

Reflectance channel

Note: A great thanks to all the Maxon moderators at Plugincafe.

The Reflectance channels (RC), new since R16, is a bit more complicated than a normal channel.

Here a quick introduction how to get and set reflectance channels options.

Because the RC uses Reflectance Layers, GetAllReflectionShaders() is very useful. You can use it to iterate over all the Reflectance Layers (RL).

The first example uses GetAllReflectionShaders() to iterate over the RL's. It will get you the c4d.ReflectionLayer object for each layer. Then you can use GetDataID() to retrieve the base ID of all parameters for this RL and simply add the parameter ID you want to this base ID.

Note: See c4d_reflection.h for all RC related constants.

```
import c4d

def main():
    mat = doc.SearchMaterial("MatReflectance")
    cntLayer = mat.GetReflectionLayerCount()

    for i in xrange(0, cntLayer):
        layer = mat.GetReflectionLayerIndex(i)

        #Get reflection strength
        strength = mat[layer.GetDataID() + c4d.REFLECTION_LAYER_MAIN_VALUE_REFLECTION]
        print "refl strength: ", strength

        textureFile = mat[layer.GetDataID() + c4d.REFLECTION_LAYER_COLOR_TEXTURE]
        print "Texture filename : ", textureFile [c4d.BITMAPSHADER_FILENAME]

        #set reflection strength 1% higher
        mat[layer.GetDataID() + c4d.REFLECTION_LAYER_MAIN_VALUE_REFLECTION] = strength + 0.01

    c4d.EventAdd()

if __name__ == '__main__':
    main()
```

The second example toggles a RL on / off.
It uses GetFlags() / SetFlags() to get / set the state of the RL.

```
import c4d
from c4d import gui

def main():

    mat = doc.GetActiveMaterial()

    layer = mat.GetReflectionLayerIndex(0) # Get the top-most layer

    flags = layer.GetFlags()
    active_toggled_flags = flags ^ c4d.REFLECTION_FLAG_ACTIVE
    layer.SetFlags(active_toggled_flags)

    c4d.EventAdd()

if __name__ == '__main__':
    main()
```

