

1. My name is Bruce Liebman. I am Business Research Specialist at Sheppard Mullin Richter and Hampton LLP. If called as a witness, I could and would competently testify to all facts within my personal knowledge except where stated upon information and belief.

2. As a Business Research Specialist my duties include legal as well as business research matters, such as obtaining academic and scientific journal articles.

Philips Journal of Research (1984)

3. On or about August 10, 2018, I became aware of the Philips Journal of Research, Vol. 39, no. 6, 1984 (the “1984 Philips Journal”), as seen at Exhibit 1023.

4. I observed that pages 293-304 of the 1984 Philips Journal is an article entitled “Some constructions of optimal binary linear unequal error protection codes,” by Willibrordus Johannes van Gils, Philips Research Laboratories, 5600 JA Eindhoven, the Netherlands.

5. On August 15, 2018, I corresponded with the library at the University of California, Riverside (“UCR”), located at 900 University Ave, Riverside, CA 92521, at the phone number (951) 827-3220, regarding the 1984 Philips Journal. Exhibit 1047 is a true and correct copy of the correspondence with UCR.

6. After speaking to Ms. Bernice Ridgeway, who is a Interlibrary Loan Assistant at UCR, she sent me an email from bernice.ridgeway@ucr.edu, enclosing a copy of the 1984 Philips Journal cover available at UCR. *Id.* at 1-2. The 1984 Philips Journal shows a stamp that appears to starts with “NOV 07 19”, wherein the last two numbers of the year are illegible, but it is clear the stamp was from the 20th century. *Id.* at 2.

Philips Technical Review (1988)

7. On or about August 15, I became aware of the Philips Technical Review, Vol. 44, no. 2, April 1988 (the “Philips Tech. Rev.”), as seen at Exhibit 1034.

8. I have observed that on page 60 of the 1988 Philips Tech. Rev. there is a reference to “Design of error-control coding schemes for three problems of noisy information transmission, storage and processing” by Willibrordus Johannes van Gils, Thesis, Eindhoven, 1-231, 1988.

9. Between August 15, 2018 and August 17, 2018, I corresponded with California State University, Sacramento (“CSU”), located at 6000 J Street, Sacramento, CA 95819 regarding the 1988 Philips Tech. Rev.

10. Exhibit 1048 is a true and correct copy of the correspondence with CSU.

11. On August 15, 2018, I contacted via online chat at <https://library.csus.edu/>, regarding the Philips Technical Review, Vol. 44, no. 2, April 1988 (the “Philips Tech. Rev.”). I spoke to Dr. Jian-Zhong “Joe” Zhou, Head of Reference and Library Instruction at CSU.

12. On August 17, 2018, Dr. Zhou emailed me from the email address of zhou@csus.edu, enclosing a copy of the cover to the 1988 Philips Tech. Rev., available at the CSU Library. *Id.* at 1-2. Dr. Zhou stated that “[f]or journals, there is only ONE record created when we first subscribed the journal, and the ‘check in date’ for each issue was a public information in the computer system used then.” *Id.* at 1.

13. The 1988 Philips Tech. Rev.’s cover shows that the publication was received by CSU on March 31, 1989. *Id.* at 2.

14. On August 16, 2018, I searched for the Philips Journal through the online catalogs of various universities. I gathered screenshots of MARC records (Machine-Readable Cataloging records), and/or initial view public display for some of the locations where the Philips Journal is currently available.

15. Exhibit 1049 is a true and correct compilation of copies of online catalog records for the Philips Journal from the following locations:

- University of Arizona Library at <http://new.library.arizona.edu/>;
- University of Arkansas Library at <https://libraries.uark.edu/>;
- University of California, Berkeley Library at <http://www.lib.berkeley.edu/>;
- University of California, Davis Library at <https://www.library.ucdavis.edu/>;
- University of California San Francisco Library at <https://www.library.ucsf.edu/>; and
- Yale University Library at <https://web.library.yale.edu/>.

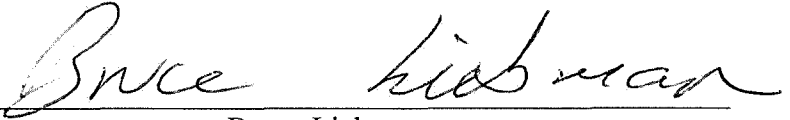
16. On August 16, 2018, I searched for the Philips Tech. Rev. through the online catalogs of various universities. I gathered screenshots of MARC records, and/or initial view public display for some of the locations where the Philips Rev. Tech. is currently available.

17. Exhibit 1050 is a true and correct compilation of copies the online catalog records for the Philips Tech. Rev. from the following locations:

- California State Library at <http://www.library.ca.gov/>;
- University of Arkansas Library at <https://libraries.uark.edu/>;
- University of California, Davis Library at <https://www.library.ucdavis.edu/>;
- University of Southern California, Los Angeles Library at <https://libraries.usc.edu/>;
- Santa Clara University Library at <https://www.scu.edu/library/>;
- San Diego State University Library at <https://library.sdsu.edu/>; and
- Cal Poly Pomona Library at <http://www.cpp.edu/~library/index.shtml>.

I declare under the penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on August 22, 2018 in Los Angeles, California.


Bruce Liebman