

The Fairchild Patent Notebooks

Silicon Valley's Founding Documents



This legendary photo shows the Fairchild 8 near the time of the founding, from left: Gordon Moore, Sheldon Roberts, Eugene Kleiner, Robert Noyce, Victor Grinich, Julius Blank, Jean Hoerni and Jay Last.

Beginnings

“Fairchild Semiconductor (founded in 1957) invented new technologies, pioneered an entrepreneurial business culture, and spawned manufacturing and marketing techniques as well as numerous spin-off companies that that gave birth to the phenomenon we know today as Silicon Valley.”



Beginnings



The Collection



The Press Conference

“The founding documents of Silicon Valley -- the tech equivalent of the Magna Carta, the Declaration of Independence and the Constitution -- were stacked on a table in the lobby of the Computer History Museum and the room was filled with a certain geeky giddiness.”

□ Mike Cassidy, San Jose Mercury News



The Party



Conservation



Close-up of
Fairchild notebook
page with multiple
issues including
loose wafers.

Processing



Detailed Description

Title

Allison patent notebook (#153)

Catalog Number

102722917

Type

Text

Date

1960-09-03-1961-04-15

Author

Allison, David F.

Biographical Notes

David (Dave) F. Allison was an employee of Shockley Semiconductor prior to joining Fairchild in 1957 when he was issued company patent notebook # 10. He worked initially on the first NPN transistor project as a process engineer responsible for the development of diffusion techniques. He was a member of the Device Development Group at R&D when he resigned to join the founding group at Signetics in August 1961. In 1971 he was with Signetics Memory Systems. In an oral history, Lionel Kattner credited Allison with contributing to his understanding of process technology that played an important role in the development of diffusion techniques used in the electrical isolation of Micrologic devices in the period of 1960 covered by this book. CHM has a photo of Allison in the collection. See Accession Number: 102708135.

Publisher

Fairchild Semiconductor

Detailed Description

Identifying Numbers

Document number 153

Extent

Approximately 13 dated entries over 4 pages.

Dimensions

12 x 10 inches

Description

This is the second patent notebook issued to Allison. It has just three entries. Each describes an idea for a new product: a "Method for making an analog transistor"; a high yielding power transistor; and a zener diode structure.

Category

Notebooks

Collection Title

Fairchild Semiconductor notebooks and technical papers

Publications

The author contributed to the following papers in professional publications during his service at Fairchild:


Allison, D. F., Baker, O. and Moore, G. E., KMC silicon planar transistors. 1961 International Electron Devices Meeting, vol. 7 (1961): 18.

Allison, D., Beeson, R. and Shultz, R., KMC planar transistors in microwatt logic circuitry . 1961 IEEE International Solid-State Circuits Conference: Digest of Technical Papers, vol. IV (1961): 62 – 63.

Maxwell, D. A., Beeson, R. H. and Allison, D. F., The minimization of parasitics in integrated circuits by dielectric isolation. IEEE Transactions on Electron Devices, vol. 12, iss. 1 (1965): 20-25.

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Fairchild Patent Notebooks

The Fairchild Semiconductor patent and laboratory notebooks date from before the dawn of the integrated circuit. The work contained in the notebooks revolutionized the science and manufacturing of microelectronics and drove the explosive growth of the region we now know as Silicon Valley. Fairchild was founded by Gordon Moore, Robert Noyce, Jean Hoerni, Julius Blank, Eugene Kleiner, Victor Grinich, Jay Last, and Sheldon Roberts. The history-making contributions of these entrepreneurs included inventing the modern semiconductor manufacturing technology (the planar process); building the first practical integrated circuits; the invention of the low power technology CMOS that enables every portable digital device today; and pioneering the development of semiconductor memory. All of these breakthroughs and many others critical to our modern technological society grew from ideas documented in these notebooks spanning 1957 through the 1980s.

Thanks to Texas Instruments, which donated the Notebooks in 2012, the Computer History Museum is excited to continue preserving the heritage of Fairchild Semiconductor and its extraordinary founders. CHM encourages monetary donations to continue their work preserving and providing access to the Fairchild Notebooks.

Read and Understood: The Fairchild Notebooks



0:00 / 6:30

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The Fairchild Semiconductor Collection of Notebooks and Technical Papers

 David Laws  1 year ago  From the Collection  0

“ People with knowledge, with training, with curiosity – these are the people of Research and Development at Fairchild Semiconductor. Theirs is the endless search for answers ... answers to the questions which arise in the day-to-day quest to advance the technology.

- Leadwire, Fairchild Semiconductor, August 1962



In July 2012 the Computer History Museum accepted a donation from Texas Instruments Inc. of over 1,300 patent and laboratory notebooks written by Members of the Technical Staff and other employees of the Research and Development Laboratory of Fairchild Semiconductor. TI acquired the books when it purchased National Semiconductor, which had owned them since its acquisition of Fairchild Semiconductor in 1987. Included with

Outreach: Exhibit





Use Cases

“People with knowledge, with training, with curiosity – these are the people of Research and Development at Fairchild Semiconductor. Theirs is the endless search for answers ... answers to the questions which arise in the day-to-day quest to advance the technology.”

**- *Leadwire*, Fairchild Semiconductor,
August 1962**

Thank You



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<http://www.computerhistory.org/collections/fairchild/>

Blogs: <http://www.computerhistory.org/atcm/>

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