launch a **Command Prompt** window.

Start > Accessories > Command Prompt

In the **Command Prompt** window type **render -?**
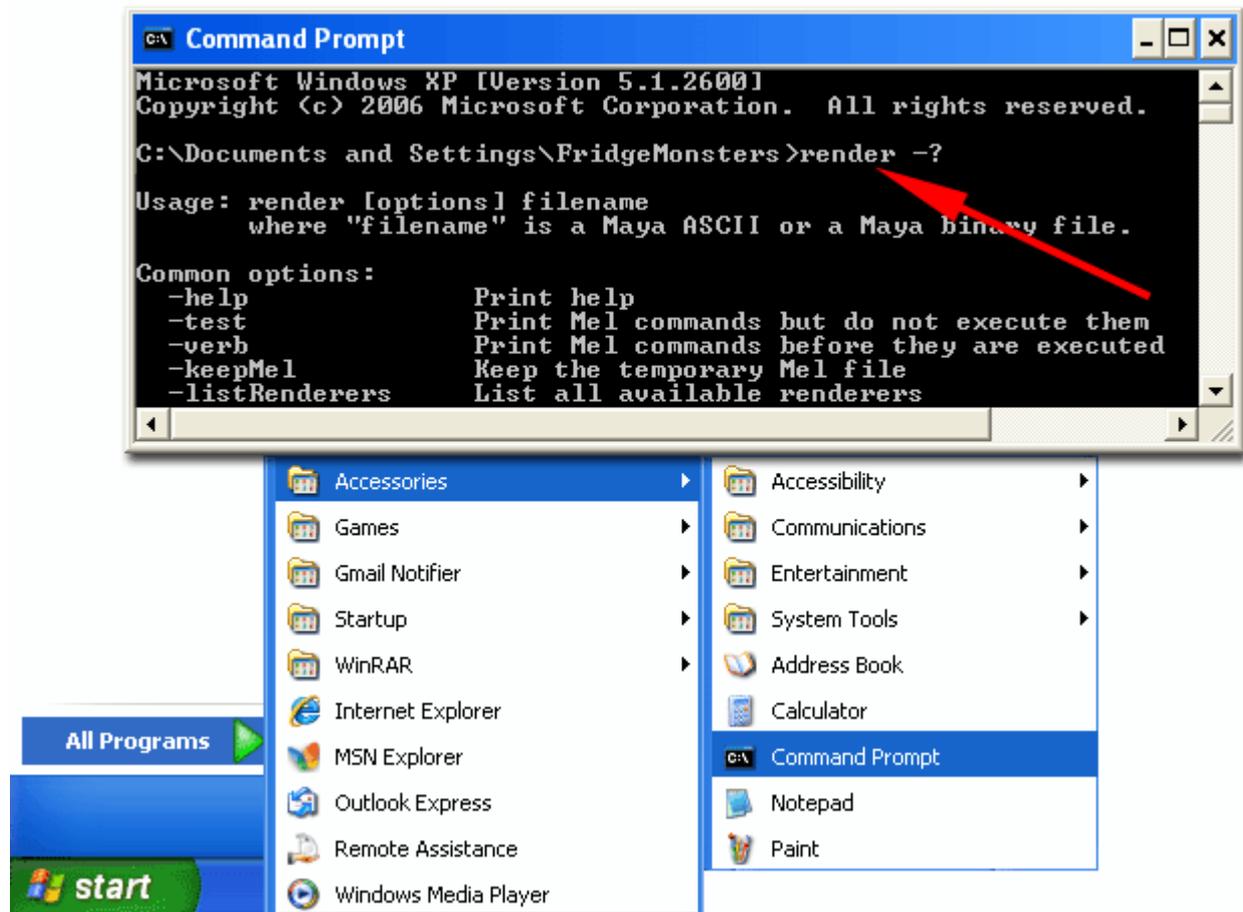


The render options are listed in categories (Common Options, General purpose flags, Anti-aliasing quality, Raytracing quality, Motion Blur etc).

One of the most useful commands is **render –listRenderers**, which lists all the renderers available on your system (software, hardware, mental ray, vector etc) . See the diagram below.
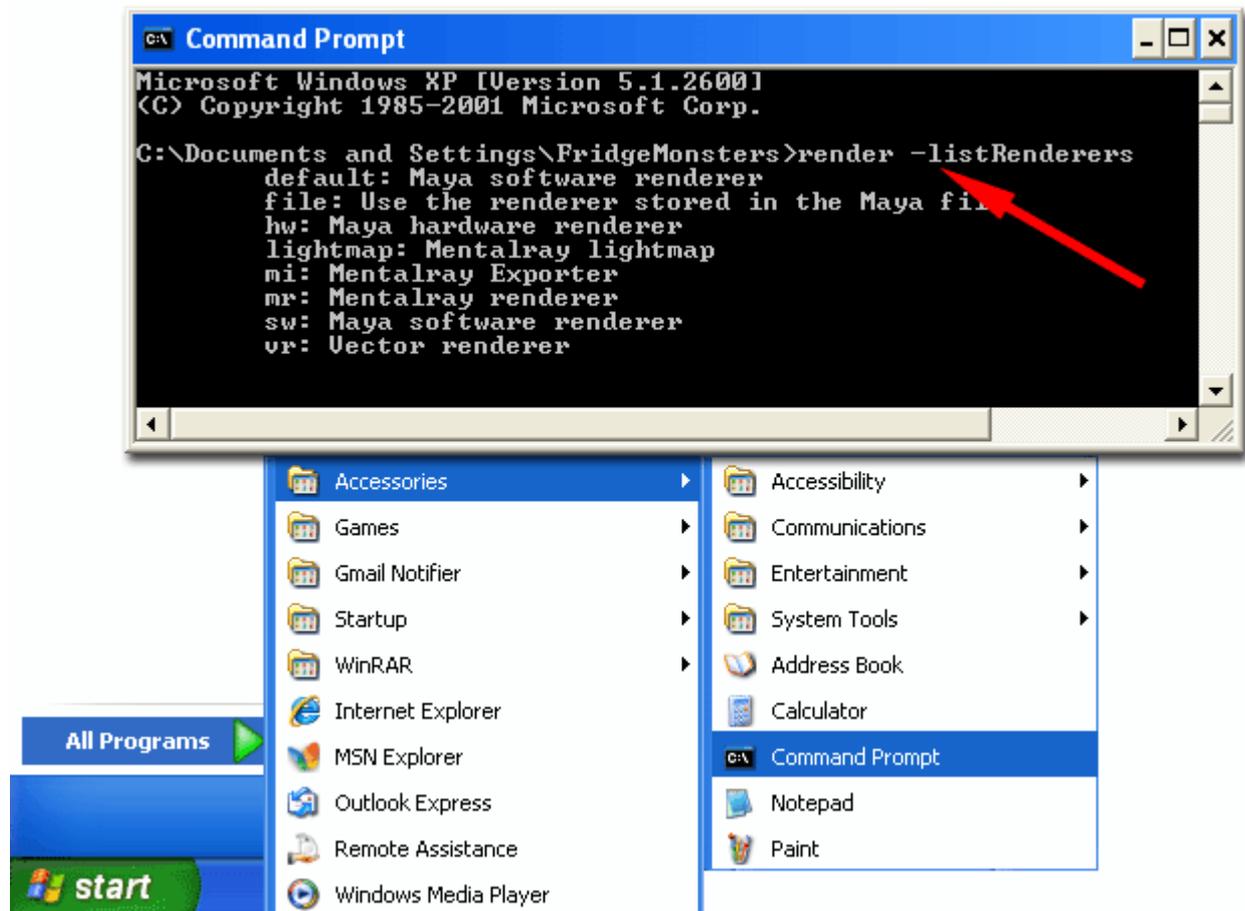


An alternative method to list the render settings is to launch MAYA Help (F1) and in the **Search** field type **command line options**.

**Note** : To access MAYA Help (**F1**) you need to be running MAYA. A good tip is to bookmark MAYA help in your browser so you can access it directly in future, without launching MAYA.

**Very Important Note** : When you launch the **render** application in a **Command Prompt** window it will automatically use the settings defined in the scenes **Render Settings** unless you explicitly overwrite them using the render flags.

In other words, if the **Render Settings** in the scene are defined to render Tiff files at 640 * 480, the render command will follow these settings unless you include the flags for output file (-of), the X resolution (-x) and Y resolution (-y).

To make life easier the table below lists some of the more common render flags and some examples..

# Rendering Flags and Options

## General Purpose Rendering Flags

| | |
|---|---|
| -r *<string>* | Specify which Renderer to use<br>(see Query Strings below to list all available renderers)<br>eg. *–r hw* |
| -r mr | Mental Ray renderer<br>Note : The Mental Ray render will error out if the Mental Ray plug-in is not installed and enabled. |
| -s # (*float*) | Start Frame |
| -e # (*float*) | End Frame |
| -x # (*int*) | X resolution |
| -y # (*int*) | Y resolution |
| -percentRes # (*float*) | Render at percentage of –x and –y resolution (above) |
| -b # (*float*) | By frame (step value) |
| -rfs # (*int*) | Specifies what number to start image sequence at. |
| -rfb # (*int*) | Specifies what increment to renumber the image sequence at. |
| -n 0 | Use all available processors for rendering |
| -cam *<camera name>* | Render from specific camera<br>eg. *-cam camera1* |
| -im *<image_name>* | Image Name (this won't affect the file extension) |
| -of *<string>* | Output Format of images.<br>eg. *jpg, png, tiff, targa, MAYA IFF, MAYA 16* |
| -b # (*float*) | By frame (or step) for animation sequence |
| -pad # (*int*) | Number of digits in the output file frame number |
| -rd *<drive>*:\*<foldername>* | Render Directory : Overwrites<br>eg. *-rd c:\maya\project\images* |
| -fnc (*int*) | File Name Convention.<br>*<1>* name<br>*<2>* name.ext<br>*<3>* name.#.ext<br>*<4>* name.ext.#<br>*<5>* name.#<br>*<6>* name#.ext<br>*<7>* name_#.ext |
| -mb *<Boolean>* | Motion Blur on/off.<br>eg. *–mb 1* or *–mb true* |

## Software Renderer Flags

| | |
|---|---|
| -r sw | Software renderer |
| -eaa (*int*) | Enable AntiAlias<br>(numbered from bottom to top of list)<br>*<0>* Highest Quality<br>*<1>* High Quality<br>*<2>* Medium Quality<br>*<3>* Low Quality |

## Hardware Renderer Flags

| | |
|---|---|
| -r hw | Hardware renderer |
| -ehl (*Boolean*) | Enable high quality lighting |

| | |
|---|---|
| -tsc (*Boolean*) | Transparent shadow maps |
| -ctr # (*int*) | Colour texture Resolution |
| -btr # (*int*) | bump texture Resolution |
| | |

| **Query Strings** | |
|---|---|
| render -? | Lists all render flags |
| render -listRenderers | Lists all renderers available on your system |
| render -help -r mr | For more information on using batch rendering with Mental Ray |
| render -help -r sw | For more information on using batch rendering with Software Render |

## Examples

**render −r sw −s 1 −e 200 −im new_image −of jpg −cam persp**
**C:\users\fmonsters\desktop\proj01\scenes\scene02.ma**

The example above uses the Software Renderer to render 200 frames (frame 1 to frame 200) from scene02.ma. The output files are jpeg, which will be named *new_image*. The file naming convention and anti-aliasing are not defined; therefore the render will follow the values defined in the scenes Render Settings.

**render −r sw −s 3 −e 23 −x 320 −y 240 −eaa 0 −fnc 6 −pad 2 −of png**
**−im test  C:\users\fmonsters\desktop\proj01\scenes\scene11.ma**

The example above uses the Software Renderer to render 21 frames (frame 3 to frame 23) from scene11.ma. The output files are png, which will be named *test*. The output files will be 320 * 240 pixels in resolution. The files will be numbered with 2 digits (padding). The file naming convention is 6, therefore the files will be named *name##.ext*. The anti-aliasing value is set to 0, which is highest quality.

**render −r mr −s 101 −e 200 −percentRes 50 −im sht_7 −of jpg −eaa 2 −pad 3**
**−fnc 6  C:\users\fmonsters\desktop\proj01\scenes\final05.ma**

The example above uses the Mental Ray Renderer to render 100 frames (frame 101 to frame 200) from final05.ma. The output files are jpeg, which will be named *sht_7*. The output files will be 50% of the resolution defined in the scenes Render Settings. The files will be numbered with 3 digits (padding).  The file naming convention is 6, therefore the files will be named *name###.ext*. The anti-aliasing value is set to 2, which is medium quality.

**render −r hw −s 200 −e 249 −x 640 −y 480 −percentRes 25 −ehl true**
**C:\users\fmonsters\desktop\proj01\scenes\sc09.ma**

The example above uses the Hardware Renderer to render 50 frames (frame 200 to frame 249) from sc09.ma. The output files will be 160 * 120 pixels (25% of 640 * 480). The scene will be rendered with high quality lighting - depending on your hardware. The output file (format) and file naming convention are not defined and therefore will follow the values defined in the scenes Render Settings.

The table below lists some of the more common Command Prompt commands.

| ⬛ **Command Prompt** | |
|---|---|
| up arrow (keyboard) | cycle backward through last commands |
| down arrow (keyboard) | cycle forward through last commands |
| * | wildcard : A replaces characters in a text string.<br><br>*eg.* ***\*.jpg*** : any file ending with *.jpg*<br>    ***image.\**** : any image starting with *image*<br>    ***del \*.jpg*** : deletes all jpgs in the directory |
| cd *[drive:][path]* | change directory to *[drive:][path]* |
| cd ..\.. | **cd ..** : a single directory level up<br>**cd ..\..** : two directory levels up |
| cd \ | change directory to root of current drive.<br><br>*eg. If you're on the C drive and type* **cd \** *you'll be taken to root level of the C drive >  C:\* |
| dir | list current directory |
| help | **help** : lists all DOS commands<br>**help *command*** : lists help for a particular command<br><br>*eg.* **help copy** *will list* |
| move *[/y] [drive:][path]filename1 filename2* | moves files from 1st path to 2nd path.<br>[**/y**] overwrite confirmation prompt (optional).<br><br>*eg.* ***move /y old\*.jpg ..\tmp_folder***<br>    ***move ..\tmp_folder\old\*jpg*** |
| copy *[/y] [drive:][path]filename1 filename2* | copy files from 1st path to 2nd path.<br>[**/y**] overwrite confirmation prompt (optional).<br><br>*eg.* ***copy ..\tmp_folder\old\*.jpg new\*.jpg*** |
| del *[filename]* | delete one or more files<br><br>*eg.* ***del image001.jpg***<br>    ***del image\*.jpg***<br>    ***del \*.\**** |
| rename *[drive:][path]filename1 filename2* | rename *filename1* to *filename2*<br><br>*eg.* **rename *oldfilename\*.jpg newfilename\*.jpg*** |
| cls | clear the command prompt screen |
| mkdir *[directory name]* | create a new directory |
| rmdir *[/s] [/q] [drive:][path]* | remove a directory<br>[**/s**] removes all subdirectories and file including the current directory itself.<br>[**/q**] overwrite confirmation prompt if using [/s] option (optional). |
| ver | display the version of Windows |
| xcopy *[/s ]* | copy directories and subdirectories, except empty ones. |
| xcopy *[/e]* | copy directories and subdirectories, including empty ones. |