

# NEON86

## LEGEND

color: Color(r,g,b,a=255)  
vec: Vector3 / Vector4  
mat: Matrix  
tex: Material / RTT / texture handle  
rtt: Render Target  
texHandle: texture handle  
eye,at,up: Vector3  
key: "a" or KEY\_SPACE etc.  
su,tv: UV coordinates (floats)  
nx,ny,nz: normals

## EVENTS

\_init()  
\_shutdown()  
\_update(dt)  
\_render()  
\_render2D()

## BASE

ShowMessage(caption, text)  
LogString(text)  
ExitGame()  
RestartGame()  
IsDebugMode()  
SetFPS(fps)  
doFile(scriptName)  
loadFile(fileName)  
getTime()

## MATH

Color(r,g,b,a=255)  
ColorLinear(r,g,b,a=1.0)  
str2vec(text)  
vec2str(vec)

## MATRIX

Matrix()  
translate(x,y,z)  
rotate(x,y,z)  
scale(x,y,z)  
inverse()  
shadow(PlaneVec,lightVec)  
reflect(PlaneVec)  
lookAt(eye,at,up)  
m(row,col)  
row(index)  
col(index)  
bind(kind)

## VECTOR

Vector3(x,y,z)  
Vector4(x,y,z,w)  
cross(vec)  
get()  
color()  
mag()  
magSq()  
len(b,t)  
neg()  
normalize()  
n(index,val)  
x(),y(),z(),w()

## RENDERER

ClearScene(color)  
CameraPerspective(fov,near,far,flipLH)  
CameraOrthographic(w,h,near,far,flipLH)  
BindTexture(tex)  
GetResolution()  
GetMatrix(kind)  
IsFocused()  
RenderState(kind,state)  
ToggleWireframe(state)

# NEON86

```
SetFog(color.kind,start,end)
SetFog(color.kind,density)
ClearFog()
SamplerState(stage.kind,state)
EnableLighting(state)
AmbientColor(color)
ClearTarget()
DrawBox(mat,dims,color)
DrawQuad(x1,x2,y1,y2,color,flipY)
CullMode(mode)
FillScreen(color,flipY)
RegisterFontFile(path)
```

## SCENE

```
Scene(modelName,loadMaterials=true,optimizeMesh=false)
draw(mat)
drawSubset(index,mat)
loadModel(modelName,loadMaterials=true,optimizeMesh=false)
loadScene(modelName,loadMaterials=true,optimizeMesh=false)
getMeshes()
getLights()
getFlattenNodes()
getTargets()
findMesh(name)
findLight(name)
findTarget(name)
getRootNode()
```

## NODE

```
Node()
clone()
getName()
setName(name)
getTransform()
setTransform(mat)
getFinalTransform()
addNode(node)
addMesh(mesh)
```

```
draw(mat)
drawSubset(index, mat)
getMeshes()
getMeshParts()
getLights()
getTargets()
getNodes()
findMesh(name)
findLight(name)
findTarget(name)
findNode(name)
getMeta(name)
```

## MESH

```
Mesh()
addFGroup(part)
addPart(part)
draw(mat)
clone()
getFGroups()
getParts()
clear()
setName(name)
getName()
setMaterial(stage.tex)
getMaterial(stage)
```

## PART / FACEGROUP

```
FaceGroup()
clone()
addVertex(vert)
addIndex(index)
addTriangle(a,b,c)
setMaterial(stage.mat)
getMaterial(stage)
getMaterialStage()
draw(mat)
```

# NEON86

```
build()
calcNormals()
clear()
getVertices()
getIndices()
```

## MATERIAL

```
Material()
Material(textureName)
Material(w,h)
setSamplerState(sampler,state)
getSamplerState(sampler)
loadFile(textureName)
res()
data()
getHandle(slot)
setHandle(slot,texHandle)
setDiffuse(color)
setAmbient(color)
setSpecular(color)
setEmission(color)
setPower(val)
setOpacity(val)
alphaIsTransparency(state)
setShaded(state)
```

## VERTEX

```
Vertex(x,y,z,s,u,t,color,nx,ny,nz)
get()
```

## FONT

```
Font(fontFamily,size,boldness,italic)
drawText(color,text,x,y,w=0,h=0)
```

## RENDER TARGET

```
RenderTarget()
RenderTarget(w,h)
RenderTarget(w,h,hasDepth=false)
getHandle()
bind()
```

## EFFECT

```
Effect(effectPath)
begin(technique)
end().flush()
beginPass(pass)
endPass()
commit()
setBool(name,val)
setFloat(name,val)
setMatrix(name,mat)
setVector3(name,vec)
setVector4(name,vec)
setInteger(name,val)
setTexture(name,texHandle)
setTexture(name,slot,mat)
setTexture(name,rtt)
```

## LIGHT

```
Light(slot)
enable(state,slot)
setPosition(vec)
setDirection(vec)
setDiffuse(color)
setSpecular(color)
setAmbient(color)
setRange(val)
setFalloff(val)
setAttenuation(a,b,c)
setInnerAngle(val)
setOuterAngle(val)
setType(kind)
setSlot(slot)
getType()
getSlot()
```

## INPUT

```
GetKey(key)
GetKeyDown(key)
```

# NEON86

GetKeyUp(key)  
GetMouseXY()  
GetMouseDelta()  
SetMouseXY(x,y)  
GetMouse(button)  
GetMouseDown(button)  
GetMouseUp(button)  
IsCursorVisible()  
ShowCursor(state)  
GetCursorMode()  
SetCursorMode(mode)  
ShowCursor(state)

## GLOBAL S

### RENDERER

PRIMITIVEKIND\_POINTLIST  
PRIMITIVEKIND\_LINELIST  
PRIMITIVEKIND\_LINESTRIP  
PRIMITIVEKIND\_TRIANGLELIST  
PRIMITIVEKIND\_TRIANGLESTRIP  
PRIMITIVEKIND\_TRIANGLEFAN

MATRIXKIND\_VIEW  
MATRIXKIND\_PROJECTION  
MATRIXKIND\_TEXTURE0  
MATRIXKIND\_TEXTURE1  
MATRIXKIND\_TEXTURE2  
MATRIXKIND\_TEXTURE3  
MATRIXKIND\_TEXTURE4  
MATRIXKIND\_TEXTURE5  
MATRIXKIND\_TEXTURE6  
MATRIXKIND\_TEXTURE7  
MATRIXKIND\_WORLD

CLEARFLAG\_COLOR  
CLEARFLAG\_DEPTH  
CLEARFLAG\_STENCIL

CLEARFLAG\_STANDARD

TEXTURESLOT\_ALBEDO  
TEXTURESLOT\_SPECULAR  
TEXTURESLOT\_NORMAL  
TEXTURESLOT\_DISPLACE  
TEXTURESLOT\_USER\_END  
MAX\_TEXTURE\_SLOTS

FOGKIND\_NONE  
FOGKIND\_EXP  
FOGKIND\_EXP2  
FOGKIND\_LINEAR

WORLD  
VIEW  
PROJ

CULLKIND\_NONE  
CULLKIND\_CW  
CULLKIND\_CCW

LIGHTKIND\_DIRECTIONAL  
LIGHTKIND\_POINT  
LIGHTKIND\_SPOT

RENDERSTATE\_ZENABLE  
RENDERSTATE\_FILLMODE  
RENDERSTATE\_SHADEMODE  
RENDERSTATE\_ZWRITEENABLE  
RENDERSTATE\_ALPHATESTENABLE  
RENDERSTATE\_LASTPIXEL  
RENDERSTATE\_SRCBLEND  
RENDERSTATE\_DESTBLEND  
RENDERSTATE\_CULLMODE  
RENDERSTATE\_ZFUNC  
RENDERSTATE\_ALPHAREF

RENDERSTATE\_ALPHAFUNC  
RENDERSTATE\_DITHERENABLE  
RENDERSTATE\_ALPHABLENDENABLE  
RENDERSTATE\_FOGENABLE  
RENDERSTATE\_SPECULARENABLE  
RENDERSTATE\_FOGCOLOR  
RENDERSTATE\_FOGTABLEMODE  
RENDERSTATE\_FOGSTART  
RENDERSTATE\_FOGEND  
RENDERSTATE\_FOGDENSITY  
RENDERSTATE\_RANGEFOGENABLE  
RENDERSTATE\_STENCILENABLE  
RENDERSTATE\_STENCILFAIL  
RENDERSTATE\_STENCILZFAIL  
RENDERSTATE\_STENCILPASS  
RENDERSTATE\_STENCILFUNC  
RENDERSTATE\_STENCILREF  
RENDERSTATE\_STENCILMASK  
RENDERSTATE\_STENCILWRITEMASK  
RENDERSTATE\_TEXTUREFACTOR  
RENDERSTATE\_WRAP0  
RENDERSTATE\_WRAP1  
RENDERSTATE\_WRAP2  
RENDERSTATE\_WRAP3  
RENDERSTATE\_WRAP4  
RENDERSTATE\_WRAP5  
RENDERSTATE\_WRAP6  
RENDERSTATE\_WRAP7  
RENDERSTATE\_CLIPPING  
RENDERSTATE\_LIGHTING  
RENDERSTATE\_AMBIENT  
RENDERSTATE\_FOGVERTEXMODE  
RENDERSTATE\_COLORVERTEX  
RENDERSTATE\_LOCALVIEWER  
RENDERSTATE\_NORMALIZENORMALS  
RENDERSTATE\_DIFFUSEMATERIALSOURCE  
RENDERSTATE\_SPECULARMATERIALSOURCE

RENDERSTATE\_AMBIENTMATERIALSOURCE  
RENDERSTATE\_EMISSIVEMATERIALSOURCE  
RENDERSTATE\_VERTEXBLEND  
RENDERSTATE\_CLIPPLANEENABLE  
RENDERSTATE\_POINTSIZE  
RENDERSTATE\_POINTSIZE\_MIN  
RENDERSTATE\_POINTSPRITEENABLE  
RENDERSTATE\_POINTSCALEENABLE  
RENDERSTATE\_POINTSCALE\_A  
RENDERSTATE\_POINTSCALE\_B  
RENDERSTATE\_POINTSCALE\_C  
RENDERSTATE\_MULTISAMPLEANTIALIAS  
RENDERSTATE\_MULTISAMPLEMASK  
RENDERSTATE\_PATCHEDGESTYLE  
RENDERSTATE\_DEBUGMONITORTOKEN  
RENDERSTATE\_POINTSIZE\_MAX  
RENDERSTATE\_INDEXEDVERTEXBLENDENABLE  
RENDERSTATE\_COLORWRITEENABLE  
RENDERSTATE\_TWEENFACTOR  
RENDERSTATE\_BLENDOP  
RENDERSTATE\_NORMALDEGREE  
RENDERSTATE\_SCISSORTESTENABLE  
RENDERSTATE\_SLOPESCALEDDEPTHBIAS  
RENDERSTATE\_ANTIALIASEDLINEENABLE  
RENDERSTATE\_MINTESSELLATIONLEVEL  
RENDERSTATE\_MAXTESSELLATIONLEVEL  
RENDERSTATE\_ADAPTIVETESS\_X  
RENDERSTATE\_ADAPTIVETESS\_Y  
RENDERSTATE\_ADAPTIVETESS\_Z  
RENDERSTATE\_ADAPTIVETESS\_W  
RENDERSTATE\_ENABLEADAPTIVETESSELLATION  
RENDERSTATE\_TWOSIDEDSTENCILMODE  
RENDERSTATE\_CCW\_STENCILFAIL  
RENDERSTATE\_CCW\_STENCILZFAIL  
RENDERSTATE\_CCW\_STENCILPASS  
RENDERSTATE\_CCW\_STENCILFUNC  
RENDERSTATE\_COLORWRITEENABLE1

RENDERSTATE\_COLORWRITEENABLE2  
RENDERSTATE\_COLORWRITEENABLE3  
RENDERSTATE\_BLENDFACTOR  
RENDERSTATE\_SRGBWRITEENABLE  
RENDERSTATE\_DEPTHBIAS  
RENDERSTATE\_WRAP8  
RENDERSTATE\_WRAP9  
RENDERSTATE\_WRAP10  
RENDERSTATE\_WRAP11  
RENDERSTATE\_WRAP12  
RENDERSTATE\_WRAP13  
RENDERSTATE\_WRAP14  
RENDERSTATE\_WRAP15  
RENDERSTATE\_SEPARATEALPHABLENDENABLE  
RENDERSTATE\_SRCBLENDALPHA  
RENDERSTATE\_DESTBLENDALPHA  
RENDERSTATE\_BLENDOPALPHA

SAMPLERSTATE\_ADDRESSU  
SAMPLERSTATE\_ADDRESSV  
SAMPLERSTATE\_ADDRESSW  
SAMPLERSTATE\_BORDERCOLOR  
SAMPLERSTATE\_MAGFILTER  
SAMPLERSTATE\_MINFILTER  
SAMPLERSTATE\_MIPFILTER  
SAMPLERSTATE\_MIPMAPLODBIAS  
SAMPLERSTATE\_MAXMIPLEVEL  
SAMPLERSTATE\_MAXANISOTROPY  
SAMPLERSTATE\_SRGBTEXTURE  
SAMPLERSTATE\_ELEMENTINDEX  
SAMPLERSTATE\_DMAPOFFSET

TEXTF\_NONE  
TEXTF\_POINT  
TEXTF\_LINEAR  
TEXTF\_ANISOTROPIC  
TEXTF\_PYRAMIDALQUAD

TEXTF\_GAUSSIANQUAD

TEXTA\_WRAP  
TEXTA\_MIRROR  
TEXTA\_CLAMP  
TEXTA\_BORDER  
TEXTA\_MIRRORONCE

## INPUT

MOUSE\_LEFT\_BUTTON  
MOUSE\_MIDDLE\_BUTTON  
MOUSE\_RIGHT\_BUTTON  
MOUSE\_WHEEL\_UP  
MOUSE\_WHEEL\_DOWN

CURSORMODE\_DEFAULT  
CURSORMODE\_CENTERED  
CURSORMODE\_WRAPPED

KEY\_LBUTTON  
KEY\_RBUTTON  
KEY\_CANCEL  
KEY\_MBUTTON  
KEY\_XBUTTON1  
KEY\_XBUTTON2  
KEY\_BACK  
KEY\_TAB  
KEY\_CLEAR  
KEY\_RETURN  
KEY\_SHIFT  
KEY\_CONTROL  
KEY\_MENU  
KEY\_PAUSE  
KEY\_CAPITAL  
KEY\_KANA  
KEY\_HANGEUL  
KEY\_HANGUL  
KEY\_JUNJA

KEY_FINAL	KEY_NUMPAD9
KEY_HANJA	KEY_MULTIPLY
KEY_KANJI	KEY_ADD
KEY_ESCAPE	KEY_SEPARATOR
KEY_CONVERT	KEY_SUBTRACT
KEY_NONCONVERT	KEY_DECIMAL
KEY_ACCEPT	KEY_DIVIDE
KEY_MODECHANGE	KEY_F1
KEY_SPACE	KEY_F2
KEY_PRIOR	KEY_F3
KEY_NEXT	KEY_F4
KEY_END	KEY_F5
KEY_HOME	KEY_F6
KEY_LEFT	KEY_F7
KEY_UP	KEY_F8
KEY_RIGHT	KEY_F9
KEY_DOWN	KEY_F10
KEY_SELECT	KEY_F11
KEY_PRINT	KEY_F12
KEY_EXECUTE	KEY_F13
KEY_SNAPSHOT	KEY_F14
KEY_INSERT	KEY_F15
KEY_DELETE	KEY_F16
KEY_HELP	KEY_F17
KEY_LWIN	KEY_F18
KEY_RWIN	KEY_F19
KEY_APPS	KEY_F20
KEY_SLEEP	KEY_F21
KEY_NUMPAD0	KEY_F22
KEY_NUMPAD1	KEY_F23
KEY_NUMPAD2	KEY_F24
KEY_NUMPAD3	KEY_NAVIGATION_VIEW
KEY_NUMPAD4	KEY_NAVIGATION_MENU
KEY_NUMPAD5	KEY_NAVIGATION_UP
KEY_NUMPAD6	KEY_NAVIGATION_DOWN
KEY_NUMPAD7	KEY_NAVIGATION_LEFT
KEY_NUMPAD8	KEY_NAVIGATION_RIGHT

KEY\_NAVIGATION\_ACCEPT  
KEY\_NAVIGATION\_CANCEL  
KEY\_NUMLOCK  
KEY\_SCROLL  
KEY\_OEM\_NEC\_EQUAL  
KEY\_OEM\_FJ\_JISHO  
KEY\_OEM\_FJ\_MASSHOU  
KEY\_OEM\_FJ\_TOUROKU  
KEY\_OEM\_FJ\_LOYA  
KEY\_OEM\_FJ\_ROYA  
KEY\_LSHIFT  
KEY\_RSHIFT  
KEY\_LCONTROL  
KEY\_RCONTROL  
KEY\_LMENU  
KEY\_RMENU  
KEY\_BROWSER\_BACK  
KEY\_BROWSER\_FORWARD  
KEY\_BROWSER\_REFRESH  
KEY\_BROWSER\_STOP  
KEY\_BROWSER\_SEARCH  
KEY\_BROWSER\_FAVORITES  
KEY\_BROWSER\_HOME  
KEY\_VOLUME\_MUTE  
KEY\_VOLUME\_DOWN  
KEY\_VOLUME\_UP  
KEY\_MEDIA\_NEXT\_TRACK  
KEY\_MEDIA\_PREV\_TRACK  
KEY\_MEDIA\_STOP  
KEY\_MEDIA\_PLAY\_PAUSE  
KEY\_LAUNCH\_MAIL  
KEY\_LAUNCH\_MEDIA\_SELECT  
KEY\_LAUNCH\_APP1  
KEY\_LAUNCH\_APP2  
KEY\_OEM\_1  
KEY\_OEM\_PLUS  
KEY\_OEM\_COMMA

KEY\_OEM\_MINUS  
KEY\_OEM\_PERIOD  
KEY\_OEM\_2  
KEY\_OEM\_3  
KEY\_GAMEPAD\_A  
KEY\_GAMEPAD\_B  
KEY\_GAMEPAD\_X  
KEY\_GAMEPAD\_Y  
KEY\_GAMEPAD\_RIGHT\_SHOULDER  
KEY\_GAMEPAD\_LEFT\_SHOULDER  
KEY\_GAMEPAD\_LEFT\_TRIGGER  
KEY\_GAMEPAD\_RIGHT\_TRIGGER  
KEY\_GAMEPAD\_DPAD\_UP  
KEY\_GAMEPAD\_DPAD\_DOWN  
KEY\_GAMEPAD\_DPAD\_LEFT  
KEY\_GAMEPAD\_DPAD\_RIGHT  
KEY\_GAMEPAD\_MENU  
KEY\_GAMEPAD\_VIEW  
KEY\_GAMEPAD\_LEFT\_THUMBSTICK\_BUTTON  
KEY\_GAMEPAD\_RIGHT\_THUMBSTICK\_BUTTON  
KEY\_GAMEPAD\_LEFT\_THUMBSTICK\_UP  
KEY\_GAMEPAD\_LEFT\_THUMBSTICK\_DOWN  
KEY\_GAMEPAD\_LEFT\_THUMBSTICK\_RIGHT  
KEY\_GAMEPAD\_LEFT\_THUMBSTICK\_LEFT  
KEY\_GAMEPAD\_RIGHT\_THUMBSTICK\_UP  
KEY\_GAMEPAD\_RIGHT\_THUMBSTICK\_DOWN  
KEY\_GAMEPAD\_RIGHT\_THUMBSTICK\_RIGHT  
KEY\_GAMEPAD\_RIGHT\_THUMBSTICK\_LEFT  
KEY\_OEM\_4  
KEY\_OEM\_5  
KEY\_OEM\_6  
KEY\_OEM\_7  
KEY\_OEM\_8  
KEY\_OEM\_AX  
KEY\_OEM\_102  
KEY\_ICO\_HELP  
KEY\_ICO\_00



KEY\_PROCESSKEY  
KEY\_ICO\_CLEAR  
KEY\_PACKET  
KEY\_OEM\_RESET  
KEY\_OEM\_JUMP  
KEY\_OEM\_PA1  
KEY\_OEM\_PA2  
KEY\_OEM\_PA3  
KEY\_OEM\_WSCTRL  
KEY\_OEM\_CUSEL  
KEY\_OEM\_ATTN  
KEY\_OEM\_FINISH  
KEY\_OEM\_COPY  
KEY\_OEM\_AUTO  
KEY\_OEM\_ENLW  
KEY\_OEM\_BACKTAB  
KEY\_ATTN  
KEY\_CRSEL  
KEY\_EXSEL  
KEY\_EREOF  
KEY\_PLAY  
KEY\_ZOOM  
KEY\_NONAME  
KEY\_PA1  
KEY\_OEM\_CLEAR