



Original



H.263, Resolution 704 x 576, Quality 8

The DResearch H.261 and H.263 Codecs combine the advantages of a real-time performance with the flexibility of a software-only solution.

Comprehensive documentation, a powerful API, release and debug builds will enable you to rapidly integrate our codecs into your video communication system.

DResearch H.261 Codec

ITU H.261 Recommendation

Input:

- CIF 352 x 288
- QCIF 176 x 144

System Requirements

- x86 (MMX/SSE/3DNow!) as library
- Philips TriMedia TM-1X00

Additional Features

- Color space conversion YUV→RGB: MMX - Version for decoder
- Additional Trace-Mode for decoder and encoder
- Additional Debug-Information: debug build available with decoder
- Advanced Rate Control (TMN9): available with encoder
- H.263+: user-defined resolutions for decoder and encoder
- H.263+: user-defined time basis for decoder and encoder

DResearch H.263+ Codec

ITU H.263 (Version 1) and (Version 2) Recommendation

Input:

- Standard resolution up to 16CIF,
- User-defined resolutions from 4x4 to 2048x1152

System Requirements

- x86 (MMX/SSE/3DNow!) as library, ActiveX and Transformfilter
- Philips TriMedia TM-1X00 as library (TSSA from Version 2.0)

Annexes:

A, C, D, E, F, I, J, K, M, N, O, S, T

Applications

Together with the boards for audio and video communication produced by DResearch, the H.26x Codecs, offer an excellent tool to develop modern multimedia applications in a fast and comfortable way.

Industrial employment as well as important security applications can be covered with these codecs.

Fields of application include, among others, the following:

- video transmission
- video archiving of big data

Compression Rates

Example Settings (H.263+)

- optimized for small bit rates
- alternatively: maximization of the frame rate or maximization of the compression rate
- dependent on the selected settings:
 - algorithms for motion estimation
 - algorithms for bit rate control
 - adjustable search window for motion vectors

FastInter Mode	Frame rate: up to 30 CIF/s with quality 8 Bit rate: variable up to 1.5 Mbit/s for the TM-1300	No bit rate control No additional annexes Adjustable quality Minimal motion estimation
Fast Mode (typical for video applications)	Frame rate: ca. 15 CIF/s Bit rate: 200 000 – 768 000 bits/s	Advanced rate control (TMN9) No additional annexes Snowflake search mode
High Compression Mode	Frame rate : ca. 8 CIF/s Bit rate: 64 000 – 768 000 bits/s	Advanced rate control (TMN9) Annexes DFST Snowflake search mode

Supported H.263 Annexes

Annex and Description	Encoder	Decoder
A – IDCT Accuracy Specification	Not in the MMX version	Not in the MMX version
C – Continuous Presence Multipoint	Frame-based multiplexing	Frame-based multiplexing
D – Unrestricted Motion Vector Mode	Implemented	Implemented
E – Syntax-based Arithmetic Coding Mode	Implemented	Implemented
F – Advanced Prediction Mode	Implemented	Implemented
H – Forward Error Correction for coded video signal	Additional library required	Additional library required

Supported H.263+ Annexes

Annex and Description	Encoder	Decoder
I – Advanced INTRA Coding mode	Implemented	Implemented
J – Deblocking Filter	Implemented	Implemented
K – Slice Structured mode	Implemented as GOB substitute	Not in RS submode
L – Supplemental Enhancement Information	Not implemented	Decodes the information
N – Reference Picture Selection mode	Implemented	Not implemented
O – Temporal, SNR and Spatial Scalability mode	SNR and Spatial implemented	Not implemented
P – Reference picture Resampling	Implemented	Implemented
S – Alternative INTER VLC mode	Implemented	Implemented
T – Modified Quantization mode	Implemented	Implemented