

ATLAS Evolution

This paper's purpose of is to document a set of shadow box displays which have graced the 'history' hallway of UNISYS in Roseville, MN for a couple of decades. The 2012 reconstruction has taken away that hallway – the destination of these 16 display boxes is yet to be determined.

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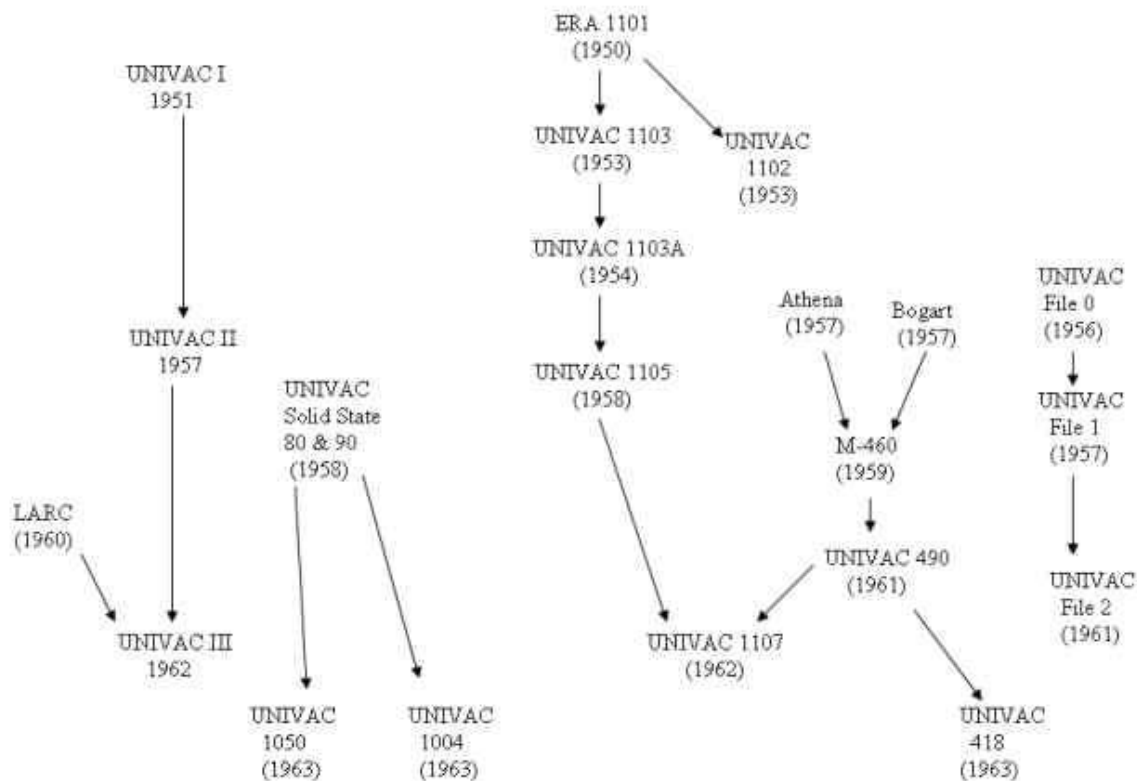
INTRODUCTION

ATLAS was the name of the computer delivered to Communications Supplemental Activities, Washington (CSAW) the fall of 1950 from the Engineering Research Associates (ERA) located in St. Paul, MN. Chapter 3 of the Boslaugh book¹ documents the ATLAS beginning. The ATLAS existence

¹ When Computers Went to Sea, The Digitization of the United States Navy, IEEE Computer Society, 1999 – David L. Boslaugh, Capt. USN ret.

was classified until 1977, however ERA management did get permission to build a 'commercial version' which was designated the 1101. This chart from UNISYS Fellow, Ron Q. Smith, shows the first decade lineage, i.e. ERA 1101 to the UNIVAC 1107 down the center of these early computers.

Family Tree of Remington Rand/Sperry Rand Computers 1950-1963

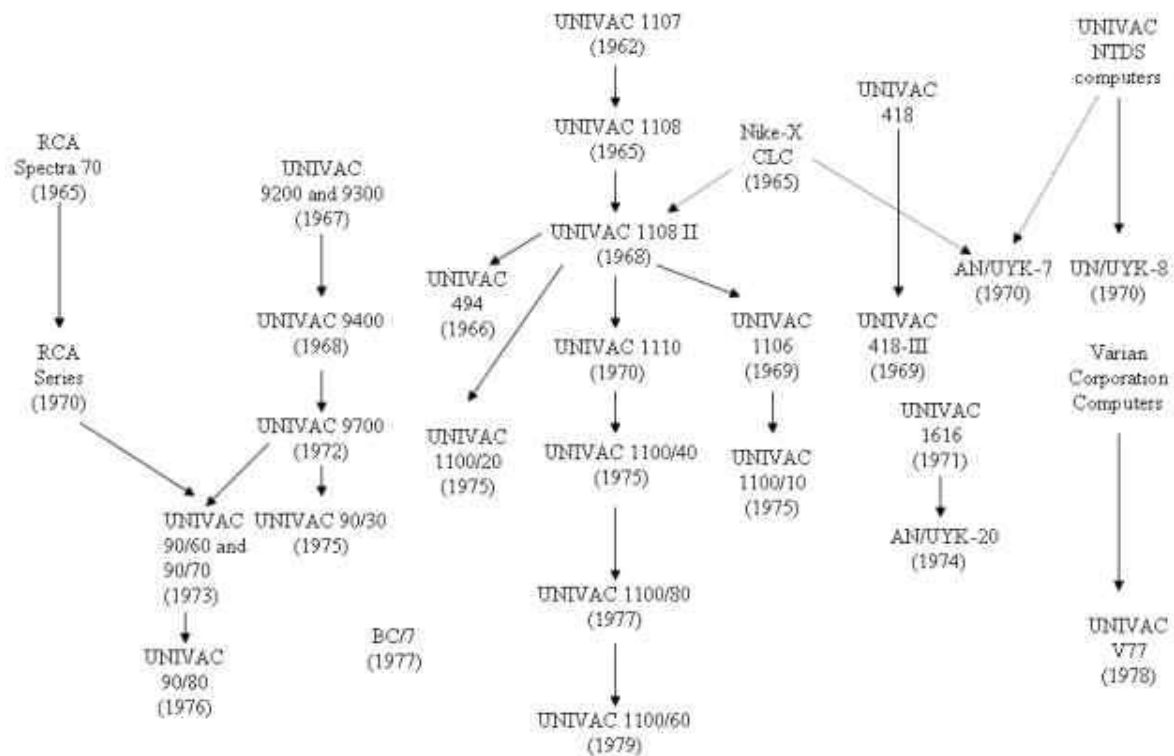


The computer technology of the ERA 1101 used vacuum tubes for the logic design and a magnetic drum memory invented at ERA. The prototype of this drum [The world's first computer hard drive] is now in the Minnesota history museum. The 1103 [ATLAS II] used drum memory and some core memory. The technology evolution to the UNIVAC 1107 was from drum to all core memory and transistorized logic design versus vacuum tubes.



A second chart [next page], also from Ron, shows the second decade UNIVAC 1107 lineage to the UNIVAC 1100/60 system. The memory technology evolution went from core memory to integrated circuit memory while the attached peripheral storage transition from magnetic tapes to magnetic discs. The logic went from transistors, through integrated circuits, to emitter coupled logic gate arrays during this decade.

Family Tree of Sperry Rand Computers 1962-1980



The 1108 to 1108 II began the UNIVAC commercial transition from unit processors to multi-processors using some techniques from the Nike-X Central Logic and Control (CLC) development. This era of the ATLAS evolution is detailed in an article² written by George T. Grey and Ron Q. Smith. Their article also provides insight into the operating system evolution which kept pace with the hardware component evolution shown in the shadow boxes. The 1100 series of processors evolved into the 2200 series in the 1980s then the 'Clear Path' systems which are in operation yet today.

As illustrated on the right, the ATLAS evolution spans several company names as well as technology changes.

This article's text and photos are from Lowell A. Benson, BEE U of MN – 1966. Univac 1960 => UNISYS 1994.

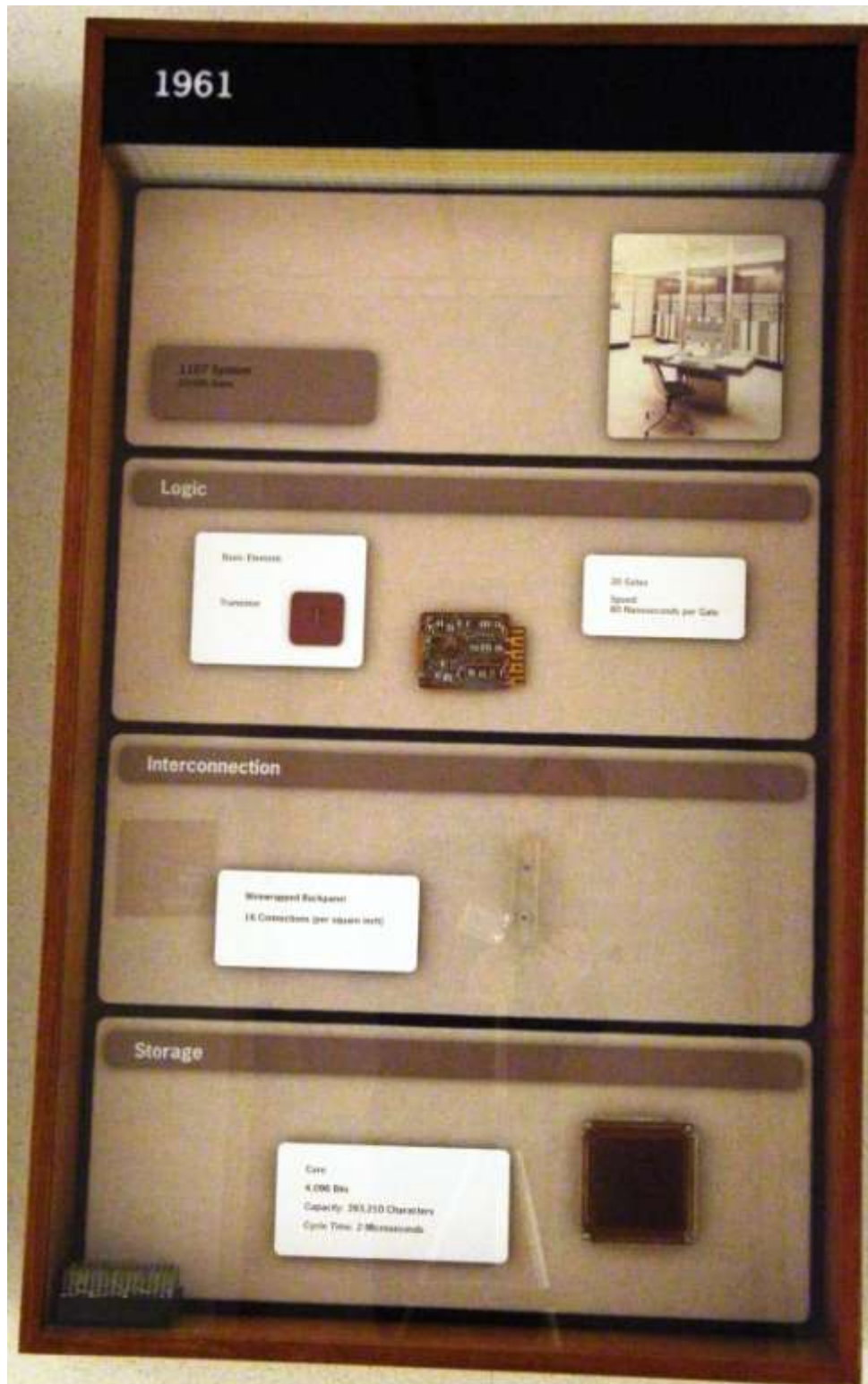


² IEEE Annals of the History of Computing, January- March 2001 – Sperry Rand’s Third Generation computers 1964-1980.

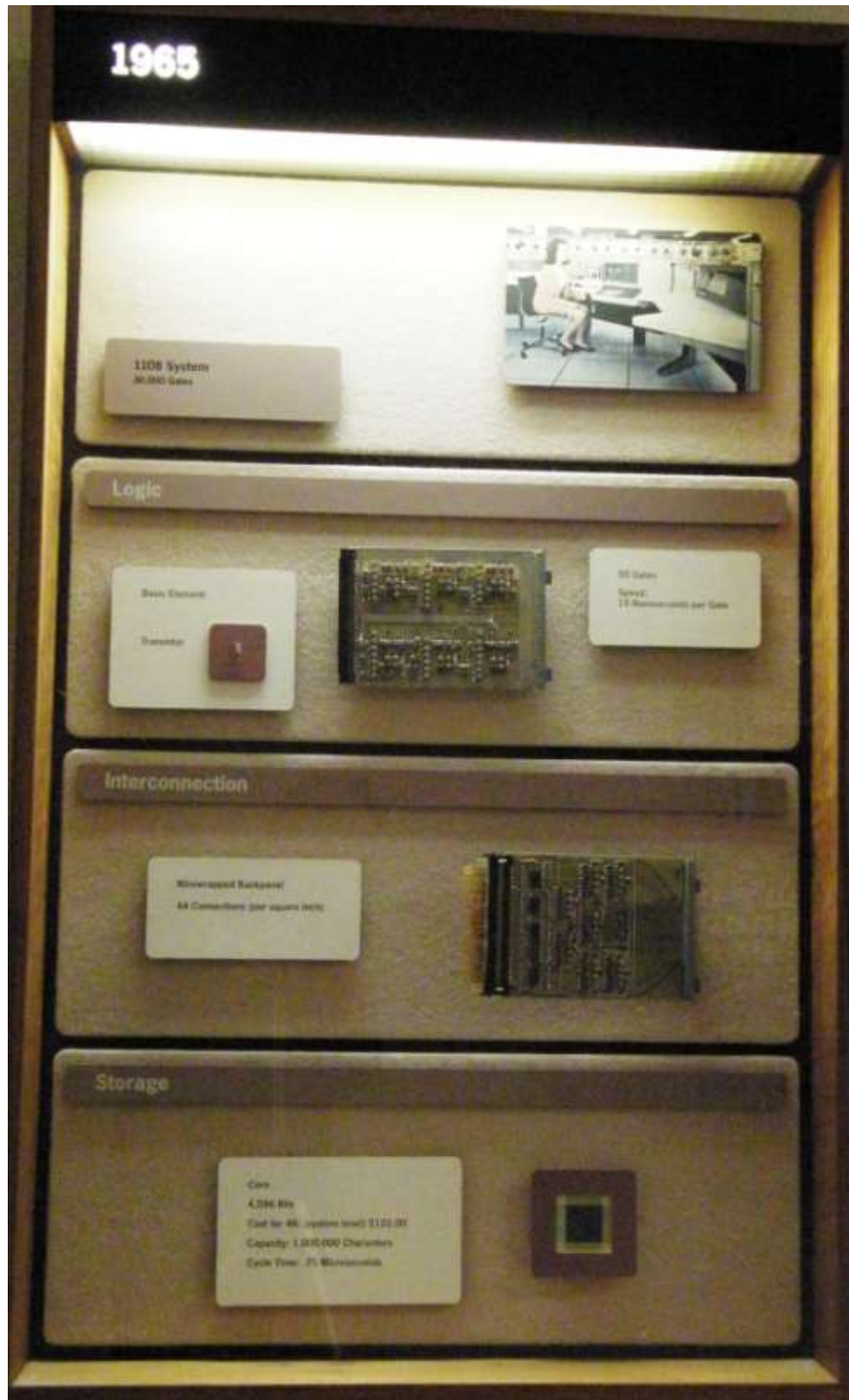
1955 - 1103 System



1961 - 1107 System



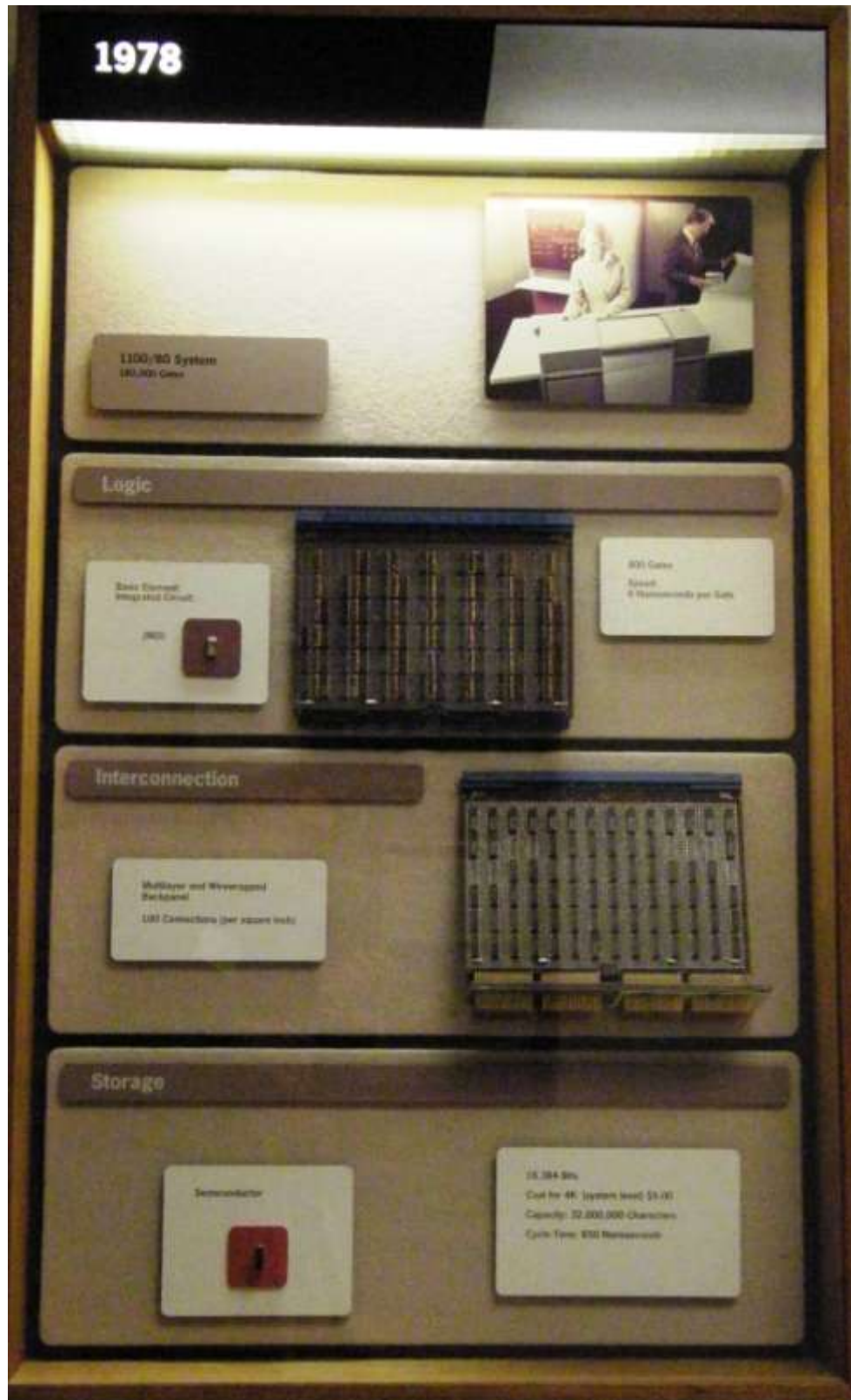
1965- 1108 System



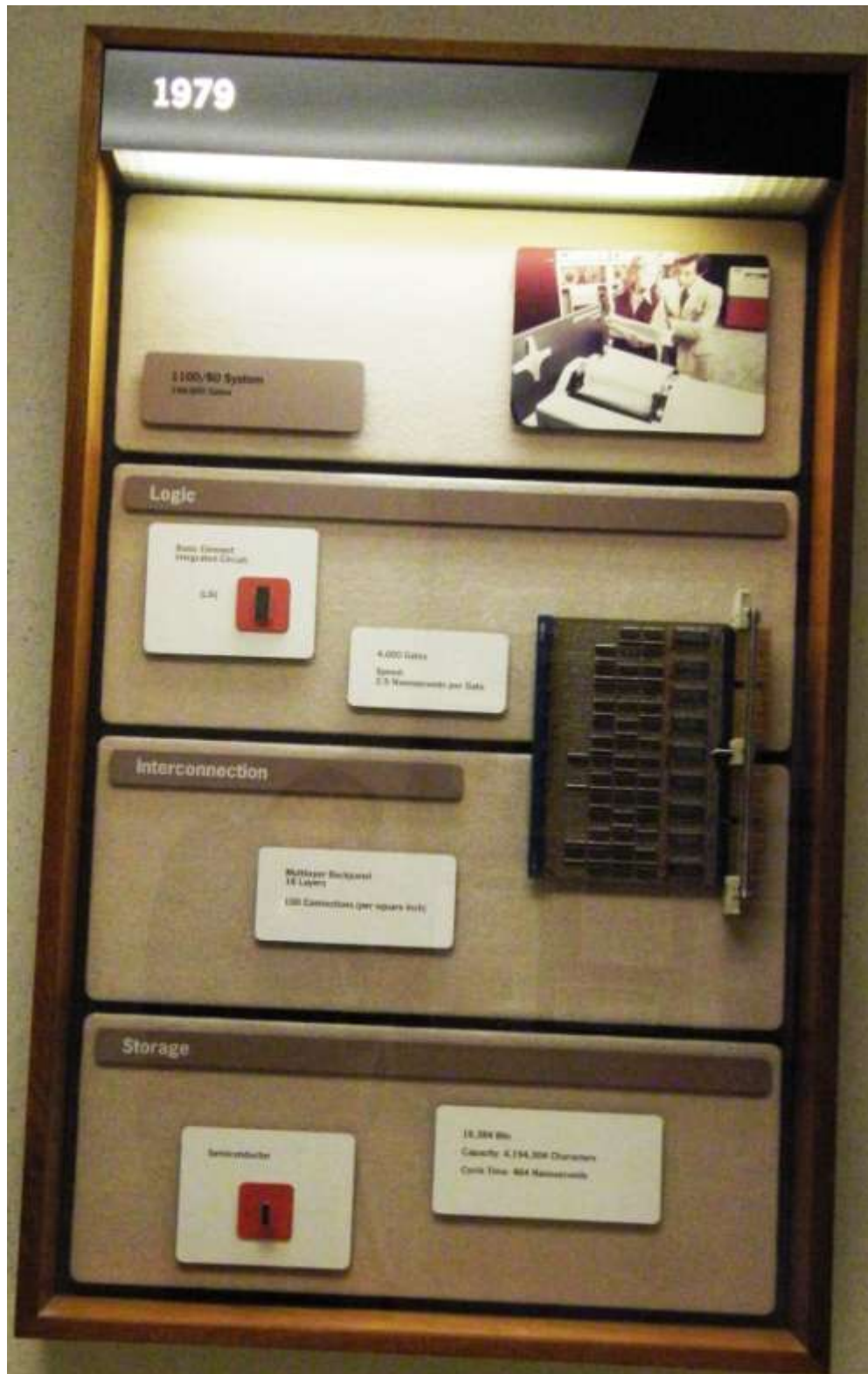
1972 - 1110 System



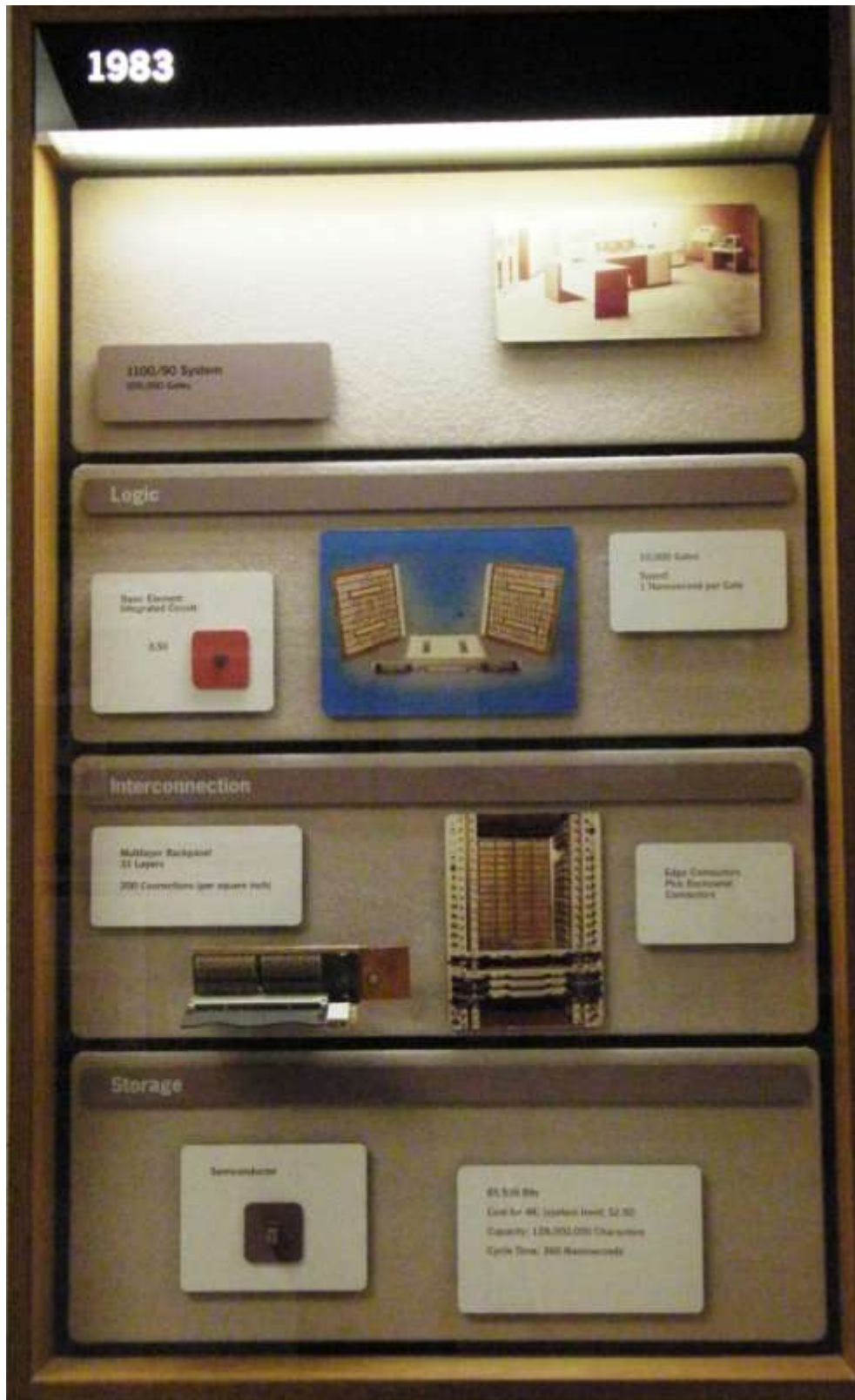
1978 - 1100/80 System



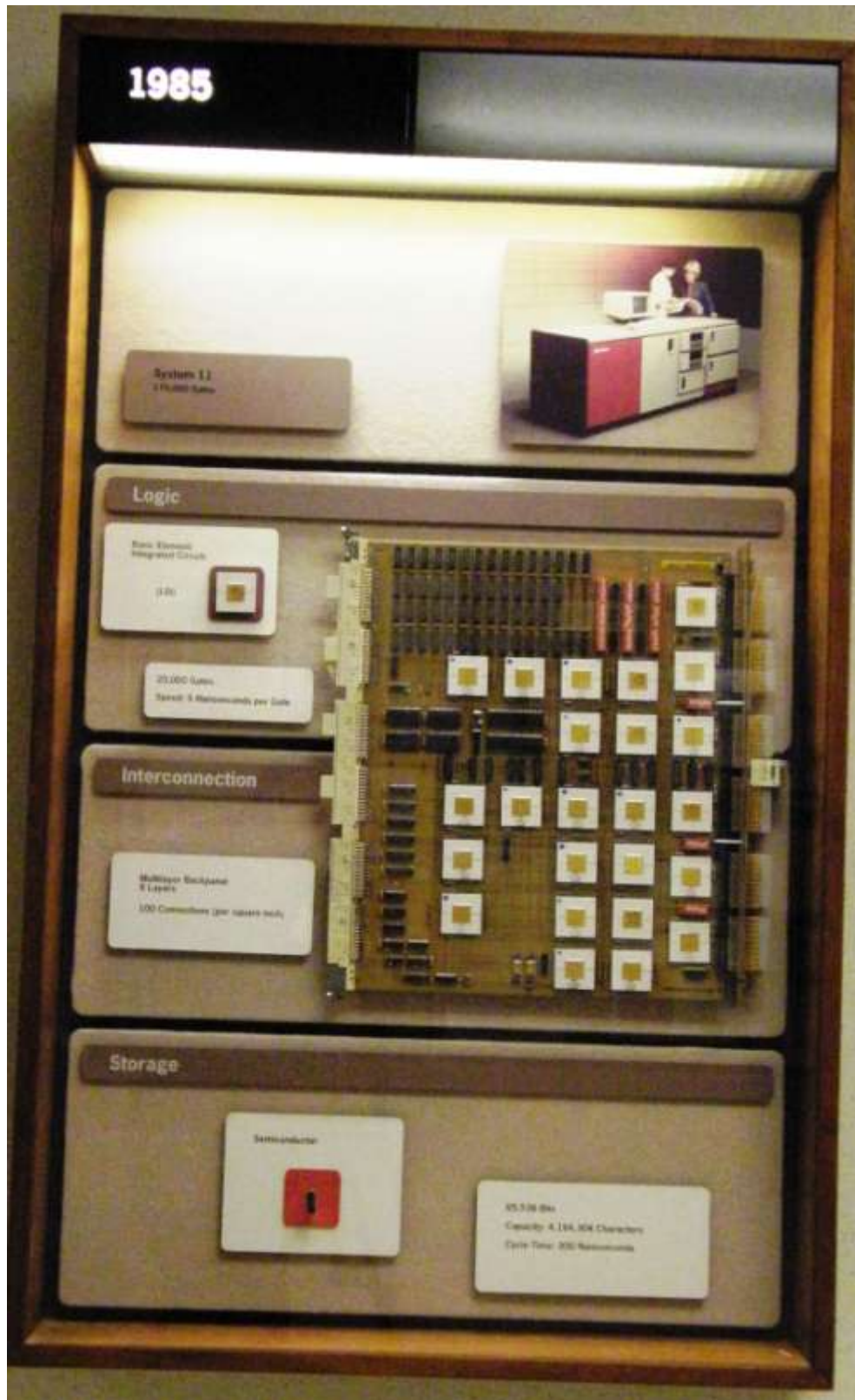
1979 - 1100/60 System



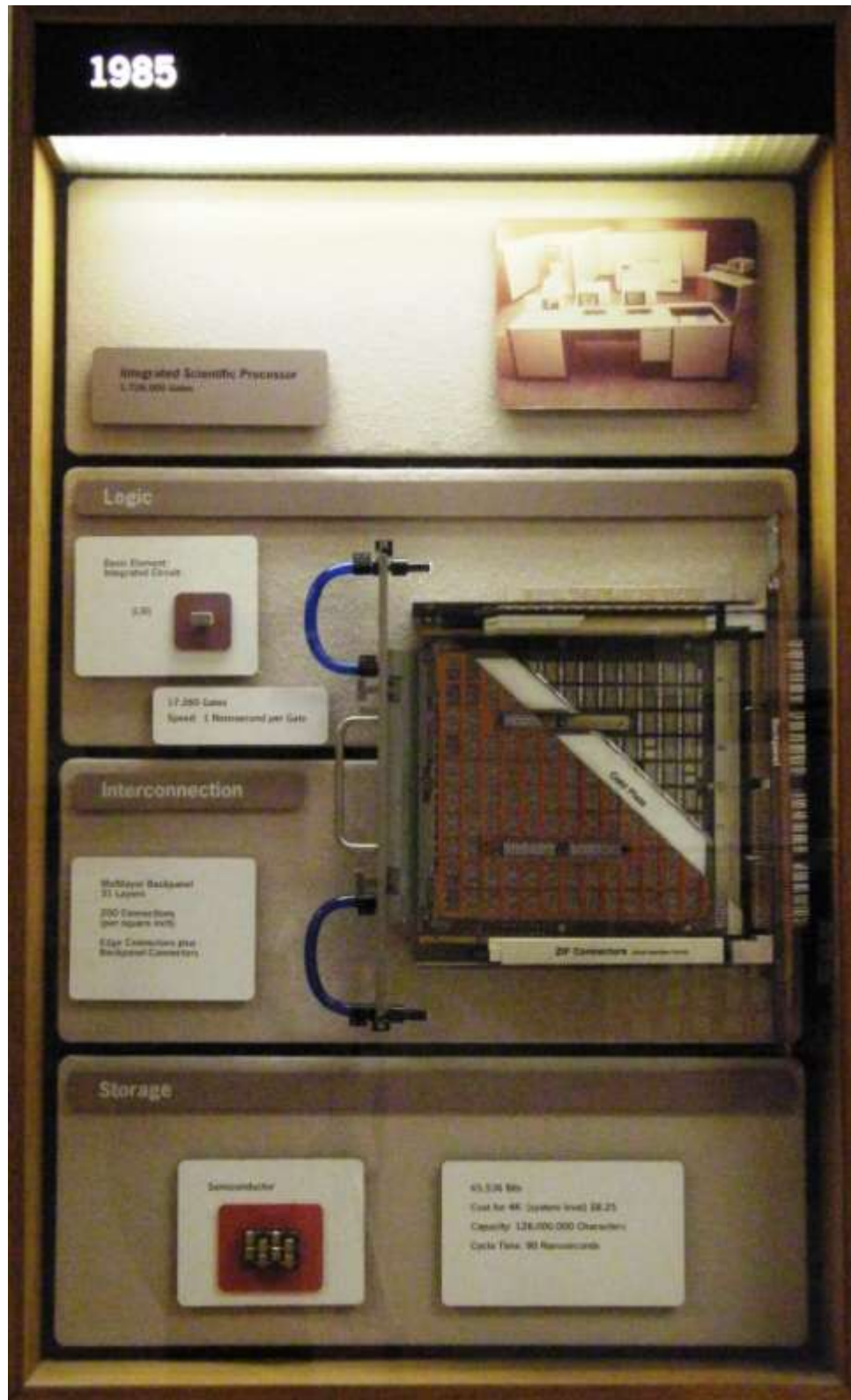
1983 - 1100/90 System



1985 - System 11



1985 - Integrated Scientific Processor



1987 - 2200/200 System



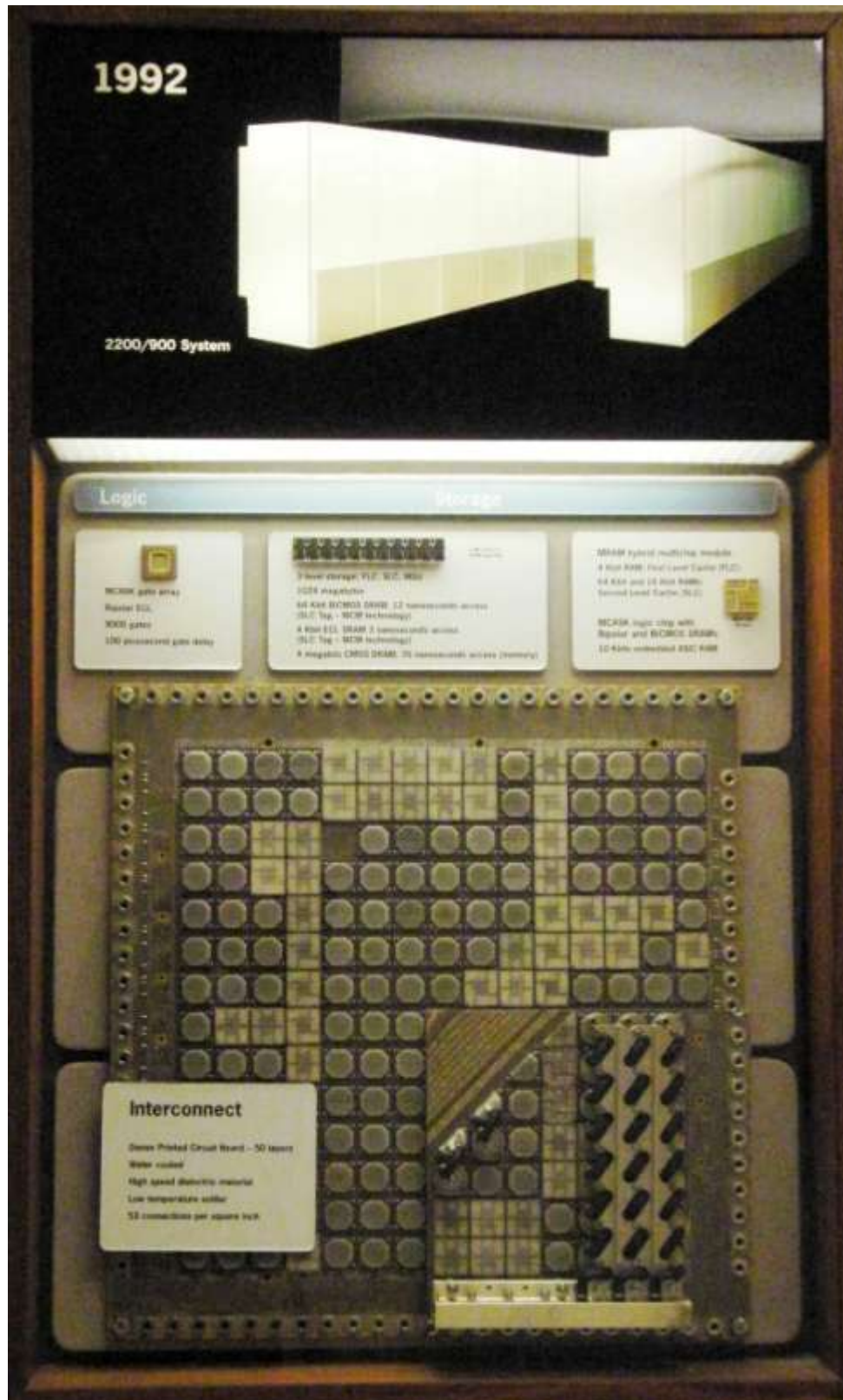
1989 - 2200/400 System



1989 - 2200/600 System



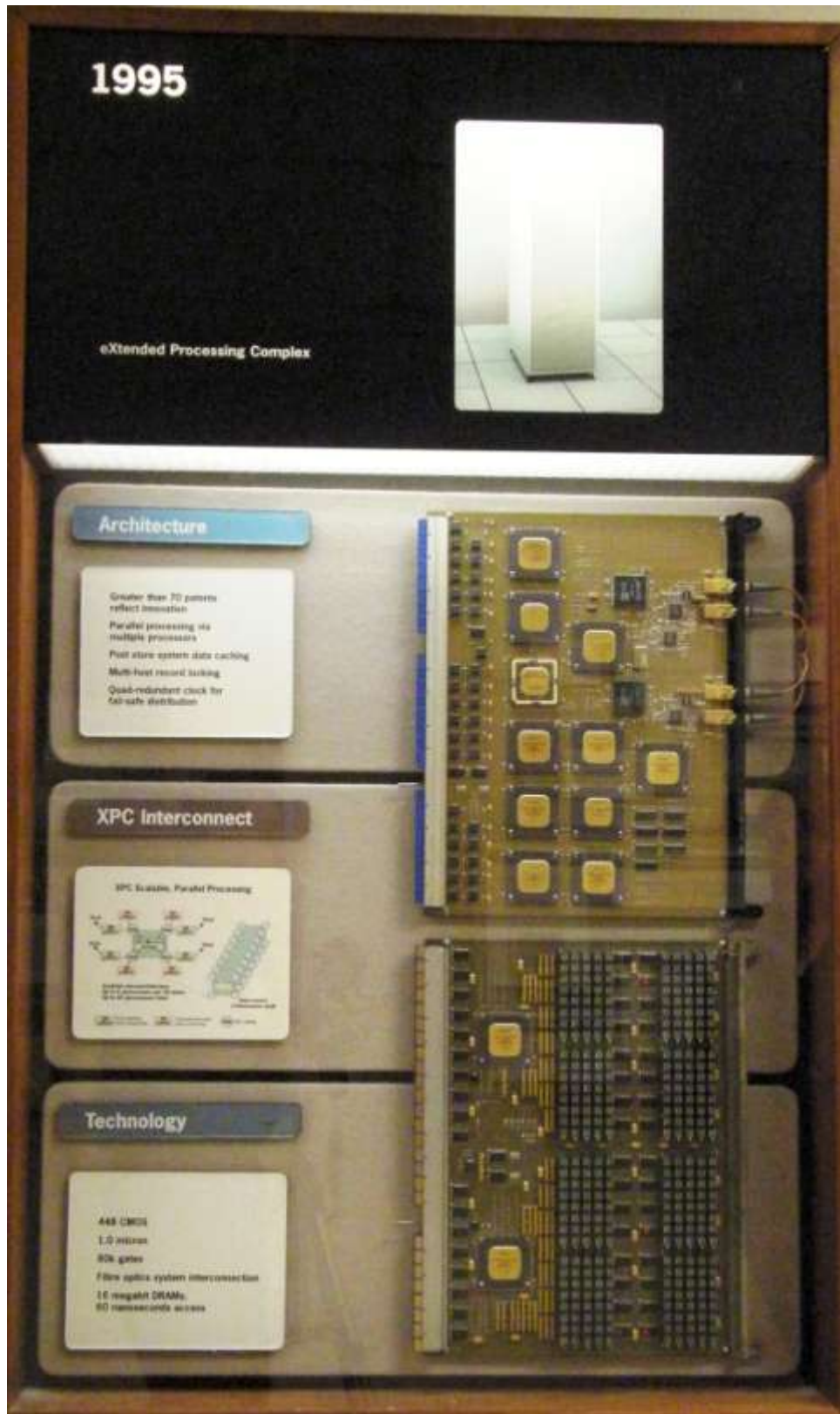
1992 – 2200/900 System



1993- 2200/500 System



1995 - eXtended Processing Complex



1996 - IX4800 and IX5800 System

