



TANDBERG Codec C90

The TANDBERG Codec C90 is the most powerful, flexible telepresence and collaboration engine available, delivering crisp, clear 1080p end-to-end HD video, HD collaboration and HD embedded MultiSite. With more inputs and outputs than ever before, the integration possibilities are endless.



Also available as an integrator package with a PrecisionHD™ 1080p camera and two microphones.

DESIGN FEATURES

- The best, most powerful codec available with the ultimate in video and audio quality
- 2U high, rackmountable, with rack-mounting solution included
- Professional-grade connectors
- Unmatched quality and flexibility
- Standards-compliant 1080p solution-compatible with standards-based video without losing features

APPLICATION FEATURES

- 1080p30 HD embedded MultiSite with Individual Transcoding
- Collaborate on virtually anything with 5 simultaneous video inputs
- HD Collaboration with 1080p30 and UXGA*
- Limitless integration possibilities
- Ideal for telepresence and collaboration studios, boardrooms, auditoriums, education and telemedicine applications
- 9 video compositors (embedded)

PERFORMANCE FEATURES

- Optimal Definition up to 1080p
- H.323/SIP up to 6 Mbps point-to-point; up to 10 Mbps total MultiSite bandwidth
- Connect up to 12 HD sources and 8 microphones directly into the interface
- Full Duplex Audio with high-quality stereo sound
- Full APIs
- Takes advantage of the TANDBERG Total Solution Management, Transcoded HD MultiSite™, Recording and Streaming and Firewall Traversal

GET THE MOST FROM YOUR INVESTMENT. WITH **PROFESSIONAL SERVICES**, TANDBERG EXPERTS SUPPORT TANDBERG CODEC C90 DEPLOYMENT AND TRAINING. VISIT WWW.TANDBERG.COM

UNIT DELIVERED COMPLETE WITH:

Videoconferencing codec, wireless remote control, rackmounting rails, LAN cable, power cable

BANDWIDTH

H.323/SIP up to 6 Mbps point-to-point
Up to 10 Mbps total MultiSite bandwidth

FIREWALL TRAVERSAL

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

VIDEO STANDARDS

H.261, H.263, H.263+, H.264

VIDEO FEATURES

Native 16:9 Widescreen
Advanced Screen Layouts
Intelligent Video Management
Local Auto Layout
9 embedded individual video compositors —
1 for every output and 1 for every encoder

VIDEO INPUTS (13 INPUTS)

4 X HDMI INPUTS, SUPPORTED FORMATS:

1920 x 1080@60, 59.94 Hz (1080p60)
1920 x 1080@50 Hz (1080p50)
1920 x 1080@30, 29.97 Hz (1080p30)
1920 x 1080@25 Hz (1080p25)
1920 x 1080@24, 23.97 Hz (1080p24)
1280 x 720@60, 59.94 Hz (720p60)
1280 x 720@50 Hz (720p50)
720 x 480@60, 59.94 Hz (480p60)
640 x 480@60 Hz (480p60)
1600 x 1200@50, 60 Hz (UXGA)
1280 x 1024@60, 75 Hz (SXGA)
1024 x 768@60, 70, 75, 85 Hz (XGA)
800 x 600@56, 60, 72, 75, 85 Hz (SVGA)
1920 x 1200@50, 60 Hz (WUXGA)
1680 x 1050@60 Hz (WSXGA+)
1440 x 900@60 Hz (WXGA+)
1280 x 768@60 Hz (WXGA)

4 X HD-SDI INPUTS, SUPPORTED FORMATS:

1920 x 1080@30 Hz (1080p30)
1920 x 1080@25 Hz (1080p25)
1280 x 720@60 Hz (720p60)
1280 x 720@50 Hz (720p50)
1280 x 720@30 Hz (720p30)
1280 x 720@25 Hz (720p25)

2 X DVI-I INPUTS, SUPPORTED FORMATS:

Analog (VGA):
1920 x 1080@60 Hz (1080p)
1280 x 720@60 Hz (720p)
1600 x 1200@60 Hz (UXGA)
1280 x 1024@60, 75 Hz (SXGA)
1280 x 960@60 Hz
1024 x 768@60, 70, 75, 85 Hz (XGA)
1920 x 1200@50 Hz (WUXGA)
1680 x 1050@60 Hz (WSXGA+)
1440 x 900@60 Hz (WXGA+)
1280 x 800@60 Hz (WXGA)
1280 x 768@60 Hz (WXGA)
Analog (YPbPr):
1920 x 1080@60 Hz (1080p60)
1920 x 1080@50 Hz (1080p50)
1920 x 1080@30 Hz (1080p30)
1920 x 1080@25 Hz (1080p25)
1280 x 720@60 Hz (720p60)
1280 x 720@50 Hz (720p50)
1280 x 720@30 Hz (720p30)
720 x 576@50 Hz (576p50)
720 x 480@60 Hz (w480p60)
Digital (DVI-D):
Same as HDMI, ref. above.

2 X YPBPR INPUTS, SUPPORTED FORMATS:

1920 x 1080@60fps (1080p60)
1920 x 1080@50fps (1080p50)
1920 x 1080@30fps (1080p30)
1920 x 1080@25fps (1080p25)
1280 x 720@60fps (720p60)
1280 x 720@50fps (720p50)
1280 x 720@30fps (720p30)
720 x 576@50fps (576p50)
720 x 480@60fps (w480p60)

1 X S-VIDEO/COMPOSITE INPUT (BNC CONNECTORS)

PAL/NTSC
Extended Display Identification Data (EDID)

VIDEO OUTPUTS (5 OUTPUTS)

2 X HDMI OUTPUTS, 2 X DVI-I OUTPUTS, SUPPORTED FORMATS:

1920 x 1080@60 Hz (1080p60)
1280 x 720@60 Hz (720p60)
1600 x 1200@60 Hz (UXGA)
1280 x 1024@60 Hz (SXGA)
1024 x 768@60 Hz (XGA)
800 x 600@60 Hz (SVGA)
640 x 480@60 Hz (VGA)
1920 x 1200@60Hz (WUXGA)
1360 x 768@60 Hz
1366 x 768@60 Hz
1280 x 768@60 Hz (WXGA)

1 X COMPOSITE OUTPUT (BNC CONNECTOR),

SUPPORTED FORMATS:

PAL/NTSC
VESA Monitor Power Management

LIVE VIDEO RESOLUTIONS (ENCODE/DECODE)

176 x 144@30 fps (QCIF)
352 x 288@30 fps (CIF)
512 x 288@30 fps (w288p)
576 x 448@30 fps (448p)
768 x 448@30 fps (w448p)
704 x 576@30 fps (4CIF)
1024 x 576@30 fps (w576p)
640 x 480@30 fps (VGA)
800 x 600@30 fps (SVGA)
1024 x 768@30 fps (XGA)
1280 x 1024@30 fps (SXGA)
1280 x 720@30 fps (720p30)
1920 x 1080@30 fps (1080p30)**
1280 x 768@30 fps (WXGA)
1440 x 900@30 fps (WXGA+)
1680 x 1050@30 fps (WSXGA+)
1600 x 1200@30 fps (UXGA)
512 x 288@60 fps (w288p60)
768 x 448@60 fps (w448p60)
1024 x 576@60 fps (w576p60)
1280 x 720@60 fps (720p60)

AUDIO STANDARDS

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

AUDIO FEATURES

CD-Quality 20KHz Mono and Stereo
Eight separate acoustic echo cancellers
8-port Audio mixer
Automatic Gain Control (AGC)
Automatic Noise Reduction
Active lip synchronization

AUDIO INPUTS (14 INPUTS)

8 x microphone, 48V phantom powered, XLR connector
each with separate echo cancellers and noise reduction,
all microphones can be set for balanced line level
2 x RCA/Phono, Line Level: Stereo PC input
2 x RCA/Phono, Line Level: Stereo auxiliary/DVD input
2 x HDMI, digital: Stereo PC/DVD inputs

AUDIO OUTPUTS (8 OUTPUTS)

2 x XLR, balanced line level, stereo main audio
2 x RCA/Phono, line level, stereo main audio, configurable
to S/PDIF
2 x RCA/Phono, line level, stereo to recording device
1 x HDMI, digital, stereo main audio
1 x HDMI, digital, stereo to recording device

DUAL STREAM

H.239 (H.323) dual stream
BFCP (SIP) dual stream
Available in MultiSite from any site
Support for resolutions up to 1080p30 in both main stream
and dual stream simultaneously

MULTISITE FEATURES

4-way High Definition SIP/H.323 MultiSite
Full individual audio and video transcoding up to 1080p30
Individual layouts in MultiSite CP (Takes out SelfView)
H.323/SIP/VoIP in the same conference
Best Impression (Automatic CP Layouts)
H.264, Encryption, Dual Stream from any site
IP Downspeeding
Dial in/Dial out
Conference rates up to 10 Mbps

PROTOCOLS

H.323
SIP

EMBEDDED ENCRYPTION

H.323/SIP point-to-point and multipoint calls
Standards-based: H.235 v2 & v3 and AES
Automatic key generation and exchange
Supported in Dual Stream & MultiSite

IP NETWORK FEATURES

DNS lookup for service configuration
Differentiated Services (QoS)
IP adaptive bandwidth management (including flow control)
Auto gatekeeper discovery
Dynamic playout and lip-sync buffering
H.245 DTMF tones in H.323
Date and Time support via NTP
Packet Loss based Downspeeding
URI Dialing
TCP/IP
DHCP
802.1x Network authentication

SECURITY FEATURES

Management via HTTPS and SSH
IP Administration Password
Menu Administration Password
Disable IP services
Network Settings protection

NETWORK INTERFACES

2*** x separate LAN/Ethernet (RJ-45) 10/100/1000 Mbit

OTHER INTERFACES

USB host for future usage
USB device for future usage
GPIO*

PRECISIONHD 1080P CAMERA

1/3" CMOS
12 x zoom
+15°/-25° tilt, +/- 90° pan
43.5° vertical field of view
72° horizontal field of view
Focus distance 0.3m-infinity
1920 x 1080 pixels progressive @ 60fps
Other formats supported (configurable through Dip-switch):
1920x1080@60fps (HDMI only)
1920x1080@50fps (HDMI only)
1920x1080@30fps
1920x1080@25fps
1280x720@60fps
1280x720@50fps
1280x720@30fps
1280x720@25fps
Automatic or manual focus/brightness/whitebalance
Far-end camera control
Daisy-chain support (Visca protocol camera)
Dual HDMI and HD-SDI output
Upside-down mounting with automatic flipping of picture

SYSTEM MANAGEMENT

Support for the TANDBERG Management Suite
Total management via embedded SNMP, Telnet,
SSH, XML, SOAP
Remote software upload: via web server, SCP, HTTP, HTTPS
1 x RS-232 for local control and diagnostics
Remote control and on-screen menu system

DIRECTORY SERVICES

Support for Local directories (My Contacts)
Corporate Directory
Unlimited entries using Server directory supporting
LDAP and H.350
Unlimited number for Corporate directory (through TMS)
200 number local directory
Received Calls
Placed Calls
Missed Calls with Date and Time

POWER

Auto-sensing power supply
100–240 VAC, 50/60 Hz
175 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)

APPROVALS

Directive 2006/95/EC (Low-Voltage Directive)
– Standard EN 60950-1
Directive 2004/108/EC (EMC Directive)
– Standard EN 55022, Class B
– Standard EN 55024
– Standard EN 61000-3-2/-3-3
Approved according to UL 60950-1 and CSA 60950-1-07
Complies with FCC15B Class B

DIMENSIONS

Length: 17.36"/44.1 cm
Height: 3.67"/9.3 cm
Depth: 11.8"/30 cm
Weight: 11.22 lbs/5.1 kg

* not supported in version 1

** requires option

*** only one LAN/Ethernet interface supported in version 1

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

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