

Independent Testing of the Multimedia Conference Systems



Participants:

Bosch - DCN multimedia system

Taiden - HCS-8300 system

Televic – UniCOS system

Video:

[BOSCH Presentation](#)

[TAIDEN Presentation](#)

[TELEVIC Presentation](#)

Date of the Testing

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As anticipated, the testing was extremely interesting and instructive. Almost four hours of tasks, listening, comparison gave us such a great amount of information analogous to the full-scale training with practice. The script of the testing is realized in full, and on the way out the experts noted that «they are eager for more challenges». This definitely points to the tight and rich event.

When the script was created we set a course for analysis of the multimedia possibilities of the systems and functionality for work with the documents. There are no voting and conference interpreting challenges in the testing, but it is fair to say that it would take four hours more. We will include these challenges in the next testing with pleasure.

TECHNICAL PART OF THE TESTING

Let's explain what the technical part of the testing was like.

Three conference systems (Bosch, Taiden, Televic) were represented in packages consisting of chairman and delegate unit. With the use of the balanced signal the systems were connected to Symetrix audio platform from which audio output without processing by aes/ebu digital interface to Fohhn amplifier and loudspeakers was carried out.

Each manufacturer has his own closed circuit TV cameras. Bosch and Taiden have native cameras, Televic doesn't offer cameras so during the testing the integrator's scheme was realized.

A special thanks to "Brullov Consulting" company for technical assistance in the testing management and additional equipment provision.



EQUIPMENT DESIGN

In the first stage we offered the experts to value the industrial design of the units including quality of the display, ergonomics of the menu, quality of the buttons and ergonomics of the unit. Considering that the manufacturers mentioned the possibility to talk standing next to the unit, we wanted to find out if it was really convenient.

Bosch: all the experts pointed the external design. The units are really beautiful. However the screen is set at an angle which is the reason for glare. The reflection of the ceiling light is visible while standing at the unit.

Taiden: a lot of experts noted that the size of the units is rather big for many challenges. It may have sense considering that due to it users have really big display for work with the documents. The interface is ambiguous but for many clients it may be more clear and friendly.

Televic: many experts were confused by the only flush mount format of the units. As for the rest, the display is rich in quality, inner structure of the menu appeared incomprehensible for one group and very clear for another one. The unit itself is wide. It means that during installation it is necessary to create a large space for delegate's workplace.

Bosch	Taiden	Televic
4,79	4,07	4,14

DOCUMENTS PREPARATION AND LOADING TO THE SYSTEM

Each system has its own conception of document management. In spite of the fact that all units have Android system, functionality is incredibly different.

Let's try to define the differences between the conceptions of document management.

- Possibility or impossibility to install third-party applications to the unit's operating system. For example, for integration with external systems;
- Possibility or impossibility to download the documents from the delegate workplace;
- Work with many different file formats or their meaningful constraint.

And now let's look at each manufacturer:

Bosch

There is a WEB-server at the separate server. The pages for file download and retention are created there. Naturally the pages are created in proper design and web-server may consist of the flat html-files or be an internal site on CMS-system or HTTP records system. Relevant page is displayed in the unit. A file is downloaded via this page and opens as default application in Android on this unit.

In principle it means that it's possible to change applications by default, develop applications for one's file types and realize other possibilities.

It's possible to distribute a file to all units forcibly.

Important: we could not receive a clear answer if this way is the main one from the manufacturer or it is implementation of file handling from Hi Tech Media Company which acted on behalf of the manufacturer.

Advantages	Disadvantages
<ul style="list-style-type: none"> • Possibility to create whatever interface 	<ul style="list-style-type: none"> • Additional IT-infrastructure (web-

displaying pages from web-server. <ul style="list-style-type: none"> • Possibility to work with whatever file types having the corresponding application for their view on the unit. 	server) engineering challenge, page design. <ul style="list-style-type: none"> • Isolation of access to the files is not realized at the conference system level but by web-server tools.
File download is possible via operator having rights to download to web-server and corresponding interface. It's up to you to decide if it is advantage or disadvantage.	

Taiden

There is a server where the documents are stored in the system. Document download is made in the uniform file archive. This is a folder with flat structure which is available via network. Access to the folder may be allowed for users or only for operator. Moreover USB-port is built in the units. With this port memory sticks can be connected to download files directly to the same common storage. Rights to download files through USB can be set up at the particular unit.

To view a file it's necessary to enter file handling menu section from the unit. There you should download the file to the unit (locally) and then open it.

It's impossible to install external applications to the unit. It's possible to distribute a file to all units forcibly.

Advantages	Disadvantages
<ul style="list-style-type: none"> • File download from workplaces to server storage. • Work with different file formats. • Storage is a folder available via network from whatever devices having access rights. 	<ul style="list-style-type: none"> • To open a file it's necessary to download it to the local unit and open it from the unit. • Storage structure is flat. Thus if there are many files it's difficult to find them.

Televic

Only PDF format is supported for security reasons. Operator downloads a prepared PDF-file to the system. The file may be devoted to the particular event, part of event or be in shared access. After download through operator's software the file may be displayed having user's rights.

It's impossible to install external applications to the unit. It's possible to distribute a file to all units forcibly. There are wide file handling settings. For example, you can allow users to move through presentation during its viewing or forbid to leave the current slide.

Advantages	Disadvantages
<ul style="list-style-type: none"> • Convenient and functional environment for file handling planning, access isolation. • You can find everything in operator's software, you needn't external systems, 	<ul style="list-style-type: none"> • Work only with PDF-format. Converting to PDF isn't built in the operator's software and must be made in advance. All MS Office applications can convert files to PDF, but you must

servers and involvement of IT experts.	see to it beforehand.
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Bosch	Taiden	Televic
4,14	4,36	4

QUALITY OF MICROPHONES

In spite of the fact that the conference systems are multimedia systems it is not in reason to avoid the sound quality test. We didn't avoid this feature and arranged the blind testing of microphones. Microphone units of Bosch and Taiden come with two types of microphones: a classic gooseneck microphone and a microphone array. The testing was carried out at one unit from each manufacturer. But a unit and a type of microphone were chosen by the manufacturer.

Bosch	Taiden	Televic
Microphone array	Gooseneck microphone	Gooseneck microphone

Two people (a man and a woman) were reading the same text. They were reading the first half of the text sitting at a short distance from the microphone and the second half – standing.



The experts voted blindly without knowing at which unit the text was read at the moment. At the end of the challenge I asked the experts which number each system had. Most of them were mistaken.

Experts' marks:

Bosch	Taiden	Televic
4,07	3,57	4,57

DOCUMENT MANAGEMENT

When the documents are downloaded we suggested working with them to try the interface convenience, the display ease of use for work with materials.

I agree with several experts telling that the interface deeply varies from usual practice of document management at mobile devices. Perhaps it would be easier for the participants if the model was recognizable.

Here are the results:

Bosch	Taiden	Televic
4,14	4,43	4,36

Please read the experts' comments. It is impressive to see there that the interface is really clear for one group of the experts and too complicated for another group.

WORK WITH CLOSED CIRCUIT TV

Bosch

Own HD-cameras outputting the IP-stream to the camera and digital SDI signal to the switching system are used. With own cameras the basic settings are made very quickly and easily. Control is carried out according to the presets stored in the camera. In case of the difficult challenges (for example, for camera tracking) it's necessary to use the external control systems as there is no such possibility in basic functionality. But connection and tuning speed is really delighting.

Taiden

Similarly – own cameras, work according to the presets. The presets for each workplace + common plan. For basic possibilities it is fair enough.

Televic

The manufacturer doesn't offer his cameras so the following is a must: camera + central unit + control system. During the testing "Brullov Consulting" company showed its own solution based on Cue System tablet-operated control systems. It should be mentioned that the solution itself is very functional but its use means that a customer or an integrator has the necessary expertise regarding systems integration.

Anyway, all three systems have open external systems connectivity interface and connection with closed circuit TV won't cause problems for a staff programmer.

VIDEO SIGNAL DISPLAY

The systems are able to transmit the external signal. At this stage we decided to test the quality of transmitted video stream displaying at the units. We connected by HDMI a laptop with a video (1080p) to all the systems and displayed the control signal.

The following aspects were evident:

Bosch – the signal fell into pieces, high deceleration and sticking of the signal were visible. The quality was unacceptable for the working process. Also there was high color distortion. Probable cause is absence of the on-board encoder in IP. So coding was carried out by third-party applications (not Bosch) that couldn't provide proper quality.

Taiden – it's possible to set up the signal coding quality depending on the necessary band. Coding quality was examined at 768 Kbs – pixelation was visible especially with consideration for the large screen on the units. Then the stream was set to 2000 Kbs – everything became fine. Small code delay was visible. The picture on the units is lags behind the control picture on the screen (visible delay).

Televic – it's ideal! There is no delay at all, the quality is great. Manufacturer's representatives said that it was the company's know-how regarding coding optimization at H.264 codec.

Bosch	Taiden	Televic
3,43	3,86	5

SCRIPTED EVENT PREPARATION

Almost all systems have creation of the event agenda and system operation setting functionality. Each manufacturer showed it. As for me, Televic operator interface is the most intelligible and intuitive in this functional. But tastes differ...

Bosch	Taiden	Televic
4,71	4,29	4,79

GENERAL CONCLUSIONS



Here are the general results of all the challenges:

Bosch	Taiden	Televic
4,22	4,16	4,48

My subjective impressions of the testing get in line with the experts' marks. I'd like to add the following:

- User interface could and should be made more intuitive. But this is the first fruit in the field of the multimedia conference systems so there is no doubt that it will happen.
- “Functionality/security” problem is solved in different way by each manufacturer. Bosch has an opportunity to install its applications (integration with BKC from TrueConf was shown). With Taiden you can connect memory sticks locally. And Televic insists that it's insecure.

Who is right and where is the happy medium – it remains to be seen.

Translation graciously provided by Vladimir Kolomensky (Brullov Consulting).