

ELSA WINman (ELSA ȳ'è), ĩfwf<fv

ELSA WINman (ELSA ȳ'è), ĩ AELSA fOf%oftfBfbfNfX f{[fh, ÆELSA Windows fhf
%ofCfo, đf, fĵf^, É"K†, ³, ¹, é, ½, ß, ĩfvf[Of%of€, Å, ·B

Ú, μ, ç, ±, Æ, ĩ AŽŸ, ĩL[f[fh, đfNfŠfbfN, ·, é, © Afwf<fv, ĩ ð^ø, đfNfŠfbfN, μ, Ä, , ¾, ³, çB

WINman <N"®_f_CfAfO

f, fĵf^, ĩfvf[fpfefB


fOf%oftfBfbfNfX f, [fh, ĩC³A[F"/%đ'œ"x/f^fCf~f"fO, ĩ²®

fOf%oftfBfbfNfX f, [fh/f^fCf~f"fO

ELSA WINman (ELSA 設定)

ELSA WINman (ELSA 設定), AELSA fOf%oftfBfbfNfX f{ [fh,Æ ELSA Windows fhf

%ofCfo,ðf,fjf^,É“K†,³,¹,é,½,β,lfvf□fOf%of€,Ä,□B

[%æ-Ê,lfvf□fpfefB],lf_fCfAf□fO,²ŠJ,ç,Ä,ç,È,_,ê,í□A,±,±,ðfNfŠfbfN,μ,Ä,,¾,³,ç □B
,Ü,½“~f_fCfAf□fO,í†,Ä[WINman]f_fCfAf□fO,²ŠJ,ç,Ä,ç,È,ç,Æ,«,í□A^Ê%º,lf^fu,ðfNfŠfbfN,μ,Ä,-
,¾,³,ç□B 

[fXfL□[f€](ff□[f^ fzfbfg)

^Ê‘O,lfOf%oftfBfbfNfX f,□[fh,ð•Ú‘¶,μ,Ä,ç,é□è□#□A,»,lf,□[fh,É□Ø,è‘Ö,|,é,±,Æ,ª,Ä,«,Ü,□B

[f,fjf^]

Žg—p,·,éf,fjf^,ð“ü—í,μ,Ü,□B[•ïX...],ðfNfŠfbfN,μ□A“ü—í,μ,½‘l,ðŠm”F,μ,Ä,,¾,³,ç□B
□Ä,à□d—v,È,ì,í□Af,fjf^,ì□Ä‘â□...•½‘-□,Žü”g□” (kHz),Ä,(f,fjf^ ff□[f^,ìCE^èŽQ□Æ)□B

[□F□”]

256□F,©32768□F,©•K—v,È□F□”,ð‘l‘ð,μ,Ü,□B□Ú,μ,ç,±,Æ,í□A□F□”,ðfNfŠfbfN,μ,Ä,,¾,³,ç□B

[•\Ž!%ºð‘œ“x]/[%¼‘z%ºð‘œ“x]

1024 x 768,È,Ç□A•K—v,È%æ-Ê%ºð‘œ“x,ðfNfŠfbfN,μ,Ü,□B□Ú,μ,ç,±,Æ,í□A
%ºð‘œ“x,ðfNfŠfbfN,μ,Ä,,¾,³,ç□B

[fŠftfCEfbfVf... fCE□[fg]

75 Hz,È,Ç□A•K—v,ÈfŠftfCEfbfVf... fCE□[fg,ð‘l‘ð,μ,Ü,□B□Ú,μ,ç,±,Æ,í□AfŠftfCEfbfVf...
fCE□[fg,ðŽQ□Æ,μ,Ä,,¾,³,ç□B

[□Ú□x...],ðfNfŠfbfN,·,é,Æ□A,æ,è³Šm,È‘²□®,ð□s,±,Æ,ª,Ä,«,Ü,□B

[OK]/[“K—p]

fefXfg fpf^□[f“,ª^À‘è,μ,½,ç□A,Ü,□Y“è—

e,ð•Ú‘¶,μ□AWindows,ð□Ä‘N“®,μ,Ä,©,ç□AfffBfXfvfCEfC,lfTfCfY,Æ^Ê‘u,ì‘²□®,ðŽn,β,Ü,□B
fffBfXfvfCEfC,lfTfCfY,Æ^Ê‘u,ðf,fjf^,Ä‘²□®,μ,Ä,Ý,Ä,,¾,³,ç□B,±,Ü,,ç,©,È,ç□è□#□,í□AWINman (ELSA
□Y“è),Äf,fjf^ f^fCf~f“fO,ð‘²□®,·,é,±,Æ,à,Ä,«,Ü,□B

Žg—p,·,éf,fjf^□“<y,Ñf,fjf^,ì•Ä,Ñ,ì□Y“è(f)f<f`fXfNfŠ□[f“Žž,ìY):

1,Ä^è□ä,ìELSAfOf%oftfBfbfNfX f{□[fh,²fRf“fsf...□[f^,ÉfCf“fXfg□[f<,³,é,Ä,ç

,é□ê□# ,É□Af}f<f`fXfNfŠ□[f“ ,đŽg—p,·,é,±,Æ,ª,Â,«,Ü,·□BELSA,ìf}f<f`fXfNfŠ□[f“í
%ož,đfCf“fXfg□[f<,·,é,Æ□A`È%o,ì,æ,α,ÉŽg—p,·,é,f,ffj^□”,â□Af,ffj^,ì•À,Ñ,đ`è<` ,·,é,±
,Æ,ª,Â,«,Ü,·□B

3'ä□...•½,É ~~DEL~~ ~~DEL~~ ~~DEL~~ 3,Â,ìf,ffj^,ª%oi,É3'ä•À,ñ,¾CE` ,Â,·□B

2'ä□,¼,É ~~DEL~~ 2,Â,ìf,ffj^,ª□c,É•À,ñ,¾CE` ,Â,·□B

~~DEL~~

3'ä□...•½□A ~~DEL~~ ~~DEL~~ ~~DEL~~ □c,É2—ñ□A%oi,É3—

2'ä□,¼,É ~~DEL~~ ~~DEL~~ ~~DEL~~ ñ□A□#CEv6'ä,ìf,ffj^,ª•À,ñ,¾CE` ,Â,·□

B

,æ,è□Ú,μ,ç□î•ñ(DirectX,âOpenGL,ì□\$CEÀŽ—□€,É,Â,ç,Ä),í□Af}f<f`fXfNfŠ□[f“ ,ì□€-Ú,đ,²—,·,
,¾,¾,ç□B

[f,ffj^,ì□#□~] (f)f<f`fXfNfŠ□[f“Žž,ì,Ý):

fRf“fsf...□[f^ ,Éf}f<f`fXfNfŠ□[f“í%ož,ì•i□”,ìELSA fOf%oftfBfbfNfX f{□[fh,Æ□AELSA MULTIman
Windowsfhf%ofCfo,Æ,ªfCf“fXfg□[f<,³,è,Ä,ç,è,ì□A,±,±,Âf,ffj^,ì□#□~ ,Æ^È`u,đŽw`è,·,é,±
,Æ,ª,Â,«,Ü,·□B

É□í,í□Ý`è,ì•K—v,í, ,è,Ü,¹,ñ,ª□A,½,Æ,ì,ì□^ ,ñ`t,ìf,ffj^ ,

ÂDOS,đfu□[fg,³,¹,½,ç□ê□# ,É□Af,ffj^,ì•À,Ñ,í'1,2,3',ì□#”Ô,Â,í,È,²,1,3',ì□#”Ô,É,È,è,Ü,·□B

,±,ì□Ý`è,ª%o,β,ìf_cfAf□fOf{fbfNfX,ÉCE©,Â,©,ç,È,ç□ê□# ,í□A'□Ú□×...`f{f^f“ ,đfNfŠfbfN,μ,Ä,-
,¾,¾,ç□B

[fEfBf“fhfE□\$CEä](f)f<f`fXfNfŠ□[f“Žž,ì,Ý):

f}f<f`fXfNfŠ□[f“ ,đŽg—p,μ,Ä,ç,Äæf_cfAf□fO fEfBf“fhfE,đf,ffj^ ,ì<«ŠE,É•Ž! ,μ,½,-

,È,ç□ê□#□ADESKman,à,μ,,íDeskTools“à,ìfEfCf“fhfE□\$CEä,đfAfNfefBfu,É,μ,Ä,,¾,¾,ç□B

,à,μ□A,±,ì□Ý`è%oæ-È,ªWINman,©,çŽQ□Æ,Â,«,È,ç

,Æ,«,ì□ADESKman□i,Ü,½,íDeskTools□j,đfCf“fXfg□[f<,·,é,±,Æ,Â□A`%oæ-

È,ìfv□f□pfeB”à,É□Ý`èfy□[fW,ª`Ç%oÁ,³,è,Ü,·□B

fOf%oftfBfbfNfX f, [fh, i] C³ A F " / % ð ' œ " x / f ^ f C f ~ f " f O , i ' ² @

• K—v, È F " A % ð ' œ " x A f Š f t f C f b f V f ... f C [f g , ð " ü — í , , é , é , ± , Æ , Å , f j f ^
f ^ f C f ~ f " f O , ³ ¶ ¬ , ³ , ê , Ü , · B , ± , ð f ^ f C f ~ f " f O , í V , µ , ç f O f % o f t f B f b f N f X f , [f h , Æ , µ , Å • Ú ' ¶ , Å , « , Ü , · B

, » , ê , É , í A f , f j f ^ , Å Ž g — p , Å , « , é Å ' à ... • ½ - , Ž ů " g " (kHz) , ² • ² , © , Á , Ä , ç , é , ± , Æ , ² • K — v , Å , · (f , f j f ^
f f [f ^ , ð C ^ ' è Ž Q Æ) B

, Ü , , í • K — v , È F " (' Ê í A 8 b p p = 256 F) , ð ' l ' ð , µ , Ü , · B F " , ² ' à , « , , È , é , Æ A Å ' à f s f N f Z f <
f N f [f b f N , Í Ž © " ® " l , É C , , è , Ü , · B • K — v , È % ð ' œ " x , ð ' ² @ , µ , Ü , · B % ð ' œ " x , í A f , f j f ^ f t f C f Y , ²
15 " , ð , Æ , « , í 800 x 600 A 16 " , © , ç 18 " , ð , Æ , « , í 1024 x 768 A 19 " ^ È ð ã , ð , Æ , « , í 1280 x 1024 , ² ^ è " Ê " l , Å , · B

• K—v, È Š f t f C f b f V f ... f C [f g , ð Hz , Å " ü — í , µ , Ü , · B
" w C e i , ð , Æ , ñ , Ç , ² • , ð f A f v f Š f P [f V f # " , ð ê # A 60 Hz , Å \ • ² , Å , · B Windows , È , Ç " w C e i , ð -
¾ , é , ç f A f v f Š f P [f V f # " , í A f f f B f X f v f C f C , ð , ç , Å , ð - h , ® , ½ , ß , É Å ' á 75 Hz ^ È ð ã , Å Ž À s , µ , Ä , -
, ¾ , ³ , ç B ' Ê í A Å " K , È Š f t f C f b f V f ... f C [f g , í 85 Hz , Å , · B 100 Hz , ð % o z , ð , Ä , à - Ú , É C © , ð , ½
% o ü ' P , ² , È , ç , ð , ² • ' Ê , Å , · B

f e f X f g f p f ^ [f " , ² ^ À ' è , µ , ½ , ç A , Ü , , ¶ ' è " à —
e , ð • Ú ' ¶ , µ A Windows , ð Å · N " ® , µ , Ä , © , ç A f f f B f X f v f C f C , ð t f C f Y , Æ ^ Ê ' u , ð ' ² @ , ð Ž n , ß , Ü , · B
f f f B f X f v f C f C , ð t f C f Y , Æ ^ Ê ' u , ð f , f j f ^ , Å ' ² @ , µ , Ä , Ý , Ä , , ¾ , ¾ , ç B , x , Ü , , ç , © , È , ç ê # , í A [W I N m a n
(E L S A ¶ ' è)] , Å f , f j f ^ f ^ f C f ~ f " f O , ð ' ² @ , , é , ± , Æ , à , Å , « , Ü , · B

fefXfg fXfNfŠ[f“

WINman (ELSA[Ý'è),Å,Í[A[V,μ,çf,fff^

f^fCf~f“fO,ª•Ù'¶,³,è,é'O,É[A[V,μ,çf^fCf~f“fO,ªf,fff^,É“K,μ,Ä,ç,é,©,Ç,κ,©,ªf`fFbfN,³,è,Ü,·[B
,»;,½,β,É[A,í,·,©,ÈŽžŠÔ,Å,·,ªfefXfg fXfNfŠ[f“,ª•\Ž!,³,è,Ü,·[B

fefXfg fXfNfŠ[f“,ª•\Ž!,³,è,Ä,à[AfGfXfP[fv fL[(Esc),ð%oÿ,·,±,Æ,Å,ç,Â,Â,à[A,·,±,Æ,ª,Â,«,Ü,·[B
Žÿ,É[AfefXfg fpf^ [f“,É-à'è,ª,È,ç,©,Ç,κ,©[q,Ë,ç,è,Ü,·[B

fefXfg fpf^ [f“,ª^À'è,μ,½,ç[A,Ü,·[Ý'è“à—

e,ð•Ù'¶,μ[AWindows,ð[Ä·N“®,μ,Ä,©,ç[AfffBfXfvfÇfC,ìTfCfY,Æ^Ê'u,ì'²[®,ðŽn,β,Ü,·[B
fffBfXfvfÇfC,ìTfCfY,Æ^Ê'u,ðf,fff^,Å'²[®,μ,Ä,Ý,Ä,¾,¾,ç[B,κ,Ü,·,ç,©,È,ç[é[±,Í[A[WINman
(ELSA[Ý'è)],Åf,fff^ f^fCf~f“fO,ð'²[®,·,é,±,Æ,à,Å,«,Ü,·[B

fOf%oftfBfbfNfX f,[]fh(frffflf,[]fh)[]Af,fff^ f^fCf~f"fo

fOf%oftfBfbfNfX f,[]fh(,Ü,½,Ífrffflf,[]fh),í[]A, ,é[]F[]"[]A%ö'œ"x[]Af,fff^
f^fCf~f"fo[]A,»,ì'¼,·,×,Ä,ì" @[]if,[]fh,ÉŠÖ~A,·,éfefNfjffj< ff[]f^,ð<L[]q,·,éff[]f^ fZfbfg,Å,·[]B

f,fff^ f^fCf~f"fo,í[]Af,fff^[]M[]t,ì^èžž" @[]i,ð'è<` ,·,éff[]f^ fZfbfg,Å,·[]B
Šî-{ "I,É,ÍfsfNfZf< fNf[]fbfN[]A...·½'-[]_Žü"q[]"[]Aftf[]f€,ÍfŠftf[]fbfVf... f[]f[]fg,Å,·[]B
[]...·½[],'¼·\Ž;ŽžŠÔ[]A'O" f[]f[]f^ "Šúpf<fX(Sync)[]A[]Eã·" f[]f^ ,Æ,ç,æ³⁄⁴—
t,Å,æ,è³Šm,É<L[]q,³,è,Ü,·[]B

•\Ž;ŽžŠÔ,Æ,í[]A" dŽqfr[]f€,ª%œ-Ê,ÉfsfNfZf<,ð·` %œ,·,éžžŠÔ,ì,±,Æ,Å,·[]B,»,ì[]Eã[]A" dŽqfr[]f€
,ð[]Å[]%œ,ì^Ê'u,É-ß,·,É,ì^è'è,ìžžŠÔ,ð—v,µ,Ü,·[]B,±,Ìfuf%of" fNžžŠÔ,í[]A'O" f[]f^ (·\
Ž;ŽžŠÔ,ª[]i,í,Á,Ä, ©,ç" ~Šúpf<fX,ªžn,Ü,é,Ü,Å,ìžžŠÔ)[]A" ~Šúpf<fX(" ~Šúpf<fX,ìžžŠÔ)[]A, ",æ,
Ñ[]Eã·" f[]f^ (" ~Šúpf<fX,ª[]i,í,Á,Ä, ©,çŽŸ,ì·\Ž;ŽžŠÔ,ªžn,Ü,é,Ü,Å,ìžžŠÔ),Å[]\[]¬,³,è,Ü,·[]B,±,è,í[]...
·½[],'¼—¼·û,Ìf^fCf~f"fo,É,Å,ç,Ä" ~—I,Å,·[]B

□F□"/ bpp

□F□", Ì'P^Ê, Íbpp, ©□A□F□", Å, ,ç, í,³, ê, Ü, ·□B

bpp (Bits Per Pixel), ÍŠefsfnfZf<, ÉŽg—p, Å, «, éfrfffi f□f, fŠ, Ì—e—Ê, Å, ·□B, ½, Æ, !, Í□A8

bpp, Ìê□#□AŠefsfnfZf<, Í8frfbfg, ðŽg—p, μ□A256 (= 2, Ì8□æ)□F, ðŠi" [□A•\Ž!, Å, «, Ü, ·□B, ±, Ì□", Í□A(%æ—Ê□ã, Ì•\Ž!, É□\•ª, ÈfsfnfZf<,ª, , é□ê□#)“~Žž, É•\Ž!, Å, «, é□F, Ì□", Ì, ±, Æ, Å, ·□B

Windows , Ìê□#□A'Êí, Í32768□F(= 15 bpp)^ È□ã,ªŽg—p,ª, ê, Ü, ·□B, ±, Ì□F□",ª□A•\

Ž!, Ì'‰ŽÀ"x, Æf□f, fŠ□Á"i/•\Ž!'—"x, Æ, ÌŠÖEW, Å□Å—Ç, Ì'Ã<!"_¼, ©, ç, Å, ·□B□F□",ª□, È, ç

, Æ□AfCf□□[fW, ÌfnfjŠfB,ª'á‰ª, μ□A'½, Ìê□#□AfffBfUfŠf"fo,ª•K—v, É, È, è, Ü, ·□B□F□",ª'½, ç

, Æ□Af□f, fŠ, Ì□Á"i,ª□, !□A'Êí, ÍWindows fhf%ofCfo, Ì'—"x,ª'x,, È, è□A‰ð'œ"x, ð‰ª, °, é, ©□A"~ ,ª

‰ð'œ"x, Å, àfŠftfCfBfVf... fC□[fg, ð‰ª, °, È, ç, Æ•\Ž!, Å, «, È, È, è, Ü, ·□B

^ê"Ê"Ì, É, ÍŽŸ, Ì□Ý'è, ð□,, □§, μ, Ü, ·□B

256□F(8 bpp): 'Êí, ÌfiftfBfX fAfvfŠfP□[fVf#“□i3D, ðŽg—p, μ, È, ç, Æ, «□j

32768, Ü, ½, Í65536□F(15, Ü, ½, Í16 bpp), ÌfnfCjff%□[: frfffi, Ü, ½, Í3DfAfvfŠfP□[fVf#“

1670—œ□F(24, Ü, ½, Í32 bpp), Ìftf<fff%□[: □, "x, È‰æ'œ□^—□CÈü, ~

^ê"Ê"Ì, È□F□"

□F, Ì□"	bpp, Å•\ , í, μ, ½□F□"	fRf□f“fg
2	1	""□•□Af, fmfNf□
16	4	VGA 640x480, È, Ç, ÌfpfCfBfg
256	8	fpfCfBfg□A^ê"Ê"Ì, È□, ‰ð'œ" xfOf%oftfBfbfNfX f{□[fh, Ì•W□€f, □[fh
32768	15	fnfCjff%□[5 + 5 + 5 bpg
65536	16	fnfCjff%□[5 + 6 + 5 bpg
1670—œ	24, Ü, ½, Í32	ftf<fff%□[8 + 8 + 8 bpg

4, Ü, ½, Í8 bpp, Ìê□#□A□F, Ì□", ÌfpfCfBfg(RAM DACjff%□[fe□[fuf<), ðŽg, Å, Å•\

Ž!,ª, é, èŽÀ□Ü, Ì□F, É•İŠ,ª, ê, Ü, ·□B, ½, Æ, !, Í□A, ±, ÌfpfCfBfg, Å262144□F, ÌfGf“fgfŠ(6 bpg, Ìê□#), à1670—

œ□F, ÌfGf“fgfŠ(8 bpg, Ìê□#), Ì□^—□,ª‰Å"Å"Å, ·□B

bpg ,Æ bpp,đ□-“˘,μ,È,ç,æ,α,É,μ,Ä,,¾,³,ç□Bbpg,Í□ARGB□F•ª”z,²,Æ,ì□F□”,đŽ!,μ,Û,·(bpg = Bits Per
Gun)□B,½,Æ,!,î□A16 bppfnfCjff%◦□[,ì□ê□#□A5 + 6 + 5 bpg,í 3□F•ª”z,ì□Ô□A—î□A□Â,ÉŽg—
p,Â,«,éfrfbfg□”,Â,·□B

fXfNfŠ[f“ fTfCfY A•\Ž!/%¼‘z fXfNfŠ[f“ ,l%ø‘œ“x

fXfNfŠ[f“ fTfCfY

f,fff^ fTfCfY,l'Í,Í%A<ÉüŠÇ(CRT),l'ÍŠpü,ìCEö]fTfCfY,Å,·B•\Ž!—l^æ,l'ÍŠpüfTfCfY,æ,è,à-
μ'â,«,È'Í,Å,·B^ê”É“Í,È'Í,ÍŽŸ,ì•\,Í,Æ,“,è,Å,·B

ÍŠpü,ìCEö]f	ÍŠpü,ìCEö]f	,“,æ,»,ì•\Ž!	^ê”É“Í,È%ø‘œ“x
TfCfY(inch)	TfCfY(cm)	—l^æ(cm)	
-----	-----	-----	-----
14"	35,5	27 x 20	800 x 600
17"	43	32 x 24	1024 x 768
20"	51	38 x 29	1280 x 1024

u"v,ÍfCf“f` A1 inch = 2.54 cm B

•\Ž!/%ø‘œ“x

%ø‘œ“x,Æ,Í A•\Ž!,Å,«,éfsfNfZf<“,ì,±,Æ,Å,·B,½,Æ,Í,Í A1024 x 768,ìê]A... ½,ÍŠe s,É
1024fsfNfZf<,ª•\Ž!,³,ê]A,¼,ÍŠe—ñ,É768fsfNfZf<,ª•\Ž!,³,ê,Ü,·B,μ,½,ª,Å,Ä%øæ-
Éã,ì]fsfNfZf<“,Í1024 x 768 = 786432,É,È,è,Ü,·B

É]A13",Ü,Å,Íf,fff^ ,l%ø‘œ“x,Í 640 x 480,É]A14",©,ç15",Íf,fff^ ,l%ø‘œ“x,Í800 x 600,É]A16",©,ç
18",Íf,fff^ ,l%ø‘œ“x,Í1024 x 768,É]A19"Éã,Íf,fff^ ,l%ø‘œ“x,Í1280 x
1024,ÉfZfbfg,³,ê,Ü,·B,½,¾,μ]A]A,%,ø‘œ“x,Ífhfbfg fsfbf` fTfCfY,â]A]A... ½]-,Žü“g“,É,Ç,ì
—v^ö,É,æ,Á,Ä^Ü,È,è,Ü,·B

%ø‘œ“x,Ídpi (Dot Per Inch),Å,à•\Ž!,Å,«,Ü,·B

%¼‘z%ø‘œ“x(fXfNfŠ[f“ ,lfpf“)

%¼‘z fXfNfŠ[f“ ,fAfNfefBfu,É,È,Á,Ä,ç,é,Æ]AWindows,ì]A—l^æ,Í•\Ž!,³,ê,Ä,ç,é•\
Ž!fXfNfŠ[f“,æ,è,à'â,«,.,È,è,Ü,·(,Â,Ü,è]A%¼‘z%ø‘œ“x,Í•\Ž!/%ø‘œ“x,æ,è,à'â,«,.,È,é)B
%øB,è,½—l^æ,Í]Af}fEfX f]l]f<,fXfNfŠ[f“,ì<ŠE,É—^,é,ÆCE©,Í,é,æ,π,É,È,è,Ü,·B,»,ìCEã•\
Ž!fXfNfŠ[f“,ì—è,efXfNf]l]f<,³,ê,Ü,·B,±,ì“®]ì,ð,Â]ufpf“]v,Æ,àCE¾,ç,Ü,·B

fsfNfZf< fNf[]bfN/MHz

fsfNfZf< fNf[]bfN,Ü,½,ÍfsfNfZf< fCE[]fg,ÍMHz(f[]Kfwf<fc),Å•\,í,³,ê,Ü,·[]B,±,ì'í,ì"í'í'É[]í10,©,ç250
MHz,Å,·[]B,½,Æ,í,í[]A%ø'œ"x 1024 x 768[]A75 Hz,Å,í[]A79 MHz,ÍfsfNfZf< fNf[]bfN,ª•K—
v,Å,·[]BfsfNfZf< fNf[]bfN,ì'í,í[]A1•b,É[]',«[]ž,Ü,ê,éfsfNfZf<[]",ð•S-œ'P^Ê,ÅŽ!,μ,Ü,·[]B

□...•½'-□, Žü"g□"/kHz

□...•½'-□, Žü"g□"□A, ,È,í,ž□A•îĚüŽü"g□",ì'è'è'P^Ê,í kHz,Å,·□B,±,ì'l,ì"í"í"í'Êí 30,©,ç110
kHz,Å,·□B,½,Æ,!,î□A%øđ'œ"x 1024 x 768□A75 Hz,ìê±□A60 kHz,ì...•½'-□, Žü"g□",ª•K—
v,Å,·□B,±,ì'l,í□AfsfNfZf< f%ofCf",ª□',«□ž,Ü,ê,é'¬,³□A,Â,Ü,è□A"dŽqfr□[f€,ª%øA<ÉüŠÇ,ì't,đ-^•b
%ø½□ç%øñ□¶,©,ç%øE,É"®,,ì,©,đŽ!,μ,Ü,·□B

fŠftfCEfbfVf... fCE[]fg/Hz

ftfCE[]f€ fŠftfCEfbfVf...

fCE[]fg,·,È,í,¿,¼•ÎCEüŽü”g” ,ì’è’P^Ê,ÍAHZ,Â,·B’Ê[]A’l,ì”í’í,í60,©,ç100

Hz,Â,·BHz,Æ,ÍHertz(fwfjfc),ì—^aCEê,Â,·B75 Hz,È,ç[]A-^•b75,ìftfCE[]f€,^a•\Ž|,³,ê,é,Æ,ç,±,±,Æ,Â,·B

”wCEi,ì,Ù,Æ,ñ,Ç,^a•,ìfAfvfŠfP[]fVf#” ,ì[]ê[]#[]A60 Hz,Â[]•^a,Â,·B,æ,è”wCEi,ì-³/₄,é,çWindows,ì,æ,±,ÈfAfvfŠfP[]fVf#” ,ì[]ê[]#[]A,¿,ç,Â,«,ð-hŽ~ ,·,é,½,ß,É[]A[]A’á75 Hz^È[]ä,ÂŽÀ[]s,µ,Ä,-³/₄,³,ç[]B’Ê[]í[]A[]A”K,ÈfŠftfCEfbfVf... fCE[]fg,í85 Hz,Â,·BfŠftfCEfbfVf... fCE[]fg,^a100 Hz,ð%øz,ì,Ä,à-Ú,ÅŠm”F,Â,«,é%øü’P,ì, ,è,Ü,¹,ñ[]B

’Ê[]í,ìfmf”fCf”f^[]fCE[]fX” @[]),Â,Í[]AftfCE[]f€,ìfŠftfCEfbfVf...

fCE[]fg,í,¼•ÎCEüŽü”g” ,Æ” ,¶,Â,·B

’á[]...•½’-[] ,Žü”g” ,Â,à,ìfŠftfCEfbfVf... fCE[]fg,ð^ó[]Ú•t, ,é,½,ß,ÉfCf”f^[]fCE[]fX fffBfXfvfCEfC,^a%øß<Ž,É,æ,—p,ç,ç,è,Ü,µ,½[]B,±,ìf,[]f[h,Â,Í[]AŠeftfCE[]f€,^a2•^aŠ,,,³,è,Ü,·B[]A[]%ø,ì”¼•^a,ìftfCE[]f€,Â<ð[]”f%øfCf” ,^a•`%øæ,³,è[]A1f%øfCf”fV•^afVftfg,µ,ÄŠi[]” ,ìf%øfCf” ,^a•`%øæ,³,è,Ü,·B,µ,½,^a,Á,Ä,¼•ÎCEüŽü”g” ,ìftfCE[]f€ fŠftfCEfbfVf... fCE[]fg,ì” {,É,È,è,Ü,·B,±,ì•\Ž|Žè-@,Í[]AfeftfCEfr,ÉŽg,í,è,Ä,ç,Ä[]AIBM 8514/Afrffffi fAf_fvf^ ,É,à[]ì—p,³,è,Ä,ç,Ü,·B,½,³/₄,µ[]A•\Ž|•í^Ê,^a.,ç,ì,ìfmf”fCf”f^[]fCE[]fX f,[]f[h,ì•ù,Â,·B

ftfCE[]f€ fŠftfCEfbfVf... fCE[]fg,íf,fjf^ ,ð[]IŠÔ[]HŠw”l,ÉCE©,½[]ê[]#[]A[]d—v,Â,·B75Hz,ð%ø^a%øñ,éfŠftfCEfbfVf... fCE[]fg,â[]AfCf”f^[]fCE[]fX,ìŽg—p,Í[]IŠÔ[]HŠw”l,É[]D,Ü,µ,,È,ç,Æ,³,è,Ä,ç,Ü,·B[]iftfŠfbfj[] ,^a-Ú—§,¿,Ü,·j,à,¿,è,ñ[]IŠÔ[]HŠw”l,É,Í[]A•úŽÈ[]ü,^a.,È,ç,±,Æ,â[]Af,fjf^ fTfCfY, ,æ,Ñfhfbfg fsfbf` ,É”K,µ,½%øø’œ”x,È,Ç,ì”Á[]<,à[]ì—¶,³,è,Ü,·B

f}f`f`fXfNfŠ[]f“

fRf“fsf...[]f^,Éf}f`f`fXfNfŠ[]f““í%ž,ìELSAfOf%oftfBfbfNfX
f{[]fh,ª•;[]“fCf“fXfg[]f<,³,è,Ä,¨,è[]A,³,ç,Éf}f`f`fXfNfŠ[]f““í%žfhf%ofCfo,ªfCf“fXfg[]f<,³,è,Ä,ç
,è,í[]A•;[]”,ìf,fjf^,ðŽg—p,µ,ÄWindows,ð•;[]“fXfNfŠ[]f“(f}f`f`fXfNfŠ[]f“),ÅŽg,ª,±,Æ,ª,Å,«,Ü,·[]B
Windows 95<y,ÑNT[]ã,Å,í[]A“~^è,ìOf%oftfBfbfNfX f,[]fh,Å[]A“~,¶—e—
È,ìf[]f,fŠ,ðŽ[],Á,½[]A“~“™,ìELSAf{[]fh,Åf}f`f`fXfNfŠ[]f“ŠÅ<<,ð[]'z%oÅ“\,Å,·[]BWindows
98<y,ÑWindows NT 5.0,É,¨,ç,Ä,í[]AOSŽ©'ì,ª^Ù,È,éf^fCfv,ìOf%oftfBfbfNfX
f{[]fhŠÔ,Å,ìf}f`f`fXfNfŠ[]f“,ðfTf|[]fg,·,é—\’è,Å,·[]B

f}f`f`fXfNfŠ[]f“,ðŽg—p,·,é[]Ù,É,í[]ADirect3D,â[]AOpenGL,ìfAfvfŠfP[]fVf#f“,É’½[]-
,ì[]\$CEÀ,ª[]¶,¶,Ü,·[]B<ì’ì“l,É,í[]Afn[]fhfEfFfA fAfNfZf%ofCE[]fVf#f“,í^è-±-Ú,ìOf%oftfBfbfNfX
f{[]fh’ª,Å,µ,©[]s,í,è,È,ç[]A,à,µ,,íftf<%oæ-È,ÅŽÀ[]s,µ,½,Æ,«,µ,©[],‘¬%o»,³,è,È,ç[]A,È,Ç,Å,·[]B

fEfCf“fhfE,ì[]\$CEä,âf,fjf^,ì[]±”Ô,ì•ï[]X,ð[]s,ª,É,í[]A ELSA WINman (ELSA[]Ý’è),.ðŽg—p,µ,Ä,,¾,³,ç[]B

ftfHf“fg fTfCfY

Windows, ÅŽg—p, ·, éftfHf“fg fTfCfY, í² @ %oÅ“\, Å, · BftfHf“fg fTfCfY, í A800x600, Ü, Å, ì%ođ‘œ“x, Å, í 96dpi (□→) □ A1024x768^È□ã, ì%ođ‘œ“x, Å, í 120dpi (‘â), ¢• □ ÊŽg—p, ¢, ê, Ü, · □ B

f, fjjf^ ff[]f^, ìCE^'è

ELSA fOf%oftfBfbfNfX f{[]fh, ðf, fjjf^, É“K[]³, ¹, é, É, í[]Af, fjjf^“ ® []ì, ìff[]f^, Æ”íí, ðCE^'è, , é, ±, Æ, ¢•K
 —v, Å, ·[]B
 , ±, ±, Å, í[]Af, fjjf^, ì[]Å'â[]... •½'—[], Žü”g[]”(kHz), ¢“Á, É[]d—v, Å, ·[]B, ±
 , ì[]ãCEÀ, ð' , , é, Æ[]A[]Å^« , ì[]ê[]f, fjjf^, ÉCEì[]á, ð, «, ½, , ±, Æ, ¢, , è, Ü, ·[]B

f, fjjf^, ìf[][]fj[][]Af, fjjf^, ì@Ží-¼

'É[]í[]Af[][]fj[][], , æ, ÑCE^-¼, ìf, fjjf^, ì”w-Ê, É, , è, Ü, , ¢[]A, È, ç[]ê[]f, ìf, fjjf^ f}fjf...fAf<, ðŽQ[]Æ, µ, Ä, -
 , ¾, ¾, ç[]B

CEö[]f, fjjf^ fTfCfY

f, fjjf^ fTfCfY, ì'l, í[]A%°A<ÉüŠÇ(CRT), ì'ÍŠpü, ìCEö[]fTfCfY, Å, ·[]B, ±, è, í[]A•\Ží—
 ì^æ, ì'ÍŠpü, ìfTfCfY, æ, è, à[], µ'â, «, È'l, Å, ·[]B ê”É“l, È'l, í[]A14" (35.5 cm)[]A17" (43 cm) []A, Ü, ½, í20" (51
 cm), Å, ·[]B<L[]t[]u"[]v, ìfCf“f` (2.54 cm), ð•\, µ, Ü, ·[]B

[]...•½'—[], Žü”g[]”, ì”íí(kHz)[]A
 [], ¼fŠftfCEfbfVf... fCE[]fg, ì”íí(Hz)

[]Å'â, , æ, Ñ[]Å'á, ì[]...•½'—[], Žü”g[]”, ÆfŠftfCEfbfVf... fCE[]fg, í[]A, Žè<- , ìf, fjjf^ f}fjf...
 fAf<, É<L[]Ú, ¾, è, Ä, ç, Ü, ·[]B
 , ±, ±, Å, í[]Af, fjjf^, ì[]Å'â[]... •½'—[], Žü”g[]”(kHz), ¢“Á, É[]d—v, Å, ·[]B, ±
 , ì[]ãCEÀ, ð' , , é, Æ[]A[]Å^« , ì[]ê[]f, fjjf^, ÉCEì[]á, ð, «, ½, , ±, Æ, ¢, , è, Ü, ·[]B, » , ì'¼, ì'l, ¢CE^, Ü, ç, È, ç[]ê[]f[]Af
 [f], ì, Ü, Ü, É, µ, Ä, , ç, Ä, ©, Ü, ç, Ü, ¹, ñ[]B

f, fjjf^, ìfvf[]fpfefB, ìCE^'è

f, fjjf^, ìfvf[]fpfefB, ðCE^'è, , é, É, í[]AZŽ, ÉŽ!, , ç, , Å, ©, ì•û-@, ¢, , è, Ü, ·[]B

f, fjjf^ f}fjf...fAf<:

f, fjjf^, ì<Z[]pŽd—l, í[]Af, fjjf^, É•t'® , , éf}fjf...fAf<, É<L[]Ú, ¾, è, Ä, ç, Ü, ·[]B

VESA DDC:

f,ffj^,ÉVESA DDC fRfIfNf^,a'•"ö,³,êAfOf%oftfBfbfNfX f{[]fh,a VESA DDC ŒÝŠ·,ìê[]Af,ffj^
ff[]f^,Íf,ffj^ fP[]fuf<,ð%oî,µ,ÄfOf%oftfBfbfNfX f{[]fh,ÉŽ©"®"l,É'—[]M,³,ê,Ü,·[]B

VESA VDIF f,ffj^<L[]qftf@fCf<(*.VDA):

f,ffj^,ÉVESA VDIFf,ffj^<L[]qftf@fCf<(*.VDA),a"Y•t,³,ê,Ä,ç,éê[]A•K—v,Èff[]f^,í,±
,ê,©,ç"Ç,Ý[]ž,Ü,ê,Ü,·[]Bf,ffj^ ff[]f^,ð"ü—Í,·,é,Æ,«[]AWINman (ELSA[]Ý'è)
,É[]AVDIFftf@fCf<,ð"Ç,Ý[]ž,p,½,ß,lf{f^f",a•Žl,³,ê,Ü,·[]B

ELSA f,ffj^<L[]qftf@fCf<WINman.MON:

ELSA f,ffj^<L[]qftf@fCf<WINman.MON,ÉŽg—p,·,éf,ffj^,a<"a,Á,Ä,ç,ê,î[]A,»,±,©,çf,ffj^
ff[]f^,aŽæ"¾,³,ê,Ü,·[]B,±,ê,í[]Af,ffj^ ff[]f^"ü—Í,ì[]Û,Éf,ffj^,lf[][]fj[][,Æ<@Ží-¼,ð'l'ð,·,é,±
,Æ,ÅŽ©"®"l,É[]s,í,ê,Ü,·[]B

f, fjjf^ f}fjf...fAf<

ELSA fOf%oftfBfbfNfX

f{[]fh, ðf, fjjf^, É[]Å“K, È[]ó’Ô, Å“K[]±, ³, ¹, é, ½, ß, É[]AŽŸ, ÉŽ!, :ff[]f^, ðf, fjjf^, ìf}fjf...fAf<, Å’T, µ, Ä, -, ¾, ³, ç[]B

f, fjjf^ f[]f[]f[]Af, fjjf^, ì<@Ží-¼[]AfCf“f` , Ü, ½, ìfZf“f`P^Ê, ì’îŠp[]ü, ì[]ö[]ìf, fjjf^ fTfCY (= fCf“f` , Ü, ½, ìfZf“f`P^Ê, ìCRT, ì’îŠp[]üfTfCY)[]AkHHz’P^Ê, ì[]Å’á, “, æ, Ñ[]Å’â[]... •½’-[] , Žü”g[]” (= []... •½•î[]EüŽü”g[]” = ‘-[] , f[][]fg)[]AHHz’P^Ê, ì[]Å’á, “, æ, Ñ[]Å’â[], ¼ftf[][]f[]Šftf[]fbfVf... f[][]fg(= [], ¼•î[]EüŽü”g[]”)[]B

, ±, ±, Å, í[]Af, fjjf^, ì<—e[]Å’â[]... •½’-[] , Žü”g[]”(kHz), ²“Á, É[]d—v, Å, ·[]B, ±, ì[]ă[]EÀ, ð’’, ì, é, Æ[]A[]Å^« , ì[]ê[]±f, fjjf^, É[]E[]á, ð, «, ½, ·, ±, Æ, ², , è, Ü, ·[]B

WINman.MON

ELSA f,fjf^<L□qftf@fCf<WINman.MON,ÉŽg—p,·,éf,fjf^,ª<“,ª,Á,Ä,ç,ê,î□A,»±,©,ç“®□ì”í“í,ª•ª,©,è,Ü,·□B,±,ìftf@fCf<É,í□Af|fsf...f%□[,Èf,fjf^,ìŽâ,È“Á□«,Æ□\$CEÀ,ª<L%□,ª,è,Ä,ç,Ü,·□B

,±,ìASCIIfeLfxfg ftf@fCf<É,í,f,fjf^,ìff□[f^,ª<L□q,ª,è,Ä,ç,Ü,·□B,»ì<L□q,ìfGf“fgfŠ,íŽŸ,ì,Æ,“,è,Á,·□B f,fjf^,ìf□□[f□□Af,fjf^,ì<@Ží-¼□AfCf“f`'P^Ê,ì'íŠp□ü,ìCEö□ìf,fjf^
fTfCfY□Akhz'P^Ê,ì□Á'á,“,æ,Ñ□Á'â□...•½'-□,Žü”g□”□AHz'P^Ê,ì□Á'á,“,æ,Ñ□Á'â□,¼ftfCE□[f€
fŠftfCEfbvf... fCE□[fg□Af~fŠ'P^Ê,ìfsfNfZf< fTfCfY/fhfbfg fsfbf` □B

,±,ìftf@fCf<Á,ì,f,fjf^,ì<L□q,í—á,ì,ìŽŸ,ì,æ,ᄁ,É,È,è,Ü,·□B

ELSA, GDM-17E40, 17", 29-82kHz, 50-150Hz, 0.26mm

VESA VDI f, fjjf^ < L qftf @ fCf <

VDIF, íf, fjjf^ Žd—l, đ<L□q, ·, é, ½, ß, ìftf@fCf<Ā Ž @, đ'è<` , ·, é VESA <KŠi, Ā, ·□BVDIFftf@fCf<, É, í%œ-
É, ì'ÍŠp□üfTfCfY, È, Ç, ìf, fjjf^ "Á□<, â□A□Ā'â<—e□... ·½'-□, Žü" g□" (kHz), È, Ç, ìf, fjjf^, ì" @□ì" í^ í, É, Ā, ç
, Ā, ìff□[f^, ðŠÜ, Ü, ê□A, »), ì[PREADJUSTED_TIMING], ìfZfNfVf+f", É, ÍŠY" -, ·, éf, fjjf^, É"K, μ, ½f, fjjf^
f^fCf~f"fO, É, Ā, ç, Ā, ìff□[f^ fZfbfg, ð<L□q, ³, ê, Ā, ç, Ü, ·□B

VDIFftf@fCf<, đŽg—p, ·, é, Ā□Af, fjjf^ ff□[f^, ì·Ů'¶□A^ø"n, μ□A□Ā—~—p, ð, Ā, «, Ü, ·□B

*.VDA VDIF, íASCIIftf@fCf<, È, ì, Ā□A·W□€, ìfefLfXfg fGfffBf^, đŽg, Ā, Ā□□—, ·, æ, Ń□C³, ·, é, ±
, Ā, ð, Ā, «, Ü, ·□B

*.VDB VDIF, ìfofCfifŠ fR□[fh ftf@fCf<, È, ì, Ā□A"ÁŽè, Èf\ftfgfEfffA, ¾, ·, ĀŽg—p, ³, ê, Ü, ·□B
WINman (ELSA □Ý'è), í*.VDA
VDIFftf@fCf<, ì"Ç, ÝŽæ, è, Ā□'·, «□Ž, Ý, ð, Ā, «, Ü, ·□BWINman, ðftf@fCf<, đ□', «□ž, b, Ā, «, í□AWINman, ÉŠÖ
ĀEW, ·, é□€—Ú, ¾, ·, ð<L"ü, ³, ê, Ü, ·□BWINman, Ā□□—, ³, ê, ½ftf@fCf<, đ'¼, ìf\ftfgfEfffA, ðŽg—
p, ·, é□ê□#□A□u=□v<L□t, ì%œ, ì<ó—" , É□A·s' «, μ, ½□î·ñ, đfefLfXfg fGfffBf^, đŽg, Ā, Ā<L"ü, ·, é, ±
, Ā, ð·K—v, Ā, ·□B

*.VDA VDIFftf@fCf<, í□AŽÝ, ÉŽì, ·, ç, ·, Ā, ©, ìfZfNfVf+f", Ā□□—, ³, ê, Ā, ç, Ü, ·□B

[VERSION]

VESA<KŠi, ìfo□[fWf+f"" Ő□t□B

[MONITOR_DESCRIPTION]:

Manufacturer = f, fjjf^ f□□[fj□[□AModelNumber = f, fjjf^, ì<@Ží-¼□ACRTSize = %œ-
É, ì'ÍŠp□üfTfCfY, È, Ç, ì^è"É"l, Èf, fjjf^ <L□q□B

[OPERATIONAL_LIMITS]:

MinHorFrequency = □Ā'á□...·½'-□, Žü" g□"□AMaxHorFrequency = □Ā'á□...·½'-
□, Žü" g□"□AMinVerFrequency = □Ā'á□, '¼fŠftfĀfbfVf... fĀ□[fg□AMaxVerFrequency =
□Ā'á□, '¼fŠftfĀfbfVf... fĀ□[fg, È, Ç, ìf, fjjf^, ì" @□ì" í^ í□B

[PREADJUSTED_TIMING]:

PreadjustedTimingName = f^fCf~f"fO-¼□AHorPixel/VerPixel = X/Y·ŮĀü, ì
%œ'œ"x□AHorFrequency = □...·½'-□, Žü" g□"□AVerFrequency = □, '¼fŠftfĀfbfVf...

fCE[]fg[]APixelClock = fsfNfZf< fNf[]fbfN fCE[]fg[]ATotalTime = ŽžŠÔ[]#CEv[]AAddrTime = •\
Ž!ŽžŠÔ[]ABlankStart = •\Ž!,aŽn,Ü,Á,Ä,©,çuf%of“fLf“fO,aŽn,Ü,é,Ü,Â,ìŽžŠÔ[]ABlankTime = fuf
%of“fLf“fOŽžŠÔ[]ASyncStart = •\Ž!,aŽn,Ü,Á,Ä,©,ç“Šúfpf<fX,aŽn,Ü,é,Ü,Â,ìŽžŠÔ[]ASyncTime =
“Šúfpf<fX,ìŽ[]±ŠúŠÔ,È,Ç,ìf,fjf^ f^fCf~f“fO,ìff[]f^ fZfbfg[]B

VESA VDI f, fff^ < L qftf @ fCf < , i " Ç, Ý Ž æ, è

ELSA fOf%oftfBfbfNfX f{[]fh, ðf, fff^, É "K[]³, ¹, é, ½, ß, É[]Af, fff^ " @ [] , ìff[]f^ , Æ " í í, ðCE^ 'è, , é, ± , Æ, º • K—v, Å, ·[]B Žg—pf, fff^ , ÉŠY"—, , é VESA VDI f, fff^ < L qftf @ fCf < (* . VDA) , º , è, ì[]A, » , ìftf @ fCf < , ð Žg—p, µ, Å, , ¾, ¾, ç[]B, » , ì' ¼, ì • ù—@ , ì[]Af, fff^ ff[]f^ , ìCE^ 'è, Æ, ç , æCE @ []o, µ, Å[]à—¾, ¾, è, Å, ç, Ü, ·[]B

[WINman (ELSA[]'è)], ì[VESA VDI f, fff^ < L qftf @ fCf < , ð " Ç, Ý Ž æ, é], ìf_fCfAf[]fO, Å[]A, Ü, , • K—v, È[]F[]" ('Éí[]A8 bpp = 256[]F), ð' I' ð, µ, Ü, ·[]B[]F[]" , º , ç, Æ[]A' I' ð, Å, «, éf, fff^ f^ fCf ~ f " fO, ì' I, Í Ž © " @ " I, É[]¬, ³, , È, è, Ü, ·[]B ŽY, É • K—v, Èf, fff^ f^ fCf ~ f " fO, ð' I' ð, µ, Ü, ·[]B[]Å[]% , ì2, Å, ì' I, Í X, ÆY, ì%øø ð' œ " x ([]... • ½, Æ[] , ¼, ì%øø ð' œ " x), ð • \, í, µ, Ü, ·[]B%øø ð' œ " x, ìf, fff^ fTfCY, º 15", Ü, Å, ìf, fff^ , É, Í 800 x 600[]A16", © , ç18", Ü, Å, ìf, fff^ , É, Í 1024 x 768[]A19" ^ È[]ä, ìf, fff^ , É, Í 1280 x 1024, º • []' È, Å, ·[]B ŽY, ì' I, ìftfCE[]f€, ìfŠftfCEfbfVf... fCE[]fg (ftfCE[]f€/•b), ð Hz' P ^ È, Å • \, í, µ, Å, ç, Ü, ·[]B "wCEi, ì, Ü, Æ, ñ, Ç, º • , ìfAfvfŠfP[]fVf†f" , ì[]ê[]#[]A60 Hz, Å[]\ • º , Å, ·[]B, æ, è" wCEi, ì—¾, é, ç Windows , ì, æ, æ , ÈfAfvfŠfP[]fVf†f" , ì[]ê[]#[]A, ç, ç, Å, «, ð—h Ž ~ , , é, ½, ß, É[]A[]Á' á75 Hz ^ È[]ä, Å ŽÀ[]s, µ, Å, - , ¾, ¾, ç[]B' È[]í[]A[]Å "K, ÈfŠftfCEfbfVf... fCE[]fg, Í85 Hz, Å, ·[]BfŠftfCEfbfVf... fCE[]fg, º100 Hz, ð %øøz, ì, Å, à—Ú, ÅŠm" F, Å, «, é%øø' P, í, , è, Ü, ¹, ñ[]B —ºCEê[]ui[]v, " , æ, Ñ[]uni[]v, ì[]A, » , è, ¼, èfCf " f^ []fCE[]fX, " , æ, Ñfmf " fCf " f^ []fCE[]fX, ð • \, í, µ, Å, ç , Ü, ·[]B kHz, ì' I, ì[]... • ½'—[] , Žü" g[]" , ð • \, í, µ, Ü, ·[]B, ±, è, ºf, fff^ , ì[]Á' á... • ½'—[] , Žü" g[]" , ð' , ì, Å, Í, ç , , Ü, ¹, ñ (VDIFftf @ fCf < , Å' , ì, é, ±, Æ, Í , è, Ü, ¹, ñ)[]BMHz, ì' I, ìfsfNfZf < fNf[]fbfN, ð • \, í, µ, Ü, ·[]BfOf %oftfBfbfNfX f{[]fh, ì[]A, » , ìfsfNfZf < fNf[]fbfN, ð[]¶[]¬, Å, «, é, ±, Æ, º • K—v, Å, ·(WINman, ºf^ fFfbfN, µ, Ü, ·)[]B

f.fjf^ f^fCf~f"fo,δ VESA VDIF ftf@fCf<,Æ,μ,Ä•Ü'¶,.,é

[WINman (ELSA ¶'è)],lf_fCfA ffo[VESA VDIF f.fjf^<L□qftf@fCf<,Æ,μ,Ä•Ü'¶],Ä,í□A□V,μ,ç,f.fjf^ f^fCf~f"fo,ª VESA VDIF f.fjf^<L□qftf@fCf<(*.VDA),É•Ü'¶,³,è,Ü,·□B

,±,±,Ä,í□AWindows,í□V,μ,çfOf%oftfBfbfNfX f,□[fh,É,í□Ø,è'Ö,í,è,Ü,¹,ñ□B

VDIF,í□A f.fjf^ "Á□«,ð<L□q,.,é,½,ß,lf□[f^CE'Ž® ,ð'è<' ,.,éVESA<KŠi,Ä,·□BVDIFftf@fCf<,É,í%œ-É,ì'íŠp□üfTfCfY,È,Ç,lf.fjf^ "Á□«,â□A□Á'â<—e□...•½'-□,Žü" g□" (kHz),È,Ç,lf.fjf^ ,ì"®□"í^í,É,Ä,ç,Ä,lf□[f^ ,ªŠÜ,Ü,è□A,» ,ì[PREADJUSTED_TIMING],lfZfNfVf¶f" ,É,ÍŠY"–,.,é,f.fjf^ ,É"K,μ,½f,fjf^ f^fCf~f"fo,É,Ä,ç,Ä,lf□[f^ fZfbfg,ª<L□q,³,è,Ä,ç,Ü,·□B

VDIFftf@fCf<,ðŽg—p,.,é,Æ□A f.fjf^ ff□[f^ ,ì•Ü'¶□A^ø"n,μ□A□Ä—~—p,ª,Ä,« ,Ü,·□B

[WINman (ELSA ¶'è)],í□A□V<KVDIFftf@fCf<—

p,lfef"fvfCE□[fg,ð□□—,μ,Ü,·□BWINTM,Ä,í,.,x,Ä,í□€—Ú,ª"ü—í,³,è,é,í,~ ,Ä,È,□Aftf@fCf<,ð—~—

p,.,é,ì,É□Ä"Ç,Ý□ž,Ý,.,é•K—v,ì ,é□€—Ú,¾,~ ,Ä,·□Bftf@fCf<,ð'¼,lfvf□fOf%of€,ÄŽg—

p,.,é□è□#□A'¼,í□€—Ú,à"ü—í,μ,È,~ ,è,î,È,è,Ü,¹,ñ□BfL□[f□□[fh,ª ,é,ì,É□A□u=□v<L□t,ì%œ'ª

,ª<ó" ,ì□ó'Ö,Ä ,è,í□A•s'« ,μ,½□î•ñ,ð<L"ü,μ,È,~ ,è,î,È,è,Ü,¹,ñ□B*.VDA VDIF,í□f□^ ,È

ASCIIftf@fCf<,È,ì,Ä□A^È□ã,ì□ì<Æ,í•W□€,lfefLfXfg fGfffBf^ ,Ä□s,ì,Ü,·□B

WINman,í,.,x,Ä,lf.fjf^ f^fCf~f"fo,É'í,μ,Ä□V<Kftf@fCf<,ð□□—,μ,Ü,·□B"~^èf.fjf^ ,É•i□" ,lf.fjf^

f^fCf~f"fo,ª® ,μ□A,» ,è,ç,ð,Ð,Æ,Ä,É,.,é□è□#□AfeLfXfg

fGfffBf^ ,ðŽg,Ä,Ä□A'¼,lf tf@fCf<,ì[PREADJUSTED_TIMING]fZfNfVf¶f" ,ð□Ä□% ,lf tf@fCf<,ì□l,í,è,É'Ç

%œÁ,μ,È,~ ,è,î,È,è,Ü,¹,ñ□B

VDIFftf@fCf<-¼

VDIFftf@fCf<,ì□Ä□% ,ì 3•¶Žš,lf.fjf^ f□□[f□□[-¼,Ä□A'±, 5,Ä,ì•¶Žš,Ü,½,í□"Žš,lf.fjf^ ,ì<@Ží-

¼,Ä,·□Bftf@fCf<-¼,ìŠg'£Žq,í.VDA,É,μ,Ä,¾,³,ç□B"ü—í,³,è,½fpx-¼,í□A,Ä,« ,è,lf tf□fbfs□[

fffBfXfN,Ä,È,fn□[fh fffBfXfN,ÉŽw'è,μ,Ü,·□Bftf□fbfs□[

fffBfXfN,ÉŽw'è,.,é,Æ□A•Ü'¶,É,© ,È,è' ,çŽžŠÖ,ð—v,μ,Ü,·□B

CEö□lf.fjf^ fTfCfY

f.fjf^ fTfCfY,ì'í,í□A%œA<É□üŠÇ(CRT),ì'íŠp□ü,ìCEö□lfTfCfY,Ä,·□B,±,è,í□A•\Ží—

ì^æ,ì'íŠp□üfTfCfY,æ,è,à□,μ'â,« ,È'í,Ä,·□B"è"É"í,È'í,í□A14" (35.5 cm)□A17" (43 cm) □A20" (51 cm)

,Ä,·□B<L□t□u"□v,lfCf" f` (2.54 cm),ì,±,Æ,Ä,·□Bfvf□fOf%of€,ªŽg—p,.,é,ì,lfCf" f` ,ì'í,¾,~ ,Ä,·ª□A,±

,ì'í,ðCE^ ,ß,é,ì,É□A'íŠp□ü,lfTfCfY,ðfZf" f` ,Ä•í,ì,μ,Ä□A%œæ-É,ì•\Ží—ì^æ,ðfZf" f` ,Äª'è,μ,Ä,Ý,é,±

,Æ,ð,Š©,ß,μ,Û,·□B

kHz□...•½'-□,Žü"g□"Í^í□A

Hz□,¼fŠftfÆfbfVf... f□□[fg,ì"Í^í

□Å'á,Æ□Å'â,ì□...•½'-□,Žü"g□",Æftf□□[f€,ìfŠftfÆfbfVf... f□□[fg,í,f,íí^ f}ííí...fAf<.

,É,à<L□Ú,³,ê,Ä,ç,Û,·□B

,±,±,Å,í□Af,ííí^,ì□Å'â□...•½'-□,Žü"g□"(kHz),ª"Á,É□d—v,Å,·□B,±

,ì□ãÆÀ,ð',ì,é,Æ□A□Å^«,ì□ê□ííí^,É□ì□á,ð,«,½,·,±,Æ,ª, ,è,Û,·□B

VESA DDC (•\Ž!ff□[f^ f`fff“fjf<)

f,jjf^ ,^aVESA DDC,đfTfj□[fg,μ□Af,jjf^ fP□[fuf<,^a DDC,É“K,μ□AfOf%oftfBfbfNfX f{□[fh,^aVESA DDCÉÝŠ,ì□ê□#□Af,jjf^ ff□[f^ ,đfOf%oftfBfbfNfX f{□[fh,Éf,jjf^ fP□[fuf<,đ%oî,μ,ÄŽ©“@“l,É’— □M,Å,«,Ü,·□B

ŽŸ,ÉŽl,·,Æ,¨,è□ADDC1□ADDC2B□ADDC2AB,Æ,ç,α 3,Å,ì^Ù,È,Á,½<KŠi,^a ,è,Ü,·□B

DDC1

f,jjf^ fP□[fuf<,lf%ofCf“,í□Af,jjf^ ,©,çfOf%oftfBfbfNfX,Ö•P•ûCEü,ì~A’±,μ,½ff□[f^ fXfgfŠ□[f€,đ’— □M,·,é,ì,ÉŽg—p,³,è,Ü,·□B•W□€,ì IBM VGACEÝŠ· 15-fsf“ f,jjf^ fRfjfNf^ ,ì□ê□#□Afsf“ 12 (^È’O□Af,jjf^ IDfrfbfg 1,Æ,μ,ÄŽg—p),Íff□[f^—□M,ÉŽg—p,³,è□Afsf“ 14,ì□,¼“~Šú□M□t,í— □MfNf□fbfN(VCLK),Æ,μ,ÄŽg—p,³,è,Ü,·□B128fofCfg,ìEDID ff□[f^ fZfbfg(Šg’£fffBfXfvfCEfCID),íCEJ,è•Ô,μ’—□M,³,è□A,»,±,©,çfRf“fsf...□[f^ ,ÍŽâ—v,Éf,jjf^ ff□[f^ ,đ“Ç,ÝŽæ,é,±,Æ,^a,Å,«,Ü,·□B,± ,Íff□[f^ ,ì□\□¬—v’f,í□A3•¶Žš,ìf□□[fj□[,ìEISA-CFG fL□[□Af,jjf^ fTfCfY□ADPMSfTfj□[fg,ì’í^í□Afff %□[“Á□«□Aftfj□[fg,³,è,Ä,ç,é VESA f,jjf^ f^fCf~f“fO,lfŠfXfg□A,ç,,Å,©,ìŽ©— R,É’è<` ,ì,Å,«,é,f,jjf^ f^fCf~f“fO,È,Ç,Å,·□B

DDC2B

12Cfvf□fgfRf<,ÉŠî,Ä,‘o•ûCEüff□[f^ f`fffjf<,^a□Af,jjf^ ,ÆfOf%oftfBfbfNfX f{□[fhŠÓ,ì’É□M,ÉŽg— p,³,è,Ä,ç,Ü,·□B•W□€,ì IBM VGACEÝŠ· 15-fsf“ f,jjf^ fRfjfNf^ ,ì□ê□#□Afsf“ 12 (^È’O□Af,jjf^ IDfrfbfg 1,Æ,μ,ÄŽg—p),Íff□[f^—□M,ÉŽg—p,³,è(SDA)□Afsf“ 15(^È’O□Af,jjf^ IDfrfbfg 3,Æ,μ,ÄŽg—p),í— □MfNf□fbfN(SCL),Æ,μ,ÄŽg—p,³,è,Ü,·□BfOf%oftfBfbfNfX f{□[fh,íZ,çEDIDîî•ñ(DDC1ŽQ□Æ),Æ□A,æ,è•îŠ‡“l,ÈVDIFîî•ñ(VESAfffBfXfvfCEfCŽ~•Êftf@fCf<),đ<α,É—v<□,Å,«,Ü,·□B

DDC2AB

DDC2B,ìŽŸ,ìDDC2AB,Å,í□A%œ-É,ì^É’u,â-¾,é,³,ì²□® ,È,Ç□Af,jjf^ □\$CEä,lfRf}f“fh,đfRf“fsf... □[f^ ,©,ç’—□M,·,é,±,Æ,^a,Å,«,Ü,·(ACCESSfOfX,É<ß,ç)□B

VESA DPMS

ffBfXfvfCfC,ì“d—ÍŠÇ—□□M□†

VESA DPMS<KŠi,í□Af,fjf^—çŽg—pŽž,ì□È“d—Íf,□[fh,É□Ø,è’Ö,ì,é•û-@,ð<L□q,μ,Ä,ç,Ü,·□B,±,ì•û-
@,ÍfXfNfŠ□[f“ fZ□[fo□[fvf□fOf%of€È,Ç,É,æ,èŽ©“®“I,É<N“®,Å,«,Ü,·□B,±
,è,ÍfL□[f{□[fh,Æf}fEfX,ª, ,é^è’è,ìŽžŠÔŽg—p,ª,è,È,ç,Æ□Af,fjf^,ð□È“d—Íf,□[fh,É,μ,Ü,·□BfL□[,ð
%oÿ,·,©f}fEfX,ð“®,©,·,Æ□Af,fjf^,í□³í,È“®□ì,É□Ø,è’Ö,í,è,Ü,·□B

,±,±,Å’è<` ,ª,è,éDPMS□ó’Ô,Ížÿ,ì4,Å,Å,·□B

ON

“d—Í,ì□ß-ñ,È,μ□A□³í“®□□AfffBfXfvfCfC,ÍfAfNfefBfu□B

fXf^f“fofC

“d—Í,ì□ß-ñ,í,í,·,©□A•œ<AZžŠÔ,í’Z,ç□B

%oæ-Ê,ðfuf%of“fN,É,μ□A□...•½“~Šú□M□†,ðfift,É,·,é,±,Æ,Åf,fjf^,É’—□M,ª,è,Ü,·□B
,±,Íf,□[fh,í□í,ÉfTf|□[fg,ª,è,Ä,ç,é,í,¯,Å,í, ,è,Ü,¹,ñ□B

fTfXfyf“fh

,©,È,è,ì□È“d—Í□A•œ<AZžŠÔ,í’·,ç□B

%oæ-Ê,ðfuf%of“fN,É,μ□A□,¼“~Šú□M□†,ðfift,É,·,é,±,Æ,Åf,fjf^,É’—□M,ª,è,Ü,·□B

OFF

□Å’å,ì□È“d—Í□A•œ<AZžŠÔ,í□Å’·□B

%oæ-Ê,ðfuf%of“fN,É,μ□A□...•½□,¼,ì“~Šú□M□†,ðfift,É,·,é,±,Æ,Åf,fjf^,É’—□M,ª,è,Ü,·□B

Windows NT, ìfCfWfXfgfŠ, ìft[]fU[] fAfJfEf“fgCf CEA

fCfWfXfgfŠ, Ö, ì[]', «[]ž, ÝCf CEA, ðž[], Á, Ä, ç, È, ç, ½, ß, É[]A[OK], Ü, ½, Í[“K—p]f{f^f“, ð
%oÿ, µ, ½Cfã, É[]AfOf%oftfBfbfNfX f, []fh, ð[]Ø, è'Ö, ì, é, ±, Æ, ð, Ä, «, È, çŽ], ð'm, ç, ¹, éfGf%o[]
f[]fbfZ[]fW, ðo, ½[]é[]#[]AZÿ, ÉŽ!, ·, Æ, ", è[]AŞÇ—[]ŽÒ, É, »), ìCf CEA, ð—v<[], µ, Ä, ¾, ç[]B

fCfWfXfgfŠ, Ä[]A[HKEY_LOCAL_MACHINE\ System\CurrentControlSet\Services\
WINNER]fL[], É·ï[]X, µ, Ü, ·[]B [fZfLf...fŠfefB]f^fu[]A[fAfNfZfXCE], ð'ì, ð, µ, Ä[]A[fCfWfXfgfŠ
fL[], ìfAfNfZfXCE]f_fCfAf[]fo, ðŠ], «, Ü, ·[]B
, ±, ìfL[], É'î, µ, Ä[]A·K—v, Èft[]fU[] [fOf<[]fv('É[]í[]A[ft[]fU[][], Ü, ½, Í[fpf[][] ft[]fU[][]]), ìfCfWfXfgfŠ
fL[], ìfAfNfZfXCE], ðŠg'É, µ, Ü, ·[]B, Ä, Ü, è, ±, ìfOf<[]fv, É'î, µ, Ä[]A[“ÁŽè, ÈfAfNfZfXCE], ì, Æ, ±
, è, Ä[]A[‘ì, ì[]Æ%oï][]A[‘ì, ì[]Ý'è][]A[ftfufL[], ì[]~][]A[ftfufL[], ì—ñ<“][]A[í[]œ], ìŠefAfNfZfXCE , ð—
^, ì, Ä[]A[fAfNfZfXCE], ð[]C[]³, µ, Ü, ·[]B [fCfWfXfgfŠ
fL[], ìfAfNfZfXCE]f_fCfAf[]fo, Äf`fFfbfNf{fbfNfX[Šù`¶, ìftfufL[], ìfAfNfZfXCE , ð'u, «Š, ì, é]
, ðfAfNfefBfu, É, µ, Ü, ·[]B

