COMPUTER AIDED DESIGN OF DIGITAL SYSTEMS A BIBLIOGRAPHY

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PREFACE

This bibliography contains publications in the field of computer-aided design of digital systems up to December 1974.

The material for this bibliography has been compiled by the author since 1968. Since a bibliography has to be up-to-date in order to be useful, updates will be published yearly by Computer Science Press Inc.

An attempt has been made to cover all major publications (books, papers in journals and published conference proceedings, research reports) in the main areas of computer-aided design of digital systems (automated logic design, fault diagnosis and test generation, simulation and circuit layout).

A number of references on the mathematical and computer science aspects of computer-aided design have been included in section J. Furthermore, some references on computer-aided circuit analysis and computer-aided manufacturing of digital systems have been selected on the basis of their usefulness to designers of digital systems. In these fields the bibliography is not intended to be complete but it contains a number of citations that are representative of the area.

This work consists of four major sections. The first section contains the citations, classified under 10 major subject headings:

A. General References on Design Automation
B. Automated Logic Design
C. Logic and Fault Simulation
D. Fault Diagnosis and Fault Test Generation
E. Layout of Printed and Integrated Circuits
F. Computer-aided Circuit Analysis
G. Automated Documentation
H. Computer-aided Manufacturing of Digital Systems
I. Software Design Automation

J. Mathematical and Computer Science Aids for Digital Design Automation

Within every subheading, citations are classified alphabetically by author, and chronologically for every author. Every citation is numbered and both the author and subject indices refer to the citations in this section,

The second section is the author index. This section allows quick access to all publications in the bibliography by an individual author.

The third section is the subject and keyword index, organized alphabetically by subject.

The fourth section is a research report index, which allows access to citations by their source of origin, For the purpose of this index dissertations are treated as research reports.

The appendices contain a list of frequently used abbreviations and a list of journals and conference proceedings that were covered systematically.

The author gratefully acknowledges the competent technical assistance of Ms. Magda Geersens, without which the publication of this bibliography would not have been possible.

W.M. vanCleemput

December, 1975.

How to Use this Bibliography

The citations in this bibliography are classified under 10 major headings.

A. General References on Design Automation
B. Automated Logic Design
C. Logic and Fault Simulation
D. Fault Diagnosis and Fault Test Generation
E. Layout of Printed and Integrated Circuits
F. Computer-aided Circuit Analysis
G. Automated Documentation
H. Computer-aided Manufacturing of Digital Systems
I. Software Design Automation
J. Mathematical and Computer Science Aids for Digital Design Automation.

Each of these subject headings is in turn broken up into several subheadings.

An important publication may be listed more than once if it clearly belongs to more than one subject area. For example the following citation will be listed under A1: General References on Design Automation - Books.

1. Breuer,M.A. (ed.) "Design Automation of Digital Systems: Theory and Techniques. Volume 1: Hardware.", Englewood Cliffs,N.J.: Prentice Hall, 1972, 495 pp.

Because of the importance of this work every chapter of this book will be listed separately under the appropriate heading. For example chapter 3 of this book will be listed under C1: Logic and Fault Simulation - Books, Surveys, Bibliographies.

3. Scheff,B.H. and Young,S.P. "Gate level logic simulation.", chapter 3 of M.A. Breuer, Design Automation of Digital Systems, Prentice Hall, 1972.

Multiple listings of the same citation have been avoided as much as possible and only important references belonging clearly

under more than one heading have been listed more than once.

The subject and keyword index provides easy access to all citations that belong to more than one subject area.

For many research reports, the NTIS (National Technical Information Service) accession number is given if the report is available through NTIS. Most doctoral dissertations are available from Xerox University Microfilms and when known the order number for these dissertations is given.

If the user is interested in a particular subject area such as Printed Circuit Layout, he may look up the subject heading that seems most appropriate.

However, some of the subheadings such as B2, Logic Design Algorithms and D2, Fault Diagnosis Techniques are likely to contain too many citations for efficiently locating the relevant references. The subject and keyword index in Section 3 is the key to the full resources of this bibliography. For every citation, this index contains entries to significant keyword and subject classifications.

For example, the following citation will be listed under subheading D3, Fault Diagnosis Programs and Systems.

2. Agrawal,V.D. and Agrawal,P. "An automatic test generation system for Illiac IV logic boards.", IEEE Trans. Computers, vol. C-21, no. 9, pp. 1015-1017, Sept. 1972.

In the subject and keyword index, this citation will be referred to under:

ILLIAC IV - Fault Test Generation D3.002
Fault Test Generation - ILLIAC IV D3.002

The author index allows the user quick access to all the publications by the same author, whether or not he is the primary author.

The research report index lists research reports and theses by the source of origin. This may be helpful in locating a particular item if only the affiliation of the author(s) is known.

Appendix 1 contains a list of the most frequently used abbreviations. A list of major journals that were covered systematically is given in Appendix 2. A similar list is provided for conference proceedings in Appendix 3.

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SECTION 1

CITATIONS

A. GENERAL REFERENCES ON DESIGN AUTOMATION.

A1. Books.

1. Breuer,M.A. (ed.) "Design Automation of Digital Systems: Theory and Techniques. Volume 1: Hardware.", Englewood Cliffs,N.J.: Prentice Hall, 1972, 495 pp.

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A3. Bibliographies.

1. Anderson,R.H. "A selective bibliography of computer graphics.", Rand Corp., Santa Monica, Rept. no. P-4629, April 1971, 35 pp.; (NTIS AD 738 058).

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