

,±,íflfvfVftf“,íA Fogfe[fuf<fgf~f...fŒ[fVftf“,í—LŒø[E-³Œø,ðÝ'è,μ,Ü,·B
Direct3D,íAfffBfxfvfŒfCfAf_fvf^,²Vertex Fog<y,ÑTable Fog,ðfn[fhfEfFfAfTf|][fg,·,é,©,ç,¤,
,©,ðf`fFfbfN,μ,Ü,·BfQ[f€,É,æ,Á,Ä,íAD3D,ífn[fhfEfFfA<@"\,íÚ×(Table Fog<@\\",ðŠÜ,þ)
,ð‘è,Á,«,È,¢,±,Æ,³, ,è,Ü,·,í,À,A,»,í,æ,¤,ÈfQ[f€f^fCfgf,ðRIVA 128/TNTŽg—p,ífOf
%oftfBfbfNfx{[fh,À“®í,³,¹,é,Æ,«,É,íA,±,íflfvfVftf“,ð—LŒø,É,μ,Ä,³/4,³,¢B
Fogfe[fuf<fgf~f...fŒ[fVftf“,íAffffHf<fg,À,íON,É,È,Á,Ä,¢,Ü,·B

,±,íƒ|fvfVf†f“,íƒAfhf‰oƒCfo,íƒAf“f`fGfŠfAfVf“fO<@”\,ðÝ’è,µ,Ü,·B
fAf“f`fGfŠfAfVf“fO,íƒA3DfIfufWfFfNfg,íƒGfbfW,ì,¬,‘,¬,‘,ðfXf€íƒY,ÉŒ©,í,é,æ,¤,É,·,é,Æ,«,ÉŽg
—p,³,ê,Ü,·B,É,“íƒAfAf“f`fGfŠfAfVf“fO<@”\,ð—
LŒø,É,µ,Ä,àA’S,Ä,íƒAfvfŠfPíƒVf†f“,ÅŽ©“®“I,É,±,í<@”\,ä—LŒø,É,È,é,í,“,Å,í, ,è,Ü,¹,ñ
BDirect3DfvfO%oƒ€ä,ÅfAf“f`fGfŠfAfVf“fO,a—
LŒø,É,È,Á,½fCfíƒW,ð¶¬,·,é,½,ß,É,íƒAfAfvfŠfPíƒVf†f“¤,ÅfAf“f`fGfŠfAfVf“fO,í“®í,¤Tf|
ífg,³,ê,Ä,¢,É,“,é,î,È,ç,È,¢,©,ç,Å,·B
^È‰oº,íƒ|fvfVf†f“,©,ç‘í’ð‰oÅ”,Å,:
—LŒø -fhf‰oƒCfo,©,çDirect3D,íƒAf“f`fGfŠfAfVf“fO<@”\,ð—
LŒø,É,µ,Ü,·BffffHf^ffg,íðÝ’è,Å,·B
-³Œø - ‘S,Ä,íƒAf“f`fGfŠfAfVf“fOFTf|ífg,ð-³Œø,É,µ,Ü,·B

,±,ìflfvfVf+f“,íAfAfvfŠfP[fVf+f“,Ü,½,ífQ[f€,Å•K—v,Èê‡,ÉARIVA
128,í³•ûŒ`fefNfXf`ff`@”\,ð—LŒø,É,μ,Ü,·B

'ÈÍARIVA 128f`fbfv,í³•ûŒ`fefNfXf`ff,ìftfH[f}fbfg,ðŽg—p,μ,Ü,·Bí³•ûŒ`,ìfeNfXf`ff,ðŽg—
p,·,é,±,Æ,ÅAfefNfXf`fff,fS,ðÅ,àŒø—I,æ,žg—p,·,é,±
,Æ,å,«,Ü,·B,½,¾,μA“Á’è,ìfAfvfŠfP[fVf+f“,íA,±,ìflfvfVf+f“,ð—LŒø,É,·,é,Æ,¤,Ü,-
“®í,μ,Ü,¹,ñB,à,μfQ[f€,å,>,í¹,ìfAfvfŠfP[fVf+f“,ðŽg—p,μ,Ä-â’è,¤¶,¶,½,Æ,«,É,íA,±
,ìflfvfVf+f“,ð-³Œø,É,μ,Äí³•ûŒ`,Å,É,¢fefNfXf`ff,íZg—p,ð<-%oÅ,μ,Ä,,¾,³,¢B

,±,íƒlfvfVfƒ“,íƒADirect3Dfhf‰ofCfo,©,çA5-6-5(RGB)fefNfXf`ff,íƒTf|íƒfg,ð—LŒøE-
³Œø,É,µ,Ü,·B

“Á'e,íƒQíƒfe,Å,íƒA5-6-5fefNfXf`ff,íƒníƒfhfEfFfAfTf|íƒfg,ð—LŒø,É,·,é,AEŒF,²³í,É•\Ž!,³,ê,È,¢,±
Æ,ª, ,è,Ü,·B,Ù,Æ,ñ,C,íƒQíƒfe,Å,í—LŒø,É,µ,½ó'Ô,Å“ ®ì,µ,Ü,·,í,ÅŒAfQíƒfe,ÅŒF,ª,“,©,µ,-
È,Å,½,Æ,«,É,ì,Ý,±,íƒlfvfVfƒ“,ð-³Œø,É,µ,Ä,,³/4,³,¢B

,±,ƒlfvfvf“íARIVA 128f`fbfv,„žg—p.,éfvfxfef€fif,fŠä,ƒfefNfxf`ff—
Ê,ðY'è,µ,Ü,·B(f{fhä,lfOf‰ftfBfbfNfxf,fS,Eox,E'ç‰Å,µ,Å)

Ó: fpftfH[f]f“fxä,í—R,©,çA,±,íft[fefBfŠfefB,íWindows,‡fŒf|
|[fg,·,éfvfxfef€fif,fS,í"¼•‡Eä,í—Ê,ðY'è,·,é,±,Æ,í,Å,«,Ü,¹,ñB

RIVA 128, íAfefNfXf`ff, í“]’—Œø—!, ðää, °, é, ½, ß, ÉAMipMap, ðŽ©“®¶¶¬, ·, é, ±, Æ, ª
‰„Â”\, Å, · B

“Á’è, jfQ[]f€, Å, íAfffffHf<fg, íÝ’è, ðŽg—p, ·, é, Æ³í, É•\Z|, Å, «, Ü, ¹, ñB-â’è, ð
‰œŒ^, ·, é, É, íŽ©“®¶¶¬, ³, ê, éMipMap, í”, ðAfQ[]f€, í‰œ—Ê, ²³í, É•\Z|, ³, ê, é, Ü, ÅŒ,, ç, ·•K—
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, É, È, Å, ½, èAfptfH[]f}f“fX, ª'½'á‰œ°, µ, ½, è, ·, é, ±, Æ, ª, , è, Ü, · B

,±,íƒ|f|fVf†f“,íƒAMipMap,ðfsfNfZf<’P^È,Å—LŒø,É,·,é,©A,à,µ,,íƒ|fŠfSf“’P^È,Å—
LŒø,É,·,é,©,ð’I’ð,Å,«,Ü,·B

fsfNfZf<’P^È,íƒ~fbfvf}fbfsf“fO,É,æ,Á,ÄAfefNfXf`fff}fbfv,³,ê,½f|
fŠfSf“,äŠg’å,âk¬,³,ê,Å,àAfXf€[fY,ÈfefNfXf`ff,ífOf‰ff[fVf†f“,ðžÀŒ»,Å,«,Ü,·B,Ü,½A
‰“<—£,É, ,éfefNfXf`ff,ì,¿,ç,Å,«,ð‰Y,³,!,éŒø‰È,à, ,è,Ü,·B

—,³,Èf|fŠfSf“,ð”‘½,Žg—p,µ,Ä,¢,éfV[]f“,È,Ç,Å,íA,±,íMipMap•û-@,É,æ,é^á,¢
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,±,íflfvfVftf”,í[]A•K—v,È,Æ,«,ÉDirect3D,ífO[]f[]fAf<ftf@fufŒf“fffBf“fO,í<@”\,ð—
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,ðŽg—p,µ,Å,¢,Ü,·,²[]A,±,í<@”\,ÍDirect3Dfhf%ofoCfo,Å,í•K,,µ,àfTf|[]fg,³,ê,Å,¢,é,i,¬,Å,i, ,è,Ü,¹,ñ[]
B,±,íflfvfVftf“,ð-³Œø,É,·,é,±,Æ,Å[]AfAfvfŠfP[]fVftf“,ÑfQ[]f€,í“ÆŽ©,í•ù-
@,ÅfŒf“f,fŠf“fO,ð[]s,¤,±,Æ,²%oÅ”\,
,É,È,è,Ü,·,Å[]AfffBfXfvfŒfCfNflfŠfefB,ìŒü[]ã,³,Å,«,é[]ê[]‡,à, ,è,Ü,·[]B
,Ü,½[]ADirect3DfAfvfŠfP[]fVftf“,à,µ,,ífQ[]f€
,ðŽÅ[]s,µ,½[]Û,É[]AfIfuWfFfNfg,ífAf<ftf@fufŒf“fffBf“fO,¤³,µ,•\Ž!,³,ê,Å,¢,È,¢,æ,¤
,È,Æ,«,É,í[]A,±,í<@”\,ð—LŒø,É,·,é,±,Æ,Å-â’è,²%oðŒ^,·,é,±,Æ,à, ,è,Ü,·[]B
,±,í<@”\,íffftfHf<fg,Å—LŒø,É,È,Å,¢,Ü,·[]B

Direct3D, jfjfXf^f€Ý'è, ð•Û'¶, µ, Ü, ·BfŠfXfg, ©, ç'l'ð, µ, ½Ý'è, a—LŒø, É, È, è, Ü, ·BÝ'è, ð"½‰of, ·é, É, lA"OK", à, µ,, í""K—p" f{f^f", ð‰oÝ, µ, Ä,, ³/₄, ³, ¢B

Œ»]Ý,¡Direct3D]Ý'è,ð•Û'¶,µ,Ü,·]B("Direct3D]Ú]x]Ý'è]"f cfAf]fO"à,Å]Ý'è,µ,½,à,ì,àŠÜ,Y,Ü,·]B)•Û'¶,³,ê,½]Ý'è,í]A]f]fX]f^f€]Ý'è,]f]S]fX]fg,©,ç'!ð‰oÂ"\,É,É,è,Ü,·]B

^ê‰ooñADirect3DfQ[ƒ€,È,Ç,ÉÅ“K,ÈÅÝ‘è,ðs,Á,ÄÅA,»,)Direct3DÅÝ‘è,)“à—
e,ð•Ù’¶,µ,Ä,“,–,îÅAŽÝ‰ooñ,©,ç,í,»,ê,¼,ê,lfQ[ƒ€,²,Æ,ÉÅ“K,ÈÅÝ‘è,ðŠE’P,É’l’ð,Å,«,Ü,·B

Œ»ºÝ'l'ð,µ,Ä,¢,éƒjjXf^f€ºÝ'è,ðƒŠfXfg,©,ç¤Á

'S,Ä,íñY'è,ðfffffHf<fg'I,É-ß,µ,Ü,·ñB

'ñ^Ó: ,±,íf{f^f“,ð‰‰Y,µ,½Œä,É“OK”,à,µ,,í”K—p”f{f^f“,ðfNfŠfbfN,·,é,ÆñA,±
,íftñ[fefBfŠfefB“à,ÀñY'è,µ,½'S,Ä,íñY'è,ífNfŠfA,³,êñAfffBfXfvfŒfCfhf
‰ofCfo,ífffftHf<fgñY'è,É-ß,è,Ü,·ñB

Direct3D, ïÚ×Ýè, ÉŠÖ, ·éf_fCfAf fO, ð•\Z|, µ, Ü, · B

RIVA 128, jÚÚ×Ý'è, ÉŠÖ, ·, éf_fCfAfO, ðŠJ, «, Ü, ·B

,±,ƒlfvfvf“íAftfBf^f^Œä,ƒfefNfZf<,É'Î,·,éfn[fhfEfFfA,ƒfefNfXf`ff fAfhfŒfbfVf“fO•û-@,ð•lX,μ,Ü,·B
,±,ì'I,ð•iX,·,é,±,Æ,ÅAfefNfZf<,iŠjŽn^Ê'u,^a•iX,³,ê,Ü,·BfffftHf^fg'l,Direct3D,ƒXfyfbfN,É] ,œŒ` ,É,È,Á,Ä,ç,Ü,·,œA,ç,,Ä,©,ƒftfgfEfFfA,Å,íAftfBf^f^Œä,ƒfefNfZf<,iŠjŽn^Ê'u,^a¹/₄,iêŒŠ,ÉŒÝ'e,³,ê,Ä,ç,é,±,Æ,^a, ,è,Ü,·B,»,ì,æ, ,ÈfAfvfŠfP[fVf^f“,Å,íAfefNfZf<,iŠjŽn^Ê'u,ðÄŒÝ'e,·,é,±,Æ,ÅAfCfŒ[fW,ƒNflfŠfefB,ð %oü'P,·,é,±,Æ,^a,Å,«,Ü,·B

,±,íƒ|fvfVf†f“,íƒAƒAfvfŠfPíƒ[ƒVf†f““à,ÅfWfIƒfgfŠ,í•síƒ®í‡,É,æ,Á,Ä<N,±,éf|
fŠfSf“ŠO,íƒMffffbfv,È,Ç,ð—§,½,È,¢,æ,¤,É,·,é,±,Æ,ª,Å,«,Ü,·íƒB

,±,íƒÝ’è,ÅfWfIƒfgfŠŠO,íŒ,,ŠO,ð‰oB,·,½,ß,íƒsfNfZf<íƒ”,ð’²íƒ®,·,é,±
Æ,ÅíƒAfCfíƒ[ƒW,íƒNfIƒŠfefB,ð‰oÜ’P,·,é,±,Æ,ª,Å,«,Ü,·íƒB

'S,Ä,íØÝ'è,ðfffffHf<fg'l,É-ß,µ,Ü,·ØB

OpenGLFvfvfSfP[fVf+f"ä, Å, lfeNfxf` fffCf[] [fW, lfnflfSfefB, ð'²®®, ä, «, Ü, · B
‰œæž, ÉÅ“K‰œ», ðs, x, AE[AÅ, , lfnflfSfefB, lfeNfxf` ff, ažg—
p, , ê[AÅ, , lfcf[] [fWfNflfSfefB, a³/4, ç, ê, Ü, · B
'¬"x, ÉÅ“K‰œ», ðs, x, AE[AfCf[] [fW, lfnflfSfefB, l'á
‰œ, µ, Ü, ·, a[AfAfvfSfP[] [fVf+f", lfpftfH[] [f] "fX, lŒüä, µ, Ü, · B
fof‰of"fX, ð'l'ð, ·, é, AE[Aä<L, l2, Å, l'tŠO, lØY'è, ðžg—p, µ, Ü, · BfffftfHf<fg, lØY'è, Å, · B

PCIfeFnjFxF'ffffq[]fv—l^æ, l[]Å'å'l, ð[]Ý'è, µ, Ü, ·B
[], ·a, Èf[]f, fS—e—È, ð[]Å, Å, %PCIfofXfx[]fX, lfvfXfef€, Å, ±, l'l, ð[], Å, , , ±, AE, Å[]A, ¢, -
, Å, ©, lOpenGLfAfvfSfP[]fvftf"[]ä, Å, l[]A'å, <, ÈfpftfH[]f}f"fv, lCÉü[]ä, ð[], é, ±, AE, a‰oÅ"\, Å, ·B
'l^Ó: fpftfH[]f}f"fv, l—l—R, ©, c[]A, ±, lft[]fefBfSfefB, lWindows, a¢f|
l[fg,, éfvfXfef€f]f,fS, l^1/4·a^È[]ä, l—È, ð[]Ý'è, , é, ±, AE, l, Å, <, Ü, , n[]B
, ±, l[]Ý'è, lAAAGP'‰ož, lffffBfXfvfCfCfAf_fvf^žg—pžž, È, lCÉø‰oÈ, , è, Ü, , n[]B

,±,ífXf%oCf_fRf“fgf[]f<,É,æ,Á,ÄAR,G,B,»,ê,¼,ê,íf`fff“flf<•ÊX,ÉfKf“f}’l,íY’è,ðs,¤,±,Æ,¤,Å,«,Ü,·B
fKf“f}fRfŒfNfVf#f“<@”,É,æ,Á,ÄAfffBfXfvfŒfC,Éo—í,³,ê,éfCf[]fW,ÆŒ³ff[]f^,í-¾,é,³,íá,¢,ð•â³,·,é,±,Æ,¤‰Ä”,Å,·B,±,í<@”,É,æ,èAŽÉ^‰œ‘œ,ð^μ,xfAfvfŠfp[]fVf#f“,È,C,ðŽg—p,μ,½Û,É,àA‰œ-Èä,Å,æ,è³Sm,ÈF,ìÄŒ»,ðs,!,Ü,·B
.Ü,½A¹½,,í3D’‰žfQ[]f€,íA‰œ-È,¤Ã,fvfŒ[],μ,Ã,ç,¢ê‡,¤, ,è,Ü,·,í,ÅAfKf“f}’l,ð-¾,é,-Y’è,·,é,±,Æ,Å,æ,è—V,N,â,·,È,é,È,C,íŒø‰È,à, ,è,Ü,·B

•Ü'¶ïï,Ý,íƒíƒXf^f€fKf"íƒ}ÍÝ'è,íƒíƒXfg,Å,·íBfŠíƒXfg,©,ç'l'ð,µ,½ÍÝ'è"à—e,¤—LŒø,É,È,ë,Ü,·íB

Œ»ÙÝ,]fKf“f}’l,ðfjjXf^f€ÙÝ’è,É•Û’¶,µ,Ü,·ÙB•Û’¶,µ,½“à—
e,íÙAjjXf^f€fKf“f}ÙÝ’è,]fSfXfg,É“ü,è,Ü,·ÙB

Œ»ºÝ'l'ð,µ,Ä,¢,éƒjjXf^ƒ€ƒKf“ƒ}ºÝ'è,ðƒŠƒXfg,©,çºíºœ,µ,Ü,·ºB

fKf“f}□Y'è,ðfn□f hfEfFfA,}fff tfHf<fg'I,É-ß,μ,Ü,·□B

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General Timing Formula ,Ü,½,ÍGTF:   V,  ,  fn  [fhfEfFfA,Å•W  “I,ÉŽg—p,³,  ,Å,  
éf,  fh,Å,  Bfffftjhfg,  Y’è,Å,  B

Discreet Monitor Timings ,Ü,½,ÍDMT: ^È’O,Ü,ÅŽg—p,³,  ,Å,  ,½f,  fh,Å  A,Ü,¾,  ,-
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MipMap,ffffBfUfŠf“fO,)—LŒø[]E-³Œø,ð[]Ý’è,μ,Ü,·[]B

MipMap,¡ŽC“®¶¶¬•û-@,ð'l'ð,µ,Ü,·¶B

'□^Ó! ,±,ê,ÍfefXfg□ê—p,Å,·! fVfXfef€,¤•s^À'è,É,È,é‰oÂ"\\«,¤, ,è,Ü,·!

,±,ìflfvfVfft",íAfhf‰ofo,ìDirectX6<@"\,ð-³Œø,É,µ,Ü,·B
^È'Ø,ìfo[]fWfft",ìDirectXŒü,-,É[]i-,³,ê,½,¢,,Â,©,ìfQ[]f€
,Â,íADirectX6,²fCf"fxfg[]f[¶]i,Ý,ÂAØX,Éfhf‰ofo,ìDirectX6fTf[]fg,²—LŒø,É,È,Á,Ä,¢
,éêœ‡,É,í"®ì,µ,È,¢,±,Æ,², ,è,Ü,·B,±,ìflfvfVfft",ð—LŒø,É,·,é,±,Æ,ÂAfhf
‰ofo,²DirectX5ŒÝŠ·f,[]fh,Â"®ì,µ,Ü,·,ì,ÂA,»,ì,æ,¤,ÈŒÃ,çfQ[]f€,à-â'è,È,"®ì,³,¹,é,±
,Æ,²,Â,«,Ü,·B
ŒÃ,çfQ[]f€,²"®ì,µ,È,¢,Æ,«,âA^Ó} ,µ,È,¢"®ì,ð<N,±,·,Æ,«,È,Ç,É,±,ìflfvfVfft",ðŽg—
p,µ,Â,³/⁴,³,¢B

,±,Íf|fvfVf|f“,ÍoA‘A‘è,íCPU,ÁfTf|[]fg,³,ê,é3DŠg‘f-½-ß,ífhf%oCfotf|[]fg,ð-³CØ,É,μ,Ü,··B
,¢,,Â,C,íCPU,Â,ÍoA3DCEÜ,-,Íšg‘f-½-ß,ðfTf|[]fg,μ,Ä,“,è,ARIVA
128,Æ,í,g,Ý,‡,í,¹,Â3DfAfvfSfP|[]fVf|f“,âfQ|[]f€,ífpftfH|[]f“fX,ðCEÜ,ä,³,¹,é,±,Æ,²,Ä,«,Ü,··B,±
,Íf|fvfVf|f“,Í-³CØ,É,·,é,±,Æ,²,Ä,«,Ü,·,²A,à,µ-³CØ,É,μ,½,Æ,«,ÉfpftfH|[]f“fX,²CEÜ,ä,·,é,æ,¤
,Â, ,é,ÍoA,»,ÍfVfXfef€,Ážg—p,³,ê,Ä,¢,éCPU,Í3DCEÜ,-,Íšg‘f-½-ß,ðfTf|[]fg,μ,Ä,¢,Ü,¹,ñ,·B

,±,íflfvfVff,íAfhf‰ofo,É,æ,éfjflf,íflffffbfVf“fO,ð-³Œø,É,µ,Ü,·B
,à,µAfAfvfŠfPflf,í”®fl'†,Éf}fEfXfjflf,²³í,É•VŽ|,³,ê,È,,È,Á,½Žž,É,íAfjflf,fLffffbfVf...
,ð-³Œø,É,·,é,±,Æ,Å-â'è,ð‰oñ”ð,Å,«,Ü,·B,±
,íY'è,ð•íX,µ,½Œä,íAWindows,ðÄ<N“®,·,é,Ü,ÅV,µ,¢Y'è,íŒø—í,ðŽ,¸,Ü,¹,ñB

