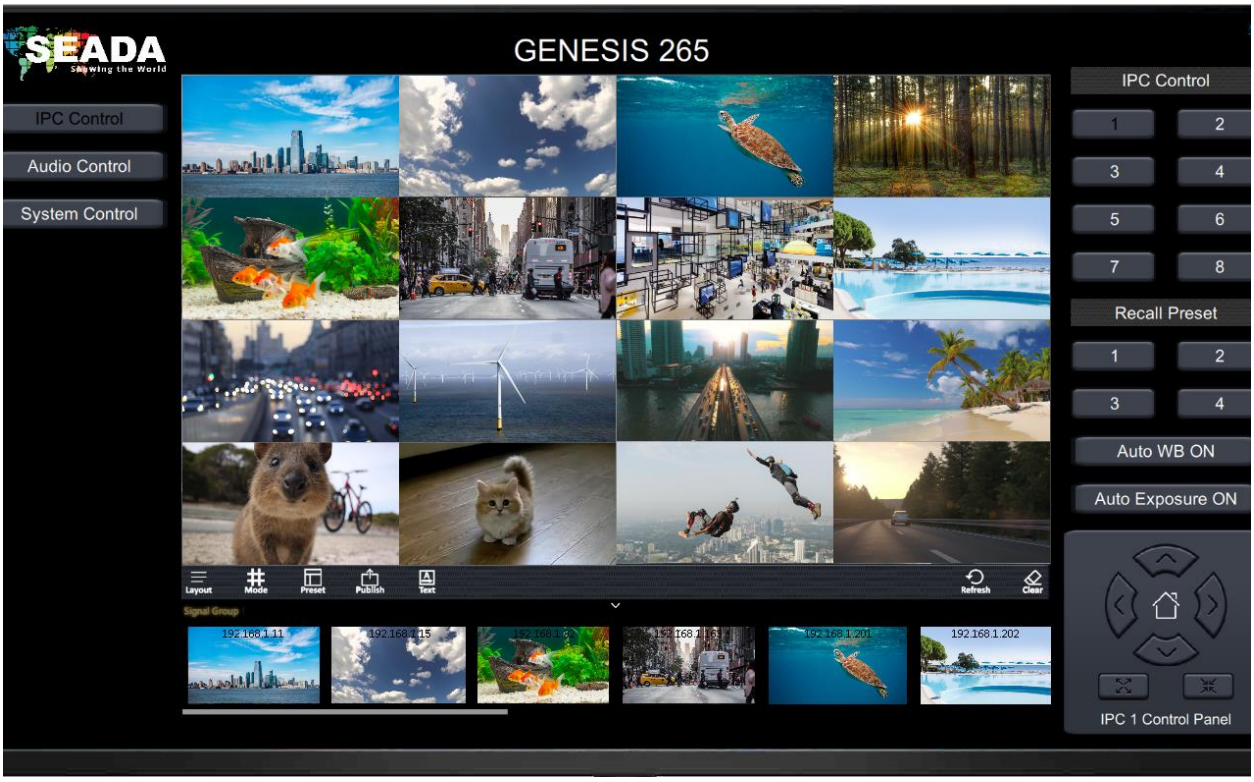
GENESIS™265 User Guide

This user guide provides instructions for setting up SEADA GENESIS™265 using the G265 UMPlatform, G265 Designer Software and G265 Client.



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1. G265 Introduction

1.1. G265 Overview

The GENESIS™265 (G265) Transceivers (encoder and decoder in one unit) are designed to transmit video and audio over standard Gigabit Ethernet with low latency and high image quality in real-time.

As a decoder, with its unique decoding ability to decode up to 16 IP streams, the G265 can be used as multi-viewers or matrix switchers incorporated with RTSP IP sources for applications in security, conference, corporation, university etc. Its state-of-art management software enables 'drag and drop' resulting in unlimited IP decoding on single unit.

As an encoder, G265 can offer features like content cropping, OSD, source marking which makes it more flexible for all sorts of applications.

Thanks to its standard H.265/264 protocol and low bandwidth requirement, The G265 can work with the existing network infrastructure which means there are no needs for dedicated cabling.

1.2. Key Features

- Fanless design, no moving parts
- Supports H.265/264 for high quality AV-over-IP
- Supports multi-view and matrix switching
- Supports inputs any size, anywhere on screen
- Supports PoE
- Supports both digital and analog audio
- Supports RS232, RS485, IR, Relay and I/O
- Supports up to 3840 x 2160
- Supports up to 16 inputs per screen as decoder
- Supports up scaling and down scaling
- Supports scrolling text and OSD
- Supports input content cropping
- Supports drag and drop
- Supports marking on source
- Supports custom desktop background image
- Supports input signal real-time preview
- Supports working with 3rd party RTSP decoders
- Supports 3rd party RTSP sources (e.g., IP camera) decoding/displaying
- Supports Multicast
- Supports preset layouts
- Low latency

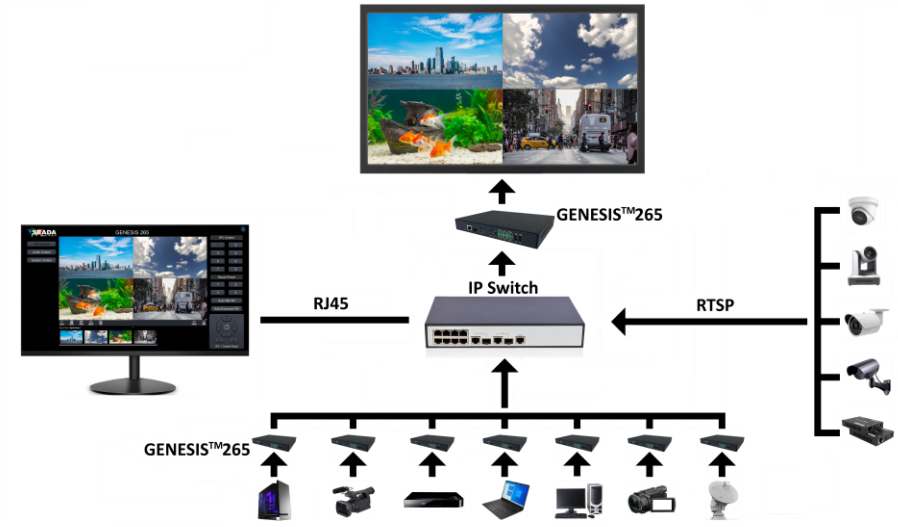
1.3. Specifications

Input / Output Protocol	RTSP
Output Format	H.265/H264
RS232 Connection	Phoenix connector
Power Supply	12DC from main power adapter or PoE
Audio Input / Output Connector	Phoenix connector
Audio Input Format	Unbalanced
Operating Temperature Range	0~40 degrees centigrade
Operating Humidity Range	10%~90% non-condensing
Storage Temperature Range	-20~60 degrees centigrade
Storage Humidity Range	10%~90% non-condensing
Cooling	Passive cooling
Warranty	2 years

1.4. Models

Models	G265HDRT	G2654KRTF	G2654KRTP
Type	Transceiver	Transceiver	Transceiver
Video Input	1 x HDMI	1 x HDMI	1 x HDMI
Maximum Windows per Screen	4	16	16
Video Output	1 x HDMI	1 x HDMI	1 x HDMI

1.5. System Diagram



2. Connection Setup

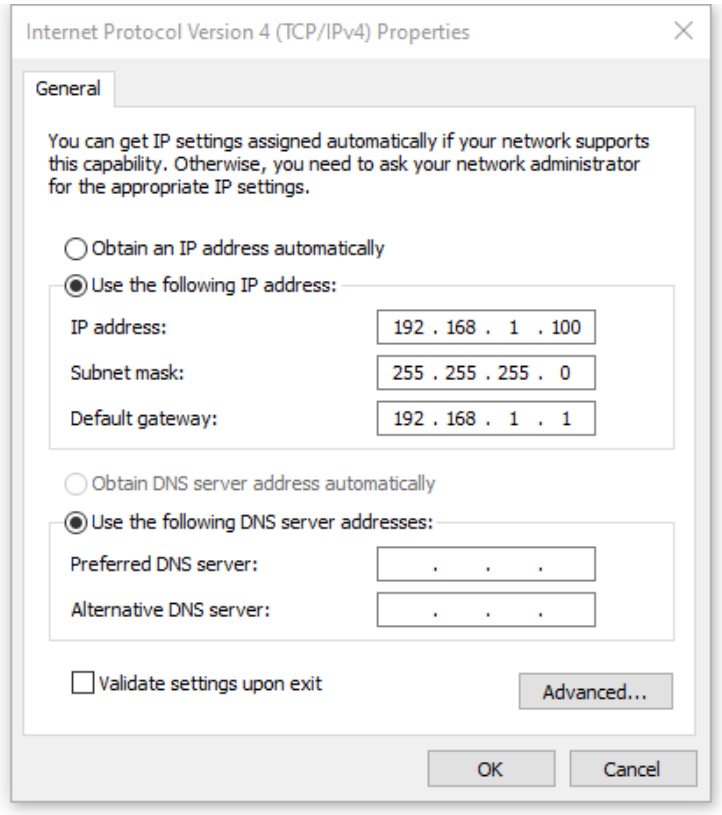
2.1. Set up the G265 transceiver

Before starting up, user first needs to set up the G265 transceiver. The steps will be as follow:

1. Use CAT6 (or higher) to connect G265 transceiver with an IP switch supports PoE (optional).
2. Check the switch on the back of device and ensure it is on TX for encoders and RX for decoders.
3. Connect '**HDMI output**' on G265 decoder to an output, such as a screen, with an HDMI cable.
4. Connect input sources, such as media players and PCs, to '**HDMI input**' on G265 encoders.
5. Connect any 3rd party RTSP IP sources, such as IP cameras and 3rd party encoders, into the same IP switch as the G265 transceiver with CAT6 (or higher).
6. Connect any other 3rd party devices to the G265 transceiver, or to the IP switch.
7. Connect the control PC to the same IP switch as the G265 transceiver.

2.2. Ethernet (LAN) connection with the control PC

The default static IP address of the G265 transceiver is **192.168.1.208**. User needs to change IP address of the control PC to a static IP address and the same network segment as the device at TCP/IPv4 in '**Ethernet Properties**'.



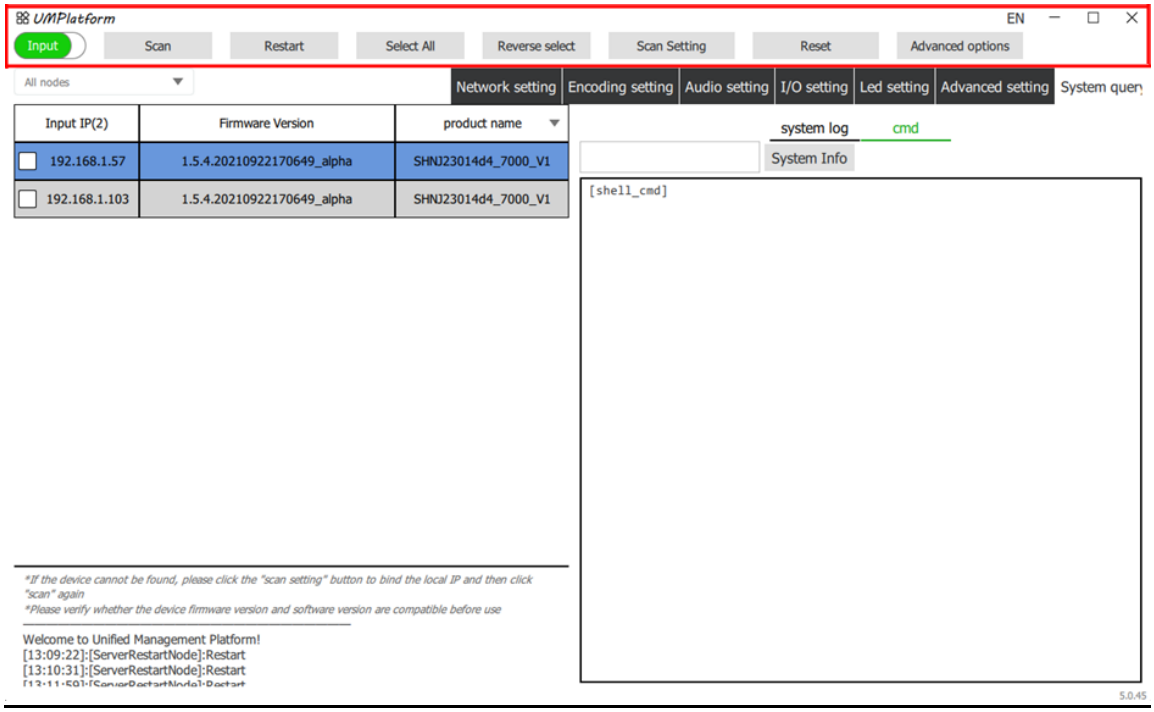
- **IP address:** any address between 192.168.1.2 and 192.168.1.254 except the address which has been taken by the G265 transceiver.
- **Subnet Mask:** 255.255.255.0
- **Default Gateway:** 192.168.1.1

3. Config the G265 transceiver

Run '**G265 UMPlatform**', user can change parameters, such as the network setting and output setting, for the G265 transceiver if necessary.

3.1. Main Tabs:

This tab provides basic functions to operate the G265 transceiver.



Input/Output: Switch between the list for the encoders and decoders.

Scan: Scan and display all G265 transceiver under the current Input/Output list.

Restart: Restart all the selected devices.

Select All: Select all the devices in the current Input/Output list.

Reverse Select: Reverse-select the devices in the current Input/Output list.

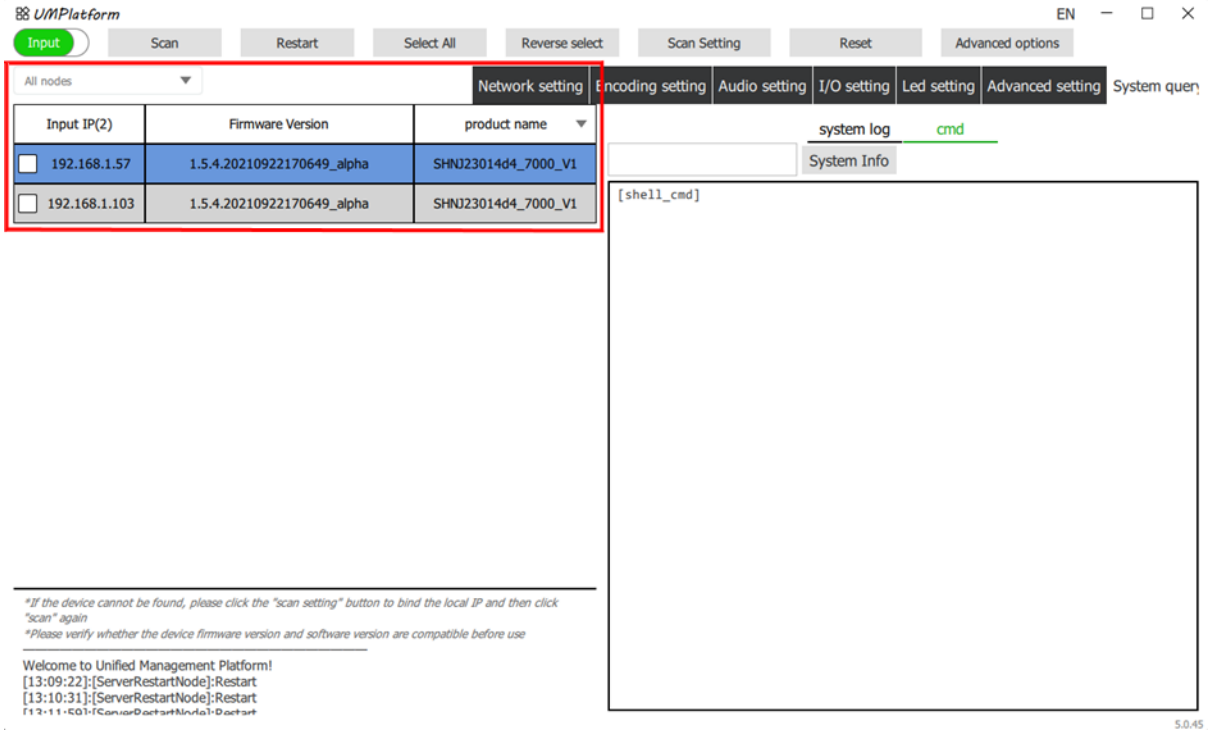
Scan Setting: Bind the local IP address of the control PC to scan the devices. If the device is not displayed in the list after pressing '**Scan**', use this button to bind the device and scan again.

Reset: Reset the selected device. The selected device must be restarted after being reset.

Advanced options: Gain access to additional functions for internal engineering use only.

3.2. Information-Tabs:

This tab contains information about the G265 transceiver.

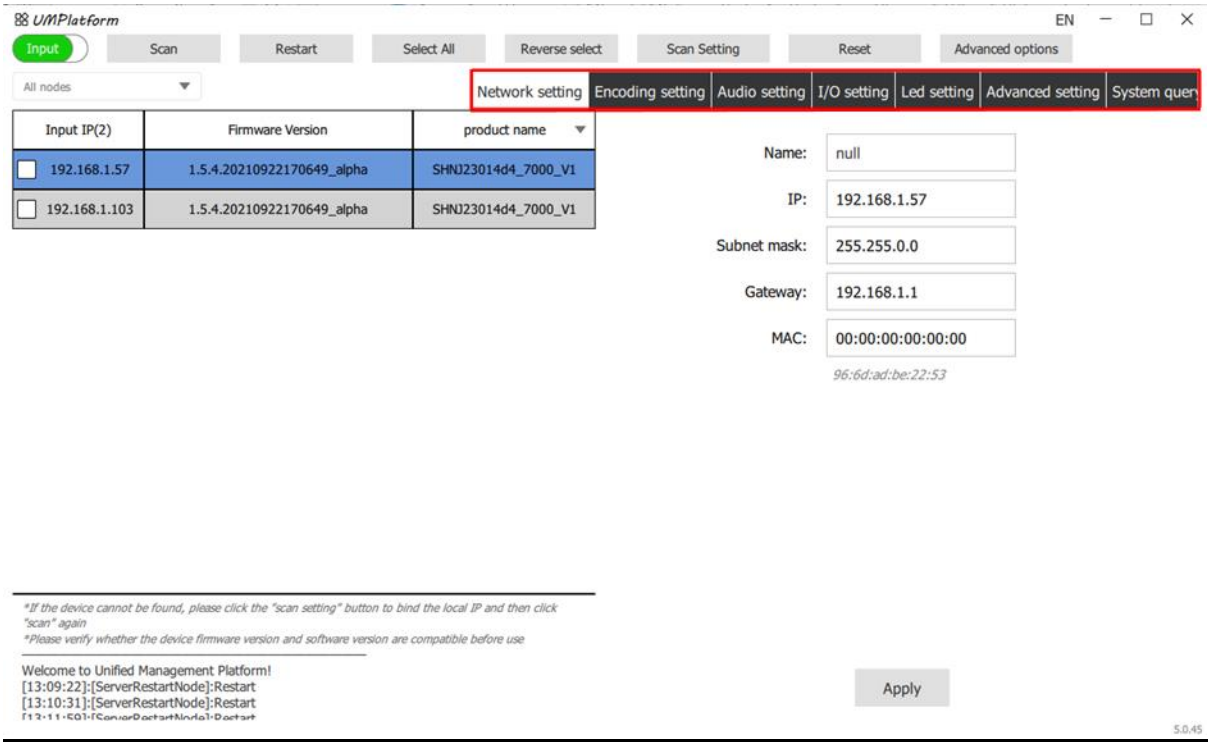


Input/Output IP: The IP address of the device.

Firmware Version: The firmware version of the device.

3.3. Sub-Tabs – Input (Encoder - TX):

This tab provides customised configurations for the selected encoders.



(Always click 'Apply' to apply modifications to the device)

To use G265 transceivers as RTSP encoders for 3rd party decoders, the mainstream address is **rtsp://192.168.1.208/0** and substream address is **rtsp://192.168.1.208/1**.

Network setting: Config the network parameters for the device, including name, IP address, subnet mask, gateway, and MAC address.

Encoding setting: Config settings for the mainstream and substream of the device.

Audio setting: Config the audio setting for the encoder. The default setting is '**3.5mm**', corresponding to the ports on the back of the device. User can change it to '**HDMI**' to use the HDMI port.

I/O setting: User can set up the encoder to control third-party devices. This includes system control via RS232, RS485, I/O, IR, TCP/IP, and Relay.

Led setting: Config the device for the use of LED screen.

Advanced setting: Config the functions of the selected G265 encoder.

- Multi-cast: Config multi-cast steaming.
- Loop out: Configure the signal from the loop-out device, such as brightness and sharpness.

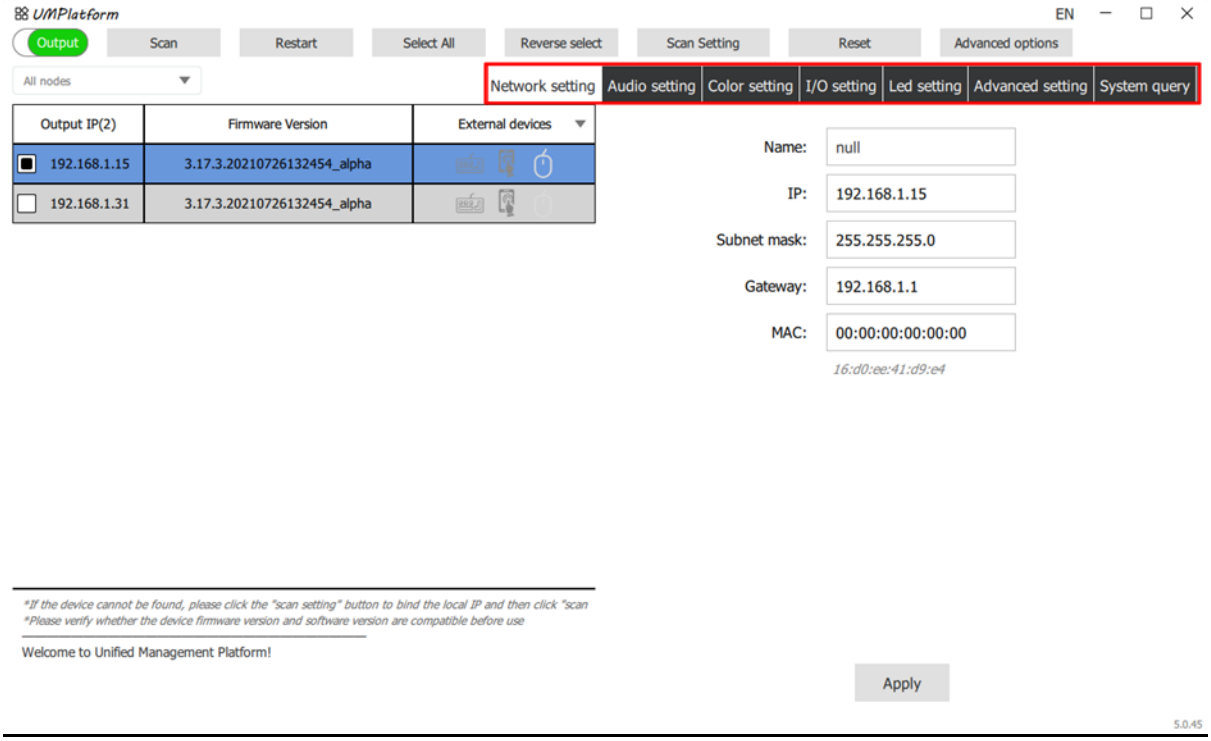
- Master-slave: Change the master-slave mode. Ensure that there is only one '**Master**' in both the encoders and decoders.
- Crop: Crop the input signal to any size.
- OSD: Add OSD onto the input signal.
- System Info: The information of the device. As '**Switch to output**' function is no longer being used, user needs to toggle the switch on the back of the G265 transceiver and restart it to switch between encoder and decoder.

System query: Display the system log of the selected device.

Firmware Update: Update the firmware of the selected G265 transceiver. Note that this function is only visible when the software is full screen.

3.4. Sub-Tabs – Output (Decoder - RX):

This tab provides customised configurations for the selected G265 decoder.



(Always click 'Apply' to apply the modification to the device)

Network setting: Config the network parameters for the device, including name, IP address, subnet mask, gateway, and MAC address.

Encoding setting: Config settings for the mainstream and substream of the device.

Audio setting: Config the audio setting for the decoder. The default setting is '**3.5mm**', corresponding to the ports on the back of the device. User can change it to '**HDMI**' to use the HDMI port.

I/O setting: User can set up the decoder to control third-party devices. This includes system control via RS232, RS485, I/O, IR, TCP/IP, and Relay.

Led setting: Config the device for the use of LED screen.

Advanced setting: Config the functions of the selected G265 transceiver.

- Decoding: Config the output signal.
- Master-slave: Change the master-slave mode. Ensure that there is only one '**Master**' in both the encoders and decoders.
- Functions: Only use this function to check whether the protocol version of the device is on '**scode**'.

- Background: Set up the background for the G265 transceiver when there is no content being displayed. User can also remove the background picture with this tab.

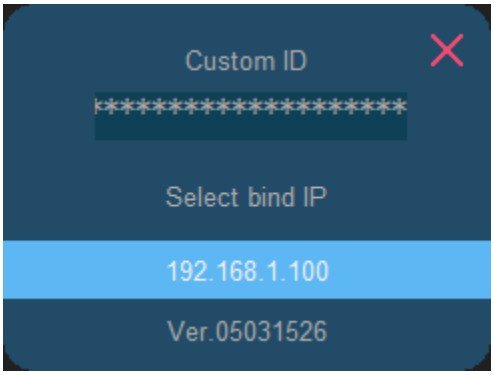
- System: The information of the device. As '**Switch to output**' function is no longer being used, user needs to toggle the switch on the back of the G265 transceiver and restart it to switch between encoder and decoder.

System query: Display the system log of the selected device.

Firmware Update: Update the firmware of the selected G265 transceiver. Note that this function is only visible when the software is full screen.

4. G265 Designer Software User Guide

4.1. Login Window



Double-click '**G265 Designer Software.exe**', the login dialog box will pop up and to login to the G265 Designer software, user needs to have the custom ID and choose the IP address of the control PC. The custom ID will be automatically filled when running the software.

Note that the custom ID should not be modified, otherwise the G265 Designer Software will fail to run.

PLEASE re-download the software package from our website (https://seada.co.uk/downloads) if above occurs.

Before login, user needs to change the IP address of the control PC to a static IP address and the same network segment as the G265 transceiver, **192.168.1.208**, at TCP/IPv4 in '**Ethernet Properties**'.

- **IP address:** any address between 192.168.1.2 and 192.168.1.254 except the address which has been taken by the nodes.
- **Subnet Mask:** 255.255.255.0
- **Default Gateway:** 192.168.1.1

After selecting the IP address of the control PC, user will be able to login to the G265 Designer software.

4.2. Designer Menu

This is the main menu of the G265 Designer Software and it contains all the functions supported by the G265 transceiver.

UI Design: Contain components to build up the User Interface (UI) for the G265 Client.

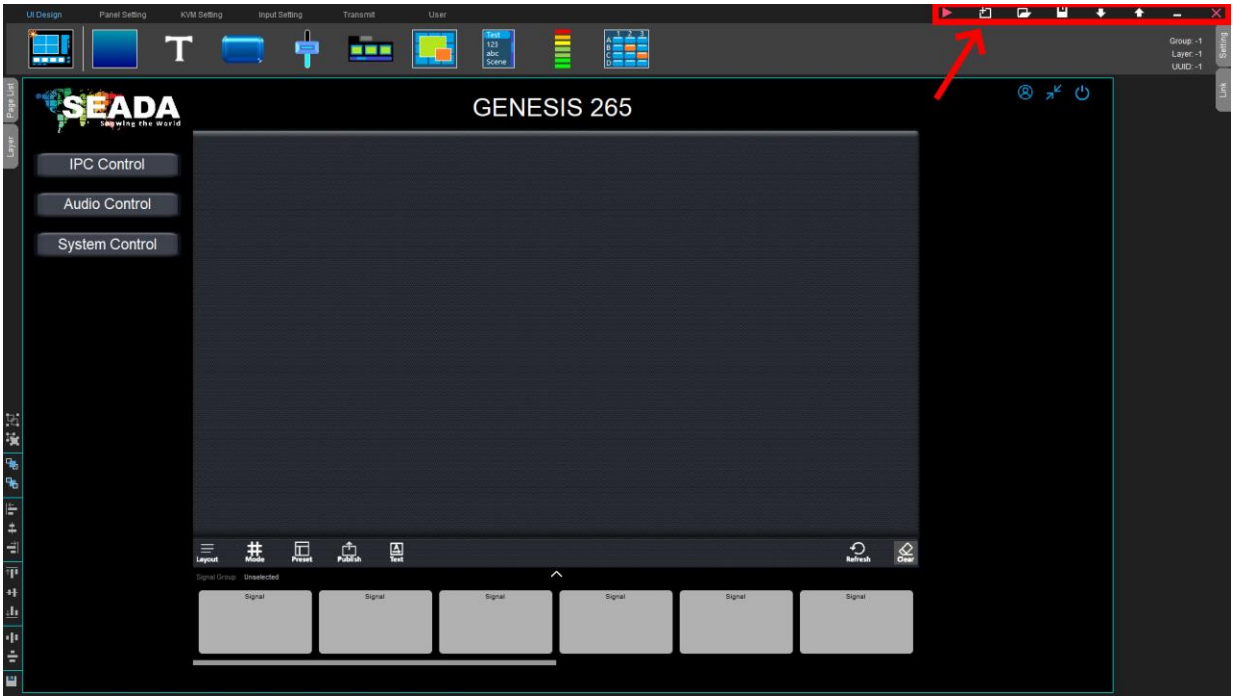
Panel Setting: Config the output panel and its audio settings.

Input Setting: Scan and manage input signals.

User: User management for the G265 Client.

4.3. Designer Tool Menu

This menu contains basic functions to operate the designer.



Run test: Enter the test mode to check the UI design of the software, such as page switching and button binding.

Note that this mode runs offline and is only used to check the UI design, such as page switching and button binding. Therefore functions that require the connection to the G265 transceiver, such as setting up the output panel and PTZ IP camera control, cannot be tested under this mode.

Clear then New: Clear the current UI design and create a new one.

Open: Open an existing design.

Save as…: Save the current design into a '**.txt**' file.

Download: Download the design from the connected G265 transceiver.

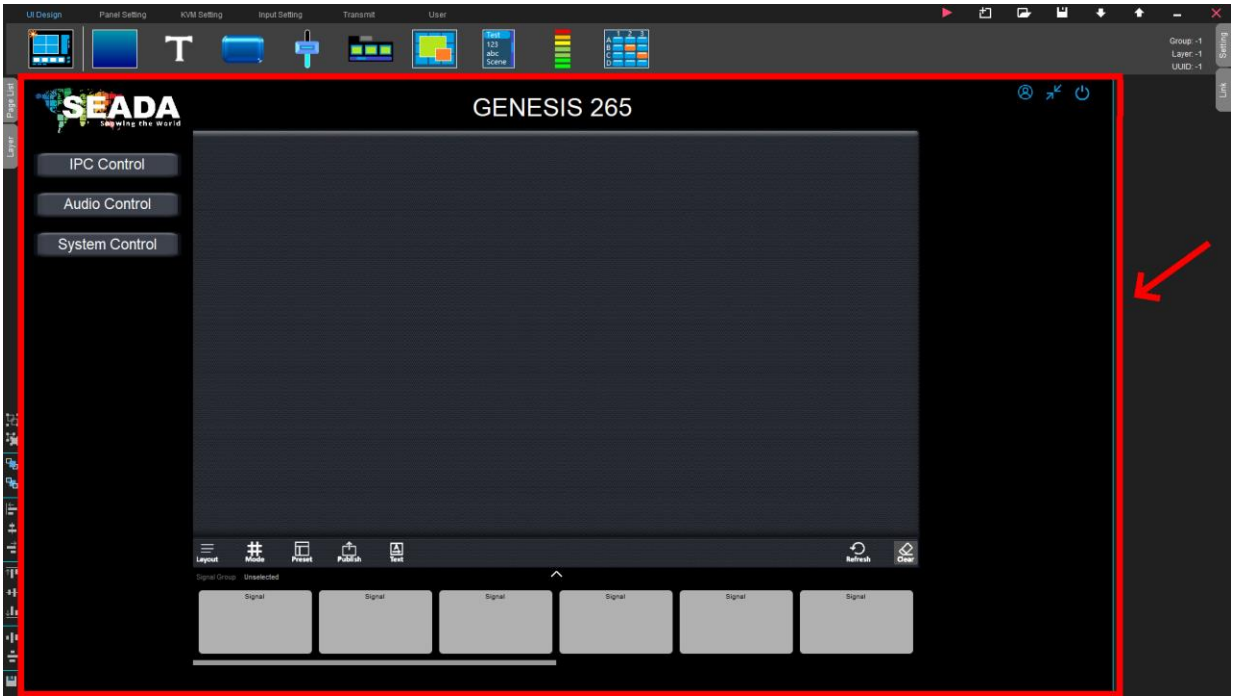
Upload: Upload the current design to the connected G265 transceiver.

Hide: Hide the Designer software.

Save then Exit: Save the current design and exit the G265 Designer Software.

4.4. UI Design Area

This is the area where UI components for the G265 Client are created. The layout of the UI in the G265 Client will follow the design in the '**UI Design Area**'. On the top-right of the area, there are three buttons: '**Logout**', '**Min**' and '**Exit**'. They are only accessible in the G265 Client for loging out, minimising and exiting the G265 Client.



4.5. UI Tool Menu

This menu contains operations that can be made to the UI components in the '**UI Design Area**'.

Merge: Merge the selected components into one group.

Cancel Group: Cancel the merge of the selected components.

Set Top: Set the selected component to the top.

Set Bottom: Set the selected component to the bottom.

Left Align: Align the selected components to the left.

Horizontal Center: Align the selected components horizontally centred.

Right Align: Align the selected components to the right.

Top Align: Align the selected components to the top.

Vertical Align: Align the selected components vertically centred.

Bottom Align: Align the selected components to the bottom.

Horizontal Array: Symmetrise the selected components horizontally.

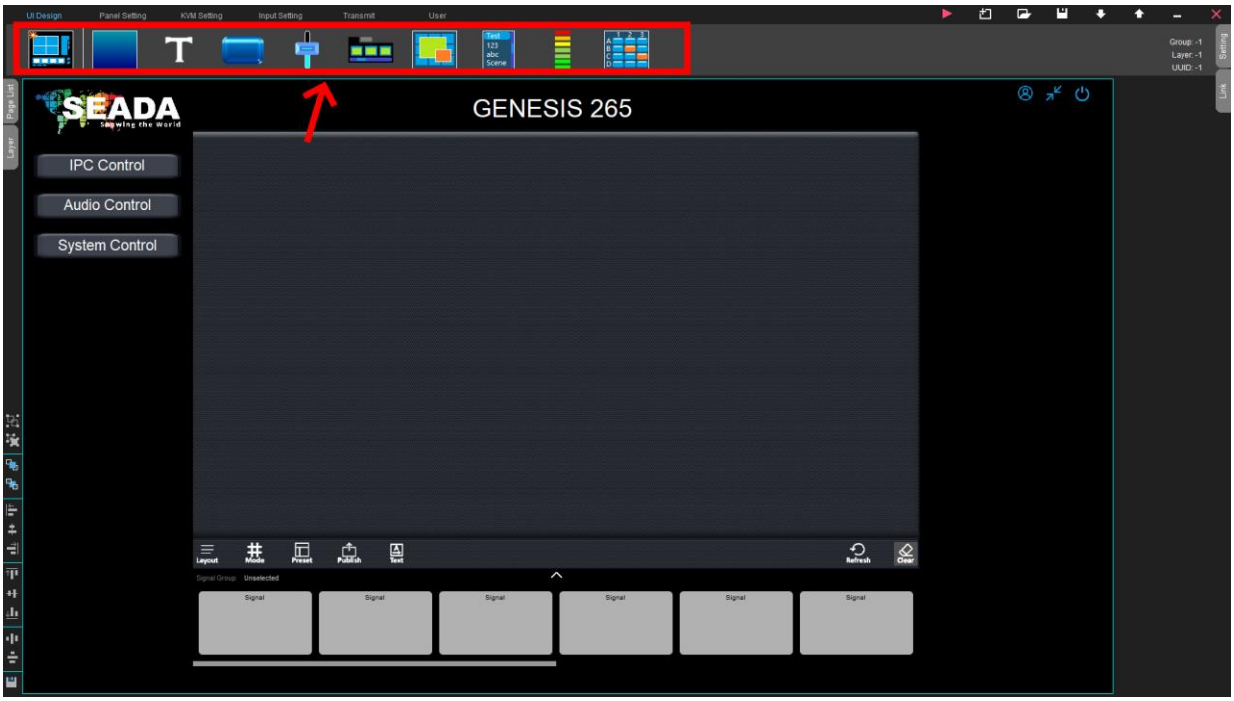
Vertical Array: Symmetrise the selected components vertically.

Export: Export the selected component as an '**.itm**' file and this file can be imported using '**Open**' in the '**Designer Tool Menu**'.

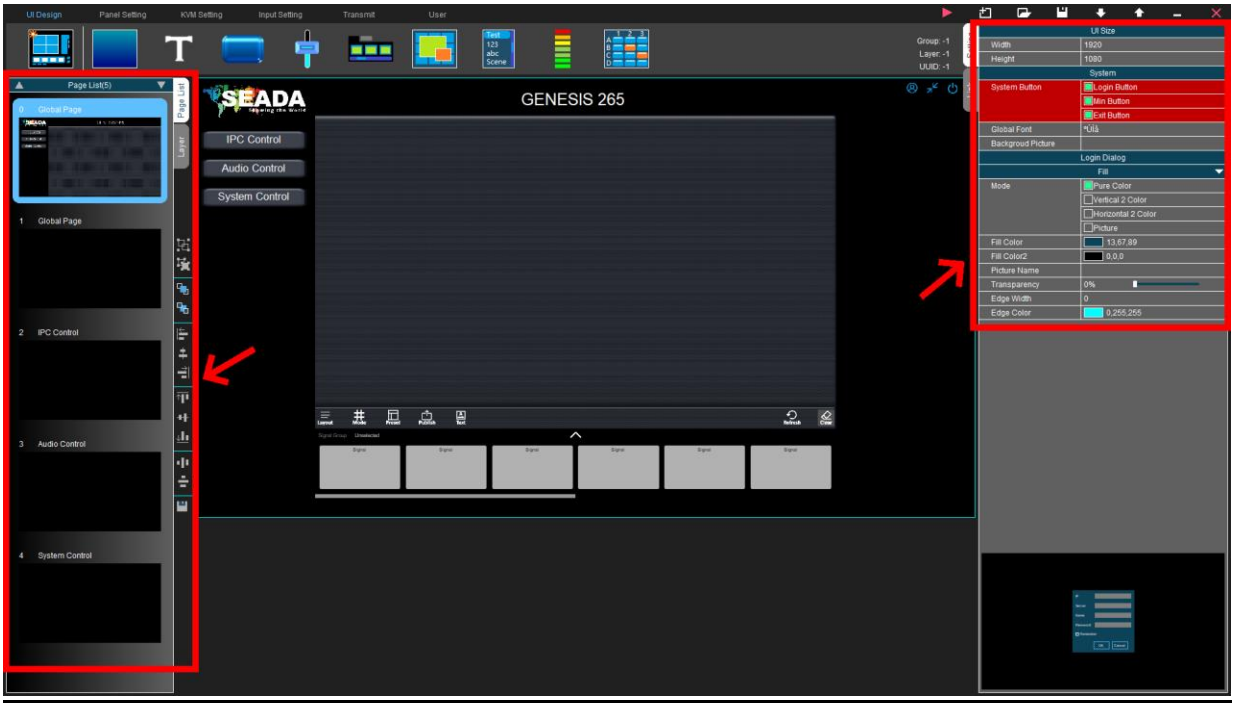
Note that the above functions can also be executed by right-clicking the components.

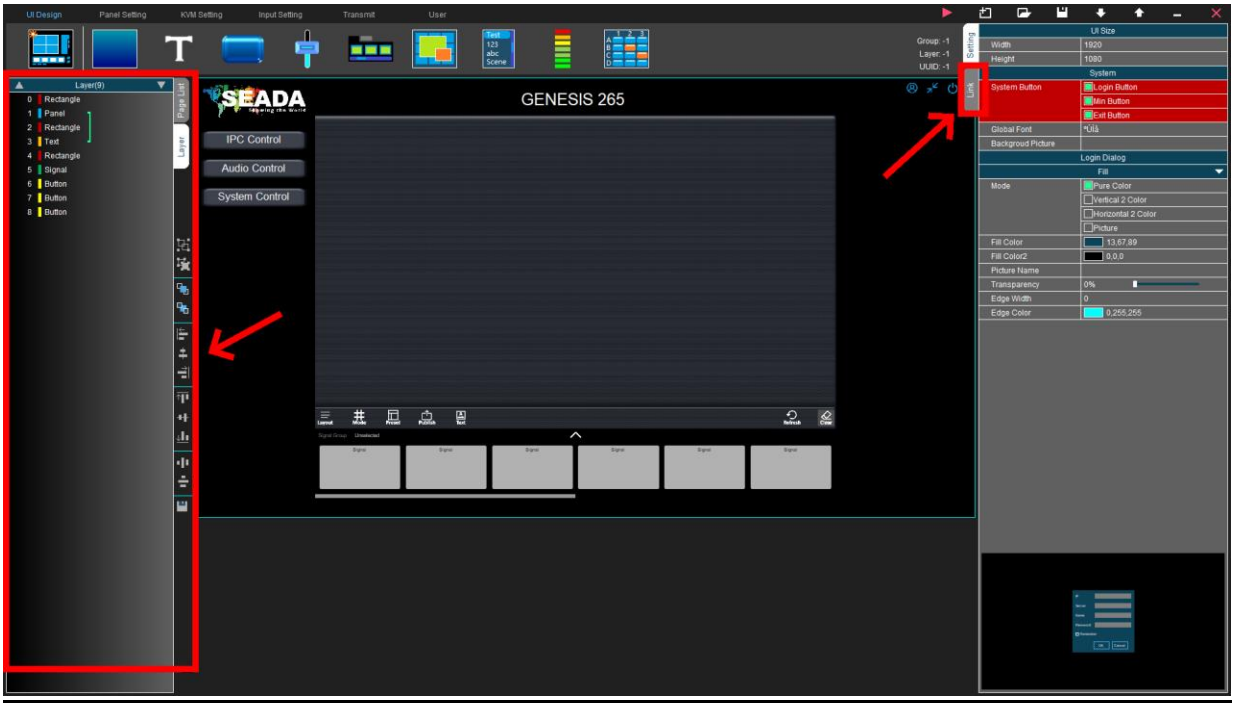
4.6. UI Design – UI Menu

This menu contains components to build up the UI for the G265 Client. Except '**New Page**', all components can be '**dragged&dropped**' onto the '**UI Design Area**' to be created. All the UI components can also be deleted by clicking '**Del**' on the keyboard after being selected.



4.6.1. New Page


UI Design
Panel Setting
KVM Setting
Input Setting
Transmit
User
Page List(5)
0 Global Page
1 Global Page
2 IPC Control
3 Audio Control
4 System Control
GENESIS 265
IPC Control
Audio Control
System Control
UI Size
Width 1920
Height 1080
System
System Button
Login Button
Min Button
Exit Button
Global Font
Background Picture
Login Dialog
Fill
Mode
Pure Color
Vertical 2 Color
Horizontal 2 Color
Picture
Fill Color 13,67,89
Fill Color2 0,0,0
Picture Name
Transparency 0%
Edge Width 0
Edge Color 0,255,255


UI Design
Panel Setting
KVM Setting
Input Setting
Transmit
User
Layer(9)
0 Rectangle
1 Panel
2 Rectangle
3 Text
4 Rectangle
5 Signal
6 Button
7 Button
8 Button
GENESIS 265
IPC Control
Audio Control
System Control
UI Size
Width 1920
Height 1080
System
System Button
Login Button
Min Button
Exit Button
Global Font
Background Picture
Login Dialog
Fill
Mode
Pure Color
Vertical 2 Color
Horizontal 2 Color
Picture
Fill Color 13,67,89
Fill Color2 0,0,0
Picture Name
Transparency 0%
Edge Width 0
Edge Color 0,255,255

By default, the designer has a global page with one output panel, one input signal group and multiple function buttons. The function buttons grant user access to a blank page without contents, an IPC control page for the IPC control, an audio control page to control audio and a system control page with multiple buttons for further use.

User can switch between different pages by choosing the pages from the '**Page List**' on the left. By clicking the '**New Page**' button, user can create a new page in the G265 Client for further use. The created page can be viewed in the '**Page List Menu**' and the name of it can be changed by double-clicking the page tab in the page list. In the G265 Client, the pages can be switched either by a '**Button**' or a '**Page switch list**'.

- Page List Menu: Basic operations for the pages created by the '**UI Menu**'.

Move Up: Move the current page up by one.

Move down: Move the current page down by one.

Copy a Page: Copy the current page and paste a new one below it.

Copy to End: Copy the current page and paste a new one at the end of the page list.

Export: Export the current page to a '**.pag**' file and this page can be imported via '**Open**' in the '**Designer Tool Menu**'.

Delete Page: Delete the current page.

Note that the global page cannot be deleted.

- Global Setting Menu: Configuration of the G265 Client.

UI Size: Config the window size of the G265 Client.

System: Modify the system buttons '**Login**', '**Min**' and '**Exit**' and also fonts shown in the G265 Client. The background picture of the '**Login Dialog box**' can also be changed in this section.

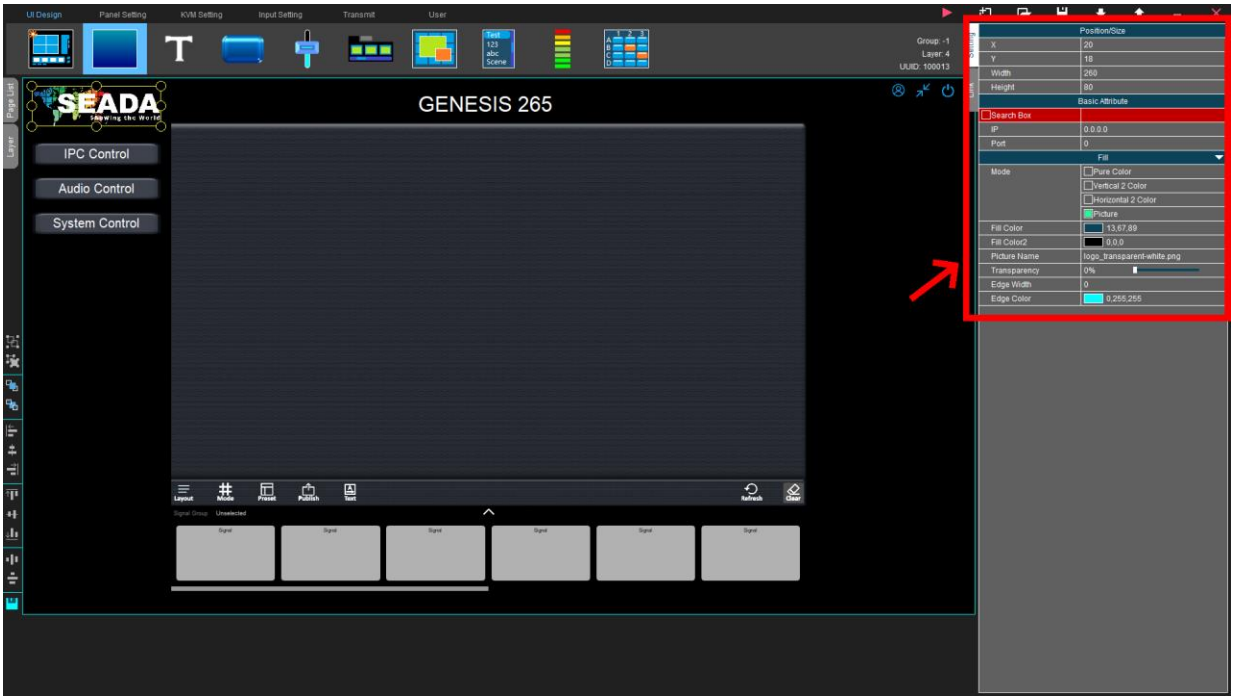
Fill: Change the colour or background design of the '**Login Dialog box**'.

- Layer: The layer of the components on the current page.

Layer: The colour shows the type of the UI component. The number represents the layer level of the component and components on the top are assigned with higher numbers.

- Link: Additional functions supported by the component. More details will be given during the introduction of the UI components and their practical use.

4.6.2. Rectangle



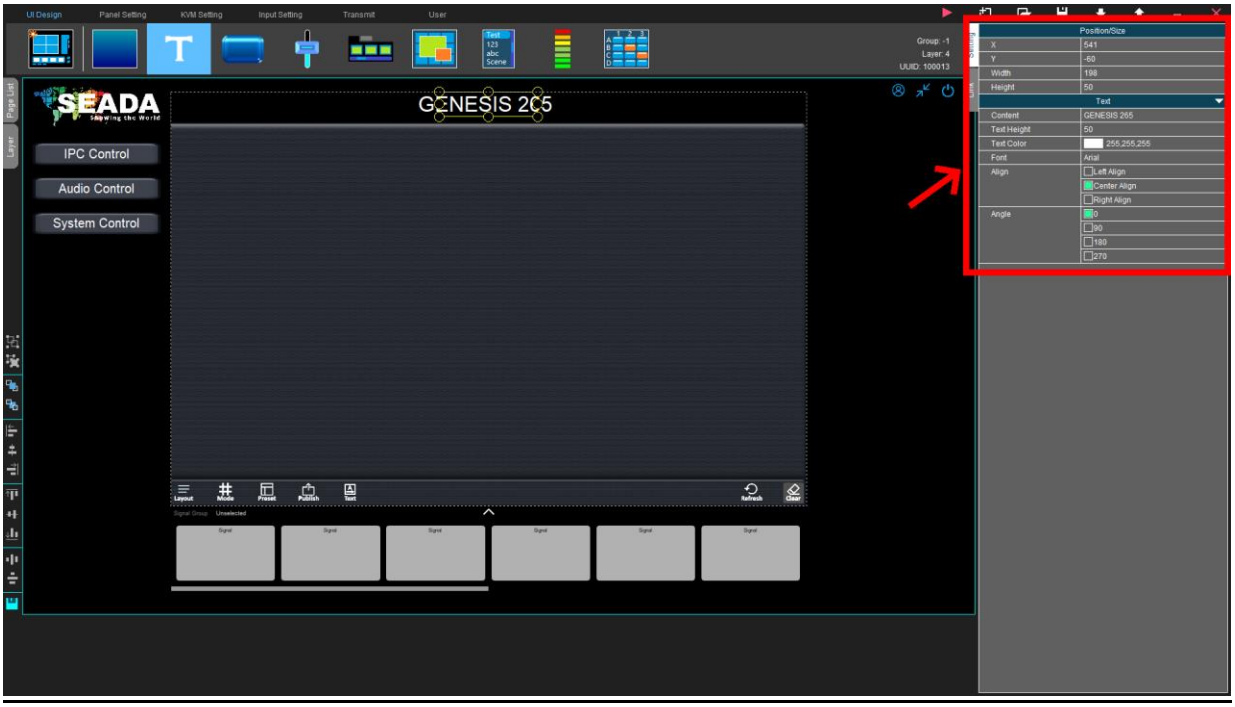
The rectangle component is normally used for setting up backgrounds or searching signals.

Position/Size: Config the position and size of the rectangle component. They can also be adjusted by dragging the yellow adjustment box around the component in the '**UI Design Area**'.

Basic Attribute: The rectangle component can be used as a search box. When there is a signal group list or signal component in the '**UI Design Area**', selecting the rectangle component, holding '**Ctrl**' and dragging the component into the rectangle component will bind them together. Afterwards in the G265 Client, when there are a large number of input signals, user can use this rectangle component to search the specific input signal from the signal group list or signal component by entering the name of the signal.

Fill: Change the colour or background design of the rectangle component. By changing the size of the rectangle component and making it on the bottom of other UI components, the rectangle component can be used as a background.

4.6.3. Text

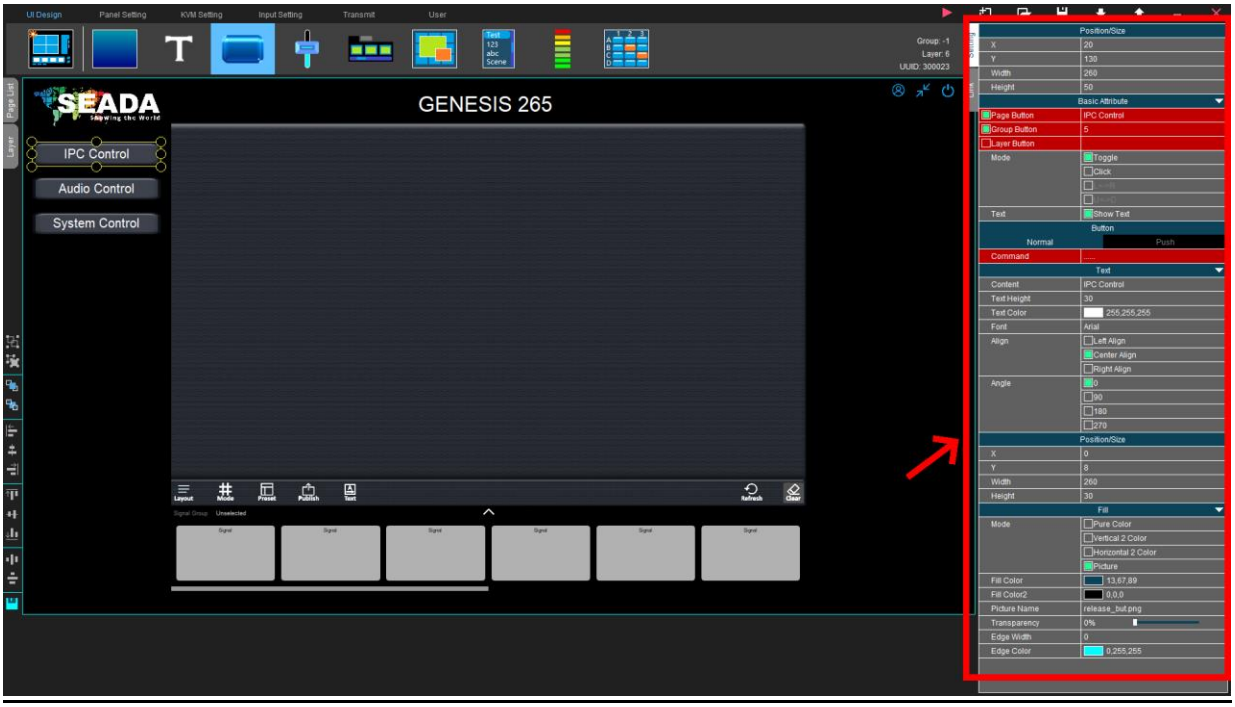


This component creates a text box allowing user to enter texts.

Position/Size: Config the position and size of the text box. They can also be adjusted by dragging the yellow adjustment box around the component in the '**UI Design Area**'.

Text: Change the format of the texts in the text box, such as the font, size and colour. The text can also be rotated at different angles. In the case that time information is required in the G265 Client, the text component can be set in a time format displaying the system time of the control PC.

4.6.4. Button



This component can be used as a button.

Position/Size: Config the position and size of the button. They can also be adjusted by dragging the yellow adjustment box around the component in the '**UI Design Area**'.

Basic Attribute:

(a) **Page Button:** When there are multiple pages being set up, by clicking the box on the right and choosing a page number, the selected button can be used as a page switch button. In the G265 Client, when the button is clicked, the client will jump to the corresponding page.

(b) **Group Button and Layer Button:** Selecting a button, holding '**Ctrl**' and '**draging&droping**' another component into it will bind the component to this button. In the G265 Client, when the button is clicked, the component will become visible and when it is clicked again, it will become invisible. By setting multiple buttons in the same Group (setting them to the same Group Button number), only components bound to the same button will be visible at a time while others are invisible depending on the button being pressed.

User can also config the mode of the button. Each mode has two different states, for example, the '**Click**' mode has the '**Normal**' and '**Push**' state. The former represents the state when the button is released and the latter when the button is pressed. The function and format for each button state can be set separately. By ticking '**Show Text**', user can set texts onto the button.

Button: Set up the button to make it work as a data transmission and communication tool, which allows system control by the G265 transceiver.

User must enter the following information to set up the command communication:

SN	TCP	HEX	IP	Port	Interval(ms)	Command Data
1	☐	☐	127.0.0.1	41234	0	

- **TCP:** Whether via TCP/IP or serial port.
- **HEX:** Send commands in HEX
- **IP:** IP address of the target device.
- **Port:** Port number of the target device.
- **Interval (ms):** Interval before the command is sent.
- **Command Data:** the command to be sent.

Note that the G265 transceiver only supports sending out commands in HEX.

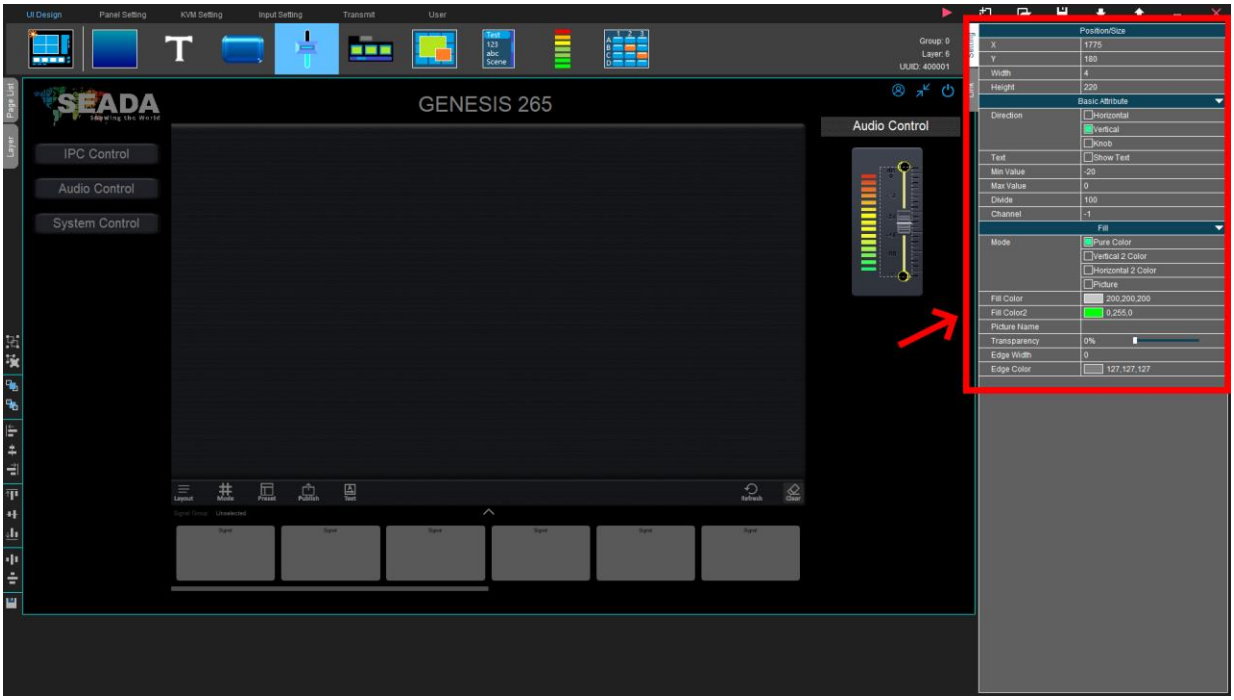
By clicking the button in a way depending on its state, the G265 transceiver can send out commands to a third-party device to control it. The function for each state, for example, '**Normal**' and '**Push**', can be set separately.

Fill: Change the colour or background design of the button. The design for each state of the button can be set separately.

Text: When '**Show Text**' is triggered, this section will be expanded and user can modify the texts and their formats within the button. The text in each state can also be set separately.

Position/Size: This section is only visible when '**Show Text**' is ticked and can be used to adjust the position and size of texts in each state of the button.

4.6.5. Slider



The slider component is used to adjust the volume of the output audio.

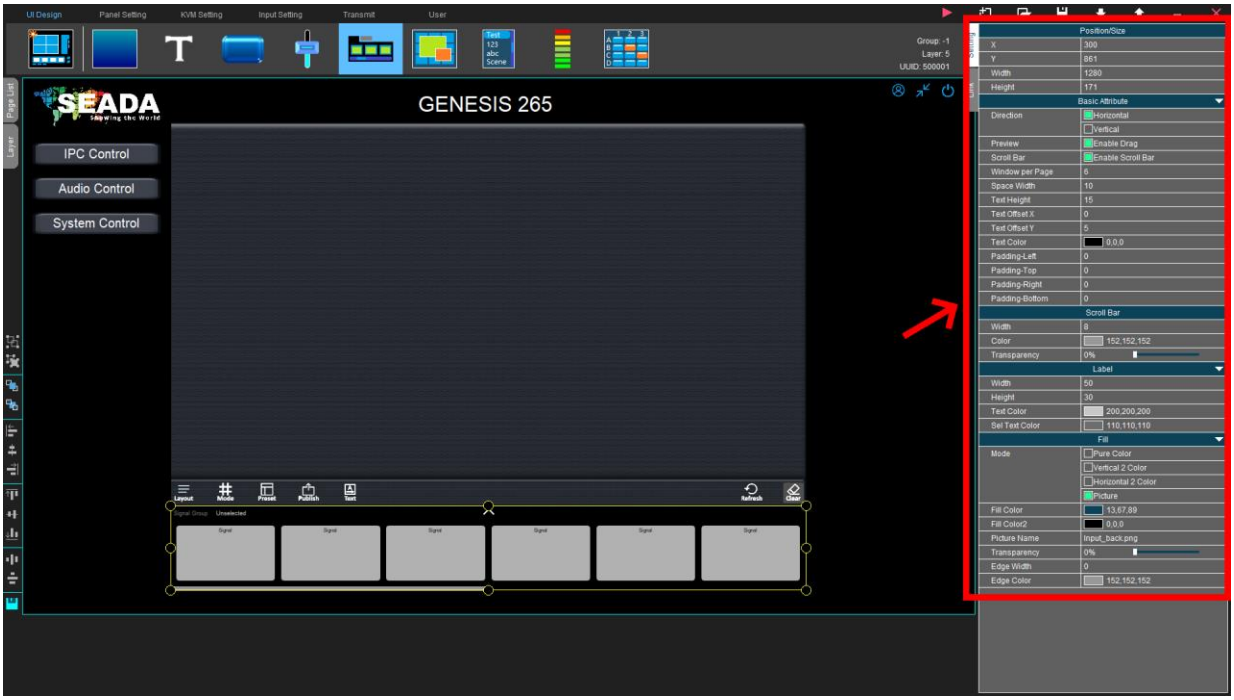
Position/Size: Config the position and size of the slider. They can also be adjusted by dragging the yellow adjustment box around the component in the '**UI Design Area**'.

Basic Attribute: The slider can be set either in a horizontal or a vertical direction. It can also be set in the form of a knob. By ticking '**Show text**', a percentage marker can be displayed by the slider, representing the value change of the slider. User can also set the min/max value of the slider and its divides. The sliders can be assigned to different channels by entering a number in the channel sections.

Fill: Change the colour or background design of the slider.

In the '**Link**' tab, user can set up the slider component to control ouput audio of the G265 transceiver by binding it with the device from the '**Output List**'.

4.6.6. Signal



The signal component can be assigned with input signals from different devices, such as IP cameras and media players.

Position/Size: Config the position and size of the signal component. They can also be adjusted by dragging the yellow adjustment box around the component in the '**UI Design Area**'.

Basic Attribute: The signal component can be set in a horizontal or vertical direction. When '**Preview**' is enabled, user can '**drag&drop**' the input video source onto the panel from the signal component. In the G265 Client, the text '**signal**' in each preview tab will be replaced by the name of the input signal set up in '**Input Setting**'. The format of this text, including the size and colour, as well as the size of the preview tab, can be changed in this section.

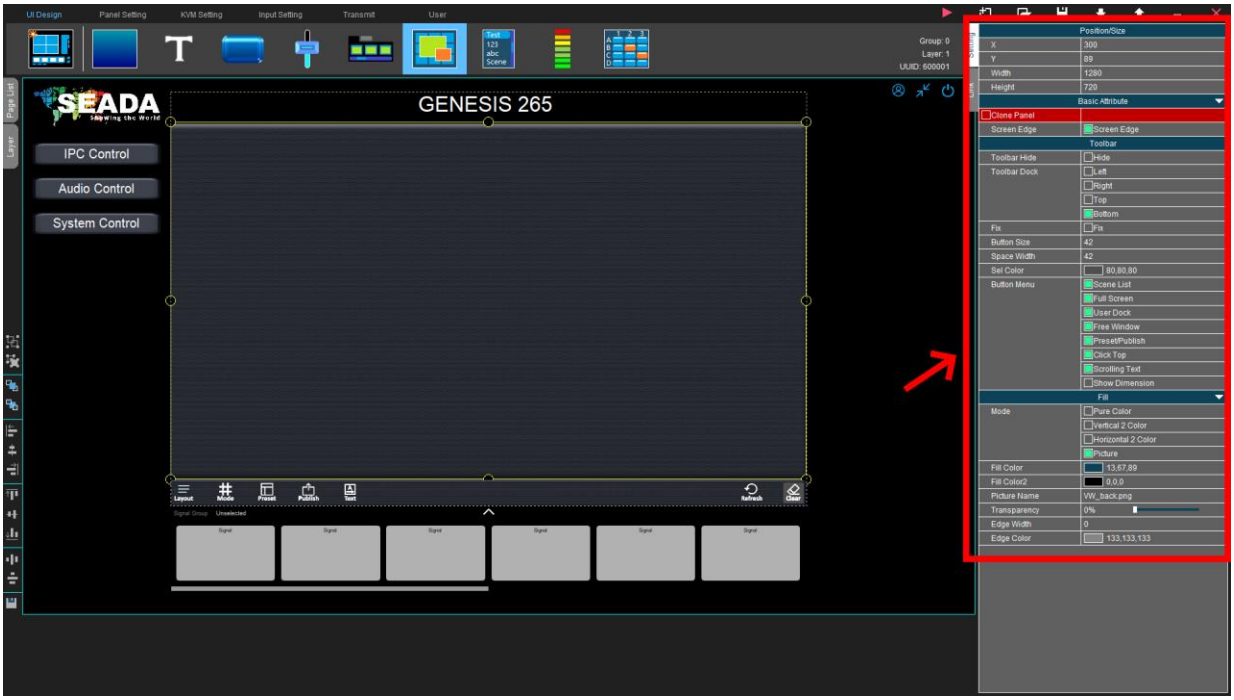
Scroll Bar: Change the width and colour of the scroll bar.

Label: Change the size and text colour of the signal group selection menu.

Fill: Change the colour or background design of the preview tabs.

After setting up the signal component, user must go to the '**Link**' tab to link the signal component to one or more signal groups, otherwise there will be no input signals visible in the signal component.

4.6.7. Panel



The panel component is the area where the output will be set up.

Position/Size: Config the position and size of the panel component. They can also be adjusted by dragging the yellow adjustment box around the component in the '**UI Design Area**'.

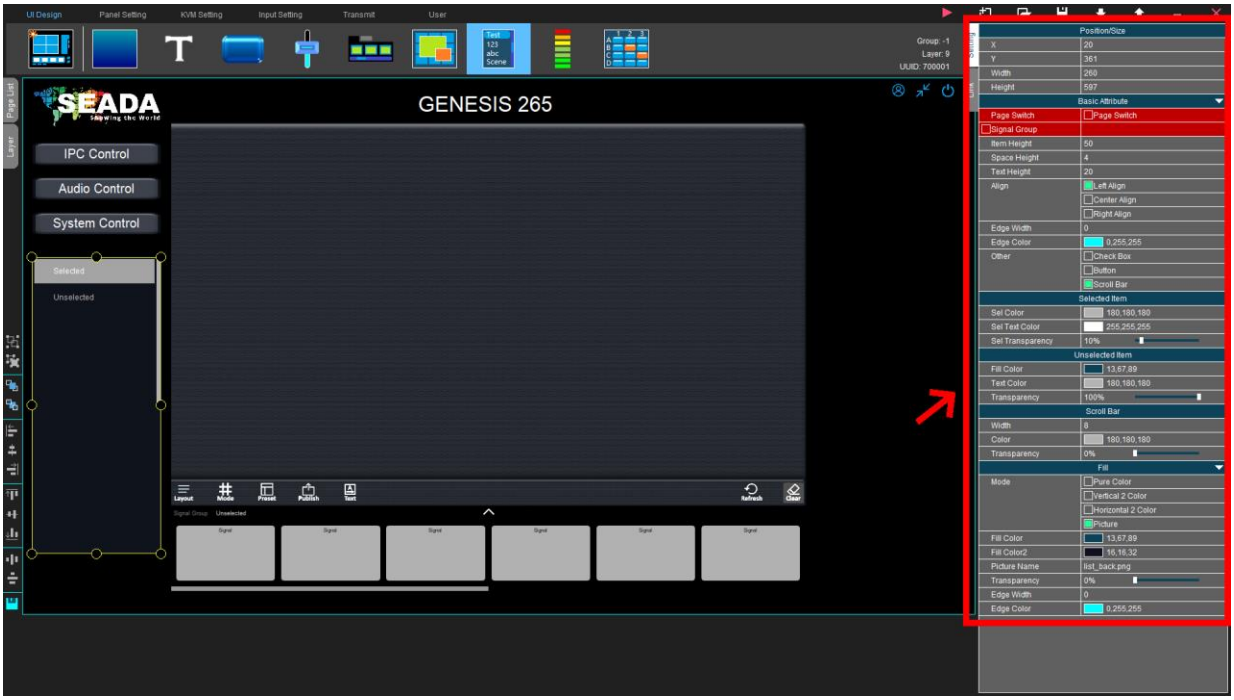
Basic Attribute: If '**Clone Panel**' is ticked, by choosing one of the other panel components, the contents on the chosen panel component will follow the cloned one. For example, in the output, when input signals are put onto the screens of the cloned panel, the same content will be displayed on screens of the original panel. When '**Screen Edge**' is unticked, the grids on the output panel will be invisible.

Toolbar: By default, the tool bar is located on the bottom of the panel and it can be changed. Multiple function buttons are available on the toolbar and user can change the size, colour and visibility of them. More details about these function buttons can be found in the G265 Client User Guide section.

Fill: Change the colour or background design of the panel component.

By double-clicking on the panel component or clicking on '**Panel Setting**', user can access the '**Panel Setting**' to set up the output panel.

4.6.8. List



The list component can be used as a list in multiple ways.

Position/Size: Config the position and size of the list component. They can also be adjusted by dragging the yellow adjustment box around the component in the '**UI Design Area**'.

Basic Attribute:

The list component can be used in multiple ways:

(a) **Page Switch:** Show all the pages that have been created and this list can be used to switch between different pages in the G265 Client.
(b) **Signal Group:** Choose the input signal group and all the input signals in this group will show in the list. User can use this list to switch the input signal. Note, real-time preview of the input signals is not available when using the list component.

User can also change the format of the items in the list, such as the size and space between different items. Useful tools like check boxes and tool buttons can also be added to the list components.

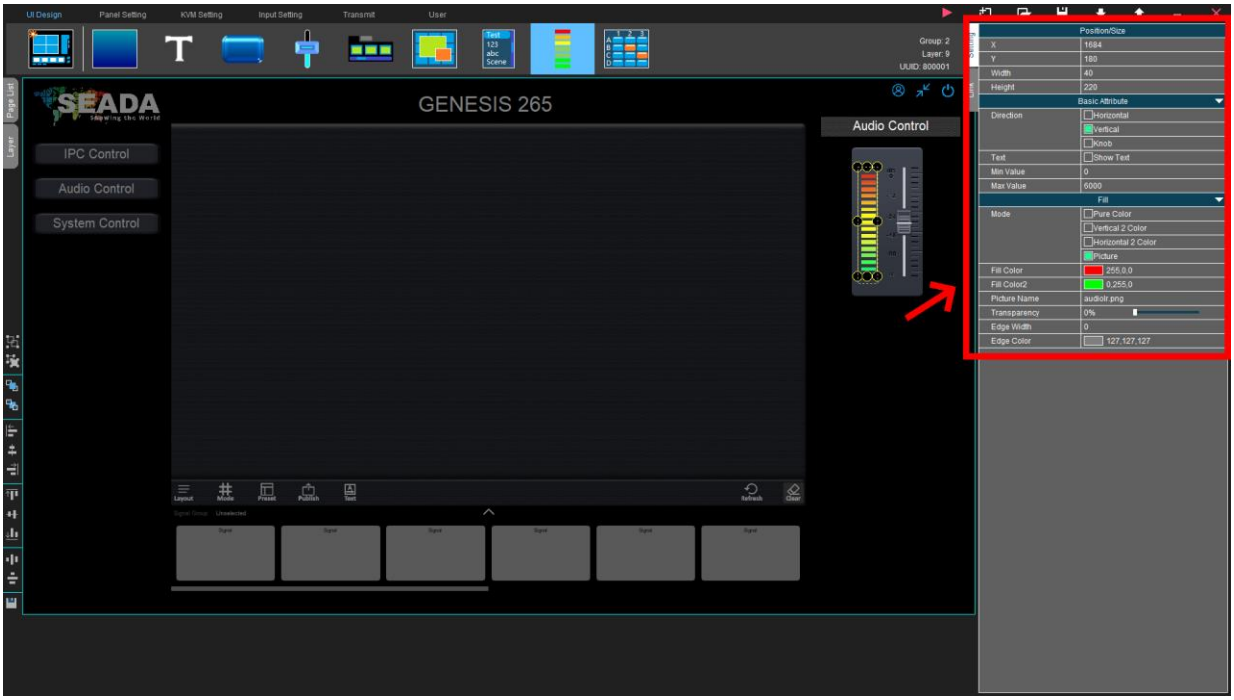
Selected item: Change the colour of texts for the items in the list when they have been selected.

Unselected item: Change the colour of texts for the items in the list when they have not been selected.

Scroll Bar: Change the width and colour of the scroll bar.

Fill: Change the colour or background design of the list component.

4.6.9. Get Back



The get back component reads the output audio volume and display it in the G265 Client in the same way as an amplitude bar.

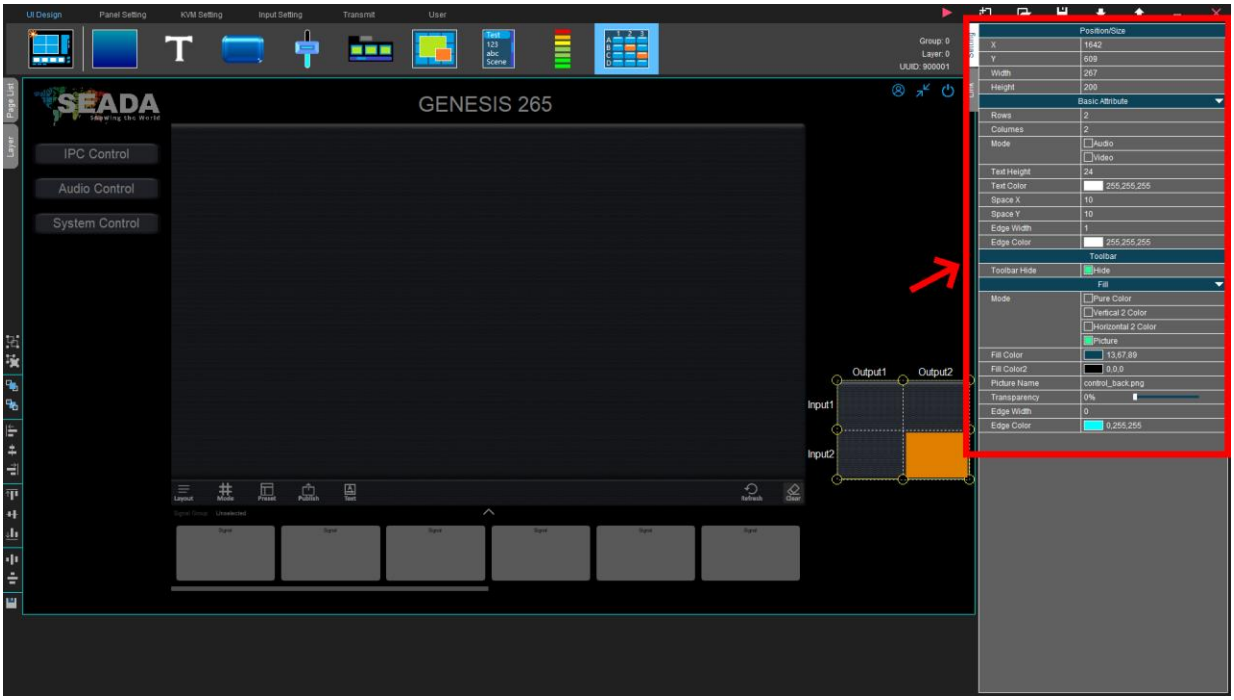
Position/Size: Config the position and size of the get back component. They can also be adjusted by dragging the yellow adjustment box around the component the '**UI Design Area**'.

Basic Attribute: The get back component can be set either in a horizontal or a vertical direction. It can also be set in the form of a knob. By ticking '**Show text**', a value marker can be displayed by the get back component, representing the value change of the component. User can also set the min/max value for it.

Fill: Change the colour or background design of the get back component.

In the '**Link**' tab, user can set up the get back component to read output audio volume and display it in the G265 Client by binding it with the device from the '**Output List**'.

4.6.10. Martix



The matrix component can be used to switch video/audio on the output panel between inputs and outputs in the same way as a matrix switcher.

Position/Size: Config the position and size of the matrix component. They can also be adjusted by dragging the yellow adjustment box around the component in the '**UI Design Area**'.

Basic Attribute: Change the number of inputs and outputs for the matrix switcher. The matrix component can be used either for switching audios and videos of the input and outputs. The text format can also be changed.

Toolbar: Change the format of the toolbar on the bottom of the matrix component.

Fill: Change the colour or background design of the matrix component.

By clicking on either inputs or outputs in the matrix component, in the '**Link**' tab, user can bind the transceiver to a specific input/output. User can also set customised inputs as inputs for the matrix component.

Note that when binding the output with devices in the 'Output List', the parameter '$X_CD1', which corresponds to the UUID of the output panel, will be automatically filled with a temporary number. If user wants to use it with the actual output panel, it is necessary to fill the actual UUID of the output panel, for example, '600001' for the default design.

4.7. Panel Setting

'**Panel Setting**' is designed for user to bind the output to the G265 transceiver. By either clicking '**Panel Setting**' or double-clicking a certain panel component in the '**UI Design Area**', user can enter this page.

4.7.1. Scan Output

By clicking '**Scan Output**', the G265 transceiver (RX) in the same network will show in the '**Output List**'.

4.7.2. Bind windows to outputs

(1) Choose a panel from the '**Panel**' list on the left;

(2) Choose the device in the '**Output List**' on the right;

(3) Click on the panel in the middle. When there is an IP address displayed in the middle of the panel, the panel setting is done.

Basic Attribute: Config the number of rows and columns for the output panel.

Position/Size: Config the position and size of windows for the output panel.

4.7.3. Mode

User can also set up the grid layouts (modes) for the selected panel. The designer software provides a maximum of 8 preset grid layouts. By choosing one of these modes and clicking '**Add**', the panel will light up and user can then config the mode.

Basic Attribute: User can change the name of the current mode. By entering contents in the form of '**AxB**', for example, '**2x3**', the output panel will be divided into 2 rows and 3 columns by grids. To disable a mode, enter '**0x0**' in '**Divide**'.

Position/Size: When one window in the output panel is selected, the position and size of this window can be modified. User can also set up how signals are being streamed (main-stream/sub-stream) in this window. User can delete certain windows and change the size of other windows to achieve the '**merge**' of windows. The customised modes can then be used in the G265 Client.

4.7.4. Audio Follow

User can bind a transceiver with the output panel to provide audio from the output. Choosing '**Audio Follow**', clicking '**Add New**', clicking on the output panel in the middle and choosing a transceiver from the '**Output List**' can easily bind the transceiver with the output panel. User can then use the slider component and get back compeont to observe and control audio volume for the output panel.

Note that user needs to use the UMPlatform to switch the audio between 'HDMI' and '3.5mm'.

4.8. Input Setting

'**Input Setting**' allows user to manage the input devices in the same network as the G265 transceiver and assign input signals from them into multiple signal groups.

4.8.1. Scan Input

User can add and delete inputs manually by clicking the '**+**' and '**-**' buttons at the bottom of the '**Input List**'. **Note that if user is using a G265 transceiver as an encoder, the input will be automatically generated in the 'Input List' after clicking 'Scan Input' and user can add them directly to the signal group.**

4.8.2. Config Inputs

By selecting one of the input signals from the '**Input List**', user can config the input signal.

Input Node: User can config the IP address and name of the selected input. The address of '**mainstream**' and '**substream**' can also be added manually.

Note that parameters for inputs from the G265 encoders cannot be changed. Please use the G265 UMPlatform to do so.

4.8.3. New Group

By clicking the '**New Group**' button, a new signal group can be created. User can set up multiple signal groups depending on their requirement. The name of the signal group can be changed by double-clicking the name. Each signal group can be assigned with different input signals respectively by ticking the input signals in the '**Input List**'. To delete a signal group, simply choose it and click '**X**' on the right.

Note that to add new groups into the signal componet, user needs to click on singal component, and in '**Link**', tick the signal group that has been added.

4.8.4. Group Signal

This function merges two or more input signals into one group signal and can be '**dragged&dropped**' onto the output as one input signal. By clicking one of the '**Group**' buttons in the '**Input Setting tool menu**', for example, 1x2 Group, an input signal corresponding to this group will be visible in the '**Input List**'.

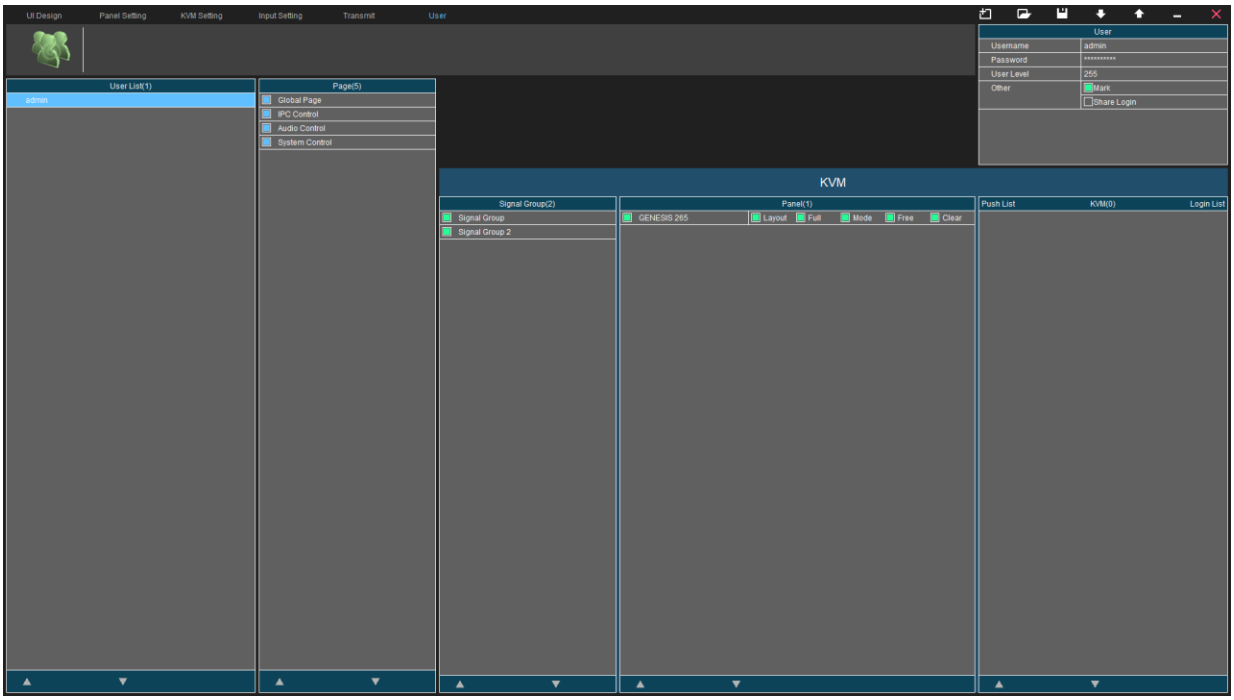
Basic Attribute: The designer provides multiple choices of group signal samples, as well as a customised setting for the number of rows and columns. User can also change the name of the group signal if necessary. After setting up the group signal, user can assign input signals to each window of it, similar to setting up the output panel. After ticking this group signal in the '**Input List**', it will be accessible in the G265 Client.

4.9. User

'**User**' is designed for user management. The default user is '**admin**' and the password is '**Admin12345**'. This user has the highest user level and can access all the functions in the G265 transceiver.

4.9.1. New User

By clicking '**New user**', the system can add a new user level. This user level can be assigned with permissions to access different pages of the G265 Client, output panels, and input singal groups.



After all settings in the G265 Designer Software have been completed, click 'Upload' on the top-right of the software and click 'OK'. When a pop-up shows 'Upload succeed', that means the setting for the G265 transceiver is done.

5. G265 Client User Guide

After design in the G265 Designer Software has been uploaded successfully into the G265 transceiver, the G265 Client can be accessed from devices operated either in Windows, IOS or Android.

5.1. Login Window

User can run the G265 Client directly without installation. The client can be downloaded from the SEADA website (https://seada.co.uk/downloads). Run the G265 Client software to get the login dialog box shown above.

The default username is '**admin**' and the password is '**Admin12345**'. They can be changed in the G265 Designer Software.

By entering the local IP address of the control PC in '**IP**' and clicking '**OK**', the G265 Client will be connected automatically. If the login is failed, please refer to the troubleshooting section at the end of this document.

Note that 'Server Ip' can be left empty as it is for further development.

5.2. Run G265 Client on the control PC

The default setting when starting the software is one output panel, one input signal group and multiple control features.

User can set up the output by "**dragging and dropping**" input signals from the signal list onto the panel. User can also access IPC Control, Audio Control and System Control with the on-screen buttons.

Note that only input signals from G265 encoders will have preview.

The function of each icon in the toolbar on the bottom of the panel for setting up the output will be:

- **Layout:** Manage the layouts for the output panel, such as saving layouts, recalling layouts, editing layouts, and looping layouts. (Maximumly 1000)
- **Mode**: Set up grid layouts for the output - (1) Full; (2) Free; (3) Default and (4) customised grid layouts: 2x2, 3x3 and 4x4 Multiview.
- **Preset:** Preset the output panel offline.
- **Publish:** Apply the offline preset layout onto the output panel.
- **Text**: Display scrolling texts on the output panel.
- **Refresh**: Restore the output preview in the G265 Client to match the output panel.
- **Clear**: Clear the current output panel.

By double-clicking the output panel when there is no window on it, user can choose a picture to set as the background for the output panel. User can also left-click a certain window on the output panel to bring it to the front or long-press to send it to the back. By double-clicking on inputs from the G265 encoders, user can preview, crop and mark on the input signals.

Note that, each G265HDRT supports maximumly one 1080p/60 output or four 540p/60 outputs, and each G2654KRTF supports maximumly one 4k/30 output, four 1080p/60 outputs or sixteen 540p/60 outputs. Errors may happen to the outputs on the output panel when exceeding this limit.

Scrolling text

Content: The content of the scrolling text

X/Y: Position of the scrolling text

Red box: The colour of the scrolling text

Black box: Background colour of the scrolling text

T: Transparent of not

H: Height of the scrolling text

Direction: Direction of the scrolling text – left/right

Font: Font of the scrolling text

Time: The speed of the scrolling text

Suspend: Tick or untick to place the scrolling text on top or out of the output panel in the G265 Client. This parameter will not affect the actual output panel.

Apply: Apply the setting and show the scrolling text

Show: Show the scrolling text

Hide: Hide the scrolling text

Cancel: Exit the window

5.3. System Control

As introduced in the G265 Designer Software User Guide, there are many other components that can be added to the G265 Client.

User can set up the G265 transceiver to control third-party devices. This includes system control via RS232, RS485, I/O, IR, TCP/IP, and Relay. Below are some examples:

• **TV Control**: TV Control allows user to use the G265 Client as a remote controller to operate the TV using the infrared serial port on the G265 transceiver.

• **Light Control**: Light Control works like the modern smart house, allowing the remote adjustments of brightness and ON/OFF for lights with the use of TCP/IP or RS232/RS485 ports.

• **Camera Control**: Camera Control makes use of the TCP/IP and serial port functions in the G265 transceiver and makes it possible to control PTZ cameras, such as moving up/down and zooming in/out.

• **Audio Control**: Audio Control adjusts the volume of the output signals for a practical output panel setting using the '**HDMI**' or '**3.5mm**' ports on the G265 transceiver.

6. Practical Example

In the following section, a practical example will be given for a quick start of using G265 combining the use of the G265 UMPlatform, G265 Designer Software and G265 Client with our default design. It includes setting for the output panel, IPC control, audio control, system control and design upload. You can also find a live video in the following link to follow the steps.

https://youtube.com/playlist?list=PLsYOGn3lM9IehdwkL0vPCiFOtG5p_8RjP

6.1. Set up a G265 Client for output panel, IPC control, audio control and system control

Always ensure that the G265 transceiver is connected correctly with other devices in the system and the IP Switch/CAT meets the minimum requirement. (1G/CAT6)

G265 UMPlatform

1. Run '**UMPlatform**', click '**Scan Setting**' and choose the IP address of the control PC.
2. Click '**Bind**' and then click '**Scan**'.
3. Switch to '**Output**' and choose the connected G265 transceiver.
4. (**Optional**) In '**Network Setting**', user can change the network parameters, such as IP address and name, for the G265 transceiver if necessary.

G265 Designer Software

5. Run '**G265 Designer Software**' and click on the control PC IP address in the login dialog box;

Output Panel

6. Double-click the output panel. In '**Panel Setting**', choose '**GENESIS 265**' from the '**Panel**' list on the left.
7. Bind the G265 transceiver with the output by choosing the device in the '**Output List**' on the right and clicking on the panel in the middle. When there is an IP address displayed in the middle of the panel, the panel setting is done.
8. In '**Input Setting**', choose a signal group from '**Signal Group**' list on the left.
9. (**Optional**) Or create a new signal group by clicking '**new group**' from the menu and double clicking to rename it.
10. Click '**+**' at the bottom of '**Input List**' on the right to create a new input.
11. Enter the '**IP address**', '**name**' and '**main/sub-stream address**' for the RTSP IP source.
12. Tick the box on the left of the input to add customised inputs or inputs from G265 transceivers into the selected signal group.
13. Go to '**UI Design**', click on the '**signal component**' and in '**Link**', tick all the signal groups to be used.

14. Repeat steps 8-13 to add more RTSP IP sources if necessary.

IPC Control

15. Go to '**UI Design**' and choose '**IPC Control**' from the '**Page List**' on the left.
16. Choose one of the buttons in the '**IPC 1 Control Panel**', for example, '**up**'. In the setting menu, click on '**……**' next to '**Command**' in the '**Normal**' tag on the right to set up commands sent to the camera when the button is not pressed, for example, stopping moving.
17. Tick '**TCP**' and '**HEX**' in the pop-up. Then enter the '**IP address**', '**port number**' and '**control command**' for the camera. Note that the G265 transceiver only supports commands in HEX.
18. In the setting menu, click on '**……**' next to '**Command**' in the '**Push**' tag to set up commands sent to the camera when the button is pressed, for example, moving up at a certain speed.
19. Tick '**TCP**' and '**HEX**' in the pop-up. Then enter the '**IP address**', '**port number**' and '**control command**' for the camera. Note that the G265 transceivers only supports commands in HEX.
20. Repeat steps 16-19 to set up all the buttons in the PTZ Camera Control Panel, including '**Up**', '**Left**', '**Right**', '**Down**', '**Zoom in**', '**Zoom out**', '**Home**', '**Recall Preset 1**', '**Recall Preset 2**', '**Recall Preset 3**' and '**Recall Preset 4**'.
21. After all buttons in '**IPC 1 Control Panel**' is set up, user needs to select button '**1**', hold '**Ctrl**' button on the keyboard and bind this control panel with button '**1**' by '**dragging**' the '**IPC 1 Control Panel**' into the button.

Audio Control

22. Go back to '**Panel Setting**', click on '**audio follow**' on the right of the menu, and click on '**add new**'. User can set up the transceiver to process the audio for the output panel.
23. Like when setting up the output panel, choosing the device in the '**Output List**' on the right and click on the panel in the middle. When there is an IP address displayed in the middle of the panel, the audio setting is done.
24. Go to '**UI Design**' and choose '**audio control**' from the '**Page List**' on the left.
25. Click twice on the '**get back**' bar
26. In the '**Link**' tab, click on the device from the output list and click on '**……**' next to '**Command**' in the '**Query**' tag.
27. When there is some information automatically filled into the command section related to the transceiver, this component is set up.
28. Click on the device from the output list and click on '**……**' next to '**Command**' in the '**Receive**' tag.
29. Information will be automatically filled as well. This process will bind the '**get back**' bar to the transceiver so it will read the audio level from it and display with the amplitude bar.

30. Click twice on the slider and in the '**Link**' tab, click on the device from the output list and click on '**……**' next to '**Command**'. It will bind the slider to the transceiver so the slider can control the volume level for it.

System Control

31. Go to '**UI Design**' and choose '**system control**' from the '**Page List**' on the left.
32. (**Optional**) There are multiple buttons preset for customise and user can use these buttons or add more buttons for different use.
33. (**Optional**) User can also add more pages with extra components to achieve more functions, such as audio matrix switch and light switch control panel.

Design Upload

34. When everything is set up, click '**Upload**' on the top-right of the '**G265 Designer Software**' and click '**OK**'.
35. When a pop-up shows '**Upload succeed**', that means the setting for G265 transceiver is done.

G265 Client

36. Run the G265 Client to operate the system.

7. Troubleshooting

Always ensure that the G265 transceiver is connected correctly with other devices in the system and the IP Switch/CAT meets the minimum requirement. (1G/CAT6)

7.1. Device missing in the G265 UMPlatform/Designer Software

1. Check if all the devices are powered on.
2. Check if the switch of each device is on the correct side.
3. Check if all the devices are connected to the same network.
4. Reset and then restart all the devices.

7.2. Outputs showed unauthorised in the G265 Designer Software

1. Check if the custom ID and IP are entered correctly.
2. Check if the protocol version of the transceiver is set on '**scode**' using the G265 UMPlatform.
3. Restart all the devices.
4. If the custom ID is lost, re-download the software from our website.

7.3. Upload failed in the G265 Designer Software

1. Check if all the devices are correctly connected using the G265 UMPlatform and the G265 Designer Software.

7.4. G265 Client connection failed (Download resource failed, please reload.)

1. Check if all the devices are correctly connected using the G265 UMPlatform and the G265 Designer Software.
2. Check if the username, password and IP address are correct.
3. Ensure that there is at least one output panel being set up in the G265 Designer Software.

7.5. No preview for input signals in the G265 Client

1. Open the G265 Designer Software and check if there is any other IP address displayed in the login dialog box except the Ethernet connection. If so, disable such connections and restart the G265 Client.
2. Preview is only avilable for input sources from G265 encoders. Any 3rd party RTSP IP source will not have preview.

7.6. Unable to send out commands to a 3rd party device

1. Ensure that the 3rd party device is connected into the same network as the G265 system.

7.7. Unable to control the G265 system with a 3rd party controller

1. Ensure that the 3rd party controller is connected into the same network as the G265 system.
2. Check if the 3rd party controller sends commands out via UDP.

7.8. Unable to use signals from RTSP streaming/RTSIP IP ouputs grey screen

1. Ensure the parameters for the additional device is entered correctly (IP address/Main/sub-stream addreess) (User can check the stream address using the Potplayer/VLC software.)
2. Ensure that the output resolution does not exceed the decoding limitation of the transceiver..
3. Ensure that the IP switch and CAT meets the minimum requreiment.

7.9. Outputs on the output panel does not perform properly

1. Ensure that the resolution of the outputs on the output panel does not exceed the decoding limitation of the transceiver.
2. Ensure that the IP switch and CAT meets the minimum requirement as specified.

7.10. The Default Design is disarranged and not working anymore

1. Open the file called 'Draft_0' in the downloaded software package with the G265 Designer Software. It will restore all settings in the G265 Designer Software to the default design when it was downloaded.
2. Re-download the software from our website.

SEADA are always available to offer support, including full online training videos, webinars and more advanced 1 to 1 training. If you do need to contact us, please get in touch through our phone, the number is +44 01527 584364 or send us an email at sales@seada.co.uk.

Commands for the G265 transceiver

UDP Socket:

IP address: 224.168.1.1

Port: 41234

Save Layouts

{SaveScene;Panel_ID;Scene_ID,Scene_Name}

Panel_ID: The UUID of the output panel, which can be found in the G265 Designer Software starting from 600001.

Scene_ID: The ID for the saved layout.

Scene_ID: The name of the layout that can be viewed in the G265 Client.

For example:

{SaveScene;600001;001;L01}: Save the current layout for output panel 600001 as layout ID 001, of which the name is L01.

Recall Layouts

{CallScene;Panel_ID;Scene_ID}

Panel_ID: The UUID of the output panel, which can be found in the G265 Designer Software starting from 600001.

Scene_ID: The ID for the saved layout.

For example:

{CallScene;600001;001}: Recall the layout ID 001 for output panel 600001.

Delete all Layouts

{ClearScenes;Panel_ID}

Panel_ID: The UUID of the output panel, which can be found in the G265 Designer Software starting from 600001.

For example:

{ClearScenes;600001}: Delete all the layouts for output panel 600001.

Delete certain layouts

{DeleteScene;Panel_ID;Scene_ID}

Panel_ID: The UUID of the output panel, which can be found in the G265 Designer Software starting from 600001.

Scene_ID: The ID for the saved layout.

For example:

{DeleteScene;600001;001}: Delete the layout ID 001 for output panel 600001.

Get layouts IDs

{GetSceneNames;Panel_ID}

Panel_ID: The UUID of the output panel, which can be found in the G265 Designer Software starting from 600001.

For example:

{GetSceneNames;600001}: Get all the layout IDs saved for output panel 600001.