TEST REPORT POLYCOM HDX 9004

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GENERAL

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Device Class
The compact system Polycom HDX 9004 is an HD-compliant group system with 720p (720 lines in progressive full screen display) resolution and 30 fps. It is suitable for conferences with a maximum of 30 people.

Scope of Delivery
The following items are included in delivery: **HD Codec** (dimensions: 437x87x368, weight: 9.0 kg), a separate Polycom EagleEye camera, a table microphone, a remote control with mini display, several audio-, video- and further cables, and a graphical overview for connecting the system. There is also a CD with the Polycom HDX system documentation library with a short reference, a user guide book (PDF, Word) and an administrator guide book, all in different languages.

Bandwidths
The system enables video conferences up to 4 Mbps in LAN in point-to-point conferences and 6 Mps optionally with MPPlus for multipoint-conferences for a maximum of 4 or 8 places. ISDN is offered optionally with ISDN Quad BRI up to 512 kbps or ISDN PRI T1 or E1 up to 2 Mbps.

INSTALLATION

The **device** has five video inputs and four video outputs (digital/analogue - DVI-I and Composite connectors). It has two digital supplies for a maximum of 8 microphones, three analogue inputs and two analogue outputs as Phoenix connectors. The device does not have any standard audio/video in- or outputs. On the front side there are a USB and a FireWire interface, which are still inactive.

Implementing the device is quickly done and without problems thanks to the well designed graphic overview, but also since the labelling of the interfaces on the back of the codec is very well. The **configuration** worked without problems as well, since the menu setup is logical and self-explanatory.
Operation
The Polycom HDX series has a newly designed remote control with a mini display. It is very user friendly, since it is more clearly designed than the remote controls of the VSX series. It is bigger than its predecessors. But the numerical keys are bigger as well. All important and often used functions are provided or easily reachable by hitting a key as well. The mini display indicates which functions are active or what was put in over the keys, e.g. the dialled IP. The menu navigation of the VC system is consistent with that of the VSX series. The menu Diagnosis - Network Diagnosis was completed by the commands Ping and call tracking Anrufstrecke verfolgen**. This is very useful, since there is not always a PC on site.

Audio/Video
The audio quality with other end systems was very good with only one exception. When testing Polycom 8.0.2 audio sound was excellent, but regular audio dropouts - sometimes several words were incomprehensible - detracted from this excellent listening experience. Video quality between the end devices had good results in the majority of cases. In a connection test with LifeSizeRoom a picture ration of 720 px could be reached with 30 fps.

H.264
An H.264 connection was possible between most end devices. Here, Tandberg 990 and Polycom PVX 8 reached the highest bandwidths. The quality of a conference with Emblaze VCON HD 3000 in a bandwidth of 64 kbps was not satisfactory.

H.239
Presentations over H.239 work with Polycom PVX and VSX 3000, TANDBERG 990, Sony PCS-G70, Emblaze VCON HD4000 and VpointHD7.0 in full screen mode in very good quality. With Emblaze VCON HD 3000 there was no H.239 connection.

There is a new optional, Polycom-intern function People on content, which shows the speaker in front of the content of his presentation, like in a TV weather forecast. This function was tested between two Polycom HDX9004 devices.

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

MCU
In the test with RADVision MCU there was a very good audio quality all the time. Video quality could for the most part be judged as only sufficient, since the video was not sharp. In a data presentation according to H.239 there were unsharp images. Writing was readable only from a font size of 24 pixels.

In the test with Codian MCU 4220 the sound was very good, the video a little unsharp. An H.264 connection on both sides worked only in one calling direction with 192 kbps. If Polycom HDX9004 dials into the conference, there is no H.264 on both sides. Data presentation with H.239 was of good quality. Font sizes of 10 pixels are readable.

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

Other
There is a maximum of 128 characters in a dialing string. It can be positively mentioned, that the codec has room temperature, despite permanent operation, and the camera fits onto a flat screen without any rack.

Polycom HDX9004 can remotely only be fully administrated over the Microsoft Internet Explorer. When using Firefox, functions are limited, e.g. camera control or virtual remote control do not work.
CONCLUSION

The Polycom HDX9004 system convinces because of its very good audio- and good video qualities within the heterogeneous H.323 world. The only exception here are MCU connections with regard to the video picture. Data presentation over H.239 are displayed in very good quality.

Documentation
Manufacturer: Polycom
Distributor: MVC

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Thanks to MVC for providing the test.