

Hardware Products Developed at Hursley

The museum is attempting to create a definitive list of products developed at Hursley. The following is an incomplete pass from the knowledge of the curators with some additional help from IBM retirees. If you are able to provide any new information or corrections to the existing data, please contact info@ibmhursleymuseum.org. There is a comprehensive list of all IBM hardware and software on [Wikipedia](#).

Year	Code Name	Machine Type / Product Name	Department	Description
	62TM		Storage	Disk drive; 10MB version of 62GV Gulliver
				Tilt, lift, rotate stands for monitors - 2 models
	SUPPAC			
		3693		Data Acquisition System for nuclear power station at Latina, Italy
		8502	Monitors	Monitor
		9514	Monitors	Monitor (Henley follow-on)
	Excelsior			Dataflow chip
		7487 ??	Special Engineering	Daisy wheel printer, thought to have used 3774 (Qume) mechanics and 3287 electronics.
		3277GA	Special Engineering	Graphics Attach - developed in Poughkeepsie, 'productised' in Hursley. Attached a Tektronix 4000 x 3000 storage display to 3277.
	Pine		Monitors	14" colour monitor
	Europine		Monitors	14" colour monitor - Philips Tube
	C40			14" colour monitor (Infowindow)

	Lilliput		Storage Products	First 8" disk drive developed in Hursley. Became Piccolo.
	Expressway		Monitors	XGA Adapter
	Titanic		Monitors	Replacement for 3250
	Spacemont		Monitors	<p>Spacemont (a portmanteau of Space Mountain at Disney World being the highest point in Florida) was a project between Hursley and Boca to develop a follow-on to the VGA PC graphics adapter. However, it fell foul of compatibility and cost issues and was canned after 6 months in favour of an extension of the VGA (called rather unexcitingly the XGA).</p> <p>The processor and pixel engine were the starting point for Image Adapter, and the pixel engine was the starting point for the drawing engine of XGA. In collaboration with IBM Research, Yorktown, the simulator created to test the Spacemont VLSI before manufacture, General B, was also used effectively on Image Adapter development.</p>
	ActionMedia II	8514 adapter	Monitors	Adapter card for 8514 - PC-AT bus
	SPD2			Analogue / digital converter chip
1960		832		Electronic Typing Calculator for billing & accounting operations
1961	SCAMP		Processor Systems	Scientific Computer and Modulator Processor - first to use microprogramme control
1961	LATINA	3963		Data Acquisition System
1961		832		Electronic Typing Calculator

1962		TROS	Processor Systems	Transformer read-only storage for S/360-20 and -40 - Charles Owen, Matt Taub, Will Warwick
1962	BC ROS		Storage Products	Balanced Capacitor Read Only Storage
1964		S/360 Model 40	Processor Systems	
1964-66	FINDS			Fast Inductive Non-Destructive Store - The China Shop
1964-66		3940		Data Terminal Models 5 & 5a
1966		S/360 Model 44	Processor Systems	
1966	MICA		Storage Products	Magnetic Thin-Film Storage to replace ferrite cores & copper wire. 10" (25cm) copper plate with thin film deposits to form memory cells.
1966	LSI			Building Computer Logic into Regular Array of Cells on Memory
1966	FINDS			Fast Inductive Non Destructive Store
1966	Zenith	Magnetic strips	Storage	Hursley Storage Development's first product. No details other than some small mag stripes in the museum.
1967		3980		Banking system, comprising 3981 Concentrator & 3982 Local / Remote Terminal

1967-9	Functional memory		Processor Systems	A programmable logic array with applications including OCR. Never shipped as too expensive to implement in chip technology of the day.
1968		S/360-M40 IMP	Processor Systems	High availability multi processor comprising two S/360-M40
1969	Dolphin	5444	Storage Products	Disk drive - 2MB for System/3, System/7 & 3750 switching system
1969	Schools Computer			
1970	Chip Fabrication			Y Block rebuilt as prototype chip fab facility
1970				Development of Physically Smaller DP Systems
1970	FINNLOAD			Automated Airline Check-in & Balance System for Finnair
1970				Multiple Terminal Communications Adapter
1970 ?	CUZPAK		Processor Systems	Chip cooling system - Dave Cuzner
1971	C86-SYS	S/370 Model 135	Processor Systems	With DAT memory translator

1971		5967 M04		VDU to Meet Marketing Requirement for 2790 DCS
1971 - 1974	Industry Systems (Government)		Industry Systems	Mapping, Surface Transportation (Railway ticketing), Banking
1972	CashPoint	2984		Lloyds Bank ATM
1972	Future Systems	FS/1 aka FS/A	Processor Systems	Radical alternative to S/370 architecture using single level store - Hursley, Boeblingen and others joint effort, Hursley participation ended 1972, cancelled 1975 at architectural stage. Some principles incorporated into S/38, AS/400, System I and i5 OS.
1973		5941-H02	Special Engineering	Console
1973	Gulliver	62GV	Storage Products	5 / 10 / 14MB for 3600, 3650, 3660, 3790, 3730, System/32, System/34; 10 & 14MB = 62TM.
1974		5985-H02	Special Engineering	Colour display control unit
1974				LSI + Programme SIGMA
1974		3790		Communication System

1974		3790 RPQ	Special Engineering	Increased disk storage with added cabinets and Winchester disk drives (believed to be 10MB each). Final configuration 3x bigger than base product.
1975	Sprat / Bluegill		Storage Products	4.6MB 6" removable floppy disk drive, but with flying heads. Moved to Boulder Jan 78 then Tucson May 78 as Bluegill. Project ended late 1979. Design picked up by ex-IBMers who set up Iomega and developed it into a product.
1975	RVG		Special Engineering	Raster-vector display - converted vectors to raster display. Did not become a product, possibly due to very high memory costs
1976-78			Special Engineering	3278 extra character support for Iceland, Yugoslavia & Turkey.
1976-78			Special Engineering	Right to left language support for 3278 - Arabic & Hebrew.
1977		5937-H02	Special Engineering	Layout display terminal (Japan)
1977	Cromwell	3250	WSD	Graphics display system (Mono) using directed-beam CRT for CAD/CAM which IBM bought from Sanders.
1977		36HU	Industry Systems	Graphics & mapping system
1978		3730	Industry Systems	Distributed office communication system

1978	Microlink		Product Test / Product Assurance	Bi-polar microprocessor based test tool, attached to mainframe via ANR; used for testing display controllers etc.
1978	HACIENDA		Special Engineering	Hursley Advanced Colour Image Enhancement Display - a one-off for Madrid Science Centre. Colour display with custom built-in high speed algorithmic processing for analysis of satellite images
1978	Bourgogne	7416	Special Engineering	Cheque sorter for Lloyds
1979	Wizard	3279	WSD	Colour Display Terminal incorporating digital convergence logic for RGB CRT beams rather than analogue. Displayed business graphics using character graphics hardware & GDDM mainframe software.
1979		3287-C	WSD	Colour version of 3287 printer
1979	Piccolo	62PC	Storage Products	64MB disk drive used in 3310 DASD & 8100, S/34, S/38, 5520. Used the swinging arm developed in Hursley and for the first time a stack of 6 x 8" platters.
1979	Hotspur	8775	WSD	Mono display for 8100 system - ability to download functionality from host (Basic, WP etc). First IBM display to use a microprocessor (Motorola 6800) rather than hard-wired logic.
1981	Parrot	3278/2	WSD	3278 Talking Terminal. Used a 6800 microprocessor & voice output card from Talking Selectric.
1981	Vanguard		Graphics Advanced Development	Precursor to Valiant

1981 / 82	Valiant		Graphics Advanced Development	a graphics sub-system that attached to an IBM PC and was intended as a follow-on to 3250 (Cromwell) and 3279. It featured two processor cards, GXP (to process high-level graphics orders) and PXP (the Pixel processor, which was hardware-assist to draw the image) The state-of-the-art 4-bit slice processor AMD2900 provided 16-bit processing on both cards. Never announced, possibly due to cost.
1982	Pearl	3179	Monitors	14" colour monitor for Fujisawa developed 3179
1982		7361		Graphics System
1983	Rover	3290	WSD	Gas panel display terminal with four logical screens
1983	Pearl-G	3179-G		Graphics version of 3179 (managed by Fujisawa)
1984	Aragon	3270PC-G	WSD	3270 Graphics - control unit + 14" monitor. Controller IBM-PC with graphics adapter.
1984	Genoa	3270-PC-GX	WSD	3270 Graphics - control unit + 19" colour + mono monitors. Controller IBM-PC with graphics adapter using Motorola 68000 processor at 8MHz then 10MHz.
1984	Simulator & Matchbox		Storage Products	DASD servo etc simulation system
1984	Swallow	62SW	Storage Products	130MB disk drive
1984	Falcon	62FN	Storage Products	Servo mechanism / HDA (Count Key Data Interface) for 9335-B01 (Kestrel)
1984	Cotswold			Graphics chip. Cotswold I was the basis of an RPQ to State Farm Insurance (1986?). Cotswold II used in PS/2 Image Adapter /A.
1985	EMC			F Block Electromagnetic Compatibility testing facility

###	Kestrel	9335	Storage Products	Direct access storage sub-system for S/38 - 850MB per drive, up to 8 per sub-system. Unusual configuration - 2 actuators which could seek independently.
				9335-A01 controller transferred to Hursley July 1994.
1986	Moonshine	4691	WSD	Programmable cash terminal - leisure industry
1986	Sphinx		Special Engineering	LCD Projector using novel electrochromic display technology based on organic compound called Viologen. Display chip contained poisonous Thallium. Solution also etched underlying silicon, so barrier needed. Reliability was low. Lost out to Liquid Crystal.
1986	Aston Martin			Aragon follow-on, using CMOS to replace PC-AT in base unit. Never announced.
1986	Lagonda			Genoa follow-on using CMOS to package computing into base unit in place of the PC-AT. Never announced.
1987	Conestoga	8513	Monitors	12" VGA / MCGA PS/2 monitor (white box version)
1987	Crown	8512	Monitors	14" VGA PS/2 monitor (white box version)
1987	Henley	8514	Monitors	16" PS/2 monitor - black box Matsushita interlaced
1987	Passfield	X.25 adapter card	WSD	
1987	Heron		Storage Products	
1987	Surrey	8503	Monitors	Monitor
1987	Harp / Heron		Storage Products	Servo mechanism

1987		8514/A		Video adapter card for 8514 monitor
1987		PS/2 Image Adapter/A		Combined video display and (optional) printer adapter supporting virtually all IBM PC monitors at the time, and a number of 3rd party image printers. Used CMOS-2 chip developed at Hursley (Cotswold II)
1988		8507	Monitors	19" Mono Monitor
1988		8604	Monitors	Monitor
1988	Fastnet		WSD	ISDN adapter for PC. [
1988		8505	Monitors	Monitor
1989	Chicago	8506	Monitors	17" mono monitor (high resolution portrait)
1989		8508	Monitors	19" mono monitor
1989	Skyway			Display adapter card
1989-90	Solent	PS/2 ISDN Adapter	WSD	Two 64 kbp/s channel ISDN adapter for PS/2 microchannel systems
1989-90	Hamble	PC ISDN Adapter	WSD	Two 64 kbp/s channel ISDN adapter for PC ISA bus systems
1990	Redwing	681	Storage Products	0.857 / 1.06 GB 5.1/4" HDD with PRML recording - unusual linear actuator. Used in AS/400 servers and 9333.
1990	Dallas	8515	Monitors	14" Colour display (white box)
1990	Prescott	8516	Monitors	14" Monitor - touch sensitive version of 8515
1990	Osprey		Storage	Early development hard drive that became Redwing.

1991	Seattle	8504	Monitors	12" FST Monitor (flat square tube)
1991	Orleans	9515	Monitors	Touch screen version of Prescott - 14" black box - started Hursley, announced Greenock
###	Harrier	9333	Storage Products	One of first serial interface disks to attach up to 8 RS/6000 to 1 - 4 drive enclosures. Each enclosure had a controller & 4 Redwings. Point to point serial links ran at 8MB/s and later evolved into SSA. Development programme Feb 1990 - Apr 1994. Harrier controller Sep 1992.
1991	Anaheim	8518	Monitors	14" VGA version of 8515
1992	Daytona	8517	Monitors	17" VGA colour monitor - black box Sony high resolution
1992	Daytona-Prime	9517	Monitors	7" Daytona update SXGA interlaced (started Hursley, announced Greenock)
1992		9518	Monitors	14" XGA72 monitor (white box) (started Hursley, announced Greenock)
1992		PC-Radio - Radio & Modem		Hursley managed the radio and modem for EMEA, including homologation
1992-93	Allicat		Storage	SSA hard disk. 8 MB/s July 1992, 20 MB/s May 1993.
1993	Woodwind	3310	Storage Products	Piccolo disk drive enclosure (Total 256MB)
1993	Flotilla		Storage Products	20MB flexible disk - project abandoned
1993	Scupper / Missfire / Nauticat		Storage	SSA disk drive development project
1995		7133 - SSABre / Model 10	Storage Products	Serial disk system - 4U rack-mounted enclosure with 16 3.5

1995	Mayflower	SSA Adapter for 7133	Storage Products	MicroChannel JBOD adapter for 1 - 8 RS/6000 servers
1995	Concord	PCI JBOD Adapter	Storage Products	For 1-9 RS/6000 servers. Followed on from Mayflower adapter when RS/6000 changed from microchannel to PCI bus.
1995-97	Los Gatos	SSA Adapter for 7133	Storage Products	MicroChannel RAID adapter for a single PC server
1996		7133 SSABre2 / Model 20	Storage Products	Added 4 SSA Node Bypass modules to improve system reliability by automatically bypassing adapters which are powered-off.
1996	Saratoga	SSA Adapter for 7133	Storage Products	MicroChannel RAID adapter for a single RS/6000 server
1996	Trojan		Storage	Laredo evaluation board
1997	Beaulieu	SSA Adapter for 7133	Storage Products	PCI RAID adapter for a single RS/6000 server
1997	Fremont	SSA Adapter for 7133	Storage Products	MicroChannel RAID adapter for 1 - 8 RS/6000 servers
1997	Campbell	SSA Adapter for 7133	Storage Products	PCI RAID adapter for 1 - 8 RS/6000 servers
1998		7133 Coral / Model 40	Storage Products	Added support for 40 MB/s SSA with the Santa Cruz adapter.
1998	Sonoma		Storage Products	Optical extender for 20 or 40 MB/s SSA links over distances of 10 km
1999	Santa Cruz	SSA Adapter for 7133	Storage Products	PCI 40 MB/s SSA RAID adapter for 1 - 8 RS/6000 servers - also used in the Tarpon and VTS controllers from Tucson
1999-2001	Lepe / Lepeahead		Storage	FC-AL adapter card based on Santa Cruz. Never shipped, superseded by Arrowhead

2000 - 2004	Arrowhead		Storage Products	PCI RAID adapter for 2Gb/s FC-AL drives. It was a component of the Megamouth/DS8000 enterprise controller developed in Tucson. Based on the Santa Cruz RAID code and the Excelsior dataflow chip developed by Hursley.
2001	Brooklyn		Storage Products	An interposer which converted a standard SCSI drive to SSA so that it could be used in 7133
2003	Lodestone	2145	Storage Products	SAN Volume Controller - storage virtualisation appliance for FC and iSCSI SANs - hardware based on System x servers, the Hursley-developed code currently supports remote copy, caching, FlashCopy, thin provisioning and online data migration.
2009	Dorinda		Storage Products	Follow-on PCI Express RAID adapter using the Aurora dataflow chip and 8Gb/s FC-AL. Aurora was jointly developed by Hursley and San Jose. Dorinda is used in the latest DS8800 controllers.
2010	Thunderbird / Oxford	Storwize V7000	Storage Products	Mid-range SAN-attached storage system. It is based on the Hursley SVC and RAID code. The hardware is designed and manufactured by Xyratex.
2011		Storwize V7000U	Storage Products	Mid-range unified storage controller which supports SAN and NAS protocols. It consists of 2 SONAS nodes in front of a V7000.
2012		Storwize V3500 & V3700	Storage Products	Entry versions of the V7000. The hardware is designed and manufactured by Celestica.