

,±,lfjvfVf#f“,ÍftfHfO fe□[fuf< fGf~f...fCE□[fVf#f“ ,ðfj“/fjft,É,·,é,½,ß,ÉŽg—p,³,è,Ü,·□B

Direct3D ,Å,í□AD3D fn□[fhfEfFfA fAfNfZf%ofCE□[fVf#f“ ,ª%oÅ“\,ÈfffBfXfvfCEfC fAf\_fvf^ ,ª□Afo□[fefbfNfX  
ftfHfO,Ü,½,Ífe□[fuf< ftfHfO,ì,ç,·,è,©,ðŽÀ□s,Å,«,é,±,Æ,ð□ðCE□,Æ,μ,Ä,ç,Ü,·□B^è•”,ÍfQ□[f€,í□AD3D  
fn□[fhfEfFfA,ì□«“\,ð□³Šm,ÉŠm“F,·,é,±,Æ,È,□Afe□[fuf< ftfHfO fTf|□[fg,ð—v<□,μ,Ü,·□B,±  
,lfjvfVf#f“,ð'í'ð,·,è,î□A,±,è,ç,ÍfQ□[f€,à,²Žg—p,ì NVIDIA fOf%oftfBfbfNfX fvf□fZfbfT,Å-â'è,È,-  
ŽÀ□s,Å,«,Ü,·□B



Z-fofbftf@,l["x,đfAfvfšfP[fVf#f",<sup>a</sup>—v<□,·,é["x,ÉŽ©"®"l,É'²□®,·,é,æ,x,Éfn□[fhfEjFfA,đY'è,μ,Ü,·□B  
"Á'è,l Z-fofbftf@["x,đ•K—v,Æ,·,éê□#,đ□œ,ç,Ä□A'Ê□í,í,±,lfjfvfVf#f",đ—LCEø,É,μ,Ä,"«,Ü,·□B,±  
,lfjfvfVf#f",đ-³CEø,É,·,é,Æ□AZ-  
fofbftf@,l□<Æ["x,<sup>a</sup>CE»Y',lfn□[fhfEjFfA□Y'è,Æ^é'v,μ,È,çfAfvfšfP[fVf#f",í,·,×,Ä"®□,μ,È,,È,è,Ü,·□B

•Ê,ì[]'wfofbftf@•û-@,ð—LCEø,É,μ,Û,·[]B

16 frfbfg fAfvfŠfP[]fVf#f",ìŽÀ[]sŽž,É[]A^Ù,È,éfn[]fhfEjFfA<@[]\,Å[]l'wfofbftf@,ð[]s,±,æ,±,É[]Ý'è,μ,Û,·[]B,±,ì[]Ý'è,ð—LCEø,É,·,é,Æ[]A,æ,è[],,ç•iŽž,Å 3D fCf[][]fW,ìfCEf"f\_fŠf"fO,ð[]s,±,±,Æ,ª,Å,«,Û,·[]B

Direct3D Žg—pŽž,É NVIDIA ,ìfS,ð—LÆø,É,μ,Ü,·B

,±,ìY'è,ð—LÆø,É,·,é,ÆADirect3D fAfvfŠfP[fVf#f“,ìŽÀsŽž,ÉA%œ-Ê%º<÷,É NVIDIA ,ìfS,ª•\  
Ž!,³,ê,Ü,·B

NVIDIA fOf%oftfBfbfNfX fvf□fZfbfT,í□AMip f}fbfv,đŽ©“@“l,É□¶□¬,·,é,±,Æ,ÅfofXCEo—R,lfefNfXf`ff“]’—  
CEø—|,đ□ã,°□AfAvfŠfP□[fVf#f“,lfpftfH□[f}f“fX,đCEü□ã,<sup>3</sup>,<sup>1</sup>,é,±,Æ,<sup>a</sup>,Å,«,Ü,·□B

,μ,©,μ^ê•“,lfAvfŠfP□[fVf#f“,Å,í□AMip f}fbfv,ìŽ©“@□¶□¬,<sup>a</sup>—LCEø,É,È,Á,Ä,ç,é,ÆfCf□□[fW,<sup>a</sup>□<sup>3</sup>□í,É•\  
Ž|,<sup>3</sup>,é,È,ç,±,Æ,<sup>a</sup>, ,è,Ü,·□B,±,π,μ,½-â‘è,đ%øđCE^,·,é,É,í□AfCf□□[fW,<sup>a</sup>□<sup>3</sup>□í,É•\Ž|,<sup>3</sup>,é,è,Ü,Å□AMip  
f}fbfv,ìŽ©“@□¶□¬-fCEfxf<□“,đCE,ç,μ,Ä,,<sup>3</sup>/<sub>4</sub>,<sup>3</sup>,ç□BMip f}fbfv fCEfxf<□“,đCE,ç,·,±,Æ,Å□A<sup>1</sup>/<sub>2</sub>,-  
,ìê□#□AfefNfXf`ff,ì,,é,â□uCEp,-—Ú□v,đ%øđ□Á,Å,«,Ü,· (fpftfH□[f}f“fX,í<sup>1</sup>/<sub>2</sub>□‘á%ø<sup>a</sup>,μ,Ü,·)□B

fOf%oftfBfbfNfX fvf[]fZfbfT,ÅŽg—p,·,éŽ©“® Mip f}fbfsf“fO-@,đ'ı'đ,Å,«,Ü,·□B  
2 -{□ü-@,Ü,½,ı 8 f^fbfv^Ù•û□«-@ MIP f}fbfsf“fO-@,đ'ı'đ,Å,«,Ü,·□B2 -{□ü-  
@,Å,ı^ê”É“ı,ÉfpftfH□[f}f“fX,³CEü□ă,μ□A^Ù•û□«-@,ıfCf□□[fW•iŽ¿,³CEü□ă,μ,Ü,·□B

Mip f}fbfv,ì LOD (Level of Detail) fofCfAfX,đ'²@,Á,«,Ü,·B

fofCfAfX,đ'á,□Ý'è,·,é,ÆfCf□□[fW•iŽ,ªCEü□ã,μ□AfofCfAfX,đ□,,-

□Ý'è,·,é,ÆfAfvfŠfP□[fVf#f“,ìfpftfH□[f}f“fX,ªCEü□ã,μ,Ü,·B□u□Á□,ìfCf□□[fW•iŽ,ª□v,©,ç□u□Á□,ìfpftfH□[f}f“  
fX□v,Ü,Á□A, ,ç,©,¶,ß□Ý'è,ª,ê,½ 5 ,Á,ìfofCfAfX'ì,©,ç'ì'đ,Á,«,Ü,·B



•Ů'¶,μ,½fjXf^f€Ÿ'è (,Ü,½,íuTweakv) ,lfŠfXfgB,±,lfŠfXfg,©,ç€-Ú,đ'ı'đ,;é,ÆAŸ'è,ª\ Žı,³,é,Ü,·BŸ'è,đ"K—p,³,¹,é,É,íA[OK] ,Ü,½,í ["K—p] f{f^f",đ'ı'đ,μ,Ü,·B

CE»Ÿ,ìŸ'è ([Direct3D ,ìÚ×Ÿ'è] f\_fCfAfO,ìŸ'è,àŠÜ,p)  
,đffXf^f€uTweakv,Æ,μ,Ä•Ÿ'Ÿ,μ,Û,·B•Ÿ'Ÿ,μ,½Ÿ'è,íă<L,ìffXf^f€Ÿ'èfŠfXfg,É'Ç%Á,³,è,Û,·B  
“Á'è,ì Direct3D fQ[f€  
,ĂĂ“K,ÈŸ'è,©,Ä,©,Á,½ê#A,»,ìŸ'è,đffXf^f€Ÿ'è,ìuTweakv,Æ,μ,Ä•Ÿ'Ÿ,μ,Ä,“,ÆAfQ[f€  
,đŠŽn,·,é'O,É,·,Î,â, Direct3D ,Ÿ'è,Ă,«,é,ì,ĂAŠeflvfVf#f“,đCEÂ•Ê,ÈŸ'è,·,éŽèŠÔ,È,Û,·B

fšfXfg,ÅCE»□Ý'í'ð,³,é,Ä,ç,éjjfXf^f€□Ý'è,ð□í□œ,μ,Ü,·□B

,.x,Ä,ìÿ'è,ð%Šúÿ'è'l,É-ß,μ,Û,·B

Direct3D ,l'Ç%Á□Ý'è,ðffXf^f}fCfY,Å,«,éf\_fCfAf□fO,ð•\Ži,μ,Ü,·□B

,±,lfvfVf#f",ÅAfefNfZf< (fefNfXf`ff fGfEf"fg) —p,lfhfhfEfFfA fefNfXf`ff,ì"z'uY'è,ð•iX,µ,Ü,·B  
,±,é,ç,ì'l,ð•iX,·,é,±,Æ,ÅACE³,lfefNfZf<,è'è<`³,è,éèèŠ,ð•iX,µ,Ü,·B%ŠúY'è,íADirect3D ,lŽd—  
l,É],Á,Ä,ç,Ü,·BfvtfgfEfFfA,ì†,É,íACE³,lfefNfZf<,ð,ç,,è,©,ìèèŠ,É'è<`·,é,±,Æ,ð—v<·,·,é,à,ì,à,è,Ü,·B,  
±,é,ç,lfAfvfŠfP[fVf#f",Å,íACE³,lfefNfZf<,ðÄ'è<`·,é,±  
,Æ,ÅfCf[fW•iŽ,³CEüä,µ,Ü,·B²@,Á,Ü,Ý,ðŽg,Á,ÄACE³,lfefNfZf<,ìèèŠ,ðfefNfZf<,ì¶ä÷,©,ç†S,ÌŠ  
Ô,Å²@,µ,Ä,,³/4,³,çB

,±,ê,É,æ,èA(fffBfXfvfÇfC fAf\_fvf^,É" <Ú,³,è,½f[]f,š,É'Ç%Á,³,è,½) fefNfXf` ff fXfgfÇ[]fW—  
p,ÉŽw'è,³,è,½—e—Ê,Ü,ÁfVfXfef€ f[]f,š,ð—~—p,Á,«,é,æ,α,ÉfOf%oftfBfbfNfX fvf[]fZfbfT,ìÝ'è,ðs,±,  
,Æ,ª,Á,«,Ü,·B

**f[]f,:** fefNfXf` ff fXfgfÇ[]fW—p,ÉŽg—p,Á,«,éVfXfef€ f[]f,š,ìÁ'â—e—Ê,íAfRf"fsf...  
[]f^,É" <Ú,³,è,½•"— RAM ,ì—e—Ê,ÉŠ,Á,ç,ĂŽZ[]o,³,è,Ü,·BfVfXfef€ RAM ,ì—e—Ê,ª[]  
%Á,·,é,Æ[]A[]Ý'è,Á,«,é'l,à'â,«,.,É,è,Ü,·B

,±,ìÝ'è,íAPCI fffBfXfvfÇfC fAf\_fvf^ (,Ü,½,í PCI ÇÝŠ·f,[]fh,ĂŽg—p,μ,Ă,ç,é AGP fffBfXfvfÇfC fAf\_fvf^)  
,É,ì,Ý"K—p,³,è,Ü,·B

,±,ìfìfvfVf#“,đ'ì'đ,·,é,ÆAVSYNC ,ª-³Œø,É,È,è,Û,·B

f,ffj^,ì,¼fŠfgfŒ[fX,ì“Šú,đ'ò,½,,ÉAfcf[fW,đ,·,î,â,%æ-Ê,ÉfŒf“f\_fŠf“fO,Å,«,Û,·B,±

,ìfìfvfVf#“,É,æ,èAftfŒ[f€ fŒ[fg,đ%æ-Ê,ìfŠftfŒfbfVf...fŒ[fg,æ,è'â,«, -

Y'è,Å,«,Û,·,ªAfcf[fW•iŽ,ª¹,È,í,ê,é,ì,ÅA•Ž!,É%œ<¿,ªo,½,è•Ž!,ì',ªø,ê,é,±,Æ,ª, ,è,Û,·B



,±,lfvfVf#f“,É,æ,èA“Á’è,ì D3D fAfvfŠfP[fVf#f“,ÁŽg—p,·,éfAf“f`fGfCfŠfAfX,ì—Ê,ðCE^`è,μ,Û,·B  
fAf“f`fGfCfŠfAfX,Æ,íA3D flfufWfFfNfg,ì%o,ÉŽžÜCE©,ç,é,éuŠK’i’óv,lfGftfFfNfg,ðÅ—CEÀ,É—}  
,!,é<Zp,Å,·BfAf“f`fGfCfŠfAfX,ì—Ê,íAŠ@‘S,Èflft,©,cfAfvfŠfP[fVf#f“,ÁŽÀs,Å,«,éÅ’â—  
Ê,Û,Á’I’ð,Å,«,Û,·B

,±,lfvfVf#f",ÍAfAf"f`fGfCfŠfAfX,ð'¼ÚfTf|[]fg,μ,Ä,ç,È,çfAfVfŠfP[]fVf#f",ÅfAf"f`fGfCfŠfAfX,ð<S"l,ÉŽg  
—p,·,é,½,ß,ì,à,ì,À,·B

fAf"f`fGfCfŠfAfX,ð-¾Šm,ÉfTf|[]fg,μ,Ä,ç,È,ç^è•",lfAfVfŠfP[]fVf#f",Å,ÍAfCf[]fW,ª³í,É•\  
Ž,³,è,È,ç[]ê[]#,â•s<K'¥,ÈfCf[]fW,ª•\Ž,³,è,é[]ê[]#,è,Û,·B,±,lfvfVf#f",ìŽg—p,É,Í\•ª^Ó,μ,Ä,-  
,¾,¾,çBfAf"f`fGfCfŠfAfX,ðfTf|[]fg,μ,Ä,ç,È,çfQ[]f€,âfAfVfŠfP[]fVf#f",Å•\Ž:ã,ì-â'è,ª"[]¶,μ,½[]ê[]#,ÍA,±  
,lfvfVf#f",ðfTf,É,μ,Ä,,¾,¾,çB

, ±, ì|fvfvf#f", É, æ, è AfOf%oftfBfbfNfX f`fbfv, Å^—, ³, è, é' O, É CPU , æ" ö, , éftfCE[f€, ì", δSCEÀ, μ, Ü, ·  
(VSYNC , æ-³CEø, É, È, Á, Ä, ç, éêê#)B

, , ç, ©, ¶, ßfCEf"f\_šf"fo, ³, è, éftfCE[f€, ì", æ¹½, -  
, É, é, Æ AfWf#fCfXfefBfbfN AfQ[f€fpfbfjh AfL[f{[f[h, È, Ç, ìfffofCfX, Ö, ì"½%ž, É, ", -, éu"ü—Íf  
%ofOv, æ', , È, éêê#æ, , è, Ü, ·B

fQ[f€'t, É AfRf"fsf...[f^, ÉU'±, ³, è, Ä, ç, é"ü—ÍfffofCfX, ©, ç, ì"ü—Í, É'Í, ·, é"½%ž, æ-  
¾, ç, ©, É'x, çêê#Í, A, ±, ì'l, δ-, ³, , μ, Ä, , ¾, ³, çB

fhf%ofCfo,Å OpenGL Šg'£<@"\,ì **GL\_KTX\_buffer\_region** ,đŽg,!,é,æ,α,É,μ,Û,·□B

,±,ìŠg'£<@"\,đTf|□[fg,·,é 3D f,fffŠf"fO fAfvfŠfP□[fVf+f",lfpftfH□[f}f"fX,đCEü□ă,<sup>3</sup>,<sup>1</sup>,é,±,Æ,<sup>3</sup>,Å,«,Û,·□B

GL\_KTX\_buffer\_region Šg'£<@"\,ª—LŒø,É,È,Á,Ä,†,é,Æ,«,É□Aƒ□□[fjf<,ìfrffffl f□f,fš,ìžg—p,ð%oÂ"\  
,É,μ,Û,·□B

,½,¾,μ□A—~—p,Å,«,éƒ□□[fjf< frffffl f□f,fš,ª 8MB ^È%oº,ì□ê□#□Afff...fAƒ< fvƒŒ□□[f“Šg'£<@"\ŒTf|□□[fg,Í—  
LŒø,É,È,è,Û,¹,ñ□B

,±,ì□Ý'è,Í□A□ã<L,ì □ubuffer region Šg'£<@"\,ð—LŒø,É,·,é□vƒ|fvƒVf†f“,ª-³Œø,É,È,Á,Ä,†,é□ê□#,ÍŒø  
%oÊ,ª, ,è,Û,¹,ñ□B

□, ' -fŠfjfA-Mip f}fbfv-fŠfjfA ftfBf<f^fŠf"fo,đ-LCEø,É, ,é,Æ□Afcf□□[fw•iŽč,đ'½□'á  
%oº,³,¹,ÄfAfvfŠfP□[fvf#f", ìfpftfH□[f}f"fx,đCEü□ä,³,¹,é,±,Æ,ª,Å,«,Ü,·□B  
'½,,ì□ê□+□Afcf□□[fw•iŽč,ì'á%oº,í,»,è,ù,ÇCE°'~,Å,í, ,è,Ü,¹,ñ,ì,Å□A,±,ì<@"\,đ-  
LCEø,É,µ,ÄfpftfH□[f}f"fx,ìCEü□ä,đ□},Á,Ä,,³/4,³,¢□B

,±,lfvfVf#f“,É,æ,èAfCf[]fW•iž,đEüä,³,¹,é,½,ß,ì^Ù•ú«ftfBf·f^fŠf“fO,đ OpenGL ,ÅŽg—  
p,Å,«,é,æ,α,É,μ,Ü,·B





,±,lfvfVf+f“,É,æ,èAOpenGL fhf%ofCfo,Éî  
%ož,μ,½iŽžfAf`f`fGfCfŠfAfX,ðfRf“fgf[f<,μ,Û,·BfAf“f`fGfCfŠfAfX,Æ,íAfIfufWfFfNfg,ì  
%o,ÉŽžÜŒ©,ç,ê,é,¬,´,¬,´,μ,½uŠK’ióv,lfGftfFfNfg,ð—},,Ä—ÖŠs,ðŠŠ,ç,©,É,´,é<Zp,Å,·B1.5 x  
1.5 -@,lfAf“f`fGfCfŠfAfX,Å,lfpftfH[f}f“fX,ð—Dæ,μA2 x 2 -@,Å,lfCf[fW•iŽž,ð—Dæ,μ,Û,·B

fhf%oCfo,ÅfXfefCEfl fsfNfZf: ftjH[]f}fbfg,İfGfNfXf|[]fg,ª%oÅ"\,É,È,è,Ü,·□BOpen GL  
fAfvfŠfP[]fVf#",Å□AfXfefCEfl,đŽg—p,µ□AfXfefCEfl fVffbf^[] fKf%ofX,đ—LCEø,É,·,é,±,Æ,ª,Å,«,Ü,·□B

fHf%oCfo,Åfi[]fo[]fCfC fsfNfZf: ftfH[]f}fbfg,lfGfNfXf|[]fg,ª%oÅ"\,É,È,è,Ü,·BOpenGL  
fAfvfŠfP[]fVf#",Åfi[]fo[]fCfC,đŽg—p,·,é,±,Æ,ª%oÅ"\,É,È,è,Ü,·B

,±,lfvfVf#f“,É,æ,èAfCf[]fW•iŽ; ,ðEüã,³,¹,é,½,ß,ì^Ù•û«ftfBf<f^fŠf“fO,ð OpenGL ,ÅŽg—p,Å,« ,é,æ,π  
,É,μ,Û,·B,±,ì<@“\,ð—LCEø,É,·,é,ÆAfCf[]fW•iŽ; ,íEüã,μ,Û,·,ªAfpftfH[]f}f“fX,í’á%º,·,é,ì,Å’^Ó,μ,Ä,-  
,¾,¾,çB

,±,ì<@"\,ð—LÆø,É,·,é,Æ□Afhf%ofCfo,í 1 ,Â,ífofbfN fofbftf@,Æ 1 ,Â,ì□[‘wfobftf@,ð•\Ž!,Æ“~,¶  
%øð'œ“x,ÅŠ,,è“-,Ä,Û,·□B

‘½□”,ìfEfBf“fhfE,³ì□¬,³,ê,éfAfvfŠfP□[fvf#f“,Å,í□A,±,¿,ç,ì•û,³frfffi f□f,fŠ,ðÆø—!“l,ÉŽg—p,Å,«,Û,·□B

,±,ì<@"\,ð-³Æø,É,·,é,Æ□AOpenGL fhf%ofCfo,íAfvfŠfP□[fvf#f“,Åì□¬,³,ê,é,·,x,Ä,ìfEfBf“fhfE,ÉfofbfN  
fofbftf@,Æ□[‘wfobftf@,ðŠ,,è“-,Ä,Û,·□B

‘½□”,ìfEfBf“fhfE,ðŽg—p,·,é OpenGL fAfvfŠfP□[fvf#f“,Å,í□A,±,ì<@"\,ðŽg—  
p,·,é,ÆfpftfH□[f}f“fX,³Æü□ã,μ,Û,·□B

'ı̂,μ,½ OpenGL fAfvfŞfP[fVf#f",ÉÅ"K,ÈÝ'è,δs,ç,Ü,-B

,±,lfvfVf#f“,É,æ,èA□%Šú□Ý’è,Å OpenGL fAfvfŠfP□[fVf#f“,a“Á’è,lfjf%□□[“x,lfefNfXf`ff,đŽg—  
p,·,é,©,Ç,⌘,©,đĚ^’è,μ,Û,·□B

□**ufffXfNfgfbfv,lfjf%□□[“x,đŽg—p□v**,Á,Í□AWindows fffXfNfgfbfv,aĚ»□ÝŽg—p,μ,Ä,č,éfff  
%□□[“x,lfefNfXf`ff,đ□í,ÉŽg—p,μ,Û,·□B

□**u□í,É 16 bpp,đŽg—p□v**,” ,æ,Ñ□**u□í,É 32 bpp,đŽg—p□v**  
fifvfVf#f“,Å,Í□AfffXfNfgfbfv,ì□Ý’è,ÉŠÖ,í,ç, ,□AŽw’è,<sup>3</sup>,ê,½fff%□□[“x,lfefNfXf`ff,đ<□\$“l,ÉŽg—p,μ,Û,·□B

,±,ìfìvìVfìf“,É,æ,èAftf<fXfNfŠ[f“ OpenGL fAfvfŠfP[fVfìf“—p,ìfofbftf@ ftfŠfbfv f,[]fh,ðE^`è,μ,Û,·B  
[]ufuf[]fbfN”]’—@£Açfy[]fW ftfŠfbfv-@£A  
çŽ““@’ìðv,©,ç’ìð,Å,«,Û,·B[]uŽ““@’ìðv,Å,íAfn[]fhfEfFfA,ì[]¬,©,çfhf%ofCfo,ªÅ“K,ÈŽè-  
@,ðE^`è,μ,Û,·B



,±,lfvfVf#f",Å,íAOpenGL ,Å,ì,¼"~Šú,ì^—•û-@,đŽw'è,μ,Û,·B

uí,Éiftv,Å,íA,·,x,Ä,ì OpenGL fAfvfŠfP[fVf#f",Å,¼"~Šú,í,É-³CEø,É,È,è,Û,·B

u%ŠúY'è,Å,íiftv,Å,íA—LCEø,É,·,é,æ,xfAfvfŠfP[fVf#f",©,ç-¾Šm,É—v<³,ê,Ä,ç,é,Æ,«^ÈŠO,íA,¼"~Šú,đ-³CEø,É,μ,Ä,·,«,Û,·B

u%ŠúY'è,Å,íif"v,Å,íA-³CEø,É,·,é,æ,xfAfvfŠfP[fVf#f",©,ç-¾Šm,É—v<³,ê,Ä,ç,é,Æ,«^ÈŠO,íA,¼"~Šú,đ—LCEø,É,μ,Ä,·,«,Û,·B

CE»Ÿ, ÌŸ'è, ðŸŸXf^f€Ÿ'è, ÌuTweakv, Æ, µ, Ä•Û'Ÿ, µ, Ü, ·B•Û'Ÿ, µ, ½Ÿ'è, Íă«L, ÌŸŸXf^f€Ÿ'èŸŸXfg, É'Ç  
%oÁ, ³, è, Ü, ·B

, , é OpenGL

fAfvfŠfP[fVfŸ", ÅÅ"K, ÈŸ'è, ©©, Â, ©, Á, ½êê#A, »), ÌŸ'è, ðŸŸXf^f€Ÿ'è, ÌuTweakv, Æ, µ, Ä•Û'Ÿ, µ, Ä, "

„ÆAfvfŸfO%œ€, ðŠJŽn, ·, é'O, É, ·, Î, â, OpenGL

, ©Ÿ'è, Å, «, é, Ì, ÅAŠeflfvfŸŸŸ", ðCEÂ•Ê, ÉŸ'è, ·, éŽèŠÔ, ©È, ¯, Ü, ·B



,Â,Û,Ý,đŽg—p,μ,ÄA'²®,,éjff%o[ f`fff“flf<,đ'l'đ,μ,Û,·BÔA—îAÂ,ìf`fff“flf<,đEÂ•Ê,É'²®,μ,½,èA3  
F,đ“~Žž,É'²®,Â,«,Û,·B

fffWf^f< fofCfuf%oof“fX.íAfff%o[]l.ì•a%ođ,Æfjf%o[]“Z“x,lfRf“fgf[][]f<,đ<%o»„μA, ,ç,ä,éfAfvfšfP[]fVf#f“,Å-  
¾,é,‘N-¾,ÈfCf[][]fW,đ•\E»„μ,Ü,·B

fjff%o[<Èü,ðfOf%oftfBfbfN•\Ž|,μ,½,à,ìBfRf“fgf%ofXfgA-¾,é,³AfKf“f},ð²®,.é,ÆA,±  
,ìÈü,³fŠfAf^fCf€,Å•í%o»,μ,Ü,·B

,±,lfvfVf#f“,đ'!đ,·,é,ÆAWindows ,@Ä<N“® ,μ,½,Æ,«,É,±,±,ÅÝ'è,μ,½fjf  
%o[ '²@ ,@Ž©“®“l,É•œE³,³,ê,Ü,·B

**f f,:** fRf“fsf...[f^ ,@f|fbfgf[fN,Å“®ì,μ,Ä,ç,éêê#Afjff%o[ ,@²@® ,³,ê,é,ì,í Windows  
,ÉfOjfj“,μ,½Eã,Å,·B

• Ů'¶,µ,½ff%o[] flfXf^f€Ÿ'èfŠfXfg[]B,±,lfŠfXfg,©,ç[]€-Ú,đ'!đ,·,é,Æ[]A[]Ÿ'è,ª•\Ž!,³,è,Ü,·[]B



CE»Ÿ,łff%o[]Ÿ'è,đffXf^f€Ÿ'è,Æ,μ,Ä•Ů'ŋ,μ,Ü,·B•Ů'ŋ,μ,½Ÿ'è,Íă<L,łffXf^f€Ÿ'èřřXfg,É'Ç  
%oÁ,<sup>3</sup>,è,Ü,·B

fšXfg,ÅE»Ý'í'ð,³,ê,Ä,ç,éJf%°[] fJXf^f€Ý'è,ðíœ,μ,Û,·B

,.x,Ä,lfjf%[]'l,ðfn[]fhfEfFfA[]o%×Žž,ìÝ'è,É-ß,μ,Ü,·[]B

f,fff^ f^fCf~f"fo f,[]fh,đ'ı'đ,μ,Ü,·□B

**Ž** © " © **CE** Ÿ □ o, Ā, í □ A Windows , ²f, fff^ , ©, ç " K □ Ø, È f^ fCf~f"fo í • ñ, đ'¼ □ Ú Ž ó □ M, μ, Ü, · □ B, ±, ê, ² □  
%Š ú □ Ý'è, Æ, È, Ā, Ā, ç, Ü, · □ B CE Ā, ç CE ^, ìf, fff^ , Ā, í □ A, ±, ì < @ " \, ²fTf| □ [fg, ³, ê, Ā, ç, È, ç, ±, Æ, ², , è, Ü, ·, ì, Ā, ²' □ ^ Ó  
,, ¾, ³, ç □ B

**ê** " **Ê** f^ fCf~f"fo • ů Ž ©, Ü, ½, í **GTF** , í □ A □ V, μ, çfn □ [fhfEfffA, ì'â • " • ², Ā Žg—p, ³, ê, Ā, ç, é < K Š i, Ā, · □ B

**Æ—š** f, fff^ f^fCf~f"fo, Ü, ½, í **DMT** , í □ A ^ ê • " , ìfn □ [fhfEfffA, Ā Žg—p, ³, ê, Ā, ç, é CE Ā, ç < K Š i, Ā, · □ B, ² Žg—  
p, ìfn □ [fhfEfffA, Ā DMT , ² Žw'è, ³, ê, Ā, ç, é □ ê □ ‡, í □ A, ±, ìf|fvfvfjf" , đ—LCEø, É, μ, Ā, , ¾, ³, ç □ B

Windows ,lf^fXfNfo[ ,É NVIDIA QuickTweak fAfCfRf“ ,đ’Ç%Á,μ,Ü,·□B  
,±,lfAfCfRf“ ,đŽg—p,·,é,Æ□AfJfXf^f€□Ý’è,³,ê,½ Direct3D□AOpenGL□AfJf%□□□Ý’è,đ•Ö—~ ,Èf|fbjvfAfbfv  
f□fj...□[ ,©,ç’l’đ,μ,Ä,·,Î,â,“K—p,³,¹,é,±,Æ,³,Å,«,Ü,·□B,Ü,½,±,lf□fj...□[ ,É,Í□A□%Šú□Ý’è,É-ß,·,½,ß,ì□€-Ú,â  
[‰æ-É,lfvf□pfefB] f\_fCfAf□fO,ÉfAfNfZfX,·,é,½,ß,ì□€-Ú,àŠÜ,Ü,ê,Ä,ç,Ü,·□B

Windows f^fXfNfo[.Å QuickTweak ft[fefBfŠfefB,Æ,μ,Ä•\Ž!,·,éfAfCfRf“,đ'!đ,Å,«,Ü,·□B  
•\Ž!,<sup>3</sup>,<sup>1</sup>,½,čfAfCfRf“,đfŠfXfg,©,ç'!đ,μ,Ä,,<sup>3</sup>/<sub>4</sub>,<sup>3</sup>,č□B[OK] ,Ü,½,Í [“K—p]  
,đ'!đ,μ□Af^fXfNfo[.İfAfCfRf“,đ□X□V,μ,Ü,·□B

NVIDIA Desktop Manager ,ª—LCEø,É,È,è,Û,·□B

NVIDIA Desktop Manager ,ðŽg—p,·,é,Æ□ATwinView f}f<f` f,fff^□Ý'è,ìŽg—pŽž,É□AfEjBf“fhfEŠÇ—  
□fzfbfgfL□[,âf\_fCfAf□fO,ìfŠfZf“f^fŠf“fO□AfY□[f€,È,Ç,ìŠg'£<@“\,ðŽg—p,Å,«,Û,·□B,Û,½□ADesktop  
Manager ,ðŽg—p,·,é,Æ□A•i□”,ìffXfNfgfbfv,ªfTf|□[fg,³,è,é,½,ß□AfAfvfŠfP□[fVf†f“ f□□[fNfXfy□[fX,ì□®—  
□,É-ð-š,¿,Û,·□B

[NVIDIA Desktop Manager 0x00000000] f\_fCfAf0fO,Š,«,Ü,·B

[Desktop Manager 0x00000000] f\_fCfAf0fO,Å,íAf\_fCfAf0fO,ìfŠfZf“f^fŠf“fO  
fìfVf#f“,âfzfbfgfL[.ì'òAfAfVfŠfP[fVf#f“ŠÇ—00Y'è,È,ÇA,·,×,Ä,ì Desktop Manager ,ì<@“\  
ÆY'è,ð\$Eä,Å,«,Ü,·B



[Ü×fvf[]pfefB] f\_CfAf[]fO,Å [,Í,ç] ,Ü,½,Í ["K—p] ,ð'í'ð,μ,Ä•ïX,ð"K—p,·,é,½,ß,É[]A,±  
 ,lf\_CfAf[]fO,ð•Â,¶,Ä•ïX,ð•Û'¶,μ,Û,·[]B

f^XfNfo [ fAfCfRf“,đfNfŠfbfN,μ,½,Æ,«,É A,Ç,ì,ç,lf}fEfX f{f^f“,Åf f... [.,đ•\Ž!,³,¹,é,© ‘!đ,Å,«,Ü,·B

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

f^fXfNfo□[ f□fj...□[, ©,ç 3D □Ý'è,đf□□[fh,μ,½,Æ,«,ÉŠm" Ff□fbfZ□[fW,đ•\Ž!,<sup>3</sup>,<sup>1</sup>,È,ç,æ,α,É,·,é,É,Í□A,±  
,lfjfvfVf†f",đf`fFfbfN,μ,Ä,,¾,<sup>3</sup>,ç□B

f^XfNfo[ f[]fj...[][,đ 3D •\Ž,³,¹,½,¢[]ê[]#,í[]A,±,łfjvfVf#f“,đ'!đ,μ,Ü,·[]B

fTf|[]fg,³,è,Ä,ç,é[]Å'â%øð'œ"x,æ,è,à'á,ç%øð'œ"x,ÅŽÀ[]s,μ,Ä,ç,é[]ê[]#[]Aftf%øfbfg fpflf·  
fffBfXfjvfçfC[]ă,ÉfCf[][]fW,ð·\Ž!,³,¹,é^Ê'u,ðç^'è,μ,Û,·[]B

-î^ó{f^f“,đŽg,Á,ÄAf,ff^ä,łffXfNfgfbfv,ì^Ê'u,đ'^® ,μ,Ü,·B

«»Ÿ, ì%øð'œ"x,ÆfŠftfœfbfVf...fœ[]fg,É," ,é[]%ŠúŸ'è, ì^Ê'u,ÉffXfNfgfbfv,ð-ß,μ,Û,·B

,±,ê,ç,lfjvfVf#f",©,ç□o—Í•Ž!jffofCfX (f,jjf^□AfffWf^f< ftj%ofbjg fpjf<□AfefÇfr,È,Ç□AfffBfXfjvfÇfC  
fAf\_fvf^,³fTf|□fg,μ,Ä,ç,éffofCfX,É,æ,è^Ü,È,è,Ü,·) ,đ'!đ,Å,«,Ü,·□B



fAfNfefBfu,È•\Ž!fffofCfX,ì□Ý'è,ðffXf^f}fCfY,Å,«,éEjBf“fhfE,ð•\Ž!,μ,Ü,·□B

TV □o—í,ÅŒ»□ÝŽg—p,<sup>3</sup>ê,Ä,†,éŒ`Ž®,Æ'n^æ,ì□Ý'è,ðŽ!,μ,Ü,·□B

“Á'è,ì TV □o—íĚ`Ž® ,ðŽw'è, .,éjEfBj“fhfE,ð•\Žì,μ,Û,·□B

,±,lfŠfXfg,©,ç,¨□Z,Ü,ç,ì□'-¼,ð'I'ð,μ,Ä TV □o—ÍĈ`Ž®,ðĈ^'è,μ,Ü,·□B

**f□f:** ,¨□Z,Ü,ç,ì□'-¼,šfŠfXfg,É•\Ž|,³,é,Ä,ç,È,ç□ê□#,í□A,¨□Z,Ü,ç,ì'n^æ,É□Å,à<ß,ç□'-¼,ð'I'ð,μ,Ä,,¾,¾,ç□B

'l'ð,μ,½€`Ž® ,ð"d€1"Š"üŽž,ì%ŠúÝ'è,ÉÝ'è,μ,Ü,·B

fef€fr,ðffBfXfvf€fC fAf\_fvf^,ÉÚ'±,μ,ÄfRf"fsf...[f^,ð<N"®,μ,½ê±A,±,ìfìfvfVf±f",ð'l'ð,·,é,±  
,Æ,ÅA<N"®Žè±,Å\Ž!,<sup>3</sup>,é,é,·,x,Ä,ì%œ-Êf±bfZ±[fW,<sup>3</sup>Žg—p,ìfef€fr,ÅfTf|  
±[fg,<sup>3</sup>,é,é<sup>3</sup>,μ,€€`Ž®,ÅŠmŽÀ,Éo—í,<sup>3</sup>,é,Ü,·B

TV ,É'—□M,·,é□o—Í□M□t,}f^fCfv,đŽw'è,Å,«,Ü,·□B

“K□Ø,ÈfRfIfNf^ fP□Ifuf<,đŽg—p,μ,½□ê□#□A^ê”I,É S-frfffI□o—Í,ì•û,³fRf“fIfWfbfg frfffI□o—Í,æ,è,à□,·,ç  
%œŽ¿,Å□o—Í,·,é,±,Æ,³,Å,«,Ü,·□B,Ç,}f^fCfv,đ'İ'đ,·,ê,Î,ç,ç  
, ©•³, ©, ç, È, ç□ê□#, Í□A□uŽ ©“ @'İ'đ□v□Ý'è, đ'İ'đ, μ, Ä, , ¾, ³, ç□B

-î^ó{f^f“,đŽg,Á,Ä□ATV □ă,ìffXfNfgfbfv,ì^Ê'u,đ^2□@,μ,Ä,,¾,¾,¾,¾□B

**f□f:** '²□@,đCEë,Á,Ä TV %œæ'œ,ª—□,ê,½,è%½,à•\Ž|,¾,ê,È,,È,Á,½□ê□†,í□A,» ,ì,Ü,Ü 10 •bŠÔ,“'Ò,¿,-  
¾,¾,¾,¾□B%œæ'œ,ªŽ©“@“l,É□%Šú□Ý'è,ì^Ê'u,É-ß,è,Ü,·□B,» ,ìCEă,à,π^ê“x'²□@,μ,Ä,-  
¾,¾,¾,¾□BffXfNfgfbfv,ì^Ê'u,ªCE^,Ü,Á,½,ç□A10 •bCEo%ß,·,é'O,É [OK] ,Ü,½,í [“K—p] f{f^f“,đ  
%Ÿ,μ,Ä□Ý'è,đ•Ű'¶,μ,Ä,,¾,¾,¾,¾□B

Œ»Ÿ,ì%ð'œ"x,É,"-,é%ŠúŸ'è,ì^Ê'u,ÉffXfNfgfbfv,ð-ß,μ,Û,·B



,±,ê,ç,lfRf“fgf□□[f<,đŽg—p,μ,Ä□ATV %œ'œ,ì-¾,é,³,Æ□Ê“x,đ'²□®,μ,Ü,·□B

,±,ê,ç,lfRf“fgf□□[f<,đŽg—p,μ,Ä□ATV %œ’œ,ì-¾,é,<sup>3</sup>,ÆfRf“fgf%ofXfg,đ’<sup>2</sup>□®,μ,Ü,·□B

,±,lfRf“fgf□□[f<,đŽg—p,μ,Ä□ATV □M□t,É“K—p,·,·,éftfŠfbjJ ftfBf<f^,ì—Ê,đ’²□®,μ,Û,·□B  
DVD %of%œ,đfn□[fhfEjFfA ffrR□[f\_,Å□Ä□¶,·,é,Æ,«,í□AftfŠfbjJ ftfBf<f^,đŠ®‘S,É□Ø,é,±  
,Æ,đ,“Š©,ß,μ,Û,·□B

TV ,É□o—í, ,é□û, ì%œ-Ê, ì%ð'œ"x,Æff%□□["x,ð□ý'è,μ,Û,·□B

,±,ê,ç,lfRf“fgf□□[f<,đŽg—p,μ,Ä□Af,fff^,É•\Ž!,<sup>3</sup>,é,éfrfffi,â DVD %œ’œ,ì•iŽ<sub>ç</sub>,đ’<sup>2</sup>□® ,μ,Ü,·□B  
fRf“fsf...□[f^,Âfrrfffi,â DVD %f%œ,đ□Ä□¶,·,é,Æ,«,É□A-<sup>3</sup>/<sub>4</sub>,é,<sup>3</sup>□AfRf“fgf  
%fXfg□A□F’Š□A□Ê“x,đ•Ê□X,É’<sup>2</sup>□®,μ□A□Â“K,ÈfCf□□[fW•iŽ<sub>ç</sub>,Â•\Ž!,<sup>3</sup>,<sup>1</sup>,é,±,Æ,<sup>3</sup>,Â,Ü,·□B

NVIDIA fOf%oftfBfbfNfX fvffZfbfT,lfRfA,“,æ,Ńff,fŠ,lfNfffbfNžü”g”,đ’²@,·,é,±,Æ,ª,Å,«,Ü,·B

NVIDIA fOf%oftfBfbfNfX fvf[]fZfbfT,lfRfA fNf[]fbfN'→“x,đ[]Ý'è,μ,Ü,·[]B

fRfA fNf□fbfN'→“x,öf□Kfwf·fc,Å·\Ž!,μ,Ü,·□B



ffBfXfvfCEfC fAf\_fvf^,lf□f,fŠ fCf“f^ftfF□[fX,lfNf□fbfN’¬“x,đ□Ý’è,μ,Ü,·□B

f, fš fCf“f^ftfF[fX,]fNf[]bfN’-“x,ðf[]Kfwf<fc,Å•\Ž!,μ,Ü,·[]B

□V,μ,ϕfNf□fbfNžü”g□”,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,ϕ□Ý’è,í□AŠ@‘S,É”K—p,·,é’O,ÉfefXfg,ð□s,κ•K—v,<sup>a</sup>, ,è,Ü,·□B

,±,lfvfVf#f“,đ'đ,·,é,ÆAWindows ,đ<N“@,·,é,½,Ñ,ÉfNf[]fbfNžü”g[]”,l•i[]X,ž©“@“l,É“K—p,<sup>3</sup>,é,é,æ,x  
,É,É,è,Ü,·[]B

**f[]f,:** Ž©“@fNf[]fbfN[]Ý'è,đ[]È—<sup>a</sup>,·,é,É,ÍAWindows <N“@'t,É <Ctrl> fL[][,đ  
%oŸ,μ,½,Ü,Ü,É,μ,Ä,“,«,Ü,·[]BfRf“fsf...[]f^,əf[]fbf[]gf[]fN,É[]Ü'±,<sup>3</sup>,é,Ä,ç,é[]ê[]#,ÍAWindows  
,Éf[]fOf[]f“,μ,½,ç,·,® <Ctrl> fL[][,đ%oŸ,μ,½,Ü,Ü,É,μ,Ä,,<sup>3</sup>/<sub>4</sub>,<sup>3</sup>,ç[]B

fRf"fgf□□[f<,đ□Ä,Ñ—LCEø,É,·,é'O,É□A,·,×,Ä,ìfNf□fbfN'²□□<@"\\,đfŠfZfbfg,μ□A<□\$"l,ÉfOf%oftfBfbfNfX  
fn□[fhfEfFfA,ì□ÄCEÿ□o,đŽÀ□s,μ,Ü,·□B

fffBfXfvfCEfC fAf\_fvf^,ì BIOS ,đfAfbfvff□[fg"Å BIOS fCf□□[fW,É□Ø,è'Ö,ì,é,½,Ñ,É□AfŠfZfbfg,đŽÀ□s,·,é,±  
,Æ,đ, Š©,ß,μ,Ü,·□B

^È%º,ì 4 ,Â,ì TwinView f,[]fh,©,ç'l'ð,Å,«,Ü,·□B

•W□€ →} •W□€“l,È'P^èfffBfXfvfCfC f,[]fh,ð'l'ð,μ,Ü,·□BNVIDIA fOf%oftfBfbfNfX□@fAf\_fvf^,É□Ú'±  
,μ,Å,ç,é•\Ž!ffffofCfX,ª 1 'ä,ì,Ý,ì□è□‡,É,í□A,±,ìf,[]fh,ðŽg—p,μ,Å,,¾,¾,¾,ç□B

**fNf□□lf“** →} ,±,ìf,[]fh,Å,í□A'æ 1 •\Ž!ffffofCfX,ì□³Sm,ÈfRfs□[,ð'æ 2 fffofCfX,É□o—í,μ,Ü,·□B

□...•½**fXfpf“** →} ,±,ìf,[]fh,Å,í□AWindows fffXfNfgfbfv,ð□...•½•ûCEü,ÉŠg'â,μ□A2 ,Â,ì•\Ž!ffffofCfX,Å•\  
Žì,μ,Ü,·□B2 ,Â,ìfffBfXfvfCfC,ð'g,Ý□‡,í,¹,é,±,Æ,Å□A'â,«,È 1 ,Â,ìfffBfXfvfCfC%ºæ-È,ð□ì,è,Ü,·□B

□,'¼**fXfpf“** →} ,±,ìf,[]fh,Å,í□AWindows fffXfNfgfbfv,ð□,'¼•ûCEü,ÉŠg'â,μ□A2 ,Â,ì•\Ž!ffffofCfX,Å•\  
Žì,Å,«,Ü,·□B2 ,Â,ìfffBfXfvfCfC,ð'g,Ý□‡,í,¹,é,±,Æ,Å□A'â,«,È 1 ,Â,ìfffBfXfvfCfC%ºæ-È,ð□ì,è,Ü,·□B

**[TwinView Standard]** - •W□€“l,È'P^êfffBfXfvfCEfC f,□[fh,ð'I'ð,μ,Ü,·□BNVIDIA fOf%oftfBfjbfNfX  
fAf\_fvf^,É□Ú'±,μ,Ä,ç,é•\Ž!fffofCfX,ª 1 'ä,ì,Ý,ì□é□±,É,í□A,±,ìf,□[fh,ðŽg—p,μ,Ü,·□B

**[TwinView Clone]** - ,±,lf,[]fh,Å,íA'æ 2 fffofCfX,É'æ 1 •\Ž!ffffofCfX,!)%œ-ÊfRfs[],ªo—í,<sup>3</sup>,ê,Ü,·B



**[TwinView Horizontal Span]** - , ±, ÿ, □[fh, Å, Í□AWindows , ÿffXfNfgfbfv, ð 2 'ä, ð\Ž!fffofCfX, Å%o;'. É•\ Ž!, Å, «, Ü, ·□B, ±, ÿ, □[fh, Å, Í□A2 'ä, ÿfffofCfX, Å'å, «, ÈŠg'£•Ž!%oæ-È, ðCE` □¬, ·, é, ± ,Æ, É, È, è□A'P^éffBfXfvfCfC, Å, Í•\Ž!, µ, «, é, È, ç□€-Ú, ð•\Ž!, ·, é□ê□‡, É•Ö-~ , Å, ·□B

**[TwinView Vertical Span]** - ,±,lf,[]fh,Å,í[]AWindows ,lffXfNfgfbfv,ð 2 'ä,ì•\Ž!fffofCfX,Å[]c',É•\ Ž!,·,é,±,Æ,ª,Å,«,Ü,·[]B,±,lf,[]fh,Å,í[]A2 'ä,ìfffofCfX,Å'å,«,ÈŠg'£•\Ž!%œ-Ê,ðCE`[]-,·,é,± ,Æ,É,È,è[]A'P^èffBfXfvfCEfC,Å,í•\Ž!,µ,«,ê,È,†[]€-Ú,ð•\Ž!,·,é[]ê[]±,É•Ö—~ ,Å,·[]B

TwinView •\Ž!□Ý'è,³fOf%oftfBfjf<•\Ž!,³,è,Ü,·□B

f,fff^,ìfOf%oftfBfjfN,ðfNfŠfbfN,·,é,Æ□ACE»□Ý,ì•\Ž!,Æ,μ,Ä'1'ð,Å,«,Ü,·□Bf,fff^,ìfOf%oftfBfjfN,ð  
%oEfNfŠfbfN,·,é,Æ□A□Ú'±,μ,Ä,ç,é•\Ž!fffofCfX,ð'²□@,·,é,½,ß,ì,³,Ü,´,Ü,È□€-Ú,³•\Ž!,³,è,Ü,·□B

fNf□□[f“ f,□[fh,đŽg—p,·,é,Æ□A'æ 1 fffofCfX,Å,Í'æ 2 •\Ž!fffofCfX,æ,è□,çffXfNfgfbfv%øđ'œ“x,đŽg—  
p,Å,«,Ü,·□B'æ 2 fffofCfX,ì•—□%øđ'œ“x,è'æ 1 fffofCfX,æ,è,à'á,ç□ê□#□A'æ 2 fffofCfX,lffXfNfgfbfv  
%øæ-Ê,ì<<ŠE,Éf}fEfX,đ“® , © ,·,Æ□AfffXfNfgfbfv,èŽ©“®“l,Éjpf“,μ,Ü,·□B

[fNf□□[f“ fffofCfX,Å%¼'zfffXfNfgfbfv,ð—LCEø,É,·,é] flfvfVf†f“,ð'l'ð,μ,Ä,ç,é□ê□†,í□A'æ 2  
fffofCfX,ìŽ©“ @fpf“<@”\,ðfift,É,μ,Ä,,¾,¾,ç□B,±,±,·,·,é,±,Æ,Å□A  
%¼'zfffXfNfgfbfv,ð”C^Ó,ì^Ê'u,É□³Šm,É□uCEÅ'è□v,Å,«,Ü,·□B,±,ì<@”\  
.í□AfvfCEf[f“ fe□[fVf†f“,ð□s,±□ê□†,âfAfvfŠfP□[fVf†f“,Å□x,©,ç□ì<Æ,ð□s,±□ê□†,É•Ö—~,Å,·□B

,±,ì<@”\,ð—LCEø,É,·,é,Æ□ACE»□Ý’l’ð,³,è,Ä,ç,éfffBfXfvfCEfC□ä,ÅCE»□Ý,lfpf“^Ê’u,²f□fbfN,³,è,Ü,·□B,±,²,  
·,é,±,Æ,Å□A%º¼’zffXfNfgfjbfv,ð”C^Ó,ì^Ê’u,É□³Šm,É□uCEÅ’è□v,Å,«,Ü,·□B,±,ì<@”\  
.í□AfvfCEf[f“fe□[fvf#f”,ð□s,²□ê□#,âfAfvfŠfP□[fvf#f”,Å□×,©,ç□ì<Æ,ð□s,²□ê□#f,É•Ö—~,Å,·□B

TwinView fXfjpf" f,[]fh,ì%¼'zffXfNfgfbfv<@"\,ª—LCEø,É,È,è,Ü,·□B

,±,ì<@"\,ð—LCEø,É,·,é,Æ□A2 'ä,ìfffBfXfjvfCEfC,ð□‡,í,¹,½•"—□"l,È•Žì—ì^æ□i-

@,æ,è,à'å,«,ÈffXfNfgfbfv,ð□Ý'è,Å,«,Ü,·□B

•\Žì%oÂ"^\^æ,ÌŠO,Éf}fEfX,ð"®,©,·,Æ□ACE<□‡,³,ê,½•\Žì%oæ-Ê,ª'å,«,ÈffXfNfgfbfv—ì^æ,ì□ä,É•\Žì,³,ê,Ü,·□B

TwinView 'æ 2 fffofCfXðÝ'è,}fOf%oftfBfbfN•\Ž!

fNf[]f" f,[]fh,ðŽg—p,μ,Ä,ç,é,Æ,«,ÉfOf%oftfBfbfN,ðfNfŠfbfN,·,é,Æ[]ATwinView 'î%žfOf%oftfBfbfNfX  
f{[]fh,ìæ 2 []o—í,É[]Ú'±,³,è,Ä,ç,é[]o—íffofCfX,ð[]Ý'è,Å,«,Ü,·[]B



fY[f€ fRf"fgf[f<,ð—LCEø,É,·,é,Æ[Afrfff[o—í%œ-Ê,ì"Á'è,ì-ì^æ,ðŠg'â,Å,«,Ü,·B

frfff!%æ-Êã,ÅŠg'â,·,é-ì^æ,ð,±,±,Å'ì'ð,μ,Û,·B-ì^æ,ð'ì'ð,μ,½,çA  
%º²,ì²@,Â,Û,Ý,ð"®,©,μ,ÄA'ì'ð,μ,½%æ-Ê-ì^æ,ðŠg'â,μ,Û,·B

'l'ð,µ,½frfff|Ä□¶%œ-Ê,ì^é•"•ª,ðŠg'å,Û,½,í□k□-,Å,«,Û,·□B

frffl,đftf<fXfNfŠ[f“ f,[fh,ÅÄ¶,·é•\Ž!ffofCfX,đ'l'đ,μ,Ü,·B

ftf<fxfnš□f“□Ä□řžž,ì□c%o;”ä (□...•½ftfcfy’î□,¼ftfcfy) ,đ’l’đ,Å,«,Ü,·□B

,±,lfjvfVf#f“,ð—LCEø,É,·,é,ÆAftf<fXfNfŠ[]f“,Å,lfrrffl[]Ä[]¶,É[]Å“K,È%øð’œ“x,ðfrfffl fhf  
%ofCfo,ž©“@“l,Él’ð,μ,Û,·[]B

,±,lfvfVf#f",ð—LCEø,É,·,é,ÆA[f][fo][fCfC fRf"fgf[f<] fy[fW,lfY[f€  
fRf"fgf[f<,ÉfŠf"fN,·,é,ì,ÅAftf<fXfNfŠ[f" ffofCfX,lfY[f€"à,à"~Žž,ÉfRf"fgf[f<,Å,«,Ü,·B

,±,lf{f^f“,đfNfŠfbfN,·,é,Æ□ATwinView ,lfNf□□[f“ f,□[fh,Å‘I‘đ,Å,«,é□,“x,Èfrffl<@“\,ÉfAfNfZfX,Å,«,Ü,·□B,±  
,ê,ç,ì<@“\,ÉfAfNfZfX,·,é,É,í□A,»,ìŽž“\_ ,ÅfNf□□[f“ f,□[fh,ª—LŒø,É,È,Á,Ä,ç,é•K—v,ª, ,è,Ü,·□B



,±,lfvfVf#f“,ð—LCEø,É,·,é,Æ□Afl□[fo□[fCEfC fftfgfEjFfA,Å<□\$“l,ÉfofXf}fXf^fŠf“fO,Žg—p,<sup>3</sup>,ê,Ü,·□B,±  
,lfvfVf#f“,l□Afrfffl fCf□□[fW,<sup>2</sup>—□,ê,é□A, ,é,ç,í,ü,Á,½,•\Žl,<sup>3</sup>,ê,È,ç,Æ,ç,Á,½frfffl□Ä□¶l,l-â'è,<sup>a</sup>-  
□¶,μ,È,çCEÀ,è□AŽg—p,μ,È,ç,æ,κ,É,μ,Ä,,<sup>3</sup>/<sub>4</sub>,<sup>3</sup>,ç□B

'l'ð,³,è,½frfff| fAf\_fvf^,ÅŽg—p,μ,Ä,ç,éf,fff^,ìĈ`Ž®,ð•\Ž!,μ,Û,·□B

fNfŠfbfN,·,é,Æ□A,±,lf,jjf^,lfffofCfX,¨,æ,Ñfhf%oofCfo fvf□fpfefB,ª•\Ž!,³,ê,Ü,·□B

,±,lf,ff^,ÅŽg—p,Å,«,éfŠftfĚfbjVf... fĚ[]fg,đ^ê—•\Ž!,μ,Û,·[]BfŠftfĚfbjVf...ŽüŠú,đ^Z,, ,é,Æ%œæ-  
Ê,łftfŠfbj,ª'áĚ,,³,ê,Û,·[]B

,²Žg—p,lf,fff^,Áî%ž,μ,Ä,ç,È,çf,□[fh,đ [fšftfçfjbvf...Žůšú] ,lfšfXfg,ÉšÜ,ß,é,©,Ç,κ,©,đŽw'è,μ,Ü,·□B'í  
%ž,μ,Ä,ç,È,çf,□[fh,đ'l'đ,·,é,Æ□A•Ž!,É□d'â,È-â'è,ª"□¶,μ,½,è□Afn□[fhfEfffA,ª¹□□,·,é□é□‡,ª, ,è,Ü,·□B

,±,lfjfvfVf#f“,ð‘l’ð,·,é,Æ□AfAfvfŠfP□[fVf#f“,Å‘l’ð,<sup>3</sup>è,Ä,ç,éfsfNfZfç,É,©,©,í,ç,.,□AOpenGL fhf%ofCfo,Å,í<-  
□Š“l,É 16 frfbfg□[‘wfofbftf@,ªZg—p,<sup>3</sup>è,Ü,·□B  
,±,é,É,æ,è□A□[‘wfofbftf@,ì□,“x,í‘½□—Ž,¿,Ü,·,ª□A□[‘wfofbftf@  
fNfŠfA,Æ“©□ì,lfpftfH□[f}f“fX,Í€ü□ã,μ,Ü,·□B

,±,İ<@"\,đ—LŒø,É,·,é,Æ□AOpenGL ,Å Windows 2000 ,İ [Advanced Multi Monitor] <@"\,žg—p,³,ê,Û,·□B

,±,lfjfvfVf#f“,đŽg,Á,Ä□AfffXfNfgfbfv,ì□¶□ă<+,đ•\Ž!,·,éfffBfXfjvfÆfC,đ'l'đ,μ,Ü,·□B,±,lfjfvfVf#f“,í□Af,fff^  
fcf□□lfW,ì^Ê'u,đ“ü,ê“Ö,!,é□Û,ÉÆø%Ê,đ”Šö,μ,Ü,·□B



CE»Ÿ,ì TwinView fffBfXfvfCEfC,ª,·,x,Ä•\Ž|,³,è,Ü,·□B2 ,Â^È□ã,ìfffofCfX,ª□Ú'±,³,è,Ä,¨,è□A[•W□€]  
^ÈŠO,ìf,□[fh,đŽg—p,µ,Ä,ç,é□ê□‡,É□A,±,è,ç,ìffBfXfvfCEfC,©,çCE»ŸŽg—p,·,éffBfXfvfCEfC,đ'í'đ,µ,Ü,·□B  
,Ü,½□A,·,©□ã,ìRf“fgf□□[f<,É•\Ž|,³,è,Ä,ç,éf,ff^ fOf  
%oftfBfbfN,đfNfŠfbfN,·,é,Æ□ACE»Ÿ,ìffBfXfvfCEfC,Æ,µ,Ä'í'đ,Â,«,Ü,·□B

,±,lf{f^f“,đfNfŠfbfN,·,é,Æ□ACE»□Ý,íffBfXfvfCfC,Æ,μ,ÄŽg—p,μ,Ä,ç,é□o—  
ÍfffofCfX,đfZfbfgfAfbfv,μ,½,è□A,»,ífffofCfX,ÉŠÖ~A,μ,½□Ý’è,đ•í□X,μ,½,è,·,é,±,Æ,ª,Å,«,Ü,·□B

fprf" fRf"fgf[]f<,É,æ,è[]AŽÀ[]Û,iffXfNfgfbfv—l^æ,É'î,.,é•\Ž!%æ-Ê—  
l^æ,l'â,«,<sup>3</sup>,ðfZfbfgfAfbfv,Å,«,Û,·[]B,±,ê,É,æ,è[]A,<sup>2</sup>Žg—p,lj,fjf^[]Aftf%ofbfg fprlf<[]AfefÆfr,Å'Ê[]í•\  
Ž!,Å,«,éfffXfNfgfbfv,æ,è,à'â,«,ÈfffXfNfgfbfv,ðŽg—p,Å,«,Û,·[]B

fNfŠfbfN,·,é,Æ□A,±,lfrrffl fAf\_fvf^,É□Ú'±,³,è,Ä,ç,é,·,×,Ä,lfBfXfvfÇfC,³Çÿ□o,³,è,Ü,·□B[fRf"fgf□□[f<  
fpf|f<] ,đŠj,ç,½ÇĚă,ÉffBfXfvfÇfC,đ□Ú'±,μ,½□ê□#,Í□A,±,¡<@"\,đŽg—p,μ,Ä,,¾,³,ç□B

ŒŸo,³,è,È,ç'æ 2 fffBfXfvfŒfC fRfIfNf^,Éf,ffj^,ðÚ'±,µ,Ä,ç,éêê#,ÍA,±  
,lf{fbfNfX,ð`fFfbfN,µ,Ü,·BBNC fRfIfNf^,ÉÚ'±,µ,Ä,ç,é<ŒŒ^,lf,ffj^,ðŽg—p,µ,Ä,ç,éêê#,É•Ö—,Å,·B

fNfŠfbfN,.,é,ÆANVIDIA fx[fX,)fOf%oftfBfbfNfX fAf\_fvf^,ÉŠÖ~A,μ,½î•ň,ª•\Ž!,³,è,Û,·B

fNfšfbfN,.,é,ÆANVIDIA fx[fX,lfOf%oftfBfbfNfX fAf\_fvf^,l,»,l'¼,l<@"\,ÉfAfNfZfX,Å,«,Ü,·B

fNfŠfbfN.·.é,Æ ANVIDIA Web fTfCfG,Å Å V,ì í • ñ,â NVIDIA fx [fX,ìfOf%oftfBfbfNfX fAf\_fvf^,ìfhf  
%ofCfo,ÉfAfNfZfX,Å,«,Ü,· B



,±,±,É,ÍACE»Ý'!ð,è,Ä,ç,éfOf%oftfBfbfNfX fAf\_fvf^,lfn[fhfEfFfA,ÉŠÖ,·,éÝ'u,ìÚ×,ª•\Ž,è,Ü,·B

fOf%oftfBfbfNfX,ì'S'ì"l,ÈfpftfH[f}f"fX,É%œ<¿,·,éfvfXfef€,ìY'è,đ'ì'đ,·,é,ÆA,»,è,ÉŠÖ,·,éÚx,ª•\  
Ž,³,é,Ü,·B

,±,ì\,í[]ANVIDIA fx[]fX,)fOf%oftfBfbfNfX fAf\_fvf^,ÅÆ»[]ÝŽg—p,³,è,Ä,ç,éftf@fCf<,ì^è—,Æí  
%ož,·,éfo[]fWf#f“,ðŽ!,μ,Û,·[]B

[fAfvfŠfP[fVf#f“ŠÇ—  
Y`èfy[fW,Å,í[AfAfvfŠfP[fVf#f“,²,Æ,É[A•i],lffBfXfvfCfC,âffXfNfgfbfvŠÔ,Å,ìfAfvfŠfP[fVf#f“  
fEfBf“fhfE,ì•\Ž!^É'u,ðŠÇ—,Å,«,Ü,·B

,±,ê,Í Desktop Manager ,ÅŒ»ŸŠÇ—□,³,ê,Ä,†  
,éAfvfŠfP□[fvf†],İŠfXfg,Å,·BfŠfXfg,©,çAfvfŠfP□[fvf†],đ'ı'đ,μ□AfvfŠfP□[fvf†]ŠÇ—  
□Ÿ'è,đŸ'è,μ,Ü,·BfŠfXfg,İ•Ò□W,Í□A%œE'α,É, ,é [ 'Ç%œÁ] f{f^f",Æ [□í□œ] f{f^f",đŽg,Á,Ä□s,†,Ü,·□B

,±,lf{f^f“,đfNfŠfbfN, ,é,ÆADesktop Manager ,ÅŠÇ—  
□,³,ê,éfAfvfŠfP□lfVf#f“,lfŠfXfg,É□V,μ,tfAfvfŠfP□lfVf#f“ fv□fOf%of€,a'Ç%oÁ,³,è,Ü,·□B

,±,lf{f^f“,đfNfŠfbfN, ,é,ÆADesktop Manager ,ÅŠÇ—  
□,³,ê,éfAfvfŠfP□lfVf#f“,lfŠfXfg, ©,çACE»Ý'!’đ,³,ê,Ä,ç,éfAfvfŠfP□lfVf#f“,²□í□œ,³,ê,Ü,·□B

,±,lf{f^f",ð%öÿ,μ,Ä□AfAfvfššfP□[fVf#f" fšXfg,ì,·,x,Ä,lfGf"fgfš,ðfNfšfA,μ,Ü,·□B

Ex□□: fGj"fgfš,ð,·,x,ÄfNfšfA,·,é,Æ□AfAfvfššfP□[fVf#f",Éî,·,éjjXf^f}fCfY"à—e,í,·,x,ÄfšfZfbfg,<sup>3</sup>,ê,Ü,·□B



,±,lfvfVf#f“,đ'ı'đ,·,é,Æ AfAfvfŠfP[fVf#f“ fEfBf“fhfE,ıí,ÉŽw'è,μ,½ffBfXfvfCfC,Å<N“ ©,·,é,æ,κ  
,É,È,è,Ù,·B

[,±,lfAvfšfP[fVf#f",đí,ÉŽŸ,ì%œ-Ê"Ô†,ì%œ-Ê,Å<N"©,·,é] flfvVf#f",ªI'ð,³,ê,Ä,ç  
,éê#ACE»Ý'I'ð,³,ê,Ä,ç,éfAvfšfP[fVf#f",ªí,É<N"©,·,éffBfXfvfCEfC (f,fjf^),ð,±  
,ìftfB[f<fh,ÅŽw'è,μ,Ü,·B

,±,lfvfjvfj#“,đ'!đ, ,é,ÆADesktop Manager ,É,æ,Á,ÄfAfvfšfP[fVfj#“ fEfBj“fhfE,lfTfCfY,Æ^Ê'u,æ<L  
%o¯,³,è,Ü,·BŽŸ,ÉfAfvfšfP[fVfj#“,đ<N“@, ,é,ÆADesktop Manager ,É,æ,è<L%o¯,³,è,Ä,ç  
,½fTfCfY,Æ^Ê'u,ÄfAfvfšfP[fVfj#“ fEfBj“fhfE,æ•\Ž!,³,è,Ü,·B

,±,lfvfVf#“,đŽg—p,·,é,Æ□AfAfvfŠfP□[fVf#“ fEfBf“fhfE,đ□Ā‘â  
%o»,·,é□Ů,É□A·i□”,lffBfXfvfCEfC,É,Ü,½,<sup>a</sup>,éffXfNfgfbfv‘S‘l,Ā□Ā‘â%o»,·,é,ì,Ā,í,È,-  
□A,»,lfEfBf“fhfE,<sup>a</sup>CE»□Ý·\Ž!,<sup>3</sup>,é,Ā,č,é%oæ-Ê,ì,Ý,Ā□Ā‘â%o»,Ā,«,Ü,·□B



,±,±,É•Ê,lfAfvfŠfP[fVf+f“ fffXfNfgfbfv,ì-¼'O,đ“ü—í,μ,Ü,·□B,Ü,½□Afhf□fbfvf\_fEf“  
f{f^f“,đŽg,Á,Ä□A•Ê,lfAfvfŠfP[fVf+f“—p,ÉŠù,É□□¬,μ,Ä, ,éfffXfNfgfbfv,©,ç'l'đ,·,é,±,Æ,à,Å,«,Ü,·□B  
,±,ìftfB□[f<fh,í□A[,±,lfAfvfŠfP[fVf+f“,đ•Ê,ìfffXfNfgfbfv,Å<N“ @,·,é] flfvfVf+f“,đ'l'đ,μ,Ä,ç,é□ê□±,ì,ÝŽg—  
p,Å,«,Ü,·□B

[fzfbfgfL[] fy[]fW,Å,í[]AffXfNfgfbfv,Ö,lfAvfŠfP[]fVf#f“ fEfBf“fhfE,ì”z’u,ðŠÇ—  
[],·,é,½,ß,í[]ufzfbfgfL[]v,ì’g,Ý[]#,í,¹,ðjffXf^f}fCfY,Å,«,Ü,·[]B

,±,lfL[,i'g,Y[#,i',δ%oY',.ÆACE»YfAfNfefBfu.È (fj[fvf<,i, ,é)  
fEfBf"fhfE,δ•Ê,lf,fff^,i"~,¶^Ê'u,É^Ú"®,Å,«,Ü,·B



,±,lfL[l,ì'g,Ý[]#,í,¹,ð%oÿ,·,Æ[]ACE»[]ÝfAfNfefBfu,ÈfAfvfšfP[]lfVf+f",ª•\Ž|,³,è,Ä,ç  
,éffBfXfvjçfC,ì,·,x,Ä,lfEfBf"fhfE,ð[]A•Ê,lfBfXfvjçfC,É^Ú"®,Å,«,Ü,·B

,±,lfL[.l'g,Ý[#,í,¹,ð%oÿ,·,Æ[A,·,×,Ä,lfAfvfŠfP[[fVf#f" fEfBf"fhfE,ðf}fEfX fl  
fCf"f^,ª, ,éffBfXfvfCfC,Ö^Ú"®,Å,«,Ü,·[B

• i□", ðfAfvfŠfP□[fVf#f" fffXfNfgfbfv, ðfAfNfefBfu, É, µ, Ä, ç, é□ê□#, Í□A, ±, ðfL□[, ð'g, Ý□#, í, ¹, ð  
%oÝ, µ, Ä□A" C^Ô, ðffXfNfgfbfv, ©, ç•Ê, ðffXfNfgfbfv, Ö□Ø, è'Ö, ð, é, ±, Æ, ¢, Å, «, Ü, ·□B, ±, ðfL□[, ð'±, -, Ä  
%oÝ, ·, Æ□AfAfNfefBfu, ÊfAfvfŠfP□[fVf#f" fffXfNfgfbfv, ðfŠfXfg, ð□zŠÅ, 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,<sup>3</sup>,é,élfvfVf#f“,<sup>3</sup>•\Ž!,<sup>3</sup>,é,Ü,·□B

fAfvfŠfP[fVf#f“, ðuffXfNfgfbfv‘S‘ìv, ÅÅ‘â%» , , é, ÆAfffXfNfgfbfv, a•i“, ìf, fff^, É, Ü, ½, a, Á, Ä, ç  
, éê# , àA, » , ìffXfNfgfbfv‘S‘ì, ÉL, °, ÅÅ‘â%» , ³, ê, Ü, ·B

fAfvfŠfP[fVf#f“, ðuCE»Ý, ì%æ-Êv, ÅÅ‘â%» , , é, ÆA%ŠúÝ‘è, Å, ÍAfAfvfŠfP[fVf#f“, aCE»Ý·\  
Ž, ³, ê, Ä, ç, é%æ-Ê, ì, Ý, ÅÅ‘â%» , ³, ê, Ü, ·B

, ±, ì, ©, \, ð, —, L, E, ø, É, ·, ·, é, Æ, □, A, ·, ·, ×, Ä, ì, f, A, f, v, f, Š, f, P, □, [, f, V, f, #, f, “, ], f, g, f, b, f, v, f, C, E, f, x, f, <, f, E, f, B, f, “, f, h, f, E, Å, f, A, f, N, f, Z, f, X, Å, «, «, é, f, V, f, X, f, e, f, €  
f, □, f, f, f, ... □, [, É [NVIDIA Desktop Manager] f, T, f, u, f, □, f, f, ... □, [, ‘, } “ü, ³, è, Ü, · □, B, ±, ], f, T, f, u, f, □, f, f, f, ... □, [, ð, Ž, g, —  
p, ·, ·, é, Ì, □, A, Desktop Manager, ì [f, R, f, “, f, g, f, □, □, [, f, <, f, p, f, l, f, < ], ð, Š, j, ·, ±, Æ, È, □, A, [, f, A, f, v, f, Š, f, P, □, [, f, V, f, #, f, “, Š, Ç, — □, ] < @, \, É, ‘, f, □, ·, -  
Š, È, ‘, P, É, f, A, f, N, f, Z, f, X, Å, «, «, Ü, · □, B

f, A, f, v, f, Š, f, P, □, [, f, V, f, #, f, “, f, E, f, B, f, “, f, h, f, E, ì, f, V, f, X, f, e, f, € f, □, f, f, f, ... □, [, Ì, □, A, f, E, f, B, f, “, f, h, f, E, -¼ (f, ^, f, C, f, g, f, <, f, o, □, [, ) □, ä, Å  
%, E, f, N, f, Š, f, b, f, N, ·, ·, ·, é, © □, A, f, E, f, B, f, “, f, h, f, E, -¼, Ì, □, ¶, [, É, ·, é, □, -¼, ³, É, f, A, f, v, f, Š, f, P, □, [, f, V, f, #, f, “, f, A, f, C, f, R, f, “, ð, f, N, f, Š, f, b, f, N, ·, ·, ·, é, Æ, ·, \  
Ž, ì, ³, è, Ü, · □, B

,±,lfjfvfjff“,đ'ı'đ,·,é,Æ□ADesktop Manager ,Å□A1 ,Â,ì%œ-Ê,ÉŽù,Ü,é,æ,π,ÉfjfbjvfAjbv  
fEfBf“fhfE,ı^Ê'u,đ'²□@,μ,Ä□Afgfbfv fCfxf<,lfjfbjvfAjbv fEfBf“fhfE,Šg'â•\Žı,³,é,½,è□A2 'ä  
(,Ü,½,ı,»„é^È□ă) ,lf,fff^,É,Ü,½,²,A,Ä•\Žı,³,é,é,ı,đ-h,®,±,Æ,²,Å,«„Ü,·□B

,±,lfjvfVf#f“,đ'ı'đ,·,é,Æ□AfVfXfef€,ı,·,×,Ä,lfjfbfvfAfbfv fEfBf“fhfE,ª□A□í,ÉŽw'è,μ,½%œ-Ê,ı'†%>,É•\  
Ž,ª,é,Û,·□B



f|fbfvfAfbfv fEfBf“fhfE,đ't%oo>,É•\Ž!,.,éf,jjf^,đ'l'đ,μ,Ü,·□B,±,|ftfB□[f<fh,í□A[fVfXfjef€“à,ì,·,×,Ä,|f|  
fbfvfAfbfv fEfBf“fhfE,đŽŸ,ì%ooæ-Ê"Ô□t,ì%ooæ-Ê,ì't%oo>,É•\Ž!,.,é] f{f^f“,đ'l'đ,μ,Ä,ç,é□é□‡,ì,ŸŽg—  
p,Â,«,Ü,·□B

,±,lfjfvfVf#f“,đ'!đ,·,é,Æ□A•;□”,lf,fjf^,É,Ü,½,ª,Á,Ä•Ž!,ª,é,é□AfVfXfef€,,·,×,Ä,lfjfbfvfAfbfv  
fEfBf“fhfE,đ□Af}fEfX fj□[fj<,l, ,éfffBfXfvfCEfC (f+□[fU,ªCE©,Ä,ç,é%oÅ“\□«,ª□,,ç) ,l'+%o>,É•Ž!,μ,Ü,·□B

,±,lfvfVf#f“,đ'!đ, ,é,Æ AfAfvfŠfP[fVf#f“ f|fbvfAfbfv  
fEfBf“fhfE,đA,»,lfAfvfŠfP[fVf#f“,lfEfBf“fhfE,Æ“ ,ŀ%œ-Ê,É•Ž!,μ,Ü,·Bf|fbvfAfbfv fEfBf“fhfE,à,æ 1  
'ä,lf,ff^ã,Éu, ,Ó,ê,Äv•Ž!,³,é,é,Æ ADesktop Manager ,É,æ,Á,ÄAfAfvfŠfP[fVf#f“ fEfBf“fhfE,ì%œ-  
Ê,ÉŽù,Ü,é,æ,æ,Éf|fbvfAfbfv fEfBf“fhfE,â^Ú“®,³,ê,Ü,·B

,±,lf{f^f“,ð%öÿ,.,Æ□ADesktop Manager ,lffftfHf<fg,lfOf□□[fof<□Ý’è,ÆfzfbfgfL□[,ª•œƐ³,³,è,Ü,.□B  
f□f.∴,±,ì’€□ì,í□A[fAfvfŠfP□[Vf#f“ŠÇ—□] fy□[fW,Å□Ý’è,μ,½fAfvfŠfP□[Vf#f“,²,Æ,ìjfxf^f}fCY“à—e,É,í  
%œ<¿,μ,Ü,¹,ñ□B

Desktop Manager ,É'î,μ,Ä□s,Á,½•ï□X,đŽó,-"ü,ê,Ä"K—p,μ,Ä,©,ç□A[fRf"fgf□□[f< fpf]f<]  
fEfBf"fhfE,đ•Â,¶,é,É,í□A[OK] f{f^f",đ%öÿ,μ,Ü,·□B

□s,Á,½•ï□X,ð•Û'¶,Û,½,Í“K—p,¹,,É Desktop Manager ,ì [fRf“fgf□□[f< fpjf<]  
fEfBf“fhfE,ð•Â,¶,é,É,í□A[fLfff“fZf<] f{f^f“,ð%oÿ,µ,Û,·□B  
Æex□□: □Ý'è,É'î,·,é•ï□X“à—e,Í,·, x,Ä-³Æø,Æ,È,è,Û,·□B

□Ý'è•ï□X,đ,·,×,Ä"K—p,μ,Ä•Û'¶,μ□ADesktop Manager ,ì [fRf"fgf□□[f< fp]f<] fEfBf"fhfE,đŠ),¢  
,½,Û,Û,É,·,é,É,í□A["K—p] f{f^f",đ%Ÿ,μ,Û,·□B

,±,ÿ\_fCfAfO,ÅADesktop Manager ,ÅŞÇ—,·,éV,µ,çfAfvfŞfP[fVf+f“,ð'l'ð,Å,«,Ü,·B



,±,è,íffXfNfgfbfv,ÅCE»□ÝŽÀ□s,<sup>3</sup>,è,Ä,ç,éfAfvfŠfP□[fVf#f“ fvf□fOf%of€,ìfŠfXfg,Å,·□B,±  
,ìfŠfXfg,©,çfAfvfŠfP□[fVf#f“,ð'ì'ð,;é,©□A[ŽQ□Æ] f{f^f“,ð%oÿ,μ,ÄCE»□ÝŽÀ□s,<sup>3</sup>,è,Ä,ç  
,È,ç•É,ìfAfvfŠfP□[fVf#f“,ðŽw'è,μ,Ü,·□B

,±,ì{f^f“,đfNfŠfbfN,μ,Äftf@fCf< f\_fCfAf□fO,đŠ),,Æ Desktop Manager ,ÅŠÇ—□,·,é”C^Ó,ìWindows  
fAfvfŠfP□[fVf#f“,đ'!đ,Å,«,Ü,·□B

'l'ð,µ,½fvf□fOf%of€ ftf@fCf<,ð□ADesktop Manager ,É,æ,Á,ÄŠÇ—  
□,³,ê,é□V,µ,çfAfvfŠfP□lfVf†f“,Æ,µ,Ä□³”F,·,éê±,í□A,±,lf{f^f“,ðfNfŠfbfN,µ,Ü,·□B

,±,±,ÅfAfvfŠfP[]fVf#f“ fvf[]fOf%of€;ð'!ð,μ,È,ç[]ê[]#,í[]A,±,}f{f^f“,ð%öÿ,μ,Ü,·[]B[[]V,μ,çfAfvfŠfP[]fVf#f“]  
f\_fCfAfvf[]fO,í[]A[]Ý'è,ð•í[]X,¹,,É•Â,¶,Ü,·[]B

,±,ìf\_CfA fO,Å,íA V,μ,ϕfAfvfŠfP[fVf#f“ fffXfNfgfbfv,ì-¼'O,ð"ü—í,Å,«,Ü,·B

□V,μ,ϕfAfvfŠfP□[fVf#f“ fffXfNfgfbfv,ì-¼'O,ð“ü—Í,μ,Ä,,¾,¾,ϕ□B•Ê,ìfAfvfŠfP□[fVf#f“—  
p,ÉŽw'è,μ,½ffXfNfgfbfv-¼,©,ç'l'ð,·,é,±,Æ,à,Å,«,Ü,·□B

,½,Æ,¡,Î□AWeb fuf%ofEfU—p,É,Í□uWeb□v□AE f□□[f< fvf□fOf%of€—p,É,Í □uMail□v,È,Ç,ì-  
¼'O,ðffXfNfgfbfv,ÉŽw'è,μ,Ü,·□BDesktop Manager ,ìufzfbfgfL□[□v<@“\,ðŽg—p,μ,Ä□A,±  
,ê,ç,ì,¾,Ü, 'Ü,ÈfAfvfŠfP□[fVf#f“ fffXfNfgfbfv,ðfXf€□[fY,É□Ø,è'Ö,¡,é,±,Æ,ª,Å,«,Ü,·□B

[OK] f{f^f",δ%oÿ,μ,Ä□AfffXfNfgfbfv,ì□V,μ,ç-¼'O,đŠm'è,μ,Ü,·□B—LCEø,È-¼'O,đ"ü—Í,μ,È,ç,Æ [OK]  
f{f^f",l%oÿ,·,±,Æ,â,Â,«,Ü,¹,ñ□B





,±,lfL[,ì'g,Ý#;,í,¹,ð%oÿ,·,Æ[Af}fEfX fj[f<,ì^Ê'u,É'•úCE` ,qfjff[fVf+f"CE`Ž® ,ÅŽú'© ,µ,Ä,ç,,ì,Å[Afj[f\ f<,ªCE©,Â,â,.,,È,è,Ü,·B

,±,lfjvfjvfjf“,ð—LCEø,É,·,é,Æ□AfeBf“fhfE,ðf}fEfX,Åfhf%øfbfO,μ,Ä^Ú“®,·,é,Æ,«,É□AfeBf“fhfE,ð”C^Ó,ì  
%øæ-Ê,â•Ê,ì%øæ-Ê,ì‘[,ÉŠ®‘S,É□#,í,¹,ç,ê,Û,·□B

,±,ê,ç,lfjvfVf#f",íAf^fXfNfo[.âf^fXfNØ,è'Ö,ifEjBf"fhfE,ì"@ì,È,ÇAWindows fNf%ofCfAf"fg  
fZfbjVf#f",lft[]fU[] fCf"f^ftfF[]fX-v'f,ð•i[]X,.,é,à,ì,Å,·[]B

,±,lfvfVfjf“,đ'!đ,é,ÆA'ä'Ö,lf^XfNØ,è'Ö,lfEjBf“fhfE,ª—LCEø,É,È,è,Ü,·B,±,lfEjBf“fhfE,Í TwinView  
,ìE»Y,ìY'è,É],Á,Ä%œ-Ê,ì'+%>,É•Zi,³,êA^Ü,È,éffXfNfgfbfvã,lfAvjŠfP[fVfjf“,ìØ,è'Ö,ì,ð%Â“\  
,É,μ,Ü,·B

f^XfNØ,è'Ö,lfEjBf“fhfE,Í Alt+Tab fL[,ð%ÿ,·,Æ—LCEø,É,È,è,Ü,·B

,±,̀f|fvfVf#f“,đ'ı'đ,·,é,Æ□Af^fXfN□∅,è'Ö,ıfEfBf“fhfE,ııı,ÉŽw'è,<sup>3</sup>,ê,<sup>1</sup>/<sub>2</sub>f,fjı^□ă,É•\Žı,<sup>3</sup>,ê,Ü,·□B

f^fXfN∅,è'Ö,|fEfBf“fhfE,ð•\Ž|,.,éf,fff^,ð'l'ð,μ,Ü,∅B'l'ð,Å,«,éf,fff^,íE»∅ÝfAfNfefBfu,Èf,fff^,ì,Ý,Å,∅B

,±,lfvfVf#f“,đ'đ,·,é,ÆAf^XfNfo[,đ 1  
,Â,lf,fff^,ÉÆÁ'è,Å,«,Ü,·B,Â,Ü,èAf^XfNfo[,ª•i“,lf,fff^,É,Ü,½,ª,Á,Ä•Ž!,³,è,È,ç,æ,π,É,μ,Ü,·B

,±,ê,ç,lfjvfVf#f",É,æ,èADesktop Manager ,qf[]fbfZ[]lfW f{fbfNfX f\_fCfAf[]fO,âfAfvfŠfP[]lfVf#f"  
f\_fCfAf[]fO,ðŠÜ,pf|fbjvfAfbfv fEfBf"fhfE,l^Ê'u,â"z'u,ðŠÇ—[],.é•ú-@,ªCE^,Ü,è,Ü,·B



,±,lfvfVfjf“,đ'ıđ,é,ÆAFY[f€<@“\,ª—LCEø,É,È,è,Ü,·BfY[f€<@“\,ÍAf}fEfX f[f<,ª'u,©,è,½%œ-Ê  
—ı^æ,İŠg'â\Ž!,đ^ê•ú,lf,fff^,É•\Ž!,μ,Ü,·BŠg'â\Ž!,ÍAf}fEfX f[f<,ª'u,©,è,Ä,ç,éf,fff^,Æ,Í•Ê,lf,fff^,É•\  
Ž!,ª,è,Ü,·Bf}fEfX f[f<,đ•Ê,lf,fff^,É“® ,©,·,ÆAFY[f€•\Ž!,àŽ©“®“ı,É'¼,lf,fff^,ÉØ,è'Ö,ı,è,Ü,·B

**fY[f€<@“\,ÍA•ı”,lf,fff^,ªÚ'±,ª,êA...•½,Ü,½,Í,¼fXfpf“ f, [fh,ª'ıđ,ª,è,Ä,ç  
,é,Æ,«,ı,Ÿ<@“\,μ,Ü,·B**

,±,lfvfVf#f“,ð—LCEø,É,·,é,Æ□AftfBf<f^,É,©,¯,ç,ê,½ (‘†ŠÔ’l,ð’}“ü,μ,½) ” {—!,ÅŠg’â,³,ê,Ü,·□B

^È%°ò,lfzfbfgfL[]Í[]AfY[]f€<@”\,ì[]sCEä,ÉŽg—p,μ,Ü,·□B [fzfbfgfL[]] f^fu,lfzfbfgfL[],Æ“—  
l,É[]AftfB[]f<fh,ðfNfSfbfN,μ,Ä, ©,çŠó-],·,éfL[],ì'g,Ý[]#,í,¹,ð%°ÿ,μ,ÄfzfbfgfL[],ð[]Ý'è,μ,Ü,·□B  
'□: [fY[]f€] ,Ü,½,í [fzfbfgfL[]] fy[]fW,ªŠ],ç,Ä,ç,éŠÔ,í[]AfzfbfgfL[],í-³CEø,É,È,è,Ü,·□B,±  
,ê,ÍŠù'¶,lfzfbfgfL[],ª□V,μ,çfzfbfgfL[],ì'è<` ,ð-W,°,È,ç,æ,κ,É,·,é,½,ß,Å,·□B

,±,lfzbfqfL[.íAfY[f€<@”\,lfj” ,Æfjft,ð∅,è’Ö,!,Ü,.B

,±,̀jzfbfgfL□[.í□AfY□[f€•\Ž!,̀” {—!,đ°å,«,μ,Ü,·□B

,±,̀jzfbfgfL□[.í□AfY□[f€•\Ž!,̀”{-!,δ□¬,³,,μ,Ü,.□B

,±,lfpf%of□□[f^,í□Af}fEfX,a"® ,ç,Ä,ç,È,ç,Æ,« ,ÉfY□[f€•\Ž! ,đ 1 •bŠÔ,É%½  
%oñ□X□V, ,é,© ,đŽw'è,μ,Ü, ·□B(f}fEfX,a"® ,ç,Ä,ç,é,Æ,« ,ífY□[f€•\Ž! ,íŽ©"® "l,É□X□V,³,è,Ü, ·□B) ,±  
,ì□"Žš,đ'â,«,, ,é,Æ□AfVfXfef€,âfAfvfŠfP□[fVf#f",ì□«" \,É%e<¿,đ— ^ ,! ,é□ê□# ,ª ,è,Ü, ,ì,Â'□^ Ó,μ,Ä,,³/4,³,ç□B

,±,lfpf%of□□[f^,í□AfY□[f€•\Ž!,đ 1 ,Â,lf,fff^,©,ç•Ê,lf,fff^,É□Ø,è'Ö,!,é□Ů,ì'x%o  
„ŽžŠŮ,đf~fš•b'P^Ê,Ážw'è,.,é,à,ì,Å,·□B,±,ì'x%o„ŽžŠŮ,í□AfY□[f€•\Ž!,è, ,éf,fff^□ă,Éf}fEfX,è'ZžšŮ'u,©,è  
,½□é□#,É□AfY□[f€•\Ž!,è,fff^ŠŮ,đ□u"ò,Ň%oň,é□v,ì,đ-h,@,½,ß,ì,à,ì,Å,·□B,±,lfpf  
%of□□[f^,đf[f□,É□Ý'è,μ,Ä□A'x%o„ŽžŠŮ,đ,È,.,±,Æ,à,Å,«,Ů,·□B



,±,lfvfVf#f“,đ'đ,·,é,Æ□ACtrl□AAlt□AShift ,l,φ,,é,©,lfL□[,l'g,Ý□#,í,²,đ%oÿ,μ,È,ª,çf}fEfX fzfC□[f<,đ  
%oñ,·,±,Æ,Å□AfY□[f€•\Ž!,l”{-|,đ'¼□Ú•ï□X,Å,«,Ü,·□B

f}fEfX fzfC[f:đŽg,Á,½fY[f€•\Ž;,"{—!•iX,đ—LCEø,É,·,é CtrlAAAltAShift  
.lfL[,l'g,Ý#,í,¹,đ'đ,μ,Û,·B

[fzfbfgfL[] fy[]fW,Å,í[]AffXfNfgfbfv,Ö,lfAvfšfP[]fVf#f“ fEfBf“fhfE,ì”z’u,ðšÇ—  
□,·,é,½,ß,í[]ufzfbfgfL[]v,ì’g,Ý[]#,í,³,ðjffXf^f})fCfY,Å,«,Ü,·□B

’□: [fY[]f€] ,Ü,½,í [fzfbfgfL[]] fy[]fW,²šJ,ç,Ä,ç,éšÔ,í[]AfzfbfgfL[][,í-³Æø,É,È,è,Ü,·□B,±  
,ê,íŠù’¶,lfzfbfgfL[][,²□V,μ,çfzfbfgfL[][,ì’è<` ,ð-W,°,È,ç,æ,α,É,·,é,½,ß,Å,·□B

,±,lfvfVf#f“,đ'ı'đ,·,é,Æ□A3D fAfvfŠfP□[fVf#f“,ÅfAf“f`fGfCfŠfAfX,<sup>a-3</sup>CEø,É,È,è,Ü,·□B  
fAfvfŠfP□[fVf#f“,Å□Å□,,lfjftfH□[f}fX,<sup>a</sup>•K—v,Èê□#,í□A,±,lfvfVf#f“,đ'ı'đ,μ,Ä,,¾,<sup>3</sup>,ç□B

,±,lfvfVf#f“,đ'ı'đ,·,é,Æ□A2x f,□[fh,đŽg—p,μ,½fAf“f` fGfCfŠfAfX,ª—LCEø,É,È,è,Ü,·□B  
3D fAfvfŠfP□[fVf#f“,lfCf□□[fW•iŽč,ÆfpftfH□[f}f“fX,ªCEü□ã,μ,Ü,·□B

,±,İfİfvfVfİf“,đ‘İ‘đ,·,é,Æ□AGeForce3 GPU ftf@f~fŠ□[,ĂŽg—p%oĂ”\,È“Á<-Žæ“¾□İ,ÝfAf“f`fGfCfŠfAfX<Z□p,ª—  
LCEø,É,È,è,Û,·□B

Quincunx fAf“f`fGfCfŠfAfX,đŽg—p,·,é,Æ□A‘á‘¬,Ă,μ,©ŽÀCE»,Ă,«,È,č 4x AA f,□[fh,İ□,•iŽž,đ 2x AA f,□[fh,É” —  
,é□,‘¬fpftfH□[f}f“fX,ĂŽÀCE»,μ,Û,·□B

,±,lfvfVf#f“,đ'ı'đ,·,é,Æ□A4x f,□[fh,đŽg—p,μ,½fAf“f` fGfCfŠfAfX,ª—LCEø,É,È,è,Ü,·□B  
3D fAfvfŠfP□[fVf#f“,Å□Å□,·ìfCf□□[fW•iŽ,đŽÀCE»,μ,Ü,·,ª□AfjftfH□[f}f“fX,í'½□'á%º,μ,Ü,·□B

,±,lfjvfVf#f“,đ'!đ,·,é,Æ□AfAf“f`fGfCfŠfAfX,đTf|□[fg,·,é 3D  
fAfvfŠfP□[Vf#f“,Å□Å“K,ÈfAf“f`fGfCfŠfAfX□Y'e,ž©“®“l,É—LÆø,É,È,è,Ü,·□B



,±,lfvfVf#f“,đ'ı'đ,·é,Æ□A3D fAfvfŠfP□[fVf#f“,đŽÀ□s,μ,½,Æ,«,ÉŽg—p,·,éfAf“f`fGfCfŠfAfX  
f,□[fh,đŽè“®,Å'ı'đ,Å,«,Ü,·□B

fRf“fsf...[f^,ìE»[Y,ì AGP [Y'è,ÉŠÖ,.,é[í•ñ,Å,·[B

,±,lfvfVfjf“,đ'ı'đ,;é,ÆAfOf%oftfBfbfNfX fTfufVfXfef€,ĂŽg—p,;é AGP fCE[fg,đŽè”®,Ă'ı'đ,Ă,«,Ü,;B,Ç,ı  
AGP fCE[fg,đŽg—p,;é,x,«,©•đ,©,ç,È,çéç,ıA,±,lf`fFfbfNf{fbfNfX,ıf`fFfbfN,μ,È,ç,Ă,,¾,¾,çBĂ“K,È  
AGP fCE[fg,đŽç”®“ı,É'ı'đ,¾,é,Ü,;B

fXf%ofCf\_fRf“fgf□□lf<,đ^Ú“@,.,é,Æ□AfOf%oftfBfbfNfX fTfufVfXfef€,ĂŽg—p,.,é AGP  
fE□lfg,đŽè“@,Ă'đ,Ă,<,Ü,·□B

fhf%oCfo,9VfXfef€ f f, fš, ©, çš,,, è“- ,Ä, ç, è, ½frfffI f f, fš, ðšÇ—□, ·, é•û-@, ð' l' ð, Å, «, Ü, ·□B

Œ»Ÿ,iftŒ[Œfofbftf@f,[fh,ÅŽw'è,<sup>3</sup>è,<sup>1/2</sup>•û-@,Æ[†,í,<sup>1</sup>ÄŽg—p,<sup>3</sup>è,éfVfXfef€f[f,fŠ,l—e—  
Ê,ðŽw'è,Å,«,Û,·[B

,±,lfjvfVff“,đ'!đ,·,é,Æ□A[“@“l] ftjCE□lf€ fofbftf@ f,□[fh,đŽg—p,μ,½,Æ,«,̀ftjCE□lf€ fofbftf@ f□f,fŠ,iŠÇ—  
□•ù-@,đŽw'è,Å,«,Ü,·□B

Nvidia PowerMizer ,đŽg—p,·,é,Æ□A,“Žg,ç,ì GPU ,ì“d—í□Á”i,đ’²□®,Å,«,Ü,·□B□Á’âpf□□[fZ□[fu]  
□Ý’è,đ’l’đ,μ,ÄfofbfefŠ□[,ð□ß-ñ,·,·,é,©□A□Á’âpfH□[f}f“fX] ,đ’l’đ,μ,Ä,“Žg,ç,ì GPU ,Á□Á’â,lfOf%oftfBfbfNfX  
fpftfH□[f}f“fX,đ”¾,é,©□A,Ç,¿,ç,©,đ,“l,Ñ,,¾,¾,ç□B



,±,lfjfvfVfjf“,đ'!đ,·,é,Æ□A,·,×,Ä,ì TwinView ,Å□AfffBfXfvfÆfC fAf\_fvf^,ª 2 ,Â,ì“Æ—š,µ,½fffBfXfvfÆfC  
fffofCfX,Æ,µ,Ä Windows %œ-Ê,É•\Ž!,³,è,Ü,·□B,±,è,Ê,æ,è□A1 ,Ä,lfOf%oftfBfbfNfX fAf\_fvf^,đŽg—  
p,µ,½,Æ,«,ì□AWindows ,ìŠg'£fffXfNfgfbfv<@“\,ª,æ,èŽg,ç,â,·,,È,è,Ü,·□BWindows ,Å,í□A,“ Žg,ç,ì GPU ,ª—  
LCEø,È TwinView ,í□A2 ,Â,ì“Æ—š,µ,½fAf\_fvf^,Æ,Ý,È,³,è,Ü,·□B

,±,ĭfĭvfVf#f“,đ'ı'đ,·,é,Æ□Af}fXf^□[É,æ,Á,Äf^□[fQfbfg fLf...  
□[É“ó~^,³,ê,éřSfNfGfXfg,ı□Á'ă□“,đŽw'è,Á,«,Ú,·□BfřSfNfGfXfg fLf...□[□[“x,đfhf  
%ofCfo,ÁŽ©“®□Ý'è,·,é□é□#,ı□A[Z©“®'ı'đ],đ'ı'đ,μ,Ä,,¾,³,č□B

,±,lfjvfVf#f“,đ'!đ,·,é,Æ□AAGP fCf“f^ftjF□[fX,ì Fast Write Transaction ,ª—LÆø,É,È,è,Ü,· (,²Žg—  
p,lf`fbjvfZfbfg,ÅfTf|□[fg,³,ê,Ä,ç,é□é□#)□B

,±,lfjvfVfjf“,đ'!đ,·,é,Æ□A3D fAfvfŠfP□[fVfjf“,Å AGP f`fbfvfZfbfg,ì Write Combining <@”\,ª—  
LCEø,É,È,è,Ü,·□B

,±,lfvfVf#f“,đ'!đ,·,é,Æ□A3D fAfNfZf%ofCE□[fefbfh,Å.í,È,çfAfvfŠfP□[fVf#f“,ÅfRf}f“fh fojbftf@  
fLffbfVf“fO,ª—LCEø,É,È,è,Ü,·□B

fXfefCEfl, ðŽg—p, ð—LCEø, É, μ, Ü, · (OpenGL API , ÅfTf|[]fg, ³, è, Ä, ç, é[]é[]#)[]B

OpenGL fAfvfŠfP[fVf#f“, ðŽÀ[s,μ,½,Æ,«,ÉfXfefÆfI f,[]fh,ðŽg—p,·,é,æ,π,É'í'ð,μ,Ü,·[]B

□¶%E,`ž'“\_đ“ü,ê'Ö,!,é,æ,ꝛ,ÉfXfefŒf|□o—í,đ“½“],<sup>3</sup>,<sup>1</sup>,Ü,·□B



