

SYSTEM FIRMWARE

SECTION

6

The HP 150 system contains a large amount of system management code located in Read Only Memory. In general, the firmware is not designed to be utilized by system programmers. The operating system BIOS serves as the interface to firmware located functionality.

The HP 150 firmware is a rather complex multi-tasking operating system in itself. MS-DOS runs on the firmware as a single task from the firmwares perspective. Essentially all of the terminal functionality of the HP 150 is implemented in the firmware. The firmware implements much of the BIOS device driver functionality in addition to the terminal personality.

This section details the firmware's useage of the 26 K Byte of system RAM which it claims, and includes a table of the firmware entry points, vectors located within a portion of that memory.



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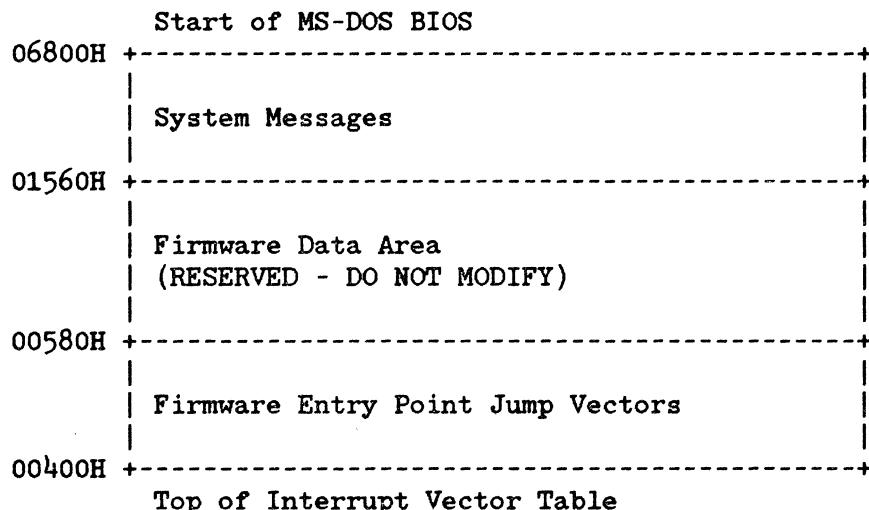
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FIRMWARE MEMORY MAP

RAM

Portion of the system RAM memory is reserved for the use of the firmware. The following shows how that address space is allocated.



FIRMWARE ENTRY POINT JUMP VECTORS

The firmware is highly structured, consisting of many tasks drivers, and software processors. Long calls may be made to these entities through vectors located in an area of firmware RAM. In general, each entry point detailed in the table below has a defined set of functions and parameter passing conventions for those functions. Programs should not call these functions, except when implementing operations as described in section 7 of this manual, Programming the HP 150. Access to the firmware entry points (located in ROM) should at all times be made through the following jump vectors.

System Firmware

Address	Vector to:	Length (bytes)
00400H	System timer for MS-DOS and applications	4
00420H	THP_ENTRY	5
00425H	DHP_ENTRY	5
0042AH	DHP_DRIVER	5
0042FH	MMP_ENTRY	5
00434H	STP_ENTRY	5
00439H	IWP_ENTRY	5
0043EH	PHP_ENTRY	5
00443H	PAP_ENTRY	5
00448H	PAP_PARSE	5
0044DH	PAP_PERFORM	5
00452H	DTP_ENTRY	5
00457H	VCP_ENTRY	5
0045CH	CNP_ENTRY	5
00461H	DMP_ENTRY	5
00466H	WMP_ENTRY	5
0046BH	KBP_ENTRY	5
00470H	DCP_ENTRY	5
00475H	RSP_ENTRY	5
0047AH	UTP_ENTRY	5
0047FH	NVRP_ENTRY	5
00484H	GSP_ENTRY	5
00489H	BMP_ENTRY	5
0048EH	STGP_ENTRY	5
00493H	HPSP_ENTRY	5
00498H	SKP_ENTRY	5
0049DH	SWP_ENTRY	5
004A2H	SLP_ENTRY	5
004A7H	GRP_ENTRY	5
004A8H	GRP_TKPARSE	5
004B1H	TSP_ENTRY	5
004B6H	TPM_SKP_ENTRY	5
004BBH	IHP_ENTRY	5
004C0H	OHP_ENTRY	5
004C5H	OHP_OPTION	5
004CAH	VAU_EXTERNAL_DRIVER	5
004CFH	WMP_ENTRY	5
004D4H	KBT_ENTRY1	5
004D9H	KBT_ENTRY2	5