



## TANDBERG Educator MXP

The TANDBERG Educator Series is a modular solution ideal for classrooms, higher education and corporate training. At its core is the TANDBERG 6000 MXP technology. Going beyond traditional distance education it meets the special video needs of both instructors and students. With transparent technology, the Educator Series promotes an interactive learning experience.



**PROTECT YOUR TECHNOLOGY INVESTMENT. EXTEND THE LIFETIME OF YOUR PRODUCTS.** TANDBERG's Constant Care Services fulfill customers' support needs from decision through deployment and beyond.

#### DESIGN FEATURES

- Monitor, cabinet and podium options for different learning environments
- Industry's most intuitive 12" color video touch panel allows instructors to control video calls and multiple peripherals, including cameras, PCs and VCRs
- Industry leading wide angle view camera with extensive zoom, pan and tilt
- Optional components include locator mats, student trackers, electronic whiteboards and assorted microphone options

#### APPLICATION FEATURES

- Join up to 6 video and 5 audio sites with optional embedded MultiSite functionality
- View presentations and presenter simultaneously with optional DuoVideo or H.239 on single or dual monitor setup
- Display images from PCs, DVDs, VCRs, document cameras and other input devices
- XGA autoswitching for better quality with higher resolution
- TANDBERG Expressway™ Technology

#### PERFORMANCE FEATURES

- Choice of network: IP, ISDN and other external network
- Bandwidth: up to 2 Mbps ISDN/ 4 Mbps IP (6 Mbps in MultiSite)
- Superior video quality incorporating the H.264 standard
- True CD-quality audio
- Standards-based embedded encryption (AES & DES)
- Protection against network interruptions in point-to-point and multipoint calls with automatic Downsampling and IPLR

#### UNIT DELIVERED COMPLETE WITH:

12" color video touch panel, 6000 MXP Codec, extended height cart(s), camera(s), AudioScience microphone, monitor(s)/plasma(s), optional podium and cables

#### BANDWIDTH

H.320 up to 2 Mbps  
H.323 up to 3 Mbps  
SIP up to 4 Mbps  
Up to 6 Mbps total MultiSite bandwidth

#### FIREWALL TRAVERSAL

TANDBERG Expressway Technology™  
Auto NAT

#### VIDEO STANDARDS

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

#### VIDEO FEATURES

Voice Switching for VCR recording  
Intelligent Video Management  
Secondary/Instructor Camera auto tracking + 10 presets  
Primary/Student Camera + 40 presets  
Support for ParkerVision & Sony Cameras  
Support for Sony & Panasonic AV equipment  
Support for TANDBERG Track Camera

#### VIDEO INPUTS (11 INPUTS)

1 x S-Video Primary Camera (WAVE II)  
6 x Composite: Doc Camera, DVD & Aux Inputs  
3 x SXGA: PC (1x codec or 3 x via external switch)  
1 x VNC connection  
Input: 800 x 600 (@ 60, 72, 75, 85 Hz), 1024 x 768 (@ 60, 70, 75 Hz), 1280 x 1024 @ 60 Hz)

#### VIDEO OUTPUTS (8 OUTPUTS)

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

#### VIDEO FORMAT

NTSC, PAL, VGA, SVGA, XGA, W-XGA, or SXGA

#### LIVE VIDEO RESOLUTIONS

##### NATIVE NTSC:

4SIF (704 x 480 pixels), Digital Clarity  
Interlaced SIF (352 x 480 pixels), Natural Video  
SIF (352 x 240 pixels)

##### NATIVE PAL:

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

##### NATIVE PC RESOLUTIONS:

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

#### 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  
Custom Microphone Mute  
Optional Stereo Package  
Packet loss management  
Active lip synchronization  
TANDBERG Touch-n-Talk up to 40 Microphone  
Analog Telephone Add

#### AUDIO INPUTS (4 INPUTS)

3 x microphone, 24V phantom powered, XLR connector, each with separate echo cancellers  
2 x RCA / Phono, Line Level: Stereo Aux 1  
2 x RCA / Phono, Line Level: Stereo Aux 2  
2 x RCA / Phono, Line Level: Stereo VCR/DVD  
3.5 Min Stereo for PC

#### AUDIO OUTPUTS (5 OUTPUTS)

1 x RCA / Phono, S/PDIF (mono/stereo) or 2 x 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

Duo Video & H.239  
Available on H.323 & H.320  
Available in Multisite from any site

#### NETWORK FEATURES

Auto H.320 / H.323 dialing  
SIP  
Downspeeding  
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

#### 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  
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 (+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

H.235 Authentication  
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

#### SECURITY FEATURES

Management via HTTPS  
IP Administration Password  
Menu Administration Password  
H.243 MCU Password  
VNC password  
SNMP security alerts  
Disable IP services  
MD-5 Challenge  
Network Settings protection  
SIP Authentication via NTLM  
Security level access to touch panel features

#### 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  
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, Leased Line or data triggered mode  
1 x USB

#### 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 VIDEO) 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  
- Remote source switching with source labels  
- Camera control and presets  
- Voice-activated camera positioning available

#### TOUCH PANEL INTERFACE

12" 24bit color video with microphone connection  
Configurable easy to use human interface  
Built in speakers provide audio cues for local operation  
Full control of a wide variety of AV devices

#### 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, XML, SOAP and FTP  
Remote software upload via web server or FTP server  
1 x RS-232 local control and diagnostics  
Remote control and on-screen menu system

#### DIRECTORY SERVICES

Support for Local, Global Directories LDAP and H.350  
200 number global directory  
200 number local directory  
Call History

#### LANGUAGE

English

#### CUSTOMIZED WELCOME SCREEN AND COMPANY LOGO

#### POWER

TANDBERG Applications Module MXP (TAM MXP)  
100-240 VAC, 50-60 Hz, 150 watts  
6000 MXP codec 100-240 VAC, 50-60 Hz, 65 watts for codec and camera  
D-NAM 100-120 or 220-240 VAC, 50-60 Hz, 250 watts  
Total power dependent upon display type

#### 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)

#### DIMENSIONS

TAM MXP 3U high, 19" rack mount, 12" deep  
6000 MXP codec 1U high, 19" rack mount, 11" deep

#### FOOT PRINT OF CARTS

114.3 cm (45") Wide x 67.7 cm (26.75") deep x 98.7 cm (38.75") high

#### FOOT PRINT OF PODIUM

149.7 cm (58.22") x 83.1 cm (32.75") x 101.6 cm (40") high

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# Educator MXP

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