


```

0000 1: ;-----
0000 2: ;           Master.s
0000 3: ;
0000 4: ;           This Makes the Master.com too run on the mu
0000 5: ;           ~~~~~
0000 6: ;-----
0000 7: ;
0000 8: ;
0000 9: ;           Source Code is Copyright 1995
0000 10: ;           Kenny Aimes and Stephen J. Carden
0000 11: ;
0000 12: ;
0000 13: ;First pass dissembly done by Ken Aimes
0000 14: ;Second and third pass cleanup By Stephen J. Carden
0000 15: ;
0000 16: ;-----
0000 17: ; Notes: o This source code MAY NOT be placed for download
0000 18: ;           o "mea" is a macro that loads the address of the
0000 19: ;           into the pointer specified by the second field.
0000 20: ;-----
0000 21: ; Assembler: MADMAC (tm) ST Cross Assembler (Atari Corp)
0000 22: ;           XASM  st and IBM VERSIONS
0000 23: ;-----
0000 24: ;=====
0000 25:
0000 26: com_file_name:      .macro
0000 27: ;           dc.b  13,"filename.ext",$9b
0000 28: ;           dc.b  12,"Master.com  ", $9b
0000 29: ;           .endm
0000 30:
0000 31: ;
0000 32: ;~~~~~
0000 33: ; File revision history. Version Number in hex
0000 34: ;
0000 35: file_ver:           equ  $34
0000 36: ;~~~~~
0000 37: ; the Month in dec for the first time this revision
0000 38: ;was compiled
0000 39: ;
0000 40: c_month:            equ  10
0000 41: ;~~~~~
0000 42: ; the day in dec for the first time this revision
0000 43: ;was compiled
0000 44: c_day:              equ  5
0000 45: ;~~~~~
0000 46: ; the year in dec for the first time this revision
0000 47: ;was compiled
0000 48: c_year:             equ  2012
0000 49: ;~~~~~
0000 50: ; Type of compiler used in program
0000 51: ;
0000 52: ; 0 = unknown Compiler
0000 53: ; 1 = xasm

```

```

0000      54: ; 2 = mac_65
0000      55: ; 3 = basic
0000      56: ; 4 = compiled basic xl
0000      57: ; 5 = C65
0000      58: ; 6 = Action
0000      59: ;
0000      60: ; We can add more as time goes on!
0000      61: ;
0000      62: ;
0000      63: ;
0000      64: xasm:          equ    1
0000      65: mac_65:        equ    2
0000      66: basic:         equ    3
0000      67: basicxl:       equ    4
0000      68: c65:          equ    5
0000      69: action:        equ    6
0000      70:
0000      71: file_compiler:    equ    xasm
0000      72: ;~~~~~
0000      73: ; is this relocatable code ?
0000      74: ; anyother value other than 1 or 2 would be unknown
0000      75: r..yes:           equ    1
0000      76: r..no:            equ    2
0000      77: ;
0000      78: ;~~~~~
0000      79: ; Gotta define if it can be relocated
0000      80: l_relocatable:    equ    r..no
0000      81: ;
0000      82: ;
0000      83: ;~~~~~
0000      84: ; Gotta define if it can be relocated
0000      85: r..crl:           equ    $7d
0000      86: r..crlf:          equ    $9b
0000      87: r..space:         equ    $20
0000      88:
0000      89: l_frstscreenbyte: equ    r..space
0000      90: ;~~~~~
0000      91: ; The language the output file is in.
0000      92: ;
0000      93: ;
0000      94: ; 0 =   Undefined
0000      95: ; 1 =   English
0000      96: ; 2 =   German
0000      97: ;
0000      98: r..language:      equ    1
0000      99: ;~~~~~
0000     100:
0000     101:
0000     102: ;-----
0000     103: ;
0000     104: ;   Zero Page Equates
0000     105: ;-----
0000     106: ;

```

```
0000 107: cb:      equ  $cb
0000 108: cd:      equ  $cd
0000 109:
0000 110: ;      System Equates
0000 111: ;-----
0000 112: ;
0000 113: lnflg:      equ  $00
0000 114: casini:      equ  $02
0000 115: ramlo:      equ  $04
0000 116: tramsz:      equ  $06
0000 117: boot.:      equ  $09
0000 118: dosvec:      equ  $0a
0000 119: pokmsk:      equ  $10
0000 120: brkkey:      equ  $11
0000 121: rtclok:      equ  $12
0000 122: bufadr:      equ  $15
0000 123: status:      equ  $30
0000 124: chksum:      equ  $31
0000 125: bufrlo:      equ  $32
0000 126: bfenlo:      equ  $34
0000 127: critic:      equ  $42
0000 128: zdrva:      equ  $45
0000 129: zchain:      equ  $4a
0000 130: attract:      equ  $4d
0000 131: drkmsk:      equ  $4e
0000 132: lmargn:      equ  $52
0000 133: colcrs:      equ  $55
0000 134: dindex:      equ  $57
0000 135: oldrow:      equ  $5a
0000 136: oldadr:      equ  $5e
0000 137: palnts:      equ  $62
0000 138: vtimr1:      equ  $0210
0000 139: cdtmv1:      equ  $0218
0000 140: cdtma1:      equ  $0226
0000 141: sdlstl:      equ  $0230
0000 142:
0000 143: lpenv:      equ  $0235
0000 144: cdevic:      equ  $023a
0000 145: ccomnd:      equ  $023b
0000 146: caux1:      equ  $023c
0000 147:
0000 148: pdvmsk:      equ  $0247
0000 149: shpdvs:      equ  $0248
0000 150: pptmpx:      equ  $024d
0000 151: dretry:      equ  $02bd
0000 152: color1:      equ  $02c5
0000 153: color2:      equ  $02c6
0000 154: color4:      equ  $02c8
0000 155: ch:          equ  $02fc
0000 156: ddevic:      equ  $0300
0000 157: dunit:      equ  $0301
0000 158: dcomnd:      equ  $0302
0000 159: dstats:      equ  $0303
```

```
0000 160: dbuflo: equ $0304
0000 161:
0000 162: dtimlo: equ $0306
0000 163: dbytlo: equ $0308
0000 164:
0000 165: daux1: equ $030a
0000 166:
0000 167: timer1: equ $030c
0000 168: temp1: equ $0312
0000 169: temp2: equ $0313
0000 170: temp3: equ $0315
0000 171: savio: equ $0316
0000 172: stackp: equ $0318
0000 173: tstat: equ $0319
0000 174:
0000 175: iccom: equ $0342
0000 176: icbal: equ $0344
0000 177: icbll: equ $0348
0000 178: icax1: equ $034a
0000 179:
0000 180: serin: equ $d20d
0000 181: irqst: equ $d20e
0000 182: skstat: equ $d20f
0000 183: audf3: equ $d204
0000 184: audf4: equ $d206
0000 185: audc4: equ $d207
0000 186: audctl: equ $d208
0000 187: skres: equ $d20a
0000 188: serout: equ $d20d
0000 189: irqen: equ $d20e
0000 190: skctl: equ $d20f
0000 191: porta: equ $d300
0000 192: portb: equ $d301
0000 193: pactl: equ $d302
0000 194: pbctl: equ $d303
0000 195: nmien: equ $d40e
0000 196: consol: equ $d01f
0000 197: ciov: equ $e456
0000 198: siov: equ $e459
0000 199: setvby: equ $e45c
0000 200: ;-----
0000 201: ;
0000 202: ; External reference Equates
0000 203: ;-----
0000 204:
0000 205: PBIbank: equ $d1ff ; pbi control line
0000 206: ;
0000 207: ;Cart stuff for the mux
0000 208: ;
0000 209: d570: equ $d570
0000 210: d571: equ $d571
0000 211: d572: equ $d572
0000 212: d573: equ $d573
```

```

0000    213: d57b:      equ  $d57b
0000    214: d57c:      equ  $d57c
0000    215: d57d:      equ  $d57d
0000    216: d57e:      equ  $d57e
0000    217:
0000    218:
0000    219: ;
0000    220: ;
0000    221: d805:      equ  $d805
0000    222: ;
0000    223: ;
0000    224:      .include globals
0000    225:
0000    226:
2fbb    227:      .org  $2fbb
2fbb    228: ;=====
2fbb    229: ;    Beginning and initialization
2fbb    230: ;=====
2fbb    231: ;
2fbb    232: ;
2fbb    233: START_IT:
2fbb a50a  234:      LDA COMTAB ; calc address of SIO
2fbd 38    235:      SEC
2fbe e90a  236:      SBC # low lsio
2fc0 8dd32f 237:      STA XSIO+1
2fc3 a50b  238:      LDA COMTAB+1
2fc5 e900  239:      SBC # high lsio
2fc7 8dd42f 240:      STA XSIO+2
2fca a96c  241:      lda  #$6c
2fcc 8dd22f 242:      sta  xsio
2fcf 4c193d 243:      JMP top
2fd2      244:
2fd2 4c59e4 245: XSIO:    jmp  siov
2fd5      246:
2fd5      247: ;
2fd5      248: ;$2fd5
2fd5      249: ; Stuff added so I can use any os I wish.
2fd5 ad0403 250: c73a:    lda  dbuflo      ;$304
2fd8 8515  251:      sta  bufadr      ; $15
2fda ad0503 252:      lda  dbuflo+1    ;$305
2fdd 8516  253:      sta  bufadr+1    ; $16
2fdf 60    254:      rts
2fe0      255:
2fe0 ca    256: c9af:    dex
2fe1 1009  257:      bpl  c9bb
2fe3 a900  258:      lda  #$00
2fe5 8d4802 259:      sta  shpdvs
2fe8 8dffdl 260:      sta  PBIbank
2feb 60    261:      rts
2fec      262:
2fec ad4702 263: c9bb:    lda  pdvmsk
2fef 3dfb2f 264:      and  ca21,x
2ff2 f0ec  265:      beq  c9af

```

```

2ff4 8d4802 266:      sta  shpdvs
2ff7 8dff1 267:      sta  PBIbank
2ffa 60 268:      rts
2ffb 269:
2ffb 804020 270: ca21:      dc.b  $80,$40,$20,$10,$08,$04,$02,$01
3003 271:
3003 272:
3003 273: ;
3003 274: ;
3003 275: ;
3003 80b4e8 276: line1:      dc.b  <internal>, <+128>," The Multiplexe
302b 80a1e3 277: line2:      dc.b  <internal>, <+128>," Active:"
3033 e38080 278: l3033:      dc.b  <internal>, <+128>,"c Drive:"
303c 918080 279: l303c:      dc.b  <internal>, <+128>,"1 Slave:"
3045 918080 280: l3045:      dc.b  <internal>, <+128>,"1 Pipe:"
304d 909080 281: l304d:      dc.b  <internal>, <+128>,"00 "
3050 808080 282: L3050:      dc.b  <internal>, <+128>," "
3053 acefe3 283: line3:      dc.b  <internal>, <+128>,"Loc"
3056 eb8091 284: L3056:      dc.b  <internal>, <+128>,"k 1: 2: 3: 4
307b a5f2f2 285: line4:      dc.b  <internal>, <+128>,"Errors:"
3082 808080 286: l3082:      dc.b  <internal>, <+128>,"
309e 909090 287: l309e:      dc.b  <internal>, <+128>,"0000 "
30a3 288: ;
30a3 707070 289: dlist:      dc.b  $70,$70,$70,$70,$70,$70,$70,$70,$42
30ac 0330 290:      dc.w  line1
30ae 700250 291:      dc.b  $70,2,$50,2,$50,2,$41
30b5 a330 292:      dc.w  dlist
30b7 293: ;
30b7 294: ;
30b7 295: ;
30b7 296: data:      ds.b  256
31b7 297:
31b7 298:
31b7 299: variables:
31b7 22 300:      dc.b  $22
31b8 000000 301: l31b8:      dc.b  0,0,0,0,0,0,0,0
31c0 000000 302:      dc.b  0,0,0,0,0,0,0,0
31c8 000000 303: l31c8:      dc.b  0,0,0,0,0,0,0,0
31d0 000000 304:      dc.b  0,0,0,0,0,0,0,0
31d8 00 305: l31d8:      dc.b  0
31d9 00 306: l31d9:      dc.b  0
31da 00 307: l31da:      dc.b  0
31db 00 308: l31db:      dc.b  0
31dc 00 309: l31dc:      dc.b  0
31dd 0000 310: l31dd:      dc.b  0,0
31df 00 311: l31df:      dc.b  0
31e0 01 312: l31e0:      dc.b  1
31e1 00 313: l31e1:      dc.b  0
31e2 00 314: l31e2:      dc.b  0
31e3 00 315: l31e3:      dc.b  0
31e4 00 316: l31e4:      dc.b  0
31e5 00 317: l31e5:      dc.b  0
31e6 000000 318: l31e6:      dc.b  0,0,0,0,0,0,0,0

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```

31ee 000000 319:      dc.b  0,0,0,0,0,0
31f5 00    320: 131f5:  dc.b  0
31f6 000000 321: 131f6:  dc.b  0,0,0,0,0,0,0,0
31fe 000000 322:      dc.b  0,0,0,0,0,0
3204 00    323: 13204:  dc.b  0
3205 00    324: 13205:  dc.b  0
3206 000000 325:      dc.b  0,0,0,0,0,0,0,0
320e      326: ;
320e      327:
320e      328: init_pia:
320e a9ff 329:      lda  #$ff
3210 8d7cd5 330:      sta  d57c
3213 a900 331:      lda  #0
3215 8d7bd5 332:      sta  d57b
3218 a97f 333:      lda  #$7f
321a 8d7ed5 334:      sta  d57e
321d a938 335:      lda  #$38
321f 8d72d5 336:      sta  d572
3222 8d70d5 337:      sta  d570
3225 a938 338:      lda  #$38
3227 8d02d3 339:      sta  pactl
322a a930 340:      lda  #$30
322c 8d00d3 341:      sta  porta
322f a23c 342:      ldx  #$3c
3231 8e02d3 343:      stx  pactl
3234 a220 344:      ldx  #$20
3236 8e00d3 345:      stx  porta
3239 8d00d3 346:      sta  porta
323c a920 347:      lda  #$20
323e 8d70d5 348:      sta  d570
3241 4c8132 349:      jmp  set_input
3244      350: ;
3244      351: ;
3244      352: ;
3244 86cb 353: print:  stx  cb
3246 84cc 354:      sty  cb+1
3248 a000 355:      ldy  #0
324a b1cb 356: pr1:   lda  (cb),y
324c 998230 357:      sta  line4+7,y
324f c8    358:      iny
3250 c016 359:      cpy  #$16
3252 d0f6 360:      bne  pr1
3254 eed831 361:      inc  l31d8
3257 d003 362:      bne  l325c
3259 eed931 363:      inc  l31d9
325c add931 364: l325c:  lda  l31d9
325f 201e44 365:      jsr  l441e
3262 8d9e30 366:      sta  line4+35
3265 add931 367:      lda  l31d9
3268 202244 368:      jsr  l4422
326b 8d9f30 369:      sta  line4+36
326e add831 370:      lda  l31d8
3271 201e44 371:      jsr  l441e

```



```

3274 8da030 372:      sta  line4+37
3277 add831 373:      lda  l31d8
327a 202244 374:      jsr  l4422
327d 8da130 375:      sta  line4+38
3280 60     376:      rts
3281      377: ;
3281 a900 378: set_input: lda  #0
3283 8d73d5 379:      sta  d573
3286 ad70d5 380:      lda  d570
3289 0908 381:      ora  #8
328b 8d70d5 382:      sta  d570
328e 60     383:      rts
328f      384: ;
328f a9ff 385: set_output: lda  #$ff
3291 8d73d5 386:      sta  d573
3294 ad70d5 387:      lda  d570
3297 29f7 388:      and  #$f7
3299 8d70d5 389:      sta  d570
329c 60     390:      rts
329d      391: ;
329d 80b4e9 392: time_out: dc.b  <internal>, <+128>," Timeout in #"
32aa 00     393: l32aa:  dc.b  0
32ab 80b3ec 394:      dc.b  <internal>, <+128>," Sl.#"
32b0 008080 395: sl_timeout: dc.b  0,$80,$80
32b3      396: ;
32b3      397: ;
32b3      398: ;
32b3 8d71d5 399: put_byte: sta  d571
32b6 2c7dd5 400: l32b6:  bit  d57d
32b9 10fb 401:      bpl  l32b6
32bb 60     402:      rts
32bc      403: ;
32bc 58     404: bb_mio_off: cli
32bd d8     405:      cld
32be a900 406:      lda  #0
32c0 8dffd1 407:      sta  PBIbank
32c3 ad0733 408:      lda  error_num
32c6 290f 409:      and  #$0f
32c8 0990 410:      ora  #$90
32ca 8daa32 411:      sta  l32aa
32cd addd31 412:      lda  l31dd
32d0 0990 413:      ora  #$90
32d2 8db032 414:      sta  sl_timeout
32d5 addd31 415:      lda  l31dd
32d8 0930 416:      ora  #$30
32da 8d1133 417:      sta  slave_num
32dd 2ced3d 418:      bit  l3ded
32e0 5007 419:      bvc  set_print
32e2 a2f3 420:      ldx  # low error
32e4 a032 421:      ldy  # high error
32e6 20bf43 422:      jsr  l43bf
32e9 a29d 423: set_print: ldx  # low time_out
32eb a032 424:      ldy  # high time_out

```

```
32ed 204432 425:      jsr  print
32f0 4c9f34 426:      jmp  1349f
32f3      427: ;
32f3 457272 428: error:   dc.b  "Error from routine #"
3307 302c20 429: error_num: dc.b  $30,", Slave #"
3311 312e9b 430: slave_num: dc.b  $31,$2e,$9b,$00
3315      431: ;
3315      432: ;
3315 a9ff 433: handshake_out: lda  #$ff
3317 8d7cd5 434:      sta  d57c
331a a982 435:      lda  #$82
331c 8d7ed5 436:      sta  d57e
331f a9f9 437:      lda  #$f9
3321 8d7cd5 438:      sta  d57c
3324 60 439:      rts
3325      440: ;
3325 2c70d5 441: get_byte:  bit  d570
3328 10fb 442:      bpl  get_byte
332a ad71d5 443:      lda  d571
332d 60 444:      rts
332e      445: ;
332e      446: get_command:
332e 208132 447:      jsr  set_input
3331 a933 448:      lda  #$33
3333 8d0733 449:      sta  error_num
3336 a9f8 450:      lda  #$f8
3338 8d7cd5 451:      sta  d57c
333b a255 452:      ldx  #$55
333d 8631 453:      stx  chksum
333f a200 454:      ldx  #0
3341 2c70d5 455: get_command1: bit  d570
3344 10fb 456:      bpl  get_command1
3346 ad71d5 457:      lda  d571
3349 9d0003 458:      sta  ddevic,x
334c 18 459:      clc
334d 6531 460:      adc  chksum
334f 8531 461:      sta  chksum
3351 e8 462:      inx
3352 e00d 463:      cpx  #$0d
3354 90eb 464:      bcc  get_command1
3356 202533 465:      jsr  get_byte
3359 c531 466:      cmp  chksum
335b d001 467:      bne  set_checksum
335d 60 468:      rts
335e      469: ;
335e a27c 470: set_checksum: ldx  # low checksum
3360 a033 471:      ldy  # high checksum
3362 204432 472:      jsr  print
3365 addd31 473:      lda  131dd
3368 0930 474:      ora  #$30
336a 8dae33 475:      sta  133ae
336d 2ced3d 476:      bit  13ded
3370 5007 477:      bvc  13379
```

```
3372 a292 478:      ldx  # low checksum1
3374 a033 479:      ldy  # high checksum1
3376 20bf43 480:      jsr  l43bf
3379 4c9f34 481: l3379:      jmp  l349f
337c      482: ;
337c 80a3e8 483: checksum:  dc.b  <internal>, <+128>," Checksum Mismatch
3392 436865 484: checksum1:  dc.b  "Checksum mismatch on slave #"
33ae 302e9b 485: l33ae:      dc.b  $30,$2e,$9b,$00
33b2      486: ;
33b2 208132 487: get_data:  jsr  set_input
33b5 a934 488:      lda  #$34
33b7 8d0733 489:      sta  error_num
33ba a9f8 490:      lda  #$f8
33bc 8d7cd5 491:      sta  d57c
33bf a255 492:      ldx  #$55
33c1 8631 493:      stx  chksum
33c3 a200 494:      ldx  #0
33c5 2c70d5 495: get_data1: bit  d570
33c8 10fb 496:      bpl  get_data1
33ca ad71d5 497:      lda  d571
33cd 9db730 498:      sta  data,x
33d0 18 499:      clc
33d1 6531 500:      adc  chksum
33d3 8531 501:      sta  chksum
33d5 e8 502:      inx
33d6 ec0803 503:      cpx  dbytlo
33d9 d0ea 504:      bne  get_data1
33db 202533 505:      jsr  get_byte
33de c531 506:      cmp  chksum
33e0 d001 507:      bne  l33e3
33e2 60 508:      rts
33e3      509: ;
33e3 4c5e33 510: l33e3:      jmp  set_checksum
33e6      511: ;
33e6 208f32 512: put_data:  jsr  set_output
33e9 201533 513:      jsr  handshake_out
33ec a255 514:      ldx  #$55
33ee 8631 515:      stx  chksum
33f0 a200 516:      ldx  #0
33f2 a931 517:      lda  #$31
33f4 8d0733 518:      sta  error_num
33f7 bdb730 519: put_data1: lda  data,x
33fa 8d71d5 520:      sta  d571
33fd 18 521:      clc
33fe 6531 522:      adc  chksum
3400 8531 523:      sta  chksum
3402 2c7dd5 524: put_data2: bit  d57d
3405 10fb 525:      bpl  put_data2
3407 e8 526:      inx
3408 ec0803 527:      cpx  dbytlo
340b d0ea 528:      bne  put_data1
340d 20b332 529:      jsr  put_byte
3410 4c8132 530:      jmp  set_input
```

```
3413      531: ;
3413 208f32 532: sendsns: jsr set_output
3416 201533 533:      jsr handshake_out
3419 a932 534:      lda #$32
341b 8d0733 535:      sta error_num
341e adda31 536:      lda l31da
3421 20b332 537:      jsr put_byte
3424 addb31 538:      lda l31db
3427 20b332 539:      jsr put_byte
342a adda31 540:      lda l31da
342d 18 541:      clc
342e 6ddb31 542:      adc l31db
3431 4980 543:      eor #$80
3433 20b332 544:      jsr put_byte
3436 4c8132 545:      jmp set_input
3439      546: ;
3439 a900 547: setup: lda #0
343b 854d 548:      sta atract
343d 206734 549:      jsr set_timers
3440 a9c0 550:      lda #$c0
3442 8d0ed4 551:      sta nmien
3445 a980 552:      lda #$80
3447 8d3430 553:      sta line2+9
344a a900 554:      lda #0
344c 8d70d5 555:      sta d570
344f 208f32 556:      jsr set_output
3452 a9ff 557:      lda #$ff
3454 8d7cd5 558:      sta d57c
3457 a900 559:      lda #0
3459 8d71d5 560:      sta d571
345c a00a 561:      ldy #$0a
345e 88 562: l345e: dey
345f 10fd 563:      bpl l345e
3461 a920 564:      lda #$20
3463 8d70d5 565:      sta d570
3466 60 566:      rts
3467      567: ;
3467 a9bc 568: set_timers: lda # low bb_mio_off
3469 8d2602 569:      sta cdtma1
346c a932 570:      lda # high bb_mio_off
346e 8d2702 571:      sta cdtma1+1
3471 a900 572:      lda #0
3473 8d1802 573:      sta cdtmv1
3476 8d1902 574:      sta cdtmv1+1
3479 60 575:      rts
347a      576: ;
347a a2ff 577: l347a: ldx #$ff
347c 9a 578:      txs
347d 203934 579:      jsr setup
3480 ee3330 580:      inc line2+8
3483 aee031 581:      ldx l31e0
3486 bdce3a 582:      lda l3ace,x
3489 8d71d5 583:      sta d571
```

```

348c a514 584:      lda  rtclk+2
348e 6907 585:      adc  #7
3490 a8 586:      tay
3491 2c70d5 587: l3491:  bit  d570
3494 7006 588:      bvs  l349c
3496 c414 589:      cpy  rtclk+2
3498 d0f7 590:      bne  l3491
349a f003 591:      beq  l349f
349c 4c4635 592: l349c:  jmp  l3546
349f      593: ;
349f a2ff 594: l349f:  ldx  #$ff
34a1 9a 595:      txs
34a2 e8 596:      inx
34a3 8ee131 597:      stx  l31e1
34a6 203934 598:      jsr  setup
34a9 aee031 599: l34a9:  ldx  l31e0
34ac e8 600:      inx
34ad e008 601:      cpx  #8
34af 900a 602:      bcc  l34bb
34b1 2c00d3 603:      bit  porta
34b4 3003 604:      bmi  l34b9
34b6 207d43 605:      jsr  l437d
34b9 a200 606: l34b9:  ldx  #0
34bb 8ee031 607: l34bb:  stx  l31e0
34be bdce3a 608:      lda  l3ace,x
34c1 a232 609:      ldx  #$32
34c3 8d71d5 610:      sta  d571
34c6 2c70d5 611: l34c6:  bit  d570
34c9 707b 612:      bvs  l3546
34cb ca 613:      dex
34cc d0f8 614:      bne  l34c6
34ce a200 615:      ldx  #0
34d0 8e71d5 616:      stx  d571
34d3 2c70d5 617: l34d3:  bit  d570
34d6 706e 618:      bvs  l3546
34d8 e8 619:      inx
34d9 e01e 620:      cpx  #$1e
34db 90f6 621:      bcc  l34d3
34dd ee3330 622:      inc  line2+8
34e0 adfc02 623:      lda  ch
34e3 c9ff 624:      cmp  #$ff
34e5 f0c2 625:      beq  l34a9
34e7 a0ff 626:      ldy  #$ff
34e9 8cfc02 627:      sty  ch
34ec c921 628:      cmp  #$21
34ee d006 629:      bne  l34f6
34f0 20c63c 630:      jsr  l3cc6
34f3 4ca934 631:      jmp  l34a9
34f6      632: ;
34f6 c92a 633: l34f6:  cmp  #$2a
34f8 f00b 634:      beq  l3505
34fa c90a 635:      cmp  #$0a
34fc f00a 636:      beq  l3508

```

```

34fe c93a 637:      cmp  #$3a
3500 f009 638:      beq  l350b
3502 4ca934 639:      jmp  l34a9
3505      640: ;
3505 a940 641: l3505:   lda  #$40  ;'heart'
3507 2c 642:      dc.b  $2c
3508 a980 643: l3508:   lda  #$80  ;'+128
350a 2c 644:      dc.b  $2c
350b a920 645: l350b:   lda  #$20  ;'@'
350d 4ded3d 646:      eor  l3ded
3510 8ded3d 647:      sta  l3ded
3513 201935 648:      jsr  l3519
3516 4c4335 649:      jmp  l3543
3519      650: ;
3519 2ced3d 651: l3519:   bit  l3ded
351c 7003 652:      bvs  l3521
351e a980 653:      lda  #$80  ;'+128
3520 2c 654:      dc.b  $2c
3521 a9e5 655: l3521:   lda  #$e5  ;'e'+128
3523 8d5030 656:      sta  line2+37
3526 2ced3d 657:      bit  l3ded
3529 3003 658:      bmi  l352e
352b a980 659:      lda  #$80  ;'+128
352d 2c 660:      dc.b  $2c
352e a9f0 661: l352e:   lda  #$f0  ;'p'+128
3530 8d5130 662:      sta  line2+38
3533 aded3d 663:      lda  l3ded
3536 2920 664:      and  #$20
3538 d003 665:      bne  l353d
353a a980 666:      lda  #$80  ;'+128
353c 2c 667:      dc.b  $2c
353d a9e4 668: l353d:   lda  #$e4  ;'d'+128
353f 8d5230 669:      sta  line2+39
3542 60 670:      rts
3543      671: ;
3543 4ca934 672: l3543:   jmp  l34a9
3546      673: ;
3546 aee031 674: l3546:   ldx  l31e0
3549 e8 675:      inx
354a 8edd31 676:      stx  l31dd
354d 8a 677:      txa
354e 0990 678:      ora  #$90
3550 2c70d5 679:      bit  d570
3553 50ee 680:      bvc  l3543
3555 8d4530 681:      sta  line2+26
3558 206734 682:      jsr  set_timers
355b a904 683:      lda  #4
355d 8d1802 684:      sta  cdtmv1
3560 ad70d5 685:      lda  d570
3563 29cf 686:      and  #$cf
3565 8d70d5 687:      sta  d570
3568 a98a 688:      lda  #$8a  ;'*'+128
356a 8d3430 689:      sta  line2+9

```

```
356d 20e33 690:      jsr  get_command
3570 a9b7 691:      lda  # low data
3572 8d0403 692:      sta  dbuflo
3575 a930 693:      lda  # high data
3577 8d0503 694:      sta  dbuflo+1
357a ad0003 695:      lda  ddevic
357d c991 696:      cmp  #$91
357f d003 697:      bne  l3584
3581 4cc136 698:      jmp  l36c1
3584      699: ;
3584 c992 700: l3584:      cmp  #$92
3586 d003 701:      bne  l358b
3588 4ce739 702:      jmp  l39e7
358b      703: ;
358b a020 704: l358b:      ldy  #$20
358d ad0003 705:      lda  ddevic
3590 18 706:      clc
3591 6d0103 707:      adc  dunit
3594 18 708:      clc
3595 69ff 709:      adc  #$ff
3597 aeb636 710:      ldx  l36b6
359a ddb636 711: l359a:      cmp  l36b6,x
359d f017 712:      beq  l35b6
359f ca 713:      dex
35a0 d0f8 714:      bne  l359a
35a2 ad0303 715: l35a2:      lda  dstats
35a5 8dda31 716:      sta  l31da
35a8 ad0103 717:      lda  dunit
35ab 0940 718:      ora  #$40
35ad 8ddb31 719:      sta  l31db
35b0 201334 720:      jsr  sendsns
35b3 4c9f34 721:      jmp  l349f
35b6      722: ;
35b6 aa 723: l35b6:      tax
35b7 addd31 724:      lda  l31dd
35ba 38 725:      sec
35bb e901 726:      sbc  #1
35bd 0a 727:      asl
35be 0a 728:      asl
35bf 0a 729:      asl
35c0 0a 730:      asl
35c1 a8 731:      tay
35c2 e040 732:      cpx  #$40
35c4 d010 733:      bne  l35d6
35c6 b96c3d 734:      lda  mastab,y
35c9 3008 735:      bmi  l35d3
35cb 290f 736:      and  #$0f
35cd 8d0103 737:      sta  dunit
35d0 4c1d36 738:      jmp  l361d
35d3      739: ;
35d3 4ca235 740: l35d3:      jmp  l35a2
35d6      741: ;
35d6 8edf31 742: l35d6:      stx  l31df
```

```

35d9 98 743:      tya
35da 18 744:      clc
35db 6ddf31 745:      adc  l31df
35de 38 746:      sec
35df e930 747:      sbc  #$30
35e1 a8 748:      tay
35e2 b96c3d 749:      lda  mastab,y
35e5 102e 750:      bpl  l3615
35e7 290f 751:      and  #$0f
35e9 0930 752:      ora  #$30
35eb 38 753:      sec
35ec ed0003 754:      sbc  ddevic
35ef 18 755:      clc
35f0 6901 756:      adc  #1
35f2 8d0103 757:      sta  dunit
35f5 b96c3d 758:      lda  mastab,y
35f8 2940 759:      and  #$40
35fa f0d7 760:      beq  l35d3
35fc ad0203 761:      lda  dcomnd
35ff c950 762:      cmp  #$50 ;Write without verify
3601 f00f 763:      beq  l3612
3603 c957 764:      cmp  #$57 ;write
3605 f00b 765:      beq  l3612
3607 c921 766:      cmp  #$21 ;format
3609 f007 767:      beq  l3612
360b c922 768:      cmp  #$22 ;format enhanced density
360d f003 769:      beq  l3612
360f 4ca235 770:      jmp  l35a2
3612 771: ;
3612 b96c3d 772: l3612:      lda  mastab,y
3615 8d0103 773: l3615:      sta  dunit
3618 a931 774:      lda  #$31 ;drive id
361a 8d0003 775:      sta  ddevic
361d ad0003 776: l361d:      lda  ddevic
3620 c940 777:      cmp  #$40 ;printer id
3622 f008 778:      beq  l362c
3624 ad0103 779:      lda  dunit ; id byte
3627 290f 780:      and  #$0f ; change $01 to '1'
3629 0990 781:      ora  #$90 ;'0'inverse
362b 2c 782:      dc.b $2c
362c a9b0 783: l362c:      lda  #$b0 ;'P'inverse
362e 8d3c30 784:      sta  line2+17
3631 ad0303 785:      lda  dstats
3634 8ddc31 786:      sta  l31dc
3637 20b83c 787:      jsr  l3cb8
363a ad0303 788:      lda  dstats
363d 1003 789:      bpl  l3642
363f 20b233 790:      jsr  get_data
3642 2c0103 791: l3642:      bit  dunit
3645 501f 792:      bvc  l3666
3647 ad0203 793:      lda  dcomnd
364a c957 794:      cmp  #$57
364c f00c 795:      beq  l365a

```



```

364e c950 796:      cmp    #$50
3650 f008 797:      beq    l365a
3652 c921 798:      cmp    #$21
3654 f004 799:      beq    l365a
3656 c922 800:      cmp    #$22
3658 d004 801:      bne    l365e
365a a090 802: l365a:    ldy    #$90
365c d01b 803:      bne    l3679
365e ad0103 804: l365e:    lda    dunit
3661 290f 805:      and    #$0f
3663 8d0103 806:      sta    dunit
3666 206734 807: l3666:    jsr    set_timers
3669 ad0003 808:      lda    ddevic
366c c940 809:      cmp    #$40
366e f006 810:      beq    l3676
3670 20f23e 811:      jsr    l3ef2
3673 4c7936 812:      jmp    l3679
3676      813: ;
3676 20d22f 814: l3676:    jsr    xsio
3679 8cda31 815: l3679:    sty    l31da
367c 206734 816:      jsr    set_timers
367f a904 817:      lda    #4
3681 8d1802 818:      sta    cdtmv1
3684 2cdc31 819:      bit    l31dc
3687 5003 820:      bvc    l368c
3689 20e633 821:      jsr    put_data
368c 201334 822: l368c:    jsr    sendsns
368f aded3d 823:      lda    l3ded
3692 2920 824:      and    #$20
3694 f010 825:      beq    l36a6
3696 ad0003 826:      lda    ddevic
3699 18 827:      clc
369a 6d0103 828:      adc    dunit
369d e932 829:      sbc    #$32
369f c90a 830:      cmp    #$0a
36a1 b003 831:      bcs    l36a6
36a3 209345 832:      jsr    l4593
36a6 ade131 833: l36a6:    lda    l31e1
36a9 c914 834:      cmp    #$14
36ab b006 835:      bcs    l36b3
36ad eee131 836:      inc    l31e1
36b0 4c7a34 837:      jmp    l347a
36b3      838: ;
36b3 4c9f34 839: l36b3:    jmp    l349f
36b6      840: ;
36b6      841: ;=====
36b6      842: ;10 BYTES FOLLOW-LOOKMAX(FIRST BYTE) & LOOKTABLE
36b6 0a3132 843: l36b6:    dc.b    $0a,$31,$32,$33,$34,$35,$36
36bd 373839 844:      dc.b    $37,$38,$39,$40
36c1      845: ;
36c1 ad0303 846: l36c1:    lda    dstats
36c4 8ddc31 847:      sta    l31dc
36c7 ad0203 848:      lda    dcomnd

```

```

36ca c952 849:      cmp    #$52
36cc f059 850:      beq    13727
36ce c953 851:      cmp    #$53
36d0 f014 852:      beq    136e6
36d2 c957 853:      cmp    #$57
36d4 f07c 854:      beq    13752
36d6 a98b 855:      lda    #$8b
36d8 8dda31 856:      sta    131da
36db a940 857:      lda    #$40
36dd 8ddb31 858:      sta    131db
36e0 201334 859:      jsr    sendsns
36e3 4c9f34 860:      jmp    1349f
36e6      861: ;
36e6 20b83c 862: 136e6:      jsr    13cb8
36e9 ad0b03 863:      lda    daux1+1
36ec d010 864:      bne    136fe
36ee ad0a03 865:      lda    daux1
36f1 c908 866:      cmp    #8
36f3 b009 867:      bcs    136fe
36f5 206d38 868:      jsr    1386d
36f8 adb730 869:      lda    data
36fb 8db830 870:      sta    data+1
36fe a900 871: 136fe:      lda    #0
3700 8db930 872:      sta    data+2
3703 8dba30 873:      sta    data+3
3706 ad0a03 874:      lda    daux1
3709 18 875:      clc
370a 6914 876:      adc    #$14
370c 8db730 877:      sta    data
370f c91c 878:      cmp    #$1c
3711 900a 879:      bcc    1371d
3713 208537 880:      jsr    13785
3716 a000 881:      ldy    #0
3718 b1cb 882:      lda    (cb),y
371a 8db830 883:      sta    data+1
371d a001 884: 1371d:      ldy    #1
371f a9fe 885:      lda    #$fe
3721 8de131 886:      sta    131e1
3724 4c7936 887:      jmp    13679
3727      888: ;
3727 20b83c 889: 13727:      jsr    13cb8
372a ad0b03 890:      lda    daux1+1
372d d010 891:      bne    1373f
372f ad0a03 892:      lda    daux1
3732 c908 893:      cmp    #8
3734 b009 894:      bcs    1373f
3736 206d38 895:      jsr    1386d
3739 200b39 896:      jsr    1390b
373c 4c4f37 897:      jmp    1374f
373f      898: ;
373f 208537 899: 1373f:      jsr    13785
3742 a000 900:      ldy    #0
3744 b1cb 901: 13744:      lda    (cb),y

```

```

3746 99b730 902:      sta  data,y
3749 c8      903:      iny
374a cc0803 904:      cpy  dbytlo
374d d0f5    905:      bne  l3744
374f 4c1d37 906: l374f: jmp  l371d
3752      907: ;
3752 20b83c 908: l3752: jsr  l3cb8
3755 20b233 909:      jsr  get_data
3758 ad0b03 910:      lda  daux1+1
375b d00d    911:      bne  l376a
375d ad0a03 912:      lda  daux1
3760 c908    913:      cmp  #8
3762 b006    914:      bcs  l376a
3764 202d39 915:      jsr  l392d
3767 4c7a37 916:      jmp  l377a
376a      917: ;
376a 208537 918: l376a: jsr  l3785
376d a000    919:      ldy  #0
376f b9b730 920: l376f: lda  data,y
3772 91cb    921:      sta  (cb),y
3774 c8      922:      iny
3775 cc0803 923:      cpy  dbytlo
3778 d0f5    924:      bne  l376f
377a a901    925: l377a: lda  #1
377c 8dda31 926: l377c: sta  l31da
377f 201334 927:      jsr  sendsns
3782 4c9f34 928:      jmp  l349f
3785      929: ;
3785 a900    930: l3785: lda  #0
3787 85cb    931:      sta  cb
3789 ad0b03 932:      lda  daux1+1
378c d02a    933:      bne  l37b8
378e ad0a03 934:      lda  daux1
3791 3034    935:      bmi  l37c7
3793 4a      936:      lsr
3794 85cc    937:      sta  cb+1
3796 66cb    938:      ror  cb
3798 18      939:      clc
3799 a9c4    940:      lda  # low pipe_end
379b 65cb    941:      adc  cb
379d 85cb    942:      sta  cb
379f a966    943:      lda  # high pipe_end
37a1 65cc    944:      adc  cb+1
37a3 85cc    945:      sta  cb+1
37a5 ad0a03 946: l37a5: lda  daux1
37a8 201e44 947:      jsr  l441e
37ab 8d4d30 948:      sta  line2+34
37ae ad0a03 949:      lda  daux1
37b1 202244 950:      jsr  l4422
37b4 8d4e30 951:      sta  line2+35
37b7 60      952:      rts
37b8      953: ;
37b8 a96c    954: l37b8: lda  # low mastab

```

```

37ba a23d 955:      ldx  # high mastab
37bc 85cb 956: l37bc:  sta  cb
37be 86cc 957:      stx  cb+1
37c0 60   958:      rts
37c1      959: ;
37c1 a9b7 960: l37c1:  lda  # low variables
37c3 a231 961:      ldx  # high variables
37c5 d0f5 962:      bne  l37bc
37c7 c980 963: l37c7:  cmp  #128      ;$80
37c9 f0f6 964:      beq  l37c1
37cb a96a 965:      lda  # low l386a
37cd a238 966:      ldx  # high l386a
37cf 20bc37 967:      jsr  l37bc
37d2 ad0a03 968:      lda  daux1
37d5 c981 969:      cmp  #129      ;$8
37d7 d003 970:      bne  l37dc
37d9 4ca044 971:      jmp  l44a0
37dc      972: ;
37dc c982 973: l37dc:  cmp  #$82
37de d003 974:      bne  l37e3
37e0 4cbf44 975:      jmp  l44bf
37e3      976: ;
37e3 c983 977: l37e3:  cmp  #$83
37e5 d003 978:      bne  l37ea
37e7 4cc63c 979:      jmp  l3cc6
37ea      980: ;
37ea c98d 981: l37ea:  cmp  #$8d
37ec 902f 982:      bcc  l381d
37ee c996 983:      cmp  #$96
37f0 b02c 984:      bcs  l381e
37f2 38   985:      sec
37f3 e98c 986:      sbc  #$8c
37f5 8d0103 987:      sta  dunit
37f8 addd31 988:      lda  l31dd
37fb 0a   989:      asl
37fc 0a   990:      asl
37fd 0a   991:      asl
37fe 0a   992:      asl
37ff 6d0103 993:      adc  dunit
3802 aa   994:      tax
3803 bd5c3d 995:      lda  l3d5c,x
3806 3015 996:      bmi  l381d
3808 290f 997:      and  #$0f
380a a8   998:      tay
380b b9b831 999:      lda  l31b8,y
380e cddd31 1000:      cmp  l31dd
3811 d00a 1001:      bne  l381d
3813 b9c831 1002:      lda  l31c8,y
3816 c901 1003:      cmp  #1
3818 d003 1004:      bne  l381d
381a 4c923b 1005:      jmp  l3b92
381d      1006: ;
381d 60   1007: l381d:  rts

```

```

381e      1008: ;
381e c997 1009: l381e:    cmp    #$97
3820 90fb 1010:          bcc    l381d
3822 c9a0 1011:          cmp    #$a0
3824 b0f7 1012:          bcs    l381d
3826 38   1013:          sec
3827 e996 1014:          sbc    #$96
3829 8d0103 1015:          sta    dunit
382c addd31 1016:          lda    l31dd
382f 0a   1017:          asl
3830 0a   1018:          asl
3831 0a   1019:          asl
3832 0a   1020:          asl
3833 6d0103 1021:          adc    dunit
3836 aa   1022:          tax
3837 bd5c3d 1023:          lda    l3d5c,x
383a 30e1 1024:          bmi    l381d
383c 290f 1025:          and    #$0f
383e a8   1026:          tay
383f b9b831 1027:          lda    l31b8,y
3842 f00b 1028:          beq    l384f
3844 cddd31 1029:          cmp    l31dd
3847 f006 1030:          beq    l384f
3849 a9c9 1031:          lda    #$c9
384b 8d0303 1032:          sta    dstats
384e 60   1033:          rts
384f      1034: ;
384f b9c831 1035: l384f:    lda    l31c8,y
3852 0901 1036:          ora    #1
3854 99c831 1037:          sta    l31c8,y
3857 addd31 1038:          lda    l31dd
385a 99b831 1039:          sta    l31b8,y
385d 98   1040:          tya
385e 0a   1041:          asl
385f 0a   1042:          asl
3860 aa   1043:          tax
3861 addd31 1044:          lda    l31dd
3864 0990 1045:          ora    #$90
3866 9d5630 1046:          sta    line3+3,x
3869 60   1047:          rts
386a      1048: ;
386a 019b 1049: l386a:    dc.b   $01,$9b
386c 00   1050:          dc.b   $00
386d 20a537 1051: l386d:    jsr    l37a5
3870 ad0a03 1052:          lda    daux1
3873 0a   1053:          asl
3874 aa   1054:          tax
3875 bde531 1055:          lda    l31e5,x
3878 ddf531 1056:          cmp    l31f5,x
387b d01f 1057:          bne    l389c
387d bde631 1058:          lda    l31e6,x
3880 ddf631 1059:          cmp    l31f6,x
3883 d017 1060:          bne    l389c

```

```

3885 ad0a03 1061: 13885:    lda    daux1
3888 0a    1062:        asl
3889 aa    1063:        tax
388a a900  1064:        lda    #0
388c 8db730 1065:        sta    data
388f 9de531 1066:        sta    131e5,x
3892 9de631 1067:        sta    131e6,x
3895 9df531 1068:        sta    131f5,x
3898 9df631 1069:        sta    131f6,x
389b 60    1070:        rts
389c      1071: ;
389c bdf531 1072: 1389c:    lda    131f5,x
389f 18    1073:        clc
38a0 7d1d39 1074:        adc    pipe20,x
38a3 85cb  1075:        sta    cb
38a5 bdf631 1076:        lda    131f6,x
38a8 7d1e39 1077:        adc    pipe20+1,x
38ab 85cc  1078:        sta    cb+1
38ad bdf631 1079:        lda    131f6,x
38b0 c903  1080:        cmp    #3
38b2 d00b  1081:        bne    138bf
38b4 bdf531 1082:        lda    131f5,x
38b7 1006  1083:        bpl    138bf
38b9 49ff  1084:        eor    #$ff
38bb 18    1085:        clc
38bc 6901  1086:        adc    #1
38be 2c    1087:        dc.b   $2c
38bf a9ff  1088: 138bf:    lda    #$ff
38c1 8de231 1089:        sta    131e2
38c4 a000  1090:        ldy    #0
38c6 a200  1091:        ldx    #0
38c8 b1cb  1092: 138c8:    lda    (cb),y
38ca 9db830 1093:        sta    data+1,x
38cd c8    1094:        iny
38ce e8    1095:        inx
38cf 30b4  1096:        bmi    13885
38d1 cce231 1097:        cpy    131e2
38d4 f00a  1098:        beq    138e0
38d6 c99b  1099: 138d6:    cmp    #$9b
38d8 d0ee  1100:        bne    138c8
38da 8eb730 1101:        stx    data
38dd 4cfb38 1102:        jmp    138fb
38e0      1103: ;
38e0 48    1104: 138e0:    pha
38e1 a9ff  1105:        lda    #$ff
38e3 8de231 1106:        sta    131e2
38e6 ad0a03 1107:        lda    daux1
38e9 0a    1108:        asl
38ea a8    1109:        tay
38eb b91d39 1110:        lda    pipe20,y
38ee 85cb  1111:        sta    cb
38f0 b91e39 1112:        lda    pipe20+1,y
38f3 85cc  1113:        sta    cb+1

```

```

38f5 a000 1114:      ldy  #0
38f7 68 1115:      pla
38f8 4cd638 1116:      jmp  l38d6
38fb      1117: ;
38fb ad0a03 1118: l38fb:      lda  daux1
38fe 0a 1119:      asl
38ff aa 1120:      tax
3900 98 1121:      tya
3901 18 1122:      clc
3902 65cb 1123:      adc  cb
3904 85cb 1124:      sta  cb
3906 9002 1125:      bcc  l390a
3908 e6cc 1126:      inc  cb+1
390a 60 1127: l390a:      rts
390b      1128: ;
390b 38 1129: l390b:      sec
390c a5cb 1130:      lda  cb
390e fd1d39 1131:      sbc  pipe20,x
3911 9df531 1132:      sta  l31f5,x
3914 a5cc 1133:      lda  cb+1
3916 fd1e39 1134:      sbc  pipe20+1,x
3919 9df631 1135:      sta  l31f6,x
391c 60 1136:      rts
391d      1137: ;
391d c446 1138: pipe20:      dc.w  program_end
391f c44a 1139: pipe21:      dc.w  program_end+1024
3921 c44e 1140: pipe22:      dc.w  program_end+2048
3923 c452 1141: pipe23:      dc.w  program_end+3072
3925 c456 1142: pipe24:      dc.w  program_end+4096
3927 c45a 1143: pipe25:      dc.w  program_end+5120
3929 c45e 1144: pipe26:      dc.w  program_end+6144
392b c462 1145: pipe27:      dc.w  program_end+7168
392d      1146: ;
392d      1147: ;
392d      1148: ;
392d 20a537 1149: l392d:      jsr  l37a5
3930 ad0a03 1150:      lda  daux1
3933 0a 1151:      asl
3934 aa 1152:      tax
3935 bde531 1153:      lda  l31e5,x
3938 8de331 1154:      sta  l31e3
393b 18 1155:      clc
393c 7d1d39 1156:      adc  pipe20,x
393f 85cd 1157:      sta  cd
3941 bde631 1158:      lda  l31e6,x
3944 8de431 1159:      sta  l31e4
3947 7d1e39 1160:      adc  pipe20+1,x
394a 85ce 1161:      sta  cd+1
394c a000 1162:      ldy  #0
394e adb730 1163:      lda  data
3951 d003 1164:      bne  l3956
3953 4c8538 1165:      jmp  l3885
3956      1166: ;

```

```

3956 eee331 1167: 13956:    inc    131e3
3959 d022 1168:          bne    1397d
395b eee431 1169:          inc    131e4
395e ade431 1170:          lda    131e4
3961 c904 1171:          cmp    #4
3963 9018 1172:          bcc    1397d
3965 a900 1173:          lda    #0
3967 8de431 1174:          sta    131e4
396a 8cb730 1175:          sty    data
396d 38 1176:          sec
396e bd1d39 1177:          lda    pipe20,x
3971 edb730 1178:          sbc    data
3974 85cd 1179:          sta    cd
3976 bd1e39 1180:          lda    pipe20+1,x
3979 e900 1181:          sbc    #0
397b 85ce 1182:          sta    cd+1
397d ade331 1183: 1397d:    lda    131e3
3980 ddf531 1184:          cmp    131f5,x
3983 d044 1185:          bne    139c9
3985 ade431 1186:          lda    131e4
3988 ddf631 1187:          cmp    131f6,x
398b d03c 1188:          bne    139c9
398d 18 1189:          clc
398e bdf531 1190:          lda    131f5,x
3991 7d1d39 1191:          adc    pipe20,x
3994 85cb 1192:          sta    cb
3996 bdf631 1193:          lda    131f6,x
3999 7d1e39 1194:          adc    pipe20+1,x
399c 85cc 1195:          sta    cb+1
399e a0ff 1196:          ldy    #$ff
39a0 c8 1197: 139a0:    iny
39a1 fef531 1198:          inc    131f5,x
39a4 d01a 1199:          bne    139c0
39a6 fef631 1200:          inc    131f6,x
39a9 bdf631 1201:          lda    131f6,x
39ac c904 1202:          cmp    #4
39ae 9010 1203:          bcc    139c0
39b0 a900 1204:          lda    #0
39b2 a8 1205:          tay
39b3 9df631 1206:          sta    131f6,x
39b6 bd1d39 1207:          lda    pipe20,x
39b9 85cb 1208:          sta    cb
39bb bd1e39 1209:          lda    pipe20+1,x
39be 85cc 1210:          sta    cb+1
39c0 b1cb 1211: 139c0:    lda    (cb),y
39c2 c99b 1212:          cmp    #$9b
39c4 d0da 1213:          bne    139a0
39c6 4c2d39 1214:          jmp    1392d
39c9      1215: ;
39c9 b9b830 1216: 139c9:    lda    data+1,y
39cc 91cd 1217:          sta    (cd),y
39ce c99b 1218:          cmp    #$9b
39d0 f008 1219:          beq    139da

```



```

39d2 c8 1220:      iny
39d3 1081 1221:      bpl 13956
39d5 a989 1222:      lda #$89
39d7 4c7c37 1223:      jmp 1377c
39da      1224: ;
39da ade331 1225: l39da:      lda 131e3
39dd 9de531 1226:      sta 131e5,x
39e0 ade431 1227:      lda 131e4
39e3 9de631 1228:      sta 131e6,x
39e6 60 1229:      rts
39e7      1230: ;
39e7 20b83c 1231: l39e7:      jsr 13cb8
39ea a901 1232:      lda #1
39ec 8d0303 1233:      sta dstats
39ef addd31 1234:      lda 131dd
39f2 0a 1235:      asl
39f3 0a 1236:      asl
39f4 0a 1237:      asl
39f5 0a 1238:      asl
39f6 18 1239:      clc
39f7 6d0103 1240:      adc dunit
39fa a8 1241:      tay
39fb b95c3d 1242:      lda 13d5c,y
39fe 302a 1243:      bmi 13a2a
3a00 290f 1244:      and #$0f
3a02 a8 1245:      tay
3a03 0a 1246:      asl
3a04 0a 1247:      asl
3a05 aa 1248:      tax
3a06 ad0203 1249:      lda dcomnd
3a09 c943 1250:      cmp #$43
3a0b f014 1251:      beq 13a21
3a0d c958 1252:      cmp #$58
3a0f f00d 1253:      beq 13a1e
3a11 c952 1254:      cmp #$52
3a13 f006 1255:      beq 13a1b
3a15 c94f 1256:      cmp #$4f
3a17 f03d 1257:      beq 13a56
3a19 d009 1258:      bne 13a24
3a1b 4c793c 1259: l3a1b:      jmp 13c79
3a1e      1260: ;
3a1e 4cda3b 1261: l3a1e:      jmp 13bda
3a21      1262: ;
3a21 20283b 1263: l3a21:      jsr 13b28
3a24 20b83c 1264: l3a24:      jsr 13cb8
3a27 4c9f34 1265:      jmp 1349f
3a2a      1266: ;
3a2a 4cc83a 1267: l3a2a:      jmp 13ac8
3a2d      1268: ;
3a2d 536c61 1269: slave_open: dc.b "Slave "
3a33 78 1270: l3a33:      dc.b $78
3a34 204f50 1271:      dc.b " OPENed IOCB "
3a41 78 1272: l3a41:      dc.b $78

```

```

3a42 20666f 1273:      dc.b  " for $"
3a48 78 1274: l3a48:    dc.b  $78
3a49 206f6e 1275:      dc.b  " on drive "
3a53 789b00 1276: l3a53:    dc.b  $78,$9b,$00
3a56      1277: ;
3a56      1278: ;
3a56      1279: ;
3a56      1280: ;
3a56 2ced3d 1281: l3a56:    bit  l3ded
3a59 1050 1282:      bpl  l3aab
3a5b 20613a 1283:      jsr  l3a61
3a5e 4cab3a 1284:      jmp  l3aab
3a61      1285: ;
3a61 8a 1286: l3a61:    txa
3a62 48 1287:      pha
3a63 98 1288:      tya
3a64 48 1289:      pha
3a65 ad0a03 1290:      lda  daux1
3a68 48 1291:      pha
3a69 ad0b03 1292:      lda  daux1+1
3a6c 48 1293:      pha
3a6d addd31 1294:      lda  l31dd
3a70 0930 1295:      ora  #$30
3a72 8d333a 1296:      sta  l3a33
3a75 ad0a03 1297:      lda  daux1
3a78 202c44 1298:      jsr  l442c
3a7b 8d483a 1299:      sta  l3a48
3a7e ad0103 1300:      lda  dunit
3a81 0930 1301:      ora  #$30
3a83 8d533a 1302:      sta  l3a53
3a86 ad0b03 1303:      lda  daux1+1
3a89 4a 1304:      lsr
3a8a 4a 1305:      lsr
3a8b 4a 1306:      lsr
3a8c 4a 1307:      lsr
3a8d 0930 1308:      ora  #$30
3a8f 8d413a 1309:      sta  l3a41
3a92 a22d 1310:      ldx  # low_slave_open
3a94 a03a 1311:      ldy  # high_slave_open
3a96 20bf43 1312:      jsr  l43bf
3a99 68 1313:      pla
3a9a 8d0b03 1314:      sta  daux1+1
3a9d 68 1315:      pla
3a9e 8d0a03 1316:      sta  daux1
3aa1 68 1317:      pla
3aa2 a8 1318:      tay
3aa3 68 1319:      pla
3aa4 aa 1320:      tax
3aa5 a904 1321:      lda  #4
3aa7 8d1802 1322:      sta  cdtmv1
3aaa 60 1323:      rts
3aab      1324: ;
3aab aedd31 1325: l3aab:    ldx  l31dd

```

```

3aae a900 1326:      lda  #0
3ab0 9d0432 1327:      sta 13204,x
3ab3 ad0a03 1328:      lda  daux1
3ab6 290f 1329:      and  #$0f
3ab8 c90c 1330:      cmp  #$0c
3aba d008 1331:      bne 13ac4
3abc adec3d 1332:      lda 13dec
3abf f007 1333:      beq 13ac8
3ac1 4cd63a 1334:      jmp 13ad6
3ac4      1335: ;
3ac4 2908 1336: 13ac4: and  #8
3ac6 d00e 1337:      bne 13ad6
3ac8 20b83c 1338: 13ac8: jsr 13cb8
3acb 4c9f34 1339:      jmp 1349f
3ace      1340: ;
3ace      1341: 13ace:
3ace 010204 1342:      dc.b $01,$02,$04,$08
3ad2 102040 1343:      dc.b $10,$20,$40,$80
3ad6      1344: ;
3ad6 b9b831 1345: 13ad6: lda 131b8,y
3ad9 f005 1346:      beq 13ae0
3adb cddd31 1347:      cmp 131dd
3ade d026 1348:      bne 13b06
3ae0 ad0b03 1349: 13ae0: lda  daux1+1
3ae3 4a 1350:      lsr
3ae4 4a 1351:      lsr
3ae5 4a 1352:      lsr
3ae6 4a 1353:      lsr
3ae7 aa 1354:      tax
3ae8 bdce3a 1355:      lda 13ace,x
3aeb 19c831 1356:      ora 131c8,y
3aee 99c831 1357:      sta 131c8,y
3af1 addd31 1358:      lda 131dd
3af4 99b831 1359: 13af4: sta 131b8,y
3af7 98 1360:      tya
3af8 0a 1361:      asl
3af9 0a 1362:      asl
3afa aa 1363:      tax
3afb addd31 1364:      lda 131dd
3afe 0990 1365:      ora  #$90
3b00 9d5630 1366:      sta line3+3,x
3b03 4cc83a 1367:      jmp 13ac8
3b06      1368: ;
3b06 a9c9 1369: 13b06: lda  #$c9
3b08 8d0303 1370:      sta dstats
3b0b 20b83c 1371:      jsr 13cb8
3b0e 4c9f34 1372:      jmp 1349f
3b11      1373: ;
3b11 536c61 1374: slave_close: dc.b "Slave "
3b17 78 1375: 13b17: dc.b $78
3b18 20434c 1376:      dc.b "CLOSEd IOCB "
3b25 789b00 1377: 13b25: dc.b $78,$9b,$00
3b28      1378: ;

```

```

3b28      1379: ;
3b28 aedd31 1380: l3b28:    ldx  l31dd
3b2b bd0432 1381:          lda  l3204,x
3b2e 08     1382:          php
3b2f a900   1383:          lda  #0
3b31 9d0432 1384:          sta  l3204,x
3b34 28     1385:          plp
3b35 d008   1386:          bne  l3b3f
3b37 2ced3d 1387:          bit  l3ded
3b3a 102b   1388:          bpl  l3b67
3b3c 20423b 1389:          jsr  l3b42
3b3f 4c673b 1390: l3b3f:    jmp   l3b67
3b42      1391: ;
3b42 98     1392: l3b42:    tya
3b43 48     1393:          pha
3b44 addd31 1394:          lda  l31dd
3b47 0930   1395:          ora  #$30
3b49 8d173b 1396:          sta  l3b17
3b4c ad0b03 1397:          lda  daux1+1
3b4f 4a     1398:          lsr
3b50 4a     1399:          lsr
3b51 4a     1400:          lsr
3b52 4a     1401:          lsr
3b53 0930   1402:          ora  #$30
3b55 8d253b 1403:          sta  l3b25
3b58 a211   1404:          ldx  # low_slave_close
3b5a a03b   1405:          ldy  # high_slave_close
3b5c 20bf43 1406:          jsr  l43bf
3b5f a904   1407:          lda  #4
3b61 8d1802 1408:          sta  cdtmv1
3b64 68     1409:          pla
3b65 a8     1410:          tay
3b66 60     1411:          rts
3b67      1412: ;
3b67 a001   1413: l3b67:    ldy  #1
3b69 b9b831 1414: l3b69:    lda  l31b8,y
3b6c f037   1415:          beq  l3ba5
3b6e cddd31 1416:          cmp  l31dd
3b71 d032   1417:          bne  l3ba5
3b73 ad0b03 1418:          lda  daux1+1
3b76 4a     1419:          lsr
3b77 4a     1420:          lsr
3b78 4a     1421:          lsr
3b79 4a     1422:          lsr
3b7a aa     1423:          tax
3b7b bdce3a 1424:          lda  l3ace,x
3b7e 39c831 1425:          and  l31c8,y
3b81 f022   1426:          beq  l3ba5
3b83 bdce3a 1427:          lda  l3ace,x
3b86 49ff   1428:          eor  #$ff
3b88 39c831 1429:          and  l31c8,y
3b8b 99c831 1430:          sta  l31c8,y
3b8e c900   1431:          cmp  #0

```

```

3b90 d018 1432:      bne  l3baa
3b92 a900 1433: l3b92:  lda  #0
3b94 99b831 1434:      sta  l31b8,y
3b97 99c831 1435:      sta  l31c8,y
3b9a 98 1436:      tya
3b9b 0a 1437:      asl
3b9c 0a 1438:      asl
3b9d aa 1439:      tax
3b9e a980 1440:      lda  #$80
3ba0 9d5630 1441:      sta  line3+3,x
3ba3 d005 1442:      bne  l3baa
3ba5 c8 1443: l3ba5:  iny
3ba6 c00a 1444:      cpy  #$0a
3ba8 90bf 1445:      bcc  l3b69
3baa 60 1446: l3baa:  rts
3bab 1447: ;
3bab 1448: ;
3bab 1449: xio_on_iocb:
3bab 536c61 1450:      dc.b  "Slave "
3bb1 78 1451: l3bb1:  dc.b  $78
3bb2 20446f 1452:      dc.b  " Doing XIO $"
3bbe 78 1453: l3bbe:  dc.b  $78
3bbf 78 1454: l3bbf:  dc.b  $78
3bc0 207573 1455:      dc.b  " using IOCB "
3bcc 78 1456: l3bcc:  dc.b  $78
3bcd 206f6e 1457:      dc.b  " on drive "
3bd7 789b00 1458: l3bd7:  dc.b  $78,$9b,$00
3bda 1459: ;
3bda 1460: ;
3bda 2ced3d 1461: l3bda:  bit  l3ded
3bdd 1056 1462:      bpl  l3c35
3bdf 8a 1463:      txa
3be0 48 1464:      pha
3be1 98 1465:      tya
3be2 48 1466:      pha
3be3 ad0a03 1467:      lda  daux1
3be6 48 1468:      pha
3be7 ad0b03 1469:      lda  daux1+1
3bea 48 1470:      pha
3beb addd31 1471:      lda  l31dd
3bee 0930 1472:      ora  #$30
3bf0 8db13b 1473:      sta  l3bb1
3bf3 ad0b03 1474:      lda  daux1+1
3bf6 4a 1475:      lsr
3bf7 4a 1476:      lsr
3bf8 4a 1477:      lsr
3bf9 4a 1478:      lsr
3bfa 0930 1479:      ora  #$30
3bfc 8dcc3b 1480:      sta  l3bcc
3bff ad0103 1481:      lda  dunit
3c02 0930 1482:      ora  #$30
3c04 8dd73b 1483:      sta  l3bd7
3c07 ad0a03 1484:      lda  daux1

```

```

3c0a 4a 1485:      lsr
3c0b 4a 1486:      lsr
3c0c 4a 1487:      lsr
3c0d 4a 1488:      lsr
3c0e 202c44 1489:   jsr 1442c
3c11 8dbe3b 1490:   sta 13bbe
3c14 ad0a03 1491:   lda daux1
3c17 202c44 1492:   jsr 1442c
3c1a 8dbf3b 1493:   sta 13bbf
3c1d a2ab 1494:   ldx # low xio_on_iocb
3c1f a03b 1495:   ldy # high xio_on_iocb
3c21 20bf43 1496:   jsr 143bf
3c24 68 1497:      pla
3c25 8d0b03 1498:   sta daux1+1
3c28 68 1499:      pla
3c29 8d0a03 1500:   sta daux1
3c2c 68 1501:      pla
3c2d a8 1502:      tay
3c2e 68 1503:      pla
3c2f aa 1504:      tax
3c30 a904 1505:      lda #4
3c32 8d1802 1506:   sta cdtmv1
3c35 8edf31 1507: l3c35: stx 131df
3c38 aedd31 1508:   ldx 131dd
3c3b a900 1509:      lda #0
3c3d 9d0432 1510:   sta 13204,x
3c40 ad0a03 1511:   lda daux1
3c43 ae5f3d 1512:   ldx xiomax
3c46 dd5f3d 1513: l3c46: cmp xiomax,x
3c49 f019 1514:      beq 13c64
3c4b ca 1515:      dex
3c4c d0f8 1516:      bne 13c46
3c4e aedd31 1517:   ldx 131dd
3c51 9d0432 1518:   sta 13204,x
3c54 a902 1519:      lda #2
3c56 8dda31 1520:   sta 131da
3c59 a900 1521:      lda #0
3c5b 8ddb31 1522:   sta 131db
3c5e 201334 1523:   jsr sendsns
3c61 4c9f34 1524:   jmp 1349f
3c64 1525: ;
3c64 aedf31 1526: l3c64: ldx 131df
3c67 4cd63a 1527:   jmp 13ad6
3c6a 1528: ;
3c6a 1529: slave_reset:
3c6a 536c61 1530:   dc.b "Slave "
3c70 1531: ;
3c70 78 1532: l3c70:   dc.b $78
3c71 205245 1533:   dc.b " RESET"
3c77 9b00 1534:   dc.b $9b,$00
3c79 2ced3d 1535: l3c79:   bit 13ded
3c7c 100f 1536:   bpl 13c8d
3c7e addd31 1537:   lda 131dd

```

```

3c81 0930 1538:      ora  #$30
3c83 8d703c 1539:      sta  l3c70
3c86 a26a 1540:      ldx  # low slave_reset
3c88 a03c 1541:      ldy  # high slave_reset
3c8a 20bf43 1542:      jsr  l43bf
3c8d a001 1543: l3c8d:      ldy  #1
3c8f b9b831 1544: l3c8f:      lda  l31b8,y
3c92 cddd31 1545:      cmp  l31dd
3c95 d011 1546:      bne  l3ca8
3c97 a900 1547:      lda  #0
3c99 99b831 1548:      sta  l31b8,y
3c9c 99c831 1549:      sta  l31c8,y
3c9f 98 1550:      tya
3ca0 0a 1551:      asl
3ca1 0a 1552:      asl
3ca2 aa 1553:      tax
3ca3 a980 1554:      lda  #$80
3ca5 9d5630 1555:      sta  line3+3,x
3ca8 c8 1556: l3ca8:      iny
3ca9 c00a 1557:      cpy  #$0a
3cab 90e2 1558:      bcc  l3c8f
3cad a900 1559:      lda  #0
3caf aedd31 1560:      ldx  l31dd
3cb2 9d0432 1561:      sta  l3204,x
3cb5 4cc83a 1562:      jmp  l3ac8
3cb8 1563: ;
3cb8 ad0303 1564: l3cb8:      lda  dstats
3cbb 8dda31 1565:      sta  l31da
3cbe a900 1566:      lda  #0
3cc0 8ddb31 1567:      sta  l31db
3cc3 4c1334 1568:      jmp  sendsns
3cc6 1569: ;
3cc6 a001 1570: l3cc6:      ldy  #1
3cc8 a900 1571: l3cc8:      lda  #0
3cca 8dd831 1572:      sta  l31d8
3ccd 8dd931 1573:      sta  l31d9
3cd0 99b831 1574:      sta  l31b8,y
3cd3 99c831 1575:      sta  l31c8,y
3cd6 990532 1576:      sta  l3205,y
3cd9 98 1577:      tya
3cda 0a 1578:      asl
3cdb 0a 1579:      asl
3cdc aa 1580:      tax
3cdd a980 1581:      lda  #$80
3cdf 9d5630 1582:      sta  line3+3,x
3ce2 c8 1583:      iny
3ce3 c00a 1584:      cpy  #$0a
3ce5 90e1 1585:      bcc  l3cc8
3ce7 a020 1586:      ldy  #$20
3ce9 b9f83c 1587: l3ce9:      lda  l3cf8,y
3cec 998230 1588:      sta  line4+7,y
3cef 88 1589:      dey
3cf0 10f7 1590:      bpl  l3ce9

```

```

3cf2 a9c0 1591:      lda  #$c0
3cf4 8d0ed4 1592:      sta  nmien
3cf7 60 1593:      rts
3cf8 1594: ;
3cf8 808080 1595: l3cf8:      dc.b  <internal>, <+128>,"
3d19 1596: ;;
3d19 1597: ;
3d19 a9a3 1598: top:      lda  #dlist&255
3d1b 8d3002 1599:      sta  sdlstl
3d1e a930 1600:      lda  #dlist/256
3d20 8d3102 1601:      sta  sdlstl+1
3d23 a900 1602:      lda  #0
3d25 8dc802 1603:      sta  color4
3d28 a992 1604:      lda  #$92
3d2a 8dc602 1605:      sta  color2
3d2d a9ca 1606:      lda  #$ca
3d2f 8dc502 1607:      sta  color1
3d32 ad01d3 1608:      lda  portb
3d35 0902 1609:      ora  #2
3d37 8d01d3 1610:      sta  portb
3d3a a9c4 1611:      lda  # low pipe_end ; need to fix this
3d3c 85cb 1612:      sta  cb
3d3e a966 1613:      lda  # high pipe_end
3d40 85cc 1614:      sta  cb+1
3d42 a240 1615:      ldx  #$40
3d44 a900 1616:      lda  #0
3d46 a8 1617:      tay
3d47 91cb 1618: l3d47:      sta  (cb),y
3d49 c8 1619:      iny
3d4a d0fb 1620:      bne  l3d47
3d4c e6cc 1621:      inc  cb+1
3d4e ca 1622:      dex
3d4f d0f6 1623:      bne  l3d47
3d51 a900 1624:      lda  #0
3d53 8de031 1625:      sta  l31e0
3d56 200e32 1626:      jsr  init_pia
3d59 20a044 1627:      jsr  l44a0
3d5c 4c9f34 1628: l3d5c:      jmp  l349f
3d5f 1629: ;
3d5f 1630: ;
3d5f 1631: ;
3d5f 0c2021 1632: xiomax:      dc.b  $0c,$20,$21,$22
3d63 232429 1633:      dc.b  $23,$24,$29,$2a
3d67 2b2d2e 1634:      dc.b  $2b,$2d,$2e,$fd
3d6b fe 1635:      dc.b  $fe
3d6c 1636: ;MASTER TABLE
3d6c 1637: mastab:
3d6c 010102 1638:      dc.b  1,1,2,3,4,5,6,7,8,$89,0,0,0,0,0 ;
3d7c 010102 1639:      dc.b  1,1,2,3,4,5,6,7,8,$89,0,0,0,0,0 ;
3d8c 010102 1640:      dc.b  1,1,2,3,4,5,6,7,8,$89,0,0,0,0,0 ;
3d9c 010102 1641:      dc.b  1,1,2,3,4,5,6,7,8,$89,0,0,0,0,0 ;
3dac 010102 1642:      dc.b  1,1,2,3,4,5,6,7,8,$89,0,0,0,0,0 ;
3dbc 010102 1643:      dc.b  1,1,2,3,4,5,6,7,8,$89,0,0,0,0,0 ;

```



```

3dcc 010102 1644:      dc.b  1,1,2,3,4,5,6,7,8,$89,0,0,0,0,0 ;
3ddc 010102 1645:      dc.b  1,1,2,3,4,5,6,7,8,$89,0,0,0,0,0 ;
3dec      1646: ;
3dec      1647: ;
3dec      1648: ;
3dec 00      1649: l3dec:  dc.b  $00
3ded 000000 1650: l3ded:  dc.b  $00,$00,$00,$00
3df1 000000 1651:      dc.b  $00,$00,$00,$00
3df5 000000 1652:      dc.b  $00,$00,$00,$00
3df9 000000 1653:      dc.b  $00,$00,$00,$00
3dfd 000000 1654:      dc.b  $00,$00,$00,$00
3e01 000000 1655:      dc.b  $00,$00,$00,$00
3e05 000000 1656:      dc.b  $00,$00,$00,$00
3e09 000000 1657:      dc.b  $00,$00,$00,$00
3e0d 000000 1658:      dc.b  $00,$00,$00,$00
3e11 000000 1659:      dc.b  $00,$00,$00,$00
3e15 000000 1660:      dc.b  $00,$00,$00,$00
3e19 000000 1661:      dc.b  $00,$00,$00,$00
3e1d 000000 1662:      dc.b  $00,$00,$00,$00
3e21 000000 1663:      dc.b  $00,$00,$00,$00
3e25 000000 1664:      dc.b  $00,$00,$00,$00
3e29 000000 1665:      dc.b  $00,$00,$00,$00
3e2d 000000 1666:      dc.b  $00,$00,$00,$00
3e31 000000 1667:      dc.b  $00,$00,$00,$00
3e35 000000 1668:      dc.b  $00,$00,$00,$00
3e39 000000 1669:      dc.b  $00,$00,$00,$00
3e3d 000000 1670:      dc.b  $00,$00,$00,$00
3e41 000000 1671:      dc.b  $00,$00,$00,$00
3e45 000000 1672:      dc.b  $00,$00,$00,$00
3e49 000000 1673:      dc.b  $00,$00,$00,$00
3e4d 000000 1674:      dc.b  $00,$00,$00,$00
3e51 000000 1675:      dc.b  $00,$00,$00,$00
3e55 000000 1676:      dc.b  $00,$00,$00,$00
3e59 000000 1677:      dc.b  $00,$00,$00,$00
3e5d 000000 1678:      dc.b  $00,$00,$00,$00
3e61 000000 1679:      dc.b  $00,$00,$00,$00
3e65 000000 1680:      dc.b  $00,$00,$00,$00
3e69 000000 1681:      dc.b  $00,$00,$00,$00
3e6d 000000 1682: l3e6d:  dc.b  $00,$00,$00,$00
3e71 000000 1683:      dc.b  $00,$00,$00,$00
3e75 0000      1684:      dc.b  $00,$00
3e77 00      1685: l3e77:  dc.b  $00
3e78 00      1686: l3e78:  dc.b  $00
3e79 00      1687: l3e79:  dc.b  $00
3e7a 00      1688: l3e7a:  dc.b  $00
3e7b 00      1689: l3e7b:  dc.b  $00
3e7c 00      1690: l3e7c:  dc.b  $00
3e7d      1691: ;
3e7d      1692: table1:
3e7d 280100 1693:      dc.b  $28,$01,$00,$12
3e81 000000 1694:      dc.b  $00,$00,$00,$80
3e85 ff0000 1695:      dc.b  $ff,$00,$00,$00
3e89 04080c 1696:      dc.b  $04,$08,$0c,$10

```

```

3e8d 010509 1697:      dc.b  $01,$05,$09,$0d
3e91 110206 1698:      dc.b  $11,$02,$06,$0a
3e95 0e1203 1699:      dc.b  $0e,$12,$03,$07,$0b,$0f
3e9b      1700: ;
3e9b      1701: ;
3e9b      1702: table2:
3e9b 280100 1703:      dc.b  $28,$01,$00,$12
3e9f 000401 1704:      dc.b  $00,$04,$01,$00
3ea3 ff0000 1705:      dc.b  $ff,$00,$00,$00
3ea7 010a08 1706:      dc.b  $01,$0a,$08,$11
3eab 060f04 1707:      dc.b  $06,$0f,$04,$0d
3eaf 020b09 1708:      dc.b  $02,$0b,$09,$12
3eb3 071005 1709:      dc.b  $07,$10,$05,$0e,$03,$0c
3eb9      1710: ;
3eb9      1711: ;
3eb9      1712: table3:
3eb9 280100 1713:      dc.b  $28,$01,$00,$1a
3ebd 000400 1714:      dc.b  $00,$04,$00,$80
3ec1 ff0000 1715:      dc.b  $ff,$00,$00,$00
3ec5 04080c 1716:      dc.b  $04,$08,$0c,$10
3ec9 141801 1717:      dc.b  $14,$18,$01,$05
3ecd 090d11 1718:      dc.b  $09,$0d,$11,$15
3ed1 190206 1719:      dc.b  $19,$02,$06,$0a,$0e,$12
3ed7      1720: ;
3ed7      1721: ;
3ed7      1722: ;
3ed7      1723: ;
3ed7      1724: table5:
3ed7 161a03 1725:      dc.b  $16,$1a,$03,$07
3edb 0b0f13 1726:      dc.b  $0b,$0f,$13
3ede 17      1727: l3ede:      dc.b  $17
3edf      1728:
3edf      1729:
3edf a93e 1730: l3edf:      lda   # high l3eef
3ee1 48      1731:      pha
3ee2 a9ef 1732:      lda   # low l3eef
3ee4 48      1733:      pha
3ee5 08      1734:      php
3ee6 48      1735:      pha
3ee7 a93c 1736:      lda   #$3c
3ee9 8d03d3 1737:      sta   pbctl
3eec 6c3602 1738:      jmp   (lpenv+1)
3eef      1739: ;
3eef c611 1740: l3eef      dec   brkkey
3ef1 60      1741:      rts
3ef2      1742: ;
3ef2 a901 1743: l3ef2:      lda   #1
3ef4 8542 1744:      sta   critic
3ef6 ad0103 1745:      lda   dunit
3ef9 48      1746:      pha
3efa ad4702 1747:      lda   pdvmsk
3efd f01a 1748:      beq   l3f19
3eff a208 1749:      ldx   #8

```

```

3f01 20e02f 1750: l3f01:    jsr  c9af
3f04 f013 1751:          beq  l3f19
3f06 8a 1752:          txa
3f07 48 1753:          pha
3f08 2005d8 1754:         jsr  d805
3f0b 68 1755:          pla
3f0c aa 1756:          tax
3f0d 90f2 1757:         bcc  l3f01
3f0f a900 1758:         lda  #0
3f11 8d4802 1759:        sta  shpdvs
3f14 8dffdl 1760:        sta  PBIbank
3f17 f003 1761:        beq  l3f1c
3f19 20293f 1762: l3f19:    jsr  l3f29
3f1c 68 1763: l3f1c:    pla
3f1d 8d0103 1764:        sta  dunit
3f20 a900 1765:        lda  #0
3f22 8542 1766:        sta  critic
3f24 8c0303 1767:        sty  dstats
3f27 98 1768:        tya
3f28 60 1769:        rts
3f29      1770: ;
3f29 a0a8 1771: l3f29:    ldy  #$a8
3f2b 8c7b3e 1772:        sty  l3e7b
3f2e a900 1773:        lda  #0
3f30 8d1503 1774:        sta  temp3
3f33 18 1775:        clc
3f34 ad0003 1776:        lda  ddevic
3f37 6d0103 1777:        adc  dunit
3f3a 38 1778:        sec
3f3b e932 1779:        sbc  #$32
3f3d c909 1780:        cmp  #9
3f3f 9007 1781:        bcc  l3f48
3f41 a928 1782: l3f41:    lda  #$28
3f43 a20d 1783:        ldx  #$0d
3f45 4ce440 1784:        jmp  l40e4
3f48      1785: ;
3f48 aa 1786: l3f48:    tax
3f49 8d773e 1787:        sta  l3e77
3f4c a908 1788:        lda  #8
3f4e 8d1fd0 1789:        sta  consol
3f51 ad1fd0 1790:        lda  consol
3f54 c901 1791:        cmp  #1
3f56 d007 1792:        bne  l3f5f
3f58 a928 1793:        lda  #40
3f5a 9d6d3e 1794:        sta  l3e6d,x
3f5d d022 1795:        bne  l3f81
3f5f c902 1796: l3f5f:    cmp  #2
3f61 f026 1797:        beq  l3f89
3f63 bd6d3e 1798: l3f63:    lda  l3e6d,x
3f66 1019 1799:        bpl  l3f81
3f68 ad0203 1800:        lda  dcomnd
3f6b c950 1801:        cmp  #$50
3f6d f008 1802:        beq  l3f77

```

```

3f6f c957 1803:      cmp    #$57
3f71 f004 1804:      beq    l3f77
3f73 c952 1805:      cmp    #$52
3f75 d0ca 1806:      bne    l3f41
3f77 a920 1807: l3f77:   lda    #$20
3f79 8d1503 1808:      sta    temp3
3f7c a910 1809:      lda    #$10
3f7e 4cc03f 1810:      jmp    l3fc0
3f81      1811: ;
3f81 c928 1812: l3f81:   cmp    #$28
3f83 f010 1813:      beq    l3f95
3f85 c900 1814:      cmp    #0
3f87 d013 1815:      bne    l3f9c
3f89 20f542 1816: l3f89:   jsr    l42f5
3f8c ae773e 1817:      ldx    l3e77
3f8f ac7b3e 1818:      ldy    l3e7b
3f92 4c633f 1819:      jmp    l3f63
3f95      1820: ;
3f95 a928 1821: l3f95:   lda    #$28
3f97 a20e 1822:      ldx    #$0e
3f99 4cf53f 1823:      jmp    l3ff5
3f9c      1824: ;
3f9c c90f 1825: l3f9c:   cmp    #$0f
3f9e d046 1826:      bne    l3fe6
3fa0 a980 1827:      lda    #$80
3fa2 8d1503 1828:      sta    temp3
3fa5 ad0203 1829:      lda    dcomnd
3fa8 297f 1830:      and    #$7f
3faa c923 1831:      cmp    #$23
3fac b010 1832:      bcs    l3fbe
3fae ad1fd0 1833:      lda    consol
3fb1 2902 1834:      and    #2
3fb3 f01a 1835:      beq    l3fcf
3fb5 ad0fd2 1836:      lda    skstat
3fb8 2908 1837:      and    #8
3fba f013 1838:      beq    l3fcf
3fbc d014 1839:      bne    l3fd2
3fbe a90f 1840: l3fbe:   lda    #$0f
3fc0 a20e 1841: l3fc0:   ldx    #$0e
3fc2 20e440 1842:      jsr    l40e4
3fc5 c08a 1843:      cpy    #$8a
3fc7 f035 1844:      beq    l3ffe
3fc9 c08b 1845:      cpy    #$8b
3fcb f031 1846:      beq    l3ffe
3fcd 98 1847:      tya
3fce 60 1848:      rts
3fcf      1849: ;
3fcf a900 1850: l3fcf:   lda    #0
3fd1 2c 1851:      dc.b  $2c
3fd2 a980 1852: l3fd2:   lda    #$80
3fd4 8d1503 1853:      sta    temp3
3fd7 ad0203 1854:      lda    dcomnd
3fda 297f 1855:      and    #$7f

```

```
3fdc 8d0203 1856:      sta  dcomnd
3fdf a928 1857:      lda  #$28
3fe1 a20d 1858:      ldx  #$0d
3fe3 4ce440 1859:      jmp  l40e4
3fe6      1860: ;
3fe6 ad0203 1861: l3fe6:  lda  dcomnd
3fe9 c921 1862:      cmp  #$21
3feb f01b 1863:      beq  l4008
3fed c922 1864:      cmp  #$22
3fef f017 1865:      beq  l4008
3ff1 a90a 1866: l3ff1:  lda  #$0a
3ff3 a218 1867:      ldx  #$18
3ff5 20e440 1868: l3ff5:  jsr  l40e4
3ff8 c08a 1869:      cpy  #$8a
3ffa f002 1870:      beq  l3ffe
3ffc 98 1871:      tya
3ffd 60 1872:      rts
3ffe      1873: ;
3ffe ae773e 1874: l3ffe:  ldx  l3e77
4001 a900 1875:      lda  #0
4003 9d6d3e 1876:      sta  l3e6d,x
4006 98 1877:      tya
4007 60 1878:      rts
4008      1879: ;
4008 ad1fd0 1880: l4008:  lda  consol
400b 2902 1881:      and  #2
400d f0e2 1882:      beq  l3ff1
400f ad0fd2 1883:      lda  skstat
4012 2908 1884:      and  #8
4014 f0db 1885:      beq  l3ff1
4016 20d52f 1886:      jsr  c73a
4019 ad0803 1887:      lda  dbytlo
401c 8d793e 1888:      sta  l3e79
401f ad0903 1889:      lda  dbytlo+1
4022 8d7a3e 1890:      sta  l3e7a
4025 ad0203 1891:      lda  dcomnd
4028 8d783e 1892:      sta  l3e78
402b c922 1893:      cmp  #$22
402d f034 1894:      beq  l4063
402f a902 1895:      lda  #2
4031 8d0503 1896:      sta  dbuflo+1
4034 8d0603 1897:      sta  dtimlo
4037 a960 1898:      lda  #$60
4039 8d0403 1899:      sta  dbuflo
403c a900 1900:      lda  #0
403e 8d0903 1901:      sta  dbytlo+1
4041 a90c 1902:      lda  #$0c
4043 8d0803 1903:      sta  dbytlo
4046 a940 1904:      lda  #$40
4048 8d0303 1905:      sta  dstats
404b a94e 1906:      lda  #$4e
404d 8d0203 1907:      sta  dcomnd
4050 20f13f 1908:      jsr  l3ff1
```

```

4053 1003 1909:      bpl 14058
4055 4c6940 1910:    jmp 14069
4058      1911: ;
4058 ad6702 1912: 14058:   lda pptmpx+26
405b d00c 1913:      bne 14069
405d a29b 1914:      ldx # low table2
405f a03e 1915:      ldy # high table3
4061 d00a 1916:      bne 1406d
4063 a2b9 1917: 14063:   ldx # low table3
4065 a03e 1918:      ldy # high table2
4067 d004 1919:      bne 1406d
4069 a27d 1920: 14069:   ldx # low table1
406b a03e 1921:      ldy # high table1
406d 8e0403 1922: 1406d:   stx dbuflo
4070 8c0503 1923:      sty dbuflo+1
4073 a966 1924:      lda #$66
4075 8d0203 1925:      sta dcomnd
4078 a980 1926:      lda #$80
407a 8d0303 1927:      sta dstats
407d 8d0803 1928:      sta dbytlo
4080 8d0603 1929:      sta dtimlo
4083 0a 1930:      asl
4084 8d0903 1931:      sta dbytlo+1
4087 a0a8 1932:      ldy #$a8
4089 20f13f 1933:      jsr l3ff1
408c ad783e 1934:      lda l3e78
408f 8d0203 1935:      sta dcomnd
4092 a515 1936:      lda bufadr
4094 8d0403 1937:      sta dbuflo
4097 a516 1938:      lda bufadr+1
4099 8d0503 1939:      sta dbuflo+1
409c ad793e 1940:      lda l3e79
409f 8d0803 1941:      sta dbytlo
40a2 ad7a3e 1942:      lda l3e7a
40a5 8d0903 1943:      sta dbytlo+1
40a8 c08b 1944:      cpy #$8b
40aa f023 1945:      beq 140cf
40ac c001 1946:      cpy #1
40ae f029 1947:      beq 140d9
40b0 a000 1948:      ldy #0
40b2 98 1949: 140b2:   tya
40b3 4a 1950:      lsr
40b4 6901 1951:      adc #1
40b6 9115 1952:      sta (bufadr),y
40b8 c8 1953:      iny
40b9 a900 1954:      lda #0
40bb 9115 1955:      sta (bufadr),y
40bd c8 1956:      iny
40be c07e 1957:      cpy #$7e
40c0 90f0 1958:      bcc 140b2
40c2 a9ff 1959:      lda #$ff
40c4 9115 1960:      sta (bufadr),y
40c6 c8 1961:      iny

```

```

40c7 9115 1962:      sta  (bufadr),y
40c9 a090 1963:      ldy  #$90
40cb 8430 1964:      sty  status
40cd 98   1965:      tya
40ce 60   1966:      rts
40cf      1967: ;
40cf a0a8 1968: l40cf: ldy  #$a8
40d1 a940 1969:      lda  #$40
40d3 8d0303 1970:     sta  dstats
40d6 4cf13f 1971:     jmp  l3ff1
40d9      1972: ;
40d9 a000 1973: l40d9: ldy  #0
40db a9ff 1974:      lda  #$ff
40dd 9115 1975:      sta  (bufadr),y
40df c8   1976:      iny
40e0 9115 1977:      sta  (bufadr),y
40e2 98   1978:      tya
40e3 60   1979:      rts
40e4      1980: ;
40e4 8e1903 1981: l40e4: stx  tstat
40e7 8c1203 1982:     sty  temp1
40ea 8d1303 1983:     sta  temp2
40ed ba   1984:      tsx
40ee 8e1803 1985:     stx  stackp
40f1 78   1986:      sei
40f2 a901 1987:      lda  #1
40f4 8dbd02 1988:     sta  dretry
40f7 ad1903 1989: l40f7: lda  tstat
40fa 8d7c3e 1990:     sta  l3e7c
40fd ad1303 1991: l40fd: lda  temp2
4100 c90a 1992:      cmp  #$0a
4102 f002 1993:      beq  l4106
4104 a928 1994:      lda  #$28
4106 8d04d2 1995: l4106: sta  audf3
4109 a900 1996:      lda  #0
410b 8d06d2 1997:     sta  audf4
410e 8530 1998:     sta  status
4110 ad0003 1999:     lda  ddevic
4113 18   2000:      clc
4114 6d0103 2001:     adc  dunit
4117 69ff 2002:      adc  #$ff
4119 8d3a02 2003:     sta  cdevic
411c ad0203 2004:     lda  dcomnd
411f 0d1503 2005:     ora  temp3
4122 8d3b02 2006:     sta  ccomnd
4125 ad0a03 2007:     lda  daux1
4128 8d3c02 2008:     sta  caux1
412b ad0b03 2009:     lda  daux1+1
412e 8d3d02 2010:     sta  caux1+1
4131 a93a 2011:      lda  # low cdevic  ;$3a
4133 8532 2012:      sta  bufrlo
4135 a902 2013:      lda  # high cdevic ;2
4137 8533 2014:      sta  bufrlo+1

```

```

4139 0a    2015:      asl
413a 8534  2016:      sta  bfenlo
413c a900  2017:      lda  #0
413e 8535  2018:      sta  bfenlo+1
4140 8d1603 2019:      sta  savio
4143 a934  2020:      lda  #$34
4145 8d03d3 2021:      sta  pbctl
4148 20ce41 2022:      jsr  l41ce
414b a901  2023:      lda  #1
414d 8d1603 2024:      sta  savio
4150 ad0403 2025:      lda  dbuflo
4153 8532  2026:      sta  bufrlo
4155 ad0503 2027:      lda  dbuflo+1
4158 8533  2028:      sta  bufrlo+1
415a ad0803 2029:      lda  dbytlo
415d 8534  2030:      sta  bfenlo
415f ad0903 2031:      lda  dbytlo+1
4162 8535  2032:      sta  bfenlo+1
4164 ad1303 2033:      lda  temp2
4167 8d04d2 2034:      sta  audf3
416a ad0303 2035:      lda  dstats
416d 1003  2036:      bpl  l4172
416f 20ce41 2037:      jsr  l41ce
4172 203942 2038: l4172:  jsr  l4239
4175 2c0303 2039:      bit  dstats
4178 502b  2040:      bvc  l41a5
417a a000  2041:      ldy  #0
417c 8431  2042:      sty  chksum
417e 207e42 2043: l417e:  jsr  l427e
4181 9132  2044:      sta  (bufro),y
4183 18    2045:      clc
4184 6531  2046:      adc  chksum
4186 6900  2047:      adc  #0
4188 8531  2048:      sta  chksum
418a e632  2049:      inc  bufrlo
418c d002  2050:      bne  l4190
418e e633  2051:      inc  bufrlo+1
4190 a534  2052: l4190:  lda  bfenlo
4192 d002  2053:      bne  l4196
4194 c635  2054:      dec  bfenlo+1
4196 c634  2055: l4196:  dec  bfenlo
4198 d0e4  2056:      bne  l417e
419a a535  2057:      lda  bfenlo+1
419c d0e0  2058:      bne  l417e
419e 207e42 2059:      jsr  l427e
41a1 c531  2060:      cmp  chksum
41a3 d079  2061:      bne  l421e
41a5 a9a0  2062: l41a5:  lda  #$a0
41a7 8d07d2 2063:      sta  audc4
41aa a510  2064:      lda  pokmsk
41ac 8d0ed2 2065:      sta  irqen
41af 206b42 2066:      jsr  l426b
41b2 a430  2067:      ldy  status

```



```

41b4 f012 2068:      beq  l41c8
41b6 c080 2069:      cpy  #$80
41b8 d006 2070:      bne  l41c0
41ba 20df3e 2071:      jsr  l3edf
41bd 4cc941 2072:      jmp  l41c9
41c0      2073: ;
41c0 cebd02 2074: l41c0:      dec  dretry
41c3 3004 2075:      bmi  l41c9
41c5 4cf740 2076:      jmp  l40f7
41c8      2077: ;
41c8 c8 2078: l41c8:      iny
41c9 58 2079: l41c9:      cli
41ca 8430 2080:      sty  status
41cc 98 2081:      tya
41cd 60 2082:      rts
41ce      2083: ;
41ce a200 2084: l41ce:      ldx  #0
41d0 ca 2085: l41d0:      dex
41d1 d0fd 2086:      bne  l41d0
41d3 20d942 2087:      jsr  l42d9
41d6 a000 2088:      ldy  #0
41d8 b132 2089:      lda  (bufvlo),y
41da 8531 2090:      sta  chksum
41dc 8d0dd2 2091:      sta  serout
41df e632 2092: l41df:      inc  bufvlo
41e1 d002 2093:      bne  l41e5
41e3 e633 2094:      inc  bufvlo+1
41e5 a534 2095: l41e5:      lda  bfenlo
41e7 d002 2096:      bne  l41eb
41e9 c635 2097:      dec  bfenlo+1
41eb c634 2098: l41eb:      dec  bfenlo
41ed f00f 2099:      beq  l41fe
41ef b132 2100: l41ef:      lda  (bufvlo),y
41f1 20c042 2101:      jsr  l42c0
41f4 18 2102:      clc
41f5 6531 2103:      adc  chksum
41f7 6900 2104:      adc  #0
41f9 8531 2105:      sta  chksum
41fb 4cdf41 2106:      jmp  l41df
41fe      2107: ;
41fe a535 2108: l41fe:      lda  bfenlo+1
4200 d0ed 2109:      bne  l41ef
4202 a531 2110:      lda  chksum
4204 20c042 2111:      jsr  l42c0
4207 ad0ed2 2112: l4207:      lda  irqst
420a 2908 2113:      and  #8
420c d0f9 2114:      bne  l4207
420e 20dc42 2115:      jsr  l42dc
4211 a002 2116:      ldy  #2
4213 206d42 2117:      jsr  l426d
4216 a9c0 2118:      lda  #$c0
4218 8d0ed2 2119:      sta  irqen
421b 4c4a42 2120:      jmp  l424a

```

```

421e      2121: ;
421e a98f 2122: l421e:   lda   #143           ;$8
4220 2c   2123:         dc.b $2c           ; h
4221 a98a 2124: l4221:   lda   #138           ; m
4223 8530 2125: l4223:   sta   status
4225 ae1803 2126:         ldx   stackp
4228 9a   2127:         txs
4229 ad1603 2128:         lda   savio
422c d008 2129:         bne   l4236
422e ce7c3e 2130:         dec   l3e7c
4231 f003 2131:         beq   l4236
4233 4cfd40 2132:         jmp   l40fd
4236      2133: ;
4236 4ca541 2134: l4236:   jmp   l41a5
4239      2135: ;
4239 ad0603 2136: l4239:   lda   dtimlo
423c 6a   2137:         ror
423d 6a   2138:         ror
423e a8   2139:         tay
423f 293f 2140:         and   #high l3fc0   ;$3f
4241 aa   2141:         tax
4242 98   2142:         tya
4243 6a   2143:         ror
4244 29c0 2144:         and   #low l3fc0   ;$c0
4246 a8   2145:         tay
4247 206f42 2146:         jsr   l426f
424a 20dc42 2147: l424a:   jsr   l42dc
424d a93c 2148:         lda   #$3c
424f 8d03d3 2149:         sta   pbctl
4252 207e42 2150:         jsr   l427e
4255 c941 2151:         cmp   #$41
4257 f012 2152:         beq   l426b
4259 c943 2153:         cmp   #$43
425b f00d 2154:         beq   l426a
425d c945 2155:         cmp   #$45
425f f005 2156:         beq   l4266
4261 a98b 2157:         lda   #$8b
4263 4c2342 2158:         jmp   l4223
4266      2159: ;
4266 a990 2160: l4266:   lda   #$90
4268 8530 2161:         sta   status
426a 60   2162: l426a:   rts
426b      2163: ;
426b a000 2164: l426b:   ldy   #0
426d a200 2165: l426d:   ldx   #0
426f a921 2166: l426f:   lda   #low l4221   ;$21
4271 8d2602 2167:         sta   cdtma1
4274 a942 2168:         lda   #high l4221  ;$42
4276 8d2702 2169:         sta   cdtma1+1
4279 a901 2170:         lda   #1
427b 4c5ce4 2171:         jmp   setvbv
427e      2172: ;
427e a920 2173: l427e:   lda   #$20

```

```
4280 2c0ed2 2174:      bit   irqst
4283 101c  2175:      bpl   l42a1
4285 d0f7  2176:      bne   l427e
4287 a9df  2177:      lda   #$df
4289 8d0ed2 2178:      sta   irqen
428c a9f8  2179:      lda   #$f8
428e 8d0ed2 2180:      sta   irqen
4291 ad0fd2 2181:      lda   skstat
4294 8d0ad2 2182:      sta   skres
4297 1022  2183:      bpl   l42bb
4299 2920  2184:      and   #$20
429b f01b  2185:      beq   l42b8
429d ad0dd2 2186:      lda   serin
42a0 60    2187:      rts
42a1      2188: ;
42a1 a95f  2189: l42a1:  lda   #$5f
42a3 8d0ed2 2190:      sta   irqen
42a6 a9f8  2191:      lda   #$f8
42a8 8d0ed2 2192:      sta   irqen
42ab a900  2193:      lda   #0
42ad 8dbd02 2194:      sta   dretry
42b0 a901  2195:      lda   #1
42b2 8d1603 2196:      sta   savio
42b5 a980  2197:      lda   #$80
42b7 2c    2198:      dc.b  $2c
42b8 a98e  2199: l42b8:  lda   #$8e
42ba 2c    2200:      dc.b  $2c
42bb a98c  2201: l42bb:  lda   #$8c
42bd 4c2342 2202:      jmp   l4223
42c0      2203: ;
42c0 48    2204: l42c0:  pha
42c1 ad0ed2 2205: l42c1:  lda   irqst
42c4 10db  2206:      bpl   l42a1
42c6 2910  2207:      and   #$10
42c8 d0f7  2208:      bne   l42c1
42ca a9ef  2209:      lda   #$ef
42cc 8d0ed2 2210:      sta   irqen
42cf a9f8  2211:      lda   #$f8
42d1 8d0ed2 2212:      sta   irqen
42d4 68    2213:      pla
42d5 8d0dd2 2214:      sta   serout
42d8 60    2215:      rts
42d9      2216: ;
42d9 a923  2217: l42d9:  lda   #$23
42db 2c    2218:      dc.b  $2c
42dc a913  2219: l42dc:  lda   #$13
42de 8d0fd2 2220:      sta   skctl
42e1 8d0ad2 2221:      sta   skres
42e4 a928  2222:      lda   #$28
42e6 8d08d2 2223:      sta   audctl
42e9 ad1203 2224:      lda   temp1
42ec 8d07d2 2225:      sta   audc4
42ef a9f8  2226:      lda   #$f8
```

```

42f1 8d0ed2 2227:      sta  irgen
42f4 60      2228:      rts
42f5          2229:      ;
42f5 a009 2230: 142f5:    ldy  #9
42f7 b90203 2231: 142f7:    lda  dcomnd,y
42fa 48      2232:      pha
42fb 88      2233:      dey
42fc 10f9 2234:      bpl  142f7
42fe a93f 2235:      lda  #'?' ;$3f
4300 8d0203 2236:      sta  dcomnd
4303 a93a 2237:      lda  #low cdevic
4305 8d0403 2238:      sta  dbuflo
4308 a002 2239:      ldy  #high cdevic
430a 8c0503 2240:      sty  dbuflo+1
430d 88      2241:      dey
430e 8c0603 2242:      sty  dtimlo
4311 8c0803 2243:      sty  dbytlo
4314 88      2244:      dey
4315 8c0903 2245:      sty  dbytlo+1
4318 8c0b03 2246:      sty  daux1+1
431b a920 2247:      lda  #$20
431d 8d0a03 2248:      sta  daux1
4320 0a      2249:      asl
4321 8d0303 2250:      sta  dstats
4324 a928 2251:      lda  #$28
4326 a206 2252:      ldx  #6
4328 a0a0 2253:      ldy  #$a0
432a 20e440 2254:      jsr  140e4
432d 08      2255:      php
432e a948 2256:      lda  #$48
4330 8d0203 2257:      sta  dcomnd
4333 a900 2258:      lda  #0
4335 8d0303 2259:      sta  dstats
4338 a928 2260:      lda  #$28
433a a202 2261:      ldx  #2
433c a0a0 2262:      ldy  #$a0
433e 20e440 2263:      jsr  140e4
4341 28      2264:      plp
4342 101f 2265:      bpl  14363
4344 c000 2266:      cpy  #0
4346 101e 2267:      bpl  14366
4348 a9d3 2268:      lda  #$d3
434a 8d0203 2269:      sta  dcomnd
434d a204 2270:      ldx  #4
434f 8e0803 2271:      stx  dbytlo
4352 a940 2272:      lda  #$40
4354 8d0303 2273:      sta  dstats
4357 a0a0 2274:      ldy  #$a0
4359 a90f 2275:      lda  #$0f
435b 20e440 2276:      jsr  140e4
435e 1009 2277:      bpl  14369
4360 a928 2278:      lda  #$28
4362 2c      2279:      dc.b $2c

```

```

4363 a90a 2280: 14363:    lda    #$0a
4365 2c    2281:          dc.b    $2c
4366 a980 2282: 14366:    lda    #$80
4368 2c    2283:          dc.b    $2c
4369 a90f 2284: 14369:    lda    #$0f
436b ae773e 2285:          ldx    13e77
436e 9d6d3e 2286:          sta    13e6d,x
4371 a000 2287:          ldy    #0
4373 68    2288: 14373:    pla
4374 990203 2289:          sta    dcomnd,y
4377 c8    2290:          iny
4378 c00a 2291:          cpy    #$0a
437a 90f7 2292:          bcc    14373
437c 60    2293:          rts
437d      2294: ;
437d ad00d3 2295: 1437d:    lda    porta
4380 0a    2296:          asl
4381 0a    2297:          asl
4382 0a    2298:          asl
4383 0a    2299:          asl
4384 8dba43 2300:          sta    143ba
4387 a910 2301:          lda    #$10
4389 8d00d3 2302:          sta    porta
438c ad00d3 2303:          lda    porta
438f 290f 2304:          and    #$0f
4391 0dba43 2305:          ora    143ba
4394 8dba43 2306:          sta    143ba
4397 a209 2307:          ldx    #9
4399 bdb043 2308: 14399:    lda    143b0,x
439c 9d0003 2309:          sta    ddevic,x
439f ca    2310:          dex
43a0 10f7 2311:          bpl    14399
43a2 20d22f 2312:          jsr    xsio
43a5 a920 2313:          lda    #$20
43a7 a230 2314:          ldx    #$30
43a9 8d00d3 2315:          sta    porta
43ac 8e00d3 2316:          stx    porta
43af 60    2317:          rts
43b0      2318: ;
43b0 400157 2319: 143b0:    dc.b    $40,$01,$57,$80,$ba,$43,$00,$00,$01
43ba      2320:
43ba      2321:
43ba      2322: ;PRINTER BYTES!-----
43ba 00    2323: 143ba:    dc.b    $00
43bb 50313a 2324: printer_id: dc.b    $50,$31,$3a,$9b
43bf      2325:
43bf      2326:
43bf 86cb 2327: 143bf:    stx    cb
43c1 84cc 2328:          sty    cb+1
43c3 206734 2329:          jsr    set_timers
43c6 a270 2330:          ldx    #$70
43c8 a90c 2331:          lda    #$0c
43ca 9d4203 2332:          sta    iccom,x

```

```
43cd 2056e4 2333:      jsr   ciov
43d0 a903 2334:      lda   #3
43d2 9d4203 2335:      sta   iccom,x
43d5 a908 2336:      lda   #8
43d7 9d4a03 2337:      sta   icax1,x
43da a900 2338:      lda   #0
43dc 9d4b03 2339:      sta   icax1+1,x
43df a9bb 2340:      lda   #low printer_id
43e1 9d4403 2341:      sta   icbal,x
43e4 a943 2342:      lda   #high printer_id
43e6 9d4503 2343:      sta   icbal+1,x
43e9 2056e4 2344:      jsr   ciov
43ec a000 2345: l43ec:  ldy   #0
43ee b1cb 2346:      lda   (cb),y
43f0 f00b 2347:      beq   l43fd
43f2 200a44 2348:      jsr   l440a
43f5 e6cb 2349:      inc   cb
43f7 d0f3 2350:      bne   l43ec
43f9 e6cc 2351:      inc   cb+1
43fb d0ef 2352:      bne   l43ec
43fd a270 2353: l43fd:  ldx   #$70
43ff a90c 2354:      lda   #$0c
4401 9d4203 2355:      sta   iccom,x
4404 2056e4 2356:      jsr   ciov
4407 4c6734 2357:      jmp   set_timers
440a      2358: ;
440a a8 2359: l440a:  tay
440b a270 2360:      ldx   #$70
440d a90b 2361:      lda   #$0b
440f 9d4203 2362:      sta   iccom,x
4412 a900 2363:      lda   #0
4414 9d4803 2364:      sta   icbll,x
4417 9d4903 2365:      sta   icbll+1,x
441a 98 2366:      tya
441b 4c56e4 2367:      jmp   ciov
441e      2368: ;
441e 4a 2369: l441e:  lsr
441f 4a 2370:      lsr
4420 4a 2371:      lsr
4421 4a 2372:      lsr
4422 202c44 2373: l4422:  jsr   l442c
4425 6960 2374:      adc   #$60
4427 60 2375:      rts
4428      2376: ;
4428 4a 2377: l4428:  lsr
4429 4a 2378:      lsr
442a 4a 2379:      lsr
442b 4a 2380:      lsr
442c 290f 2381: l442c:  and   #$0f
442e 18 2382:      clc
442f 6930 2383:      adc   #$30
4431 c93a 2384:      cmp   #$3a
4433 9002 2385:      bcc   l4437
```

```

4435 6906 2386:      adc  #6
4437 60   2387: 14437:      rts
4438      2388: ;
4438 206734 2389: 14438:      jsr  set_timers
443b a210 2390:      ldx  #$10
443d a90c 2391:      lda  #$0c
443f 9d4203 2392:      sta  iccom,x
4442 2056e4 2393:      jsr  ciov
4445 a903 2394:      lda  #3
4447 9d4203 2395:      sta  iccom,x
444a a95a 2396:      lda  #low mux_cfg
444c 9d4403 2397:      sta  icbal,x
444f a944 2398:      lda  #high mux_cfg
4451 9d4503 2399:      sta  icbal+1,x
4454 a900 2400:      lda  #0
4456 9d4b03 2401:      sta  icax1+1,x
4459 60   2402:      rts
445a      2403: ;
445a 44313a 2404: mux_cfg:      dc.b  "D1:MUX.CFG",$9B,"---blank space---
4477      2405: ;
4477      2406: ;
4477 a210 2407: 14477:      ldx  #$10
4479 9d4203 2408:      sta  iccom,x
447c a900 2409:      lda  #0
447e 9d4803 2410:      sta  icbll,x
4481 a901 2411:      lda  #1
4483 9d4903 2412:      sta  icbll+1,x
4486 a96c 2413:      lda  #low mastab
4488 9d4403 2414:      sta  icbal,x
448b a93d 2415:      lda  #high mastab
448d 9d4503 2416:      sta  icbal+1,x
4490 2056e4 2417:      jsr  ciov
4493 98   2418:      tya
4494 48   2419:      pha
4495 a90c 2420:      lda  #$0c
4497 9d4203 2421:      sta  iccom,x
449a 2056e4 2422:      jsr  ciov
449d 68   2423:      pla
449e a8   2424:      tay
449f 60   2425:      rts
44a0      2426: ;
44a0 ad0803 2427: 144a0:      lda  dbytlo
44a3 48   2428:      pha
44a4 203844 2429:      jsr  14438
44a7 a904 2430:      lda  #4
44a9 9d4a03 2431:      sta  icax1,x
44ac 2056e4 2432:      jsr  ciov
44af a907 2433:      lda  #7
44b1 207744 2434:      jsr  14477
44b4 201935 2435:      jsr  13519
44b7 68   2436:      pla
44b8 8d0803 2437:      sta  dbytlo
44bb 8c0303 2438:      sty  dstats

```

```
44be 60 2439:      rts
44bf      2440: ;
44bf ad0803 2441: l44bf:   lda  dbytlo
44c2 48 2442:      pha
44c3 203844 2443:      jsr  l4438
44c6 a90c 2444:      lda  #$0c
44c8 9d4a03 2445:      sta  icax1,x
44cb 2056e4 2446:      jsr  ciov
44ce 100b 2447:      bpl  l44db
44d0 203844 2448:      jsr  l4438
44d3 a908 2449:      lda  #8
44d5 9d4a03 2450:      sta  icax1,x
44d8 2056e4 2451:      jsr  ciov
44db a90b 2452: l44db:   lda  #$0b
44dd 207744 2453:      jsr  l4477
44e0 68 2454:      pla
44e1 8d0803 2455:      sta  dbytlo
44e4 8c0303 2456:      sty  dstats
44e7 60 2457:      rts
44e8      2458: ;
44e8 536c61 2459: read_sector: dc.b  "Slave "
44ee      2460: ;
44ee 78 2461: l44ee:   dc.b  $78
44ef 205265 2462:      dc.b  " Read sector $"
44fd      2463: ;
44fd      2464: ;
44fd 78 2465: l44fd:   dc.b  $78
44fe 78 2466: l44fe:   dc.b  $78
44ff 78 2467: l44ff:   dc.b  $78
4500 78 2468: l4500:   dc.b  $78
4501 782066 2469: l4501:   dc.b  $78," from drive "
450e 78 2470: l450e:   dc.b  $78
450f 2c2053 2471:      dc.b  ", Status=$"
4519 78 2472: l4519:   dc.b  $78
451a 789b00 2473: l451a:   dc.b  $78,$9b,$00
451d      2474: ;
451d      2475: ;
451d      2476: wrote_sector:
451d 536c61 2477:      dc.b  "Slave "
4523 78 2478: l4523:   dc.b  $78
4524      2479: ;
4524 205752 2480:      dc.b  " WROTE sector $"
4533      2481: ;
4533      2482: ;
4533      2483: ;
4533      2484: ;
4533      2485: ;
4533      2486: ;
4533 78 2487: l4533:   dc.b  $78
4534 78 2488: l4534:   dc.b  $78
4535 78 2489: l4535:   dc.b  $78
4536 78 2490: l4536:   dc.b  $78
4537 78 2491: l4537:   dc.b  $78
```



```

4538 20746f 2492:      dc.b  " to drive "
4542      2493: ;
4542 78 2494: 14542:    dc.b  $78
4543 2c2053 2495:      dc.b  ", Status=$"
454d      2496: ;
454d 78 2497: 1454d:    dc.b  $78
454e 789b00 2498: 1454e:    dc.b  $78,$9b,$00
4551      2499: ;
4551      2500: ;
4551      2501: status_req:
4551 536c61 2502:      dc.b  "Slave "
4557      2503: ;
4557 78 2504: 14557:    dc.b  $78
4558 205374 2505:      dc.b  " Status request on drive "
4571      2506: ;
4571      2507: ;
4571      2508: ;
4571      2509: ;
4571      2510: ;
4571 78 2511: 14571:    dc.b  $78
4572 2c2053 2512:      dc.b  ", Status bytes: $"
4583      2513: ;
4583      2514: ;
4583      2515: ;
4583 78 2516: 14583:    dc.b  $78
4584 782024 2517: 14584:    dc.b  $78,$20,$24
4587 78 2518: 14587:    dc.b  $78
4588 782024 2519: 14588:    dc.b  $78,$20,$24
458b 78 2520: 1458b:    dc.b  $78
458c 782024 2521: 1458c:    dc.b  $78,$20,$24
458f 78 2522: 1458f:    dc.b  $78
4590 789b00 2523: 14590:    dc.b  $78,$9b,$00
4593      2524:
4593 a20c 2525: 14593:    ldx  #$0c
4595 bd0003 2526: 14595:    lda  ddevic,x
4598 48 2527:      pha
4599 ca 2528:      dex
459a 10f9 2529:      bpl  14595
459c ad0003 2530:      lda  ddevic
459f 18 2531:      clc
45a0 6d0103 2532:      adc  dunit
45a3 69ff 2533:      adc  #$ff
45a5 aa 2534:      tax
45a6 addd31 2535:      lda  l31dd
45a9 0930 2536:      ora  #$30
45ab a8 2537:      tay
45ac ad0203 2538:      lda  dcomnd
45af c952 2539:      cmp  #$52
45b1 f01b 2540:      beq  145ce
45b3 c950 2541:      cmp  #$50
45b5 f066 2542:      beq  1461d
45b7 c957 2543:      cmp  #$57
45b9 f062 2544:      beq  1461d

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```

45bb c953 2545:      cmp    #$53
45bd f00c 2546:      beq    l45cb
45bf a200 2547: l45bf:   ldx    #0
45c1 68 2548: l45c1:   pla
45c2 9d0003 2549:      sta    ddevic,x
45c5 e8 2550:      inx
45c6 e00d 2551:      cpx    #$0d
45c8 90f7 2552:      bcc    l45c1
45ca 60 2553:      rts
45cb 2554: ;
45cb 4c6c46 2555: l45cb:   jmp    l466c
45ce 2556: ;
45ce 8e0e45 2557: l45ce:   stx    l450e
45d1 8cee44 2558:      sty    l44ee
45d4 ad0c03 2559:      lda    timer1
45d7 202c44 2560:      jsr    l442c
45da 8dfd44 2561:      sta    l44fd
45dd ad0b03 2562:      lda    daux1+1
45e0 202844 2563:      jsr    l4428
45e3 8dfe44 2564:      sta    l44fe
45e6 ad0b03 2565:      lda    daux1+1
45e9 202c44 2566:      jsr    l442c
45ec 8dff44 2567:      sta    l44ff
45ef ad0a03 2568:      lda    daux1
45f2 202844 2569:      jsr    l4428
45f5 8d0045 2570:      sta    l4500
45f8 ad0a03 2571:      lda    daux1
45fb 202c44 2572:      jsr    l442c
45fe 8d0145 2573:      sta    l4501
4601 ad0303 2574:      lda    dstats
4604 202844 2575:      jsr    l4428
4607 8d1945 2576:      sta    l4519
460a ad0303 2577:      lda    dstats
460d 202c44 2578:      jsr    l442c
4610 8d1a45 2579:      sta    l451a
4613 a2e8 2580:      ldx    #low read_sector
4615 a044 2581:      ldy    #high read_sector
4617 20bf43 2582:      jsr    l43bf
461a 4cbf45 2583:      jmp    l45bf
461d 2584: ;
461d 8e4245 2585: l461d:   stx    l4542
4620 8c2345 2586:      sty    l4523
4623 ad0c03 2587:      lda    timer1
4626 202c44 2588:      jsr    l442c
4629 8d3345 2589:      sta    l4533
462c ad0b03 2590:      lda    daux1+1
462f 202844 2591:      jsr    l4428
4632 8d3445 2592:      sta    l4534
4635 ad0b03 2593:      lda    daux1+1
4638 202c44 2594:      jsr    l442c
463b 8d3545 2595:      sta    l4535
463e ad0a03 2596:      lda    daux1
4641 202844 2597:      jsr    l4428

```

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4644 8d3645 2598:      sta  14536
4647 ad0a03 2599:      lda  daux1
464a 202c44 2600:      jsr  1442c
464d 8d3745 2601:      sta  14537
4650 ad0303 2602:      lda  dstats
4653 202844 2603:      jsr  14428
4656 8d4d45 2604:      sta  1454d
4659 ad0303 2605:      lda  dstats
465c 202c44 2606:      jsr  1442c
465f 8d4e45 2607:      sta  1454e
4662 a21d 2608:      ldx  #low wrote_sector
4664 a045 2609:      ldy  #high wrote_sector
4666 20bf43 2610:      jsr  143bf
4669 4cbf45 2611:      jmp  145bf
466c      2612: ;
466c 8e7145 2613: 1466c:      stx  14571
466f 8c5745 2614:      sty  14557
4672 adb730 2615:      lda  data
4675 202844 2616:      jsr  14428
4678 8d8345 2617:      sta  14583
467b adb730 2618:      lda  data
467e 202c44 2619:      jsr  1442c
4681 8d8445 2620:      sta  14584
4684 adb830 2621:      lda  data+1
4687 202844 2622:      jsr  14428
468a 8d8745 2623:      sta  14587
468d adb830 2624:      lda  data+1
4690 202c44 2625:      jsr  1442c
4693 8d8845 2626:      sta  14588
4696 adb930 2627:      lda  data+2
4699 202844 2628:      jsr  14428
469c 8d8b45 2629:      sta  1458b
469f adb930 2630:      lda  data+2
46a2 202c44 2631:      jsr  1442c
46a5 8d8c45 2632:      sta  1458c
46a8 adba30 2633:      lda  data+3
46ab 202844 2634:      jsr  14428
46ae 8d8f45 2635:      sta  1458f
46b1 adba30 2636:      lda  data+3
46b4 202c44 2637:      jsr  1442c
46b7 8d9045 2638:      sta  14590
46ba a251 2639:      ldx  #low status_req
46bc a045 2640:      ldy  #high status_req
46be 20bf43 2641:      jsr  143bf
46c1 4cbf45 2642:      jmp  145bf
46c4      2643: ;
46c4      2644: program_end: ds.b  0          ; this is the same
46c4      2645:          ds.b  8192
66c4      2646: pipe_end:  ds.b  0          ; equ program
66c4      2647:
74c4      2648:          .org  $74c4
74c4      2649:
74c4      2650: pipe_28:   ds.b  128

```

7544	2651: pipe_29:	ds.b	128
75c4	2652:		
75c4	2653: pipe_30:	ds.b	128
7644	2654: pipe_31:	ds.b	128
76c4	2655: pipe_32:	ds.b	128
7744	2656: pipe_33:	ds.b	128
77c4	2657: pipe_34:	ds.b	128
7844	2658: pipe_35:	ds.b	128
78c4	2659: pipe_36:	ds.b	128
7944	2660: pipe_37:	ds.b	128
79c4	2661: pipe_38:	ds.b	128
7a44	2662: pipe_39:	ds.b	128
7ac4	2663:		
7ac4	2664: pipe_40:	ds.b	128
7b44	2665: pipe_41:	ds.b	128
7bc4	2666: pipe_42:	ds.b	128
7c44	2667: pipe_43:	ds.b	128
7cc4	2668: pipe_44:	ds.b	128
7d44	2669: pipe_45:	ds.b	128
7dc4	2670: pipe_46:	ds.b	128
7e44	2671: pipe_47:	ds.b	128
7ec4	2672: pipe_48:	ds.b	128
7f44	2673: pipe_49:	ds.b	128
7fc4	2674:		
7fc4	2675: pipe_50:	ds.b	128
8044	2676: pipe_51:	ds.b	128
80c4	2677: pipe_52:	ds.b	128
8144	2678: pipe_53:	ds.b	128
81c4	2679: pipe_54:	ds.b	128
8244	2680: pipe_55:	ds.b	128
82c4	2681: pipe_56:	ds.b	128
8344	2682: pipe_57:	ds.b	128
83c4	2683: pipe_58:	ds.b	128
8444	2684: pipe_59:	ds.b	128
84c4	2685:		
84c4	2686: pipe_60:	ds.b	128
8544	2687: pipe_61:	ds.b	128
85c4	2688: pipe_62:	ds.b	128
8644	2689: pipe_63:	ds.b	128
86c4	2690: pipe_64:	ds.b	128
8744	2691: pipe_65:	ds.b	128
87c4	2692: pipe_66:	ds.b	128
8844	2693: pipe_67:	ds.b	128
88c4	2694: pipe_68:	ds.b	128
8944	2695: pipe_69:	ds.b	128
89c4	2696:		
89c4	2697: pipe_70:	ds.b	128
8a44	2698: pipe_71:	ds.b	128
8ac4	2699: pipe_72:	ds.b	128
8b44	2700: pipe_73:	ds.b	128
8bc4	2701: pipe_74:	ds.b	128
8c44	2702: pipe_75:	ds.b	128
8cc4	2703: pipe_76:	ds.b	128

8d44	2704: pipe_77:	ds.b	128
8dc4	2705: pipe_78:	ds.b	128
8e44	2706: pipe_79:	ds.b	128
8ec4	2707:		
8ec4	2708: pipe_80:	ds.b	128
8f44	2709: pipe_81:	ds.b	128
8fc4	2710: pipe_82:	ds.b	128
9044	2711: pipe_83:	ds.b	128
90c4	2712: pipe_84:	ds.b	128
9144	2713: pipe_85:	ds.b	128
91c4	2714: pipe_86:	ds.b	128
9244	2715: pipe_87:	ds.b	128
92c4	2716: pipe_88:	ds.b	128
9344	2717: pipe_89:	ds.b	128
93c4	2718:		
93c4	2719: pipe_90:	ds.b	128
9444	2720: pipe_91:	ds.b	128
94c4	2721: pipe_92:	ds.b	128
9544	2722: pipe_93:	ds.b	128
95c4	2723: pipe_94:	ds.b	128
9644	2724: pipe_95:	ds.b	128
96c4	2725: pipe_96:	ds.b	128
9744	2726: pipe_97:	ds.b	128
97c4	2727: pipe_98:	ds.b	128
9844	2728: pipe_99:	ds.b	128
98c4	2729:		
98c4	2730: pipe_100:	ds.b	128
9944	2731: pipe_101:	ds.b	128
99c4	2732: pipe_102:	ds.b	128
9a44	2733: pipe_103:	ds.b	128
9ac4	2734: pipe_104:	ds.b	128
9b44	2735: pipe_105:	ds.b	128
9bc4	2736: pipe_106:	ds.b	128
9c44	2737: pipe_107:	ds.b	128
9cc4	2738: pipe_108:	ds.b	128
9d44	2739: pipe_109:	ds.b	128
9dc4	2740:		
9dc4	2741: pipe_110:	ds.b	128
9e44	2742: pipe_111:	ds.b	128
9ec4	2743: pipe_112:	ds.b	128
9f44	2744: pipe_113:	ds.b	128
9fc4	2745: pipe_114:	ds.b	128
a044	2746: pipe_115:	ds.b	128
a0c4	2747: pipe_116:	ds.b	128
a144	2748: pipe_117:	ds.b	128
a1c4	2749: pipe_118:	ds.b	128
a244	2750: pipe_119:	ds.b	128
a2c4	2751:		
a2c4	2752:		
a2c4	2753: pipe_120:	ds.b	128
a344	2754: pipe_121:	ds.b	128
a3c4	2755: pipe_122:	ds.b	128
a444	2756: pipe_123:	ds.b	128

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a4c4 2757: pipe_124: ds.b 128  
a544 2758: pipe_125: ds.b 128  
a5c4 2759: pipe_126: ds.b 128  
a644 2760: pipe_127: ds.b 128  
a6c4 2761: pipe_128: ds.b 128  
a744 2762: pipe_129: ds.b 128  
a7c4 2763:  
a7c4 2764:  
a7c4 2765: pipe_130: ds.b 128  
a844 2766: pipe_131: ds.b 128  
a8c4 2767: pipe_132: ds.b 128  
a944 2768: pipe_133: ds.b 128  
a9c4 2769: pipe_134: ds.b 128  
aa44 2770: pipe_135: ds.b 128  
aac4 2771: pipe_136: ds.b 128  
ab44 2772: pipe_137: ds.b 128  
abc4 2773: pipe_138: ds.b 128  
ac44 2774: pipe_139: ds.b 128  
acc4 2775:  
acc4 2776:  
acc4 2777: pipe_140: ds.b 128  
ad44 2778: pipe_141: ds.b 128  
adc4 2779: pipe_142: ds.b 128  
ae44 2780: pipe_143: ds.b 128  
aec4 2781: pipe_144: ds.b 128  
af44 2782: pipe_145: ds.b 128  
afc4 2783: pipe_146: ds.b 128  
b044 2784: pipe_147: ds.b 128  
b0c4 2785:  
b0c4 2786: user_pipe_end: ds.b 0  
b0c4 2787: win_end: ds.b 0  
b0c4 2788: ;  
b0c4 2789: ;
```

End assembly: no errors