

,±,}lflvfVf‡f“,ÅftHfO fe□[fuf< fGf~f...fƎ□[fVf‡f“,ðflf“,Ü,½,Ílft,É□Ø,è'Ö,!,Ü,·□B

Direct3D ,lŽd—l,Å,í□ADirect3D fn□[fhfEfFA fAfNfZf%fƎ□[fVf‡f“,Éî‰ž,μ,½ffBfXfvfƎfC fAf\_fvf^,Í□Afo□[fefbfNfX  
ftfHfO,Ü,½,Ífe□[fuf< ftfHfO,!,¢,,ê,©,ðŽÀ□s,Å,«.,é,±,Æ,É,È,Á,Ä,¢,Ü,·□B`ê•".}fQ□[f€,Å,í□ADirect3D fn□[fhfEfFA,}□«"  
,ð³Šm,ÉŠm"F,¹,,Éfe□[fuf< ftfHfO fTf|□[fg,ð—v<□,μ,Ü,·□B,±,}lflvfVf‡f“,ð'l'ð,.,é,Æ□A,±,}æ,ª,ÈfQ□[f€,ª NVIDIA  
fOf%ftfBfbfNfX fvf□fZfbfT,Å□³□í,É"®□ì,μ,Ü,·□B

,±,l̂fIvfVf‡f“,đ'đ,·,é,Æ□Afhf%ofo,ł□V,μ,¢ DirectX <@“,l̂-³Œø,É,È,è,Ü,·□B

ˆÈ‘O,łfo□[fWf‡f“,,l̂ DirectX ‘î%ž,łfQ□[f€,l'†,É,Í□Afhf%ofo,Å—LŒø,É,È,Á,Ä,¢,éCf“fXfg□[f<□İ,Y,ł DirectX 6 ,“,æ,Ñ 7  
,Å,Í□³□í,ÉŽÀ□s,Å,«,È,¢,à,łª, ,è,Ü,·□B,±,l̂fIvfVf‡f“,đ'đ,·,é,Æ□AŒÄ,¢fQ□[f€,đ□³□í,ÉŽÀ□s,Å,«,é,æ,ª,Éfhf%ofo,đDirectX 5  
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<N“@,μ,È,¢□A, ,é,¢,Í□³□í,ÉŽÀ□s,Å,«,È,¢ŒÄ,¢fQ□[f€,đŽÀ□s,·,é□ê□‡,Í□A,±,l̂fIvfVf‡f“,đ'đ,μ,Ä,,¾,³,¢□B

Z-f**o**f**b**f**t**f@,l["x,ðfAfvfŠfP["fVf‡f",<sup>a</sup>—v<□,·,é["x,ÉŽ©"<sup>6</sup>"l,É'<sup>2</sup>□®,·,é,æ,<sup>a</sup>Éfn["fhfEfFfA,ð□Ý'è,μ,Ü,·□B

"Á'è,l Z-f**o**f**b**f**t**f@["x,ð•K—v,Æ,·,é□ê□‡,ð□œ,¢,Ä□A'Ê□í,l,±,lfvfVf‡f",ð—LÆø,É,μ,Ä,"«,Ü,·□B,±,lfvfVf‡f",ð—

<sup>3</sup>Æø,É,·,é,Æ□AZ-f**o**f**b**f**t**f@,l□kÆ["x,<sup>a</sup>Æ»□Ý,lfn["fhfEfFfA□Ý'è,Æ^ê'v,μ,È,¢fAfvfŠfP["fVf‡f",l,·,x,Ä"<sup>6</sup>□l,μ,È,,È,è,Ü,·□B

•Ê,ì["wfofbftf@•û-@,ð—LŒø,É,μ,Ü,·□B

fn□[fhfEfFfA,ª`Ù,Ê,éf□fJfjYf€,ðŽg—p,μ,Ä 16 frfbfg fAfvfŠfP□[fVf‡f“,Ä,ì["wfofbftf@,ð□s,ρ,±,Æ,ª,Ä,«,Ü,·□B,±,ì□Ý'è,ð  
—LŒø,É,·,é,Æ□A,æ,è□,,¢•iŽç,Ä 3D fCf□□[fW,ìfŒf“f\_Šf“fO,ð□s,ρ,±,Æ,ª,Ä,«,Ü,·□B

Direct3D Žg—pŽž,É NVIDIA, ĭf□fS,đ—LŒø,É,μ,Ü,·□B

,±,ĭ□Ý'è,đ—LŒø,É,·,é,Æ□ADirect3D fAfvfŠfP□[fVf‡f“,ĭŽĀ□sŽž,É□A%œ—Ê%°↵,É NVIDIA, ĭf□fS,ªŽ!,³ê,Ü,·□B

NVIDIA fOf%ftfBfbfNfX fvf□fZfbfT,í□Af~fbfvf}fbfv,ðŽ©“@“l,É□¶□¬,·,é,±,Æ,ÅfofXŒo—R,ìfefNfXf`ff“]‘—Œø—  
!,ð□ã,°□AfAfvfŠfP□[fVf‡f“,ìfpftfH□{f}f“fX,ðŒü□ã,³,¹,é,±,Æ,ª,Å,«,Ü,·□B

,μ,©,μ^ê•“,ìfAfvfŠfP□[fVf‡f“,Å,í□Af~fbfvf}fbfv,ìŽ©“@□¶□¬,ª—LŒø,É,È,Å,Ä,¢,é,ÆfCf□□[fW,ª□³□í,É•Ž!,³,ê,È,¢,±,Æ,ª, ,è,Ü,·  
□B,±,α,μ,½–â'è,ð%ðŒ^,·,é,É,í□AfCf□□[fW,ª□³□í,É•Ž!,³,ê,é□“l,Ü,Å□AZ©“@“l,É□¶□¬,³,ê,éf~fbfvf}fbfvfŒxf<,ð%°,°  
,Ü,·□Bf~fbfvf}fbfv fŒxf<□“,ðŒ,ç,·,±,Æ,Å□A¹²,,ì□ê□‡□AfefNfXf`ff,ì,,ê,â□uŒp,¬–Ú□v,ð%ð□Å,Å,«,Ü,· (fpftfH□{f}  
f“fX,í¹²□'á%°,μ,Ü,·)□B

fOf%oftfBfbfNfX fvf□fZfbfT,ÅŽg—p,.,éŽ©"®f~fbfvf}fbfsf"fO-@,ð'ð,Å,«,Ü,·□B

fOfCfŠfjfA-@,Ü,½,Í 8 f^fbfv^Ü•û□«-@,lf~fbfvf}fbfsf"fO-@,ð'ð,Å,«,Ü,·□BfOfCfŠfjfA-@,Å,í"ê"Ê"l,ÉfpftfH□[f}

f"fX,ªŒü□ã,μ□A`Ü•û□«-@,Å,ÍfCf□□[fW•iŽĸ,ªŒü□ã,μ,Ü,·□B

*f~fbfvf}fbfv,ł* LOD (Level of Detail) *f of Cf Af X,đ²@,Å,«,Ü,·* □B

*f of Cf Af X,đ'á,□Ý'è,·é,Æf Cf □□[fW•iŽč,ªÆü□ā,μ□A f of Cf Af X,đ□,,□Ý'è,·é,Æf Af vf ŠfP□[fVf‡f",łfpftfH□[f}*  
*f" fX,ªÆü□ā,μ,Ü,·□B□u□Å□,,łf Cf □□[fW•iŽč□v,©,ç□u□Å□,,łfpftfH□[f}f" fX□v,Ü,Å□A, ,ç,©,¶,ß□Ý'è,³,ê,½ 5*  
*.Â,łf of Cf Af X'ł,©,ç'ł'đ,Å,«,Ü,·* □B



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p,³,¹,é,É,Í□A[OK] ,Ü,½,Í [“K—p] f{f^f“,ð'ð,μ,Ü,·□B

Œ»□Ý,ì□Ý'è ([Direct3D ,ì□Ú□×□Ý'è] f\_fCfAf□fO f{fbfNfX,ì□Ý'è,àŠÜ,þ)  
,ðfJfXf^f€□uTweak□v,Æ,μ,Ä•Ů'¶,μ,Ü,·□B•Ů'¶,³ê,½□Ý'è,ª—x,îê——,É'Ç%Á,³ê,Ü,·□B  
“Á'è,ì Direct3D fQ□[f€,Å□Å"K,È□Ý'è,ªŒ©,Â,©,Á,½□ê□‡□A,»,ì□Ý'è,ðfJfXf^f€□Ý'è,ì□uTweak□v,Æ,μ,Ä•Ů'¶,μ,Ä,"„,Æ□AfQ□[f€  
,ðŠJŽn,·,é'O,É,·,Î,â, Direct3D ,ª□Ý'è,Å,«,é,Î,Å□AŠeflfvfVf‡f“,ðŒÂ•Ê,É□Ý'è,·,éŽèŠÔ,ª□È,¯,Ü,·□B

fŠXfg,ÅŒ»□Ý'!ð,³,ê,Ä,¢,éJfXf^f€□Ý'è,δ□í□œ,μ,Ü,-□B

,·,x,Ä,l□Ý`è,ð□%Šú□Ý`è!,É-ß,μ,Ü,·□B

Direct3D ,l'Ç%Á□Ý'è,ðfJfXf^f}fCfY,Å,«,éf\_fCfAf□fO f{fbfNfX,ð•Ž!,μ,Ü,·□B

,±,ḷlfvfVf‡f“,Å□AfefNfZf<(fefNfXf`ff fGfƎf□f“fg) —p,ḷfn□[fhfEfFfA fefNfXf`ff,ḷ”z’u□Ý’è,ð•i□X,μ,Ü,·□B  
±,ê,ç,ḷl,ð•i□X,·,é,±,Æ,Å□AƎ³,ḷfefNfZf<,ªè<`³,ê,½□ê□Š,ª•ḷ,i,è,Ü,·□B□%Šú□Ý’è,í□ADirect3D,ḷŽd—I,É□],Á,Ä,¢  
,Ü,·□Bf\ftfgfEfFfA,ḷ†,É,ḷ□AƎ³,ḷfefNfZf<,ð,¢,,ê,©,ḷ□ê□Š,É’è<`,·,é,±,Æ,ð—v□,·,é,à,ḷ,à ,è,Ü,·□B,±  
,ê,ç,ḷfAfvfŠfP□[fVf‡f“,Å,í□AƎ³,ḷfefNfZf<,ð□Ä’è<`,·,é,±  
,Æ,ÅfCf□□[fW•iŽč,ªƎü□ă,μ,Ü,·□B²□@,Â,Ü,Ý,ðŽg,Á,Ä□AƎ³,ḷfefNfZf<,ḷ□ê□Š,ðfefNfZf<,ḷ□¶□ă<÷,©,ç’†□S,ḷŠŎ,Å²□@,μ,Ä,-  
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,±,ê,É,æ,è□A(ffBfXfvfœfC fAf\_fvf^,É"◊Ú,³ê,½f□f,fŠ,É%Á,,Ä) fefNfXf`ff◊L%—p,ÉŽw'è,³ê,½—e—Ê,Ü,ÄfVfXfef€  
f□f,fŠ,ð—~—p,Ä,«,é,æ,ø,ÉfOf%ftfBfbfNfX fvf□fZfbfT,ì□Y'è,ð□s,ø,±,Æ,ª,Ä,«,Ü,◊B

f□f,: fefNfXf`ff◊L%—p,ÉŽg—p,Ä,«,éfVfXfef€ f□f,fŠ,ì□Ä'ä—e—Ê,Í□AfRf"fsf...□[f^,É"◊Ú,³ê,½•'—□ RAM ,ì—e—  
Ê,ð,à,Æ,É,μ,ÄŽZ□o,³ê,Ü,◊BfVfXfef€ RAM ,ì—e—Ê,a'□%Á,·,é,Æ□A□Y'è,Ä,«,é'l,à'ä,«,,Ê,è,Ü,◊B

,±,ì□Y'è,í□APCI fffBfXfvfœfC fAf\_fvf^ (, ,é,¢,Í PCI œYŠ·f,□[fh,ÄŽÀ□s't,ìAGP fffBfXfvfœfC fAf\_fvf^),¾,\_,É"K—  
p,³,ê,Ü,◊B

,±,ḷf l f v f V f ‡ f",đ'đ,·,é,Æ□AVSYNC ,<sup>a-3</sup>Ǝø,É,È,è,Ü,·□B

f,fj)f^,l□,'¼fŠf g f Ǝ□[fX,ḷ"Šú,đ'ò,½,,É□A f C f □□[fW,đ,·,î,â,%œ-Ê,Éf Ǝ f" f\_Šf" f O,Å,«,Ü,·□B,±  
,ḷf l f v f V f ‡ f",É,æ,è□A f t f Ǝ□[f€ f Ǝ□[f g,đ%œ-Ê,ḷfŠ f t f Ǝ f b f V f ... f Ǝ□[f g,æ,è'â,«,·-  
□Ý'è,Å,«,Ü,·,<sup>a</sup>□A f C f □□[fW•iŽč,<sup>a-1</sup>È,î,ê,é,ì,Å□A•Ž!,É%e<č,<sup>a</sup>□o,½,è•Ž!,ḷ'<sup>a</sup>□Ø,ê,é,±,Æ,<sup>a</sup>, ,è,Ü,·□B



,±,łfłfvfVf‡f",É,æ,è□A"Á'è,ł D3D fAfvfŠfP□[fVf‡f",ĀŽg—p,·,é fAf" f`fGfCfŠfAfX,ł—Ê,ðŒ`è,μ,Ü,·□B  
fAf" f`fGfCfŠfAfX,Æ,í□A3D flfu fWfFfNfg,ł%□,ÉŽž□ÜŒ©,ç,ê,é□uŠK'i□ó□v,łfGftfFfNfg,ð□Ā□—ŒÀ,É—}  
,,é<Z□p,Ā,·□B fAf" f`fGfCfŠfAfX,ł—Ê,í□AŠ®'S,Èflft,©,ç fAfvfŠfP□[fVf‡f",ĀŽĀ□s,Ā,«□Ā'â—Ê,Ü,Ā'I'ð,Ā,«,Ü,·□B

,±,l̂f|fVfVf‡f“,Í□AfAf“f`fGfCfŠfAfX,đ'¼□ÚfTf|□[fg,μ,Ä,¢,È,¢fAfvfŠfP□[fVf‡f“,ÅfAf“f`fGfCfŠfAfX,đ<□S“l,ÉŽg—  
p,.,é,½,ß,l̂,â,l̂,Â,·□B

,±,l̂f|fVfVf‡f“,l̂Žg—p,É,Í□\•ª□^Ó,μ,Ä,,¾,¾,¢□BfAf“f`fGfCfŠfAfX,đ-¾Šm,ÉfTf|□[fg,μ,Ä,¢  
,È,¢^ê•“,l̂fAfvfŠfP□[fVf‡f“,Å,Í□AfCf□□[fW,ª³□í,É•Žl̂,¾ê,È,¢□ê□‡,â•s<K¥,ÈfCf□□[fW,ª•Žl̂,¾ê,é□ê□‡,ª,è,Ü,·□BfAf“f`fG  
fCfŠfAfX,đfTf|□[fg,μ,Ä,¢,È,¢fQ□[f€,âfAfvfŠfP□[fVf‡f“,Å•Žl̂□ă,l̂-â'è,ª"□¶,μ,½□ê□‡,Í□A,±,l̂f|fVfVf‡f“,đf|ft,É,μ,Ä,-  
,¾,¾,¢□B

,±,lflfvfVf‡f",É,æ,è□AfOf%ftfBfbfNfX f`fbfv,Â□^—□,³,ê,é'O,É CPU ,ª€"ð,·,éftfŒ□[f€,l□",ð□SŒÀ,μ,Ü,· (VSYNC ,ª-  
³Œø,É,È,Á,Ä,¢,é□ê□‡)□B

,,ç,©,¶,ßfŒf"f\_Œf"ŒfO,³ê,éftfŒ□[f€,l□",ª½,-  
,È,é,Æ□AfWf‡fCfXfefBfbfN□AfQ□[f€fpfbfh□AfL□[f{□[fh,È,Ç,lfffofCfX,Ö,l"½%ž,É,"-,é□u"ü—Íf%fo□v,ª',È,é□ê□‡,ª,  
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f h f % f C f o , Å OpenGL Š g ' E < @ " \ , \ GL\_KTX\_buffer\_region , đ Ž g , ! , é , æ , ¢ , É , μ , Ü , · □ B

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GL\_KTX\_buffer\_region Šg'£<@"\,ª—LŒø,É,È,Á,Ä,Œ,é,Æ,«,É□Af□□[fJf<,l)frfffl f□f,fŠ,lŽg—p,δ%Â"\,É,μ,Ü,·□B  
,½,¾,μ□AŽg—p%Â"\,Èf□□[fJf< frfffl f□f,fŠ,ª 8 MB —Œ—ž,l□ê□‡,Í□Afff...fAf< fyfCf"Šg'£<@"\fTf|□[fg,Í—  
LŒø,É,È,è,Ü,¹,ñ□B  
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□, '¬fŠj fA-f~fbfvf}fbfv-fŠj fA ft fB f<f^fŠf“fO,δ—LŒø,É,·,é,Æ□A fC f□□[fW•iŽč,δ'½□-  
'á%°,³,¹,ÄfAfvfŠfP□[fVf‡f“, ðpftfH□[f}f“fX,ðŒü□ã,³,¹,é,±,Æ,ª,Å,«,Ü,·□B  
'Ê□í, í□A,» ,ê, ù,ÇfCf□□[fW•iŽč,ªá%°,·,é,±,Æ,Í, ,è,Ü,¹,ñ, ð, Å□A,±, ð@“\,ð—LŒø,É,µ,Äf pftfH□[f}f“fX, ðŒü□ã,ð□},Á,Ä,,¾,³,¢□B

,±,l̇fIfvfVf‡f“,đŽg,ϣ,Æ□AfCf□□[fW•iŽŁ,đŒü□ā,³,¹,é,½,ß,l̇û•û□«ftfBf<f^fŠf“fO,đ OpenGL ,ĂŽg—p,Ă,«,«,Û,·□B

,±,ì|f|fvfVf‡f“,ð'ì'ð,·,é,Æ□A“Á'è,ì CPU ,ÅŽg—p,·,éŠg'E—½—ß,Éî,·,éfhf%o fCfo fTf|□[fg,<sup>a</sup>—<sup>3</sup>Æø,É,È,è,Ü,·□B  
^ê•“,ì CPU ,Å,í□ANVIDIA fOf%oftfBfbfNfX fvf□fZfbfT,ð•â□•,μ,Ä 3D fQ□[f€,âfAfvfŠfP□[fVf‡f“,ìfpftfH□[f}  
f“fX,ðÆü□ã,<sup>3</sup>,<sup>1</sup>,é'Ç%oÁ 3D —½—ß,ðfTf|□[fg,μ,Ä,¢,Ü,·□B,±,ì|f|fvfVf‡f“,É,æ,è□Afhf%o fCfo,Ä,ì,±,ê,ç,ì'Ç%oÁ 3D —½—ß,ìfTf|  
□[fg,ð—<sup>3</sup>Æø,É,Ä,«,Ü,·□BfpftfH□[f}f“fX,ð“äŠr,·,é□ê□‡,âfgf%ofuf<fVf...□[fefBf“fO,ð□s,□□ê□‡,É•Ö—,Èf|fvfVf‡f“,Ä,·□B



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ÜŒ©,ç,ê,é,¬,¬,µ,½uŠK'ió□v,l̇fGftfFfNfg,ð—},i,Ä—ÖŠs,ðŠŠ,ç,©,É,·,é<Z□p,Å,·□B1.5 x 1.5 –  
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f hf%o f C f o, Å f X f e f C f l f s f N f Z f < f t f H [ f } f b f g, ð f G f N f X f | [ f g, Å, «, é, æ, ¢, É, µ, Ü, · □ B, » , ì C < % Ê □ A Open GL  
f A f v f Š f P □ [ f V f ‡ f “, Å f X f e f C f l • Ž , ¢ — L C ø, É, È, è □ A f X f e f C f l f V f f f b f ^ □ [ f O f % f X, ð Ž g — p, ·, é, ±, Æ, ¢, Å, «, Ü, · □ B

*f*h*f*%*f*C*f*o,Å*f*l□[*f*o□[*f*Œ*f*C *f*s*f*N*f*Z*f*< *f*t*f*H□[*f*}*f*b*f*g,đ*f*G*f*N*f*X*f*|□[*f*g,Å,«,*é*,æ,ƚ,É,μ,Ü,·□BOpenGL  
*f*A*f*v*f*Š*f*P□[*f*V*f*‡*f*“,Å*f*l□[*f*o□[*f*Œ*f*C,đŽg—p,Å,«,*é*,æ,ƚ,É,È,è,Ü,·□B

,±,̀|f|fVfVf‡f“,đ'!đ,·,é,Æ□AOpenGL,ÉfCf□□[fW•iŽč,đŒü□ă,³¹,é,½,ß,î~Û•û□«ftfBf<f^fŠf“fO,đŽg—p,Å,«,Û,·□B,±,̀|<@“\,đ—  
LŒø,É,·,é,Æ□AfCf□□[fW•iŽč,íŒü□ă,μ,Û,·,<sup>a</sup>□AfpftfH□[f}f“fX,íá%°°,·,é,ì,Å'□^Ó,μ,Ä,,¾,³,¢□B

,±,l<@"\,ð—LŒø,É,·,é,Æ□AOpenGL fhf%o fCfo,í 1,Â,ìfofbfN fofbftf@,Æ 1  
Â,ì□[wfofbftf@,ðftfBfXfvfŒfC,Æ"—,¶%øð'œ"x,ÂŠ,,,è"—,Â,Ü,·□B

•i□",ìfEfBf"fhfE,ðŽg—p,·,é fAfvfŠfP□[fVf±f",Â,Í□A,±,¿,ç,ì•û,afrffl f□f,fŠ,ðŒø—|",ÉŽg—p,Â,«,Ü,·□B

,±,l<@"\,ð—<sup>3</sup>Œø,É,·,é,Æ□AOpenGL fhf%o fCfo,ì fAfvfŠfP□[fVf±f",Â□ì□—,³,è,é,·,x,Â,ìfEfBf"fhfE,ÉfofbfN  
fofbftf@,Æ□[wfofbftf@,ðŠ,,,è"—,Â,Ü,·□B

,±,l<@"\,ðŽg—p,·,é,Æ□A•i□",ìfEfBf"fhfE,ðŽg—p,·,é OpenGL fAfvfŠfP□[fVf±f",ìpftfH□[f}f"fX,aŒü□ã,μ,Ü,·□B

'I'ð,μ,½ OpenGL fAfvfŠfP[fVf‡f“,ÉÅ“K,ÈÝ"è,ðs,¢,Ü,·B

,±,lflvfVf‡f“,É,æ,è□A□%Šú□Ý’è,Å OpenGL fAfvfŠfP□[fVf‡f“,a“Á’è,ì•Ž!□F□”,lfeNfXf`ff,ðŽg—p,;,é,©,Ç,¤  
,©,ðƐ~`è,μ,Ü,·□B

□uffXfNfgfbfv,lfJf%□[□“x,ðŽg—p□v,Å,í□AWindows fXfNfgfbfv,ªƐ»□ÝŽg—p,μ,Ä,¢  
,éfJf%□[□“x,lfeNfXf`ff,ð□í,ÉŽg—p,μ,Ü,·□B

□u□í,É 16 bpp ,ðŽg—p□v,“,æ,Ń□u□í,É 32 bpp ,ðŽg—p□vflvfVf‡f“,Å,í□AffXfNfgfbfv,ì□Ý’è,ð–  
³Ž<,μ,Ä□AŽw’è,³,ê,½fJf%□[□“x,lfeNfXf`ff,ðŽg—p,μ,Ü,·□B

,±,ìfIvfVf‡f“,É,æ,èAftf<fXfNfŠ□[f“ OpenGL fAfvfŠfP□[fVf‡f“—p,ìfofbftf@ ftfŠfbfv f,□[fh,ðƐ^è,μ,Û,·□B  
□ufuf□fbfN”]’——@Ɛ□A¢fy□[fW ftfŠfbfv–  
@Ɛ□A¢Ž©“@‘l’ð□v,©,ç‘l’ð,Ā,«,Û,·□B□uŽ©“@‘l’ð□v,Ā,í□Afn□[fhfEfFfA,ì□\□¬,©,çfhf%ƒCfo,<sup>a</sup>□Ā“K,ĚŽè–@,ðƐ^è,μ,Û,·□B



,±,ìfIfvfVf‡f“,Ä,í□AOpenGL,Ä,ì□,¼“~Šú,ì□^—□•û—@,ǎŽw’è,μ,Ü,·□B

□í,ÉfIf□B,·,x,Ä,ì OpenGL fAfvfŠfP□[fVf‡f“,Ä□,¼“~Šú,ª□í,É—³Œø,É,È,è,Ü,·□B

□%Šú□Y’è,Ä,íIf□B—LŒø,É,·,é,æ,ª,ÉfAfvfŠfP□[fVf‡f“,©,ç—¾Šm,É—v<□,³,è,Ä,¢,é,Æ,«^ÈŠO,í□A□,¼“~Šú,ǎ—³Œø,É,μ,Ä,“,«,Ü,·□B

□%Šú□Y’è,Ä,íIf“□B—³Œø,É,·,é,æ,ª,ÉfAfvfŠfP□[fVf‡f“,©,ç—¾Šm,É—v<□,³,è,Ä,¢,é,Æ,«^ÈŠO,í□A□,¼“~Šú,ǎ—LŒø,É,μ,Ä,“,«,Ü,·□B

Œ»□Ý,ì□Ý'è,ðfJfXf^f€□Ý'è,ì□uTweak□v,Æ,μ,Ä•Ů•¶,μ,Ü,·□B•Ů•¶,μ,½□Ý'è,Í—×,è,ìfJfXf^f€□Ý'èfŠfXfg,É'Ç%Á,³ê,Ü,·□B  
,,é OpenGL fAfvfŠfP□[fVf‡f“,Å□Å“K,È□Ý'è,ªŒ©,Â,©,Á,½□ê□‡□A,»,ì□Ý'è,ðfJfXf^f€□Ý'è,ì□uTweak□v,Æ,μ,Ä•Ů•¶,μ,Ä,“, -  
,Æ□Afvf□fOf%of€,ðŠJŽn,·,é'O,É,·,Î,â, OpenGL ,ð□Ý'è,Å,«,é,Î,Å□AŠeflfvfVf‡f“,ðŒÂ•Ê,É□Ý'è,·,éŽèŠÔ,ª□È,¯,Ü,·□B

'²Ⓢ,Â,Û,Ý,ðŽg,Á,Ä⊠A'!ð,μ,½fJf%⊠[ f`fff“flf<,!–¾,é,³⊠AfRf“fgf%⊠Xfg⊠AfKf“f}!l,ð'²Ⓢ,Â,«,,Û,·⊠B

fJf%⊠[•â⊠³²Ⓢ,ðŽg—p,μ,Ä⊠Af\⊠[fX fCf⊠⊠[fW,ÆffBfXfvfƎfC ftfofCfX,Â,l⊠o—Í,Æ,ìŠÔ,Â⊠¶,¶,é<P"x,ì,î,ç,Â,«,,ð•â⊠³,·,é,±  
,Æ,<sup>a</sup>,Â,«,,Û,·⊠BfCf⊠⊠[fW⊠^—⊠fAfvfŠfP⊠[fVf‡f“,ðŽg—p,μ,Ä,¢,é⊠ê⊠‡⊠A,±,}<@“\,É,æ,Á,ÄfCf⊠⊠[fW (ŽÊ⊠^,È,Ç)  
,ðf, f}f^,É•Ž!,·,é,Æ,«,,ìfJf%⊠[ð,³,ç,É⊠³Šm,É⊠ÄƎ»,·,é,±,Æ,<sup>a</sup>,Â,«,,Û,·⊠B

,Û,½⊠A'½,,ì 3D fAfNfZf%fƎ⊠[fefbfh fQ⊠[f€,Â⊠A•Ž!,<sup>a</sup>Ä,·,¬,ÄfvfƎfC,Â,«,,È,¢,±,Æ,<sup>a</sup> ,è,Û,·⊠B,·,×,Ä,ìf`fff“flf<,Â<ï™,É–  
¾,é,³,âfKf“f}!l,ð⊠ă,°,ê,î⊠A•Ž!,<sup>a</sup>–¾,é,,È,èfvfƎfC,μ,â,·,,È,è,Û,·⊠B

,Â,Ü,Ý,ðŽg—p,μ,Ä□A'²□@,·,éJf%□[ f`fff“flf<,ð'l'ð,Â,«,Ü,·□B□Ô□A—î□A□Â,ìf`fff“flf<,ðŒÂ•Ê,É'²□@,μ,½,è□A3  
□F,ð“Žž,É'²□@,Â,«,Ü,·□B

ffWf^f< fo fCfuf%of“fX,í AfJf%□[,l•a%đ,ÆfJf%□[“Z“x,}fRf“fgf□□[f<,đ<%»„μ□A, ,ç,ä,éfAfvfŠfP□[fVf‡f“,Å–%,é,‘N–  
%,ÈfCf□□[fW,đ•\Œ»„μ,Ü,· □B

fJf%[<Èü,ðfOf%ftfBfbfN•Ž!,μ,½,à,)\BfRf“fgf%fXfgA–%,é,<sup>3</sup>AfKf“f},ð<sup>12</sup>@,.,é,ÆA,±,)<Èü,<sup>a</sup>fŠfAf<f^fCf€  
,Å•l%»»,μ,Ü,.B

,±,̀l f l f v f V f ‡ f “,đ' l' đ,·,é,Æ □ A Windows , º □ Ä < N “ ®,µ,½,Æ,«É,±,±,±,Â □ Ý è,µ,½ f J f % □ [² □ ®, º Ž © “ ® “ l,É • œ Œ ³,³,ê,Ü,· □ B

f □ f,,: f R f “ f s f ... □ [f ^, º f l f b f g f □ □ [f N □ ã, Å “ ® □ i,µ,Ä,¢,é □ ê □ ‡ □ A f J f % □ [² □ ®,³,ê,é,̀l, l Windows ,É f □ f O f l f “,µ,½ Œ ã, Å,· □ B

•Ů'¶,μ,½fJf%□[ fJfXf^f€□Ý'èfŠfXfg□BfŠfXfg,©,ç□€–Ú,ð'l'ð,.,é,Æ□A□Ý'è,<sup>a</sup>—LŒø,É,È,è,Ü,·□B



Œ»□Ý,lfJf%□[□Ýè,ðfJfXf^f€□Ýè,Æ,μ,Ä•Ô•¶,μ,Ü,·□B•Ô•¶,³ê,½□Ýè,a—x,lfŠfXfg,É'Ç%Á,³ê,Ü,·□B

fŠfXfg,ÅŒ»□Ý'!ð,³,ê,Ä,Œ,éJfXf^f€ fJf%□[□Ý'è,ð□í□œ,μ,Ü,·□B

,·,x,Ä,lfJf%□[!l,ðfn□[fhfEfFA□o%×Žž,ì□Ý'è,É-ß,μ,Ü,·□B

^È%°,ìf,fjff^ f^fCf~f“fO f,□[fh,δ'ì'ð,Ä,«,Ü,·□B

Ž@“@ŒŸ□o□BWindows ,<sup>a</sup>f,fjff^,©,ç“K□Ø,Èf^fCf~f“fO□î•ñ,ð'¼□ÚŽó□M,μ,Ü,·□B,±,ê,<sup>a</sup>□%Šú□Ý'è,Æ,È,Ä,Ä,ç  
,Ü,·□BŒÄ,çŒ^,ìf,fjff^,Ä,Í□A,±,ì<@“\,<sup>a</sup>fTf|□[fg,<sup>3</sup>è,Ä,ç,È,ç,±,Æ,<sup>a</sup> ,è,Ü,·,ì,Ä,<sup>2</sup>□“Ó,,¾,<sup>3</sup>,ç□B

**GTF** (General Timing Formula) ,Í□A□V,μ,çfn□[fhfEfFfA,ì'â•“<sup>a</sup>,ÄŽg—p,<sup>3</sup>è,Ä,ç,é<KŠi,Ä,·□B

**DMT** (Discrete Monitor Timings) ,Í□A^ê•“,ìfn□[fhfEfFfA,ÄŽg—p,<sup>3</sup>è,Ä,ç,éŒÄ,ç<KŠi,Ä,·□B,<sup>2</sup>Žg—p,ìf,fjff^,Ä DMT  
,<sup>a</sup>Žw'è,<sup>3</sup>è,Ä,ç,é□ê□‡,Í□A,±,ìfIfvfVf‡f“,ð—LŒø,É,μ,Ä,,¾,<sup>3</sup>,ç□B

[NVIDIA QuickTweak] fAfCfRf“,ð Windows f^fXfNfo□[.É•Ž!,μ,Ü,·□B

,±,ìfAfCfRf“,ðŽg—p,·,é,Æ□A•Ö—~,Èf|fbfvfAfbfv f□fj f...□[.©,çfJfXf^f€ Direct3D□AOpenGL□AfJf%□[□Y'è,ð,·,Î,â,"K—  
p,Å,«,Ü,·□B,Ü,½□A,±,ìf□fj f...□[.É,Í□%Šú□Y'è,É–ß,·,½,ß,ì□€–Ú,â [‰æ–Ê,ìfvf□fpfefB] f\_fCfAf□fO  
f{fbfNfX,ÉfAfNfZfX,·,é,½,ß,ì□€–Ú,àŠÜ,Ü,è,Ä,¢,Ü,·□B

Windows *f^XfNfo* Å QuickTweak *f†* *[fefBfŠfefB,Æ,μ,Ä•Ž!*,*éfAfCfRf“*,*đ'!đ,Å,«*,*Ü*,*•* B

•*Ž!*,*³*,*¹*,*½*,*¢fAfCfRf“*,*đfŠfXfg*,*©*,*ç'!đ,μ,Ä,*,*¾*,*³*,*¢* B[OK] ,*Ü*,*½*,*Í* ["K—p] ,*đ'!đ,μ* *Af^XfNfo* *[,lfAfCfRf“*,*đ* X V,*μ,Ü*,*•* B

NVIDIA Desktop Manager ,ª—LŒø,É,È,è,Ü,·□B

NVIDIA Desktop Manager ,ðŽg—p,·,é,Æ□AnView f}f<f` f,fjff^□Ý'è,lŽg—pŽž,É□AfEfBf"fhfEŠÇ—□fzfbfvg  
fL□[□Af\_fCfAf□fO f{fbfNfX,l}ŠfZf"f^fŠf"fO□AfY□[f€,È,Ç,lŠg'E<@"\,ðŽg—p,Å,«,·□B,Ü,½□ADesktop Manager ,ðŽg—  
p,·,é,Æ□A•i□",lffXfNfgfbfv,ªfTf|□[fg,³,ê,é,½,ß□AfAfvfŠfP□[fVf‡f" f□□[fNfXfy□[fX,l□@—□,É—ð—S,¿,Ü,·□B

[NVIDIA Desktop Manager □Ý'è] f\_fCfAf□fO f{fbfNfX,aŠJ,«,Ü,·□B

[Desktop Manager □Y'è] f\_□CfAf□fO f{f{bfNfX.Ä,□Af\_□CfAf□fO f{f{bfNfX,lfSfZf"^^fSf"□fO flfvfVf+□f,âfzfbfq  
fL□,l[i]'â□AfAfVfSfP□[fvf+□S□—□,□Y'è.È,Ç□A.,x.Ä, Desktop Manager ,l@",Æ□Y'è,ð□S□Ä.Ä,«.Ü.,□B



[ $\square \acute{U} \square \times f v f \square f p f e f B$ ]  $f\_f C f A f \square f O$   $f\{f b f N f X, \text{\AA} [\acute{I}, \text{\textcircled{C}}], \ddot{U}, \frac{1}{2}, \acute{I} [^{\text{K}}\text{---}p], \delta^{\text{'}} \delta, \mu, \ddot{A} \cdot \ddot{I} \square X, \delta^{\text{K}}\text{---}p, \cdot, \acute{e}, \frac{1}{2}, \beta, \acute{E} \square A, \pm, \grave{I} f\_f C f A f \square f O$   
 $f\{f b f N f X, \delta \cdot \hat{A}, \P, \ddot{A} \cdot \ddot{I} \square X, \delta \cdot \acute{U} \cdot \P, \mu, \ddot{U}, \cdot \square B$

$f^XfNfo[ fAfCfRf^{\alpha},\partial fNf\check{S}fbfN,\mu,\frac{1}{2},\mathbb{E},\ll,\acute{E}\square A,\mathfrak{C},\mathcal{Z},\mathfrak{C},\mathfrak{l}\mathfrak{f}\}fEfX\ f\{f^{\alpha},\mathring{A}f\square f\}f\dots\square[\delta^{\alpha}\check{Z},^3_1,\acute{e},\odot^{\mathfrak{l}}\delta,\mathring{A},\ll,\ddot{U},\cdot\square B$

Šm" Ff□fbfZ□[fW, ð'Ž/"/ñ•Ž', ð' ð, μ, Ü, · □B

f^fXfNfo□[ f□fj f ...□[.©,ç 3D □Ý'è,ðf□□[fh,μ,½,Æ,«,ÉŠm" Ff□fbfZ□[fW,ð'Ž',³,¹,È,¢,æ,²,É,·,é,É,Í□A,±  
, ðf ðf v f V f ‡ f ", ðf`f F f b f N, μ, Ä,,¾,³,¢□B

$$f^{\wedge}fXfNfo\Box[f\Box]jf\ldots\Box[\grave{\text{d}}\text{ }3\text{D}\cdot\grave{\text{Z}}!,^{3,1,\frac{1}{2}},\text{¢}\Box\hat{\text{e}}\Box\ddot{\text{z}},\acute{\text{I}}\Box\text{A},_{\pm},\grave{\text{I}}f\text{I}f\text{v}f\text{V}f\ddot{\text{z}}f\text{“},\grave{\text{d}}'\acute{\text{d}},\mu,\ddot{\text{U}},\cdot\Box\text{B}$$

fTf|[fg,³,ê,Ä,¢,é□Å'å%ð'œ"x,æ,è,à'á,¢%ð'œ"x,ÅŽÀ□s,μ,Ä,¢,é□ê□‡□Aftf%fbfg fplf<  
ffBfXfvfœfC□ã,ÉfCf□□[fW,ð•Ž!,³,¹,é`Ê'u,ðœ`è,μ,Ü,·□B

–ĩó{f^f“,đŽg,Á,Ä□Af,fj f^□ã,ìffXfNfgfbfv,ìÊ'u,đ²□@,μ,Ü,·.□B

Œ»□Ý,ł%đ'œ"x,ÆfŠftfŒfbfVf... fŒ□[fg,É,¨,´,é□%Šú□Ý'è,ìÊ'u,ÉffXfNfgfbfv,ð-ß,μ,Ü,·□B

,±,ê,ç,ì|f|vfVf‡f",©,ç□A,<sup>2</sup>Žg—p,ìffBfXfvfƎfC fAf\_fvf^,afTf|□[fg,,:éffofCfX,É,æ,Á,Ä□A□o—íffBfXfvfƎfC fffofCfX  
(f,j)f^□AfffWf^f< ftf%fbfg fpf|f<□AfefƎfr,È,Ç□j ,đ'!đ,Ā,«,«,Ü,·□B



fAfNfefBfu,ÈffBfXfvfÆfC fffofCfX,ì□Ý'è,ðfJfXf^f}fCfY,·,é,½,ß,lfEfBf“fhfE,ªŠJ,«,Ü,·□B

TV □o—f,ÀŒ»□ÝŽg—p,³ê,Ä,¢,éŒ`Ž@,Æ'n^æ,l□Ý'è,ðŽ!,μ,Ü,·□B

“ÁŽê,È TV □o—íĈ`Ž®,đŽw`è,·é,½,β,)fEfBf“fhfE,ªŠJ,«,Ü,·□B

,±,ìfŠfXfg,©,ç,“□Z,Ü,ç,ì□‘-¼,ð‘ìð,μ,Ä TV □o—ÍŒ`Ž®,ðŒ^è,μ,Ü,·□B

f□f,∴ ,“□Z,Ü,ç,ì□‘-¼,ªfŠfXfg,É•Žì³,ê,Ä,ç,È,ç□é□‡,Í□A,“□Z,Ü,ç,ìñ^æ,É□Å,à<ß,ç□‘-¼,ð‘ìð,μ,Ä,,¾,³,ç□B

'l'δ,μ,½Ǝ`Ž®,δ“dƎ1“Š“üŽž,l□%Šú□Ý'è,É□Ý'è,μ,Ü,·□B

,±,łfłfvfVf‡f“,đ'l'đ,·,é,Ǝ□AftfBfXfvfƎfC fAf\_fvf^,ÉfefƎfr^ÈŠO,đ□Ú'±,μ,È,¢,ÅfRf“fsf...□[f^,đ<N“®,μ,Ä,¢  
,é□ê□‡,É□A<N“®'†,É•Ž!,'³,ê,é,·,×,Ä,l%œ–Êf□bfZ□[fW,ªfefƎfr,ªfTf|□[fg,·,éƎ`Ž®,Ä•Ž!,'³,ê,Ü,·□B

TV,É'—□M,·,é□o—Í□M□†,ìf^fCfv,ðŽw'è,Å,«,Ü,·,□B

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Í,·,é,±,Æ,<sup>a</sup>Å,«,Ü,·,□B,Ç,ìf^fCfv,ð'I'ð,·,ê,î,¢,©,<sup>a</sup>©,ç,È,¢□ê□‡,Í□A□uŽ©“@'I'ð□v□Ý'è,ð'I'ð,μ,Ä,,¾,<sup>3</sup>,¢□B

–îó{f^f“,đŽg,Á,Ä□ATV □ã,łffXfNfgfbfv,îÊ'u,đ'²□@,μ,Ä,,¾,¾,¢□B

f□f,: '²□@,đŒë,Á,Ä TV %æ'œ,'ª—□,ê,½,è%½,â•łŽ!,¾,ê,Ê,,Ê,Á,½□ê□‡,Í□A,»,ì,Û,Û 10 •bŠŒ,“Œ,ç,-  
,¾,¾,¢□B%æ'œ,'ªŽ©“@“l,É□%Šú□Ý'è,îÊ'u,É–ß,è,Û,·□B,»,lŒã,à,ª^ê“x'²□@,μ,Ä,-  
,¾,¾,¢□BffXfNfgfbfv,îÊ'u,'ªŒ^,Û,Á,½,ç□A10 •bŒo%ß,·,é'O,É [OK] ,Û,½,Í [“K—p] f{f^f“,đ%Ÿ,μ,Ä□Ýè,đ•Û'¶,μ,Ä,-  
,¾,¾,¢□B

Œ»□Ý,ì%ð'œ"x,É,,é□%Šú□Ý'è,ìÊ'u,ÉffXfNfgfbfv,ð-ß,μ,Ü,·□B



,±,ê,ç,ìfRf"fgf□□[f<,ðŽg—p,μ,Ä□ATV %œ'œ,ì-¾,é,<sup>3</sup>/E□Ê"x,δ'<sup>2</sup>□@,μ,Ü,·□B

,±,ê,ç,lfRf"fgf□□[f<,đŽg—p,μ,Ä□ATV %œ'œ,ł-¾,é,³,ÆfRf"fgf% fXfg,đ²□@,μ,Ü,.□B

,±,łfRf"fgf□□[f<,đŽg—p,μ,Ä□ATV □M□†,É"K—p,.,éftfŠfbfJ ftfBf<f^,ł—Ê,đ'²□®,μ,Ü,·□B

DVD %of%œ,đfn□[fhfEfFfA ftfR□[f\_„Å□Ä□¶,·,é,Æ,«,í□AftfŠfbfJ ftfBf<f^,đŠ®'S,É□Ø,é,±,Æ,đ,"Š©,Œ,μ,Ü,·□B

TV ,É□o—í,.,é□Ŭ,ì%œ—Ê,ì%ð'œ"x,ÆfJf%□[□["x,δ□Ý'è,μ,Ŭ,·□B

,±,ê,ç,ìfRf"fgf□□[f<,ðŽg—p,μ,Ä□Af,fj)f^,É•Ž!,³,ê,êfrffl,â DVD %œ'œ,ì•Žç,ð²□®,μ,Ü,·□B

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¾,é,³□AfRf"fgf%oXfg□A□F'Š□A□Ê"x,ð•Ê□X,É'²□®,μ□A□Å"K,ÈfCf□□[fW•iŽç,Å•Ž!,³,¹,é,±,Æ,<sup>a</sup>Å,«,Ü,·□B

NVIDIA fOf%ftfBfbfNfX fv f fZfbfT, ìfRfA, ",æ, Ñf f, fŠ, ìfNf fbfNžü" g f", ð² f@, ., é, ±, Æ, º, Å, «, Ü, . fB

NVIDIA fOf%ftfBfbfNfX fv fZfbfT,lfRfA fNf fbfN'~"x,δY'è,μ,Ü,·B

fRfA fNf□fbfN'~"x,ðf□fKfwf<fc,Â•Ž!,μ,Ü,·□B



*f*f*BfXfvf*⊆*fC fAf\_vf^*;*l**f*□*f,fŠ fCf“f^ftfF*□[*fX,l**fNf*□*fbfN*’-“*x,δ*□*Ýè,μ,Ü,·*□*B*

$f \square f, f \check{S} \ f C f^{\text{a}} f^{\wedge} f t f F \square [f X, l] f N f \square f b f N^{\text{'}} \neg^{\text{'}} x, \delta f \square f K f w f \text{<} f c, \text{\AA} \text{!} \check{Z}, \mu, \ddot{U}, \cdot \square B$

□V,μ,¢fNf□fbfNŽü"ɡ□",ì□Ý'è,ð"K—p,.,é'O,É^À'è□«,ðfefXfg,μ,Ü,·□B

f□f,: f□□[fJ□[,ì□%Šú□Ý'è,Æ^Ù,È,é□V,μ,¢□Ý'è,í□AŠ@'S,É"K—p,.,é'O,ÉfefXfg,ð□s,•K—v,<sup>a</sup>, ,è,Ü,·□B

,±,ḷfVfVf‡f",đ'l'đ,·é,Æ□AWindows ,đ<N"®,·é,½,Ń,ÉfNf□bfNžü"g□",ḷi□X,až©"®"l,É"K—p,³,ê,é,æ,ø,É,È,è,Ü,·□B

f□f,: Ž©"®fNf□bfN□Y'è,đ□È—ª,·,é,É,Í□AWindows ,ḷkN"®'†,É <Ctrl> fL□[,đ%Ÿ,μ,½,Ü,Ü,É,μ,Ä,"«,Ü,·□BfRf"fsf...

□[f^,afbfbf□□[fN,É□Ú'±,³,ê,Ä,¢,é□ê□‡,Í□AWindows ,Éf□fOfIf",μ,½,ç,·,® <Ctrl> fL□[,đ%Ÿ,μ,½,Ü,Ü,É,μ,Ä,,¾,³,¢□B

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,Æ,ð,“Š©,ß,μ,Ü,·□B

ˆÈ%°,l 4 ,Â,ì nView f,□[fh,©,ç'!ð,Â,«,Ü,·□B

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fAf\_fvf^,ÉffBfXfvfƎfC fffofCfX,ð 1 ,Â,¾,¯□Ú'±,μ,Ä,¢,é□ê□±,ÉŽg—p,μ,Ä,,¾,³,¢□B

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nView Standard□B•W□€,)fVf“fOf< fffBfXfvfƎfC f,□[fh,ð'l'ð,μ,Ü,·□B,±,}f,□[fh,Í□ANVIDIA fOf%ftfBfbfNfX  
fAf\_fvf^,ÉffBfXfvfƎfC fffofCfX,ð 1 ,Â,¾, □Ú'±,μ,Ä,¢,é□ê□‡,ÉŽg—p,μ,Ä,,¾,³,¢□B

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Ê,ðŒ`□¬,Å,«,é,ì,Å□A’P~êffBfXfvfŒfC,É•Ž!,·,é,æ,è,à□A□€–Ú,ð%i,É□L,•Ž!,·,é□ê□‡,É•Ö—~Å,·□B

nView □, '¼fXfpf"□B,±, \f, □[fh, Å, Í□AWindows , \ffXfNfgfbfv, ð 2 'ä, \ffBfXfvfƎfC fffofCfX, Å□c'. É•Ž!, .é, ±  
, Æ, ¢, Å, «, Ü, .□B, ±, \f, □[fh, Å, Í□A2 'ä, \fffofCfX, É, Ü, ½, ¢, é□c'. , •Ž!%æ—  
Ê, ðƎ`□—, Å, «, é, \, Å□A'P`êffBfXfvfƎfC, É•Ž!, .é, æ, è, à□A□€—Ú, ð□c, É□L, •Ž!, .é□ê□‡, É•Ö—~, Å, .□B

nView •Ž!□Ÿ'è,<sup>a</sup>fOf%ftfBfJf<•Ž!,<sup>3</sup>ê,Ü,·□B

f,fjf^,ìfOf%ftfBfbfN,ðfNfŠfbfN,·,é,Æ□ACE»□Ÿ,ì•Ž!,Æ,μ,Ä'!ð,Å,«,·□Bf,fjf^,ìfOf%ftfBfbfN,ð%EfNfŠfbfN,·,é,Æ□A□Ú  
'±,μ,Ä,¢,éffBfXfvfÆfC fffofCfX,ð'<sup>2</sup>□@,·,é,½,ß,ì,<sup>3</sup>Ü,·,Ü,È□€–Ú,•Ž!,<sup>3</sup>ê,Ü,·□B

fNf□□[f“ f,□[fh,đŽg—p,·,é,Æ□Afvf%o{Cf}fŠ ffofCfX,Ā,lfZfJf“f\_fŠ ffbfXfvfÆfC  
ffofCfX,æ,è□,¢ffXfNfgfbfv%ođ'œ“x,đŽg—p,Ā,«,Ü,·□BfZfJf“f\_fŠ ffofCfX,ì•—□%ođ'œ“x,afvf%o{Cf}fŠ  
ffofCfX,æ,è,à'á,¢□ê□‡□AfZfJf“f\_fŠ ffofCfX,ìffXfNfgfbfv%oæ—Ê,ì«ŠE,Éf}  
fEfX,đ“@,©,·,Æ□AffXfNfgfbfv,aŽ©“@“l,Éfpf“,μ,Ü,·□B

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,¾,³,¢□B,±,¤,·,é,±,Æ,Ä□A%¼'zffXfNfgfbfv,ð“CˆÓ,ìÊ'u,É□³Šm,É□uÆÄ'è□v,Ä,«,Ü,·□B,±,ì<@“\  
,í□AfvfÆf[f“fe□[fVf‡f“,ð□s,¤êê‡,âfAfvfŠfP□[fVf‡f“,Ä□x,©,¢□ì<Æ,ð□s,¤êê‡,É•Ö—,Ä,·□B

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•Ž!%„Ä“^æ,ìŠO,Éf}fEfX,ð“®),©,·,Æ□ACE<□‡,³,ê,½•Ž!%„æ—Ê,ª'ä,«,ÈffXfNfgfbfv—îæ,ì□ä,É•Ž!,³,è,Ü,·.□B

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fY□[f€ fRf“fgf□□[f<—LŒø,É,.é,Æ□Afrffl□o—Í%æ–Ê,l“Á'è,ì—îæ,đŠg'ă,Ă.«,Ü,·□B

frfffl%æ-Ê□ã,ÅŠg'å,.é—î~æ,ð,±,±,Å'ì'ð,μ,Ü,·□B—î~æ,ð'ì'ð,μ,½,ç□A%°,ì²□©,Â,Ü,Ý,ð“©,©,μ,Ä□A'ì'ð,μ,½%æ-Ê—  
î~æ,ðŠg'å,μ,Ü,·□B

*f r f f* l □ Ä □ ¶ % æ – Ê , ì ' ò , μ , ½ • " • <sup>a</sup> , ð Š g â , Û , ½ , Í □ k □ ¬ , Å , « , Û , · □ B

*f* *r* *f* *f* *l*, *δ* *f* *t* *f* < *f* *X* *f* *N* *f* *S* □ [*f*“ *f*, □ [*f* *h*, *Å* □ *Ä* □ ¶, ., *é* *f* *f* *B* *f* *X* *f* *v* *f* *Æ* *f* *C* *f* *f* *o* *f* *C* *f* *X*, *δ* ' *l* ' *δ*, *μ*, *Ü*, . □ *B*

ftf<fXfNfŠ□[f“□Å□¶ŽŽ,ì□c%ï"ä (□...•½fTfCfYî□,¼fTfCfY),đ'!đ,Ä,«,Ü,·□B

,±,ìf\vfVf‡f",ð—LŒø,É,.é,Æ□Aftf<fXfNfŠ□[f“,Å,ìfrrffl□Ä□¶,É□Å“K,È%ð‘œ“x,ðfrrffl fhf%oCfo,aŽ©“@“l,É‘l’ð,μ,Ü,.□B

,±,}fIfvVf‡f",ð—LÆø,É,·,é,Æ□A[fI□[fo□[fÆfC fRf"fgf□□[f<} fy□[fW,}fY□[f€  
fRf"fgf□□[f<ÉfŠf"fN,·,é,}Å□Aftf<fXfNfŠ□[f" ffofCfX,}fY□[f€"ä,ä"Žž,ÉfRf"fgf□□[f<Å,«,Ü,·□B

,±,}f{f^",ðfNfŠfbfN,·,é,Æ□AnView ,}fNf□□[f“ f,□[fh,Â'l'ð,Â,«,é□,“x,Èfrffl<@“\,ÉfAfNfZfX,Â,«,Ü,·□B,±,ê,ç,}<@“\  
,ÉfAfNfZfX,·,é,É,í□A,»,ìŽž“\_ÂfNf□□[f“ f,□[fh,<sup>a</sup>—LŒø,É,È,Á,Ä,¢,é•K—v,<sup>a</sup>,è,Ü,·□B



,±,ìfìfvfVf‡f",ð—LŒø,É,·,é,Æ□Afl□[fo□[fŒfC f\ftfgfEfFfA,í◊S"l,ÉfofXf}}fXf^fŠf"fO,ðŽg—p,μ,Ü,·□B,±  
,ìfìfvfVf‡f",í□Afrfffl fCf□□[fW,<sup>a</sup>—□,ê,é□A, ,é,¢,í,Ü,Á,½,•Ž!,<sup>3</sup>ê,È,¢,Æ,¢,Á,½frffl□Ä□¶,ì-â'è,"□¶,μ,È,¢ŒÄ,è□AŽg—p,μ,È,¢  
,æ,p,É,μ,Ä,,¾,<sup>3</sup>,¢□B

'l'δ,μ,½f r f f l f A f \_ f v f ^, Å Ž g — p, μ, Ä, Ç, é f, f j f ^, ì Ç ` Ž ®, δ • Ž !, μ, Ü, · □ B

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,±)f,fjf^,ÅŽg—p,Å,«éřŠftfЄfbfVf... fЄ□[fg,đ`ê—•Ž!,μ,Ü,□BfřftfЄfbfVf...ŽüŠú,đ`Z,,é,Æ%æ—  
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,Žg—p,lf,jjf^,Âî%ž,μ,Ä,¢,È,¢f,□[fh,ð[fŠftfÆfbfVf...ŽüŠú]^ê——,É•Ž!,·,é,©,Ç,ª,©,ðŽw'è,μ,Ü,·□Bî%ž,μ,Ä,¢  
,È,¢f,□[fh,ð'l'ð,·,é,Æ□A•Ž!□ă□d'ă,È-â'è,ª"□¶,μ,½,è□Afn□[fhfEfFfA,ª¹□□,·,é□ê□‡,ª, ,è,Ü,·□B

,±,ìlfvfVf‡f“,í□AfAfvfŠfP□[fVf‡f“,É,æ,Á,Ä'l'ð,³ê,½fsfNfZf< ftfH□[f}fbfg,É,©,©,í,ç,,□A16 frfbfg□[wfofbftf@,ð OpenGL  
fhf%ofo,Ä<□\$“l,ÉŽg—p,μ,Ü,·□B  
 ,±,ê,É,æ,è□A□[wfofbftf@,ì□,“x,ð“½□'á%°,³,¹,Ä□A□[wfofbftf@ fNfŠfA,â,»,ì'¼,l'€□ì,lfpftfH□[f}f“fX,ðŒú□ã,³,¹,é,±  
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,±,l̈f|fVfVf‡f“,ð—LŒø,É,·,é,Æ□AOpenGL ,Å Windows 2000 ,l̈□,“x,Èf}f<f` f,fjff^<@“\,ðŽg—p,μ,Ü,·□B

,±,lfvfVf‡f“,δŽg,Á,Ä□AfffXfNfgfbfv,ì□¶□ã<-,δ•Ž!,-,éffBfXfvfƎfC,đ'!đ,μ,Ü,·□B,±,lfvfVf‡f“,í□Af.fjf^  
fCf□□[fW,îÊ'u,đ"ü,ê"Ö,,é□Ů,ÉƎø‰Ê,đ"Šö,μ,Ü,·□B



Œ»□Ý,ì nView fffBfXfvfŒfC,ª,.,x,Ä•Ž!ª,ê,Ü,·□B2 ,Â^È□ã,ìfffofCfX,ª□Ú'±ª,ê,Ä,¨,è□A[•W□€] ^ÈŠO,ìf,□[fh,ðŽg—p,µ,Ä,¢  
,é□ê□‡,É□A,±,ê,ç,ìffBfXfvfŒfC,©,çŒ»□ÝŽg—p,.,éffBfXfvfŒfC,ð'l'ð,µ,Ü,·□B

,Ü,½□A,.,@□ã,ìfRf“fgf□□[f<,É•Ž!ª,ê,Ä,¢,éf,fjff^  
fOf%ftfBfbfN,ðfNfŠfbfN,.,é,Æ□AŒ»□Ý,ìffBfXfvfŒfC,Æ,µ,Ä'l'ð,Ä,«,«,Ü,·□B

,±,łf{f^",đfNfŠfbfN,μ,Ä□AÆ»□ÝffBfXfvfƎfC,ÉŽg—p,μ,Ä,č,é□o—  
ÍffofCfX,đfZfbfgfAfbfv,μ,½,è□A,»,łffofCfX,ÉŠÖ~A,μ,½□Ý'è,đ•i□X,μ,½,è,Å,«,·□B

*f p f*“ *f R f*“ *f g f* □ □ [*f* < *É*, *æ*, *è* □ *A Ž* *À* □ *Ů*, *l f f X f N f g f b f v* — *l*ˆ *æ*, *É* *l*, ., *é* • *Ž* ! % *æ* — *Ê* — *l*ˆ *æ*, *l*” *l* *l*, *ð f Z f b f g f A f b f v*, *Å*, «, *Ü*, . □ *B*, ±, *è*, *É*, *æ*, *è* □ *A*, *z Ž* *g*  
— *p*, *l f*, *f j f* ^ □ *A f t f* % *f b f g f p f l f* < □ *A f e f* *Æ f r*, *Â* *Ê* □ *l* • *Ž* !, *Å*, «, *é f f X f N f g f b f v*, *æ*, *è*, *à* *â*, «, *È f f X f N f g f b f v*, *ð Ž* *g* — *p*, *Å*, «, *Ü*, . □ *B*

fNfŠfbfN,,:é,Æ□A,±,lfrfffl fAf\_fvf^,É□Ú'±,³,ê,Ä,¢,é,.,x,Ä,lfBfXfvfƎfC,ðƎŸ□o,μ,Ü,·□BfRf"fgf□□[f< fpflf< ,ðŠJ,¢  
,½Ǝä,ÉfBfXfvfƎfC,ð□Ú'±,μ,½□ê□‡,Í□A,±,l<@"\,ðŽg—p,μ,Ä,,¾,³,¢□B

ŒŸ□o,³ê,È,¢fZfJf“f\_fŠ ftfBfXfvfŒfC fRfIfNf^,Éf,fjff^,ð□Ú'±,μ,Ä,¢,é□ê□‡,í□A,±,ìf{fbfNfX,ðf`fFfbfN,μ,Ü,·□BBNC  
fRfIfNf^,É□Ú'±,μ,Ä,¢,é<ŒŒ^,lf,fjff^,ðŽg—p,μ,Ä,¢,é□ê□‡,É•Ö—~,Ä,·□B

fNfŠfbfN,,:é,Æ□ANVIDIA,lfOf%oftfbfNfX fAf\_fvf^,ÉŠÖ~A,μ,½□•ñ,a•Ł!,³,ê,Ü,·□B

fNfŠfbfN,,:é,Æ□ANVIDIA,lfOf%oftfbfNfX fAf\_fvf^,l,»,l'¼,l<@",ÉfAfNfZfX,Å,«,Ü,·□B

fNfŠfbfN,.,é,Æ□ANVIDIA Web fTfCf g,Å□Å□V,ì□î•ñ,â NVIDIA ,ìfOf%ftfBfbfNfX  
fAf\_fvf^,ìfhf%fCfo,ÉfAfNfZfX,Â,«,Ü,·□B



,±,±,É,Í□ACE»□Ý'!δ,³,ê,Ä,¢,é/Of%ftfBfbfNfX fAf\_fvf^,}fn□[fhfEfFfA,ÉŠÖ,·,é□Ý'u,}□Ú□×,ª\Ž!,³ê,Ü,·□B

fOf%ftfBfbfNfX,Ì'S'ì"l,ÈfpftfH□[f}f"fX,É%œ<¿,·,éVfXfef€,ì□Ý'è,ð'l'ð,·,é,Æ□A,»,ê,ÉŠÖ,·,é□Ú□x,ª,Ž!³,ê,Ü,·□B

,±,ì•,í□ANVIDIA,}fOf%ftfBfbfNfX fAf\_fvf^,ÂĖ»□ÝŽg—p,³,ê,Ä,¢,étf@fCf<,ì`ê——,Æî%ž,.,éfo□[fWf‡f“,ďŽ!,μ,Ü,·□B

[fAfvfŠfP□[fVf‡f“ŠÇ—□]  
□Ý'èfy□[fW,Å,í□AfAfvfŠfP□[fVf‡f“²,Æ,É□A•i□",ìffBfXfvfƉfC,âffXfNfgfbfvŠÔ,Å,ìfAfvfŠfP□[fVf‡f“  
fEfBf“fhfE,ì•ŽìÊ'u,ðŠÇ—□,Å,«,Ü,·□B

,±,ê,Í Desktop Manager ,ÂŒ»□ÝŠÇ—□,³,ê,Ä,¢  
,éAfvfŠfP□[fVf‡f“,\fŠfXfg,Â,·□BfŠfXfg,©,çfAfvfŠfP□[fVf‡f“,ð'I'ð,μ□AfAfvfŠfP□[fVf‡f“ŠÇ—  
□□Ý'è,ð□Ý'è,μ,Ü,·□BfŠfXfg,l•Ò□W,í□A‰E'α,É, ,é [‘Ç‰Á] f{f^f“,Æ [□í□œ] f{f^f“,ðŽg,Á,Ä□s,¢,Ü,·□B

,±,̀f{f^",ðfNfŠfbfN,.,é,Æ□ADesktop Manager ,ÂŠÇ—□,³,é,fAfvfŠfP□[fVf‡f“,̀fŠfXfg,É□V,μ,¢fAfvfŠfP□[fVf‡f“  
fvf□fOf%œf€,ªÇ%œÁ,³,ê,Û,.□B

,±,̀f{f^f",ðfNfŠfbfN,.,é,ÆADesktop Manager ,ÂŠÇ—□,³,ê,éfAfvfŠfP□[fVf‡f“,̀fŠfXfg,©,çACE»□Ý'!`ð,³,ê,Ä,¢  
,éfAfvfŠfP□[fVf‡f“,ªíœ,³,ê,Ü,·B

,±,ł{f^",đ%Ÿ,μ,Ä□AfAvfŠfP□[fVf‡f" fŠfXfg,ł,.,x,Ä,łfGf"fghŠ,đfNfŠfA,μ,Ü,·□B

Æx□□: fGf"fghŠ,đ,.,x,ÄfNfŠfA,.,é,Æ□AfAvfŠfP□[fVf‡f",É'Î,.,éJfXf^f})fCfY"à—e,Í,.,x,ÄfŠfZfbfg,³,ê,Ü,·□B



,±,łfłfvfVf‡f“,đ'đ,·é,Æ□AfAvfŠfP□[fVf‡f“ fEfBf“fhfE,ª□í,ÉŽw'è,μ,½ffBfXfvfƆfC,Å«N“®,·,é,æ,ª,É,È,Ü,·□B

[,±,]fAfvfŠfP[fVf‡f“,đ□í,ÉŽŸ,ì%œ–Ê“Ô□†,ì%œ–Ê,Â<N“®,,.é] flfvfVf‡f“,ªI'đ,³ê,Ä,¢,é□ê□‡□ACE»□ÝI'đ,³ê,Ä,¢  
,éfAfvfŠfP[fVf‡f“,ª□í,É<N“®,,.éftfBfXfvfƐfC (f,fj f^),đ,±,]ftfB[f<fh,ĂŽw'è,µ,Ü,.□B

,±,lflvfVf‡f",đ'!đ,·,é,Æ□ADesktop Manager ,É,æ,Á,ÄfAfvfŠfP□[fVf‡f"  
fEfBf"fhfE,lTfCfY,Æ`Ê'u,ªL%¯,³,ê,Ü,·□BŽŸ,ÉfAfvfŠfP□[fVf‡f",đ<N"®,·,é,Æ□ADesktop Manager ,É,æ,è<L%¯,³,ê,Ä,¢  
,½fTfCfY,Æ`Ê'u,ÄfAfvfŠfP□[fVf‡f" fEfBf"fhfE,ªŽ!,³,ê,Ü,·□B

,±,l̇fI fvfVf‡f“,đŽg—p,·,é,Æ□AfAvfŠfP□[fVf‡f“  
fEfBf“fhfE,đ□Ā'â%»,.·,é□Ū,É□A•i□“,lffBfXfvfƎfC,É,Ü,½,<sup>a</sup>,éffXfNfgfbfv'Sì,Ā□Ā'â%»,.·,é,l̇Ā,í,È,-  
□A,»,l̇fEfBf“fhfE,<sup>a</sup>Ǝ»□Ý•\Ž!,<sup>3</sup>,ê,Ä,č,é%»æ—Ê,l̇,Ý,Ā□Ā'â%»Ā,«,Ü,·□B

,±,łfłfvfVf‡f“,đ'đ,·é,Æ□A,±,łfAfvfŠfP□[fVf‡f“,đ•Ê,ł–¼'O,łfAfvfŠfP□[fVf‡f“ fffXfNfgfbfv,Â<N“®,Â,«,Ü,·□B  
—á,ł,ł□A□%Šú□Ý'è,ł Windows fffXfNfgfbfv,ł¼,É□AWeb fuf%fEfU—p,â“dŽqf□□[f<—  
p,ł•Ê,łffXfNfgfbfv,đ□ì□¬,Â,«,Ü,·□B

,±,±,É•Ê,\\fAfvfŠfP□[fVf‡f“ fffXfNfgfbfv,\\-¼'O,ð“ü—Í,μ,Ü,·□B,Ü,½□Afhf□fbfvf\_fEf“  
f{f^f“,δŽg,Á,Ä□A•Ê,\\fAfvfŠfP□[fVf‡f“—p,ÉŠù,É□ì□¬,μ,Ä, ,éffXfNfgfbfv,©,ç'I'ð,·,é,±,Æ,à,Å,«„Ü,·□B  
,±,\\ftfB□[f<fh,Í□A[,±,\\fAfvfŠfP□[fVf‡f“,ð•Ê,\\ffXfNfgfbfv,Å<N“@,·,é] flfvfVf‡f“,ð'I'ð,μ,Ä,¢,é□ê□‡,\\,ÝŽg—p,Å,«„Ü,·□B

[fzfzbfz fL[] fy[] [fW,Ä,í[]AfffXfNfgfbfv,Ö,ìfAfvfŠfP[] [fVf÷f“ fEfBf“fhfE,ì”z'u,ðŠÇ—[],.,é,½,ß,ì[]ufzfzbfz  
fL[] [v,ì'g,Ý[]±,í,¹,ðfJfXf^f}fCfY,Ä,«,Ü,.[]B

,±,l)fL□[,l'g,Ý□‡,í,¹,δ%Ÿ,.,Æ□ACE»□ÝfAfNfefBfu,È (fJ□[f\fc,l, ,é) fEfBf“fhfE,δ•Ê,l,f,fjff^,l“¬,¶Ê`u,É`Ú“®,Å,«,Ü,·□B



,±,łfL□[,ł'g,Ý□±,í,í,δ%Ÿ,.,Æ□ACE»□ÝfAfNfefBfu,ÈfAfvfŠfP□[fVf‡f“,ª\Ž!,³,ê,Ä,¢  
,éffBfXfvfƎfC,ł,.,×,Ä,łEfBf“fhfE,ð□A•Ê,łffBfXfvfƎfC,É`Ú“®,Ä,«,Ü,·□B

,±,l)fL□[,l'g,Y□‡,í,¹,δ%Ÿ,.,Æ□A,.,x,Ä,l)fAfvfŠfP□[fVf‡f“ fEfBf“fhfE,δf)fEfX f|fCf“f^,ª, ,éffBfXfvfEfC,Ö`Ú“®,Å,«,Ü,·□B

•i□",l̂fAfvfŠfP□[fVf†f" fffXfNfgfbfv,đfAfNfefBfu,É,μ,Ä,¢,é□ê□†,í□A,±  
l̂fL□[,l̂g,Ÿ□†,í,†,đ%Ÿ,μ,Ä□A"C^Ó,l̂ffXfNfgfbfv,©,ç•Ê,l̂ffXfNfgfbfv,Ö□Ø,è'Ö,l̂é,±,Æ,<sup>a</sup>Â,«,Ü,·□B,±,l̂fL□[,đ±  
,¯,Ä%Ÿ,·,Æ□AfAfNfefBfu,ÊfAfvfŠfP□[fVf†f" fffXfNfgfbfv,l̂fŠfXfg,đ□zŠÂ,μ,Ü,·□B

[fOf□□[fof<□Ý`è] fy□[fW,É,í□ADesktop Manager ,Æ□ADesktop Manager ,É,æ,é,·,x,Ä,lfAvfŠfP□[fVf#f“,lŠÇ—  
□,ÉfOf□□[fof<É"K—p,³,ê,élfVfVf#f“,³\Ž,³,ê,Ü,·□B

fAfvfŠfP□[fVf‡f“,δ□ufffXfNfgfbfv‘S`ì□v,Å□Å‘â%»,-,é,Æ□AfffXfNfgfbfv,a•i□“,lf,fjff^,É,Ü,½,a,Á,Ä,¢  
,é□ê□‡,à□A,»,lffXfNfgfbfv‘S`ì,É□L,°,Ä□Å‘â%»,,³,ê,Ü,-□B

fAfvfŠfP□[fVf‡f“,δ□uÆ»□Ý,l%æ-Ê□v,Å□Å‘â%»,-,é,Æ□A□%Šú□Ýè,Å,í□AfAfvfŠfP□[fVf‡f“,aÆ»□Ý•Ž!,³,ê,Ä,¢,é%æ-  
Ê,ì,Ý,Å□Å‘â%»,,³,ê,Ü,-□B

,±,ì<@“\,ð—LÆø,É,.,é,Æ□A,.,x,Ä,ìfAfvfŠfP□[fVf±f“,ìfgfbfvfÆfxf< fEfBf“fhfE,ÅfAfNfZfX,Å,«éVfXfef€ f□fjf...□[É  
[NVIDIA Desktop Manager] fTfu f□fjf...□[“ü,³ê,Ü,·□B,±,ìfTfu f□fjf...□[ðŽg—p,.,ê,î□ADesktop Manager ,ìfRf“fgf□□[f<  
fpfIf<,ðŠJ,,±,Æ,È,□A[fAfvfŠfP□[fVf±f“ŠÇ—□] <@“\,É“□,ŠÈ‘P,ÉfAfNfZfX,Å,«ü,·□B  
fAfvfŠfP□[fVf±f“ fEfBf“fhfE,ìfVfXfef€ f□fjf...□[í□AfEfBf“fhfE→¼ (f^fCf gf< fo□D)  
□ă,Å%EfNfŠfbfN,.,é,©□AfEfBf“fhfE→¼,ì□¶[É, ,é□¬,³ÈfAfvfŠfP□[fVf±f“ fAfCfRf“,ðfNfŠfbfN,.,é,Æ•Ž,³ê,Ü,·□B

,±,l|f|fVfVf‡f“,đ'đ,·,é,Æ□ADesktop Manager ,Â□A1 ,Â,l%œ–Ê,ÊŽÛ,Û,é,æ,ρ,Éf|f|b|f|v|f|A|f|b|f|v  
fEfBf“fhfE,îÊ“u,đ’²□@,μ,Ä□Afgf|b|f|v fEf×f<,l|f|f|b|f|v|f|A|f|b|f|v fEfBf“fhfE,aŠg’â•Ž!,³,ê,½,ê□A2 ‘ä (,Û,½,l,»,ê“È□ä)  
,l|f,|f|j|f^,É,Û,½,a,Á,Ä•Ž!,³,ê,é,l,đ–h,®,±,Æ,a,Â,«,«,Û,·□B

,±,łfłfvfVf‡f",đ'đ,·é,Æ□AfVfXfef€.,·,x,Ä,łfłfbfvfAfbfv fEfBf"fhfE,ª□A□í,ÉŽw'è,μ,½%œ–Ê,ł'†%>,É•Ž!,³ê,Ü,·□B



f|fbfvfAfbfv fEfBf“fhfE,ð'†%»‚É•Ž|‚‚éƒ‚fj^‚ð'ð‚μ‚Ü‚‚□B‚±‚)ftfB□[f<fh‚í□A[fVfXfef€“à‚‚‚‚x‚Ä‚)f|fbfvfAfbfv  
fEfBf“fhfE‚ðŽŸ‚l%»æ–Ê“Ô□†‚l%»æ–Ê‚l'†%»‚É•Ž|‚‚é] f{f^f“‚ð'ð‚μ‚Ä‚¢‚éê□‡‚‚‚ŸŽg—p‚Ä‚«‚Ü‚‚□B

,±,łf|fvfVf‡f",đ'đ,·é,Æ□A•ı□",łf,fj f^É,Ü,½,<sup>a</sup>,Ä,Ä•Ž!<sup>3</sup>,ê,éfVfXfef€,<sup>l</sup>,·,x,Ä,łf|fbfvfAfbfv fEfBf"fhfE,đ□Af}fEfX  
fJ□[f\fc,<sup>l</sup>,éffBfXfvfƐfC (f†□[fU□[<sup>a</sup>Ɛ©,Ä,¢,é%oÂ"□«,<sup>a</sup>□,,¢) ,ł†%o>,É•Ž!<sup>l</sup>,μ,Ü,·□B

,±,łfłvfVf‡f“,đ'đ,·,é,Æ□AfAvfŠfP□[fVf‡f“ f|fbfvfAfbfv  
fEfBf“fhfE,đ□A,»,łfAvfŠfP□[fVf‡f“,łEfBf“fhfE,Æ““„,ł%œ–Ê,Ê•Ž,μ,Ü,·□Bf|fbfvfAfbfv fEfBf“fhfE,ª,à,ª 1  
'à,łf,fj^□ā,É□u,ł,Ý□o,μ,Ā□v•Ž!,³ê,é,Æ□ADesktop Manager ,Ê,æ,Á,ĀfAvfŠfP□[fVf‡f“ fEfBf“fhfE,ł%œ–Ê,ÊŽû,Ü,é,æ,ª,Éf|  
fbfvfAfbfv fEfBf“fhfE,ª^Ú“@,³ê,Ü,·□B

,±,}f{f^",ð%Ÿ,.,Æ□ADesktop Manager ,}ffftfHf<fg,}fOf□□[fof<□Y'è,Æfzfbfg fL□[<sup>a</sup>•œƎ<sup>3</sup>,ê,Ü,.-□B

f□f,: ,±,}€□i,}□A[fAfvfŠfP□[fVf‡f"ŠÇ—□] fy□[fW,Å□Y'è,μ,½fAfvfŠfP□[fVf‡f",?,Æ,}fJfXf^f)fCfY"à—

e,É,}‰e<ç,μ,Ü,<sup>1</sup>,ñ□B

Desktop Manager ,É'î,μ,Ä□s,Á,½•İ□X,ðŽó,¯“ü,ê,Ä"K—p,μ,Ä,©,ç□A[fRf“fgf□□[f< fpflf<} fEfBf“fhfE,ð•Â,¶,é,É,í□A[OK]  
f{f^f“,ð%Ÿ,μ,Ü,·□B

□s,Á,½•İ□X,ð•Û'¶,Ü,½,Í"K—p,<sup>1</sup>,,É Desktop Manager ,ì [fRf"fgf□□[f< fpflf<] fEfBf"fhfE,ð•Â,¶,é,É,Í□A[fLff"fZf<]  
f{f^f",ð%Ÿ,µ,Ü,·□B

⊕Ex□□: □Ý'è,ÉÍ',,é•İ□X"à—e,Í,·,x,Ä–<sup>3</sup>⊕ø,Æ,È,è,Ü,·□B

□Ý'è•ī□X,ð,;,x,Ä"K—p,μ,Ä•Ů"¶,μ□ADesktop Manager ,ì [fRf"f g f□□[f< f p f l f<] f E f B f"f h f E,ðŠJ,¢,½,Ü,Ü,É,;,é,É,í□A["K—p]  
f{f^f",ð%Ÿ,μ,Ü,·□B

,±,İf\_CfAf□fO,Å□ADesktop Manager ,ÅŞÇ—□,·,é□V,µ,¢fAfvfŞfP□[fVf‡f“,đ'İđ,Å,«,Ü,·□B



,±,ê,íffXfNfgfbfv,ÂĒ»□ÝŽĀ□s,<sup>3</sup>ê,Ä,¢,éAfvfŠfP□[fVf‡f“ fvf□fOf%of€,ìfŠfXfg,Å,·□B,±  
,ê,íffXfNfgfbfv,ÂĒ»□ÝŽĀ□s,<sup>3</sup>ê,Ä,¢,éAfvfŠfP□[fVf‡f“ fvf□fOf%of€,ìfŠfXfg,Å,·□B,±  
,ìfŠfXfg,©,çfAfvfŠfP□[fVf‡f“,ð'ì'ð,·,é,©□A[ŽQ□Æ] f{f^f“,ð‰Ÿ,μ,ÂĒ»□ÝŽĀ□s,<sup>3</sup>ê,Ä,¢  
,È,¢•Ê,ìfAfvfŠfP□[fVf‡f“,ðŽw'è,μ,Ü,·□B

,±,ì{f^",ðfNfŠfbfN,μ,Äftf@fCf< f\_CfAf□fO,ðŠJ,,Æ Desktop Manager ,ÅŠÇ—□,·,é"C^Ó,ì Windows  
fAfvfŠfP□[fVf‡f",ð'ìð,Å,«,Ü,·□B

'I'δ,μ,½fvf□fOf%of€ ftf@fCf<,δ□ADesktop Manager ,É,æ,Á,ÄŠÇ—  
□,³,ê,é□V,μ,¢fAvfŠfP□[fVf‡f",Æ,μ,Ä□³"F,·,é□ê□‡,Í□A,±,ìf{f^f",ðfNfŠfbfN,μ,Ü,·□B

,±,±,ÅfAvfŠfP□[fVf‡f“ fvf□fOf%f€,δ'!δ,μ,È,¢□ê□‡,Í□A,±,ìf{f^f“,δ%Ÿ,μ,Ü,·□B[□V,μ,¢fAvfŠfP□[fVf‡f“] f\_CfAf□fO  
f{fbfNfX,Í□A□Ÿ'è,δ•ï□X,<sup>1</sup>,,É•Â,¶,Ü,·□B

,±,ìf\_fCfAf□fO,Å,í□A□V,μ,¢fAfvfŠfP□[fVf‡f“ fffXfNfgfbfv,ì-¼‘O,đ“ü—í,Å,«,Ü,·□B

□V,μ,¢fAfvfŠfP□[fVf‡f“ fffXfNfgfbfv,ì–¼'O,đ“ü—Í,μ,Ä,,¾,¾,¢□B•Ê,ìfAfvfŠfP□[fVf‡f“—p,ÉŽw'è,μ,½ffXfNfgfbfv–  
¼,©,ç'l'đ,·,é,±,Æ,à,Ä,«,Ü,·□B  
,½,Æ,,î□AWeb fuf%oEfU—p,É,Í□uWeb□v□AE f□□[f< fvf□fOf%of€—p,É,Í □uMail□v,È,Ç,ì–  
¼'O,đffXfNfgfbfv,ÉŽw'è,μ,Ü,·□BDesktop Manager ,ì□ufzfbfg fL□[□v<@“\,đŽg—p,μ,Ä□A,±,ê,ç,ì,¾,´,Ü,ÈfAfvfŠfP□[fVf‡f“  
ffXfNfgfbfv,đfXf€□[fY,É□Ø,è'Ö,!,é,±,Æ,ª,Ä,«,Ü,·□B

[OK] f{f^f",đfNfŠfbfN,μ,Ä□AfffXfNfgfbfv,ì□V,μ,¢—¼'O,đŠm'è,μ,Ü,·□B—LŒø,È—¼'O,đ"ü—Í,μ,È,¢,Æ [OK]  
f{f^f",ÍfNfŠfbfN,Å,«,Ü,<sup>1</sup>,ñ□B

,±,±,ÅffXfNfgfbfv-¼,δ"ü—Í,μ,È,¢□ê□‡,Í□A[fLff" fZf◁] f{f^f",δfNfŠfbfN,μ,Ü,·□B



,±,l)fL□[,l'g,Ý□‡,í,¹,δ%Ÿ,.,Æ□Af})fEfX fJ□[f\ƒ<,l'Ê'u,É'•ûƐ`,ªfAfj)f□□[fVf‡f"Ɛ`Ž®,ÂŽû'©,μ,Ä,c,,l,Â□AfJ□[f\ƒ<,δƐ©,Â,¯,â,·,-  
,È,è,Ü,·□B

,±,ìf|fvfVf‡f",ð—LÆø,É,.é,Æ□AfEfBf"fhfE,ðf}fEfX,Åfhf%bfO,μ,Ä~Ú"®,.,é,Æ,«,É□AfEfBf"fhfE,ð"C^Ó,ì%æ—  
Ê,â•Ê,ì%æ—Ê,ì[,ÉŠ@'S,É□‡,í,¹,ç,ê,Ü,.□B

,±,ê,ç,lfvfVf‡f",íA^fXfNfo[âf^fXfNØ,èÖ,ifEfBf“fhfE,ì“®i,È,ÇAWindows fNf%fcfAf“fg  
fZfbfVf‡f“,lf†[fU[ fCf“f^ftfF[fX—vf,ð•iX,.,é,à,ì,Â,·B

,±,lfvfVf‡f",đ'đ,·,é,Æ□A'ă'Ö,lf^XfN□Ø,è'Ö,lfEfBf"fhfE,ª—LÆø,É,È,è,Ü,·□B,±,lfEfBf"fhfE,Í nView ,lÆ»□Ý,ì□Ý'è,É□]  
,Á,Ä%œ—Ê,ì'†%»,É•Ž!,³ê□A^Ù,È,éffXfNfgfbfv□ã,lfAvfŠfP□[fVf‡f",ì□Ø,è'Ö,δ%Â",É,μ,Ü,·□B  
f^XfN□Ø,è'Ö,lfEfBf"fhfE,Í Alt+Tab fL□[,δ%Ÿ,·,Æ—LÆø,É,È,è,Ü,·□B

,±,łfłfvfVf‡f“,đ'đ,·é,Æ□Af^fXfN□Ø,è'Ö,„fEfBf“fhfE,í□í,ÉŽwè,³ê,½f,fjff^□ã,É•Ž!,³ê,Ü,·□B

*f*<sup>^</sup>*XfN*∅,è'Ö,|*fEfBf*"*fhfE*,đ•Ž!,·*éf,fj**f*<sup>^</sup>,đ'*đ*,μ,Ü,·∅*B*'*đ*,Å,«*éf,fj**f*<sup>^</sup>,[Ĉ»∅*ÝfAfNfefBfu*,È*f*,*fj**f*<sup>^</sup>,],*Ý*,Å,·∅*B*

,±,̀f|fvfVf‡f",ð'ð,·é,Æ□Af^fXfNfo□[ð 1 ,Â,̀f,fj f^,ÉŒÂ`è,Â,«,Ü,·□B,Â,Ü,è□Af^fXfNfo□[·a·i□",̀f,fj f^,É,Ü,½,a,Á,Ä·ž|,³,è,È,¢  
,æ,σ,É,μ,·□B

,±,ê,ç,ìf|fvfVf‡f“,É,æ,è□ADesktop Manager ,ªf□fbfZ□[fW f{fbfNfX f\_CfAf□fO,âfAfvfŠfP□[fVf‡f“  
f\_CfAf□fO,ðŠÜ,Ɔf|fbfvfAfbfv fEfBf“fhfE,ìÊ`u,â"z'u,ðŠÇ—□,·,é•û-@,ªŒ^,Ü,è,Ü,·□B



,±,l̂f|fVfVf‡f",đ'đ,·,é,Æ□AfY□[f€<@",<sup>a</sup>—LŒø,É,È,è,Ü,·□BfY□[f€<@",í□Af})fEfX fJ□[f\fc<<sup>a</sup>u,©,ê,½%œ—Ê—  
îæ,îŠg'â•Ž!,đ^ê•û,lf, fjf^,É•Ž!,μ,Ü,·□BŠg'â•Ž!,í□Af})fEfX fJ□[f\fc<<sup>a</sup>u,©,ê,Ä,¢,é f, fjf^,Æ,í•Ê,lf, fjf^,É•Ž!,<sup>3</sup>ê,Ü,·□Bf})fEfX  
fJ□[f\fc<,đ•Ê,lf, fjf^,É"®,©,·,Æ□AfY□[f€•Ž!,àŽ©"®"l,É<sup>¼</sup>4,lf, fjf^,É□Ø,èÖ,í,è,Ü,·□B  
fY□[f€<@",í□A•i□",lf, fjf^,<sup>a</sup>□Ú<sup>±</sup>,<sup>3</sup>ê□A□...•½,Ü,½,Í□,'¼fXfpf“ f,□[fh,<sup>a</sup>l'đ,<sup>3</sup>ê,Ä,¢,é,Æ,«,ì,Ý<@",μ,Ü,·□B

,±,̣f|fVfVf‡f",δ—LÆø,É,.,é,Æ□AftfBf<f^,É,©,¯,ç,ê,½ ("†ŠÔ'l,δ")“ü,μ,½) "{—,Ĳ,ÂŠg'â,³,ê,Ü,·□B

ˆÈ%°,lƒzƒbƒgƒL□,í□AƒY□[ƒ€<@“,l□SƒEä,ÉŽg—p,μ,Ü,·□B[ƒzƒbƒgƒL□□ƒ^ƒu,lƒzƒbƒgƒL□[,Æ“—  
l,É□AƒtƒB□[ƒ<ƒh,ðƒNƒŠƒbƒN,μ,Ä,©,çŠó–],·,éƒL□[,l'g,Ý□‡,í,¹,ð%Ÿ,μ,ÄƒzƒbƒgƒL□[ð□Ý'è,μ,Ü,·□B  
ƒ□ƒ,·: [ƒY□[ƒ€] ,Ü,½,í [ƒzƒbƒgƒL□□ƒy□[ƒW,ªŠJ,¢,Ä,¢,éŠÔ,í□AƒzƒbƒgƒL□[,l→ƒEø,É,È,è,Ü,·□B,±,ê,ÍŠù“¶,lƒzƒbƒg  
ƒL□[ª□V,μ,¢ƒzƒbƒgƒL□[,l'è<`,ð–W,°,È,¢,æ,ª,É,·,é,½,ß,Å,·□B

,±\fzfbfgfL□[,í□AfY□[f€<@™\)flf",Æflft,δ□Ø,è'Ö,ü,·□B

,±,łfzfbfgfL□[,í□AfY□[f€•łŽ!,}“{—!,ðå,«,„,μ,Ü,·□B

,±,łfzfbfgfL□[,í□AfY□[f€•łŽ!,ł"(-!,đ□¬,³,,μ,Ü,·□B

,±,łpf%ff□□[f^,í□Af}fEfX,a"®,¢,Ä,¢,È,¢,Æ,«,ÉfY□[f€•Ž!,đ 1 •bŠÔ,É%½%ñ□X□V,·,é,©,ďŽw`è,μ,Ü,·□B(f)fEfX,a"®,¢,Ä,¢  
,é,Æ,«,ífY□[f€•Ž!,íŽ©"®"i,É□X□V,³,ê,Ü,·□B) ,±,ì□"Žš,đ'ă,«,,,·,é,Æ□AfVfXfef€,âfAfvfŠfP□[fVf‡f",ì□«",É%e<¿,đ—  
^!,é□ê□‡,ª, ,è,Ü,·,ì,Â'□^Ó,μ,Ä,,¾,³,¢□B

,±,lfpf%ff[[f^,íAfy[[f€•Ž!,đ 1 ,Â,lf,fjff^,©,ç•Ê,lf,fjff^,É□Ø,è'Ö,!,é□Ů,!'x%„ŽžŠÔ,đf~fŠ•b'P`Ê,Âžw`è,·,é,à,!,Â,·□B,±,!'x%„ŽžŠÔ,íAfy[[f€•Ž!,<sup>a</sup>, ,éf,fjff^□ă,Éf}fEfX,<sup>a</sup>ŽžŠÔ'u,©,ê,½□ê□‡,É□Afy[[f€•Ž!,<sup>a</sup>f,fjff^ŠÔ,đ□u"ò,Ń%ň,é□v,!,đ–h,®,½,ß,!,à,!,Â,·□B,±,lfpf%ff[[f^,đf[f□,É□Ý'è,μ,Ă□A'x%„ŽžŠÔ,đ,È,,·,±,Æ,ă,Â,«„Ü,·□B



,±,l)fIffvVff‡f",đ'!đ,·,é,Æ□ACtrl□AAIt□AShift ,l,¢,,ê,©,l)fL□[,l'g,Ý□‡,í,<sup>1</sup>,đ%Ÿ,μ,È,<sup>a</sup>,çf})fEfX fzfC□[f<,đ%ñ,·,±  
,Æ,Ä□AfY□[f€•Ž!,l}"{—l,đ'<sup>1</sup>/<sub>4</sub>□Ú•ï□X,Ä,«,Ü,·□B

f}fEfX fz fC[f<,đŽg,Á,½fY[f€•Ž!,l"{-!•iX,đ—LŒø,É,·,é CtrlAAAltAShift ,l fL[,l'g,Ý±,í,¹,đ'¹đ,μ,Ü,·B

[fzfzbfzfL[] fy[] [fW,Ä,í[]AfffXfNfgfbfv,Ö,ìfAfvfŠfP[] [fVf†f“ fEfBf“fhfE,ì”z’u,ðŠÇ—[],.,é,½,ß,ì[]ufzfzbfzfL[] [v,ì’g,Ý[]‡,í,¹,ðfJfXf^f}fCfY,Ä,«,Ü,.[]B

f[]f,∴ [fY[] [f€] ,Ü,½,í [fzfzbfzfL[]] fy[] [fW,ªŠJ,¢,Ä,¢,éŠÔ,í[]AfzfzbfzfL[] [,Í→Æø,É,È,è,Ü,.[]B,±,ê,ÍŠù\*¶,ìfzfzbfzfL[] [ª[]V,µ,¢fzfzbfzfL[] [,ì`è<`,ð–W,°,È,¢,æ,ª,É,.,é,½,ß,Å,.[]B

3D fAfvfŠfP□[fVf‡f“,ÅfAf“f`fGfCfŠfAfX,a-³Œø,É,È,è,Ü,·□B

fAfvfŠfP□[fVf‡f“,Å□Å□,,lfpftfH□[f}f“fX,a•K—v,È□ê□‡,Í□A,±,lflfvfVf‡f“,đ'l'đ,μ,Ä,,¾,³,¢□B

fAf“f`fGfCfŠfAfX,<sup>a</sup> 2x f,□[fh,Å—LŒø,É,È,è,Ü,·□B

3D fAfvfŠfP□[fVf‡f“,ìfCf□□[fW•iŽ¿,ÆfpftfH□[f}f“fX,<sup>a</sup>Œü□ã,μ,Ü,·□B

,±,ìlfVfVf‡f“,ð‘!ð,·,é,Æ□AGeForce3 GPU ftf@f~fŠ□[,ĂŽg—p%oÂ“\,È“Á←Žæ“¾□İ,YfAf“f`fGfCfŠfAfX<Z□p,ª—  
LŒø,É,È,è,Ü,·□B

Quincunx fAf“f`fGfCfŠfAfX,ðŽg—p,·,é,Æ□A□^—□,ª¬,¢ 2 "{AA f,□[fh,É•C“G,·,éfpftfH□[f}f“fX,Ă□A□^—□,ì'x,¢ 4 "{AA  
f,□[fh,ì•iŽ¿,ðŽACE»,Ă,«,Ü,·□B

fAf“f`fGfCfŠfAfX,ª 4x f,□[fh,Å—LÆø,É,È,è,Ü,·□B

3D fAfvfŠfP□[fVf‡f“,lfpfth□[f}f“fX,Í¼□'á%º,μ,Ü,·,ª□A□Å□,,lfCf□□[fW•iŽč,ďŽÀÆ»,Å,«,Ü,·□B

,±,ìfIfvfvf‡f“,ð'ì'ð,·,é,Æ□A4 "{□A9 f^fbfv (Gaussian) f,□[fh,ðŽg—p,μ,½fAf“f`fGfCfŠfAfX,a%oÂ“\,É,Ê,è,Ü,·□B  
3D fAfvfŠfP□[fVf‡f“,ìfpftfH□[f}f“fX,ì'½□'á%o,μ,Ü,·,ª□A□Å□,,ìfCf□□[fW•iŽč,ðŽÀŒ»„Å,«„Ü,·□B



,±,ìlfvfVf‡f“,ð'!ð,·,é,Æ□A6 "{f,□[fh,ðŽg—p,μ,½fAf“f`fGfCfŠfAfX,ª%Â“,É,È,è,Ü,·□B

3D fAfvfŠfP□[fVf‡f“,ìpftfH□[f}f“fX,ì'½□'á%°,μ,Ü,·,ª□A4 "{f,□[fh,æ,è□,,¢fCf□□[fW•iŽ¿,ðŽÀŒ»,Å,«,Ü,·□B

f□f,: ,±,ì□Ý'è,Í Direct3D fAfvfŠfP□[fVf‡f“,É,ì,Ý“K—p,³,è,Ü,·□BOpenGL fAfvfŠfP□[fVf‡f“,ðŽÀ□s,μ,½□ê□#□AOpenGL

,íŽŸ,ÉŽg—p,Å,«,éfAf“f`fGfCfŠfAfX□Ý'è (6 "{□Ý'è,ìŽŸ,ÉŒŸ□o,³,è,½fIfvfVf‡f“□Ý'è) ,ðŽg—p,μ,Ü,·□B

,±,̀l|fVfVf‡f“,đ'đ,·é,Æ□AfAf“f`fGfCfŠfAfX,đfTf|□[fg,·é 3D  
fAfvfŠfP□[fVf‡f“,É□Å“K,ÈfAf“f`fGfCfŠfAfX□Ý`è,ªŽ©“®“l,É—LŒø,É,È,è,Ü,·□B

,±,ḷfIvfVf‡f“,É,æ,è□A3D fAfvfŠfP□[fVf‡f“,ḷŽÀ□sŽž,ÉŽg—p,.,éAf“f`fGfCfŠfAfX f,□[fh,đŽè“®,Å'!đ,Å,«,Ü,·□B

*fRf“fsf...□[f^,)CE»□Ý,) AGP □Ý'è,ÉŠÖ,.,é□î•ñ,Â,·.□B*

,±,l)fIvfVf‡f",Ā□AfOf%ftfBfbfNfX fTfuVfXfef€,ĀŽg—p,·,é AGP fŒ□[fg,đŽè"®,Ā'!đ,Ā,«,Ü,·□B,Ç,) AGP fŒ□[fg,đŽg—  
p,·,é,x,«,©•ª,©,ç,È,¢□ê□‡,í□A,±,l)f`fFfbfNf{fbfNfX,íf`fFfbfN,μ,È,¢,Ā,,¾,¾,¢□BfVfXfef€,É,æ,è□A□Ā"K,È AGP  
fŒ□[fg,ªŽ©"®"l,ÉŒ^è,¾,ê,Ü,·□B

fXf% Cf\_ fRf"fgf□□[f<,đ"Ú"@,.,é,Æ□AfOf%ftfBfbfNfX fTfuVfXfef€,ÅŽg—p,.,é AGP fÆ□[fg,đŽè"@,Å'!đ,Å,«,Ü,·□B

f h f % o f C f o , a f V f X f e f € f □ f , f Š , © , ç Š , , è “ – , Ä , ç , ê , ½ f r f f f l f □ f , f Š , đ Š Ç — □ , . , é • ů – @ , đ ' l ' đ , Å , « , Ü , . □ B

Œ»□Ý,łftfŒ□[f€ fofbftf@ f,□[fh,Ăžw'è,³,ê,½•û-@,Æ□‡,í,¹,Ăžg—p,³,ê,éfvfXfef€ f□f,fŠ,ł—e—Ê,đŽw'è,Ā,«,Ü,·□B



,±,łf|vfVf‡f“,đ'đ,·,é,Æ□A["@“ł] ftfĚ□[f€ fofbftf@ f,□[fh,đŽg—p,μ,½,Æ,«,łftfĚ□[f€ fofbftf@ f□f,fŠ,łŠÇ—□•û—  
@,đŽwè,Ā,«,Ü,·□B

NVIDIA PowerMizer ,đŽg—p,·,é,Æ□A,“Žg,¢,} GPU ,l“d—(□Á”i,đ’²□@,Â,«,Ü,·.□B[□Â’âpf□□[fZ□[fu]  
□Ý’è,đ’i’đ,μ,ÄfofbfefŠ□[đ□ß—ñ,·,é,©□A[□Â’âpfpfH□[f}f“fX] ,đ’i’đ,μ,Ä,“Žg,¢,} GPU ,Â□Â’â,lfof%oftfbfbfNfX fpfH□[f}  
f“fX,đ”¾,é,©□A,Ç,¿,ç,©,đ,”I,Ñ,,¾,¾,¢□B

,±,lflvfVf‡f“,ð'!ð,·,é,Æ□A•i□“,l□o—í,ðŽ□,ÂffBfXfvfƎfC fAf\_fvf^,ª□A2 ,Â,ì“Æ—S,μ,½ffBfXfvfƎfC fAf\_fvf^,Æ,μ,Ä  
Windows %æ—Ê,É•Ž!,³ê,Ü,·□B•i□“,l□o—í,ðŽ□,ÂfAf\_fvf^,É□Ú±,³ê,½ffBfXfvfƎfC  
ffofCfX,²,Æ,É□A`Ù,È,é%ð'œ"x,â□F□“,ð'!ð,Â,«,é,æ,ª,É,È,è,Ü,·□B

2 'ä,ìffBfXfvfCfC,ð 1 ,Ä,ì GPU/f□f, fŠ,Ä•Š,,μ,Ä□Y'è, ,é,Æ□A•Ž!□Y'è,ì'ê•",ªŽg—p,Ä,«,È,,É□ê□‡,ª, ,è,Ü,·□BWindows ,ì [%œ—  
Ê,ìfvf□fpfefB] f\_fCfAf□fO f{fbfNfX,Ä•Ž!,³ê,éf,□[fh,í□AfVf" fOf< ftfBfXfvfCfC□□¬,ìffBfXfvfCfC fAf\_fvf^,Ä□—  
□, ,é,±,Æ,ð'Ō'ñ,Æ,μ,Ä,¢,Ü,·□BfAf\_fvf^,ìŠf\□[fX,ð 2 'ä,ìffBfXfvfCfC,Ä«—L,μ,Ä,¢,é□ê□‡,í□A,¢  
,,è,©,ìffBfXfvfCfC,Ä□,%%ð'œ"x f,□[fh,ì'ê•",ªŽg—p,Ä,«,È,,É,è,Ü,·□B,±,í□ê□‡,í□AfffBfXfvfCfC fAf\_fvf^,Ä□³□í,É□—  
□,Ä,«,éffBfXfvfCfC f,□[fh,ì'g,Y□‡,í,¹,ð,¢,è,¢,èŽŽ,μ,Ä□A,»,ìf,□[fh,ð'ì'ð,μ,Ä,,¾,³,¢□B

±,lf{f^f",δfNfŠfbfN,·é,Æ□AOpenGL,lfXfefƎfl,;æ,Ñfi□[fo□[fƎfC,ì□Ú□×□Ý'è,δfJfXf^f)fCfY,Å,«,Ü,·□B,±  
.lf{f^f",l□Afpflf<,ì□Å□%,lfŠfXfg f{fbfNfX,Å [4 "{fofbftf@ fXfefƎfl API] flfvfVf‡f",ð—LƎø,É,μ,Ä,¢,é□ê□‡,l,ÝŽg—  
p,Å,«,Ü,·□B

OpenGL ,ÄfI□[fo□[fŒfC,ð—LŒø,É,μ,Ü,·□B`ê•",ìfAfvfŠfP□[fVf‡f“ (Softimage3D ,È,Ç) ,í□Afi□[fo□[fŒfC–Ê,ð•K—  
v,Æ,μ,Ü,·□Bfi□[fo□[fŒfC–Ê,í□A•W□€fJf%□[ (RGB) fofbftf@.É`Ç%Á,·,éfpfŒfbfg–Ê,Æ,μ,ÄŽg—  
p,<sup>3</sup>,ê,Ü,·□Bfi□[fo□[fŒfC,í□A3D fCf□□[fWŽ©`ì,Æ,í–<sup>3</sup>SÖŒW,É□d,È,è□‡,Á,Ä•Ž!,<sup>3</sup>,ê,é—î`æ□A,<sup>½</sup>,Æ,ì,îf□fjf...  
□[.âfJ□[f\fc,È,Ç,ð•Ž!,·,é□ê□‡,É“Á,É•Ö—“,Ä,·□Bfi□[fo□[fŒfC,í□A16 frfbfg,“,æ,Ñ 32 frfbfg fJf%□[ f,□[fh,ÄfTf|  
□[fg,<sup>3</sup>,ê,Ü,·□B

f□f,: OpenGL ,ìfXfefŒfi,Æfi□[fo□[fŒfC,í□A“~Žž.ÉŽg—p,Ä,«„Ü,<sup>1</sup>,ñ□Bfi□[fo□[fŒfC,ðŽg—p,·,é,É,í□Afi“f{□[fh  
fOf%ftfBfbfNfx f□f,fŠ,ð‘□□Y,·,é•K—v,<sup>a</sup>,,è,Ü,·□B,Ü,<sup>½</sup>□A%ð‘œ“x,É,æ,Ä,Ä,íŽg—p,Ä,«„È,¢□ê□‡,<sup>a</sup>,,è,Ü,·□Bfi□[fo□[fŒfC<@“\  
,ðŽg—p,Ä,«„È,¢□ê□‡,í□A%ð‘œ“x,â□F□“,ð%<sup>0</sup>,°, ,Ä,<sup>¾</sup>,<sup>3</sup>,¢□B

OpenGL ,ÄfXfefŒfl,ð—LŒø,É,μ,Ü,·BfVfffbf^[ fOf%oX,â.»),¼,}fn[fhfEfFfA,ðŽg,Á,ÄfXfefŒfl  
fAfvfŠfP[fVf‡f“,ðŽÀ□s,.,é,½,B,É□ANVIDIA fhf%oCfo,í□AOpenGL fXfefŒfl fsfNfZf< ftfH□[f}fbfg,ðfGfNfXf|  
□[fg,μ,Äf□f,fŠ,ð□SŒä,μ□AfxfefŒflŽ<“\_“,æ,N’P`êŽ<\_fAfvfŠfP□[fVf‡f“,ð“ŽŽ,ÉŽg—p,Ä,«,é,æ,ª,É,μ,Ü,·□B

f□f,; ,±,}fIfvVf‡f“,í•K—v,É□ê□‡,}Ÿ—LŒø,É,μ,Ä,¾,³,¢`ê•“,}fAfvfŠfP□[fVf‡f“,}fXfefŒfl ftfH□[f}  
fbfg,ðŽ©“®“l,É’l’ð,μ,Ü,.,ª□AfxfvfŠfP□[fVf‡f“,l’†,É,}fXfefŒfl fsfNfZf< ftfH□[f}fbfg,Ä□³í,É“®□ì,μ,É,¢,à,ì,à, ,è,Ü,·□B

f□f,; OpenGL ,}fXfefŒfl,ÆfI□[fo□[fŒfC,í□A“ŽŽ,ÉŽg—p,Ä,«,Ü,¹,ñ□BfxfefŒfl•Žl,ðŽg—p,.,é,É,í□Aflf“f□[fh  
fOf%oftfBfbfNfX f□f,fŠ,ð’□□Y,.,é•K—v,ª, ,è,Ü,·□B,Ü,½□A%ð’œ“x,É,æ,Ä,Ä,ÍŽg—  
p,Ä,«,É,¢□ê□‡,ª, ,è,Ü,·□BfxfefŒfl,Ä•Žl,Ä,«,É,¢□ê□‡,í□A%ð’œ“x,â□F□“,ð%°°,° ,Ä,¾,³,¢□B

NVIDIA fhf%fcfo,íA,³Ü,´Ü,ÈfXfefÆfi fn□[fhfEfFfA,ðfTf|□[fg,μ,Ä,¢,Ü,·□B□%Šú□Ý`è,ìfXfefÆfi fn□[fhfEfFfA`ÈŠO,ðŽg  
—p,·,é□ê□‡,l□AfŠfXfg f{fbfNfX,©,çffBfXfvfÆfC f,□[fh,ð'ì'ð,μ,Ä,,¾,³,¢□B



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.ê,ç,l̄fAf\_fvf^,í□Af,fj f^□M□†,đ,Ü,Æ,ñ,Ç,l̄fXfe fŒfI fn□[fñfEfFfA,ĂŽg—p,<sup>3</sup>ê,Ă,ç,é•W□€“l,Ê 3 fsf“ DIN ,É•İŠ·,μ,Ü,·□B  
f□f,: fOf%oftfBfbfNfX fJ□[fh,É“à' 3 fsf“ DIN fRflfNf^,a ,é□ê□‡,í□AfAf\_fvf^,đŽg—p,·,é•K—v,Í, ,è,Ü,<sup>1</sup>ñ□B

,±,ì|f|fvfVf‡f“,í□AfOf%ftfBfbfNfX fJ□[fh,ÉŽ©“©fXfefŒf| ftf%fbfg fpf|f<δ□Ú'±,μ,Ä,¢,é□ê□‡,ì,Ý'I'ð,μ,Ü,·□B

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,±,ìlfvfVf‡f“,ðŽg—p,·,é,É,í□AQuadro2 MXR (,Ü,½,í GeForce2 MX /GeForce2 Go) ,È,Ç,ì NVIDIA GPU ,ðfx□[fX,Æ,μ,½ff...  
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v,a, ,è,Ü,·□B^ê•û,lfwfbfh,Ä□¶—Ü,ÄŒ©,½fCf□□[fW,ð□A,à,σ^ê•û,lfwfbfh,Ä%E—Ü,ÄŒ©,½fCf□□[fW,ð•Ž!,μ,Ü,·□B

,±,ìlfvfVf‡f“,í□Af}f<f`fwfbfh f{□[fh,aŽæ,è•t,¬,ç,è,Ä,¢,é□ê□‡,ì,ÝŽg—p,Ä,«,Ü,·□B

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3D REVELATOR™,â StereoGraphics® fOf%ofX,É“□«,<sup>3</sup>ê,Ä,¢,éfAf\_fvf^,ð'Ç%Ä,.,é•K—v,í, ,è,Ü,<sup>1</sup>ñ□B3 fsf“ DIN  
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StereoGraphics® StereoEyes® ,â,»,ìŒÝŠ·□»•i,É“□«,<sup>3</sup>ê,Ä,¢,é fAf\_fvf^,ðŽg—p,·,é□ê□‡,í□A,±,ì f l f v f V f ‡ f “,ð' l 'ð,μ,Ü,·□B,±  
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*fGf%*□[! ŽQ□ÆƎ<sup>3</sup>,<sup>a</sup>Ǝ©,Â,©,è,Ü,<sup>1</sup>,ñ□BfXfefƎfl fGftfFfNfg,ð!Ž!,Â,«,È,Ɔ□ê□‡,í□A,±  
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p,μ,É,¢fAfvfŠfP□[fVf‡f“,ìfpftfH□{f}f“fX,ì¼□'á%°o,μ,Ů,·,ª□AfefNfXf`ff,ð¼,Žg—p,·,éfAfvfŠfP□[fVf‡f“,ìfpftfH□{f}  
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