

ELSA WINman (ELSA ȳ'è), ĩfwf<fv

ELSA WINman (ELSA ȳ'è), ĩ AELSA fOf%oftfBfbfN f{[fh, ÆELSA Windows fhf
%ofCfo, đf, fjf^, 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, fjf^, ĩfvf[fpfefB

fOf%oftfBfbfN f, [fh, ĩC³ Afjf%o[ffvfX/%ođ'œ“x/f^fCf~f“fO, ĩ'²®

fOf%oftfBfbfN f, [fh/f^fCf~f“fO

,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,π,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%oì,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%oì,É3—

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

B

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

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

fRf“fsf...□[f^,Éf}f<f`fXfNfŠ□[f“í%ož,ì•ì□“,ìELSA fOf%oftfBfbfN f{□[fh,Æ□AELSA MULTIman
Windowsfhf%ofCfo,Æ,ªfCf“fXfg□[f<,¾,é,Ä,¢,é,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,¾,¾,½,¢□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,ß,ìf_cfAf□fOf{fbfNfX,ÉCE©,Â,©,ç,È,¢□ê□‡,í□A'□Ú□×...f{f^f“,đfNfŠfbfN,µ,Ä,-
,¾,¾,¢□B

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

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

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

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

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

È,ìfv□fpfefB“à,É□Ý'èfy□[fW,ª'ç%oÁ,¾,è,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, ±, ìf^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^, ìC^'èŽQ] Æ) 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 © " ® "l, 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" È ä, ì, Æ, «, í 1280 x 1024, ²·è"É"l, Å, · B

•K—v, ÈŠftfCfbfVf... fC [fg, ð Hz, Å"ü—í, µ, Ü, · B
"wEi, ì, Ü, Æ, ñ, Ç, ²·, ìfAfvfŠfP [fVf#f", ìê# [A60 Hz, Å\·², Å, · B Windows, È, Ç" wEi, ì-
¾, é, ç fAfvfŠfP [fVf#f", ì Af ffBfXfvfCfC, ì, ç, Å, «, ð-h, ®, ½, ß, É Å'á75 Hz È ä, ÅžÀ s, µ, Ä, -
, ¾, ³, ç B'Éí [A] Å"K, ÈŠftfCfbfVf... fC [fg, í85 Hz, Å, · B 100 Hz, ð%øz, 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 [A ffBfXfvfCfC, ìTfCfY, Æ^É'u, ì'²® , ðžn, ß, Ü, · B
ffBfXfvfCfC, ìTfCfY, Æ^É'u, ðf, jf^, Å'²® , µ, Ä, Ý, Ä, ¾, ¾, ç [B, ², Ü, ·, ç, ©, È, ç [ê# [A [WINman
(ELSA Ý'è)], Å, f, jf^ f^fCf~f"fo, ð'²®, ·, é, ±, Æ, à, Å, «, Ü, · B

fefXfg fXfNfŠ[f“

WINman (ELSAŸ'è),Å,ÍA[V,μ,çf,fff^

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

fefXfg fXfNfŠ[f“ ,ª•Ž!,³,è,Ä,àAfGfXfP[fv fL[(Esc),ð%oŸ,·,±,Æ,Å,ç,Å,Å,àA,·,±,Æ,ª,Å,«,Ü,·B
ŽŸ,ÉAfefXfg fpf^ [f“ ,É-à'è,ª,È,ç,©,Ç,κ,©[q,Ë,ç,è,Ü,·B

fefXfg fpf^ [f“ ,ª^À'è,μ,½,çA,Ü,·Ÿ'è“à—

e,ð•Ù'¶,μAWindows,ðÄ·N“®,μ,Ä,©,çAfffBfXfvfÇfC,ìTfCfY,Æ^Ê'u,ì'²® ,ðŽn,β,Ü,·B
fffBfXfvfÇfC,ìTfCfY,Æ^Ê'u,ðf,fff^ ,Å'²® ,μ,Ä,Ý,Ä,,¾,³,çB,κ,Ü,,ç,©,È,çé[#,ÍA[WINman
(ELSAŸ'è)],Åf,fff^ 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%oð'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[]fbfVf... 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^Ê'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·û,ìf^fCf~f"fo,É,Å,ç,Ä" —I,Å,·[]B

fjf%o[fjfvfX/ bpp

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

Windows ,ìê#A'Êí,Í32768F(= 15 bpp)^Èä,ªŽg—p,ª,ê,Ü,·B,±,ìF",ªA·\
 Žì,ì'‰ŽÀ"x,Æf[f,fŠÁ"i/·Žì'—"x,Æ,ìŠÖEW,ÅÅ—Ç,ì'Ã<ì"_,¼,©,ç,Å,·B[F]",ª,È,ç
 ,ÆAfCf[fW,ìfnfìfŠfB,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,Å,àfŠftfCfbfVf... fC[f,g,ð‰,°,È,ç,Æ·Žì,Å,«,È,,È,è,Ü,·B
 ^ê"Ê"ì,É,ÍŽÿ,ìÝ'è,ð,,§,µ,Ü,·B
 256F(8 bpp): 'Êí,ìfìftfBfX fAfvfŠfP[fVf#"[i3D,ðŽg—p,µ,È,ç,Æ,«j
 32768,Ü,½,ì65536F(15,Ü,½,ì16 bpp),ìfnfCjff%o[: frffl,Ü,½,ì3DfAfvfŠfP[fVf#"
 1670-œF(24,Ü,½,ì32 bpp),ìftf<fjff%o[: , "x,È‰æ'œ^—ü, ~

^ê"Ê"ì,Èfjf%o[fjfvfX

F,ì"	bpp,Å·\ ,ì,µ,½fjf %o[fjfvfX	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,ì32	ftf<fjff%o[8 + 8 + 8 bpg

4,Ü,½,ì8 bpp,ìê#A[F,ì",ìfpfCfbfg(RAM DACjff%o[fe[fuf<),ðŽg,Å·\
 Žì,ª,è,éŽÀÛ,ìF,É·İŠ,ª,ê,Ü,·B,½,Æ,ì,îA,±,ìfpfCfbfg,Å262144F,ìfGf"fgfŠ(6 bpg,ìê#),à1670-
 œF,ìfGf"fgfŠ(8 bpg,ìê#),ì^—,ª‰Å"·,·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%□[ffvfX,đŽ!,μ,Ü,·(bpg = Bits Per Gun)□B,½,Æ,!,î□A16 bppfnfCjff%□[,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%ŮŽ</fo[f` fff< fXfNfŠ[f“ ,ì%Ůđ‘œ“x

fXfNfŠ[f“ fTfCfY

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

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

%ŮŽ<%Ůđ‘œ“x

%Ůđ‘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%Ůæ—
 Êã, ì'fsfNfZf<“, í1024 x 768 = 786432, É, È, è, Ü, ·B

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

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

fo[f` fff< fXfNfŠ[f“ , ìfpf“)

fo[f` fff< fXfNfŠ[f“ , AfNfefBfu, É, È, Á, Ä, ç, é, ÆAWindows, ìi<Æ—ì^æ, í•\Ž|, ³, è, Ä, ç, é
 %ŮŽ<fXfNfŠ[f“ , æ, è, à'â, «, , È, è, Ü, ·(, Å, Ü, èAfo[f` fff<%Ůđ‘œ“x, í%ŮŽ<%Ůđ‘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'ì"í'í'Éí10,©,ç250
MHz,Å,·[]B,½,Æ,ì,í[]A%ø'œ"x 1024 x 768[]A75 Hz,Å,í[]A79 MHz,ÍfsfNfZf< fNf[]bfN,³•K—
v,Å,·[]BfsfNfZf< fNf[]bfN,ì'ì,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†,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(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#f” ,ì[]ê[]#[]A60 Hz,Â[]·^a,Â,·B,æ,è”wCEi,ì-³/₄,é,çWindows,ì,æ,±,ÈfAfvfŠfP[]fVf#f” ,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” @[]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[]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[]AfeftCEfr,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,ffj^ ,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,ffj^ 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,â•;[]“fCf“fXfg[]f<,³,ê,Ä,¨,è[]A,³,ç,Éf}f<f`fXfNfŠ[]f“í%žfhf
%ofCfo,âfCf“fXfg[]f<,³,ê,Ä,ç,ê,î[]A•;[]”,ìf,fj^,ðŽg—
p,μ,ÄWindows,ð•;[]“fXfNfŠ[]f“(f}f<f`fXfNfŠ[]f”),ÅŽg,±,±,Æ,â,Ä,«,Ü,·[]B
Windows 95<y,ÑNT[]ã,Ä,í[]A“~^è,ìfOf%oftfBfbfN f,[]fh,Ä[]A“~,¶—e—
È,ìf[]f,fŠ,ðŽ[],Á,½[]A“~“™,ìELSAf{[]fh,Äf}f<f`fXfNfŠ[]f“ŠÂ<<,ð[]‘z%Ä“\,Ä,·[]BWindows
98<y,ÑWindows NT 5.0,É,¨,ç,Ä,í[]AOSŽ©‘ì,â^Ü,È,éf^fCfv,ìfOf
%oftfBfbfNfXf{[]fhŠÖ,Ä,ìf}f<f`fXfNfŠ[]f“,ðfTf[]f,·,é—\‘è,Ä,·[]B

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

fEfCf“fhfE,ì[]\$Eä,âf,fj^,ì[]±“Ö,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, ĀŽg—p, ·, éftfHf“fg fTfCfY, í² @ %oĀ“\, Ā, ·BftfHf“fg fTfCfY, íA800x600, Ü, Ā, ì%ođ‘œ“x, Ā, í
96dpi (□→)A1024x768^È□ã, ì%ođ‘œ“x, Ā, í 120dpi (‘â), ¢•□’ĒŽg—p, ¢, ê, Ü, ·□B

f, fff^ ff[]f^, iC^'è

ELSA fOf%oftfBfbfN f{[]fh, ðf, fff^, É"K[]#, ³, ¹, é, É, í[]Af, fff^" @[]), ìff[]f^, Æ"í^í, ðC^'è, :, é, ±, Æ, ³, K—
 v, Å, ·[]B
 , ±, ±, Å, í[]Af, fff^, ì[]Å'â[]... ·½'—[], Žü" g[]"(kHz), ³"Á, É[]d—v, Å, ·[]B, ±
 , ì[]ãCÈÀ, ð', !, é, Æ[]A[]Å^«, ì[]ê[]f, fff^, ÉCÈ[]á, ð, «, ½, :, ±, Æ, ³, , è, Ü, ·[]B

f, fff^, ìf[][]fj[][]Af, fff^, ì@Ží-¼

'É[]í[]Af[][]fj[][], " , æ, ÑC^—¼, ìf, fff^, ì"w-Ê, É, , è, Ü, , ³[]A, È, ç[]ê[]#, ìf, fff^ f} fff... fAf<, ðŽQ[]Æ, µ, Ä, -
 , ¾, ³, ç[]B

Cö[]f, fff^ fTfCfY

f, fff^ fTfCfY, ì'l, í[]A%oA<ÉüŠÇ(CRT), ì'ÍŠpü, ìCö[]fTfCfY, Å, ·[]B, ±, è, í[]A%oAŽ<·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"í^í(kHz)[]A
 [], ¼fŠftfCfBfVf... fC[][]fg, ì"í^í(Hz)

[]Å'â, " , æ, Ñ[]Å'á, ì[]... ·½'—[], Žü" g[], ÆfŠftfCfBfVf... fC[][]fg, í[]A, "Žè<, ìf, fff^ f} fff...
 fAf<, É<L[]Ú, ³, è, Ä, ç, Ü, ·[]B
 , ±, ±, Å, í[]Af, fff^, ì[]Å'â[]... ·½'—[], Žü" g[]"(kHz), ³"Á, É[]d—v, Å, ·[]B, ±
 , ì[]ãCÈÀ, ð', !, é, Æ[]A[]Å^«, ì[]ê[]f, fff^, ÉCÈ[]á, ð, «, ½, :, ±, Æ, ³, , è, Ü, ·[]B, »; ì'¼, ì'l, ³C^, Ü, ç, È, ç[]ê[]#[]Af
 [f[], ì, Ü, Ü, É, µ, Ä, " , ç, Ä, ©, Ü, ç, Ü, ¹, ñ[]B

f, fff^, ìfvf[]fpfefB, iC^'è

f, fff^, ìfvf[]fpfefB, ðC^'è, :, é, É, í[]AZŽ, ÉŽ!, , ç, , Å, ©, ì·û-@, ³, , è, Ü, ·[]B

f, fff^ f} fff... fAf<:
 f, fff^, ì<Z[]pŽd—l, í[]Af, fff^, É·t' @, :, éf} fff... fAf<, É<L[]Ú, ³, è, Ä, ç, 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-¼ AfCf“f` , Ü, ½, íZf“f` ‘P^Ê, ì‘íŠpü, ìœö ìf, fjjf^ fTfCY (= fCf“f` , Ü, ½, íZf“f` ‘P^Ê, ìCRT, ì‘íŠpüüfTfCY) 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, í Af, fjjf^, ì<—e Å‘â... •½’- , Žü”g” (kHz), ²“Á, É d—v, Å, ·B, ± , ìăœÀ, ð’ , !, é, Æ A Å^« , ìê†f, fjjf^, ÉÈ ìá, 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”íí,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'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,íf,fjf^,ì<L□q,í—á,ì,ìŽŸ,ì,æ,ᄀ,É,È,è,Ü,·□B
ELSA, GDM-17E40, 17", 29-82kHz, 50-150Hz, 0.26mm

VESA VDI 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 — È, 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 VDIF, 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 VDIF, 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 VDIF 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 — È, 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 ^ ' 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 , Å , , ¾ , ³ , ç [] B , » , ì ' ¼ , ì • ù — @ , Ì [] Af, f j f ^ f f [] [f ^ , Ì Ç È ^ ' è , Æ , ç , æ Ç È [] o , µ , Å [] à — ¾ , ³ , è , Å , ç , Ü , · [] B

[WINman (ELSA ð ' 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 % o o [] [f f f v f X (' È [] í [] A 8 b p p = 256 [] F) , ð ' I ' ð , µ , Ü , · [] B f j f % o o [] [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 [] % o , Ì 2 , Å , Ì ' I , Í X , Æ Y , Ì % o o ð ' œ " x ([] ... • ½ , Æ [] , ¼ , Ì % o o ð ' œ " x) , ð • \ , í , µ , Ü , · [] B % o o 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 ^ È , Å • \ , í , µ , Å , 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 , Å , - , ¾ , ³ , ç [] B ' È [] í [] A [] Å " K , È f 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 % o z , Ì , Å , à — Ú , Å Š m " F , Å , « , é % o ü ' P , Í , , è , Ü , ¹ , ñ [] B — ² Ç È è [] u i [] v , " , æ , Ñ [] u n i [] v , Í [] A , » , è , ¼ , è f C f " f ^ [] [f Ç È [] [f X , " , æ , Ñ f m f " f C f " f ^ [] [f Ç È [] [f X , ð • \ , í , µ , Å , 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 [] Å ' å ... • ½ ' — [] , Ž ü " g [] " , ð ' ' , Ì , Å , 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,ð 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%œ'α,ª<ó",ì¶ó'Ö,Ä,.,é,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,ì,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,».,é,ç,ð,Ð,Æ,Ä,É,.,é¶ê¶AfeLfXfg fGfffBf^,ðŽg,Ä,Ä¶A'¼,lfj@fCf<,ì[PREADJUSTED_TIMING]fZfNfvf¶",ð¶A¶%,lfj@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,,¾,¾,ç¶B"ü—í,³,è,½f¶fX-¼,í¶A,Ä,«.,é,lfj@fCf<¶[fffBfXfN,Ä,È,fn¶[fh fffBfXfN,ÉŽw'è,μ,Ü,·Bftj@fCf<¶[fffBfXfN,ÉŽw'è,.,,é,Æ¶A•Ü'¶,É,©,È,è'.,çŽžŠÔ,ð—v,μ,Ü,·B

CEö¶lf.fjf^ ftjCfY

f.fjf^ ftjCfY,ì'í,í¶A%œA<É¶üŠÇ(CRT),ì'ÍŠpü,ìCEö¶lfjTfCfY,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<%œ-É—

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 □ " , ÆftfCE □ [f€, ìfŠftfCEfbfVf... fCE □ [fg, íf, fíf ^ f } fíf ... fAf<.

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VESA DDC (•\Ž|ff□f^ f`fff“f|f<)

f,fjf^ ,^aVESA DDC,đfTf|□[fg,μ□Af,fjf^ fP□[fuf<,^a DDC,É“K,μ□AfOf%oftfBfbfN f{□[fh,^aVESA DDCÉÝŠ,ì□ê□#□Af,fjf^ ff□[f^ ,đfOf%oftfBfbfN f{□[fh,Éf,fjf^ fP□[fuf<,đ%oî,μ,ĂŽ©“®“l,É’— □M,Ă,«,Ü,·□B

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

DDC1

f,fjf^ fP□[fuf<,lf%ofCf“,í□Af,fjf^ ,©,çfOf%oftfBfbfN,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,fjf^ fRf|fNf^ ,ì□ê□#□Afsf“ 12 (^È’O□Af,fjf^ IDfrfbfg 1,Æ,μ,ĂŽg—p),Íff□[f^—□M,ÉŽg—p,³,è□Afsf“ 14,ì□,¼“~Šú□M□t,í’— □MfNf□fbfN(VCLK),Æ,μ,ĂŽg—p,³,è,Ü,·□B128fofCfg,ìEDID ff□[f^ fZfbfg(Šg’£fffBfXfvfCEfCID),íCEJ,è•Ô,μ’—□M,³,é□A,»,±,©,çfRf“fsf...□[f^ ,ÍŽâ—v,Éf,fjf^ ff□[f^ ,đ“Ç,ÝŽæ,é,±,Æ,^a,Ă,«,Ü,·□B,± ,lf□[f^ ,ì□\□¬—v’f,í□A3•¶Žš,ìf□□[f]□,ìEISA-CFG fL□[□Af,fjf^ fTfCfY□ADPMSfTf□[fg,ì’í^í□Afjf %o□[“Á□«□AfTf□[fg,³,è,Ă,ç,é VESA f,fjf^ f^fCf~f“fO,lfŠfXfg□A,ç,,Ă,©,ìŽ©— R,É’è<` ,ì,Ă,«,é,f,fjf^ f^fCf~f“fO,È,Ç,Ă,·□B

DDC2B

12Cfvf□fgfRf<,ÉŠî,Ă,‘o•ûCEüff□[f^ f`fff|f<,^a□Af,fjf^ ,ÆfOf%oftfBfbfN f{□[fhŠÖ,ì’É□M,ÉŽg— p,³,è,Ă,ç,Ü,·□B•W□€,ì IBM VGACEÝŠ· 15-fsf“ f,fjf^ fRf|fNf^ ,ì□ê□#□Afsf“ 12 (^È’O□Af,fjf^ IDfrfbfg 1,Æ,μ,ĂŽg—p),Íff□[f^—□M,ÉŽg—p,³,è(SDA)□Afsf“ 15(^È’O□Af,fjf^ IDfrfbfg 3,Æ,μ,ĂŽg—p),í’— □MfNf□fbfN(SCL),Æ,μ,ĂŽg—p,³,è,Ü,·□BfOf%oftfBfbfN f{□[fh,í’Z,çEDID□î•ñ(DDC1ŽQ□Æ),Æ□A,æ,è•ïŠ‡“l,ÈVDIF□î•ñ(VESAfffBfXfvfCEfCŽ~•Êftf@fCf<),đ<α,É—v<□,Ă,«,Ü,·□B

DDC2AB

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

VESA DPMS

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,±,Íf,□[fh,í□í,ÉfTf|□[fg,³,è,Ä,ç,é,í,¯,Å,í, ,è,Ü,¹,ñ□B

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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
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,ð'ì'ð,µ,Ä□Af_fCfAf□fO[fCEfWfXfgfŠfL□[,ìfAfNfZfXCE],ðŠJ,«,Ü,·□B
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,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

