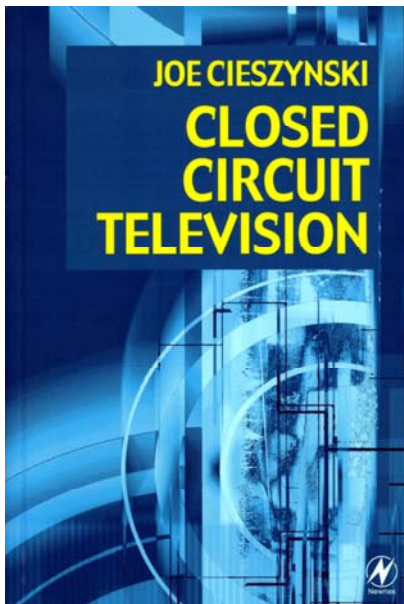By Les Simmonds

CCTV, Video, Security and Electronic Books

We are often asked by readers and enthusiastic people in the security industry which electronic books they should purchase. This is not always easy to answer as the answer will usually depend on their current level of electronic expertise and the depth they wish to go into any particular electronics subject.

To assist at all levels of expected electronics expertise in the security industry I have dipped into Security Electronics Magazine's and my own reference library to offer up a selection of books under the following headings:
- CCTV.
- Video (Including video compression).
- Video and Data Transmission.
- Security Electronics.
- Electronics (Covering all other electronics areas).
Not all listed books fit exactly into these headings, but there is sufficient guidance from the headings to help you find the technology you are interested in.

When I first started in the Broadcast Television industry, the very first electronics books we were required to purchase were: Basic Television and Video Systems by Bernard Grob, Television Engineering Handbook by Donald Fink and The Radiotron Designers Handbook by various authors who were all expert in their area of electronics. All of these books are still around as updated versions and/or reincarnations of the originals and they will be mentioned later.

When I was given a Television reference book shopping list with names like Grob and Fink, I thought the Television industry must be full of people with unusual names. Interesting enough many years later I recognise the enormous contribution Bernard Grob and Donald Fink have made to both the Electronics and Television industries over the past fifty years. Both of them contributed for a long time, I suppose it proves that quality survives even through many updates. Basic Television and Video Systems is now shared between Bernard Grob and Charles Herndon. Donald Fink passed away in 1996 and his original Television Engineering Handbook is now called the Standard Handbook of Video and Television Engineering which is edited by Jerry Whitaker and Blair Benson with chapters by experts in all areas of Video and Television.

I purchase most of my reference books from Amazon.com because, in most cases, they are less expensive and the delivery is far better than from any other source (including most local suppliers) and with many of the books you can browse the contents page, the preface/introduction, the index and part of a chapter so you have a reasonable guide to what you are purchasing.

You will need to shop around and determine your own purchase patterns which should be determined by your personal requirements. Don't be afraid to shop around as some of these electronics books cost big dollars, but, luckily most are average prices. I have not mentioned prices in the following as the cost can vary depending upon how or where they are purchased.

The books under the following headings are not in any preferred order, they are as I pulled them out of the bookcase.
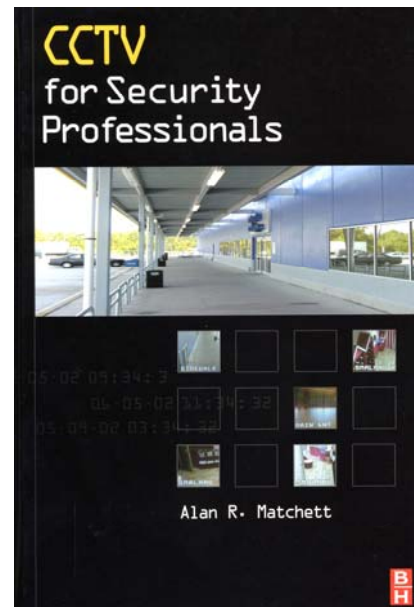
CCTV

Title: **Closed Circuit Television**
Author: Joe Cieszynski
Publisher: Newnes
ISBN: 0-7506-4639
Les's Comments: This is the CCTV book used by SITO (A national training organisation for a secure environment) in the UK who is a leader in developing accredited qualifications and training packages for the security industry. It is reasonably up to date with digital recording and I understand there has been a new edition since my 2001 version. If the new edition has a digital video update it is one of those to purchase

Title: **CCTV for Security Professionals**
Author: Alan Matchett
Publisher: Butterworth Heinemann (Now called Elsevier)
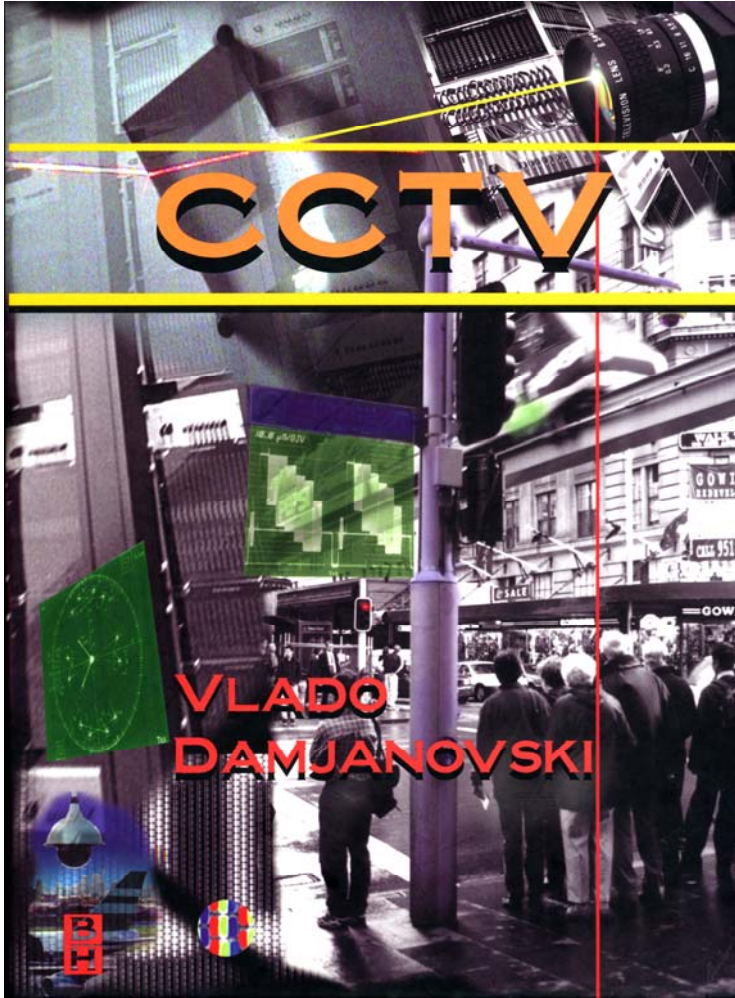ISBN: 0-7506-7303-6
Les's Comments: In the author's words: "This book takes a conceptual look at CCTV systems, not from a technical viewpoint but from a functionality viewpoint". It looks at CCTV systems in the writing style of Security Management

the ASIS International monthly magazine. In other words, it is not too technical, but is comprehensive and understandable. It would be a good addition to the bookcase of non technical and the technical readers alike.

is selling like hot cakes there.

The previous version of this book (edition two) is still available from CCTV Labs at about half the cost of edition three. Edition two is a great CCTV starting point, even

Title: CCTV
Author: Vlado Damjanovski
Publisher: Butterworth Heinemann (Now called Elsevier)
ISBN: 0-7506-7196-3
Les's Comments: With this one I stand by my original review comments: "This book is a breath of fresh air for the security industry. It is the most professional CCTV book I have read and covers beginners to advanced. It is easy to read and understand due to the excellent graphics and photos. It's a must have for the whole security industry". It's interesting to note that when Vlado did his thesis on CCD chip technology in Macedonia his video reference books were Russian translations of UK and USA video reference books. His CCTV book has done the full circle and has been translated into Russian and

though it is not fully up to date with video compression.

Title: CCTV Surveillance — Video Practices and Technology
Author: Herman Kruegle
Publisher: Butterworth Heinemann (Now called Elsevier)
ISBN: 0-7506-9836-5
Les's Comments: Very comprehensive prior to digital. The 1995 edition mentioned here needs an update, but otherwise it is very good with the basics and worth considering for that alone.
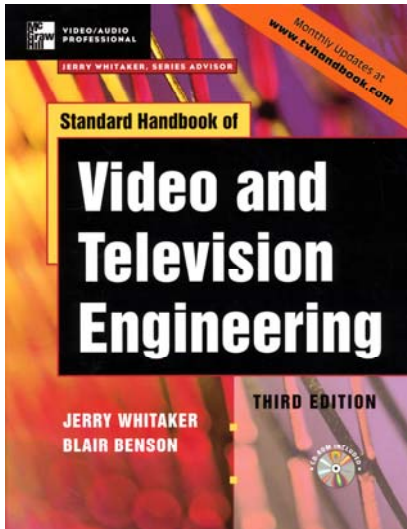
Title: The Principals and Practice of CCTV
Author: Mike Constant and Peter Turnbull
Publisher: Paramount Publishing
ISBN: 0-947665-20
Les's Comments: This book is

reasonably comprehensive, but in my opinion has some mistakes, such as in Appendix 2 where it shows a diagram of two fields at 1/50th of a second each where colour burst is shown as it would be in a line time waveform of 64µs. This is an inexcusable mistake in a technical video reference book. The edition I have is out of date and recently the publisher failed to respond to my request for the later version which was being offered free with a new subscription to a UK magazine.

Video and Video Compression

Title: Basic Television and Video Systems
Author: Bernard Grob and Charles Herndon
Publisher: McGraw-Hill
ISBN: 0-02-800437-X
Les's Comments: A great basic Television book which covers Broadcast Video and Television Receivers. Some of the photos are old, but it is a good television history guide. Probably not that applicable to the security industry, but was added for those who may be interested in Broadcast Video and Television Receivers and as a mark of respect to Mr Grob.

Title: Standard Handbook of Video and Television Engineering
Author: Jerry Whitaker and Blair Benson (Editors). The book chapters are written by experts in all areas of video and television broadcasting.
Publisher: McGraw-Hill
ISBN: 0-07-069627-6
Les's Comments: This is the reincarnation of Donald Fink's original Television Engineering Handbook and it is the most comprehensive book on all aspects of Broadcast Television I have. I took it to a CCTV technical meeting one day and an engineer there said "Gee a real video book". That is exactly what it is! It comes with a CD which has all the chapters from the previous edition that were changed or deleted, plus high resolution test images, various standards and regulations etc and it allows you to do an online update as chapters are changed and updated. This online update service is a welcome relief in an industry where technology moves ahead so rapidly.
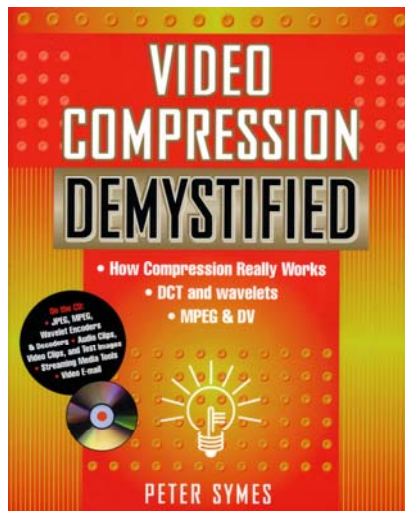
Title: Video Engineering
Author: Arch Luther and Andrew Inglis
Publisher: McGraw-Hill
ISBN: 0-07-135017-9
Les's Comments: Covers Broadcast industry video technologies through to professional and even home video. It's a great crossover book, but edition three, which I have, is 1999 vintage and is a bit outdated. Even so it is worth a look, but I suggest you wait for the new edition which should be edition four.

Title: Video Camera Technology
Author: Arch Luther
Publisher: Artech House
ISBN: 0-89006-556-X
Les's Comments: This is the 1998 version but still covers broadcast digital cameras and HDTV through to camcorders and still cameras. A great guide on how modern cameras work, but you may find the better quality CCTV books have camera chapters that more than adequately cover CCTV camera technology.

Title: Video Compression Demystified
Author: Peter Symes
Publisher: McGraw-Hill
ISBN: 0-07-136324-6
Les's Comments: If you want to learn about all forms of video compression, including MPEG-7 and where MPEG-21 is up to, this is the book. It also includes a CD with JPEG, MPEG and Wavelet encoders and decoders, video clips, test images and streaming media tools. This book is technical, but should be easily understood by those who are interested in video compression.

Title: Video Demystified
Author: Keith Jack
Publisher: Newnes
ISBN: 1-878707-56-6
Les's Comments: This book is about video compression and is really intended for digital engineers who are interested in designing and/or working with video and video compression. In most areas it is surprisingly easy to understand. It includes two CDs with a fully searchable e-book version of the book, RGB test charts and images at various resolutions, source code for H261, H263, MPEG-1 and MPEG-2 encoders and decoders and various test source video image sequences.
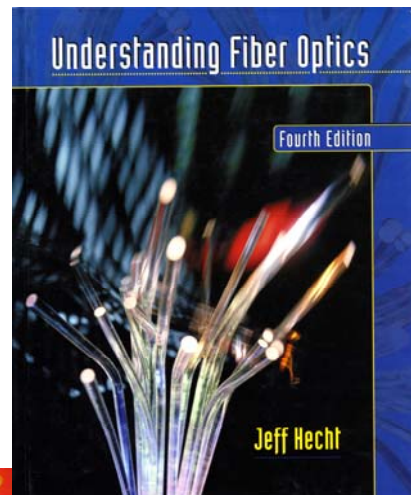
Title: The MPEG-4 Book
Author: Fernando Pereira and Touradj Ebrahimi (Editors)
Publisher: Prentice Hall PTR
ISBN: 0-13-061621-4
Les's Comments: The editors and authors are involved in the MPEG-4 standards committee. This is a very detailed book on MPEG-4, but may include more detail and formulae than would normally be required from a CCTV perspective.

Title: An Introduction to Digital Video
Author: John Watkinson
Publisher: Focal Press
ISBN: 0-240 51637-0
Les's Comments: This book is written for television professionals needing to apply digital video systems, equipment and techniques to multimedia and/or digital television applications. It may not necessarily suit the CCTV and security industries.
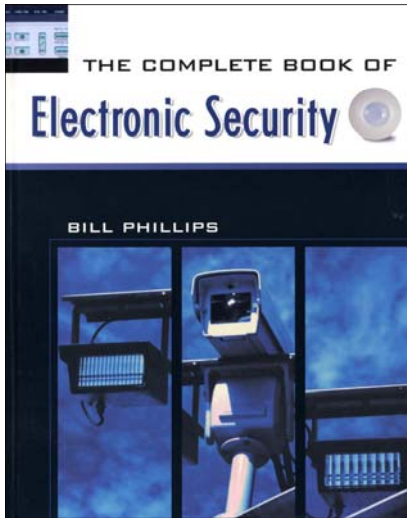
Video and Data Transmission

Title: Understanding Fiber Optics
Author: Jeff Hecht
Publisher: Prentice Hall
ISBN: 0-13-027828-9
Les's Comments: This book covers basics to advanced and is recommended to anyone who wants to understand fibre optic technologies. Most chapters have a sensible quiz section to show you how much or how little you have learned from that chapter.

Title: Wire, Cable and Fiber Optics for Video & Audio Engineers
Author: Stephen Lampen
Publisher: McGraw-Hill
ISBN: 0-07-037148-2
Les's Comments: This is a comprehensive "How to" book written about an area prone to defects in completed installations. It is written by the technology development manager at Belden Wire and Cable and is a great training manual. It also contains plenty of advice for those with hands on installation experience. Two chapters are about audio and the remaining nine are about video, multimedia, fibre, cables and connectors.

Title: Audio/Video Cable Installers Pocket Guide
Author: Stephen Lampen
Publisher: McGraw-Hill
ISBN: 0-07-138621-1
Les's Comments: This is a pocket guide based on Stephen Lampen's previously mentioned book, but with more tables and charts. About a third of the book is about digital and analogue audio cables and connectors and the remainder about general cables and connector issues, installation and digital

and analogue video cables and connectors. This little book has lots of installation information and no security installation crew should be without it.

Security Electronics

Title: **The Complete Book of Electronic Security**
Author: Bill Phillips
Publisher: McGraw-Hill
ISBN: 0-07-138018-3
Les's Comments: This book is written in an easy to understand style, it is not too technical, but is comprehensive and easily understood. It would be a good addition to the bookcase of non technical and the technical readers alike.

Title: **Security Systems & Intruder Alarms**
Author: Vivian Capel
Publisher: Newnes
ISBN: 0-7506-4236-X
Les's Comments: Covers all areas of electronic security with an emphasis on installation. It is comprehensive and easily understood. We have the second edition (1999), if you purchase try for a later and more up to date edition.

Title: **Security — A Guide to Security System Design and Equipment Selection and Installation**
Author: Neil Cumming
Publisher: Butterworth Heinemann (Now called Elsevier)
ISBN: 0-750-69033-X
Les's Comments: This book is old (Second edition 1992) but is still available and full of excellent advice. It includes some mechanical information, but is included here because of its comprehensive electronic sections. Due to the considerable technology advances

over the past twelve years it may pay to check if a new edition is on the way.
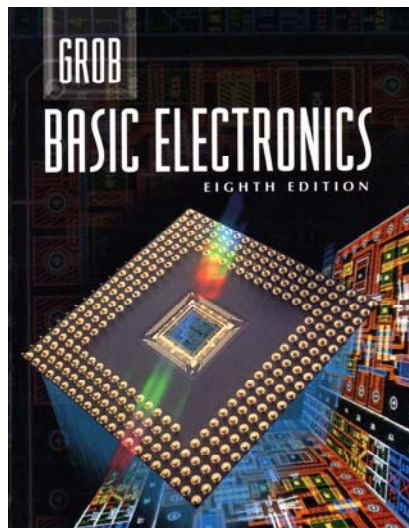
Electronics

Title: **Basic Electronics**
Author: Bernard Grob (There's that name again!)
Publisher: McGraw-Hill
ISBN: 0-02-802253-X
Les's Comments: I know of no better book to learn electronics from and if you've been in the electronics industry for a long time, there is no better book to refresh your electronic memory bank. This has been the top Basic Electronics book for about forty-five years. It has a very modern look now and at the end of each chapter has a summary, a review and self test questions. A Grob classic!

Title: **The Art of Electronics**
Author: Paul Horowitz and Winfield Hill
Publisher: Cambridge University Press
ISBN: 0-521-37095-7
Les's Comments: Technical but without mountains of mathematics and covers all mainstream electronics subjects. Has some very clear and understandable text on circuit design principals.
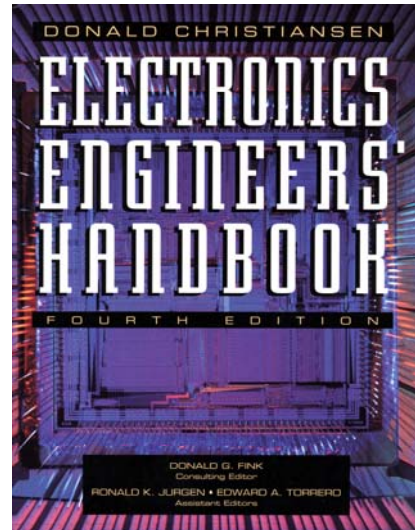

Title: **Electronics Engineers' Handbook**
Author: Donald Christiansen (Consulting Editor Donald Fink)
Publisher: McGraw-Hill
ISBN: 0-07-021077-2
Les's Comments: This book has 2400 pages and about as many formulae! Each chapter is written by world electronic experts in their field. It comprehensively covers most mainstream electron-

ics fields and it is worthy of a prime position in your bookcase. It is similar to the original Radiotron Designers Handbook, but much larger. It is not the sort of book you take to bed to read, because it weights about 3.5 Kilos and could make a substantial dent in your head if you fall asleep reading it. Another Fink classic! Donald Fink was known as the Engineer's Engineer.

There are many other classic Electronics books I have which I should mention, such as the EDN Designers Companion Series, the EDN Analog Circuit Design Series, the various Electronic Cookbook Series and one of my favourites is Practical Electronics for Inventors.

The EDN Analog Circuit Design Series has chapters written by some of the most eminent electronic scientists and engineers. These guys aren't just brilliant with electronics, but very funny. The first time my wife saw me reading a book from the EDN Analog Circuit Design Series she thought I was reading a Spike Milligan book with and EDN cover. That's how funny it was. I suppose when you get to the level of these guys you can have as much fun as you like.

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