



## TANDBERG Intern MXP

Combining a TANDBERG set-top with an IV stand, the TANDBERG Intern MXP is ideal for applications that require a portable, self-contained video solution, such as healthcare, emergency response, homeland security and manufacturing.

#### DESIGN FEATURES

- Single 23" 16:9 XGA flat-screen LCD display
- Slim mobile unit with shelf and basket for convenient connection of peripherals such as a laptop, medical imaging equipment and additional cameras
- Industry-leading wide angle view camera with extensive zoom, pan and tilt

#### APPLICATION FEATURES

- Join up to 4 video and 3 audio sites with embedded MultiSite functionality
- Share records or images live through one-step PC plug-in (PC Presenter) or LAN connection (PC *SoftPresenter*)
- View records or images and an off-site expert or audience simultaneously with DuoVideo and H.239 Dual Stream
- TANDBERG Expressway™ Technology

#### PERFORMANCE FEATURES

- Choice of Network: up to 512 kbps ISDN or external network (H.320)/ 2 Mbps IP (H.323 or SIP)
- Superior video quality incorporating the H.264 standard
- Standards-based embedded encryption to meet HIPAA compliance for patient confidentiality regardless of network type
- Tested and listed to UL 2601-1 and CSA 601.1 regulatory standards for approval in patient contact environments
- PC card slot for wireless LAN connection

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#### UNIT DELIVERED COMPLETE WITH:

Integrated 23" Wide Screen (16:9) LCD, Utility Tray,  
Uni-directional low profile microphone, UL 2601-1  
power distribution, Private listening headphones,  
Internal Network Termination Unit or V35 Connection\*\*\*

#### MONITOR

Wide Screen LCD (16:9)  
Wide view angle screen  
XGA resolution

#### BANDWIDTH

H.320 up to 512 kbps\*\*\*  
H.323 up to 2 Mbps\*\*\*  
SIP up to 2 Mbps\*\*\*  
Up to 2.3 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 (POP) & Large POP  
Side by Side  
PC Zoom  
Intelligent Video Management  
Simultaneous videoconference & local PC mode  
Local Auto Layout

#### VIDEO INPUTS (4 INPUTS)

Built-in 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 (4 OUTPUTS)

1 x MiniDin, S-video: main monitor  
1 x RCA/Phono, composite: main monitor or VCR  
1 x RCA/Phono, composite: dual monitor or VCR  
1 x DVI/XGA: main or second 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 RESOLUTION

##### NATIVE NTSC:

400p (528 x 400 pixels)  
4SIF (704 x 480 pixels), Digital Clarity  
Interlaced SIF (SIF 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 (CIF 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 pixels)  
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 20 KHz 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  
Packet loss management  
Active lip synchronization  
GSM/Blackberry interference audio feature

#### AUDIO INPUTS (4 INPUTS)

2 x microphone, 24V phantom powered, XLR connector  
1 x RCA/Phono, Line Level: auxiliary (or VCR Stereo L)  
1 x RCA/Phono, Line Level: VCR/DVD (Stereo R)

#### AUDIO OUTPUTS (2 OUTPUTS)

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

#### 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  
Maximum call length timer  
Automatic SPID and line number configuration  
(National ISDN, GR-2941-CORE)  
SoftMux  
H.331 Broadcast Mode  
NATO standard KG19/KIV-7 encryptor support\*\*\*  
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 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 2.3 Mbps with optional bandwidth  
upgrade (1.5 Mbps is standard conference rate)  
Up to 4 video and 3 audio sites  
4 sites @ 768 kbps (+telephone calls)\*\*\*  
Mix ISDN-BRI or V.35 and 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 playout 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, SIP 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

4 x ISDN BRI (RJ-45), S-interface  
1 x LAN/Ethernet (RJ-45) 10/100 Mbit (LAN/DSL/cable modem)  
1 x PC card slot (PCMCIA) for wireless LAN  
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

#### WIRELESS LAN SUPPORT\*\*

Compliant with IEEE 802.11b, up to 11Mbit  
Support for 64/128bit encryption (WEP)  
Infrastructure or ad-hoc mode

#### 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

#### W.A.V.E. (WIDE ANGLE VIEW) II CAMERA

10 x zoom 1/4" CCD +15°/-20° tilt +/-95°pan  
61° vertical field of view  
96° total vertical field of view  
77° horizontal field of view  
267° total horizontal field of view  
460 (PAL)/470 (NTSC) TV lines  
Min. illumination 2 Lux (F1.8)  
Auto or manual focus/brightness/white balance  
Far-end camera control  
15 near and far-end camera pre-sets  
Voice-activated camera positioning

#### 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 by TMS)  
400 number global directory  
200 number local directory  
16 dedicated MultiSite entries  
Received Calls with Date and Time  
Directories in Local Languages  
Placed Calls with Date and Time  
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

#### STORAGE AND TRANSPORT TEMPERATURE

10–90% (non condensing)  
Type: Non Classified

#### APPROVALS

– Standard EN 60601-1-1  
– Standard EN 60601-1-2  
– Standard UL 2601-1-1994  
– Standard CAN/CSA C22.2 No. 601.1-M90

\* Requires TANDBERG Management Suite 9.0 or newer

\*\* Important Note: The conformance of the Intern II  
does not include operations using a wireless LAN  
as TANDBERG has no control of the EMC emissions  
of the selected card.

\*\*\* Optional equipment, Must specify set top model  
(990 MXP or 880 MXP) and network type (BRI or V.35)

Please consult your internal bio-medical engineer for  
clarification of acceptability of wireless LAN operation  
within specific medical environments.

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

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# Intern MXP

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