

Video Windowing Device - EZwindow™

EZwindow™ is your video windowing device to combine multiple video inputs onto a single display output while achieving:

- Low latency,
- Maximum area-of-interest control on inputs and outputs, and
- Overlays (if needed)



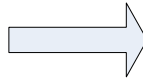
EZwindow rear view

Each EZwindow™ input channel can accept video in one of many formats, including: DVI-I (TMDS and analog RGB), RS-343, RS-170, NTSC, PAL, STANAG. Each input is sized to a programmable window in either a foreground layer or a background layer.

For simple windowing applications, all inputs are mapped to the background channel as required for your application:

Background and output layer

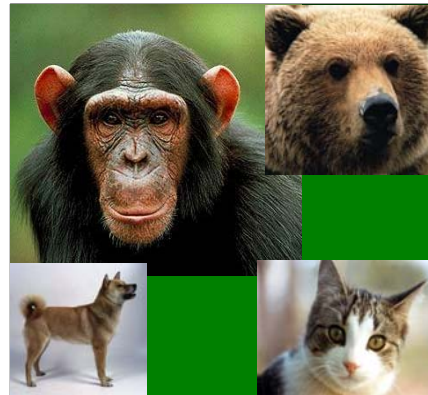
Video Input #1 mapped to background



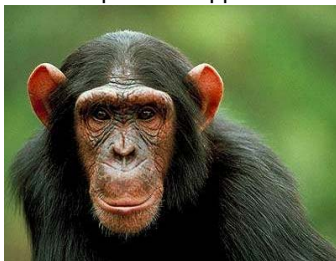
Video Input #2 mapped to background



OR



Video Input #3 mapped to background



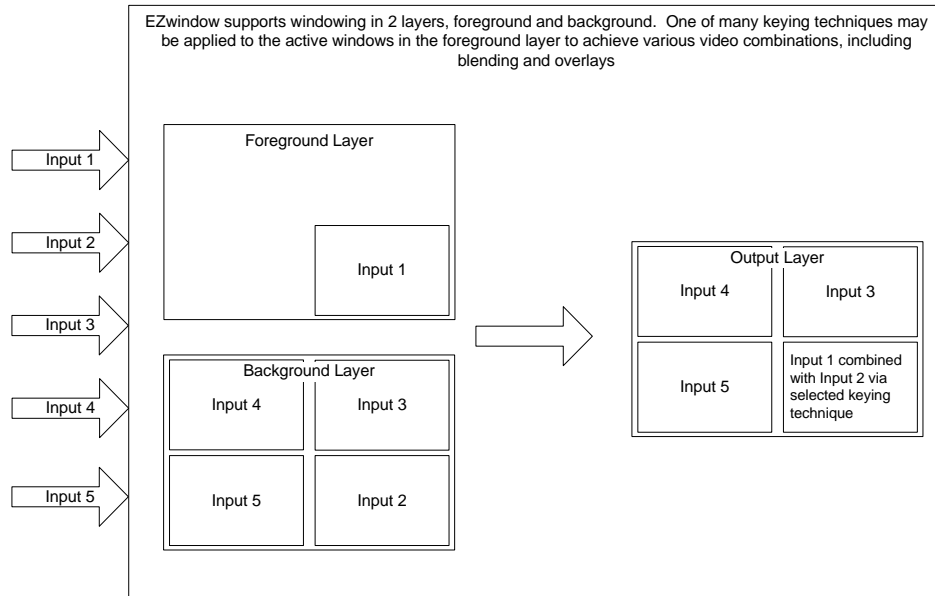
OR



Video Input #4 mapped to background

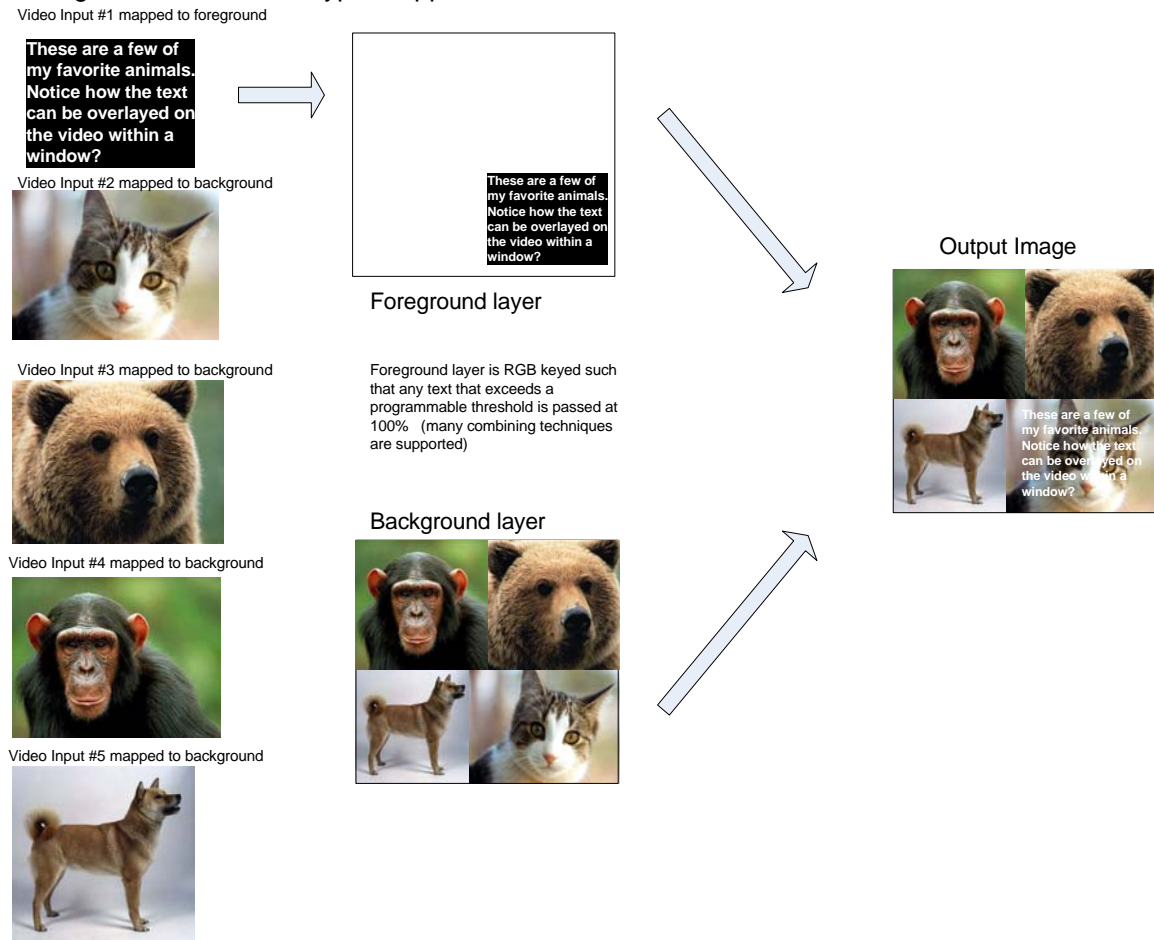


For windowing applications that require complex video combining, such as RGB, luma, or chroma keying, inputs to be processed for keying are mapped to the foreground channel, and other video is mapped to the background channel, as shown below:



As with all Westar video solutions, you have flexible area-of-interest control. For example, you can pick out a specific area-of-interest in your input video, and map that area to any window size within an output foreground or background layer.

The figure below shows a typical application:



To understand the flexibility of EZwindow, please note the following:

- An input is mapped to either the foreground layer or the background layer
- Input video can be placed (cropped or re-sized as appropriate) anywhere within the active output area. Assigned priorities are used for overlapped areas.
- For simple windowing, all video inputs are mapped to the background layer
- For windowing with video combining, IF-THEN-ELSE keying is available.
- IF-THEN-ELSE keying is performed on a pixel-by-pixel basis in either A) any foreground region with active video, or B) any region with active foreground and background video. (A) or (B) is referred to as the Key Area.

In the Key Area, the following applies:

IF Foreground video is "within" the key (RGB, Luma, Chroma keys available)

THEN Output pixel = $\alpha_1 * \text{foreground pixel} + \alpha_2 * \text{background pixel}$

ELSE Output pixel = $\alpha_3 * \text{foreground pixel} + \alpha_4 * \text{background pixel}$

Outside the Key Area, the following applies:

Output pixel = $\alpha_5 * \text{foreground pixel} + \alpha_6 * \text{background pixel}$

Don't be intimidated by EZwindow's advanced features. EZwindow is easy to use for simple windowing applications or complex video combining applications!

EZwindow™ is available in a 1U rack mount unit with 2 to 5 input channels.

EZwindow™ is used in a variety of applications, including:

- Combining multiple display images into one instructor station monitor feed in training and simulation applications
- Combining multiple desktop images in educational applications
- Any application that combines multiple video sources in real-time, with minimal latency and minimal video artifacts.

Our EZwindow™ configuration software allows you to logically set up the unit for your unique application.

For more information on the EZwindow™ video windowing device, [click here](#) to download brochure, [email](#) our technical sales staff or call us at (636) 300-5164.