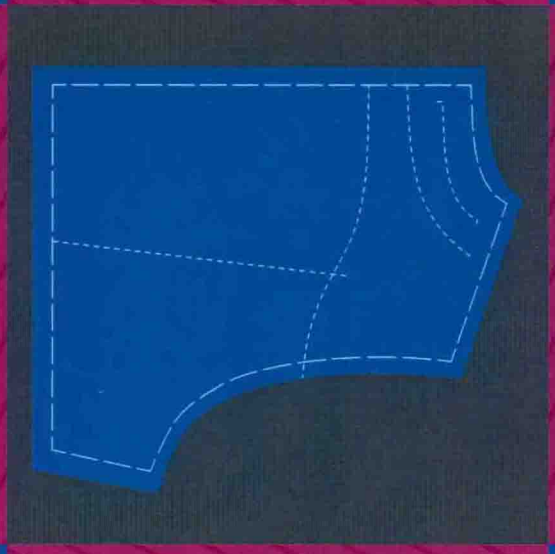
WOODHEAD PUBLISHING SERIES IN TEXTILES



Pattern cutting for clothing using CAD

How to use Lectra Modaris pattern cutting software

M. Stott

The Textile Institute

WP
WOODHEAD PUBLISHING

Woodhead Publishing Series in Textiles:
Number 137

Pattern cutting for clothing using CAD

How to use Lectra Modaris pattern cutting software

M. Stott

常州大学图书馆
藏书章

The Textile Institute

WP
WOODHEAD
PUBLISHING

Oxford Cambridge Philadelphia New Delhi

Lectra is the copyright owner of all Modaris software images reproduced herein with its permission
(http://www.lectra.com). Text © Woodhead Publishing Limited, 2012

Published by Woodhead Publishing Limited in association with The Textile Institute
Woodhead Publishing Limited, 80 High Street, Sawston, Cambridge CB22 3HJ, UK
www.woodheadpublishing.com
www.woodheadpublishingonline.com

Woodhead Publishing, 1518 Walnut Street, Suite 1100, Philadelphia, PA 19102-3406, USA

Woodhead Publishing India Private Limited, G-2, Vardaan House, 7/28 Ansari Road, Daryaganj, New Delhi – 110002, India
www.woodheadpublishingindia.com

First published 2012, Woodhead Publishing Limited
© Woodhead Publishing Limited, 2012
The author has asserted her moral rights.

This book contains information obtained from authentic and highly regarded sources. Reprinted material is quoted with permission, and sources are indicated. Reasonable efforts have been made to publish reliable data and information, but the author and the publisher cannot assume responsibility for the validity of all materials. Neither the author nor the publisher, nor anyone else associated with this publication, shall be liable for any loss, damage or liability directly or indirectly caused or alleged to be caused by this book.

Neither this book nor any part may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, microfilming and recording, or by any information storage or retrieval system, without permission in writing from Woodhead Publishing Limited.

The consent of Woodhead Publishing Limited does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific permission must be obtained in writing from Woodhead Publishing Limited for such copying.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation, without intent to infringe.

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library.

Library of Congress Control Number: 2012949950

ISBN 978-0-85709-231-1 (print)
ISBN 978-0-85709-709-5 (online)
ISSN 2042-0803 Woodhead Publishing Series in Textiles (print)
ISSN 2042-0811 Woodhead Publishing Series in Textiles (online)

The publisher's policy is to use permanent paper from mills that operate a sustainable forestry policy, and which has been manufactured from pulp which is processed using acid-free and elemental chlorine-free practices. Furthermore, the publisher ensures that the text paper and cover board used have met acceptable environmental accreditation standards.

Typeset by Toppan Best-set Premedia Limited, Hong Kong
Printed and bound in the UK by the MPG Books Group

Lectra is the copyright owner of the Modaris software images reproduced herein with its permission (http://www.lectra.com); text © Woodhead Publishing Limited, 2012

Pattern cutting for clothing using CAD

The Textile Institute and Woodhead Publishing

The Textile Institute is a unique organisation in textiles, clothing and footwear. Incorporated in England by a Royal Charter granted in 1925, the Institute has individual and corporate members in over 90 countries. The aim of the Institute is to facilitate learning, recognise achievement, reward excellence and disseminate information within the global textiles, clothing and footwear industries.

Historically, The Textile Institute has published books of interest to its members and the textile industry. To maintain this policy, the Institute has entered into partnership with Woodhead Publishing Limited to ensure that Institute members and the textile industry continue to have access to high-calibre titles on textile science and technology.

Most Woodhead titles on textiles are now published in collaboration with The Textile Institute. Through this arrangement, the Institute provides an Editorial Board that advises Woodhead on appropriate titles for future publication and suggests possible editors and authors for these books. Each book published under this arrangement carries the Institute's logo.

Woodhead books published in collaboration with The Textile Institute are offered to Textile Institute members at a substantial discount. These books, together with those published by The Textile Institute that are still in print, are offered on the Woodhead website at: www.woodheadpublishing.com. Textile Institute books still in print are also available directly from the Institute's website at: www.textileinstitutebooks.com.

A list of Woodhead books on textiles science and technology, most of which have been published in collaboration with the Textile Institute, can be found towards the end of the contents pages.

Lectra is the copyright owner of all Modaris software images reproduced here in with it's permission (http://www.lectra.com); text © Woodhead Publishing Limited, 2012

试读结束，需要全本PDF请购买 www.ertongbook.com

Woodhead Publishing Series in Textiles

1 Watson's textile design and colour Seventh edition
Edited by Z. Grosicki
2 Watson's advanced textile design
Edited by Z. Grosicki
3 Weaving Second edition
P. R. Lord and M. H. Mohamed
4 Handbook of textile fibres Vol 1: Natural fibres
J. Gordon Cook
5 Handbook of textile fibres Vol 2: Man-made fibres
J. Gordon Cook
6 Recycling textile and plastic waste
Edited by A. R. Horrocks
7 New fibers Second edition
T. Hongu and G. O. Phillips
8 Atlas of fibre fracture and damage to textiles Second edition
J. W. S. Hearle, B. Lomas and W. D. Cooke
9 Ecotextile '98
Edited by A. R. Horrocks
10 Physical testing of textiles
B. P. Saville
11 Geometric symmetry in patterns and tilings
C. E. Horne
12 Handbook of technical textiles
Edited by A. R. Horrocks and S. C. Anand
13 Textiles in automotive engineering
W. Fung and J. M. Hardcastle
14 Handbook of textile design
J. Wilson
15 High-performance fibres
Edited by J. W. S. Hearle
16 Knitting technology Third edition
D. J. Spencer
17 Medical textiles
Edited by S. C. Anand
18 Regenerated cellulose fibres
Edited by C. Woodings
19 Silk, mohair, cashmere and other luxury fibres
Edited by R. R. Franck

Scitus is the copyright owner of all Mosaic software. Images reproduced herein with its permission (http://www.scitus.com). Text © Woodhead Publishing Limited, 2012

20 Smart fibres, fabrics and clothing
Edited by X. M. Tao
21 Yarn texturing technology
J. W. S. Hearle, L. Hollick and D. K. Wilson
22 Encyclopedia of textile finishing
H-K. Rouette
23 Coated and laminated textiles
W. Fung
24 Fancy yarns
R. H. Gong and R. M. Wright
25 Wool: Science and technology
Edited by W. S. Simpson and G. Crawshaw
26 Dictionary of textile finishing
H-K. Rouette
27 Environmental impact of textiles
K. Slater
28 Handbook of yarn production
P. R. Lord
29 Textile processing with enzymes
Edited by A. Cavaco-Paulo and G. Gübitz
30 The China and Hong Kong denim industry
Y. Li, L. Yao and K. W. Yeung
31 The World Trade Organization and international denim trading
Y. Li, Y. Shen, L. Yao and E. Newton
32 Chemical finishing of textiles
W. D. Schindler and P. J. Hauser
33 Clothing appearance and fit
J. Fan, W. Yu and L. Hunter
34 Handbook of fibre rope technology
H. A. McKenna, J. W. S. Hearle and N. O'Hear
35 Structure and mechanics of woven fabrics
J. Hu
36 Synthetic fibres: nylon, polyester, acrylic, polyolefin
Edited by J. E. McIntyre
37 Woollen and worsted woven fabric design
E. G. Gilligan
38 Analytical electrochemistry in textiles
P. Westbroek, G. Priniotakis and P. Kiekens
39 Bast and other plant fibres
R. R. Franck
40 Chemical testing of textiles
Edited by Q. Fan
41 Design and manufacture of textile composites
Edited by A. C. Long
42 Effect of mechanical and physical properties on fabric hand
Edited by H. M. Behery
43 New millennium fibers
T. Hongu, M. Takigami and G. O. Phillips
44 Textiles for protection
Edited by R. A. Scott

Lectra is the copyright owner of the Vocal's software images reproduced here with its permission (http://www.lectra.com). Text © Woodhead Publishing Limited, 2012

45 Textiles in sport
Edited by R. Shishoo
46 Wearable electronics and photonics
Edited by X. M. Tao
47 Biodegradable and sustainable fibres
Edited by R. S. Blackburn
48 Medical textiles and biomaterials for healthcare
Edited by S. C. Anand, M. Miraftab, S. Rajendran and J. F. Kennedy
49 Total colour management in textiles
Edited by J. Xin
50 Recycling in textiles
Edited by Y. Wang
51 Clothing biosensory engineering
Y. Li and A. S. W. Wong
52 Biomechanical engineering of textiles and clothing
Edited by Y. Li and D. X-Q. Dai
53 Digital printing of textiles
Edited by H. Ujiie
54 Intelligent textiles and clothing
Edited by H. R. Mattila
55 Innovation and technology of women's intimate apparel
W. Yu, J. Fan, S. C. Harlock and S. P. Ng
56 Thermal and moisture transport in fibrous materials
Edited by N. Pan and P. Gibson
57 Geosynthetics in civil engineering
Edited by R. W. Sarsby
58 Handbook of nonwovens
Edited by S. Russell
59 Cotton: Science and technology
Edited by S. Gordon and Y-L. Hsieh
60 Ecotextiles
Edited by M. Miraftab and A. R. Horrocks
61 Composite forming technologies
Edited by A. C. Long
62 Plasma technology for textiles
Edited by R. Shishoo
63 Smart textiles for medicine and healthcare
Edited by L. Van Langenhove
64 Sizing in clothing
Edited by S. Ashdown
65 Shape memory polymers and textiles
J. Hu
66 Environmental aspects of textile dyeing
Edited by R. Christie
67 Nanofibers and nanotechnology in textiles
Edited by P. Brown and K. Stevens
68 Physical properties of textile fibres Fourth edition
W. E. Morton and J. W. S. Hearle
69 Advances in apparel production
Edited by C. Fairhurst

Elsevier is the copyright owner of all Mosaic software images reproduced herein with its permission or
(http://www.elsevier.com) and © Woodhead Publishing Limited, 2012

70 Advances in fire retardant materials
Edited by A. R. Horrocks and D. Price
71 Polyesters and polyamides
Edited by B. L. Deopura, R. Alagirusamy, M. Joshi and B. S. Gupta
72 Advances in wool technology
Edited by N. A. G. Johnson and I. Russell
73 Military textiles
Edited by E. Wilusz
74 3D fibrous assemblies: Properties, applications and modelling of three-dimensional textile structures
J. Hu
75 Medical and healthcare textiles
Edited by S. C. Anand, J. F. Kennedy, M. Miraftab and S. Rajendran
76 Fabric testing
Edited by J. Hu
77 Biologically inspired textiles
Edited by A. Abbott and M. Ellison
78 Friction in textile materials
Edited by B. S. Gupta
79 Textile advances in the automotive industry
Edited by R. Shishoo
80 Structure and mechanics of textile fibre assemblies
Edited by P. Schwartz
81 Engineering textiles: Integrating the design and manufacture of textile products
Edited by Y. E. El-Mogahzy
82 Polyolefin fibres: Industrial and medical applications
Edited by S. C. O. Ugbolue
83 Smart clothes and wearable technology
Edited by J. McCann and D. Bryson
84 Identification of textile fibres
Edited by M. Houck
85 Advanced textiles for wound care
Edited by S. Rajendran
86 Fatigue failure of textile fibres
Edited by M. Miraftab
87 Advances in carpet technology
Edited by K. Goswami
88 Handbook of textile fibre structure Volume 1 and Volume 2
Edited by S. J. Eichhorn, J. W. S. Hearle, M. Jaffe and T. Kikutani
89 Advances in knitting technology
Edited by K-F. Au
90 Smart textile coatings and laminates
Edited by W. C. Smith
91 Handbook of tensile properties of textile and technical fibres
Edited by A. R. Bunsell
92 Interior textiles: Design and developments
Edited by T. Rowe
93 Textiles for cold weather apparel
Edited by J. T. Williams

Logtra is the copyright owner of e-Mocat's software. Image is reproduced in color with its permission.
http://www.logtra.com/ text © Woodhead Publishing Limited, 2012

94 Modelling and predicting textile behaviour
Edited by X. Chen
95 Textiles, polymers and composites for buildings
Edited by G. Pohl
96 Engineering apparel fabrics and garments
J. Fan and L. Hunter
97 Surface modification of textiles
Edited by Q. Wei
98 Sustainable textiles
Edited by R. S. Blackburn
99 Advances in yarn spinning technology
Edited by C. A. Lawrence
100 Handbook of medical textiles
Edited by V. T. Bartels
101 Technical textile yarns
Edited by R. Alagirusamy and A. Das
102 Applications of nonwovens in technical textiles
Edited by R. A. Chapman
103 Colour measurement: Principles, advances and industrial applications
Edited by M. L. Gulrajani
104 Fibrous and composite materials for civil engineering applications
Edited by R. Fangueiro
105 New product development in textiles: Innovation and production
Edited by L. Horne
106 Improving comfort in clothing
Edited by G. Song
107 Advances in textile biotechnology
Edited by V. A. Nierstrasz and A. Cavaco-Paulo
108 Textiles for hygiene and infection control
Edited by B. McCarthy
109 Nanofunctional textiles
Edited by Y. Li
110 Joining textiles: Principles and applications
Edited by I. Jones and G. Stylios
111 Soft computing in textile engineering
Edited by A. Majumdar
112 Textile design
Edited by A. Briggs-Goode and K. Townsend
113 Biotextiles as medical implants
Edited by M. King and B. Gupta
114 Textile thermal bioengineering
Edited by Y. Li
115 Woven textile structure
B. K. Behera and P. K. Hari
116 Handbook of textile and industrial dyeing. Volume 1: Principles, processes and types of dyes
Edited by M. Clark
117 Handbook of textile and industrial dyeing. Volume 2: Applications of dyes
Edited by M. Clark

Elsevier is the copyright owner of all Modaris software images reproduced here in this publication.
Source: www.elsevier.com. Text © Woodhead Publishing Limited, 2012

118 Handbook of natural fibres. Volume 1: Types, properties and factors affecting breeding and cultivation
Edited by R. Kozlowski
119 Handbook of natural fibres. Volume 2: Processing and applications
Edited by R. Kozlowski
120 Functional textiles for improved performance, protection and health
Edited by N. Pan and G. Sun
121 Computer technology for textiles and apparel
Edited by J. Hu
122 Advances in military textiles and personal equipment
Edited by E. Sparks
123 Specialist yarn and fabric structures
Edited by R. H. Gong
124 Handbook of sustainable textile production
M. I. Tobler-Rohr
125 Handbook of natural fibres Volume 1: Types, properties and factors affecting breeding and cultivation
Edited by R. Kozłowski
126 Handbook of natural fibres Volume 2: Processing and applications
Edited by R. Kozłowski
127 Industrial cutting of textile materials
I. Viļumsone-Nemes
128 Colour design: Theories and applications
Edited by J. Best
129 False twist textured yarns
C. Atkinson
130 Modelling, simulation and control of the dyeing process
R. Shamey and X. Zhao
131 Process control in textile manufacturing
Edited by A. Majumdar, A. Das, R. Alagirusamy and V. K. Kothari
132 Understanding and improving the durability of textiles
Edited by P. A. Annis
133 Smart textiles for protection
Edited by R. Chapman
134 Functional nanofibers and applications
Edited by Q. Wei
135 The global textile and clothing industry: Technological advances and future challenges
Edited by R. Shishoo
136 Simulation in textile technology: Theory and applications
Edited by D. Veit
137 Pattern cutting for clothing using CAD: How to use Lectra Modaris pattern cutting software
M. Stott

Lectra is the copyright owner of all Modaris software images reproduced herein with its permission (http://www.lectra.com). Text © Woodhead Publishing Limited, 2012

试读结束，需要全本PDF请购买 www.ertongbook.com

Disclaimer

The content of this book is the sole responsibility of its author. Lectra SA and any companies of the Lectra Group are not responsible in any way for the content of the book or any representations made therein.

Lectra is the copyright owner of all Modaris software images reproduced herein with its permission.
© Lectra www.lectra.com Text © Woodhead Publishing Limited 2012

Preface

This book provides a practical and easy-to-use guide to how to make the most of Lectra's Modaris pattern cutting software. It is based on my 40 years as a Pattern Cutter, including 10 years using CAD pattern cutting software such as Modaris. This practical experience has, I hope, put me in a particularly strong position to show you how to use Modaris to its full potential in the classroom and in the workplace. As anyone who has used software knows, there are all sorts of shortcuts, functions etc. that you only really learn by trial and error as you use the software in your day-to-day work. I hope readers will benefit from what I have learnt over the years in making my own work easier.

I am going to assume that you already have some computer skills, as it is very unlikely that you have embarked on pattern cutting with CAD without having some knowledge of 'Word' or spreadsheets such as 'Excel', or of using email or the web. Opening a specific program, creating, saving and using files is pretty much the same for all types of computer software. In fact I have discovered that some commands are the same for a number of completely different and unrelated programs. The use of control + Z, for example, seems to be universal in undoing the last command, and the way that functions can have 'hot keys' is not special to Modaris. I will build on this basic understanding but assume you are new to the specific functions in Modaris.

My training courses gave excellent instruction on what the various functions did, but I often forgot how to do something if there was a long time gap between the training and using a function. Because of this I made notes and then refined them every time I needed to perform a specific task, making the task the focus rather than the capabilities of the function. This book began as this series of notes, initially for my own use, but then for Junior Pattern Cutters working on CAD and visiting students on work experience. I hope you find them as useful as I have.

M. Stott

Lectra is the copyright owner of all Modaris software images reproduced here with its permission.
http://www.lectra.com. Text © Woodhead Publishing Limited, 2012

Contents

Woodhead Publishing Series in Textiles *xi*
Disclaimer *xvii*
Preface *xix*

Chapter 1 The role of patterns in clothing manufacture: generating and communicating information **1**

1.1 Introduction: the Pattern Cutter's place in apparel production 1
1.2 The pattern cutting team 2
1.3 Specifications, measurement charts and other documents 3
1.4 Computerised documentation 5
1.5 Tools of the trade 6

Chapter 2 Introduction to the keyboard, mouse and screen layout in Lectra Modaris pattern cutting software **7**

2.1 Introduction to Modaris 7
2.2 The keyboard 9
2.3 The mouse 10
2.4 The Modaris home screen layout 11
2.5 Navigating the home screen: the *x*-axis and *y*-axis 11
2.6 Bringing up different screens and moving them around 12
2.7 Practice exercise 13

Chapter 3 Title blocks in Lectra Modaris pattern cutting software **14**

3.1 Introduction: information for patterns 14
3.2 Title blocks 15

Lectra is the copyright owner of all Modaris software images reproduced here with its permission
(http://www.lectra.com). Text © Woodhead Publishing Limited, 2012

3.3	Model identification sheet	16
3.4	Individual sheet	17
3.5	Variant	19
3.6	Industry example	22
Chapter 4 Digitising a clothing pattern on Lectra Modaris pattern cutting software		**24**
4.1	Introduction: digitising hardware	24
4.2	Digitising with or without seam allowances	26
4.3	Pattern preparation	28
4.4	The digitising process	33
4.5	Handset button notes	37
4.6	Digitising problems	37
Chapter 5 Plotting using JustPrint		**38**
5.1	Introduction to JustPrint V2R2	38
5.2	How to plot out a model using JustPrint	39
5.3	How to plot single pieces	43
5.4	JustPrint settings	44
5.5	Geometry	46
5.6	Text	50
5.7	Layout	52
5.8	Cutfile configuration and HPGL	52
Chapter 6 A guide to the toolbox in Lectra Modaris pattern cutting software: F1–F3		**53**
6.1	Introduction	53
6.2	F1: creating lines and points	56
6.3	F2: notches, orientation and geometric shapes	62
6.4	F3: modifying lines and points	65
Chapter 7 A guide to the toolbox in Lectra Modaris pattern cutting software: F4–F8		**69**
7.1	Introduction	69
7.2	F4: finishing, seam allowances, corners and grain lines	69
7.3	F5: derived pieces	75
7.4	F6: grading	76
7.5	F7: evolution system	77
7.6	F8: measuring and assembly	78

Lectra is the copyright owner of all Modaris software images reproduced herein with its permission (http://www.lectra.com). Text © Woodhead Publishing Limited, 2012

Chapter 8 The upper tool bar in Lectra Modaris pattern cutting software **84**

8.1 Upper tool bar 84
8.2 File menu 85
8.3 Edit menu 88
8.4 Sheet menu 89
8.5 Corner tools menu 91
8.6 Display menu 92
8.7 Sizes menu 95
8.8 Selection menu 96
8.9 Macro menu 96
8.10 Layers menu 97
8.11 Parameters menu 98
8.12 Configure menu 99
8.13 Tool menu 99
8.14 Help menu 99

Chapter 9 The lower tool bar menus and keyboard commands in Lectra Modaris pattern cutting software **100**

9.1 Lower tool bar 100
9.2 Notch tools 100
9.3 Marks (F1 – Relative point) 101
9.4 Corner tools (F4 – Corners) 101
9.5 Axis (F4 – Axis) 101
9.6 Grading 101
9.7 Curve points 102
9.8 Print 102
9.9 Cut piece 102
9.10 FPattern 102
9.11 User arrangement 102
9.12 Control keys RHS 102
9.13 Control keys LHS 103
9.14 Shift 104
9.15 Control (Ctrl) 104
9.16 Number pad 104

Chapter 10 Converting files using the Lectra interoperability function **105**

10.1 Introduction to the file conversion procedure 105
10.2 Export procedure 106
10.3 Confirming conversion has taken place 109

Lectra is the copyright owner of all Modaris software images reproduced herein and has given its permission to http://www.lectra.com. Text © Woodhead Publishing Limited, 2012

10.4 Email attachments 109
10.5 Import procedure 110
10.6 Error messages 113
10.7 Additional personal interoperability notes 114

Chapter 11 Creating size ranges in Lectra Modaris pattern cutting software **117**
11.1 Introduction 117
11.2 Terminology 118
11.3 How to create a size range 119
11.4 Attaching a size range to a model 121
11.5 How to change a size range 122
11.6 Size correspondence 122

Chapter 12 The importance of measurements and size charts for pattern cutting **123**
12.1 Introduction: the importance of measurements for clothing 123
12.2 The development of clothing patterns 124
12.3 The emergence of modern clothing patterns 125
12.4 The development of sizing surveys and sizing charts 126
12.5 The influence of body shape and size on measurements 127
12.6 Using and comparing sizing and grading charts 129
12.7 Current approaches to sizing 131
12.8 Using a size chart to make clothing patterns 133
12.9 References 133

Chapter 13 How do I? The functions and menus that you need to know in Lectra Modaris indexed by the required action **134**
13.1 Introduction 134
13.2 Create or add 134
13.3 Copy 136
13.4 Delete 136
13.5 Digitise 136
13.6 Display 136
13.7 Join 136
13.8 Move 137
13.9 Moving around the screen 137
13.10 Select or choose 137
13.11 Separate 137

Lectra is the copyright owner of all Modaris software images reproduced herein with its permission (http://www.lectra.com); text © Woodhead Publishing Limited, 2012.

试读结束，需要全本PDF请购买 www.ertongbook.com