ProMedia™ Carbon
FILE-BASED TRANSCODER

Powered by Harmonic’s Rhozet® technology, ProMedia™ Carbon is a file-based transcoding solution that enables the conversion of media to a massive array of acquisition, editing, broadcast, web and mobile formats. The software-based application provides high-performance, scalable and cost-effective transcoding for a broad range of video production and distribution environments, from specialized studios to enterprise-scale installations. It also performs a number of critical operations, including SD/HD conversion, PAL/NTSC conversion, logo insertion, color space conversion, color correction, closed-caption extraction and more. ProMedia Carbon includes an open API that allows for the creation of custom workflows or third-party applications.

Breadth of Format Support
ProMedia Carbon provides the ability to transcode from virtually any media format to every media standard in use today. Supporting all major SD and HD formats, the application is continually updated to accommodate new formats and ensure the user’s ability to meet evolving content production and distribution requirements.

Intuitive User Interface
Featuring an easy-to-use interface that enables complete control over every aspect of the transcoding process, ProMedia Carbon simplifies the ability to convert files into any number of target formats, each with a unique set of operations and filters applied. For example, you can burn in a logo and timecode on a review format while applying special cropping to a mobile format.

Automated Operation
ProMedia Carbon can be run in a fully automated mode with support for batch processing, local watch folders and automatic FTP transfers. Intelligent transcoding performance increases productivity by easily identifying source formats and automatically transcoding them to the desired destination formats.

Scalable Transcoding
For large transcoding tasks, multiple ProMedia Carbon nodes can be configured as a transcoding farm under the control of Harmonic’s WFS™ file-based workflow engine. WFS manages job distribution, prioritization, load balancing, FTP transfers, status monitoring and job notification.

XML-Based SDK
ProMedia Carbon can be controlled directly via an XML-based SDK provided with the software. Every aspect of the transcoding process can be controlled by the SDK, including source/target destinations, transcoding parameters, filtering, compositing, ad insertion, titling, notifications, etc. This next-generation server powers new revenue-generating services while delivering low total cost of ownership.

APPLICATIONS
- File-based transcoding software for production and multiscreen video content preparation
- Broad format support
- Intuitive user interface
- Automated operation
- Scalable transcoding
- XML-based SDK

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Broadcast
ProMedia Carbon is used to convert from the format provided by the Content Delivery Network to formats needed within the broadcast facility. Content from the server can be converted directly to a playout format, or first be converted into an editing format. After editing, the finished program is then converted again for broadcast playout.

Webcasting
In a webcasting environment, ProMedia Carbon is used to capture content directly from tape or DVD and then to convert it into a master digital format for storage in the archive. This provides maximum quality and flexibility for conversion to web formats. Content is pulled from the archive as needed, transcoded into multiple final delivery formats, and then pushed to the web server.

Workgroup
Transcoding among a workgroup can be centralized into a transcoding farm of multiple ProMedia Carbon engines under the control of WFS. Featuring an extensive API, WFS can manage the complete video asset transformation process by integrating additional third-party and Harmonic processing nodes.
SPECIFICATIONS

SUPPORTED VIDEO CODECS

- MPEG-1: DV25, DV50, DV100, DVCPRO
- MPEG-2: DPS
- MPEG-4: DivX
- H.263: JPEG 2000
- H.264: DNxHD, AVC-Intra
- VC-1: Image Sequences
- Flash: Windows Media, RealVideo

SUPPORTED AUDIO CODECS

- Dolby Digital (AC-3): AAC
- Dolby Digital Plus (E-AC-3): AMR-NB
- Dolby E: Windows Media Audio
- PCM: MPEG-1 Layer II, MP3
- RealAudio

BASIC OPERATIONS

- Frame size conversion: PAL/NTSC conversion
- Frame rate conversion: SD/HD conversion
- Color space conversion: Cropping
- Aspect ratio conversion: Key-frame extraction
- Interlace/de-interlace: Multiple target outputs
- Telecine/inverse telecine: Batch processing

VIDEO FILTERING

- Fade in/out: Rotate
- Median: Black/white correction
- Blur: Color correction
- Sharpen: Gamma correction
- NTSC-safe: Temporal noise reduction
- Deblocking: Motion compensated temporal filter

SUPPORTED MEDIA CONTAINERS

- AVI
- LXF, GXF
- QuickTime: WMV, WMA, ASF
- HDV: VOB
- MXF (OP1a, OP-Atom): 3GPP
- MPEG-2 PS, MPEG-2 TS: 3G2
- WAV, Broadcast WAV: Microsoft Smooth Streaming (H.264, VC-1)
- Apple HTTP Live Streaming

SUPPORTED SYSTEMS

- ATSC, DVB, CableLabs: Quantel sQ
- Panasonic P2: Avid MediaStream
- Sony XDCam: Apple Final Cut Pro
- Harris Nexia, Leitch VR: Adobe Premiere Pro
- Grass Valley Profile, K2: Grass Valley Edius
- Harmonic Spectrum

ADVANCED OPERATIONS

- Compliance checking: Logo insertion
- Timecode imprint: 601/709 color space support
- Subtitle/CC imprint: Optional video capture board support
- XML controllable titler: Remote job submission
- Metadata transport/conversion: Watch folder automation
- Line 21/CC conversion: Segment extraction/insertion
- CEA 608 to 708 caption conversion: Teletext, STL handling

AUDIO FILTERING

- ITU 1770 Normalize: Volume
- Low-pass: Dynamic range compressor
- Fade In/Out

SYSTEM REQUIREMENTS

- Recommended Operating Systems
- Windows® Server 2008 R2 (64-bit)
- Windows 7 (64-bit)
- Supported Operating Systems
- (in order of most to least recommended)
- Processor: Intel® or AMD® 3.0 GHz or faster
- Memory: 2 GB minimum, 4+ GB suggested
- Note: faster processors, more processing cores and more memory will increase performance
- Media Viewer: QuickTime 7.6.8