



The absolute opposite of ordinary

S902 Datasheet

4K Quad View Event Controller

4x HDMI 2.0 input and dual UHD outputs

*Maximum input: 4096*2160 @60Hz, 4:4:4 chroma sampling*

With the same or different display Windows in each output

Multiple display windows with flexible image size, cropping, location and overlap

Seamless switching in single or multi-view display modes

Image Fade in, Fade out, Dissolve, Wipe & Blending

True 10-bit processing and up/down scaling

Full screen customized background

Image alpha blending

Allow Editing and Preview different layout while live time playback



E-mail: sales@vnstw.com

Tel: +886-2-2792-2819 Mobile: +886-935-678-033

Skype: vns-inc, Version: 2.03

Website: www.vnstw.com

Introduction

The S902 is a 4x2 UHD Quad-View processor that allows users to display up to four 4k/60 sources simultaneously on one or two UHD displays. This device offers a highly flexible and cost-effective solution for routing up to four 4k/60 sources to two separate displays simultaneously. Users can choose from 12 default multi-view layout presets and 20 custom Profile Presets to customize their display mode. Allow editing and preview different layout while live time playback

Each output display shows up to 4 Windows with real time flexible layout. Each window input source, size, scaling, positioning, cropping, overlap priority and color correction can be flexibly adjusted at real time through IR controller, SCT PC tool and WebUI. PIP/POP and Overlapping are included.

Featuring 4 HDMI 2.0 inputs and 2 HDMI 2.0 outputs, the S902 supports CEA video standard timings up to 4096*2160 @60Hz with 4:4:4 chroma sampling. Each output port can accommodate up to 4 windows, with each window capable of selecting an input source from any input port. Quad

Users can prioritize display windows when they overlap and select one or multiple windows with the same configuration for any output port. The device offers alpha blending and 16 transition modes, including high speed seamless switching, Fade-in, Fade-out, Dissolve, and Wipe, with selectable duration for transitions. It integrates HDMI embedded audio, RCA SPDIF digital audio, and analog 3.5mm R/L audio jack R/L, allowing users to assign audio from input ports to each audio output port as needed. User can capture full color 4k image as background or add logo with any size at any position.

Customized background and image alpha blending are embedded. The background image resolution can be up to 4k2k/60Hz. Users can select background image from PC or any display Window. One programmable basic background color and 3 selectable background images can be stored in the system.

Control options for the unit include IR controller, front panel push button, USB, SCT PC Tool, WebUI, and Ethernet (including UDP), providing versatile control methods for various applications. Users can recall up to 20 custom Profile Presets through different control systems. Designed for continuous operation in a 24/7 environment, the S902 offers easy configuration, low entry barriers, cost-effectiveness, reliability, and flexibility for a wide range of applications.

Application

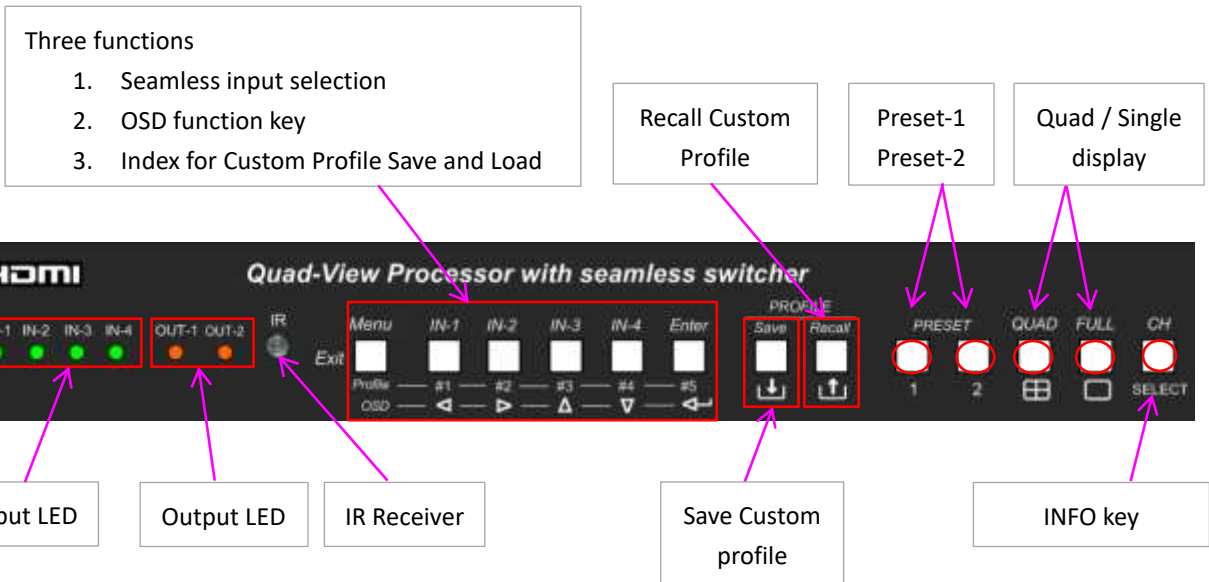
- Front end processor for large display, such as LED, edge blending system and video wall.
- Digital signage
- Security & surveillance systems
- Education
- Conference room

- Presentation halls
- Video content post production
- Video editing studio

Outlook

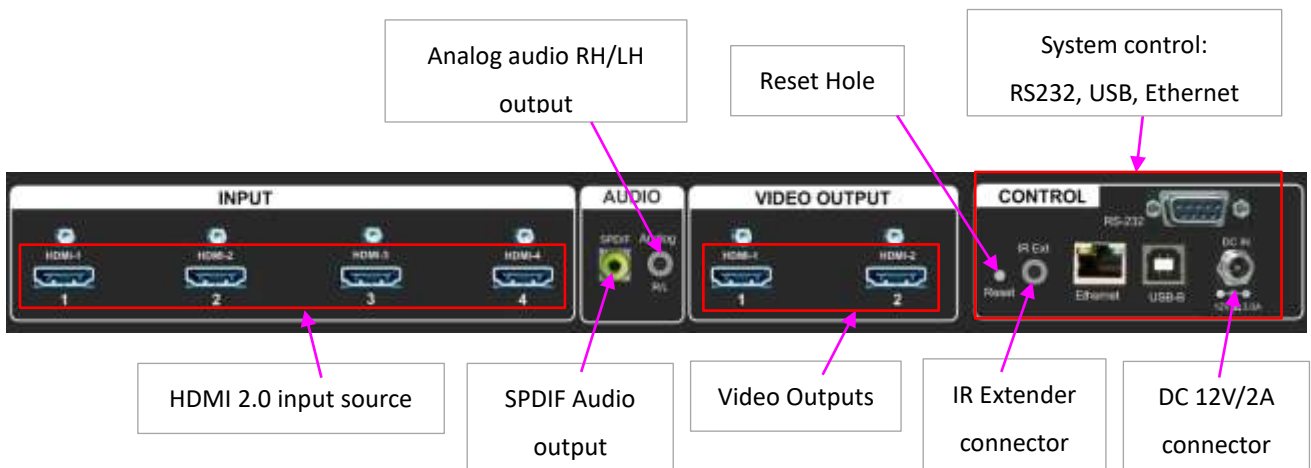


Front panel



Back panel

User can connect signal source to any of the input ports for two output ports.



Specifications

- ✧ Input ports: 4x HDMI 2.0. Max. input resolution: 4096*2160 @60Hz.
- ✧ Supports interleaved and progressive RGB/YUV input signals with 4:2:0/4:2:2/4:4:4, 8/10-bit color.
- ✧ Supports VESA/CEA standard video timings with high end scaling up and down up to 600 MHz.
- ✧ Two simultaneous HDMI 2.0 output with the same output resolution up to 4096*2160 @60Hz, shared the same signal sources and display Windows. Two outputs can select the same or different input signals.
- ✧ Each Window can select one input signal from any input port. The same signal source can be assigned to multiple windows.
- ✧ Each output display shows up to 4 Windows with flexible layout, window location, resizing, scaling, positioning, cropping, overlap priority and color correction. PIP/POP and Overlapping are included.
- ✧ User can set Overlap priority in each output port separately.
- ✧ If two output ports select the same display Windows, it will show the same Window setup. If select different Windows, user can adjust Window setup independently.
- ✧ Support alpha blending, 16 Transition effects including Seamless, Fade-in, Fade-out, Dissolve and Wipe. Only Fade-in/Out is functional in multiple Windows mode switching.
- ✧ Quick seamless switching in source selection and display mode switching.
- ✧ Output format: selectable among RGB444, YUV444, YUV422 and Deep color (8-bit or 10-bit).
- ✧ HDCP: V2.2/V1.4 compliant.
- ✧ Support xvYCC 8/10/12-bit wide color gamut input signal processing.
- ✧ 1-2 frame latency based on different application: 16.7ms-33.3ms (V=60Hz)
- ✧ Preset 14 output timings and 12 EDID from XGA to 3840*2400 @60 for each input port.
- ✧ Support 24/25/30/50/60/59.94Hz input/output refresh rate.
- ✧ Selectable OSD transparency and turn-off time.
- ✧ Image freeze, flip and upside down.
- ✧ Designed with Alpha Blending function and full color background image.
- ✧ While playback one Profile, SCT [Live and Edit] mode allow preview or edit other Profile at the same time.
- ✧ Box ID # from 0-99 for multiple boxed individual control.
- ✧ Standby mode when no input signal is detected.
- ✧ 12 system presets and 20 custom Profile presets. The preset includes transition effect.
- ✧ Selectable high end video processing: 3:2/2:2 cadence, diagonal correction and noise reduction.
- ✧ High quality scaling engine for image scaling up and down in the range from XGA to 4k/2k.
- ✧ 3D motion adaptive de-interlace for interlaced input.
- ✧ Programmable background with customized picture and logo.
- ✧ Embedded HDMI audio, SPDIF digital and analog R/L 3.5mm Jack audio outputs (abstracted from SPDIF audio). Each output can select independent audio signal source from the input ports.
- ✧ Control: Front panel keypad, IR remote controller, RS232, Ethernet (including UDP & WebUI), USB and SCT PC Tool.
- ✧ ESD Protection: ±15kV (Air-gap discharge), ±8kV (Contact discharge)
- ✧ DC power supply: DC adapter: 12V 2A (100V-240V), max. Power consumption: 22.5W, standby: 1.9W
- ✧ Working environment: 40 ° C, 10-90% RH
- ✧ Dimensions (Body only): 440mm*160mm*41mm (without protruding parts).
- ✧ Weight: 2.4kg (body only)
- ✧ CE/FCC/RoHS Certified
- ✧ 2 Year Warranty, extension package is available up to 5 years.

System Connection

There are 4 display windows in S902. Each window can select signal from any input port. Each output can display up to 4 windows. Each window can be located at any position with flexible resizing, cropping, aspect ratio, color correction and overlap priority setting. The Window displayed in two outputs needs to be the same Window setup.



Window Overlapping and priority setting



- 4 display Windows can be location at any location with overlapping. User can select the layer overlap priority in each output separately.
- Default aspect ratio is 16:9 in each window. User can select free aspect ratio or 16:9 through: Window Setup→ Scaling→ Ratio→ Full (or Aspect) in OSD menu. SCT is available for quick selection under Display→Window Setup Menu.

TRANSITION / DURATION

- 19 transition effects are built in the processor. It includes Quick Seamless, Fade in/Fade out, Dissolve Wipe and alpha Blending.
- Transition effect only implemented during input source or display mode change.
- Each effect can select different duration.
- User can save Transition setting in Custom Profile mode together with input selection and Window configuration. When selects this Custom mode, user will see Transition effect.
- Fade-in/Fade-out can be executed in both single and multiple Windows display modes. Dissolve and Wipe transition modes can only be executed with single Window display.
- The duration range in different Transition modes may be different.

Image alpha blending

- More than two windows can be Alpha Blending. When implement alpha blending, user still can implement Window setup including resizing, cropping, positioning and color adjustment.

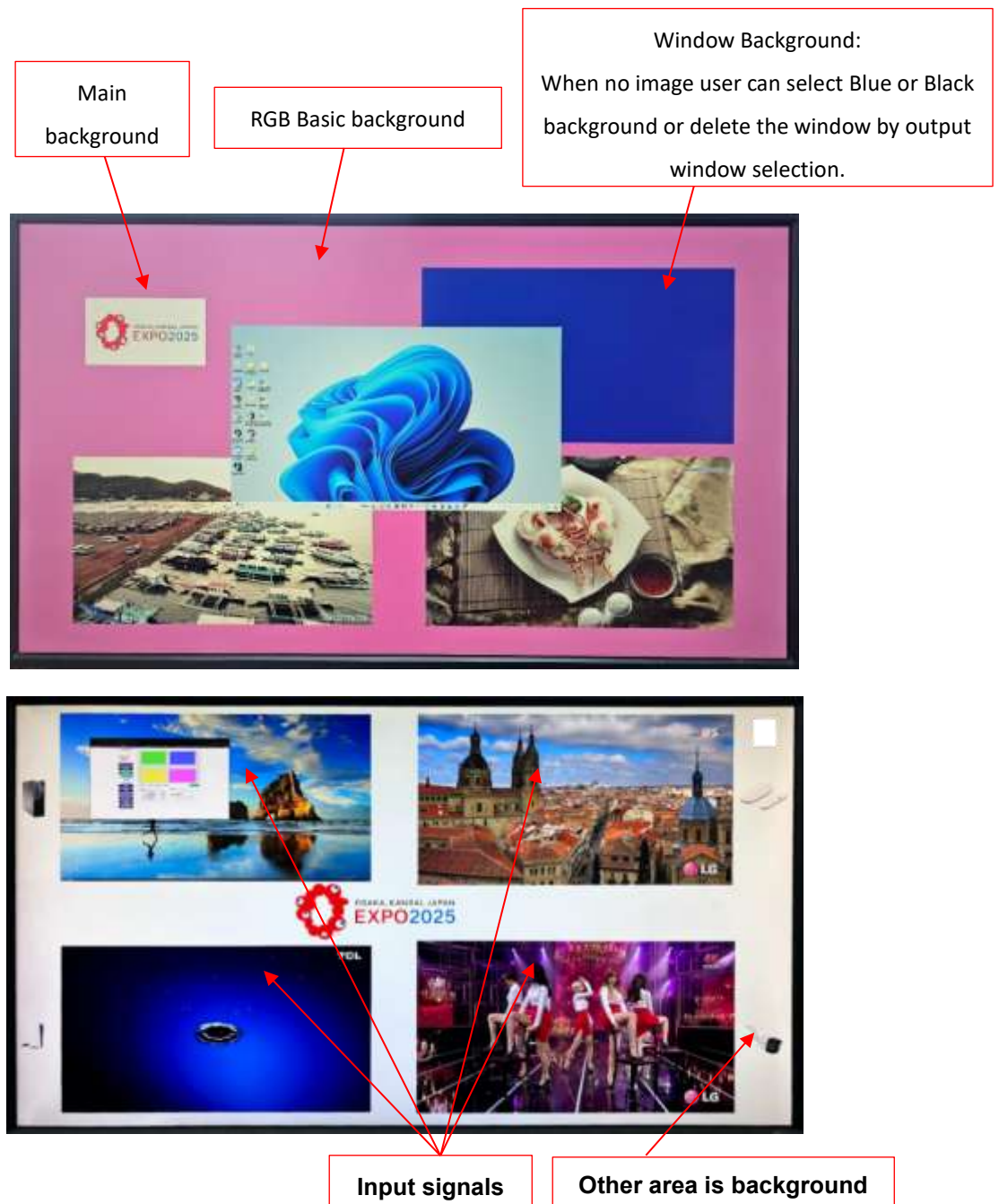


Background

- Background source can be still image or video with resolution up to 4096*2160.
- The final image for background will be image with RGB656 (65,536 color).
- Maximum Background number:

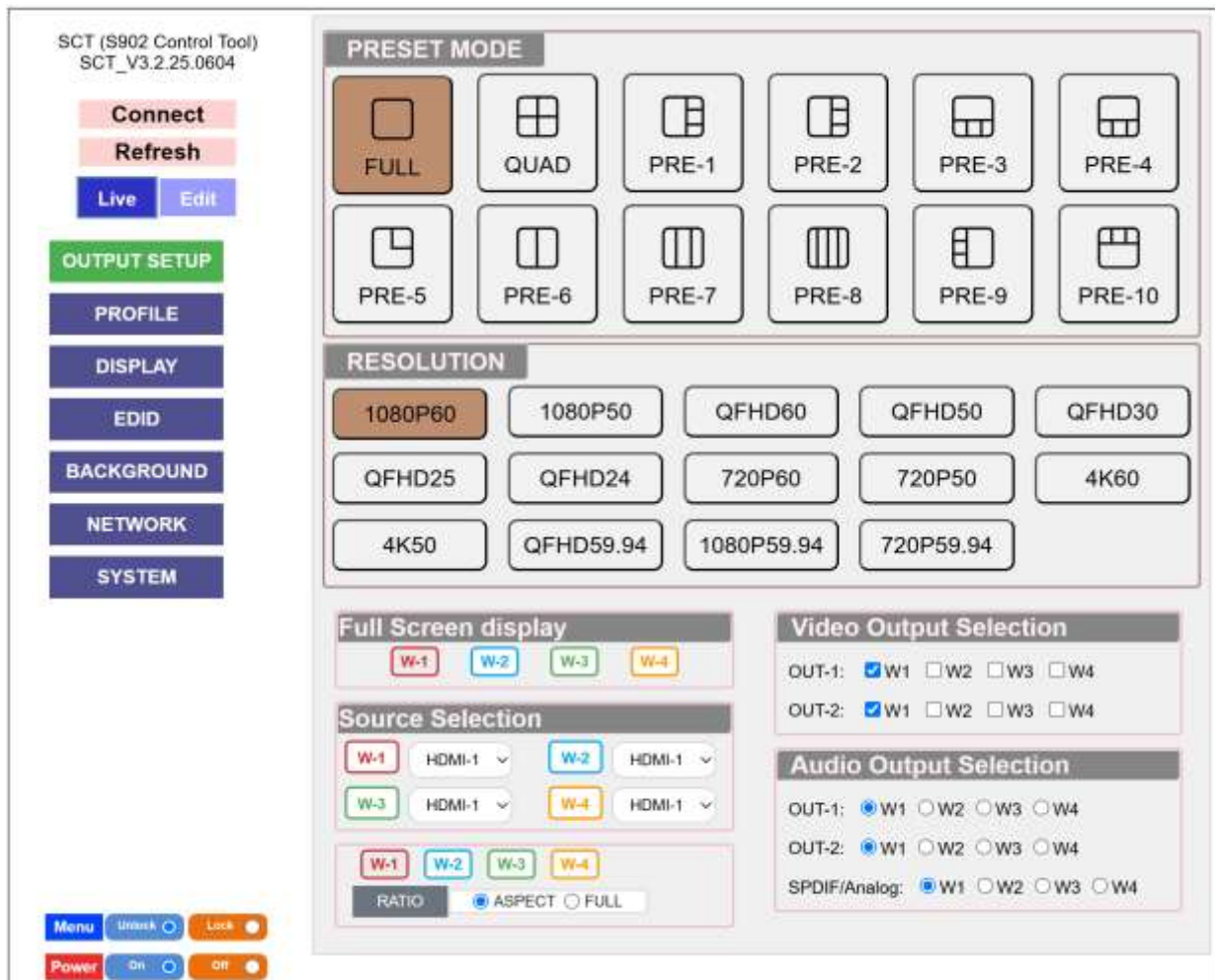
Besides Display Windows, maximum 3 possible background colors in the screen.

- a. Basic Background: created by Background RGB menu. It will cover whole screen.
- b. Window Background: Blue or Black in non-content area in each window.
- c. Main Background (Image or picture): any image captured from Display Window (either still image or video) or upload from PC (still image). It can be up to 4k2k full screen.



Open S902 Control Tool (SCT) and WebUI (SWCT)

- **SCT Tool**
SCT is a PC tool to control S902 through USB port.
- **WebUI or S902 Web Control Tool (SWCT)**
User can also use all kind of Web Browser and S902 IP address to access WebUI and control S902.
- Both SCT and SWCT outlook and functions are similar.

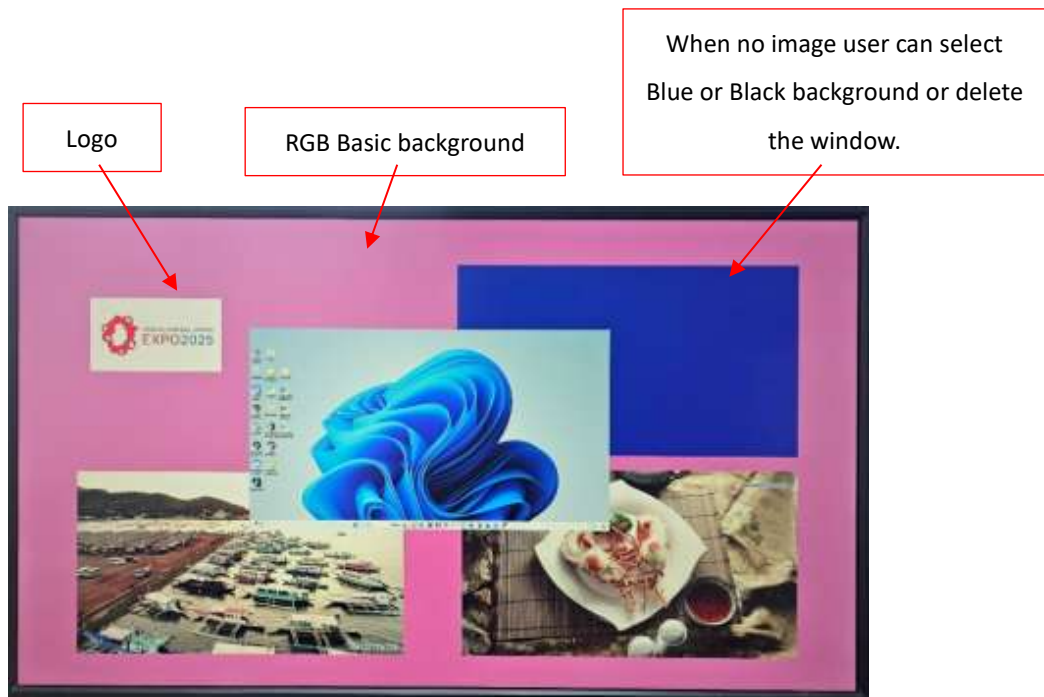


LIVE & EDIT modes

- SCT has two operation modes for user to Edit the same or different Custom profile while one Profile is showed on the screen.
- When user selects Edit mode, one Custom Profile window will show up. User can select any Custom profile and open [Display→Window Setup] window to see the layout and execute further editing.
- After editing, user can save the result to the same profile or another custom profile Index.
- After return to Live mode, user can select Custom Profile and see the result.

Background

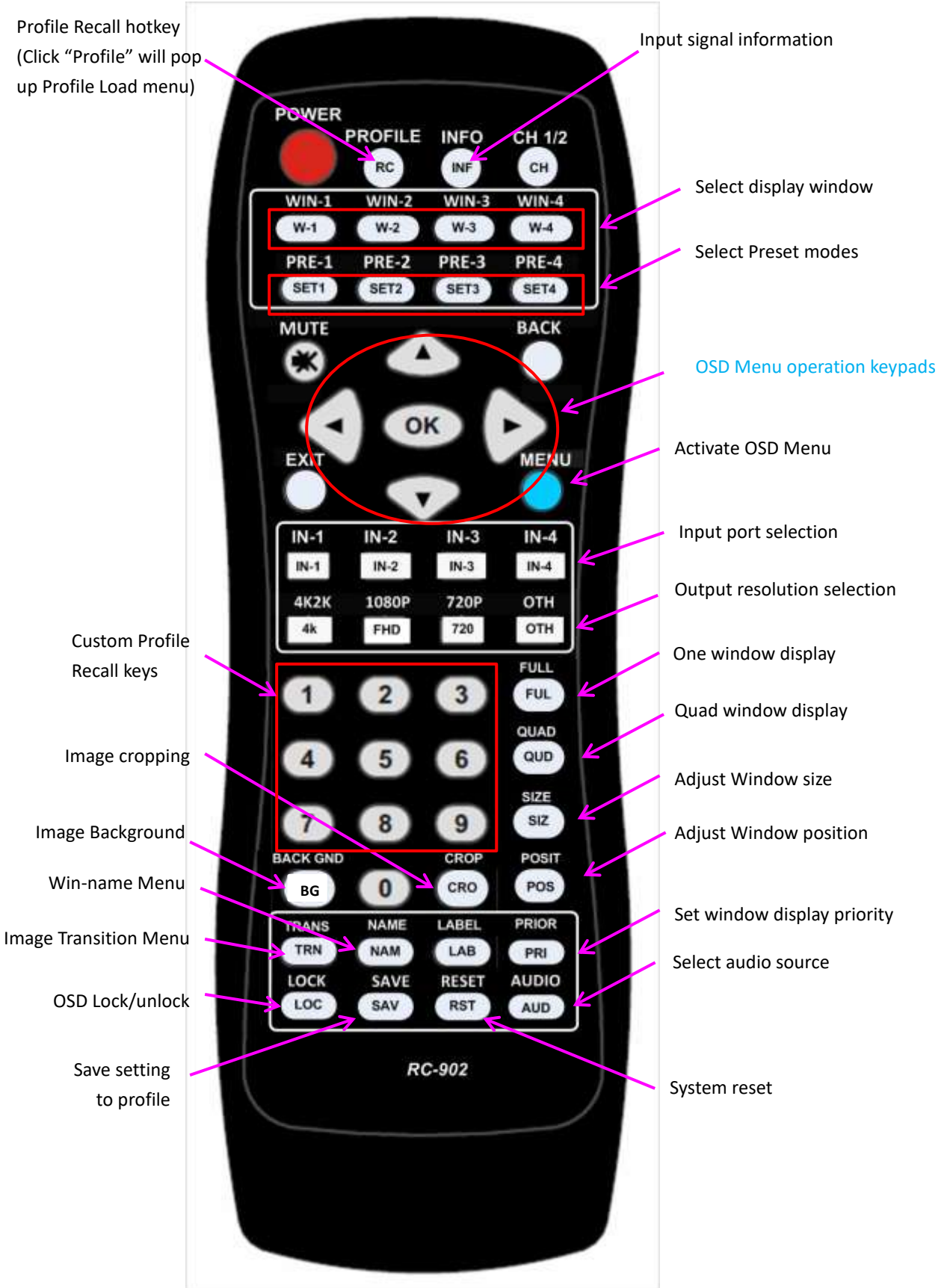
- Background source can be still image or video with resolution up to 4096*2160.
- The final image for background will be still image with RGB656 (65,536 color).
- **Maximum Background Color:** Besides Display Windows, there are maximum 3 backgrounds in the screen.
 - d. Basic Background: created by Background RGB menu.
 - e. No image Window: Blue or Black
 - f. Background Image or Logo: any image captured from Display Window.



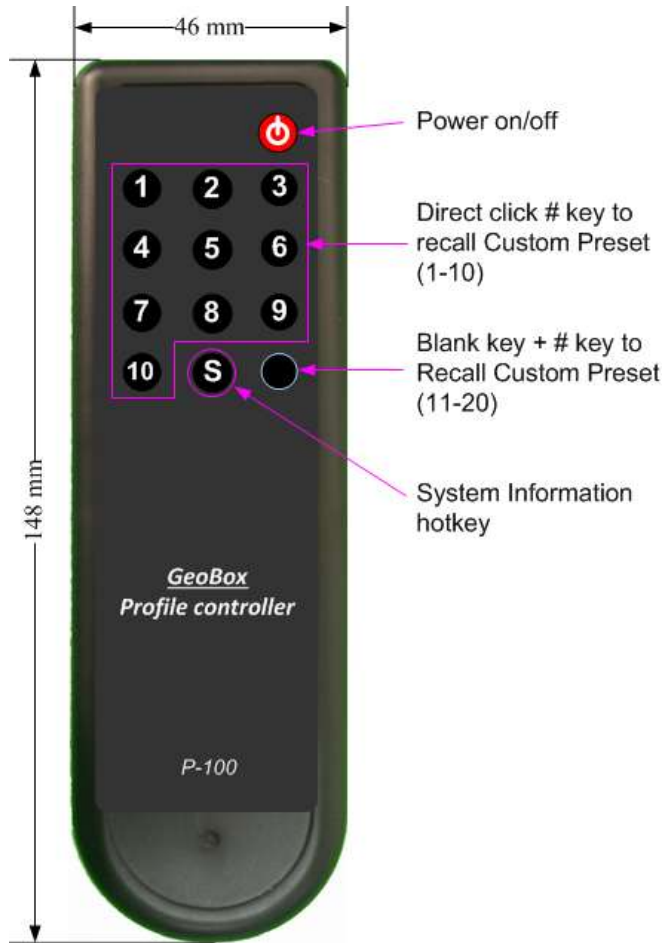
- Application example:



RC-902 Controller for system Setup



P-100 Controller for User Preset modes recall (Optional)



- Directly click number keys 1-10 will recall Custom Profile 1-10.
- If click Blank key first, then click other number key, it can recall Custom Profile 11-20.
- Click "S" key will pop-up Input/Output information.

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