SuperSource Composition and Scene Management Software

Compatible with ATEM® and vMix®

Our application is a comprehensive solution designed to optimize the management of video scenes and SuperSource®-type compositions, both on **ATEM switchers** and **vMix environments**, delivering a visual, intuitive, and professional experience.

It is intended for operators, producers, and technicians who require fast and organized visual control over complex multi-source layouts, without technical complexity and with full operational clarity during live productions.

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1. Multilingual Interface

The software supports both Spanish and English, allowing users to quickly and easily switch the entire interface language. This ensures operators can work in their preferred language, improving adoption and reducing errors during live production.

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2. Supported Switcher Modes

The application can operate in two selectable modes:

• ATEM Mode

Designed for controlling **native SuperSource® compositions** on ATEM switchers, providing full control over boxes, inputs, crops, and positioning.

• vMix Mode

Designed for controlling **layouts in vMix**, using a dedicated input called **SUPERBOX_LAYOUT**, where multiple layers function as SuperSource-like boxes.

In both modes, the user experience remains consistent: boxes are managed visually in the same way, regardless of the video engine being used.

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3. Composition and Box Management

ATEM

• The application supports up to two SuperSource compositions simultaneously, with a viewer displaying one composition in real time.
• Each composition can contain up to four boxes representing different video inputs.

vMix

• The application controls a dedicated layout based on layers inside the SUPERBOX_LAYOUT input.
• Each layer represents an independent box (excluding the background layer).
• The number of available boxes may vary depending on the layout configuration.

Boxes (common to both modes)

Each box is fully interactive:
• Enable or disable
• Move horizontally and vertically
• Adjust zoom
• Apply precise cropping

Control is fast and efficient using keyboard and mouse, with intuitive combinations designed for high-pressure live environments.

Viewer actions:

• ← / → arrow keys: horizontal movement
• ↑ / ↓ arrow keys: vertical movement
• Mouse wheel: zoom in / out

Crop actions:

• A / S keys: left / right horizontal crop
• W / Z keys: top / bottom vertical crop
• A + S or W + Z combinations: symmetrical cropping
• Mouse wheel: fast and precise crop adjustment

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4. Context menus and quick actions

Each box includes a right-click context menu that allows:
• Cloning a box to another specific box or to all boxes simultaneously
• Swapping assigned inputs between boxes
• Quickly enabling or disabling boxes

These tools allow rapid scene adaptation without the need to rebuild layouts from scratch.

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5. Input Management

ATEM

• All physical inputs from the connected ATEM switcher are displayed in an interactive list.

vMix

• All active vMix inputs are automatically detected.
• The application identifies:
– Newly added inputs
– Removed inputs
– Input renaming events

Common functionality

• Inputs can be dragged directly onto a box or onto the layout background.
• Each input can be assigned a custom color for quick visual identification.
• Input colors are saved per user profile and persist across sessions.

When an input is removed or renamed in vMix, the application automatically updates all references and associated colors, maintaining project consistency.

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6. Scene Management

The software allows you to create and organize sets of scenes for each user profile:

• Each scene reflects the complete state of the layout: positions, sizes, crops, colors, and assigned inputs.
• High-quality PNG images are generated as visual references for each scene.
• The preview viewer maintains real-time updates of the switcher state, except during manual scene editing.
• Scenes can be reordered and grouped according to the user's workflow.

Scene Transitions

The application includes an intelligent transition engine that allows scene changes to be animated smoothly and in sync.

When a new scene is applied, the system analyzes the current layout and automatically calculates the best correspondence between active boxes and their new configuration. This ensures visual continuity during layout changes and prevents flickers, abrupt source reassignment, or visible jumps.

Transitions can be configured with a custom duration in milliseconds or completely disabled if an instant layout application is required.

Available Modes

• **Disabled**
Applies the layout instantly without animation.

• **Similarity-based**
Evaluates size, position, and spatial distribution of active boxes to maintain visual coherence between sources during the transition. This is the recommended mode for similar compositions.

• **Region-based**
Prioritizes the dominant on-screen area, favoring visual continuity in dynamic layouts.

• **Sequential**
Applies box matching based strictly on their physical order.

Technical Behavior

During a transition:

• An optimal mapping between source and destination boxes is calculated.
• Position (X/Y) and size (zoom) are interpolated in a synchronized manner.
• Box activation states and assigned inputs are preserved.
• When crops are present, the system internally adjusts geometry to prevent visual jumps at the start of the animation.

In vMix mode, animations are executed via direct TCP communication, ensuring precise timing and reduced latency.
In ATEM mode, native SuperSource mechanisms are used to guarantee stability and firmware compatibility.

In vMix, scenes are based on the layout managed by SUPERBOX, independently of internal changes made within the vMix project.

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7. Multi-user and Profiles

• The application supports multiple user profiles.
• Each profile maintains:
– Its own scenes
– Input colors
– Layout configurations

This allows clear separation between projects, events, or productions without interference.

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8. Real-time Viewer

The viewer allows users to:
• Monitor the active layout (ATEM or vMix)
• View positions, sizes, and crop values in real time
• Detect external changes made directly on the switcher
• Obtain a clear and reliable visual representation of the final output

In vMix mode, the viewer reflects only the layout managed by SUPERBOX, avoiding interference with other project elements.

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9. Preview Workflow (Advanced Previewing)
The application includes a Preview Workflow system designed to allow operators to validate changes visually before sending them live, reducing mistakes and improving operational safety during live productions.

vMix
When connected to vMix, SUPERBOX automatically creates two special inputs:

• SUPERBOX_LAYOUT
Used as the main layout for Program output.
• SUPERBOX_PREVIEW
Used exclusively for Preview.
Available functions:
• PROG button
Loads SUPERBOX_LAYOUT into Program.

• PREV button
Loads SUPERBOX_PREVIEW into Preview.

If SUPERBOX_LAYOUT is currently in Program, SUPERBOX can animate changes on SUPERBOX_PREVIEW using the selected transition engine, allowing the operator to preview the final result before taking it live.

While SUPERBOX_PREVIEW remains in Preview, changes made in the canvas can be automatically reflected in the preview layout, keeping it synchronized with the current editing state.

ATEM
For ATEM, SUPERBOX provides a feature called PREVIEW LIVE.
When PREVIEW LIVE is enabled:

• Changes made in the canvas are immediately reflected on the selected SuperSource whenever that SuperSource is currently in Preview.
• The following properties are updated automatically:
• Position (X / Y)
• Size
• Crop
• Assigned Inputs
• Background
• Changes are applied instantly and without animation.

Program Protection
If the selected SuperSource is currently on Program, SUPERBOX will not modify it in order to prevent unintended changes from affecting the live output.
In this situation, changes continue to be made within the canvas and will be synchronized automatically once the SuperSource becomes available for safe editing.

PREVIEW LIVE OFF
When PREVIEW LIVE is disabled, all changes remain only in the canvas until the operator executes the "Apply to SuperSource" command.

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10. Customer Benefits

• Unified control for ATEM and vMix
• Clear visual management of complex layouts
• Persistent scenes and input colors per profile
• Automatic detection of vMix input changes
• Fast and reliable live operation
• Reduced errors during live production

Final Summary

This application transforms the way SuperSource-type compositions and complex layouts are managed on both ATEM and vMix. It delivers a professional, efficient, and visually clear experience designed for demanding live production environments where speed, accuracy, and reliability are essential.

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