



## TANDBERG 6000 MXP Codec

The TANDBERG 6000 MXP Codec is the integrator's codec of choice. With its standard rack mountable dimensions, this codec incorporates all the legendary power of the TANDBERG 6000 MXP video system and is ideal for customized integrations and specialized rooms.



#### DESIGN FEATURES

- Designed for custom integrations
- 19" rack-mountable codec
- All the outstanding power and functionality of the TANDBERG 6000 MXP video system
- Expandability for future applications
- Dual DVI/XGA with VESA Power Management
- Total management via serial port, embedded web server, SNMP, Telnet, SSH, XML, HTTP/HTTPS, FTP and on screen menu

#### APPLICATION FEATURES

- Join up to 6 video and 5 audio sites with optional embedded MultiSite functionality
- Best possible call for each MultiSite participant with rate matching and transcoding
- Powerful live presentations through one-step PC plug-in or LAN connection
- View presentations and presenter simultaneously with DuoVideo and H.239 Dual Stream
- TANDBERG Expressway™ Technology
- URI Dialing

#### PERFORMANCE FEATURES

- Choice of Network: up to 2 Mbps ISDN or external network (H.320)/ 4 Mbps IP (H.323 or SIP)/ 6 Mbps in MultiSite
- Superior video quality incorporating the H.264 standard
- True CD-quality audio
- Highest level of embedded encryption as well as IEEE 802.1x and H.235 authentication for security
- Protection against network interruptions in point-to-point and multipoint calls with automatic Down-speeding and IPLR

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#### UNIT DELIVERED COMPLETE WITH:

Videoconferencing codec, wireless remote control

#### BANDWIDTH

H.320 up to 2 Mbps  
H.323 up to 4 Mbps point-to-point  
SIP up to 4 Mbps  
Up to 6 Mbps total MultiSite bandwidth

#### FIREWALL TRAVERSAL

TANDBERG Expressway™ Technology  
Auto NAT  
H.460.18, H.460.19 Firewall Traversal

#### VIDEO STANDARDS

H.261, H.263, H.263+, H.263++ (Natural Video), H.264

#### VIDEO FEATURES

Native 16:9 Widescreen  
Advanced Screen Layouts  
Picture in Picture (PIP)  
Picture outside Picture & Large POP  
Side by Side  
PC Zoom  
Intelligent Video Management  
Simultaneous videoconference & local PC mode  
Local Auto Layout

#### VIDEO INPUTS (6 INPUTS)

1 x HD Main Camera or 1 x MiniDin, S-video: main camera  
1 x MiniDin, S-video: auxiliary/document camera  
1 x RCA/Phono, composite: document camera/aux  
1 x RCA/Phono, composite: VCR  
1 x DVI-I: PC  
Input: 800 x 600 (@ 60, 72, 75, 85 Hz), 1024 x 768  
(@ 60, 70, 75 Hz), 1280 x 720 (HD720P) @ 50, 60 Hz,  
1280 x 1024 @ 60 Hz  
Extended Display Identification Data (EDID)

#### VIDEO OUTPUTS (6 OUTPUTS)

1 x MiniDin, S-video: main monitor  
1 x MiniDin, S-video: dual monitor  
1 x RCA/Phono, composite: main monitor or VCR  
1 x RCA/Phono, composite: dual monitor or VCR  
2 x DVI-I/XGA: main and dual monitor  
XGA Output  
800 x 600 @ 75 Hz, 1024 x 768 @ 60 Hz, 1280 x 768  
(WXGA) @ 60 Hz, 1280 x 720 (HD720p) @ 60 Hz  
VESA Monitor Power Management

#### VIDEO FORMAT

NTSC, PAL, VGA, SVGA, XGA, W-XGA, SXGA and HD720p

#### LIVE VIDEO RESOLUTIONS

##### NATIVE NTSC:

400p (528 x 400 pixels)  
451F (704 x 480 pixels), Digital Clarity  
Interlaced SIF (iSIF 352 x 480 pixels), Natural Video  
SIF (352 x 240 pixels)

##### NATIVE PAL:

448p (576 x 448 pixels)  
4CIF (704 x 576 pixels), Digital Clarity  
Interlaced CIF (iCIF 352 x 576 pixels), Natural Video  
CIF (352 x 288 pixels)  
QCIF (176 x 144 pixels)  
SQCIF (128 x 96 pixels) decode only

##### NATIVE PC RESOLUTIONS:

XGA (1024 x 768)  
SVGA (800 x 600 pixels)  
VGA (640 x 480 pixels)

##### WIDE RESOLUTIONS:

w288p (512 x 288 pixels)  
w448p (768 x 448 pixels)  
w576p (1024 x 576 pixels)  
w720p (1280 x 720 pixels)

#### STILL IMAGE TRANSFER

CIF, SIF, 4CIF (H.261 Annex D), 4SIF, VGA, SVGA, XGA

#### AUDIO STANDARDS

G.711, G.722, G.722.1, G.728, 64 bit & 128 bit MPEG4 AAC-LD

#### AUDIO FEATURES

CD-Quality 20KHz Mono and Stereo  
Telephone add-on via MultiSite  
Four separate acoustic echo cancellers  
Audio mixer  
Automatic Gain Control (AGC)  
Automatic Noise Reduction  
Audio level meters  
VCR ducking  
Optional Stereo Package  
Packet loss management  
Active lip synchronization  
GSM/Blackberry interference audio feature

#### AUDIO INPUTS (4 INPUTS)

3 x microphone, 24V phantom powered, XLR connector, each  
with separate echo cancellers, the third microphone can  
be set for line level  
1 x RCA/Phono, Line Level: separate echo canceller  
1 x RCA/Phono, Line Level: auxiliary (or VCR/DVD Stereo L)  
1 x RCA/Phono, Line Level: VCR/DVD (Stereo R)

#### AUDIO OUTPUTS (3 OUTPUTS)

1 x RCA/Phono, S/PDIF (mono/stereo) or Analogue Line  
Level: main audio or Analogue Stereo L  
1 x RCA/Phono, Line Level: auxiliary  
(or Analogue Stereo R or VCR Stereo L)  
1 x RCA/Phono, Line Level: VCR (mono or Stereo R)

#### FRAME RATES

30 frames per second @ 168 kbps and above  
60 fields per second @ 336 kbps and above (Point-to-point)

#### DUAL STREAM

DuoVideo  
H.239 dual stream  
Dynamic bandwidth adjustment (H.323)  
Available on H.323 & H.320  
Available in MultiSite from any site

#### NETWORK FEATURES

Auto H.320/H.323 dialing  
SIP  
Downspeeding  
Programmable network profiles  
Intelligent Call Management  
HO on ISDN-PRI Facility  
Maximum call length timer  
Automatic SPID and line number configuration  
(National ISDN, GR-2941-CORE)  
SoftMux  
NATO standard KG194/KIV-7 encryptor support  
H.331 Broadcast Mode  
URI Dialing

#### MULTISITE FEATURES

H.323/H.320/SIP/Telephony/VoIP in the same conference  
Audio and Video Transcoding  
Video rate matching from 56 kbps — maximum conference rate  
CP4, CP 5 + 1 and Voice Switched  
Best Impression (Automatic CP Layouts)  
H.264, Encryption, Digital Clarity  
Dual Stream from any site  
ISDN & IP Downspeeding and IPLR  
MultiSite (H.243) Cascading on H.320 & H.323  
Unicode H.243 Terminal Names  
Dial in/Dial out  
Chair control for host system  
Snapshot of ongoing conference (JPEG)  
Snapshot of ongoing DuoVideo/H.239 presentation (JPEG)  
Separate welcome page for encrypted conferences  
Conference rates up to 6 Mbps  
Up to 6 video and 5 audio sites  
4 sites @ 2 Mbps, 6 sites @ 768 kbps (+telephone calls)  
Mix ISDN (BRI or PRI), or Serial Interface (V.35) with IP  
up to maximum conference rate

#### EMBEDDED ENCRYPTION

H.320 and H.323 point-to-point and multipoint calls  
Standards-based: H.233, H.234, H.235 v2&v3, DES and AES  
NIST-validated AES  
NIST-validated DES  
Automatic key generation and exchange  
Supported in Dual Stream & MultiSite

#### IP NETWORK FEATURES

IEEE 802.1x/EAP Network Authentication  
H.235 Gatekeeper Authentication  
DNS lookup for service configuration  
Differentiated Services (DiffServ)  
Resource Reservation Protocol (RSVP)  
IP precedence  
IP type of service (ToS)  
IP adaptive bandwidth management (including flow control)  
Auto gatekeeper discovery  
Dynamic layout and lip-sync buffering  
Intelligent Packet Loss Recovery (IPLR)  
H.245 DTMF tones in H.323  
Cisco CallManager integration using ECS  
IP Address Conflict Warning  
Date and Time support via NTP  
Call Services

#### IPv6 NETWORK SUPPORT

Dual Stack IPv4 and IPv6 simultaneous support  
Net service support on IPv6: Telnet, SSH, HTTP, HTTPS,  
ftp, SNMP, DNS, NTP, DHCP  
Media support on IPv6: H.323, SIR Streaming

#### SECURITY FEATURES

Management via HTTPS and SSH  
IP Administration Password  
Menu Administration Password  
Dialing Access code  
Streaming password  
H.243 MCU Password  
VNC password  
SNMP security alerts  
Disable IP services  
MD-5 Challenge  
Network Settings protection  
SIP Authentication via NTLM  
SIP Authentication via Digest  
**NETWORK INTERFACES**  
6 x ISDN BRI (RJ-45), S-interface  
1 x E1/T1 G.703 (RJ-45) for ISDN PRI or  
Leased E1/T1 mode: Manual or Auto (Data Triggered)  
1 x E1/T1 G.703 (RJ-45) for future usage  
1 x LAN/Ethernet (RJ-45) 10/100 Mbit  
(LAN/DSL/cable modem)  
1 x X.21/V.35/RS-449 with RS-366 dialing, RS-366 Adtran  
IMUX, Leased Line, Data Triggered, and Manual  
1 x USB for future usage

#### ETHERNET/INTERNET/INTRANET CONNECTIVITY

TCP/IP DHCP, ARP, FTP, Telnet, HTTP, HTTPS, SOAP and XML,  
MD-5 Challenge  
SNMP Enterprise Management  
Internal web server  
Internal streaming server

#### OTHER MAJOR STANDARDS SUPPORTED

H.231, H.233, H.234, H.235 v2&v3, H.239, H.241, H.243,  
H.281, BONDING (ISO 13871), H.320, H.323, H.331  
RFC 3261, RFC 2237, RFC 3264, RC 3311, RFC 3550, RFC  
2032, RFC 2190, RFC 2429, RFC 3407

#### PRECISION HD CAMERA

7 x zoom 1/3" CMOS +10°/-20° tilt +/-90° pan  
42° vertical field of view  
72° total vertical field of view  
70° horizontal field of view  
250° total horizontal field of view  
Focus distance 0.3m-infinity  
1280 x 720 pixels progressive @ 30fps  
Automatic or manual focus/brightness/whitebalance  
Far-end camera control  
15 near and far-end camera presets  
Voice-activated camera positioning  
Daisy-chain support (Visca protocol camera)

#### CLOSED CAPTIONING/TEXT CHAT

T.140 text chat available from RS-232, Telnet,  
Web and User Interface

#### PRESENTATIONS AND COLLABORATION

Natural Presenter Package including:  
PC Presenter (DVI-I, SXGA In)  
PC SoftPresenter  
Digital Clarity & Native Formats  
Advanced Video Layouts  
Streaming compatible with Cisco IP/TV,  
Apple QuickTime®, RealPlayer® v8 etc.

#### SYSTEM MANAGEMENT

Support for the TANDBERG Management Suite  
Total management via embedded web server, SNMP,  
Telnet, SSH, XML, SOAP and FTP  
Remote software upload: via web server, ftp server or ISDN  
1 x RS-232 local control and diagnostics  
Remote control and on-screen menu system  
External Services from TMS

#### DIRECTORY SERVICES

Support for Local directories (My Contacts),  
Corporate Directory and Global Directory  
Unlimited entries using Server directory\* supporting  
LDAP and H.350  
Unlimited number for Corporate directory (through TMS)  
400 number global directory  
200 number local directory  
16 dedicated MultiSite entries  
Received Calls  
Directories in Local Languages  
Placed Calls  
Missed Calls with Date and Time

#### 16 SELECTABLE MENU LANGUAGES

Arabic, Simplified Chinese, Traditional Chinese, English,  
French, German, Italian, Japanese, Korean, Norwegian,  
Portuguese, Russian, Spanish, Swedish and Thai  
Chinese, Korean and Japanese Input Method Editor  
Import Custom Language through TMS

#### CUSTOMIZED WELCOME SCREEN AND COMPANY LOGO

Picture JPEG (logo.jpg): Recommended maximum size  
is 704x576 for Welcome Screen and 352x288 for  
Encryption Required Screen.

#### POWER

Auto-sensing power supply  
100-250 VAC, 50-60 Hz  
65 watts max. for codec and main camera

#### OPERATING TEMPERATURE AND HUMIDITY

0° C to 35° C (32° F to 95° F) ambient temperature  
10% to 90% Relative Humidity (RH)

#### STORAGE AND TRANSPORT TEMPERATURE

-20° C to 60° C (-4° F to 140° F) at RH 10-90%  
(non-condensing)

#### DIRECTORY SERVICES

Directive 73/23/EEC (Low Voltage Directive)  
— Standard EN 60950

Directive 89/336/EEC (EMC Directive)

— Standard EN 55022, Class B

— Standard EN 55024

— Standard EN 61000-3-2/-3-3

Directive 1999/5/EEC (R&TTE Directive)

— Standard TBR3

— Standard TBR4

Approved according to UL 60950 and CAN/CSA C22.2 No.60950

Complies with FCC15B Class B

#### DIMENSIONS

Length: 20"/52cm  
Height: 1.8"/4.4cm  
Depth: 18"/45cm  
Weight: 8.8 lbs/4 kg

\*Requires TANDBERG Management Suite 9.0 or newer

All specifications subject to change without notice,  
system specifics may vary.

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#### MTBF PRODUCT RELIABILITY/MTBF

The predicted reliability is expressed in the expected  
random Mean Time Between Failures (MTBF) for the  
electronic components based on the Power On Hours:  
Power On Hours (POH) > 69 000 hours  
Useful Life Cycle > 6 years  
ISO 9001 certificate is available upon request

#### TANDBERG

# 6000 MXP Codec

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