TEST REPORT TANDBERG 990 MXP

GENERAL

Period: February 2006
SW-Version: F.4-051/2 MS
Device Class
TANDBERG 990 MXP is a settop system, designed and suitable for medium-sized conference rooms.
Scope of Delivery
Delivery includes the device, remote control and all necessary connecting cables.
Bandwidths
The system facilitates video conferences up to 2 mbps in LAN and up to 512 kbps in the ISDN area.

INSTALLATION

Installation and initial operation of the device are fast and uncomplicated and are facilitated by the well-designed interfaces.

TEST

Operation
Using the TANDBERG 990 MXP is very easy and intuitively feasible. The possibility to get to the highest menu level with only one keystroke, however, is missing. A reset button to restore factory settings for all levels is also desirable.

Audio/Video
Tests with other end devices were of good up to very good audio and video quality.
If possible, H.264 was used. However, H.264 was also used with full bandwidth, if the other side was able to use this codec only up to a certain bandwidth. In this case another coding has to be chosen manually.
Connected to an HD 4000 H.264 can only be used up to a bandwidth of 320 kbps. The video quality of a connection with H.264 between these two devices were, however, worse than in point-to-point conferences with H.263.

Connected to an HD 3000 H.264 can only at a bandwidth of exactly 384 kbps. With all other bandwidths (higher as well as lower) this standard is not used.

In connection with a SONY PCS-G70 the H.264 standard is used up to a maximum bandwidth of 1920 kbps. According to this, the quality of the video is very impressive.

**T.120 / H.239**

Standard T.120 is not supported anymore, now H.239 is used in all nets.

Transmission to H.239 was carried out in a very good quality in both directions with SONY PCS-G70, Polycom VSX 3000 and PVX 8.0. Fonts were readable from size 10 on both sides. Switch time was about 2 seconds on the respective other side.

H.239 connections with HD 3000 and HD 4000 worked with a very good quality and were readable from font size 8, but only with video codecs other than H.264. When H.264 and H.239 are used simultaneously the quality of the transmission of the second data stream worsens very much, HD 3000 even switches to H.261. This automatic change is not reversed after H.239 is quit.

**Remote Control of the Camera**

Remote control of the camera worked very well in all tests, if the preconditions were met.

**MCU**

Cooperation with the RADVision MCU within the DFNVideoConference service worked without problems and also with higher bandwidths in good quality.

**Gatekeepers**

Cooperation with the gatekeepers GNU-GK 2.0.7 and CISCO MCM worked without any problems.

**Other**

It is possible to place the menus semi-transparently over the current video picture, thus being able to make status enquiries during the conference or change settings. Another handy feature is the possibility to switch between the used standards during a conference. This change becomes active in the current connection immediately.

The limitation of the length of the dialling numbers is now eliminated. Thus it is now possible to make calls to the DFN-MCU which invite other participants at the same time.

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**CONCLUSION**

TANDBERG 990 is a convincing device and has a continuing good audio- and video quality with all modern VC devices. It is very well suitable for medium-sized conference rooms.

**Documentation**

Manufacturer: TANDBERG
Distributor: MVC, FARONETICS
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<tr>
<th><strong>Supported Standards</strong></th>
<th>H.320, H.323</th>
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<td><strong>Audio Codings</strong></td>
<td>G.711, G.722, G.722.1, G.728, MPEG4 AAC-LD</td>
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<tr>
<td><strong>Video Compression</strong></td>
<td>H.261, H.263, H.263+, H.263++, H.264</td>
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<td>Camera, S-Video, 2 x Composite DVI SXGA (640x480 bis 1280x1024)</td>
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<td><strong>Video Inputs</strong></td>
<td>Monitor 2 x Composite DVI XGA (640x480 bis 1024x768)</td>
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Thanks to TANDBERG for providing the test.