

AMOS BOOT LOADER v3.06d1

TITLE:

CR80 AMOS BOOT STRAP LOADER
USER'S MANUAL

DOCUMENT NO:

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CR80 AMOS, BOOT STRAP LOADER,
USER'S MANUAL

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BOOT STRAP LOADER

Loads a BOOT file from a hard disk and executes it if CHECK SUM agrees with the one given in header. BFD entry no of file must be input.

Input format:

B,<disk controller I/O address>,<disk unit>,<kind of drive>,
<controller memory section>,<controller memory address>,
<BFD no of boot file>

A space may serve as a delimiter in the place of a comma. To assign a default value enter two adjacent commas. A <cr> at any given stage will assign default values to all parameters which have not been assigned yet, and urges the program to prompt for BFD entry NO of BOOT STRAP.

		default
<disk contr. I/O address>	::= £0..£3F	£32
<disk unit>	::= 0..3	0
<kind of drive>	::= 0..£12	9
<..memory section>	::= 0..3	3
<..word address>	::= £0,£1000,£2000,...,£F000	0
<BFD no of boot file>	::= <hexadecimal number>	

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BASE FGEO

> B, c032, c0w, c011, c03, c000, c05

PARITY ERROR

>

<i>B</i>	<i>(Boot)</i>
<i>C</i>	<i>C_2_0 (Select FD)</i>
<i>D</i>	<i>DO_0+8 (DUPED RAM)</i>
<i>I</i>	<i>IO_0+5 7777 (MULTIPATCH RAM)</i>
<i>P</i>	<i>PO_3-6789 (PATCH RAM)</i>
<i>R</i>	<i>R_2+40 (READ FD)</i>
<i>S</i>	<i>S_2 (READ STATUS FD)</i>
<i>W</i>	<i>W_2+40-1234 (WRITE FD)</i>
<i>X</i>	<i>X_FFEO (EXECUTE)</i>
<i>Z</i>	<i>MEM. PARITY</i>

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KIND of DRIVE corresponding to INPUT NUMBER

MMD12M*	0
MMD12F**	1
MMD24M	2
MMD24F	3
MMD80M	4
MMD81F	5
MMD82F	6
MMD160M	7
SMD40	8
SMD80	9
SMD150	A
SMD300	B
SMD600	C
CMD32F	D
CMD32R***	E
CMD64F	F
CMD64R	10
CMD96F	11
CMD96R	12

- * M movable
- ** F fixed
- *** R removable

(The unit defined by CMD64F, for instance, is the 48M fixed part of the CMD disk that has an additional removable cartridge in it).

EXAMPLE:

B
63A
(all default parameters)
B,,1,A
2221
(default values to disk controller I/O address, controller memory section and controller memory address)
B,32,,,1,0
344
(default values to disk unit and kind of drive)

NOTE: There is no default value for the BFD entry No

UTILITIES

The boot strap loader provides the utilities: DUMP, PATCH(INSERT), and EXECUTE.

(INSERT = patch a range with one patch pattern)

Input format:

D<memory section definition> E<delimiter>Å
 <first address> E<delimiter>Å E<range definition>Å

P<memory section definition> E<delimiter>Å
 <first address> E<delimiter>Å <patch data>

I<memory section definition> E<delimiter>Å
 <first address> E<delimiter>Å <range definition>
 E<delimiter>Å <patch pattern>

XEdelimiterÅ<base>

<memory section definition> ::= <sp> ø <page number>

<page number> ::= 0..3

<delimiter> ::= (<sp>ø,) æ<sp>ø,å

<first address> ::= <address>E.<offset>Å

<offset> ::= <hexadecimal number>

<address> ::= <hexadecimal number>

<range definition> ::= <:><last address> ø
 <+><no. of words> ø <cr>

<patch pattern> ::= <hexadecimal number>

<patch data> ::= æ<patch pattern>å

<base> ::= <address (in memory to be loaded)>

<hexadecimal number> ::= æ<hex digit>â 1..4

EXAMPLES:

D £3:4
(will dump memory section zero in locations 3:4)

D 3:4
D 3 : 4
D03:4
D0 3+1
(etc. will have the same results)

I 3:4 55
I £3:4 55
(will patch memory section zero in locations 3:4 with
pattern 55)

I03:4 £7BB7
(will patch memory section zero in locations 3:4 with
pattern 7BB7)

I0 3+1 11
(will patch memory section zero in locations 3:4 with
pattern 11)

I 5 67
(will patch memory section zero in location 5 with pattern
67)

P 4 55 £66 77£008899
(will patch memory section zero in locations 4:7 with
pattern
£55 £66 £77 £88 £99)

X3000
X 3000
X £3000
(will execute a process stored in loc 3000,p 0)
(the page is defined by some of the bits in the word
address)

ERROR MESSAGESmessage
number

- 1 : Parameter error, illegal value for disk controller I/O address.
- 2 : Parameter error, illegal value for disk unit.
- 3 : Parameter error, illegal kind of drive.
- 4 : Parameter error, illegal disk controller memory section.
- 5 : Parameter error, illegal disk controller memory address.
- 6 : Parameter error, illegal boot file BFD number.
- 10 : Error in utilities submodule. Input memory section out of range (0..3).
- 11 : Error in utilities submodule: execute. Input "base" address not a valid hexadecimal no.
- C : Boot module not contiguous.
- 13 : Error in utilities submodule. Input start address not a valid hexadecimal no.
- 14 : Error in utilities submodule. Input offset not a valid hexadecimal no.
- 15 : Error in dump or insert input: no ':' nor '+' entered after start address.
- 16 : Error in dump or insert input: no of words or last address not a valid hexadecimal no.
- 18 : Error in patch pattern for insert: not a valid hexadecimal number.
- 19 : Input error for patch; only illegal patch data entered, if any.
(in case of some valid data the utility ignores the invalid parts.)
- 41 : Illegal addressing or parity error discovered outside of the parity setting routine.
- 99 : No interpretation for this letter. Expecting a command letter (X, P, D, I, B).
- 101 : Error occured in boot submodule. Attempt to read homeblock off disk failed.
- 102 : Error occured in boot submodule. Attempt to read BFD entry describing BFD off disk failed.

- 103 : Error occurred in boot submodule. Attempt to read BFD index sector off disk failed.
- 104 : Error occurred in boot submodule. Attempt to read BFD entry describing the boot file off disk failed.
- 105 : Error occurred in boot submodule. Failed to read in boot file header.
- 106 : Error occurred in boot submodule. Failed to read in boot file.
- 107 : Error occurred in boot submodule. Failed to read in boot file last full sectors.
- 108 : Error occurred in boot submodule. Failed to read in boot file last sector.

In all failed to read situations there will also be printed the reason of failure. The message has the form:

(MØTØC)<disk contr. status>D<disk contr. condition>

(For interpretation of the status word see disk controller product specification)

- 111 : Error occurred in boot submodule. Check sum does not match.