

3SDOS - 3Sector Read-Only DOS#

- Assembler: BiboAssembler 1.21
- License: GNU Public License, <http://www.gnu.org>
- Author: Carsten Strotmann
- Version: 0.8
- Description: Mini-Read-Only DOS 2.x compatible

Why?#

Why I've written this DOS? I had a BASIC Cassette program. The program consists of two files, ==part1.bas== and ==part2.bas== . The first part initializes a new character-set and the starts the second part via the CLOAD command.

The second part was really large. Because the cassette load take some time, I would like to have a disk version. But with a normal DOS loaded (MyDOS, ATARI DOS 2.x, 3, DOS XL, Turbo DOS, I tried almost all), there was only some byte free memory left. Too less to run the programm.

So I tested severel game-dos. (btw, thanks to Matthias Reichl for the new GPL Release of MyPicoDos, <http://www.horus.com/~hias/atari/>). But the game-dos I own don't install a "D:" CIO Handler, they just load the file and start it. That is ok for one-part files, but it didn't work with my two-part file.

So I wrote 3SDOS. It's 384 Bytes long and fits into the first 3 bootsectors. With this, the basic-cassette program works! And it has 4k free space.

Limitations:#

- only read operations
- "open file" and "get byte" CIO commands
- only finds files in the first directory sector (\$169), so only the first 8 directory entries work
- no checks
- slower that normal dos load, but dos starts very fast!
- maybe buggy

Future development#

- Autoload and Start Basic program in the first Directory entry, for real Basic-Boot-Disks
- keep it in 3 sectors (SD)

Download#

- See attachments for an empty DOS DISK (SD)

FAQ#

- How to write the DOS to a new Disk?
- copy sector 1-3 from a 3SDOS Disk to the new Disk
- or, take the source and write a setup program :-)

```
00010      .LI OFF
00020 *****
00030 *
00040 * 3SECTOR DOS 3SDOS
00050 * A LOW MEMORY DOS 2.X *
```

```
00060 * *
00070 * READ ONLY VERSION *
00080 * *
00090 * (C) 2003 C. STROTMANN *
00100 * LICENSED UNDER GPL *
00110 * *
00120 *****
00130 ;
00140 ; SIO CONTROL BLOCK
00150 ;
00160 DDEVIC = $0300
00170 DUNIT = $0301
00180 DCMND = $0302
00190 DSTATS = $0303
00200 DBUF = $0304
00210 DTIMLO = $0306
00220 DBYT = $0308
00230 DAUX1 = $030A
00240 DAUX2 = $030B
00250 ;
00260 ; ZERO PAGE REGISTERS
00270 ;
00280 ICHIDZ = $20
00290 ICDNOZ = $21
00300 ICCOMZ = $22
00310 ICSTAZ = $23
00320 ICBADZ = $24
00330 ICBPLZ = $26
00340 ICBBLZ = $28
00350 ICAX1Z = $2A
00360 ICAX2Z = $2B
00370 ICSPRZ = $2C
00380 ICHIDNOZ = $2E
00390 ;
00400 ; FLOPPY SIO COMMANDS
00410 ;
00420 RDSEC = $52
00430 ;
00440 ; SECTOR SIZE
00450 ;
00460 SECSIZ = $80
00470 ;
00480 ; SIO STATUSBYTE
00490 ;
00500 DREAD = $40
00510 ;
00520 ; OS VECTORS
00530 ;
00540 DOSVEC = $0A
00550 DOSINI = $0C
00560 SIO = $E459
00570 CIO = $E456
00580 PHENTV = $E486
00590 BIBOMON = $E471
00600 ;
00610 ; START OF USER MEM
00620 ;
00630 MEMLO = $02E7
00640 ;
```

```
00650 ; SCREEN MEM
00660 SAVMSC = $58
00670 ;
00680 ; INIT VECTOR
00690 ;
00700 RUNAD = $02E0
00710 INITAD = $02E2
00720 ;
00730 ; HANDLER TABLE
00740 ;
00750 HATABS = $031A
00760 ;
00770 ; ERROR CODES
00780 ;
00790 ERR_OK = $01 ; NO ERROR
00800 ERR_BRK = $80 ; BREAK KEY
00810 ERR_EOF = $88 ; END OF FILE
00820 ERR_NFND = $AA ; NOT FOUND
00830 ERR_JOPN = $A1 ; JUST OPEN
00840 ;
00850 ; HANDLER CHAR "D:"
00860 HNDCHAR = 'D'
00870 ;
00880 ; SECTORS
00890 ;
00900 VTOC = $0168
00910 DIR = $0169
00920 ;
00930 ; BUFFER 128 BYTE
00940 ;
00950 SECBUF = $600
00960 ;
00970 ; FILENAME BUFFER 11 BYTE
00980 ;
00990 FNAME = $100
01000 ;
01010 ORG .OR $700
01020 .OF D:SDOS.COM
01030 ;
01040 DATA
01050 SECCNT = $D4
01060 BUFCNT = $D6
01070 BUFE0F = $D7
01080 DIRCNT = $D7
01090 CURSEC = $D8
01100 DIRP = $DA
01110 ;
01120 ; BOOT HEADER
01130 ;
01140 BOOTH .HX 00
01150 .HX 03 ; 3 SEC DOS
01160 .DA BOOTH ; STORE ADDR
01170 .DA DOSIN
01180 ;
01190 ; SET MEMLO
01200 LDA #PGMEND
01210 STA MEMLO
01220 LDA /PGMEND
01230 STA MEMLO+1
```

```

01240 ;
01250 ; SET RESTART VECTOR
01260     LDA #FHINIT
01270     STA DOSVEC
01280     LDA /FHINIT
01290     STA DOSVEC+1
01300 ;
01310 ; BOOTMESSAGE
01320     JSR PMSG
01330 ;
01340     CLC
01350     RTS
01360 ;
01370 ;
01380 ; DOS INI ROUTINE
01390 ;
01400 DOSIN
01410     JSR FHINIT ; INIT HANDLER
01420     RTS
01430 ;
01440 -----
01450 INIT
01460 FHINIT
01470     LDX #0
01480 .1
01490     LDA HATABS,X
01500     BEQ INSTALL
01510     CMP #HNDCHAR
01520     BEQ INSTALL
01530     INX
01540     INX
01550     INX
01560     CPX #$20
01570     BMI .1
01580 ;
01590     RTS
01600 -----
01610 ; INSTALL HANDLER
01620 ;
01630 INSTALL
01640     LDA #HNDCHAR
01650     STA HATABS,X
01660     LDA #FHTAB
01670     STA HATABS+1,X
01680     LDA /FHTAB
01690     STA HATABS+2,X
01700 RESETS
01710     LDA #DOSIN
01720     STA DOSINI
01730     LDA /DOSIN
01740     STA DOSINI+1
01750     RTS
01760 -----
01770 SECRD
01780     LDA #$01 ; DISK 1
01790     STA DUNIT
01800     LDA #$31 ; FLOPPY
01810     STA DDEVIC
01820     LDA #RDSEC ; READ

```

```

01830          STA DCMND
01840          LDA #DREAD
01850          STA DSTATS
01860          LDA #SECSIZ
01870          STA DBYT
01880          LDA #0
01890          STA DBYT+1
01900          LDA #SECBUF
01910          STA DBUF
01920          LDA /SECBUF
01930          STA DBUF+1
01940          LDA CURSEC
01950          STA DAUX1
01960          LDA CURSEC+1
01970          STA DAUX2
01980 ;
01990          JSR SIO
02000 ;
02010          LDA SECBUF+$7F
02020          STA BUFEOF
02030          DEC SECCNT
02040          LDA SECBUF+$7D
02050          AND #$03
02060          STA CURSEC+1
02070          LDA SECBUF+$7E
02080          STA CURSEC
02090          LDA #$FF
02100          STA BUFCNT
02110          RTS
02120 -----
02130 FSPECIAL
02140 FSTATUS
02150 SDOSINIT
02160 FCLOSE
02170 OK          LDY ERR_OK
02180 FPUTBYT
02190          RTS
02200 -----
02210 FOPEN
02220          LDA ICAX1Z ; AUX1
02230          AND #$04 ; READ?
02240          BEQ FCLOSE ;NO WRITE!
02250          LDA #DIR
02260          STA CURSEC
02270          LDA /DIR
02280          STA CURSEC+1
02290          JSR SECRD
02300          LDA #SECBUF
02310          STA DIRP
02320          LDA /SECBUF
02330          STA DIRP+1
02340          LDA #7
02350          STA DIRCNT
02360 ;
02370 ; SEARCH DIR ENTRY
02380 ;
02390 SDIR
02400          LDY #$0F
02410          LDA #$20

```

```

02420 .1      STA FNAME , Y
02430      DEY
02440      BPL .1
02450 ;
02460      LDY #0
02470 .2
02480      INY
02490      LDA (ICBADZ) , Y
02500      CMP #' :
02510      BNE .2
02520 ;
02530      INY
02540      TYA
02550      CLC
02560      ADC ICBADZ
02570      STA ICBADZ
02580      BCC .3
02590      INC ICBADZ+1
02600 .3
02610      LDY #0
02620      LDX #5
02630 .4
02640      LDA (ICBADZ) , Y
02650      CMP #' .
02660      BNE .5
02670      LDX #$D
02680      INY
02690 .5
02700      LDA (ICBADZ) , Y
02710      STA FNAME , X
02720      INY
02730      INX
02740      CPX #$10
02750      BNE .4
02760 .6
02770      LDY #$F
02780 .7
02790      LDA (DIRP) , Y
02800      CMP FNAME , Y
02810      BNE .10
02820      DEY
02830      CPY #4
02840      BNE .7
02850      LDA (DIRP) , Y
02860      STA CURSEC+1
02870      DEY
02880      LDA (DIRP) , Y
02890      STA CURSEC
02900      DEY
02910      LDA (DIRP) , Y
02920      STA SECCNT+1
02930      DEY
02940      LDA (DIRP) , Y
02950      STA SECCNT
02960 ;
02970      JSR SECRD
02980      LDY #ERR_OK
02990      RTS
03000 .10
03000      LDA #$10

```

```

03010          CLC
03020          ADC DIRP
03030          STA DIRP
03040          BCC .11
03050          INC DIRP+1
03060 .11
03070          DEC DIRCNT
03080          BNE .6
03090          LDY #ERR_NFND
03100          RTS
03110 ;
03120          JMP BIBOMON
03130 ;
03140 -----
03150 FGETBYT
03160 ;          JMP BIBOMON
03170          LDX BUFEOF
03180          BNE .10
03190          JSR SECRD
03200 .10
03210          LDX SECCNT
03220          CPX #$FF
03230          BNE .20
03240          LDY #ERR_EOF
03250          RTS
03260 .20
03270          INC BUFCNT
03280          DEC BUFEOF
03290          LDX BUFCNT
03300          LDA SECBUF,X
03310          JMP OK
03320 -----
03330 FHTAB
03340          .DA FOPEN-1
03350          .DA FCLOSE-1
03360          .DA FGETBYT-1
03370          .DA FPUTBYT-1
03380          .DA FSTATUS-1
03390          .DA FSPECIAL
03400          JMP SDOSINIT
03410          .DA #0
03420 PGMEND
03430 -----
03440 MSG
03450          .AT "      3SDOS (c)2003 CST/PSC "
03460 MSGEND  .HX 00
03470 -----
03480 PMSG
03490          LDY #$FF
03500 .1          INY
03510          LDA MSG,Y
03520          STA (SAVMSC),Y
03530          CPY #MSGEND-MSG
03540          BNE .1
03550          RTS
03560 -----
03570          .OR RUNAD
03580          .DA INIT
03590 -----

```

