



# TANDBERG Maestro

For medium to large-sized meeting rooms. Turns existing monitors, projectors and displays into interactive video systems. Built on the TANDBERG 6000 MXP codec, the Maestro includes superior audio, camera and intuitive menu display.

#### DESIGN FEATURES

- Designed for medium to large conference rooms and boardrooms
- Leverages existing large screen projectors or displays
- Mobile design
- Wide angle view camera with extensive zoom, pan and tilt
- Stereo and Digital NAM are enhanced by an optional satellite speaker system for superior audio

#### APPLICATION FEATURES

- Join up to 6 video sites and 5 audio sites with 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 either DuoVideo or H.239 on single or dual monitor setup

#### 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
- Highest level of standards-based embedded encryption
- Protection against network interruptions in point-to-point and multipoint calls with automatic Downspeeding and IPLR

## SYSTEM COMPONENTS

Integrated 8" LCD display, WAVE II camera, microphone, Digital Natural Audio Module (DNAM), integrated cabling, cart

## BANDWIDTH

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

## 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)  
Intelligent Video Management

## VIDEO INPUTS (5 INPUTS)

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/SXGA: PC

## 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/XGA: main and dual monitor

## SXGA INPUT / XGA OUTPUT

Input: 640 x 480 – 1280 x 1024  
Output: 640 x 480 – 1024 x 768  
Extended Display Identification Data (EDID)  
VESA Monitor Power Management

## VIDEO FORMAT

NTSC, PAL, VGA, SVGA, 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, 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

## AUDIO INPUTS (6 INPUTS)

3 x microphone, 24V phantom powered, XLR connector  
(Mic input 3: Switchable mic or line level)  
1 x RCA / Phono, Line Level: audio mixer  
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  
1 x RCA / Phono, Line Level: auxiliary (or VCR Stereo L)  
1 x RCA / Phono, Line Level: VCR (Stereo R)

## FRAME RATES – POINT-TO-POINT & MULTISITE

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

## MULTISITE FEATURES

Audio and Video Transcoding  
Video rate matching from 56 kbps – 2 Mbps  
Continuous Presence CP5+1, CP4 and Voice Switched  
Best Impression  
H.264, Encryption, Digital Clarity  
DuoVideo and H.239 mixed and from any site  
Telephony  
ISDN & IP Downspeeding and IPLR  
**MULTISITE (H.243) CASCADING ON ISDN AND 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  
**IP AND PRI/BRI/SERIAL INTERFACE (V.35)**  
Conference rates up to 6 Mbps  
Up to 6 video and 5 audio sites  
4 sites @ 2 Mbps, 6 sites @ 768 (+telephone calls)  
Mix IP with ISDN-PRI, ISDN-BRI or Serial Interface up to  
maximum conference rate

## DUOVIDEO / H.239

Available on all networks

## NETWORK FEATURES

Auto H.320 / H.323 dialing  
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)  
Soft Mux  
NATO standard KG194 / KIV-7 encryptor support  
H.331 Broadcast Mode  
IP Address Conflict Warning

## 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 DuoVideo, H.239 and Multisite

## H.323 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)  
Automatic support for private and public IP addresses  
using NAT  
H.245 DTMF tones

## SECURITY FEATURES

Management via HTTPS  
IP Administration Password  
Menu Administration Password  
Dialing Access code  
Streaming password  
H243 MCU Password  
VNC password  
SNMP security alerts  
Disable IP services

## 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  
SNMP Enterprise Management  
Internal web server  
Internal streaming server

## OTHER MAJOR ITU 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, MPEG4 AAC-LD (20KHz audio)

## 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  
Daisy chain support for up to 4 cameras VISCA  
camera support

## PRESENTATIONS AND COLLABORATION

Natural Presenter Package including:  
PC Presenter  
PC SoftPresenter  
Digital Clarity  
DuoVideo and H.239  
Advanced Video Layouts  
T.120 Microsoft® NetMeeting® support via RS-232  
(9-pin D-sub)  
Streaming compatible with Cisco IP/TV,  
Apple QuickTime®, RealPlayer® v8 etc.

## CLOSED CAPTIONING/TEXT CHAT

T.140 standards-based

## SYSTEM MANAGEMENT

Support for the TANDBERG Management Suite  
Total management via embedded web server, SNMP,  
Telnet and FTP  
Remote software upload: during a call over all networks,  
via webserver or via FTP server  
2 x RS-232 for local software upgrades, local control  
and diagnostics  
Onscreen Menu on TV and/or VGA monitors

## 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

## 11 SELECTABLE MENU LANGUAGES

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

## CUSTOMIZED WELCOME SCREEN AND COMPANY LOGO

## POWER

Auto-sensing power supply  
100 - 250 VAC, 50 - 60 Hz  
65 watts max for codec and camera  
250 watts for DNAM  
50 watts integrated LCD display

## DIMENSIONS

Width : 649 mm  
Depth : 707 mm  
Height : 1460 mm  
Weight : 31 kg

\* 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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# Maestro

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