

# SPI OSD Development Guide

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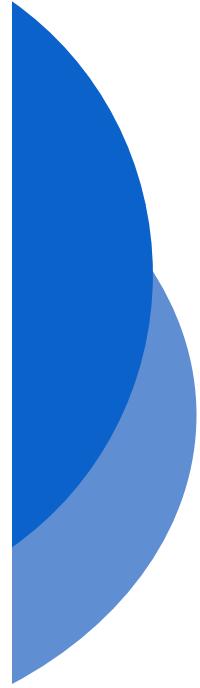
T582

Ken



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# Outline

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- SPIOSD Overview
- SPIOSD Format
- SPIOSD Image
- SPIOSD Sprite
- SPIOSD Emulation Plan
- SPIOSD Effect
- Demo UI Prototype
- SPIOSD Advanced Effect
- SPIOSD Development Tool



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# SPIOSD Overview

- Index Color:
  - 256 Color, RGBA8888
- Primary LUT & Secondary LUT:
  - Image by pLUT
  - Sprite by sLUT
- Sprite:
  - Sprite on Image with Alpha-Blending
- Transfer Switch LUT:
  - 2 Image Merge with 2 LUT for Slide (H/V)
- Emulation Plan:
  - OSD Effect



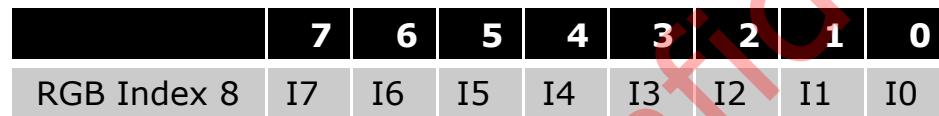
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# SPIOSD Format

- Index Color (256 color)

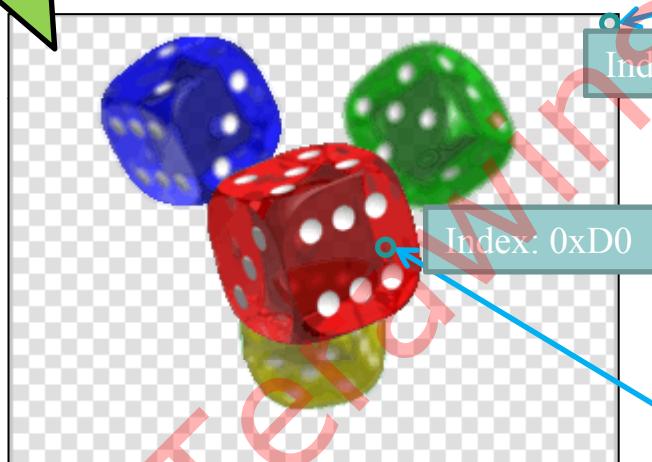
- Index: 8bit



- Palette (LUT): RGBA8888

- Alpha Channel: 0x00->opaque, 0xFF->transparency

Image

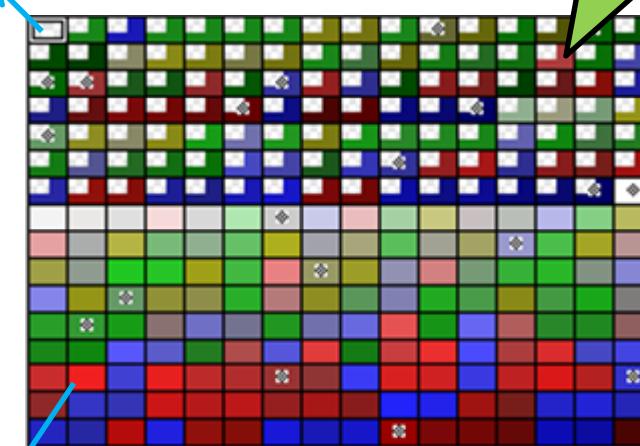


ABGR: 0xFF 0xFF 0xFF 0xFF

Index: 0x00

Index: 0xD0

Palette



ABGR: 0x00 0x20 0x20 0xF0

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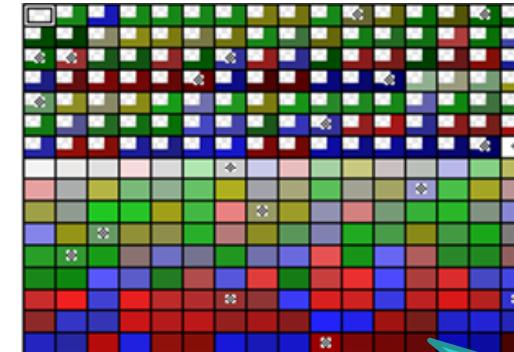
# SPIOSD Image (1/2)

- Image
  - HSize: 11bit
  - VSize: 10bit
  - Primary Palette (pLUT): RGBA8888



V: 480

H: 800



Primary Palette  
(pLUT)



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## SPIOSD Image (2/2)

- Image
  - HStart: 11bit
  - VStart: 10bit
  - Line Store Size: 16bit

Alpha Blanding

X: 0, Y: 0

Video or  
Build-in Pattern

Primary Palette  
(pLUT)

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# SPIOSD Sprite (1/3)

- Sprite
  - HSize: 0~255 (8bit)
  - VSize: 0~1024(10bit)
  - Secondary Palette (sLUT): RGBA8888

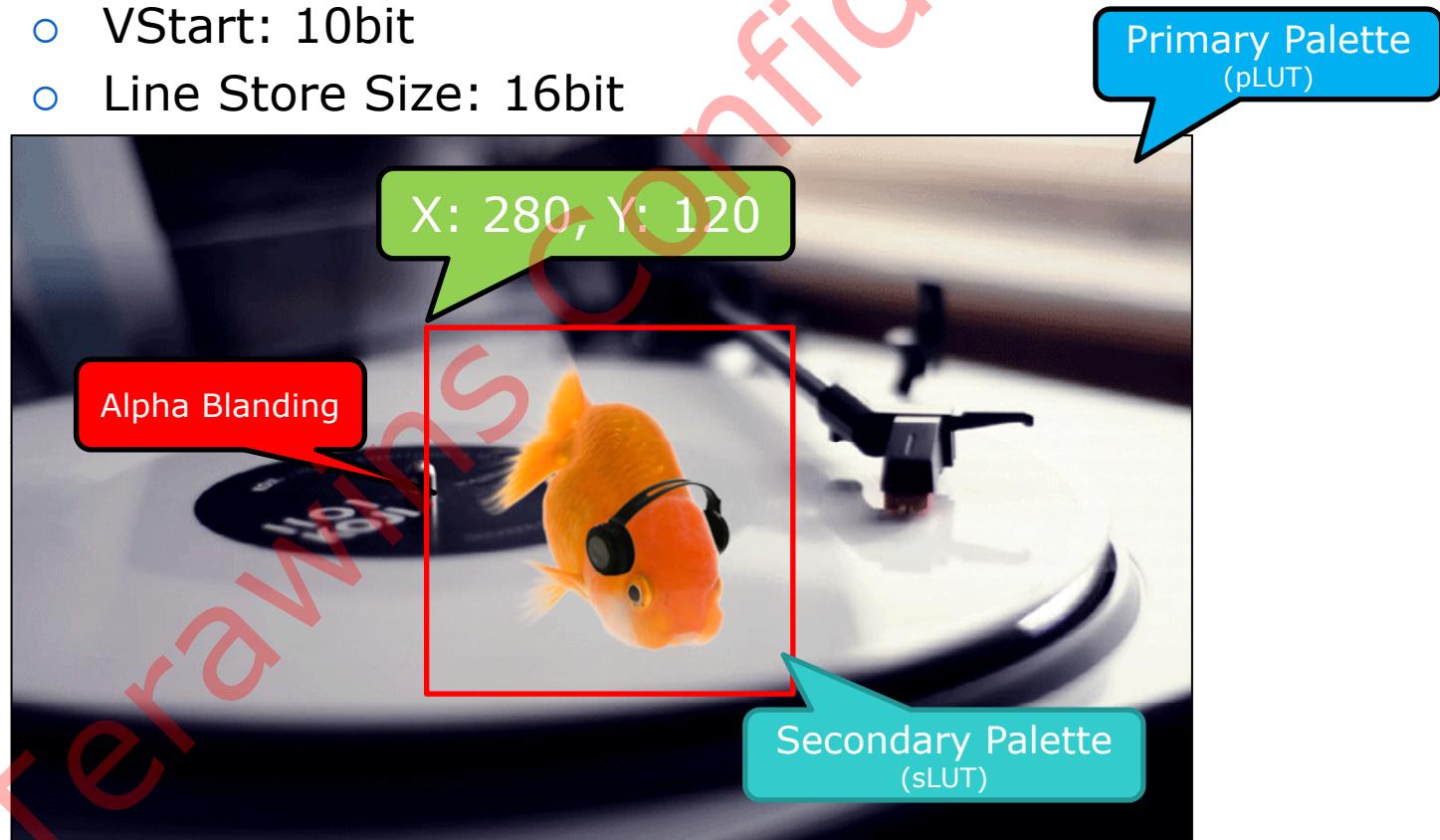


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## SPIOSD Sprite (2/3)

- Sprite
  - HStart: 12bit
  - VStart: 10bit
  - Line Store Size: 16bit

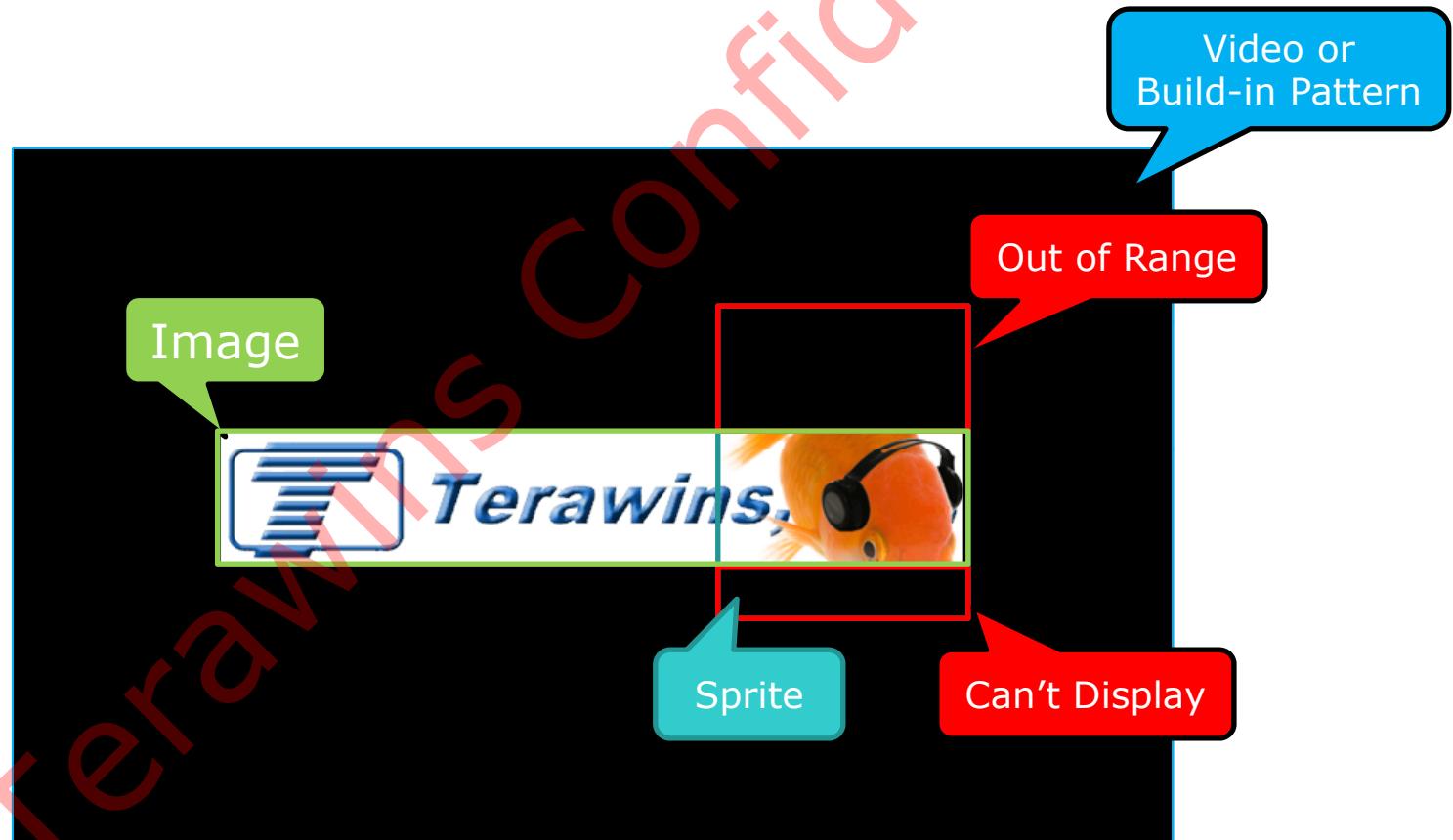


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## SPIOSD Sprite (3/3)

- Sprite can't out Image of range

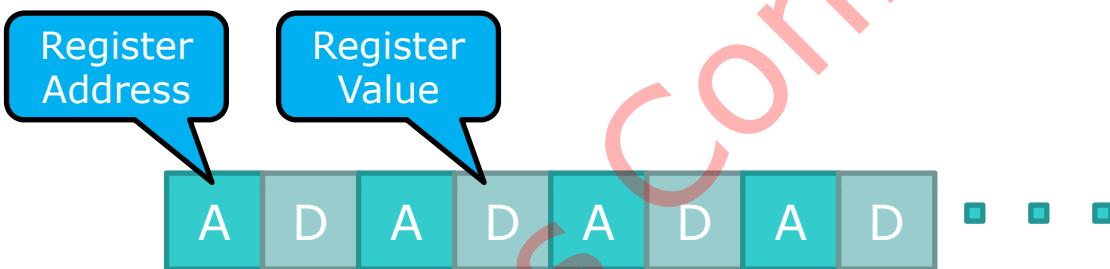


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# SPI OSD Emulation Plan (1/3)

- Emulation Plan Data (Script)

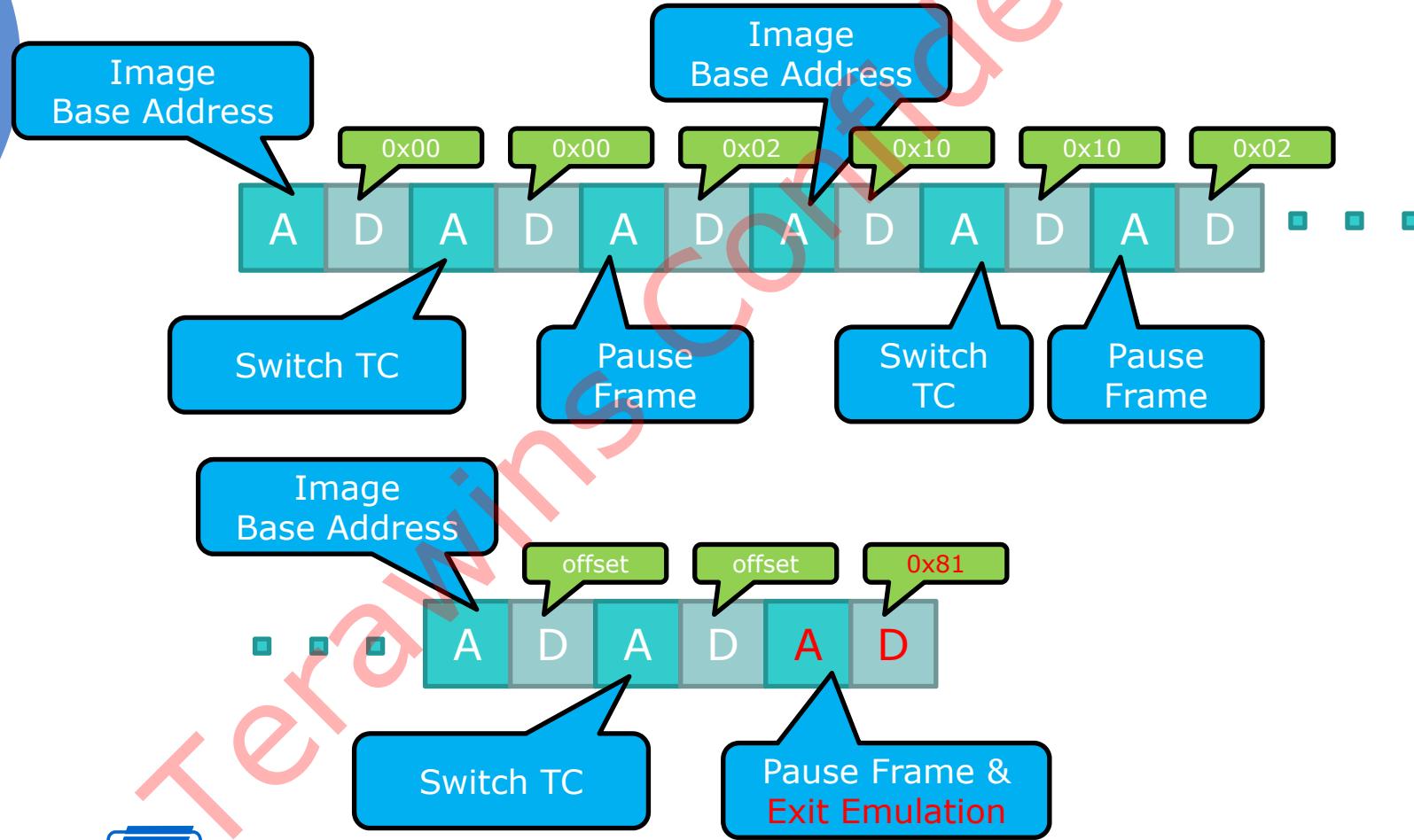


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## SPIOSD Emulation Plan (2/3)

- ex. Slide Effect of Emulation Plan

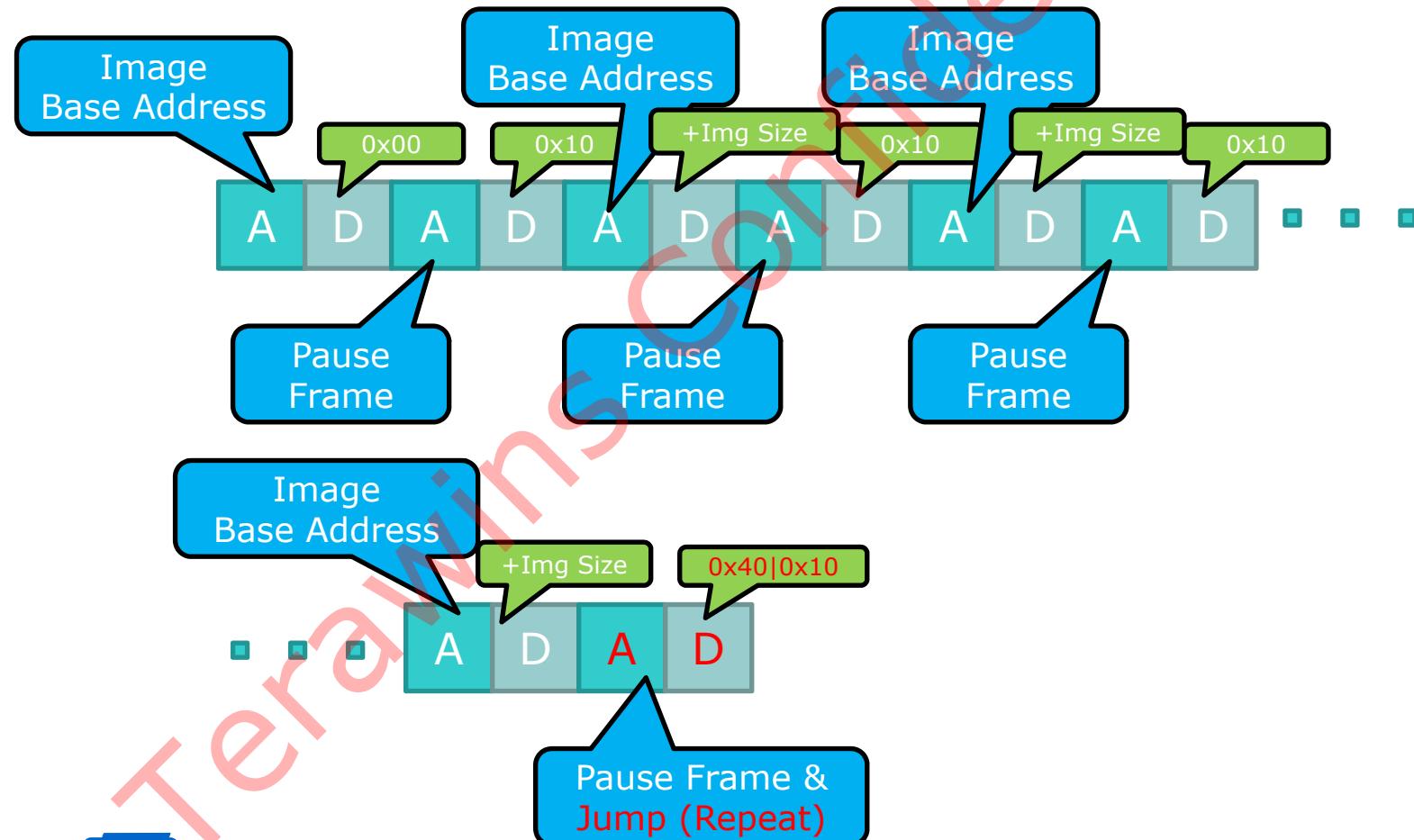


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# SPIOSD Emulation Plan (3/3)

- ex. Sprite Effect of Emulation Plan

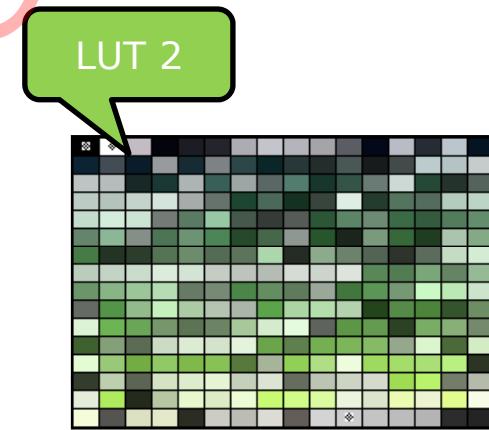
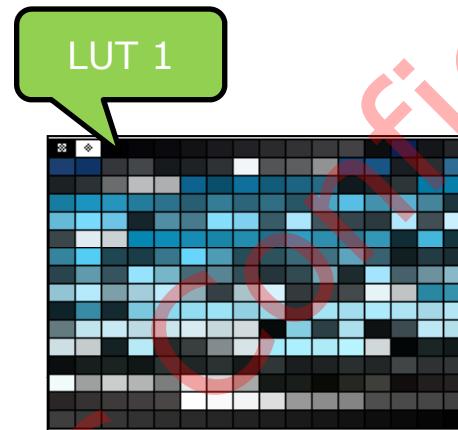
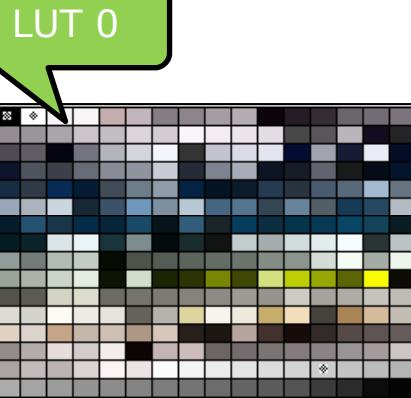


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# SPIOSD Effect (1/21)

- H Slide

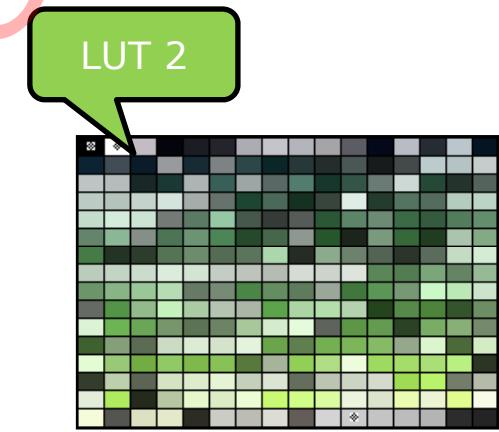
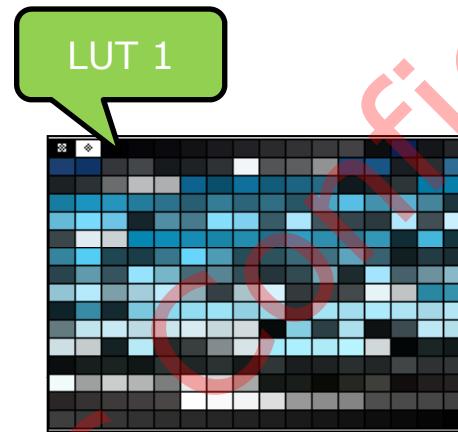


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# SPIOSD Effect (2/21)

- H Slide



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# SPIOSD Effect (3/21)

- H Slide



Load LUT 0

Base Address+=0  
Transfer Disable



Active Window



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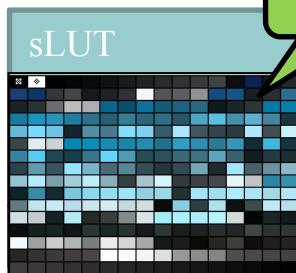
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# SPIOSD Effect (4/21)

- H Slide



Base Address+=offset  
Transfer Enable H Direct  
Switch Transfer Count=(Active HSize-offset)



Load LUT 1

pLUT

sLUT



offset

Active Window

HSize-offset



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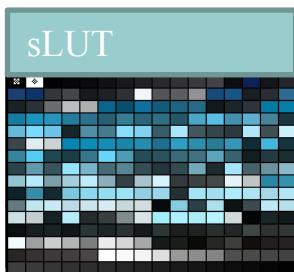
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# SPIOSD Effect (5/21)

- H Slide



Base Address+=offset  
Transfer Enable H Direct  
Switch Transfer Count=(Active HSize-offset)



pLUT

sLUT



offset

HSize-offset

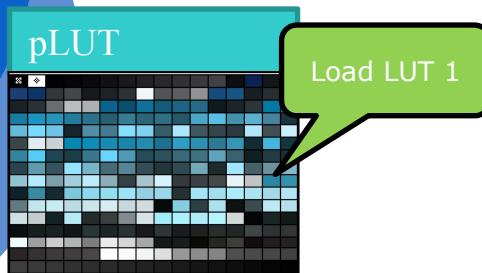


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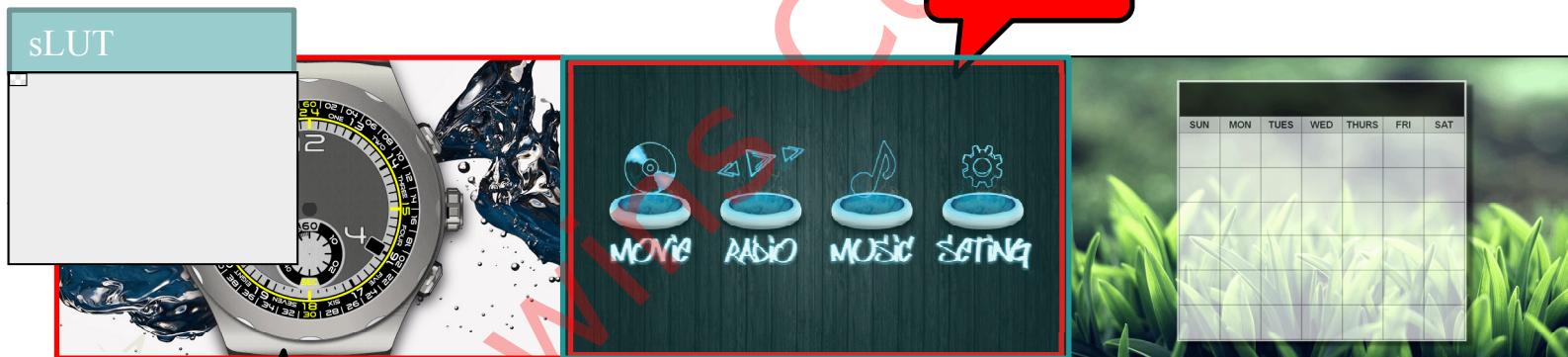
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# SPIOSD Effect (6/21)

- H Slide



Base Address+=Hsize\*1  
Transfer Disable  
Switch Transfer Count=0



offset



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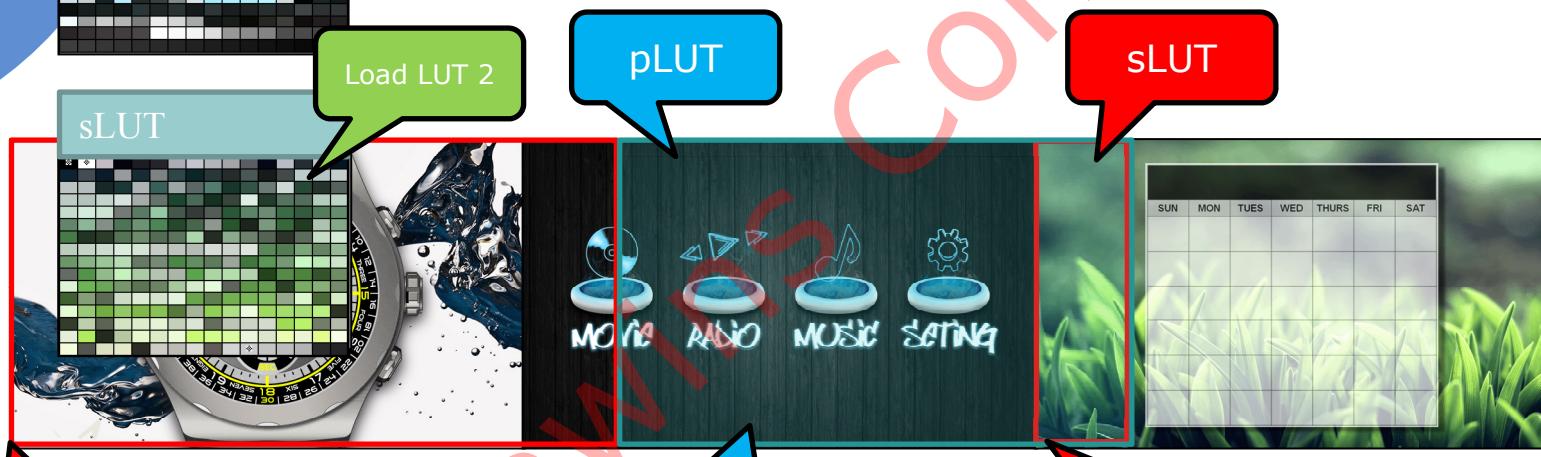
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# SPIOSD Effect (7/21)

- H Slide



Base Address+=offset  
Transfer Enable H Direct  
Switch Transfer Count=(Active HSize-(offset-HSize\*1))



offset

Active Window

HSize-(offset-Hsize\*1)

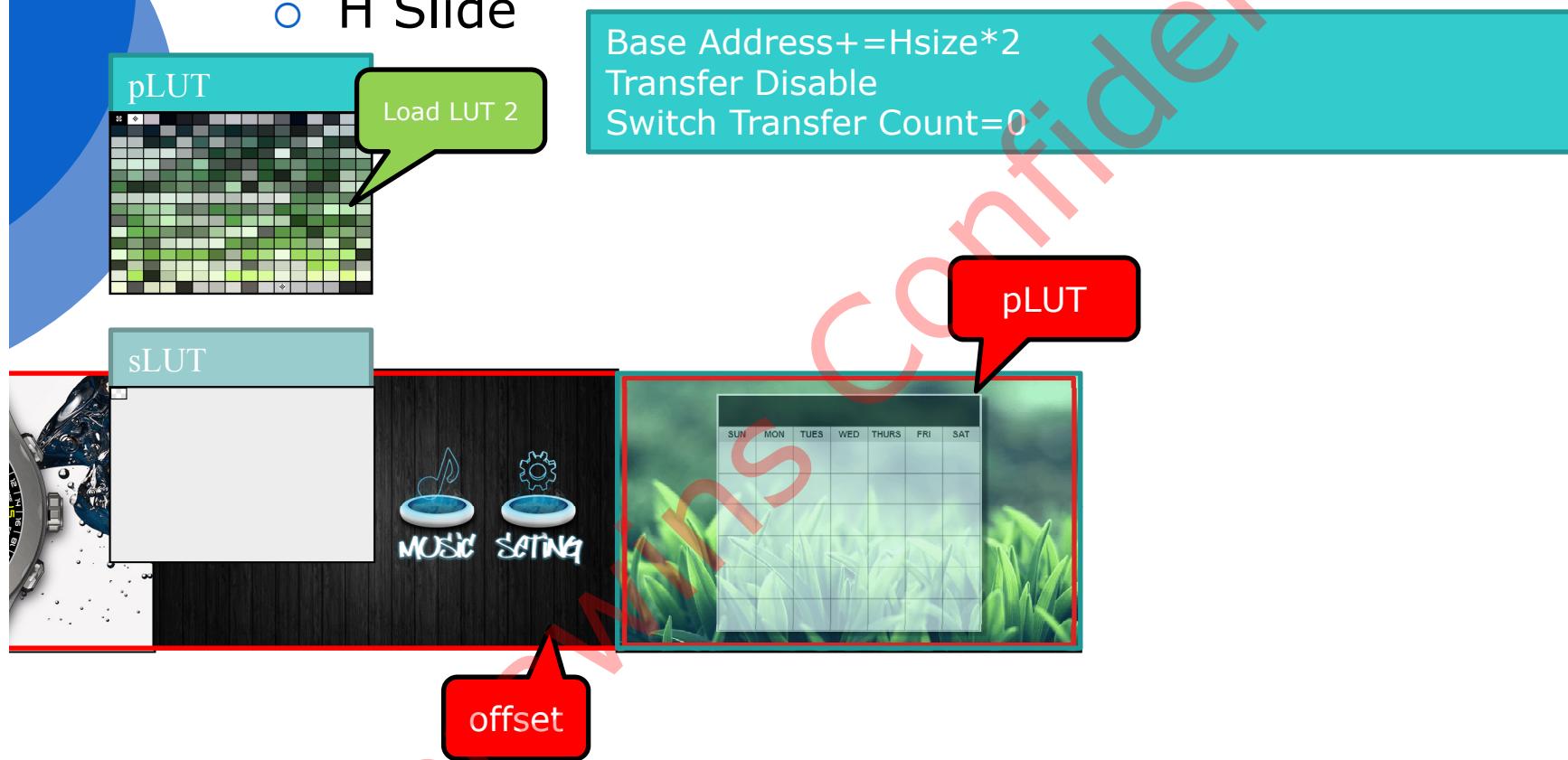


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# SPIOSD Effect (8/21)

- H Slide

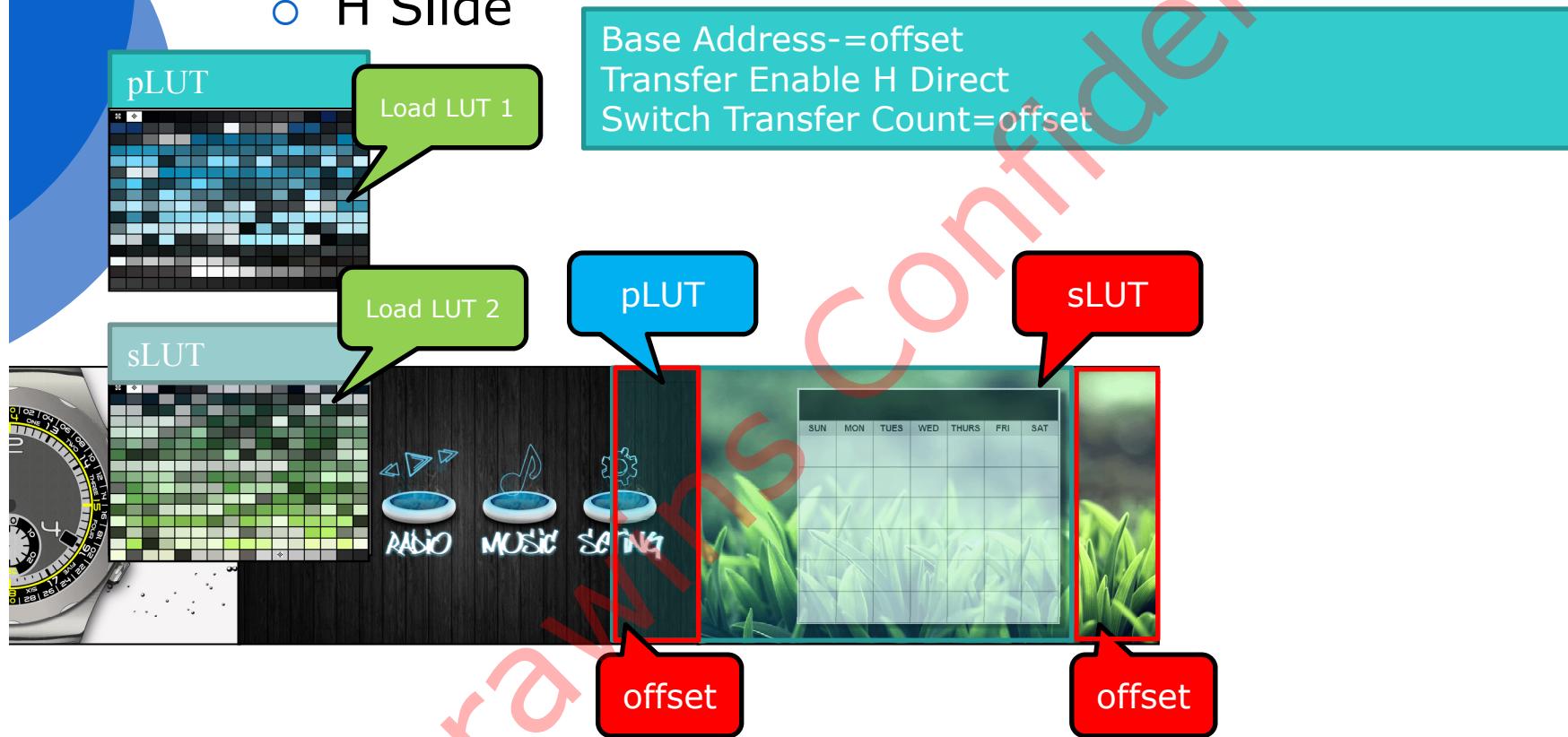


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# SPIOSD Effect (9/21)

- H Slide

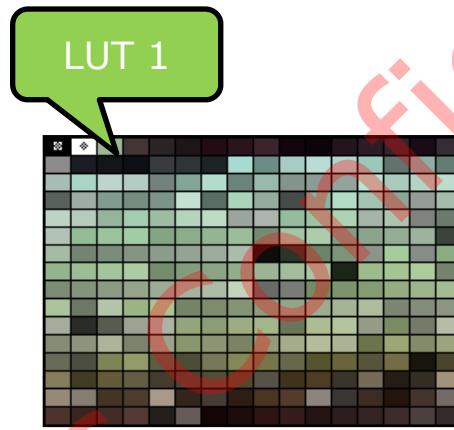
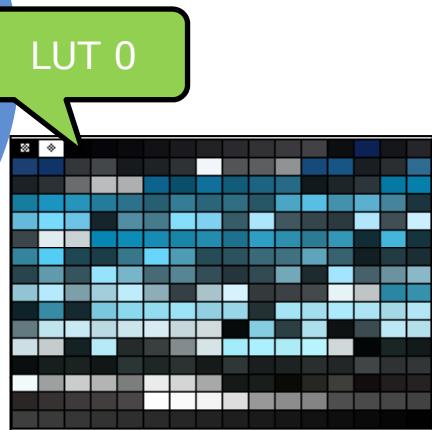


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# SPIOSD Effect (10/21)

○ V Slide



Page 0



Page 1

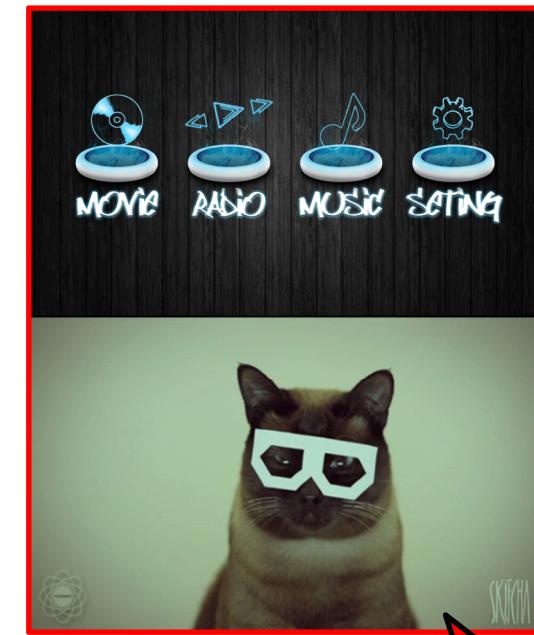
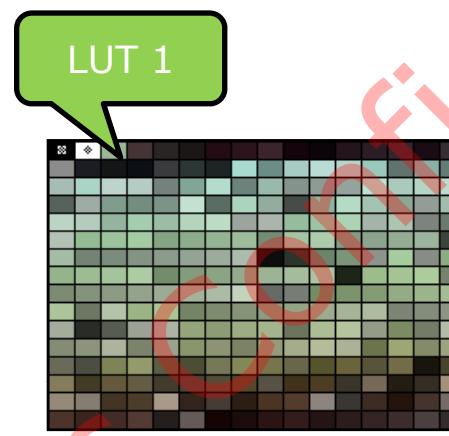
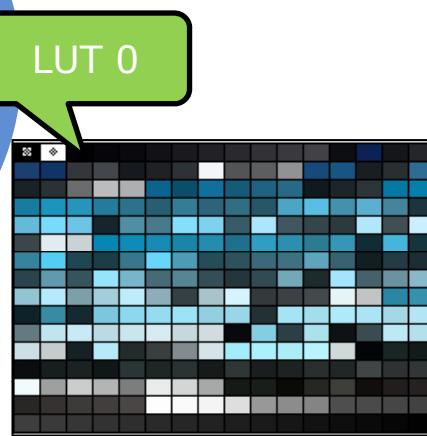


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# SPIOSD Effect (11/21)

○ V Slide



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# SPIOSD Effect (12/21)

- V Slide



Load LUT 0

Base Address+=0  
Transfer Disable



Active Window

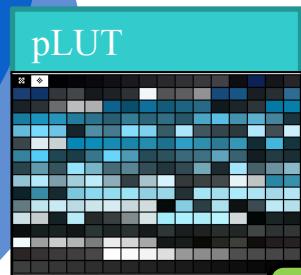


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# SPIOSD Effect (13/21)

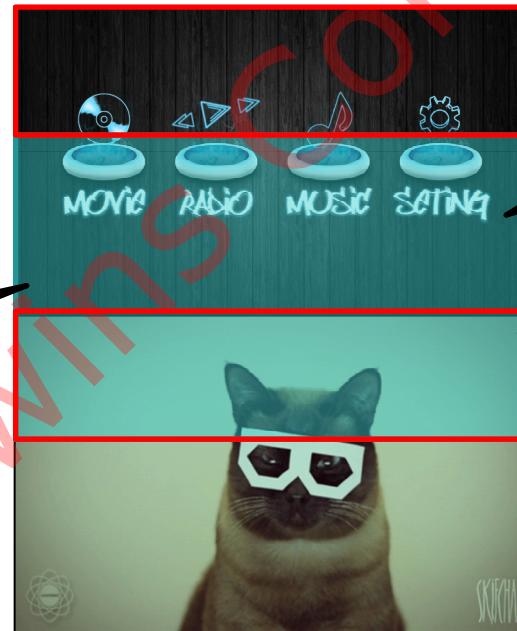
- V Slide



Active Window

Load LUT 1

Base Address+=offset\*LineSize  
Transfer Enable V Direct  
Switch Transfer Count=(Active VSize-offset)



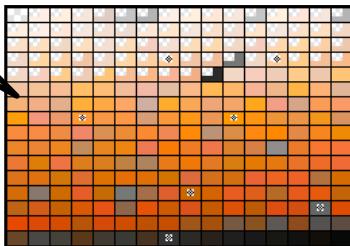
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# SPIOSD Effect (14/21)

- Sprite

Palette



Page 0:  
Base Address+=0

Page 1:  
Base Address+=HSize\*VSize

Page 2:  
Base Address+=HSize\*Vsize\*2



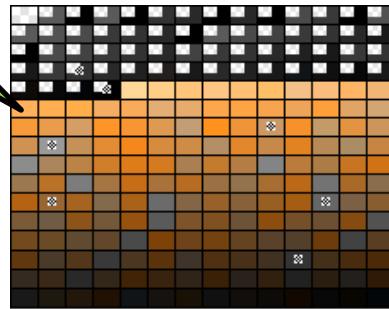
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# SPIOSD Effect (15/21)

- Sprite + Moving

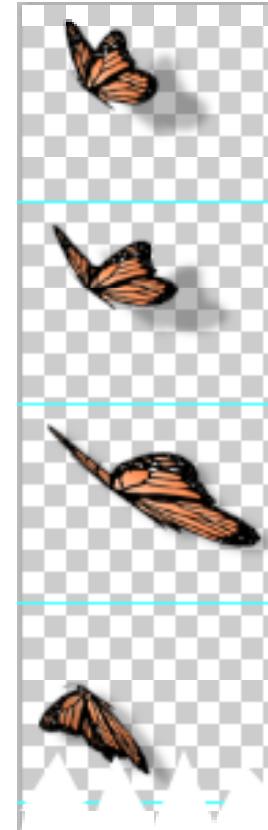
Palette



HStart=520, VStart=200  
Base Address+=HSize\*VSize\*4



HStart=640, VStart=200  
Base Address+=0

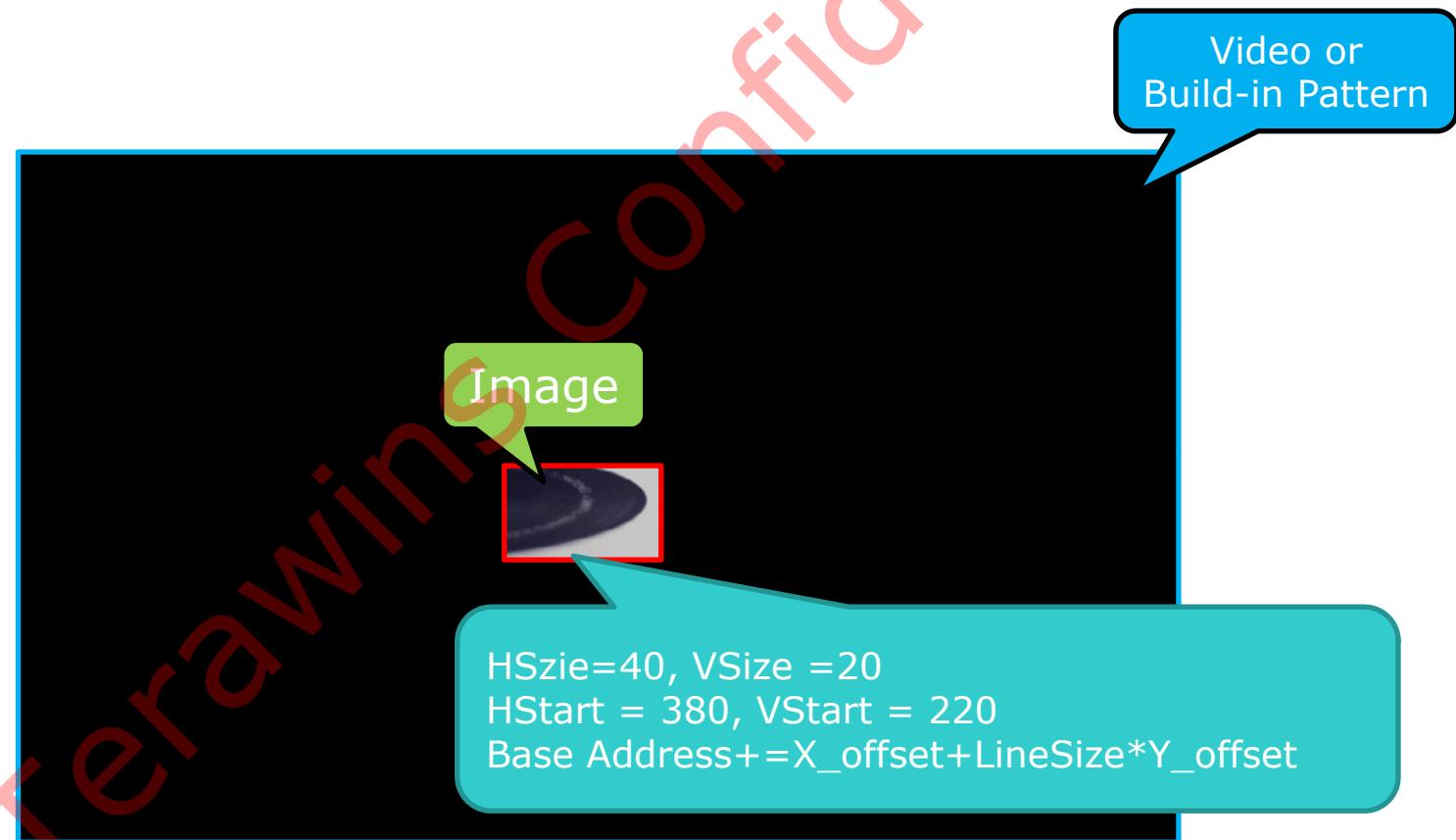


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# SPIOSD Effect (16/21)

- Open/Close Window



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# SPIOSD Effect (17/21)

- Open/Close Window



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# SPIOSD Effect (18/21)

- Open/Close Window

Image



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# SPIOSD Effect (19/21)

- CRT Open/Close



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# SPIOSD Effect (20/21)

- CRT Open/Close



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# SPIOSD Effect (21/21)

- CRT Open/Close

Image



HSzie=800, VSize =480  
HStart = 0, VStart = 0  
Base Address+=0

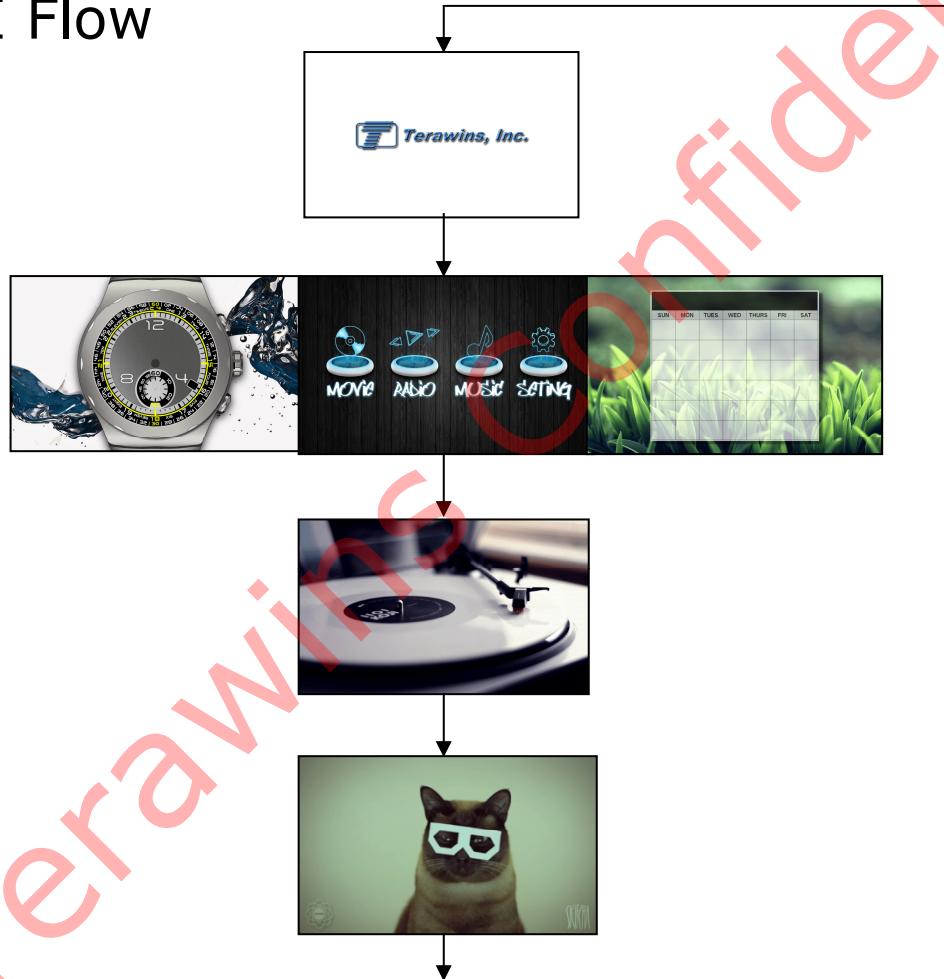


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# Demo UI Prototype (1/7)

- UI Flow



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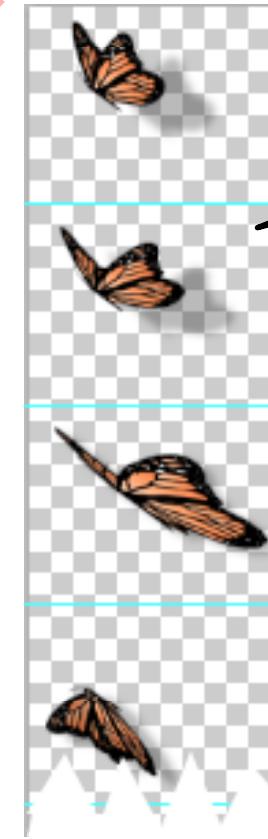
# Demo UI Prototype (27)

- Logo Page

Image



HSize: 136, VSize: 110\*9  
Effect: Sprite+Moving



Sprite

HSize: 800, VSize : 480  
Effect : CRT Open/Close



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# Demo UI Prototype (3/7)

- Loading Page

Image



HSize: 290, VSize : 130\*12  
Effect : Sprite



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# Demo UI Prototype (4/7)

- Menu Page

Image



HSize: 800\*3, VSize : 480  
Effect : H Slide (Left/Right),  
Open/Close Window



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# Demo UI Prototype (5/7)

## ○ Menu Page

HSize: 69, VSize: 69\*60  
Effect: Sprite

HSize: 114, VSize: 120  
Effect: Sprite

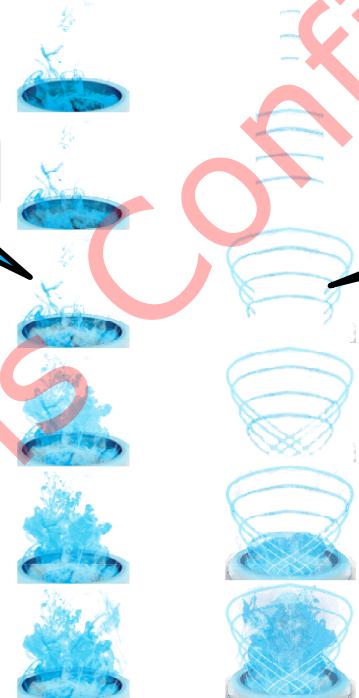
HSize: 36, VSize: 36  
Effect: no

Sprite

Sprite

Sprite

Sprite



HSize: 136, VSize: 124\*6  
Effect: Sprite



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# Demo UI Prototype (6/7)

- Music Page

Image



HSize: 800, VSize : 480  
Effect : Open/Close Window

HSize: 240, VSize: 240\*7  
Effect: Sprite

Sprite



Sprite



HSize: 165, VSize: 46\*4  
Effect: no



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# Demo UI Prototype (7/7)

- Crazy Cat Page

Image



HSize: 800,  
VSize : 480\*  
Effect : CRT Close

HSize: 800,  
VSize : 480  
Effect : V Slide

Sprite



HSize: 100, VSize: 206\*20  
Effect: Sprite



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# SPIOSD Advanced Effect(1/4)

- Sprite Fade In/Out

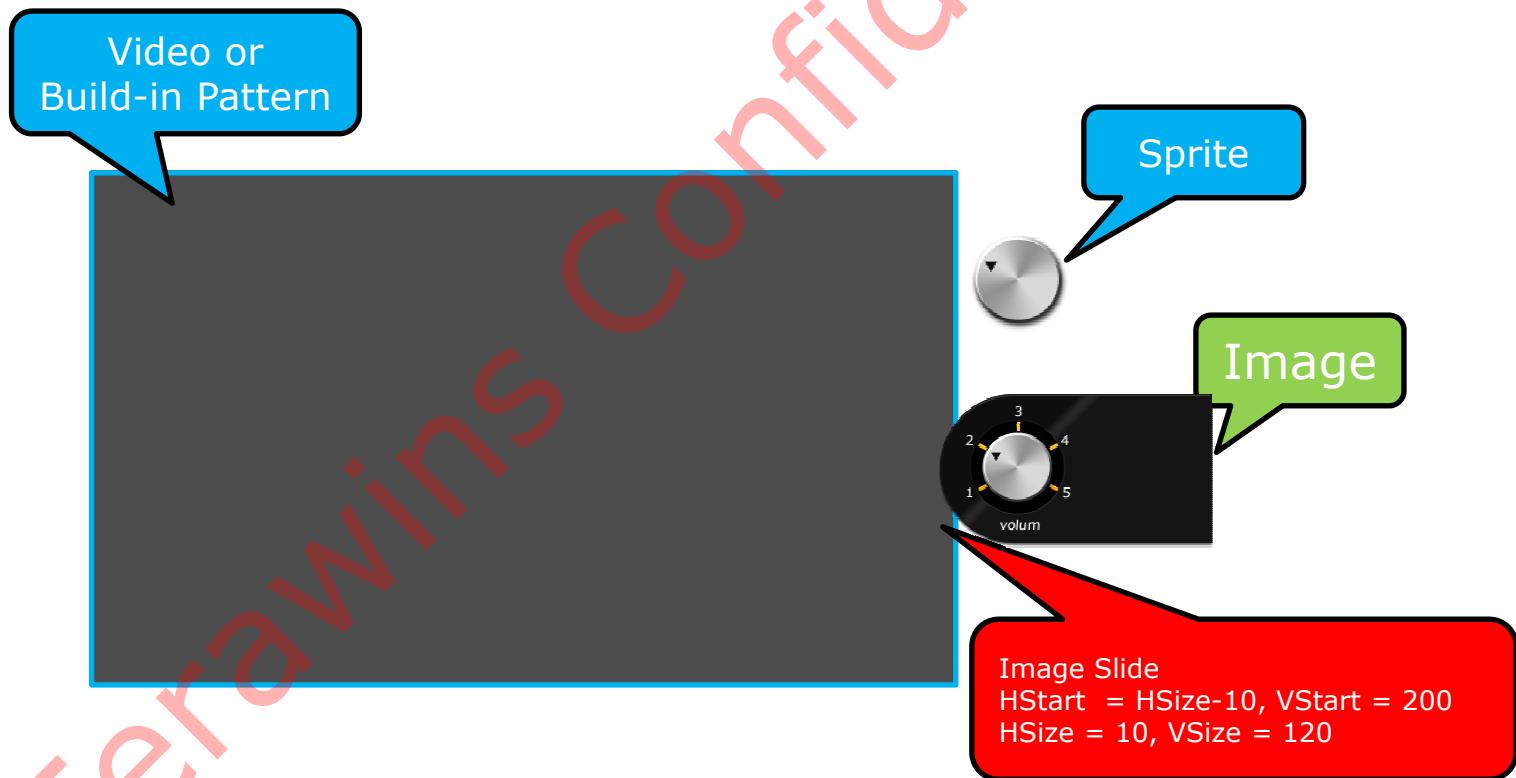


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# SPIOSD Advanced Effect (2/4)

- Image Slide + Sprite Slide

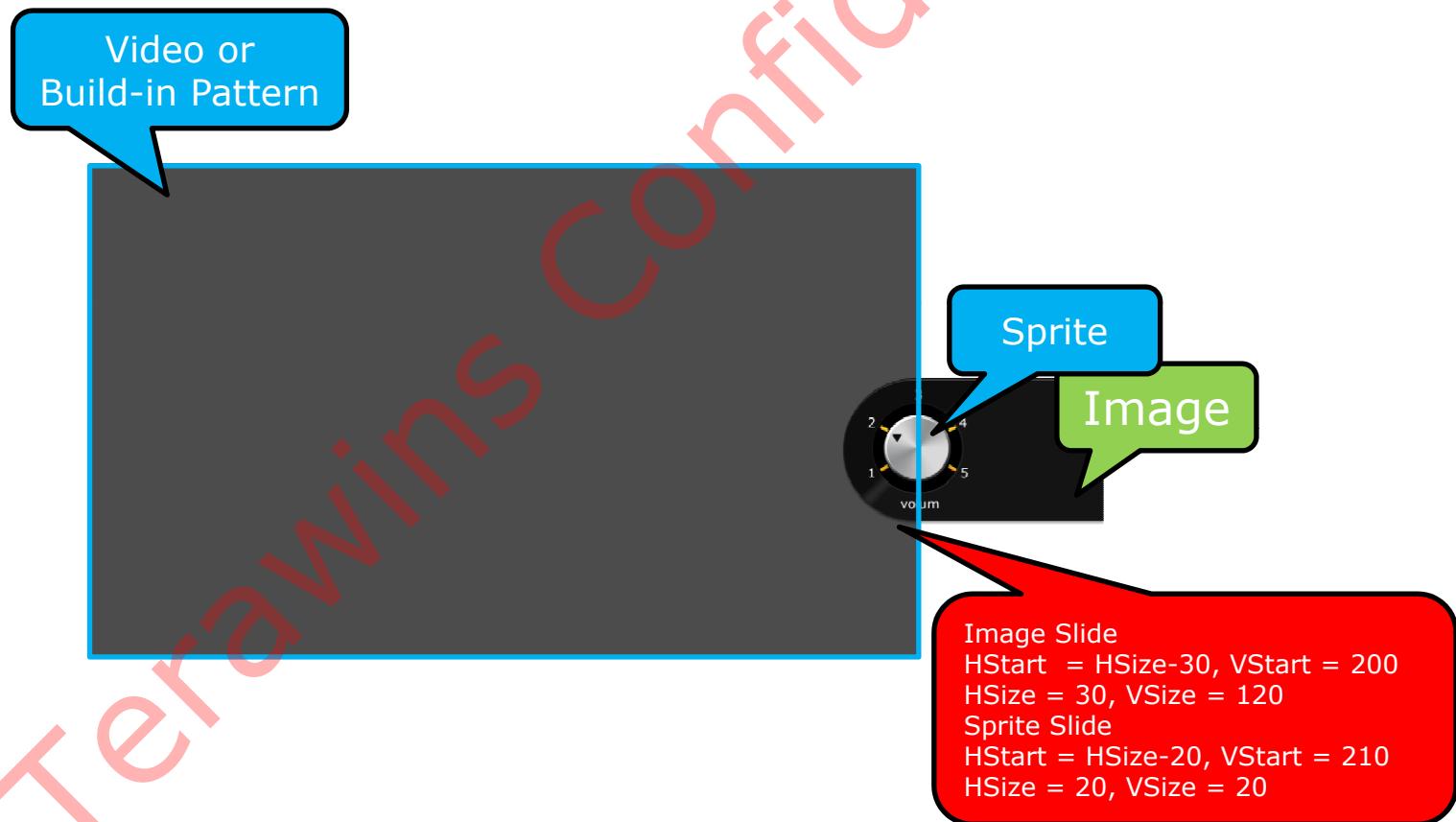


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# SPIOSD Advanced Effect(3/4)

- Image Slide + Sprite Slide

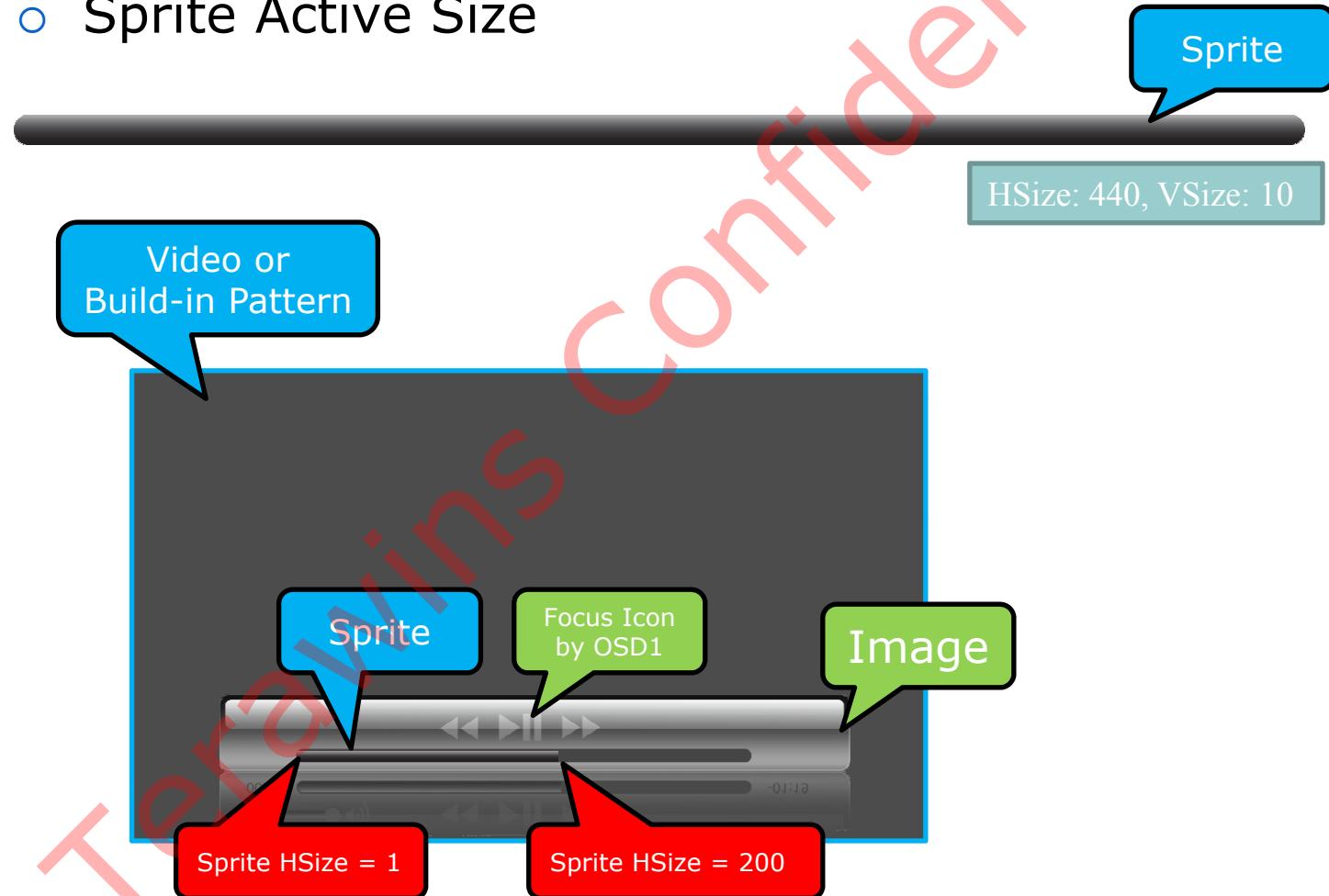


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# SPIOSD Advanced Effect(4/4)

- Sprite Active Size

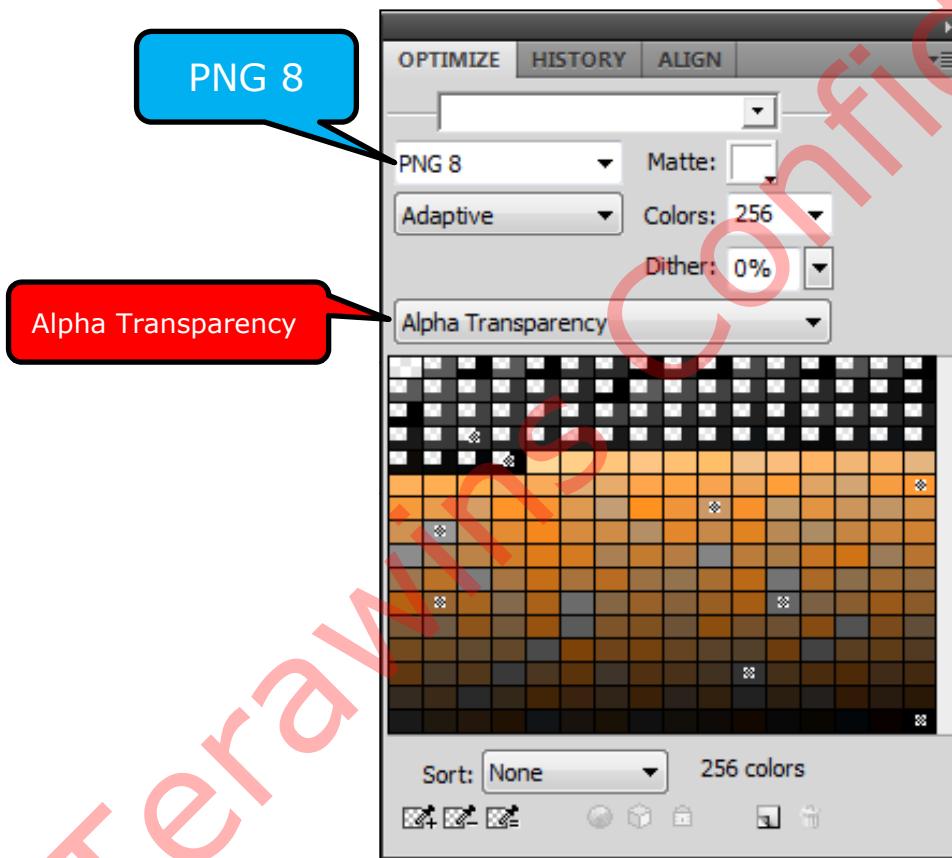


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# SPIOSD Development Tool(1/2)

- Adobe Fireworks

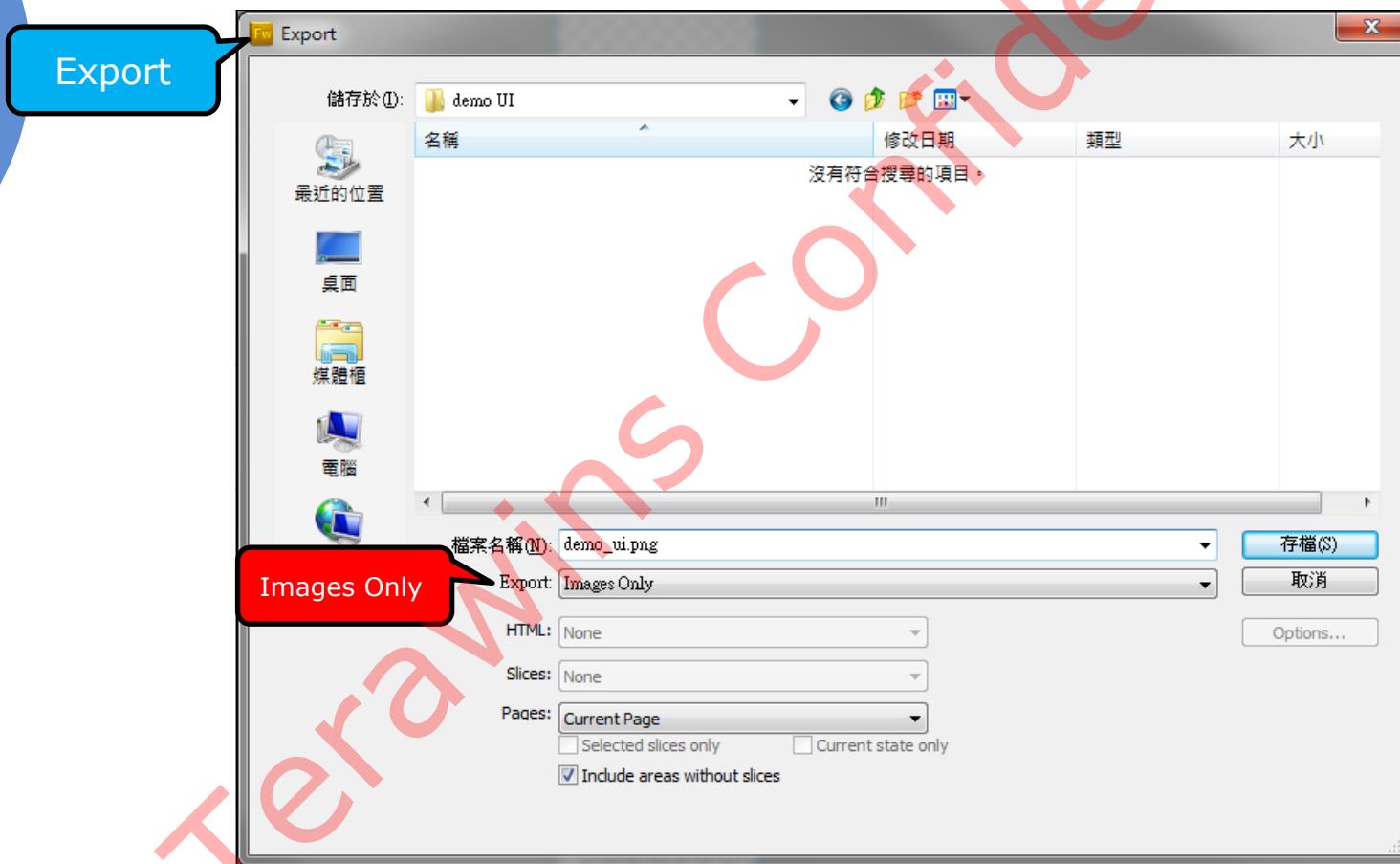


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# SPIOSD Development Tool(2/2)

- Adobe Fireworks



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