GENERAL

Period of Time: September 30, 2008 until October 15, 2008

SW-Version 01.02.00 (brief test report of SW-Version 2.03 from 06/2009 available)

Device class
The Sony PCS-XG80 is a settop system which consists of a separate Codec with various connection possibilities. It enables video conferences in HD up to 1080i with 60 fps.

Scope of delivery
The basic scope of delivery includes the codec, HD camera and remote control as well as two table microphones. All future software updates are included in the purchase price in addition. Software extensions like MCU functionality in the IP and also the ISDN field or H.239 data presentation support can be purchased as well. The Data Solution Box which is known from the preceding models is not required any more, since this functionality was integrated into the codec and since the device features the respective links. An ISDN box is necessary to carry out ISDN video conferences (H.320). This box was also used with the older video conference systems of the PCS series.

Bandwidths
According to its classification, the system enables video conferences up to 10 Mbps via IP and up to 768 kbps in the ISDN field.

Miscellaneous
The design of all components is very compact and very well aligned. The remote control does not depend on a line of sight since it is radio enabled.

INSTALLATION

Setup
The setup can be carried out without any difficulties. The clear labeling and the color-based classification in groups that logically belong together (MIC, Audio in/out, Video in/out) facilitates the process to a great extent. All cables necessary for the basic operations are included in the scope of delivery. They are clearly labeled (green label at the back side of the codecs). The enclosed Quickstart manual supports the setup additionally. After the launch, the PCS-XG80 is ready for use very quickly and the user is guided to the configuration of the system.

Configuration
The configuration may be carried out quickly and without any difficulties. The menu is semi-transparent and very well structured, seldom used menu items are faded out and can be activated when needed. The entries necessary for basic operations may be found quickly.

TEST

Operation
The software can be used intuitively and is very user-friendly. Comfortable operation of the device via the remote control is possible since the remote control's haptics is good. A help text fades in each time it is relevant. It states which button of the remote control is in charge of which function at this point of time. Each of the four colored buttons is assigned to context-sensitive functions or commands which are explained in the menu navigation. The main menu of the PCS-XG80 may be configurated individually to a great extent and is hence adaptable to various user demands. The interface may therefore be operated in a kind of kiosk mode (only brief command buttons and the telephone directory are accessible) or with a display of different menu items. The operation during a video conference can be carried out intuitively as well, most required functions may be activated quickly with the remote control. It is however necessary to consult the manual so as to be informed about unlabeled functions. A good example is the function for Far End Camera Control on one of the colored short command buttons - the function is not documented on the remote control itself.

Audio/Video
In most cases, the tests with various other remote stations featured very high video and audio quality. An exception was the conference software Emblaze VCON vPoint HD 8.0 Pro which did not receive video or audio but could only send the signals. The system Tandberg 6000 MXP had to be restricted in the applied bandwidth (1920 kbps or less) since otherwise, the load was too high and disturbing image errors were caused. Polycoms VSX3000 could not display a H.264 video though the codec was mediated correctly. All other test connections provided very high audio quality which was promoted by two microphones. Even stereotone could be transmitted.

When the Sony PCS-XG80 is operated in the 1080i mode (this needs to be set up in the configuration menu and will be activated after a reboot of the system) in looses its downward compatibility and can hence only establish connections in 1080i. This was only achieved between two XG-80 devices in the tests. The quality of the transmitted sound (AAC Stereo) as well of the transmitted video (H.264 in 1080i format with 60 fps) is excellent while the connection bandwidth was 6 Mbps. When the mode is changed to 1080i, all layout settings and telephone directory entries need to be inserted again.

H.239
The conference system supports the H.239 standard but the test devices at hand were not provided with the according option to send data presentations. The display of the data presentation in direction of reception was always carried out in very high quality regarding color exposition, readability and change time intervals.

**Remote Control**
The remote control always worked very well in both directions provided the technical prerequisites at the remote station were present.

**MCU**
Collaboration with the Codian-MCU of the DFN worked very well with very good results. Not being able to use the entire bandwidth (8Mbit/s) was the only restriction: both device mediated a maximum of 4096 kbps.

**Gatekeeper**
The collaboration with the gatekeeper GNU-GK 2.0.7 worked without any difficulties, restrictions were however experienced with CISCO MCM regarding the bandwidth of the calls which were carried out. All calls with more than 2 Mbps led to erroneous behavior of the CISCO gatekeeper and hence, all connections were lost.

**Miscellaneous**
Video conferences in MP4 format can be recorded very well on the Memory Stick Pro by Sony, whereupon all recordings are converted in SD resolution with a maximum of 512 kbps. The quality of the recordings is good.

The connection of an additional HD camera via a component signal at the codec front could not be carried out without difficulties with the available test devices. The image was jolted and therefore a black border appeared on the left side of the image (a Full-HD camera by JVC was tested).

It was noticed that with the current software version 1.02.00 the process of establishing of a connection with other systems lasted very long. The device does not accept any commands during this time. This problem will however be solved with the next software release (a beta release of the 2.0 version was tested). The software version 2.0 will feature other innovations: among others, the integrated multi-point functionality (optional) and the Dual Network Interface (there are two Ethernet connections at the back of the codec) will be available. IP cameras can be connected to the network and the web interface offers live images in the web monitor.

The connection encoding with AES according to H.235 worked in all connections except with Mirial Softphone.

---

**CONCLUSION**

The Sony PCS-XG80 is a powerful device which achieves excellent results in the video and audio fields. Sony heads for Full-HD with the 1080i mode and a progressive resolution of 1920x1080, however with the acceptance of downward compatibility decrease. It is recommended to wait for improvement in other software versions.

The system sets new standard for the well-established "720p conferences" since HD connection can be transmitted with 60 images per second in a resolution of 1280x720. A significant in quality is the result.

The Sony PCS-XG80 offers a very good cost-performance ratio with the tested range of functionalities.

**Technical Data**
producer: Sony
<table>
<thead>
<tr>
<th>Supported Standards</th>
<th>H.320, H.323, H.239</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound Coding</td>
<td>G.711, G.722, G.728, MPEG-4 AAC-LC (Mono/Stereo)</td>
</tr>
<tr>
<td>Video Compression</td>
<td>H.261, H.263, H.263+, H.263+++, H.264, MPEG4 Simple Profile (with SIP)</td>
</tr>
<tr>
<td>Video Inputs</td>
<td>Camera-In for HD camera PCSA-CXG80; AUX Video Input: 1x S-Video, 1x Analogue Component (YPbPr), 1xRGB</td>
</tr>
<tr>
<td>Video Outputs</td>
<td>1x HDMI (video, audio), 1x RGB</td>
</tr>
</tbody>
</table>

Thanks to Sony for supplying the test.