NAME

    romboot – special ROM bootstrap loaders

DESCRIPTION

    To bootstrap programs from various storage media, standard DEC® ROM bootstrap loaders are often used. However, such standard loaders may not be compatible with UNIX bootstrap programs or may not exist on a particular system. Thus, special bootstrap loaders were designed which may be cut into a programmable ROM (M792 read-only-memory) or manually toggled into memory.

    Each program is position-independent, that is, it may be located anywhere in memory. Normally, it is loaded into high core to avoid being overwritten. Each reads one block from drive 0 into memory starting at address 0 and then jumps to address 0. To minimize the size, each assumes that a system INIT was generated prior to execution. Also, the address of one of the device registers is used to set the byte count register or word count register. In each case, this will read in at least 256 words, which is the maximum size of bootstrap programs.

    On disk devices, block 0 is read, on tape devices, one block from the current position. Thus, the tape should be positioned at the load point (endzone if DECtape) prior to booting. Also, the standard DEC bootstrap loader for magnetic tape may be emulated by positioning the tape at the load point and executing the bootstrap loader twice.

    By convention, on PWB 11/45 systems, address 773 000 is the start of a tape bootstrap loader, and 773 020 the start of a disk bootstrap loader. The actual loaders used depend on the particular hardware configuration.

SEE ALSO

    70boot(VIII), unixboot(VIII)

```
TC11 – DECtape
    012700              mov     $tcba,r0
    177346
    010040              mov     r0,–(r0)        /use tc addr for wc
    012740              mov     $3,–(r0)        /read bn forward
    000003
    105710      1:      tstb    (r0)            /wait for ready
    002376              bge     1b
    112710              movb    $5,(r0)         /read forward
    000005
    105710      1:      tstb    (r0)            /wait for ready
    002376              bge     1b
    005007              clr     pc              /transfer to zero

TU10 – Magnetic Tape
    012700              mov     $mtcma,r0
    172526
    010040              mov     r0,–(r0)        /use mt addr for bc
    012740              mov     $60003,–(r0)    /read, 800 bpi, 9 track
    060030
    105710      1:      tstb    (r0)            /wait for ready
    002376              bge     1b
    005007              clr     pc              /transfer to zero

TU16 – Magnetic Tape
    012700              mov     $mtwc,r0
    172442
    012760              mov     $1300,30(r0)    /set 800 bpi, PDP format
    001300
    000030
    010010              mov     r0,(r0)         /use mt addr for wc
    012740              mov     $71,–(r0)       /read
    000071
    105710      1:      tstb    (r0)            /wait for ready
    002376              bge     1b
    005007              clr     pc              /transfer to zero

RK05 – DEC pack
    012700              mov     $rkda,r0
    177412
    005040              clr     –(r0)
    010040              mov     r0,–(r0)        /use rk addr for wc
    012740              mov     $5,–(r0)        /read
    000005
    105710      1:      tstb    (r0)            /wait for ready
    002376              bge     1b
    005007              clr     pc              /transfer to zero
```

RP03 – Disk Pack

```
    012700                mov     $rpmr,r0
    176726
    005040                clr     –(r0)
    005040                clr     –(r0)
    005040                clr     –(r0)
    010040                mov     r0,–(r0)          /use rp addr for wc
    012740                mov     $5,–(r0)          /read
    000005
    105710        1:      tstb    (r0)              /wait for ready
    002376                bge     1b
    005007                clr     pc                /transfer to zero
```

RP04 – Disk Pack

```
    012700                mov     $rpcs1,r0
    176700
    012720                mov     $21,(r0)+         /read–in preset
    000021
    012760                mov     $10000,30(r0)     /set to 16–bits/word
    010000
    000030
    010010                mov     r0,(r0)           /use rp addr for wc
    012740                mov     $71,–(r0)         /read
    000071
    105710        1:      tstb    (r0)              /wait for ready
    002376                bge     1b
    005007                clr     pc                /transfer to zero
```