

manual

## ez-CGER LIVE CG Switcher

[www.LUMANTEK.com](http://www.LUMANTEK.com)

# LIVE CG Switcher **ez-CGER**



**HDMI™**

**HD-SDI**

**VGA**

x4 SDI Input

**ON AIR**





## ez-CGER All-in-One Video Switcher with Live CG Manual

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LUMANTEK CUSTOMER SERVICES

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## Installation Precautions

This page states the safety measures the users must take to avoid circumstances where the system may occur physical damages or injuries. Please THOROUGHLY go over this page before the system installation/operation.

## General Precautions

- Maintain dust FREE condition during and after System Installation/Operation.
- Please place the system cover in a safe location when opened.
- Securely stow tools and cables away from the passages.
- Avoid wearing loosened clothes or accessories during installation/Operation.
- Avoid any unnecessary actions that may damage/harm system or personnel.
- Do NOT open the system unless advised by Lumantek representative. Lumantek takes no responsibility on units with broken RMA seals.

## Power Precautions

- Please check cable overload before connecting the system to the power supply.
- Avoid wearing metal accessories (Rings, Earrings) connecting system to the power source.
- Avoid operating on wet floors. Make sure power extension cables, floors, and instruments are grounded and in a safe operating condition.



- Please discharge static electricity by touching grounding metals before starting hardware installation.
- The grounding parts must be disassembled last.
- Manufacture takes no responsibilities on Direct/Indirect losses or damages due to use of inappropriate parts or services by unauthorized service provider
- Supplying power during the system installation may cause damages to the system and personnel.

## AC Power Precautions

- This unit utilizes AC power, the cord comes with a grounding function.
- Please connect the system to the power socket with groundings.
- Use Green/Yellow 0.75mm<sup>2</sup> (18AWG) or higher grade grounding cables.
- Do NOT block power sockets with tools or boxes. Please keep it clear at all times.



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## Video Switcher & Graphic Mixer, ez-CGER

4 HD-SDI, 2 HDMI Input / 1 HD-SDI, 1 HDMI, 1 VGA Output , USB3.0 data input/output

### 1. Introduction

ez-CGER is a hybrid system comprised of CG software and Video switcher.

The system is easily connected to the PC through USB 3.0, it communicates with the CG software for system control. ez-CGER is a hardware based product providing stable and reliable implementation to your broadcasting environment. Total Six(6) Media input sources supported via 4 HD-SDI and 2 HDMI, CG is mixed with the input sources by software via USB 3.0, transmitted through HD-SDI/HDMI/VGA Outputs.

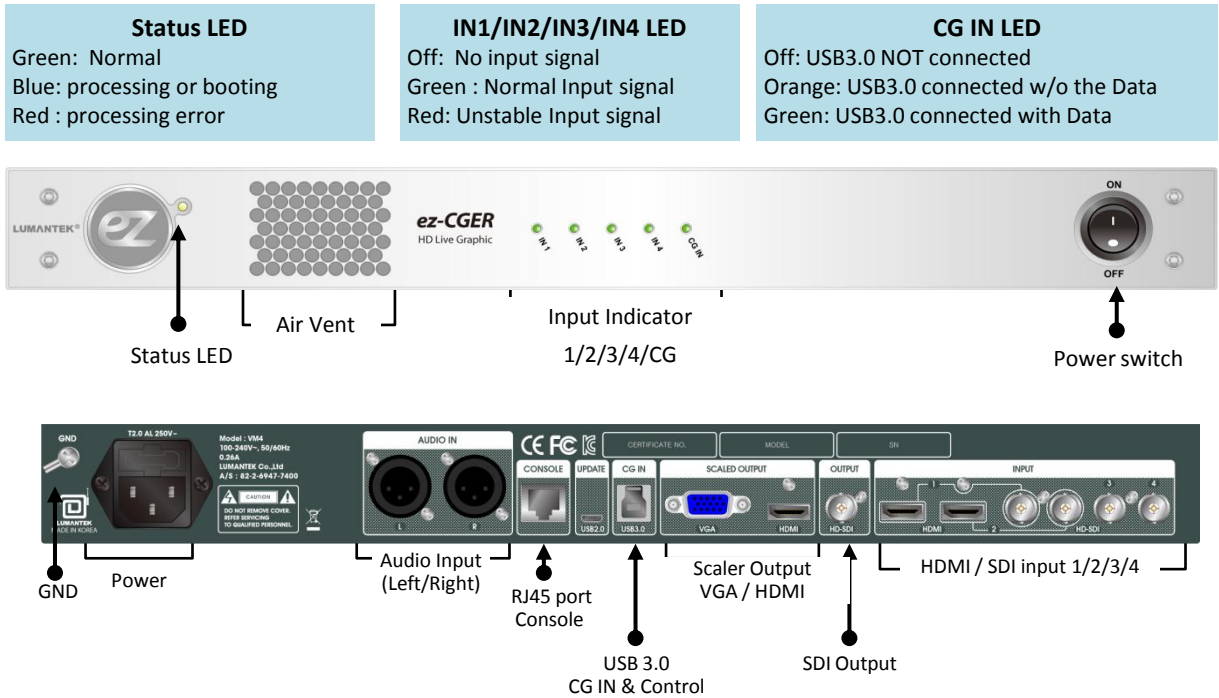
One SDI output as well as HDMI and VGA with built-in scaler enables to transmit signals with various resolutions. Plus, the Multi-view output for four live inputs enabling users to monitor input sources as well as PIP sources. ez-CGER supports HDMI/SDI embedded audio or (XRL) external audio. SDI or HDMI input audio inputs are synchronized with the video, switches seamlessly without generating any noise.

#### • Features

- ① Input : SDI 4EA , HDMI 2EA (For ports 1 & 2 ONLY)
- ② File play input: : 1EA ( CG Software)
- ③ CG input: Fill and Key 1 (USB 3.0)
- ④ Program Output : SDI 1EA, HDMI 1EA (scaler) and VGA 1EA (scaler)
- ⑤ Multi-view Output: 1EA (USB 3.0), 2x2 format with 4EA live Input sources
- ⑥ HD level input and output resolution support
- ⑦ Various HDMI/VGA Output Resolution support with the Scaler



## • ez-CGER - Main Frame (Front/Rear)



- \* HDMI input 1/2 and SDI input 1/2 shares the same input channels
- \*\* Scaled output supports either system format as it is or the other formats
- \*\*\* Most of the monitors do NOT support interlace mode with VGA input

## • ez-CGER Package

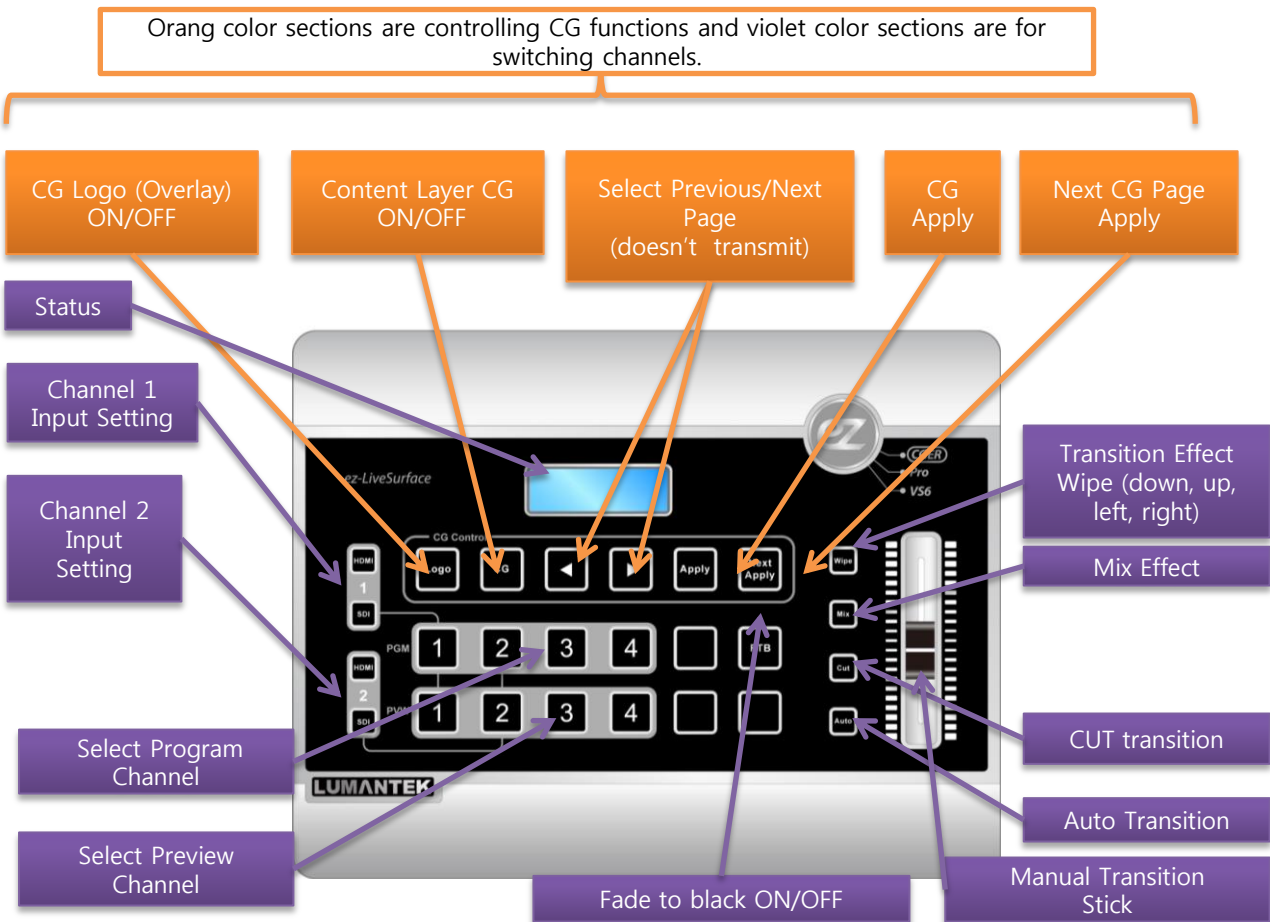


ez-CGER Main Frame

Console  
(Optional)



## • ez-LiveSurface (Control Console) Interface



## 2. Software Installation & Uninstallation

### Minimum requirements for Software Installation

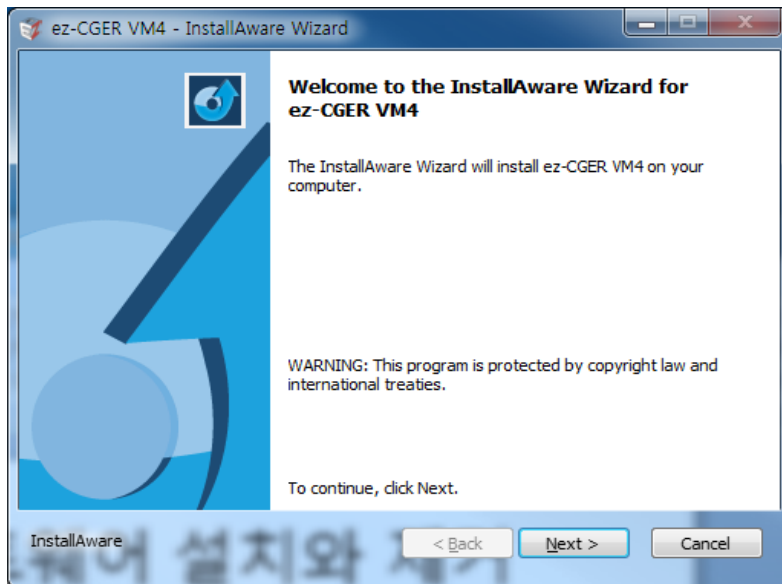
#### • Recommend Specification

- ① OS : Windows7 or higher Ver.
- ② CPU : 4<sup>th</sup> Generation intel i7 or above
- ③ RAM : 8GB or above
- ④ VGA : GeForce GTX 750 or above
- ⑤ Monitor Resolution: 1920 x 1080 or above
- ⑥ MUST HAVE USB3.0 PORT
- ⑦ You may install the CG Software on your PC without connecting to the main hardware device. However, ez-CGER-VM4 device is necessary in order to transmit the CG properly from the S/W.

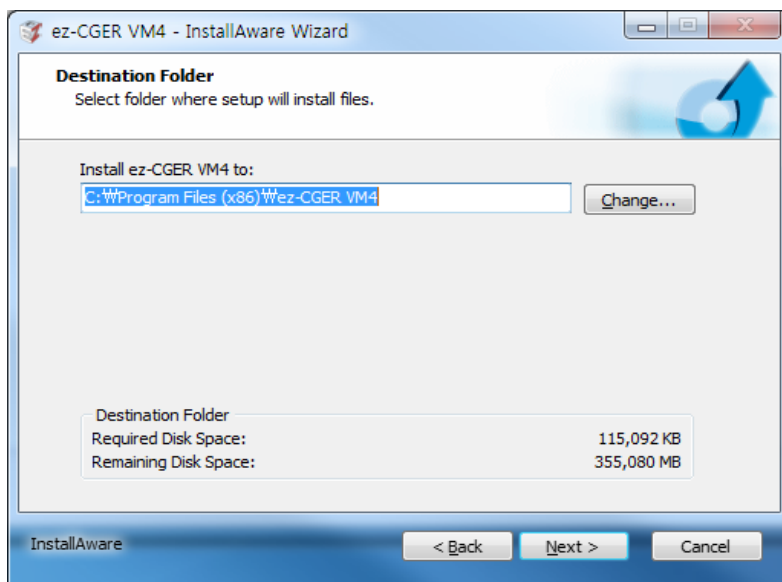


- **Software Installation**

1. Run 'ez-CGER VM4' setup file.
2. Press 'Next' when screen below is shown.



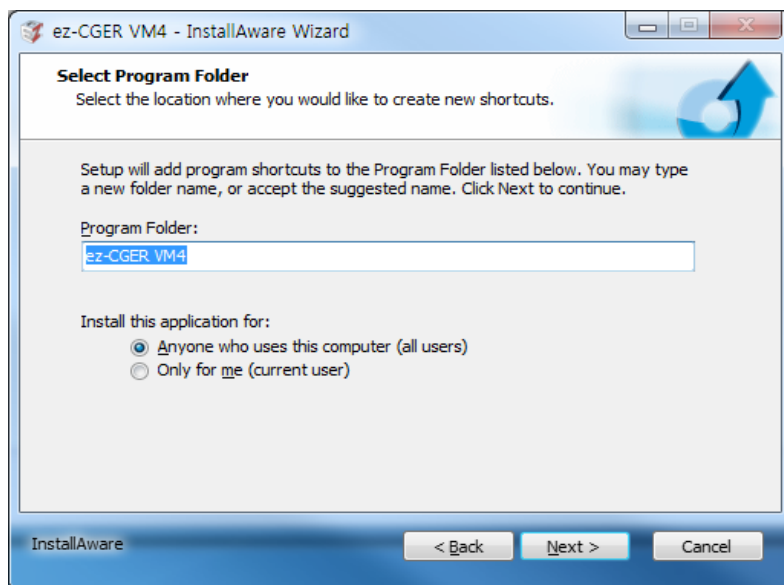
3. Select the path you want to install the software, then click 'Next'.



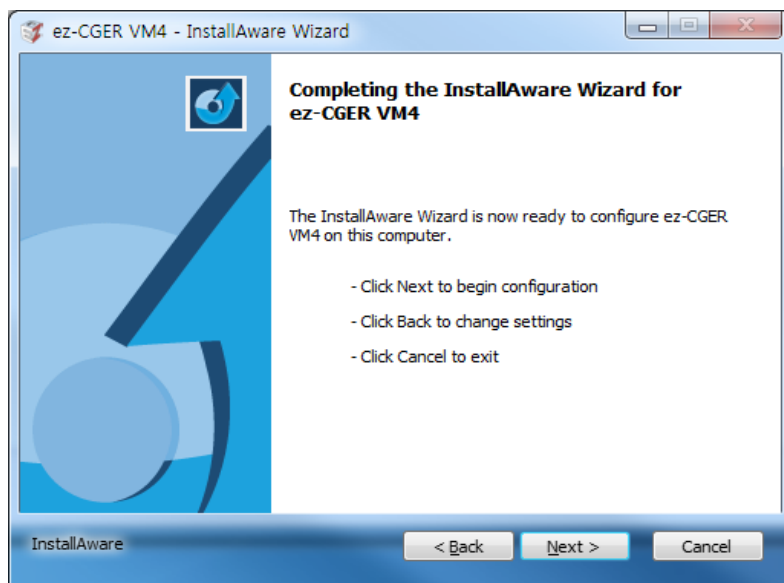




4. Select the program folder name and user, then click 'Next'.

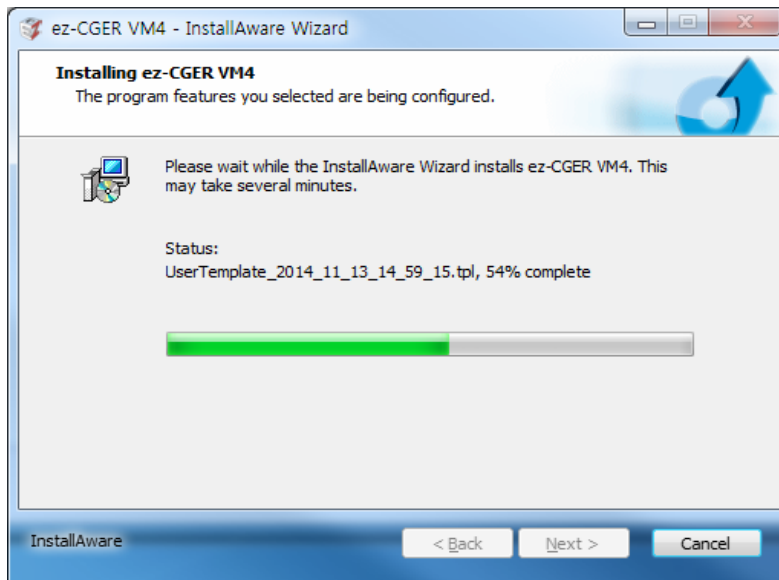


5. Click 'Next' when below ready message is shown.





6. Installing the software.



7. When the device driver installation screen appears, press 'Install'.

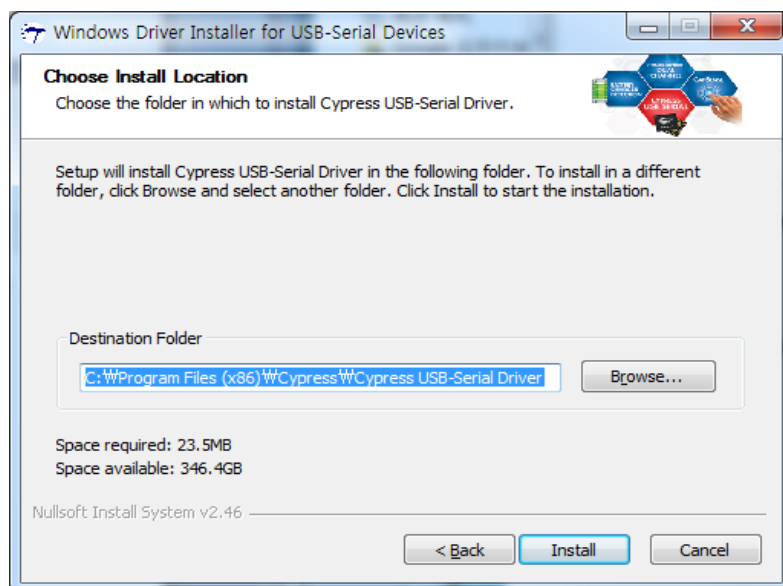




8. Press 'Next' to install the USB-Serial Driver.



9. Select destination folder then click 'Install'.



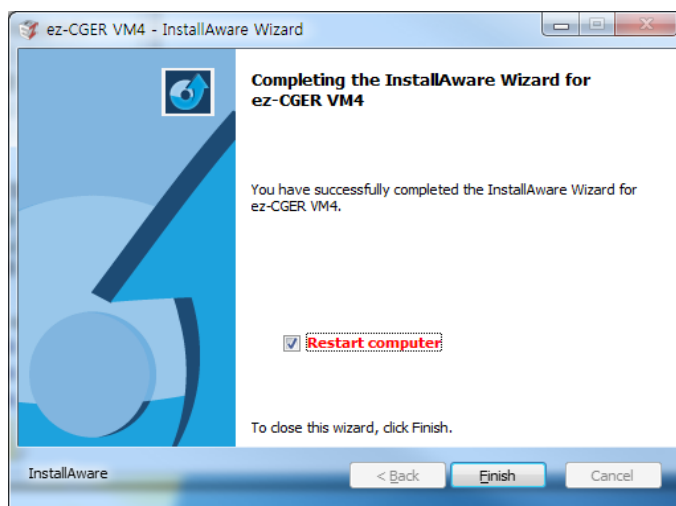


10. Click 'Finish' to complete the Driver installation.



11. Click 'Finish' to complete the S/W installation.

12. Please restart the system for proper operation of S/W and driver.  
You may restart the system later by unchecking the box.



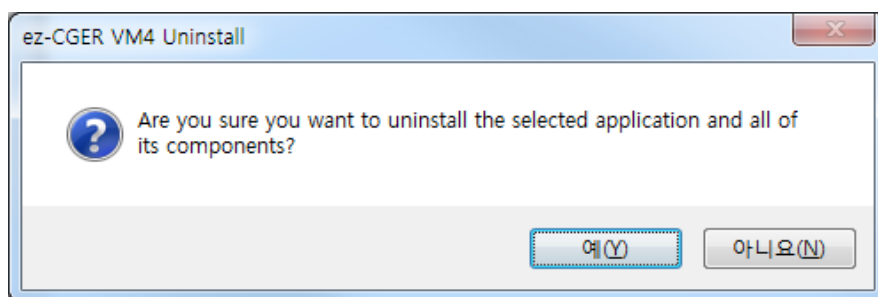


- **Software Uninstall**

1. Go to 'Start' on Windows then click 'All Programs'.
2. Select 'ez-CGER VM4'
3. Select 'Uninstall ez-CGER VM4'.

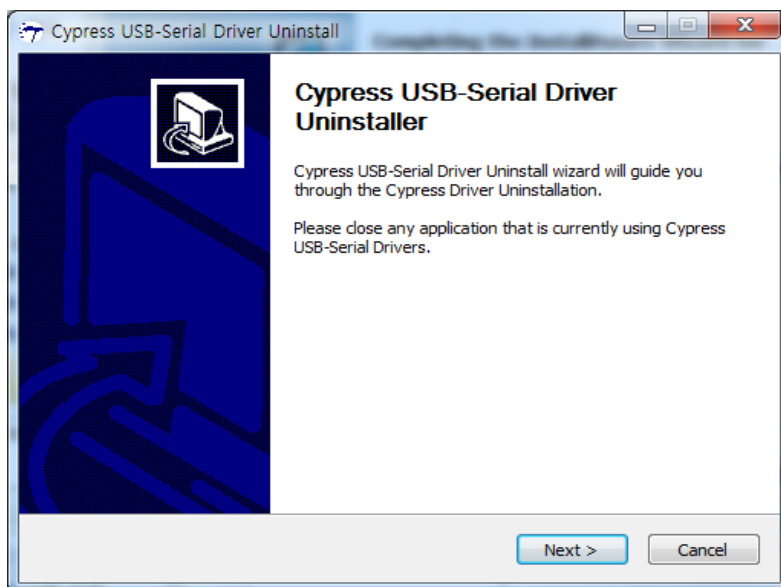


4. Click 'Yes' to uninstall.

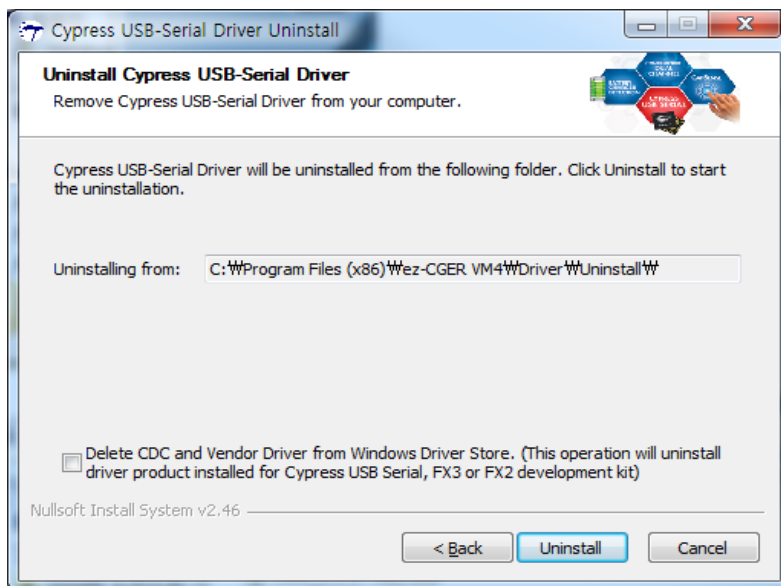




5. Click 'Next' to remove the driver.



6. Click 'Uninstall' to remove all drivers

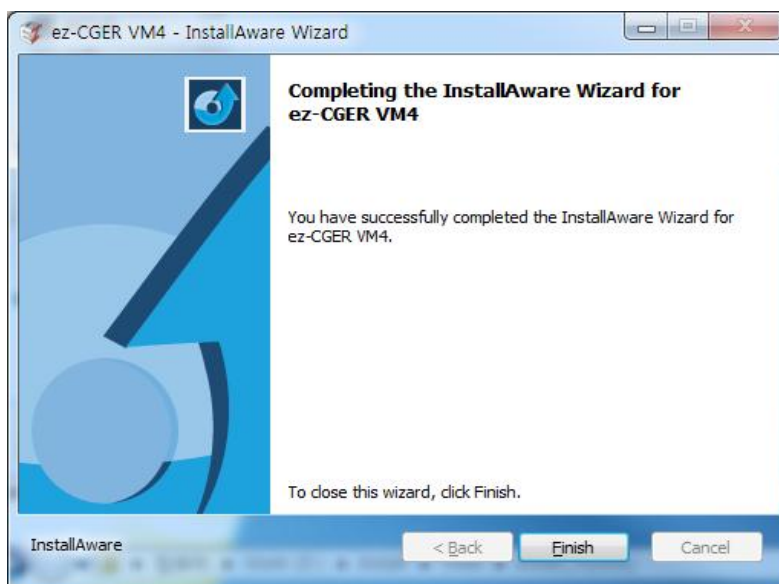




- Click 'Finish' to complete driver uninstallation.



- S/W is completely removed. Click 'Finish'.





### 3. Hardware Device Connection

- **VM4 Device Connection**

1. VM4 device connection

Please use a USB 3.0 cable to connect VM4 system with your PC/laptop.



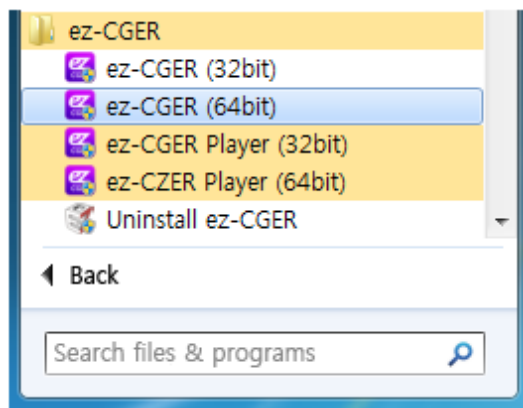




## 4. Software

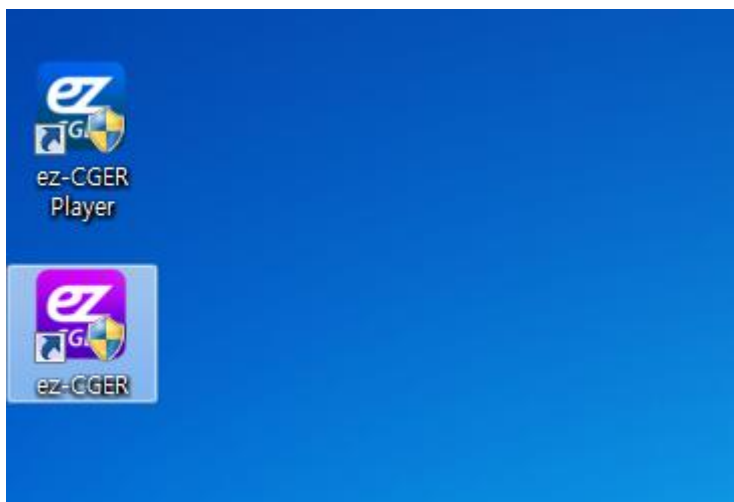
- **Run ez-CGER VM4 S/W from the windows 'Start' menu**

1. Go to 'Start', click 'All Programs'.
2. Select 'ez-CGER VM4' Folder
3. Click 'ez-CGER VM4' Icon either 32Bit or 64 bit based on your Operating System



- **Run ez-CGER VM4 S/W from the desktop.**

1. Double click 'ez-CGER VM4' icon on Windows desktop screen.





## 5. Software interface

1. Conti list management area
2. Conti page management area
3. Edit menu area
4. Edit area
5. Edit tool area
6. Transmission control area

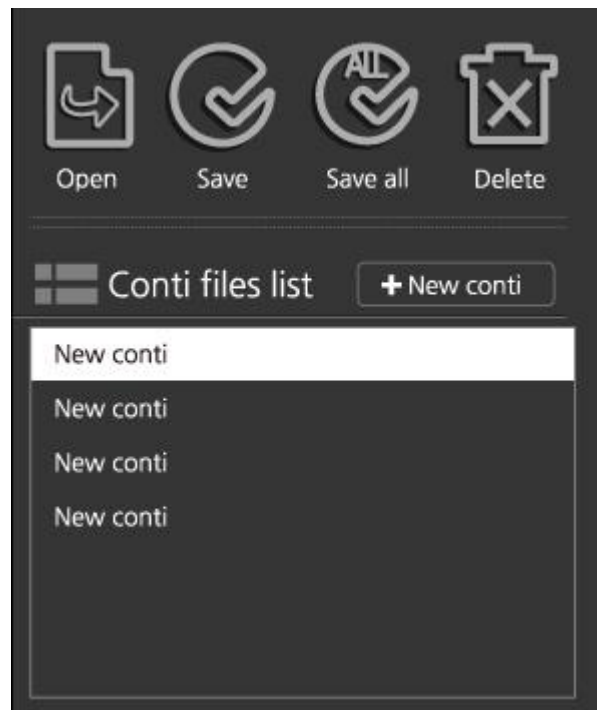




## 6. Software manual

### 1. Conti File Management

- Create a new conti
  1. New conti is created automatically when program is opened.
  2. Click 'New conti' to add conti to the 'conti files list'
- Load a conti file
  1. Click 'Open' to load saved conti file.
- Save the conti file
  1. Click 'Save' to store current conti page.
  2. Click 'Save all' to store all conti pages on the list.

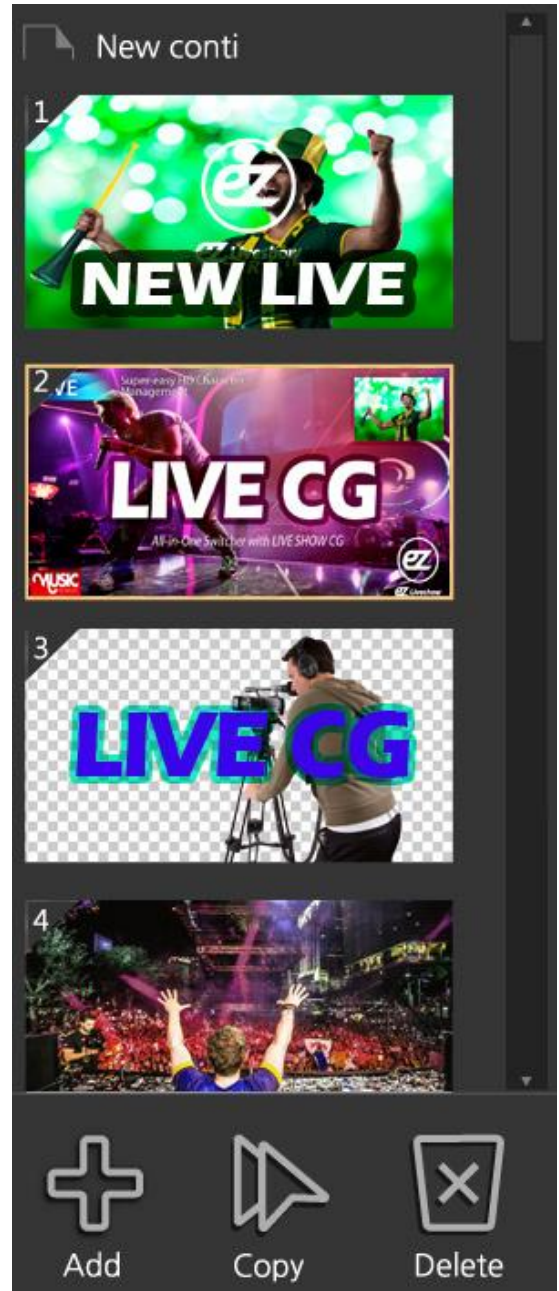


- Delete conti from the list
  1. Click 'Delete' to remove selected Conti from the list
  2. 'Delete' only removes selected conti from the list. The actual data file still exists in the storage which can be retrieved again.



## 2. Conti Page Management

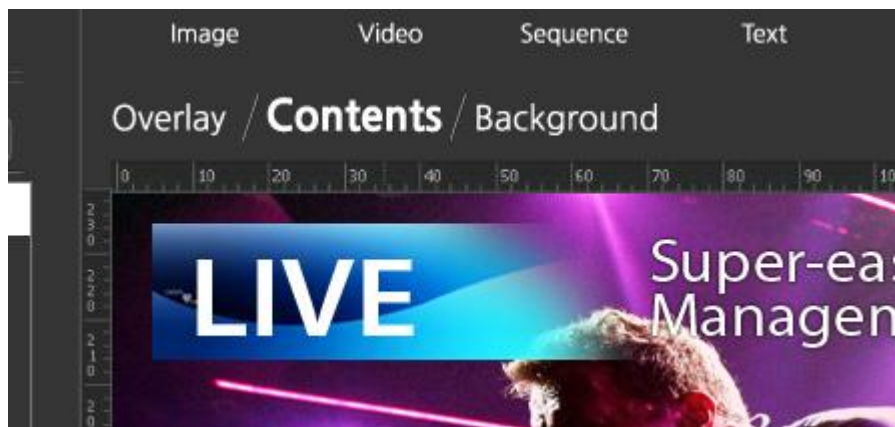
- Add page
  - Click 'Add' to add a new page.
- Select page
  - Click on the desired page from the page list. The selected page appears in the content layer in the edit area.
- Delete page
  - Click 'Delete' to remove(delete) selected page.
- Copy page
  - Click 'Copy' to copy a selected page.
- Change page sequence
  - Select a page from the list, then drag it with left mouse to change its sequence.





### 3. Layer

- There are total 3 layers per page

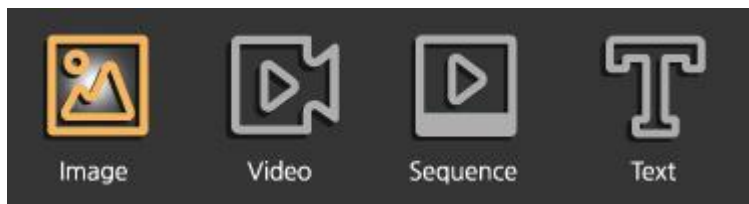


- Overlay layer
  1. A layer positioned above the contents layers.
  2. overlay layer maintains its format even if the contents have been changed.
  3. Best use for Fix Program names or organization logos on the screen.
- Contents layer
  1. A layer with applied contents for each conti file.
- Background layer
  1. A layer positioned behind the contents layer.
  2. Fix background images on the screen.



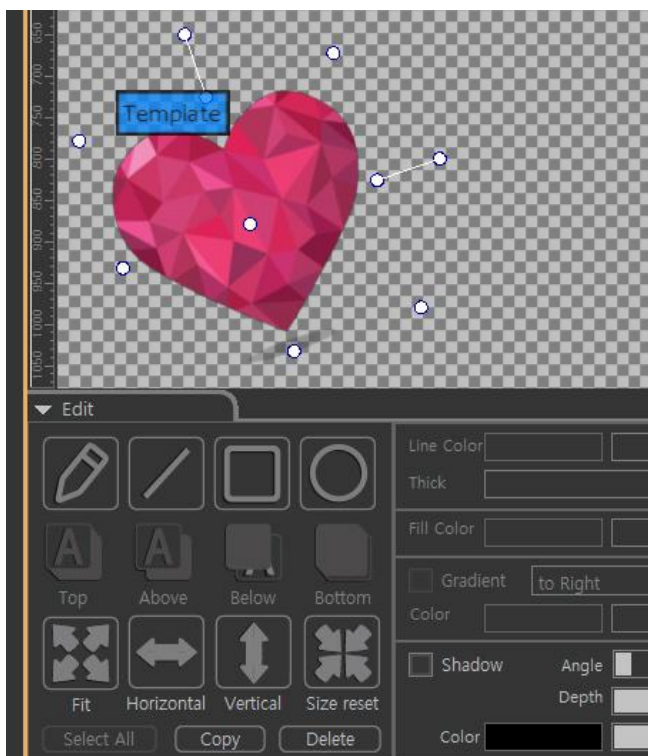
#### 4. Conti Editing

- Image



1. Click 'image' to load images.
2. Various formats, such as JPEG, PNG, Bitmap and GIF supported.
3. 32bit Bitmap file, PNG, PNG, GIF and TGA with Alpha channel (transparency value) support.
4. Animated GIF images support.

- Use a mouse to change the position/size/rotation of loaded images. Alpha (transparency) is adjustable at edit tool area.



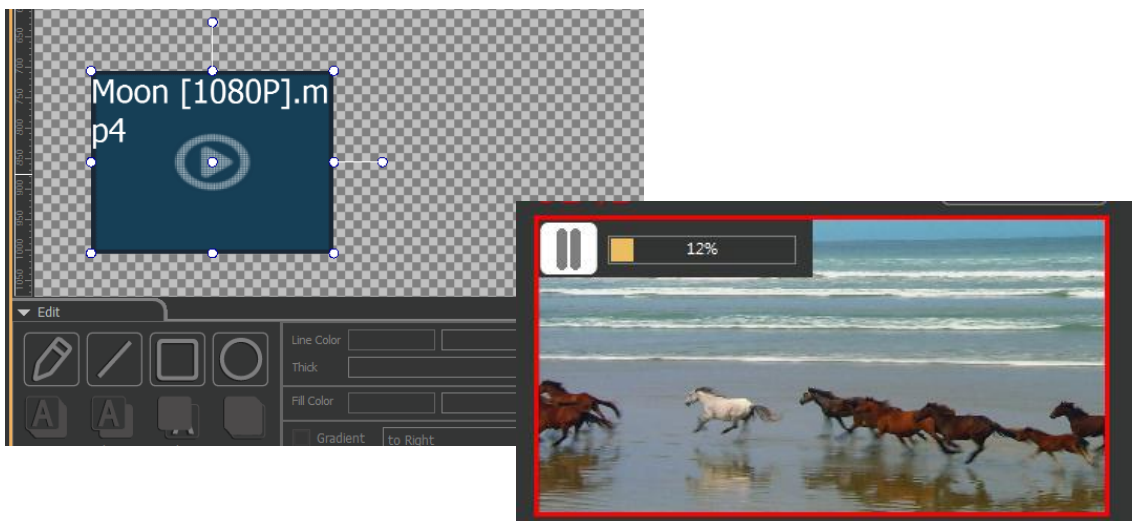


#### 4. Conti Editing (Continue)

- Video



1. Click 'Video' to load video clips.
2. Only one video can be loaded per Conti page at its contents layer.
3. Use a mouse to change the position/size/rotation of loaded videos. Alpha (transparency) is adjustable at edit tool area.
4. Video which is currently being transmitted can be controlled in the transmission control window.

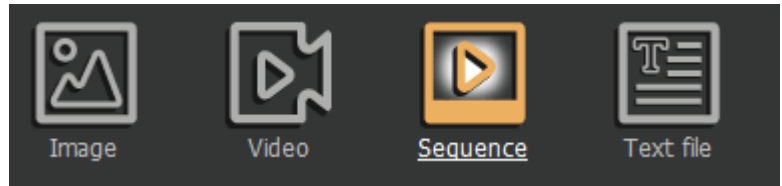




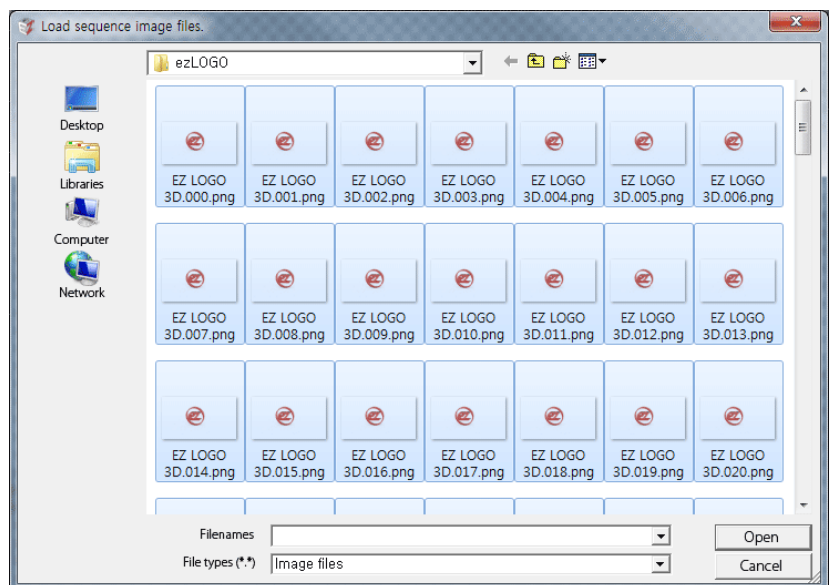


#### 4. Conti Editing (Continue)

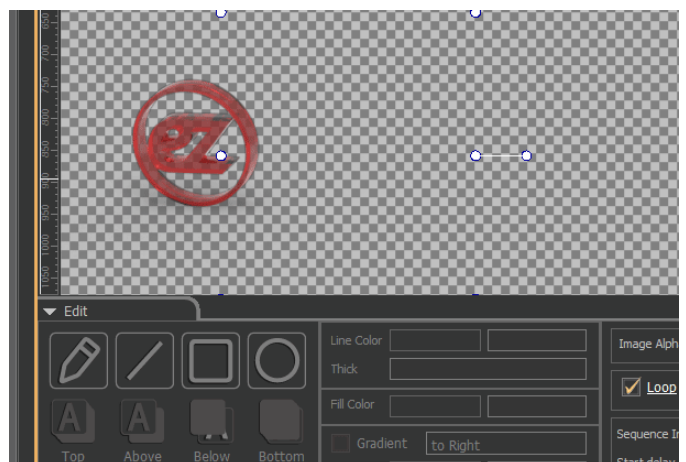
- Sequence animation



- Click 'Sequence' to load sequence (animation frame) images.
- The sequence file format follows the image file format. The animation frame sequence are sorted by the name of the files.



- Apply features such as loop (repeat the animation), sequence interval (adjust the animation speed) start delay (delay on starting of the animation) at editing section.

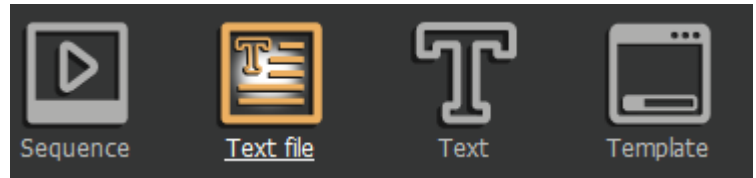




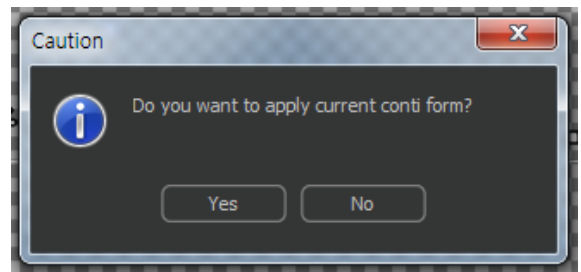


#### 4. Conti Editing (Continue)

- Text file

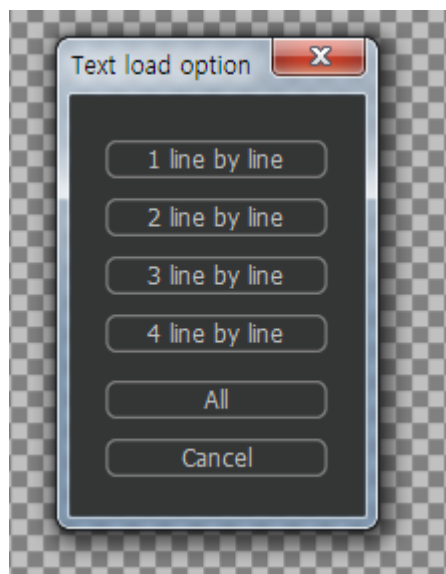


1. Click 'Text file' icon to load text.
2. If you see the pop up message below select 'Yes to load text files in the format that current Conti-page is designed.



3. If object is selected when loading the text file, the text file automatically applied to the object.

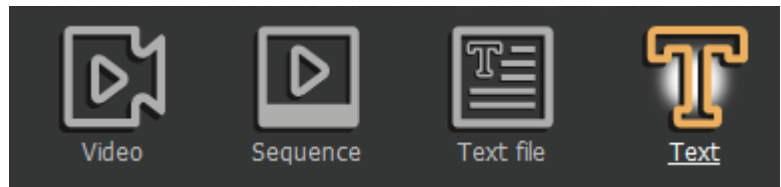
4. Select number of rows per page after selecting the text file.



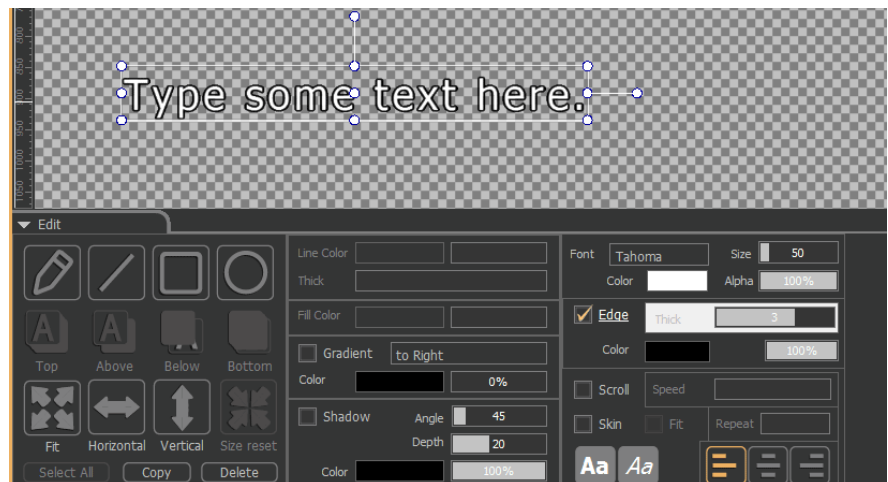


#### 4. Conti Editing (Continue)

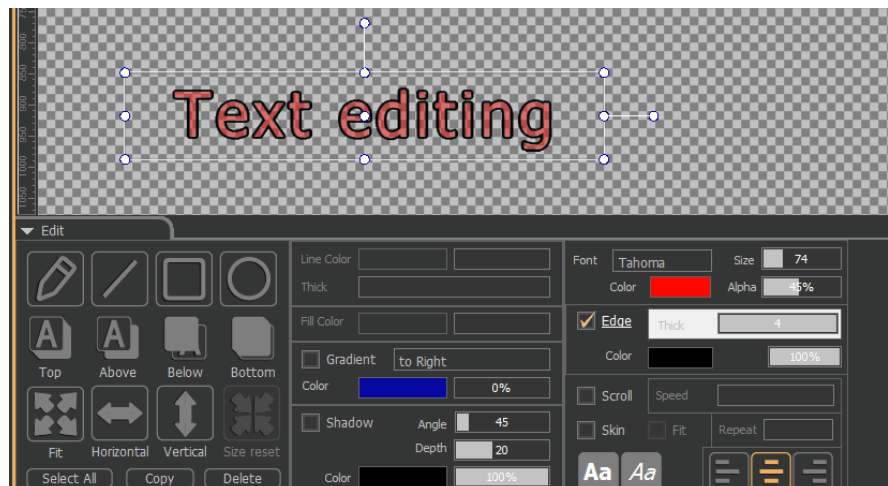
- Text Column



- Click 'Text' to load text column object.
- Click on the selected text object to edit.



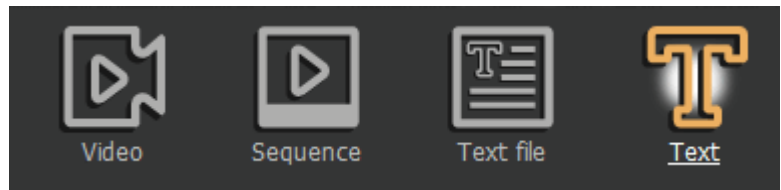
- Adjust font properties, colors, border settings and etc. at editing tool.



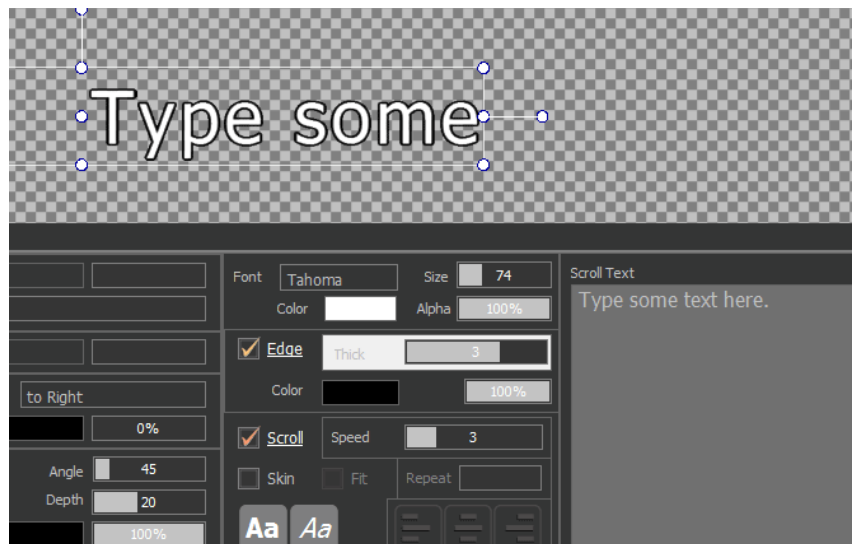


#### 4. Conti Editing (Continue)

- Text Column Scroll

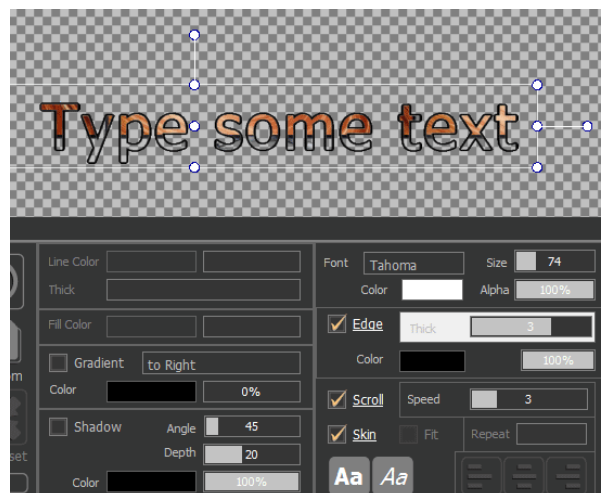


1. Create a scroll text column by checking 'Scroll properties' box.
2. Modify contents of the scroll in editing tools area.



- Text Skin

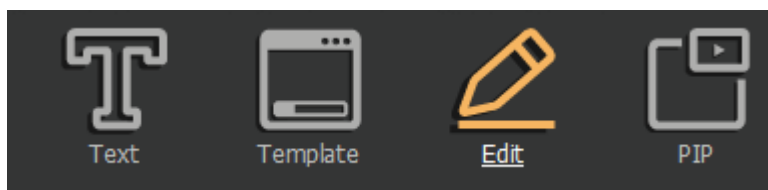
1. Apply skin image on the text object by 'Skin' check box.
2. Adjust skin repetition properties for more compressed skin images



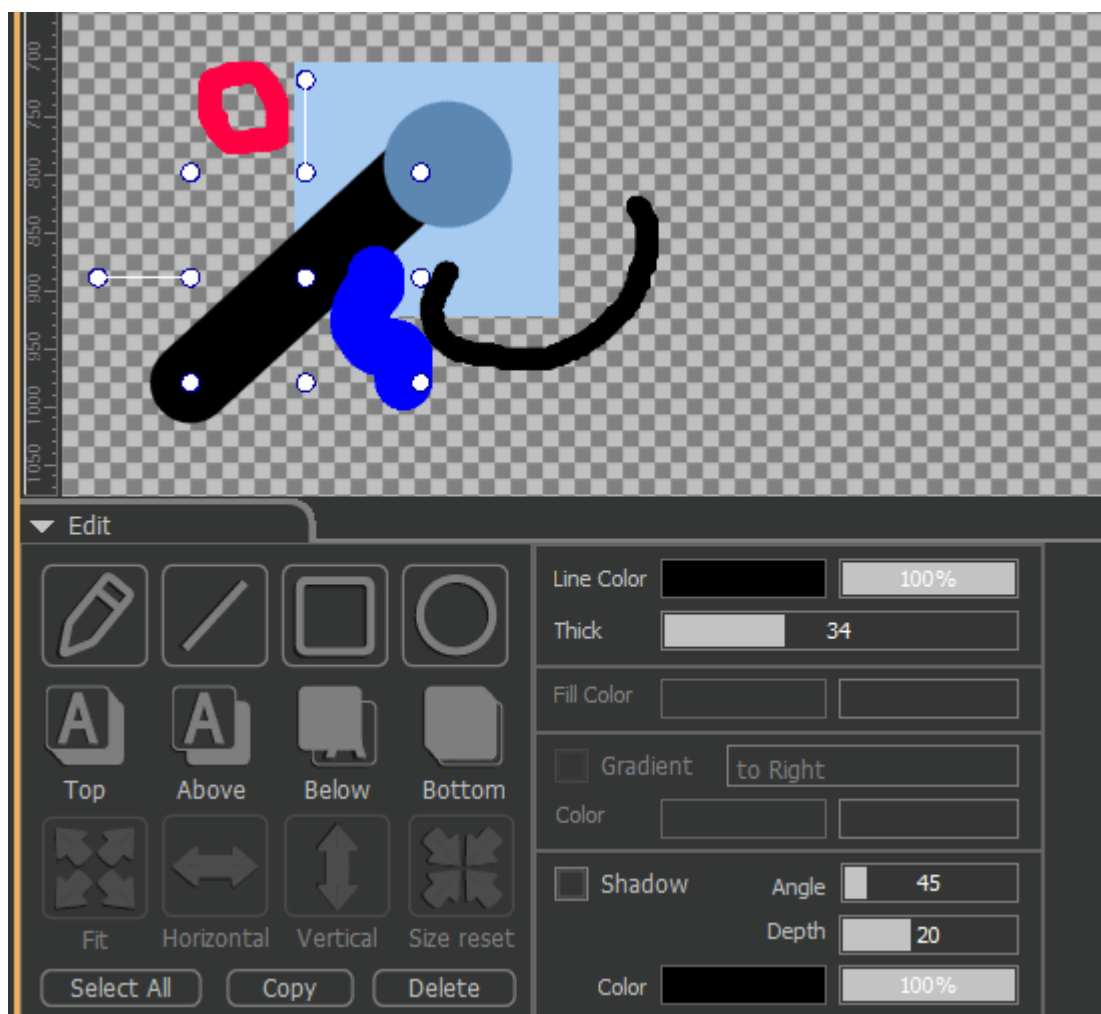


#### 4. Conti Editing (Continue)

- Figure



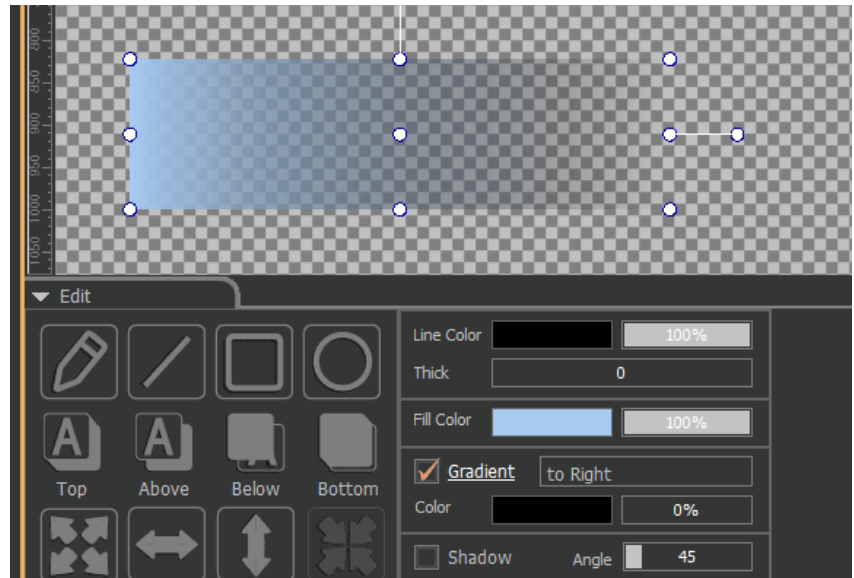
1. Click 'Edit' to show 'figure' button in editing tool area.
2. Select the shape of a figure. (curved line, straight line, round and etc. )
3. Select a figure to adjust its properties such as its colors, thickness and etc.



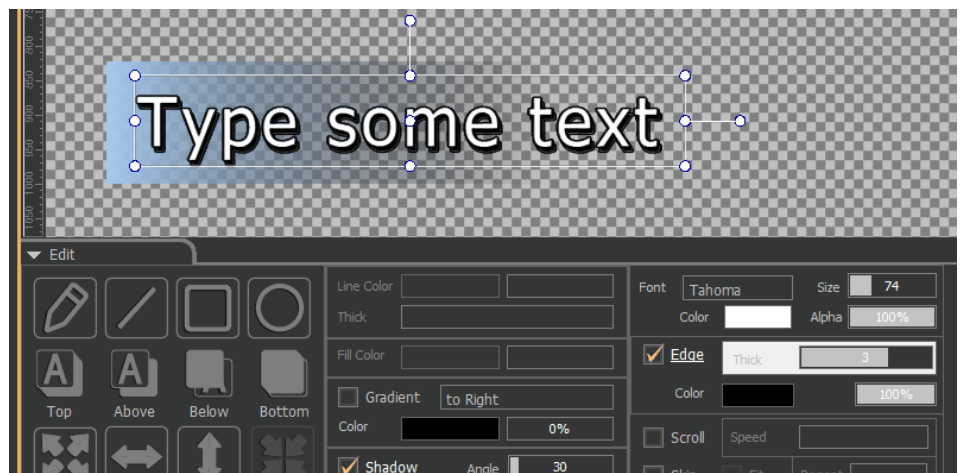


#### 4. Conti Editing (Continue)

- Object Gradient
  1. The gradient will be applied to the object when 'Gradient' property on either figures or the text columns that have been selected.
  2. Direction, color, alpha value of the gradient are adjustable.



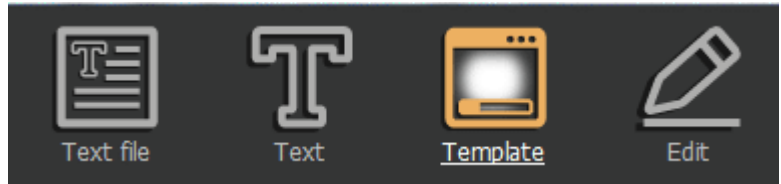
- Object Shadow
  1. The shadow will be applied to the object when 'Shadow' property on either figures or the text columns that have been selected.
  2. Direction, Density, Color and Alpha value of the shadow are adjustable.



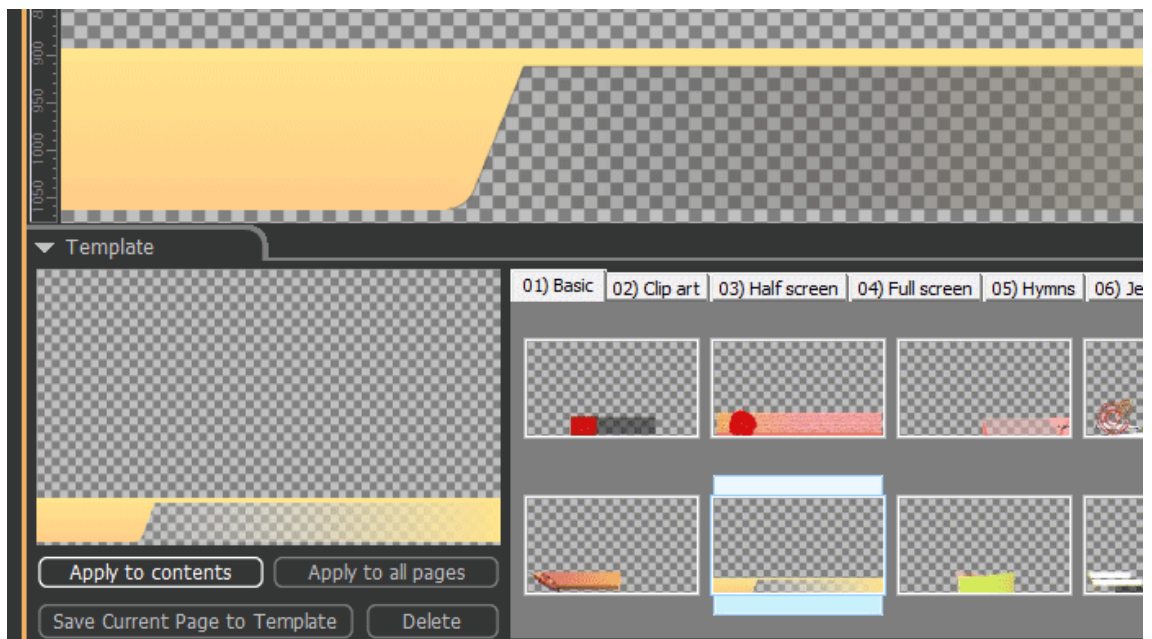


#### 4. Conti Editing (Continue)

- Template



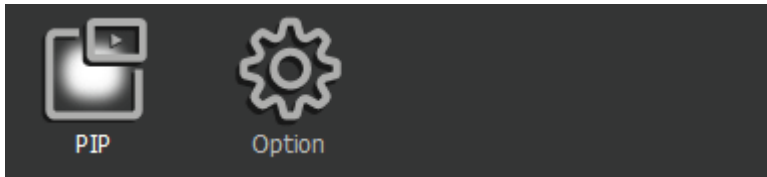
1. Load a template by clicking 'Template' button at the top of the editing window.
2. Selected template will be applied to the editing window by either double click on the template or click 'Apply Template'.
3. Click 'Apply to all pages' to apply same templates to the entire conti-file.
4. Clicking 'Save Current Page to Template' button will save changes after new template has been applied.
5. Click on the tabs to select basic templates or 'User' tab to select personalized templates.
6. 'Template' message will appear when images loaded from the Template.
7. 'Apply' template will overwrite previously applied templates.



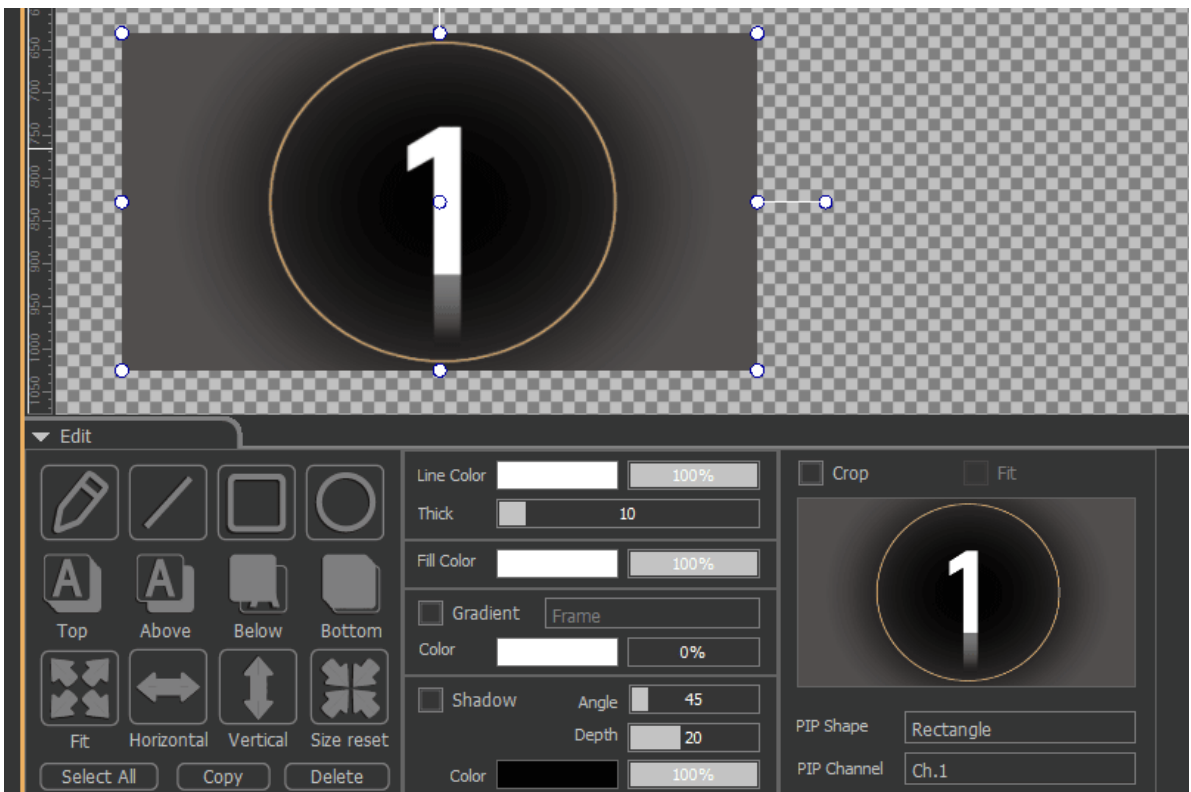


#### 4. Conti Editing (Continue)

- PIP (Picture in Picture)



1. Click 'PIP' to create a PIP object.
2. Use 'Crop' to apply input source partially to the PIP
3. Use 'Fit' to fill in the 'Crop' source.
4. Choose PIP shape (Rectangular/Oval).
5. Select one of the four input sources 'PIP Channel' (1~4).
6. PIP uses same control properties as the object control





## 5. Controlling the Object

### Selecting the object

- Image, text column objects can be selected by clicking the left mouse .
- Select multiple objects simultaneously by Press& Hold the Shift key.
- Click and drag to select all objects inside a specific area.

### Deselecting the Object

- Right click on the editing window deselects the object.

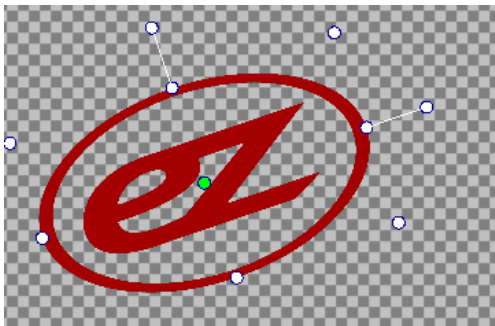
### Move Object

- Left click and Drag a selected object.
- Press & Hold 'Control' Key while moving object will horizontally/perpendicularly move the object.
- Use arrow keys to move the selected object.
- Press & Hold 'Shift' Key Shortens space while moving the object by arrow key.

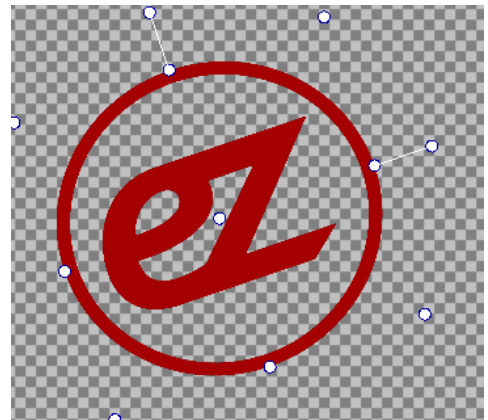
### Rotate object

- Rotate the object by clicking on the green point as shown in the picture below.

#### • Size change



- ① Adjust the size of the object by moving green point



#### • Object order change

Use 'Top', 'Above', 'Below', and 'Bottom' buttons at Editing Tool to change order of the object.







- Fit object to the Screen



- ① Adjust the size of object with 'Fit', 'Horizontal', and 'Vertical' icon in Editing screen.
- ② Click 'Size Reset' to undo all the changes.

- Copy / Paste / Cut

- ① Used 'Ctrl + C', 'Ctrl + V' or 'Ctrl + X', 'Ctrl + V' to copy/cut/paste the object

- Copy (Mouse Drag)

- ① Press and drag while holding Ctrl key after while object is selected will copy the object.

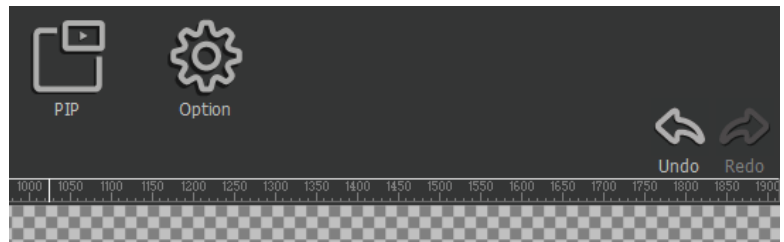
- Paste to the different pages

- ① Object copied with 'Ctrl + C' or 'Ctrl + X' can be pasted in different conti pages, overlay, or background layer.



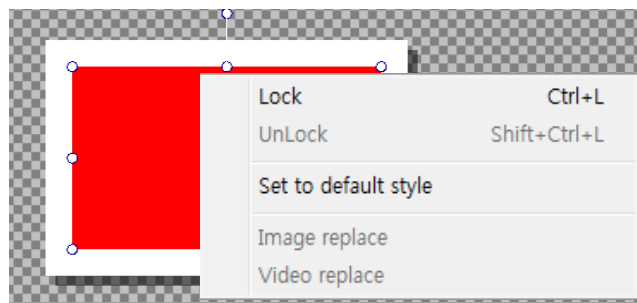
- Undo / Redo

- ① Press 'Ctrl +Z' to Undo / Press Ctrl +Shift+Z key to Redo
- ② Or, use the icons on Editing screen..



- Pop-up menu

- ① Right click on the object to check pop-up menu.

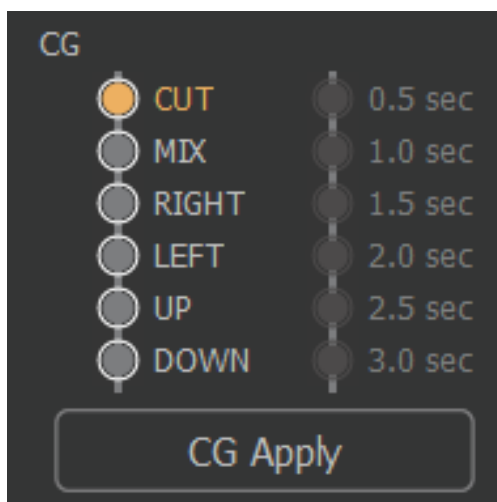


- ② Lock / unlock - Lock/unlock location of the object.
- ③ Set to Default style - Default style applied to every objects created
- ④ Image/Video Replace - Replace the Image/Video of objects to the other files.



## 6. Transmission Control Area

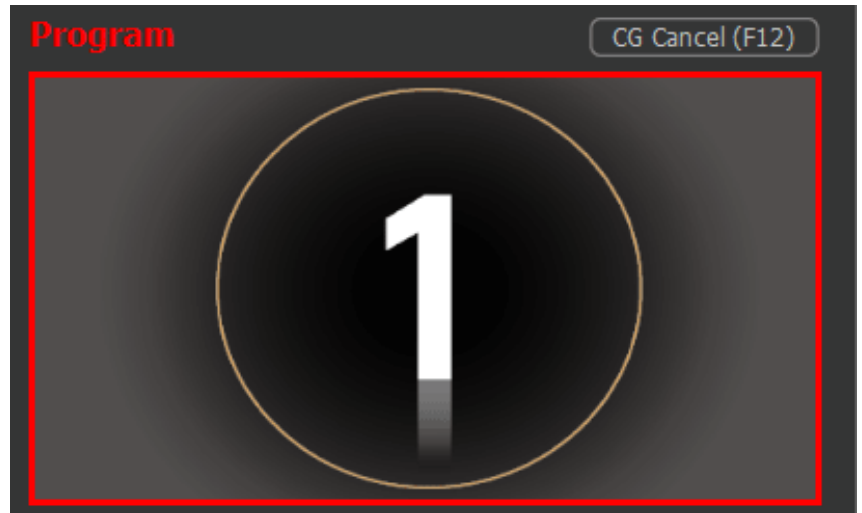
- CG Transmission
  - Click 'CG Apply' to transmit CG applied source
  - Transition Effect and duration
    - ① CUT : Instantaneous transition.
    - ② MIX : Translucent Overlapping transition
    - ③ Right : Sweep to the right
    - ④ Left : Sweep to the left
    - ⑤ Up : Sweep to the top
    - ⑥ Down : Sweep to the bottom
    - ⑦ Effect duration: 0.5~3 second





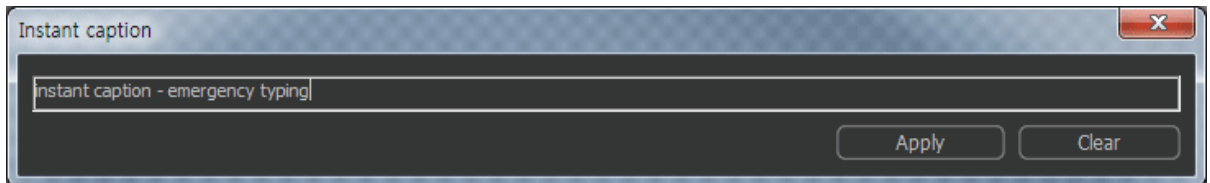
- CG Cancellation

1. Click 'CG Cancel' to stop CG transmission.



- Emergency Message Transmission (Instantaneous Transmission)

1. Press 'F1' to transmit emergency messages.



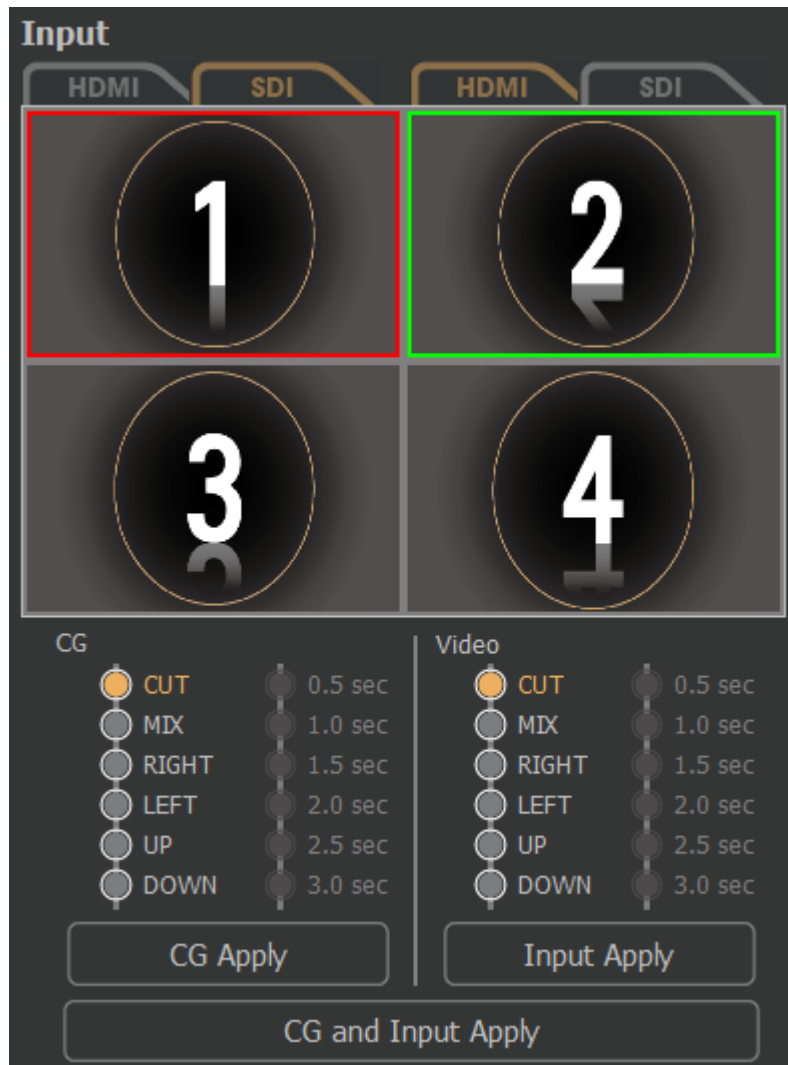
2. Type in the instant messages in text box, then click 'Apply'. This will add emergency messages.
3. To remove emergency messages, press F1 then click 'Clear'



- Change Input Source

1. Click(select) one of the input source channels (1~4)
2. Click 'Input Apply' to show selected channel.
3. 'Red' highlight indicates source that is currently being transmitted while 'Green' is a ready channel.
4. Transition Effect and duration.

- ① CUT : Instantaneous transition
- ② MIX : Translucent Overlapping transition
- ③ Right : Sweep to the right
- ④ Left : Sweep to the left
- ⑤ Up : Sweep to the top
- ⑥ Down : Sweep to the bottom
- ⑦ Effect duration: 0.5~3 second





## 7. System Configuration

1. Click 'System Configuration' at 'Edit' menu.
2. Language  
Change S/W Language interface settings.
3. System Resolution  
Select Input source resolution and SDI output resolution for VM4 and UB3.
4. HDMI/VGA Output Resolution
5. Adjust HDMI and VGA output resolution.
5. External Audio  
Prioritize external Audio rather than input source channel audio.
6. Full Screen  
S/W in a Full Screen.
7. Project to 2nd Screen  
Extend Transmission control screen to the 2nd monitor. May require additional PC system resources.
8. Preview  
Display video on preview screen  
More performance load on PC
9. Load Preview in pause  
Load paused preview  
May experience black screen depending on the source
10. Bible  
Select 'Bible' option to add bible features to the editing menu
11. Shortcut  
Shortcut key information
12. System Information  
Display S/W and H/W Ver.

