

VIRTUAL PRODUCTION USING LED VOLUMES

BACK DROP



Take your live production to the next level, and beyond

Introducing multiCAM BACKDROP, the revolutionary solution for virtual production using LED screens.

With a focus on simplicity and affordability, multiCAM BACKDROP is designed for broadcasters and studios seeking an intuitive and efficient solution for their xR Stage.

Say goodbye to complex setup and time-consuming configuration, as multiCAM BACKDROP can be set up in less than 30 minutes. You don't need to have knowledge of Unreal Engine, as our solution leaves it to artists and studios, allowing you to concentrate on operating the content during your live show.

It's time to break down borders and enter a new era of broadcasting with multiCAM BACKDROP.



BACK DROP

EASY-SETUP

No need for training or any specific knowledge, we offer an easy way to setup your xR Stage... in less than 30 minutes!

INTUITIVE OPERATING

Not only for configuration but as well during operating you will save a lot of time. Import you Virtual scenes like you would drop a video file.

INTERACTIVE CONTENT

Get automatic control interface that can be used on any machines or mobile devices and control any object of the environment, thanks to our custom Unreal Engine plugin.

POWERFUL RENDERING

BACKDROP employs a unique implementation of Unreal scenes, leading to a 30% improvement in performance compared to other XR solutions currently available in the market.

DESIGNED FOR BROADCAST

BACKDROP supports multicamera workflows! Only one server is required regardless of the number of cameras used in your live capture setup.

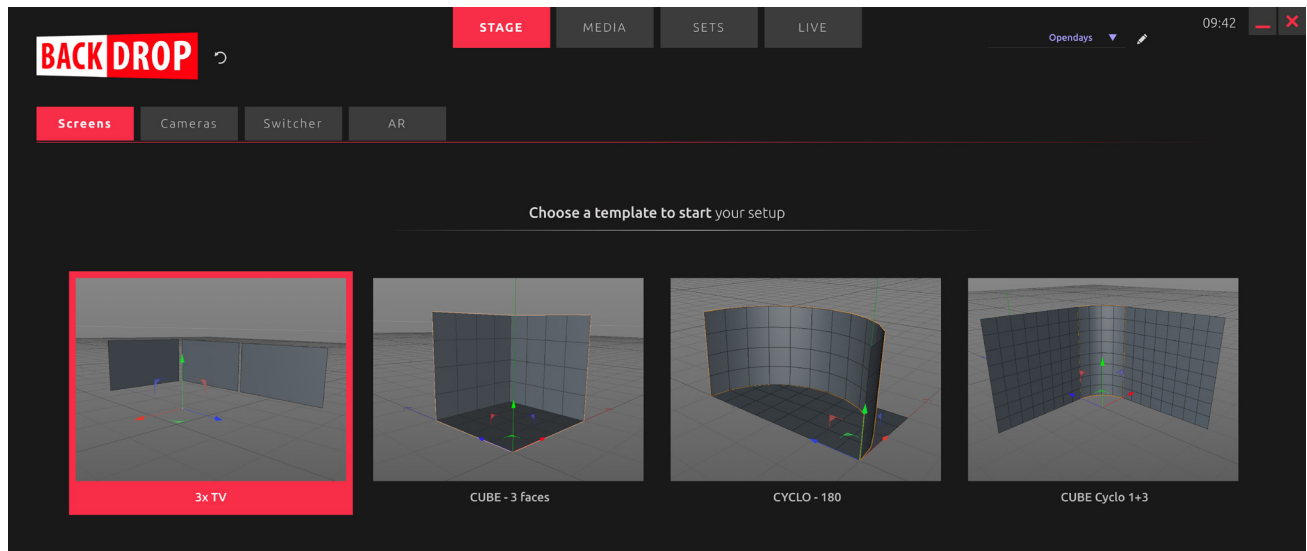
COST-EFFECTIVE

BACKDROP is a turnkey solution (Software+Hardware) offering the latest graphic card generation for less than 20k.

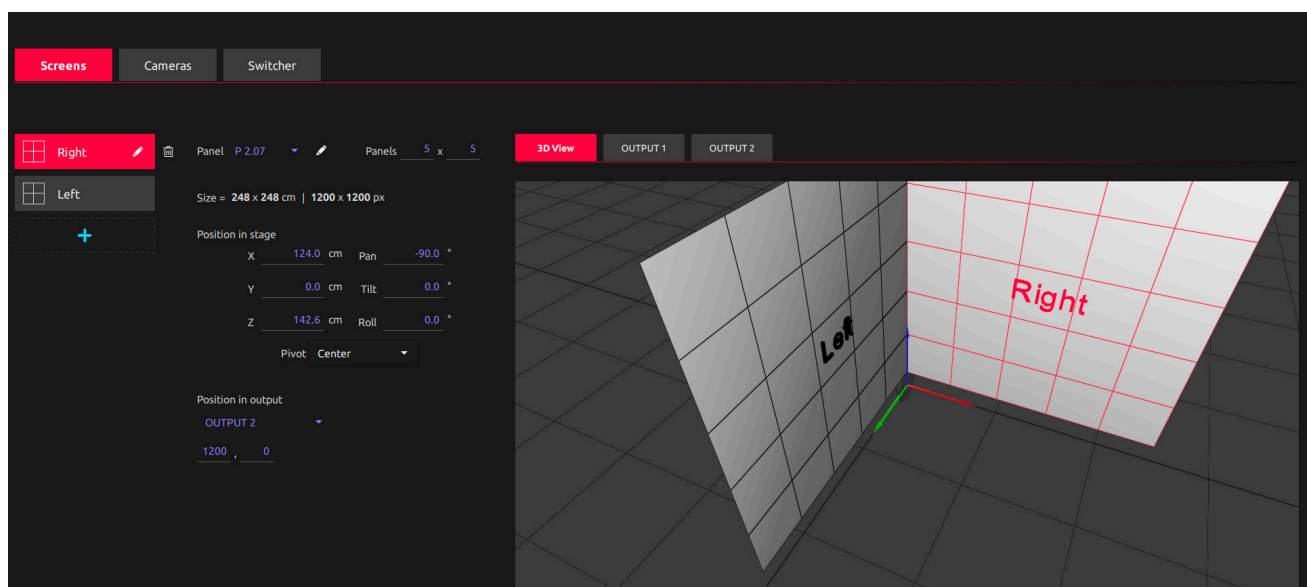
EASY-TO-SETUP

BACKDROP offers templates to allow you to quickly and easily create your LED volume configuration.

All you have to do is choose the type of installation (Cube, Cyclorama, etc.), the type of panels and the size of the device.



The «BACKDROP Launcher» application allows you to easily add your cameras with FreeD streams. Simply indicate the data receiving port, the lens specifications and an initial position if necessary.



INTERACTIVE CONTENT

BACKDROP Remote gives you full control over the scenery and its interactive objects (widgets).

Fully customizable, this **webapp** can be used on any type of device: computer, tablet, smartphone.

You can assign different interfaces based on roles. For example, the producer will want to control the virtual screens, the vision engineer will adjust the exposure, the director will switch the cameras.

No need for graphic skills, the remote control offers a complete abstraction of the Unreal scene. It is during the graphic design that the interactivities are defined through remotely controlled parameters.



KEY FEATURES

- Simplified **configuration wizzard**
- **Multicamera** integration (Blackmagic or GPIO)
- **Remote control** web interface
- **NDI** and **SDI** inputs/outputs
- **Augmented Reality**
- **Unreal Engine** interactions plugin
- up to **3x 4K outputs**
- Media ingest / control
- Virtual screens and virtual layers
- Cues and sequencing



The **BACKDROP** solution includes a **4RU server extremely high powered:**

- Intel Xeon 10 core 32GB RAM
- NVidia **RTX 3090** (or Quadro **RTX A6000** graphic card for Pro version)
- Blackmagic SDI 4K Pro capture card
- 1TB SSD drive dedicated for data



CASE STUDY

arte

German-french TV channel «ARTE» choosed multiCAM BACKDROP to create a daly show using a dedicated xR stage.

Thanks to an efficient sequencing system for easy and fast operating, only 30 minutes required for the operator to prepare the show.

The content is made directly in BACKDROP Launcher software and consists of motion design elements placed in space using V-Screens® and V-Layers® features.

Three cameras mounted on SPIRIT robotic systems enable the reproduction of parallax and perspective effects of the set, resulting in immersive and stunning content production.



CASE STUDY

Mediawan

French media group MEDIAWAN has opted for the BACKDROP solution to craft a short-format comedic series for television.

This series offers a whimsical take on the story of Adam & Eve, with interactions between the characters and a representation of God depicted through a halo of light and a voice-over. The set was meticulously arranged by the production design team to feature natural vegetation in the foreground. Meanwhile, the entire backdrop of the Garden of Eden was brought to life using Unreal Engine.

This serves as a fascinating example of utilizing virtual production techniques in television and cinema storytelling, blurring the line between reality and the virtual realm. Leveraging Backdrop's tools, seamless transitions between different environments and shifts from day to night took literally one second to achieve.



VIRTUAL PRODUCTION WITH LED SCREENS



Our solution allows to project a virtual world onto LED screens, from the perspective of the camera. The camera films the character directly in front of the set which is better than shooting in a green empty space for different reasons.

IMMERSIVE CONTENT

BACKDROP offers four ways of content integration, depending of the style of production and ressources available for creating it.

2D

It is easy to create. It can be any pre-rendered content, real footage like driving plates or some stockshots. It also can be motion design for abstract backgrounds.

You can import pictures (PNG, JPG) and videos (MP4, QT HAP) and assemble your media with 2D Layers.

2.5D

It is also easy to create. You can play with parallax effects by placing 2D content in Virtual Layers placed in the 3D space.

No need for Unreal Engine skills and the result is really immersive.

3D

It has to be an Unreal Engine environment. The Design Studio in charge of creating can deliver a unique file (PAK) that contains all the environment and interactivities.

Just import it in BACKDROP and play!

AR

Add 3D Content on top! Whatever you are working with 2D, 2.5D or 3D for the backdrop, you can place virtual objects (widgets) in front.

It can a Virtual Screen or an Unreal Engine asset.



FOCUS ON 2.5D

BACKDROP offers a great functionality called **V-Screens®**. You can create 3D Layers and place them easily in space.

Assign any 2D content (pictures or videos) to it, and offer nice **parallax effect** without any complex work by using 3D.



Layer 3 (back)
Panorama

Layer 1 (middle)
Illustration

Layer 1 (front)
Logo



MULTICAMERA WORKFLOW

You can switch between multiple cameras during live virtual productions. BACKDROP manages delays for a seamless switching so that virtual backdrop matches to the live camera angle.

Technical requirements

Genlock: All equipments needs to be synchronized on the same reference input: LED Processor, Cameras, Tracking, Video switcher, Backdrop server.

LED Wall: The LED panels needs to be synchronized with high refreshrate (6400Hz-7860Hz)

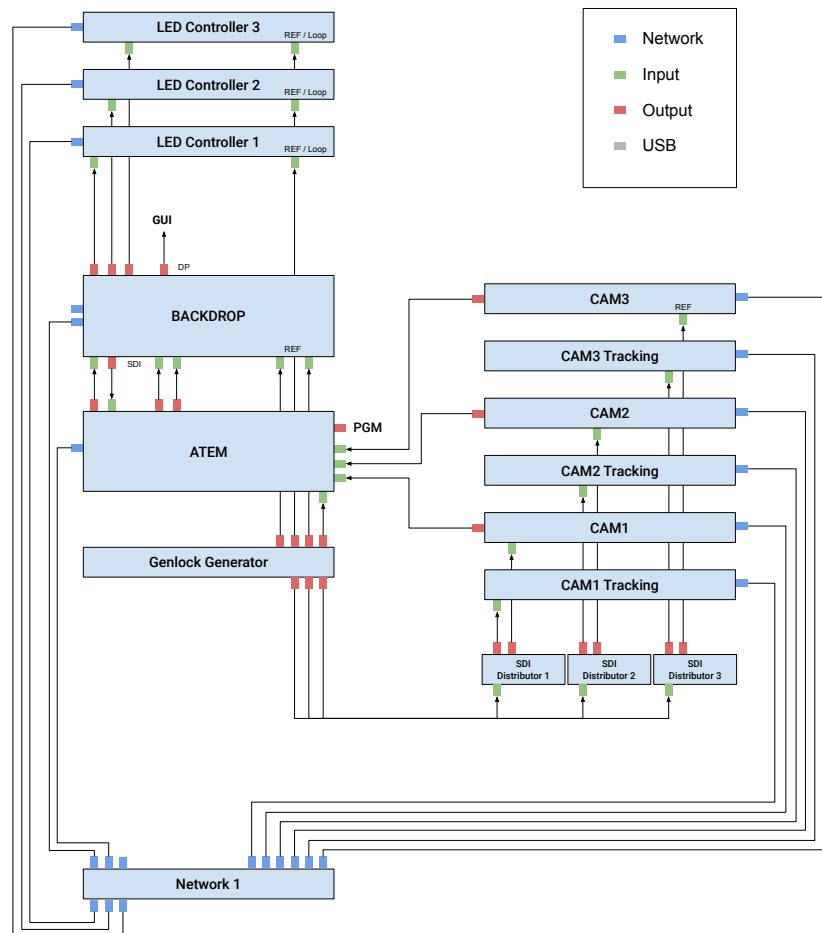
Cameras: They need to deliver same delay for output signal and have a Global Shutter.

Video Switcher

BACKDROP integrates Blackmagic ATEM protocol. For other video switcher, an integration with GPIO needs to be achieved.

Switching is operated on the video switcher itself so no additional delay is added to the workflow and maximum number of cameras to use is defined by the switcher model.

Only one BACKDROP is needed, whatever the number of cameras is required.



FAQ

What are the available BACKDROP versions?

BACKDROP Lite is delivered with a RTX 3090 graphic card. It doesn't support multicamera setup and more than 1x 4K output for LED Screen. But it can be used for any Augmented Reality setup.

BACKDROP Pro is delivered with a Quadro A6000 graphic card to support multicamera and up to 3x synchronized 4K outputs. It also supports Augmented Reality setup.

BACKDROP Radio works exclusively with TV and monitors, to display digital signage synchronized with Radio Payout.

How easy it is to import virtual sets?

Virtual sets are packaged in a single file. With BACKDROP UI, you just have to add a new «Set» and import the file. Easy, fast!

Do I need to know about Unreal Engine to operate it?

No need Unreal skills to operate Backdrop. Unreal is dedicated for Content Creation. If you have people who knows how to create content within Unreal Engine, they will benefit from our plugin to focus on design and not programming (interactivities). You can also ask our studio partner DreamCorp to create amazing content for you.

What camera specifications are required?

For multicamera setup, you need to use cameras with the same latency. It needs to be Global Shutter, genlocked. For zoom lenses, you need to calibrate the lens zoom range. For a proper experience, you need camera movements. Choose robotics that supports mechanical tracking (like SPIRIT line) or use any tracking solution delivering FreeD protocol. BACKDROP is also compatible with Stype protocol.

What LED walls are recommended?

There are many brands and various specifications. Pixel pitch is related to the size of your studio, distance between cameras-subject-screen. You need a high refresh rate LED technology (6400Hz for PAL). All LED Panels needs a perfect synchronization, based on genlock.

Please share details of your project with us, so we can advise with our LED manufacturers network.

How to avoid moire effect?

Moire effect appears when size of the camera sensor doesn't match with the pitch and number of leds to display. Each Led is separated by black holes so camera sensor sometimes see a black pixel and other times a real led pixel. You need depth of field and to increase distance between camera and led wall.

Do I need lighting?

Of course you need lighting! Less than with a green screen setup but you need to enlighten your talent because the screen behind send a lot of brightness, and you want to avoid backlight.

Contact us for pricing information
and live demonstrations

sales@multicam-systems.com



Backdrop is support by Epic Games with a MegaGrant.
It is developed in partnership with DreamCorp Studios.



www.multicam-systems.com