

Smart-telecaster™

STC Zao Controller User's Guide

Soliton Systems K.K.

STC Zao Controller

About STC Zao Controller

STC Zao Controller (“Zao Controller”) is an application installed and used on a smartphone. It is used as a remote controller for Smart-telecaster Zao (“Zao”) and Smart-telecaster Zao-S (“Zao-S”). Zao Controller allows access to all functions available on Zao/Zao-S.

System Configuration



Figure 1 System Configuration

Notes

- ❑ For details on Zao/Zao-S, Smart-telecaster HD View (“HD View”), and Smart-telecaster HD View Single (“HD View Single”), please refer to the corresponding User’s Guide.
- ❑ The contents of the STC Zao Controller User’s Guide may differ depending on your Zao/Zao-S.
- ❑ If already using Zao/Zao-S, please update to the latest version.
- ❑ The contents of the STC Zao Controller User’s Guide is subject to change without prior notice.
- ❑ Your computer must be connected to the Internet in order to view the STC Zao Controller User’s Guide.

Restrictions and Special Instructions

- ❑ Smart-telecaster, Smart-telecaster Zao, Smart-telecaster Zao-S, STC Zao Controller are copyrighted works of Soliton Systems K.K. All related copyrights and other rights are the property of Soliton Systems K.K.
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- ❑ The configurations shown in this document are for reference only, and do not guarantee all possible combinations.

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About STC Zao Controller	1
System Configuration	1
Notes.....	2
Restrictions and Special Instructions.....	2
TABLE OF CONTENTS	3
1 Installation	5
2 How to connect with Zao or Zao-S.....	5
2.1 Confirm SSID and password	5
2.1.1 Connect with the smartphone	5
2.2 Start	6
3 Main screen	7
3.1 (A) Operation button	8
3.2 (B) Sound input indicator	8
3.3 (C) Network status indicator	8
3.4 (D) Video/audio settings display	8
3.5 (E) Display screen	8
3.6 (F) Receiver button	8
3.7 (G) Receiver display	8
3.8 (H) Preset button	8
3.9 (I) Options button	8
3.10 (J) Lock button	8
3.11 (K) Preview	8
4 Network Settings Screen.....	9
4.1 (A) Connection status	10
4.2 (B) Settings button	10
4.2.1 Dial-up settings.....	10
4.2.2 LAN settings	11
4.2.3 Wi-Fi Settings	11
5 Video/Audio Settings Screen.....	12
5.1 (A) Custom Settings button	13
5.2 (B) Resolution	13
5.3 (C) Bit rate.....	14

5.4	(D) Frame rate	14
5.5	(E) Delay	14
5.6	(F) Audio band	14
6	Receiver List Screen.....	15
6.1	(A) Add Receiver button	15
6.2	(B) Receiver Settings.....	16
6.3	(C) Receiver indicator	16
7	Preset Screen	17
7.1	(A) Preset values	17
7.2	(B) Custom settings/update preset values	17
8	Option Settings Screen	18
8.1	(A) Network Settings.....	18
8.2	(B) Authentication	18
8.3	(C) Cam Name.....	19
8.4	(D) User ID.....	19
8.5	(E) Access Point Settings	19
8.6	(F) Auto Connection.....	20
8.7	(G) Serial Port Settings.....	21
8.8	(H) Log	22
8.9	(I) Version Information	22
9	Main Specifications	23

1 Installation

Zao Controller can be used on Android and iOS devices.

For Android devices, install the app from the Play Store, and for iOS devices, from the App Store.

(App is free)

2 How to connect with Zao or Zao-S

2.1 Confirm SSID and password

Make sure that STC Zao/Zao-S is turned on.

On the Wi-Fi settings screen on the smartphone, select the SSID of STC Zao/Zao-S to connect.

*About SSID and password

Zao : See the sticker on the back of the device.

Zao-S : Look for them on the Information screen. (For details, see the manual for Zao-S)

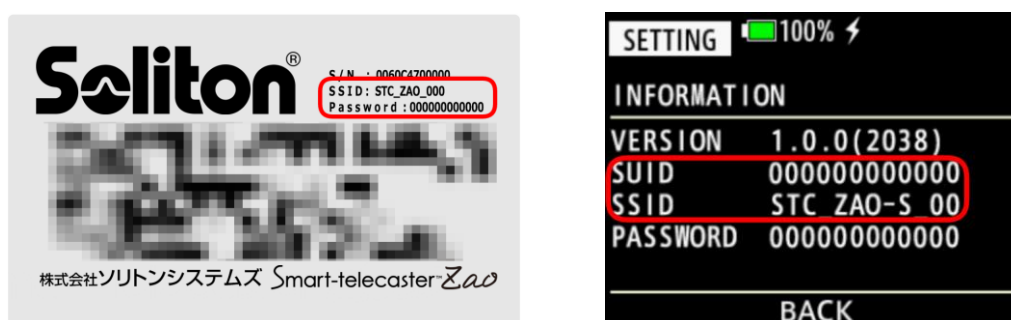


Figure 2 SSID and password for Zao (left) and Zao-S (right)

See “Access Point Settings” for details on how to change the SSID and password.

2.1.1 Connect with the smartphone

Connect the smartphone to the Wi-Fi access point for Zao/Zao-S.

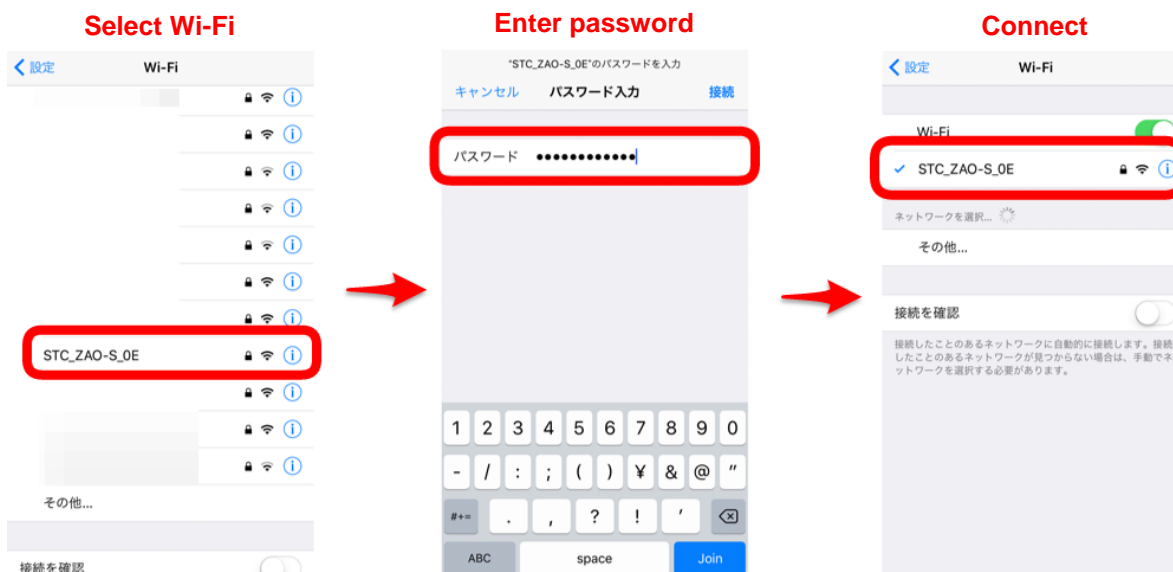


Figure 3 Connecting to Wi-Fi access point

2.2 Start

Make sure that the Wi-Fi connection between the smartphone and Zao/Zao-S is established, then start Zao Controller.

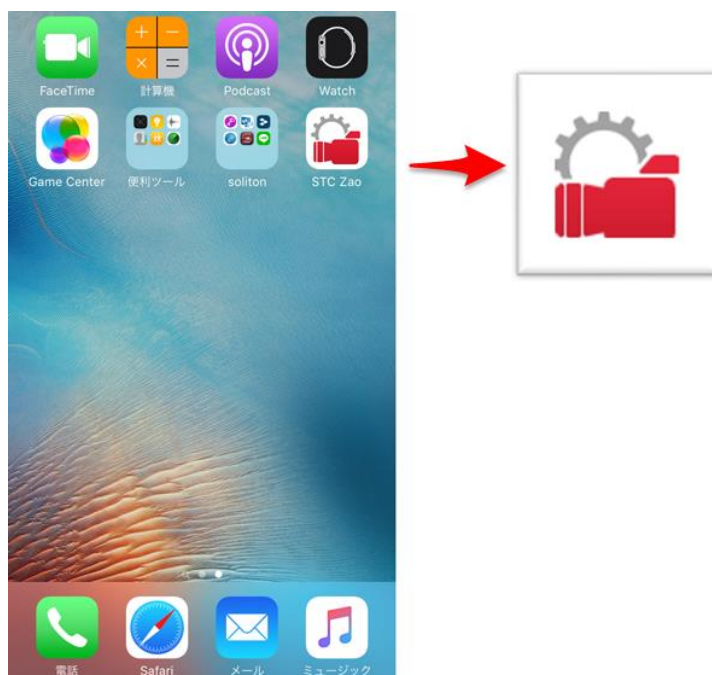


Figure 4 Starting Zao Controller

3 Main screen

Zao



Figure 5 Main screen (Zao)

Zao-S

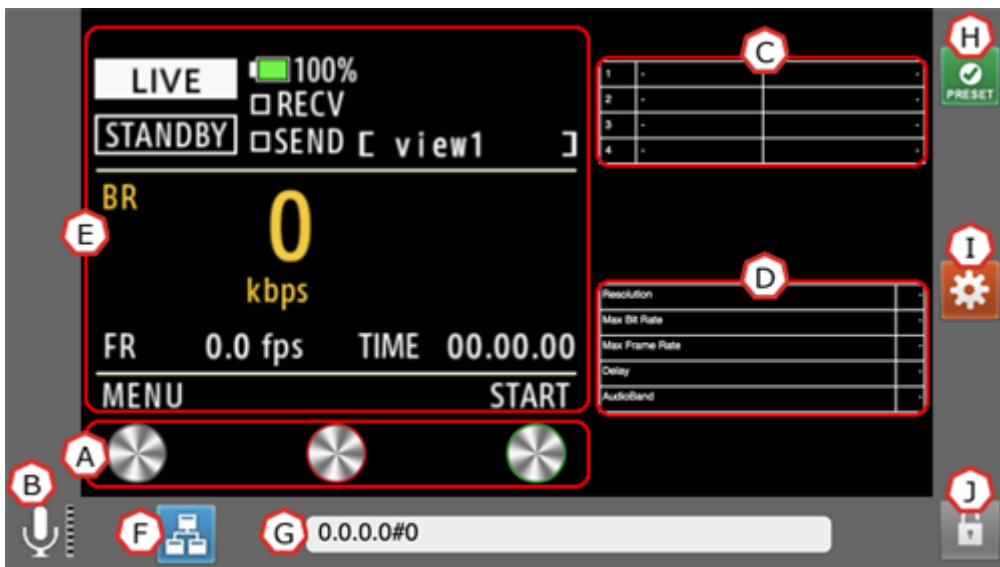


Figure 6 Main screen (Zao-S)

3.1 (A) Operation button

Operation is possible in the same way as the actual buttons on the device.

3.2 (B) Sound input indicator

Shows the status of sound input on Zao/Zao-S.
(Only during live streaming)

3.3 (C) Network status indicator

Shows the connection status of each communication line. The speed of the communication line is shown during the connection. Tap to configure advanced settings.

***See “Network Settings Screen” for details.**

3.4 (D) Video/audio settings display

Shows the current settings for video and audio.
Tap to configure advanced settings.

***See “Video/Audio Configuration Screen” for details.**

3.5 (E) Display screen

Shows the display screen of Zao/Zao-S.

***For details on the display screen itself, please refer to the corresponding device’s User’s Guide.**

3.6 (F) Receiver button

Allows you to configure Receivers.

***See “Receiver Configuration Screen” for details.**

3.7 (G) Receiver display

Shows the current Receivers configured.

3.8 (H) Preset button

Allows you to view or select Preset values configured in HD View or HD View Single.

***See “Preset Screen” for details.**

3.9 (I) Options button

Switches to the Option Settings Screen.

***See “Option Settings Screen” for details.**

3.10(J) Lock button

Locks the screen. Locking the screen blocks access to all functions except for some such as the power button. To unlock, press and hold down the lock button.

3.11(K) Preview

Shows the video input from the camera connected to Zao. (At about 2 fps)

Not available for Zao-S.

4 Network Settings Screen

Zao

Zao allows network settings for up to 7 communication lines, from LINE 1 to 7.

The network connection for live streaming can be via a modem, wired LAN or Wi-Fi.

***For Wi-Fi connection, insert a Wi-Fi dongle in any of LINE 1 to 6.**

***LINE 7 is for LAN connection only. Edit video/audio settings for when connecting with the input source.**



Figure 7 Network Settings Screen (Zao)

Zao-S

Zao-S allows network settings for up to 4 communication lines, from LINE 1 to 4.

The network connection for live streaming can be via a modem, wired LAN or Wi-Fi.

***For Wi-Fi connection, insert a Wi-Fi dongle in any of LINE 1 to 3, or set the Controller Mode to OFF. (Requires SSID and password to be set in advance for Line 4.)**

***For LAN connection, connect a USB-LAN adapter to Line 1 to 3.**

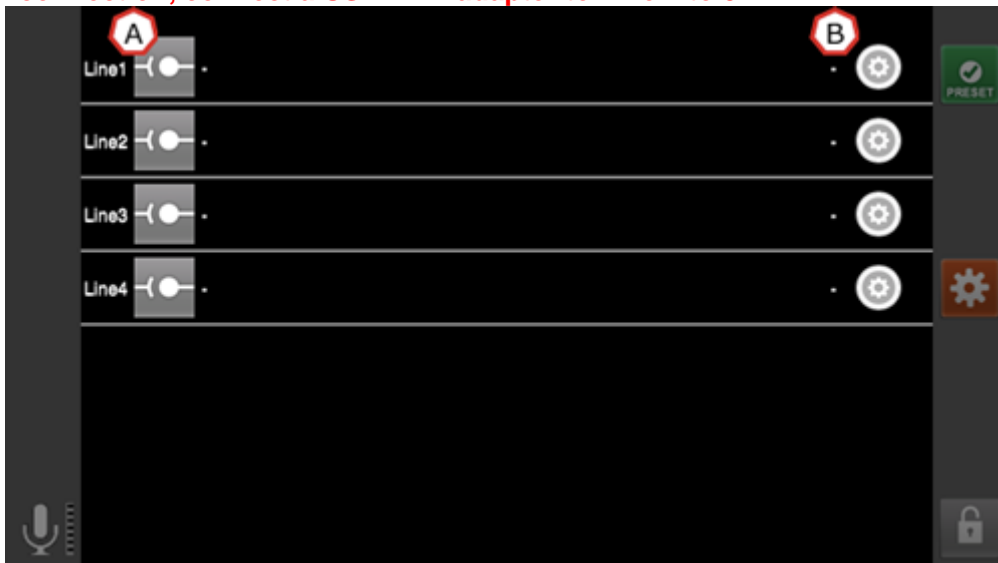


Figure 8 Network Settings Screen (Zao-S)

4.1 (A) Connection status

Green icons during live streaming indicate connection using this communication line. Communication line is not used if the color is red.

Tapping on a green icon disconnects that line.

***The text “veth” is displayed for USB-type and Ethernet-type modems.**

***When using a Wi-Fi dongle, the icon turns green when configuration is complete, and connection is made with the access point.**

4.2 (B) Settings button

The communication lines can be set by following the steps below.

Zao/Zao-S automatically recognizes the type of communication for the communication line and displays the settings screen for dial-up, LAN or Wi-Fi.

***Once a modem is set, settings for the same modem are not required again when connecting it to other LINES.**

4.2.1 Dial-up settings

Enter user name, password, telephone number, APN and connect.



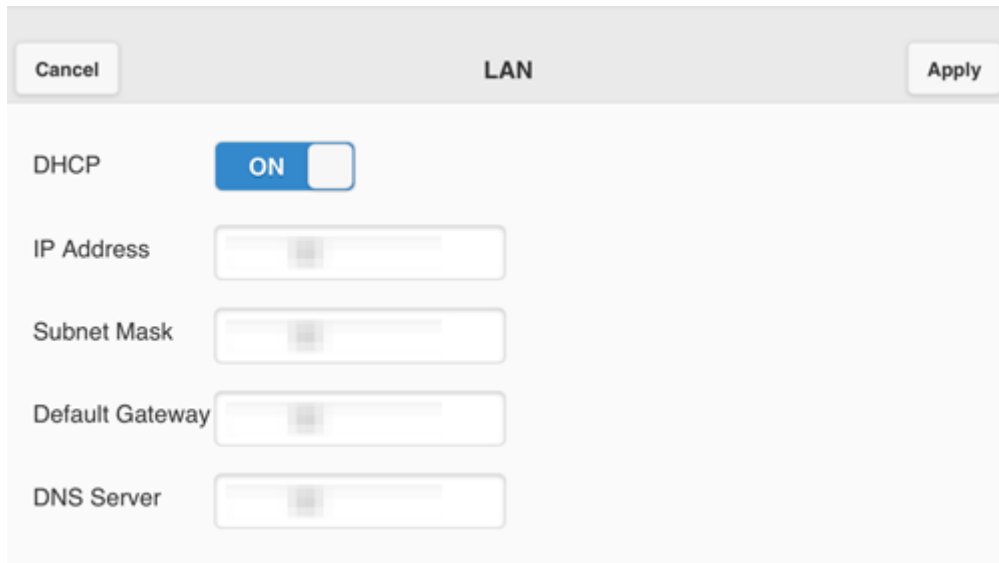
Figure 9 Dial-up Settings

4.2.2 LAN settings

This is displayed when the modem connected to LINE 1 to 6 for Zao, or LINE 1 to 4 for Zao-S, is recognized as a LAN connection. The settings cannot be edited.

Edit is possible only when using LINE 7 for Zao (LAN connector on the upper surface).

When not connecting through DHCP, enter the IP address, subnet mask, and default gateway.



The screenshot shows a settings window titled "LAN". At the top left is a "Cancel" button, and at the top right is an "Apply" button. The main content area has a "DHCP" toggle switch set to "ON". Below this are four input fields: "IP Address", "Subnet Mask", "Default Gateway", and "DNS Server". Each input field has a small grey square icon on its right side, likely for clearing the field.

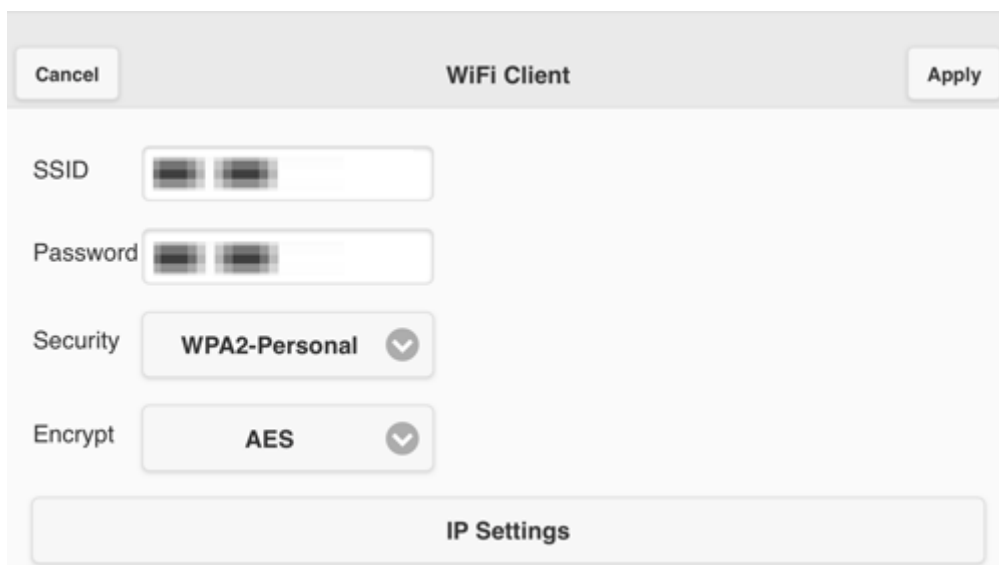
Figure 10 LAN Settings

4.2.3 Wi-Fi Settings

Enter SSID, password, and security method for the Wi-Fi router and connect.

You can see the IP address, subnet mask, and default gateway by pressing the IP Settings button after the Wi-Fi connection is established.

***IP address, subnet mask and default gateway cannot be changed.**



The screenshot shows a settings window titled "WiFi Client". At the top left is a "Cancel" button, and at the top right is an "Apply" button. The main content area has four fields: "SSID" and "Password" are text input fields with masked characters; "Security" is a dropdown menu set to "WPA2-Personal"; "Encrypt" is a dropdown menu set to "AES". At the bottom of the window is a button labeled "IP Settings".

Figure 11 Wi-Fi Settings

5 Video/Audio Settings Screen

This screen allows you to set the resolution, bit rate, frame rate, delay, and audio band.

***Change is possible only during live streaming.**

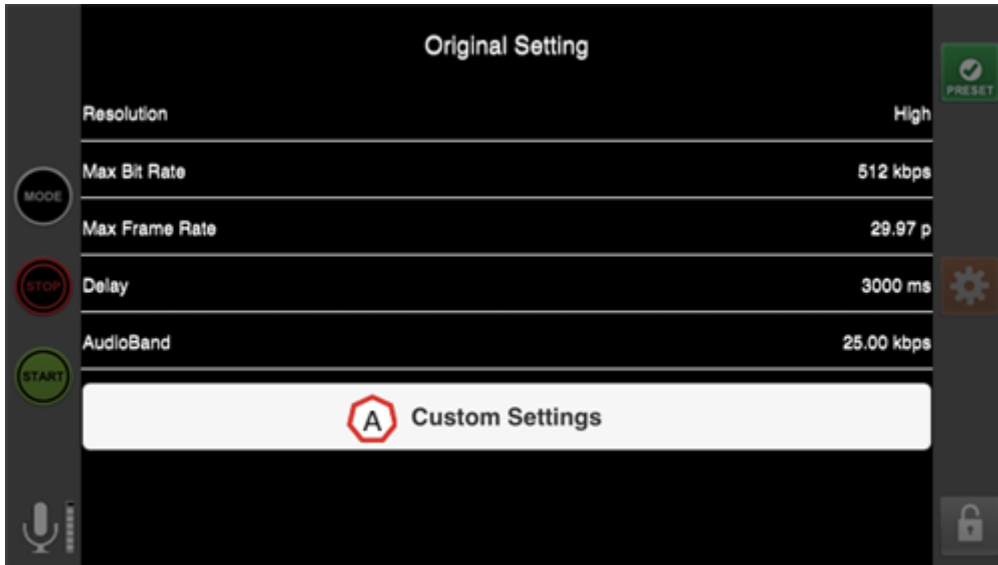


Figure 12 Video/Audio Settings Screen

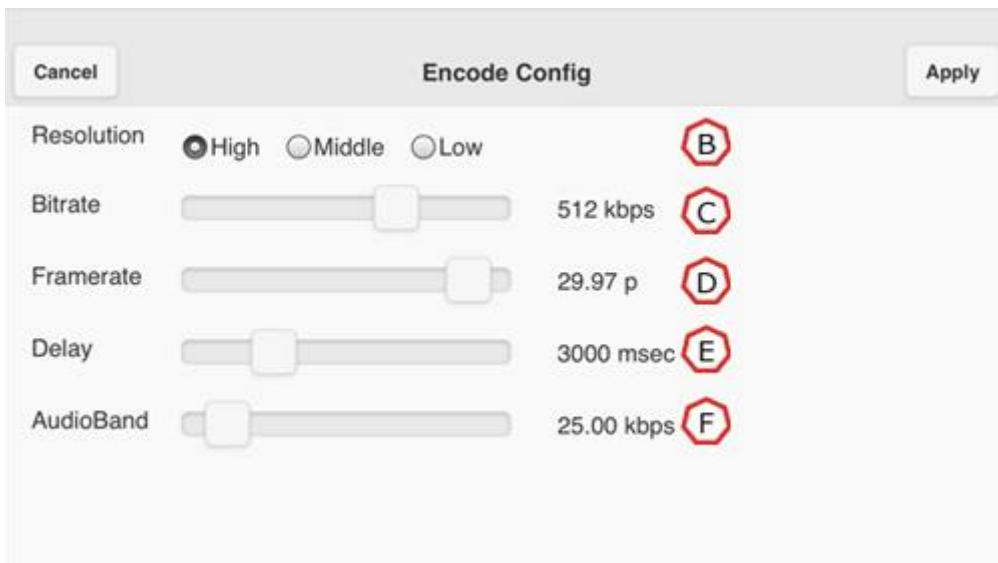


Figure 13 Custom Settings Screen

5.1 (A) Custom Settings button

Shows the Custom Settings screen.

5.2 (B) Resolution

You can change the resolution of the live streaming. The tables below show the resolutions for each option.

Table 1 List of Resolutions (video input 59.94i or 720/59.94p)

	HD (1080i) video input	
Option	Image quality	Resolution
High	Full HD	1920 x 1080
Middle	Half HD (59.94i)	960 x 1080*
	Half HD (29.97)	1920 x 540*
Low	Quarter HD	960 x 540
	HD (720p) video input	
Option	Image quality	Resolution
High	Full 720p	1280 x 720
Middle	Half 720p	640 x 720
Low	Quarter 720p	640 x 360
	SD video input	
Option	Image quality	Resolution
High	VGA	720 x 480
Middle	Half VGA (59.94i)	360 x 480*
	Half VGA (29.97)	720 x 240*
Low	CIF	360 x 240

Table 2 List of Resolutions (video input 50i or 720/50p)

	HD (1080i) video input	
Option	Image quality	Resolution
High	Full HD	1920 x 1080
Middle	Half HD (50i)	960 x 1080*
	Half HD (25)	1920 x 540*
Low	Quarter HD	960 x 540
	HD (720p) video input	
Option	Image quality	Resolution
High	Full 720p	1280 x 720
Middle	Half 720p (50)	640 x 720
Low	Quarter 720p	640 x 360
	SD video input	
Option	Image quality	Resolution
High	VGA	720 x 576
Middle	Half VGA (50i)	360 x 576*
	Half VGA (25)	720 x 288*
Low	CIF	360 x 288

***Resolution differs depending on the frame rate.**

5.3 (C) Bit rate

You can set the communication band.

5.4 (D) Frame rate

You can set the frame rate.

5.5 (E) Delay

You can change buffering on the receiving device. Buffering can be specified between 240 and 3000 milliseconds (msec).

By setting up buffering on the receiving device, data received is not immediately played but delayed for the buffering time specified before playback. This can reduce uneven frame refresh.

***Reference values by the type of communication line(s) used on the transmitting device**

Wired LAN 480 msec or above

Network configuration only includes 4G lines 720 msec or above

Network configuration includes 3G line 1200 msec or above

Satellite connection (e.g. BGAN) 4000 msec or above

If using a mix of connections, settings should be based on the connection with the lower communication speed.

Note that these reference values do not guarantee all situations/combinations.

Communication speed may not be stable due to congestion or signal conditions.

In this case, it is possible to increase stability by stopping moving and fixing the camera, or by extending the delay.

5.6 (F) Audio band

You can change the bandwidth used for audio transmission (Kbps).

***Change in settings is not updated during live streaming. To update, disconnect and re-start the live streaming.**

6 Receiver List Screen

This screen allows you to register the receiver name and IP address to connect to in advance.

***For Zao, receiver name can be up to 20 characters.**

***For Zao-S, receiver name can be up to 8 characters.**

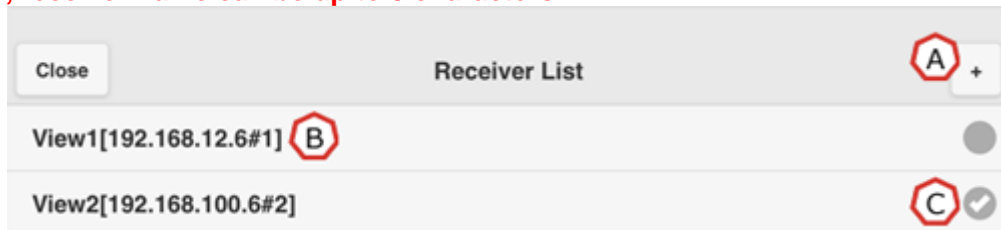


Figure 14 Receiver List Screen

6.1 (A) Add Receiver button

You can add a new receiver. Enter IP address, receiver name, connect channel and press the Apply button to register the receiver to the Receiver List. Up to 10 receivers can be registered.

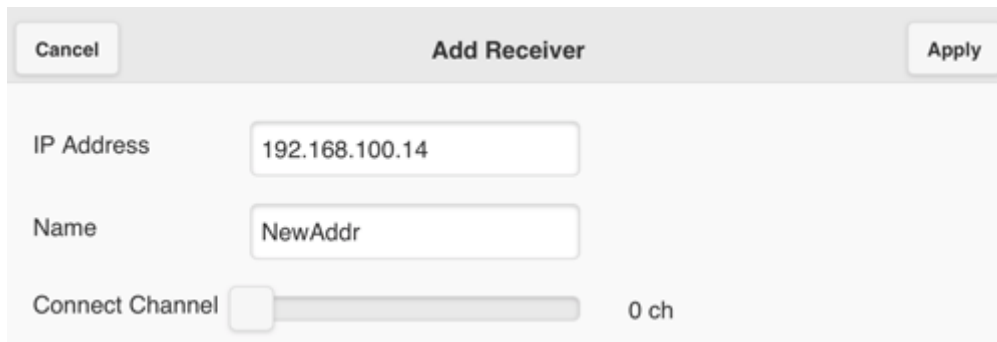


Figure 15 Add Receiver Screen

6.2 (B) Receiver Settings

You can edit the receivers registered on the list. Pressing a Receiver on the Receiver List displays the Receiver Settings screen. You can edit the IP address, receiver name, and/or connect channel.

Select: Apply the new settings and select the receiver.

Apply: Apply the new settings.



The image shows a screenshot of the 'Receiver Settings' screen. At the top, there is a header bar with a 'Cancel' button on the left, the title 'Receiver Settings' in the center, and an 'Apply' button on the right. Below the header, there are three input fields: 'IP Address' with the value '192.168.12.6', 'Name' with the value 'View1', and 'Connect Channel' which is a slider set to '1 ch'. At the bottom of the screen, there are two large buttons: 'Select' and 'Delete'.

Figure 16 Receiver Settings Screen

6.3 (C) Receiver indicator

The currently selected receiver is indicated with a checkmark.



7 Preset Screen

This screen allows you to view or select the preset values set in HD View or HD View Single.

***Change is possible only during live streaming.**

***You cannot edit/save the preset values from Zao Controller. Preset values are edited from the settings screens in HD View or HD View Single.**

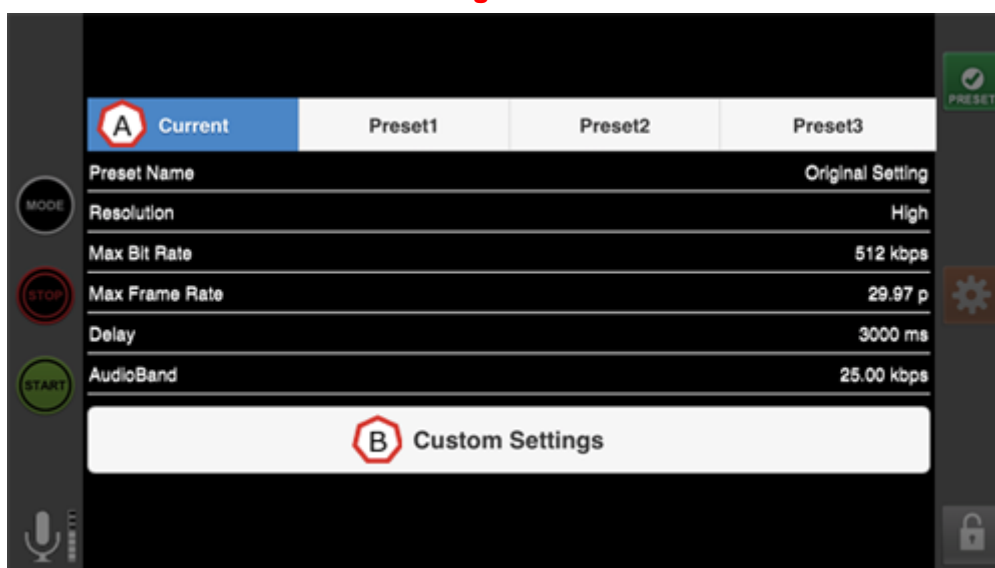


Figure 17 Preset Screen

7.1 (A) Preset values

- ◀ You can see the preset values set in HD View or HD View Single. Current shows the current values.

7.2 (B) Custom settings/update preset values

When “Current” is selected, “Custom Settings” is displayed. Pressing this takes you to the Video/Audio Settings Screen.

When “Preset” is selected, “Confirm” is displayed. Pressing this loads the preset settings.

8 Option Settings Screen

This screen allows you to set various options.

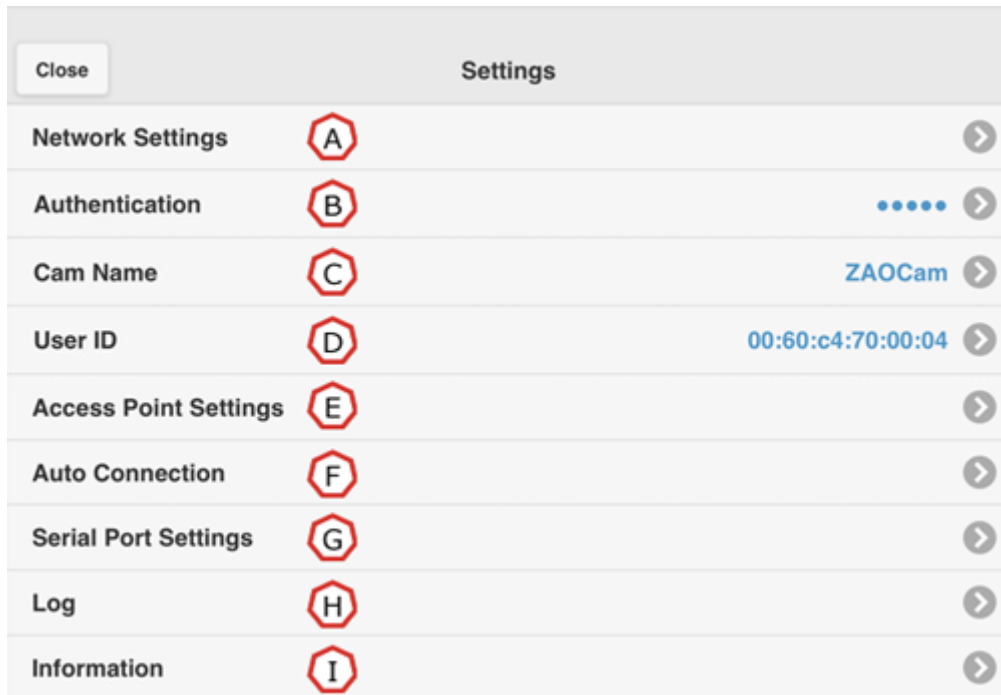


Figure 18 Option Settings Screen

8.1 (A) Network Settings

You can set the same items as the Network Settings Screen.

*See "Network Settings Screen" for details.

8.2 (B) Authentication

You can set the authentication code. If an authentication code is already set, it is shown with ●.

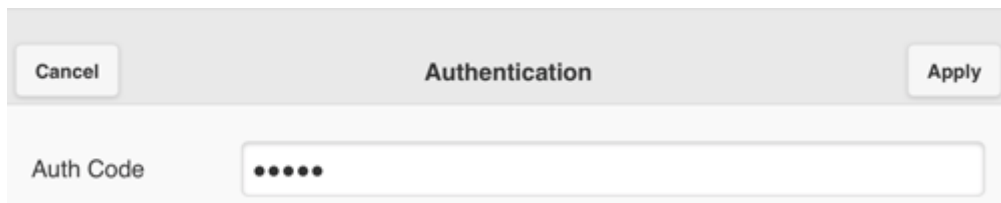


Figure 19 Authentication

8.3 (C) Cam Name

STC Cam name is the identifier used when connecting with the receiver.

***STC Cam name can be up to 15 characters, but only the first 8 characters of the STC Cam name for Zao will be displayed, and only 7 characters for Zao-S.**

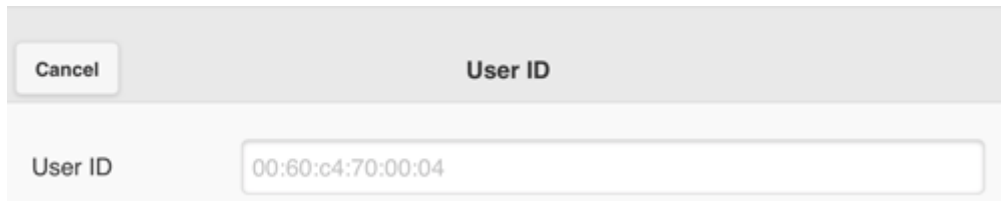


The screenshot shows a dialog box titled "Cam Name". It has a "Cancel" button on the left and an "Apply" button on the right. Below the title bar, there is a label "Cam Name" followed by a text input field containing the text "ZAOCam".

Figure 20 Cam Name

8.4 (D) User ID

You can see the ID specific to the device.



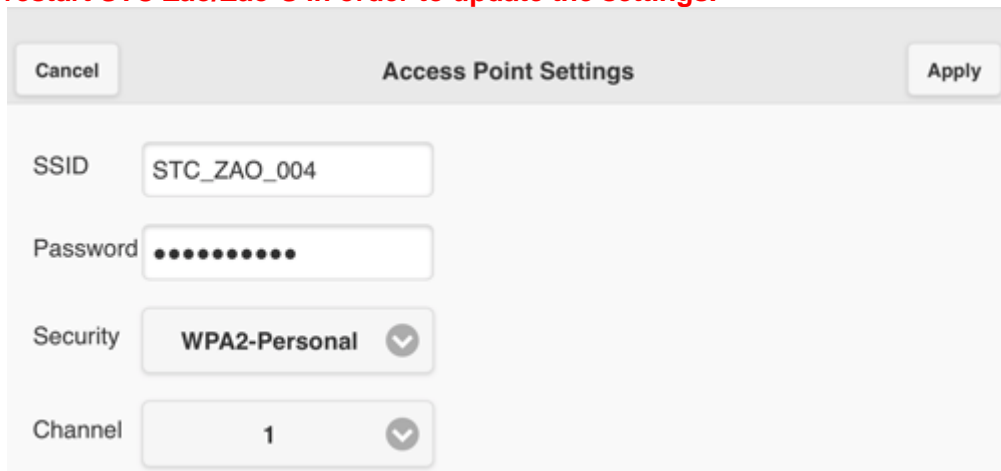
The screenshot shows a dialog box titled "User ID". It has a "Cancel" button on the left and an "Apply" button on the right. Below the title bar, there is a label "User ID" followed by a text input field containing the MAC address "00:60:c4:70:00:04".

Figure 21 User ID

8.5 (E) Access Point Settings

You can change the SSID, password, wireless channel for the Wi-Fi access point for Zao/Zao-S.

***You must restart STC Zao/Zao-S in order to update the settings.**



The screenshot shows a dialog box titled "Access Point Settings". It has a "Cancel" button on the left and an "Apply" button on the right. Below the title bar, there are four configuration fields: "SSID" with the value "STC_ZAO_004", "Password" with a masked field of ten dots, "Security" with a dropdown menu set to "WPA2-Personal", and "Channel" with a dropdown menu set to "1".

Figure 22 Access Point Settings

8.6 (F) Auto Connection

You can specify settings for auto connection to the receiver.



Figure 23 Auto Connection

8.6.1 Auto Connection

Automatically connects when Zao is turned on.

8.6.2 Auto Start Lines

Number of lines to use when Auto Connect is ON.

***If set at 3, connection process starts automatically as soon as 3 modems are recognized after starting.**

8.6.3 Reconnect when disconnected from View

Automatically reconnects when disconnected from the receiving device.

8.6.4 Auto Reconnect

Automatically reconnects when disconnected due to issues with the connection.

Reconnect is attempted repeatedly until the condition of the connection recovers and connection is successfully established with the receiving device.

8.7 (G) Serial Port Settings

You can specify settings for serial communication with the receiving device.

Device: Displayed when serial communication cable is connected.

Bit rate: Specify the communication speed (baud rate).

Data bit: Specify the data bit.

Stop bit: Specify the stop bit.

Parity: Specify the parity.

***A separate USB serial cable required for serial communication with the transmitting device.**

The screenshot shows a dialog box titled "Serial Port Settings". It contains the following fields:

- Device: An empty text input field.
- Bitrate: A dropdown menu showing "1200" followed by "bps".
- Data bit: A dropdown menu showing "8".
- Stop bit: A dropdown menu showing "1".
- Parity: A dropdown menu showing "Even".

Figure 53 Serial Port Settings

8.8 (H) Log

The logs are shown.

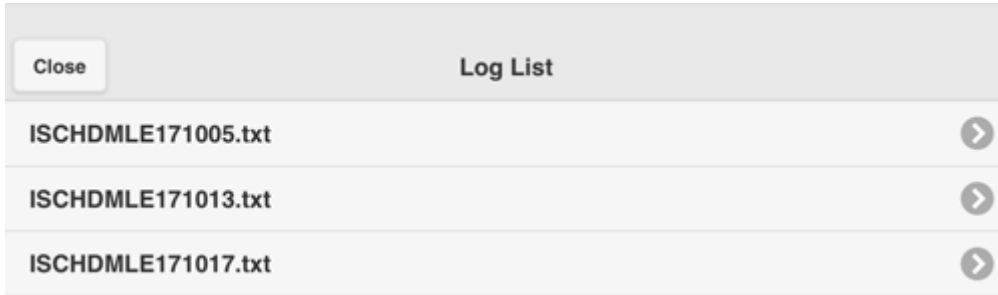


Figure 24 Log

8.9 (I) Information

Information on the software and hardware versions is shown.

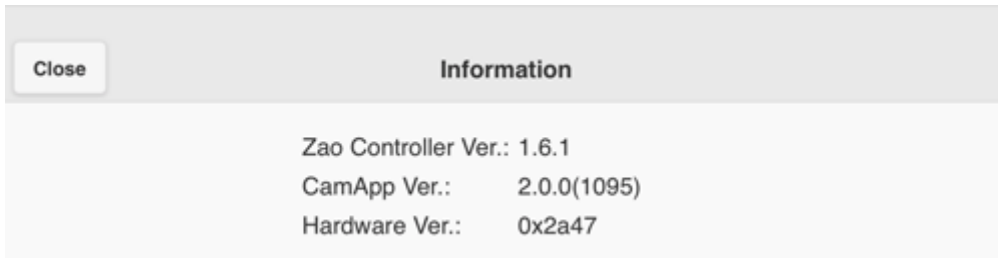


Figure 25 Information

9 Main Specifications

Table 3 Main Specifications

Item		Description
Android	Supported OS	Android 4.1 or above (4.4 or above recommended)
	Devices supported	-
iOS	Supported OS	iOS 7.0 or above
	Devices supported	iPhone, iPad and iPod touch

FAQ is available from our website below:

<http://www.soliton.co.jp/stc/>