

## ELSA WINman (ELSA Ý'è), ìfwf<fv

ELSA WINman (ELSA Ý'è), í AELSA fOf%oftfBfbfN f{[fh, ÆELSA Windows fhf %ofCfo, ðf, fjf^, É"K#<sup>3</sup>,<sup>1</sup>, é, ½, ß, ìfvf[]Of%of€, Å, ·[]B

[]Ú, μ, ç, ±, Æ, í[]AZÿ, ìfL[]f[]fh, ðfNfŠfbfN, ·, é, ©[]Afwf<fv, ì[]ð^ø, ðfNfŠfbfN, μ, Ä, -, <sup>3</sup>/<sub>4</sub>, <sup>3</sup>, ç[]B


WINman <N" ®f\_fCfAf[]fO

f, fjf^, ìfvf[]pfefB

fOf%oftfBfbfN f, []fh, ì[]C[]<sup>3</sup>[]Afj[]f%oo[]["x/°oð'œ"x/f^fCf~f"fO, ì'²[]®

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

## ELSA WINman (ELSA )

ELSA WINman (ELSA )  
Í AELSA fOf%oftfBfbfN f{[fh,Æ ELSA Windows fhf %ofCfo,ðf,fjf^,É“K[±,³,¹,é,½,ß,lfvf[Of%of€,Å,·[B [fffBfXfvf[CEfC,lfvf[fpfefB] ,lf\_fCfAf[fo,²Š],ç,Ä,ç,È,¯,ê,Î[A,±,±,ðNfŠfbfN,µ,Ä,-,¾,³,ç [B

,Ü,½“~f\_fCfAf[fo,ì†,Å[WINman]f\_fCfAf[fo,²Š],ç,Ä,ç,È,ç,Æ,«,Í[A   
,lf^fu,ðNfŠfbfN,µ,Ä,,¾,³,ç [B

## [fXfL[f€](ff[f^ fzfbfg)

^È'O,lfOf%oftfBfbfN f,[fh,ð•Ü'¶,µ,Ä,ç,é[ê[±[A,» ,lf,[fh,É[Ø,è'Ö,¡,é,± ,Æ,²,Ä,«,Ü,·[B

## [f,fjf^]

Zg—p,·,·,éf,fjf^,ð“ü—í,µ,Ü,·[B[·[X...],ðNfŠfbfN,µ[A“ü—í,µ,½'l,ðŠm”F,µ,Ä,-,¾,³,ç [B

[A,à[d—v,È,ì,Í[Af,fjf^,ì[A'â[...·½'-[.Žü”g[” (kHz),Å,·(f,fjf^ ff[f^,ì[É^èŽQ[Æ)[B

## [fjf%o[[[“x]

256[F,©32768[F,©•K—v,Èfjf%o[[[“x,ð'l'ð,µ,Ü,·[B[Ú,µ,ç,±,Æ,Í[Afjf %o[[[“x,ðNfŠfbfN,µ,Ä,,¾,³,ç [B

## [%oÅž<%oð'œ“x]/[fo[f`fff<%oð'œ“x]

1024 x 768,È,Ç[A•K—v,È%oæ-È%oð'œ“x,ðNfŠfbfN,µ,Ü,·[B[Ú,µ,ç,±,Æ,Í[A %oð'œ“x,ðNfŠfbfN,µ,Ä,,¾,³,ç [B

## [fŠftf[fbvf... f[fg]


75 Hz,È,Ç[A•K—v,ÈfŠftf[fbvf... f[fg,ð'l'ð,µ,Ü,·[B[Ú,µ,ç,± ,Æ,Í[AfŠftf[fbvf... f[fg,ðŽQ[Æ,µ,Ä,,¾,³,ç [B

[Ú[x...],ðNfŠfbfN,·,é,Æ[A,æ,è³Šm,È²[®,ð[s,±,Æ,²,Ä,«,Ü,·[B

## [OK]/[“K—p]

fefXfg fpf^ [f“ ,²À'è,µ,½,ç[A,Ü,·,Ý'è“à—

e,ð•Ü'¶,µ[AWindows,ð[Ä<N“® ,µ,Ä,©,ç[AffBfXfvf[CEfC,ìTfCfY,Æ^É'u,ì²[®,ðŽn ,ß,Ü,·[B

fffBfXfvf[CEfC,ìTfCfY,Æ^É'u,ðf,fjf^,Å²[®,µ,Ä,Ý,Ä,,¾,³,ç [B,±,Ü,,ç ,©,È,ç[ê[±,Í[AWINman (ELSA ) ,Åf,fjf^ f^fCf~f“fo,ð²[®,·,é,± ,Æ,à,Ä,«,Ü,·[B

## [f,fjf^,ì[±[~](f}f<f`fXfNfŠ[f“ ,ì,Ý)

fRf“fsf... [f^ ,Éf}f<f`fXfNfŠ[f“‘î%ž,ì•; [” ,)ELSA fOf%oftfBfbfN f{[fh,Æ[AELSA MULTIman Windowsfhf%ofCfo,Æ,²fCf“fXfg[f<,³,é,Ä,ç,ê,Î[A,±,± ,Åf,fjf^ ,ì[±[~ ,Æ^É'u,ðŽw'è,·,é,±,Æ,²,Ä,«,Ü,·[B

“^ê,lfOf%oftfBfbfN f,[]fh,ÅA“^,¶—e—  
Ê,lf[]f,fŠ,đŽ[],Á,½A““™,ìELSAf{[]fh,afCf“fXfg[]f<,³,ê,Ä,ç,ê,îA[]Å—  
Ç,ìE<%oÊ,đ“¾,é,±,Æ,ª,Å,«,Ü,·[]B

**[fEfBf“fhfE[]\$CEä](f}f<f`fXfNfŠ[]f“,ì,Ý)**  
f}f<f`fXfNfŠ[]f“,đŽg—p,μ,Ä,ç,Åxf\_fCfAf[]fO fEfBf“fhfE,đf,fj^,ì<<ŠE,É•\Ž!,μ,½,-  
,É,ç[]ê[][]A,±,ê,đ,đfAfNfefBfu,É,μ,Ä,,¾,³,ç[]B

**fOf%oftfBfbfN f, [fh, i C³ AfJf%o [ [ "x/%ođ'œ" x/f^fCf~f"fo, i'² @**

•K—v, Èfjf%o [ [ [ "x A%ođ'œ" x AfŠftfCfbfVf... fC [fg, đ"ü—í, , é, é, ±, Æ, Å, fjf^  
f^fCf~f"fo, a q [ , ³, ê, Ü, · B, ±, lf^fCf~f"fo, í V, µ, ç fOf%oftfBfbfN  
f, [fh, Æ, µ, Å • Ü' q, Å, «, Ü, · B

, » , ê, É, í Af, fjf^ , ÅŽg—p, Å, «, é Å' ä [ ... • ½' - [ , Žü" g [ " (kHz), a • a, ©, Å, Ä, ç, é, ±  
, Æ, a • K—v, Å, · (f, fjf^ ff [f^, ì C^' è Ž Q [ Æ) [ B

, Ü, , , í • K—v, Èfjf%o [ [ [ "x (' Ê í A8 bpp = 256 [F), đ'í' đ, µ, Ü, · B fJf%o [ [ [ "x, a' ä, «, -  
, È, é, Æ [ A [ Å' ä fsfNfZf< fNf [fbfN, í Ž © " @ "í, É C , , è, Ü, · B • K—v, È  
%ođ'œ" x, đ'² @ , µ, Ü, · B %ođ'œ" x, í Af, fjf^ ftfCfY, a 15", ì, Æ, «, í 800 x  
600 [A16", ©, ç 18", ì, Æ, «, í 1024 x 768 [A19" Ê ä, ì, Æ, «, í 1280 x 1024, a^ ê" Ê "í, Å, · B

•K—v, ÈfŠftfCfbfVf... fC [fg, đ Hz, Å "ü—í, µ, Ü, · B  
"wCei, ì, Ü, Æ, ñ, Ç, a [ , ì fAfvfŠfP [fvf†f", ì ê [ # [A60 Hz, Å [ \  
• a, Å, · B Windows, È, Ç "wCei, ì -¾, é, ç fAfvfŠfP [fvf†f", í AfffBfXfvfCfC, ì, ç, Å, «, đ-  
h, @, ½, ß, É [ Å' á 75 Hz Ê ä, Å Ž À [ s, µ, Ä, , ¾, ³, ç [ B' Ê í [ A [ Å "K, ÈfŠftfCfbfVf...  
fC [fg, í 85 Hz, Å, · B 100 Hz, đ%oz, ì, Å, à—Ü, É C © , ì, ½%ü' P, a, É, ç, ì, a • [ ' Ê, Å, · B

fefXfg fpf^ [ [f", a^ À' è, µ, ½, ç [ A, Ü, , [ Y' è " à—  
e, đ • Ü' q, µ [ A Windows, đ [ Å < N " @ , µ, Å, ©, ç [ AfffBfXfvfCfC, ì ftfCfY, Æ ^ Ê' u, ì'² @ , đ Ž n  
, ß, Ü, · B  
fffBfXfvfCfC, ì ftfCfY, Æ ^ Ê' u, đ f, fjf^ , Å'² @ , µ, Ä, Ý, Ä, , ¾, ³, ç [ B, x, Ü, , ç  
, ©, È, ç [ ê [ #, í [ A [ WINman (ELSA [ Y' è)], Å f, fjf^ f^fCf~f"fo, đ'² @ , , , é, ±  
, Æ, à, Å, «, Ü, · B

## fefXfg fXfNfŠ[f“

WINman (ELSA[Ý'è),Å,í[A[V,μ,ϕf,fjf^  
f^fCf~f“fO,ª•Ů'¶,³,ê,é'O,É[A[V,μ,ϕf^fCf~f“fO,ªf,fjf^,É“K,μ,Ä,ϕ,é,©,Ç,κ  
,©,ªf`fFfbfN,³,ê,Ü,·B  
,» ,ì,½,β,É[A,í, ,©,ÈŽžŠÔ,Å,·,ªfefXfg fXfNfŠ[f“,ª•\Ž|,³,ê,Ü,·B  
fefXfg fXfNfŠ[f“,ª•\Ž|,³,ê,Ä,à[AfGfXfP[fv fL[(Esc),ð%oŸ,·,±,Æ,Å,ϕ  
,Â,Â,à[A,·,±,Æ,ª,Â,« ,Ü,·B  
ŽŸ,É[AfefXfg fpf^ [f“,É-â'è,ª,È,ϕ,©,Ç,κ,©[q,È,ç,ê,Ü,·B

fefXfg fpf^ [f“,ª^À'è,μ,½,ç[A,Ü, ,Ý'è“à—  
e,ð•Ů'¶,μ[AWindows,ð[Ä<N“® ,μ,Ä,©,ç[AffBfXfvfÇfC,ìfTfCfY,Æ^Ê'u,ì²[®,ðŽn  
,β,Ü,·B  
fffBfXfvfÇfC,ìfTfCfY,Æ^Ê'u,ðf,fjf^,Å²[®,μ,Ä,Ý,Ä,,¾,³,ϕ[B,κ,Ü,,ϕ  
,©,É,ϕ[ê[‡,í[A[WINman (ELSA[Ý'è)],Åf,fjf^ f^fCf~f“fO,ð²[®,·,é,±  
,Æ,à,Â,« ,Ü,·B

# fOf%oftfBfbfN f, [fh(frffflf, [fh) Af, fjj^ f^fCf~f"fo

fOf%oftfBfbfN f, [fh(,Ü,½,Írffflf, [fh), íA, ,éff%o[[["x[A%oð'œ"x[Af, fjj^ f^fCf~f"fo[A,»,'¼,·,×,Ä,ì" ® [if, [fh,ÉŠÖ~A,·,éfefNfjjf< ff [f^,ð<L[q,·,éff [f^ fZfbfg,Å,·B

f, fjj^ f^fCf~f"fo, íA, fjj^ [M [t, î^êžž" ® [i, ð'è<` ,·, éff [f^ fZfbfg, Å, ·B  
Šî-{"I,É,ÍfsfNfZf< fNf [fbfN [A...·½'- [ , Žü" g [ " [Aftf [f€ , ÍŠftf [fbfVf...  
f [f [fg, Å, ·B  
[...·½ [ , ¼·\Ž; ŽžŠÔ [A'O·"f [ [f` [A"~Šúpf<fX(Sync) [A [f` ,Æ, ç, æ [¾—  
t, Å, æ, è [Šm, É<L [q, ³, ê, Ü, ·B  
·\Ž; ŽžŠÔ, Æ, íA "dŽqfr [f€, æ%œ-É, ÉfsfNfZf<, ð·`%œ, ·, éžžŠÔ, ì, ±  
, Æ, Å, ·B, » , ì [f [A "dŽqfr [f€, ð [Å [%, î^É'u, É-ß, ·, É, í, , éžžŠÔ, ð—v, µ, Ü, ·B, ±, ìfuf  
%of "fNŽžŠÔ, íA'O·"f [ [f` (·\  
Ž; ŽžŠÔ, [i, í, Á, Ä, ©, ç "Šúpf<fX, [žn, Ü, é, Ü, Å, ìžžŠÔ) [A "Šúpf<fX ("Šúpf<fX, ìž [ '  
±ŠúŠÔ) [A, ", æ, Ń [f "f [ [f` ("Šúpf<fX, [i, í, Á, Ä, ©, ç ŽŸ, ì·\  
Ž; ŽžŠÔ, [žn, Ü, é, Ü, Å, ìžžŠÔ), Å [ [ - , ³, ê, Ü, ·B, ±, ê, í...·½ [ , ¼—  
¼·û, ìf^fCf~f"fo, É, Å, ç, Ä " —l, Å, ·B

## fbf%o[]["x/ bpp

fbf%o[]["x,ì'á'è'P^Ê,íbpp,©[]A[]F,ì[]",Å,·[]B  
 bpp (Bits Per Pixel),ÍŠefsfNfZf<,ÉŽg—p,Å,«,éfrfffl f[]f,fŠ,ì—e—Ê,Å,·[]B,½,Æ,ì,î[]A8  
 bpp,ì[]ê[]#[]AŠefsfNfZf<,l8frfbfg,đŽg—p,μ[]A256 (= 2,ì8[]æ)[]F,đŠi"[]A·\  
 Ž!,Å,«,Ü,·[]B  
 ,±,ì[]",í[]A(%oæ-Ê[]ã,ì·\Ž!,É[]·a,ÈsfNfZf<,a, ,é[]ê[]#)"-ŽŽ,É·\Ž!,Å,«,é[]F,ì[]",ì,±  
 ,Æ,Å,·[]B

Windows ,ì[]ê[]#[]A'Ê[]í[]A256[]F(= 8 bpp),aŽg—p,³,ê,Ü,·[]B256[]F,í[]A·\  
 Ž!,ì'‰ŽÀ"x,Æf[]f,fŠ[]Á"i/·\Ž!"-“x,Æ,ÍŠÖEW,Å[]Å—  
 Ç,ì'Ã<"\_ ,¾,©,ç,Å,·[]B[]F,ì"Z,³,ì[]""i,a'á,ç,Æ[]A'œŽ,ì,a'á%o°,μ[]A'½,-  
 ,ì[]ê[]#[]AfffBfUfŠf"fO,a·K—v,É,È,è,Ü,·[]B[]F,ì"Z,³,ì[]""i,a[],,ç  
 ,Æ[]A[]f[]f,fŠ,ì[]Á"i,a'[],ì[]A'Ê[]í,íWindows fhf%ofCfo,ì'—“x,a'x,,È,è[]A%ođ'œ"x,đ  
 %o°,°,é,©[]A"-,¶%ođ'œ"x,Å,àfŠftf[]f[]fVf... f[][]f[]g,đ%o°,°,È,ç,Æ·\Ž!,Å,«,È,-  
 ,È,è,Ü,·[]B  
 ^ê"Ê"i,É,íŽÿ,ì[]Ý'è,đ[],[]\$,μ,Ü,·[]B  
 'É[]í,ìf[]ftf[]Bf[]X f[]A[]f[]v[]f[]Š[]P[][]f[]V[]f[]f",É,í 256[]F(8 bpp)  
 frfffl,Ü,½,í3-DfA[]f[]v[]f[]Š[]P[][]f[]V[]f[]f",É,í 32768,Ü,½,í65536[]F(15,Ü,½,í16 bpp),ìfŠfA[]f[]<f[]f[]  
 %o[]  
 [],"x,È%oæ'œ[]^—[],É,í 1670-œ[]F(24,Ü,½,í32 bpp),ìfgf<[]f[]f[]f%o[]

^ê"Ê"i,Èfbf%o[]["x

[]F,ì[]"	bpp,Å·\ ,í,μ,½f[]f[] %o[]["x	fRf[]f"fg
-	-	---
2	1	""[]·[]Af,fmfNf[]
16	4	VGA 640x480,È,Ç,ìpf[]f[]f[]f[]
256	8	g f[]f[]f[]f[]f[]g[]A^ê"Ê"i,È[] ,%ođ'œ"x[]f[]O[]f %o[]f[]t[]f[]B[]f[]f[]N f{[][]f[]h,ì·W[][]€f,[][]f[]h
32768	15	fŠfA[]f[]<f[]f[]%o[][ 5 + 5 + 5 bpg
65536	16	fŠfA[]f[]<f[]f[]%o[][ 5 + 6 + 5 bpg
1670-œ	24,Ü,½,í 32	Äf<[]f[]f[]f%o[][ 8 + 8 + 8 bpg

4, Ü, ½, Í 8 bpp, ìê#A F, ì", ÌpfCEfbfg (RAM DAC fff% [ fe [ fuf <), đŽg, Á, Ä • \  
Ž, ³, ê, éŽÀ Û, ì F, É • ĨŠ, ³, ê, Ü, · B, ±, ÌpfCEfbfg, Å A262144 F, ÌGf "fgfŠ (6  
bpp, ìê#), â 1670-œ F, ÌGf "fgfŠ (8 bpp, ìê#), ð% Å "\, Å, · B

bpp, Æ bpp, đ - " - , μ, È, ç, æ, π, É, μ, Ä, , ¾, ³, ç Bbpp, Í ARGB F • ð " z, ², Æ, Ìff  
% [ [ [ " x, đŽ, μ, Ü, · (bpp = Bits Per Gun) B, ½, Æ, Ì, Î A16 bppfŠfAf < fff% [ , ìê# A5  
+ 6 + 5 bpp, Í 3 F • ð " z, Ì Ô A - Î A Â, ÉŽg - p, Å, «, éfrfbfg " , Å, · B



## fxfnfš [f" ftfcfY A%oĀž</fo [f`fff< fXfnfš [f", i%ođ'œ"x

### fxfnfš [f" ftfcfY

f, fjj^ ftfcfY, l'l, l'í%oA<Éüšç(CRT), l'îšpü, l'CEö [ftfcfY, Å, ·B%oĀž<·ž|—  
 l^æ, l'îšpüftfcfY, æ, è, à, µ'â, «, É'l, Å, ·B^ê"É"l, È'l, ížŸ, l·\, l, AE, ", è, Å, ·B

íšpü, l' CEö [ftfcfY CfY (inch )	íšpü, l' CEö [ftfcfY CfY (cm )	, " , æ, » , l' %oĀž<— l^æ (cm)	^ê"É"l, È %ođ'œ"x
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

### %oĀž<%ođ'œ"x

%ođ'œ"x, AE, íA·ž|, Å, «, éfsfnfzf< " , l, ±, AE, Å, ·B, ½, AE, l, íA1024 x 768, íè#A... ·½, l'se s, É 1024fsfnfzf<, a·ž|, ³, êA, '¼, l'se—ñ, É768fsfnfzf<, a·ž|, ³, ê, Ü, ·B, µ, ½, a, Å, A%oæ-Éã, l' [fsfnfzf< " , l'1024 x 768 = 786432, É, È, è, Ü, ·B

ÉíA13", Ü, Å, l, f, fjj^ , i%ođ'œ"x, l' 640 x 480, ÉA14", ©, ç15", l, f, fjj^ , i%ođ'œ"x, l'800 x 600, ÉA16", ©, ç 18", l, f, fjj^ , i%ođ'œ"x, l'1024 x 768, ÉA19" Éã, l, f, fjj^ , l' %ođ'œ"x, l'1280 x 1024, Éfzfbfg, ³, ê, Ü, ·B, ½, ¾, µAÅ, %ođ'œ"x, l, fhfbfg fsfbf` ftfcfY, âÅ'â... ·½'-, žü" g", É, Ç, l—v^ö, É, æ, Å, Å^Ü, È, è, Ü, ·B

%ođ'œ"x, l' dpi (Dot Per Inch), Å, à·ž|, Å, «, Ü, ·B

### fo [f`fff<%ođ'œ"x (fxfnfš [f", lfpf")

fo [f`fff< fXfnfš [f", afAfnfefBfu, É, È, Á, Ä, ç, é, AE AWindows, l'ì<AE—l^æ, l·\ ž|, ³, ê, Å, ç, é%oĀž<fxfnfš [f", æ, è, à'â, «, ,, È, é) B %oĀž<%ođ'œ"x, æ, è, à'â, «, ,, È, é) B %oB, è, ½—l^æ, l' Af} fEfx f [f<, afXfnfš [f", l'«ŠE, É—^, é, AECE©, l, é, æ, x , É, È, è, Ü, ·B, » , l'CEã%oĀž<fxfnfš [f", l' à—e, afXfnf [f<, ³, ê, Ü, ·B, ± , l'® [i, ð, Åufpf" v, AE, àCE¾, ç, Ü, ·B

## fsfNfZf< fNf[]bfN/MHz

fsfNfZf< fNf[]bfN, Ü, 1/2, ÍsfNfZf< fCE[]fg, íMHz(f[]fKfwf<fc), Å•\, í, ³, ê, Ü, ·[]B, ±, ì'ì, ì"í^í, í'Ê[]í10, ©, ç250 MHz, Å, ·[]B, 1/2, Æ, ì, î[]A75 Hz, Å, ì%øđ'œ"x 1024 x 768, É, í[]A79 MHz, ìsfNfZf< fNf[]bfN, ð•K—v, Å, ·[]BfsfNfZf< fNf[]bfN, ì'ì, í[]A1•b, É[]', <[]ž, Ü, ê, ésfNfZf<[]", ð•S-œ'P^É, ÅŽì, 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'Ê□í  
30,©,ç110 kHz,Å,·□B,½,Æ,ì,î□A75 Hz,Å,ì%øđ'œ"x 1024 x 768,ìê□#□A60 kHz,ì...  
•½'-□,Žü"g□",<sup>a</sup>•K—v,Å,·□B,±,ì'l,í□AfsfNfZf< f  
%øfCf",<sup>a</sup>□',«□ž,Ü,è,é'¬,<sup>3</sup>□A,Å,Ü,è□A"dŽqfr□[f€,<sup>a</sup>%øA<É□üŠÇ,ì't,đ-^•b%ø½□ç  
%øñ□¶,©,ç%øE,É"®,,ì,©,đŽ!,μ,Ü,·□B

## fŠftfÆfbfVf... fÆ[fg/Hz

ftfÆ[fÆ fŠftfÆfbfVf...

fÆ[fg, ·, È, í, ç, '¼•ÎĈÛŽÛ"g", ì'á'è'P^Ê, íĀHz, Å, ·B'ÊíĀ'í, ì"í'í, í60, ©, ç100 Hz, Å, ·BHz, Æ, íHertz(fwf<fc), ì—ªĈê, Å, ·B75 Hz, È, çĀA-^•b 75, ìftfÆ[fÆ,ª•\ Žì,ª,è,é,Æ,ç,±,Æ,Å,·B

"wĈei, ì, Û, Æ, ñ, Ç,ª•, ìfAfvfŠfP[fVf†f", ìĕê†Ā60 Hz, Å\ª, Å, ·B, æ, è" wĈei, ì-¾, é, çWindows, ì, æ, ±, ÈfAfvfŠfP[fVf†f", ìĕê†Ā, ç, ç, Å, «, ð-hŽ~, ·, é, ½, ß, ÈĀĀ'á75 Hz^ÊĀ, ÅŽĀs, µ, Å,¾,ª, çĀB'ÊíĀĀ"K, ÈfŠftfÆfbfVf... fÆ[fg, í85 Hz, Å, ·BfŠftfÆfbfVf... fÆ[fg,ª100 Hz, ð%oz, ì, Å, à-Ú, ÅSm" F, Å, «, é%ü'P, ì, è, Û,ª, ñĀB

'Êí, ìfmf"fCf"f^ [fÆ[fX"®Ā, Å, íĀftfÆ[fÆ, ìfŠftfÆfbfVf...

fÆ[fg, ì, '¼•ÎĈÛŽÛ"g", Æ"- , Ā, ·B

'á...•½'-Ā, ŽÛ"g", Å, àĀ, fŠftfÆfbfVf...

fÆ[fg, ð^óĀÛ•t, ·, é, ½, ß, ÈfCf"f^ [fÆ[fX fffBfXfvfÆfC,ª%ß<Ž, È, æ, —p, ç, è, Û, µ, ½Ā, ±, ìf, Āfh, Å, íĀŠeftfÆ[fÆ,ª2•ªŠ,,,ª, è, Û, ·BĀĀ%, ì"¼•ª, ìftfÆ[fÆ, Å<Ā"f%ofCf",ª•`%œ,ª, èĀ1f%ofCf"fV•ªfvftfg, µ, ÅŠiĀ", ìf%ofCf",ª•`%œ,ª, è, Û, ·B, µ, ½,ª, Á, Å, '¼•ÎĈÛŽÛ"g", ìftfÆ[fÆ fŠftfÆfbfVf...

fÆ[fg, ì" {, È, È, è, Û, ·B

, ±, ì•\ŽìŽè-@, íĀfefÆfr, ÈŽg, í, è, Å, ç, ÅĀIBM 8514/A frfffi fAf\_fvf^, È, àĀ—p,ª, è, Å, ç, Û, ·B

, ½,¾, µĀ•\Žì•î^Ê,ª, ç, ì, ìfmf"fCf"f^ [fÆ[fX f, Āfh, ì•û, Å, ·B

ftfÆ[fÆ fŠftfÆfbfVf... fÆ[fg, ìf, fjf^, ðĀİŌĀHŠw"í, ÈĈ©, ½ĕê†ĀĀd—

v, Å, ·B75 Hz, ð%œ%œñ, èfŠftfÆfbfVf... fÆ[fg, âĀfCf"f^ [fÆ[fX, ìŽg—p, íĀİŌĀHŠw"í, ÈĀD, Û, µ, È, ç, Æ,ª, è, Å, ç, Û, ·B

, à, ç, è, ñĀİŌĀHŠw"í, È, íĀ•úŽËĀÛ,ª, È, ç, ±, Æ, âĀf, fjf^ fTfCfY, ", æ, Ñfhfbfg fsfbf` , È"K, µ, ½%œ'œ"x, È, Ç, ì"Á<, àĀ—Ā,ª, è, Û, ·B

## f}f<f`fXfNfŠ[]f“(MULTIman)

fRf“fsf...[]f^,É ELSA MULTIman Windows fhf%ofCfo,afCf“fXfg[]f<,³,ê,Ä,ç  
,ê,î[]AWindows,đ‘½fXfNfŠ[]f“(f}f<f`fXfNfŠ[]f”),ÅŽg,κ,±,Æ,ª,Å,«,Ü,·[]BfRf“fsf...  
[]f^,É,ÍELSA fOf%oftfBfbfN f{[]fh,ª 1-‡^È[]ãfCf“fXfg[]f<,³,ê,Ä,ç  
,È,¯,ê,î,È,è,Ü,¹,ñ[]B,½,¾,µ‘¼,lf{[]fh,Æ”C^Ó,É‘g,Ý[]‡,í,ª,Å,«,é,í,¯,Å,í, ,è,Ü,¹,ñ[]BŽ  
w’è,³,ê,½‘g,Ý[]‡,í,¹^ÈŠO,ÍŽg,|,Ü,¹,ñ[]B“^ê,lfOf%oftfBfbfN f,[]fh,Å[]A“¯,¶—e—  
Ê,lf[]f,fŠ,đŽ[],Á,½[]A““™,ìELSAf{[]fh,afCf“fXfg[]f<,³,ê,Ä,ç,ê,î[]A[]Å—  
Ç,ìC<%oÊ,đ“¾,é,±,Æ,ª,Å,«,Ü,·[]B

## ftfHf“fg fTfCfY

Windows, ÅŽg—p, ., éftfHf“fg fTfCfY, í²□@%oÂ“\, Å, .□BftfHf“fg  
fTfCfY, í□A800x600, Ü, Å, ì%ođ‘œ“x, Å, í 96dpi (□→)□A1024x768^Ê□ã, ì%ođ‘œ“x, Å, í  
120dpi (‘â),<sup>â</sup>•□’ÊŽg—p,<sup>3</sup>ê, Ü, .□B

## f, fff^ ff[f^, iCE^è

ELSA fOf%oftfBfbfN

f{[fh, ðf, fff^, É“K[±, ³, ¹, é, É, í[Af, fff^“ ®[ì, ìff[f^, Æ”í^í, ðCE^è, ·, é, ±, Æ, º•K—  
v, Å, ·[B  
, ±, ±, Å, í[Af, fff^, ì[Å^â[... •½’- [ , Žü”g[” (kHz), º“Á, É[d—v, Å, ·[B, ±  
, ì[ãCEÀ, ð’ , , é, Æ[A[Å^« , ì[ê[±f, fff^, ÉCE[á, ð—^ , ·, ±, Æ, º, , è, Ü, ·[B

## f, fff^, ìf[[fj[[[Af, fff^, ì<@Ží-¼

’É[í[Af[[[fj[[ , , æ, ÑCE^-¼, ìf, fff^, ì”w-É, É, , è, Ü, ·, º[A, È, ç[ê[±, ìf, fff^ f}ffj...  
fAf<, ðŽQ[Æ, µ, Å, , ¾, ³, ç[B

## CEö[ìf, fff^ fTfCfY

f, fff^ fTfCfY, ì’l, í[A%oA<É[üŠÇ(CRT), ì’ÍSp[ü, ìCEö[ìfTfCfY, Å, ·[B, ±, é, í[A%oAŽ<•\  
Ž’—l^æ, ì’ÍSp[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, ì20” (51 cm), Å, ·[B<L[+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, fff^  
f}ffj... fAf<, É<L[Ü, ³, é, Å, ç, Ü, ·[B  
, ±, ±, Å, í[Af, fff^, ì[Å^â[... •½’- [ , Žü”g[” (kHz), º“Á, É[d—v, Å, ·[B, ±  
, ì[ãCEÀ, ð’ , , é, Æ[A[Å^« , ì[ê[±f, fff^, ÉCE[á, ð—^ , ·, ±, Æ, º, , è, Ü, ·[B, » , ì¼, ì’l, ºCE^ ,  
Ü, ç, É, ç[ê[±[Af[f[ , ì, Ü, Ü, É, µ, Å, , ç, Å, ©, Ü, ç, Ü, ¹, ñ[B

## f, fff^, ìfvf[fpfefB, iCE^è

f, fff^, ìfvf[fpfefB, ðCE^è, ·, é, É, í[AŽŸ, ÉŽ[ , , ç, , Å, ©, ì•û-@, º, , è, Ü, ·[B

f, fff^ f}ffj... fAf<:

f, fff^, ì<Z[ pZd—l, í[Af, fff^, É•t’ ® , , éf}ffj... fAf<, É<L[Ü, ³, é, Å, ç, Ü, ·[B

VESA DDC:

f, fff^, ÉVESA DDC fRfIfNf^, º’•”ð, ³, é[AfOf%oftfBfbfN f{[fh, º VESA DDC  
CEŸŠ , ì[ê[±[Af, fff^ ff[f^ , ìf, fff^ fP[[fuf<, ð%oî, µ, ÅfOf%oftfBfbfN  
f{[fh, ÉŽ©“ ® “l, É’—[M, ³, é, Ü, ·[B

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

f, fff^, ÉVESA VDIF f, fff^ <L[qftf@fCf<(\*.VDA), º“Y•t, ³, é, Å, ç, é[ê[±[A•K—  
v, Éff[f^ , ì, ±, é, ©, ç“Ç, Ý[ž, Ü, è, Ü, ·[Bf, fff^ ff[f^ , ð“ü—l , , é, Æ, «[AWINman  
(ELSA[Ÿ^è), É[AVDIFftf@fCf<, ð“Ç, Ý[ž, p, ½, ß, ìf{f^f” , º•\Ž[ , ³, é, Ü, ·[B

ELSA f,fjf^<L□qftf@fCf<WINman.MON:

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



## f, fĵf^ f}fĵf...fAf<

ELSA fOf%oftfBfbfN

f{ [fh, ðf, fĵf^, ÉĀ“K, Èó‘Ô, Ā“Kĵ, 3, 1, é, ½, ß, ÉĀZÿ, ÉŽ!, ·ff [f^, ðf, fĵf^, ĩf}fĵf...  
fAf<, Ā‘T, μ, Ā,, ¾, 3, çB

f, fĵf^ f [f] [Af, fĵf^, ĩ<@Ží-¼ AfCf“f^, Ü, ½, ĩfZf“f ‘P^Ê, ĩ‘ĩŠpü, ĩĈö ĩf, fĵf^  
fTfCfY (=

fCf“f^, Ü, ½, ĩfZf“f ‘P^Ê, ĩCRT, ĩ‘ĩŠpü fTfCfY) ĀkHz‘P^Ê, ĩĀ‘á, “, æ, ÑĀ‘â... ·½’-  
Ā, Žü”gĀ” (= Ā... ·½·ĩĈüŽü”gĀ” = ‘-

Ā, fĈ [fg) ĀHz‘P^Ê, ĩĀ‘á, “, æ, ÑĀ‘â, ‘¼ftfĈ [fĕfŠftfĈfbfVf... fĈ [fg (=

Ā, ‘¼·ĩĈüŽü”gĀ”)B

, ±, ±, Ā, ĩ Af, fĵf^, ĩ<—eĀ‘â... ·½’-Ā, Žü”gĀ” (kHz), a“Á, ÉĀd—v, Ā, ·B, ±,  
ĩ, ĩăĈĀ, ð’ , ĩ, é, ĀĀĀ^«, ĩĕĀf, fĵf^, ÉĈĩĀá, ð—^ , , ±, Ā, a, , 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  
%o□[,Èf,fjf^,ìŽå,È“Á□«,Æ□\$CEÀ,ª<L%o¯,³,ê,Á,ç,Ü,·□B

,±,ìASCIIfefLfXfg ftf@fCf<,É,íf,fjf^,ìff□[f^,ª<L□q,³,ê,Ä,ç  
,Ü,·□B,»,ì<L□q,ìfGf“fgfŠ,ìŽŸ,ì,Æ,“,è,Å,·□B  
f,fjf^,ìf□□[fj□[□Af,fjf^,ì<@Ží-¼□AfCf“f’P^Ê,ìîŠp□ü,ìCEö□ìf,fjf^  
fTfCfY□AkHz’P^Ê,ì□Á’á,“,æ,Ñ□Á’å□...•½’-  
□,Žü”g□”□AHz’P^Ê,ì□Á’á,“,æ,Ñ□Á’å□,’¼ftfCE□[f€ fŠftfCEfbfVf...  
fCE□[fg□Af~fŠ’P^Ê,ìfsfNfZf< fTfCfY/fhfbfq fsfbf` □B

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

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

VDIF, íf, fjjf^ Žd—l, ð < L q, , é, ½, ß, ìftf @ fCf < Ě Ž ®, ð'è < , , é VESA  
< KŠi, Ā, . □ BVDIFftf @ fCf <, É, Í % œ—Ě, Ì Í Šp □ üftfCfY, È, Ç, ìf, fjjf^ “Ā □ «, â □ A □ Ā'â <—e □ ...  
• ½'—□, Žü”g □” (kHz), È, Ç, ìf, fjjf^, Ì “ ® □” Í Ā, É, Ā, ç  
, Ā, ìff □ [f^, āŠÜ, Ü, ê □ A, »], Ì [PREADJUSTED\_TIMING], ìfZfNfVf#f”, É, Í ŠY—  
, , éf, fjjf^, É “K, μ, ½f, fjjf^ f^fCf~f”fO, É, Ā, ç, Ā, ìff □ [f^ fZfbfg, ā < L q, ³, ê, Ā, ç, Ü, . □ B

VDIFftf @ fCf <, ð Žg—p, , é, Ā □ Af, fjjf^ ff □ [f^, Ì • Ū' ¶ □ A^ø “n, μ □ A □ Ā—~—p, ā, Ā, «, Ü, . □ B

\*. VDA VDI f, í ASCIIftf @ fCf <, È, Ì, Ā □ A • W □ €, ìfefLfXfg  
fGffBf^, ð Žg, Ā, Ā □ Ì □ —, , æ, N □ C □ ³, , é, ±, Ā, ā, Ā, «, Ü, . □ B  
\*. VDB VDI f, ìfofCfifŠ fR □ [fh ftf @ fCf <, È, Ì, Ā □ A “Ā Ž ê, È f\ftfgfE fFfA, ¾, , Ā Žg—  
p, ³, ê, Ü, . □ B  
WINman (ELSA □ Y'è), Í \*. VDA  
VDIFftf @ fCf <, Ì “C, Y Ž æ, è, Ā □ , « □ Ž, Y, ā, Ā, «, Ü, . □ B WINman, āftf @ fCf <, ð □ , « □ Ž, p, Ā, «, Í  
□ A WINman, É Š Ö Ě W, , é □ €—  
Ū, ¾, , ā < L “ü, ³, ê, Ü, . □ B WINman, Ā □ Ì □ —, ³, ê, ½ftf @ fCf <, ð ¼, ìf\ftfgfE fFfA, ā Žg—  
p, , é □ ê □ # □ A □ u = □ v < L □ t, Ì % E, Ì ó — “, É □ A • s' «, μ, ½ □ î • ñ, ðfefLfXfg  
fGffBf^, ð Žg, Ā, Ā < L “ü, , é, ±, Ā, ā • K—v, Ā, . □ B

\*. VDA VDI f, í □ A Ž Y, É Ž !, , ç, , Ā, ©, ìfZfNfVf#f”, Ā □ □ —, ³, ê, Ā, ç, Ü, . □ B

### [VERSION]

VESA < KŠi, ìfo □ [fWf#f”” Ō □ t □ B

### [MONITOR\_DESCRIPTION]:

Manufacturer = f, fjjf^ f □ □ [f] □ □ [A ModelNumber = f, fjjf^, Ì < @ Ž Í—¼ □ ACRTSize = % œ—  
Ě, Ì Í Šp □ üftfCfY, È, Ç, Ì ê “É “l, È f, fjjf^ < L □ q □ B

### [OPERATIONAL\_LIMITS]:

MinHorFrequency = □ Ā'á □ ... • ½'—□, Žü”g □” □ A MaxHorFrequency = □ Ā'á □ ... • ½'—  
□, Žü”g □” □ A MinVerFrequency = □ Ā'á □, ¼fŠftfĚfbfVf... fĚ □ [fg □ A MaxVerFrequency  
= □ Ā'á □, ¼fŠftfĚfbfVf... fĚ □ [fg, È, Ç, ìf, fjjf^, Ì “ ® □” Í Ā □ B

### [PREADJUSTED\_TIMING]:

PreadjustedTimingName = f^fCf~f”fO—¼ □ A HorPixel/VerPixel = X/Y • Ū Ě ü, Ì  
% œ ð'œ “x □ A HorFrequency = □ ... • ½'—□, Žü”g □” □ A VerFrequency =  
□, ¼fŠftfĚfbfVf... fĚ □ [fg □ A PixelClock = fsfNfZf< fNf□fbfN fĚ □ [fg □ A TotalTime =  
Ž Ž Š Ō □ † Ě v □ A AddrTime = • \ Ž ! Ž Ž Š Ō □ A BlankStart = • \ Ž !, ā Ž n, Ü, Ā, Ā, ©, ç fuf  
% of “fLf”fO, ā Ž n, Ü, é, Ü, Ā, Ì Ž Ž Š Ō □ A BlankTime = fuf % of “fLf”fO Ž Ž Š Ō □ A SyncStart = • \  
Ž !, ā Ž n, Ü, Ā, Ā, ©, ç “Š ú p f < f X, ā Ž n, Ü, é, Ü, Ā, Ì Ž Ž Š Ō □ A SyncTime =  
“Š ú p f < f X, Ì Ž □ ± Š ú Š Ō, È, Ç, ìf, fjjf^ f^fCf~f”fO, ìff □ [f^ fZfbfg □ B

# VESA VDIF f,fjf^<L□qftf@fCf<,ì“Ç,ÝŽæ,è

ELSA fOf%oftfBfbfN

f{□[fh,ðf,fjf^,É“K□‡,³,¹,é,½,β,É□Af,fjf^“®□ì,ìff□[f^,Æ”í^í,ðCE^è,·,é,±,Æ,ª•K—  
v,Å,·□BŽg—pf,fjf^,ÉŠY“—,·,éVESA VDIFf,fjf^<L□qftf@fCf<(\*.VDA)  
,ª, ,è,í□A,» ,ìftf@fCf<,ðŽg—p,μ,Ä,,¾,³,ç□B,» ,ì¼,ì•û-@,í□Af,fjf^  
ff□[f^,ìCE^è,Æ,ç,αCE©□o,μ,Å□à-¾,³,è,Ä,ç,Û,·□B

[WINman (ELSA□Ý^è)],ì[VESA VDIF f,fjf^<L□qftf@fCf<,ð“Ç,ÝŽæ,é]  
,ìf\_fCfAf□fO,Å□A,Û,·•K—v,Èff%oo□□□[“x (’É□í□A8 bpp = 256□F),ð’l’ð,μ,Û,·□Bff  
%oo□□□[“x,ª□,ç,Æ□A’l’ð,Å,« ,éf,fjf^ f^fCf~f“fO,ì’l,ÌŽ©“®“l,É□¬,³,-  
,É,è,Û,·□BŽÝ,É•K—v,Èf,fjf^ f^fCf~f“fO,ð’l’ð,μ,Û,·□B□Å□%oo,ì2,Ä,ì’l,íX,ÆY,ì  
%ooð’œ“x (□...•½,Æ□,¼,ì%ooð’œ“x),ð•\,í,μ,Û,·□B%ooð’œ“x,ìf,fjf^ fTfCfY,ª  
15",Û,Å,ìf,fjf^,É,ì 800 x 600□A16",©,ç18",Û,Å,ìf,fjf^,É,ì 1024 x  
768□A19"ˆÉ□ã,ìf,fjf^,É,ì 1280 x 1024,ª•□’É,Å,·□BŽÝ,ì’l,ìftfCE□[f€,ìŠftfCEfbfVf...  
fCE□[fg(ftfCE□[f€/•b),ð Hz’P^É,Å•\,í,μ,Ä,ç,Û,·□B  
”wCEi,ì,Û,Æ,ñ,Ç,ª□•,ìfAfvfŠfP□[fVf†f“,ìè□‡□A60 Hz,Å□•ª,Å,·□B,æ,è”wCEi,ì-  
¾,é,ç Windows ,ì,æ,α,ÈfAfvfŠfP□[fVf†f“,ìè□‡□A,ì,ç,Ä,« ,ð-  
hŽ~,·,é,½,β,É□A□Á’á75 Hz^É□ã,ÄŽÀ□s,μ,Ä,,¾,³,ç□B’É□í□A□Á“K,ÈfŠftfCEfbfVf...  
fCE□[fg,ì85 Hz,Å,·□BfŠftfCEfbfVf... fCE□[fg,ª100 Hz,ð%ooz,ì,Ä,à-Û,ÅŠm”F,Å,« ,é  
%ooü’P,ì, ,è,Û,¹,ñ□B

ªCEè□ui□v,“,æ,Ñ□uni□v,í□A,» ,è,¼,èfCf“f^□□fCE□[fX,“,æ,Ñfmf“fCf“f^□□fCE□[fX,ð  
•\,í,μ,Ä,ç,Û,·□B  
kHz,ì’l,ì□...•½’-□,Žü”g□”,ð•\,í,μ,Û,·□B,±,è,ªf,fjf^,ì□Á’á...•½’-  
□,Žü”g□”,ð’l,ì,Ä,ì,ç,Û,¹,ñ(VDIFftf@fCf<,Å’l,ì,é,±,Æ,ì, ,è,Û,¹,  
ñ)□BMHz,ì’l,ìfsfNfZf< fNf□fbfN,ð•\,í,μ,Û,·□BfOf%oftfBfbfN f{□[fh,í□A,» ,ìfsfNfZf<  
fNf□fbfN,ð□¶□¬,Å,« ,é,±,Æ,ª•K—v,Å,·(WINman,ªf`fFfbfN,μ,Û,·)□B

**f, fjjf^ f^fCf~f"fo, ð VESA VDIF ftf@fCf<, Æ, μ, Å•Û'¶, , é**

[WINman (ELSA ¶Ý'è)], ìf\_fCfAf¶fO[VESA VDIF f, fjjf^ <L¶qftf@fCf<, Æ, μ, Å•Û'¶]  
, Å, Í¶A¶V, μ, ¶f, fjjf^ f^fCf~f"fo, ð VESA VDIF f, fjjf^ <L¶qftf@fCf<(\*.VDA)  
, É•Û'¶, ð, è, Ü, ¶B

, ±, ±, Å, Í¶A Windows, Í¶V, μ, ¶fOf%oftfBfbfN f, ¶[fh, É, Í¶Ø, è'Ö, í, è, Ü, ð, ñ¶B

VDIF, Í¶Af, fjjf^ "Å¶«, ð<L¶q, , é, ½, ß, ìff¶[f^Æ`Ž®, ð'è<` , , éVESA<KŠi, Å, ¶BVDIFftf@  
fCf<, É, Í¶æ-É, ì'ÍŠp¶üfTfCfY, È, Ç, ìf, fjjf^ "Å¶«, â¶A¶Å'â<-e¶... •½'-¶, Žü"g¶"(kHz)  
, È, Ç, ìf, fjjf^, ì"®¶"í'í, É, Å, ¶, Å, ìff¶[f^, ðSÜ, Ü, è¶A, »), ì[PREADJUSTED\_TIMING]  
, ìfZfNfvf¶f", É, ÍSY"- , , éf, fjjf^, É"K, μ, ½f, fjjf^ f^fCf~f"fo, É, Å, ¶, Å, ìff¶[f^  
fZfbfg, ð<L¶q, ð, è, Å, ¶, Ü, ¶B  
VDIFftf@fCf<, ðŽg—p, , é, Æ¶Af, fjjf^ ff¶[f^, ì•Û'¶¶A^ø"n, μ¶A¶Ä—~—p, ð, Å, «, Ü, ¶B

[WINman (ELSA ¶Ý'è)], Í¶A¶V<KVDIFftf@fCf<—  
p, ìfef"fvfÆ¶[fg, ð¶ì¶—, μ, Ü, ¶B WINTM, Å, í, , x, Å, ì¶€-Ú, ð"ü—í, ð, è, é, í, - , Å, È, -  
¶Aftf@fCf<, ð—~—p, , é, ì, É¶Å"Ç, Ý¶ž, Ý, , é•K—v, ì, , é¶€-  
Ú, ¾, - , Å, ¶Bftf@fCf<, ð'¼, ìfvf¶fOf%of€, ÅŽg—p, , é¶ê¶¶A'¼, ì¶€-Ú, à"ü—  
í, μ, È, - , è, Ì, È, è, Ü, ð, ñ¶BfL¶[f¶[fh, ð, , é, ì, É¶A¶u=¶v<L¶†, ì%oE'x, ð<ó", ì¶ó'Ô, Å, , è, Ì¶  
A•s'« , μ, ½¶ì•ñ, ð<L'ü, μ, È, - , è, Ì, È, è, Ü, ð, ñ¶B\*.VDA VDIF, Í¶f¶^, È  
ASCIIftf@fCf<, È, ì, Å¶A^È¶ã, ì¶ì<Æ, í•W¶€, ìfefLfXfg fGfffBf^, Å¶s, í, Ü, ¶B  
WINman, í, , x, Å, ìf, fjjf^  
f^fCf~f"fo, É'í, μ, Å¶V<Kftf@fCf<, ð¶ì¶—, μ, Ü, ¶B"~^èf, fjjf^, É•í¶", ìf, fjjf^  
f^fCf~f"fo, ð® , μ¶A, » , è, ç, ð, Ð, Æ, Å, È, , é¶ê¶¶AfefLfXfg  
fGfffBf^, ðŽg, Å, Å¶A'¼, ìftf@fCf<, ì[PREADJUSTED\_TIMING]fZfNfvf¶f", ð¶A¶%o  
, ìftf@fCf<, ì¶í, í, è, É'Ç%oÅ, μ, È, - , è, Ì, È, è, Ü, ð, ñ¶B

**VDIFftf@fCf<-¼**

VDIFftf@fCf<, ì¶A¶%o, ì 3•¶Žš, ìf, fjjf^ f¶[fj¶[-¼, Å¶A'±,  
5, Å, í•¶Žš, Ü, ½, ì¶"Žš, ìf, fjjf^, ì<@Ží-¼, Å, ¶Bftf@fCf<-¼, ìŠg'£Žq, í.VDA, É, μ, Å, -  
, ¾, ð, ¶B"ü—í, ð, è, ½f¶fX-¼, í¶A, Å, «, è, ìftf@fCf<[ fffBfXfN, Å, È, fn¶[fh  
fffBfXfN, ÉŽw'è, μ, Ü, ¶Bftf@fCf<[ fffBfXfN, ÉŽw'è, , é, Æ¶A•Û'¶, É, ©, È, è' , ¶žžšÔ,  
ð—v, μ, Ü, ¶B

**CEö¶ìf, fjjf^ ftfCfY**

f, fjjf^ ftfCfY, ì'í, Í¶A¶%A<É¶üŠÇ(CRT), ì'ÍŠp¶ü, ìCEö¶ìftfCfY, Å, ¶B, ±, è, í¶A¶%oÅŽ<•\  
Ží—í æ, ì'ÍŠp¶üfTfCfY, æ, è, à¶, μ'á, «, È'í, Å, ¶B^è"É"í, È'í, í¶A14" (35.5 cm)¶A17" (43  
cm) ¶A20" (51 cm), Å, ¶B<L¶†¶u"¶v, ìfCf" f` (2.54 cm), ì, ±, Æ, Å, ¶Bfvf¶fOf%of€, ðŽg—  
p, , é, ì, ìfCf" f` , ì'í, ¾, - , Å, , ð¶A, ±, ì'í, ðCE^ , ß, é, ì, É¶A'ÍŠp¶ü, ìftfCfY, ðfZf" f` , Å•ì, í, μ, Å¶A  
%oÅŽ<%oæ-É—í æ, ðfZf" f` , Å'è, μ, ½, Ý, Å, à, æ, ¶, Å, μ, ð, ¶B

**kHz¶...•½'-¶, Žü"g¶"í'í¶A**

Hz¶, ¼fŠftfÆfbfVf... fÆ¶[fg, ì"í'í  
¶A'á, Æ¶A'á, ì¶...•½'-¶, Žü"g¶", ÆftfÆ¶[f€, ìfŠftfÆfbfVf... fÆ¶[fg, ìf, fjjf^ f}fjjf...

fAf<,É,à<LÚ,³,ê,Ä,ç,Ü,·B  
,±,±,Å,íAf,fjf^,ìÅ'å...•½'-,Žü"g"(kHz),ª"Á,Éd—v,Å,·B,±  
,ìãÆÀ,ð',!,é,ÆAÅ^«,ìêf,fjf^,ÉÆìá,ð—^,·,±,Æ,ª, ,è,Ü,·B

## VESA DDC (•Ž!ff[]f^ f`fff“fif<)

f, fff^, ^VESADDC, đfTf[]fg, μ[]Af, fff^ fP[]fuf<, ^ DDC, É“K, μ[]AfOf%oftfBfbfN  
f{[]fh, ^VESADDCÉYŠ, ìê[]#[]Af, fff^ ff[]f^, đfOf%oftfBfbfN f{[]fh, Éf, fff^  
fP[]fuf<, đ%oi, μ, ÄŽ © “ ® “I, É’—[]M, Ä, «, Ü, ·[]B

ŽY, ÉŽ!, ·, ,Æ, “, è[]ADDC1[]ADDC2B[]ADDC2AB, Æ, ç, 3, Ä, ì^Ü, È, Á, ½<KŠi, ^, , è, Ü, ·[]B

### DDC1

f, fff^ fP[]fuf<, ìf%ofCf“, ì[]Af, fff^, ©, çfOf%oftfBfbfN, Ö’P•ûCEü, ì~A’±, μ, ½ff[]f^  
fXfgfS[]f€, đ’—[]M, ·, é, ì, ÉŽg—p, ^, è, Ü, ·[]B•W[]€, ì IBM VGACÉYŠ· 15-fsf“ f, fff^  
fRfIfNf^, ìê[]#[]Afsf“ 12 (^È’O[]Af, fff^ IDfrfbfg 1, Æ, μ, ÄŽg—p), ìff[]f^’—[]M, ÉŽg—  
p, ^, è, Ü, ·[]B128fofCfg, ìEDID ff[]f^ fZfbfg(Sg’£fffBfXfvfCEfCID), ìCE, è•Ô, μ’—  
[]M, ^, è[]A, »., ±, ©, çfRf“fsf...[]f^, ìŽå—v, Éf, fff^ ff[]f^, đ“Ç, ÝŽæ, é, ±  
, Æ, ^, Ä, «, Ü, ·[]B, ±, ìff[]f^, ì[]\—v’f, ìA3•¶Žš, ìf[][]fj[][], ìEISA-CFG fL[][]Af, fff^  
fTfCfY[]ADPMSfTf[][]fg, ì”ì^ì[]Afjff%oo[]“Á«[]AfTf[][]fg, ^, è, Ä, ç, é VESA f, fff^  
f^fCf~f“fO, ìfŠfXfg[]A, ç, , Ä, ©, ìŽ©—R, É’è<^, ì, Ä, «, éf, fff^ f^fCf~f“fO, È, Ç, Ä, ·[]B

### DDC2B

12Cfvf[]fgfRf<, ÉŠì, Ä, ‘o•ûCEüff[]f^ f`fffif<, ^[]Af, fff^, ÆfOf%oftfBfbfN  
f{[]fhSÔ, ì’È[]M, ÉŽg—p, ^, è, Ä, ç, Ü, ·[]B•W[]€, ì IBM VGACÉYŠ· 15-fsf“ f, fff^  
fRfIfNf^, ìê[]#[]Afsf“ 12 (^È’O[]Af, fff^ IDfrfbfg 1, Æ, μ, ÄŽg—p), ìff[]f^’—[]M, ÉŽg—  
p, ^, è(SDA)[]Afsf“ 15(^È’O[]Af, fff^ IDfrfbfg 3, Æ, μ, ÄŽg—p), ì’—[]MfNf[]fbfN(SCL)  
, Æ, μ, ÄŽg—p, ^, è, Ü, ·[]BfOf%oftfBfbfN f{[]fh, ì’Z, çEDID[]î•ñ(DDC1ŽQ[]Æ)  
, Æ[]A, æ, è•iŠ±“ì, ÈVDIF[]î•ñ(VESAfffBfXfvfCEfCŽ~•Éftf@fCf<), đ<3, É—  
v[]A, Ä, «, Ü, ·[]B

### DDC2AB

DDC2B, ìŽY, ìDDC2AB, Ä, ì[]A%ooæ-È, ì^È’u, â-  
¾, é, ^, ì’²[]®, È, Ç[]Af, fff^ []\$CEä, ìfRf}f“fh, đfRf“fsf...[]f^, ©, ç’—[]M, ·, é, ±  
, Æ, ^, Ä, «, 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,í,é•û-  
@,đ<L□q,μ,Ä,ç,Ü,·□B,±,ì•û-@,ÍfXfNfŠ□[f“ fZ□[fo□[ fvf□fOf%of€  
,É,Ç,É,æ,èŽ©“®“l,É<N“®),Å,«,Ü,·□B,±,é,ÍfL□[f{□[fh,Æf}fEfX,<sup>a</sup>, ,é^è‘è,ìŽžŠÔŽg  
—p,<sup>3</sup>,é,È,ç,Æ□Af,fjf^,đ□È“d—Íf,□[fh,É,μ,Ü,·□BfL□[,đ  
%oÿ,·,©f}fEfX,đ“®),©,·,Æ□Af,fjf^,í□³í,È“®ì,É□Ø,è‘Ö,í,è,Ü,·□B

,±,±,Å‘è<`<sup>3</sup>,é,éDPMS□ó‘Ô,ÍŽÿ,ì4,Â,Â,·□B

## ON

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

## fXf^f“fofC

“d—Í,ì□β-ñ,í,í,,©□A•œ<AŽžŠÔ,í‘Z,ç□B  
%oæ-Ê,đfuf%of“fN,É,μ□A□...•½“~Šú□M□†,đflft,É,·,é,±,Æ,Åf,fjf^,É’—  
□M,<sup>3</sup>,é,Ü,·□B  
,±,Íf,□[fh,í□í,ÉfTf|□[fg,<sup>3</sup>,é,Ä,ç,é,í,~,Å,í, ,è,Ü,<sup>1</sup>,ñ□B

## fTfXfyf“fh

,©,È,è,ì□È“d—Í□A•œ<AŽžŠÔ,í‘,ç□B  
%oæ-Ê,đfuf%of“fN,É,μ□A□,‘¼“~Šú□M□†,đflft,É,·,é,±,Æ,Åf,fjf^,É’—□M,<sup>3</sup>,é,Ü,·□B

## OFF

□Å‘å,ì□È“d—Í□A•œ<AŽžŠÔ,í□Å‘·□B  
%oæ-Ê,đfuf%of“fN,É,μ□A□...•½□,‘¼,ì“~Šú□M□†,đflft,É,·,é,±,Æ,Åf,fjf^,É’—  
□M,<sup>3</sup>,é,Ü,·□B



## fCfWfXfgfŠ,ift[fU fAfJfEf“fgC —

fCfWfXfgfŠ,Ö,ì‘,«ž,ÝC —,đŽ,Á,Ä,ç,È,ç,½,ß,É[A[OK],Ü,½,í[“K—p]f{f^f“,đ  
%oÿ,µ,½Cä,É[AfOf%oftfBfbfN f,[fh,đØ,è’Ö,ì,é,±,Æ,ì,Å,«,È,çŽ,đ’m,ç,<sup>1</sup>,éfGf  
%o[f ffbfZ[fW,<sup>3</sup>o,½ê#AŽÿ,ÉŽ!,·,Æ,“,èAŞÇ—ŽÒ,É,»,ìC —,đ—v<,µ,Ä,-  
<sup>3</sup>/<sub>4</sub>,<sup>3</sup>,çB

fCfWfXfgfŠ,Å[A[HKEY\_LOCAL\_MACHINE]AŽÿ,É[System\CurrentControlSet\  
Services\WINNER],Æi,ñ,ÅfL[,đ’ì,đ,µ,Ü,·B[Security]x[Permissions]  
,đ’ì,đ,µ,ÄAf\_fCfAf[fO[Registry Key Permissions],đŠ],«,Ü,·B  
,±,ìfL[,É’ì,µ,ÄA•K—v,Èft[fU fOf<[fv(’Êí[Aç Users£,Ü,½,ÍçPower User£)  
,ì[Registry Key Permissions],đŠg’£,µ,Ü,·B,Å,Ü,è,±,ìfOf<[fv,É’ì,µ,ÄA[Special  
Access...],ì,Æ,±,ë,ÅA[Query Value]A[Set Value]A[Create Subkey]A[Enumerate  
Subkeys]A[Delete],ìŠefAfNfZfXC ,đ—^,!,ÄA[Type of Access]  
,đC<sup>3</sup>,µ,Ü,·Bf\_fCfAf[fO[Registry Key Permissions],Åf`fFfbfNf{fbfNfX[Replace  
Permission on Existing Subkeys],đfAfNfefBfu,É,µ,Ü,·B

