

## SpotXPress For Producers

The following information provides in-depth format and file size requirements for producers or other technical roles creating on-air content for Cox Media. Please remember, a high-quality, digital version of the commercial is needed to get started. Additional high-level insights can be found within the "Frequently Asked Questions" guide found at:

<http://spotxpress.coxmedia.com>



# SPOTXPRESS

**Easy / Tapeless / Green**

<http://spotxpress.coxmedia.com>



- » Superior audio and video quality for short and long form advertising.
- » Quick and easy online uploads eliminate the costs associated with video tapes.
- » Provide your spot to Cox Media with the fastest turnaround time possible.

# SpotXPress For Producers

*Internet Connection* For fastest uploads, high-speed Internet access such as a cable modem, DSL, or a company LAN connection is required when using SpotXPress.

*File Formats* Cox Media accepts video resolution of 720x480, 1280x720, or 1920x1080. Other resolutions will be rejected. The audio bit depth needs to be 16 bits. The maximum file size is 2GB.

We have had good experiences with the .mov (Quicktime) file container using the H.264 codec. A comprehensive list of accepted file formats can be found on pages 5 through 11 of this document.

*Other Guidelines* 480i & 1080i spots should be interlaced top/upper field first, encoded at a frame rate of 29.97 and should be exactly 900 frames (no more/no less) for :30 second spots.

720p spots should be progressive, encoded at a frame rate of 59.94 and should be exactly 1800 frames (no more/no less) for :30 second spots.

Send only the spot: 'No Color Bars, No Slate, No Black' - is not a requirement but is preferred. We ask that if a spot is 'cut to length' that it is +/- 5 frames from its intended length. That may require some black frames.

*Troubleshooting* If you encounter an error when uploading your spot, please check the guidelines and specs to ensure you are uploading the correct file format and size. Reboot your computer. Then try to re-upload the spot.

If you still encounter an error, please call Videoship's SpotXPress support center.

Available Monday-Friday 8am-12am (Eastern)

Phone: 1-877-298-9840

Email: [coxmedia@videoship.com](mailto:coxmedia@videoship.com)



# SpotXPress For Producers

*Accepted File Formats* This following information provides a complete list of the supported import and export formats for Harmonic Rhozet Carbon products and is provided by Rhozet Universal Media Transcoding.

In order to transcode from one format to another, Carbon must be able to both decode the input format and then encode into the output format. For example, if you are converting from a QuickTime DV25 file into a GXF MPEG-2 Long-GOP format, then Carbon Coder needs to be able to both decode QuickTime DV25 files and encode GXF MPEG-2 Long-GOP files. You can use the table on the next pages to determine if your particular import/export requirements are supported. The table lists each format, and indicates whether that format is supported for import and/or export. The table further indicates whether a particular codec is included with Carbon Coder. In addition to the codecs that ship with Carbon Coder, you can also install most DirectShow or QuickTime codecs for use with the product. If a particular codec in the list is not included with Carbon Coder, we have provided links for downloading that codec. Some codecs are available for free and some require an additional purchase from the codec developer. If you do not see a particular format that you need in the list, please contact support via [www.rhozet.com/support](http://www.rhozet.com/support). We are continually updating our product with new features and want your feedback.

The formats in the table are organized according to container and then by codec. A container (also known as a “wrapper”) is a defined structure for how video data, audio data, and metadata are multiplexed into a final file. This is different from a codec, which only defines how video or audio data are compressed. Keep in mind that just because two devices read the same codec that does not mean they are compatible. It is possible to have the exact same codec being wrapped in non-compatible containers. For example, an MPEG-2 codec may be used to compress video that is then put into a MPEG-2 Transport Stream, a MPEG-2 Elementary Stream, a DVD VOB, a MXF file, or an AVI file. When you look up formats in the following list, make sure that you are looking at the required combination of container and codec.



## SpotXPress For Producers

*Helpful Links* For more information about containers and codecs, we recommend the following sources:

Overview of Video Codecs:

[http://en.wikipedia.org/wiki/Video\\_codecs](http://en.wikipedia.org/wiki/Video_codecs)

Video Compression (Includes Table of Compression and Container Formats)

[http://en.wikipedia.org/wiki/Video\\_compression](http://en.wikipedia.org/wiki/Video_compression)

Comparison of Video Container Formats

[http://en.wikipedia.org/wiki/Comparison\\_of\\_container\\_formats](http://en.wikipedia.org/wiki/Comparison_of_container_formats)

Introduction to Video Compression:

<http://www.videsignline.com/howto/showArticle.jhtml?articleID=185301351>

Quantel Digital Factbook

[http://www.quantel.com/site/en.nsf/html/library\\_dfb](http://www.quantel.com/site/en.nsf/html/library_dfb)

MPEG-2

<http://en.wikipedia.org/wiki/MPEG-2>

MPEG-4

<http://en.wikipedia.org/wiki/MPEG-4>

Video Streaming White Papers

<http://whitepapers.zdnet.com/search.aspx?kw=Video+Streaming>



| Container | Codec/Compliance | Import | Export | Incl. | Comments |
|-----------|------------------|--------|--------|-------|----------|
|-----------|------------------|--------|--------|-------|----------|

| 3GPP & 3GPP2 |   |   |   |   |  |
|--------------|---|---|---|---|--|
| 3GPP         | H.263   | Y | Y | Y |  |
| 3GPP         | MPEG-4 Part 2 video (ISO/IEC 14496-2)               | Y | Y | Y |  |
| 3GPP         | MPEG-4 Part 10 video (ISO/IEC 14496-10 ITU-T H.264) | Y | Y | Y |  |

| AVI |                            |   |   |   |   |
|-----|----------------------------|---|---|---|---|
| AVI | AJA v210                   | Y | Y | N | <a href="http://www.aja.com">http://www.aja.com</a>   |
| AVI | Blackmagic HD 10-bit 4:2:2 | Y | Y | N | <a href="http://www.blackmagic-design.com">http://www.blackmagic-design.com</a>   |
| AVI | Blackmagic HD 10-bit 4:4:4 | Y | Y | N | <a href="http://www.blackmagic-design.com">http://www.blackmagic-design.com</a>   |
| AVI | Blackmagic HD 8-bit 4:2:2  | Y | Y | N | <a href="http://www.blackmagic-design.com">http://www.blackmagic-design.com</a>   |
| AVI | Canopus DV                 | Y | Y | Y | DVCPRO25, AVI 1.0 and 2.0 (Open DML)  |
| AVI | Canopus HQ                 | Y | Y | N | <a href="http://www.canopus.com">http://www.canopus.com</a>   |
| AVI | Cinepak                    | Y | Y | Y | Not included on all Windows Platforms   |
| AVI | DivX                       | Y | Y | N | <a href="http://www.divx.com/divx/windows/">http://www.divx.com/divx/windows/</a>   |
| AVI | DPS                        | Y | Y | N | <a href="http://www.leitch.com/custserv/webdl.nsf/FD/DPS_A_VI_Codec15.exe">http://www.leitch.com/custserv/webdl.nsf/FD/DPS_A_VI_Codec15.exe</a> |
| AVI | Indeo R3.2                 | Y | Y | Y |   |
| AVI | Indeo Video 4.5            | Y | Y | Y |   |
| AVI | Indeo Video 5.1            | Y | Y | Y |   |
| AVI | Intel IYUV                 | Y | Y | Y |   |
| AVI | Matrox AXIO                | Y | Y | N | <a href="http://www.matrox.com">http://www.matrox.com</a>   |
| AVI | Microsoft DV               | Y | Y | Y | DVCPRO25, AVI 1.0 and 2.0 (Open DML), DV Type 1 and Type 2  |
| AVI | Microsoft Video 1          | Y | Y | Y |   |
| AVI | Motion JPEG                | Y | Y | Y |   |
| AVI | Uncompressed RGB           | Y | Y | Y |   |
| AVI | xVID                       | Y | Y | N | <a href="http://www.xvid.org">http://www.xvid.org</a>   |



| FLASH |                    |   |   |   |  |
|-------|--------------------|---|---|---|--|
| F4V   | Flash 9            | Y | Y | Y |  |
| FLV   | Flash 8 (VP6)      | N | Y | Y |  |
| FLV   | Flash 7            | Y | Y | Y |  |
| F4A   | Flash 9 audio only | Y | Y | Y | Use H.264 Exporter to create Flash 9 audio only files. |



| Container                 | Codec/Compliance   | Import | Export | Incl. | Comments   |
|---------------------------|--------------------|--------|--------|-------|--|
| <b>GXF – Grass Valley</b> |                    |        |        |       |  |
| GXF                       | DV25 525           | Y      | Y      | Y     | DVCAM or DVCPRO  |
| GXF                       | DV25 625           | Y      | Y      | Y     | DVCAM or DVCPRO  |
| GXF                       | DV50               | Y      | N      | Y     |  |
| GXF                       | MPEG-2 I-frame 525 | Y      | Y      | Y     | 720x512i - 29.97 Generic MPEG, 720x480i - 29.97 Generic MPEG, 720x512i - 29.97 D10/IMX |
| GXF                       | MPEG-2 I-frame 625 | Y      | Y      | Y     | 720x608i - 25 Generic MPEG, 720x576i - 25, Generic MPEG, 720x608i - 25 D10/IMX         |
| GXF                       | MPEG-2 I-frame HD  | Y      | Y      | Y     | 1920x1080i - 29.97, 1920x1080i - 25, 1280x720 - 59.94                                  |
| GXF                       | MPEG-2 IPB 525     | Y      | Y      | Y     | 720x512i - 29.97 Generic MPEG, 720x480i - 29.97 Generic MPEG, 720x512i - 29.97 D10/IMX |
| GXF                       | MPEG-2 IPB 625     | Y      | Y      |       | 720x608i - 25 Generic MPEG, 720x576i - 25, Generic MPEG, 720x608i - 25 D10/IMX         |
| GXF                       | MPEG-2 IPB HD      | Y      | Y      | Y     | 1920x1080i - 29.97, 1920x1080i - 25, 1280x720 - 59.95                                  |

| <b>Image Sequences</b> |           |   |   |   |  |
|------------------------|-----------|---|---|---|--|
| Image Seq.             | BMP       | Y | Y | Y |  |
| Image Seq.             | DPX       | Y | N | Y |  |
| Image Seq.             | JPEG      | Y | Y | Y |  |
| Image Seq.             | JPEG2000  | N | Y | Y |  |
| Image Seq.             | MacPaint  | N | Y | Y |  |
| Image Seq.             | Photoshop | N | Y | Y |  |
| Image Seq.             | PICT      | N | Y | Y |  |
| Image Seq.             | PNG       | Y | Y | Y |  |
| Image Seq.             | QTIImages | N | Y | Y |  |
| Image Seq.             | SGI       | N | Y | Y |  |
| Image Seq.             | TGA       | Y | Y | Y |  |
| Image Seq.             | TIFF      | Y | Y | Y |  |

| <b>LXF – Leitch/Harris</b> |                 |   |   |   |                          |
|----------------------------|-----------------|---|---|---|--------------------------|
| LXF                        | DV25            | Y | Y | Y | DVCAM or DVCPRO          |
| LXF                        | MPEG-2 I-frame  | Y | Y | Y | 4:2:0, 4:2:2, SD, and HD |
| LXF                        | MPEG-2 Long GOP | Y | Y | Y |                          |



| Container | Codec/Compliance | Import | Export | Incl. | Comments |
|-----------|------------------|--------|--------|-------|----------|
|-----------|------------------|--------|--------|-------|----------|

### MPEG Program Streams

|         |        |   |   |   |   |
|---------|--------|---|---|---|---|
| MPEG ES | MPEG-1 | Y | Y | Y | Proxy   |
| MPEG ES | MPEG-2 | Y | Y | Y | SP@MP, MP@LL, MP@ML, MP@HL, MP@H14, HP@ML, HP@HL, HP@H14, 422P@ML, 422@HL |

### MPEG Program Streams

|         |                  |   |   |   |   |
|---------|------------------|---|---|---|---|
| MPEG PS | DVD              | Y | Y | Y |   |
| MPEG PS | MPEG-2           | Y | Y | Y | SP@MP, MP@LL, MP@ML, MP@HL, MP@H14, HP@ML, HP@HL, HP@H14, 422P@ML, 422@HL   |
| MPEG PS | SVCD             | Y | Y | Y |   |
| MPEG PS | Avid MediaStream | Y | Y | Y | Supports some features of MediaStream 8000. No other systems are supported. |

### MPEG Transport Streams

|         |   |                |   |   |   |
|---------|---|----------------|---|---|---|
| MPEG TS | MPEG-4 Part 10 video (ISO/IEC 14496-10 ITU-T H.264) | Y              | Y | Y |   |
| MPEG TS | HDV HD-1  | Y              | Y | Y | MP@ML,MP@H-14, MP@HL (1280x720, 720x480, 720x576)                                     |
| MPEG TS | HDV HD-2  | Y              | Y | Y | MP@ML,MP@H-14, MP@HL (1440)   |
| MPEG TS | MPEG-2  | Y              | Y | Y | SP@MP, MP@LL, MP@ML, MP@HL, MP@H14, HP@ML, HP@HL, HP@H14, 422P@ML, 422@HL, 302M Audio |
| MPEG TS | ATSC (A/53)   | Y <sup>i</sup> | Y | Y | Incl. Dolby Digital (AC-3)  |
| MPEG TS | CableLabs   | Y <sup>i</sup> | Y | Y | SD and HD, Incl. Dolby Digital (AC-3)   |
| MPEG TS | DVB   | Y <sup>i</sup> | Y | Y | ETSI TR 101 154, Incl. Dolby Digital (AC-3)   |



### MPEG-1 System Streams

|           |        |   |   |   |                |
|-----------|--------|---|---|---|----------------|
| MPEG-1 SS | MPEG-1 | Y | Y | Y | VideoCD, Proxy |
|-----------|--------|---|---|---|----------------|

### MPEG-4

|             |   |   |   |   |  |
|-------------|---|---|---|---|--|
| MPEG-4      | MPEG-4 Part 10 video (ISO/IEC 14496-10 ITU-T H.264) | Y | Y | Y |  |
| MPEG-4      | MPEG-4 Improved                                     | Y | Y | Y | ISMA Profile 1 -- MPEG-4 ASP               |
| MPEG-4      | MPEG-4-Basic  | Y | Y | Y | ISMA Profile 0                             |
| MPEG-4      | XDCAM EX  | Y | N | Y |  |
| MP4/M4V/M4A | H.264   | Y | Y | Y | Use H.264 Exporter to create output files. |



| Container                             | Codec/Compliance  | Import | Export | Incl. | Comments  |
|---------------------------------------|---|--------|--------|-------|---|
| <b>MXF (Material Exchange Format)</b> |   |        |        |       |   |
| MXF (OP1a)                            | D10 (IMX)   | Y      | Y      | Y     | 30, 40, 50 Mbit. Includes support for Quantel and XDCAM   |
| MXF (OP1a)                            | DV25  | Y      | N      | Y     |   |
| MXF (OP1a)                            | DV50  | Y      | N      | Y     |   |
| MXF (OP1a)                            | DVCPProHD   | Y      | N      | Y     |   |
| MXF                                   | AS02  | Y      | Y      | Y     |   |
| MXF                                   | EVS Motion JPEG   | Y      | N      | Y     |   |
| MXF (OP1a)                            | JPEG 2000   | Y      | N      | Y     | Supported with WAV  |
| MXF (OP1a)                            | MPEG-2 I-frame  | Y      | N      | Y     |   |
| MXF (OP1a)                            | MPEG-2 Long GOP   | Y      | N      | Y     |   |
| MXF (OPAtom)                          | DV25  | Y      | N      | Y     | WAV only  |
| MXF (OPAtom)                          | DV50  | Y      | N      | Y     |   |
| MXF (OPAtom)                          | DVCPProHD   | Y      | N      | Y     |   |
| MXF (OPAtom)                          | Avid DNxHD  | Y      | N      | N     | Requires that the MXF file follows the OPATOM standard and Avid Codec Pack <sup>2</sup>   |
| MXF (OP1A)                            | Avid DNxHD  | N      | Y      | Y     | Avid MXF Exporter creates DNxHD MXF OP1A files. Only some of these files can be imported, this is not a full Avid MXF OP1A Importer.  |
| MXF (OP1A)                            | Avid DVCAM, DVCPRO 25/50/100, IMX 30/40/50, JFIF, XDCAM | N      | Y      | Y     | Avid MXF Exporter uses the Avid Media Toolkit to create these Avid compliant MXF OP1A files. Only some of these files can be imported, this is not a full Avid MXF OP1A Importer. |
| MXF (OPAtom)                          | JPEG 2000   | Y      | N      | Y     | DVS Clipster formats  |
| MXF                                   | XDCAM 4:2:0   | Y      | Y      | Y     | SD and HD   |
| MXF (OP1A)                            | XDCAM MPEG-2 4:2:2                                      | Y      | Y      | Y     | MXF OP1A MPEG-2 HD 4:2:2  |
| MXF                                   | XDCAM MPEG-4 Proxy                                      | N      | Y      | Y     |   |
| MXF                                   | Panasonic P2  | Y      | Y      | Y     | DV, DVCPPro, DVCPPro HD, and AVC-Intra  |



|  |                |   |   |   |   |
|--|----------------|---|---|---|---|
| <b>Omneon (both MXF and QuickTime)</b> |                |   |   |   |   |
| Omneon                                 | OP1a IMX (MXF) | Y | Y | Y | 720x512i, 720x608i  |
| Omneon                                 | DV             | Y | Y | Y | 720x486i, 720x576i  |
| Omneon                                 | IMX            | Y | Y | Y | 720x512i, 720x608i  |
| Omneon                                 | MPEG-2 IBP     | Y | Y | Y | 720x480i, 720x512i, 720x576i, 720x608i, 1280x720p, 1920x1080i |
| Omneon                                 | MPEG-2 I-frame | Y | Y | Y | 720x480i, 720x512i, 720x576i, 720x608i, 1280x720p, 1920x1080i |





| Container | Codec/Compliance | Import | Export | Incl. | Comments |
|-----------|------------------|--------|--------|-------|----------|
|-----------|------------------|--------|--------|-------|----------|

### Quantel

|         |              |   |   |   |                           |
|---------|--------------|---|---|---|---------------------------|
| Quantel | MXF OP1a IMX | Y | Y | Y | 40Mbit NTSC. 30 Mbit PAL. |
| Quantel | DVCPProHD    | Y | Y | Y | 720p, 1080i               |

### QuickTime

|           |                                   |   |   |   |  |
|-----------|-----------------------------------|---|---|---|--|
| QuickTime | Apple Animation                   | Y | Y | Y |  |
| QuickTime | Apple BMP                         | Y | Y | Y |  |
| QuickTime | Apple Cinepak                     | Y | Y | Y |  |
| QuickTime | Apple Component Video - YUV 422   | Y | Y | Y |  |
| QuickTime | Apple DV/DVCPRO                   | Y | Y | Y |  |
| QuickTime | Apple Graphics                    | Y | Y | Y |  |
| QuickTime | Apple H.261                       | Y | Y | Y |  |
| QuickTime | Apple Motion JPEG A               | Y | Y | Y |  |
| QuickTime | Apple Motion JPEG B               | Y | Y | Y |  |
| QuickTime | Apple MPEG-4                      | Y | Y | Y |  |
| QuickTime | Apple None                        | Y | Y | Y |  |
| QuickTime | Apple Photo - JPEG                | Y | Y | Y |  |
| QuickTime | Apple Planar RGB                  | Y | Y | Y |  |
| QuickTime | Apple PNG                         | Y | Y | Y |  |
| QuickTime | Apple TGA                         | Y | Y | Y |  |
| QuickTime | Apple TIFF                        | Y | Y | Y |  |
| QuickTime | Apple Video                       | Y | Y | Y |  |
| QuickTime | Avid DNxHD                        | Y | Y | Y | Requires Avid Codec Pack <sup>ii</sup> |
| QuickTime | Avid Media Composer Meridian 1:1  | Y | Y | N | Requires Avid Codec Pack <sup>ii</sup> |
| QuickTime | Avid Media Composer Meridian JFIF | Y | Y | N | Requires Avid Codec Pack <sup>ii</sup> |
| QuickTime | HDV                               | Y | Y | Y |  |
| QuickTime | IMX                               | Y | Y | Y |  |
| QuickTime | BlackMagic 10-bit                 | Y | Y | N |  |
| QuickTime | BlackMagic RGB 10-bit             | Y | Y | N |  |
| QuickTime | DVCPPro 50                        | Y | Y | Y |  |
| QuickTime | DVCPPro 100/HD                    | Y | Y | Y |  |
| QuickTime | H.263                             | Y | Y | Y |  |
| QuickTime | H.264                             | Y | Y | Y |  |
| QuickTime | Intel Indeo Video 4.4             | Y | Y | Y |  |
| QuickTime | JPEG 2000                         | Y | Y | Y |  |
| QuickTime | Omneon                            | Y | Y | Y |  |
| QuickTime | Sorenson Video                    | Y | Y | Y |  |
| QuickTime | Sorenson Video 3                  | Y | Y | Y |  |
| QuickTime | XDCAM MPEG-2 4:2:2                | Y | Y | Y |  |



| Container                 | Codec/Compliance  | Import         | Export | Incl. | Comments   |
|---------------------------|---|----------------|--------|-------|--|
| <b>Raw</b>                |   |                |        |       |  |
| Raw                       | FLC   | Y              | Y      | Y     |  |
| Raw                       | Raw DV (DIF)  | Y              | Y      | Y     |  |
| Raw                       | H.264   | Y              | Y      | Y     |  |
| Raw                       | VC-1  | Y              | Y      | Y     |  |
| <b>Real</b>               |   |                |        |       |  |
| Real                      | Real Video 10   | N              | Y      | Y     |  |
| Real                      | Real Video 9  | N              | Y      | Y     |  |
| Real                      | Real Video 10   | N              | Y      | Y     |  |
| <b>VOB</b>                |   |                |        |       |  |
| VOB                       | MPEG-2  | Y              | Y      | Y     | Requires an AC-3 audio decoder if embedded AC-3 is present on input side                             |
| <b>WMV/ASF</b>            |   |                |        |       |  |
| WMV/ASF                   | Window Media Video 9  | Y              | Y      | Y     |  |
| WMV/ASF                   | Window Media Video 8  | Y              | Y      | Y     |  |
| WMV/ASF                   | Window Media Video 7  | Y              | Y      | Y     |  |
| WMV/ASF                   | WMV 9 Adv. Profile  | Y              | Y      | Y     |  |
| WMV/ASF                   | VC-1  | Y              | Y      | Y     |  |
| <b>YUV - Uncompressed</b> |   |                |        |       |  |
| YUV                       | I420  | Y              | Y      | Y     |  |
| <b>Audio Codecs</b>       |   |                |        |       |  |
|                           | AAC   | Y              | Y      | Y     |  |
|                           | HE-AAC  | Y              | Y      | Y     |  |
|                           | AES3-302  | Y              | Y      | Y     |  |
|                           | AES3-331  | Y              | Y      | Y     |  |
|                           | AIFF  | Y              | Y      | Y     |  |
|                           | Broadcast WAV   | Y              | Y      | Y     |  |
|                           | Dolby Digital (AC-3) <sup>1</sup>                                     | Y <sup>1</sup> | Y      | Y     | MPEG-2 & H.264 Exporters   |
|                           | Dolby Digital Plus (E-AC-3) 1   | Y <sup>1</sup> | Y      | Y     | MPEG-2 & H.264 Exporters   |
| F4V, F4A, M4A, MP4        | AAC, HE-AACv1, MP3  | Y              | N      | Y     | Added Support for the import of audio only files   |
| F4V, MPEG-4 System Stream | AAC, HE-AACv1, Dolby Digital (AC-3), Dolby Digital Plus (E-AC-3), MP3 | N              | Y      | Y     | Allow creation of audio only files in the H.264 exporter in F4V containers and MPEG-4 System Streams |



| Container                          | Codec/Compliance   | Import | Export | Incl. | Comments   |
|------------------------------------|--|--------|--------|-------|--|
| <b>Audio Codecs Cont.</b>          |  |        |        |       |  |
| MPEG-2 Transport Stream            |  | N      | Y      | Y     | Allow creation of audio only files in the H.264 exporter in MPEG-2 Transport Streams |
|                                    | MPEG Audio   | Y      | Y      | Y     |  |
|                                    | MP3  | Y      | Y      | Y     |  |
|                                    | MPEG-1 Layer II  | N      | Y      | Y     | Use the MP3 Audio Exporter to create MPEG-1 Layer II elementary audio output files.  |
|                                    | PCM  | Y      | Y      | Y     |  |
|                                    | μLAW   | Y      | Y      | Y     |  |
|                                    | WAV  | Y      | Y      | Y     |  |
| <b>Other Compatible File Types</b> |  |        |        |       |  |
| SCC                                | Carbon supports the import of SCC files to insert Closed Caption data into Line 21 or alternative carriers, such as MPEG User Data.  |        |        |       |  |
| XML                                | Carbon supports insertion of Subtitling, Metadata, and Titling information via a structured XML file. Carbon also supports the extraction of Line 21 Closed Captioning information into an XML file. |        |        |       |  |
| STL                                | Carbon supports reading and writing STL files.   |        |        |       |  |
| Microsoft Smooth Streaming         | The Microsoft Smooth Streaming Exporter creates compliant files that can be streamed with the appropriate 3rd-party servers.   |        |        |       |  |
| HTTP Live Streaming                | The HTTP Live Streaming Exporter creates compliant files that can be streamed with the appropriate 3rd-party servers.  |        |        |       |  |



1: DOLBY (R) DIGITAL (TM) & DOLBY (R) DIGITAL PLUS(TM) DECODE RESTRICTION. The use of the Dolby Digital (AC-3) & Dolby Digital Plus (E-AC-3) decoder is limited to verification of media created with Carbon's Dolby Digital (AC-3) & Dolby Digital Plus (E-AC-3) encoder.

2: Link to download Avid codec pack: [http://avidtechnology.custhelp.com/cgi-bin/avidtechnology.cfg/php/enduser/fattach\\_get.php?p\\_sid=gMZG-Eaj&p\\_li=&p\\_accessibility=0&p\\_redirect=&p\\_file\\_id=2248&p\\_tbl=9&p\\_id=75079&p\\_created=1201627416&p\\_olh=0](http://avidtechnology.custhelp.com/cgi-bin/avidtechnology.cfg/php/enduser/fattach_get.php?p_sid=gMZG-Eaj&p_li=&p_accessibility=0&p_redirect=&p_file_id=2248&p_tbl=9&p_id=75079&p_created=1201627416&p_olh=0)

