

# 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: normal  
v1.v2.v3: Vertex

## EVENTS

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

## BASE

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

## AUDIO

### SOUND

Sound(wavPath)  
play()

Pause()  
stop()  
setVolume(vol)  
setPan(val)  
setCursor(val)  
loop(state)  
isLooping()  
isPlaying()  
getVolume()  
getPan()  
getCursor()  
getData()

## 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()

# NEON86

mag0  
mag540  
lerp(b,t)  
neg0  
normalize0  
m(index.val)  
x0.y0.z0.w0

## RENDERER

ClearScene(color)  
CameraPerspective(fov,near,far,flipLH)  
CameraOrthographic(w,h,near,fart,flipLH)  
BindTexture(tex)  
GetResolution0  
GetMatrix(kind)  
IsFocused0  
RenderState(kind,state)  
ToggleWireframe(state)  
SetFog(color,kind,start,end)  
SetFog(color,kind,density)  
ClearFog0  
SamplerState(stage,kind,state)  
EnableLighting(state)  
ToggleDepthTest(state)  
AmbientColor(color)  
ClearTarget0  
DrawBox(mat,dims,color)  
DrawQuad(x1,x2,y1,y2,color,flipY)  
DrawQuad3D(x1,x2,y1,y2,z1,z2,color)  
DrawPolygon(v1,v2,v3)  
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)  
getMeshes0  
getLights0  
getFlattenNodes0  
getTargets0  
findMesh(name)  
findLight(name)  
findTarget(name)  
getRootNode0

## NODE

Node0  
clone0  
getName0  
setName(name)  
getTransform0  
setTransform(mat)  
getFinalTransform0  
addNode(node)  
addMesh(mesh)  
draw(mat)  
drawSubset(index, mat)  
getMeshes0  
getMeshParts0  
getLights0  
getTargets0  
getNodes0  
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)
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)
alphaTest(state)
setAlphaRef(val)
setShaded(state)
```

## VERTEX

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

## FONT

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

## 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)
```

# NEON86

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

```
SetCursorMode(mode)
ShowCursor(state)
```

## GLOBALS

### 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\_HANJA  
KEY\_KANJI  
KEY\_ESCAPE  
KEY\_CONVERT  
KEY\_NONCONVERT  
KEY\_ACCEPT  
KEY\_MODECHANGE  
KEY\_SPACE  
KEY\_PRIOR

KEY\_NEXT  
KEY\_END  
KEY\_HOME  
KEY\_LEFT  
KEY\_UP  
KEY\_RIGHT  
KEY\_DOWN  
KEY\_SELECT  
KEY\_PRINT  
KEY\_EXECUTE  
KEY\_SNAPSHOT  
KEY\_INSERT  
KEY\_DELETE  
KEY\_HELP  
KEY\_LWIN  
KEY\_RWIN  
KEY\_APPS  
KEY\_SLEEP  
KEY\_NUMPAD0  
KEY\_NUMPAD1  
KEY\_NUMPAD2  
KEY\_NUMPAD3  
KEY\_NUMPAD4  
KEY\_NUMPAD5  
KEY\_NUMPAD6  
KEY\_NUMPAD7  
KEY\_NUMPAD8  
KEY\_NUMPAD9  
KEY\_MULTIPLY  
KEY\_ADD  
KEY\_SEPARATOR  
KEY\_SUBTRACT  
KEY\_DECIMAL  
KEY\_DIVIDE  
KEY\_F1  
KEY\_F2  
KEY\_F3

KEY_F4	KEY_LSHIFT
KEY_F5	KEY_RSHIFT
KEY_F6	KEY_LCONTROL
KEY_F7	KEY_RCONTROL
KEY_F8	KEY_LMENU
KEY_F9	KEY_RMENU
KEY_F10	KEY_BROWSER_BACK
KEY_F11	KEY_BROWSER_FORWARD
KEY_F12	KEY_BROWSER_REFRESH
KEY_F13	KEY_BROWSER_STOP
KEY_F14	KEY_BROWSER_SEARCH
KEY_F15	KEY_BROWSER_FAVORITES
KEY_F16	KEY_BROWSER_HOME
KEY_F17	KEY_VOLUME_MUTE
KEY_F18	KEY_VOLUME_DOWN
KEY_F19	KEY_VOLUME_UP
KEY_F20	KEY_MEDIA_NEXT_TRACK
KEY_F21	KEY_MEDIA_PREV_TRACK
KEY_F22	KEY_MEDIA_STOP
KEY_F23	KEY_MEDIA_PLAY_PAUSE
KEY_F24	KEY_LAUNCH_MAIL
KEY_NAVIGATION_VIEW	KEY_LAUNCH_MEDIA_SELECT
KEY_NAVIGATION_MENU	KEY_LAUNCH_APP1
KEY_NAVIGATION_UP	KEY_LAUNCH_APP2
KEY_NAVIGATION_DOWN	KEY_OEM_1
KEY_NAVIGATION_LEFT	KEY_OEM_PLUS
KEY_NAVIGATION_RIGHT	KEY_OEM_COMMA
KEY_NAVIGATION_ACCEPT	KEY_OEM_MINUS
KEY_NAVIGATION_CANCEL	KEY_OEM_PERIOD
KEY_NUMLOCK	KEY_OEM_2
KEY_SCROLL	KEY_OEM_3
KEY_OEM_NEC_EQUAL	KEY_GAMEPAD_A
KEY_OEM_FJ_JISHO	KEY_GAMEPAD_B
KEY_OEM_FJ_MASSHOU	KEY_GAMEPAD_X
KEY_OEM_FJ_TOUROKU	KEY_GAMEPAD_Y
KEY_OEM_FJ_LOYA	KEY_GAMEPAD_RIGHT_SHOULDER
KEY_OEM_FJ_ROYA	KEY_GAMEPAD_LEFT_SHOULDER



KEY_GAMEPAD_LEFT_TRIGGER	KEY_OEM_LATTN
KEY_GAMEPAD_RIGHT_TRIGGER	KEY_OEM_FINISH
KEY_GAMEPAD_DPAD_UP	KEY_OEM_COPY
KEY_GAMEPAD_DPAD_DOWN	KEY_OEM_AUTO
KEY_GAMEPAD_DPAD_LEFT	KEY_OEM_ENLW
KEY_GAMEPAD_DPAD_RIGHT	KEY_OEM_BACKTAB
KEY_GAMEPAD_MENU	KEY_LATTN
KEY_GAMEPAD_VIEW	KEY_CRSEL
KEY_GAMEPAD_LEFT_THUMBSTICK_BUTTON	KEY_EXSEL
KEY_GAMEPAD_RIGHT_THUMBSTICK_BUTTON	KEY_EREOF
KEY_GAMEPAD_LEFT_THUMBSTICK_UP	KEY_PLAY
KEY_GAMEPAD_LEFT_THUMBSTICK_DOWN	KEY_ZOOM
KEY_GAMEPAD_LEFT_THUMBSTICK_RIGHT	KEY_NONAME
KEY_GAMEPAD_LEFT_THUMBSTICK_LEFT	KEY_PA1
KEY_GAMEPAD_RIGHT_THUMBSTICK_UP	KEY_OEM_CLEAR
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_LAX	
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	