,±,ÌflfvfVf‡f",ĺftfHfO fe□[fuf< fGf~f…fŒ□[fVf‡f",ðflf"/flft,É,·,é,½,ß,ÉŽg—p,³,ê,Ü,·□B

Direct3D ,Å,Í[AD3D fn[[fhfEfFfA fAfNfZf‰f \mathbb{E} [[fVf‡f",^a‰Å"\,ÈfffBfXfvf \mathbb{E} fC fAf_fvf^,^a[Afo][fefbfNfX ftfHfO,Ü,½,Ífe][fuf< ftfHfO,Ì,¢, , ,ê,©,ðŽÀ]s,Å,«,é,±,Æ,ð[ð \mathbb{E}],Æ,µ,Ä,¢,Ü,·[B^ê•",ÌfQ][f€,Å,Í[AD3D fn[[fhfEfFfA"\–Í,ð]³Šm,ÉŠm"F,·,é,±,Æ,È,]Afe][[fuf< ftfHfO fTf][][fg,ð–v<],·,é,à,Ì,^a, ,è,Ü,·]B,±,ÌflvfVf‡f",ð'l'ð,·,é,Æ]AŠmŽÀ,É[]A,»,¤,µ,½fQ][f€,ð NVidia fOf‰ftfBfbfNfX fvf]ffZfbfT,Å[^a][í,É"®]ì,³,¹,é,±,Æ,^a,Å,«,Ü,·]B

, \pm , \hat{e} , \hat{i} flfvfVf‡f", δZg —p, \cdot , \hat{e} , \mathcal{E} Afhf‰fCfo, \hat{i} fAf"f`fGfCfŠfAfX $\langle @$ " \, δfRf "fgf \square [f $\langle , Å, \ll, Ü, \cdot \square B$ fAf"f`fGfCfŠfAfX, \mathcal{E} , \hat{i} [\square A3D flfufWfFfNfg, $\hat{i} \otimes \square$, $\delta SŠ$, ς , @, \hat{e} , $\mu \square AŠp' \pm$, A, $\frac{1}{2} \bullet$ " \bullet^{a} , δ , \hat{e} , $\cdot Z\dot{e}$ -@, \hat{A} , $\square BfAf$ "f`fGfCfŠfAfX, δ —L@ø, \hat{e} , μ , \ddot{A} , $\dot{a} \square A$, \cdot , \times , \ddot{A} , \dot{i} Direct3D fvf \square fOf‰f \in , \hat{e} fCf \square [fW, \hat{e} ' (\hat{i} , μ , $\ddot{A}Z$ @" (\hat{e} "(\hat{i} f) fGfCfŠfAfX, $\delta \square A$, \hat{i} fGfCfŠfAfX, $\delta \square A$, \hat{i} fGfCfŠfAfX, \hat{i} (\hat{i} f) \hat{i} fGfCfŠfAfY, \hat{i} (\hat{i} f) \hat{i} fGfCfŠfAfX, \hat{i} (\hat{i} f) \hat{i} f) \hat{i} fGfCfŠfAfX, \hat{i} (\hat{i} f) \hat{i} f fAf"f`fGfCfŠfAfX fTf"fvfŠf"fO-@,ðʻl'ð,Å,«,Ü,·□B fAfvfŠfP□[fVf‡f",ÌfpftfH□[f}f"fX,Ì'¬"x,Æ□AfCf□□[fW•iŽ¿,Ì□,,³,Í′l,ð—p,¢,Ä□Ý'è,Å,«,Ü,·□B fOf‰ftfBfbfNfX fvf□fZfbfT,ÅŽg—p,·,鎩"® Mip f}fbfsf"fO-@,ðʻl'ð,Å,«,Ü,·□B

2 -{□ü,Ü,½,Í 3 -{□ü MIP f}fbfsf"fO-@,ð'l'ð,Å,«,Ü,·□B2 -{□ü-@,Å,Í^ê"Ê"I,ÉfpftfH□[f}f"fX,ªŒü□ã,µ□A3 -{□ü-@,Å,ÍfCf□□[fW•iŽ¿,ªŒü□ã,µ,Ü,·□B Mip f}fbfv,Ì LOD (Level of Detail) fofCfAfX,ð'2□®,Å,«,Ü,·□B

fOf‰ftfBfbfNfX fvf□fZfbfT,ªfefNfXf`ff,ð<L‰⁻,·,é,½,ß□AŽw'è,³,ê,½—e—Ê,Ü,ÅfVfXfef€ f□f,fŠ,ð—[~] p,Å,«,é,æ,¤,É□Ý'è,Å,«,Ü,· (fffBfXfvfŒfC fAf_fvf^,ÉfCf"fXfg□[f<,³,ê,Ä,¢,éf⊡f,fŠ,ɉÁ,¦,Ä)□B

f□**f**,: fefNfXf`ff<L‰⁻—p,ÉŽg—p,Å,«,éfVfXfef€ f□f,fŠ,Ì□Å'å—e—Ê,Í□AfRf"fsf... □[f^,ÉfCf"fXfg□[f<,³,ê,½•⁻—□ RAM ,Ì—e—Ê,ð,à,Æ,É,µ,ÄŽZ□o,³,ê,Ü,·□BfVfXfef€ RAM ,Ì—e—Ê,ª'□ ‰Á,·,é,Æ□A□Ý'è,Å,«,é'I,à'å,«,,È,è,Ü,·□B

,±,Ì□Ý'è,Í□AAGP fffBfXfvfŒfC fAf_fvf^,ð"<□Ú,μ,Ä,¢,éfVfXfef€,É,͉e<¿,μ,Ü,¹,ñ□B

NVidia fOf‰ftfBfbfNfX fvf□fZfbfT,Í□AMip f}fbfv,ðŽ©"®"I,É□¶□¬,·,é,±,Æ,ÅfofXco-R,ÌfefNfXf`ff"]'- cø-¦,ð□ã,°□AfAfvfŠfP□[fVf‡f",ÌfpftfH□[f}f"fX,ðcü□ã,³,¹,é,±,Æ,ª,Å,«,Ü,·□B

 $\begin{array}{l} & , \mu, \otimes, \mu^{\hat{e}} \bullet^{\prime\prime}, \hat{I}fAfvf \check{S}fP [[fVf + f^{\prime\prime}, \dot{A}, \dot{I}] A Mip f \} fbfv, \hat{I} \check{Z} \otimes^{\prime\prime} \circledast [] \P [] \neg, ^{a} - L \mathfrak{C} \emptyset, \dot{E}, \dot{A}, \ddot{A}, \dot{c}, \dot{e}, \mathcal{E} [] A f C f [] [[fW, ^{a} [] ^{3} \Box (\dot{E} \cdot \langle \dot{Z} \rangle, ^{3}, \dot{e}, \dot{E}, \dot{A}, \dot{A}, \dot{c}, \dot{e}, \mathcal{E}] A f C f [] [[fW, ^{a} [] ^{3} \Box (\dot{E} \cdot \langle \dot{Z} \rangle, ^{3}, \dot{e}, \dot{e}, \dot{A}, \dot{A}, \dot{c}, \dot{e}, \mathcal{E}] A f C f [] [[fW, ^{a} [] ^{3} \Box (\dot{E} \cdot \langle \dot{Z} \rangle, ^{3}, \dot{e}, \dot{e}, \dot{U}, \dot{A}] A Mip f \} f b f v, \hat{I} \check{Z} \otimes^{\prime} \circledast [] \P [] \neg f \mathfrak{C} f f x f < [] ^{\prime}, \dot{\partial} \mathfrak{C} , \dot{x}, \dot{x}, \dot{a}, \dot{a}, \dot{a}, \dot{a}, \dot{a}, \dot{a}] B Mip f \} f b f v f \mathfrak{C} f x f < [] ^{\prime}, \dot{\partial} \mathfrak{C} , \dot{x}, \dot{x}, \dot{A}, \dot{A}] A (^{1}_{2}, - , \dot{I}) A f e f N f X f `ff, \dot{I}, , \dot{e}, \dot{a}] u \mathfrak{C} p, \neg - U [] v, \dot{\partial} \infty \delta \Box (A, \dot{A}, \ll, \ddot{U}, \cdot (fp ft H \Box [f \} f^{\prime} f X, \dot{I} ' \frac{1}{2} \Box (\dot{a} \otimes \otimes^{a}, \mu, \ddot{U}, \cdot)] B \end{array}$

,±,ÌflfvfVf‡f",É,æ,Á,Ä<code>□A3 -{□</code>ü MIP f}fbfv-@,ÌfffBfUfŠf"fO,ð—LŒø,É,µ,Ü,·<code>□</code>B

 ,±,ÌflfvfVf‡f",É,æ,è□AftfኣfXfNfŠ□[f" OpenGL fAfvfŠfP□[fVf‡f",Ìfy□[fW"½"],ð— Lο,É,μ□AfpftfH□[f}f"fX,ðŒü□ã,³,¹,Ü,·□B,±,ÌflfvfVf‡f",ª-³Œø,É,È,Á,Ä,¢,é□ê□‡□AOpenGL ,Í□AŒã•û,Ìfofbftf@,©,çʻO•û,Ìfofbftf@,Ö,Ì"½"],Ì,½,ß,Éfrfbfg fuf□fbfN"]'—,ðŽg—p,µ,Ü,·□B ,±,ÌflfvfVf‡f",ð□Ý'è,·,é,±,Æ,Å□Afy□[fW,Ì"½"]Œã,É<□§"I,É VBlank 'Ò<@,ð□s,¤,æ,¤,Éfhf ‰fCfo,ð□Ý'è,Å,«,Ü,·□B

,±,ÌflfvfVf‡f",ð-³Œø,É,µ,Ä,¨,,Æ□AftfŒ□[f€ fŒ□[fg,ð‰æ-Ê,ÌfŠftfŒfbfVf... fŒ□[fg,æ,è'å,«,-□Ý'è,Å,«,Ü,·,ª□AfCf□□[fW•iŽį,ª'¹,È,í,ê,é,Ì,Å□A•\ަ,ɉe‹į,ª□o,½,è•\ަ,Ì′[,ª□Ø,ê,é,±,Æ,ª, ,è,Ü,·□Bfhf ‰fCfo,ª VBlank 'Ò‹@,ð□s,¦,é,æ,¤,É□A,±,ÌflfvfVf‡f",ð—LŒø,É,µ,Ä,,¾,³,¢□B •Û'¶,μ,½fJfXf^f€□Ý'è (,Ü,½,ĺ□uTweak□v) ,ÌfŠfXfg□B,±,ÌfŠfXfg,©,ç□€–Ú,ð'l'ð,·,é,Æ□A□Ý'è,ª•\ ަ,³,ê,Ü,·□B□Ý'è,ð"K—p,³,¹,é,É,ĺ□A[OK] ,Ü,½,ĺ ["K—p] f{f^f",ð'l'ð,µ,Ü,·□B Œ»[]Ý,Ì[]Ý'è ([Direct3D,Ì[]Ú[]×[]Ý'è] f_fCfAf[]fO,Ì[]Ý'è,àŠÜ,Þ) ,ðfJfXf^f€[]uTweak[]v,Æ,µ,Ä•Û'¶,µ,Ü,·[]B•Û'¶,µ,½[]Ý'è,Í[]ã<L,ÌfJfXf^f€[]Ý'èfŠfXfg,É'ljÁ,³,ê,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,ĕۑ¶,µ,Ä,¨,,Æ□AfQ□[f€ ,ðŠJŽn,·,é′O,É,·,Î,â, Direct3D,ª□Ý'è,Å,«,é,Ì,Å□AŠefIfvfVf‡f",ðŒÂ•Ê,É□Ý'è,·,éŽèŠÔ,ª□È,⁻,Ü,·□B
$$\begin{split} & (E) = \hat{Y}_{1} = \hat{Y}_{1}$$

"Á'è,Ì OpenGL

fAfvfŠfP□[fVf‡f",Å□Å"K,È□Ý'è,ªŒ©,Â,©,Á,½□ê□‡□A,»,Ì□Ý'è,ðf]fXf^f€□Ý'è,Ì□uTweak□v,Æ,µ,ĕۑ¶,µ,Ä,¨,-,Æ□Afvf□fOf‰f€,ðŠJŽn,·,é'O,É,·,Î,â, OpenGL ,ª□Ý'è,Å,«,é,Ì,Å□AŠefIfvfVf‡f",ðŒÂ•Ê,É□Ý'è,·,éŽèŠÔ,ª□È,⁻,Ü,·□B fŠfXfg,ÅŒ»∏Ý'l'ð,³,ê,Ä,¢,éʃJfXf^f€∏Ý'è,ð∏í∏œ,μ,Ü,·∏B

,∙,×,Ä,Ì∏Ý'è,ð∏‰Šú∏Ý'è'I,É–ß,µ,Ü,·∏B

Direct3D ,Ì′ljÁ□Ý'è,ðfJfXf^f}fCfY,Å,«,éf_fCfAf□fO,ð•\ަ,μ,Ü,·□B

,±,ÌflfvfVf‡f",Å□AfefNfZf< (fefNfXf`ff fGfŒf□f"fg) —p,Ìfn□[fhfEfFfA fefNfXf`ff,Ì"z'u□Ý'è,ð•Ï□X,µ,Ü,·□B ,±,ê,ç,Ì'l,ð•Ï□X,·,é,±,Æ,Å□AŒ³,ÌfefNfZf<,ª'è<`,³,ê,é□ê□Š,ð•Ï□X,µ,Ü,·□B□‰Šú□Ý'è,ĺ□ADirect3D,ÌŽd l,É□],Á,Ä,¢,Ü,·□B fyftfgfEfFfA,Ì't,É,Í□AŒ³,ÌfefNfZf<,ð,¢,_,ê,©,Ì□ê□Š,É'è<`,·,é,±,Æ,ð v<[,·,é,à,Ì,à, ,è,Ü,·□B,»,¤,µ,½fAfvfŠfP□[fVf‡f",Å,Í□AŒ³,ÌfefNfZf<,ð□Ä'è<`,·,é,± ,Æ,ÅfCf□□[fW•iŽ¿,^aŒü□ã,µ,Ü,·□B '2]®,Â,Ü,Ý,ðŽg,Á,Ä□AŒ³,ÌfefNfZf<,Ì□ê□Š,ðfefNfZf<,Ì□¶□ã<÷,©,ç't□S,ÌŠÔ,Å'2□®,µ,Ä,,¾,,*¢□B ,±,ÌflfvfVf‡f",É,æ,è□ACPU ,ªfOf‰ftfBfbfNfX f`fbfv,Å□^—□,³,ê,é'O,É□€"õ,Å,«,éftfŒ□[f€,Ì□",ð□§ŒÀ,µ,Ü,· (VSYNC ,ª-³Œø,É,È,Á,Ä,¢,é□ê□‡)□B

, ,ç,©,¶,ßfŒf"f_fŠf"fO,³,ê,éftfŒ[[f€,Ì[]",ª'½,-

,È,é,Æ□AfWf‡fCfXfefBfbfN□AfQ□[f€fpfbfh□AfL□[f{□[fh,È,Ç,ÌfffofCfX,Ö,Ì"½‰ž,É,¨,⁻,é□u"ü—ĺf‰fO□v,ª'·,-,È,é□ê□‡,ª, ,è,Ü,·□B

fQ[[f€'†,É[]AfRf"fsf...][f^,É[]Ú'±,³,ê,Ä,¢,é"ü—ĺfffofCfX,©,ç,Ì"ü—ĺ,É'Î,μ,Ä[]A-¾,ç,©,É"½‰ž,ª'x,ê,Ä,¢ ,é[]ê[]‡,Í[]A,±,Ì'I,ð[]¬,³,,μ,Ä,,¾,³,¢[]B ,∙,×,Ä,Ì∏Ý'è,ð∏‰Šú∏Ý'è'I,É–ß,µ,Ü,·∏B

OpenGL fAfvfŠfP□[fVf‡f",Å•\ަ,³,ê,Ä,¢,éfCf□□[fW•iŽ¿,ð'2□®,µ,Ü,·□B □**u**□**Å**□,,**ìfCf□□[fW•iŽ¿,É□Å"K‰**»□**v**,Å,Í□A□Å□,,̉掿,ð"¾,é,½,ß□A‰Â"\ ,ÈŒÀ,è□Å□,,ÌfCf□□[fW•iŽ¿,ÅfefNfXf`ff,ðfŒf"f_fŠf"fO,µ,Ü,·□B

□u□Å□,,ÌfpftfH□[f}f"fX,É□Å"K

⁷‰»□**ν**,Å,ĺ□ÅfÅfvfŠfP□[fVf‡f",ÌfpftfH□[f}f"fX,ðŒü□ã,³,¹,é,½,β□AfCf□□[fW•iŽ¿,ð— Ž,Æ,μ,ÄfefNfXf`ff,ðfŒf"f_fŠf"fO,μ,Ü,·□B

 $[] \textbf{u} [] \textbf{Å}^{\textbf{``K}} \textbf{``w} [] \textbf{v}, \mathring{A}, \mathring{I} [] A [] \widetilde{a} \langle L 2, \hat{A}, \mathring{I} \langle @'' \rangle, \check{\delta}' g, \check{Y} [] \ddagger, (, \stackrel{1}{,} \ddot{A} \check{Z} g - p, \mu, \ddot{U}, \cdot [] B, \pm, \hat{e}, \stackrel{a}{=} [] ‰ \check{S} \acute{u} [] \acute{Y} \dot{e}' I, \mathcal{A}, \dot{A}, \varphi, \ddot{U}, \cdot [] B$

fhf‰fCfo,Å OpenGL Šg'£‹@"\,Ì **GL_KTX_buffer_region**,ÌŽg—p,ð‰Â"\,É,µ,Ü,·□B,±,ÌŠg'£‹@"\,ðfTf| □[fg,·,é 3D f,fffŠf"fO fAfvfŠfP□[fVf‡f",ÌfpftfH□[f}f"fX,ðŒü□ã,³,¹,é,±,Æ,ª,Å,«,Ü,·□B GL_KTX_buffer_region Šgʻ£‹@"\,ª—LŒø,É,È,Á,Ä,¢,é,Æ,«,É□Af□□[fJf‹,Ìfrfffl f□f,fŠ,ÌŽg—p,ð‰Â"\ ,É,μ,Ü,·□B,½,¾,μ□A—~—p,Å,«,éf□□[fJf‹ frfffl f□f,fŠ,ª 8MB ^ȉº,Ì□ê□‡□Afff...fAf‹ fvfŒ□[f"Šg'£‹@"\fTf| □[fg,Í—LŒø,É,È,è,Ü,¹,ñ□B PCI fefNfXf`ff fq[[fv,Ì]Å'åfTfCfY,ðŽw'è, μ ,Ü,·]B

□\•ª,Èf□f,fŠ,ð"<□Ú,μ,½ PCI fVfXfef€,Å,±,Ì′I,ð'□‰Á,³,¹,é,Æ□A^ê•",Ì OpenGL fAfvfŠfP□[fVf‡f",ÌfpftfH□[f}f"fX,ð′[~],μ,Œü□ã,³,¹,é,±,Æ,ª,Å,«,Ü,·□B

f□**f**,: OpenGL fefNfXf`ff<L‰⁻—p,ÉŽg—p,Å,«,éfVfXfef€ f□f,fŠ,Ì□Å'å—e—Ê,Í□AfRf"fsf... □[f^,ÉŽæ,è•t,⁻,ç,ê,Ä,¢,é•⁻—□ RAM ,Ì—e—Ê,É,æ,èŒ^'è,µ,Ü,·□BfVfXfef€ RAM ,ª'½,⁻,ê,Î□A□Å'å'I,à'å,«,,È,è,Ü,·□B

,±,Ì□Ý'è,Í□AAGP fffBfXfvfŒfC fAf_fvf^,ð"<□Ú,μ,Ä,¢,éfVfXfef€,É,͉e<¿,μ,Ü,¹,ñ□B

′2□®,Â,Ü,Ý,ðŽg,Á,Ä□A'l'ð,µ,½fJf‰□[f`fff"flf<,Ì-¾,é,³□AfRf"fgf‰fXfg□AfKf"f}'l,ð′2□®,Å,«,Ü,·□B

fJf‰[[•â]³'2]®,ðŽg—p,µ,Ä[]Af\[[fX fCf][][fW,Æ•\ަfffofCfX,Ì[]o ĺ,Æ,ÌŠÔ,Å[]¶,¶,é<P"x,Ì,Î,ç,Â,«,ð•â]³,·,é,±,Æ,ª,Å,«,Ü,·]B fCf][][fW[]^—[]fAfvfŠfP[[fVf‡f",ðŽg—p,µ,Ä,¢ ,é[]ê[]‡[]A,±,Ì<@"\,É,æ,Á,ÄfCf][][[fW (ŽÊ[]^,È,Ç),ðf,fjjf^,É•\ަ,·,é,Æ,«,ÌfJf‰[[,ð,³,ç,É]]³Šm,É[]ÄŒ»,·,é,± ,Æ,ª,Å,«,Ü,·]]B

,Ü,½□A'½,,Ì 3D fAfNfZf‰fŒ□[fefbfh fQ□[f€,Å□A•\ަ,ª^Ã,·,¬,ÄfvfŒfC,Å,«,È,¢,±,Æ,ª, ,è,Ü,·□B ,·,×,Ä,Ìf`fff"flf<,Å<Ï" ™,É-¾,é,³,âfKf"f}'I,ð□ã,°,ê,Î□A•\ަ,ª-¾,é,,È,èfvfŒfC,µ,â,·,,È,è,Ü,·□B ,Â,Ü,Ý,ðŽg—p,μ,Ä□A'2□®,·,éfJf‰□[f`fff"flf<,ð'l'ð,μ,Ü,·□B□Ô□A—Î□A□Â,Ìf`fff"flf<,ðŒÂ•Ê,É'2□®,μ,½,è□A3 □F,ð"[~]Žž,É'2□®,Å,«,Ü,·□B fJf‰□[<È□ü,ðfOf‰ftfBfbfN•\ަ,μ,½,à,Ì□BfRf"fgf‰fXfg□A-¾,é,³□AfKf"f},ð'²□®,·,é,Æ□A,± ,Ì<È□ü,ªfŠfAf<f^fCf€,ŕω»,μ,Ü,·□B ,±,ÌflfvfVf‡f",ð'l'ð,∙,é,Æ□AWindows ,ª□Ä<N"®,μ,½,Æ,«,É,±,±,Å□Ý'è,μ,½fJf ‰□['²□®,ªŽ©"®"I,É∙œŒ³,³,ê,Ü,·□B

•Û'¶,μ,½fJf‰□[,ÌfJfXf^f€□Ý'èfŠfXfg□B,±,ÌfŠfXfg,©,ç□€−Ú,ð'I'ð,·,é,Æ□A□Ý'è,ª•\ަ,³,ê,Ü,·□B

Œ»□Ý,ÌfJf‰□[□Ý'è,ðfJfXf^f€□Ý'è,Æ,µ,ĕۑ¶,µ,Ü,·□B•Û'¶,µ,½□Ý'è,Í□ã‹L,ÌfJfXf^f€□Ý'èfŠfXfg,É'Ç ‰Á,³,ê,Ü,·□B fŠfXfg,ÅŒ»□Ý'I'ð,³,ê,Ä,¢,éfJf‰□[,ÌfJfXf^f€□Ý'è,ð□í□œ,μ,Ü,·□B

 $,\cdot,\times,\ddot{A},\dot{I}Jf\%\Box\lbrack'I,\delta fn\Box\lbrack fhfEfFfA\Box o\%\times \check{Z}\check{z},\dot{I}\Box\dot{Y}'\dot{e},\acute{E}-B,\mu,\ddot{U},\cdot\Box B$

f,fjf^ f^fCf~f"fO f,□[fh,ð'l'ð,μ,Ü,·□B

 $\label{eq:started_st$

□u^ê"Êf^fCf~f"fO•ûŽ®□v,Ü,½,Í**□uGTF□v**,Í<u>□</u>A**□**V,μ,¢fn**□[fhfEfFfA,Ì'å•"•**^a,ÅŽg—p,³,ê,Ä,¢ ,é<KŠi,Å,·<u>□</u>B

 $\label{eq:constraint} \begin{array}{l} & \left[u \textit{``\textit{H}} - \$f, fjf^{f}, f^{f}f^{f}o_{l}v \ , \ddot{U}, \overset{1}{2}, \dot{I} \right] u DMT []v, \dot{I}] A^{e} \cdot ", \dot{I} fn [] [fhf EfFfA, Å Žg - p, ^{3}, e, \ddot{A}, c \\ , e(E\tilde{A}, c < KŠi, Å, \cdot] B, ^{2} Žg - p, \dot{I} fn [] [fhf EfFfA, Å DMT, ^{3} Žw'e, ^{3}, e, \ddot{A}, c + e] e] \ddagger, \dot{I}] A, \pm, \dot{I} fl fv fV f \ddagger f'', \delta - L E ø, \acute{E}, \mu, \ddot{A}, -, \overset{3}{4}, \overset{3}{4}, e] B \end{array}$

 $,\pm, \hat{I}fIfvfVf\sharpf``,\delta`I`\delta,\mu, \ddot{A} \Box Afhf‰fCfo, \acute{E}, æ, \acute{e}fJ \Box [f\backslash f <, \hat{I}fLfffbfVf..., \delta-{}^{3}Eø, \acute{E},\mu, \ddot{U}, \cdot \Box B$

 $,\pm,\grave{i}\Box\acute{Y}`\grave{e},\grave{a}\bullet\ddot{i}\BoxX,{}^{3},\grave{e},{}^{1}\!\!_{2}\Box\grave{e}\Box\ddagger\Box A\Box V,\mu, \\ \\ \Box\acute{Y}`\grave{e},\eth -LŒ \emptyset, \\ \\ \acute{E},\cdot,\acute{e},{}^{1}\!\!_{2}, \\ \\ B \\ \dot{E} \\$

 $,\pm, \hat{I}fIfvfVf\sharpf``, \delta \check{Z}g, \acute{A}, \ddot{A} \square A \check{S}g``a, ^{3}, \hat{e}, \frac{1}{2}frfbfgf \}fbfv fCf \square [[fW, Å, \hat{I}fsfNfZf<` \}``ü, \delta-h, @, \pm, Æ, ª, Å, «, Ü, · \square B$

frfbfgf}fbfv,ðŠgʻå,∙,é,Æ,«,ÉfffBfXfvfŒfC fhf‰fCfo,Å□ufXf€□[fY□v<@"\,ð"K—p,³,¹,È,¢□ê□‡,É□A,± ,ÌfAfCfef€,ðʻl'ð,μ,Ü,·⊡B

,±,Ì□Ý'è,ª•Ï□X,³,ê,½□ê□‡□A□V,μ,¢□Ý'è,ð—LŒø,É,∙,é,½,ß,É Windows ,ð□Ä<N"®,∙,é•K—v,ª, ,è,Ü,·□B

<È□ü•`‰æ—p,Ì GDI fn□[fhfEfFfA fAfNfZf‰fŒ□[f^,ð-³Œø,É,μ,Ü,·□B

,±,ÌfAfCfef€,ðʻl'ð,·,é,Æ□A‰~□Aʻȉ~□A‰~ŒÊ"™,ðfŒf"f_fŠf"fO,·,é,Æ,«,É□Afn□[fhfEfFfA,ð‰l ‰ñ,μ□AfffBfXfvfŒfC fhf‰fCfo,ª Windows ,Ì"à∙"‹@□\,ðŽg—p,·,é,æ,¤,É□Ý'è,μ,Ü,·□B

 $,\pm,\dot{l}[]\dot{Y}'\dot{e},\overset{a}{\bullet}\ddot{l}[]X,\overset{3}{\bullet},\dot{h}_{2}]\dot{e}[]\ddagger[]A[]V,\mu, \mbox{!!} \dot{Y}'\dot{e}, \\\delta-L \mbox{!!} \dot{e},\dot{h}_{2},\dot{g}, \\ \dot{E} \mbox{ Windows }, \\\delta[]\ddot{A} < N" \mbox{!!} \mbox{!!} ,\dot{e} + K \mbox{!!} - v, \\\dot{e}, \mbox{!!} \dot{e}, \\\dot{e}, \mbox{!} \dot{e}, \\\dot{e}, \dot{e}, \dot{e}, \dot{e}, \\\dot{e}, \dot{e}, \dot{e}, \\\dot{e}, \dot{e}, \dot{e}, \dot{e}, \\\dot{e}, \dot{e}, \dot{e}, \dot{e}, \\\dot{e}, \dot{e}, \dot{$

[NVidia QuickTweak] fAfCfRf",ð Windows f^fXfNfo \Box [,ɕ\ަ, μ ,Ü,· \Box B

,±,ÌfAfCfRf",ðŽg—p,·,é,Æ□AfJfXf^f€□Ý'è,³,ê,½ Direct3D□AOpenGL□AfJf‰□[□Ý'è,ð•Ö—~,Èf|fbfvfAfbfv f□fjf...□[,©,ç'l'ð,µ,Ä,·,Î,â,"K—p,³,¹,é,±,Æ,ª,Å,«,Ü,·□B ,Ü,½,±,Ìf□fjf...□[,É,Í□A□‰Šú□Ý'è,É-ß,·□€-Ú,â [‰æ-Ê,Ìfvf□fpfefB] f_fCfAf□fO,ÉfAfNfZfX,·,é□€-Ú,àŠÜ,Ü,ê,Ä,¢,Ü,·□B $\label{eq:windowsf} Windowsf^fXfNfo[[,Å QuickTweakft][fefBfŠfefB,Æ,\mu,Ä•\Ž\,·,éfAfCfRf",ð'l'ð,Å,«,Ü,·]B \\ \bullet \Ž\,^3,^1,½,¢fAfCfRf",ðfŠfXfg,©,ç'l'ð,\mu,Ä,,¾,3,¢]B[OK],Ü,½,Í["K—p] ,ð'l'ð,µ]Af^fXfNfo[[,ÌfAfCfRf",ð]X]V,µ,Ü,·]B \\ \end{tabular}$

 $,\pm, \hat{I}fIfvfVf\sharp f'', \delta'1'\delta, \cdot, \acute{e}, \And \Box A''\hat{A}'\hat{e}, \hat{I} CPU, \hat{A}\check{Z}g-p, ^3, \hat{e}, \acute{e} < \infty > -\frac{1}{2}-\beta, \hat{I}fhf\%fCfofff|\Box [fg, \delta - ^3 \pounds ø, \acute{E}, \mu, \ddot{U}, \cdot \Box B]$

^ê•",Ì CPU ,Å,Í□ANVidia fOf‰ftfBfbfNfX fvf□fZfbfT,ð•â□•,μ,Ä 3D fQ□[f€ ,âfAfvfŠfP□[fVf‡f",ÌfpftfH□[f}f"fX,ðŒü□ã,³,¹,é'ljÁ 3D -½—ß,ðfTf|□[fg,μ,Ä,¢,Ü,·□B,± ,ÌflvfVf‡f",É,æ,è□Afhf‰fCfo,Å,Ì,±,ê,ç,Ì'ljÁ 3D -½—ß,ÌfTf|□[fg,ð-³Œø,É,μ,Ü,·□B fpftfH□[f}f"fX,ð"äŠr,·,é□ê□‡,âfgf‰fuf<fVf...□[fefBf"fO,ð□s,¤□ê□‡,ɕ֗~,ÈflfvfVf‡f",Å,·□B $,\pm, \hat{l}flfvfVf\sharpf", \delta'l'\delta, \cdot, \acute{e}, \not \ensuremath{\mathbb{E}} \label{eq:linear} AVBlank `O`(@, \delta-{}^3 \ensuremath{\mathbb{E}} \ensuremath{\text{g}}, \acute{\mu}, \ddot{U}, \cdot \hfill B$

$$\label{eq:started} \begin{split} & [uVSYNC, \delta^{-3} \ensuremath{\mathbb{Z}}_{\delta}, \dot{e}_{\delta}, \dot{$$

[□Ú□×fvf□fpfefB] f_fCfAf□fO,Å [,ĺ,¢] ,Ü,½,ĺ ["K—p] ,ð'l'ð,μ,Ä•Ï□X,ð"K—p,·,é,½,ß,É□A,± ,Ìf_fCfAf□fO,ð•Â,¶,Ä•Ï□X,ð•Û'¶,μ,Ü,·□B $[]\acute{Y}`\grave{e},\mu, \frac{1}{2}\bullet\ddot{I}[]X, \eth\bullet\hat{U}`\P, \stackrel{1}{,}, \dot{E}, \pm, \dot{I}f_fCfAf[]fO, \eth\bullet\hat{A}, \P, \ddot{U}, \cdot]B$

,±,ÌflfvfVf‡f",É,æ,è∏Afhf‰fCfo,Ì DirectX 6 <@"\,ð-³Œø,É,µ,Ü,· \square B

^È'O,Ìfo□[fWf‡f",Ì DirectX,Å'g,Ü,ê,Ä,¢,éfQ□[f€,Ì'†,É,Í□AfCf"fXfg□[f<,³,ê,Ä,¢,é DirectX 6,¨,æ,Ñfhf %fCfo,Å—LŒø,É,È,Á,Ä,¢,é DirectX 6 fTf|□[fg,Å,Í□³□í,ÉŽÀ□s,Å,«,È,¢,à,Ì,ª, ,è,Ü,·□B,± ,ÌflfvfVf‡f",ð'l'ð,·,é,±,Æ,Å□Afhf%fCfo,ð<□§"I,É DirectX 5 ŒÝŠ·f,□[fh,ÅŽÀ□s,µ□AŒÃ,¢fQ□[f€ ,ð□³□í,ÉŽÀ□s,³,¹,é,±,Æ,ª,Å,«,Ü,·□B

 $f^{fXfNfo} [fAfCfRf", \delta fNf Sf bf N, \mu, \frac{1}{2}, \mathcal{A}; \langle, E | A, C, \langle, c, \rangle f \} fEf X f \{f^f", A f | f j f ... [[, \delta \bullet \backslash Z |, ^3, ^1, e, @ 'l' \delta, A, «, Ü, \cdot] B]$

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

f□fjf...□[,©,ç Direct3D ,Ü,½,ĺ OpenGL ,Ì□Ý'è,ðf□□[fh,µ,½,Æ,«,ÉŠm"Ff□fbfZ□[fW,ð•\ަ,³,¹,È,¢□ê□‡,ĺ□A,± ,ÌflfvfVf‡f",Éf`fFfbfNf}□[fN,ð"ü,ê,Ä,,¾,³,¢□B $f^fXfNfo[[f]f...[[,ð 3D • \ަ,³,¹,¹/₂,¢]ê[]‡,Í[]A,±,ÌflfvfVf‡f",ð'l'ð,µ,Ü,·]B$

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 fpflf< fffBfXfvfŒfC[]ã,ÉfCf[][[fW,ð•\ަ,³,¹,é^Ê'u,ðŒ^'è,µ,Ü,·[]B $Windows\ , {}^{a}<N``` \circledast\ , \cdot, \acute{e}, \frac{1}{2}, \tilde{N}, \acute{E}`l`` \eth, \mu, \frac{1}{2}flfvfVf\sharp f``, \eth - L \times \emptyset, \acute{E}, \mu, \frac{1}{2}, \& [] \And [] +, \acute{I}] \land + , \grave{I}] \Subset - \acute{U}, \eth`l`` \eth, \mu, \ddot{U}, \cdot] B$

–î^óf{f^f",ðŽg,Á,Ä□Af,fjf^□ã,ÌfffXfNfgfbfv,Ì^Ê'u,ð'²□®,μ,Ü,·□B

Œ»□Ý,̉ð'œ"x,ÆfŠftfŒfbfVf... fŒ□[fg,É,¨,¯,é□‰Šú□Ý'è,Ì^Ê'u,ÉfffXfNfgfbfv,ð-ß,µ,Ü,·□B

,±,ê,ç,ÌflfvfVf‡f",©,ç□o—ĺ•\ަfffofCfX (f,fjf^□AfffWf^f< ftf‰fbfg fpflf<□AfefŒfr,È,Ç□AfffBfXfvfŒfC fAf_fvf^,ªfTf|□[fg,μ,Ä,¢,éfffofCfX,É,æ,è^Ù,È,è,Ü,·),ð'l'ð,Å,«,Ü,·□B fAfNfefBfu,È•\ަfffofCfX,Ì□Ý'è,ðfJfXf^f}fCfY,Å,«,éfEfBf"fhfE,ð•\ަ,µ,Ü,·□B

TV □o—ĺ,ÅŒ»□ÝŽg—p,³,ê,Ä,¢,éŒ`Ž®,Æ'n^æ,Ì□Ý'è,ðަ,μ,Ü,·□B

 $,\pm, \mathbf{\hat{f}}\mathbf{\hat{f}}\mathbf{\hat{f}}\mathbf{f}\mathbf{g}, \mathbb{O}, \mathbf{c}, \ddot{=} \mathbb{Z}, \ddot{\cup}, \mathbf{c}, \mathbf{\hat{l}} \square '-\frac{1}{4}, \mathbf{\delta}'\mathbf{l}' \mathbf{\delta}, \mu, \mathbf{\ddot{A}} \top \mathbf{V} \square \mathbf{o} - \mathbf{\hat{l}}\mathbf{G}` \mathbf{\hat{Z}}^{\mathbb{R}}, \mathbf{\delta}\mathbf{G}^{^{\prime}}\mathbf{e}, \mu, \ddot{\cup}, \mathbf{\Box} \mathbb{B}$

f□**f,:** ,¨□Z,Ü,¢,Ì□'-¼,²fŠfXfg,É•\ަ,³,ê,Ä,¢,È,¢□ê□‡,Í□A,¨□Z,Ü,¢,Ì′nˆæ,É□Å,à<ß,¢□'-¼,ð'l'ð,μ,Ä,,¾,³,¢□B

ʻl'ð,μ,½Œ`Ž®,ð"dŒ¹"Š"üŽž,Ì□‰Šú□Ý'è,É□Ý'è,μ,Ü,·□B

fefŒfr,ðfffBfXfvfŒfC fAf_fvf^,É□Úʻ±,µ,ÄfRf"fsf...□[f^,ð<N"®,µ,½□ê□‡□A,±,ÌflfvfVf‡f",ðʻl'ð,·,é,± ,Æ,Å□A<N"®Žè□‡,Å•\ަ,³,ê,é,·,×,Ä,̉æ-Êf□fbfZ□[fW,ª□A,²Žg—p,ÌfefŒfr,ÅfTf| □[fg,³,ê,é□³,µ,¢Œ`Ž®,ÅŠmŽÀ,É□o—ĺ,³,ê,Ü,·□B $-\hat{i}^{\circ} \acute{o}f{f^{\circ}}, \\ \\ \check{d}_{g}, \\ \dot{A}, \\ \\ \dot{A}, \\ \\ \dot{A}, \\ \\ \dot{A}, \\ \dot{A}, \\ \dot{A}, \\ \dot{A}, \\ \\ \dot{A}, \\ \dot{$

f□**f**,: '²□®,ðŒë,Á,Ä TV ‰æ'œ,ª□¬—□,μ,½,艽,à•\ަ,³,ê,È,,È,Á,½□ê□‡,Í□A,»,Ì,Ü,Ü 10 •bŠÔ,¨'Ò,¿,-,¾,³,¢□B‰æ'œ,ªŽ©"®"I,É□‰Šú□Ý'è,Ì^Ê'u,É-ß,è,Ü,·□B ,»,ÌŒã,à,¤^ê"x'²□®,µ,Ä,,¾,³,¢□B fffXfNfgfbfv,Ì^Ê'u,ªŒ^,Ü,Á,½,ç□A10 •bŒo‰ß,·,é'O,É [OK] ,Ü,½,í ["K—p] f{f^f",ð ‰Ÿ,µ,Ä□Ý'è,ð•Û'¶,µ,Ä,,¾,³¢□B $(E \otimes [\acute{Y}, \grave{I}) \% \delta' (e^{*} x, \acute{E}, \ddot{-}, \acute{e}] \% \check{S} \acute{u} [\acute{Y} \dot{e}, \grave{I} \hat{E}' u, \acute{E} ff fX fN fg fb fv, \delta - B, \mu, \ddot{U}, \cdot] B$

,±,ê,ç,ÌfRf"fgf□□[f<,ðŽg—p,µ,Ä□ATV fCf□□[fW,Ì-¾,é,³,Æ□Ê"x,ð'²□®,µ,Ü,·□B

,±,ÌfRf"fgf]][[f<,ðŽg—p,µ,Ä]ATV []M[]†,É"K—p,·,éftfŠfbfJ ftfBf<f^,Ì—Ê,ð'²[]®,µ,Ü,·[]B DVD ‰f‰æ,ðfn][[fhfEfFfA fffR[][f_,Å[]Ä[]¶,·,é,Æ,«,Í[]AftfŠfbfJ ftfBf<f^,ðŠ®'S,É[]Ø,é,±,Æ,ð,¨Š©,ß,µ,Ü,·[]B