

**Set-top Videoconferencing System and Integrator's Codec**

Emblaze-VCON's HD2000 is a high quality videoconferencing engine for integration into a custom multimedia room environment. When combined with external audio mixers, video switches and touch-screen control devices, virtually any rich media communication solution can be created. The HD2000 produces TV-quality video with extremely low latency and IP conferencing data rates up to 4 Mbps. With an embedded MCU and streaming capabilities, as well as a suite of integration APIs, the HD2000 can be used to create any custom application in an array of industries such as healthcare, large education facilities and corporate boardrooms. The high-quality, lifelike video and crisp, clear audio guarantee that meeting participants are experiencing the best videoconferencing quality available.

**Advantages of Conferencing with HD2000**

Custom integration design includes rack mount codec and extensive set of APIs

Provides TV-like video quality using the H.264 video standard

Multipoint conferencing capabilities via an embedded 4-port MCU

HDSimulcast™ technology for advanced streaming capabilities

H.239 and HD DualStream™ for simultaneously sending video and data streams

Web-based management for easier control and administration

Media Xchange Manager® management for advanced videoconferencing functions

Supports encrypted conferences using the H.235 encryption standard (AES)

**Advanced Features**

The HD2000's embedded MCU can connect up to 4 sites. Participants can dial into a multipoint videoconference, or the MCU administrator can set up a dial-out conference, instantly connecting all parties. With chair control, the conference administrator can ensure the conference runs smoothly. Using Emblaze-VCON's HD DualStream technology, participants can share data and video simultaneously during a multipoint conference, as well as view data and video sent by a remote site on a single monitor.

The HD2000 incorporates multiple ways of streaming live videoconferences both over the corporate network and over the Internet, during a point-to-point or multipoint conference. Additionally, users can participate in high-bandwidth videoconferences, while streaming those conferences over the Internet at a lower and more appropriate bandwidth. These streaming capabilities can be accessed via the HD web manager, allowing the network administrator to begin and end streaming.

**Integration APIs**

The HD2000 serial and IP-based APIs allow for easy integration into a variety of applications. The types of functions exposed via the HD2000 serial and IP-based APIs are:

- |                      |                        |
|----------------------|------------------------|
| Call initiation      | Network QoS parameters |
| Call termination     | System reboot          |
| Call configuration   | Multicast settings     |
| System configuration | Debugging messages     |
| Streaming control    | Embedded MCU control   |



*Integrators can use the HD2000 to create custom applications in an array of industries such as healthcare, large education facilities, and corporate boardrooms.*



**Emblaze-VCON Ltd.**  
**Headquarters**  
 Beit Rakefet  
 1 Emblaze Square  
 POB 2220  
 Ra'anana 43662  
 Israel  
 Tel: +972-9-7627800  
 Fax: +972-9-7627801

**Emblaze-VCON, Inc.,**  
**Americas**  
 2 University Plaza, Suite 201  
 Hackensack, NJ 07601  
 USA  
 Tel: +1-201-883-1220  
 Fax: +1-201-883-1229

**Emblaze-VCON China**  
**Representative Office**  
 Unit 1321, Tower B. COFCO Plaza  
 No. 8 Jianguomennei Avenue  
 Beijing, 10005  
 China  
 Tel: +86-10-6526-9791  
 Fax: +86-10-6526-9790

**Emblaze-VCON GmbH**  
**Germany**  
 Schmellerstr. 23  
 D-80337 Munchen  
 Germany  
 Tel: +49-89-76757142  
 Fax: +49-89-76757143

**Emblaze-VCON Italy**  
 Via Portuense 1555  
 Commericity M27  
 00050 Ponte Galeria (Rome)  
 Italy  
 Tel: +39-06-400-43110  
 Fax: +39-06-400-43113

**Emblaze-VCON UK**  
 London House, 42 Brook St.  
 London, W1K 5DB  
 United Kingdom  
 Tel: +44 (0)117 302 6795  
 Fax: +44 (0)117 302 6794

## What's in the box?

- ⊗ HD2000 codec
- ⊗ Power cable
- ⊗ Audio and video cables
- ⊗ LAN cable
- ⊗ RS-232 serial cable
- ⊗ IR remote control
- ⊗ IR extender cable and receiver (1.8 m)
- ⊗ Microphone
- ⊗ User's guide



### Video Specifications

**Transmission Speed**  
 64 Kbps - 4Mbps

**Video Standards**  
 H.261, H.263, H.263+/+, H.264

**Video Inputs**  
 Main camera  
 S-video (2nd camera)  
 Composite/RCA/Phono (2nd camera)  
 Composite/RCA/Phono (DVD/VCR)

**Video Outputs**  
 S-video (main monitor)  
 Composite/RCA/Phono  
 (main monitor/VCR/DVD)  
 Composite/RCA/Phono  
 (2nd monitor)  
 XGA, D-type 15 (main/2nd monitor)

**Video Formats & Resolution**  
 Interlaced CIF (352 x 576 pixels)  
 Interlaced SIF (352 x 480 pixels)  
 CIF (352 x 288 pixels)  
 SIF (352 x 240 pixels)  
 QCIF (176 x 144 pixels)

**Video Frame Rate**  
 Up to 15 frames/sec: 64Kbps to 384Kbps  
 Up to 30 frames/sec: 384Kbps and higher  
 Up to 60 fields/sec: 1 Mbps and higher

**Supported Cameras**  
 Canon VC-C4  
 Canon VC-C50I  
 Sony D100  
 Sony EVI-D30/31

**Audio Specifications**  
**Audio Standards**  
 G.711, G.723.1, G.728, G.729, G.722

**Audio Inputs**  
 Microphone omni (mini stereo)  
 Line-level RCA, L/R (VCR)  
 Line-level RCA for Aux mono input

**Audio Outputs**  
 Line-level RCA, L/R (TV)  
 Line-level RCA, L/R (VCR recording)

**Audio Features**  
 Full duplex echo cancellation  
 Automatic noise suppression (ANS)  
 Gain control  
 Microphone and VCR input audio mixing  
 Ability to turn off internal echo canceller  
 DTMF tone generation

### Data Specifications

**Data Sharing**  
 Utilizes desktop/laptop presentations utility

**Data Ports**  
 RS-232 data port (for Serial API or PTZ camera control)

**Data Video Resolution**  
 XGA (1024 x 768)  
 SVGA (800 x 600)  
 VGA (640 x 480)  
 up to 4CIF for PAL/NTSC monitors

**HD DualStream™**  
 H.239 support  
 1 live video source + 1 data source  
 Supported in MCU mode  
 Supported for both video and data streaming

**HD Simulcast™**  
 Multicast Streaming Video  
 Multicast to Broadcast Viewer,  
 Quicktime, and other multicast viewers with integrated SDP listeners

**Unicast Streaming Video**  
 Data rate downspeeding  
 Unicast to Quicktime viewers  
 Multi-unicast:  
 Up to 25 unicast streams at 384 Kbps during multicast session  
 Up to 10 unicast streams at 384 Kbps during 384 Kbps + multicast

**Emblaze-VCON Interactive Multicast**  
 Participate in any Emblaze-VCON Interactive Multicast session  
 Uses bandwidth-efficient IP multicast

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

**Networking**  
 Integrated 10/100 Ethernet NIC  
 DHCP  
 WINS  
 DNS  
 FTP  
 HTTP with DAA  
 Telnet

### Software Upgrades

Via LAN  
 Notification of upgrade availability

**Directory Services**  
 1000+ local number directory

**H.323 QoS Features**  
 DiffServ  
 IP Precedence  
 Firewall port sync  
 NAT IP address mask  
 Port pinholing  
 Adaptive Bandwidth Adjustment  
 Packet ordering  
 Packet duplication control  
 Jitter correction  
 Lip sync correction  
 Overhead prediction

**Embedded MCU Specifications**  
 4 participants @ 384 Kbps/part.  
 3 participants @ 768 Kbps/part.  
 Voice-activated switching  
 Speed matching  
 Dial-in or dial-out  
 Cascading up to 10 sites  
 H.243 chair control

**Other Specifications Security**  
 Encryption using H.235 (AES)  
 MTU-allows to set the MTU packet size to match the need of the network.  
 (Default setting is 1200 bytes)

**Browser-based Management**  
 DAA (Digest Access Authentication)  
 Dial/Hang-up  
 Start/stop streaming  
 Phone Book management  
 IP address  
 Gatekeeper registration  
 LAN configuration  
 Call status  
 View streaming  
 Camera control  
 Diagnostics

**Control**  
 Internal IR receiver  
 External IR receiver (automatically disables the internal receiver)

**Physical Dimensions**  
 4.4 cm x 43 cm x 27.4 cm  
 (1.73 in x 16.9 in x 10.8 in)  
 3.700 kg (8.1 lb)

**Language Support**  
 English, French, German, Italian, Spanish (Spain & Latin America), Portuguese (Portugal & Brazil), Chinese (Simplified & Traditional), Japanese, Russian, Swedish, Finnish, Turkish, Korean

