

# MicroHardCore Command Set

# Diagnostic Command Set

```

CONTINUE
L[OOP]I[O, C, E, F, I, L, M, N, R, S, U] [ /switches ]
/FAULT:[ ISOLATE, CONTINUE, LOOP, PAUSE ]
/PRINT MODE:[ VERBOSE, BRIEF, QUIET ]
/NUMBER:START_TEST[ ,END_TEST ]
/PASS:dec_num

REPORT
S[TART]I[O, C, E, F, I, L, M, N, R, S, U] [ /switches ]
/FAULT:[ ISOLATE, CONTINUE, LOOP, PAUSE ]
/PRINT MODE:[ VERBOSE, BRIEF, QUIET ]
/NUMBER:START_TEST[ ,END_TEST ]
/PASS:dec_num
    
```

```

CLEAR DATA
CONTINUE
DEPOSIT [ /switch ] hex_addr hex_data
/CACHE /ESCRATCH /WBUS
EXAMINE [ /switch ] hex_addr
/CACHE /ESCRATCH /WBUS
RUN [ /switch ] filename[.COM]
/BELL:[ ON, OFF ]
/GEN
/FAULT:[ ISOLATE, LOOP, PAUSE, CONTINUE, IGNORE ]
/PRINT MODE:[ BRIEF, VERBOSE ]
/NUMBER:FIRST_TEST [ LAST_TEST ]
/PASSES:dec_num
/SINGLE_STEP:[ ON, OFF ]
SET DATA escratch_address data_name
SET DEFAULT [ /switch ]
/PASSES:dec_num
/NUMBER:FIRST_TEST [ LAST_TEST ]
SET NAME microdiagnostic_filename
SET SWITCH [ /switch ]
/BELL:[ ON, OFF ]
/FAULT:[ ISOLATE, LOOP, PAUSE, CONTINUE, IGNORE ]
/PRINT MODE:[ BRIEF, VERBOSE ]
/SINGLE_STEP:[ ON, OFF ]
/LINES:[ ON, OFF ]

SHOW DATA
SHOW SWITCHES
START [ /switch ]
(See RUN for SWITCH Arguments)

STEP
    
```

## Hex Debugger Command Set

```

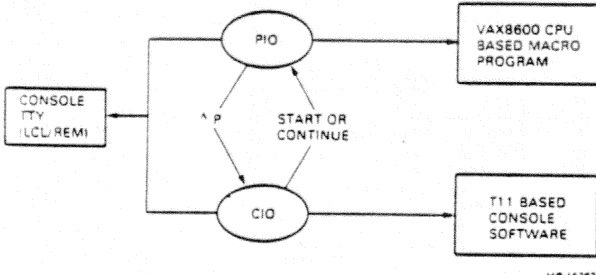
CLEAR [ ABREAK, OBREAK ] [ Symbol, Reg, Hex_id, ALL ]
CLEAR COUNT
DEPOSIT [ /NEXT:hex_num ] [ /switch ] hex_addr hex_data
/ACCESS /CONTEXT /CYCLE
/ECS /FBACS /FBMCS
/FDRAM /ICS /IDRAM
/MCF /MCS
(ADDRESS)
* (Access last specified address)
+ (Access address following last (*) address)
- (Access address preceding last (*) address)
DEPOSIT/CHANNEL hex_chnl hex_data
00 = FBA 05 = ICA 0A = MCC 10 = VBA
01 = FBM 08 = EDP 0D = EBC
03 = IBD 09 = EBE 0E = CSB
DEPOSIT/CSPE [ /switch ] [ /NOFILE ] hex_addr
/ECS /FBACS /FBMCS
/ICS /MCS /IDRAM
/FDRAM
DEPOSIT/MARK [ /switch ] [ /NOFILE ] hex_addr [ ON, OFF ]
/ECS /ICS /MCS
EXAMINE [ /NEXT:hex_num ] [ /switch ] hex_addr
/ACCESS /CONTEXT /CYCLE
/ECS /FBACS /FBMCS
/FDRAM /ICS /IDRAM
/MCF /MCS
* (Access last specified address)
+ (Access address following last (*) address)
- (Access address preceding last (*) address)
EXAMINE/CHANNEL hex_chnl
00 = FBA 01 = FBM 02 = MCD
03 = IBD 04 = IDP 05 = ICA
06 = ICB 07 = CLK 08 = EDP
09 = EBE 0A = MCC 0B = MAP
    
```

```

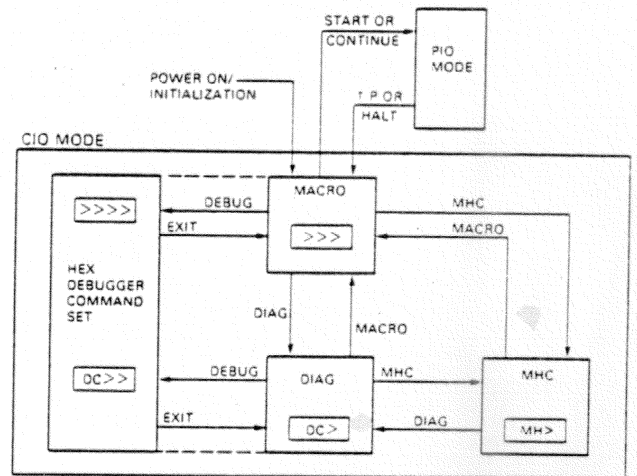
0C = EBD 0D = EBC 0E = CSB
0F = CSA 10 = IOA0 11 = IOA1
12 = IOA2 13 = IOA3 14 = MTM
15 = Reserved 16 = Reserved 17 = Reserved
    
```

```

EXAMINE/SDB [ Symbol_name, Register_name, Hex_id, "Signal_name" ]
EXIT
MICROSTEP [ hex_num ]
REPORT
SET [ ABREAK, OBREAK ] [ Symbol, Reg, Hex_id ] [ SPAN, VALUE:val ]
SET HISTORY [ argument ]
CONTINUOUS
EVENT-STOP [ /LATE ] [ /POSTMORTEM ]
FULL-STOP
UPC-STOP hex_upc
UTRAP-STOP
STALL
NOSTALL
SET MARGIN [ HIGH, LOW, NORMAL ] [ [ A, B, C, DE, FH, ALL ] ]
SHOW BREAK
SHOW DEFINE [ Reg_name, Hex_id ]
SHOW HISTORY [ /OUTPUT:filename[.DAT] ] [ hex_num ] [ hex_num ]
SHOW NAME [ Symbol_name, Reg_name, Hex_id, "Signal_name" ]
SHOW REGISTER
SHOW TRACE
STATESTEP [ hex_num ]
TMICRO [ hex_num ]
TSTATE [ hex_num ]
TRACE ADD item
TRACE DEFINE Reg_name
TRACE DELETE Reg_name
TRACE REMOVE item
R* -- remove all registers from the list
S* -- remove all signals from the list
Reg_name -- remove named registers from the list
V$nnnn -- remove signal corresponding to this symbol from list
TRACE RESTORE
    
```



VAX 8600 Console Commands



"Contexts"

## Control Characters

DETETE rubout last character typed  
 CONTROL-U flush command line  
 CONTROL-R retype command line from RTY  
 CONTROL-O toggle output display ON/OFF  
 CONTROL-P abort current command  
 CONTROL-S abort current command

## Console Command Syntax

- | | brackets are used to indicate an OPTIONAL switch or keyword
- { } braces are used to show a list of choices from which one item MUST BE SELECTED

## Architecturally-defined Command and Switch

Short form	Long form	Short form	Long form
B	BOOT	N	NEXT
C	CONTINUE	S	START
D	DEPOSIT	SE	SET
E	EXAMINE	SH	SHOW
F	FIND	U	UNJAM
H	HALT	V	VERIFY
I	INITIALIZE	W	WAIT
L	LOAD	/P	/PHYSICAL

## General Command Set

DEBUG  
 DIAGNOSE  
 HELP  
 HELP category  
 HELP category topic [ subtopic ]  
 INITIALIZE [ /CLOCK, /POWER, /SDB ]  
 LOAD [ /switch ] [ filename(.BPN) ]  
 /ACCESS /CONTEXT /CYCLE  
 /ECS /FBACS /FBMCS  
 /FDRAM /ICS /IDRAM  
 /MCF /MCS  
 LUPC /switch hex address  
 /ECS load EBOX control store upc  
 /ICS load IBOX control store upc  
 /MCS load MBOX control store upc  
 /FBACS load FBOXA control store upc  
 /FBMCS load FBOXM control store upc  
 MACRO  
 MHC  
 ODT  
 PROM [ /RT [ filename ] ]  
 REBOOT  
 REPEAT [ dec\_num ] command  
 RESET  
 RESTART  
 SET BASE hex\_number  
 SET flag [ ON, OFF, INVALID /NOVERIFY ]  
 ABORT ABUS BBU  
 COLD EXTI FBOX  
 IOSAFE LOCAL-COPY MEMENA  
 SNAP STXALT WARM  
 QUIET  
 SET CLOCK Xn dec\_num [ [ /NORMAL, /HIGH ] ]  
 SET CLOCK FREQUENCY [ NORMAL, HIGH, X1, X2, X3, X4, X5, X6, EXTERNAL ]  
 SET CLOCK [ FULL, ONE-FIFTH, DEFAULT ]

## Macro Command Set

BOOT [ /switches ] [ device ]  
 /R5:hex\_num - specify value to place in R5 (0 = default)  
 /NOSTART - specify that the boot command file not start the operating system at its completion.  
 CONTINUE  
 CLEAR [ MEMORY ]  
 DEPOSIT [ /space ] [ /NEXT:hex\_num ] [ /data\_type ]  
 [ hex\_addr, Reg\_name ] hex\_data  
 (SPACE)  
 /ESCRATCH - access Ebox scratch pad RAM space  
 /GENERAL - access VAX processor GPR register space  
 /INTERNAL - access VAX processor IPR register space  
 /PAMM - access PAMM RAM  
 /PHYSICAL - access VAX physical memory space  
 /U - access T-11 RAM address space  
 /VIRTUAL - access VAX virtual memory space if the map is enabled, otherwise same as /PHYSICAL but bits 30 and 31 of address are ignored  
 (DATA TYPE)  
 /BYTE - access a single byte of data  
 /LONG - access a longword (4 bytes) of data  
 /WORD - access a word (2 bytes) of data  
 (ADDRESS)  
 \* (Access last specified address)  
 + (Access address following last (\*) address)  
 - (Access address preceding last (\*) address)  
 @ (Use contents of last specified address as the address to be accessed)  
 EXAMINE [ /space ] [ /NEXT:hex\_num ] [ /data\_type ]  
 [ hex\_addr, reg\_name ]  
 (See DEPOSIT for argument descriptions)

## Standard Register Names

GPR NAMES		IPR NAMES		IPR NAMES		IR NAMES	
Name	Access	Name	Access	Name	Access	Name	Access
R0	E/D	KSP	E/D	*TXDB	D	CPC	E
R1	E/D	ESP	E/D	ACCS	E/D	CSHCTL	E/D
R2	E/D	SSP	E/D	MAPEN	E/D	CSES	E
R3	E/D	USP	E/D	TBIA	D	CSLINT	E/D
R4	E/D	ISP	E/D	TBIS	D	EBCS	E/D
R5	E/D	POBR	E/D	PME	E/D	EDMC	D
R6	E/D	POLR	E/D	PMR	E/D	EDPSR	E
R7	E/D	PIBR	E/D	SID	E	EMD	E
R8	E/D	PILR	E/D	*PAMACC	E/D	ESASAV	E
R9	E/D	SBR	E/D	*PAMLOC	E/D	IBESR	E
R10	E/D	SLR	E/D	*CSWP	E/D	ISASAV	E
R11	E/D	PCBB	E/D	*MDECC	E/D	IVASAV	E
AP	E/D	SCBB	E/D	*MENA	E/D	MEDR	E
FP	E/D	IPL	E/D	*MDCTL	E/D	MEAR	E
SP	E/D	ASTLVL	E/D	*MCCTL	E/D	HSTAT1	E
PC	E/D	SIRR	D	*MERG	E/D	HSTAT2	E
		SISR	E/D	*CRBT	D	VIBASAV	E
		ICCS	E/D	*DFI	D	VPCBITS	E
		NICR	D	*EHSR	E/D	MISCELLANEOUS NAP	
		ICR	E	*STXCS	E/D	Name	Access
		TODR	E/D	*STXDB	E/D	-----	-----
		*RXCS	E/D			IBGPR	E
		*RXDB	E			PSL	E/D
		*TXCS	E/D			SPADR	E/D
						STATE	E/D
						EVMSAV	E

Those addresses which are new for the VAX 8600 have a (\*) beside them. Those registers which have the same function, but a different design from other VAX's are tagged with a (~).

SET CLOCK FREQUENCY [ dec\_num, NORMAL, QUIET ]  
 SET CLOCK [ FULL, ONE-FIFTH, DEFAULT ]  
 SET SOMM [ /switches ] [ ON OFF ]  
 /ECS /ICS /MCS /FIELD  
 SET TERMINAL /switches  
 /BAUD:nnnn As set in STARTP.COM file  
 /RECEIVE:nnnn 1200 baud  
 /TRANSMIT:nnnn 1200 baud  
 /PASSWORD [ password ] no password defined  
 /[NO]SCOPE SCOPE  
 /[NO]PARITY NOPARITY  
 /[NO]DSRS NODSRS  
 /ODD Default when PARITY is enabled  
 /EVEN  
 SHOW CLOCK  
 SHOW filename(.DAT) [ [ /ASCII, /BINARY ] ]  
 SHOW FLAGS  
 SHOW PANEL [ /TEST ]  
 SHOW POWER  
 SHOW TERMINAL  
 SHOW UCODE  
 SHOW VERSION  
 START CPU-CLOCK  
 STOP CPU-CLOCK  
 START SYSTEM-CLOCK  
 STOP SYSTEM-CLOCK  
 UNHANG  
 VTERM [ Symbol\_name, Hex\_id ]  
 WAIT [ hex\_count ]  
 X hex\_addr hex\_count  
 @filename(.COM)

## PROM Command Set

B Boot RL02  
 D adr dat Deposit T11 RAM  
 E adr Examine T11 RAM  
 S adr Start T11  
 T [filename] Test Console  
 Q adr dat Deposit QBUS Reg  
 R adr Examine QBUS Reg  
 V RTY <---> TTY  
 ^E Exit error loop