

Harmonic ProMedia Carbon Release Notes 3.24.00

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Introduction

This document contains information specific to the Carbon 3.24 General Availability release.

New features in this release include:

- Preset reorganization
- Netflix Target Presets

Software Versions

The Carbon release 3.24 uses the following software build numbers:

Application	Build Number
Carbon Coder	3.24.00.48292

Carbon 3.24 is compatible with Rhozet Workflow System (WFS) versions 1.6 and higher.

System Requirements

Hardware Requirements

Minimum System

- Intel® Pentium 4 or AMD Athlon™
- 2 GHz CPU or faster
- 2 GB RAM (4GB RAM for HD encoding)
- Windows® XP SP3
- USB 1.1 or 2.0 port for USB Hardware Key
- 500 MB free hard disk space

Recommended System

- Dual Intel Xeon E54xx series processors
- 3.0 – 3.4 GHz processor clock
- 8 or 16 GB RAM
- Windows Server 2008 SP2 64-bit
- Omneon® MediaGrid or other high performance storage system
- USB 1.1 or 2.0 port for USB Hardware Key
- 500 MB free hard disk space

Operating System Requirements

The Operating System must be a Microsoft Windows 32- or 64-bit operating system from the following list, with additional requirements listed underneath.

- Workstation OS versions:
 - Windows® XP SP3
 - Windows Vista SP2
 - Windows 7
- Server OS versions:
 - Windows Server 2003 R2 SP1 or R2 SP2
 - Windows Server 2008 SP2
 - Windows Server 2008 R2
- A Windows Server OS is required for export to ProRes 422. A farm configuration with a minimum of two nodes is required. Refer to the Carbon User's Guide for details.
- 64-bit Windows operating system is recommended for multi-layer video exporters.
- Windows Server 2008 R2 64-bit is recommended for Carbon Server.
- Please note that the old Carbon Server Web Interface does not work on any Windows Server 2008 or Windows 7 systems. This interface has been deprecated and is no longer maintained.
- QuickTime® v7.6.9 is the most recent version of QuickTime that has been tested to work correctly with Carbon. Version 7.6.8 works as well. Other versions are not supported with Carbon.

Upgrade Considerations

Un-installing Earlier Versions

In order to upgrade to this release from an earlier version it is necessary to first un-install the earlier version.

Apple ProRes 422 System Requirements

Please refer to the Carbon Users Guide or the Release Notes for version 3.18.1 and 3.18.2 for system requirements related to writing Apple ProRes 422 clips.

New Features and Enhancements

The following table displays the features and enhancements in this release of the product.

Feature / Enhancement	Description
User Preset Category	A "User Presets" category has been created in order for the user presets to be saved separately from the factory presets. All existing presets at the time of the Carbon Upgrade will be migrated to the "User Presets" category.
Preset Reorganization	All the presets are consolidated in a logical manner.
Netflix Target Presets	Pre-configured Netflix compliant Target Presets. Presets are located in Production\Delivery\Netflix.

ProMedia Carbon Resolved Issues

Resolved Issues in This Release (17 issues)

Key	RN Summary
CCDR-878	AVC Quicktime source files with an incorrectly encoded first audio track fails to be loaded.
CCDR-925	High resolution XDCAM MXF OP1A video files containing two video tracks are encoded with the incorrect aspect ratio resulting in stretched video.
CCDR-928	When a random Sync byte appears in the transport stream before the actual Sync byte, carbon will not transcode the file properly.
CCDR-930	There is change in the product behavior. The MPEG 2 Importer previously was able to handle H.264 streams (that were rejected by H264 importer) as audio only. With this fix, such files are being rejected.
CCDR-934	Omneon Exporter generates Non-Drop-Frame for Drop Frame.
CCDR-946	Carbon Coder crashes with error "Carbon Coder Application has stopped working" when the "Teletext Data Extraction" filter is applied on the source.
CCDR-955	Exporting a H.264 file with AAC audio will cause an audio elementary buffer overflow.
CCDR-971	Omneon importer does not properly import source files with 8 Channels of Dolby-E audio.
CCDR-974	Transcoding Matrox MXF files in Carbon will lead to this error: "The stream type is invalid or not supported by the application. Stream-type: avc-intra system".
CCDR-994	No audio was present in the output when MP4 source files containing MP3 audio was used.
CCDR-1029	MPEG-2 Exporter does not create uniform packets when the "Uniform Packet Distribution" option is selected.
CCDR-1031	Some MPEG-2 Transport Stream files fails to be loaded.
CCDR-1033	Close Captions fails to display on Sony PVM-1741 and Apantac Multiviewer.
CCDR-1034	Carbon Smooth Streaming output files causes the Android 4.3 native player to crash.
CCDR-1036	Duration of MP4 file is incorrect in header after transcode.
CCDR-1041	A Registry key has been added to enable the Omneon importer to load files without extensions.
CCDR-1047	Timecode value specified in the Timecode Processing Filter was not inserted correctly in the H.264 MP4 stream.

ProMedia Carbon Known Issues

For earlier releases, refer to the archived release notes.

This section lists known limitations of Carbon as well as some other issues potentially perceived as Carbon limitations.

Known Issues in This Release (26 issues)

Key	Release Note Information
CCDR-49	<p>Legacy Omneon Exporter v1 fails with "Omneon: error adding track" in Windows 2003 Server.</p> <p>Workaround: Use Windows Server 2008 R2</p>
CCDR-54	<p>CarbonCoder "Scaling and Letterboxing" Transcoding Settings are not applied to Watch Folders.</p> <p>Workaround: Configure the Nexus Service to run in Administrator mode or set the UAC mode to "Never Notify".</p>
CCDR-80	<p>MPEG-2 Exporter v2 sometimes errors with "Unspecified Transport System Target Decoder (T-STD) error" when Transport Rate setting for Transport Streams is zero.</p> <p>Workaround: Set the Transport Rate to the maximum bit rate allowed in the profile/level as specified in ISO/IEC 13818-2 Table 8-13.</p>
CCDR-135	<p>Post-Transcode delivery does not transfer Reference essence (.m2v, .wav, .aiff) files.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-145	<p>Transcoding Sony MXF files with a Non-Zero timecode in the MXF Tracks results in this error message: "An unknown error occurred"</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-148	<p>XDCAM EX 422 .mov files cannot be imported after upgrading to QuickTime 7.7.</p> <p>Workaround: Use QT version 7.6.8.</p>
CCDR-158	<p>Audio Source filters are not applied to complex source project</p> <p>Workaround: There is no workaround for this issue.</p>

CCDR-170	<p>CarbonCoder or CarbonAdmin uses 1 license while Nexus service uses another license when it is launched through remote desktop using network dongle.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-208	<p>Source files of several hours often fail when transcoding to SmoothStreaming VC-1.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-224	<p>The setting of "Use source filename if required" does not get saved in the preset.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-253	<p>A project containing multiple H.264 targets fill fail to encode in Windows 2003.</p> <p>Workaround: Reduce the number of targets or upgrade to Windows 2008.</p>
CCDR-469	<p>Many *.MOV.0000.Time files are created in the Watch Folders causing transcoding errors</p> <p>Workaround: Add an exclusion filter to the watch folder and set it to *.time</p>
CCDR-504	<p>EB Underflow error when Muxing Specific Streams that contains more than 1 second of CPB delay.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-547	<p>When no data is introduced into the pipeline, it causes an error message.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-551	<p>59.94fps source timecode always always uses non-drop frame timecode.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-552	<p>Timecode conversion with "Use NTSC Drop Frame Time Code" only works for 29.97 fps, not for 59.94 fps.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-583	<p>Cea708ToTtmlConvertor does not respect service language input.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-594	<p>There is no image preview for RMP proxy jobs</p> <p>Workaround: There is no workaround for this issue.</p>

CCDR-605	<p>Audio Passthrough with TS transcode preset based job fails showing "unknown error" message when a low video bit-rate value is used.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-607	<p>Packager job will fail if there are Ampersand Characters in the source filename.</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-645	<p>Corrupted files ingested on Omneon Video Server using pre-charge and Dolby E audio cannot be decoded by ProMedia Carbon Dolby-E filter</p> <p>Workaround: There is no workaround for this issue.</p>
CCDR-672	<p>HTTP Live Streaming Exporter Crashes When Job XML Reaches More Than 500KB In Size</p> <p>Workaround: There is no workaround for this issue.</p>

<p>CCDR-676</p>	<p>HLS Packager Layer Manifest Version information is incorrectly recorded.</p> <p>Workaround: There is no workaround for this issue.</p> <p>According to Apple's Specification "The Playlist file SHOULD contain one EXT-X-VERSION tag which indicates the compatibility version of the stream. Its value MUST be the lowest protocol version with which the server, Playlist file, and associated media segments all comply. Its value MUST NOT change."</p> <p>So we would try to find the lowest version for the playlists. And because of this, the versions of variant playlist and index playlists may not be the same.</p> <p>For v2 setting, the variant playlist does not have any tags from version greater than 1, and a playlist without EXT-X-VERSION tag will be treated as version 1 according to the spec: "A Playlist file that does not contain an EXT-X-VERSION tag MUST comply with version 1 of this protocol."</p> <p>Therefore, our v2 variant playlist is valid even though it does not have EXT-X-VERSION tag.</p> <p>For v4 setting, the variant playlist has the EXT-X-MEDIA tag, and hence there will be an explicit EXT-X-VERSION:4 tag.</p> <p>From the spec:</p> <p>"Clients and servers MUST implement protocol version 4 or higher to use:</p> <ul style="list-style-type: none"> o The EXT-X-BYTERANGE tag. o The EXT-X-I-FRAME-STREAM-INF tag. o The EXT-X-I-FRAMES-ONLY tag. o The EXT-X-MEDIA tag. o The AUDIO and VIDEO attributes of the EXT-X-STREAM-INF tag." <p>For both setting, the index playlists may not always be version 1. The version may be equal to 2 if IV (for encryption) exists in the playlist.</p>
<p>CCDR-678</p>	<p>DVD/CEA-608 caption imprint is two lines higher than baseband.</p> <p>Workaround: There is no workaround for this issue.</p>
<p>CCDR-926</p>	<p>Transcoding Omneon source files containing Precharge with In/Out points causes Carbon to crash.</p> <p>Workaround: There is no workaround for this issue.</p>

<p>CCDR-1087</p>	<p>Source files with the Avid AVx1 codec are not transcoded properly.</p> <p>Workaround: The CODEC is not present in the system. You will need to download and install the Avid CODEC LE 2.1 pack available in here: http://resources.avid.com/SupportFiles/attach/PC_AvidCodecsLE_2.1.zip</p> <p>When transcoding, change the Output Color Format to RGBA</p>
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Legacy Known Issues from PM Carbon

Bug #	Description
	<p>Smooth Streaming H.264 Exporter sometimes crashes.</p> <p>WORKAROUND: The crash can be caused by the system running out of desktop heap memory. See http://support.microsoft.com/kb/184802</p> <p>To increase the size of the desktop heap, modify the following registry key: HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Session Manager\SubSystems\Windows</p> <p>The numeric values following "SharedSection=" control how the desktop heap is allocated. The setting that needs to be modified is the third one; it needs to be modified to 10MB.</p>
	<p>It is possible that Carbon API responses will include a parameter "AspectRatio.DWD" with no value (NULL character). Carbon API calls should not include this parameter. Note: the AspectRatio.BIN parameter can still be used.</p> <p>WORKAROUND: There is no workaround; Carbon API calls should not include this parameter.</p>
	<p>There is a known Windows memory leak in Windows Server SP2 that may be observed when a Carbon output folder is shared with a Mac. See the following Microsoft article: http://support.microsoft.com/default.aspx?scid=kb;EN-US;976618</p> <p>WORKAROUND: Install Windows Server 2008 R2.</p>
	<p>Due to the version of install shield used, .NET 2.0 is not automatically installed on 64-bit Operating Systems.</p> <p>WORKAROUND: One way to find out which version .NET is installed is to go to the C:\Windows\Microsoft.NET\Framework folder and observe the names of the subfolders. Alternatively, look in the list of installed Windows features. If version 2.0 is not installed, then depending on the OS and its version, the .NET 2.0 (or higher) Framework may already be available but it still needs to be turned on in the OS. For example, in Server 2008 R2, navigate to Control Panel, then Programs, then Programs and Features, then select "Turn Windows features on or off". If .NET 2.0 or higher is not available then manually download from Microsoft and install before installing Carbon Coder: http://www.microsoft.com/download/en/confirmation.aspx?id=6523</p>
	<p>Some MPEG Transport stream files will fail to transcode due to "Unspecified Transport System Target Decoder (T-STD) error."</p> <p>WORKAROUND: Change the transport rate from (0 automatic selection) default, to the desired rate.</p>
	<p>Creation of H.264 proxies from Spectrum source clips will fail if the source clips are QuickTime reference or MXF reference clips, and the source clips are still growing while the proxy is generated, and the Spectrum systems used to record the clips are Media Center or MediaDeck II, and Carbon accesses the source clips directly on the Spectrum file system.</p> <p>WORKAROUND: There is no workaround for this issue.</p>

Bug #	Description
	<p>When using the Flash Exporter with source media that exceeds five hours, the resulting target file is truncated to approximately one hour.</p> <p>WORKAROUND: There is no workaround for this issue.</p>
	<p>HTTP Live Streaming Exporter: cannot create more than 16383 files.</p> <p>WORKAROUND: Choose segment size and number of layers in such a way that number of files does not exceed 16383.</p>
B-5890 T-13624	<p>Carbon Admin window does not resize properly.</p> <p>WORKAROUND: Must close the Carbon Admin application and reopen it.</p>
B-8375	<p>A letter preceding the wildcard in FTP retrieval does not work.</p> <p>WORKAROUND: Must type the URL path preceding the wildcard.</p>
B-7015 T-07420	<p>Using a Leading/Trailing clip that differs from the aspect ratio of the video being encoded will generate black bars.</p> <p>WORKAROUND: There is no workaround for this issue.</p>
B-8241 T-13045	<p>Files created by Encoding from ProRes source to MPEG4 (H.264) with channel mixer audio filter (Channels 7 and 8) will have audio sync issues when played back in QuickTime Player.</p> <p>WORKAROUND: This is a bug in the QuickTime Player. There is no workaround.</p>
B-8296 T-13432	<p>Project fails with "Terminated: No Progress Timeout."</p> <p>WORKAROUND: Increase the timeout values from the default settings.</p>
B-8392 T-13262	<p>Transcode stalls on some GXF files.</p> <p>WORKAROUND: There is no workaround for this issue.</p>
B-8411	<p>Carbon decodes and scales the source in the XML, even though it is not being used.</p> <p>WORKAROUND: Unused source files should be removed from the API.</p>
B-8493 T-15430	<p>Injected TeleText does not show up in the encoded file.</p> <p>WORKAROUND: Ensure that the source file has valid time code and that the "ignore Source Video Timecode" check box is disabled.</p>
B-8503	<p>Repeat frames observed in the WindowsMedia video output.</p> <p>WORKAROUND: This is a normal Windows Media CODEC behavior.</p>
B-8536 T-14883	<p>For some MPEG2 to MPEG2 conversions, output file has a shorter duration than the original source.</p> <p>WORKAROUND: There is no workaround for this issue.</p>
B-8564	<p>Converting from 8-bits 5.1 or 8-bits 7.1 audio source will produce audio noise in the output file.</p> <p>WORKAROUND: There is no workaround for this issue.</p>
B-8604	<p>Network license has a higher priority than local license.</p> <p>WORKAROUND: There is no workaround for this issue.</p>

Bug #	Description
B-8653 T-09227	Cannot generate PCM audio file larger than 4GB. WORKAROUND: No workaround. This is a limitation of the wave file format. PCM WAV files have a file size limit of 4GB.
B-8654	Carbon Coder GUI and Nexus may crash when AVI exporter is selected as target because of an incompatible DirectShow CODEC. WORKAROUND: The offending DirectShow CODEC must be uninstalled, or the AVI Exporter must be disabled by removing the CMLDSTAVI2.dll.
B-8655	Some MPEG4 files using the .mov extension do not encode. WORKAROUND: Rename files to .MP4.
B-8664 T-09693	Carbon on 32-core AMD machine does not transcode any H.264 MP4 source to any target. WORKAROUND: There is no workaround for this issue.
B-8669 T-08354	MPEG4 source file created by the Sony PMV-350-K camera will transcode but the resulting output file may have interlacing artifacts and extreme jitter. WORKAROUND: There is no workaround for this issue.
B-8673	Transport Stream file fails to load. WORKAROUND: This may be caused by the file not having the correct Frame Rate information. There is no workaround for this issue.
B-8674	Expression Encoder is not showing proper aspect ratio for the video stream. WORKAROUND: There is no workaround for this issue.
B-8807	A job for transcoding to ProRes 422 with the QuickTime 7 Exporter will stall if there are one or more source files that have a bit depth of more than 8-bit. WORKAROUND: Split the job into multiple jobs using queue mode or watch folders for different types of source material so that the valid, 8-bit sources will be transcoded.