

ELSA WINman (ELSA ȳ'è), ĩfwf<fv

ELSA WINman (ELSA ȳ'è), ĩ AELSA fOf%oftfBfbfN f{[fh, ÆELSA Windows fhf
%ofCfo, đf, fĵf^, É“K ȳ, ȳ, 1, é, 1/2, ß, ĩfvf[Of%of€, Å, ·B

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

WINman <N“®f_CfAfO

f, fĵf^, ĩfvf[fpfefB

fOf%oftfBfbfN f, [fh, ĩC[Afĵf%o[ffvfX/%ođ'œ“x/f^fCf~f“fO, ĩ'2®

fOf%oftfBfbfN f, [fh/f^fCf~f“fO

ELSA WINman (ELSA 𐀀𐀁𐀂)

ELSA WINman (ELSA 𐀀𐀁𐀂), 𐀃 AELSA fOf%oftfBfbfN f{ [fh,Æ ELSA Windows fhf

%ofCfo,đf,fjf^,É“K𐀃,𐀄,é,½,β,lfvf [fOf%of€,Ä,·𐀅

[%œ-Ê,lfvf [pfefB],lf fCfAf [fO,ŠJ,č,Ä,č,È,̄,ê,îA,±,±,đfNfŠfbfN,μ,Ä,,¾,¾,č 𐀆𐀇
,Ü,½“~f fCfAf [fO,î†,Ä [WINman]f fCfAf [fO,ŠJ,č,Ä,č,È,č,Æ,«,îA^Ê%œ,lf^fu,đfNfŠfbfN,μ,Ä,-
,¾,¾,č 𐀈 ELSA 設定

[fXfL [f€](ff [f^ fZfbfg)

^Ê‘O,lfOf%oftfBfbfN f, [fh,đ·Ů‘¶,μ,Ä,č,é,é,é,é,»],lf, [fh,É∅,è‘Ö,î,é,±,Æ,ª,Ä,«,Ü,·𐀉

[f,fjf^]

Žg—p,·,éf,fjf^,đ“ü—í,μ,Ü,·𐀊 [·îX...],đfNfŠfbfN,μA“ü—í,μ,½‘l,đŠm“F,μ,Ä,,¾,¾,č 𐀋

𐀌,à [d—v,È,î,îA,f,fjf^,îÄ‘â [‘...·½‘- [‘,Žü“g”] (kHz),Ä,·(f,fjf^ ff [f^,îCÉ^èŽQ [Æ]) 𐀍

[fjf% [fffvfX]

256 [F, © 32768 [F, © ·K—v,Éfjf% [fffvfX,đ‘l‘đ,μ,Ü,·𐀎 [Ü,μ,č,±,Æ,îA fff

% [fffvfX,đfNfŠfbfN,μ,Ä,,¾,¾,č 𐀏

[%œŽ·%œđ‘œ“x]/[fo [f‘ fff<%œđ‘œ“x]

1024 x 768,È,ç [A·K—v,È%œ-Ê%œđ‘œ“x,đfNfŠfbfN,μ,Ü,·𐀐 [Ü,μ,č,±,Æ,îA

%œđ‘œ“x,đfNfŠfbfN,μ,Ä,,¾,¾,č 𐀑

[fŠftfÆfbfVf... fC [fg]

75 Hz,È,ç [A·K—v,ÉfŠftfÆfbfVf... fC [fg,đ‘l‘đ,μ,Ü,·𐀒 [Ü,μ,č,±,Æ,îA fŠftfÆfbfVf...]

fC [fg,đŽQ [Æ,μ,Ä,,¾,¾,č 𐀓

[[Ü [x...],đfNfŠfbfN,·,é,Æ [A,æ,è [Šm,È‘² [®,đ [s,±,Æ,ª,Ä,«,Ü,·𐀔

[OK]/[“K—p]

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

e,đ·Ů‘¶,μ [A Windows,đ [Ä·N“ [®,μ,Ä, ©,ç [AfffBfXfvfCfC,lfTfCfY,Æ^Ê‘u,î‘² [®,đŽn,β,Ü,·𐀖

fffBfXfvfCfC,lfTfCfY,Æ^Ê‘u,đf,fjf^,Ä‘² [®,μ,Ä,Ý,Ä,,¾,¾,č 𐀗,±,Ü,,č, ©,È,č [é [†,îA WINman (ELSA

𐀀𐀁𐀂),Äf,fjf^ f^fCf~f“fO,đ‘² [®,·,é,±,Æ,à,Ä,«,Ü,·𐀘

Žg—p,·,éf,fjf^ [“<y,Ńf,fjf^,î·Ä,Ń,î 𐀀𐀁𐀂 (f}f<f fXfNfŠ [f“Žž,î,Ý):

1,Ä^È [ä,îELSAfOf%oftfBfbfNfXf{ [fh,ªfRf“fsf... [f^,ÉfCf“fXfg [f<,¾,¾,é,Ä,č

,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%oo,ì,æ,ɾ,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~~ 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~~ □c,É2—ñ□A%oi,É3—

2'ä□,¼,É ~~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—,·,
,¾,³,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%oftfBfbfN f{□[fh,Æ□AELSA MULTIman
Windowsfhf%ofCfo,Æ,ªfCf“fXfg□[f<,³,é,Ä,ç,ê,î□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,î□^,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,É,}')2,1,3'},ì□‡"Ô,É,É,è,Ü,·□B

,±,ì□Ý'è,ª%oo,ß,ìf_cfAf□fOf{fbfNfX,ÉCE©,Â,©,ç,È,ç□ê□‡,í□A'}□Ú□×...'}f{f^f“,đfNfŠfbfN,μ,Ä,-
,¾,³,ç□B

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

f}f<f`fXfNfŠ□[f“,đŽg—p,μ,Ä,ç,Äɾ_fCfAf□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,,¾,³,ç□B

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

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

È,ìfvf□pfefB'}“à,É□Ý'èfy□[fW,ª'Ç%oÁ,³,é,Ü,·□B

fOf%oftfBfbfN f, [fh, i] C³ Afjf% [ffvfX/%øđ'œ"x/f^fCf~f"fo, i'²®

•K—v, Èffj% [ffvfX] A%øđ'œ"x AfŠftfCfbfVf... fC [fg, ð"ü—í, ·, é, é, ±, Æ, Å, f, jf^
f^fCf~f"fo, ³, ê, Ü, ·, B, ±, ÿ^fCf~f"fo, íV, µ, ç fOf%oftfBfbfN f, [fh, Æ, µ, Å, ·, Ü'¶, Å, «, Ü, ·, B

, » , è, É, í Af, jf^, Åžg—p, Å, «, é Å'â... ·½'-, Žü"g" (kHz), ²·², ©, Á, Ä, ç, é, ±, Æ, ²·K—v, Å, · (f, jf^
ff [f^, i] C^`èŽQ) B

, Ü, ·, í·K—v, Èffj% [ffvfX] ('ÉíA8 bpp = 256 [F], ð'l'ð, µ, Ü, · Bffj% [ffvfX, ²·â, «, -
, È, é, Æ [A] Å'âsfNfZf< fNf]fbfN, ÍŽ © " ® " I, ÉC, , è, Ü, · B·K—v, È%øđ'œ"x, ð'²® , µ, Ü, · B
%øđ'œ"x, í Af, jf^ fTfCfY, ² 15", ì, Æ, «, í 800 x 600 [A16", ©, ç 18", ì, Æ, «, í 1024 x
768 [A19"] ^ Èã, ì, Æ, «, í 1280 x 1024, ²·è"É" I, Å, · B

•K—v, ÈŠftfCfbfVf... fC [fg, ð Hz, Å"ü—í, µ, Ü, · B
"wEi, ì, Ü, Æ, ñ, Ç, ²·, ÿ AfvfŠfP [fVf#f", ì ê# A60 Hz, Å\·², Å, · B Windows, È, Ç "wEi, ì-
¾, é, ç AfvfŠfP [fVf#f", ì AfBfXfVfCfC, ì, ç, Å, «, ð-h, ®, ½, ß, É Å'á75 Hz ^ Èã, ÅŽÀ s, µ, Ä, -
, ¾, ³, ç B'Éí [A] Å"K, ÈŠftfCfbfVf... fC [fg, í85 Hz, Å, · B 100 Hz, ð%oz, ì, Ä, à-Ú, ÉC ©, ì, ½
%øü'P, ², È, ç, ì, ²·É, Å, · B

fefXfg fpf^ [f", ²·À'è, µ, ½, ç [A, Ü, ·, Ý'è"à—
e, ð·Ü'¶, µ [A Windows, ð [Ä·N" ®, µ, Ä, ©, ç [AfffBfXfVfCfC, ÿTfCfY, Æ ^ È'u, ì'²® , ðŽn, ß, Ü, · B
fffBfXfVfCfC, ÿTfCfY, Æ ^ È'u, ðf, jf^, Å'²® , µ, Ä, Ý, Ä, ¾, ¾, ç [B, ², Ü, ·, ç, ©, È, ç [ê#f, í [A [WINman
(ELSA Ý'è)], Å, f, jf^ f^fCf~f"fo, ð'²® , ·, é, ±, Æ, à, Å, «, Ü, · B

fefXfg fXfNfŠ[f“

WINman (ELSA[Ý'è),Å,Í[A[V,μ,çf,fjf^

f^fCf~f“fO,ª•Ù'¶,³,è,é'O,É[A[V,μ,çf^fCf~f“fO,ªf,fjf^,É“K,μ,Ä,ç,é,©,Ç,κ,©,ªf`fFbfN,³,è,Ü,·[B
,»ì,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,À,à[A,·,±,Æ,ª,Å,«,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[AffBfXfvfÇfC,ìTfCfY,Æ^Ê'u,ì'²[®,ðŽn,β,Ü,·[B
ffBfXfvfÇfC,ìTfCfY,Æ^Ê'u,ðf,fjf^,Å'²[®,μ,Ä,Ý,Ä,,¾,³,ç[B,κ,Ü,,ç,©,È,ç[é[±,Í[A[WINman
(ELSA[Ý'è)],Åf,fjf^ f^fCf~f“fO,ð'²[®,·,é,±,Æ,à,Å,«,Ü,·[B

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

fOf%oftfBfbfN f,[]fh(,Ü,½,ífrfffif,[]fh),í[]A, ,éff%[][]ffvfx[]A%ođ'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€,ìfŠftf[]fbVf... f[]f[]fg,Å,·[]B
[]...·½[],'¼·\ž;žžšô[]A'O" f[]f^ []A" ~Šúfpf<fX(Sync)[]A[]Eã·" f[]f` ,Æ,ç,æ[]¾—
t,Å,æ,è[]³Šm,É<L[]q,³,è,Ü,·[]B

•\ž;žžšô,Æ,í[]A" džqfr[]f€,æ%æ-É,ÉfsfNfZf<,ð·` %æ,·,éžžšô,ì,±,Æ,Å,·[]B,»,ì[]Eã[]A" džqfr[]f€
,ð[]Å[]%,ì^È'u,É-ß,·,É,ì^è'è,ìžžšô,ð—v,µ,Ü,·[]B,±,ìfuf%of" fNžžšô,í[]A'O" f[]f` (·\
ž;žžšô,æ[]i,í,Á,Ä, ©,ç" ~Šúfpf<fX,æžn,Ü,é,Ü,Å,ìžžšô)[]A" ~Šúfpf<fX(" ~Šúfpf<fX,ìžžšô)[]A, ",æ,
Ñ[]Eã·" f[]f` (" ~Šúfpf<fX,æ[]i,í,Á,Ä, ©,çžž,ì·\ž;žžšô,æžn,Ü,é,Ü,Å,ìžžšô),Å[]\[]¬,³,è,Ü,·[]B,±,è,í[]...
·½[],'¼—¼·ù,ìf^fCf~f"fo,É,Å,ç,Ä" ~—ì,Å,·[]B

fjf%o[fffvfX/ bpp

fjf%o[fffvfX,ì'P^Ê,íbpp,©A[F]" ,Á, ,ç,í,³,ê,Ü,·B
 bpp (Bits Per Pixel),ÍŠefsfnfZf<,ÉŽg—p,Á,«,éfrffl f[f,fŠ,ì—e—Ê,Á,·B,½,Æ,ì,îA8
 bpp,ìê#AŠefsfnfZf<,Í8frfbfg,ðŽg—p,µA256 (= 2,ì8æ)F,ðŠi"[A·\Ž!,Á,«,Ü,·B,±
 ,ì",ìA(%æ-Êä,ì·\Ž!,É\•ª,ÈfsfnfZf<,ª, ,éê#)"~Žž,É·\Ž!,Á,«,éF,ì",ì,±,Æ,Á,·B

Windows ,ìê#A'Êí,í32768F(= 15 bpp)^Èä,ªŽg—p,ª,ê,Ü,·B,±,ìF",ªA·\
 Ž!,ì'‰ŽÀ"x,Æf[f,fŠÁ"i/·\Ž!'—"x,Æ,ìŠÖEW,ÁÁ—Ç,ì'Á<!"_¾,©,ç,Á,·B[F]",ª,È,ç
 ,ÆAfCf[fW,ìfnfifŠfeb,ª'á‰,µA½,,ìê#AfffBfUfŠf"fo,ªK—v,É,È,è,Ü,·B[F]",ª½,ç
 ,ÆAf[f,fŠ,ìÁ"i,ª,ìA'Êí,ìWindows fhf%ofCfo,ì—"x,ªx,,È,èA‰ð'œ"x,ð‰,°,é,©A"~,¶
 ‰ð'œ"x,Á,àfŠftfCfbfVf... fC[f,g,ð‰,°,È,ç,Æ·\Ž!,Á,«,È,,È,è,Ü,·B
 ^ê"Ê"ì,É,ÍŽŸ,ìÝ'è,ð,,§,µ,Ü,·B
 256F(8 bpp): 'Êí,ìfiftfBfX fAfvfŠfP[fVf#"[i3D,ðŽg—p,µ,È,ç,Æ,«j
 32768,Ü,½,í65536F(15,Ü,½,í16 bpp),ìfnfCjff%o[: frffl,Ü,½,í3DfAfvfŠfP[fVf#"
 1670-œF(24,Ü,½,í32 bpp),ìftf<fjf%o[: , "x,È‰æ'œ^—ü, ~

^ê"Ê"ì,Èfjf%o[fffvfX

F,ì"	bpp,Á·\ ,í,µ,½fjf %o[fffvfX	fRf"fg
2	1	"[·Af,fmfNf
16	4	VGA 640x480,È,Ç,ìpfCfbfg
256	8	fpfCfbfgA^ê"Ê"ì,È,‰ð'œ" xfOf%oftfBfbfN f{[fh,ì·W€f,[fh
32768	15	fnfCjff%o[5 + 5 + 5 bpg
65536	16	fnfCjff%o[5 + 6 + 5 bpg
1670-œ	24,Ü,½,í32	ftf<fjf%o[8 + 8 + 8 bpg

4,Ü,½,í8 bpp,ìê#A[F,ì",ìfpfCfbfg(RAM DACjff%o[fe[fuf<),ðŽg,Á,Á·\
 Ž!,ª,è,éŽÀÛ,ìF,É·İŠ·ª,ê,Ü,·B,½,Æ,ì,îA,±,ìfpfCfbfg,Á262144F,ìfGf"fgfŠ(6 bpg,ìê#),à1670-
 œF,ìfGf"fgfŠ(8 bpg,ìê#),ì^—,ª‰Á"·\,·B

bpg ,Æ bpp,đ□-“¯,μ,È,ç,æ,κ,É,μ,Ä,,¾,¾,ç□Bbpg,Í□ARGB□F•ª”z,²,Æ,ìjff%o□[ffvfX,đŽ!,μ,Ü,·(bpg =
Bits Per Gun)□B,½,Æ,!,î□A16 bppfnfCjJf%o□[,ìê□#□A5 + 6 + 5 bpg,Í 3□F•ª”z,ìÔ□A—î□A□Â,ÉŽg—
p,Â,«,éfrfbfg□”,Â,·□B

fXfNfŠ[f“ fTfCfY[A%ŌŽ</fo[f` fff< fXfNfŠ[f“ ,ì%Ōđ‘œ“x

fXfNfŠ[f“ fTfCfY

f, fff^ fTfCfY, ì'I, í%A<ÉüŠÇ(CRT), ì'îŠpü, ìCEö]fTfCfY, Å, ·B%ŌŽ<•\Ž|—
 ì^æ, ì'îŠpüfTfCfY, æ, è, à, µ'â, «, È'I, Å, ·B^ê"É"l, È'I, ÌŽÿ, ì•\, ì, Æ, ", è, Å, ·B

îŠpü, ìCEö]f	îŠpü, ìCEö]f	, ", " , æ, » , ì	^ê"É"l, È%Ōđ‘œ“x
TfCfY (inch)	TfCfY (cm)	%ŌŽ<—	ì^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, íCf" f` A1 inch = 2.54 cm B

%ŌŽ<%Ōđ‘œ“x

%Ōđ‘œ“x, Æ, íA•\Ž|, Å, «, éfsfNfZf<“, ì, ±, Æ, Å, ·B, ½, Æ, !, îA1024 x 768, ìê#A...•½, ÌŠe s, É
 1024fsfNfZf<, a•\Ž|, ³, êA, '¼, ÌŠe—ñ, É768fsfNfZf<, a•\Ž|, ³, è, Ü, ·B, µ, ½, a, Å, Ä%œ—
 Êã, ì'fsfNfZf<“, í1024 x 768 = 786432, É, È, è, Ü, ·B

'ÉiA13", Ü, Å, ìf, fff^ , ì%Ōđ‘œ“x, í 640 x 480, ÉA14", ©, ç15", ìf, fff^ , ì%Ōđ‘œ“x, í800 x 600, ÉA16", ©, ç
 18", ìf, fff^ , ì%Ōđ‘œ“x, í1024 x 768, ÉA19" ^Êã, ìf, fff^ , ì%Ōđ‘œ“x, í1280 x
 1024, ÉfZfbfg, ³, è, Ü, ·B, ½, ¾, µAÅ, %Ōđ‘œ“x, ìfhfbfg fsfbf` fTfCfY, âÅâ...•½- , Žü" g", È, Ç, ì
 —v^ö, É, æ, Å, Ä^Ü, È, è, Ü, ·B

%Ōđ‘œ“x, ìdpi (Dot Per Inch), Å, à•\Ž|, Å, «, Ü, ·B

fo[f` fff< %Ōđ‘œ“x (fXfNfŠ[f“ , ìpf“)

fo[f` fff< fXfNfŠ[f“ , AfNfefBfu, É, È, Á, Ä, ç, é, ÆAWindows, ìi<Æ—ì^æ, í•\Ž|, ³, è, Ä, ç, é
 %ŌŽ<fXfNfŠ[f“ , æ, è, à'â, «, , È, è, Ü, ·(, Å, Ü, èAfo[f` fff<%Ōđ‘œ“x, í%ŌŽ<%Ōđ‘œ“x, æ, è, à'â, «, -
 , È, é) B

%oB,ê,½—ì^æ,í[Af}fEfX fj□[f]f<,³fXfNfŠ□[f“,ì«ŠE,É—^,é,ÆŒ©,ì,é,æ,α,É,È,è,Ü,·□B,» ,ìŒă
%oÂŽ<fXfNfŠ□[f“,ì“à—e,³fXfNf□□[f<,³,ê,Ü,·□B,±,ì“®□i,đ,Â□ufpf“□v,Æ,àŒ¾,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%oA<ÉüŠÇ,ì't,đ-^•b
%o½□ç%oñ□¶,©,ç%oE,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(fwf,fc),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,x,ÈfAfvfŠfP[]fVf#” ,ì[]ê[]#[]A,¿,ç,Â,«,ð-hŽ~ ,·,é,½,ß,É[]A[]Á’á75 Hz^È[]ä,ÂŽÀ[]s,µ,Ä,-³/₄,³,ç[]B’Ê[]í[]A[]Á”K,ÈfŠftfCEfbfVf... fCE[]fg,í85 Hz,Â,·BfŠftfCEfbfVf... fCE[]fg,^a100 Hz,ð%øz,ì,Ä,à-Ú,ÁŠm”F,Â,«,é%øü’P,ì, ,è,Ü,¹,ñ[]B

’Ê[]í,ìfmf”fCf”f^[]fCE[]fX” @[]ì,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[]Á[]%ø,ì”¼•^a,ìftfCE[]f€,Á<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[]AfefCEfr,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
%oftfBfbfNfXf{[]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,ì[]A•;[]”,ìf,ffj^,ðŽg—
p,µ,ÄWindows,ð•;[]“fXfNfŠ[]f“(f}f<f`fXfNfŠ[]f”),ÄŽg,±,±,Æ,ª,Ä,«,Ü,·[]B
Windows 95<y,ÑNT[]ã,Ä,í[]A“~^è,ìfOf%oftfBfbfN f,[]fh,Ä[]A“~,¶—e—
È,ìf[]f,fŠ,ðŽ[],Ä,½[]A“~“™,ìELSAf{[]fh,Äf}f<f`fXfNfŠ[]f“ŠÄ<<,ð[]‘z%Ä“\,Ä,·[]BWindows
98<y,ÑWindows NT 5.0,É,¨,ç,Ä,í[]AOSŽ©‘ì,ª^Ü,È,éf^fCfv,ìfOf
%oftfBfbfNfXf{[]fhŠÖ,Ä,ìf}f<f`fXfNfŠ[]f“,ðfTf[]f[]fg,·,é—\‘è,Ä,·[]B

f}f<f`fXfNfŠ[]f“,ðŽg—p,·,é[]Ü,É,í[]ADirect3D,â[]AOpenGL,ìfAfvfŠfP[]fVf+f“,É‘½[]-
,ì[]\$CEÄ,ª[]¶,¶,Ü,·[]B<ì‘ì“ì,É,í[]Afn[]fhfEfFfA fAfNfZf%ofCE[]fVf+f“,í^è-±-Ü,ìfOf
%oftfBfbfNfXf{[]fh‘±,Ä,µ,©[]s,í,è,È,ç[]A,à,µ,,ìftf<%œ-È,ÄŽÀ[]s,µ,½,Æ,«,µ,©[],‘-
%»»,³,è,È,ç[]A,È,Ç,Ä,·[]B

fEfCf“fhfE,ì[]\$CEä,âf,ffj^,ì[]±”Ô,ì•ï[]X,ð[]s,±,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%oftfBfbfN f{[]fh, ðf, fjjf^, É"K[]#, ³, ¹, é, É, í[]Af, fjjf^" @[]), ìff[]f^, Æ"í^í, ðCE^'è, :, é, ±, Æ, ³, K—
 v, Å, ·[]B
 , ±, ±, Å, í[]Af, fjjf^, ì[]Å'â[]... ·½'—[], Žü" g[]"(kHz), ³"Á, É[]d—v, Å, ·[]B, ±
 , ì[]ãCEÀ, ð', !, é, Æ[]A[]Å^«, ì[]ê[]f, fjjf^, ÉCEì[]á, ð, «, ½, :, ±, Æ, ³, , 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, :, ³[]A, È, ç[]ê[]#, ìf, fjjf^ f}fjjf...fAf<, ðŽQ[]Æ, µ, Ä, -
 , ¾, ³, ç[]B

CEö[]f, fjjf^ fTfCfY

f, fjjf^ fTfCfY, ì'l, í[]A%oA<É[]üŠÇ(CRT), ì'ÍŠp[]ü, ìCEö[]fTfCfY, Å, ·[]B, ±, è, í[]A%oAŽ<·Ž|—
 ì^æ, ì'ÍŠp[]ü, 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"í^í(kHz)[]A
 [], ¼fŠftfCEfbfVf... fCE[]fg, ì"í^í(Hz)

[]Å'â, " , æ, Ñ[]Å'á, ì[]...·½'—[], Žü" g[]", ÆfŠftfCEfbfVf... fCE[]fg, í[]A, "Žè<, ìf, fjjf^ f}fjjf...
 fAf<, É<L[]Ú, ³, è, Ä, ç, Ü, ·[]B
 , ±, ±, Å, í[]Af, fjjf^, ì[]Å'â[]... ·½'—[], Žü" g[]"(kHz), ³"Á, É[]d—v, Å, ·[]B, ±
 , ì[]ãCEÀ, ð', !, é, Æ[]A[]Å^«, ì[]ê[]f, fjjf^, ÉCEì[]á, ð, «, ½, :, ±, Æ, ³, , è, Ü, ·[]B, »; ì¼, ì'l, ³CE^, Ü, ç, È, ç[]ê[]#[]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-@, ³, , è, Ü, ·[]B

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

f, fjjf^, ì<Z[]pŽd—l, í[]Af, fjjf^, É·t' @, :, éf}fjjf...fAf<, É<L[]Ú, ³, è, Ä, ç, Ü, ·[]B

VESA DDC:

f, fjjf^, ÉVESA DDC fRfIfNf^, a' • " ö, ³, ê AfOf%oftfBfbfN f{[]fh, a VESA DDC ĀÉŠ·, ìê#Af, fjjf^ ff[]f^, Ìf, fjjf^ fP[]fuf<, ð%oî, µ, ÄfOf%oftfBfbfN f{[]fh, ÉŽ © " ® " I, É' — M, ³, è, Ü, · B

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

f, fjjf^, ÉVESA VDIF f, fjjf^ < L [] qftf @ fCf < (* . VDA), a " Y • t, ³, è, Ä, ç, éê#A • K — v, Èff[]f^, Í, ±, è, ©, ç " Ç, Ýž, Ü, è, Ü, · Bf, fjjf^ ff[]f^, ð " ü — Í, ·, é, Æ, « AWINman (ELSA [] Ý è) , É [] AVDIFftf @ fCf <, ð " Ç, Ýž, p, ½, ß, Ìf {f^f" , a • Ž!, ³, è, Ü, · B

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

ELSA f, fjjf^ < L [] qftf @ fCf < WINman.MON, ÉŽg — p, ·, , éf, fjjf^, a < " , a, Á, Ä, ç, è, ÎA, » , ±, ©, çf, fjjf^ ff[]f^, a Žæ " ¾, ³, è, Ü, · B, ±, è, Í Af, fjjf^ ff[]f^ " ü — Í, ì Û, Éf, fjjf^, Ìf [] [] f [] [], Æ < @ Ž í - ¼, ð ' ð, ·, é, ±, Æ, Å Ž © " ® " I, É [] s, í, è, Ü, · B

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

ELSA fOf%oftfBfbfN f{ [fh, ðf, fjjf^, ÉÅ“K, Èó‘Ô, Å“K†, ³, ¹, é, ½, ß, ÉAZÿ, ÉŽ!, ·ff [f^, ðf, fjjf^, ìf}fjf... fAf<, Å‘T, μ, Ä, , ¾, ³, çB

f, fjjf^ f [f] [Af, fjjf^, ì<@Ží-¼AfCf“f` , Ü, ½, íZf“f` ‘P^Ê, ì‘íŠpü, ìœö ìf, fjjf^ fTfCY (= fCf“f` , Ü, ½, íZf“f` ‘P^Ê, ìCRT, ì‘íŠpüfTfCY) AkHz‘P^Ê, ìÅ‘á, , æ, ÑÅ‘â... •½’- , Žü”g” (= ... •½•îœüŽü”g” = ‘- , f [fg] AHZ‘P^Ê, ìÅ‘á, , æ, ÑÅ‘â, ¼ftf [f€fŠftfCbVf... f [fg (= , ¼•îœüŽü”g”)B

, ±, ±, Å, íAf, fjjf^, ì<—eÅ‘â... •½’- , Žü”g” (kHz), ²“Á, Éd—v, Å, ·B, ± , ìăœÀ, ð’ , !, é, ÆAÅ^« , ìê†f, fjjf^, ÉÈìá, 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

,±,ìASCIIfefLfxfg ftf@fCf<,É,íf,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'á□...•½'-□,Žü”g□”□AHz'P^Ê,ì□Á'á,“ ,æ,Ñ□Á'á□,¼ftfCE□[f€ fŠftfCEfbvf... fCE□[fg□Af~fŠ'P^Ê,ìfsfNfZf< fTfCfY/fhfbfg fsfbf` □B

,±,ìftf@fCf<,Á,íf,fjf^,ì<L□q,í—á,ì,ìŽŸ,ì,æ,π,É,È,è,Ü,·□B
ELSA, GDM-17E40, 17", 29-82kHz, 50-150Hz, 0.26mm

VESA VDI F f, f j f ^ < L q f t f @ f C f <

VDIF, í f, f j f ^ Ž d — l, ð < L q, , é, ½, ß, ì f t f @ f C f < Ć Ž ©, ð ' è ` , , é VESA < K Š i, Å, . BVDIF f t f @ f C f <, É, í % œ — Ê, ì ' Í Š p ü f T f C f Y, È, Ç, ì f, f j f ^ " Á < , â A Å ' á < — e ... • ½ ' — , Ž ü " g " (kHz), È, Ç, ì f, f j f ^, ì " ® ì " í ^ í, É, Å, ç, Ä, ì f f [f ^ , ð Š Ü, Ü, ê A, » , ì [P R E A D J U S T E D _ T I M I N G] , ì f Z f N f V f f " , É, Í Š Y " — , , é f, f j f ^ , É " K, µ, ½ f, f j f ^ f ^ f C f ~ f " f O, É, Å, ç, Ä, ì f f [f ^ f Z f b f g, ð < L q, , é, Ä, ç, Ü, . B

VDIF f t f @ f C f <, ð Ž g — p, , é, Æ A f, f j f ^ f f [f ^ , ì • Ú ' ¶ A ^ ø " n, µ A Ä — ~ — p, ð, Å, «, Ü, . B

*. VDA VDI F, í A S C I I f t f @ f C f <, È, ì, Å A • W ¶ € , ì f e f L f X f g f G f f f B f ^ , ð Ž g, Á, Ä ì — , , æ, Ñ C C ^ 3 , , é, ± , Æ, ð, Å, «, Ü, . B

*. VDB VDI F, ì f o f C f i f Š f R [f h f t f @ f C f <, È, ì, Å A " Á Ž è, È f t f g f E f f A, ¾, , Å Ž g — p, , é, Ü, . B
WINman (ELSA ¶ Ý ' è), í * . VDA

VDIF f t f @ f C f <, ì " Ç, Ý Ž æ, è, Æ ¶ ' « ¶ Ž, Ý, ð, Å, «, Ü, . B WINman, ð f t f @ f C f <, ð ¶ ' « ¶ Ž, b, Æ, «, í A WINman, É Š Ö Ć W, , é ¶ € — Ú, ¾, , ð < L " ü, , é, Ü, . B WINman, Å ì — , , é, ½ f t f @ f C f <, ð ' ¼, ì f t f g f E f f A, ð Ž g — p, , é ê ð ¶ A u = ¶ v < L ¶ t, ì % E, ì ó — " , É A • s ' «, µ, ½ ¶ ^ ñ, ð f e f L f X f g f G f f f B f ^ , ð Ž g, Á, Ä < L " ü, , é, ± , Æ, ð • K — v, Å, . B

*. VDA VDI F f t f @ f C f <, í A Ž Ý, É Ž ì , , ç, , Å, ©, ì f Z f N f V f f " , Å ì — , , é, Ä, ç, Ü, . B

[VERSION]

VESA < K Š i, ì f o [f W f f " " Ó ¶ t B

[MONITOR_DESCRIPTION]:

Manufacturer = f, f j f ^ f [f j [A M o d e l N u m b e r = f, f j f ^ , ì < Ž í — ¼ A C R T S i z e = % œ — Ê, ì ' Í Š p ü f T f C f Y, È, Ç, ì ^ è " É " I, È f, f j f ^ < L q B

[OPERATIONAL_LIMITS]:

MinHorFrequency = Å ' á ... • ½ ' — , Ž ü " g " A M a x H o r F r e q u e n c y = Å ' á ... • ½ ' — , Ž ü " g " A M i n V e r F r e q u e n c y = Å ' á , ¼ f Š f t f Ć f b f V f ... f Ć [f g A M a x V e r F r e q u e n c y = Å ' á , ¼ f Š f t f Ć f b f V f ... f Ć [f g, È, Ç, ì f, f j f ^, ì " ® ì " í ^ í B

[PREADJUSTED_TIMING]:

PreadjustedTimingName = f ^ f C f ~ f " f O — ¼ A H o r P i x e l / V e r P i x e l = X / Y • Ú Ć ü, ì % ð ' œ " x A H o r F r e q u e n c y = ... • ½ ' — , Ž ü " g " A V e r F r e q u e n c y = , ¼ f Š f t f Ć f b f V f ...

fCE[]fg[]APixelClock = fsfNfZf< fNf[]fbfN fCE[]fg[]ATotalTime = ŽžŠÔ[]‡CEv[]AAddrTime = •\
Ž!ŽžŠÔ[]ABlankStart = •\Ž!,Žn,Ü,Á,Ä,©,çfuf%of“fLf“fO,Žn,Ü,é,Ü,Â,ìŽžŠÔ[]ABlankTime = fuf
%of“fLf“fOŽžŠÔ[]ASyncStart = •\Ž!,Žn,Ü,Á,Ä,©,ç“Šúfpf<fX,Žn,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 f, f j f ^ < L q f t f @ f C f < , i " Ç , Ý Ž æ , è

ELSA fOf%oftfBfbfN f{[]fh, ðf, f j f ^ , É " K ð † , ³ , ¹ , é , ½ , ß , É [] Af, f j f ^ " @ [] , ì f f [] [f ^ , Æ " í ^ í , ð Ç ^ ' è , , , é , ± , Æ , ² • K — v , Å , · [] B Ž g — p f , f j f ^ , É Š Y " — , , , é VESA VDI F f, f j f ^ < L q f t f @ f C f < (* . VDA) , ² , , è , Ì [] A , » , ì f t f @ f C f < , ð Ž g — p , µ , Ä , , ¾ , ³ , ç [] B , » , ì ' ¼ , ì • ù — @ , Ì [] Af, f j f ^ f f [] [f ^ , Ì Ç ^ ' è , Æ , ç , æ Ç © [] o , µ , Å [] à — ¾ , ³ , è , Ä , ç , Ü , · [] B

[WINman (ELSA[]'è)], Ì [VESA VDI F f, f j f ^ < L q f t f @ f C f < , ð " Ç , Ý Ž æ , é], ì f _ f C f A f [] f O , Å [] A , Ü , , • K — v , È f j f %oo [] [f f f v f X (' Ê [] í [] A8 b p p = 256 [] F) , ð ' I ' ð , µ , Ü , · [] B f j f %oo [] [f f f v f X , ² , , ç , Æ [] A ' I ' ð , Å , « , é f , f j f ^ f ^ f C f ~ f " f O , Ì ' I , Í Ž © " @ " I , É [] ¬ , ³ , , È , è , Ü , · [] B Ž Y , É • K — v , È f , f j f ^ f ^ f C f ~ f " f O , ð ' I ' ð , µ , Ü , · [] B [] Å [] %oo , Ì 2 , Å , Ì ' I , Í X , Æ Y , Ì %oo ð ' œ " x ([] ... • ½ , Æ [] , ¼ , Ì %oo ð ' œ " x) , ð • \ , í , µ , Ü , · [] B %oo ð ' œ " x , Ì f , f j f ^ f t f C f Y , ² 15 " , Ü , Å , Ì f , f j f ^ , É , Í 800 x 600 [] A 16 " , © , ç 18 " , Ü , Å , Ì f , f j f ^ , É , Í 1024 x 768 [] A 19 " ^ È [] ä , Ì f , f j f ^ , É , Í 1280 x 1024 , ² • [] ' È , Å , · [] B Ž Y , Ì ' I , Ì f t f Ç [] [f € , Ì f Š t f Ç f b f v f ... f Ç [] [f g (f t f Ç [] [f € / • b) , ð H z ' P ^ Ê , Å • \ , í , µ , Ä , ç , Ü , · [] B " w Ç i , Ì , Ü , Æ , ñ , Ç , ² • , Ì f A f v f Š f P [] [f v f † " , Ì [] è [] † [] A 60 H z , Å [] \ • ² , Å , · [] B , æ , è " w Ç i , Ì — ¾ , é , ç Windows , Ì , æ , æ , È f A f v f Š f P [] [f v f † " , Ì [] è [] † [] A , ç , ç , Å , « , ð — h Ž ~ , , , é , ½ , ß , É [] A [] Á ' á 75 H z ^ È [] ä , Å Ž À [] s , µ , Ä , - , ¾ , ³ , ç [] B ' È [] í [] A [] Å " K , È Š t f Ç f b f v f ... f Ç [] [f g , Í 85 H z , Å , · [] B f Š t f Ç f b f v f ... f Ç [] [f g , ² 100 H z , ð %oo z , Ì , Ä , à — Ú , Å Š m " F , Å , « , é %oo ü ' P , Í , , è , Ü , ¹ , ñ [] B — ² Ç È [] u i [] v , " , æ , Ñ [] u n i [] v , Í [] A , » , è , ¼ , è Ç f " f ^ [] [f Ç [] [f X , " , æ , Ñ f m f " f C f " f ^ [] [f Ç [] [f X , ð • \ , í , µ , Ä , ç , Ü , · [] B k H z , Ì ' I , Í ... • ½ ' — [] , Ž ü " g [] " , ð • \ , í , µ , Ü , · [] B , ± , è , æ f , f j f ^ , Ì [] Á ' á ... • ½ ' — [] , Ž ü " g [] " , ð ' ' , Ì , Ä , Í , ç , , Ü , ¹ , ñ (VDI F f t f @ f C f < , Å ' ' , Ì , é , ± , Æ , Í , , è , Ü , ¹ , ñ) [] B M H z , Ì ' I , Ì f s f N f Z f < f N f [] f b f N , ð • \ , í , µ , Ü , · [] B f O f %o f t f B f b f N f { [] [f h , Í [] A , » , Ì f s f N f Z f < f N f [] f b f N , ð ¶ [] ¬ , Å , « , é , ± , Æ , ² • K — v , Å , · (W I N m a n , æ ^ f f f b f N , µ , Ü , ·) [] B

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

[WINman (ELSA ¶'è)],lf_fCfA fO[VESA VDIF f.fjf^<Lqftf@fCf<,Æ,μ,Ä•Ü'¶],Ä,íA V,μ,çf.fjf^ f^fCf~f"fo,ª VESA VDIF f.fjf^<Lqftf@fCf<(*.VDA),É•Ü'¶,³,è,Ü,·B

,±,±,Ä,íA Windows,íV,μ,çfOf%oftBfbfN f,¶fh,É,íØ,è'Ö,í,è,Ü,¹,ñB

VDIF,íA f.fjf^ "Á«,ð<Lq,.,é,½,ß,lf¶[f^CE'Ž®,ð'è<.,,éVESA<KŠi,Ä,·BVDIFftj@fCf<,É,í%æ-É,ì'ÍŠpüfTfCfY,È,Ç,lf.fjf^ "Á«,âA A'â<—e...•½'-¶,Žü"gp"(kHz),È,Ç,lf.fjf^,ì"®¶"í^í,É,Ä,ç,Ä,lf¶[f^,ªSÜ,Ü,è¶A,»],ì[PREADJUSTED_TIMING],lfZfNfvf¶",É,ÍŠY"-.,,é,f.fjf^,É"K,μ,½f.fjf^ f^fCf~f"fo,É,Ä,ç,Ä,lf¶[f^ fZfbfg,ª<Lq,³,è,Ä,ç,Ü,·B VDIFftj@fCf<,ðŽg—p,.,,é,Æ¶A f.fjf^ ff¶[f^,ì•Ü'¶¶A^ø"n,μ¶AÄ~—p,ª,Ä,«,Ü,·B

[WINman (ELSA ¶'è)],íA V<KVDIFftj@fCf<— p,lfef"fvfCE¶[fg,ð¶¶—,μ,Ü,·B WINTM,Ä,í,.,x,Ä,í¶€—Ú,ª"ü—í,³,è,é,í,·,Ä,È,¶Aftj@fCf<,ð~— p,.,,é,ì,É¶Ä"Ç,Ýžž,Ý,.,é•K—v,ì,.,é¶€—Ú,¾,·,Ä,·Bftj@fCf<,ð'¼,lfvf¶Of%of€,ÄŽg— p,.,,é¶ê¶A'¼,í¶€—Ú,à"ü—í,μ,È,·,è,î,È,è,Ü,¹,ñ¶B L¶[f¶¶fh,ª,.,é,ì,É¶A¶u=¶v<L¶t,ì%œE'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 ASCIIftj@fCf<,È,ì,Ä¶A^È¶ã,ì¶i<Æ,í•W¶€,lfefLfXfg fGfffBf^,Ä¶s,í,Ü,·B WINman,í,.,x,Ä,lf.fjf^ f^fCf~f"fo,É'í,μ,Ä¶V<Kftj@fCf<,ð¶¶—,μ,Ü,·B"^^êf.fjf^,É•i¶",lf.fjf^ f^fCf~f"fo,ª®.,μ¶A,».,è,ç,ð,Ð,Æ,Ä,É,.,é¶ê¶AfeLfXfg fGfffBf^,ðŽg,Ä,Ä¶A'¼,lf¶[fCf<,ì[PREADJUSTED_TIMING]fZfNfvf¶",ð¶A¶%,lf¶[fCf<,ì¶i,í,è,É'Ç %œÄ,μ,È,·,è,î,È,è,Ü,¹,ñ¶B

VDIFftj@fCf<-¼

VDIFftj@fCf<,ì¶A¶%,ì 3•¶Žš,lf.fjf^ f¶¶[f¶¶[-¼,Ä¶A'±, 5,Ä,ì•¶Žš,Ü,½,í¶"Žš,lf.fjf^,ì<@Ží-¼,Ä,·Bftj@fCf<-¼,ìŠg'£Žq,í.VDA,É,μ,Ä,,¾,³,ç¶B"ü—í,³,è,½f¶fX-¼,í¶A,Ä,«.,è,lf¶[f¶fs¶[fffBfXfN,Ä,È,fn¶[fh fffBfXfN,ÉŽw'è,μ,Ü,·Bftj@f¶fs¶[fffBfXfN,ÉŽw'è,.,,é,Æ¶A•Ü'¶,É,©,È,è'.,çŽžŠÔ,ð—v,μ,Ü,·B

CEö¶lf.fjf^ ftfCfY

f.fjf^ ftfCfY,ì'í,í¶A%œA<É¶üŠÇ(CRT),ì'ÍŠpü,ìCEö¶lfTfCfY,Ä,·B,±,è,í¶A%œÄŽ<•Ž!— ì^æ,ì'ÍŠpüfTfCfY,æ,è,à¶,μ'â,«.,É'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¶Of%of€,ªŽg—p,.,,é,ì,lfCf" f` ,ì'í,¾,·,Ä,·,ª¶A,± ,ì'í,ðCE^,ß,é,ì,È¶A'ÍŠpü,lfTfCfY,ðfZf" f` ,Ä•\,í,μ,Ä¶A%œÄŽ<%œÉ—

î^æ, ðfzf" f^, Å' a' è, µ, ½, Ý, Ä, à, æ, ç, Å, µ, å, x □ B

kHz □ ... • ½' - □, Žü" g □ " " í ^ í □ A

Hz □, '¼ fŠftfCEfbfVf... fCE □ [fg, ì" í ^ í

□ Å' á, Æ □ Å' å, ì □ ... • ½' - □, Žü" g □ " " í ^ í □ A, ÆftfCE □ [f€, ìfŠftfCEfbfVf... fCE □ [fg, íf, fíf ^ f} fíf... fAf<.

, É, à < L □ Ú, ³, ê, Ä, ç, Ü, · □ B

, ±, ±, Å, í □ Af, fíf ^, ì □ Å' å □ ... • ½' - □, Žü" g □ " (kHz), ³ " Á, É □ d — v, Å, · □ B, ±

, ì □ ä CE À, ð' , !, é, Æ □ A □ Å ^ «, ì □ ê □ † f, fíf ^, É CE ì □ á, ð, «, ½, ·, ±, Æ, ³, , è, Ü, · □ B

VESA DDC (•\ž!ff[]f^ f`fff“f!f<)

f, fjjf^, aVESA DDC, đfTf[]fg, μ[]Af, fjjf^ fP[]fuf<, a DDC, É“K, μ[]AfOf%oftfBfbfN f{[]fh, aVESA DDCÉYŠ·, ìèè#[]Af, fjjf^ ff[]f^, đOfOf%oftfBfbfN f{[]fh, Éf, fjjf^ fP[]fuf<, đ%oî, μ, ÄŽ““®“!É’— []M, Å, «, Ü, ·[]B

ŽŸ, ÉŽ!, ·, Æ, ¨, è[]ADDC1[]ADDC2B[]ADDC2AB, Æ, ç, x 3, Å, ì^Ù, È, Å, ½<KŠi, a, , è, Ü, ·[]B

DDC1

f, fjjf^ fP[]fuf<, ìf%ofCf“, í[]Af, fjjf^, ©, çfOf%oftfBfbfN, Ö“P•úCEü, ì~A’±, μ, ½ff[]f^ fXfgfŠ[]f€é, đ’— []M, ·, ·, é, ì, ÉŽg—p, 3, è, Ü, ·[]B•W[]€, ì IBM VGACEYŠ· 15-fsf“ f, fjjf^ fRflfNf^, ìèè#[]Afsf“ 12 (^È‘O[]Af, fjjf^ IDfrfbfg 1, Æ, μ, ÄŽg—p), Ìff[]f^—[]M, ÉŽg—p, 3, è[]Afsf“ 14, ì, ‘¼“—Šú[]M[]t, í’— []MfNf[]fbfN(VCLK), Æ, μ, ÄŽg—p, 3, è, Ü, ·[]B128fOfCf, ìEDID ff[]f^ fZfbfg(Šg’£fffBfXfvfCEfCID), í[]EJ, è•Ô, μ’—[]M, 3, è[]A, », ±, ©, çfRf“fsf...[]f^, ÌŽâ—v, Èf, fjjf^ ff[]f^, đ“Ç, ÝŽæ, é, ±, Æ, a, Å, «, Ü, ·[]B, ±, Ìff[]f^, ìèè#[]Afsf“—v’f, í[]A3•ŸŽš, ìf[]f[]f[], ìEISA-CFG fL[][]Af, fjjf^ fTfCfY[]ADPMSfTf[]f, ì’í^í[]Afjf %o[]“Á[]«[]AfTf[]fg, 3, è, Ä, ç, é VESA f, fjjf^ f^fCf~f“fO, ÌfŠfXfg[]A, ç, , Å, ©, ÌŽ“— R, É’è<^, ì, Å, «, éf, fjjf^ f^fCf~f“fO, È, Ç, Å, ·[]B

DDC2B

12Cfvf[]fgfRf<, ÉŠî, Å, ‘o•úCEüff[]f^ f`fff!f<, a[]Af, fjjf^, ÆfOf%oftfBfbfN f{[]fhŠÖ, ì’È[]M, ÉŽg— p, 3, è, Ä, ç, Ü, ·[]B•W[]€, ì IBM VGACEYŠ· 15-fsf“ f, fjjf^ fRflfNf^, ìèè#[]Afsf“ 12 (^È‘O[]Af, fjjf^ IDfrfbfg 1, Æ, μ, ÄŽg—p), Ìff[]f^—[]M, ÉŽg—p, 3, è(SDA)[]Afsf“ 15(^È‘O[]Af, fjjf^ IDfrfbfg 3, Æ, μ, ÄŽg—p), í’— []MfNf[]fbfN(SCL), Æ, μ, ÄŽg—p, 3, è, Ü, ·[]BfOf%oftfBfbfN f{[]fh, í’Z, ç EDID[]î•ñ(DDC1ŽQ[]Æ), Æ[]A, æ, è•îŠ±“!ÉVDIF[]î•ñ(VESAfffBfXfvfCEfCŽ^-Êftf@fCf<), đ<x, É—v<[]A, «, Ü, ·[]B

DDC2AB

DDC2B, ÌŽŸ, ÌDDC2AB, Å, í[]A%oæ-Ê, ì^Ê‘u, â-¾, é, 3, Ì^2[]®, È, Ç[]Af, fjjf^ []\$CEä, ÌfRf}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,³,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<` ,³,è,éDPMS□ó’Ô,Ížÿ,ì4,Å,Å,·□B

ON

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

fXf^f“fofC

“d—Í,ì□β-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,³,è,Ü,·□B
,±,Íf,□[fh,í□í,ÉfTf|□[fg,³,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,³,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,³,è,Ü,·□B

fCEfWfXfgfŠ,ìft[]fU fAfJfEf“fgCE —~

fCEfWfXfgfŠ,Ö,ì[]',«[]ž,ÝCE —~,ðž[],Á,Ä,ç,È,ç,½,ß,É[]A[OK],Ü,½,í[“K—p]f{f^f“,ð
%öÿ,µ,½CEã,É[]AfOf%oftfBfbfN f,[]fh,ð[]Ø,è'Ö,!,é,±,Æ,ì,Ä,«,È,çŽ|,ð'm,ç,¹,éfGf
%o[][f[]fbfZ[]fW,³[]o,½[]ê[]#[]AZÿ,ÉŽ!,.,Æ,“,è[]AŞÇ—[]ŽÒ,É,»,ìCE —~,ð—v<[],µ,Ä,,¾,¾,ç[]B

fCEfWfXfgfŠ,Å[]A[HKEY_LOCAL_MACHINE][]AZÿ,É[System\CurrentControlSet\Services\WINNER]
,Æ[]i,ñ,ÅfL[][,ð'ì'ð,µ,Ü,·[]B[fZfLf...fŠfefB]«[fAfNfZfXCE]
,ð'ì'ð,µ,Ä[]Af_fCfAf[]fO[fCEfWfXfgfŠfL[][,ìfAfNfZfXCE],ðŠJ,«,Ü,·[]B
,±,ìfL[][,É'í,µ,Ä[]A•K—v,Èft[]fU fOf<[]fv('Ê[]í[]AçUsers£,Ü,½,íçPower User£)
,ì[fCEfWfXfgfŠfL[][,ìfAfNfZfXCE],ðŠg'£,µ,Ü,·[]B,Â,Ü,è,±,ìfOf<[]fv,É'í,µ,Ä[]A[“ÁŽè,ÈfAfNfZfXCE ...]
,ì,Æ,±,è,Å[]A['ì,ì[]Æ%öi][]A['ì,ì[]ÿ'è][]A[fTfu fL[][,ì[]ì[]¬][]A[fTfu fL[][,ì—ñ<“][]A[[]í[]œ]
,ìŠefAfNfZfXCE ,ð—^,!,Ä[]A[fAfNfZfXCE],ð[]C[]³,µ,Ü,·[]Bf_fCfAf[]fO[fCEfWfXfgfŠfL[][,ìfAfNfZfXCE]
,Åf`fFfbfNf{fbfNfX[Šù'¶,ìfTfu fL[][,ìfAfNfZfXCE ,ð'u,«Š·,!,é],ðfAfNfefBfu,É,µ,Ü,·[]B

