



# TANDBERG 770 MXP

For offices and small meeting rooms. Provides all the essential functionality for visual communications. This compact unit conveniently transforms any standard TV into an interactive meeting place, providing users with an outstanding business tool.



Add a PC card for the greater portability of wireless LAN connectivity.

#### DESIGN FEATURES

- Designed for medium to small meeting rooms and shared office environments
- Elegantly designed all-in-one set-top unit that fits easily on any standard television monitor
- Integrated wide angle view camera with extensive zoom, pan and tilt
- Optional cart and monitors

#### APPLICATION FEATURES

- Powerful live presentations through one-step PC plug-in or LAN connection
- Send and view presentations and presenter simultaneously with Dual Stream technology on single or dual monitor setup
- Firewall traversal with TANDBERG Expressway™
- URI Dialing

#### PERFORMANCE FEATURES

- Up to 768 kbps H.323 / 768 kbps SIP / optional 128 kbps H.320
- PC card slot for wireless LAN connection
- Highest level of standards-based embedded encryption (AES) is included
- True CD-quality audio
- Protection against network interruptions in point-to-point and multipoint calls with automatic Downspeeding and IPLR
- Superior video quality incorporating the H.264 standard



# TANDBERG 880 MXP

For medium- to small-sized meeting rooms as well as shared office environments. Incorporates the features and functions of larger systems in a portable, high performance set-top unit.



Add a PC card for the greater portability of wireless LAN connectivity.

#### DESIGN FEATURES

- Designed for medium to small meeting rooms and shared office environments
- Elegantly designed all-in-one set-top unit that fits easily on any standard television monitor
- Integrated wide angle view camera with extensive zoom, pan and tilt
- Optional cart and monitors

#### APPLICATION FEATURES

- Join up to 4 video and 3 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 optional DuoVideo or H.239 on single or dual monitor
- Firewall traversal with TANDBERG Expressway™
- URI Dialing

#### PERFORMANCE FEATURES

- Up to 1.1 Mbps H.323 / 1.1 Mbps SIP / optional 384 kbps H.320 / 1.1 Mbps total MultiSite
- PC card slot for wireless LAN connection
- Highest level of standards-based embedded encryption (AES) is included
- True CD-quality audio
- Protection against network interruptions in point-to-point and multipoint calls with automatic Downsampling and IPLR
- Superior video quality incorporating the H.264 standard

#### UNIT DELIVERED COMPLETE WITH:

Wireless remote control, W.A.V.E II camera, microphone and cables

#### BANDWIDTH

H.320 up to 384 kbps  
H.323 up to 1.1 Mbps  
SIP up to 1.1 Mbps

#### FIREWALL TRAVERSAL

Firewall traversal with TANDBERG Expressway™ Auto NAT

#### 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)  
Side by Side  
PC Zoom  
Intelligent Video Management

#### VIDEO INPUTS (4 INPUTS)

Built-in main camera  
1 x MiniDin, S-video: auxiliary / document camera  
2 x RCA / Phono, composite: document camera / aux  
1 x RCA / Phono, composite: VCR  
1 x DVI/SXGA: PC  
Input: 800 x 600 (@ 60, 72, 75, 85 Hz), 1024 x 768 (@ 60, 70, 75 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  
VESA Monitor Power Management

#### 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) decode only

##### NATIVE PC RESOLUTIONS:

XGA (1024 x 768)  
SVGA (800 x 600 pixels)  
VGA (640 x 480 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  
Two separate acoustic echo cancellers  
Audio mixer  
Automatic Gain Control (AGC)  
Automatic Noise Reduction  
Audio level meters  
VCR ducking  
Optional Stereo Package

#### 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

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  
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 K6194 / 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  
Dial in / Dial out  
MultiSite (H.243) Cascading on ISDN & IP  
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 1.1 Mbps  
Up to 4 video and 3 audio sites  
4 sites @ 384 kbps (+telephone calls)  
Mix ISDN-BRI 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

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  
Dialing Access code  
Streaming password  
H.243 MCU Password  
VNC password  
SNMP security alerts  
Disable IP services  
MD-5 Challenge

#### NETWORK INTERFACES

3 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, Leased Line  
or data triggered mode\*\*  
1 x USB

#### WIRELESS LAN SUPPORT

Compliant with IEEE 802.11b, up to 11 Mbit  
Support for 64 / 128 bit 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, 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 or Web

#### 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 and Dynamic Server Directories  
Unlimited entries using Server directory\* supporting  
LDAP and H.350  
400 number global directory  
100 number local directory  
16 dedicated MultiSite entries  
Last Number Called  
Missed Calls  
Directories in Local Languages

#### 13 SELECTABLE MENU LANGUAGES

Simplified Chinese, Traditional Chinese English, French,  
German, Italian, Japanese, Korean, Norwegian,  
Portuguese, Russian, Spanish and Swedish

#### CUSTOMIZED WELCOME SCREEN AND COMPANY LOGO

#### POWER

Auto-sensing power supply  
100 – 250 VAC, 50 – 60 Hz  
40 watts max.

#### 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)

#### UNIT DIMENSIONS

Height: 5.1" / 13.0 cm  
Width: 14.9" / 38.0 cm  
Depth: 7.9" / 20.0 cm  
Weight: 5.0 lbs / 2.3 kg

*\*\* Optional equipment, must be specified at the time of order, Serial Port replaces ISDN BRI*

*\* Requires TANDBERG Management Suite 9.0 or newer*

*System features vary depending on network selection and software package. All specifications subject to change without notice.*

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## TANDBERG

# 880

MPX

TANDBERG WORLD HEADQUARTERS  
Philip Pedersens vei 22  
1366 Lysaker, Norway  
Tel: +47 67 125 125  
Fax: +47 67 125 234  
Video: +47 67 117 777  
E-mail: tandberg@tandberg.net

200 Park Avenue, Suite 2005  
New York, NY U.S.A. 10166  
Tel: +1 212 692 6500  
Tel: +1 800 538 2884 (toll free in the U.S.)  
Fax: +1 212 692 6501  
Video: +1 212 692 6535  
E-mail: tandberg@tandbergusa.com

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#### UNIT DELIVERED COMPLETE WITH:

Wireless remote control, Built-in camera, microphone, and cables

#### BANDWIDTH

H.320 up to 384 kbps  
H.323 up to 768 kbps  
SIP up to 768 kbps

#### FIREWALL TRAVERSAL

Firewall traversal with TANDBERG Expressway™  
Auto NAT

#### 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)  
Side by Side  
PC Zoom  
Intelligent Video Management

#### VIDEO INPUTS (4 INPUTS)

Built-in main camera  
1 x MiniDin, S-video: auxiliary / document camera  
2 x RCA / Phono, composite: document camera / aux  
1 x RCA / Phono, composite: VCR  
1 x DVI/SXGA: PC  
Input: 800 x 600 @ 60, 72, 75, 85 Hz, 1024 x 768  
(@ 60, 70, 75 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  
VESA Monitor Power Management

#### 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) decode only

##### NATIVE PC RESOLUTIONS:

XGA (1024 x 768)  
SVGA (800 x 600 pixels)  
VGA (640 x 480 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  
Two separate acoustic echo cancellers  
Audio mixer  
Automatic Gain Control (AGC)  
Automatic Noise Reduction  
Audio level meters  
VCR ducking  
Optional Stereo Package

#### 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

Duo Video & H.239  
Available on H.323 & H.320

#### 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  
URI Dialing

#### EMBEDDED ENCRYPTION

H.320 and H.323 point-to-point 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

#### IP NETWORK FEATURES

Differentiated Services (DiffServ)  
Resource Reservation Protocol (RSVP)  
IP precedence  
IP type of service (ToS)  
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Dialing Access code  
Streaming password  
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Disable IP services  
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1 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 USB

#### WIRELESS LAN SUPPORT

Compliant with IEEE 802.11b, up to 11 Mbit  
Support for 64 / 128 bit 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, 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,  
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#### 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 or Web

#### 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 and Dynamic Server Directories  
Unlimited entries using Server directory\* supporting  
LDAP and H.350  
400 number global directory  
100 number local directory  
Last Number Called  
Missed Calls  
Directories in Local Languages

#### 13 SELECTABLE MENU LANGUAGES

Simplified Chinese, Traditional Chinese English, French,  
German, Italian, Japanese, Korean, Norwegian,  
Portuguese, Russian, Spanish and Swedish

#### CUSTOMIZED WELCOME SCREEN AND COMPANY LOGO

#### POWER

Auto-sensing power supply  
100 – 250 VAC, 50 – 60 Hz  
40 watts max.

#### 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)

#### UNIT DIMENSIONS

Height: 5.1" / 13.0 cm  
Width: 14.9" / 38.0 cm  
Depth: 7.9" / 20.0 cm  
Weight: 5.0 lbs / 2.3 kg

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## TANDBERG

# 770

## MPX

TANDBERG WORLD HEADQUARTERS  
Philip Pedersens vei 22  
1366 Lysaker, Norway  
Tel: +47 67 125 125  
Fax: +47 67 125 234  
Video: +47 67 117 777  
E-mail: tandberg@tandberg.net

200 Park Avenue, Suite 2005  
New York, NY U.S.A. 10166  
Tel: +1 212 692 6500  
Tel: +1 800 538 2884 (toll free in the U.S.)  
Fax: +1 212 692 6501  
Video: +1 212 692 6535  
E-mail: tandberg@tandbergusa.com

February 2005



# TANDBERG 990 MXP

For medium- to small-sized meeting rooms, and shared office environments. Provides high bandwidth capabilities for excellent quality point-to-point and multipoint calls in a flexible set-top system.



Add a PC card for the greater portability of wireless LAN connectivity.

#### DESIGN FEATURES

- Designed for medium to small meeting rooms and shared office environments
- Elegantly designed all-in-one set-top unit that fits easily on any standard television monitor
- Integrated wide angle view camera with extensive zoom, pan and tilt
- Optional cart and monitors

#### APPLICATION FEATURES

- Join up to 4 video and 3 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 optional DuoVideo or H.239 on single or dual monitor
- Firewall traversal with TANDBERG Expressway™
- URI Dialing

#### PERFORMANCE FEATURES

- Up to 2 Mbps H.323 / 2 Mbps SIP / optional 512 kbps H.320 / 2.3 Mbps total MultiSite
- PC card slot for wireless LAN connection
- Highest level of standards-based embedded encryption (AES) is included
- True CD-quality audio
- Protection against network interruptions in point-to-point and multipoint calls with automatic Downsampling and IPLR
- Superior video quality incorporating the H.264 standard

#### UNIT DELIVERED COMPLETE WITH:

Wireless remote control, W.A.V.E II camera, microphone and cables

#### BANDWIDTH

H.320 up to 512 kbps  
H.323 up to 2 Mbps  
SIP up to 2 Mbps

#### FIREWALL TRAVERSAL

Firewall traversal with TANDBERG Expressway™  
Auto NAT

#### 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)  
Side by Side  
PC Zoom  
Intelligent Video Management

#### VIDEO INPUTS (4INPUTS)

Built-in main camera  
1 x MiniDin, S-video: auxiliary / document camera  
2 x RCA / Phono, composite: document camera / aux  
1 x RCA / Phono, composite: VCR  
1 x DVI/SXGA: PC  
Input: 800 x 600 (@ 60, 72, 75, 85 Hz), 1024 x 768  
(@ 60, 70, 75 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  
VESA Monitor Power Management

#### 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) decode only

##### NATIVE PC RESOLUTIONS:

XGA (1024 x 768)  
SVGA (800 x 600 pixels)  
VGA (640 x 480 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  
Two separate acoustic echo cancellers  
Audio mixer  
Automatic Gain Control (AGC)  
Automatic Noise Reduction  
Audio level meters  
VCR ducking  
Optional Stereo Package

#### 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  
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 KG194 / 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  
Dial in / Dial out  
MultiSite (H.243) Cascading on ISDN & IP  
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 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

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  
Dialing Access code  
Streaming password  
H.243 MCU Password  
VNC password  
SNMP security alerts  
Disable IP services  
MD-5 Challenge

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

#### WIRELESS LAN SUPPORT

Compliant with IEEE 802.11b, up to 11 Mbit  
Support for 64 / 128 bit 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, 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 or Web

#### 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 and Dynamic Server Directories  
Unlimited entries using Server directory\* supporting  
LDAP and H.350  
400 number global directory  
100 number local directory  
16 dedicated MultiSite entries  
Last Number Called  
Missed Calls  
Directories in Local Languages

#### 13 SELECTABLE MENU LANGUAGES

Simplified Chinese, Traditional Chinese, English,  
French, German, Italian, Japanese, Korean, Norwegian,  
Portuguese, Russian, Spanish and Swedish

#### CUSTOMIZED WELCOME SCREEN AND COMPANY LOGO

#### POWER

Auto-sensing power supply  
100 – 250 VAC, 50 – 60 Hz  
40 watts max.

#### 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)

#### UNIT DIMENSIONS

Height: 5.1" / 13.0 cm  
Width: 14.9" / 38.0 cm  
Depth: 7.9" / 20.0 cm  
Weight: 5.0 lbs / 2.3 kg

*\*\* Optional equipment, must be specified at the time  
of order, Serial Port replaces ISDN BRI*

*\* Requires TANDBERG Management Suite 9.0 or newer*

*System features vary depending on network selection  
and software package. All specifications subject to  
change without notice.*

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## TANDBERG

# 990

MPX

TANDBERG WORLD HEADQUARTERS  
Philip Pedersens vei 22  
1366 Lysaker, Norway  
Tel: +47 67 125 125  
Fax: +47 67 125 234  
Video: +47 67 117 777  
E-mail: tandberg@tandberg.net

200 Park Avenue, Suite 2005  
New York, NY U.S.A. 10166  
Tel: +1 212 692 6500  
Tel: +1 800 538 2884 (toll free in the U.S.)  
Fax: +1 212 692 6501  
Video: +1 212 692 6535  
E-mail: tandberg@tandbergusa.com

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