

comp.lang.vhdl

Frequently Asked Questions And Answers (Part 2): Books on VHDL

Preliminary Remarks

This is a monthly posting to comp.lang.vhdl containing information on VHDL books. Please send additional information directly to the editor:

edwin@ds.e-technik.uni-dortmund.de (Edwin Naroska)

Corrections and suggestions are appreciated. Thanks for all corrections.

At the end of this listing, you'll also find reports on global topics concerning VHDL, which are available per ftp.

There are three other regular postings: part 1 lists general information on VHDL, part 3 lists products and services (PD+commercial), part 4 contains descriptions for a number of terms and phrases used to define VHDL.

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FAQ comp.lang.vhdl (part 2): Books on VHDL

1. Documents of the IEEE

See also <http://standards.ieee.org>.

IEEE Standard VHDL Language Reference Manual

IEEE Std 1076-2000, IEEE Standards, 2000, IEEE Product No. SH94817-TBR, \$126, IEEE Member Discount, Softcover, 270pp, ISBN 0-7381-1948-2

1076.1-1999 IEEE Standard VHDL Analog and Mixed-Signal Extensions 1999

IEEE Std 1076.1-1999, IEEE Standards, 1999, IEEE Product No. SH94731-TBR, \$125, IEEE Member Discount, Softcover, 320pp, ISBN 0-7381-1640-8

1076.6-1999 IEEE Standard for VHDL Register Transfer Level (RTL) Synthesis 1999

IEEE Std 1076.6-199, IEEE Standards, 1999, IEEE Product No. SH94792-TBR, \$84, IEEE Member Discount, Softcover, 80pp, ISBN 0-7381-1819-2

IEEE Standard VHDL Language Reference Manual

IEEE Std 1076-1993, IEEE Standards, Order Code SH 16840, \$56, 30% IEEE Member Discount, bulk discounts, ISBN 1-55937-376-8, 1994

1076-1987 Standard VHDL Language Reference Manual

IEEE Standards, Not available from the IEEE anymore. Now available from Menchini & Associates (see FAQ part 3 products & services), for a cost of \$75 US. Please contact mench@mench.com for further information.

IEEE Standards Interpretations: IEEE Standard VHDL Language Reference Manual

IEEE Std 1076/INT-1991, Order Code SH148941991

IEEE Standard Multivalued Logic System for VHDL Model Interoperability (std_logic_1164)

IEEE Std 1164-1993, ...1993

1.1. Where to Obtain?

U.S.A.:

IEEE Service Center
445 Hoes Lane
P.O. Box 1331
Piscataway, NJ 08855-1331 USA
Phone: 1-800-678-IEEE, FAX: 908-981-9667

Canada:

This office is no longer in operation.

Europe:

IEEE Computer Society, 13,
Avenue de l'Aquilon,
B-1200 Brussels BELGIUM
Telephone: 32.2.770.21.98
FAX: 32.2.770.85.05

2. Books on VHDL

Please send a note to the editor if any of this books are out of print or a good book is missing.

Real Chip Design and Verification Using Verilog and VHDL

Ben Cohen

ISBN 0-9705394-2-8, VhdlCohen Publishing

November 2001, 420 pages. This book addresses the practical and real aspects of logic design, processes, and verification. It incorporates a collection of FPGA and ASIC design practices expressed with Verilog and VHDL. For book information/purchase see <http://www.vhdlcohen.com/>.

The Designer's Guide to VHDL, 2nd Edition

Peter J. Ashenden

ISBN 1558606912, Morgan Kaufmann Publishers

May 2001, 740 pages

Component Design by Example ... a Step-by-Step Process Using VHDL with UART as Vehicle

Ben Cohen

ISBN 0-9705394-0-1, VhdlCohen Publishing

November 2000, 308 pages. Book uses a full featured UART with FIFO as a design vehicle to demonstrate the front-end design processes including: Requirement Specification, Architectural Plan, Verification Plan, Design and Synthesis, Design Verification, Design Integration, Documentation & Delivery, and Process Guidelines. Book provides helpful guides and templates for all front-end phases of a design, most of which are independent of the HDL implementation or verification languages. CD Includes Advanced Design of Parameterized UART with Subblocks, FIFO Buffering, and Interrupt Controller, Reusable TextIO Parser Package, Advanced Testbench Code with Client/Server Object Oriented Style and Text Command Files, Design of Verifier with Error Detection and Transaction Logging, EMACS Editor with T-shell for Windows NT, 9X, Standard VHDL Packages. For book information/purchase see <http://www.vhdlcohen.com>

The VHDL Reference: A Practical Guide to Computer-Aided Integrated Circuit Design including VHDL-AMS

Ulrich Heinkel, Martin Padeffke, Werner Haas, Thomas Buerner, Herbert Braisz, Thomas Gentner, Alexander Grassmann

ISBN: 0-471-89972-0, John Wiley & Sons

April 2000, 440 pages, The essential guide for students and professionals working in computer hardware design and synthesis. The authors describe the basic concepts of VHDL and VHDL-AMS and their application in both behavioral and synthesizable modeling of digital systems, with 2 CD-ROMs,

<http://www.vhdl-online.de>

Digital System Design with VHDL

Mark Zwolinski

ISBN 0-201-36063-2, Prentice Hall

2000. 1st Edition, 336 pages

Writing Testbenches: Functional Verification of HDL Models

Janick Bergeron

ISBN 0-7923-7766-4

2000. Writing Testbenches: Functional Verification of HDL Model is the first book ever devoted entirely to the topic of verification and testbenches. It covers all the issues of a verification process that aims for first-time success.
<http://janick.bergeron.com/wtb>

Digital Systems Design With Vhdl and Synthesis : An Integrated Approach

K. C. Chang

ISBN 0769500234, IEEE Computer Society Press

May 1999, Hardcover - 516 pages

VHDL Coding Styles and Methodologies, 2nd Edition

Ben Cohen

ISBN 0-7923-8474-1, Kluwer Academic Publishers

1999, 450 pages. Book emphasizes detailed application of the language, style, methodologies, and synthesis through several complete examples. This edition provides practical information on reusable software methodologies for the design of bus functional models for testbenches. This includes the waveform, client/server, command text and binary file methods. All VHDL code is on CD. CD also includes the GNU toolsuite with EMACS language sensitive editor, TSHELL, 30 day evaluation of ModelSim (Model Technology), and 20 day evaluation of Synplify (Synplicity). For TOC see <http://members.aol.com/vhdlcohen/vhdl>

Formal Semantics and Proof Techniques for Optimizing VHDL Models

Kothanda Umamageswaran, Sheetanshu L. Pandey, et al.

ISBN 0792383753, Kluwer Academic Publishers

November 1998, 184 pages

A VHDL Primer, Third Edition

J. Bhasker

ISBN 0-13-096575-8, Prentice Hall

September 1998, 375 pages, updated to cover the popular new IEEE STD_LOGIC_1164 standard, <http://www.phptr.com>

A VHDL Synthesis Primer, Second Edition

J. Bhasker

ISBN 0-9650391-9-6, Star Galaxy Publishing

August 1998, 312 pages, Hardcover, \$59.95, Describes the NUMERIC_BIT and NUMERIC_STD packages and uses these packages in the examples, Publisher/Order info: Star Galaxy Publishing, 1058 Treeline Drive, Suite 277, Allentown, PA 18103, Phone/fax: 888-727-7296 (toll free in US), 610-391-7296 [24 hours], <http://users.aol.com/SGalaxyPub>

VHDL 3rd Edition

Douglas Perry

ISBN 0070494363, MacGraw-Hill

June 1998, 500 pages, 3rd edition

Essential VHDL : RTL Synthesis Done Right

Sundar Rajan

ISBN 0966959000, S & G Publishing

June 1998, 320 pages, US\$49.95, Essential VHDL provides a simple, hands-on approach to writing VHDL for RTL synthesis. It follows a systematic, "how-to" style and instructs readers on practical VHDL design. Although targeted primarily at programmable logic designers, the techniques presented in this book make it equally useful for those interested in real-world HDL design.

The Student's Guide to VHDL

Peter J. Ashenden

ISBN 1-55860-520-7, Morgan Kaufmann Publishers

January 1998, 340 pages, \$29.95

Digital Systems Design Using VHDL

Charles H. Roth, Jr

ISBN 0-534-98099-X, PWS Publishing Company

1998, 470 pages, http://www.brookscole.com/engineering_d/

VHDL for Logic Synthesis, 2nd Edition

Andrew Rushton

ISBN 0-471-98325-X, John Wiley & Sons

May 1998, 390 pages, Hardback, Web page:

<http://www.users.globalnet.co.uk/~arushton/>

VHDL Answers to Frequently Asked Questions, 2nd Edition

Ben Cohen

ISBN 0-7923-8115-7, Kluwer Academic Publishers

1998, Web page: <http://members.aol.com/vhdlcohen/vhdl/>

HDL Chip Design - A Practical Guide for Designing, Synthesizing and simulating ASICs and FPGAs using VHDL or Verilog

Douglas J. Smith

ISBN 0-9651934-3-8, Doone Publications, extern_mref@doone.com

1997, Foreword by Alex Zamfirescu, IEEE Project Chair/IEC TC Convenor. This book won the 1997 small press award for Science and Engineering. Shows equivalent VHDL and Verilog models side-by-side followed by a common synthesized circuit implementation. Large format (8.5x11 inches) - case bound - 470 pages - 240 illustrations - 180 practical modeling examples, <http://www.doone.com>.

Analysis and Design of Digital Systems with VHDL

A. Dewey

ISBN: 0534954103, PWS Publishing Company

August 1996, 682 pages

Quick-Turnaround ASIC Design in VHDL : Core-Based Behavioral Synthesis

M. S. Ben Romdhane, V. K. Madiseti, J. W. Hines, (Foreword by Prof. J. Allen, MIT)

ISBN 0-7923-9744-4, Kluwer Academic Publishers

June 1996, \$95, <http://www.ee.gatech.edu/users/215/book3.html>

Vhdl for Programmable Logic

Kevin Skahill, Jay Legenhausen, Ron Wade, Corey Wilner, BL Wilson

ISBN 0201895730, Addison-Wesley

May 1996, 593 pages, book & CD-Rom edition includes Cypress WARP software and examples,

<http://www.amazon.com/exec/obidos/ISBN%3D0201895730/002-9583653-7021215>

A VHDL Synthesis Primer

J. Bhasker

ISBN 0-9650391-0-2, Star Galaxy Publishing

February 1996, 250 pages, Hardcover, \$49.95, Publisher/Order info: Star Galaxy Publishing, 1058 Treeline Drive, Suite 277, Allentown, PA 18103, Phone/fax: 888-727-7296 (toll free in US), 610-391-7296 [24 hours],

<http://users.aol.com/SGalaxyPub>

VHDL Made Easy

David Pellerin and Douglas Taylor

ISBN 0-13-650763-8, Prentice Hall

1996, 420 pages, \$54.95. Includes CD-ROM containing a VHDL simulator, VHDL examples and other software. Available direct from Accolade Design Automation (800-470-2686), 26331 NE Valley Street, Suite 5-120, Duvall, WA 98019, FAX 206-788-3768, <http://www.acc-eda.com/>

VHDL for Designers

Stefan Sjöholm and Lennart Lindh

1996, ISBN 0-13-473414-9, Prentice Hall

Covers everything from basics of VHDL through test benches, synthesis, test methodology even to behavioral synthesis

Introduction to VHDL

D Hunter, T Johnson

Paperback: 0-412-73130-4, Chapman & Hall

November 1995, 246x189mm, 496 pages, 8 line illus, UK £24.99

VHDL Modeling for Digital Design Synthesis

Yu-Chin Hsu

ISBN 0-7923-9597-2, Kluwer Academic Publishers

June 1995, 356 pages

Formal Semantics for VHDL

Carlos Delgado Kloos, Peter T. Breuer (eds.)

Kluwer Academic Publishers

April 1995, more info on: <http://www.dit.upm.es/~cdk/inv/euroform/sem-vhdl.html>

Guide to VHDL Syntax: Based On The New Ieee Std 1076-1993 (Innovative Technology)

J. Bhasker

ISBN 0-13-324351-6, Prentice Hall

January 1995, \$45.00, Number of pages: 268

The Designer's Guide to VHDL

Peter J. Ashenden

ISBN 1-55860-270-4, Morgan Kaufmann Publishers

1995, 710 pages, list price US\$44.95,

<http://www.ashenden.com.au/designers-guide/DG.html>

A Designer's Guide to VHDL Synthesis

Douglas E. Ott, Thomas J. Wilderotter

ISBN 0-7923-9472-0, Kluwer Academic Publishers

December 1994

Circuit Synthesis with VHDL

R Airiau, JM Berge, V Olive
ISBN 0-7923-9429-1, Kluwer Academic Publishers
1994

Digital Design & Synthesis with VHDL

Ross
ISBN 0-9627488-3-8, Automata Publishing Company
1994, 300p, Cloth Text

Structured Logic Design With VHDL

J.R. Armstrong and F. Gail Gray
ISBN 0-13-855206-1, Prentice Hall, Englewood Cliffs, N.J., USA
May of 1993

A Guide to VHDL, Second Edition

Stanley Mazor, Patricia Langstraat
ISBN 0792393872, Kluwer Academic Publishers
August 1993

VHDL Techniques, Experiments, and Caveats

J. Pick
ISBN 0-07-049906-3, McGraw-Hill
June 1993, \$55

VHDL '92; The New Features of the VHDL Hardware Description Language

Berge, Fonkoua, Maginot and Rouillard
ISBN:0-7923-9356-2, Kluwer Academic Publishers
May 1993, Price: \$87.50 Dfl180.00

Digital System Design using VHDL

Chin-Hwa Lee, CorralTek
P.O. 2616, Salinas, CA 93902 (408) 484-1726
April 1993, Price \$29 (answer book \$10)

VHDL Buyer's Guide

Steve Wolfe and Fouad Kiamilev
ISBN 0-934869-14-6, Cad Cam Publishing, Incorporated September 1992, Trade
Paper, 30p

VHDL: Analysis and Modeling of Digital Systems

Zainalabedin Navabi
ISBN 0-07-046472-3, Mc Graw Hill
September 1992, US\$ 38.50

VHDL Designer's Reference

Jean Michel Berge, Alain Fonkua, Serge Maginot, Jacques Roulliard
ISBN 0-7923-1756-4, Kluwer Academic Publishers
July 1992

VHDL for Simulation, Synthesis and Formal Proofs of Hardware

Jean Mermet
ISBN 0-7923-9253-1, Kluwer academic publishers June 1992

Hardware Design and Simulation in VAL/VHDL

Larry M. Augustin, David C. Luckham, Benoit A. Gennart, Yo Huh and Alec G.
Stanculescu

ISBN 0-7923-9087-3, Kluwer Academic Publishers
1991, 352 pages, \$69.95

The VHDL Handbook

David Coelho (Vantage Analysis Systems)
ISBN 0-7923-90310-8, Kluwer Academic Publishers
1989, examples and std package on (PC) disc for \$100 handling cost from: Coelho Publications, 43000 Christy Street, Fremont, CA 94538 voice: (415) 770-0875, fax: (415) 770-0728, email: ...!uunet!coelho!drc

VHDL : Hardware Description and Design

Lipsett, Schaeffer, Ussery
ISBN 0-7923-9030-x, Kluwer Academic Publishers
1989, 320 pages, \$59.95

ASIC System Design with VHDL: A Paradigm

S. Leung, M.A. Shanblatt
ISBN 0-7923-9032-6, Kluwer Academic Publishers
1989, 240 pages, \$56.50

The VHDL Cookbook

Peter J. Ashenden, University of Adelaide, South Australia
per ftp from ftp://ftp.cs.adelaide.edu.au/pub/VHDL-Cookbook/ (129.127.8.8)
(Mac,PC,PS) or http://tech-www.informatik.uni-hamburg.de/vhdl/vhdl.html

VHDL: Features and Applications, A self-study course

J. Bhasker
IEEE
Contains: Self study course + final exam + A VHDL Primer(Revised Edition) text + IEEE Std 1076-1993 + IEEE Std 1164-1993 (all in one package), \$229.00 IEEE members, \$299 non-members, IEEE Product number: HL5712, To order: Call IEEE at (800) 678-IEEE

2.1. Books in French

VHDL, du langage au circuit , du circuit au langage

J. Weber and M.Meaudre
ISBN 2-225-82957-8, edition Masson
1997, <http://www.masson.fr/>

Initiation au langage VHDL

Michel Amiaux
ISBN 2-225-85232-4, edition Masson
1996, <http://www.masson.fr/>

Circuits numériques et synthèse logique, un outil : VHDL

Jacques Weber, Maurice Meaudre
ISBN 2-225-84956-0, Collection : Technologie de l'Université à l'Industrie
1995, 208 pages

VHDL du langage a la modelisation

R. Airiau, J.M. Berge, V. Olive and J. Rouillard
Presses Polytechniques et Universitaires Romandes
Lausanne 1990

2.2. Books in German

VHDL-Synthese, Entwurf digitaler Schaltungen und Systeme

J.Reichardt, B.Schwarz

ISBN 3-486-25128-7, Oldenbourg-Verlag

http://www.oldenbourg.de/verlag/index_suche.htm

2000, 288 Seiten, <http://users.etch.fh-hamburg.de/users/reichardt/buch.html>

Entwicklung digitaler Systeme mit VHDL - Einsatz und Anwendung von VHDL zur Simulation und zur Synthese von digitalen Systemen

Jürgen Bäsig

ISBN 3-00-005081-7, Eigenverlag

1999, 45,-- DM (zzgl. MwSt.),

<http://wwwsoft.nf.fh-nuernberg.de/labs/me/me/vhdl.html>

Abstrakte Modellierung digitaler Schaltungen (VHDL vom funktionalen Modell bis zur Gatterebene)

K. ten Hagen

ISBN 3-540-59143-5, Springer

August 1995

Schaltungsdesign mit VHDL

Gunther Lehmann, Bernhard Wunder, Manfred Selz

ISBN 3-7723-6163-3, Franzis-Verlag

1994, 317 Seiten, mit Diskette, Poing, DM 89,-.

Das Buch ist zur Zeit vergriffen, aber eine pdf-Version kann unter <http://www-itiv.etc.uni-karlsruhe.de/FORSCHUNG/VEROEFFENTLICHUNGEN/lws94/lws94.html> kostenlos heruntergeladen werden

VLSI-Entwurf (Vorgehen, Methoden, Automatisierung)

Thomas Kropf

ISBN 3-8266-0163-7, International Thomson Publishing

TAT (Thomson Aktuelle Tutorien) Nr.17, (trotz des Titels ist das Buch zu ca. 80% ein VHDL-Buch)

Die VHDL-Syntax (Deutsche Uebersetzung von "A Guide to VHDL Syntax")

J. Bhasker

ISBN: 3-8272-9528-9, Prentice Hall Verlag GmbH

2.3. Books in Japanese

Translation of: A VHDL Primer

Jayaram Bhasker

ISBN4-7898-3286-4 C3055 P3200E, CQ Publishing

2.4. Books in Dutch

VHDL, VHDL'87/'93 en voorbeelden

Egbert Molenkamp

ISBN 90-802634-3-5

1997, 250 pages, Dfl 70,- (excl. VAT and Handling), Order via: Transfer EDS,

Goorseweg 5, 7475 BB Markelo, the Netherlands, fax. x-31-547-367366

2.5. Books in Swedish

VHDL för konstruktion

Lennart Lindh, Stefan Sjöholm

ISBN 91-44-47782-1

1996, 524 pages, Studentlitteratur

2.6. Recommended Books in comp.lang.vhdl

I compiled two lists from articles which were posted to comp.lang.vhdl from 1996/1/1 to 2002/4/24. Only books which were recommended at least by 4 different posters (excluding the author) appear on the lists. I've done my best to get exact numbers but probably caught not all postings which included any recommendations. Hence, if you think that a book is missing or got a wrong number of recommendations (see below) please send me a note.

How to get your favourite book onto the list(s)? If you are the author: there is no way (besides writing an excellent book). Otherwise, if you think it's an excellent book please share the information with the community: just post a recommendation to the newsgroup. If their number exceeds the threshold the book will be added to the appropriate list. To initialise this process I plan to post a 'request for recommendations' every 12 month. The next request is scheduled for November 2001.

Please note that the books may focus on different topics of VHDL and not all books are recommended for beginners. Hence, try to get some more informations on a book before ordering. Usually, the various on-line book stores provide some additional infos (see i.e. <http://www.amazon.com/>, <http://www.bookpool.com/>,...). Of course you may also check out Section 2. Further, please post/send remarks about the books on the list (for beginners, not for beginners,...)

The lists are sorted by decreasing number of recommendations (the actual number for each book is enclosed in '()').

General books on VHDL:

- "The Designer's Guide to VHDL" by Peter Ashenden (38)
remarks: for beginners, comprehensive, very good for reference
- "A VHDL Primer" by J. Bhasker (14)
remark: for beginners, not suited to learn synthesis
- "VHDL" by Doug Perry (8)
- "VHDL made Easy!" by David Pellerin (8)
remark: for beginners
- "VHDL for Designers" by Stefan Sjöholm and Lennart Lindh (7)

Books on VHDL for synthesis:

- "Hdl Chip Design" by Douglas J. Smith (19)
remark: for beginners, has VHDL and Verilog examples
- "VHDL for Logic Synthesis" by Andrew Rushton (18)
- "VHDL for programmable logic" by Keven Skahill (15)
remark: for beginners
- "VHDL Coding styles and methodologies,... an In-depth Tutorial" by Ben Cohen (14)
remark: not for beginners
- "A VHDL synthesis primer" by J. Bhasker (5)
- "Analysis And Modeling of Digital Systems" (second edition) by Z.Navabi (4)
remarks: not for beginners, covers testbench and synthesis

2.7. Some Publisher Addresses

- Prentice Hall
www: <http://www.prenhall.com/>
Order addresses
 - U.S.: To order by phone, call 1-(800) 643-5506. Please give the operator the following "key code": E1001-A1(3)
 - UK, Europe, Middle East, and Africa: Fax your order to 44-1-442-882277, or send e-mail to ibd_orders@prenhall.co.uk.
- Kluwer Academic Publishers
www: <http://www.wkap.com/>
Contact addresses
 - North and South America: Kluwer Academic Publishers Customer Service Department, P.O. Box 358, Accord Station, Hingham, MA 02018-0358, U.S.A., Tel : (617) 871-6600, Fax : (617) 871-6528, E-mail: kluwer@wkap.com
 - Rest of the World: Kluwer Academic Publishers Customer Service Department, P.O. Box 989, 3300 AZ Dordrecht, The Netherlands, Tel : (+31) 78 639 23 92, Fax : (+31) 78 639 22 54, E-mail: services@wkap.nl
- McGraw-Hill
www: <http://www.books.mcgraw-hill.com/>
Contact addresses
 - U.S.: McGraw-Hill, 11 West 19th Street, New York, NY 10011 U.S.A.
 - United Kingdom and Europe: McGraw-Hill Publishing Company Europe, Shoppenhangers Road, Maidenhead, Berkshire, SL6 2QL, England, Telephone +44 (0)1628 502500 Fax +44 (0)1628 770224
- Morgan Kaufmann Publishers
www: <http://www.mkp.com/>
Contact address:
 - The Sales/Editorial office: 340 Pine Street 6th Floor, San Francisco, CA 94104
Phone: 415-392-2665, Fax: 415-982-2665Order:
 - USA:

- Mail order: Customer Service and Orders Morgan Kaufmann Publishers, Attn: Order Fulfillment Dept., 6277 Sea Harbor Drive, Orlando, FL 32887
Phone: 800-745-7323, Fax: 800-874-6418
- Phone order: Please call 800-745-7323 from the US or Canada, or 407-345-3800 from any other location.
- Europe & the UK: Afterhurst Mail Order Service, 27 Church Road Hove, East Sussex, BN3 2FA, United Kingdom
Phone: 44-1-273-748427, Fax: 44-1-273-722180, Email: mkp.europe@psypress.co.uk
- John Wiley & Sons
[www: http://www.wiley.com/](http://www.wiley.com/)
Order
 - United States, Latin America, and the Caribbean: U.S. Customer Service Department at John Wiley & Sons, Inc., Distribution Center, 1 Wiley Drive, Somerset, NJ 08875-1272, Phone: (908) 469-4400 or (800) 225-5945, Fax: (908) 302-2300, Email: bstahoski@wiley.com, Hours: 8:30 a.m to 5:30 p.m. EST
- Springer-Verlag, Germany
[www: http://www.springer.de/](http://www.springer.de/)
Contact address: Springer-Verlag Berlin, Heidelberger Platz 3, D-14197 Berlin, Germany, Phone: 49-30-82787-0, Email: service@springer.de
- Doone Publications
[www: http://www.doone.com/](http://www.doone.com/)
Contact addresses
 - America, Europe: Anne Smith, Doone Publications, 7950, Highway 72W #G106, Madison, Al, 35758, USA, Phone: Outside USA +1 205 837 0580, Within USA 1 800 311 3753, Fax: +1 205 837 0580, Email: asmith@doone.com
 - Asia, Australasia: Coral Cooksley, Kirstep Distribution, Australia, Phone: +61 (02) 489 7855, Fax: +61 (02) 489 7034, Email: cc@aaoepp.aao.gov.au

3. Free Documents

Quick reference cards for VHDL and STD_LOGIC_1164-based packages are available from the Qualis web site at <http://www.qualis.com/cgi-bin/qualis/libObject.pl?object=tr010>.

3.1. Reports

Only stuff available by ftp, http or similar will be mentioned here, if of general interest.

On <ftp://ftp.estec.esa.nl/pub/vhdl/doc> (or via <http://www.estec.esa.nl/wsmwww/vhdl/vhdlpage.html>) the following documents can be found (look in their README for the most actual info):

BoardLevel.ps

"VHDL Models for Board-level Simulation", ref. WSM/SH/010 This document provides recommendations for development and usage of VHDL models intended for Board-level simulation. The purpose of these recommendations is to define modeling criteria that will produce models that are highly accurate in both functionality and timing, and that will provide sufficient simulation performance to facilitate long simulation runs. Format: postscript.

CompList.ps

"Support Component List", ref. WDN/PS/822 Issue 2 This document contains summary information for European components for space applications. Their main characteristics are listed, including radiation tolerance. Coordinates to contact persons for further information are also included. Format: postscript.

ModelGuide.ps

"VHDL Modeling Guidelines", ref. ASIC/001 Issue 1 The ESA VHDL Modeling Guidelines have been established to ensure a good coding standard for VHDL, w.r.t. to readability, portability and extensive verification. There are separate sections dealing with specific requirements for models for component simulation, board-level simulation, system-level simulation and test benches. The document is being used for education at several universities, as a base for company specific guidelines etc. Format: postscript.

UseOfVHDL.ps

"The Usage of VHDL in the European Space Agency" An overview of the current and envisaged (April 1995) usage of VHDL within ESA. Describes the background, scope and purpose of the ESA VHDL Modeling Guidelines, and introduces the upcoming document "VHDL Models for Board-level Simulation". Outlines a planned scheme for making VHDL models for Board-level simulation available including schemes for protecting the design information. The paper was presented at the Workshop on Libraries, Component Modeling and Quality Assurance in Nantes (F), April 1995. Format: postscript.

VHDLReport.ps

"The VHDL Standard" (by E2S n.v.) An overview of the May 1994 status of the VHDL standard and associated activities within the IEEE, EIA, and ESPRIT projects. An extensive summary of VHDL repositories is included, together with a list of European VHDL tools. Format: postscript.

At <ftp://ftp.edif.org/pub/vhdl/models> the following documents are available:

VHDL93-model.ps

Internal Report, 30-03-95, “An Information Model of VHDL’93 (Draft Version 02)” University of Manchester, Department of Computer Scienc. Format: postscript.

VHDL87-model.ps

Internal Report, 10-11-94, “An Information Model of VHDL’87 (Draft Version 10)” University of Manchester, Department of Computer Science. Format: postscript.

Content of the README file: "The present documents are the result of work supported by the UK Defence Research Agency and ESIP (ESPRIT Project 8370). The goal has been to produce comprehensive information models of VHDL’87 and VHDL ’93. The models defined here describe the essential objects and the semantics of VHDL’87 and VHDL’93 at the description, analysis, elaboration and simulation levels of design. They are not implementation information models for a VHDL simulator nor for a VHDL checker; they can, however, provide the basis for the creation of such implementation oriented information models.

The VHDL’87 model is accompanied by a the presentation from file VHDL87-model-presentation.ps.

This document supersedes the earlier reports ECIP2/UM/015-1 01-05-93 and UM Internal Report 10-10-94."

The **Actel HDL Coding Style Guide** provides instructions for optimizing HDL code for the Actel architecture using examples in both VHDL and Verilog. While this document primarily targets coding for the Actel architecture it also contains a section about technology independent coding styles. The style guide is available from http://www.actel.com/docs/29105_0.pdf.

The **Synthesis and Simulation Design Guide** from Xilinx provides a general overview of designing FPGAs with HDLs. It includes design hints for the novice HDL user, as well as for the experienced user who is designing FPGAs for the first time. Written for the Xilinx M1 development tools. The manual is available from <http://www.xilinx.com/apps/fpga.htm>.

VHDL and Verilog fundamentals--expressions, operands, and operators by Douglas J Smith deals with differences between VHDL and Verilog expressions. Knowing the operand differences between the two HDLs helps writing more efficient chip-design code and is also useful when converting between VHDL and Verilog. The article is available from http://archives.e-insite.net/archives/ednmag/reg/1997/041097/08df_08.htm.

3.2. Free Books

The VHDL Cookbook

Peter J. Ashenden

An introduction to VHDL. Available per ftp from

<ftp://ftp.cs.adelaide.edu.au/pub/VHDL-Cookbook/> or

<http://tech-www.informatik.uni-hamburg.de/vhdl/vhdl.html>. see also booklist entry

VHDL Kurzanleitung

Andreas Mäder

A German introduction to VHDL. Available from

<http://tech-www.informatik.uni-hamburg.de/vhdl/vhdl.html>.

Schaltungsdesign mit VHDL

Gunther Lehmann, Bernhard Wunder, Manfred Selz

ISBN 3-7723-6163-3, Franzis-Verlag

A German introduction to circuit design with VHDL, a pdf version is available from

<http://www-itiv.etec.uni-karlsruhe.de/FORSCHUNG/VEROEFFENTLICHUNGEN/lws94/lws94.html>

Part 3: Products & Services for VHDL includes a Public Domain and a Commercial Section

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