

Microsoft® DirectX™ 3
ffffffŠ”fff

—Œ%□

„fffff, < ,,,, •, — ,,,• ,,,,,, , , •,%Ž- -
,,f f,“ < ,,,, ,E,%o<,,,,, ,fffff,‘•,,^•, Microsoft Corporation, —, <%o
,,, ““ <Š“ ,,,,•Ž •-,,• “ ,,,,,,
Microsoft , ,fffff, < ,,,, ffff fff,“ <,,, ’,“ < • ’ E ,,’“ —
E,•Ž,,, ,fffff, Microsoft , —, <%o,,, “ < • ’ E ,,’“ —E, <%o,—
,,,,,,

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Microsoft ActiveMovie Direct3D DirectDraw DirectInput DirectPlay DirectS
ound DirectX MS-DOS Win32 Windows ,,Windows NT, • Microsoft
Corporation,• ,,,,‘, ,,,, •,,

,,‘, •-,%Ž-ŠŽ, •,,

—œ%□

%□ž

HAL

f ffff ffffffff¥fff ffffœ—
 ,ž‘,,ffff fff,•œ,, f ffff,ffff ffff,ffffff,, ,, ffff fff,,—<
 ,,<”,œ ,f ffff,ž‘,,,,, ,,<”,fffffff,ffff f,,

HEL

f ffff ffff fff fff f ffff,ff f,,<”,fffffff f f,,ffff fff,’<
 ”

Z z-buffer

f f ,šffff, “,š”,,ffff Z’, ,,ffff,Z’,,ffff, ,,

’

attach

• ,DirectDrawSurfaceffffff, Zffff,,3Df f fffffff,•—
 ,,.,.,. “, ‘,,,, ffff,•œ“,,,, ,,f fff,,ž ,ffff,,,,,, ffff ff
 f, ffff f,,f fff, ffff fff,,f fff,ffff,, •,f fff,ffffff ff
 f,,œ, ,,f fff,“fff,,,,,,

alpha edge blend

ffff ffffffff ,,ffff ffff • ,—
 ,, ffff,“—”^,š,,fff, ,,.,.,. ffffffff,œ ,,•-,,

alpha color component

•“—,ž,’š,32fff, —‘ ,, ffff,,
 —‘ ,, ,ARGB ,,.,.,.ffff •“— ’,•%0,,,, ^”“,,,, “•,—
 ^,,ffff f fff,ffff,,ffff’,,,,ž,, ,,,

alpha channel

ffff,, —‘ ,, ,ARGB ’,,,—^,,
 ff f,•“—’,<,’ ,,—
 ,,ffff f fff,š”,, ffff,,•“—” ,,, f fff“•“—”

alpha constant

f fff“—”,•“— ffff’

penumbra

fffffffœ% ž^”,• —•,ž,^, ž•,^,%0,f f,,

Ž -• fffffff

ambient

f f ,ffffff,Ā, ^ f fff,“ ,Š,, f f“, ,,ĀĀ f f,,,, ,“Ā“,
,,, ffff,,ff f,^,Ā,, —,, ,,,f f,, • ,ffffff(ĀĀ,Ā ,,,,

color space

,fff f,,•Ž,,,, ,,,,^,ffff,,,,,Ž, ,^“ff ¥ff f,fff, RGB,YUV
,,,,,,

color-space conversion

,,,ff ff f,,‘ff ff f, •Š,Ā fff f f,YUVff ,,ffffff,RG
Bff ,,•Š,“Ā“,,,

audio stream

ffff,, ,,,ffffff,,%” ,,, ffff f f DirectSound, ,Šffff
ffff ffff,,f fff fff f,ffffff, Ā%,ffffff ffff ffff, —
,, fffff ffff ffff, ffff f ffff,f fff f f,Ā,,

overdraw

fff f ffff,•%o,,•Ā%

overlay surface

fff ,Š“Ā,Ā—
^ Š”,,,,ff f •, “ fffff f fff,ff f •,ff ,, f f ff, ‘,,,,fff
f—‘,fff,,,’,,,,

overlay z-order

f f ff,ffffff,, ”Ā’,,, ,,,, f ffff fffff ffff,DirectDraw,,,Ž‘
”

off-screen surface

fff ,Š“Ā,Ā—^ Ā“, •Ž‘,ffffff,fff“ ,,,ffffff,Š”,,,,,—
,,, ’ fffff,Š”,,,,—,,

opcode

Ž ffff,“%o •-,ffff ‘,• •-,’Ā,,—f f

’

camera

•Ž^,•Ā,‘Ā,, ff f f,—
,,Direct3DRMFrameffffff ff f f, fff ff f, ,zŽ ,,%Žffffff,,
yŽ , •Ā,ffffff,,

color key

“Ā%o,”Ā%o,,,,—,, ,Ž,,’ ,,,f ffff,fffĀ,Ž—
,, ff f ,,, ’,,, , Ā—
^ffff,,ffff“ ,,, ,,,, Ā,,ffff,f fff , ,,,

color table

n ,ff ’,— ’ ,RGBŽĀ

current play position

DirectSoundffff“ , ffff, ,,,^

current write position

DirectSoundffff,’ ^,f f,• ,,,,,,,^

static sound buffer

Š',ffff,Š",,,,fff ffff“;^“,ffff, ,,,,, •—,,,

sticky focus

DirectSound,,, f f ffff fff,“—ff ff,Ž,,,,,,ffff, ,,,”—
,,, DirectSoundffff fff, f f ,',ffff fff,“,,,,,, ffff ffff,
,',,,,,,,

stride alignment

DirectX,, fffff,, ,,fff fff,Ž,fff fff,,Š,fffff,Ž, fffff fffffff,
ffffff fff f fff,ffffff,, , —, Ğ—',,, ,,,

streaming sound buffer

',ffff, ,,,,,,, ,,ffff ffff ffff fff, f fff f f, ,,,,““ff
ff,f f,, ,,,,ffff fff, 3•,f fff f f,•Ž,,,ffff,2•,ffff, ,,,,Ž—
,,,,,, fff f ffff, fffffff ffff,,,,,, ,fff,•—,,,

spotlight

%o ,Ğ,•,ĞĞ %o ,',,,,ffffff,, ,,,, %o ,,,,‘“, , , %o,—,•• —
• ,ffffĞĞ,““, ,,, Ž^“,”• ^%o• , Ž•,^,%o,f f,,,

secondary sound buffer

f fff fff,,,, ffff fff,',, ,,,Ğ ,ffff,Š",•• ffff, 1%o
,ffff,, ,,,, f f ffff,,Ğ,•, ,,,,,,, ,, fffff ffff, —
Ğ,ffff ffff fff,,'ffff, ,,,,%o",,, ,ffff, ,,,,,,ffff,^••,Š",
,ff ,,,,—Š,Ž,,,

session

DirectPlay, Ğ,,', ,,,,ff f fff ,ffff fff,ffffff

front clipping plane

Ž ‘,—,ĞŠ ‘•ffff—,,fff,‘,^,,,ffffff,ffffff,, , ‘ffff—
, , ff ,ff ff,'‘,,
Ž Ğ•ffff—

,

vertex

3D<Š,“

tearing

fff f,ffffff f f,ffff fff,ff f¥f f,“Š,,,,,,‘,•Ž,,,,,,Ğ,Ğ
,,,ff f, •,•,ff f,%o•,“Ž,•Ž,, ,,,,ff f,Š,—,—, ,,

texture

Direct3D,,, fffff fffff,“—,, ffff,ĞĞ,•,”—

texture coordinates

Šffffff,ffff, fffff ,Š'“,,,Š~,,,,,Ğ',, •

texture blending

ffffff, ,fff ,f fff, ,', ,,,,‘

texture mapping

ffffff,ffffff,“,,,,, fffff,•—
ff f,ffffff,,,,, ,',,,, fffff •,ffffff fff,—
,,ffffff,ffffff,f fff,fff,,,,,,
Ž fffff • fff

texel

fffff,^,—‘ fffff,ffffff,“—,,,,, ffff,fff f,ffff,‘%o
 ,, ,, ,, ,, ffff fff, ffff,,ffffš,•š,, Ć,,,,, fffff fffffff,ž—
 ,, ,, ,, ,,

decals

fffff fffffff,,,’ fffffff,,ffffff ff f f,^’,,Ć,ffffff,,

source color key

ffff“,,,’ff ,, , f f ff,, — ,ž,,

destination color key

ffff“,,,’š,, f f ff,, “ , f ff ,•,%o,,

’

array object

,,,”—,,,,,ffffff,ff f ”—ffffff,,ff f“,,š,’ , , ”—
 fffff,—,,COM,fff ffff,, **GetElement**ffff,**GetSize**ffff,—
 ^,,,,, ,,ffff,, ”—‘,ffff ”—,fff,ž“,,

back buffer

fffff f fff,Ć %ožff f,ž,,š, fffffff,‘ff f,•,,,,, •%ožf ff
 f

width

fff,š”,,ffffff“,, ,fff,ž“,,fff, “,ž,,<— ,<—
 ,fff ,ffffff,•,•, <Ćfff,,^,ffffff,ž, ž“,,’,,—,•‘fff,š,,

parallel point

ffff fff,ffffff, ,ĆĆ,, Ć,Ć,,ffff ffffĆĆ,^’,Ć’,, , , ffff
 ffffĆĆ,—‘,ffff,, ĆĆ,—,,,,,ffff,—,,

palette

ffffff,ffff fff,ž—,, ,fff DirectX,, DirectDrawPaletteffffff,ž,

palette index

‘,’,,—,, ffff f ff”—,, ffffff

power

‘ ,ž“ , fffff fffff,‘—,Ć’,,’ ,’,5,,<“šš,, ,^ ,,,,,, ,šš
 ,,

specular property

ĆĆ,ž,‘%o
 ,,Ć,ffffff ,Ć“,,,,,ž,,Ć’, ‘ , “ ”ž“ , ‘ ,,Ć,ž,,Ć’,,,,,“
 ,, ,, ,,
 ž .ž“

pan value

%o,f fff ffff,“%o— 100•,1ffff’^’,•,,

viewport

3Df f,,,,,2Dffffff,ffffff,,,,,’<,Ć ,ffffff,ffffff,, ffff —
 ^,’<,,

pick

ff f f,,2D •,f f,ffffff ffffff,’ ,,,

pitch

fff,Š”,,,ffffff“ , , ,Ž“ ,Ž, ,Ž“ ,Ž,,,,,←
DirectDraw,, ,,,,ffffff fff,,,,, Ćffffff,,”,,,,,Ā,,,,, fff fff,fff
•,^,, —,,, ,,,,Ā,fff,, fffffff fff,fff,, fffffff•,%
,ffffff,^•,Š,,, ,,,
Ž •

complex surface

DirectDrawSurfaceffffff, f f f fff,ffff,,,,,,,,,Ž,Ā • f fff “,
f f,”Š,,,,,,”Š,,,,,,

flipping surface

ffffff%” ,fff
Ž ffff

flip

fff ffff,ffff ffff,ffff,ĀŠ,,ffff Ž ,fff ffff,ff f,ffff ffff,
ĀŠ,, ,,,,,ff f,•Ž,,

frame

f f ,,ffffff,”Ā,, ”•Ž,~ fffffff, Š~,Ž ff f,‘,,Š“ŠĀ,Ž’,,,,,,
f f ”,,, fffff fffffff, ,,^,Ā,,ff f,,Ž“,, , “%
,fff fff’,,,,,ff f,ff f,,Ž“,,

front buffer

ffffff ff f, ,ffff ‘,, %Ž ‘,ffffff f fff,Ž, ,,,,,, fffff
,ffffff ff f,,, 3Dffff,ffffff,Ž“,,f fff,,,,, , , fffff f fff,,
, ,Ž,,,,, fffffff f f ff f fff,,ffff ffff,•Ž,,,, ,’,ffffff f f
ff,f f ff,,f fff,,,,,
Ž fffff f fff

blit

ffffff““

blend factor

ffffff fffffff,, Š —‘,,,,, ,,,,Ž,Ā

blend mode

ffffff,,,,,fff ,f fff, , ,,,,Ā’,,ffffff

primary surface

fff ,•Ž,,,ff f,Š,,fff—
^ DirectX,, fffff f fff,fffffDirectDrawSurfaceffffff,,,,•,,

primary sound buffer

f f’,f f ,Ž,•,,%Ž,ffff ^” ,ffff¥ffff,,ffff,ffff,,—
,, ffff fffff,,‘,“ , ,,, fffff,ffff,,,,,,

player

DirectPlayffffff,Ž%Ž Šffff, ffffŠ,fff fĀŠ,%”,,,ffffID,Š~,,,,

ID player ID

DirectPlayffffff,ŠŽ%Ž,Š~,,,,,,ff f,Ž•Ž ffff, Ž,Š,“,,, ffff fff,f
ffffID,Ž—
,, ffffŠ,fff f,ĀŠ,,,,,, fff,,,,,DPID_SYSMMSGffffID,Š,“,,,

page flipping

Ž ffff

host

DirectPlay,,, ID,DPID_SYSMMSG,,,%o'ffff ffff fff f, fffff',,,,
,ffff ' ',,fff f, fff,,, —,,

point

Œ“,,‘•Œ<“,Œ,•,ŒŒ

emissive setting

Ž •Ž“

emissive property

‘ ,“ ,,,, ‘ ,Œ,•Ž,,,,,Ž, •Ž“ , ‘ ,Œ,”Ž,,,,,Œ’,,,,,“ ,,,,,,
Ž ”Ž“

normal vector

—,Œ,‘<, f fff,, ‘ ,,,,%o<,Œ

,

material

—,,,,,Œ,”Ž,,,,,Œ’,,“ ‘ ,, •Ž“ Œ,•Ž,,,,, ,”Ž“ ,,,, —‘,,, ”Ž,—
,,, <“, ’,,,,Œ’,,,

mixing

DirectSound,,, ,ffff ffff, , Œ%o
,ffff ffff ffff, ,,ffff ffff f ffff,f fff f f, —, —
ŽŠ,Ž—‘ ,,,, ,,,, fffff,“ffff, , Œ,,,

mipmap

~‘ ,fffff Šfffff, “,ff f,ffff,,, ,’%o“,,,,,,, %oŽfffff,Š‘Ž,<,,,
,,, %o“ff f,—,,, fffff,%o,,, ,,,, ,,,, ,,,, ,,’%o“ff f,—,,,

umbra

fffffff,%o ,Œ, ’%o,—,• ffffŒŒ,““ ,,,,,,
Ž ^%o• ffffff

mesh

’ ,ffff,•Œ,,,—,fff

face

ffff’,,,,ffff

X Mode X

ffff fVGAf f13,’<,fffff,fffff f f ,,f f,, VGAffff,EGAfff
ff fff ff f ffff,,, Mode 13,Ž—
,,,64K,,, 256K,,,fffff fff,Ž,,,,,

model coordinates

Žff f,‘“ •
Ž f ff •

,

directional

ff f,ffff,,ŒŒ, ,,,,fffff,“<“, , ŒŒ,fffff,—Œ%o,^,,,,,Œ%o
,—, —ŒŒŒ,Œ,Ž,,^,Ž,, ^”, ‘—,,,%o,—,ŒŒ,ffff f,,,,,—,,,

enable frame
ŒŒ,“—,,,,,,,,,ff f

’

wrap
-,ffff,ffff •,ŒŽ,—
,,fff ff Š—“,ffff fff,, ffff %o’ <‘ fff,,

root frame
Direct3D,,, ff f,Ž,,,ff f ff fŠ‘,fff,,ff f f f ff f, f f,
,,ffffff“‘,fff,Š,,,
Ž f f

latency
ffff ffff, ,,,, ff f,Ž ,ffff,—
,,,,,%ŽŠ DirectSoundfff,fffff, ^”,20ff•,,

lobby client
f f,ffff f,Š~,,,,,ff Š—
f ff ffff fff,ffff f f fff ffff,ffff f ff f f,’, Š,

lobby server
ff f f f,Š~,,,,,ff Š—
f ff ff f f, “”,ffff fff, ‘,f f ,Š,,,,, •,’ ,,

’

world coordinates
f f ff f,‘,“ •
Ž fff •