CCD Astroimaging Books

- **Choosing and Using a CCD Camera**, Richard Berry, [http://www.wvi.com/~rberry/books.htm](http://www.wvi.com/~rberry/books.htm)
  - This is an excellent first book to start learning about CCD astronomy.
  - Book includes Quikpix software for PCs.
  - A beginners guide to CCD image enhancement for PCs.
  - This is a great book to read on CCD imaging processing.
  - Book includes AIP245 Astronomical Image Processing software.
  - 12 chapters by different authors about their CCD experiences.
- **CCD Astronomy Construction and Use of an Astronomical CCD Camera**, Christian Buil
  - An intermediate to advanced understanding of CCD camera design, operation and imaging processing.
  - [http://www.astrovid.com/CCDBOOKS.HTM](http://www.astrovid.com/CCDBOOKS.HTM)
  - This book shows you how to build your own CCD camera.
- **A Practical Guide to CCD Astronomy**, Patrick Martinez and Alain Klotz
  - A guide to choosing and using CCD cameras for amateur astronomers.
- **Electronic Imaging in Astronomy - Detectors and Instrumentation**, Ian S. McLean
  - This book covers how professional observatories use CCDs and other imaging devices.
  - Covers the fundamental requirements for obtaining good CCD images.
- **Astronomical Equipment for Amateurs**, Martin Mobberley
  - Chapter 8 is on electronic imaging, 43 pages.
- **Amateur Telescope Making**, Stephen F. Tonkin
  - Chapter 14 is on Building and Using a Cookbook CCD Camera by Al Kelly, 14 pages.
- **Splendors of the Universe: A Practical Guide to Photographing the Night Sky**, Terence Dickinson, Jack Newton, Terrence Dickinson
  - This guide covers all aspects of astrophotography including CCD imaging.
- **Deep Space CCD Atlas: North and South** books by John Vickers
  - A good reference of CCD images to verify your objects.
  - P.O.B. 1292 Duxbury, MA 02331

Book Stores

- Willmann-Bell, Inc. [http://www.willbell.com](http://www.willbell.com)
  - Large astronomy book vendor, Most of the above CCD books can be order from Willmann-Bell.

CCD Astronomy Magazine

- CCD Astronomy was published from spring 1994 to winter 1997 with four issues per year.
- Obtain the back issues of CCD Astronomy from Sky Publishing Corp., [http://www.skypub.com](http://www.skypub.com)
  - Especially summer 1995 for the article Starting Out Right by Douglas George.
  - This is a must to read article for anyone starting in CCD imaging.
  - Also, this article is online at [http://www.skypub.com/imaging/ccd/startout.html](http://www.skypub.com/imaging/ccd/startout.html)

Special thanks for those who sent me their URLs and for Gene A. Lucas, IAPPP-Western Wing Editor, in his extra effort in helping update this CCD reference list.
CCD Astroimaging Magazine Articles

- **Amateur Telescope Making Journal**, Email: capt9999@aol.com
  - Issue #13, Telescopes for CCD Imaging (Revisited) by Richard Berry
  - Issue #12, Noise in CCD Cameras by Richard Berry
  - Issue #11, CCD Imaging In Color by Richard Berry
  - Issue #8, Imaging on a Mountaintop - Telescopes for CCD Imaging Part IV by Richard Berry
  - Issue #7, Telescopes for CCD Imaging Part III by Richard Berry
  - Issue #6, Telescopes for CCD Imaging Part II by Richard Berry
  - Issue #5, Telescopes for CCD Imaging by Richard Berry

  - 1999 5th Edition, From Darkroom to Digital

  - 1999 September, Adaptive Optics Meet CCDs
  - 1998 April, CCD Cameras Get Savvy, ST-7 & ST-8
  - 1997 February, In Search of Faint Galaxies
  - 1996 December, Piece-by-Piece Astrophotography
  - 1996 March, Beyond the Visible with CCDs
  - 1995 September, Tune Up Your Telescope for CCD
  - 1995 February, Catching Comets with a CCD
  - 1994 September, Seeing & Believing (Don Parker)
  - 1994 August, Working in the Digital Darkroom
  - 1993 October, Over the Edge
  - 1993 April, The Digital Darkroom, "Printing" the Image
  - 1993 March, The Digital Darkroom, "Developing" the Image
  - 1992 February, Celestial Seeing: Three Imaging Technologies
  - 1991 August, Snapping the Planets Electronically

  - 1999 May, Recording an Eclipse on Video
  - 1999 March, The Digital Age
  - 1998 December, Finding the Position
  - 1998 September, A CCD Overview
  - 1998 June, CCD Sky: Supernova Patrol
  - 1998 May, Ultimate Observing, Tom Puckett Observatory
  - 1998 March, The Celestron Fastar SCT
  - 1998 March, CCD Sky, General Tips
  - 1998 January, Observations from Portugal, Pedro Re CCD setup
  - 1997 December, CCD Sky: Processing Images
  - 1997 November, An Eyepiece Camera - MX5
  - 1997 September, CCD Sky: Finding Faint Objects
  - 1997 June, CCDs - The Next Quantum Leap
  - 1997 March, CCD Sky, Celestron Pixcel 255 Camera
  - 1997 March, CD-ROM CCD Images
  - 1996 December, Planetary Imager (Don Parker)
  - 1996 September, CCD Time Machines
  - 1996 June, Terry Platt Interview (inventor of the Starlight Xpress CCD cameras)
  - 1995 October, From Camera and Film to CCD and Disk
  - 1995 September, Stars in CCD Color
  - 1995 June, By the Light of a Pixelled Moon
  - 1995 April, Incredible Skies Captured by CCD
  • 1999 August, A First Look: SBIG’s Enhanced ST-7E CCD Camera
  • 1999 August, Video of the Stars (Astrovid 2000)
  • 1999 July, Under One Roof (MaxIm DL)
  • 1999 June, Expanding the View
  • 1999 May, Going to the Limit
  • 1999 March, Warming Up to Digital Imaging
  • 1999 March, Sentinel of the Sky
  • 1999 February, Building a Fiber-Optic Spectrograph
  • 1998 December, True-Color CCD Imaging
  • 1998 November, Astrophotography with a Twist, Digital Image Processing
  • 1998 November, Better Resolution Through Technology, SBIG AO-7
  • 1998 July, Digital Desktop Darkroom
  • 1998 June, QuickCam Astronomy
  • 1998 May, Limiting Magnitudes for CCDs
  • 1998 February, The Starlight Xpress MX5
  • 1998 February, CCDs, Small Scopes, and the Urban Amateur
  • 1997 December, Measuring the Sky with CCDs
  • 1997 October, Visiting Grove Creek Observatory
  • 1997 October, Test Report: Celestron’s PixCel 255 CCD Camera
  • 1997 September, Test Report: Meade’s Pictor 208XT and 216XT
  • 1997 August, Test Report: Meade’s Pictor 201XT Autoguider
  • 1997 August, A CCD Camera Buzzword Primer
  • 1997 July, Digitally Enhance Your Astrophotos
  • 1997 June, Of Pixel Size and Focal Reducers
  • 1997 May, A Do-It-Yourselfer’s Primer for Digital Deep-Sky Imaging
  • 1997 January, Amateurs and the CCD Revolution
  • 1996 July, Test Report: SBIG’s ST-7 Camera
  • 1995 August, Backyard Astronomy: Guiding for Sky Photography
  • 1994 April, Image Processing in Astronomy
  • 1993 April, An Astrophotographer’s Dream Home (Jack Newton)
  • 1993 February, The Limiting Magnitude of a CCD Camera
  • 1991 March, Test Report: An advanced CCD imaging camera for amateurs (Lynxx-PC Plus)
  • 1990 October, Camcorder Assist for Planetary Observers
  • 1990 September, Test Report: A Versatile CCD for Amateurs (ST-4)
  • Sky & Space Magazine, Australia Magazine +61 2 9369 3344
    • 1997 June, Technical Tips - LunaCam I and II
    • 1997 February, Test Report: SBIG ST-7 by Ted Dobosz
    • 1998 June, Off-The –Shelf Software Provides Astronomy Researchers with Deblurred Images
  • Back issues of Observatory Techniques Magazine, (605) 226-1078, Email: otm@midco.net. This magazine is not being published in any more. Issues 1 - 23 were published and had information on CCD imaging.

CCD Astroimaging Video Tapes
    • A two-hour VHS tape includes imaging Orion with the Cookbook 245 camera, image processing and other information.
  • Oct. 1995 Imaging the Sky conference and other CCD videos, STV Press & Video, Tom Cleveland (800) 493-3005
    • http://www.thinkvideo.com/astronomy.html
  • Astroimage 1995 conference video tapes, Orange County Astronomers, CA http://www.chapman.edu/oca/special.html
    • John Sanford johnsan@sosinet.net
  • 1996 Santa Barbara Instrument Group CCD Imaging Conference video tapes
    • Keith Gaskins, SBIG (805) 969-1851, http://www.sbig.com
    • Try to obtain the only ST-4 tape if you are just starting to use the ST-4.
CCD Astroimaging Equipment, Software & Suppliers

  - Starlight Xpress cameras
  - Apogee CCD cameras
- Audine cameras
  - French and English language Audine web site http://astroccd.com/terre/audine/
  - Genesis CCD camera (Audine compatible) http://www.genesis16.net
  - Canadian web site on the Audine cameras http://www.nseaa.com/audine.html
  - CB245, Multi245 & Qcolor CCD image processing software
- AstroArts http://www.astroarts.co.jp/index.html
  - StellImage2 image processing software
- Astro-Software (not English) http://coelum.com/software/software.htm
  - MIRA image processing software
  - SuperFix & MegaFix CCD image processing software
- Celestron, http://www.celestron.com
  - CCD camera vendor
  - Lots of CCD articles in the text information database http://www.wvi.com/~rberry/textinfo.htm
  - Very large Frequently Asked Questions (FAQ) section http://www.wvi.com/~rberry/cb245faq.htm
  - Lots of useful information on building a Cookbook Camera
  - MaxIm DL CCD image processing software, videotape on imaging comets, titled "A Comet Odyssey"
- Earth Centered Universe (ECU) software and digital setting circle kits by David Lane
  - CCD camera vendor
  - Win245 - Image Acquisition Software
- IRAF is the Image Reduction and Analysis Facility, http://iraf.noao.edu/
  - A general-purpose software system for the reduction and analysis of astronomical data for UNIX & LINUX.
  - CCD cameras and image processing software
  - Flip mirrors & optical filters
- Optec, Inc., http://www.optecinc.com
  - Telecompressor lens for CCD cameras, PC-controllable filter slides/filter wheels and pre-viewer equipment
- PixelVision http://www.pv-inc.com/
  - CCD camera vendor & tutorials
- Santa Barbara Instrument Group (SBIG), http://www.sbig.com
  - CCD camera vendor
  - High end CCD IC manufacturer
  - CCDSoft image processing software
  - CCD Astronomical Software Tools
  - CCD cameras
  - Starlight Xpress CCD cameras
Also check Adirondack Video Astronomy http://www.astrovid.com/
What In The World shop in Lake Arrowhead, CA, Bob Bell http://www.whatintheworld.com
Supplier of CCD imaging products, including a focusing aperture cover & articles on CCD imaging

CCD Astroimaging Web Articles
- Dr. Arne Henden of Naval Observatory-Flagstaff has a tutorial on beginning CCD photometry
  - Dr. Henden is the co-author with Dr. Ronald Kaitchuck of the standard reference book, "Astronomical
    Photometry", which is being updated. Software for photometry http://www.flagstaff.az.us/~ccdir/tutorial.html
  - A talk presented at the January 1999 meeting of the American Association of Physics Teachers Anaheim, CA
- PixelVision http://www.pv-inc.com/
  - CCD tutorials
  - Lots of good CCD articles in http://www.wvi.com/~rberry/textinfo.htm
  - How CCDs Challenge Your Telescope, Refractor or Reflector, Tune Up Your Drive, etc.
- Sky Publishing Corp. CCD Astronomy articles are online at http://www.skypub.com/imaging/ccd/ccd.shtml
- SITe CCD tutorial http://www.site-inc.com/tutorial.htm
- U. of Virginia

CCD Astroimaging Computer CD-ROMs
  - Includes FOSTER CCD Imaging electronic book.
  - Before and after processed images
  - SkyPro CCD astronomy software demo (V2.04) with over 1,000 sample images taken with a wide range of optical
    instruments.
- The Ultimate CCD Collection, Images by Jack Newton & Don Parker
  - SkyPro CCD astronomy software demo (V2.04) with over 300 color images.
  - Images are provided in 24-bit TIFF, JPEG and 8-bit bitmap files.
  - http://www.bisque.com/thesky
- Deep Sky Imaging Using a CCD, Pedro Re, Kunihiko Okano, Dennis Luse, Rik Blondeel, Michael Purcell, William
  - Also try, http://www.astrovid.com/CCDBOOKS.HTM
- CCD DEEP SKY ATLAS by PEDRO RE’
  - http://www.astrovid.com/CCDBOOKS.HTM

CCD Astroimaging Conferences and Presentations
- AstroImage conferences by the Orange County Astronomers, http://www.chapman.edu/oca/special.html
- The IAPPP-Western Wing holds an annual Astronomical Photometry and CCD Imaging Conference at Lake
  Arrowhead, California, just before the Riverside Telescope Makers Conference (http://www.rtmc-inc.org/), which
  is held at nearby Camp Oakes in Big Bear, California. Next year's IAPPP-West conference will be held at the Lake
  Arrowhead Resort, CA on Wednesday and Thursday, May 24 and 25, 2000. Tentative plans include a half-day
  workshop on photometry on Wednesday, May 24th, and a full day of speakers on photometry and CCD imaging on
  Thursday, May 25. Hands-on, nighttime demonstrations of the latest CCD hardware and software are planned for both
  Wednesday and Thursday nights. http://www.iapppwest.org

CCD Astroimaging Email List Servers
- CCD list send subscribe to ccd-request@wwa.com
- Santa Barbara Instrument Group (SBIG) list send subscribe to sbiguser-request@lists.best.com
CCD Astroimaging Images on the Web (Also check Astroimaging Astronomer’s Web Sites below)

- CCD Images of Messier Objects, http://zebu.uoregon.edu/messier.html
  - ST-4, ST-5 and ST-6 images

CCD Astroimaging Astronomer’s Web Sites

- Bartels, Mel http://www.efn.org/~mbartels/
  - Hale Research camera with SITe 502AB MPP camera images
- Berry, Richard http://www.wvi.com/~rberry/cookbook.htm
  - Author of many books, articles & software programs.
  - Richard is the Cookbook CB245 expert.
  - Meade LX200 and 416XT techniques and images
- Burnell, James http://www.frontiernet.net/~burnell/
  - Cookbook CB245 camera images and Prep245 imaging processing software for the CB245
- Carrico, Tom http://www.proaxis.com/~carrico/main.htm
  - SBIG ST-7 camera images
- Catterall, Adrian Modern Observatory http://www.observatory.demon.co.uk/
  - Hale Eac512 & SBIG ST-8 camera images
- Cole, Michael The Urban Imager http://www.pacifier.com/~mcole/interest.htm
  - SBIG ST-7 camera images
  - Astronomer's Control Panel software
- Dillinger, Don http://www.serv.net/~dillingr/
  - Meade Pictor 416xt CCD camera, SBIG ST-8 camera & Starlight Express MX916
- Girard, Jim http://www.teleport.com/~argoi
  - SBIG ST-7 camera images
  - Meade Pictor 216xt camera images
- Haworth, David, http://www.stargazing.net/david/
  - Cookbook CB245 camera images of 70 Messier objects with a small refractor
  - Image processing software, spectroscopy software and notes on constructing an objective grating spectroscope, and software and products for receiving weather satellites.
- Johnson, Wayne http://www.chapman.edu/oca/benet/mrgalaxy.htm
  - Web site devoted to Supernova searching, which features a number of CCD images of galaxies and SNe.
- Jones, Greg http://hometown.aol.com/gregj888/DAC/DAC.htm
  - No CCD images yet but some information on the adaptive optics and scope project.
- Kelly, Al http://www.ghg.net/akelly
  - Cookbook CB245 camera images
- Kenyon, Dave http://www.vfr.net/~drdkccd/
  - SBIG ST-7 camera images and CCD articles
- LaBelle, George http://www.teleport.com/~glabelle/
  - SBIG ST-8E camera images
- Lodriguss, Jerry http://www.astropix.com/INDEX.HTM
  - Film images and digital imaging techniques articles
- Luse, Dennis http://www.teleport.com/~gemini/
  - SBIG ST-7 camera images
- MacQuarrie, Jeff http://members.aol.com/tchphys/index.htm
• Cookbook CB245 camera images
• McLaughlin, William http://www.harborside.com/home/n/ngc253/
• Author of the Astronomy Magazine article In Search of Faint Galaxies.
• SBIG ST-7 & ST-8e camera images & articles
• Mobile Astronomical Society http://hometown.aol.com/RMOLLISE/index.html
• Astrovideography
• Okano, Kunihiko http://www.asahi-net.or.jp/~rt6k-okn
• SBIG ST-7E camera images, DDP image processing techniques and images
• Polakis, Tom http://www.pssiaz.com/polakis/
• SBIG ST-7 camera images & articles
• Puckett, Tim http://www.cometwatch.com
• Apogee AP7 camera images
• Rushford, Mike http://www.hooked.net/~tvs/eyes/ or http://sunmil1.uml.edu/eyes/index.html
• LINUX-powered web site “Eyes in the Skies”, featuring live solar images with an automated telescope, with lots of links and information on using LINUX
• Stephens Robert http://home.earthlink.net/~rdstephens/index.htm
• SBIG ST-7 camera images
• Torres, Jose http://www.dogtech.com/ccdast
• SBIG ST-7 camera images
• Vanhoeck, Luc http://ourworld.compuserve.com/homepages/Luc_Vanhoeck/
• SBIG ST-8 camera images
• Vaughn, Chuck http://www.aa6g.org/astro.html
• Astrophotography
• Wallis, Brad http://www.frazmtn.com/~bwallis
• SBIG ST-7 camera images
• Weichel, Steen http://home.worldonline.dk/~jsrsw/index.htm
• Comparison of the general properties of CCD-cameras for astronomical use
• Cookbook CB245 camera images
• West, Rob http://members.aol.com/wmti/ccd.html
• Cookbook CB245 camera images
• Wong, Alison http://home.earthlink.net/~alsonwong/index.htm
• Astrophotography with a ST-4 autoguider
• Wisniewski, Jan http://www.freeyellow.com/members7/jwisn
• Cookbook CB245 images & CCD mosaics

List of Astronomy Lists
• Astronomy Magazine's list of links, http://www.kalmbach.com/astro/HotLinks/HotLinks.html
• Brad Wallis and Robert Provin ASTRO IMAGING LINKS PAGE http://voltaire.csun.edu/links.html
• Dennis Luse's list of links, http://www.teleport.com/~gemini/pages.htm
• Mel Bartels's list of links, http://www.efn.org/~mbartels/
• Rick, Bright very large list of astrophotography links http://www.fred.net/rick_b/

Organizations
• International Amateur-Professional Photoelectric Photometry (IAPPP)
  • http://www.iappp.vanderbilt.edu or http://www.dyer.vanderbilt.edu
• International Occultation Timing Association (IOTA) http://www.lunar-occultations.com/iota/iotandx.htm
  • Lunar occultation web site for information on using real-time video cameras for occultations