



Snell  
Advanced  
Media

---

## **User Guide**

## **I/O Supported Formats**

# Information and Notices

## Copyright and Disclaimer

Copyright protection claimed includes all forms and matters of copyrightable material and information now allowed by statutory or judicial law or hereinafter granted, including without limitation, material generated from the software programs which are displayed on the screen such as icons, screen display looks etc.

Information in this manual and software are subject to change without notice and does not represent a commitment on the part of SAM. The software described in this manual is furnished under a license agreement and can not be reproduced or copied in any manner without prior agreement with SAM, or their authorized agents.

Reproduction or disassembly of embedded computer programs or algorithms prohibited.

No part of this publication can be transmitted or reproduced in any form or by any means, electronic or mechanical, including photocopy, recording or any information storage and retrieval system, without permission being granted, in writing, by the publishers or their authorized agents.

SAM operates a policy of continuous improvement and development. SAM reserves the right to make changes and improvements to any of the products described in this document without prior notice.

## Contact Details

### Customer Support

For details of our Regional Customer Support Offices please visit the SAM web site and navigate to Support/Customer Support Contacts.

<https://s-a-m.com/support/247-support/>

Customers with a support contract should call their personalized number, which can be found in their contract, and be ready to provide their contract number and details.

## Conventions Used

### Text

<Text>	indicates a specific key press on the QWERTY keyboard.
NN/nn	indicates a value entered on a numeric keypad.
<b>Text/text</b>	indicates either an application menu function or a Windows/SAM installation/system setting.

### Symbols



**See:** Reference to items in other documents.



**Notes:** System, software and workflow points to consider and remember.



**Tips:** Useful hints and advice when undertaking tasks.

## Contents

<b>I/O Supported Formats</b> .....	<b>4</b>
Supported File Formats .....	4
Apple ProRes Export Support .....	6
Quicktime Soft Mount Support .....	6
Sony XAVC Support .....	6
DNxHD Parameters .....	7
Camera Support .....	9
RED Cameras .....	9
Sony Cameras .....	10
Canon Cameras .....	11
Arri Cameras .....	11
Blackmagic Cinema Cameras .....	12

## I/O Supported Formats

### Supported File Formats



This table is subject to change at any time. Not all formats are supported in all products. For more detail about formats supported by a particular product please see the relevant product guide. The list of available codecs is discovered dynamically at runtime.

Extension	File Format	Import	Export	Soft Mount
.aif .aiff	Audio Interchange File Format	yes		
.ari	ARRI Raw files	yes		yes
.asf	Windows Media 9 series	yes	yes	
.avi	Audio Video Interleaved files	yes	yes	
	CineForm files	yes		
.bmp	Windows bitmap image files	yes		
.cda	Compact Disk Audio tracks	yes		
.cin	Kodak Cineon files	yes	yes	yes
.cine	Vision Research Phantom files	yes		
.dng	Adobe DNG	yes		yes
	Cinema DNG – Blackmagic camera	yes		yes
.dpx	Digital Picture Exchange files	yes	yes	yes
.dv	DV video and audio files	yes		
.exr	OpenEXR files	yes	yes	
.gif	GIF graphic files	yes		
.icb	Truevision Targa image files	yes	yes	
.jng	JPEG Network Graphics	yes		
.jpg .jpeg .pjpeg	JPEG image files	yes	yes	
.m2v	MPEG-1/2 compressed files	yes	yes	
.m4a .m4p .m4v .mp4v	MPEG-4 (part 14) files	yes		
.mcf	MCF files (from ARRI Tornado)	yes		
.mng	Multiple-image network graphics	yes		
.mov	Apple ProRes	yes	yes	yes
	CineForm files	yes		
	Quicktime movie files**	yes	yes	yes (ProRes + others)
.mp2 .mp3	MPEG-1/2 audio	yes		
.mp4	GoPro camera files	yes		yes
	Quicktime movie files	yes	yes	yes (ProRes + others)
.mpg	MPEG-1/2 compressed files	yes	yes	

<b>.mts</b> <b>.m2ts</b>	Panasonic AVCHD*	yes		yes
<b>.mxf</b>	Avid DNxHD files	yes	yes	yes
	Canon C300	yes		yes
	MXF OP1a files	yes	yes	yes
	Panasonic AVC Intra 4K	yes		yes
	Panasonic P2 files	yes	yes	yes
	Sony F65/F5/F55 files	yes		yes
	Sony SR Master files (SStP)	yes	yes	yes
	Sony XAVC	yes	yes	yes
	Sony XDCAM	yes	yes	yes
<b>.pic</b>	Softimage pic files	yes		
<b>.png</b>	Portable Network Graphics files	yes	yes	
<b>.png8</b>	Portable Network Graphics 8-bit indexed with optional binary transparency	yes		
<b>.png24</b>	Portable Network Graphics Opaque 24-bit RGB	yes		
<b>.png32</b>	Portable Network Graphics Opaque or transparent 32-bit RGBA	yes		
<b>.ptif</b> <b>.tiff64</b>	Tagged Image File Format (TIFF) files	yes		
<b>.r3d</b>	REDCODE RAW (R3D) files	yes		yes
<b>.raw</b>	Raw YUV 422 SD files	yes		
<b>.rgb</b>	SGI files	yes		
<b>.rmf</b>	Canon Raw files (C500)	yes		yes
<b>.sgi</b>	SGI files	yes	yes	
<b>.tga</b>	Truevision Targa image files	yes	yes	
<b>.tif</b> <b>.tiff</b>	Tagged Image File Format (TIFF) files	yes	yes	yes
<b>.vda</b>	Truevision Targa image files	yes		
<b>.vob</b>	DVD video files	yes		
	MPEG-1/2 compressed files	yes	yes	
<b>.vpb</b>	VPB files	yes	yes	
<b>.vst</b>	Truevision Targa image files	yes		
<b>.wav</b>	Waveform audio files	yes	yes	archives only
<b>.wma</b>	Windows Media 9 series	yes	yes	
<b>.wmv</b>	Windows Media 9 series	yes	yes	
<b>.xc</b>	Constant image uniform colour	yes		

\* PCM audio only supported

\*\* Some of the supported codecs may ignore (or override) some settings values, such as the 'video quality' value.



**ProRes export is only supported on Pablo Rio and Pablo PA**

### Apple ProRes Export Support

Apple have licensed and certified ProRes implementation in Pablo Rio and Pablo PA. 16 track audio is supported.

Support for encoding:

- Apple ProRes 422
- Apple ProRes 422 (HQ)
- Apple ProRes 422 (LT)
- Apple ProRes 422 (Proxy)
- Apple ProRes 4444
- Apple ProRes 4444 XQ

### Quicktime Soft Mount Support

Soft mounting of the following Apple ProRes video codecs in a .mov container are supported:

- Apple ProRes 422 “apcn”
- Apple ProRes 422 (HQ) “apch”
- Apple ProRes 422 (LT) “apcs”
- Apple ProRes 422 (Proxy) “apco”
- Apple ProRes 4444 “ap4h”
- Apple ProRes 4444 XQ “ap4x”

In addition, the following are supported:

- None “raw”
- PNG “png”
- Planar RGB “8BPS”
- TGA “tga”
- YUV422 Codec “2vuy”
- TIFF “tiff”
- Component video “yuv2”
- JPEG “jpeg”

### Sony XAVC Support

#### Export

Export to the Sony XAVC format is supported in the following resolutions/framerates:

Format	23.98p	24p	25p	29.97p	30p	50i	59.94i	60i	50p	59.94p	60p
<b>1920 x 1080 (4:2:0)</b>	yes		yes	yes		yes	yes				
<b>1920 x 1080 (4:2:2)</b>	yes		yes	yes		yes	yes		yes	yes	
<b>2048 x 1080 (4:2:2)</b>	yes	yes	yes	yes					yes	yes	
<b>3840 x 2160 (4:2:2)</b>	yes		yes	yes					yes	yes	
<b>4096 x 2160 (4:2:2)</b>	yes	yes	yes	yes					yes	yes	

**Import and Soft Mount****XAVC HD Profile for the XAVC MXF FILE FORMAT**

Format	Max Bit Rate (Mbit/s)	23.98p	24p	25p	29.97p	50i	59.94i	50p	59.94p
<b>1280 x 720</b>	50							yes	yes
<b>1920 x 1080</b>	50	yes		yes	yes	yes	yes	yes	yes
<b>1920 x 1080</b>	35	yes		yes	yes	yes	yes	yes	yes
<b>1920 x 1080</b>	25	yes		yes	yes	yes	yes		

**XAVC 4K Profile for the XAVC MXF File Format**

Format	Max Bit Rate (Mbit/s)	23.98p	24p	25p	29.97p	50i	59.94i	50p	59.94p
<b>3840 x 2160</b>	188	yes		yes	yes				
<b>3840 x 2160</b>	300							yes	yes

**DNxHD Parameters**

DNxHD	Scan	Width	Lines	Bits	23.976/24	25	29.97	50	59.94
<b>220X</b>	Interlaced	1920	1080	10			X		
<b>220</b>				8			X		
<b>145</b>				8			X		
<b>185X</b>				10		X			
<b>185</b>				8		X			
<b>120X</b>				8		X			
<b>220X</b>	Progressive	1920	1080	10			X		
<b>220</b>				8			X		
<b>145</b>				8			X		
<b>45</b>				8			X		
<b>185X</b>				10		X			
<b>185</b>				8		X			
<b>120</b>				8		X			
<b>36</b>				8		X			
<b>175X</b>				10	X				
<b>175</b>				8	X				
<b>115</b>				8	X				
<b>36</b>				8	X				
<b>220X</b>	Progressive	1280	720	10					X
<b>220</b>				8					X
<b>145</b>				8					X
<b>185X</b>				10				X	
<b>185</b>				8				X	
<b>120</b>				8				X	

**Quality vs Frame Rate**

The following table shows the recommended DNxHD format for quality vs frame rate for 1080 material:

	<b>23.976/24</b>	<b>25</b>	<b>29.97</b>
<b>10-bit</b>	175X	185X	220X
<b>8-bit High</b>	175	185	220
<b>8-bit Medium</b>	115	120	145
<b>8-bit Low</b>	36	36	45



## Camera Support

The following section takes a closer look at SAM's support of some of the leading camera formats.

### RED Cameras

Camera	Acquisition Formats	Frame Rates	Recording Format
RED ONE (Max image area 5120 x 2700)	4.5K RAW (2.4:1) 4K RAW (16:9, HD, 2:1, and Anamorphic 2:1) 3K RAW (16:9, 2:1, and Anamorphic 2:1) 2K RAW (16:9, 2:1, and Anamorphic 2:1)	23.98, 24, 25, 29.97 fps @ 4.5K, 4K Plus 50, 59.94fps @ 3K, 2K	RECODE RAW (R3D) 12-bit RAW: RC28, 36, 42 Quality Levels 1-30 fps 4.5K, 4K 1-60 fps 3K 1-120 fps 2K
SCARLET (Max image area 5120 x 2700)	5K FF REDCODE RAW (Full Frame) 4K HD REDCODE RAW 3K HD REDCODE RAW 1080p REDCODE RAW 1K REDCODE RAW	23.98, 24, 25, 29.97, 47.96, 48, 50, 59.97	RECODE RAW (R3D) 16-bit RAW Processing: Compression choices of 18:1 to 3:1 1-12 fps 5K FF 1-30 fps 4K HD 1-48 fps 3K HD 1-60 fps 1080p HD 1-120 fps 1K
EPIC MYSTERIUM-X (Max image area 5120 x 2700)	5K RAW (Full Frame, 2:1, 2.4:1 and Anamorphic 2:1) 4.5K RAW (2.4:1) 4K RAW (16:9, HD, 2:1 and Anamorphic 2:1) 3K RAW (16:9, 2:1 and Anamorphic 2:1) 2K RAW (16:9, 2:1 and Anamorphic 2:1) 1080p RGB (16:9) 720p RGB (16:9)	23.98, 24, 25, 29.97, 47.96, 48, 50, 59.94 fps, all resolutions	RECODE RAW (R3D) 12 and 16-bit RAW: Compression choices of 18:1 to 3:1 1-120 fps 5K, 4.5K 1-150 fps 4K 1-200 fps 3K 1-300 fps 2K
EPIC DRAGON (Max image area 6144 x 3160)	6K RAW (2:1, 2.4:1) 5K RAW (Full Frame, 2:1, 2.4:1 and Anamorphic 2:1) 4.5K RAW (2.4:1) 4K RAW (16:9, HD, 2:1 and Anamorphic 2:1) 3K RAW (16:9, 2:1 and Anamorphic 2:1) 2K RAW (16:9, 2:1 and Anamorphic 2:1) 1080p RGB (16:9) 720p RGB (16:9)	23.98, 24, 25, 29.97, 47.96, 48, 50, 59.94 fps, all resolutions	RECODE RAW (R3D) 12 and 16-bit RAW: Compression choices of 18:1 to 3:1 1-100 fps 6K 1-120 fps 5K, 4.5K 1-150 fps 4K 1-200 fps 3K 1-300 fps 2K

### SAM RED Support

Products	File Format	Extension	Import	Soft Mount	Conform	Export
Pablo PA, Pablo Rio	RED RAW	.r3d	yes	yes	yes	
eQ, iQ, Pablo	RED RAW	.r3d	yes	yes	yes	

## Sony Cameras

Camera	Acquisition Formats \ Frame Rates
<b>Sony F65</b>	F65 RAW 16-bit Linear 23.98p/24p/25/ 29.97p/59.94p, 60p HD SStP SR-Lite (4:2:2 10-bit) 23.98PsF/25PsF/29.97PsF/50P/ 59.94P/ 60P SR-SQ (4:2:2 10-bit) 23.98PsF/25PsF/29.97PsF/50P/59.94P/60P SR-SQ (4:4:4 10/12-bit) 23.98PsF/25PsF/29.97PsF/59.94P, 60P
<b>Sony F55</b>	F55 RAW, 2K/4K 16-bit (Optional) XAVC 4K: 4096 x 2160, 23.98p/25p/29.97p/50p/59.94p XAVC QFHD: 3840 x 2160, 23.98p/25p/29.97p/50p/59.94p XAVC 2K: 2048 x 1920, 23.98p/24p/25p/29.97p/50p/59.94p XAVC HD: 1920 x 1080, 23.98p/25p/29.97p/50p/59.94p SStP (MPEG4): 1920 x 1080, 23.98p/24p/25p/29.97p MPEG2 HD: 1920 x 1080, 50i/59.94i/23.98p/25p/29.97p MPEG2 HD: 1280 x 720, 50p/59.94p
<b>Sony F5</b>	F5 RAW, 2K/4K 16bit (Optional) XAVC 2K: 2048 x 1920, 23.98p/24p/25p/29.97p/50p/59.94p XAVC HD: 1920 x 1080, 23.98p/25p/29.97p/50p/59.94p SStP (MPEG4): 1920 x 1080, 23.98p/24p/25p/29.97p MPEG2 HD: 1920 x 1080, 50i/59.94i/23.98p/25p/29.97p MPEG2 HD: 1280 x 720, 50p/59.94p

## SAM Sony Support

### Sony F65

Products	File Format	Extension	Import	Soft Mount	Conform	Export
<b>Pablo PA, Pablo Rio</b>	F65 RAW	.mxf	yes	yes	yes	
	SStP	.mxf	yes	yes	yes	yes
<b>eQ, iQ, Pablo</b>	F65 RAW	.mxf	yes	yes	yes	
	SStP	.mxf	yes	yes	yes	yes

### Sony F55

Products	File Format	Extension	Import	Soft Mount	Conform	Export
<b>Pablo PA, Pablo Rio</b>	F55 RAW	.mxf	yes	yes	yes	
	SStP	.mxf	yes	yes	yes	yes
	XAVC	.mxf	yes	yes	yes	yes
<b>eQ, iQ, Pablo</b>	F55 RAW	.mxf	yes	yes	yes	
	SStP	.mxf	yes	yes	yes	yes
	XAVC	.mxf	yes	yes	yes	

### Sony F5

Products	File Format	Extension	Import	Soft Mount	Conform	Export
<b>Pablo PA, Pablo Rio</b>	F5 RAW	.mxf	yes	yes	yes	
	SStP	.mxf	yes	yes	yes	yes
	XAVC	.mxf	yes	yes	yes	yes
<b>eQ, iQ, Pablo</b>	F5 RAW	.mxf	yes	yes	yes	
	SStP	.mxf	yes	yes	yes	yes
	XAVC	.mxf	yes	yes	yes	

## Canon Cameras

Camera	Acquisition Formats	Recording Frame Rates
<b>Canon C500</b>	<p>4K: RAW/HRAW, 10-bit (4096 x 2160/3840 x 2160, Canon Log only)</p> <p>2K: RGB 12-bit (2048 x 1080/1920 x 1080, 4:4:4, Canon Log only) RGB 10-bit (2048 x 1080/1920 x 1080, 4:4:4, Canon Log only) YCC 10-bit (2048 x 1080/1920 x 1080, 4:2:2, Canon Log only)</p> <p>HD MPEG-2 Long GOP: 50 Mbit/s CBR (4:2:2) MPEG-2 422P@HL; 35 Mbit/s VBR (4:2:0) MPEG-2 MP@HL; 25 Mbit/s CBR (4:2:0) MPEG-2 MP@H14</p>	<p>4K and 2K: 60 Hz (NTSC) mode: 59.94P/29.97P/23.98P 50 Hz (PAL) mode: 50.00P/25.00P 24.00P mode: 24.00P</p> <p>HD: 50 Mbit/s: 1920 x 1080/59.94i, 50i, 29.97p, 25p, 24.00p, 23.98p; 1280 x 720/59.94p, 50p, 29.97p, 25p, 24.00p, 23.98p. 35 Mbit/s: 1920 x 1080/59.94i, 50i, 29.97p, 25p, 23.98p; 1280 x 720/59.94p, 50p, 29.97p, 25p, 23.98p. 25 Mbit/s: 1440 x 1080/59.94i, 50i, 29.97p, 25p, 23.98p.</p>

## SAM Canon Support

Products	File Format	Extension	Import	Soft Mount	Conform	Export
<b>Pablo PA, Pablo Rio</b>	Canon RAW	.rmf	yes	yes	yes	
	MPEG	.mpg	yes	yes		yes
<b>eQ, iQ, Pablo</b>	Canon RAW	.rmf	yes	yes	yes	
	MPEG	.mpg	yes	yes		yes

## Arri Cameras



There are several Alexa cameras in ARRI's range. Not all formats below are available on all cameras.

Camera	Acquisition Formats
<b>ARRI Alexa</b>	ARRI Raw (16:9) 2880 x 1620 (up to 120 fps) ARRI Raw (4:3) 2880 x 2160 ProRes 1920 x 1080, 2048 x 1152 MXF wrapped DNxHD 145 and DNxHD 220 codecs



60 fps max when recording 2K ProRes or ProRes 4444 (High Speed option required)

**SAM ARRI Support**

Products	File Format	Extension	Import	Soft Mount	Conform	Export
<b>Pablo PA, Pablo Rio</b>	ARRI RAW	.ari	yes	yes	yes	
	ProRes	.mov	yes	yes	yes	yes
	DNxHD	.mxf	yes	yes	yes	yes
<b>eQ, iQ, Pablo</b>	ARRI RAW	.ari	yes	yes	yes	
	ProRes	.mov	yes	yes	yes	
	DNxHD	.mxf	yes	yes	yes	yes

**Blackmagic Cinema Cameras**

There are two Blackmagic cinema cameras. The EF and the MFT. The EF will support Canon EF and Zeiss ZE mount and the MFT supports Passive Micro Four Thirds manually operated lenses and adapters. The active sensor resolution is 2432 x 1366 with a dynamic range of 13 stops.

Camera	Acquisition Formats	Frame Rates
<b>Blackmagic</b>	12-bit RAW (Adobe DNG) 2432 x 1366 (2.5K) ProRes and DNxHD at 1920 x 1080	23.98p, 24p, 25p, 29.97p, 30p

**SAM Blackmagic Support**

Products	File Format	Extension	Import	Soft Mount	Conform	Export
<b>Pablo PA, Pablo Rio</b>	DNG RAW	.dng	yes	yes	yes	
	ProRes	.mov	yes	yes	yes	yes
	DNxHD	.mxf	yes	yes	yes	yes
<b>eQ, iQ, Pablo</b>	DNG RAW	.dng	yes	yes	yes	
	ProRes	.mov	yes	yes	yes	
	DNxHD	.mxf	yes	yes	yes	yes