EMBLAZE VCON
Video Made Easy

HDDK

Development of customized videoconferencing applications

The Emblaze-VCON High Definition Development Kit (HDDK) is a set of software libraries and tools which enable application developers to add customized visual communications to their own software and hardware platforms.

The HDDK is a complete set of 32-bit OCX custom controls designed to build both personal and group conferencing applications. To meet various conferencing and collaboration requirements, developers have access to Emblaze-VCON's high-quality video and audio codecs, compression technology, Quality of Service transmission, data sharing capabilities, and more. The results are conferencing environments in which dialing and receiving videoconferences are easy, yet also deliver the robust performance required for everyday business and enterprise communications.

Who uses HDDK?

- In-house software developers,
- Original electronic applicance manufacturers
- System integrators
- Independent software vendors
- End-user organizations

Which sectors benefit from HDDK?

- Security and surveillance
- Banking, financial services, and e-Commerce
- Telemedicine, remote consultations and diagnoses
- Distance learning
- Help desks and call centers

HDDK OCXs

LAN OCX	Controls point-to-point IP telephony connection and videoconferencing synchronization based on the H.323 standard. The LAN OCX also includes Interactive Multicast chair control, participant list management, and broadcast viewing (SDP listening) capabilities.
Video OCX	Controls the display mode (Local/Remote), display settings (contrast/brightness/color), video quality, and video device list selection.
Camera OCX	Controls Local and Remote Pan/Tilt/Zoom (PTZ) cameras.
Audio OCX	Controls the speakers' volume level, microphone input gain, audio quality, and audio input and output device lists selection.
Config OCX	Controls general system parameters and enables the MXM server to control the end point characteristics and allows the end point to send requests to the MXM server for online configuration changes.
Network OCX	Includes PBX functionality such as call transfer, call forward, call pickup, and ad-hoc conferencing (Invite).
Record OCX	Enables recording, playback, and e-mailing of AVI files.
Directory OCX	Provides connection and registration support for multiple online LDAP directory servers.

Advantages of Developing with HDDK

- Supports data rates up to 1.5 Mbps for desktop applications
- Supports data rates up to 4 Mbps for group system applications
- H.264 video support
- CD-quality audio with ultra-wide band, 20 kHz audio for group applications
- Incorporates H.239, HD DualStreamTM for simultaneously sending and receiving video + data streams
- Supports encrypted conferences using the H.235 encryption standard
- Emblaze-VCON PacketAssistTM architecture for advanced Quality of Service (QoS) over IP
- Supports management by videoconferencing gatekeepers, such as the Media Xchange Manager® (MXM), or operation as stand-alone systems

HD series

Minimum PC Requirments

Desktop Applications

- Pentium IV 1 .2 GHz PC
  H.264 requires a HyperThread-based CPU or 1.6 GHz Centrino CPU or AMD PCs equal or faster than Athlon XP 2600 and Athlon 64 2800*

- Windows 2000, XP
- 25 MB available disk space
- 256 MB memory
- Graphic display that supports DirectX 9.0

Group System Applications

- Pentium IV 3 GHz PC
- Windows 2000, XP
- 25 MB available disk space

- 256 MB memory
- Graphic display that supports DirectX 9.0

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Specifications

Video Specifications
Transmission Speed
64 Kbps - 4Mbps

Video Standards
H.261, H.263, H.263+/++
H.264:
Desktop - up to 512 Kbps
Group - upt o 4 Mbps

Live Video Resolution
Interlaced CIF (352 x 576 pixels)*
CIF (352 x 288 pixels)
QCIF (176 x 144 pixels)
QVGA (320 x 240 pixels)
HDTV (1280 x 720 pixels)

Video Frame Rate
Up to 15 fps: 64 - 128 Kbps
Up to 20 fps: 192 Kbps
Up to 30 fps: 256 Kbps +
Up to 60 fps: 1 Mbps and higher*

Video Features
Video device discovery
Automatic NTSC/PAL detection
Unlimited number of video devices supported

HD Simulcast^{TM}
Chair or Participant in any Interactive Multicast session
Broadcast Viewer (SDP listening) support
Uses bandwidth-efficient IP multicast

Audio Standards
20 KHz: AAC-LD*
7 KHz: G.722, G.722.1
3.4 KHz: G.711, G.723.1, G.728,G.729

Audio Specifications
Audio Features
Full duplex echo cancellation
Automatic noise suppression (ANS)
Automatic gain control (AGC)
Audio device discovery
Audio tuning wizard
Unlimited number of audio devices supported
Headset and speaker profiles
Voice Activity Detection (VAD**)**

Data Specifications
HD DualStream^{TM}
File, region, and window sharing
Windows desktop sharing
H.239 support
Tandberg DuoVideo support
Sending and receiving capability
1 live video source + 1 data source
Resolutions supported:
XGA, SVGA, VGA, CIF, QVGA, QCIF**

Data Sharing includes:
Desktop: Desktop sharing
Group: Desktop sharing, Internet, documents, graphics files, movie files, audio files
(most common file formats)

Networking Specifications
Standards Supported
ITU-T: H.323 v4.2
H.281 Annex Q (FECC)

H.323 QoS Features
DiffServ
IP Precedence
Firewall port sync
NAT IP address mask
Port pinholing
Adaptive Bandwidth Adjustment
Packet loss recovery (FEC)
Packet ordering
Packet duplication control
Jitter correction
Lip sync correction
Overhead prediction
Max packet size adjustment

Other Specifications
Security
Encryption using H.235 (AES)
Supports Emblaze-VCON SecureConnect
— DES, 3DES and AES support
— AES is NIST validated
Supports Emblaze-VCON Frontier
— Firewall traversal
— Network address translation
Supports restricted access users

Directory Services
1000+ local number directory
10,000+ global number directory
H.350 support (MXM mode)
LDAP online directory support
— OpenLDAP
— Microsoft ILS, SiteServer, Active Directory and Exchange
— Sun iPlanet
— Netscape Directory
Search and filter queries

Group applications only

*** In non-H.264 capable PCs, DualStream resolution is up to CIF.*

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