



Multimedia Codecs

Windows® Embedded CE Multimedia Codecs for the i.MX31 Applications Processor

Overview

Freescall's high-performance multimedia codecs enable a series of popular audio, video and image applications for the i.MX31 applications processor. The multimedia codecs are provided as fully functional software packages to support various use cases, such as audio/video playback, audio/video record or image capture/display.

There are two types of codec software packages available for the i.MX31 applications processor.

- Standard Codec Software Packages consist of software codecs and enabling software.
- VPU Codec Software Packages consist of enabling software to support the hardware-accelerated codecs that reside on the processor.

Key Features

- Support for i.MX31 processors
- Functional software packages with production-ready components that have been developed by Freescale
- Highly optimized software that is coded by Freescale processor experts

- Consistent application programming interface (API) and frameworks across all software packages
- Demonstration and full versions of software packages available through a streamlined, Web-based licensing and delivery system
- Freescale development tools, test streams and documentation

VPU Codec Software Packages

Hardware-accelerated codecs are generally referred to as components of the video processing unit (VPU). Selected hardware-accelerated codec libraries and drivers reside on the i.MX31 processor and Windows® Embedded CE board support package (BSP), respectively.

The i.MX31 VPU Codec Software Package includes the wrappers (DShow and DMO filters) and audio/video file containers (parsers) required to enable the MPEG-4 SP and H.263 hardware-accelerated video encodes. Documentation is also provided.

Standard Codec Software Packages

A broad portfolio of multimedia software codec packages is available to support the i.MX31 processor. The i.MX31 Standard Software Packages include:

- Codec library with a standard C-callable API
- DShow and DMO wrapper filters that provide an API layer between the DirectShow multimedia framework and the codec library
- Audio/video file containers (parsers) that support popular multimedia content, such as .aac, .asf, .mp3 and .mp4 files
- Bundle of audio/video test streams
- Documentation, including release notes and data sheets

The portfolio of codecs and parsers for the Windows Embedded CE i.MX31 platform includes:

Video Codecs

- H.264 BP Decoder
- MPEG-2 MP Decoder
- MPEG-4 SP/H.263 Decoder
- MPEG-4 SP/H.263 Encoder (Hardware Codec)
- WMV9 SP/MP Decoder

Audio Codecs

- AAC LC Decoder
- Enhanced AAC Plus Decoder
- MP3 Decoder
- MP3 Encoder
- SBC Encoder
- WMA10 Decoder
- WMA10 Lossless Decoder
- WMA10 Pro Decoder
- WMA8 Encoder

Image Codecs

- BMP Decoder
- GIF Decoder
- JPEG Decoder
- PNG Decoder

Parsers

- ASF Demuxer (WMA + WMV)
- M4A Demuxer (MPEG-4 audio)
- M4V Demuxer (MPEG-4 video)
- MP4 Demuxer (H.264/MPEG-4 + AAC/MP3)

Hardware Requirements

The codec software packages run on the Freescale Application Development System (ADS) and Product Development Kit (PDK) development boards with supported i.MX31 processors. Visit www.freescale.com/imx31 for more information.

Platforms and Reference Designs

Platforms and reference designs help jump start your design. They include comprehensive software suites running on application-specific boards. The easy-to-use APIs enable

customization and control of core system functions, letting you focus on adding value through product differentiation. For more information on platforms, reference designs and third-party reference designs, visit the Freescale i.MX System Solutions at www.freescale.com/imxsystemsolutions.

Availability and Licensing

Each codec software package is optimized to support i.MX31 processors and is a licensed product. Licensees must sign a license agreement with Freescale prior to receiving the demonstration or full versions of the software packages. Visit www.freescale.com/imx31 for more information.

Licensing Restrictions for Third-Party Partner Codecs

Selected codecs that have been developed with Freescale partners require prior certification, including Microsoft® and Coding Technologies (Dolby® Labs) licensed codecs. To inquire about certification, please contact your distributor or sales representative.

Worldwide Support

Each codec software package includes detailed release notes, data sheets and API documentation to get you started. Support for licensed software packages is also available at www.freescale.com/support.

Third-Party Partner Support

Freescale has an extensive global network of third-party developers that can provide additional codec software packages and provide system integration support. Visit www.freescale.com/fwdn for more information on third-party partner support.

Contact Us

Home Page:
www.freescale.com

Web Support:
www.freescale.com/support

Freescale i.MX31 Home Page:
www.freescale.com/imx31

USA/Europe or Locations Not Listed:

Freescale Semiconductor
Technical Information Center, EL516
2100 East Elliot Road
Tempe, Arizona 85284
+1-800-521-6274 or +1-480-768-2130
www.freescale.com/support

Europe, Middle East and Africa:

Freescale Halbleiter Deutschland GmbH
Technical Information Center
Schatzbogen 7
81829 Muenchen, Germany
+44 1296 380 456 (English)
+46 8 52200080 (English)
+49 89 92103 559 (German)
+33 1 69 35 48 48 (French)
www.freescale.com/support

Japan:

Freescale Semiconductor Japan Ltd.
Headquarters
ARCO Tower 15F
1-8-1, Shimo-Meguro, Meguro-ku,
Tokyo 153-0064, Japan
0120 191014 or +81 3 5437 9125
support.japan@freescale.com

Asia/Pacific:

Hong Kong Ltd.
Technical Information Center
2 Dai King Street
Tai Po Industrial Estate
Tai Po, N.T., Hong Kong
+800 2666 8080
support.asia@freescale.com

For Literature Requests Only:

Freescale Semiconductor Literature
Distribution Center
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