Header image: courtesy from Rena Productions

Screen management in virtual studio's: impeccable, interactive, and impactful visualization

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With event organizers being forced to explore the potential of virtual and hybrid events**, we see that the number of virtual initiatives has surged notably. As a result, an increasing number of forward-thinking parties in the event industry are building permanent virtual studios to support pure virtual as well as hybrid events.**

How do I build a virtual studio?

You could compare these virtual studios with TV studios. In fact, hosting a virtual event is in many ways similar to a television production and broadcast. In these studios you'll find a green screen or video wall backdrop - often Direct View LED, but possibly also LCD or RPC.* There could be additional side screens, confidence monitors for the presenter, laptops with supporting presentations and dynamic background graphics, computers supporting video playback and video feeds from remote presenters, etc.

The real brain of any great virtual studio is a great screen management system. It captures the different sources and content inputs; processes, scales and converts the signal; and then distributes it to the different screens in the studio and the streaming platform. It's a centralized point of screen management, which makes sure that everything runs synchronously for your live broadcast and at the same time opens the possibilities for creative and interactive content.
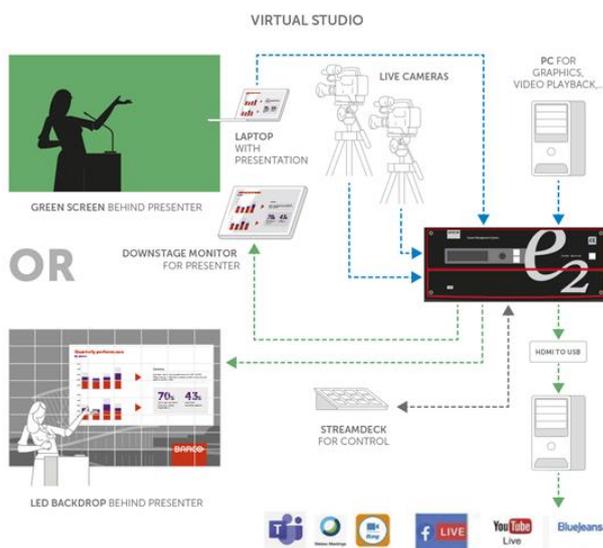
*If you're interested in the pros and cons of these different video wall technologies for television backdrops, we recently published this blog where you can find a complete overview.

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Why is screen management important for virtual studios?

One of the biggest challenges associated with running virtual productions in 2021 is to keep your audience engaged. Of course, audience engagement should always be top-of-mind with hosts and organizers but engaging someone remotely does bring its own challenges. One of them being "Zoom fatigue", a virtual burnout, reported by many people in 2020. **If you want a successful virtual production, you need to step up and be different from the overload of online meetings, webinars and webcasts**.

Grab the attention with creativity and keep attendees engaged with dynamic visuals. Content-wise, you can work with transitions, creative image compositions, picture-in-picture (PIP), etc. And to do all these heavy calculations in real-time, without any glitches or disturbing artifacts because those are detrimental to your participants engagement, powerful processing is essential. Alternative software-based tools often have their limitations when it comes to functionality and reliability. A professional event needs a purpose-built, deterministic system. Barco's screen management portfolio is therefore essential for any television backdrop or virtual studio:

We wanted to give the audience the impression they were watching a TV show rather than a typical business presentation. Think multiple camera angles, inserted video clips, dynamic backgrounds, slides as picture-in-picture, etc. Using a green screen and the chroma keying functionality of the E2 together with the different live camera and presentation layers really added to the user experience and differentiated it from the basic Webex or Teams meetings.

Laurent Theurin, *E2 operator during the Barco G100 launch event*

5 reasons to choose Barco's E2 for your virtual studio

If you want to impress your audience with a professional virtual event, the Barco E2 and S3 are the ideal additions to your virtual studio.

1. Visual creativity is ingrained in the events and television sector, so why should you give up on that when turning to virtual alternatives? If we're really dealing with "Zoom fatigue", then it's time to think outside the "Zoom box". Literally. With the support of a single E2 unit in your virtual studio you can **create custom canvasses** with up to 32 HD layers. There are no limitations, and you have the flexibility to position the layers wherever you want. Stitch all your input sources, including live camera, together into **one seamless, creative and dynamic visual**. You can preset these layouts for any occasion or different moments during the broadcast, and **easily switch between the presets on the spot**.

2. The Barco EventMaster screen management solutions work with all backdrop technologies: LED, LCD, and projection. It also works its magic on the **green screens** in your studio. Working with a green screen allows you to change the ambiance of your virtual studio in a switch and place the presenter in to just about any environment. And thanks to the **chroma keying capabilities and 12-bit processing** of the E2 processor, you can remove the visible wrinkles in the green fabric with just a few clicks and get flawless results!

3. For reasons of professionalism and uninterrupted engagement, it's extremely crucial that there's no downtime during the live broadcast. That's why Barco's screen management devices also serve as a **back-up solution** for your inputs, offering you 100% reassurance while running a smooth broadcast. Avoid black screens or empty backgrounds with the BackUp Input feature activating an **automatic failover** to assigned back-up sources when signals are lost. And when the external system is stable again, you can choose to bring the original inputs and backgrounds back without having to re-build all the presets. The systems even allow for redundant hot swappable power supplies to make sure you don't have any interruptions during your broadcast. The E2 and S3 are built with **maximum reliability**, **enabling worry-free virtual productions**.

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4. Another important element for any live production is synchronization. Both the S3 and E2 can be locked to your house sync signal keeping all the inputs and outputs in time. In addition, Barco offers the **lowest processing latency (< 1 frame)** on the market, so the live cameras, multiple displays in the room and outputs run with perfect lip sync. Enjoy a **seamless flow** from one type of content, layout, or source into another without any visual delay between reality and display. With dynamic backgrounds, leading image quality, and **perfect lip-sync** interaction, your productions are sure to make a lasting impression. And even if you expand the system with our **fiber extension solution**, there's zero compression and no additional latency, preserving full signal bandwidth up to 300m!

5. The E2 is your *show-in-a-box*. One box that does it all: supporting the production and feeding the recorders and streaming systems of your broadcast. It eliminates the need for additional production switchers for your camera's, as the Event Master toolset software **supports the camera workflow**. And with the new **multi-operator functionality**, you can easily setup hybrid events with multiple operators working independently in different rooms on different workflows with one E2 system without any external routers or conflicts.

A scalable solution, ready for the future

With an impressive number of units in the field at major brands and event venues, Barco's image processing is known in the live events industry for its uncompromising image quality and proven reliability in the harshest environments. It works with any digital canvas and is **scalable and flexible enough to adapt to all event configurations**, even virtual ones!

The Event Master E2 and S3 have standard, finished and stocked configurations. But as it's a scalable and modular system, it's also available as a **BTO "Build To Order" system**. From a single chassis with as few as two cards, or up to eight chassis with all 96 cards included, the Event Master is the most scalable and I/O dense screen management system on the market.

In technical terms, the inputs in your system are the same as for the standard live events. The only extra thing you need in a virtual studio is a **capture card** which directs the main output of the E2 directly to the streaming platform you're using to broadcast your production.

Worldwide **over 1000 Event Master operators** have been certified, so when hosting a large production in your virtual studio, it's easy to bring in highly skilled freelance operators for additional help. Cross renting an extra E2 or S3 is also not an issue with the **worldwide fleet** of Barco Event Master products in the rental market.

And to complete your virtual studio productions with an extra level of engagement, you could use the **Barco weConnect** platform. Moving away from the mono-directional passive broadcasts, weConnect is the professional solution for bi-directional live events and energized audiences. Find out more in this leaflet.

Get in touch if you want to know more or check the complete Barco (virtual) Event Master portfolio here.

Check our other blogposts to read more about what the Barco Event Master portfolio can mean for your boardroom, auditorium or lobby and experience centers.

https://www.barco.com/en/news/2021-04-22-screen-management-in-virtual-studios