

### 3. Atanasoff

- ✓ 3.1 The subject matter of one or more claims of the ENIAC was derived from Atanasoff, and the invention claimed in the ENIAC was derived from Atanasoff.
- 3.1.1 SR and ISD are bound by their representation in support of the counterclaim herein that the invention claimed in the ENIAC patent is broadly "the invention of the Automatic Electronic Digital Computer."
- ✓ 3.1.2 Eckert and Mauchly did not themselves first invent the automatic electronic digital computer, but instead derived that subject matter from one Dr. John Vincent Atanasoff.
- ✓ 3.1.3 Although not necessary to the finding of derivation of "the invention" of the ENIAC patent, Honeywell has proved that the claimed subject matter of the ENIAC patent relied on in support of the counterclaim herein is not patentable over the subject matter derived by Mauchly from Atanasoff. As a representative example, Honeywell has shown that the subject matter of detailed claims 88 and 89 of the ENIAC patent corresponds to the work of Atanasoff which was known to Mauchly before any effort pertinent to the ENIAC machine or patent began.
- 3.1.4 Between 1937 and 1942, Atanasoff, then a professor of physics and mathematics at Iowa State College, Ames, Iowa, developed and built an automatic electronic digital computer for solving large systems of simultaneous linear algebraic equations.
- 3.1.5 In December, 1939, Atanasoff completed and reduced to practice his basic conception in the form of an operating breadboard model of a computing machine.
- ✓ 3.1.6 This breadboard model machine, constructed with the assistance of a graduate student, Clifford Berry, permitted the various components of the machine to be tested under actual operating conditions.
- 3.1.7 The breadboard model established the soundness of the basic principles of design, and Atanasoff and Berry began the construction of a prototype or pilot model, capable of solving with a high degree of accuracy a system of as many as 29 simultaneous equations having 29 unknowns.

- 3.1.8 By August, 1940, in connection with efforts at further funding, Atanasoff prepared a comprehensive manuscript which fully described the principles of his machine, including detail design features.
- 3.1.9 By the time the manuscript was prepared in August, 1940, construction of the machine, destined to be termed in this litigation the Atanasoff-Berry computer or "ABC," was already far advanced.
- 3.1.10 The description contained in the manuscript was adequate to enable one of ordinary skill in electronics at that time to make and use an ABC computer.
- 3.1.11 The manuscript was studied by experts in the art of aids to mathematical computation, who recommended its financial support, and these recommendations resulted in a grant of funds by Research Corporation for the ABC's continued construction.
- 3.1.12 In December, 1940, Atanasoff first met Mauchly while attending a meeting of the American Association for the Advancement of Science in Philadelphia, and generally informed Mauchly about the computing machine which was under construction at Iowa State College. Because of Mauchly's expression of interest in the machine and its principles, Atanasoff invited Mauchly to come to Ames, Iowa, to learn more about the computer.
- 3.1.13 After correspondence on the subject with Atanasoff, Mauchly went to Ames, Iowa, as a houseguest of Atanasoff for several days, where he discussed the ABC as well as other ideas of Atanasoff's relating to the computing art.
- 3.1.14 Mauchly was given an opportunity to read, and did read, but was not permitted to take with him, a copy of the comprehensive manuscript which Atanasoff ~~had prepared in~~ Atanasoff had prepared in August, <sup>1940</sup> ~~1960~~.
- 3.1.15 At the time of Mauchly's visit, although the ABC was not entirely complete, its construction was sufficiently well advanced so that the principles of its operation, including detail design features, was explained and demonstrated to Mauchly.
- 3.1.16 The discussions Mauchly had with both Atanasoff and Berry while at Ames were free and open and no significant information concerning the machine's theory, design, construction, use or operation was withheld.

3.1.17 Prior to his visit to Ames, Iowa, Mauchly had been broadly interested in electrical analog calculating devices, but had not conceived an automatic electronic digital computer.

3.1.18 As a result of this visit, the discussions of Mauchly with Atanasoff and Berry, the demonstrations, and the review of the manuscript, Mauchly derived from the ABC "the invention of the automatic electronic digital computer" claimed in the ENIAC patent.

3.1.19 The Court has heard the testimony at trial of both Atanasoff and Mauchly, and finds the testimony of Atanasoff with respect to the knowledge and information derived by Mauchly to be credible.

26. Order for Judgment

26.1 The clerk shall enter judgment forthwith on these findings and conclusions as follows:

26.1.1 The ENIAC Patent, U.S. Patent Serial No. 3,120,606 of Illinois Scientific Developments, Inc. ("ISD") is hereby declared to be invalid and unenforceable. The counterclaim of ISD against Honeywell is dismissed.

26.1.2 Defendants and each of them and their respective officers, agents, servants, employees and all persons in active concert or participation with them or either of them who receive actual notice of this judgment by personal service or otherwise be and they hereby are permanently restrained and enjoined, pending further order, from enforcing or attempting to enforce the invalid ENIAC Patent aforesaid against Honeywell, its subsidiaries, successors, privies or assigns and all customers or users of products acquired mediately or immediately from Honeywell.

26.1.3 For the defendant Sperry Rand Corporation and against plaintiff Honeywell Inc., on Counts I and III of plaintiff's Second Amended Complaint.

26.1.4 Neither plaintiff nor defendants are entitled to an award of costs.

LET JUDGMENT BE ENTERED ACCORDINGLY.

BY THE COURT

DATED October 19, 1973

Earl R. Larson (s)

UNITED STATES DISTRICT JUDGE