

TEST REPORT LIFESIZE ICON 800

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OVERVIEW



Period

June 2017

SW Version

LS_RM3_3.2.1 (2088)

Device class

The Lifesize Icon 800 is a full HD capable set-top system for large conference rooms. It belongs to the product line of the Lifesize Icon-series and covers the highest performance class. (see also the [test report Lifesize Icon 450](#) and [test report Lifesize Icon 600](#)) The device supports two monitors and contains four inputs for audio sources. The Lifesize Icon 800 can be controlled by a remote control or touchscreen display.

Scope of Delivery

size

Phone HD as microphone, a touchscreen, a remote control and all necessary cables. The camera has a ten times optical zoom. A feature is the supplied

ossible to connect the device with the microphone.

Protocols and bandwidths

The device connects calls through H.323 up to a bandwidth of 6000 kbps. The data transfer is realised by using H.239. SIP-Calls are possible via registration at a SIP registrar.

INSTALLATION

The Lifesize Icon 800 can be put in operation just in a few minutes. All necessary components are available. The quick reference card is enclosed and supports the commissioning if required. After the device has been turned on, the network configuration can be applied by the administrator menu. Basically, the system is intended to be intergrated into the Lifesize Cloud. In the stand-alone-operation (for example within the service of DFN VideoConference) more settings have to be set up which cannot be set up directly at the device. The settings have to be configured via web access on a clean and self-explanatory surface.

TEST

Operation

Depending on the preferences, the device can be operated by the touchscreen control of the Lifesize Phone HD or by the menu control of the video output with the remote control. The handling is simply structured, clean and self-explanatory. The remote control became reduced to a mute/unmute button for the microphone and 4 directions keys with an ok-button. With this way to operate, the user is able to set up the menu and accomplish the entries - for example the configurations and calls.

Audio

The audio in tested connections was encoded with [AAC-LD](#), [AAC-LC](#), [G.722.1C](#) or [G.722](#). The audio quality in all tests was rated as very good. In the connection to the Polycom Debut with the latest Software, the device did not received any audio. The connection statics shows, that the Polycom Debut Siren is using LPRRSAC as the audiocodec, while the Lifesize 800 is sending with G.722.1C. Because of this mismatch, there could not be received any audio signals.

Video

The video quality in all tested connections was rated as very good with one exception. Only the connection with the system LifeSize Team 220, the receiving video quality was just rated as good. The video compression was using the video codec [H.264](#) without exceptions . In most of the connections the maximum possible video format [1080p](#) was utilized, otherwise the format [720p](#) was used.

Data presentation

During the individual test connections the video codec H.264 was used for the transmission of data presentations. The format depended on the technical possibilities of the opposite side. While the older devices (building period until 2012) were also using VGA to transmit the data presentation, the newer devices were also using the format 720p and 1080p.

The quality of the sent slide presentation (static contents) by the Lifesize Icon 800 could be rated by the opposite side as very good. That was also the case at receiving content, only the quality of the Cisco C40 could be rated as ok. The Cisco-system C40 was sending the slide presentation with about 2800 kbps and 720p@20fps. Apparently the Lifesize Icon 800 reached the limit of perfomence at this transmission.

At the transmission of moving content (SD- and HD-movies) in the data channel, the resolutioin and the frame rate were dynamically adapted, depending on the sent content. Depending on the data presentation the format is switching to a lower resolutioin in favour of the frame rate, whereby the latter is increasing. With this possibility the system was controlling the quality parameters in favour of the data presentation. For instance, in case of the connection with the software Polycom Real Presence Desktop the content was moving between 720p@10fps and 624x352@30fps. The user cannot affect it. Unfortunately the company did not informed us in which situations the related control functions were used.

This method has achieved that all the SD- and HD-movies, which have been sent in the data channel, reached the opposite side in an applicable quality. Problems arised at the receiving point, when the opposite side was sending with a high resolution, high frame rate with a large bandwidth (Cisco C40, Panasonic KX-VC 1600). Apart from that the practical usability was also given.

Detailed findings can be found in the [compatibility matrix](#).

Camera remote control

The Lifesize Icon 800 could control the remote site as long as the technical requirements of the receiver were conform.

Service DFNVideoConference

The cooperation with the DFN-MCU worked very good. [H.264](#) was utilised as video codec and as resolution were used [720p@30](#) fps in transmitter direction and [1080p@25](#) fps in receive direction. As Audio codec [AACLD](#) was utilised with 64 kbps in transmitter and 96 kbps in receive direction. At the transmission of data presentations [H.264](#) was used with [720p](#).

Gatekeeper

The use of Gatekeeper GNU-GK did not cause any problems.

SIP- and URI-Dialing

Calls to the DFN-MCU are possible via SIP-dialing with the syntax "Konferenz-ID@vc.dfn.de" without registration at a SIP-Registrar the calls are not possible. The Lifesize Icon 800 is requesting a registration at a SIP-Registrar. Calls via URI-dialing by H.323 Version 5 (formerly H.323 Annex O) are possible with the syntax "194.95.240.2##Konferenz-ID", whether the video conference device is registered at a gatekeeper or not.

Encryption

All connections were realised by H.235 with AES-128 media encryption. If necessary the encryption has to be enforced with the option [H.323 Security "strict"] on the side of the Lifesize Icon 800.

Others

The Lifesize Icon 800 offers a spam filter configuration against unwanted calls.

CONCLUSION

The Lifesize Icon 800 is a full HD capable system for large conference rooms. It is convincing by an intuitive user interface, very good audio- and videoquality as well as connections with modern opposite sides also in the field of data presentation with a good practical usability. The device, which actually is intended to be used for the cloud-based video communications platform by Lifesize, works also easy in the stand alone operation. On the basis of these properties together with a pleasant price-service-ratio the device can be fully recommended.

Documentation

Manufacturer: Lifesize, [Datasheet 2017](#)

Supported General Standards	H.323 and H.239, SIP and BFCP
Audio Codings	G.711 , G.722 , G.722.1 , and G.722.1C licensed from Polycom®, MPEG-4-AAC-LC, MPEG-4 AAC-LD, Opus
Video Compression	H.264 High Profile, H.264 Baseline Profile, H263+ , H263
Resolution	up to 1080p with 60 fps
Bandwidth	up to 6000 kbps