The Cray-1S Story

The photo shows Seymour Cray with his wife and colleagues during their visit to the Laboratory in Sept'1979.

Some more pictures of the Cray-1 at Daresbury in 1979.


IBM
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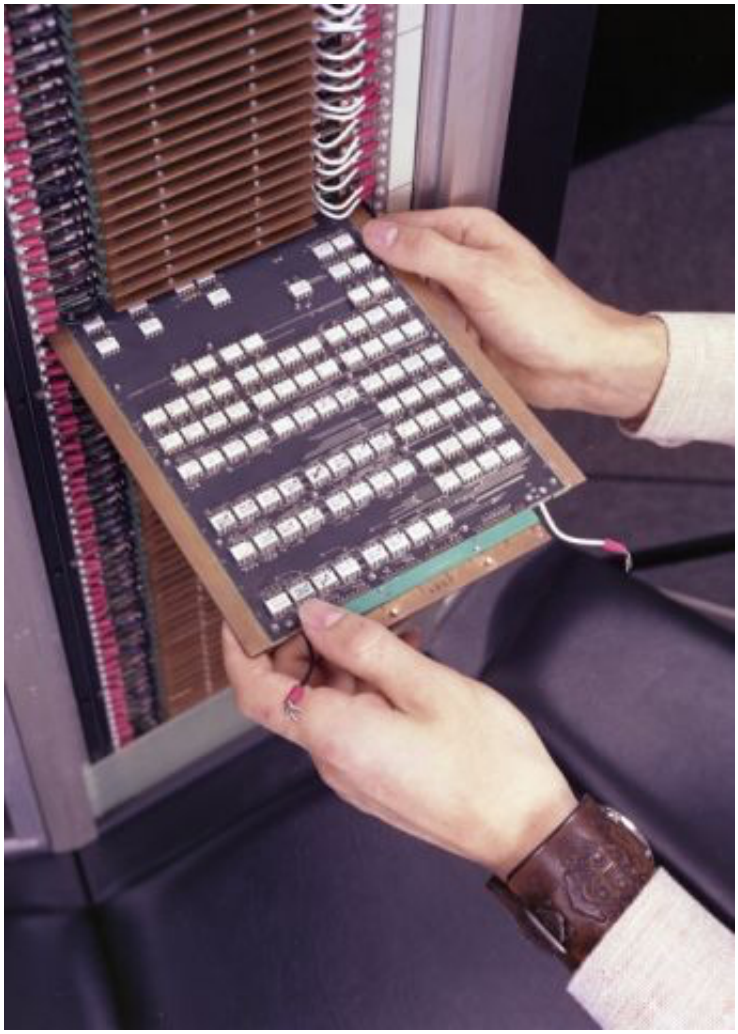


Some boards from this machine are shown on Jim Austin's Computer Museum Web site. Pictures as it now is, preserved in the Chippawa Falls Cray Museum are shown on the Cray Wiki.

This Cray-1 SN1 travelled the world and spent several years in the UK. The early part of the story is told in Cray Channels magazine, vol 1: issue 3. We are trying to find the precise dates, so far as follows.

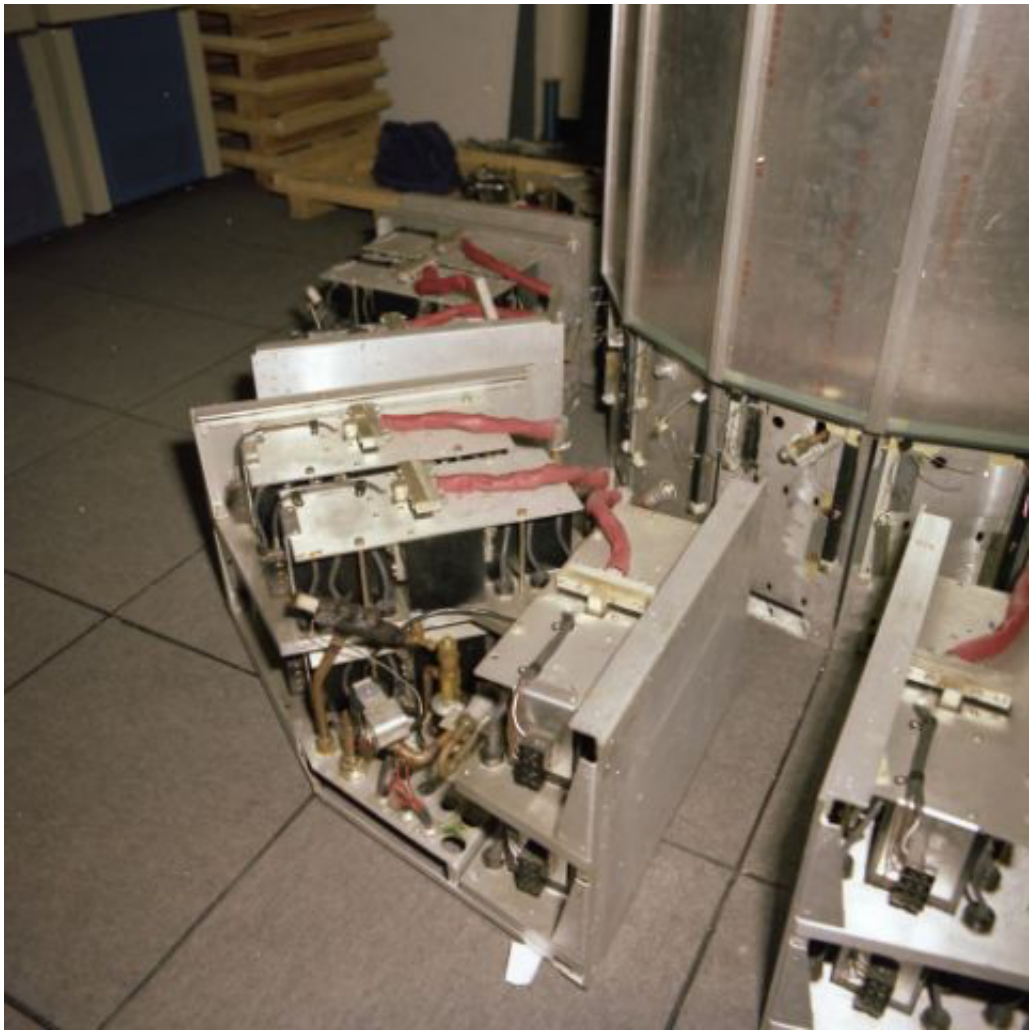
Location	Installed	Removed
ECMWF	10/1977	10/1978
Aldermaston	10/1978	4/1979
Daresbury Laboratory	11/5/1979	16/10/1980

SN1 was on loan from Cray Research Inc. and installed at Daresbury following an agreement between the Science Research Council at the time and Cray UK. 30% of the time was rented by SRC for scientists and the remaining time dedicated to other potential Cray customers. There had been considerable pressure to buy a British computer, such as the ICL DAP (one was installed at Queen Mary College, London) but it was believed that the Cray was more appropriate to the current requirements and the arrangement allowed this to be proven.

It actually spent quite a lot of time traversing the Atlantic around the dates mentioned above. These machines were so far ahead of their time that many of them worked at a number of sites, sometimes being leased for short periods until the customer's own ordered machine was ready. Agreement had been reached on 11/5/1979 to lease a machine from Cray Research Inc.

By the end of 1980 the Cray-1 with 0.5M words of main memory and 1.2GB disk storage had been replaced by a Cray-1S with 1M words. This machine was a 1S/1000 (formerly a 1S/500) leased by Cray Research Inc. to Daresbury until 1983. We believe this was Cray-1S SN28. It is possible that there was a Cray-1A before this.

Some pictures of the Cray-1 during dis-assembly in 1980.



The following table lists the known working locations of some of the early Cray-1 machines. There were less than 80 Cray-1 machines built with serial numbers SN01-SN8x. Around twelve were installed world wide by Sept'1977. Lawrence Livermore had a total of four Cray 1s over a number of years. We would like to thank Jean de la Taille for contributing to this information.

It was noted on 26/11/1981 that there were they five Crays in the UK: MoD (Aldermaston); SERC (Daresbury); the oil industry (Shell, Wythenshawe); European Weather Centre; and for atomic energy research (AERE Harwell). Cray-1A SN11 at AWE Aldermaston ran from 1979-1990. It was the last operating Cray-1 in the world and is now preserved in the London science museum (accession number 1991-159).

SN	Location and Dates
1	LASL: Los Alamos Scientific Lab, USA (Mar'1976-Sep'1977); then various locations on loan; currently in the Chippewa Falls museum
2	never shipped, dismantled
3	NCAR, USA (Cray-1A 11/7/1977-27/1/1989); Cray 1A, black and red
4	LASL, Los Alamos (Cray-1S/1000 Sep'1977-)
5 ?	NMFECC: Livermore, USA (first, early 1978)
6	LLNL: Lawrence Livermore National Lab, USA (Cray-1A early 1978); now in the Computer History museum
7	
8 ?	United Computing Systems, Kansas, USA (commercial, early 1978)
9	ECMWF, Reading (Cray-1S/1000 Oct'1978-Oct'1983); then National Supercomputer Centre Linkoping, Sweden (Oct'1983-Mar'1989); now in the Tekniska Museet Sweden Ardoise/ Beige
10	
11	AWRE, Aldermaston (Cray-1A 1979-1990)
12	Minnesota Supercomputer Center, USA (Cray-1B, Dec'1981); red and yellow; now in the Living Computers museum
13 ?	Cray Inc.
14	NCAR: National Center for Atmospheric Research, USA
15	?? (Cray-1A); then Dupont
16 ?	LLNL
17	
?	Max Planck, Munich (Sept'1979)
?	Bell Labs, New Jersey (Sep'1979)
18	LASL (c.Dec'1979)
20	Boeing Computer Services, Renton, USA (commercial)
23	United Computing Systems, Kansas, USA (commercial)
28	Daresbury Laboratory (Cray-1S/500 Oct'1980-May 1983); then ULCC (May 1983-1989)
?	Air Force Weapons, Kirtland, USA (c.1980)
?	Mitsubishi, Tokyo (c.Dec'1980)
?	AERE, Harwell (Cray-1 1981- upgraded to Cray-1S/2200 -1986)
?	Shell, Wythenshawe (1981- Cray-1B -1985)

?	Shell, Wythenshawe (1981- Cray-1B pre 1985)
38	LLNL: Lawrence Livermore National Lab, USA (second, pre 1982); now in the Barn museum
*33	NMFECC/ NERSC/ LLNL, Livermore, USA (second, pre 1982)
?	Cray Research Inc. (development)
?	LASL (3rd, pre 1982)
?	Sandia (first, pre 1982)
?	Sandia (second, pre 1982)
?	NASA Ames (pre 1982)
?	US DoD (had 5)
?	Century Research Corp., Tokyo (pre 1982)
?	Arco, Dallas (pre 1982)
?	Exxon, Houston (pre 1982)
?	Westinghouse, Pittsburgh (pre 1982)
?	Grumman Data Systems (pre 1982)
?	Merlin Profilers Ltd., Woking (Cray-1S/1300 3Q1984-)
?	EDF-CISI, Paris (pre 1982)
?	UK Govt. Home Office Communications (one or more machines pre 1985)
*34	RAE, Farnborough (second hand Cray-1S/1000 pre 1985)
?	RARDE, Fort Halstead (Cray-1S/1000 pre 1985)
?	ARAMCO (Cray-1M SN9)
?	Shell, den Hague, Netherlands (Cray-1S/2300 pre 1985)
?	EPF Lausanne, Switzerland (ordered 1985); Cray-1S/2000 white
?	ULCC (second, second hand Cray-1B? 1986-89)
?	Cray development, (Cray-1M SN10 became Cray X-MP/1)
?	CEA/ DAM, Limeil, France (Cray-1S Sep'1982-Nov'1990)
?	Compagnie General de Geophysique-Veritas (Cray-1S 1984)
?	Meteo France, Toulouse (Cray-1M 6 COL, 1983)

Note the Cray-1M was effectively a single processor Cray X-MP so possibly carried serial numbers from 100 upwards.

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