

STAT

```
A>stat dsk:
  A: Drive Characteristics
 6400: 128 Byte Record Capacity
 800: Kilobyte Drive Capacity
 192: 32 Byte Directory Entries
 192: Checked Directory Entries
 128: Records/ Extent
 16: Records/ Block
 40: Sectors/ Track
 0: Reserved Tracks
```

STAT berechnet die Werte aus dem zugehörigen Disk Parameter Block DPB:

```
dpb:    dw    40          ;SPT sectors per track
        db    4          ;BSF block shift factor
        db    15         ;BLM block mask
        db    0          ;EXM null mask
        dw    399        ;DSM disk size-1
        dw    191        ;DRM directory max
        db    0E0H       ;AL0 alloc 0
        db    0          ;All alloc 1
        dw    48         ;CKS check size
        dw    0          ;OFS track offset

rpb := 1<<BSF = 2^BSF;          /* records/block */    = 2^4 = 16
bpb := 1<<BSF * 128 = 2^BSF * 128; /* bytes per block */    = 2^4*128 =
2048

Drive Characteristics      := Laufwerk          = A
128 Byte Record Capacity  := (DSM+1) * rpb      = (399+1) * 16 = 6400
Kilobyte Drive Capacity   := (DSM+1) * bpb / 1024 = (399+1) * 2048 / 1024
= 800
32 Byte Directory Entries := DSM+1              = 399+1 = 400
Checked Directory Entries := CKS<<2 = CKS*4      = 48 * 4 = 192
Records/ Extent           := (EXM+1) * 128      = (0+1) * 128 = 128
Records/ Block            := rpb                = 16
Sectors/ Track            := SPT                = 40
Reserved Tracks           := OFS                = 0
```

Der originale Codeauszug von STAT, geschrieben in PL/M, ist relativ leicht zu verstehen:

```
/* function call 32 returns the address of the disk parameter
block for the currently selected disk, which consists of:
    scptrk    (2 by) number of sectors per track
    blkshf    (1 by) log2 of blocksize (2**blkshf=blocksize)
    blkmsk    (1 by) 2**blkshf-1
```

```
    extmsk      (1 by) logical/physical extents
    maxall      (2 by) max alloc number
    dirmax      (2 by) size of directory-1
    dirblk      (2 by) reservation bits for directory
    chksiz      (2 by) size of checksum vector
    offset      (2 by) offset for operating system
```

```
*/
```

```
dpb based dpba structure
(spt address, bls byte, bms byte, exm byte, mxa address,
 dmx address, dbl address, cks address, ofs address),
scptrk literally 'dpb.spt',
blkshf literally 'dpb.bls',
blkmsk literally 'dpb.bms',
extmsk literally 'dpb.exm',
maxall literally 'dpb.mxa',
dirmax literally 'dpb.dmx',
dirblk literally 'dpb.dbl',
chksiz literally 'dpb.cks',
offset literally 'dpb.ofs';
```

```
declare bpb address; /* bytes per block */
```

```
set$bpb: procedure;
  call set$dpb; /* disk parameters set */
  bpb = shl(double(1),blkshf) * sectorlen;
end set$bpb;
```

```
getalloca: procedure address;
  /* get base address of alloc vector */
  return mon3(27,0);
end getalloca;
```

```
add$block: procedure(ak,ab);
  declare (ak, ab) address;
  /* add one block to the kilobyte accumulator */
  declare kaccum based ak address; /* kilobyte accum */
  declare baccum based ab address; /* byte accum */
  baccum = baccum + bpb;
  do while baccum >= 1024;
    baccum = baccum - 1024;
    kaccum = kaccum + 1;
  end;
end add$block;
```

```
count: procedure(mode) address;
  declare mode byte; /* true if counting 0's */
  /* count kb remaining, kaccum set upon exit */
  declare
    ka address, /* kb accumulator */
    ba address, /* byte accumulator */
```

```

    i  address, /* local index */
    bit byte;   /* always 1 if mode = false */
ka, ba = 0;
bit = 0;
do i = 0 to maxall;
    if mode then bit = getalloc(i);
    if not bit then call add$block(.ka,.ba);
end;
return ka;
end count;

```

```

drivestatus: procedure;
declare
    rpb address,
    rpd address;
pv: procedure(v);
declare v address;
call crlf;
call pdecimal(v,10000);
call printchar(':');
call printb;
end pv;
/* print the characteristics of the currently selected drive */
call print.((' ',0));
call printchar(cselect+'A');
call printchar(':');
call printx.((' Drive Characteristics',0));
rpb = shl(double(1),blkshf); /* records/block=2**blkshf */
if (rpd := (maxall+1) * rpb) = 0 and (rpb <> 0) then
    call print.(('65536: ',0)); else
    call pv(rpd);
    call printx.(('128 Byte Record Capacity',0));
call pv(count(false)); /* (maxall+1)*bpb/1024 */
    call printx.(('Kilobyte Drive Capacity',0));
call pv(dirmax+1);
    call printx.(('32 Byte Directory Entries',0));
call pv(shl(chksiz,2));
    call printx.(('Checked Directory Entries',0));
call pv((extmsk+1) * 128);
    call printx.(('Records/ Extent',0));
call pv(rpb);
    call printx.(('Records/ Block',0));
call pv(scptrk);
    call printx.(('Sectors/ Track',0));
call pv(offset);
    call printx.(('Reserved Tracks',0));
call crlf;
end drivestatus;

```

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