

1. FPD97, ěŠT—v

2. ‘€□□à-¾

3. MIDI—p, ì<È, ě••, «•û

fTf□□[fg, u, Ä, ç, éMIDI fCxf“fg

4. □ì<È, ì, u, ©, ½

MML, ì•¶-@

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ŠyŠí%o¹□F’î%ož•\

5. ‘~□žÒ

fTf□□[fg□æ

6. □Ä”z•z, É, Â, ç, Ä

FPD97, ĭŠT—v

□@FPD97, ĭMIDI%¹CE¹, ^{a-3}, Ä, àMIDI%¹CE¹, ĭ'ä, í, è, ð, µ, Ä, , è, éf^{ft}fg, Ä, □D
 □@CEvŽZ<@ "à' , ĭPCM%¹CE¹, ðŽg, Á, Ä□¹½□d~a%¹, É, æ, éfŠfAf<f^fCfE%
 %^o't, ðŽÀCE», µ□CGM/GS<KŠi, É'ĭ%^ož, µ, ½MIDIftf@fCf<, ð%^o%^o't, , é, ±
 ,Æ, ^a, Ä, «, Ü, □D, Ü, ½□CMML<L□q, É, æ, é□ĭ<È, ð□s, x, ±, Æ, à%^oÄ"\
 , Ä, □D, ³, ç, É□CWindowsfTfEf"fhftf@fCf<, ĭWAVftf@fCf<, Ö, ĭ•İŠ, àfTf|
 □[fg, µ, Ä, " , è, Ü, □D

“Ä’Ÿ

□EPCM, ĭ%¹□ff□[f^, ĭf<□[fv, ð, Æ, Ä, ÄŽg—p, µ, Ü, □D, ±, è, É, æ, è□C□, È, çff□[f^—
 È, Ä-³CEÄ' , ĭ"□^o, ^a%^oÄ"\
 □E□Ä□Ÿ□^~^%¹fCE□[fg, ĭ" C^Ó%^oÄ•ĭ, Ä, □D, ç, è, ñ, È~^
 %¹fCE□[fg, Ä□ĭ□-, µ, ½PCMff□[f^, ð'g, Ý□Ÿ, ĭ, ¹, ÄŽg, Á, Ä□C□X, É, » , è, ð" C^Ó, ĭfCE□[f
 g, Ä□Ä□Ÿ, µ, Ä, à□C%¹'ö, ^a□Ÿ, ĭ, È, ç, æ, x, É•İŠ, ³, è, Ü, □D, Ü, ½□C, ±, ĭ<@"\
 , É, æ, é'—“x'á%^o, à, Ü, Æ, ñ, ç, , è, Ü, ¹, ñ□D, » , ĭ, ½, ßŠe□ĭ, ĭf□f, fŠ, âCPU, ĭ□«"\
 , É□Ÿ, ĭ, ¹, Ä□C□Ä—ç, ĭ" ®□ĭ'—“x, ð'ĭ'ð, , é, ±, Æ, ^a%^oÄ"\
 □E, à, ç, è, ñfofbfNfOf%^of"fh, Ä, ĭ□^—□, Ä, , ĭ, Ä□CBGM, Æ, µ, ÄŽg—p, , é, ±, Æ, ^a%^oÄ"\
 , Ä, □D
 □EŠef`fff"flf<, ÄfXfefCEfĭ□Ä□Ÿ, ^a%^oÄ"\
 □EMML, Ä<Èff□[f^, ð□ĭ□-, Ä, «, Ü, , ĭ, Ä□CMML, ÉŠµ, è, ½□ĭ, È, çŽèCEy, ÉPCM, ĭ<È, ð□ĭ, é,
 ±, Æ, ^a, Ä, «, Ü, □D
 □ESMF(•W□€MIDIftf@fCf<), ðFPD97—p, ĭ%^o%^o'tftf@fCf<, É•İŠ, µ, Ä'® , , ±
 , Æ, ^a, Ä, «, Ü, □DMIDI, Ä□Ä□Ÿ, , é□ê□Ÿ, æ, è%¹Ž:“™ , ^a—Ž, ç, é, ĭ, ĭŽd•û, ^a, É, ç
 , É, µ, Ä, à□C—{‘ĭ“à' , ĭPCM, ³/₄, , ÄMIDI, ĭ<È, ^a® , , é, ±, Æ, É, È, è, Ü, □D
 □ĭ, Ü, ½□C—‘R, ĭCEŸ“ , Æ, µ, Ä<“ , ^a, é, ĭ, ĭ□C□^—□'—“x, ^a~ , µ, 'á%^o, , é, ±
 , Æ, Ä, □D, ½, ³/₄, µ□C, ±, è, ĭ, ±, ĭfhf%^ofCfo, ĭ□«Ž□ĭã, â, p, ð“³/₄, È, ç, ±, Æ, Ä, ĭ, , è, Ü, □D'
 —“x, ÉŠÖ, µ, Ä, ĭ□A<ÉCEÀ, Ü, Ä□Ä“K%^o», ðCEv, Ä, ½, Ä, à, è, Ä, □D

fffBfCEfNfgfŠ, Æftf@fCf<, ĭ□à-³/₄

□@[SAMPLE] ftf"fvf<
 *.MML MMLf□[fXfŠfXfg
 *.MID MIDIftf@fCf<□D•İŠ, ĭ, ½, ß, ÉfTf"fvf<, Æ, µ, Ä"~□
 *.FPD Šg'£ŽqMML, Ü, ½, ĭMID, æ, è•İŠ, ³, è, ½%^o%^o'tftf@fCf<
 *.DOC Še<È, ĭ□Š□ĭŽÖfhfLf...f□f"fg
 [KORG] (Š")KORG, æ, è, ²'ñ<Ÿ, ĭfTf"fvf<
 [PCM97] %¹□F"gCE` , ĭPCMff□[f^, ^a“ü, Ä, Ä, ç, Ü, □D
 [PCM95] FPD95, Æ%¹□F, ĭCEŸŠ, □« , ð•Ü, Ä, ½, ß, ĭPCMff□[f^

•Ö— , ÈŽg, ç•û

□@FPD97, É, ĭfhf%^ofbfO□•fhf□fbfv<@" , ^a“ö, ĭ, Ä, Ä, ç, Ü, □D
 □@ftf@fCf<f}fĭ□[fWff□[, © , çŽÀ□s't, ĭFPD97□ã, É□Cftf@fCf<(FPD, MID, WAV, MML)

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,Û,½CFPD,MID,WAV,ìftf@fCf<,íCfAfvfŠfP[fvf#f“,Æ,ÌŠÖ~A•t,·,ÅCFPD97.EXE
,ÉŠÖ~A•t,·,đs,È,Á,Ä,“,±,Æ,ª,Å,«,Û,·B,»,ì,æ,α,É,μ,Ä,“,·,îCfGfNfXfvf[f
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fhf%ofbfO • fhf fbvf (drag-drop)

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MIDI—p, ì<È, ì••, «•û

•W□€MIDIftf@fCf<, ìff□[f^, í□CNIFTY-Serve, Å, µ, ½, ç□uMIDI Data Forum□v(GO FMIDIDAT), È, Ç, É, ç, , Æ'u, ç, Ä, , è, Ü, ·□D-{—^, È, ç□CMIDIŠyŠí, ð, “Ž□, ¿, Å, È, ç, Æ“ü, Á, Ä, à, , Ü, è^Ó—i, ð, È, ç, ì, Å, ·, ð□C□uFPD97□v, ð, “Žg, ç, Å, µ, ½, ç□CMIDIŠyŠí, ðŽ□, Á, Ä, ç, é, à“~'R, Å, ·□D, ç, è, ç, è, Æf_fEf“f□□[fh, µ, Ä%o %o't, ð, “••, «, É, È, Á, Ä, Ý, Ä%oo, ð, ç□□D

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□@fTf| [fg,μ,Ä,ç,éMIDI|Cfxf“fg,δMIDI|Cf“fvfŠf|f“fe□[fVf#f“□Ef`ff□[fg•—,É□',ç,½,à,ì,Å,·□D

FUNCTION	Žó□M	”õ□l
BASIC CHANNEL	1□`16	
MODE	OMNI OFF,POLY	
NOTE NUMBER	12□`107	1□`11,108□`127,à^ê%ož%oÂ”\
VELOCITY NOTE ON	□> 9n,V=1□`127	
NOTE OFF	□~	
AFTER TOUCH	□~	
PITCH BENDER	□>	Default Range 2
CONTROL CHANGE 1	□>	Pitch Modulation
6	□>	Data Entry (MSB) □ 1
7	□>	VOLUME
10	□>	PANPOT
11	□>	EXPRESSION
98	□>	NRPN (LSB)
99	□>	NRPN (MSB)
100	□>	RPN (LSB)
101	□>	RPN (MSB)
PROGRAM CHANGE	□> 0□`127	Ch.10,í0,25,É'î%ož 0=STANDARD Set 25=ANALOG Set
EXCLUSIVE	□>	Roland ID □ 2
COMMON(SONG,TUNE)	□~	
REALTIME(CLOCK,COMMAND)	□~	

□>□F, ,è
□~□F,É,μ

□|1 Pitch bend sesitivity when LSB=0 and MSB=0
□|2 Only GS Model is Supported in "USE FOR RHYTHM PART"

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□E- {f\ftfgfEjFfA,É“~□«,³,ê,Ä,ϕ,éPCM‰¹□F”gCE`ff□[f^,í□CŠ”Ž®
‰ižĐKORG,Æ,ìf‰ofCfZf“fXCE_ -ñ,ÉŠî,Ä,ϕ,ÄŽg—p,μ,Ä,ϕ,é,à,ì,Ä,·□B-³'f— —
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 Ì—¹□³,đ“¾,Ä,,¾,³,ϕ□D,È,“□C—L□ž,đŠó-],·,é□ê□ž,É,í,²'S'k
‰‰º,³,ϕ□DFPD□CMMLftf@fCf<,É,Â,ϕ,Ä,í□C—L□ž□C-³□ž,É,©,©,í,ç,,”z•z,íŽ©—
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fTf|[]fg

@fTf|[]fg,í“dŽqf[]f<,ÅŽó,¯•t,¯,Ä,¨,è,Ü,·[]B
fpd97@platz.or.jp

,Ü,½[]A'Ê[]M,ª,Å,«,È,ç•û,Å[]C,Ç,κ,μ,Ä,à•K—v,È[]ê[]‡,Í%º<L[]Z[]Š,Ü,Å,²~A—[],-
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[]‡Ž'‰iŽĐ,k,c,f
,e,o,c,X,VfTf|[]fgÆW
(TEL 03-5685-7181)

FPD97,lfz[]f€fy[]fW

<http://www.platz.or.jp/~fpd97>

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□@□Ä"z•z,ÍŽ©—R,É□s,Á,Ä,à,ç,Á,Ä□\,ç,Ü,¹,ñ□D

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%o'tfp□[fg,í□u□”Žš(0~3)□{□%opŽš(A~P)□v,Æ,ç,αCE`Ž®,Å□A,»,ì'¼,ì<@”\,ðŽ□,Åfp□[fg,í%opŽš,ì,Ý,Å•\L,μ,Ü,·□B□æ“ª,É□u0A□v,Æ,·,è,í,»,ì□s,í□u0Afp□[fg□v□A,s,Æ,·,è,í□u,sfp□[fg□v,Æ,ç,Á,½Š',¶,Å,·□B

□@,e,o,c,X,V,Å,í^È%o°,ìfp□[fg,ðŽg,α,±,Æ,ª,Å,«,Ü,·□B

0Afp□[fg ---- f`fff“flf<,P,ì%o%o't“à—e

0Bfp□[fg ---- f`fff“flf<,Q,ì%o%o't“à—e
□i“r't□È—ª□j

0Pfp□[fg ---- f`fff“flf<16,ì%o%o't“à—e

1Afp□[fg ---- f`fff“flf<17,ì%o%o't“à—e

1Bfp□[fg ---- f`fff“flf<18,ì%o%o't“à—e
□i“r't□È—ª□j

3Pfp□[fg ---- f`fff“flf<64,ì%o%o't“à—e

,sfp□[fg ---- ‘S%o¹•,,',·,Æ□%oŠúfef“fl,ð□éCE¾

,ufp□[fg ---- %o¹□Fftf@fCf<,ì”Ô□t,Ö,ìŠ,,,è“-.,Ä

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□@0A~0Pfp□[fg,í□”Žš,ì0,ð□È—ª,μ,Ä%opŽš^èŽš,Å•\L,·,é,±,Æ,ª□o—^,Ü,·□B

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—á□j

0A c2d4e4 >c8c8

0B c2d4e4 >c8c8

0A0B c2d4e4 >c8c8

□@□ã,ì,Q,Â,í□A'S,“^,¶^Ó—j,ð,·,ç,í,μ,Ü,·□B

—á□j

1C c8d8e8f8

2E c8d8e8d8

1C2E c8d8e8

1C f8

2E d8

□@,±,ì,Q,Â,à□A'S,"^,¶^Ó-; ,É,È,è,Ü,·□B

□@,Ü,½□AŽš□",đ□,È,,·,é·\<L,ªŠô,Â,©—p^Ó,³,ê,Ä,ç,Ü,·□B^È%°º,É-}—
á,đŽ!,μ,Ü,·□B

1A1B1C =□@1[ABC]

1A2A = 12A

1A2A1B2B = 12[AB]

□@□Hfp□[fg,í□A□u0A~0P<y,Ñ□A1A~3P,ì,α,ζ,» ,ê^È'O,ÉŽg—p,³,ê,½,±,Æ,ì, ,éfp□
[fg□v,Æ,ç,α,±,Æ,Å,·□B"]²,ìŽw'è,â□" ,É,æ,é%°°°°'tfXfCfbf` ,È,Ç□A'S%°°
%°°'tfp□[fg,É, ©, ^, ½,ç-½—β,đŽg,αŽž,É•Ö—~ ,Å,·□B

—á□j,±,±,Ü,Å,É0A~0L,Æ1A,1Bfp□[fg,ªŽg,í,ê,Ä,ç,é□ê□‡

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%°¹•,, ,ì'·,³,Æ,μ,ÄŽg,ì,Ü,·□B'S

%°¹•,, ,□□, X, U,Æ,μ,½Žž,í□A1,2,3,4,6,8,12,16,24,32,48,96 ,ªŽg,ì,é,±

,Æ,É,È,è,Ü,·□B

□@,±,ì^Ó-; ,ª,æ,"» ,ç,È,ç□l,í□A,Æ,è, ,ì,, □u,sfp□[fg,ì,Q,Â-Ú,ì□"Žš,í,P,X,Q□v,Æ,ç
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(n:1~8)

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(n:0~4)

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(n:-127~127)

□” □o,Ž fpf“,ð¶É, ,ç,·

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(n:1~127,□É—ªžž,í,P)

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(n:6~255)

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E AL,AR,DR,SL,DRB,SLB,SR,RR,TL,MR

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AL (Attack Level) 0~127

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AR (Attack Rate) 0~95

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DR (Decay Rate 1) 0~95

SL (Sustain Level 1) -127~127

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DRB (Decay Rate 2) 0~95

SLB (Sustain Level 2) -127~+127

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SR (Sustain Rate) 0~95

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RR (Release Rate) 0~95

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TL (Total Level) 0~127

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MR (Moving Rate) 0~12

DR, DRB, SR, É, æ, é ^ Ú " @ Ž Ž Š Ó, ð Ą A ' ·, -
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E110,93,40,2,1,0,0,85,127,0
, ±, ê, í, Q, Å, Ą, à Ą A, ·, x, Ä, ì [" ' l, ð [Ÿ ' è, ·, é — á, Å, · B

, Ç, ì [" ' l, à Ą Ą Ą Ą — ð , ð % 0 Ä " \, Å, · B [Ą Ą —
ð , ·, é, ì, » , ì [" ' l, í · Ĭ X, µ, Ü, 1, ñ B, Ü, ½ [" Ž š, ð 10, Å · Å, x, , É Ą " r ' t, Å Ą l, í, é, ±, Ą, à % 0 Ä " \
, Å, · B

—á□j

E127,,,,,0,,70 AL=127,SLB=0,RR=70 ,É□Ý'è□A,»,ê^ÈŠO,Í•ï□X,¹,.□B
E110,20 AL=110,AR=20 ,É□Ý'è,μ,Ü,·□B

“r't,©,ç□”l□Ý'è,ð□s,α,±,Æ,à,Â,«,Ü,·□B

—á□j

EDR40,4 DR=40,SL=4 ,É□Ý'è,μ,Ü,·□B
ESR0 SR=0 ,É□Ý'è,μ,Ü,·□B

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□” ,d,m,Ž %o¹□F•ÉfGf“fxf□□[fvCE`□ó”Ô□t,ðŽw'è
(n:0~3,□È—^aŽž,íffftfHf<fg,ð^Ó-i)

,±,lfhf%ofCfo,Â,í□A%o¹□Fff□[f^ - ^,É□Â□,,SŽí—
p,lfGf“fxf□□[fv,^a□Ý'è,μ,Ä, ,è,Ü,·□B,±,ì-½—β,É,æ,Á,Ä□AfGf“fxf□□[fv,ì,α
,ç,ê,©,ð'l,ñ,Â□Ý'è,·,é,±,Æ,^a□o—^,Ü,·□BŠ®‘S,ÉŽv,ç'É,è,ìCE`□ó,í,É,-
,Ä,à□A□ä,ì,d-½—β,æ,è,í,í,é,©,ÉŠÈ'P,ÉŽg,ì,Ü,·□B
,É,“□A%o¹□F,É,æ,Á,Ä,í,Q□` ,RŽí—p,μ,©□€”ð,μ,Ä,ç,È,ç,±,Æ,^a ,è,Ü,·□B-
ç□Ý'è,ì”Ô□t,^aŽw'è,³,é,½Žž,í□AfGf“fxf□□[fv,ì•ï□X,ð□s,ç,Ü,¹,ñ□B
,Ž,ð□È—^a,μ,½□è□t,í□A,O□` ,R,ì,α,ç□AffftfHf<fg”Ô□t□i
%o¹□F•ï□X,ìŽž,É'í,î,ê,é□j,ðŽw'è,μ,½,±,Æ,É,È,è,Ü,·□B

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□” ,emode,iv,l1,v1,l2,v2,¥¥,ln,vn,¥¥□@□il8,v8,Ü,ÂŽw'è%oÂ”\□j□@%o¹
—É□,,^Ú,ð□Ý'è

(mode:1~3,iv:-63~63,ln:%o¹'·Žw'è,Æ“~ ,¶,vn:-63~+63)

□” ,e,O %o¹—É□,,^Ú,ð'áŽ~

□@%o¹—É□,,^Ú,ð□Ý'è,μ,Ü,·□B
□@,±,ê,í□A,P,Â,ì%o¹•,,“à,Â%o¹—É,ð□ã%o⁰,·,é,½,β,ì-½—β,Â□AfGf“fxf□□[fv,ì—pŽ
—<@“\,Æ%o⁰ðŽž,μ,Ä-á,ì,ê,î,ç,ç,ÆŽv,ç,Ü,·□B,½,¾□A,±,ç,ç,í□îŠ´,ð•\Æ» ,μ,â,·,ç
,æ,α,É□ì,Á,Ä, ,è,Ü,·□B
□@-½—β,ìŠî- {“l,É□l,ì•û,í□u,Ž•^a%o¹•,,,¾,¯,ìŽžŠÔ,ð,©,¯,Ä%o¹—É,ð,-□ã,°□i
%o⁰,°□j,é□v,Æ,ç,α□§CEä,ð~A'±□i□Á'â,WCEÂ,Ü,Â□j,μ,Ä□Ý'è,μ,Ü,·□Bf|f<f^f□f“fg,ì
%o¹—É”Â,Æ,àCE¾,ì,é,©,à'm,ê,Ü,¹,ñ□B

□@Šefpf%oof□□[f^,î^Ó-î,ð□à-¾,μ,Û,·□B

mode:□,,^Úf,□[fh,ì□Ý'è

□@□Emode=1,È,çŽŸ,ì,P%oo^{1,¾},-,É□,,^Ú,^a,©,©,è,Û,·□B,±,ì□ê□‡,í,»,ì,P

%oo¹,afL□[flft,μ,½ŽŽ“_ ,ĂŽ©“®“l,É□,,^Ú-½-β,í-³CEø,É,È,è,Û,·□B

□@□Emode=2,È,çfL□[flf“-^,É“-^,Ÿ□,,^Úfpf^□[f“^a,©,©,è,Û,·□B,±,ì□ê□‡,í□A□,,^Ú-½-β,ðŽ~ ,β,éŽŽ,ÉF0,ĂŽ~ ,β,é•K-v,^a, ,è,Û,·□B

□@□Emode=3,È,çfL□[flft□AfL□[flf“ ,ð-³Ž<,μ,Ă□,,^Ú,ðCEp'±,μ,Û,·□BŽw'è,³,è,½%oo¹-Ê□,,^Ú,^a□l-¹,·,è,î□AŽŸ,lfL□[flf“ ,©,ç□,,^Ú-½-β,^{a-3}CEø,É,È,è,Û,·□B

iv:□%ooŠú%oo¹-Ê□i□ãCEü,«,^a□³□j

□@□@fGf“fxf□□[fv,Æ□³•%oo,^at,È,ì,Ă'□^Ó,μ,Ă%oo^o,³,ç□B

□@□@

ln,vn:Ž”Ô-Ú,ì%oo¹·,^Ú“®%oo¹-Ê

□@,±,ì,Q,Ă,í□u,CE^a%oo¹•,,,ì'·,³,Ă,-,¾,-%oo¹-Ê,ð□ã,°,é□v,Æ,ç,π^Ó-

î,Ă,·□B,Q,ĂfyfA,Ă,P,Ă,ì□§CEä,É,È,è,Û,·□B□i□Ă'ă,W%ooñ,ì□§CEä,^a□o-^,Û,·□j

□@ln,í□A%oo¹·,Ă,·□B%oo¹•,,P^Ê,ĂŽw'è,μ,Û,·□B•,,“_ ,È,Ç,àŽg-p□o-

^,Û,·□Bvn,í□Aln,ĂŽw'è,μ,½%oo¹·ŠÔ,É'□%ooĂ,·,é%oo¹-Ê,Ă,·□Bf}fCfifX,É,·,è,î%oo¹-Ê,íCE□,μ,Û,·□B

□@-á,ðŽì,μ,Û,·□B

□@□@F1,-3,2,-2,4,0,2,2

□@□@□@□@□@□@~~~~ ~~~ ~~~

ŽŸ,ì,P%oo^{1,¾},-,Ö,ìŽw'è,Ă,·□B'Ê□í%oo¹-

Ê,æ,è,R□-³,ç□ó'Ô,ĂfL□[flf“ ,μ□A,»,ìCEä,Q•^a%oo¹•,,,ìŽŽŠÔ,ð,©,-,Ă%oo¹-Ê,^a,Q

%oo^o,^a,è,Û,·□B,»,ìCEä,S•^a%oo¹•,,,ìŠÔ%oo¹-Ê,í•î%oo»¹,,□A,»,ìCEä,Q•^a

%oo¹•,,,ìŽŽŠÔ,ð,©,-,Ă%oo¹-Ê,^a,Q□ã,^a,è,Û,·□B

”g□ü,Ă,Û,Æ,β,Ă, ,é,ì,^a□A,P%ooñ,ì□§CEä,Ă,·□B,±,ì□ê□‡,í,R%ooñ,ì□§CEä,ð□s,È,Ă,Ă,ç

,Û,·^a□A,±,è,^a□A'ă,W%ooñ,Û,ĂŽw'è□o-^,é,í,-,Ă,·□B,È,“□A”%oo¹t,É,±

,lfRf}f“fh,É,æ,é□§CEä,^a□l,Ă,½□ê□‡,í□AfL□[flft,Û,Ă,»,ì,Û,Û,ì%oo¹-Ê,^a±,«,Û,·□B

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□” , ,Ž fGf“fxf□□[fv,lfAf^fbfN'²□®

(n:32~127)

fGf“fxf□□[fv,lfAf^fbfN•”,í□A'Ê□í,í127,Û,Ă□ã□,μ,Û,·,^a□A,±

,lfRf}f“fh,Ă,»,ì□ãCEÀ,ðŽw'è,·,é,±

,Æ,^a,Ă,«,Û,·□BAL,æ,è,à'á,ç□”l,ðŽw'è,μ,½□ê□‡,í□A,±,ì,ç,^a-D□æ,Æ,È,è,Û,·□B

,±,lfRf}f“fh,ĂfAf^fbfN,ð-},l,Ă,“ , ,î□AfffBfPfC•”,Ă□X,É%oo¹-Ê,ð□ã,°,é,±,Æ,^a

/ * , Æ * / , É < ² , Ü , ê , ½ • " • ¢ , ð ' □ Ž ß , Æ , Ý , È , µ , Ü , · □ B ' □ Ž ß • ¶ ' t , É % ü □ s , ¢ , , Á , Ä , à □ A * /
 , ð Æ © , Â , ¯ , é , Ü , Á ' □ Ž ß , ¢ ± , « , Ü , · □ B * /
 , ¢ □ Ä Æ ä , Ü , Á Æ © , Â , © , ç , È , ¯ , ê , Í □ A , » , ì f p □ [f g , Í , » , ± , Á ' Á , ¿ □ Ø , è , Ü , · , ì , Á □ A / *
 , ¾ , ¯ , ð Ž g , ¡ , Í □ A □ u , » , ì f p □ [f g , ì f R f " f p f C f < , ð □ I — ¹ □ v , Æ , ç , ¢ Ž g , ç • ù , à □ o — ^ , Ü , · □ B

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□ " , — '¼ f fff " f l f < , © , ç , ì " ~ Š ú □ M □ t , ð ' Ò , Á
□ " , " '¼ f fff " f l f < , É " ~ Š ú □ M □ t , ð ' — , é
□ i , " , ì f " fff " f l f < Ž w ' è • ù - @ , í % ° — " , Á □ à - ¾ □ j

, — f R f } f " f h , Æ , " f R f } f " f h , Í □ A ' Í , É , µ , Ä Ž g , í , ê , Ü , · □ B
 , Ü , · □ A , , é f p □ [f g , Á , — f R f } f " f h , ¢ , , é , Æ □ A , » , ì Ž Ž " _ , Á , » , ì f p □ [f g , ì %
 % ° ' t , ð ^ ê Ž Ž ' á Ž ~ , µ , Ü , · □ B , » , µ , Á □ A ' ¼ , ì f " fff " f l f < , © , ç , " f R f } f " f h , É , æ , Á , Ä □ ± □ } , ¢ —
 , ç , ê , Ä — ^ , ½ , È , ç □ A % ° % ° ' t , ð □ Ä Š j , µ , Ü , · □ B , ± , ì @ " \ , ì Ž á , È Ž g , ç , Ý , ¿ , Á , · , ¢ □ A — á , ¡ , Í

A l8 [a>a<]4 [d>d<]4 [g>g<]4 [c>c<]4 [f>f<]4
B [r1]4 a4b8>c8c4<a8>c8....

, ì , æ , ¢ , È % ° % ° ' t , ð , ³ , ¹ , ½ , ç , Æ , µ , Ü , · □ B , ± , ê , Í □ A , ` f p □ [f g , ¢ [f > f <] 4 , ð %
 % ° ' t , · , é , Æ " ~ Ž Ž , É □ A , a f p □ [f g , ì a 4 b 8 > ... , ð % ° % ° ' t , ³ , ¹ , ½ , ç • \ < L , Á , · , ¢ □ A , ±
 , ì Ž Ž , É , ` f p □ [f g , ì % ° % ° ' t , ¢ [f > f <] 4 , ì
 % ° Ó □ Š , É □ i , p , Ü , Á □ A , a f p □ [f g , Í < x • " , , ð " ü , ê , Ä ' Ò , ½ , È , ¯ , ê , Í , È , è , Ü , ¹ , ñ □ B , ± , ì —
 á , Á , Í [r 1] 4 , Á , · , ñ , Á , ç , Ü , · , ¢ □ A ' · , ç < È , É , È , é , Æ " ü , ê , é < x • " , , ì ' , ³ , ð , © , ¼ , ¡ , é , ¾ , ¯ , Á - Ê " |
 , É , È , Á , Ä , « , Ü , · □ B
 , » , ± , Á □ A , ± , ì " ~ Š ú f R f } f " f h , ¢ — L Æ Ø , É , È , Á , Ä , « , Ü , · □ B

A l8 [a>a<]4 [d>d<]4 [g>g<]4 [c>c<]4 sB [f>f<]4
B w a4b8>c8.....

, ± , ê , Á □ A □ ä , Æ " ~ , ¶ % ° % ° ' t , É , È , è , Ü , · □ B
 , a f p □ [f g , Í , — f R f } f " f h , ¢ , , è , Ü , · , ì , Á □ A □ Á □ % ° , É " ~ Š ú ' Ò , ¿ □ ó ' Ô , É , È , è , Ü , · □ B , ` f p □ [f g , ì
 % ° % ° ' t , ¢ □ i , p , Æ s B , É , æ , è " ~ Š ú □ M □ t , ¢ , ` f p □ [f g , © , ç , a f p □ [f g , É ' — , ç , ê □ A , a f p □ [f g , ì
 % ° % ° ' t , ð □ Ä Š j , µ , Ü , · □ B

, " f R f } f " f h , ì • ¶ - @ , ð □ à - ¾ , µ , Ü , · □ B
 - } — á)

- 1) sA □ — ^ ' Ê , è □ A A f p □ [f g , É □ M □ t , ð ' — , è , Ü , · □ B
- 2) s0A □ ä , Æ ' S , " ~ , ¶ ^ Ó - j , Á , · □ B
- 3) s2C 2 C f p □ [f g , É □ M □ t , ð ' — , è , Ü , · □ B
- 4) s? A ~ P f p □ [f g , É □ M □ t , ð ' — , è , Ü , · □ B

5) s2? 2A~2Pfp [fg,ÉM t,đ'—,è,Ü,·B

6) s"1G2AF" 1G,2A,Ffp [fg,ÉM t,đ'—,è,Ü,·B

1.,ÍA'¼Æã,Éfp [fg-¼,đ,Â,~,ÄA"C^Ó,ì,Pf`fff"flf<,ÉM t,đ'—,è,Ü,·Bfp [fg-¼,Íâ•¶Žš,Å,à~•¶Žš,Å,à~,¶^Ó-; ,É,È,è,Ü,·B isA,Æsa,Í"~,¶ [M t,đ•i" ,ìfp [fg,É'—,è,½,çê¶,Í4. ^Ê~ ,ì•\<L,ª•Ö—~,Å,·B

[Æë,Á,½Žg,ç•û,ì—á,đà-¾,µ,Ü,·B

—á,Pj

A sB a4a4

B c4 w

,±,è,íA,—fRf}f"fh,ª,“fRf}f"fh,æ,èÆã,è,ÉŽg,í,è,Ä,ç,é,ì,ÅfGf % [,É,È,è,Ü,·B,—fRf}f"fh,ÍA•K, , 'Í%ž,·,é,“fRf}f"fh,ì'O,ÉŽg—p,µ,Ä%º,³,çB

—á,Qj

A [a4a4 sB]3

B f1 w

,±,ì—á,ì,æ,æ,ÉAf< [fv"à,É,“fRf}f"fh,đŽg,æ,±,Æ,ío—^,Ü,¹,ñB,—,à" — l,Å,·B

—á,Rj

A

B w

,—fRf}f"fh,É,Í•K, , 'Í%ž,·,é,“fRf}f"fh,ª•K—v,Å,·B,È,~,è,ìfGf % [,Æ,È,è,Ü,·B<t,ÉA,“fRf}f"fh,É'Í%ž,·,é,—fRf}f"fh,ª,È,çê¶,ÍfGf % [,É,Í,È,è,Ü,¹,ñB

'¼,ÉA,—,Å,ì'Ò,žžšÔ,ª, ,Ü,è,É'·,ç,Æ^—,µ,«,è,,ÉfGf% [,ª,Å,Ü,·B

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" ,Ž,Ž %º'ö,đ""l,Åžw'è,·,éi,Ž,Ž,Í,P,Â,ß,ªfRf}f"fhA,Q,Â,ß,ª""l,Æ,ç,æ ,±,Æ,Å,·j (n:0~95)

%º'ö,ÍÊíA, [,ç,ÆflfNf^ [fuÆnfRf}f"fh,Åžw'è,µ,Ü,·,ªA,ŽfRf}f"fh,Å'¼ÚŽ w'è,·,é,±,Æ,à,Å,«,Ü,·B

n0 ,È,ç o1c, n1,È,ç o1c+ ¥¥¥¥ n95 ,È,ç o8b [@,Æ,ç,æ'Í%ž,É,È,Á,Ä,ç,Ü,·B %º'·,đžw'è,·,éê¶,íA, ,Å<æ [Ø,Á,Äžw'è,µ,Ä%º,³,çB

—áj

n48,4 o4c4 ,Æ“˘,ŋ^Ó-j,Å,·
n52 o4e[]@,Æ“˘,ŋ^Ó-j,Å,·

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□” ,j,Ž Ć®”Ō%o%o’tžž,ÉŽg—p,·,éĆ®”Ō,đŽw’è,·,é
(n:0~16)

,±,ì-½—β,í[]A%o%o’t,É,í’S,ŠÖĈEW,ª, ,è,Ü,¹,ñ[]B
FVIEW,Å,ìĆ®”Ō%o%o’t,đ[]s,È,ɹŽž,É[]A,±,ì-½—
β,ª, ,é,Æ[]A^ÈĈĕ,»„,ìf`fff“flf<,íŽw’è,³,è,½Ć®”Ō,đŽg—p[]i,Â,Ü,è[]ÔŠÛ,đ·\
Ž[]j,μ,Ü,·[]Bn=0,É,ç^ê”Ō[]ă,ìĆ®”Ō,Å[]An=16,Å^ê”Ō%oº,ìĆ®”Ō,đŽg—p,·,é,±
,Æ,É,È,è,Ü,·[]B
%o%o’t’t,É·ï[]X,·,é,±,Æ,à%oÅ”\,Å,·,ª[]A·ï[]X,í·K, ,fL[][flft’t,É[]s,È,ɹ,æ,ɹ,É,μ,Ã
%oº,³,ç[]B

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□” ,m Ć®”Ō%o%o’tžž,ÉĆ®”Ō%oE,É·\Ž!,³,è,é·ŋžš,đ[]Ý’è,·,é

FVIEW,Å,ìĆ®”Ō%o%o’tžž,É[]Ć®”Ō%oE,ìf[]f,—“ ,É·\
Ž!,·,é[]fbfZ[][fW,đ[]Ý’è,μ,Ü,·[]B,m,ìĈĕ,É’±,˘,·,Å·ŋžš—ñ,đ·\<L[]A",Ü,½,í
%oü[]s,ÅfGf“fhf}[][fN,Æ,μ,Ü,·[]B
%o½’i-Ú,ìf[]f,,đ[]Ý’è,·,é,©,í[]A,j,ÅŽw’è,³,è,½Ć®”Ō”Ō[]t,É^È,é,ì,Å[]A,±,ì-½—
β,í,j-½—β,ìĈĕ,ÉŽg,í,è,é·K—v,ª, ,è[]A,Ü,½·K, ,[]u[]Å[]%o,ì<x·,,Ü,½,í
%o¹·,,ì’O[]v,ÉŽg—p,μ,Å%oº,³,ç[]B,PfXfefbfv,Å,à%o
%o’t,ª[]s,í,è,½Ĉĕ,í[]A[]Ý’è,μ,Å,à·\Ž!,³,è,Ü,¹,ñ[]B
·i[]f`fff“flf<,Å,P,Å,ìĆ®”Ō,đŽg—
p,·,éžž,í[]A,ç,è,©,P,Â,ìf`fff“flf<,Åf[]f,,đ[]Ý’è,·,è,îž-‘«„è,Ü,·[]B,Ü,½[]Af[]f,,í”¼Šp17
·ŋžš,Ü,Å,μ,©·\Ž!,Å,«„Ü,¹,ñ[]B

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□” []”,Ž Šef`fff“flf<,ìfGftfFfNfgfOf<[][fv,đŽw’è,·,é
(n:0~1)

[]@,»„,ìf`fff“flf<,ª,ç,ìfGftfFfNfgfOf<[][fv[]i,O”Ō,Æ,P”Ō,ª, ,é[]j,É’®,·,é,©,đŽw’è,μ,Ü,

†²□@□@□@□@†
 □@□@□@□@□@□@□@□@□@†
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 †²†
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 A #R100,160,250,1
 CDE #1
 □@,±,ì,æ,x,É<È,ìÅ□%,É, ,ê,î□AC,D,E ,ì,Rf`fff“flf<,ÉfŠfo□[fu,ª,©,©,è,Ü,·□B

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□” □”,bB,L,AF,Lv,G,S fR□[f%ofX□EfXfefCEfl,ðY’è,·,é□B
 (B:0~1,L:,0~1,AF:-1,Lv:0~255,G:0~8,S:0~4)

□@f}f<f` □EfGftFfNfg,ì,x,ì□AfR□[f%ofX,ÆfXfefCEfl,ðY’è,μ,Ü,·□B,±
 ,lfRf}f“fh,Í•K, ,%o%o’tŠŽn’O,ÉŽÀ□s,³,ê,é^Ê’u,É’u,ç,Ä%oº,³,ç□B
 □@,±,ì-½—ß,Í□C%o%o’tY’è,ì□ufGftFfNfgfCEfxf<□v,ª,Q,ìŽŽ,ÉCEø%oÊª, ,è,Ü,·□D
 Šefpf%of□□[f^,ì^Ó-i,ð□à-¾,μ,Ü,·□B

,a Žg—pfofbftf@”Ô□†,Å,·□B□ufGftFfNf^□v,»,ì,à,ì”Ô□†,ÆŽv,Á,Ä,à□\,ç
 ,Ü,¹,ñ□B
 ,k□@□ufGftFfNfgfOf<□[fv□v,ðŽw’è,μ,Ü,·□BfŠfo□[fufRf}f“fh #R ,ì□ÅCEã,lfpf
 %of□□[f^,Æ’S,“~,¶^Ó-i,Å,·□B
 AF CE»fo□[fWf†f”,Á,Í□A-1,ðŽw’è,μ,Ä%oº,³,ç□BCEn“□Šg’£ŽŽ,ì—\—ñ,Á,·□B
 LV fGftFfNfg□EfCEfxf<,Á,·□B
 ,f □ufR□[f%ofX□v,É,æ,é%o¹,ìCEú,Ý,ðŽw’è,μ,Ü,·□B□”’l,ª’â,«,„È,ê,î□A%o¹,ªCEú,-
 ,È,Á,Ä,ç,«,„Ü,·ª□A□^—□,Í,»,ê,É”ã—á,μ,Ä□d,,È,Á,Ä,ç,«,„Ü,·□B
 ,r□@fXfefCEfIŠ’,ì<,³,Å,·□B□”’l,ª’â,«,„È,ê,lfXfefCEfIŠ’,ì<,È,è,Ü,·□D,±,ê,Í,ç,-
 ,Á,ðŽw’è,μ,Ä,à’—“x,Í-w,Ç•İ,í,è,Ü,¹,ñ□B

fofbftf@,ÉŠÖ,μ,Ä,Í□A□i,Í□Ú,μ,,Í□à-¾,μ,Ü,¹,ñ□B—á,ì,Î

A #C0,1,-1,100,4,1 #C1,1,-1,90,2,2

~
~
[]@,ì,æ,ɣ,É,·,ê,î[]AfGftfFfNf^,đ,Q%oň,©,¯,é,±,Æ,É,È,è[]A,æ,è%o¹,ªŠi—
í,É,È,è,Ü,·[]i“-‘R[]^—[],Í—Ž,¿,Ü,·[]j[]D
[]@,È,“[]A[]^—[]’—“x,í[]A,f,ì[]u%o¹,ì[]Éú,Ý[]v,ì[]‡[]v,É[][,ŠÖ[]W,ª, ,è,Ü,·[]B,Å,·,ì,Å

A #C0,1,-1,100,4,1 #C1,1,-1,90,2,2

~
~
A #C0,1,-1,100,6,2
~

[]@,±,ì,Q,Â,ìŠ|,¯·û,Å,í[]A’—“x,í, ,Ü,è·İ,í,ç,È,ç,í,¯,Å,·[]BŽÀ[]±,Å,í‘OŽÒ,ì·û,ª%o¹,ª
—Ç,,È,é,æ,ɣ,È,ì,Å[]A[]Éú,Ý,đ[]v,ç,μ,Ä,Q,ÂŽg,ɣ,Ü,ɣ,ª,ç,ç,æ,ɣ,Å,·[]B

[EOF]

fefNfjff<f}fjf...fAf<

□@FPD97ŠJ”ŠÖŒWŽÒ,ì,½,ß,±,ì□€-Ú,đ—p^Ó,μ,Ä, ,è,Ü,·□D,»ì,½,ß□C-
ÚŽŸ,ì•ù,©,ç,±,ì□€-Ú,Ö,ìfŠf“fN,í’£,ç,ê,Ä,ç,Ü,¹ñ□D

1.FPD,ìŽd—l

FPD, ěžd—l

□@, ±, ěfhfLf... f□f“fg, Ā, í□A%oo%o‘tftf@fCf<, ěžd—l, đžâ, É□à-¾, μ, Ā, ç, «, Ü, ·□B□ì□—“—
Žž, í, đ, ½, ·, ç□ì, Ā, Ā, ç, ½, à, Ì, Ā, ·, ¢□ACEã, ©, çCE©, Ā, Ý, é, ĀE, È, ©, È, ©, â, â, ±, μ, □A□\‘ç
, ì□à-¾, à”» , è, É, ,, È, é•”•ª, í□A‘½□X, , é, ĀEžv, ç
, Û, ·, ¢□A□ĀCEã, Û, Ā, ¨•t, «□‡, ç’ , , , ê, î□K, ç, Ā, ·□B

^È%oo, ì“ _ , É’□^Ó, μ, Ā%oo, ¾, ç□B

□@□E□f□□[fh□Af_fuf<f□□[fh, Ìšì”[, í□A‘S, Ā%oo^Ê, ©, çŠì”[, ¾, ê, Ü, ·□B
□@□E%oo%o‘tftf@fCf<“à, Ā, ěfłtfZfbfg□E□Z□f□f“fg, í□A%oo
%o‘tftf@fCf<, ì□æ“ª, đ0, ĀE, μ, Ā□’ , ©, ê, Ā, ç, Ü, ·□B
□@□E□”“l, í□A‘Á, É‘f, è, ¢, È, ^ , ê, î10□i□” , Ā□ACEã, è, É h
, ¢ , ê, î16□i□” , ĀE, μ, Û, ·□B, ½, ¾, μ□A□Z□f□f“fg□E□fłtfZfbfg, ĀE, μ, Ā□’ , ©, ê, Ā, ç
, é□ê□‡, í□A‘S, Ā16□i□” , Ā, ·□B
□@□E%oo^· , É—p, ·, é, à, Ì, í□A‘S, ĀfXfēfbfv’P^Ê, Ā, ·□B□u□`•ª%oo^· , ‘P^Ê□v, Ā, í, È, ç
, Ì, Ā’□^Ó, μ, Ā%oo, ¾, ç□B
□@□E%oo%o‘tff□[f^ , ¢Šì”[, ¾, ê, Ā, ç, éfZfOf□f“fg-¾, đ MSeg
, ĀE•\<L, ·, é□ê□‡, ¢ , , è, Ü, ·□B

□”□@, P□D%oo%o‘tftf@fCf<, ì□\□—

□@, Û, ·□A%oo%o‘tftf@fCf<“à, É□A, Ç, x, ç, Ā, ½ff□[f^ , ¢ , , é, Ì, ©, đ^ê‘É, è□à-¾, μ, Û, ·□B
□@, È, ¨□A, ±, ì□í, Ā, ì□à-¾, í□AŠì”[□‡, Ā, í, È, □A”» , è, â, ·, ç, ĀEžv, í, è, é□‡”Ô, Ā□s, ç, Û, ·□B

□@□E□fwfbf_•” Ž^-Ê, h, c, âŠe□î•ň, Ìšì”[□ê□Š, È, Ç, ¢“ü, Ā, Ā, ç, Ü, ·□B
□@□E%oo%o‘tff□[f^•” Šef`fff“fłf<, ì□AŽĀ□Ú, Ì%oo%o‘tff□[f^ , Ā, ·□B
□@□E%oo%o‘tff□[f^fe□[fuf< Šef`fff“fłf<, Ì%oo
%o‘tff□[f^ , ¢□A, » , ê, ¼, ê, Ç, Ì”Ô’n, ©, çŽn, Û, é, ©, đžl, μ, ½fe□[fuf<, Ā, ·□B
□@□E%oo^□F‘è<`•” □u%oo^□F”Ô□†□Cftf@fCf<-
¼□v, ¢, P□Zfbfg, É, È, Ā, Ā□A, P, Ā, Ì, o, b, l, ¢‘è<` , ¾, ê, Û, ·□B, ±, ěZfbfg, ¢□Ažg—p
%oo^□F□” , ¾, ^ , Ā, ñ, Ā, ç, Û, ·□B
□@□E%oo^□Ffe□[fuf< □ã, Ì%oo^□F‘è<`•”“à, Ā□A, Ç, Ì%oo^□F‘è<` , ¢, Ç, ±, ÉŠì”[, ¾, ê, Ā, ç
, é, ©, ¢fe□[fuf<, É, È, Ā, Ā, ç, Û, ·□B
□@□E□f^fCgf< <È, ěf^fCgf<, Ā, ·□B
□@□E□E®”Ô•\žl^Ê‘u Še%oo^□F”Ô□†, ÉŠÖ, μ, Ā□A, » , Ì%oo^ , đžg—p, μ, Ā, ç

,éžž,ÉĈ®"Ō,ì\Ž!^Ê'u,đ<□\$,·,é,©□A,Ü,½<□\$,·,é,È,ç,Ç,±,É•\
Ž!,³,ê,é,©,đŽw'è,μ,Ü,·□B%¹□F,Í0~255,Ü,ĀŽg—p%Ā"\,È,ì,Ā□AĈ®"Ō•\
Ž!^Ê'u,í256fofCfg,Ā□□¬,³,ê,Ü,·□B

□"□@,Q□Dfwfbf_•",ì□□¬

□@%□%□'tftf@fCf<,ì□Ā□%□,ì16fofCfg,í□A%□%□'tftf@fCf<'S'ì,ì•K—
v□î•ñ,ªŠi"[,³,ê,Ā,ç,Ü,·□B^È%□²,É□\`ç,đŽ!,μ,Ü,·□B

□@□@0 ~ 3 : ffwfbf_'FPDM'
,±,ìftf@fCf<,ª□A,e,o,c—p,ì%□%□'tftf@fCf<,Ā, ,é,±,Æ,đŽ!,·ID,ªŠi"[,³,ê,Ā,ç,
Ü,·□B•¶Žš—ñ FPDM ,ª□Ā□%□,ì,SfofCfg,É, ,ê,ì,e,o,c,í,»,ìftf@fCf<,đ%
%□'tftf@fCf<,Æ,Ý,È,μ,Ü,·□B

□@□@4 : □%□ŠúŠî-{'
,ĈfRf}f"fh,Ā□Ý'è,·,é□uŠî-{'·□v,ì□%□Šú'ì,ªŠi"[,³,ê,Ü,·□B

□@□@5 ~ 6 : □%□Šú%□%□'t'—“x
fef“f|,đ□A,PfXfefbfv, ,½,è,ìžžŠŌ,ÉŠ·ŽZ,μ,½□A%□
%□'t'—“x'ì,ªŠi"[,³,ê,Ü,·□BžžŠŌ,ì'P^Ê,í□un/2760•b□v,Ā,·□B,PfXfefbfv,ª%□½•ª
%□¹•,,,Ā, ,é,©,í□A,ì,l,k't,ì□u'S%□¹•,,,ì'·,³□v,É,æ,Ā,Ā,ì,Ý'm,é,±,Æ,ª%□Ā"\,Ā,·,ª□A
%□%□'tftf@fCf<'t,É,»,ìff□[f^,í, ,è,Ü,¹,ñ□B□],Ā,Ā%□%□'tftf@fCf<,¾,¯,Ā,í□A%□
%□'t'—“x,đfef“f|'ì,ÉŠ·ŽZ,·,é,ì,í□A•s%□Ā"\,Æ,ç,α,±,Æ,É,È,è,Ü,·□BfXfefbfv,É,Ā,ç,
,Ā,ìžŸ□í,ĀŠÈ'P,É□à-¾,μ,Ā, ,è,Ü,·□B

□@□@7 ~ 8 : %□¹□Ffe□[fuf<š]ŽnflftfZfbfg
,e,o,c,ì%□%□'tftf@fCf<"à,É,í□A□u,ç,ìftf@fCf<-¼,ì,o,b,l,đ□A□@%□¹□F"Ō□†
%□½"Ō,ÉŠ,,,è"—,Ā,Āf□□[fh,·,é,©□v,Æ,ç,α□î•ñ,ª□AŽg—p%□¹□F□",¾,¯,Ši"[,³,ê,Ā,ç,
Ü,·□B,±,±,É,í□A,»,ì%□¹□F□î•ñ,ì□A□æ“ª”Ō'n,ª“ü,è,Ü,·□B,Ü,½□A
%□¹□Ffe□[fuf<,í□A•K, ,□uŠef`fff“f|f<,ìš]Žn□êŠ□v,ì'¼ĈĀ,É'u,•K—v,ª, ,è,Ü,·□B
□@□@9 : ,o,b,l'è`□”

,ufp□[fg,É,æ,é,o,b,l%□¹□F'è` ,ª□A,ç,,Ā, ,é,©,đŽ!,μ,Ü,·□B

□@□@A : f□f,fšf^fCfv
Šef`fff“f|f<,ìš]Žn□êŠ□,ª□A,ç,α,ç,α'P^Ê,ĀŠi"[,³,ê,Ā,ç,é,©,đŽ!,μ,Ü,·□B
0ffh = %□%□'tftf@fCf<,ì□æ“ª,©,ç,ìflftfZfbfg,ĀŠi"[
80h = %□%□'tftf@fCf<,ì□æ“ª,©,ç,ìfZfOf□f“fg,ĀŠi"[

FCMP,Ā□□¬,³,ê,½%□%□'tftf@fCf<,í0ffh,ª□AMID2FM,Ā□□¬,³,ê,½%□
%□'tftf@fCf<,í80h,ª“ü,Ā,Ā,ç,Ü,·□B□iVer2.05Ĉ»□Ý□j0ffh,ĀŽ!,³,ê,Ā,ç,é□ê□#□A%□
%□'tftf@fCf<,í64k,đ%□oz,ì,é,±,Æ,í□o—^,Ü,¹,ñ□B

□@□@B ~ C : f^fCfjgkŠi”[flftfZfbfg
<È,lf^fCfjgk,Ši”[,³,ê,Ä,ç,é□ê□Š,đŽ!,μ,Ü,·□Bf^fCfjgk,Ši”è<`³,ê,Ä,ç
,È,ç□ê□Š,Í□A0ffffh,Ši”ü,è,Ü,·□B

□@□@D ~ E : CE®”Ö•Ž!^Ê’uŠi”[flftfZfbfg
fhf%of€—p,É□ACE®”Ö•Ž!^Ê’u,đCEÁ’è,·,é<@”\,Á,·□B,±,±,É,Í□AŠe%o¹□F,É
%ož,¶,½□ê□Šff□[f^,ìŠi”[”Ô’n,Ši”ü,è,Ü,·□B□ê□Šff□[f^,Ši”,È,ç□ê□Š,Í□A0ffffh,Ši”ü,è,Ü
,·□B

□@□@F : -çŽg—p
CE»□Ý,Á,Í□A0ffh,đ“ü,ê,Ä,“,«,Ü,·□B

□”□@,R□D%o%o’tff□[f^fe□[fuf<,l□\□¬

□@□@+10h,©,ç,Í□AŠef`fff“flf<,l%o%o’tff□[f^,Ši”[,³,ê,Ä,ç
,é□ê□Š,Ši”žŽŠi”[,³,ê,Ü,·□B<i’l’l,É,ÍŽŽ,ì,æ,α,É,È,Á,Ä,ç,Ü,·□B

- 10h~11h: ,`f`fff“flf<,l%o%o’tff□[f^,ìŠJŽn□ê□Š
- 12h~13h: ,af`fff“flf<,l%o%o’tff□[f^,ìŠJŽn□ê□Š
- 14h~15h: ,bf`fff“flf<,l%o%o’tff□[f^,ìŠJŽn□ê□Š
- 16h~17h: ,cf`fff“flf<,l%o%o’tff□[f^,ìŠJŽn□ê□Š

□E
□E
□E

□@□@,±,ìfe□[fuf<,Í□A%o¹□Ffe□[fuf<ŠJŽn”Ô’n,Ü,Á’±,«,Ü,·□B□],Á,Ä□A
%o¹□Ffe□[fuf<,Í,±,ì%o%o’tff□[f^fe□[fuf<,l¼CEä,É,È,,Ä,Í,È,è,Ü,¹,ñ□B

□@□@ŠJŽn□ê□Š,É-1 (=0ffffh),Ši”[,³,ê,Ä,ç,½□ê□Š□A,»è,Íff□[f^,Ši”,È,ç,±,Æ,đ•\
,μ,»è,ìf`fff“flf<,l%o%o’t,³,ê,Ü,¹,ñ□B

□@□@□uŠJŽn□ê□Š□v,ì’P^Ê,Á,·,Ši”A,±
,ì’P^Ê,Íff□f,Ši”f^fCfv□ifwfbf_ ,l0Ah,ÉŠi”[□j,É,æ,Á,Ä^Ù,È,è,Ü,·□Bfwfbf_·”,l□à-
¾,Á,à□’,«,Ü,μ,½,Ši”A

□@□@□E□f□f,Ši”f^fCfv=0ffh,ì□ê□Š
□@□@□@,±,ì□ê□Š,Í□AŠef`fff“flf<,ìŠJŽn□ê□Š,ÍflftfZfbfg,đ^Ó-j,μ,Ü,·□B□]
,Á,Ä□AŽÀ□Ü,ìff□[f^ŠJŽn^Ê’u,Í□uMSeg:ŠJŽn□ê□Š□v,Æ,È,è,Ü,·□B,±,ì□ê□Š□A%o
%o’tff□[f^,Í64k,đ%ož,ì,é,±,Æ,Í□o—^,Ü,¹,ñ□BFCMP.EXE,Á□ì□¬,³,ê,½%o

%'tff[]f^,í[]A,±,ì[]f,fšf^fCfv,đŽg—p,μ,Ä,ç,Ü,·[]B
[]@[]@[]E[]f[]f,fšf^fCfv=80h,ì[]ê[]‡
[]@[]@[]@,±,ì[]ê[]‡,í[]Ašef`fff`f[]f<,ìšžn^ê[]š,ífzfOf[]f`fg,đ^ó-ì,μ,Ü,·[]B[]
,Á,Ä[]AžÀ[]Û,ìff[]f^šžn^ê'u,í[]uMseg+šžn^ê'u:0[]v,Æ,È,è,Ü,·[]B,±
,ì[]ê[]‡[]Ašef`fff`f[]f<,ì[]æ“^ê'u,íf[]p[]f[]Of[]f[]t'P^Ê,Á,È,-
,Ä,í,È,è,Ü,¹,ñ[]BMID2FM.EXE,Á[]ì[]¬,³,ê,½%[]%[]'tff[]f^,í[]A,±,ì[]f,fšf^fCfv,đŽg
—p,μ,Ä,ç,Ü,·[]B

[]"@,S[]D%[]¹[]Ffe[]f[]fuf<[]E%[]¹[]F'è<`·",ì[]\`ç

[]@[]@,P[]í,Á,à[]',«,Ü,μ,½,ª[]A·i[]" ,ì%[]¹[]F'è<`·¶,ª[]W,Ü,Á,½,à,ì,ª%[]¹[]F'è<`·",Á, ,
è[]AÆÂ[]X,ì%[]¹[]F'è<`·¶,ª[]A,» ,ê,¼,êšì"[,³,ê,Ä,ç,é^ê'u,đfe[]f[]fuf<,É,μ,½,à,ì,ª
%[]¹[]Ffe[]f[]fuf<,Á,·[]B

[]@[]@,Ü, ,[]A%[]¹[]Ffe[]f[]fuf<,Á,·,ª[]A'O[]í,Á,à[]à-¾,μ,½'Ê,è[]A,±,ìfe[]f[]fuf<,í%[]
%[]¹[]tff[]f^fe[]f[]fuf<,ì'¼Æã,É'u,·K—v,ª, ,è,Ü,·[]B%[]½[]Æì,È,ç[]A
%[]¹[]Ffe[]f[]fuf<,ìšžn^ê'u,É,æ,Á,Ä%[]%[]'tff[]f^fe[]f[]fuf<,ì[]|—¹^ê'u,đŽì,μ,Ä,ç
,é,©,ç,Á,·[]B
[]@[]@<ì'í"l,È[]\`ç,í^è%[]º,ì'Ê,è,Á,·[]B+0,Æ,©+1,Æ,©[]',ç,Ä, ,é,ì,í[]Afwfbf_ ,Ážw'è
,μ,½%[]¹[]Ffe[]f[]fuf<šžn[]f[]t[]f[]z[]f[]b[]g,©,ç,ì'š'í^ê'u,Á,·[]B

- +0~+1: %[]¹[]F'è<`·¶0"Ô,ìšì"[f[]f[]t[]f[]z[]f[]b[]g
 - +2~+3: %[]¹[]F'è<`·¶1"Ô,ìšì"[f[]f[]t[]f[]z[]f[]b[]g
 - +4~+5: %[]¹[]F'è<`·¶2"Ô,ìšì"[f[]f[]t[]f[]z[]f[]b[]g
- []E
[]E
[]E

[]i,±,ê,ª,o,b,l'è<`[]"[]ifwfbf_ ,Ážw'è[]j,¾,`'±,[]j

[]@[]@,±,ê,ç,ìfe[]f[]fuf<,í[]A'S,Ä[]f[]t[]f[]z[]f[]b[]g'P^Ê,Á,·[]B[],Á,Ä[]A%[]¹[]F'è<`·¶,í[]A%[]
%[]¹[]tft[]@[]f[]C[]f<,ìšžn^ê'u,æ,è[]A64k^È"à,ì'í^í,É'u,ç,Ä, ,·K—v,ª, ,è,Ü,·[]B

[]@[]@žŸ,É%[]¹[]F'è<`·¶,Á,·,ª[]A,±,ê,í[]u%[]¹[]F"Ô[]t[]C,o,b,lft[]f[]@[]f[]C[]f<-¼[]C0[]v,Æ,ç
,x,©,½,Ü,è,Á\,³,ê,Ü,·[]B[]ã,Á[]u%[]¹[]F'è<`·¶0"Ô[]v[]u¥¥¥1"Ô[]v,Æ[]',ç,Ä,ç
,Ü,·,ª[]A%[]¹[]F'è<`·¶,ì"Ô[]t,Æ,» ,±,Á'è<` ,³,ê,é%[]¹[]F"Ô[]t,í·K, ,μ,à^ê'v,μ,È,ç,±
,Æ,É'[]^ó,μ,Ä%[]º,³,ç[]B

□@□@—á,î,í□A%°¹□F"Ô□†,R□C,S□C,V,đ'è<` ,: ,é□ê□#□A
%°¹□F'è<` •¶10"Ô□E□E□E□E%°¹□F"Ô□†,R,đ'è<` ,: ,é
%°¹□F'è<` •¶11"Ô□E□E□E□E%°¹□F"Ô□†,S,đ'è<` ,: ,é
%°¹□F'è<` •¶12"Ô□E□E□E□E%°¹□F"Ô□†,V,đ'è<` ,: ,é

□@,ì,æ,ɹ,É,È,è,Ü,·□B

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E100,95,0,4 78h,0,4,100,95,0,4

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$$w = ZLEN * 2 / l$$

$$v = ( 2^(28+h/12) - 10000000h ) / ( ZLEN / l )$$

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¾,Í“ð, -,Ü,μ,½□BŽÄ□Ú□AFCMP.EXE‘ö“x,ìfc□[f<,Á, ,ê,Í□A,±,ìfhfLf...f□f“fg,Á□à-  
¾,¾,è,Ä,ç,éŽ-•ç,¾, -,Á□ì□-□o—^,é,ÆŽv,ç,Ü,·□B

□@□@“à•”fAf<fSfŠfYf€,ð□à-¾,μ,¾,·,Æ□A□u%½CEì%  
%‘t’-“x,ìP^Ê,<sup>a</sup>1/2760•b,È,ì,©□v□ufGf“fxf□□[fv,ì□^—□□v□ufxf“fh,<sup>a</sup>Žü”g□”,ÉŠÖ  
—^,·,éŽž,ìŽ®□v,È,Ç□A<É,ß,Ä,â,â,±,μ,çŽ-□€,É~b,<sup>a</sup>y,Ñ,Ü,·□B  
□@□@—v-],<sup>a</sup>, ,ê,Í□A,»,ì,α,çCEöŠj,·,é,©,à,μ,ê,Ü,<sup>1</sup>,ñ□B,±,ê,Í“é-sŽâ<`,Á,Í,È,-  
,Ä□A‘P,ÉfhfLf...f□f“fg,ð□’,ì,<sup>a</sup>ß,ñ,Ç,,<sup>3</sup>,ç,ì,Á□A,±,α,ç  
,αCE¾,ç•û,É,È,é,í,-,Á,·□B(^ ^;

□@□@,±,ìfhfLf...f□f“fg,ð“Ç,Ü,ê,Ä□u,±,±,Í“»è,É,,ç□v□u,±,α,ç,α□î•ñ,à•K—  
v,¾□v□u,±,±,ÍŠÔ^á,ç,Á,Í,È,ç,©□v,Æ,ç,α^ÓCE©,<sup>a</sup>, ,è,Ü,μ,½,ç□A□¥”ñ,“Šñ,<sup>1</sup>  
%□<sup>2</sup>,<sup>3</sup>,ç□B

**□”□@,P,O□D’~ìCE □E□\$□ìŽÒ□Eftf|□[fg**

□@□E,±,ìfhfLf...f□f“fg<y,Ñ<L□Ú,<sup>3</sup>,ê,½%□%‘tff□[f^,ìŽd—l,ì~ìCE ,Í□AŽ,,□A“j^ä□G  
Ž÷□i,l,j,q□j,<sup>a</sup>•ÛŽ□,μ,Ü,·□B

□@□E,±,ìfhfLf...f□f“fg,ð—~—p,μ,Ä□ì□-,<sup>3</sup>,ê,½fAfvfŠfP□[fvf#f“,É,Á,ç,Ä,Í□AŽ©—  
R,É“z•z“™,ð□s,È,Á,Ä□\,ç,Ü,<sup>1</sup>,ñ□B,Ü,½□A,»,ìfAfvfŠfP□[fvf#f“,É,Á,ç,ÄŽ,,<sup>a</sup>CE —  
~,ðŽâ‘£,·,é,±,Æ,Í^ê□Ø, ,è,Ü,<sup>1</sup>,ñ□B





## fRf“fpfCf<Žž,ì□o—Íf□fbfZ□[fW

□”,Ü,□CŽÀ□Ù,ÉfRf“fpfCf<,μ,½Žž,ìf□fbfZ□[fW,δ^È%º,ÉŽ!,μ,Ü,□D  
□ifXfy□[fX,ì“s□#,ÁŽÀ□Ù,ì□o—Í,Æ%ºü□s^Ê’u,ª^Ù,È,Á,Ä,ç,Ü,□j

### ----- FPD Music Marco Language Compiler.. (Filename)

**Set \$ Part .... 0 Macro is defined.**

**Set V part .... 6 Voice setting.**

**Fin. 0A Part - Step 2880 ( 0)**

**Fin. 0B Part - Step 2884 ( 0)**

**Fin. 0C Part - Step 2880 ( 0)**

**Fin. 0D Part - Step 2880 ( 0)**

**Fin. 0E Part - Step unknown,w is found.**

**Fin. 0F Part - Step unknown,w is found.**

**Fin. 0G Part - Step unknown,w is found.**

**Fin. 0H Part - Step unknown,w is found.**

**Analyze sync-command ...**

**Wait 0E Part - Step 2880 ( 0)**

**Wait 0F Part - Step 2880 ( 0)**

**Wait 0G Part - Step 2880 ( 0)**

**Wait 0H Part - Step 2880 ( 0)**

**Compile Completed. Object data is 924 bytes.**

-----  
,»,ê,¼,ê,ì^Ó-;É,Á,ç,Ä□C□à-¾,μ,Ä,ç,«,Ü,□D

### >FPD Music Marco Language Compiler.. (Filename)

,±,ì□s,Í□Cf□[fvjff“fOf□fbfZ□[fW+•İš·ftf@fCf<-¼,Á,□D

**>Set \$ Part .... 0 Macro is defined.**

□@,±,ê,Í□C\$ fp□[fg□C,Á,Ü,èf}fNf□’è<`fp□[fg,ì%ºđ□íCE<%ºÊ,δ•\Ž!,μ,Ä,ç,Ü,□D,±  
,±,Á,Í□C0 Macro is defined. ,Æ•\Ž!,ª,ê,½,ì,Á□Cf}fNf□’è<` ,í,È,ç,Æ,ç,æ^Ó-  
; ,É,É,è,Ü,□D

**>Set V part .... 6 Voice setting.**

□@Vfp□[fg□□,o,b,lftf@fCf<’è<`·”,ìfRf“fpfCf<CE<%ºÊ,Á,□D,ç,-  
,Á,ì,o,b,lftf@fCf<□@,ª’è<` ,ª,ê,½,ì,©,δ•\Ž!,μ,Ü,□D,½,¾,μ□C,±,±  
,ÁŽ!,ª,ê,é□”Žš,Í□C, ,Ü,Á,à,ufp□[fg,É,æ,é□Ý’è□”,Á□C,±  
,ì¼,É,àfRf“ftfBfOf tf@fCf<,đŽQ□Æ,μ,Á,o,b,lftf@fCf<,ì□Ý’è,δ,·,é,±,Æ,ª ,è,Ü,□D

**>Fin. 0A Part - Step 2880 ( 0)**

~~[1]

~~~~~[2]

~~~~~[3]

□@%o%o't•"fp□[fg□i0A□`3P,Ü,Å64f`fff"flf<□j,l}Rf"fpfCf<CE<%oÉ,ð□‡ŽŸ•\  
Ž|,μ,Ü,·□D

[1],ì•"•ª,Å,í□C□I—<sup>1</sup>,μ,½fp□[fg,ð•\Ž|,μ,Ü,·□D

[2],í□C,»„l}fp□[fg'S'ì,l}Xfefbfv□",Å,·□D

[3]

,í□C,kfRf}f"fh□i<È,ì□ÄfXf^□[fg□é□Š,ì□éCE¾4□j^È□~,l}Xfefbfv□",Å,·□D,kfRf}f  
"fh,ª,É,ç□é□‡,í,O,É,È,è,Ü,·□D

□@fXfefbfv□",í□C,Æ,,Éf`fff"flf<ŠÔ,ì,,è,ð"CE©,·,é,ì,É•Ö—~„Å,·□D

### >Fin. OE Part - Step unknown,w is found.

□@,Ü,½□CfXfefbfv□",ð•\Ž|,·,é,©,í,è,É□C,±,ì,æ,κ,Èf□fbfZ□[fW,ª□o,é,±,Æ,à,è,

Ü,·□D,±,è,í□C,»„l}fp□[fg,Å,—□i"~Šú□M□t'Ò,¿□jRf}f"fh,ªŽg,í,è,Ä,ç

,½,½,β□CfXfefbfv□",ª"Á'è,Å,«„È,çŽŽ,É□o,Ä,«„Ü,·□D

□@,±,l}fbfZ□[fW,ª□o,½fp□[fg,Å,í□CfXfefbfv□",ªCE^,Ü,Á,½Žž"\_,Å□C

### >Wait OE Part - Step 2880 ( 0)

□@,ì,æ,κ,É•\Ž|,ª,,è,Ü,·□D

### >Analyze sync-command ...

'É□ifRf"fpfCf<,ª□I—<sup>1</sup>,μ□C"~ŠúfRf}f"fh,ì□^—□,É"ü,éŽž,É•\

Ž|,ª,è,Ü,·□D"~ŠúfRf}f"fh,ªŽg—p,ª,è,Ä,ç,È,ç□é□‡,í□C,±,l}fbfZ□[fW,í•\

Ž|,ª,è,Ü,<sup>1</sup>,ñ□D

### >Compile Completed. Object data is 924 bytes.

fRf"fpfCf<,ªŠ®—<sup>1</sup>,μ,½f□fbfZ□[fW,Å,·□DfIfufWfFfNfg□i%o%o't—

p□jftf@fCf<,l}TfCfY,ð•\Ž|,μ,Ä□I—<sup>1</sup>,μ,Ü,·□D

□"□@fGf%o□[f□fbfZ□[fW,É,Å,ç,Ä□E□E

□@,l,l,k,ì•\<Lf~fX"™ □C%o½,©-â'è,ª<N,±,é,Æ□CfGf

%o□[f□fbfZ□[fW,ð□o,μ,ÄfRf"fpfCf<,ð'âž~„μ,Ü,·□D,±,ìžž□CfGf%o□[,ìŽí—

p,É,æ,Å,Ä,í□C□^—□t,l}f%ofCf""Ó□t,Æ•¶Žš,ª□o,Ü,·,ª□C•K,,μ,àfGf

%o□[,ì□é□Š,ðŽw,μ,Ä,ç,é,Æ,íCEÀ,ç,È,ç,ì,Å□CŽQ□l'ö"x,É—,β,Ä

%o<sup>º</sup>,ª,ç□D,Ü,½□CAnalyze config-file... ,l}fbfZ□[fW,ìCEã,ÄfGf

%o□[,ª□o,½□é□‡,í□Cf%ofCf",l}Rf"ftfBfOfTf@fCf<"à,l}f%ofCf",É,È,è,Ü,·□D

□@,Ü,½□Cf}fNf□"à,ÄfGf%o□[,ª□o,½□é□‡,É,í□Cf}fNf□,l'è<`□s,Å,í,È,,ÄŽg—

p□s,ì•ù,ÄfGf%o□[,ª□o,Ü,·□DfGf%o□[,ª□o,½f%ofCf",Äf}fNf□,ðŽg—p,μ,Ä,ç

,é□é□‡,É,í□Cf}fNf□'è<` ,ì•ù,àŠm" F,μ,Ä%o<sup>º</sup>,ª,ç□D

□@fGf%o□[f□fbfZ□[fW,Æ□C□I,!,ç,è,éŽž,ÈCE'^ö,ð□à-¾4,μ,Ä,ç,«„Ü,·□D

### 0. Out of memory.

□@□@f□f,fŠ,ª'«„è,Ü,<sup>1</sup>,ñ□D



□@□@,±,lfGf%□□,í□C^È%□□,ì,æ,κ,È□ó<μ,É□o,Ü,·□D  
 1. f□f,fš,ìšm•û,Éž,"s,μ,½  
 2. šm•û,μ,½f□f,fš,ÉlfufWfFfNfgff□[f^□i□¶□-ff□[f^□j,ª"ü,ç,È,ç  
 □@,±,lfRf"fpfCf%□  
 ,í□C<N" @žž,É,ì,ì,kftf@fCf<,đš"í"[,·,éf□f,fš,Æ□¶□-ff□[f^,đš"í"[,μ,Ä,ç,-  
 f□f,fš,Æ,đšm•û,μ,æ,κ,Æ,μ,Ü,·,ª□C,»ìžž,Éf□f,fš•s'«,Åšm•û□o—  
 ^,È,ç□ê□¶,ª,P,lfP□[fX,Å,·□D  
 □@,Q,íšm•û,μ,½f□f,fš,æ,è□¶□-ff□[f^,ª'ã,«,-  
 ,È,Ä,Ä,μ,Ü,Ä,½□ê□¶,Å,·□DCE»fo□[fWf¶f",Å,í□CfufWfFfNfg—  
 pfofbftf@,đ48,<,Æ,Ä,Ä,ç,Ü,·□D

**1. File not found.**

fRf"fpfCf<,μ,æ,κ  
 ,Æ,μ,½ftf@fCf<,Ü,½,lfRf"ftfBfoftf@fCf<,ªCE©,Ä,©,è,Ü,¹,ñ□DMMLftf@fCf<,í□C•K,  
 ,.MML,ìšg'£žq,Å,È,·,ê,ì,È,ç,·□C—á,ì,í□CFCMP M1.L,ì,æ,κ  
 ,Éžw'è,μ,ÄfRf"fpfCf<,μ,Ä,à□C M1.MML ,đ'T,μ□CCE©,Ä,©,ç,È,·,ê,lfGf  
 %□□[,Æ,È,è,Ü,·□D  
 □@fRf"ftfBfoftf@fCf<,í□Cžw'è,ª,·,ê,ì,»ìftf@fCf<□išg'£žq,í.CFB,ÉCEÄ'è□j,đ□C,È,·  
 ,ê,ì FPD.CFB ,đ"Ç,Ý,Ü,·,ª□CCE©,Ä,©,ç,È,·,ê,ì,â,ì,è,±,lfGf  
 %□□[,ª□o,Ü,·□D,È,·'S,Ä,ìžg—p%□□F,ª,ufp□[fg,Å□Y'è,ª,ê,Ä,ç  
 ,ê,ì□CfRf"ftfBfoftf@fCf<,í•K—v,È,ç,ì,Å□C"Ç,Ý,É□s,«,Ü,¹,ñ□D

**2. Syntax error.**

□@•¶-□@ä,ìCEè,è,Å,·□Džâ,É□C%□□đ□í•s"\,È•¶žš,ª,·,Ä,½□ê□¶□C•K—  
 v,È□"'l"™ ,ª,È,ç□ê□¶,É□o,Ü,·□D"Á,ÉCEãžÒ,ì"CE©,μ,É,,ç,ì,Å□C,æ,CE©'¼,μ,Ä  
 %□□,ª,ç□□D  
 □@,±,lfGf%□□[,íf%□□fCf",â•¶žš,đ—š,è,É,·,ê,ì□C□□³,í—e^Œ,©,Æžv,ç,Ü,·□D

**3. Illegal function call.**

□"'l,ª<K'è,ì"í^í,đ%□z,ì,Ä,ç,Ü,·□D

**4. Missing ? Part.**

□È—ª•s%□□Ä"\,Éfp□[fg,ªCE©,Ä,©,è,Ü,¹,ñ□D,½,¾,μ□CCE»fo□[fWf¶f",Å,í•K,·K  
 —v,Éfp□[fg,ì,·,è,Ü,¹,ñ,ì,Å□C,±,lfGf%□□[,í□o,È,ç,Æžv,ç,Ü,·□D

**5. Undefined Marco.**

□@'è<` ,ª,ê,Ä,ç,È,çf}fNf□,ªžg—p,ª,ê,Ü,μ,½□D

**6. Macro name error.**

□@žg—p•s%□□Ä"\,Éf}fNf□-¼,ªžg,ì,ê,Ü,μ,½□Df}fNf□,Éžg,ì,é,ì,í□C'ã□-  
 %□□•¶žš,Æ□"žš,PCE...,ì□C□¶CEv,U,Q•¶žš,Å,·□D

**7. Too many voice names.**

□@%o¹□F'è<` ,ì□",ª½,·,¬,Ü,·□D  
□@,e,o,c,Å,Í□C"~Žž,É127ÆÅ,Ü,Å,µ,©%o¹□F,ðf□□[fh,Å,«,Ü,¹,ñ□D□]  
,Å,Ä□C,P,Å,ì,l,l,k'†,Å127ÆÅ,ð%oz,!,½Žw'è,ª, ,ê,ÌfGf%o□[,Æ,È,è,Ü,·□D

### 8. Out of octave.

□@fÌfNf^□[fu,ª,P□` ,W,ì"í^í,ð%oz,!,Ü,µ,½□D,±,ÌfGf%o□[,ª□o,é,ì,í o,<,>  
,ì,R,Å,Å,·□D

### 9. Nesting Macro.

□@f}fNf□'†,Åf}fNf□,ðŽg,Á,Ä,ç,Ü,·□D,±,ÌfGf%o□[,à□Cf}fNf□Žg—  
p□s,Å□o,Ü,·,ì,Å'□^Ó,µ,Ä%oº,³,ç□D—á,!,í□C  
\$a c4c4c4  
\$b \$ae8g8  
A [\$b]2  
□@,±,ì,æ,x,È□ê□‡,Å,à□C,`fp□[fg,ì□s,ÅfGf%o□[,ª□o,Ü,·□D

### 10. Too many loops.

□@f□□[fv,ÌfXfg,ª16,ð%oz,!,Ü,µ,½□D  
□@17ÆÅ-Ü,ì [ ,ðŠm"F,µ,½Žž" ,Å,±,ÌfGf%o□[,ª□o,Ü,·□Df□□[fv,ð16□d,àŽg,x,±  
,Æ,í,Ü,·,È,ç,Æ,ÌŽv,ç,Ü,·,ª□C,±,ÌfGf%o□[,ª□o,½Žž,í,È,ñ,Æ,©,µ,Åf□□[fv,ðÆ,·,ç,µ,Ä  
%oº,³,ç□DSTU ,ìŠÈ^ÕfR□[f<,ðŽg,x,ì,àŽè,Å,·□D  
□@,Ü,½□CŠÈ^ÕfR□[f<□æ,Åf<□[fv,ðŽg,Á,Ä,ç,é□ê□‡,í□C,» ,ÌfXfg,à}fEfg"fg,³,ê,Ä,ç  
,Ü,·□D—á,!,ìS~T,ìŠÕ,Å,P,Åf<□[fv,ðŽg,Á,Ä,ç,Ä□C16□df□□[fv,ì'†,ÅU,ðŽg,x,Æ,±  
,ÌfGf%o□[,ª□o,Ä,µ,Ü,ç,Ü,·□D

### 11. ] Without [

□@,±,±,©,ç13"Õ,Ü,Å,í□Cf□□[fv,ì'í%ž,ìŠÕ^á,ç,É,æ,éfGf%o□[,Å,·□D  
□@,±,ê,í□C,ª[ ,æ,è'½,ç,Æ□o,Ü,·□D

### 12. : Without ]

□@f□□[fvŠO,Å:fRf}f"fh□if□□[fvfAfEfg□j,ªŽg,í,ê,Ü,µ,½□D

### 13. [ Without ]

[ ,É'í%ž,·,é ] ,ª, ,è,Ü,¹,ñ□D,±,ÌfGf%o□[,Íf%ofCf" ,â•¶Žš,í'S,, ,Ä,É,È,ç,·□C"-  
Æ©,í,©,È,è,â,Å,©,ç,È,±,Æ,à, ,è,Ü,·□D

### 14. Easy call error.

□@ŠÈ^ÕfR□[f< STU ,ÉŠÖ,·,éŠÕ^á,ç,ª, ,è,Ü,·□D<ì"í"Í,É,í□C□uST,ª,È,ç,ì,É U  
,ðŽg,Á,½□v□uS ,ª,È,ç,ì,É T,ðŽg,Á,½□v□uS,ÆT,ªf<□[fv,ì"àŠO,É,í,©,ê,Ä,ç  
,é□v,È,Ç,Å,·□D

### 15. & after command,r

□@&fRf}f"fh□if^fC□j,ª<x• ,,,âfRf}f"fh,ìÆă,è,É, ,è,Ü,·□Df^fCfRf}f"fh,í□C•K, ,

%o<sup>1</sup>•,,,ì'¼Œě,É,Â,¯,Ä%oo<sup>0,3</sup>,ç□D

**16. w must be out of loop**

**17. s must be out of loop**

□@“~ŠúfRf}}f“fh,af<□[fv't,Ü,½,ÍS~T,İŠÔ,É, ,è,Ü,·□DwfRf}}f“fh□CsRf}}f“fh,í□C,» ,ì  
□«Ž¿□ã□Cf<□[fv,ì't,ÅŽg,±,±,Æ,Í,Å,« ,Ü,¹,ñ□D

**18. too many w.**

**19. too many s.**

□@w,Ü,½,Ís,ª'½,·,¬,Ü,·□Dw,s ,í□C,» ,ê,¼,ê'Sf`fff“flf<□±,í,¹,Ä128ŒÂ,Ü,Å,Å,·□D

**20. Send not found.**

□@wfRf}}f“fh,ª , ,é,ì,É□C,» ,ê,É□M□t,đ'— ,ésfRf}}f“fh,ª , ,è,Ü,¹,ñ□D

**21. w found after s.**

□@wfRf}}f“fh,ª□C'Í%ož,·,ésfRf}}f“fh,æ,èŒě,ë,É, ,è,Ü,·□D

**22. Wait step is too long.**

□@wfRf}}f“fh,É,æ,é'Ò,¿fXfefbfv□” ,ª'ã,« ,·,¬,Ü,·□D,—  
fRf}}f“fh,É,æ,éfEfGfCfG,í□CŒ»fo□[fWf±f“ ,Å,Í16581375(=255,ì,R□æ) ,Ü,Å,µ,©'Í  
%ož,µ,Ä,ç,Ü,¹,ñ□D

**23. N without K**

□@KfRf}}f“fh,ª,È,ç,ì,ÉNfRf}}f“fh,ªŽg—p,<sup>3</sup>,ê,Ü,µ,½□D  
□@NfRf}}f“fh,í□CŽg—p't,ìŒ®” Ö,Éf□f,,đ□Y'è,·,éfRf}}f“fh,È,ì,Å□CŽg—  
p,·,éŒ®” Ö,đŽw'è,·,éKfRf}}f“fh,ìŒě,É,È,¯,ê,Î,È,è,Ü,¹,ñ□D



## ŠyŠí%°¹□F'î%°ž•\

%°¹□F"Ô□t: "gCE`ftf@fCf<-¼ %°¹□F-¼

### fsfAfmCEn

000: 03piano1 fAfR□[fXfefBfbfN□EfsfAfm  
001: m3harpsi fn□[fvfVfR□[fh  
002: m3ep2 fGfCEfNfgfŠfbfN□EfsfAfm  
003: m3clav fNf%°frflfbfg

### fxf<CEn

007: m3vibe frfuf%°fzf“,P  
008: m3marimb f}fŠf“fo  
009: m3tblar fxf<  
010: 03vibe frfuf%°fzf“,Q

### flf<fKf“CEn

014: 03organ2 fhf□□[fo□□[EfIf<fKf“  
015: 03peorg2 f□fbfN□EfIf<fKf“  
016: m3church f`ff□[f`□EfIf<fKf“  
017: m3organ2 fŠ□[fh□EfIf<fKf“  
018: 03accord fAfR□[fffBfIf“  
019: 03harmon fn□[f,fjf]

### fMf^□[CEn

024: m3guit1 fifCf□f“□EfMf^□[  
025: m3guit2 fXfefB□[f<□EfMf^□[  
026: m3jzguit fWfffY□EfMf^□[  
027: m3elguit fNfŠ□[f“□EfMf^□[  
028: m3mtguit f~f...□[fg□EfMf^□[  
029: 03dist fffBfXfg□[fvf#f“□EfMf^□[

### fx□[fXCEn

034: m3rnbass fGfCEfNfgfŠfbfN□Efx□[fX  
035: m3abass fAfR□[fXfefBfbfN□Efx□[fX  
036: 03slbass fXf%°fbfv□Efx□[fX  
038: m3ftless ftfCEfbfgfCEfX□Efx□[fX  
039: m3sbass1 fVf“fZ□Efx□[fX,P  
040: 03tcbass fVf“fZ□Efx□[fX,Q

### fXfgfŠf“fOfXCEn

044: 03violin fofCfIfŠf“  
046: 03strens fVf“fZ□EfXfgfŠf“fOfX,P

047: 03pizzic fofCflfŠf“□Efsf`fj□[fg  
048: 03harp fn□[fv  
049: 03timpan fefBf“fpfj

### **fAf“fTf“fuf<CEn**

053: 03str2 fVf“fZ□EfxfgfŠf“fOfX,Q  
054: 03anastr fVf“fZ□EfxfgfŠf“fOfX,R  
055: m3str fVf“fZ□EfxfgfŠf“fOfX,S  
056: 03choir fR□[f%ofX,P  
057: 03doovox f{fCfX,P  
058: 03schoir fR□[f%ofX,Q  
059: 03ohit fl□[fPfXfgf%ofqfbfg

### **fuf%ofXCEn**

063: 03trump1 fgf%of“fyfbfg  
064: m3tr&tp fgf□f“f{□[f“  
065: m3mutetp f~f...□[fg□Efgf%of“fyfbfg  
066: 03tuba f`f...□[fo  
067: m3power fVf“fZfuf%ofX,P  
068: 03brass1 fVf“fZfuf%ofX,Q  
069: m3brass1 fVf“fZfuf%ofX,R

### **fŠ□[fhCEn**

073: 03sopsax f\fvf%ofm□EftfbfNfX  
074: 03tensax fefm□[f<□EftfbfNfX,P  
075: m3tensax fefm□[f<□EftfbfNfX,Q  
076: 03oboe fl□[f{fG  
077: m3clari fNf%ofŠflfbfg

### **fpfCfvCEn**

081: 03hflute ftf<□[fg  
082: m3dreed fŠ□[fh  
083: m3pflute fpf“ftf<□[fg  
084: 03shaku ŽÚ”<sup>a</sup>  
085: 03voice f{fCfX,Q

### **fVf“fZ□EfŠ□[fhCEn**

089: 03square <éCÉ`”g  
090: 03saw ,l,±,¬,è”g  
091: 03pwm fVf“fZ□EfŠ□[fh

### **fVf“fZ□EfpfbfhCEn**

095: 03ether fxf<□•fR□[f%ofX

096: 03synvox f[]f^f<f{fCfX

### **fVf“fZ[]EfGftfFfNfgCEn**

100: 03ghost fVf“fZ[]EfGftfFfNfg

### **fGfXfjfbfNCEn**

104: 03banjo fof“fWf#[]

105: m3sitar fVf^[]f<,P

106: 03shami ŽO-;[]ü

107: m3kalimb flfŠf“fo

### **fp[]fjfbfVf#f“CEn**

111: m3pole f[]f<

112: m3sitar2 fVf^[]f<,Q

113: m3vbhit fEfbfhfuf[]fbfN,P

114: 03taiko ‘¾CÛ

115: m3etom fGfCefNfgfŠfbfN[]Ef^f€

### **fTfEf“fh[]EfGftfFfNfgCEn**

119: 03fret ftfCefbfgfmfCfY

120: 0369o4g- fufCefXfmfCfY

121: 03stad fXf^fWfAf€

122: 03bird ‘¹,î-Â,«[]º

123: 03ring “d~b,lfxf<

124: 03heli fwfŠfRfVf^[]

125: m3hnoon2 fKf“fVf#fbfg

### **fhf%of€CEn**

150: 03d47 f^f€

151: 03ccym2 fNf%ofbfVf...[]EfVf“fof<,P

152: 03d35 fofXfhf%of€,P

153: 03d36 fofXfhf%of€,Q

154: 03d37 fTfCfhfXfefBfbfN

155: m3snare2 fXflfAfhf%of€,P

156: 03d39 fnf“fhfNf%ofbfv

157: 03d40 fXflfAfhf%of€,Q

158: 03d41 ftf[]fA[]Ef^f€

159: 03d42 fNf[][]fYfh[]EfnfCfnfbfg,P

160: 03d44 fyf\_f<[]EfnfCfnfbfg

161: m3opph2 fl[]fVf“[]EfnfCfnfbfg,P

162: m3asnr fAfif[]fO[]EfXflfA

163: m3d21h3 fNf%ofbfVf...[]EfVf“fof<,Q

164: m3ahh fNf[][]fYfh[]EfnfCfnfbfg,Q

165: m3ride f%ofCfh[]EjVf"fof<  
166: 03d51 f`fffCfj[]lfY[]EjVf"fof<  
167: 03d53 f%ofCfh[]Ejxf<  
168: 03d54 f^f"fofŠf"  
169: m3opph1 fl[]fvf"[]EfnfCfnfbfg,Q  
170: 03d56 fJfEjxf<  
171: m3vibsp frfuf%ofXf%ofbfv  
172: 03d60 f{f"fS  
173: 03d62 f~f...[]fg[]EjRf"fK  
174: 03d64 fRf"fK  
175: 03d65 fejBf"fof<  
176: 03d68 fAfSfS  
177: 03d69 fJfofT  
178: 03d70 f}f%ofJfX  
179: 03d71 fzfCfbfXf<[]i'Z,¢[]j  
180: 03d72 fzfCfbfXf<[]i'·,¢[]j  
181: 03d73 fOfCf[]i'Z,¢[]j  
182: 03d74 fOfCf[]i'·,¢[]j  
183: 03d75 fNf%ofxfX  
184: 03d76 fEfbfhfuf[]fbfN,Q  
185: 03d78 f~f...[]fg[]EjNfCfK  
186: 03d79 fNfCfK  
187: 03d80 f~f...[]fg[]Efgf%ofCfAf"fof<  
188: 03d81 fl[]fvf"[]Efgf%ofCfAf"fof<



## '€[]à-¾

f[]fCf" fEjBf" fhfE, í[]ufAf<fof€fŠfXfg[]v,Æ[]uftf@fCf<fŠfXfg[]v,É<æ•É,<sup>3</sup>,ê,Ä,ç,Ü,·[]DfAf<fof€,đ'l,Ñ[]AZÿ,É,»,ì't,É, ,éftf@fCf<,đ'l,Ô,Æ,ç,αžè[]‡,Å,<sup>2</sup>—~—p %<sup>o</sup>,<sup>3</sup>,ç[]D

,Ü,½[]AFPD97,í^È%<sup>o</sup>,Éž!,·ftf@fCf<Æ`ž® ,É'î%ž,μ,Ä,ç,Ü,·[]D  
[]@[]@\*.FPD[]FFPD,<sup>a</sup>žg—p,·,é%<sup>o</sup>%<sup>o</sup>'tftf@fCf<  
\*.MID []FMIDI%<sup>o</sup>%<sup>o</sup>'tftf@fCf<('[],P)  
[]@[]@\*.WAV []FWindows•W[]€,lfEjF[]fuftf@fCf<  
[]@[]@\*.MML []FFPD—p%<sup>o</sup><sup>1</sup>Šyf[]fXftf@fCf<('[],P)  
[]@[]@'[],P[]F\*.MID,Æ\*.MML,í[]C\*.FPD,É•İŠ·Æă,É%<sup>o</sup>%<sup>o</sup>'t,<sup>3</sup>,ê,Ü,·[]D

## f[]jf...[]['€[]

### ftf@fCf<

İš<sup>2</sup>Ü,đŠj,[]Fftf@fCf<fŠfXfg,<sup>a</sup>·\ž!,<sup>3</sup>,ê,Ä,ç,é,Æ,«,É—LÆø,Å,·[]D  
[]@[]@ []F[]V,μ,%<sup>o</sup>%<sup>o</sup>'tftf@fCf<,đ'ç%<sup>o</sup>Á,μ,Ü,·[]D  
%<sup>o</sup>%<sup>o</sup>'t'tž~[]F<È,đ%<sup>o</sup>%<sup>o</sup>'t,μ,Ä,ç,é,Æ,«,É,±,lf[]jf...[][,<sup>a</sup>·\ž!,<sup>3</sup>,ê,Ü,·[]D  
[]@[]@ []F%<sup>o</sup>%<sup>o</sup>'t't,ì<È,đ'tž~,·,é,±,Æ,<sup>a</sup>,Å,«,Ü,·[]D  
[]I—<sup>1</sup> []FFPD97,đ[]I—<sup>1</sup>,<sup>3</sup>,<sup>1</sup>,Ü,·[]D

### []@•İŠ·

[]@[]@ftf@fCf<Æ`ž®,đ•İŠ·,·,é,Æ,«,Éžg,ç,Ü,·[]D  
[]@[]@MML->FM  
[]@[]@MID->FM  
    FPD->WAV  
    RCP->MID  
    RCP->FPD

### []@[]Y'è

[]@[]@Šeží[]Y'è,đ[]s,È,α,±,Æ,<sup>a</sup>,Å,«,Ü,·[]D  
[]@[]@%<sup>o</sup>%<sup>o</sup>'t[]ó'Ô,ì[]Y'è  
[]@[]@%<sup>o</sup><sup>1</sup>[]F"[]g[]E`ff[]f^,ìfffBf[]E[]fNfgfŠ  
[]@[]@MIDIftf@fCf<,ç,ç,ì•İŠ·žž,ì[]Y'è  
[]@[]@WAVftf@fCf<,Ö,ì•İŠ·žž,ì[]Y'è

### []@fwf<fv

[]@[]@-ÚžŸ  
    MML[]%<sup>o</sup>[]SžÒÆü,`f}jff...fAf<  
[]@[]@fo[]fWf‡f"[]î•ň

fAf<fof€fŠfXfg,Å,ì'€ì

□@'l'ð

fAf<fof€€,ð'l'ð,μ,Û,·□D

fAf<fof€€ì□¬

□V,μ,çfAf<fof€€,ðì□¬,μ,Û,·□D

fAf<fof€€í□œ

f`fFfbfN,<sup>3</sup>,ê,Ä,ç,éfAf<fof€€,ðí□œ,μ,Û,·□D

fAf<fof€-¼•ï□X

fAf<fof€€,ì-¼'O,ð•ï□X,μ,Û,·□D

□Å□V□î•ñ

f^fCf€fŠ□[,È□î•ñ,<sup>a</sup>•\Ž!,<sup>3</sup>,ê,Û,·□D

ftf@fCf<fŠfXfg,Å,ì'€ì

%o%o't

f`fFfbfN,<sup>3</sup>,ê,Ä,ç,éftf@fCf<,ð%o%o't,μ,Û,·□D

%o%o't'†Ž~

□□fj...□[ '€ì,Å□à-¾,μ,½,à,ì,Æ“^^ê,Å,·□D

'Ç%oÁ

□@□@ftf@fCf<fŠfXfg,É'Ç%oÁ,μ,Û,·□D

□@□í□œ

□@□@ftf@fCf<fŠfXfg,©,ç□í□œ,μ,Û,·□D

□@'S□í□œ

□@□@ftf@fCf<fŠfXfg,ð<ó,É,μ,Û,·□D

<α'É'€ì

□@fhfLf...f□f“fg

□@□@%o%o'tff□[f^,ÉŠÖ,.,éDOCftf@fCf<,ð•\Ž!,.,é,½,ß,lfhfLf...f□f“fgfrf...  
□[fA□[,<sup>a</sup>•\,ê,Û,·□D

□@CE®"Ö

□@□@CE®"Ö,ð•\Ž!,μ,Û,·□D

@fwf<fv

@@fjff...[ã,É, ,éfwf<fv,ì-ÚŽŸ,đ'ì'đ,.,é,ì,Æ“~,¶,Å,.D

## MML->FPD

FPD—p%<sup>1</sup>Šyf\ [fXftf@fCf<(\*.MML),đFPD—p%<sup>o</sup>%'tftf@fCf<(\*.FPD)  
,É•ĪŠ.,μ,Ü,·D  
@FPD,í%<sup>o</sup>%'tŽž,É,íCFPD—p%<sup>o</sup>%'tftf@fCf<(\*.FPD),đŽg—p,μ,Ü,·D

## MID->FPD

□@MIDI%%%'tftf@fCf<(\*.MID),đFPD—p%%%'tftf@fCf<(\*.FPD),É•iš·,μ,Ü,·□D  
□@FPD,í%%%'tžž,É,í□CFPD—p%%%'tftf@fCf<(\*.FPD),đžg—p,μ,Ü,·□D

## FPD->WAV

␣@FPD—p%o%o'tftf@fCf<(\*.FPD),đWindows•W␣€,lfEjF␣[fuftf@fCf<(\*.WAV)  
,É•ĪŠ•,μ,Ü,·␣DCEø%oĒ%o<sup>1</sup>,ì␣ì␣¬␣A%o<sup>1</sup>ŠyCD,đ␣ì␣¬,μ,½,ç␣ê␣‡,È,Ç,É,<sup>2</sup>—~—p  
%o<sup>o</sup>,<sup>3</sup>,ç␣D

## %%'t'ó'Ô,ì'Ý'è

ⓂFPD—p%%'tftf@fCf<,ð%%'t,·,é,Æ,«,ìfpf%of[]f^,ì'Ý'è,ðs,ç,Û,·D

### Ä'fCE[]fg

Ⓜ'l,ª'ã,«,ç,Û,ç%¹,ª—ç,,È,è,Û,·,ª"®ì,íD,-  
,È,è,Û,·DCEÀŠÈ^Èã,ìÄ'fCE[]fg,ð'Ý'è,μ,½[]ê[]#,íC^—,ªŠÔ,É[]#,í,È,ç  
,½,β,É%¹"ò,Ñ,ª<N,±,è,Û,·DCPU,ªi486(50MHz`66MHz)  
,Å11.03KHz[]Ci486(100MHz),ÆPentium(90MHz`120MHz)  
,Å22.05KHz[]APentium(133MHz)`Pentium(200MHz),Å33.08KHz,ð-Ú^À,É,μ,Ä  
%º,³,çD

### fGftFfNfg^—

ⓂⓂu,È,μv[]ufŠfo[]fu,ì,Ýv[]ufŠfo[]fu[]Efr[]f%ofXv,ì,RŽí—p,ì't,©,ç'l'ð,μ,Ä  
%º,³,çDfR[]f%ofX,ì,Ý,ì'Ý'è,í[]s,ì,Û,¹,ñD,±,ê,ç,íC%%'tftf@fCf<(\*.FPD)  
,ì't,ÄC-¾Ž'ì,É',©,ê,Ä,ç,È,·,ê,íCø%È,í,·,è,Û,¹,ñD<t,É[]C%  
%º'tftf@fCf<(\*.FPD)"à,Ä',©,ê,Ä,ç,Ä,à[]C,±,±,ì'Ý'è,Ä<-%Ä,ª,³,ê,Ä,ç  
,È,·,ê,íDfGftFfNfg,ìCø%È,ð-³Ž<,μ,Û,·DfGftFfNfg,í,©,È,è^—  
[],ÉŽŠÔ,ª,©,©,è,Û,·,ì,Ä[]C%¹"ò,Ñ,μ,â,·,ç[]ê[]#,É,íC,±,±,ì'Ý'è,ð·ìX,μ,Ä  
%º,³,çD^è"È,ÉfR[]f%ofXfGftFfNfg,í,©,È,è,ìCPUf[]f[]f,ð·K—v,Æ,μ,Û,·D

### fpf"[]\$CEä

ⓂⓂo—í,ðf,fmf%of<,©fXfefCEfl,ì,ç,ì,ç,Ä[]s,È,æ,©,ì'l'ð,ª,Ä,«,Û,·DCEvŽŽ<@-  
{'à'è',ìfXfs[]f[]f[],©,ç%¹,ðo,·,Æ,«,ìf,fmf%of[]CŠO"°fXfs[]f[]f[],©,ç  
%º,¹,ðo,·,Æ,«,ìfXfefCEfl,É'Ý'è,·,é,Æ,æ,ç  
,Å,μ,ã,æD,Û,½[]CCEvŽŽ<@,ìPHONE'[Žq,©,çfXfefCEfl—  
pfCf,,fzf",Ä,°®,«,É,È,é,Æ,«,É,à[]CfXfefCEfl,É'Ý'è,μ,Ä%º,³,çD

### f<[]fv,ìCEJ·Ô,μ

Ⓜf<[]fv,ìCEJ·Ô,μ%ºñ",ð'Ý'è,μ,Û,·D^è"°,ì%%'tftf@fCf<,É,íC·W[]€,ì'Ý'è,Ä,í  
%º%º't,ª[]—¹,μ,È,ç,Äf<[]fv,ðCEJ,è·Ô,·,à,ì,ª,·,è,Û,·D·[]'É,í2,É'Ý'è,μ,Û,·ª[]A<È,ð  
ŽÝ[]X,Æ·ì,ì,Ä'®,«,½,ç[]ê[]#,È,ç,í1,É'Ý'è,μ,Ä,°,Æ,ç,ç  
,Å,μ,ã,æD,È,°[]C·W[]€MIDIftf@fCf<(\*.MID),ì<È,Ä,í<[]fv,Æ,ç,æŠT"O,ª,·,è,Û,¹,ñ,ì,  
Ä[]C,±,±,Ä,ì'Ý'è,í^Ó-ì,ðŽ[],ì,Û,¹,ñD

### ftfF[]fhfAfeFg

Ⓜf<[]fv[]—¹Žž,É,°,·,·,éftfF[]fhfAfeFg,ì'—x,ðCE^,β,Û,·D,±,ê,íC%%'t[]—  
¹ŠÔ<β,Ä%¹,ª,¾,ñ,¾,ñ,Æ[]-,³,·,È,èŽn,β,Ä,©,ç%º%º't,ª[]—  
¹,·,é,Û,Ä,ìžžŠÔ,ì·,³,É'Š"—,μ,Û,·Df<[]fv,ìCEJ·Ô,μ,ì,·,é%º%º'tftf@fCf<,ì[]ê[]#,É"K—  
p,μ,Û,·Df<[]fv,ìCEJ·Ô,μ,ì,È,ç<È,Ä,í^Ó-ì,ðŽ[],ì,Û,¹,ñD

### fvf[]fOf%of€

ⓂⓂu,È,μv[]u,P,Ä,ì<È,ðCEJ,è·Ô,μ%º%º'tv[]u~A'±%º%º'tv[]uf%of"f\_f€%º

%o't□v,ì't,©,ç,“l,Ñ%oo<sup>o</sup>,<sup>3</sup>,ç□D

**fXfNfŠ□[f“fZ□[fo□[,đ<N“® ,μ,È,ç**

fXfNfŠ□[f“fZ□[fo□[,<sup>o</sup><N“® ,<sup>3</sup>,ê,é□uŠÔ,É□ACPU,ì•%oo%ox,<sup>o</sup>^êŽŽ“l,É□d,,È,è%oo  
%o't,<sup>o</sup>t'f,<sup>3</sup>,ê,é□ê□†,<sup>o</sup>, ,è,Ü,·□D,±,ê,đ”đ,¯,½,ç□ê□†,É,Í,±,±,Éf`fFbfN,đ“ü,ê,Ä,“ ,ç  
,Ä%oo<sup>o</sup>,<sup>3</sup>,ç□D



%o<sup>1</sup>□F”gCE`ff□[f^,ìfffBfCEfNfgfŠ

%o<sup>1</sup>□F”gCE`ff□[f^,ìfffBfCEfNfgfŠ□@

□@ŠyŠí%o<sup>1</sup>□F”gCE`ff□[f^(\*.FPV),ì, ,éfffBfCEfNfgfŠ,đ□Ý'è,μ,Ä,,<sup>3</sup>/<sub>4</sub>,<sup>3</sup>,¢□D

□@—á□FC:\FPD97\PCM97

## MIDI@fCf<, ©, ç, ì•İŠ•Žž, ìŸ'è

Ⓜ

Ⓜ@•WⓂ€MIDI@fCf<(Šg'£ŽqMID), ©, çFPD—p%‰‰'tftf@fCf<(Šg'£ŽqFPD)  
, Ö•İŠ•, , é, Æ, «, ìfpf%ofⓂⓂf^, ìŸ'è, ðs, ç, Ü, •ⓂD

## fŠfoⓂfu

Ⓜ@fŠfoⓂfuⓂEfGftfFfNfg, ì<,<sup>3</sup>, ðŸ'è, μ, Ü, •ⓂDfŠfoⓂfuⓂEfGftfFfNfg, ì  
‰<sup>1</sup>, ì<ç, «, ÉŠÖƆEW, μ, Ü, •ⓂD0, ©, ç255, ì"í^í, ÅŸ'è, μ, Ä‰<sup>0,3</sup>, çⓂDⓂ  
‰ŠúŸ'è'í, í90, Å, •ⓂD

## fRⓂf%ofX

Ⓜ@fRⓂf%ofXⓂEfGftfFfNfg, ì<,<sup>3</sup>, ðŸ'è, μ, Ü, •ⓂDfRⓂf%ofXⓂEfGftfFfNfg, ì  
‰<sup>1</sup>, ìŸ'è, ÉŠÖƆEW, μ, Ü, •ⓂD0, ©, ç255, ì"í^í, ÅŸ'è, μ, Ä‰<sup>0,3</sup>, çⓂDⓂ  
‰ŠúŸ'è'í, í100, Å, •ⓂD

## 'S‰<sup>1</sup>—Ê

Ⓜ@'S'ì, ì‰<sup>1</sup>—Ê, ð'S'í"í, É•İX, , é, ±, Æ, <sup>a</sup>, Å, «, Ü, •ⓂD-15, ©, ç15, ì"í^í, ÅŸ'è, μ, Ä  
‰<sup>0,3</sup>, çⓂD'â, «, , , é, ìC'S'ì, ì‰<sup>1</sup>—Ê, <sup>a</sup>ã, <sup>a</sup>, è, Ü, •ⓂD‰ŠúŸ'è'í, í0, Å, •ⓂD

## fhf%of€‰<sup>1</sup>—Ê

Ⓜ@fhf%of€fpⓂfpg, ì‰<sup>1</sup>—Ê, <sup>3</sup>/<sub>4</sub>, , ð'S'í"í, É•İX, , é, ±, Æ, <sup>a</sup>, Å, «, Ü, •ⓂD-  
15, ©, ç15, ì"í^í, ÅŸ'è, μ, Ä‰<sup>0,3</sup>, çⓂD'â, «, , , é, ìCfhf%of€fpⓂfpg, ì‰<sup>1</sup>—  
Ê, <sup>a</sup>ã, <sup>a</sup>, è, Ü, •ⓂD‰ŠúŸ'è'í, í0, Å, •ⓂD

## f@fCf<•Ÿ'Ÿ

Ⓜ@MIDI‰‰‰'tftf@fCf<(\*.MID), ð-Â, ç, , Æ, «, ìC^ê"xFPD—p%‰  
‰'tftf@fCf<(\*.FPD), É•İŠ•, <sup>3</sup>, è, Ü, •ⓂDFPD—p%‰‰'tftf@fCf<(\*.FPD), ð•Ÿ'Ÿ, μ, Ä, , -  
, ÆCŽŸ‰ň, ìÄŸŽž, É(\*.FPD)  
, ð'í'ð, Å, «, Ü, , ì, ÅCÄŸŠŽn, Ü, Å, ìžžŠÔ, <sup>a</sup>Zk, Å, «, Ü, •ⓂD, »), ìŸ'è, ð, ±, ±, Ås, È, x  
, ±, Æ, <sup>a</sup>, Å, «, Ü, •ⓂD

# WAVftf@fCf<,Ö,ì·İŠ·Žž,ìŸ'è

⊞@FPDftf@fCf<, ©,çWAVftf@fCf<,Ö,ì·İŠ·,ì,Æ,«,ÉŽg,í,è,épf%of⊞[f^,ìŸ'è,ðs,ç,Ü,·DfŠfAf<f^fCf€<sup>À</sup>,ì%o%o't,<sup>à</sup>À,«,,È,ç<@Ží,ð,Žg,ç,ìê±,É,ÍC^ê"x,±,±,À·İŠ·,μ,Ä,“,ç,Ä,©,çWAVÄ±,δ,·,é,±,Æ,ÀC,«,,ž,ñ,Æ<È,ðÄ±,·,é,±,Æ,<sup>à</sup>%o^À\,À,·D

## Ä±fCE±fg

⊞@WAVftf@fCf<,ÍÄ±fCE±fg,É”ä—á,μ,ÄTfCfY,<sup>à</sup>â,«,,È,è,Ü,·D  
⊞@11.03KHz,<sup>¾</sup>Æ,â,Í,è%<sup>1</sup>Žž,<sup>à</sup>^«,,È,è,Ü,·,ì,ÀC22.05KHz,<sup>à</sup>ftf@fCf<fTfCfY,ì-È,©,ç±,ì,Ä,à^è”Ô,“E,β,À,«,é'ì,À,·D

## fGftFfNfg^—

⊞@u,É,μvufŠfo⊞[fu,ì,ŸvufŠfo⊞[fuEfr⊞[f%ofXv,ì,RŽí—p,ì't,©,ç'l'ð,μ,À%<sup>o</sup>,<sup>3</sup>,çDfR⊞[f%ofX,ì,Ÿ,ìŸ'è,Ís,ì,Ü,<sup>1</sup>,ñD,±,ê,ç,ÍC%o%o'tftf@fCf<(\*.FPD),ì't,ÀC-¾Žž'ì,É±,©,ê,Ä,ç,È,·,ê,ÍCø%oÉ,í,·,è,Ü,<sup>1</sup>,ñD<t,ÉC%o%o'tftf@fCf<(\*.FPD)“à,À',©,ê,Ä,ç,Ä,àC,±,±,ìŸ'è,À<-%o^<sup>à</sup>,<sup>3</sup>,ê,Ä,ç,È,·,ê,ÍDfGftFfNfg,ìCø%oÉ,ð-<sup>3</sup>Žž<,μ,Ü,·DWAVftf@fCf<,Éo—Í,·,éÜ,É,ÍAfŠfAf<f^fCf€⊞[<sup>à</sup>—v<±,<sup>3</sup>,ê,Ü,<sup>1</sup>,ñ,ì,ÀAufŠfo⊞[fuEfr⊞[f%ofXv,ÉŸ'è,μ,Ä,“,·,ì,ç,ç,À,μ,â,±D

## fpf“±šCEä

⊞@o—í,ðf,fmf%of<,©fXfefCEfl,ì,ç,ž,ç,Às,È,±,©,ì'l'ð,<sup>à</sup>À,«,,Ü,·DCEvŽŽ<@-{'ì'à',ìfXfs⊞[fj⊞[,©,ç%<sup>o</sup>,<sup>1</sup>,ðo,·,Æ,«,,ìf,fmf%of<±CŠO·"fXfs⊞[fj⊞[,©,ç%<sup>o</sup>,<sup>1</sup>,ðo,·,Æ,«,,ìfXfefCEfl,ÉŸ'è,·,é,Æ,æ,ç,À,μ,â,±D,Ü,½CCvŽŽ<@,ìPHONE'[Žq,©,çfXfefCEfl—pfCf,,fzf“À,“®,«,,É,È,é,Æ,«,,É,àCfXfefCEfl,ÉŸ'è,μ,À%<sup>o</sup>,<sup>3</sup>,çD,È,“CfXfefCEfl,ìf,fmf%of<,ì,Q" {,ìftf@fCf<fTfCfY,Æ,È,è,Ü,·D

## f<±[fv,ìCEJ·Ô,μ

⊞@f<±[fv,ìCEJ·Ô,μ%oñ” ,ðŸ'è,μ,Ü,·D^ê” ,ì%o%o'tftf@fCf<,É,ÍC·W€<sup>ìŸ'è</sup>,À,í%o%o't,<sup>à</sup>±—<sup>1</sup>,μ,È,ç,Àf<±[fv,ðCEJ,è·Ô,·,à,ì,<sup>à</sup>,·,è,Ü,·DWAVftf@fCf<,Ö,ìo—Í,ÍA2,ÉŸ'è,μ,Ä,àf<±[fv·”·<sup>à</sup>,À“·,ff⊞[f^,<sup>à</sup>2%oñCEJ,è·Ô,<sup>3</sup>,ê,é,<sup>¾</sup>,·,È,ì,ÀC,½,ç,Ä,ç,Í1,À±·<sup>à</sup>,<sup>¾</sup>ÆŽv,í,ê,Ü,·D,È,“C·W€MIDIfTf@fCf<(\*.MID),ì<È,À,ìf<±[fv,Æ,ç,±ŠT”O,<sup>à</sup>,·,è,Ü,<sup>1</sup>,ñ,ì,ÀC,±,±,À,ìŸ'è,í^Ó-j,ðŽ,ž,Ü,<sup>1</sup>,ñD

## ftfF±[fhfAfEfg

⊞@f<±[fv—<sup>1</sup>Žž,É,“,·,éftfF±[fhfAfEfg,ì—“x,ðCE^,β,Ü,·D,±,ê,ÍC%o%o't—<sup>1</sup>ŠÓ<β,À%<sup>o</sup>,<sup>1</sup>,<sup>¾</sup>,ñ,<sup>¾</sup>,ñ,Æ—<sup>3</sup>,·,È,èŽn,β,Ä,©,ç%o%o't,±—<sup>1</sup>,·,é,Ü,À,ìžžŠÓ,ì·,<sup>3</sup>,É'S—,μ,Ü,·Df<±[fv,ì,·,é%o%o'tftf@fCf<,Àf<±[fv,ìCEJ·Ô,μ%oñ” ,ðŸ'è,μ,Ä,ç,éê±,ÉCEø,ç,Ä,«,,Ü,·Df<±[fv,<sup>à</sup>Ÿ'è,<sup>3</sup>,ê,Ä,ç,È,ç<È,À,í^Ó-j,ðŽ,ž,Ü,<sup>1</sup>,ñD

**fTf“fvfŠf“fOfrfbfg”**

□@8frfbfg,Æ16frfbfg,ì'l'đ,ª%oÂ"\  
,Å,·□D16frfbfg,Å,í8frfbfg,ì2" {,ìftf@fCf<fTfCfY,É,È,è,Ü,·□DFPD97,Å,í8frfbfg,Å,àf{  
fŠf...□[f€'2□@,đ□s,ç,Ü,; ,ì,Å□A,» ,ê,È,è,É—Ç,ç  
%o<sup>1</sup>Ž,ª<sup>3</sup>/<sub>4</sub>,ç,ê,Ü,·□D,» ,ì,½,ß8frfbfg,É□Ý'è,μ,Ä, " , - ,î□\•ª,Å,μ,â,α□D

**'□^ó**

%o<sup>1</sup>ŠyCD,đ□ì□¬,; ,é□û,É,í□A44.10KHz□AfXfefÆf□AfTf“fvfŠf“fOfrfbfg”16,É□Ý'è  
,μ,Ä%o<sup>0</sup>,<sup>3</sup>,ç□D



