

SNAPPER!

DEVELOPER'S MANUAL

DataCell Limited

Manual Contents

- **SDK OVERVIEW**
- **INSTALLATION**
- **DEVELOPER'S GUIDE**
- **DIGITAL CAMERA INTERFACING GUIDE**
- **SNAPPER ERROR HANDLING PROGRAMMER'S MANUAL**
- **BUS INTERFACE LIBRARY PROGRAMMER'S MANUAL**
- **CRUNCH LIBRARY PROGRAMMER'S MANUAL**
- **SNAPPER-DIG16 LIBRARY PROGRAMMER'S MANUAL**
- **SNAPPER-16 LIBRARY PROGRAMMER'S MANUAL**
- **SNAPPER-24 LIBRARY PROGRAMMER'S MANUAL**
- **TMG LIBRARY PROGRAMMER'S MANUAL**
- **SNAPPER VXWORKS POWERPC LIBRARY PROGRAMMER'S MANUAL**
- **ACTIVEX LIBRARY PROGRAMMER'S MANUAL**
- **DATASHEETS**
- **TECHNICAL NOTES**
- **GLOSSARY**
- **APPENDICES**
- **APPROVALS**

SNAPPER SDK Overview

DataCell Limited

Disclaimer

While every precaution has been taken in the preparation of this manual, DataCell Ltd assumes no responsibility for errors or omissions. DataCell Ltd reserves the right to change the specification of the product described within this manual and the manual itself at any time without notice and without obligation of DataCell Ltd to notify any person of such revisions or changes.

Copyright Notice

Copyright ©1994-1999 DataCell Ltd and Active Silicon Ltd. All rights reserved. This document may not in whole or in part, be reproduced, transmitted, transcribed, stored in any electronic medium or machine readable form, or translated into any language or computer language without the prior written consent of DataCell Ltd.

Trademarks

“Apple”, “Macintosh” and “MacOS” are trademarks of Apple Computer Inc. “AMCC” is a registered trademark of Applied Micro Circuits Corporation. “Dallas” is a registered trademark of Dallas Semiconductor Corporation. “Dell” is a registered trademark of Dell Computer Corporation. “Flash Graphics” and “X-32VM” are trademarks of Flashtek Limited. “IBM”, “PC/AT”, “PowerPC” and “VGA” are registered trademarks of International Business Machine Corporation. “MetroWerks” and “CodeWarrior” are registered trademarks of MetroWerks Inc. “Microsoft”, “CodeView”, “MS” and “MS-DOS”, “Windows”, “Windows NT”, “Windows 95”, “Windows 98”, “Win32”, “Visual C++” are trademarks or registered trademarks of Microsoft Corporation. “National Semiconductor” is a registered trademark of National Semiconductor Corporation. “Sun”, “Ultra AX” and “Solaris” are registered trademarks of Sun Microsystems Inc. All “SPARC” trademarks are trademarks or registered trademarks of SPARC International Inc. “VxWorks” and “Tornado” are registered trademarks of Wind River Systems Inc. Xilinx” is a registered trademark of Xilinx. All other trademarks and registered trademarks are the property of their respective owners.

Part Information

Part Number: SNP-MAN-SDK-OVERVIEW

Version v4.0.2 September 1999

Printed in the United Kingdom.

Contact Details

Europe & ROW	Web	www.datacell.co.uk
	Sales	info@datacell.co.uk
	Support	techsupport@datacell.co.uk
USA	Web	www.datacell.com
	Sales	info@datacell.com
	Support	techsupport@datacell.com

Head Office:
DataCell Limited.
Falcon Business Park, 40 Ivanhoe Road,
Finchampstead, Berkshire, RG40 4QQ, UK

Tel +44 (0) 1189 324324
Fax +44 (0) 1189 324325

Introduction

This introduction briefly explains what is contained in the Snapper Software Development Kit (SDK). The kit contains this manual (described below) and the release CD containing software libraries and example programs. Probably the best way to get started is install the software, skim through this manual and then run the example programs. For users developing their own applications, the example programs are probably the best starting point.

This manual is designed for all supported hardware platforms, that is ISA & PCI on IBM PCs; PCI on Mac & UltraSPARC; PMC on VME and PowerPC; and SBus on Sun Workstations. It also covers the following operating systems: Windows 3.1x/95/98/NT, MS-DOS, Solaris 2, MacOS 7 & MacOS 8 , VxWorks and LynxOS.

Sections in this Manual

INSTALLATION	This section explains how to install the hardware into your computer and how to install and configure the software. System requirements are also explained for all supported platforms and operating systems. At the end of the Installation section there are various release notes including ones describing specific cameras supported.
DEVELOPER'S GUIDE	This section explains how to build applications under the various supported operating systems and compilers. At the end of the Developer's Guide section there are software change notes describing differences from the previous version.
DIGITAL CAMERA INTERFACE GUIDE	This section explains how to interface between a Snapper-Dig16 and a variety of digital cameras. It explains the cable requirements, and any required camera settings.
ERROR HANDLING	This section explains the error handling procedures used in all the libraries.
BASEBOARD LIBRARY	This is the manual for the Bus Interface Library. This software library performs basic configuration and initialization of the baseboard and provides an interface for the other libraries to use. This library provides a common interface for all baseboards and operating systems.
COMPRESSION LIBRARY	This is the manual for the "Crunch" JPEG compression and decompression library. On ISA and PCI systems there is the option of hardware compression and decompression. This library provides simple routines for JPEG compression either from system memory/disk or directly from/to Snapper acquisition/display modules.
SNAPPER-DIG16 LIBRARY	This manual section describes the Snapper-DIG16 functions and gives an overview about interfacing to digital video sources.
SNAPPER-16 LIBRARY	This manual section describes the Snapper-16 library functions and how to interface to composite video sources.
SNAPPER-24 LIBRARY	This manual section describes the Snapper-24 library functions and how to interface to RGB video sources. This also includes the associated Snapper-8 product.
TMG LIBRARY	This manual section is for the TMG graphics library. This library is a general purpose image processing library that is used by the compression library and the Snapper libraries. It performs basic functions such as TIFF reading/writing, conversion between numerous colour formats etc, as well as more exotic functions such as chroma keying.
VXWORKS	The VxWorks manual section describes how to use Snapper with the VxWorks operating system, running on PowerPC platforms. It details how custom functions may be required to support different hardware architectures.
ACTIVEX	This manual section outlines how to interface with the ActiveX server and provides an example application.
DATASHEETS	Technical Specifications for the current product range of Bus Interface Boards, hardware compression boards and Snapper acquisition modules.
TECHNICAL NOTES	This contains Technical Notes which answer common technical support questions.
GLOSSARY	A comprehensive glossary of terms used in image processing and video capture.
APPENDICES	The Appendices contain the following: Software Bug Report Form. Hardware Failure Report Form.

APPROVALS

Manual Errata Report Form.

EMC approvals statement.

Technical Support Services

Technical support is available from DataCell on the following contact numbers:

Europe & ROW	Web	www.datacell.co.uk	Head Office: DataCell Limited. Falcon Business Park, 40 Ivanhoe Road, Finchampstead, Berkshire, RG40 4QQ, UK
	Sales	info@datacell.co.uk	
	Support	techsupport@datacell.co.uk	
USA	Web	www.datacell.com	Tel +44 (0)1189 324324 Fax +44 (0)1189 324325
	Sales	info@datacell.com	
	Support	techsupport@datacell.com	

Before contacting technical support please observe the following:

- Is your question covered in the product datasheets, included in this manual?
- Is your question covered by one of the Technical Notes, included in this manual?
- If you have a question regarding the software libraries, do the application examples already illustrate the solution?
- Software bugs should be reported using the “Software Failure Report Form” along with any additional information that may be useful. (A copy of this form is in the Appendices).
- If the hardware appears to be failing, please check you have the latest software. Newer hardware revisions may not be compatible with previous software versions. Hardware failures should be reported using the “Hardware Failure Report Form” along with any additional information that may help fault diagnosis. This form must be faxed before an RMA number can be issued allowing return of the hardware. (A copy of this form is in the Appendices).

Please feel free to make suggestions to improve any of the Snapper products.