PTZ Control Center Operations Manual

Introduction

PTZ Control Center is an application software that runs on Windows.

By running this software on a Windows PC, you can remotely operate the Panasonic cameras present on the local network in a very easy manner.

In addition, Panasonic cameras at a remote location can be operated remotely by linking to the KAIROS Cloud Platform.

Main features

Following are the main features of this software.

1. It allows remote operation of PTZ cameras

You can perform the following operations on Panasonic PTZ cameras.

· Pan/Tilt the camera by clicking/touching the screen

By clicking/touching the camera screen that is displayed, you can directly specify the movement position of the camera and perform Pan/Tilt operations.

· Pan/Tilt/Zoom the camera with range specification on screen

Specify an area on the camera screen displayed to Pan/Tilt/Zoom so that the specified area is displayed in a full screen.

• Pan/Tilt/Zoom the camera with buttons/slider

You can use the buttons/slider GUI of the software to perform Pan/Tilt/Zoom operations of the camera.

· Pan/Tilt/Zoom the camera using a keyboard/game controller

You can Pan/Tilt/Zoom the camera from a keyboard or game controller connected to the PC.

· Register/Call/Delete a preset for the camera

You can register, call, and delete the Pan/Tilt/Zoom position preset of the camera.

· Image quality adjustment of the camera

You can adjust Focus/Iris/Gain/WB/Shutter/ND Filter of the camera.

· Start/Stop SD card recording of the camera

You can Start/Stop recording of a camera that has the SD card recording function.

2. You can simultaneously operate multiple PTZ cameras

You can simultaneously perform the following operations on multiple Panasonic PTZ cameras.

- Pan/Tilt/Zoom the camera with buttons/slider
- Call a preset for the camera
- · Image quality adjustment of the camera (Focus, Iris only)

3. Multiple camera types are supported

The following three camera types are supported.

• PTZ camera + SUB Camera

Image of the PTZ camera is displayed on the top screen and image of the control assist camera AW-HEA10 or AW-UE4 is displayed on the bottom screen, and PTZ operation is performed.

• PTZ camera + Panorama still image

Image of PTZ camera is displayed on the top screen and panorama still image considering the usage environment is displayed on the bottom screen, and PTZ operation is performed.

You can create the panorama still image by using the PTZ camera.

Standalone PTZ camera

You can display the image of PTZ camera only and perform PTZ operation.

4. Display of H.264 streaming images from camera

You can have full screen display of H.264 streaming images from the PTZ camera.

5. It allows quality adjustment of the Camcoders

You can adjust the quality of Panasonic Camcoders.

6. It allows network setting of cameras

You can automatically detect the cameras present on the network and perform network settings.

7. It allows function restrictions by each user

You can set function restrictions such as the cameras that can be accessed are restricted by each user.

8. It allows migration of setting data

You can copy the setting data of this software between multiple PCs.

9. Support for touch panel operation

This software supports touch panel based operation. You can perform operations described with "click" in this manual as touch operations.

10. It includes the EasyIP Setup Tool Plus application

This software includes the EasyIP Setup Tool Plus application for easy PTZ camera setup and updates.

11. It allows camera SDI output image display using the SDI to UVC converter (paid option)

You can display SDI output image from the camera by using a commercially available SDI to UVC converter.

12. It provides a GUI that allows you to easily call presets for multiple cameras at the same time (paid option)

It provides a GUI that allows you to easily call presets for multiple cameras at the same time.

You can assign presets for multiple cameras by placing the preset call icon anywhere on the screen.

By using our wireless microphone system, you can call presets by speaking into the wireless microphone.

13. Cameras at a remote location can be operated by linking to the KAIROS Cloud Platform

Operating environment

The following environment is required for using this software.

 $\bullet OS$

Windows 8.1 64bit Windows 10 Home/Pro/Enterprise 64bit Windows 11

•PC

CPU: Core i5-2520M 2.50GHz and above
Memory: 4GB and above
Display: 1280×960 and above (1920×1080 and above is recommended)

The following cameras are supported by this software (As of February 2023).

* For the latest support models, please check the PTZ Control Center product page on the following website.

https://pro-av.panasonic.net/en/

•Panasonic Network supported cameras

PTZ camera

- AW-UE160/163
- AW-UE150/155
- AW-UE100
- AW-UE80/AW-UE50/AW-UE40
- AW-UE70/AW-UN70
- AW-UE20
- AW-UE4
- AW-HE145
- AW-HE130/AW-HN130
- AW-HR140
- AW-HE40/70/65, AW-HN40/70/65
- AW-HE42/68/75
- AW-HE20

Control Assist Camera

• AW-HEA10

POVCAM

- AG-UMR20/AG-UCK20
- · AG-MDR25/AG-MDC20

Camcoder

- AG-CX350
- AJ-CX4000

<Note>

• Please update the firmware to the latest version before using the camera. You may download the firmware from the following website.

http://pro-av.panasonic.net/en/

Description given in this file

- Illustrations and screens given in this file may differ from the actual items.
- In this file, a personal computer is mentioned as "PC."

Registrations and registered trademarks

- Microsoft, Windows, and Internet Explorer are the registered trademarks of Microsoft Corporation of the United States.
- Intel and Intel Core i5 are the registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
- In addition, names, company names, product names, etc. mentioned in this document are the trademarks or the registered trademarks of the respective company. In the document, TM and the mark are not clearly specified.

Description of screens

Login screen

The following login screen appears after starting this software.

PTZ Control Center
Please enter User Name and Password.
2 Payword 20

(1)User ID

Enter the user ID for logging on to this software.

2 Password

Enter the password of the user.

③Login button

Login to the software with the user name and the password you entered.

<Note>

• For initial user name and password, and user account registration, please refer to "Administrator Settings" in the installation procedures manual.

View screen

The following View screen appears after logging on the software.

On the View screen, list of the registered cameras will appear with information such as thumbnail.

The View screen is made of the following four areas.

- Header area
- · Camera list display control part/Camera list display
- Camera controller (when display is ON)



View screen (Camera controller display OFF)



View screen (Camera controller display ON)

• Header area

The top part of the screen remains common for each screen.



①Settings button

It changes the display to the Settings screen.

②AW-RP150 cooperation button

It changes the display to the AW-RP150 control screen.

③EasyIP Setup Tool Plus application launch button

It launches the EasyIP Setup Tool Plus application included with this software.

4Help button

It shows the help file (this document) in a separate tab of the web browser.

5Cloud button

Moves to the KAIROS Cloud Platform linkage screen.

(6)Screen switching tab

It switches the View / Main / Preset List / Visual Presets screen.

The switching tab on the Visual Presets screen is displayed only when the paid option AW-SF300 is enabled.

⑦Camera controller display switchover button

It switches the display type of the camera controller.

(BLogout/Version menu

Clicking $\mathbf{\nabla}$ will display the following menu.

Logout: You will logout from the software and the display will return to the Login screen.

Version: It will display the version information of the software.

• Camera list top part

In the top part of the camera list display, there are various buttons including the button for switching the list display.



①Display refine list

With the drop-down list, you can refine the cameras to be displayed.

You can refine the list with the following conditions.

All: Display all cameras

PTZ+SUB: It will display only those cameras where the Camera Type is [PTZ Camera + SUB Camera]

OTHER: It will display only those cameras where the Camera Type is [PTZ Camera + Image] or [PTZ Camera]

Check: It will display only those cameras where the check field in the camera list display is ON

Cloud: Displays only cameras that are to be controlled with KAIROS Cloud linkage

[Category name]: It will display only those cameras that belong to the categories registered in Category of the Settings screen

②Display count switchover list

With the drop-down list, you can change the number of cameras displayed per page.

③Check status switchover list

With the drop-down list, you can turn ON/OFF the check status of all cameras that are displayed.

④Page switchover button

It switches the camera list display page.

⑤Camera controller show/hide switchover button

You can switch between show/hide the camera controller.

• Camera list display

It shows the display details of each camera in the camera list display. Background of the cameras that are selected will appear in red color.



① Camera check field

Clicking this will switch the check status between ON/OFF.

You can perform the following operations on the cameras whose check status is ON.

- · Cameras to be displayed when [Check] is selected in refining the camera list display
- · Cameras to be operated when [Checked Multiple Camera] is selected on the Main screen

② Camera No. display

Displays the number indicating the order of the camera.

3 Camera name display

It shows the name of the registered camera.

④ Thumbnail image display

It shows thumbnail image of the camera image.

When no camera is found (power supply is switched off, not connected to the network etc.),

it will appear as "OFF."

⑤ Icon and name display of Camera Type

It shows the set Camera Type in the form of icon and type name.

If the camera is to be controlled with KAIROS Cloud linkage, **betavel** icon with cloud mark will be displayed.

⑥ Main screen display button

The display will change to the Main screen.

Camera controller

It provides various operation functions of cameras.

For the details of operation method, refer to "Camera operation - Camera controller" in this document.

Main screen

Clicking the Main tab in the top part of the screen will display the Main screen.

The Main screen is made of the following three areas.

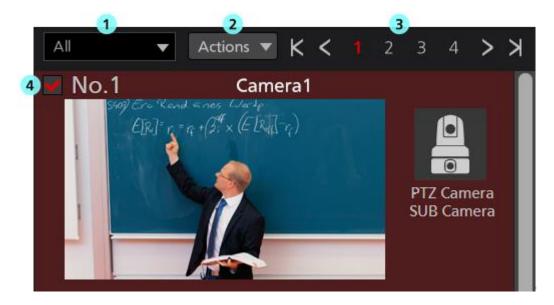
- Camera list display
- Camera image display area
- Camera controller



Main screen

• Camera list display

In the camera list display of the Main screen, each camera is arranged and placed vertically.



(Display refine list of the camera list

With the drop-down list, you can refine the cameras to be displayed.

Its function is same as that of the View screen.

2Check status switchover list

From the drop down list, you can turn ON/OFF the check status of all cameras that are displayed.

③Page switchover button

It switches the camera list display page.

(4)Camera list display

It shows the status of each camera.

It is same as that in the View screen except that the Main button is not there.

• Camera image display area

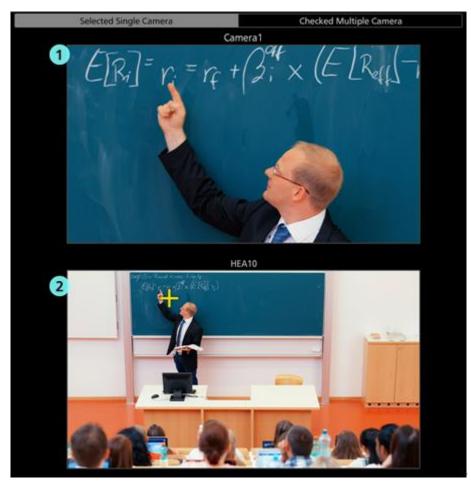
Image of the camera subject to operation is displayed in this area.

With the camera operation mode selection tab located at the top part, you can select whether to operate only one camera or multiple cameras simultaneously.

When [Selected Single Camera] is selected: Only one selected camera will be operated.

When [Checked Multiple Camera] is selected: All cameras whose check status is ON will be operated.

· Screen when [Selected Single Camera] is selected



①Top screen (PTZ camera image display)

Image of the PTZ camera selected in the camera list display will appear.

Clicking on the camera image will move the PTZ camera such that the clicked position comes at the center of the image.

②Bottom screen (sub-camera image/still image display)

Details that are displayed would differ depending on the Camera Type.

[PTZ Camera + SUB Camera]: Image of the control assist camera AW-HEA10 or AW-UE4 specified on the camera settings screen will appear.

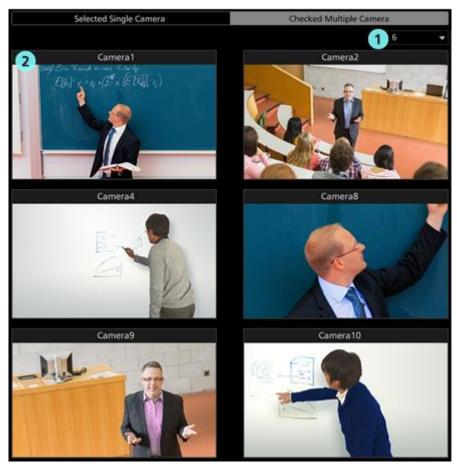
[PTZ Camera + Image]: Panorama still image specified on the camera settings screen will appear.

[PTZ Camera]: The display of bottom screen will not appear.

When the Camera Type is [PTZ Camera + SUB Camera] or [PTZ Camera + Image],

clicking on the image/still image will move the PTZ camera such that the clicked position comes at the center of the image.

· Screen when [Checked Multiple Camera] is selected



① Camera image count switchover list

With the drop-down list, you can switch the number of camera image to be displayed on one screen.

② Camera image

Image of the cameras whose check status is ON will appear.

Camera controller

Preset List screen

Clicking on the PRESET LIST tab at the top of the screen will display the Preset List screen. For the details of operation method, refer to "Using the Preset List screen" in this document.

Visual Presets screen

When the paid option AW-SF300 is enabled, the VISUAL PRESETS tab is displayed at the top of the screen.

Clicking on the VISUAL PRESETS tab will display the Visual Presets screen.

For details on how to use it, refer to "Paid optional features" \rightarrow "Visual preset call feature" in this document.

Settings – Category screen

This screen is for the category (group) settings of the cameras that are registered.

Clicking the Settings button located at the top left of the screen and selecting the Category tab at the center of the screen will change the display to this screen.

For the details of category settings, refer to "Default Settings 2 - Category Settings of Camera" in this document.



①Category list display

It shows the list of registered categories.

②Search box

It is used when searching categories.

Entering a string will show the list of only those categories where the string is included in the name.

For going back to the original display, clear the string that you entered.

3Add button

The display will change to the Register Category screen.

4Edit button

The display will change to the Edit Category screen.

5Delete button

It will delete the selected categories.

6Page switchover button

You can switchover to the page you want to see.

Settings – Camera screen

This screen is for registering and setting the cameras to be used with the software.

Clicking the Settings button located at the top left of the screen and selecting the Camera tab at the center of the screen will change the display to this screen.

For the details of camera settings, refer to "Default Settings 1 (Camera Settings)" in this document.



①Camera No. display

Displays the number indicating the order of the cameras.

②Name

It shows the name of the registered camera.

③IP Address

It shows the IP address of each camera.

(4)Port No.

It shows the port number to be used by each camera for communication.

⑤Now Connecting

The • sign will appear against the cameras that are in the process of connecting.

6Search box

It is used when searching the cameras with name.

Entering a string will show the list of only those cameras where the string is included in the name.

For going back to the original display, clear the string that you entered.

⑦Add button

The display will change to the Register Camera screen.

®Edit button

The display will change to the Edit Camera screen.

9Delete button

It will delete the selected camera.

⁽¹⁾Page switchover buttons

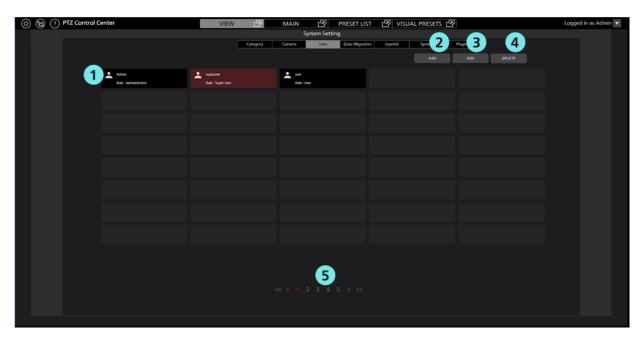
You can switchover to the page you want to see.

Settings – User screen

This screen is for setting accounts of the users who would use the software.

Clicking the Settings button located at the top left of the screen and selecting the User tab at the center of the screen will change the display to this screen.

For the details of account settings, refer to "Default Settings 2 - User Account Settings" in this document.



(DAccount list display

It shows the list of accounts registered in the software.

Account name will appear in the upper half of each account, while privilege will appear in the lower half.

2Add button

The display will change to the Register Account screen.

③Edit button

The display will change to the Edit Account screen.

④Delete button

It will delete the selected accounts.

5Page switchover buttons

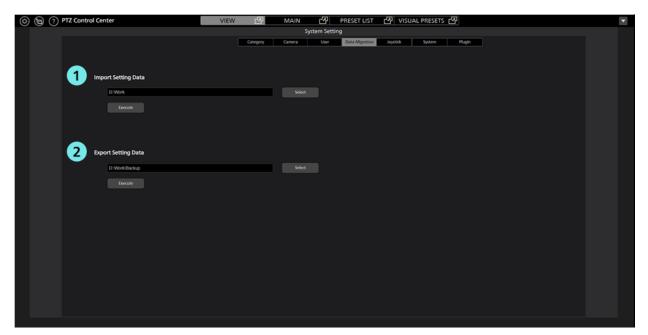
You can switchover to the page you want to see.

Settings – Data Migration Screen

This screen is for copying the setting data between the software programs running on another PC.

Clicking the Settings button located at the top left of the screen and selecting the Data Migration tab at the center of the screen will change the display to this screen.

For the details of copying the settings data, refer to "Copying the settings data" in this document.



①Import Setting Data field

This is used when importing setting data from other PC.

②Export Setting Data field

This is used when exporting setting data to other PC.

Settings – Joystick screen

This screen allows you to configure settings when operating the PTZ camera with a game controller connected to your PC.

Click the Settings button at the top left of the screen and select the Joystick tab to move to this screen.

For details of the settings, refer to "Operation of cameras" \rightarrow "Operating the Camera with a Game Controller" in this document.

(2) (2) PTZ Control Center	VIEW	샵	MAIN	凸	PRESET LIST	년 VISUA	L PRESETS 🗗		•
			Syste	em Settin					
		Category	Camera	User	Data Migration	Joystick	System Plugin]	
	1		2			3			
Joystick	Device		Zoom Co		Cam				
1	PC Game Controller		Type 1		28:AW-HE75				
2	PC Game Controller		Type 2		30:AW-UE150				
3			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
4									
5									
6									
7									
8									
9									
10							4		
							Set		

①Game controller device setting field

Select the game controller device that will operate the PTZ camera.

②Game controller zoom operation setting field

Select from 5 ways to operate the PTZ camera zoom with the game controller.

③Setting field for PTZ camera to be operated

Select the PTZ camera to be operated by the game controller.

④Set button

Applies the settings.

Settings - System Screen

This screen is for configuring the settings of the keyboard and image capture device connected to the PC.

Click the Settings in the top left of the screen and then select the System tab in the middle of the screen to get to this screen.

0 9 9 9 0 4	VIEW 🗗 MAIN	🖉 PRESET LIST 🕜 VISUAL PRESETS 🖓	
		System Setting	
	Campory Camora Unar Deta M	gration Bythd Syttem Puph Cloud	
1 Kryboard Shortcut		2 Image Capture Device	
• Enabled •	Disabled Set	SDI Router Address	
		USB Video Device:	
		P.	solution: 1920+1080
		- Fran	ne Rate: 00 FPS
		3 Wireless microphone unit	
		IP Address: 110 161 0 110	
		Port No.: 50013	
		Password:	
			Connect automatically
		Status: Offline	

①Keyboard operation settings field

This sets whether to enable or disable PTZ camera operation from the keyboard.

②Image capture device setting field

This setting field is displayed only when the paid option AW-SF300 is enabled.

Set the image capture device to use when displaying the SDI output image from the PTZ camera with this software.

For details, refer to "Paid optional features" → "Camera SDI Output Image Display" in this document.

③Wireless microphone receiver setting field

This setting field is displayed only when the paid option AW-SF300 is enabled.

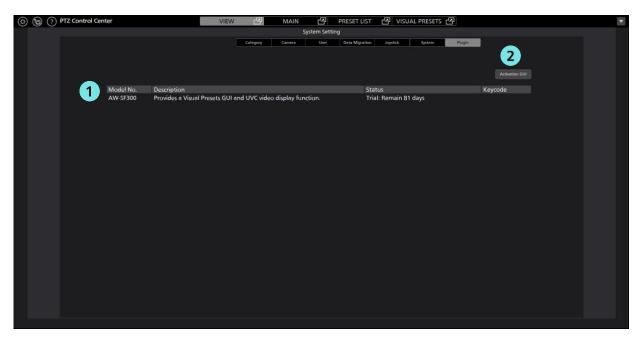
Set information for the wireless microphone receiver that is used to call presets when using our wireless microphone system. For details, refer to "Paid optional features" \rightarrow "Visual preset call feature" in this document.

Settings – Plugin Screen

This screen manages the licenses for the paid options (plugins) used with this software.

Click the Settings button at the top left of the screen and select the Plugin tab to move to this screen.

For details, refer to "Paid Options" \rightarrow "License Management" in this document.



①Status display field for paid options

Displays the license status of paid options (plugins) used with this software.

②Activation GUI button

Launches the activation application.

Settings – Cloud screen

Screen to link with the KAIROS Cloud Platform.

Clicking the Setting button at the top left of the screen and selecting the Cloud tab or clicking the Cloud button at the top left of the screen will move to this screen.

For details, refer to "KAIROS Cloud Linkage Function."

© ⊕ ⊕ 0 4 <u>a</u>	VIEW 🕑 MAIN	PRESET LIST	· 생 VISUAL PRESETS 생	×
	3	ystem Setting		
	Calegory Camera Steer Oada Mg	pation Applick Sy	Name Page Could	
KAIROS Goud Platform				
1 APP ID: 91e657a2e66	6b7485679db9644a54dad2dd			
URL: checkener com				
User ID: user				
Password:		Connect autor	natically	
Status: The connection	n to server has been completed successfully.			
Device List				Relation
Rodel Nidan	ame	IP Address	GUID	
Z AW-UEBOK AW-U	E80K_00000000	153.156.249.184	010550080452F348211915630459322A	2674156A

①KAIROS Cloud Platform login field

For logging into the KAIROS Cloud Platform.

②Camera information display field

Displays list of cameras that are to be controlled via KAIROS Cloud Platform.

Default Settings 1 (Camera Settings)

Please set the camera before using the software.

The following three camera types are supported.

• PTZ Camera + SUB Camera

Image of the PTZ camera is displayed on the top screen and image of the control assist camera AW-HEA10 or AW-UE4 is displayed on the bottom screen, and PTZ operation is performed.

• PTZ Camera + Image

Image of PTZ camera is displayed on the top screen and panorama still image considering the usage environment is displayed on the bottom screen, and PTZ operation is performed. Panorama still image can be created by using PTZ camera.

• PTZ Camera

Only displays videos of PTZ cameras and Camcoders for PTZ operation or quality adjustment.

Details required to be set differ depending on the Camera Type. Procedure for each Camera Type is explained here.

<Note>

• For Camcoder (AG-CX350, AJ-CX4000), only PTZ Camera type can be used.

Select PTZ Camera as the type and configure settings according to the description in the "Setting of PTZ Camera."

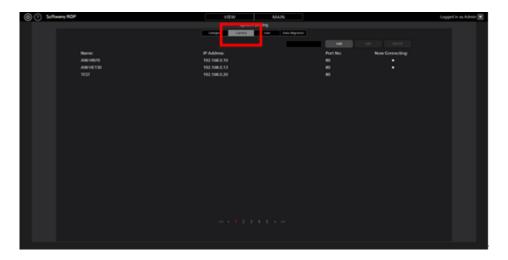
Setting of PTZ Camera + SUB Camera

Camera setting procedure

- 1. Login to the software.
- 2. The View screen will appear. Click the Settings button located at the top left of the screen.



3. Click the Camera tab at the center of the Settings screen.



4. Click the Add button and go to the Register Camera screen.

(i) 1 Software ROP	VIEW MAIN		Logged in as Admin 🕱
	System Setting		
	General General Liver Barla Highlight		
		AM 14 14	
Name	IP Address:	Now Connecting:	
AWHERD	152.198.0.10		
AW+E130	152.198.0.13		
1151	152.198.0.20		

5. Set the information of PTZ camera and Sub camera respectively.

Add Camera	🔵 PTZ Camera + SUB Camera 🛛 🔵 PTZ Camera + Ima	age 💿 PTZ Camera
PTZ Camera	Auto Search	
2 Name:	AW-UE70	Image Capture Type: 🛛 🗧 IP
IP Address:	192.168.0.10	Frame Rate: 5 FPS
Port No:	80	USB Video Device
Login:	admin	SDI Channel No.:
Password:	Ø	
Preset Color:		
No.	1 Setting	
SUB Camera	Auto Search	
3 Name:	AW-HEA10	
IP Address:	192.168.0.11	
Port No:	80	
Login:	admin	
Password:	Ø	
4	Celibration	5 OK Cancel

- (1) In the Type field, select [PTZ Camera + SUB Camera].
- (2) Enter the information of PTZ camera in the PTZ Camera field.

Name: Name of camera

IP Address: IP address of camera

PortNo: Port number used by the camera (default is 80)

Login: Camera's account

Password: Camera's password

Preset Color: Select an effective preset display color

No.: Camera registration number

Image Capture Type : Select the acquisition method for the PTZ camera image to be displayed with this software.

[IP]: Displays the image acquired from the PTZ camera via the network.

Select this for normal operation.

Set the frame rate of the camera image displayed on the Main screen using Frame Rate.

[USB Video Device]: Select when displaying the SDI output image from the PTZ camera using a commercially available SDI to UVC converter.

This item is displayed only when the paid option AW-SF300 is enabled. For details, refer to "Paid optional features" \rightarrow "Camera SDI Output Image Display" in this document.

You can manually enter the items or search the camera and automatically enter the items.

• When entering manually

Move to the box of each item and enter the value.

· When entering automatically

Clicking the Auto Search button of the PTZ Camera field will display the list of cameras present on the network. Selecting either of the cameras from the list and closing the window by pressing the OK button will automatically enter some of the items.

				Auto Search		
No.	Client Mac	IPv4 Address	Port	Camera Name	Camera Model	IPAddress Duplications
1	20-C6-EB-EF-02-00	192.168.0.10	80	AW-HE40	CAM:HE40	
2	00-80-45-0D-00-02	192.168.0.12	80	AW-HE130	CAM:HE130	
Sea	nrch Netv	work Setting				OK Cancel

(3) Enter the information of the control assist camera AW-HEA10 or AW-UE4 in the Sub Camera field.

Input method is same as the PTZ Camera field.

- (4) Click the Calibration button and go to the Calibration screen for doing calibration. Refer to "Default Settings 1 Calibration" in this document for more details.
- (5) Click the OK button to come out of the Register Camera screen.
- 6. With this, the setting is complete.

Setting of PTZ Camera + Image

Camera setting procedure

- 1. Go to the Register Camera screen following the same steps as steps 1 through 4 described in "Setting of PTZ Camera + SUB Camera" above.
- 2. Set the information of PTZ camera and still image respectively.

Add Camera		
1 Туре:	🔵 PTZ Camera + SUB Camera 🛛 🏮 PTZ Camera + Image	PTZ Camera
PTZ Camera	Auto Search	
2 Name:	AW-UETO	Image Capture Type: 🧕 IP
IP Address:	192.168.0.10	Frame Rate: 5 FPS
Port No:	80	USB Video Device
Login:	admin	SDI Channel No.:
Password:	Ø	
Preset Color:		
No.	1 Setting	
3 ^{09e}	Capture	
Path:	C-\Tmp/panorama.jpg	Select
	A Calibration	
\ \	-	
		-
		5 OK Cancel

- (1) In the Type field, select [PTZ Camera + Image].
- (2) Enter the information of PTZ camera in the PTZ Camera field.

Input method is same as the "Setting of PTZ Camera + SUB Camera."

(3) Set the still image to be displayed in the bottom screen in the Image field.

There are two ways of setting the still image, namely, setting an existing image available on PC, and creating and setting a panorama image considering the usage environment by using the PTZ camera.

• When setting an existing image available on PC

Clicking the Select button will show the file selection dialog window. Select the still image that you want to display in the bottom screen.

· When creating and setting a panorama image

Refer to "Procedure of creating panorama images" described later.

- (4) Click the Calibration button and go to the Calibration screen for doing calibration. Refer to "Default Settings 1 Calibration" in this document for more details.
- (5) Click the OK button to come out of the Register Camera screen.
- 6. With this, the setting is complete.

Procedure of creating panorama images

1. Click the Capture button on the Register Camera screen.

Add Camera		
Туре:	🔵 PTZ Camera + SUB Camera 🛛 🧕 PTZ Camera + Image	PTZ Camera
PTZ Camera		
Name:	AW-UE70	Image Capture Type: 🛛 😑 IP
IP Address:	192 168 0 10	Frame Rate: 5 FPS
Dect No:	80	USB Video Device
Port No:		SDI Channel No.:
Login:	admin	
Password:	Ø	
Preset Color:		
No.	1 Setting	
Image		
Path:	C:\Tmp/panorama.jpg	Select
	Calibration	
		OK Cancel

2. The Create Panorama Image screen will open. Create a panorama image with the following steps.

System Setting		c	amera Control	ler	
Entropy Comman View Outs Migration	ParvTilt	1	3	Zoom	Focus
Position image 2 Start 2 2 CL/SJ IN FIL 1/21 × (GL/NG) 1/1		+ - 4	x x	0	•
End 4 5 KA Capture Image	<u>ان</u> م			, .	2
6 (ER)' r = n +(si × (¢ (Kq), 'n))	، م لا		Q į Q	ے ج	** 7
	MT		Image Adjust		GEAR
	185	GAIN	WB	SHUTTER	ND
	•	0d8	ATW		
	Auto		ANT AN		

- (1) Use the Pan/Tilt buttons of the camera controller and move the PTZ camera to the starting position of the panorama image.
- (2) Click the SET button of the Position Image Start field.

Image of the starting position will be set (it may take about few second before the setting is complete).

- (3) Use the Pan/Tilt buttons of the camera controller and move the PTZ camera to the ending position of the panorama image.
- (4) Click the SET button of the Position Image End field.

Image of the ending position will be set (it may take about few second before the setting is complete).

(5) Clicking the RUN button located at the bottom of the Position Image field will automatically move the PTZ camera from the starting position until the ending position you set, and panorama image will be created.

- (6) Once creation of the panorama image is complete, the panorama image created will appear in the Capture Image field.
- 3. Click the OK button at the bottom of the screen to come out of the Create Panorama Image screen.

File of the panorama image you created will be automatically set in the Image - Path field of the Register Camera screen.

<Note>

- · Check the following points when the panorama image is not created correctly.
 - When there is a moving object between the starting position and the ending position, remove this object and recreate the image.
 - Recreate the image after changing the starting position and the ending position.
- A panorama image cannot be created with the AW-UE4 PTZ camera.

Setting of PTZ Camera

- 1. Go to the Register Camera screen following the same steps as steps 1 through 4 described in "Setting of PTZ Camera + SUB Camera" above.
- 2. Enter the information of PTZ camera or Camcoder.

Add Camera				
1 Туре:	PTZ Camera + SUB Camera	PTZ Camera + Image	PTZ Camera	
PTZ Camera	Auto Search			
2 Name:	AW-UE70		Image Capture Type:	. IP
IP Address:	192.168.0.10			Frame Rate: 5 FPS
Port No:	80			USB Video Device SDI Channel No.:
Login:	admin			Sol Chamiler No.
Password:		Ø		
Preset Color:				
No.	1 Setting			
			OK G	encel

- (1) In the Type field, select [PTZ Camera].
- (2) Enter the information of PTZ camera in the PTZ Camera field.

Input method is same as the "Setting of PTZ Camera + SUB Camera."

- (3) Click the OK button to come out of the Register Camera screen.
- 3. With this, the setting is complete.

<Note>

· After registering a camera, a connection will not be made with that camera until the VIEW screen is opened.

• Use the setting values below if you are going to register a camcorder (AG-CX350, AJ-CX4000).

IP Address: Camera IP address

Port No.: 80

Login: Blank (Contents ignored even if entered)

Password: Blank (Contents ignored even if entered)

• If connecting with this software, it is necessary to use the following for the operation settings on the camcorder (AG-CX350, AJ-CX4000) side.

Set [NETWORK] -> [IP REMOTE] -> [ENABLE/DISABLE] to [ENABLE (HOLD)]

• When launching this software, it is necessary to close the camcorder (AG-CX350, AJ-CX4000) settings menu or the Thumbnail screen.

Calibration

When either [PTZ Camera + SUB Camera] or [PTZ Camera + Image] is selected in Camera Type, it is necessary to perform calibration for correctly adjusting the positional relation of the top screen and the bottom screen. Perform calibration as per the following steps.

- 1. Login to the software.
- 2. The View screen will appear. Click the Settings button located at the top left of the screen.



3. Click the Camera tab at the center of the Settings screen.

(i) Software ROP	VIEW MAIN		Lopped in as Admin 💌
	Aprilan an Ap		
Nete	P Address:	Port No: Now Connecting	
AWINCO	192.194.0.10	NO +	
AW-4E130	112.104.0.13		
1157	112106.030		

4. After selecting the target camera, click the Edit button and move to the Edit Camera screen.

	Category Camera User Data	Migration
		Add Edit DOLLITE
Name:	IP Address:	Port No: Now Connecting:
AW-HE70	192.168.0.10	80
AW-HE130	192.168.0.13	80
AW-UE70	192.168.0.20	80

5. Click the Calibration button on the Edit Camera screen..

Туре:	● PTZ Camera + SUB Camera 💿 PTZ Camera + Image	PTZ Camera
PTZ Camera		
Name:	AW-UE70	Image Capture Type: 🥥 IP
IP Address:	192 168 0.10	Frame Rate: 5 FPS
Port No:	80	USB Video Device
Login:	admin	SDI Channel No.:
Password:	Ø	
Preset Color:		
No.	1 Setting	
SUB Camera		
Name:	AW-HEA10	
IP Address:	192.168.0.11	
Port No:	80	
Login:	admin	
Password:		
	Calibration	

6. The Calibration screen will appear. Perform calibration as per the following steps.



- (1) Click either of the white crosses appearing on the bottom screen and turn it into the selected state shown in yellow color.
- (2) Use the Pan/Tilt buttons of the camera controller and move the PTZ camera such that the center of the cross selected in the bottom screen in step (1) and the center of the cross in the top screen come to the same position.
- (3) Click the Confirm button. Yellow color cross will turn blue.
- (4) For all white crosses appearing in the bottom screen, perform steps (1) through (3) above.
- (5) Click the Finish button to come out of the Calibration screen.
- 7. With this, the calibration is complete.

Changing network settings

You can change the network settings of the camera from the software.

You can make settings as per the following steps.

1. Go to the Edit Camera screen following the same steps as steps 1 through 4 of "Default Settings 1 - Calibration."

2. Click the Auto Search button on the Edit Camera screen.

Type:	PTZ Camera + SUB Camera	PTZ Camera + Image	PTZ Camera		
PTZ Camera	Auto Search				
Name:	AW-UE TO		Image Capture Type:	🔵 IP	
IP Address:	192.168.0.10			Frame Rate:	5 FPS
Port No:	80			SDI-USB	
Login:	admin			SDI Channel No.:	_
Password:					
Preset Color:					
SUB Camera	Auto Search				
Name:	AW-HEA10				
IP Address:	192.168.0.40				
Port No:	80				
Login:	admin				
Password:					
	Calibration		ок Сал	cel	

3. List of cameras present on the network will appear.

Select the cameras to be set and click the Network Setting button.

				Auto Search		
No.	Client Mac	IPv4 Address	Port	Camera Name	Camera Model	IPAddress Duplications
1	20-C6-EB-EF-02-00	192.168.0.10	80	AW-HE40	CAM:HE40	
2	00-80-45-0D-00-02	192.168.0.12	80	AW-HE130	CAM:HE130	
Sea	th Netwo	rk Setting				K Cancel

4. The Network Settings screen will open. Changing each item and clicking the OK button will change the network settings of the camera.

	Network Setting						
1 Network Settings	🖲 Static I	IP			DHC	Р	
2 Port No.	80						
3 IPv4 Address	192		168		0		10
4 Subnet Mask	255		255		255		0
5 Default Gateway	192		168		0		1
6 DNS	Auto			(Man	ual	
7 Primary DNS	0		0		0		0
8 Secondary DNS	0		0		0		0
	🕊 Wait	for	1	D	a to re	start	:
ок			Can	cel			

(1) Network Settings

You can select the setting method of IP address.

Static IP: Setting is done with fixed IP.

DHCP: Setting is done with DHCP.

2 Port No.

It sets the port number to be used by the camera.

③IPv4 Address

It sets the IP address of the camera.

This can be set only when Static IP is selected in Network Settings.

④ Subnet Mask

It sets the subnet mask of the camera.

This can be set only when Static IP is selected in Network Settings.

5 Default Gateway

It sets the gateway of the camera.

This can be set only when Static IP is selected in Network Settings.

6 DNS

You can select the setting method of DNS server.

Auto: It automatically sets the DNS server.

Manual: You can directly specify the address of the DNS server.

⑦ Primary DNS

It sets the address of the primary DNS.

This can be set only when Manual is selected in DNS.

(8) Secondary DNS

It sets the address of the secondary DNS.

This can be set only when Manual is selected in DNS.

(9) Checkbox waiting for restart completion

When this box is checked and when the setting is changed by clicking the OK button, the camera will standby until the setting is completed.

(1) OK button

It will apply the settings and close the screen.

(1) Cancel button

It will cancel the settings and close the screen.

<Note>

• When EasyIpSetup software and this software are used at the same time, network setting from this software is not available.

Change the display order of the camera

You can change the display order of the cameras.

- Procedure for changing the display order on the Settings - Camera screen

1. Go to the Settings - Camera screen following the same steps as steps 1 through 3 of "Default Settings 1 - Calibration."

2. Click the row of the camera whose display order you want to change to select it, and then drag it to the display row of another camera to change the display order to the location of that camera.

		Category	Camera	User	Data Migration	Joystick	System	Plugin	Cloud		
									Add		DELETE
No.	Name:			IP Address:			Po	ort No:		N	ow Connecting:
	AW-UE150			192.168.0.1	50		80				•
2	AW-HE40			192.168.0.4	0		80				•
	AW-UE70			192.168.0.7	0		80				•
4	AW-UE40			192.168.0.2	1		80				

- Procedure for changing the display order on the Edit Camera screen (1)

1. Go to the Edit Camera screen following the same steps as steps 1 through 4 of "Default Settings 1 - Calibration."

2. Enter the new camera number in the No. field. The camera number must be a number that is not used by other cameras.

Edit Camera	
Туре:	🔵 PTZ Camera + SUB Camera 💿 PTZ Camera + Image 🛛 🥥 PTZ Camera
PTZ Camera	Auto Search
Name:	AW-UE150
IP Address:	192.168.0.150
Port No:	80
Login:	admin
Password:	Ø
Preset Color:	
No.	1 Setting

- 3. If you close the Edit Camera screen with the OK button, the display order will be changed.
- Procedure for changing the display order on the Edit Camera screen (2)

1. Go to the Edit Camera screen following the same steps as steps 1 through 4 of "Default Settings 1 - Calibration."

2. Click the Setting button to display the Camera Number Setting window.

Edit Camera	
Туре:	📄 PTZ Camera + SUB Camera 💿 PTZ Camera + Image 🛛 🥥 PTZ Camera
PTZ Camera	Auto Search
Name:	AW-UE150
IP Address:	192.168.0.150
Port No:	80
Login:	admin
Password:	Ø
Preset Color:	
No.	1 Setting

3. You can change the camera display order by clicking and dragging the rows in the list on the Camera Number Setting window. You can swap the location where the camera already exists and the location where the camera does not exist. Click the OK button to return to the Edit Camera screen.

	Camei	ra Number Setting	
No.	Name:	Ip Address:	Port No.
1	AW-UE150	192.168.0.150	80
2	AW-HE40	192.168.0.40	80
3	AW-UE70	192.168.0.70	80
4	AW-UE40	192.168.0.21	80
5	AW-UE20	192.168.0.20	80
6	blank		
7	blank		
8	blank		
9	blank		
10	blank		
11	blank		
	ſ	OK Canc	el

4. If you close the Edit Camera screen with the OK button, the display order will be changed.

<Note>

The display order of the cameras controlled by the KAIROS cloud linkage function cannot be changed.

Default Settings 2 (Other Settings)

User account settings

Please set the user account before using the software.

- 1. Login to the software.
- 2. The View screen will appear. Click the Settings button located at the top left of the screen.



3. Click the User tab at the center of the Settings screen.



4. Click the Add button and go to the Register User screen.

(a) () Software ROP			VEW MAN			Logged in so. Admin 🕱			
			System Setting						
	Congray Laway Dir Sala Mayabar								
	Annesister Aut Annesister	L same tallyarte	±						

5. On the Register User screen, enter the information of the user account to be registered.

Add User	
Login:	
Password:	
Password(Retype):	
Role:	Administrator

Login: User account name

Password: Password

Password (Retype): Password (for confirmation)

Role: Account's privilege. You can select from the following three types.

Administrator:

Access to cameras: It can access all cameras.

Camera operation: It can perform all operations.

Settings on the Setting screen: It can make all settings.

Super User:

Access to cameras: It can access all cameras.

Camera operation: It can perform all operations.

Settings on the Setting screen: It can only make Category settings. It cannot access any other

settings.

allowed).

User:

Access to cameras: It can access only the permitted cameras.

Camera operation: Restricted (image quality adjustment, preset registration/deletion are not

Settings on the Setting screen: Not allowed to access the Setting screen.

6. When User is selected in Role of the user account, access permission setting areas (blue frame in the following figure) of the camera will appear at the bottom of the Register User screen. Here, you can set the cameras that the user is allowed to access.

Login: Password: Password(Retype):	User				
Role:	User			Accessible Camera	
Name: AW-HE40 AW-HE130 Camera01 Camera02 Camera03 Camera04		IP Address: 192.168.0.10 192.168.0.20 192.168.0.21 192.168.0.22 192.168.0.23	Add Delete	Name:	IP Address:
					OK Cancel

- (1) List of the cameras registered at present would appear in the list on the left side of the setting area. Select the cameras to which you want to allow the access.
- (2) Clicking the Add button at the center of the setting area will move the camera selected in step (1) to the list on the right side of the setting area.

When the user subjected to registration at present has logged in, only those cameras that are there in the list on the right side of the setting area will appear in the list of cameras on the View/Main screen.

- (3) When deleting the cameras to which you had allowed the access, select the cameras from the list on the right side of the setting area and click the DELETE button in the center of the setting area.
- 7. Click the OK button to come out of the Register User screen.
- 8. With this, the setting is complete.

<Note>

• For the details of the functions that the respective user privilege can use, refer to "Appendix - List of restrictions for each account privilege" in this document.

Category settings of camera

If required, set the category of the camera (group of the camera).

- 1. Login to the software.
- 2. The View screen will appear. Click the Settings button located at the top left of the screen.



3. Click the Category tab at the center of the Settings screen.

(C) Software ROP			VIEW MAIN			Logged in as Admin 😿					
			System Setting								
	Streps 2 and the Management										
	e	a i	e								

4. Click the Add button and go to the Register Category screen.



- 5. Register categories on the Register Category screen.
 - (1) Enter the name of the category to be registered in Name.
 - (2) From the list of cameras on the left side, select the cameras that you want to register in the category and click the Add button. This will add the cameras to the category (cameras will move to the list on the right side).

Selectable Cameras:			GroupCameras:	
Name: AW-HE40 AW-HE130 Camera01 Camera02 Camera03 Camera04	IP Address: 192.168.0.10 192.168.0.12 192.168.0.20 192.168.0.21 192.168.0.22 192.168.0.23	Add	Name:	IP Address:

- 6. Click the OK button to come out of the Register Category screen.
- 7. With this, the setting is complete.

Operation of cameras

The method of operation of only one camera with the software is explained here.

Camera selection

Use the following procedure to select the camera you wish to control.



- 1. Click the Main tab located in the center at the top of the software and go to the Main screen.
- In the list of cameras on the left side of the Main screen, click and select the camera you want to operate.
 You can also select a camera on the View screen.
- 3. Click the [Selected Single Camera] tab located at the top of the Main screen.
- 4. Image of the camera you selected will appear in the center of the Main screen.
 - Details that are displayed would differ depending on the Camera Type.
 - For PTZ Camera + SUB Camera

Top screen: Image of PTZ camera

Bottom screen: Image of the control assist camera AW-HEA10 or AW-UE4

• For PTZ Camera + Image

Top screen: Image of PTZ camera

Bottom screen: Still image that is set

For PTZ Camera

Top screen: Image of PTZ camera or Camcoder

Bottom screen: None

5. The camera is operated using the methods noted in "Operating the Camera from the Camera Image," "Operating the Camera with the Camera Controller," "Operating the Camera with a Keyboard," and "Operating the Camera with a Game Controller" below.

<Note>

• When thumbnails are OFF in the camera list display and when image does not appear even after selecting a camera, check that the network connection between the PC and the camera is correctly done.

Operating the Camera from the Camera Image

You can perform the following operations with the image from the selected camera displayed in the center of the main screen.

• Pan/Tilt the PTZ camera by clicking on the upper screen or lower screen

By clicking on the upper screen or lower screen, the PTZ camera performs Pan/Tilt operations so that the point you clicked is in the center of the screen.

· Pan/Tilt/Zoom the PTZ camera by specifying an area on the upper screen or lower screen

By clicking and dragging on the upper screen or lower screen, you can specify an area with a yellow box. When you stop dragging and fix the area, the PTZ camera performs Pan/Tilt/Zoom operations so that the specified area is displayed in a full screen.

· Zoom the PTZ camera by using the mouse wheel on the upper screen

When the mouse cursor is on the upper screen, you can zoom the PTZ camera by using the mouse wheel.

<Note>

- If the movement position of the PTZ camera when clicking the bottom screen is not accurate, refer to "Default Settings 1 Calibration" in this document and perform calibration.
- Pan/Tilt operation cannot be executed for POVCAM and Camcoder.

Operating the Camera with the Camera Controller

With camera controller, you can perform various operations of cameras.

The following operations are supported.

Display of the camera controller and possible operations differ for cameras that are PTZ camera/POVCAM and for Camcoders.

- PTZ operation
- Preset operation
- Image quality adjustment
- Start/Stop SD card recording
- Web screen calling

Descriptions of each operation part (for PTZ camera/POVCAM)

	Camera C	ontroller	
	PT	Z	\Diamond
Speed Fast		Zo	oom Focus T Far
•	PTZ oper	ation part	•
Slow	► ▼ ·		W Near
			Auto
Q	Pres	set	\$
1 Preset00	1 2 Preset00	2 3 F	Preset003
4 Preset00	A state	eration part	Preset006
7 Preset00	7 8 Preset00	8 9 F	Preset009
SET	DEL		HOME
	Image /	Adjust	\Diamond
IRIS +	GAIN W	B SHU	ND
	Image Adjust	operation pa	^{rt} Through
- Auto	AWB	ABB	
REC	Audio Vol.	🔻 Web	Cam Ctrl Go

PTZ operation part:

You can operate the Pan/Tilt, Zoom, Focus of the PTZ camera.

Preset operation part:

You can register, call, or delete a preset for the PTZ camera.

Image Adjusting operation part:

You can adjust the image of the PTZ camera.

<Note>

• Clicking the button on the top right of each operation part will enlarge the display.

Clicking the button with the enlarged display will return the display to normal.

PTZ operation

You can operate the Pan/Tilt, Zoom, Focus of the PTZ camera.



① Pan/Tilt speed control part

You can set the moving speed when moving the camera with the Fast/Slow buttons or the slider. Red color bar in the slider shows the current setting value.

② Pan/Tilt buttons

Clicking any of the arrow buttons will move the camera in the directions corresponding to the arrow.

Clicking on the slider in the middle will change the display and enables moving the camera in an optional direction.

③ Zoom position control part

You can set the Zoom position of the camera with the T/W buttons or the slider.

Red color bar in the slider shows the current setting value.

④ Focus control part

Clicking Auto will switch AutoFocus between ON/OFF.

When AutoFocus is ON, the camera will automatically set the Focus.

When AutoFocus is OFF, you can set the Focus of camera with the Far/Near buttons and the slider.

Preset operation

You can register, call, or delete a preset for the PTZ camera.

In addition, each of the presets may optionally be given a name.

When a preset is registered, the background color of the thumbnails is displayed with the color set in the Preset Color settings of the camera.



Preset registration

- 1. Use the Pan/Tilt buttons and Zoom position control slider/buttons and move the camera to the position you want to register.
- 2. Turn ON (red color) the SET button located at the bottom left of the Preset area.
- 3. Clicking either of the thumbnails of Preset 1 through Preset 9 in the Preset area will register the current camera position in preset. Thumbnail at the time of registration will appear in the button.

• Preset calling

- 1. Turn OFF (black color) the SET button and the DEL button located at the bottom left of the Preset Area.
- 2. Clicking either of the buttons of Preset 1 through Preset 9 in the Preset area will call the corresponding preset.

Preset deletion

- 1. Turn ON (red color) the DEL button located at the bottom left of the Preset area.
- 2. Clicking either of the buttons of Preset 1 through Preset 9 in the Preset area will delete the corresponding preset.

• Changing preset names

- 1. Change the SET button in the bottom left of the Preset area to ON (red).
- 2. Clicking on the name displayed on the thumbnail launches name editing and enables input of any name.

• Update preset display

Clicking on the button in the top left of the Preset area will retrieve the latest preset data from the camera and update the display.

• Image quality adjustment

You can adjust the image quality of the camera.

You can adjust the following items.

Iris / Gain / White Balance / Shutter / ND Filter



① Iris control part

Clicking Auto will switch AutoIris between ON/OFF.

When AutoIris is ON, the camera will automatically set the Iris.

When AutoIris is OFF, you can set the Iris of camera with the +/- buttons and the slider.

2 Gain control part

You can set the Gain of the camera with the up/down buttons.

③ White Balance control part

You can set the white balance mode of the camera with the up/down buttons.

By clicking the AWB button, the camera will automatically adjust white balance.

By clicking the ABB button, the camera will automatically adjust black balance.

④ Shutter control part

You can set the Shutter of the camera with the up/down buttons.

(5) ND Filter part

You can set the ND Filter of the camera with the up/down buttons.

<Note>

• You may not be able to adjust some of the items depending on the combination of camera type and operating mode. Refer to the operations manual of each camera for more details.

Start/Stop SD card recording

You can Start/Stop recording of a camera that has the SD card recording function.

Clicking the REC button located at the bottom left of camera controller with the camera in the recordable state will switch between recording start/stop at every click. When the camera is recording, the REC button will turn red, and when the recording is stopped, the REC button will turn gray.

Audio volume adjustment

Volume of audio of the camera can be adjusted with Audio Vol. part at the bottom of the camera controller.

If the camera supports multiple audio Ch., The volume value for Ch.1 will be displayed and the settings will be made for Ch.1 and Ch.2.

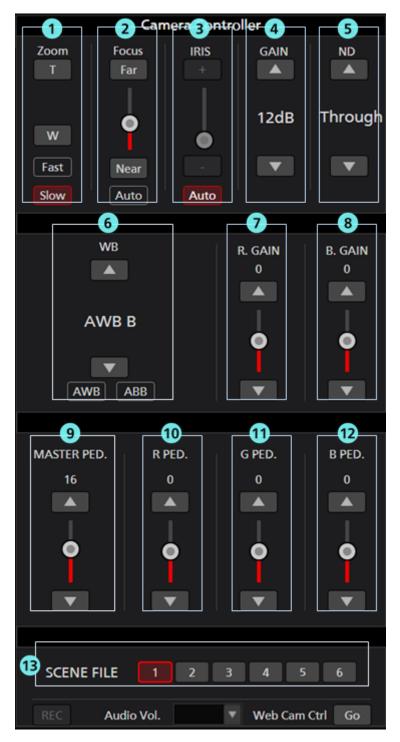
• Web screen calling

You can call the Web screen of the camera.

Clicking the Go button located at the bottom right of camera controller will open the Web Cam Management screen of the camera in the web browser.

<Note>

• A part of the Web Cam Management screen of the camera may not appear properly depending on the web browser you are using.



Description and operation of each parts (for Camcoder)

①Zoom control part

Operates the Zoom position of the camera with the T/W button.

Zoom speed can be switched with the Fast button and Slow button.

②Focus control part

ON/OFF of AutoFocus can be switched by clicking Auto.

Camera will automatically set Focus when AutoFocus is ON.

When AutoFocus is OFF, Focus of the camera can be set with the Far/Near button and slider.

③Iris control part

ON/OFF of AutoIris can be switched by clicking Auto.

Camera will automatically set Iris when AutoIris is ON.

When AutoIris is OFF, Iris of the camera can be set with the +/- button and slider.

④Gain control part

Sets Gain of the camera with the up/down button.

⑤ND Filter control part

Sets ND Filter of the camera with the up/down button.

(6)White Balance control part

Sets white balance mode of the camera with the up/down button.

Camera will automatically adjust white balance by clicking the AWB button.

Camera will automatically adjust black balance by clicking the ABB button.

⑦R. GAIN control part

Sets R. GAIN of the camera with the up/down button and slider.

(8) B. GAIN control part

Sets B. GAIN of the camera with the up/down button and slider.

MASTER PED. control part

Sets master pedestal of the camera with the up/down button and slider.

(DR. PED. control part

Sets R pedestal of the camera with the up/down button and slider.

(DG. PED. control part

Sets G pedestal of the camera with the up/down button and slider.

(DB. PED. control part

Sets B pedestal of the camera with the up/down button and slider.

(D)Scene file selection part

Selects scene file of the camera.

<Note>

• Audio volume adjustment does not function for Camcoders.

Operating the Camera with a Keyboard

You can perform a range of operations for a PTZ camera from a keyboard connected to the PC.

Keys and operation allocation are as below.

Кеу	Operation
1	Call preset 1
2	Call preset 2
3	Call preset 3
4	Call preset 4
5	Call preset 5
6	Call preset 6
7	Call preset 7
8	Call preset 8
9	Call preset 9
<u>↑</u>	Camera tilt upward
; ↓	Camera tilt downward
· · · · · · · · · · · · · · · · · · ·	Camera pan left
\rightarrow	Camera pan right
\uparrow + \rightarrow	Camera pan/tilt up and right
\rightarrow + \downarrow	Camera pan/tilt down and right
$\downarrow + \downarrow$	Camera pan/tilt down and left
↑ + →	Camera pan/tilt up and left
Shift + ↑	Camera tilt upward (high speed)
Shift + ↓	Camera tilt downward (high speed)
Shift + ←	Camera pan left (high speed)
Shift + →	Camera pan right (high speed)
Shift + \uparrow + \rightarrow	Camera pan/tilt up and right (high speed)
Shift + \rightarrow + \downarrow	Camera pan/tilt down and right (high speed)
Shift + ↓ + ←	Camera pan/tilt down and left (high speed)
Shift + ← + ↑	Camera pan/tilt up and left (high speed)
Ctrl + ↑	Camera tilt upward (low speed)
Ctrl + ↓	Camera tilt downward (low speed)
Ctrl + ←	Camera pan left (low speed)
$Ctrl + \rightarrow$	Camera pan right (low speed)
$Ctrl + \uparrow + \rightarrow$	Camera pan/tilt up and right (low speed)
$Ctrl + \to + \downarrow$	Camera pan/tilt down and right (low speed)
Ctrl + ↓ + ←	Camera pan/tilt down and left (low speed)
Ctrl + ← + ↑	Camera pan/tilt up and left (low speed)
Z	Camera zoom T side
Х	Camera zoom W side
Shift + Z	Camera zoom T side (high speed)
Shift + X	Camera zoom W side (high speed)
Ctrl + Z	Camera zoom T side (low speed)
Ctrl + X	Camera zoom W side (low speed)
- in numeric keypad	Camera zoom T side
+ in numeric keypad	Camera zoom W side

Shift and - in numeric keypad	Camera zoom T side (high speed)
Shift and + in numeric keypad	Camera zoom W side (high speed)
Ctrl and - in numeric keypad	Camera zoom T side (low speed)
Ctrl and + in numeric keypad	Camera zoom W side (low speed)
Alt + ↑	Switch selected camera to next one up
Alt + →	Switch selected camera to next one to the right
Alt + ↓	Switch selected camera to next one down
Alt + ←	Switch selected camera to next one to the left
Page UP	Switch camera page forward
Page DOWN	Switch camera page backward

<Note>

• You can enable and disable keyboard operation using [Keyboard Shortcut] settings in [Settings - System Screen]

Operating the Camera with a Game Controller

You can use up to 10 game controllers connected to the PC to perform various operations on the PTZ camera.

• Supported operations

The operations supported are as follows.

- Camera Pan/Tilt/Zoom
- Preset call
- · Switch selected camera

The allocation of operations to each axis/button on controllers is as below.

X axis: Camera pan

Y axis: Camera tilt

Z axis: Camera pan/tilt speed change

Rotate: Camera zoom (the rotation axis to be used can be set on the Settings - Joystick screen)

Button: Camera preset call according to button number

Hat switch: Switch selected camera

• Operation settings

Configure the settings on the Settings - Joystick screen.

After changing the settings, click the Set button to apply them.

Joystick	Device	Zoom Control	Camera	
1	PC Game Controller	Type 1	28:AW-HE75	
2	PC Game Controller	Type 2	30:AW-UE150	
3				
4				
5				
6				
7				
8				
9				
10				
				Set

- Device settings

Click the setting field to display a list of game controllers connected to the PC. Select the game controllers to use for operation.

- Zoom Control settings

Select from five types, Type 1 to Type 5, to decide the part of the joystick to which you wish to assign the zoom operation of the camera. The optimum settings differ depending on the model of the game controller. If the camera zoom does not work properly with the game controller you are using, try another Type.

- Camera settings

Select the camera to operate with the joystick.

Click the setting field to display the "Active Camera" item and a list of PTZ camera names registered in this software.

When "Active Camera" is selected, the camera selected on the VIEW/MAIN screen will be operated. When a specific camera is selected, only that camera can be operated regardless of the camera selection status on the VIEW/MAIN screen.

Select AW-RP150 if you want to use the joystick with the AW-RP150 linkage function.

<Note>

- If you connect the joystick to the PC after starting this software, this software may not recognize the joystick. In this case, please restart the software.
- You can check the axes, rotation, and button numbers allocated to the sticks and buttons of game controllers on the properties screen displayed by selecting Windows [Devices and Printers], right clicking on the controller icon, and selecting [Game Controller Settings] → [Properties].
- Please use Game Controller with DirectInput compatible products. If a game controller is switchable between Xinput and DirectInput, chose DirectInput.
- This software is not guaranteed to work on all game controllers

Please see the download website for this software to check which game controllers are confirmed to work.

Display of H.264 streaming images from camera

You can have full screen display of H.264 streaming images from the PTZ camera selected for operation.

The resolution and frame rate of H.264 streaming images displayed depend on the H.264 streaming settings for PTZ cameras.

The order of priority for H.264 streaming used for display is H.264 (1) \rightarrow H.264 (2) \rightarrow H.264 (3) \rightarrow H.264 (4).

Please set one of the H.264 streams as follows on the PTZ camera web screen beforehand.

• H.264 transmission

Set one or more from H.264 (1) - H.264 (4) to On

Image capture size

Specify one of the resolutions below.

 $3840x2160 \ / \ 1920x1080 \ / \ 1280x720 \ / \ 640x360 \ / \ 320x180$

Transmission priority

Set in frame rate

• Frame rate

Specify one of the frame rates below.

60fps / 50fps / 30fps / 25fps / 24fps / 15fps / 12.5fps / 5fps

To display H.264 streaming images, follow the procedure below.

- 1. Select a camera using the procedure in [Camera Selection] above to display the images from that camera on the main screen.
- 2. Double click the PTZ camera image displayed on the upper screen.

3. The H.264 streaming images from the PTZ camera are displayed full screen on the PC's primary display.

4. To end the display of H.264 streaming images, double click again or press ESC or Enter on the keyboard.

<Note>

If the camera password contains @, H.264 streaming images cannot be displayed.

Simultaneous Operation of Multiple Cameras

You can simultaneously operate multiple connected cameras.

Operation procedure

The operations for which simultaneous operation is possible are as follows.

- · Pan/Tilt/Zoom the camera with buttons/slider
- Call a preset for the camera
- Image quality adjustment of the camera (Focus, Iris only)

You can perform operations as per the following steps.



- 1. Click the Main tab located in the center at the top of the software and go to the Main screen.
- 2. In the list of cameras on the left side of the Main screen, turn ON the check of the cameras you want to operate.

You can also check on the View screen.

- 3. Click the [Checked Multiple Camera] tab located at the top of the Main screen.
- 4. Image of the cameras selected for operation will appear in the center of the Main screen.
- 5. Operate the camera with one of the following methods.

The operation methods are the same as when using one camera. For the details, refer to the items in "Operation of cameras" in this document.

- · Operate the camera using the camera controller in this software
- Operate the camera using a keyboard connected to the PC
- Operate the camera using a game controller connected to the PC

<Note>

- When thumbnails are OFF in the camera list display and when image does not appear even after selecting a camera, check that the network connection between the PC and the camera is correctly done.
- Cameras that are in the selected state in the camera list display can be operated irrespective of the check status.

Using the Preset List screen

Clicking on the PRESET LIST tab at the top of the screen will display the Preset List screen.

This displays the camera presets in a list and makes it possible to call the presets.

Description of the screen

The screen is made up of three areas as listed below.

- Screen selection part
- Preset list display part
- Camera operation part

Scre	een selec	ction par	rt 📕		VIEW	ß	MAIN	PRESE		VISUAL PRESE	TS 🗗		1099	ed in as Admin 👿
All	Cloud	ROOM	11 ROOM	12			AW4	RE75 AW-I		UN70		Q		
T Presidenti T	Preset002	Preset003	Presettida		Presettos	7 Preset07	Presettion	Presett09	10 Preset010	11 Preset011	t2 Preset012	13 Presett/13	14 Preset014	15 Preset215
16 Preset016	17 Preset017	18 Prosetti 18	19 Preset015	30 Preset020	21 Preset021	22 Presott22	23 Preset023	24 Presett24	25 Preset025	26 Preset026	27 Presett27	28 Preset928	29 Preset023	30 Preset\$30
31 Proset031	32 Preset232	33 Preset033	34 Preset\$34	35 Proset035	36 Preset236	37 Preset037	ar Preset038	39 Preset039	40 Preset040	41 Preset541	42 Preset542	4) Preset543	44 Presett144	45 Preset545
45 Presett) 45	47 Presetict7	48 Prenat() 45	49 Preset049	sa Preset050	31 Preset251	Prese	t list disp	olay part	55 Preneti55	sa Preset056	57 Preset057	18 Preset058	59 Preset059	40 Preset060
61 Preset061	62 Preset062	63 Preset063	64 Presetőli4	es Preset065	64 Preset066	s7 Presat067	sa Preset068	69 Preset063	70 Preset070	n Preseti71	72 Preset572	23 Preset073	74 Presatti74	75 Preset275
74 Presetti76	77 Preset\$77	78 Preset078	79 Preset079	80 Preset000	81 Preset081	82 Preset002	83 Preset083	84 Preset084	#5 Preset005	M Preset005	87 Preset087	M Protet088	an Preset039	50 Preset990
Presed001	Preset292 nera opei	Presettist ration p	M Presentisk	95 Prezed095	si Preset016	97 Preset(97	54 Preset010	98 Preset099	koo Preset100					
Set	Rename	Del	_	Rearrange	Reset		🖉 2 ste	p operation	••-	s	sec Time			Stop

Preset List Screen

Screen selection part

This is the area to select the camera to be displayed.



① Camera category selection tab

Select the camera category for the cameras to be displayed in the "(2) Camera selection tab."

The tab will display a list of camera category names registered in "All" and in the Settings - Category screen.

If "All" is selected, all cameras registered in the software will become display targets.

When "Cloud" is selected, camera to be controlled with KAIROS Cloud linkage will be the display target.

If one of the categories is selected, only the cameras that are in that category are displayed.

If there are 5 or more categories, click the $\mathbf{\nabla}$ button to display the category selection window and select a category in the window.

(2) Camera selection tab

Select a camera to be targeted for the preset list display.

If there are 5 or more cameras, click the $\mathbf{\nabla}$ button to display the camera selection window and select a camera in the window.

③ Preset display update button

When clicked, the preset list display is updated with any new preset data retrieved from the camera.

(4) Switchover button for number of presets displayed

It switches the number of presets displayed in the preset list display part.

Select from either displaying 100 presets or 50 presets.

• Preset list display part

It displays a list of the camera presets. The background color of thumbnails for registered presets are displayed using the color set in the Preset Color settings of the camera.

Camera operation part

This is the area to select the camera to be displayed.



1 Set button

Clicking on any preset in the preset list display part with this in the ON position (red) will register the current camera position as the preset.

(2) Rename button

Clicking on any preset in the preset list display part with this in the ON position (red) will allow changing the name of the preset.

3 Del button

Clicking on any preset in the preset list display part with this in the ON position (red) will delete the preset data selected.

(4) Rearrange button

Turning this ON (red) enters into a mode enabling rearranging the presets in the preset list display part.

Left clicking on any preset in this mode and dragging it to another preset will exchange the display position.

⑤ Reset button

It resets the current preset order that was rearranged using the Rearrange button and returns the presets to their initial order.

(6) 2 step operation checkbox

It selects the preset call operation.

When the check is ON: After selecting a preset from the preset list display part, clicking the "⑦Timed button" or the "⑧Normal button" will call a preset.

When the check is OFF: Selecting a preset in the preset list display part will call a preset. The call speed for presets depends on the settings of the camera.

7 Timed slider/button

The time taken from calling the preset to camera movement completion can be specified.

Use the slider to specify the time through camera movement finishing. Clicking the Timed button will call a preset.

*This operation is only possible with the AW-UE150/AW-UE100 camera.

(8) Normal button

The preset will be called at the speed set in the camera.

Stop button

It stops the preset call operation.

Rearranging presets

<u>@ (2)</u> PT	Z Control Cent				ve	w	MAIN	2	TUST]	Logged	in as Admin 💌
All	ROOM1	Category ROOM2	ROOM3		•	AW-UE1	AW-HE	75 AW-U		170	▼	\square		
1 Presett01	Preset002	3 Preset003	PresetE04	hundes 1	Preset06	Preset007	Prest028	Prod 22	10 Preset010	11 Preset011	12 Preset012	13 Preset013	14 Preset014	15 Preset015
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Presett 16	Preset017	Preset018	Preset019	Preset020	Pheset021	Preset022	Preset023	Presett24	Preset025	Presett26	Presett27	Preset028	Presett29	Preset030
31	32	33	зн	35	36	Presett 17	38	39	40	41	42	43	44	45
Preset031	Preset032	Preset033	Preset034	Preset035	PresetE36		Preset038	Preset(33)	Preset040	Preset041	Preset042	Preset043	Preset044	Precett345
46	47	48	49	50	51	52	53	54	55	sa	57	sa	54	eo
Preset346	Preset\$47	Preset048	Preset049	Preset050	Preset051	Preset052	Preset053	Preset154	Preset055	Preset256	Preset057	Preset058	Preset053	Preset060
61	62	63	64	45	66	47	44	49	70	71	72	73	34	75
Preset961	Preset062	Preset063	Preset064	Preset065	Preset066	Preset067	Preset068	Preset369	Preset070	Preset071	Preset072	Preset073	Preset074	Precetti75
26	77	79	79	NO	81	N2	K3	#4	#5	M	#7	an	es	90
Preset076	Preset077	Preset078	Preset079	Preset000	Preset001	Preset012	Preset083	Preset084	Preset085	Preset006	Preset087	Preset008	Preset009	Preset090
91 Preset091	92 Preset092	93 Preset(93	94 Preseti/94	×	56 Presed296	37 Preset097	M Preset016	99 Preset299	100 Preset100					
- Set	Rename	Del		Rearrange	Reset		🖉 2 step o	operation	— •	5 s	ec Timed			

- 1. Select a category in the camera category selection tab.
- 2. Select a camera you wish to operate in the camera selection tab. The preset list of the camera is displayed on the preset list display part.
- 3. Click on the Rearrange button to turn it ON (red).
- 4. Clicking on a preset in the preset list display part and dragging it to another preset will exchange the each other's position.
- 5. Click on the Rearrange button to turn it OFF (black).

<Note>

• To return the rearranged order to the initial state, click on the Reset button to the right of the Rearrange button.

• When the selected camera is the camera to be controlled with KAIROS Cloud linkage, content of the sorted presets will not be saved.

Calling presets

Use the procedures below to call a preset.

• When calling a preset immediately after selection

_ @ () ₽7	Z Control Cente	1			VIE	w	MAIN	2	ET LIST]	Logged	in as Admin 💌
All	ROOM1	Category ROOM2	ROOM3		•	AW-UE15	AW-HE7	Camer 75 AW-UE		470	▼	Ç		
Presentation	4	Preset203	Presettor	1	Presentos	7 PresetD27	Presettos		10 Preset010	11 Preset011	12 Presett 12	13 Preset013	14 Preset014	rs Preset015
14 Preset[16	17 Preset017	18 Proset() 18	19 Preset019	20 Preset(20	21 Preset()21	22 Preset022	23 Preset023	24 Presetti24	25 Preset025	26 Preset026	27 Preset027	28 Preset028	29 Preset029	30 Preset030
31 ProsetE31	32 Precet032	38 Preset033	34 Preset034	35 Preset035	36 Preset036	37 Preset\$37	34 Preset038	39 PresetG39	40 Preset840	41 Preset041	42 Preset842	43 Preset043	44 Preset844	45 Preset045
46 Preset046	47 Preset047	48 Preset348	49 Preset543	50 Preset050	SI Preset051	S2 Preset052	53 Preset053	54 Preset054	55 Preset055	56 Preset056	57 Preset057	se Preset058	se Preset059	40 Preset060
61 Preset061	62 Preset062	63 Preset063	64 Preset064	es Preset065	66 Preset066	47 Preset067	ed Preset068	60 Preset009	70 Preset070	71 Preset071	72 Presetti 72	73 Preset073	74 Preset074	25 Preset075
24 Presetti76	77 Presetű?77	78 Preseti78	79 Presetű?9	80 Preset080	#1 Preset001	82 Preset052	83 Preset063	84 Preset084	#5 Preset005	Mi Preset005	87 Preset057	ee Preset088	et Preset089	90 Preset090
91 Preset891	92 Preset092	93 Preset093	54 Preset054	95 Preset095	96 Preset096	97 Preset097	58 Preset098	99 Preset0199	100 Preset100					
								3						
Set	Rename	Del		Rearrange	Reset		2 step o	operation	-•	S	Sec Timed	Normal		Stop

- 1. Select a category in the camera category selection tab.
- 2. Select a camera you wish to operate in the camera selection tab. The preset list of the camera is displayed on the preset list display part.
- 3. Set the "2 step operation" checkbox to OFF.
- 4. Clicking on any preset in the preset list display part will immediately call the preset. The call speed for presets depends on the settings of the camera.

• Wh	en calling a preset wi	h a 2-step operation	of preset selection \rightarrow	button operation
------	------------------------	----------------------	-----------------------------------	------------------

	PT2 Control Con	Catego			-	EW	MAIN	Ger			1201		_	ed in as Admin
All	ROOM1	ROON	A2 ROON	Presettes	×	AWAUE President	AW-H	E75 AW	VE4 AW-	UN70	U Preset 12	9 Preset®13	H Presett H	n Pasat 15
ward 16	N Presed017	1 Presed(1)	n Peerd 13	A Presentation	JA Presett/1	22 Preset022	Presett23	24 Presett24	25 Presett25	as Presati26	27 Presett27	28 Preset028	29 Pheset029	ja PteodE30
esett)1	32 Preset052	33 Pressett 33	34 Preset034	31 Preset035	M Prooff N	17 Preset037	34 PresetD31	19 Preset030	et Presettiet	41 Preset041	42 Presenting	4) Preset640	44 Preset544	es Presettets
waet546	er Presetber	48 Presedinti	es Presedito	NP Presett50	se Presediti	si Presettiz	51 Preset053	M Presett54	55 Preset055	56 Preset056	S? Presed257	sa Presedbid	34 Presedint	ad Tressellatio
oud61	62 Proset663	si Prosettiki)	64 Prosettina	AT Presidenti	64 Presettini	67 Presettic?	er Preset018	45 Preset003	70 PresetE70	71 Presett271	12 Presetti 72	Presenti //3	14 Presett074	75 Present 75
eneti 76	77 Preset©77	74 Presset172	78 Presenti 79	ND Presenting	Presettet	N2 Presentill2	R) Prevedida	n Possetité	es Preset585	Ni Preset205	e? Presaddt?	ne Preset212	A9 Preset200	90 Present250
esettä1	N Preset(%)	si Presettiti	na Presetitisă	55 Presedititi	N Presentations	97 Prenat017	M Present (M	N Preset299	nas Preset520					
								3				5		
Set	Rename	Del		Reatrange	Reset		🔳 2 step	operation) s	sec			Stop

1. Select a category in the camera category selection tab.

- 2. Select a camera you wish to operate in the camera selection tab. The preset list of the camera is displayed on the preset list display part.
- 3. Set the "2 step operation" checkbox to ON.
- 4. Click on any preset in the preset list display part to select it.
- 5. Call the preset with one of the operations below.
 - •Click on the Normal button

The preset will be called at the speed set in the camera.

• Click on the Timed button after setting the time with the Timed slider

The preset is called to complete camera movement in the time set by the slider. This is only valid with the AW-UE150/AW-UE100 camera.

<Note>

• Clicking on the Stop button during a preset call will stop the call.

KAIROS Cloud linkage function

Cameras at a remote location can be operated like a camera on a local network by linking to the KAIROS Cloud Platform.

<Note>

- · For details on the KAIROS Cloud Platform, refer to the Operations Manual of the KAIROS Cloud Platform.
- To use the linkage function of the KAIROS Cloud Platform, PC must be connected to the Internet.
- · For details on the KAIROS Cloud Platform, refer to the following URL.

https://connect.panasonic.com/jp-ja/products-services_kairos-cloud_support

Flow when using linkage function

The flow using the software with the KAIROS Cloud Platform linkage is shown below.

1. Register the software to the KAIROS Cloud Platform (only for first time)

For registration procedures, refer to "Registering to KAIROS Cloud Platform" in this chapter.

2. Connect the camera to the KAIROS Cloud Platform.

For camera connection procedures, refer to the KAIROS Cloud Service Implementation Guide and Operations Manual of each application.

For cameras that can be operated, refer to "Cameras that can be operated" in this chapter.

3. Connect the software to the KAIROS Cloud Platform and operate the camera

For operation procedures, refer to "Operating the camera using linkage function" in this chapter.

Cameras that can be operated

The following cameras that are connected to the KAIROS Cloud Platform can be operated.

- · Cameras connected to the KAIROS Cloud Platform with Device routing function of the camera
- · Cameras connected to the KAIROS Cloud Platform via Camera Gateway application

<Note>

• For overview and connection method of the Device routing function, Camera Gateway application, refer to the KAIROS Cloud Service Implementation Guide and Operations Manual of each application.

Registering to KAIROS Cloud Platform

To use the software linked with KAIROS Cloud Platform, the software must be registered to the KAIROS Cloud Platform.

If not registered, register following the procedure shown below.

- Operating the software
 - 1. Click the Settings button at the top left of the screen of the software.



2. Click the Cloud tab in the Settings screen to move to the Cloud screen.

0000	VIEW 🗗 MAIN	C MESET LIST C VISUAL MESETS C	
	54	stem Setting	
	Gelegery Camera User Bola May	den bydd lyfen Pap Cool	
KAROS Goud Platform			
APP ID: 91465	7a2a1467485679689644a54dad3dd		
URL			
User ID:			
Passaord		Connect automatically	
Status:			
Device List			
Model	Nickname	IP Address GUID	

3. Enter the login information of the KAIROS Cloud Platform in the Cloud screen.
APP ID: Global ID of the software that is automatically generated. Cannot be changed.
URL: Enter the URL of the KAIROS Cloud Platform.
User ID: Enter the login ID of the KAIROS Cloud Platform.
Password: Enter the password of the KAIROS Cloud Platform.

KAIROS Cloud Platf	orm
APP ID:	91e657a2ef44b7485679db9644a54dad2dd
URL:	cloudserver.com
User ID:	user
Password:	Connect Connect automatically
Status:	

4. Click the Connect button.

When successfully logged in to the KAIROS Cloud Platform, the following message window will be displayed.

If the message window is not displayed and an error message is displayed in the Status field, check the status of connection to the Internet and that the login information of the KAIROS Cloud Platform is correct.

ОК	

5. Follow the description in "Operating KAIROS Cloud Platform" below and continue the registration procedures on the KAIROS Cloud Platform side.

Operating KAIROS Cloud Platform

- 1. Log in to the KAIROS Cloud Platform with a web browser and open the operation screen of the KAIROS Cloud Platform.
- 2. Select [CONFIG] → [P2 Devices] → [Registered Devices] → [Pending Devices] in the KAIROS Cloud Platform menu and enter the Device Waiting Registration Display screen.
- 3. Click to select a device that fulfill the following conditions from the devices waiting registration.

Type: PTZCC

ID: [ID displayed as APP ID in the Cloud screen of the software]

		HOME DE	VICES METADAT	TA PLAYLIST STR	EAM HUB	TINSS CO	VPIG CENSE	Canke Ph	saoi Peky Logged	
	Users	P2 Devices				Company				
		Registered	Oevices	Files			Export List			
D6	Croco Pending Devices	8		Sea	rchTarget Type	v	QSearch			
Туре 🚊	Model	Serial No	ID 🗠		Nickname			User 🔺	Date	•
PTZOC	PTZOC	91E657A2EF44674856790894	91E657A2EF44B74856	679089644A54DAD2DD	PTZ Control Center			testrelease	2022/0	2/14 16:54:09

4. Click the register button in the screen of the KAIROS Cloud Platform.

		HOME 0	EVICES METADA	TA PLAYUST STR	EAM HUB	CO	NFIG COENSE	Cashe Phas	a Peky Logged	
Upers P2 Devices								Company		
		Registere	Devices	Files			Export List			
Da	Pending Device	1		Sea	rchTarget Type	v	QSearch	Register	Actions+	
Type _	Model	Serial No. 🚊	ID ~		Nickname -			User 🗠	Date	-
PTZOC	PTZOC	91E657A2EF4487465679089	91E657A2EF4487485	K79089644A54DAD2DD	PTZ Control Center			testrelease	2022/0	2/14 16:54:09

5. When in the device registration screen, enter a desired nickname.

	HOME DEVICES METAL	DATA PLAYLIST	STREAM HUB	SETTINGS	CONFIG	LICENSE	Cookie Privacy	Policy Logged in	
	Pending Devices > Registration								
	Type PTZCC								
	ID 91E657A2EF44B7485679DB9644A54DAD2DD								
	Model PTZCC								
	Serial No. 91E657A2EF44B7485679DB9644A54DAD2DD								
	Nickname								
	PTZ Control Center								
								Cancel	ок

6. Click OK in the device registration screen to complete the registration.

Operating the camera using linkage function

The procedure to operate the camera by linking to the KAIROS Cloud Platform is shown below.

1. Click the Settings button at the top left of the screen in the software.



2. Click the Cloud tab in the Settings screen to move to the Cloud screen.

0000	view c ^o	MAIN @ MESETUST @	VISUAL PRESETS 🖉	
0000	VEW P	System Setting	TOWN THESE IS C.Y.	×
	Cdapry Carters	User Data Migration Institute System	Chul	
KAUROS Goud Plats	urm.			
APP ID:	91465742414467485679db9644454dad3dd			
UR.)				
User ID:				
Password		Cannot automatically		
Status:				
Device List				
Model	Nickname	IP Address GUID		

3. Enter the login information of the KAIROS Cloud Platform in the Cloud screen.

APP ID: Global ID of the software that is automatically generated. Cannot be changed.

URL: Enter the URL of the KAIROS Cloud Platform.

User ID: Enter the login ID of the KAIROS Cloud Platform.

Password: Enter the password of the KAIROS Cloud Platform.

KAIROS Cloud Platf	orm		
APP ID:	91e657a2ef44b7485679db9644a54dad2d	d	
URL:	cloudserver.com		
User ID:	user		
Password:		Connect	Connect automatically
Status:			

4. When logged in to the KAIROS Cloud Platform, list of cameras connected to the KAIROS Cloud Platform will be displayed in the Device List field in the Cloud screen.

KAIROS Cloud Platfo	m					
APP ID:	91e657a2ef44b7485679db9644a54dad2dd					
URL	cloudserver.com					
User ID:	user					
Password:		Deconnect		Connect autor	natically	
Status:	The connection to server has been completed su	ccessfully.				
Device List						Refresh
Model	Nickname		IP Addres	5	GUID	
AW-UE80K	AW-UE80K_00000000		153.156.2	49.184	010550080452F348211915630459322A2674	156A

5. When returned to the VIEW screen or MAIN screen, cameras connected to the KAIROS Cloud Platform

will be displayed with icon with a cloud symbol. When that camera is selected, the camera can be operated like a camera on the local network.

<Note>

• When Connect automatically is checked, connection to the KAIROS Cloud Platform will automatically be made when logging in to the software.

• Information of cameras connected to the KAIROS Cloud Platform will not be automatically updated. To update the information of the cameras, click the Refresh button at the Device List field in the Cloud screen.

• For the following operations, cameras connected to the KAIROS Cloud Platform behaves differently than the cameras on the local network.

- Connection information of the cameras are not saved (not displayed in Setting Camera screen)
- Only PTZ Camera type can be used. PTZ Camera + SUB Camera or PTZ Camera + Image types cannot be used.
- Resolution of the video from the camera displayed in the MAIN screen will be lower. In addition, H.264 streaming videos cannot be displayed.

-Preset Color cannot be selected.

- Web screen of the camera cannot be opened from the camera controller.
- Preset sort order in the preset list screen will not be saved.
- Extra-cost option "Visual preset call feature" cannot be used.

Screen separation function

You can separate each screen of View/Main/PresetList/Visual Presets and operate it as an independent window.

Screen separation

Click the separation button at the right end of the function tab of View/Main/PresetList/Visual Presets to separate the screen of the clicked function tab into a separate window.



<Note>

The position of the separated window is saved for each user account of this software.

Screen combination

Click the combine button at the right end of the function tab of the separated window, or click the X button at the upper right of the window to combine the separated windows with the original window.



AW-RP150 linkage function

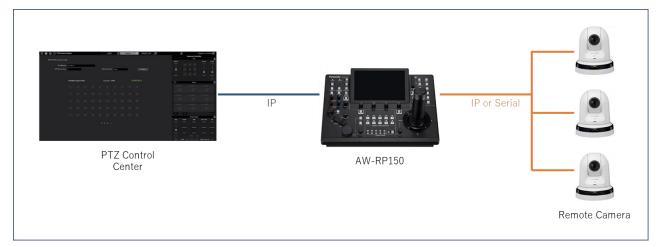
You can operate the remote camera in cooperation with the Panasonic remote camera controller AW-RP150.

<Note>

• Camcoders cannot be controlled in this mode.

System configuration

An example of the system configuration when using this function is shown below.



To use this function, the following conditions must be met.

- The PC on which this software is running and the AW-RP150 must be connected to the same network.
- The firmware of AW-RP150 is Ver.2.20-00-0.00 or higher.
- The remote camera must be controllable from the AW-RP150.

This function controls the remote camera via the AW-RP150. The operation target is not the remote camera registered in this software, but the remote camera registered in AW-RP150.

Therefore, the remote camera can be operated from this software even in an environment where the remote camera cannot be seen from this software (for example, when the AW-RP150 and the remote camera are connected with serial interface.

AW-RP150 settings

To use this function, set the [SYSTEM] - [12 PTZCC LINK] settings of the AW-RP150 as follows.

LINK: ON

RCV PORT: Change the port number if necessary

Operation from this software

Click the

icon on the upper left of this software screen to move to the AW-RP150 linkage screen.

) 🕲 🕲 🕐 🚇				VIEW	凸	M	AIN	内 内	RESET LIST	VISUAL PRESETS	内	$\langle \rangle$			•
												C	amera Contro	ler	
AW-RP150 control mo	de												PTZ		0
											Speed			Zoom	Focus Fair
IP Address	192 168 0 9														
HTTP Port No.	÷ 60			RC	V Port No.	60504									
		ERA Follo	w/Lead											• w	Near
	CAMER	A SELECT	ION	c	urrent : C	AM					0		Preset		Auto
											SET	DEL			HOME
													Image Adjust		
											IRIS	GAIN	WB	SHUTTER	ND
					34>										
												Audio Vo	əl. 🔍 🔻	Web Cam Ctrl	

Follow the procedure below.

1. Set the connection parameters with AW-RP150.

IP Address: Set the IP address of AW-RP150

HTTP Port No.: fixed at 80

RCV Port No.: Set the port number set in the [SYSTEM] - [12 PTZCC LINK] - RCV PORT of AW-RP150

2. Click the Connect button.

If the connection is successful with the AW-RP150, the CAMERA SELECTION field will be operational.

- 3. Select the remote camera to be controlled (the camera to be controlled by AW-RP150) in the CAMERA SELECTION field. The camera selection button in this column has the same function as the camera selection button on the AW-RP150.
- 4. If the selected camera is recognized normally, the camera controller on the right side of this software screen can be operated.

- In this state, the following operations are possible.
 - Camera Controller Area
 - Pan/Tilt/Zoom
 - Preset set / recall / delete
 - Focus operation, Auto ON / OFF switching
 - Iris operation, Auto ON / OFF switching
 - CAMERA SELECTION Area
 - PowerON/Standby switching
- 5. To end the AW-RP150 linkage, click the Disconnect button to end the connection with the AW-RP150.

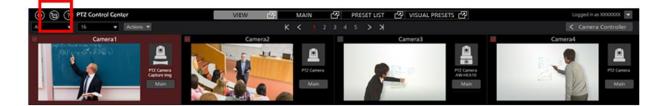
<Note>

- Zoom operation is not possible when the controlled camera in this mode is AW-UE4.
- When [Camera Follow / Lead] is turned ON, when the controlled camera is switched with the AW-RP150 or this software, the camera of the other device is also switched. This function is enabled on all VIEW / MAIN / PRESET LIST screens of this software.

EasyIP Setup Tool Plus application

This software includes the EasyIP Setup Tool Plus application that allows you to easily set up and update your PTZ camera.

Click the EasyIP Setup Tool Plus launch icon at the top left of the screen of this software to launch the EasyIP Setup Tool Plus application.



For details on the EasyIP Setup Tool Plus application, refer to the help file in the EasyIP Setup Tool Plus application.

Click the menu button at the top right of the EasyIP Setup Tool Plus application screen and select Help from the menu that appears to display the help file.

											- 0 X
All Network											
# IDv4 Add	ress.	Model	Title	Category	Vesion	Saha	DHOP	Port	Mac Address	Serial Number	Column Settings
											Version
2											Help
											لبحصحة
Q	£		٥								
Search											

Copying the settings data

You can copy the settings data between the software programs running on another PC.

Procedure for copy the settings data is explained here.

Exporting the settings data

You can export the settings data with the following steps.

- 1. Login to the software.
- 2. The View screen will appear. Click the Settings button located at the top left of the screen.



3. Click the Data Migration tab at the center of the Settings screen.

(i) (i) Software ROP	VIDW MAIN	Logged in as Admin 🕱
	System Setting	
Import Setting Data		
Export Setting Data		
and the second se		

4. Clicking the Select button of the Export Setting Data field will display the folder selection dialog box. Here, select the place where you want to export the settings data of the software.

Ехро	rt Setting Data	
	D:\Backup	Select
	Execute	

5. Clicking the Execute button of the Export Setting Data field will create the folder called SoftROP at the place specified in step 4, and the settings data will be exported to this folder.

<Note>

• When using the exported settings data in another PC, copy the entire SoftROP folder.

Importing the settings data

You can import the settings data with the following steps.

<Note>

· Importing the settings data with this procedure will overwrite all current settings data.

If it is necessary to retain the current settings data, export and save the settings data as per "Exporting the settings data" procedure described above.

- 1. Go to the Data Migration screen following the same steps as steps 1 through 3 described in "Exporting the settings data" above.
- 2. Clicking the Select button of the Import Setting Data field will display the folder selection dialog box. Here, select the folder (SoftROP folder) where the settings data exported from the software.

Impo	ort Setting Data	
	D:\Work\SoftRop	Select
	Execute	

3. Clicking the Execute button of the Import Setting Data field will show the confirmation message.

Clicking YES will import the settings data and it will overwrite all current settings data.

4. After import of the settings data is complete, a confirmation message asking for restarting the software will appear.

Clicking YES will automatically restart the software.

5. Once the software restarts, import of the settings data will complete.

Paid optional features

This software provides paid optional features (plugins).

Optional features have a specified free trial period, within which you can use them free of charge after the trial starts.

If you wish to continue using the feature after the trial period ends, it needs activating by purchasing a key code.

Optional features provided

The following paid optional features (plugins) are provided.

Model number: AW-SF300

Free trial period: 90 days

Features: It provides the following features.

- A feature to display the SDI output image from the camera using a commercially available SDI to UVC converter
- A GUI that allows you to easily call presets for multiple cameras at the same time

License management

About license management

You can manage your paid plugin licenses from the Settings - Plugin screen of this software.

On the Settings-Plugin screen, you can do the following:

- Check the contents and status of the paid plugins provided by this software
 - Model number display
 - Summary display of provided features
 - License status display

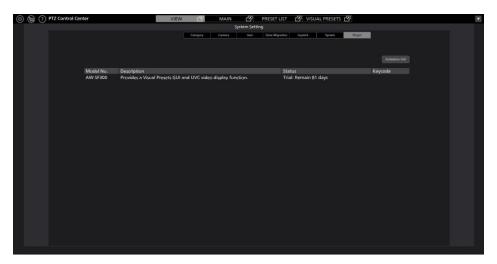
- Start of trial for paid plugins
- Activation/deactivation of paid plugins

You can enter the Settings - Plugin screen by following the steps below.

1. Click the Settings button at the top left of the screen of this software.



2. Click on the Plugin tab in the center of the Settings screen to display the Plugin screen.



Check the status of paid plugins

The status of paid plugins is displayed in the center of the Plugin screen.



① Model number

Displays the model number of the plugin.

2 Description

Displays a description of the features provided by the plugin.

③ Status

Displays the license status of the plugin.

One of the following statuses is displayed.

Initial: Initial state (state in which trial start and activation have not been performed)

Activated: Plugin activated

Deactivated: Plugin deactivated

Trial: Remain ** days: During the trial period (the number after Remain is the number of days until the end of the trial)

Trial: Expired: End of trial period

④ Key code

When the plugin is activated, the key code is displayed.

Procedure to start trial for paid plugin

The procedure for starting a trial for a paid plugin is as follows.

After starting the trial, you can use the features of the paid plugin free of charge for the specified period.

- 1. Click the Settings button (gear icon) at the top left of the PTZCC screen to enter the Settings screen.
- 2. Select the Plugin tab on the Settings screen to enter the Plugin screen.
- 3. Click the Activation GUI button at the top right of the Plugin screen to launch the activation application.
- 4. The following screen will be displayed when the activation application is launched for the first time. Enter the following items and click Apply.

Organization: Enter the organization name

Country: Select the country

👪 Edit User In	Edit User Infomation								
Organization :									
Country :	Select			•					
System ID :	AW-SF300:FCC952	5820201210143522ZZ							
	Apply	Cancel							

5. Click the W0300 row in the activation application to select it.

l	🐮 PTZ Con	trol Center Plugin Activat	ion Man	ager		-		×
ļ	ile Tool	<u>H</u> elp						
	MODE : Nori	mal Mode						
	Model No	Model Name	Status	Date	Remarks	KeyCode		
	W0300	AW-SF300 for Panasonic	Initial	00000000	PTZ Control Center Visual Presets Plugin	00000-00000-00000-00000	D	
	1 1-1-1-1-	2020/12/10 14:35:22			A Trial A Astistica O Dec		1 0.0	
	👌 Update	2020/12/10 14:85:22			👷 Trial 🥝 Activation 💲 Dea	ctivation	📑 Qui	τ

- 6. Click the Trial button at the bottom of the activation application screen.
- The trial start process is performed. When the processing is updated, the [VISUAL PRESET] tab appears. It may take up to about 1 minute for processing to be reflected.

Activation procedure for paid plugins

The procedure for activating a paid plugin is as follows.

After activation, you can use the features of the paid plugin indefinitely.

- 1. Connect the PC to the internet.
- 2. Click the Settings button (gear icon) at the top left of the PTZCC screen to enter the Settings screen.
- 3. Select the Plugin tab on the Settings screen to enter the Plugin screen.
- 4. Click the Activation GUI button at the top right of the Plugin screen to launch the activation application.
- 5. The following screen will be displayed when the activation application is launched for the first time.

Enter the following items and click Apply.

Organization: Enter the organization name

Country: Select the country

🔡 Edit User Ir	fomation		?	×
Organization :				
Country :	Select			•
System ID :	AW-SF300:FCC9529	5820201210143522ZZ		
	Apply	Cancel		

6. Click the W0300 row in the activation application to select it.

PTZ Con	trol Center Plugin Activat	ion Mar	ager				×
ile Tool	<u>H</u> elp						
MODE : Nori	mal Mode						
Model No	Model Name	Status	Date	Remarks	KeyCode		
W0300	AW-SF300 for Panasonic	Initial	00000000	PTZ Control Center Visual Presets Plugin	00000-00000-00000-00000	00	
Ċ Update	2020/12/10 14:85:22			👷 Trial 🛛 🔕 Activation 🕓 Dea	ctivation	📑 Qu	iit

- 7. Click the Activation button at the bottom of the Activation application screen.
- 8. The key code entry screen appears. Enter the key code.
- 9. If the activation is successful, the Status display on the W0300 row changes to Activated.

When the activation status is updated, the [VISUAL PRESET] tab appears.

It may take up to about 1 minute for processing to be reflected.

<Note>

If the Status display on the W0300 row does not change to Activated even after entering the key code, check the status message displayed at the bottom left of the activation application.

When Invalid Key is displayed: The entered key code is incorrect

When NoMoreLicense is displayed: The entered key code has been activated on another PC

• Procedure for deactivating paid plugins

If you want to transfer the license for a paid plugin to another PC, you will first need to deactivate it on the PC on which it is activated.

The procedure for deactivating is as follows.

- 1. Launch the activation application by following the same procedure as steps 1 to 5 of "Activation procedure for paid plugins."
- 2. Click the W0300 row in the activation application to select it.
- 3. Click the Deactivation button at the bottom of the activation application screen.

Camera SDI Output Image Display

A commercially available SDI to UVC converter and SDI router can be used to display the PTZ camera image with low latency and a high frame rate.

System Configuration

To use this function, in addition to a PC with this software installed and a camera, a commercially available SDI to UVC converter is required.

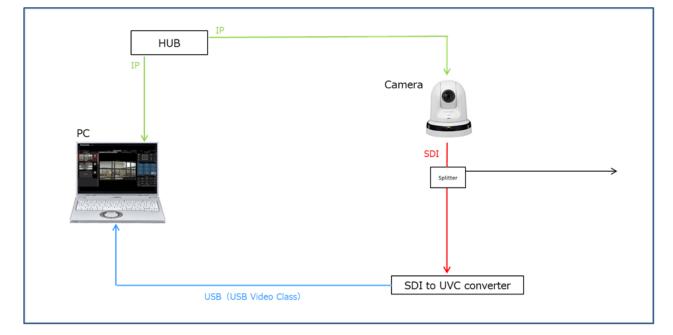
AJA SDI Router is also required to switch and display the SDI output video of multiple PTZ cameras.

[Configuration example when using the camera alone]

Necessary equipment

•SDI to UVC converter

Operation confirmed model: USB Capture SDI Plus from MAGEWELL



[Configuration example when using with multiple cameras]

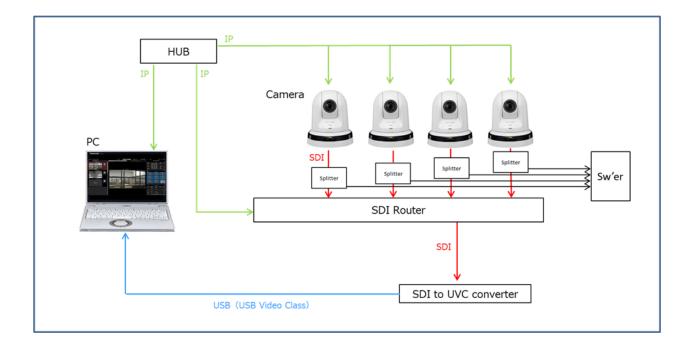
Necessary equipment

•SDI to UVC converter

Operation confirmed model: USB Capture SDI Plus from MAGEWELL

·AJA SDI Router (optional)

Operation confirmed model: AJA KUMO 1604 (Firmware Version: 4.5.0.30)



Setup for each device

Setup each device using the steps below.

•Camera setup

Set the camera SDI output format to be within the support scope of the SDI router and the SDI to UVC converter. If there are multiple cameras, it is recommended to set the camera output formats to be the same to the extent possible.

·SDI to UVC converter setup

Set the SDI input settings and output settings as needed.

Set the SDI output settings (USB VIDEO Class image settings to be input to the PC) as follows.

Image Resolution: One of the following: 1920 x 1080 / 1280 x 720 / 640 x 360

Frame Rate: One of the following: 25 fps / 30 fps / 50 fps / 60 fps

·AJA SDI Router setup

Set the following in the AJA SDI Router.

- Set the [IP Address Type] to a [Static IP] and assign an IP address
- Set the [User Authentication] setting to [Disable]

Each device connection

Connect each device as follows.

When using SDI Router

•Network connection for each device

Connect the PC, camera, and SDI Router on the same network.

·Connection between the camera and the SDI Router

Connect the SDI output of the camera to one of the SDI inputs of the SDI Router.

•Connecting the SDI Router and SDI to UVC converter Connect the SDI output Ch. 1 of the SDI Router to the SDI input of the SDI to UVC converter.

*No other SDI output than Ch. 1 is supported.

·PC and SDI to UVC converter setup

Connect the PC and the SDI to UVC converter with a USB cable.

When not using SDI Router

•Network connection for each device Connect the PC and camera on the same network.

•Connection between the camera and the SDI to UVC converter

Connect the SDI output of the camera to SDI input of the SDI to UVC converter.

•PC and SDI to UVC converter setup

Connect the PC and the SDI to UVC converter with a USB cable.

Software setup

Set up the following in the software.

- 1. Open the Settings System screen.
- 2. Set up the Image Capture Device item as follows.

SDI Router Address: When using SDI Router, enter the IP address of the SDI Router.

When not using SDI Router, leave blank.

USB Video Device: As the USB Video Class devices connected to the PC are displayed as a list,

select the SDI to UVC converter device.

- Resolution: Set the resolution to that of the USB Video Class image input from the SDI to UVC converter to the PC.
- Frame Rate: Set the frame rate to that of the USB Video Class image input from the SDI to UVC converter to the PC.
- 3. Open the Settings Camera screen.
- 4. Setup each camera you want to output SDI using the following procedure.
 - 1) Click on the target camera in the Settings Camera screen to select.
 - 2) Click on the Edit button on the top right of the Settings Camera screen and open the Edit Camera screen.
 - 3) Select USB Video Device as the Image Capture Type.
 - 4) (When using SDI Router) Set the SDI Channel No. of the Image Capture Type to the SDI input Ch. number of the SDI Router that is the SDI output destination of that camera.
 - 5) Click on the OK button to exit the Edit Camera screen.

<Note>

· Leave the IP setting for the Image Capture Type item for cameras that do not output SDI.

Camera image display

After connecting and setting up each device, select the applicable camera on the MAIN screen of this software, and the image input from the SDI to UVC converter will be displayed in the PTZ camera image part.

Double-click the PTZ camera image section on the MAIN screen to display the image in full screen.

You can perform the following operations on the full-screen displayed image.

•Pan/Tilt the PTZ camera by clicking on the camera image

By clicking on the camera image, the PTZ camera performs Pan/Tilt operations so that the point you clicked is in the center of the screen.

• Pan/Tilt/Zoom the PTZ camera by specifying an area on the camera image

By clicking and dragging on the camera image, you can specify an area with a yellow box. When you stop dragging and fix the area, the PTZ camera performs Pan/Tilt/Zoom operations so that the specified area is displayed in a full screen.

·Zoom the PTZ camera by using the mouse wheel on the camera image

Check the following points if the image does not appear properly in the PTZ camera image part.

Problem: No image appears in the PTZ camera image part.

- Action: Check that the SDI to UVC converter is properly identified by the PC, and that the SDI to UVC converter device is selected in the setting for Image Capture Device \rightarrow USB Video
- Problem: The image on the PTZ camera image part does not change even after changing the applicable camera on the MAIN screen.
- Action: Check that the SDI Router is properly connected to the PC, and that the IP address of the SDI router is set correctly in the setting for Image Capture Device \rightarrow SDI Router Address on the Settings System screen.
- Problem: Selecting an applicable camera on the MAIN screen displays an image from a different camera in the PTZ camera image part.
- Action: Check that the SDI Router is properly connected to the PC, that the Image Capture Type settings are set
 - to USB Video Device in the Settings Camera screen, and that the Ch. number of the SDI Channel No. is the same as the SDI input Ch. number of the SDI Router which is the access point of the target camera.

Visual preset call feature

This feature makes it easy to call presets for multiple cameras at the same time.

You can assign presets for multiple cameras by placing the preset call icon anywhere on the screen.

To give an example of operation, you can set the icon of each member on the screen that shows a parliamentary hall, then click the icon of the member you want to pay attention to so that all cameras point to that member.

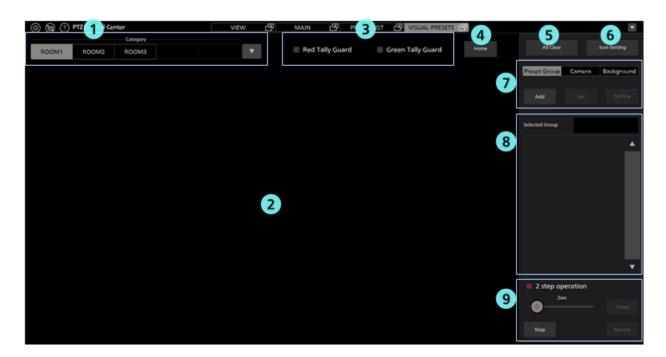
Additionally, by using our wireless microphone system, you can call presets by speaking into the wireless microphone.

<Note>

• This function cannot be used with KAIROS Cloud linkage.

Description of screens

Click the VISUAL PRESETS tab at the top of the screen to display the screen for this feature.



①Camera category selection field

A list of registered camera categories appears.

Select the camera category you want to configure/operate here.

②Icon placement area

You can place the camera icons and preset call icons in this area.

The set background image is also displayed here.

③Tally guard settings

Set the preset call operation used when the Camera Tally is set to ON.

If checked, the camera for which that Tally color is ON will not have presets called.

(4)Home icon

You can assign the presets you like as the starting position for the camera.

5All Clear button

Clicking this button will clear all preset group icons, camera icons and background images on the screen.

It will also clear all of the presets assigned to the Home icon.

6Icon Setting button

Clicking this button will display the screen for setting the initial size of the camera icons and preset call icons.

⑦Setting operation area

This area displays the preset call icons, camera icons, and buttons for setting a background image.

®Preset call data display area

When a preset call icon is selected, a list of the assigned presets appears.

9Preset call operation area

You can call the presets assigned to the selected preset call icon in this area.

• Flow when using this feature

The flow when using this feature is shown below.

- 1. Set the camera category (group) on the Setting Category screen.
- 2. Select the camera category (group) for which you want to set this feature.
- 3. Set the background image you wish to display on the screen for this feature. (Optional)
- 4. Set the icon display size. (Optional)
- 5. Place the camera icon on the screen. (Optional)
- 6. Place the preset call icon on the screen.
- 7. Assign a camera preset to the preset icon you have placed.

Assign as many cameras as you need.

- 8. Repeat steps 6 and 7 to set up as many preset call icons as you need.
- 9. Assign the presets for the camera's starting position to the Home icon (Optional)
- 10. Click the preset call icon that you placed to call the presets of the assigned cameras all at once.

• Setting procedure for this feature

1. Camera category (group) settings

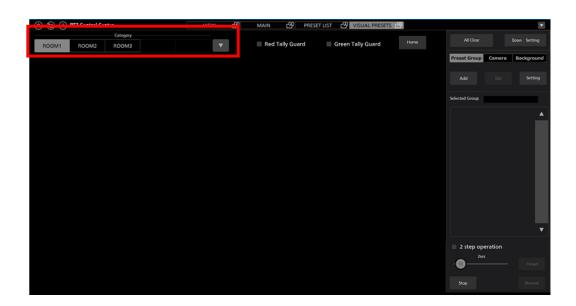
To use this feature, one or more camera categories (groups) must be set, so be sure to set the camera categories (groups) before using this feature.

For details on how to set the camera categories, refer to "Default Settings 2 - Category Settings of Camera" in this document.

2. Select the camera category (group) to be set

The settings of this feature (camera icon settings, preset call icon settings, background image settings) are stored for each camera category.

A list of camera categories set in "1. Camera category (group) settings" is displayed at the top left of the screen of this feature. Select the camera category you want to set from the list.



3. Background image settings (optional)

You can display a background image on the screen of this feature. Displaying a background image is not required, but by displaying one, you can use it as a guide for the positions when placing the camera icons and preset call icons.

Use the procedure below to configure the settings.

1) Click the "Background" tab in the setting operation area of this screen.

0 9 7	PTZ Control Ce	nter	VIEW	2	MAIN 🗗	PRESET LIST	VISUAL PRESETS	· 42			T
		Category			= e-dx-ll-c		Come Tolly Cound	Home			Icon Setting
ROOM1	ROOM2	ROOM3	•		🔲 Red Tally Gua	ra	Green Tally Guard				
									Preset Group	Came a	Background
											Setting
									Selected Group		
											Ļ
									2 step ope	eration	
									2500		
									Stop		

2) Click the Browse button and select the image to display. The image is displayed on the screen.

Preset Group	Camera	Background
Browse		Clear
Browse		Clear

<Note>

• Click the Clear button to clear the image display.

4. Settings such as the size of the camera icon and preset call icon (optional)

You can set the size of the camera icon, the size of the preset call icon, and the initial color when placing. Use the procedure below to configure the settings.

1) Click the "Icon Setting" button on this screen.

007	PTZ Control Ce	nter	V	IEW 🕜	MAIN 🗗 PRI	ESET LIST 🛛 🖓 VISUAL PRESETS	· 2		•
		Category						Al Gear	Icon Setting
ROOM1	ROOM2	ROOM3		•	Red Tally Guard	Green Tally Guard	Home		accord second
								Preset Group	amera Background
								Add	Del Setting
								Selected Group	
									-
									•
								2 step opera	tion
								2900	
								Stop	
								5100	

2) The Settings window appears. Configure the settings.

The size settings for the camera icons and preset call icons are also applied to the placed icons. The initial color settings for the preset call icons are only applied to newly added icons.



5. Placement of camera icons (optional)

You can place camera icons anywhere on the screen. Placement is not required, but it makes it easier to visually understand where the cameras are located in space.

Use the procedure below for placement.

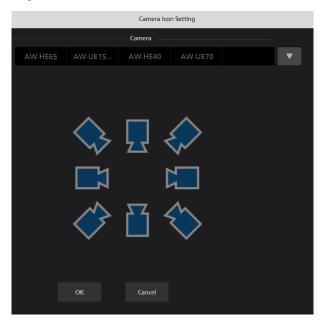
1) Click the "Camera" tab in the setting operation area of this screen.



2) Click the Add button to display the Settings screen.

Preset Group	Camera	Background
Add	Del	Setting

3) Select the cameras to be assigned to the camera icons and the icons to be used for display on the Settings screen, then click the OK button to add the camera icons on the screen.



4) You can change the positions of the placed camera icons by clicking and dragging them.



<Note>

- To delete a camera icon, click the icon and then click Del in the "Camera" tab in the setting operation area.
- To change the settings of the camera icon, click the camera icon and then click Setting in the "Camera" tab in the setting operation area.

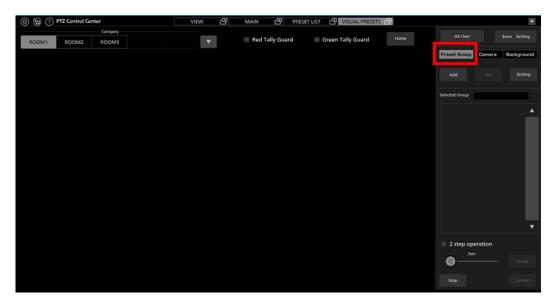
6. Placement of preset call icons

You can place preset call icons anywhere on the screen.

By assigning presets of cameras to a placed preset call icon, you can call the presets of multiple cameras at the same time when the icon is clicked.

Use the procedure below for placement.

1) Click the "Preset Group" tab in the setting operation area of this screen.



2) Click the Add button to place a preset call icon on the screen.

Preset Group	Camera	Background
Add	Del	Setting

3) You can change the positions of the placed preset call icons by clicking and dragging them.

(a) (b) PTZ Control Center	vitw 🖉	MAN 🙆 PRES	TEST 🕹 VISUAL PRESETS 🕹			Logged	in na konjeto 💌
ROOM1 ROOM2 ROOM3	Ψ.	Red Tally Guard	Green Tally Guard				
				Dec	et Group	Compre	Bickground
Preset (Graup)					NH		
				Selec	erd Group		
							•
					2 step ope 2wx		
				- (•		

<Note>

• To delete a preset call icon, click the icon and then click Del in the "Preset Group" tab in the setting operation area.

7. Assigning camera presets to preset call icons

Use the procedure below to assign camera presets to placed preset call icons.

- 1) Click the preset call icon to be assigned to select it.
- 2) Right-click the preset call icon or click the Setting button in the "Preset Group" tab of the setting operation area to display the Settings screen.

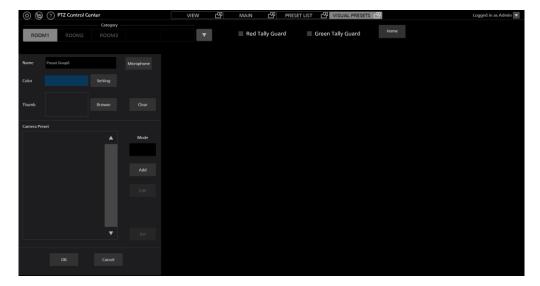
000	PTZ Control Ce	enter	VIEW	2	MAIN 🗗	PRESET LIST 🕜 VISUAL PRESET	5 2		×
		Category		_				All Clear	Icon Setting
ROOM1	ROOM2	ROOM3	•		Red Tally Guard	Green Tally Guard	Home		
								Preset Group	amera Background
									Del Setting
								Selected Group	
									•
									•
								2 step opera	tion
								·0	

3) Configure the following settings on the Settings screen.

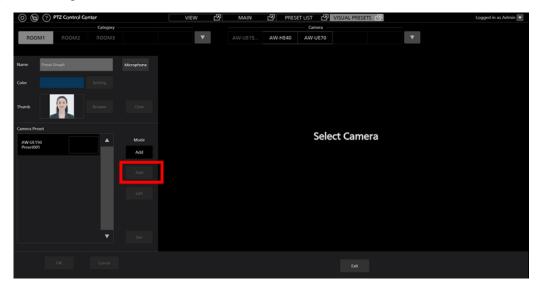
Name: Enter the display name of the preset call icon

Color: Select the display color of the preset call icon with the Setting button

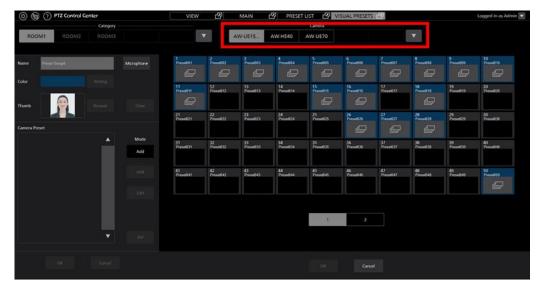
Thumb: Select the image to be displayed on the preset call icon with the Browse button



4) Click the Add button on the Settings screen to switch to camera selection mode. A list of cameras appears at the top center of the screen.



5) Click the camera to which you want to assign the preset in the camera list at the top center of the screen. A list of presets appears in the center of the screen.



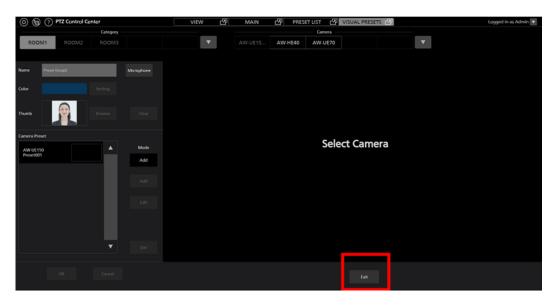
6) Click the preset you want to assign in the preset list to select it. Then click the OK button at the bottom of the screen to assign the preset.

The assigned presets are listed in the Camera Preset field on the left side of the screen.

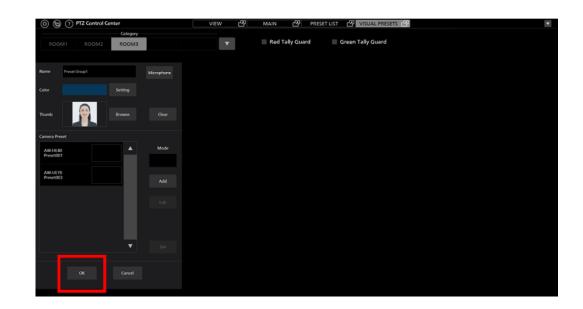


7) Repeat steps 5 and 6 for the number of cameras you want to assign presets to.

8) To finish the assignment, click the Exit button at the bottom center of the screen.



9) Click the OK button to close the Settings screen.



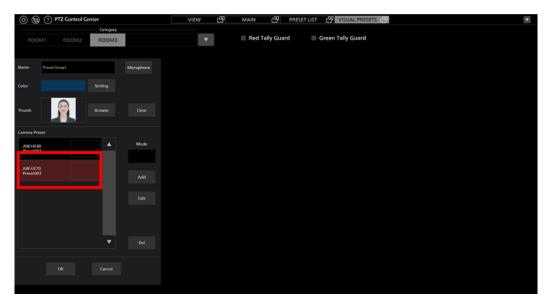
<Note>

You can instantly display the preset assignment screen by dragging a camera icon and dropping it on a preset call icon.

8. Change/delete a camera preset assigned to a preset call icon

Use the procedure below to change/delete presets assigned to a preset call icon.

- 1) Click the preset call icon to be assigned to select it.
- 2) Right-click the preset call icon or click the Setting button in the "Preset Group" tab of the setting operation area to display the Settings screen.
- 3) Select the preset you want to change/delete from the list of presets displayed in Camera Preset on the Settings screen.



4) To make changes, click the Edit button on the Settings screen to display the list of camera presets. Select the preset you want to change and click the OK button.

If you want to delete a preset, click the Del button on the Settings screen. When the confirmation message appears, click the OK button to delete it.

9. Assign presets for the camera's starting position to the Home icon

Use the procedure below to assign presets to the Home icon.

1) Click the Home icon to select it.

0 9 9 0 0	VEW 🙆	MAN 🕑 PRESE	UST 49 VISUAL PRESET	1.00		
Congoy ROOM1	Ŧ	Red Tally Guard	E Green Tally Guard	Hores		
					Preset Group Correra	Background
					Selected Group Huma	
						•
					2 step operation	
					•	

2) Right-click the Home icon or click the Setting button in the "Preset Group" tab of the setting operation area to display the Settings screen.

🗇 🕲 🕲 🖓 🟠			VIEW	ß	MAIN	凸	PRESET LIST	VISUA	L PRESETS 🗗		•
G	ategory										
ROOM1			•		Red Ta	ally Guard	3	Green Tally (uard		
Recall preset when microphone silen	ce continues										
5	sec(1 - 60)										
Camera Preset											
		Mode									
	<u> </u>	Mode									
	•										

3) Follow the same procedure as steps 4 through 9 of the "7. Assigning camera presets to preset call icons" procedure to assign camera presets to the Home icon.

10. Change/delete a camera preset assigned to the Home icon

Use the procedure below to change/delete presets assigned to the Home icon.

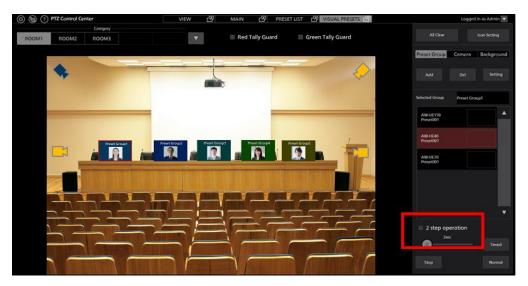
- 1) Click the Home icon to select it.
- 2) Right-click the Home icon or click the Setting button in the "Preset Group" tab of the setting operation area to display the Settings screen.

- 3) Select the preset you want to change/delete from the list of presets displayed in Camera Preset on the Settings screen.
- 4) To make changes, click the Edit button on the Settings screen to display the list of camera presets. Select the preset you want to change and click the OK button.
 - If you want to delete a preset, click the Del button on the Settings screen. When the confirmation message appears, click the OK button to delete it.

Calling assigned presets

Use the procedure below to call the preset assigned to a preset call icon/Home icon.

- To call presets immediately by clicking the preset call icon/Home icon
 - 1) Uncheck the "2 step operation" check box at the bottom right of the screen.



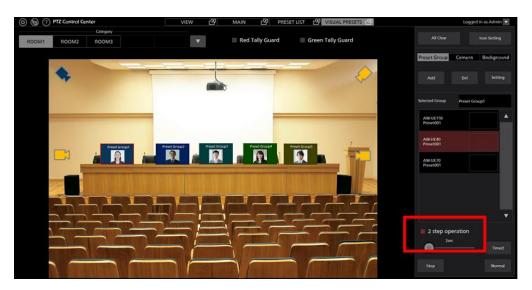
2) Click the preset call icon/Home icon to call all assigned presets at the same time.

<Note>

When a preset is called, the movement speed of the camera depends on the Preset Speed setting of the camera when this software is launched.

• To call presets using another button operation after clicking the preset call icon/Home icon

1) Check the "2 step operation" check box at the bottom right of the screen.



2) Click the Normal button or Timed button at the bottom right of the screen to call all assigned presets at the same time.

When clicking the Normal button:

The movement speed of all cameras depends on the camera's Preset Speed setting when this software is launched.

When clicking the Timed button:

When the camera is AW-UE150/AW-UE100, preset call is completed in the time set by the slider next to the Timed button.

The movement speed of other cameras depends on the camera's Preset Speed setting when this software is launched.

<Note>

When [Red Tally Guard] is turned ON, the preset recall of the camera for which the red tally is ON will not be performed. Similarly, if [Green Tally Guard] is turned ON, the preset recall of the camera for which the green tally is ON will not be performed.

Only [Red Tally Guard] works with the following remote cameras.

AW-UE70/AW-UN70 AW-HE130/AW-HN130 AW-HR140 AW-HE40/70/65, AW-HN40/70/65 AW-HE42/68/75

• Call presets using wireless microphone

By associating the wireless microphone of our wireless microphone system with the preset call icons, you can call presets by speaking into the wireless microphone.

It is easy to realize operations like having the camera point at the whomever is talking in a meeting.

Additionally, you can have the camera return to a fixed position if there is a period of silence.

Operating environment

The wireless microphone systems below are needed to use this function (As of October 2022).

* For the latest support models, please check the PTZ Control Center product page on the following website.

https://pro-av.panasonic.net/en/

Wireless Mic Receiver

WX-SR204P *Firmware version V6.0 or laterWX-SR202DNP *Firmware version V6.0 or laterWX-SR204DNP *Firmware version V6.0 or later

Expansion Receiver

WX-SE200P *Firmware version V6.0 or later

WX-SE200DNP

Wireless antenna

WX-SA250P *Firmware version V6.0 or later

Wireless microphone

WX-ST200P WX-ST400P WX-ST700P WX-ST600P + WM-KG645

Setting procedure

1. Wireless microphone receiver connection setting

Configure the following settings to connect to the wireless microphone receiver.

1) Click the Settings button at the top left of the screen, select the System tab from the center of the screen and move to the System Setting screen.

۲	9.9	0 0	VI	w 🖉	MAIN 🖄	DRESITIEST	🖉 VISUAL PRESETS (0		
	8.8				System Set					
			Calegory	Caltera Uer	Data Migration	Report of Balance	Rep Cod			
		Keyboard Shortout				Image	e Capiture Device			
		• Enabled	Distant				SDI Router Address:			
							USB Video Device:			
								Resolution:	1920x1080	
								Frame Rate:	60 FPS	
						Week	ess microphone unit			
							IP Address: 112 102 112			
							Port No.: 5000			
							Password.			
								Connect	automatically	
							Status: Offline			

- 2) Set the Wireless microphone unit fields on the System Setting screen to that of the wireless microphone receiver.
 - IP Address:

Specify the wireless microphone receiver IP address.

Port No .:

Specify the wireless microphone receiver port number.

Password:

Specify the wireless microphone receiver password.

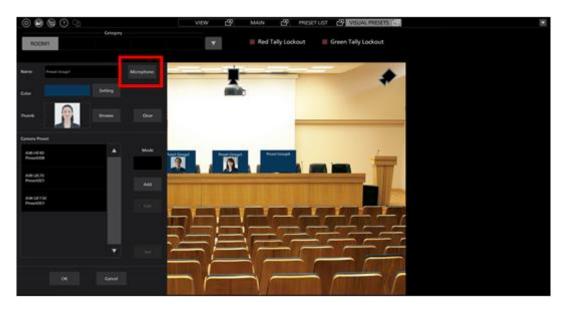
Connect automatically:

Check ON if you want this software to automatically connect to the wireless microphone receiver at launch.

2. Configure settings to assign wireless microphone to preset call icons

Use the settings below to assign the wireless microphone to a preset call icon.

- 1) Refer to "Setting procedure for this feature" in this section, and configure the settings for the preset call icons.
- 2) Clicking the preset call icon you want to associate with the wireless microphone will select it.
- 3) Right-click the preset call icon or click the Setting button in the "Preset Group" tab of the setting operation area to display the Preset Call Icon Setting screen.
- 4) Click the Microphone button on the Preset Call Icon Setting screen.



5) This will open the Microphone Setting window, so set each item.

	Micr	ophone Setting	9	
Microphone No.:		▼		
Audio Level Threhold:	1000		(0-65535)	
Preset Keep Period:	2000		msec	
	ок	Can	ocel	

Microphone No.

Specify the Microphone No. of the wireless microphone you want to assign to the preset call icon being set.

Use the blank at the top of the list if you do not want to assign a wireless microphone.

Audio Level Threshold

Set the value of the Audio Level Threshold from 0 to 65535. The wireless microphone will use this value to determine if something is being said.

Preset Keep Period

Set the value from 0 to 10000 (unit: milliseconds) for the amount of time to keep the preset position after the assigned wireless microphone recognizes silence.

After the wireless microphone recognizes silence, until the time specified here passes, preset calls from other preset call icons will not occur, even if the wireless microphones assigned to those preset call icons detect speech.

6) Click the OK button and close the Microphone Setting window.

3. Configure settings to call silent Home icon preset

You can configure the settings to call a preset assigned to the Home icon when none of the microphones detect speech for a while.

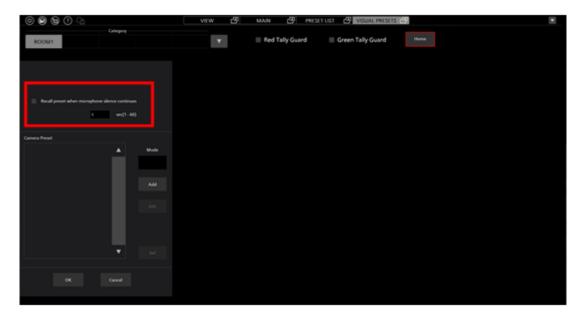
1) Refer to "Setting procedure for this feature" in this section, and configure the settings for the Home icon.

2) Click the Home icon to select it.

3) Right-click the Home icon or click the Setting button in the "Preset Group" tab of the setting operation area to display the Home Icon Setting screen.

4) Configure the operation settings on the Home Icon Setting screen.

If Recall preset when microphone silence continues is checked ON and none of the microphones detect speech for a while, the preset assigned to the Home icon will be called. You can set the time until the preset is called from a range of 1 to 60 seconds.



■Usage procedure

- 1) Click the Settings button at the top left of the screen, select the System tab from the center of the screen and move to the System Setting screen.
- 2) Click the Connect button to connect to the wireless microphone receiver.

0 6 6 0 0	VEW 🖉 MAIN	연 PRESITUST 연 VSUAL PRESITS 연	
		System Setting	
	Calegory Canona Usar Bola M	Apalan Ayrika Epilesi Page Cloud	
Keyboard Shortout		Image Capture Device	
Crubbed (Dialast Se	SDI Router Address	
		USB Video Device:	
			Resolution: 1000/1000
			Frame Rate: 00 FPS
		Wireless microphone unit	
		IP Address: 112 1418 110	
		Port No.2 5005	
		Pesov	Connect automatically
		Status: Office	

- 3) Move to the VISUAL PRESET screen.
- 4) If the assigned wireless microphone is recognized correctly and it is able to detect speech, the preset call icon will display an audio level meter for that wireless microphone.



When a wireless microphone detects speech, the preset for the preset call icon assigned to that microphone will be called.

If Recall preset when microphone silence continues is checked ON in the Home icon settings and none of the microphones detect speech for a while, the preset assigned to the Home icon will be called.

• Fine adjustment operation after calling a preset

Use the procedure below to fine-tune the position of a specific camera after calling a preset.

- 1) Refer to the "Screen separation function" in this document and set the Main screen and this screen as separate windows.
- 2) From the list of camera presets displayed in Selected Group on the right side of the screen, click to select the camera preset you want to fine-tune.



3) The camera selected in step 2 is selected on the Main screen. Fine-tune the position using the camera controller.

Appendix

List of restrictions for each account privilege

The software has three types of account privileges, namely, Administrator/Super User/User. There are restrictions on the functions that can be used by privileges other than Administrator.

Functions marked with \bigcirc in the following table are functions that can be used, and functions marked with \times are functions that cannot be used.

	Administrator	Super User	User
View screen			
Cameras that can be operated	All	All	Permitted cameras only
Refine camera display	0	0	0
Change the number of thumbnails	0	0	0
Show help file	0	0	0
Show Setting screen	0	0	×
Main screen			
Cameras that can be operated	All	All	Permitted cameras only
Refine camera display	0	0	0
Change the number of thumbnails	0	0	0
Show help file	0	0	0
Show Setting screen	0	0	×
Top screen operation	0	0	0
Bottom screen operation	0	0	0
Preset List screen			
Set	0	0	×
Rename	0	0	×
Del	0	0	×
Rearrange	0	0	×
Reset	0	0	×
Timed	0	0	0
Normal	0	0	0
Stop	0	0	0

Visual Presets screen				
Icon Setting		0	0	×
All Clear		0	0	× ×
		0	0	
Background setting/clear Preset Group setting				×
(Add, Del, Setting)		0	0	×
Change camera icon		0	0	×
position				
Edit camera icon		0	0	×
Delete camera icon Preset Group icon		0	0	×
Position change		0	0	×
Preset Group icon		0	0	×
Edit		0	<u> </u>	~
Preset Group icon Delete		0	0	×
Timed		0	0	0
Normal		0	0	0
Stop		0	0	0
Setting screen				
Category setting		0	0	×
Camera setting		0	×	×
User setting		0	×	×
Data Migration setting		0	×	×
Joystick setting		0	×	×
System setting		0	×	×
Plugin setting		0	×	×
Cloud setting		0	0	0
croud setting				
Camera controller				
	Pan/Tilt speed control	0	0	0
PTZ operation	Pan/Tilt control	0	0	0
	Zoom	0	0	0
	Name setting	0	0	×
	Registering a position	0	0	×
Preset operation	Calling a position	0	0	× 0
	Deleting name and			
	position	0	0	×
	Focus	0	0	0
	Iris	0	0	0
Image quality adjustment	Gain	0	0	×
Image quality adjustment	WhiteBalance	0	0	×
	ShutterSpeed	0	0	×
	ND Filter	0	0	×
	Start/Stop SD recording	0	0	0
Other	Audio Vol.	0	0	0
	Display camera web	0	0	0
Simultaneously control	screen			
Simultaneously control multiple cameras		0	0	0
Camera Controller				
(Camcoder)				-
	Zoom	0	0	0
	Focus	0	0	0

I	lris	0	0	0
(Gain	0	0	×
1	ND Filter	0	0	×
V	White balance	0	0	×
F	R. GAIN / B. GAIN	0	0	0
N	MASTER PED.	0	0	0
F	r ped.	0	0	0
(G PED.	0	0	0
H	B PED.	0	0	0
S	SCENE FILE	0	0	0

Uninstallation procedure

- 1. Select "Program and functions" from the control panel of Windows.
- 2. Selecting "Panasonic PTZ Control Center" from the list of programs and clicking "Uninstall" will show the confirmation screen.
- 3. Clicking "Yes" on the confirmation screen will uninstall the software.

Software information concerning this product

1. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/).

2. Software licensed in accordance with the Apache License 2.0 is included in this software.

3. Software licensed in accordance with the MIT License is included in this software.

4. Software licensed in accordance with the Curl License is included in this software.

5. Software licensed in accordance with the Mozilla Public License Version 2.0 is included in this software.

6. Software licensed in accordance with the GNU Lesser General Public License v2.1 is included in this software.

LICENSE ISSUES

The OpenSSL toolkit stays under a double license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts.

OpenSSL License

/* _____

* Copyright (c) 1998-2019 The OpenSSL Project. All rights reserved.

*

* Redistribution and use in source and binary forms, with or without

* modification, are permitted provided that the following conditions

* are met:

*

* 1. Redistributions of source code must retain the above copyright

* notice, this list of conditions and the following disclaimer.

*

* 2. Redistributions in binary form must reproduce the above copyright

* notice, this list of conditions and the following disclaimer in

* the documentation and/or other materials provided with the

* distribution.

- *
- * 3. All advertising materials mentioning features or use of this
- * software must display the following acknowledgment:
- * "This product includes software developed by the OpenSSL Project
- * for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
- *
- * 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
- * endorse or promote products derived from this software without
- * prior written permission. For written permission, please contact
- * openssl-core@openssl.org.
- *

* 5. Products derived from this software may not be called "OpenSSL"

- * nor may "OpenSSL" appear in their names without prior written
- * permission of the OpenSSL Project.
- *

* 6. Redistributions of any form whatsoever must retain the following

- * acknowledgment:
- * "This product includes software developed by the OpenSSL Project
- * for use in the OpenSSL Toolkit (http://www.openssl.org/)"
- *
- * THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS" AND ANY
- * EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
- * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
- * PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
- * ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
- * SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT

* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;

- * LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
- * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
- * STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
- * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
- * OF THE POSSIBILITY OF SUCH DAMAGE.

* _____

- *
- * This product includes cryptographic software written by Eric Young
- * (eay@cryptsoft.com). This product includes software written by Tim
- * Hudson (tjh@cryptsoft.com).
- *

Original SSLeay License

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)

* All rights reserved.

*

* This package is an SSL implementation written

* by Eric Young (eay@cryptsoft.com).

* The implementation was written so as to conform with Netscapes SSL.

*

* This library is free for commercial and non-commercial use as long as

* the following conditions are aheared to. The following conditions

* apply to all code found in this distribution, be it the RC4, RSA,

* lhash, DES, etc., code; not just the SSL code. The SSL documentation

* included with this distribution is covered by the same copyright terms

* except that the holder is Tim Hudson (tjh@cryptsoft.com).

*

* Copyright remains Eric Young's, and as such any Copyright notices in

* the code are not to be removed.

* If this package is used in a product, Eric Young should be given attribution

* as the author of the parts of the library used.

* This can be in the form of a textual message at program startup or

* in documentation (online or textual) provided with the package.

*

* Redistribution and use in source and binary forms, with or without

* modification, are permitted provided that the following conditions

* are met:

* 1. Redistributions of source code must retain the copyright

* notice, this list of conditions and the following disclaimer.

* 2. Redistributions in binary form must reproduce the above copyright

* notice, this list of conditions and the following disclaimer in the

* documentation and/or other materials provided with the distribution.

* 3. All advertising materials mentioning features or use of this software

* must display the following acknowledgement:

* "This product includes cryptographic software written by

* Eric Young (eay@cryptsoft.com)"

112

- * The word 'cryptographic' can be left out if the rouines from the library
- * being used are not cryptographic related :-).
- * 4. If you include any Windows specific code (or a derivative thereof) from
- * the apps directory (application code) you must include an acknowledgement:
- * "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

*

* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS" AND

* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE

* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE

* ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE

* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL

* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS

* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)

* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT

* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY

* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF

* SUCH DAMAGE.

*

* The licence and distribution terms for any publically available version or

* derivative of this code cannot be changed. i.e. this code cannot simply be

- * copied and put under another distribution licence
- * [including the GNU Public Licence.]
- */

Apache License Version 2.0, January 2004 http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

- 2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
- 3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.
- 4. Redistribution. You may reproduce and distribute copies of the

Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

- (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
- (b) You must cause any modified files to carry prominent notices stating that You changed the files; and
- (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
- (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

- 5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
- 6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
- 7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
- 8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.
- 9. Accepting Warranty or Additional Liability. While redistributing

the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software

distributed under the License is distributed on an "AS IS" BASIS,

WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

See the License for the specific language governing permissions and

limitations under the License.

Copyright <YEAR> <COPYRIGHT HOLDER>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1996 - 2022, Daniel Stenberg, daniel@haxx.se, and many contributors, see the THANKS file.

All rights reserved.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

Thanks for Your Contribution to the curl Project!

Related:

Contribute

License

Report Bugs

Sponsors

This project has been alive for many years. At least 2558 persons have provided code, feedback, advice etc that have improved curl. curl and libcurl would not be what they are today without the help of friendly people like this.

If you have helped out but are missing in this list, please tell us! Note that this list maynot include contributors who have used obvious fake names or strange aliases.

Aa

Aaro Koskinen, Aaron Oneal, Aaron Orenstein, Aaron Scarisbrick, aasivov on github,

Ab

Abhinav Singh, Abram Pousada,

Ac

accountantM on github, AceCrow on Github,

Ad

Adam Barclay, Adam Brown, Adam Coyne, Adam D. Moss, Adam Langley, Adam Light, Adam Marcionek, Adam Piggott, Adam Sampson, Adam Tkac, Adnan Khan, adnn on github, Adrian Burcea, Adrian Peniak, Adrian Schuur, Adriano Meirelles,

Af

afrind on github,

Ah

ahodesuka on github,

Aj

Ajit Dhumale,

Ak

Akhil Kedia, Aki Koskinen, Akos Pasztory, Akshay Vernekar,

Ala

Alain Danteny, Alain Miniussi, Alan Jenkins, Alan Pinstein,

Alb

Albert Chin-A-Young, Albert Choy, Albin Vass,

Ale

Alejandro Alvarez Ayllon, Alejandro Colomar, Alejandro R. Sedeño, Aleksandar Milivojevic, Aleksander Mazur, Aleksandr Krotov, Aleksey Tulinov, Ales Mlakar, Ales Novak, Alessandro Ghedini, Alessandro Vesely, Alex aka WindEagle, Alex Baines, Alex Bligh, Alex Chan, Alex Crichton, Alex Fishman, Alex Gaynor, Alex Grebenschikov, Alex Gruz, Alex Kiernan, Alex Konev, Alex Malinovich, Alex Mayorga, Alex McLellan, Alex Neblett, Alex Nichols, Alex Potapenko, Alex Rousskov, Alex Samorukov, Alex Suykov, Alex Vinnik, Alex Xu, Alexander Beedie, Alexander Chuykov, Alexander Dyagilev, Alexander Elgert, Alexander Kanavin, Alexander Klauer, Alexander Kourakos, Alexander Krasnostavsky, Alexander Lazic, Alexander Pepper, Alexander Peslyak, Alexander Sinditskiy, Alexander Traud, Alexander V. Tikhonov, Alexander Zhuravlev, Alexandre Pion, Alexey Borzov, Alexey Eremikhin, Alexey Melnichuk, Alexey Pesternikov, Alexey Simak, Alexey Zakhlestin, Alexis Carvalho, Alexis La Goutte, Alexis Vachette,

Alf

Alfonso Martone, Alfred Gebert,

All

Allen Pulsifer,

Alo

Alona Rossen,

Am

Amaury Denoyelle, amishmm on github, Amit Katyal, Amol Pattekar, Amr Shahin,

Ana

Anatol Belski, Anatoli Tubman,

Ande

Anders Bakken, Anders Berg, Anders Gustafsson, Anders Havn, Anders Roxell, Anderson Sasaki, Anderson Toshiyuki Sasaki,

Andi

Andi Jahja,

Andr

Andre Guibert de Bruet, Andre Heinecke, Andrea Pappacoda, Andreas Damm, Andreas Falkenhahn, Andreas Farber, Andreas Fischer, Andreas Kostyrka, Andreas Malzahn, Andreas Ntaflos, Andreas Olsson, Andreas Rieke, Andreas Roth, Andreas Schneider, Andreas Schuldei, Andreas Streichardt, Andreas Wurf, Andrei Benea, Andrei Bica, Andrei Cipu, Andrei Karas, Andrei Kurushin, Andrei Neculau, Andrei Rybak, Andrei Sedoi, Andrei Valeriu BICA, Andrei Virtosu, Andrej E Baranov, Andrew Barnert, Andrew Barnes, Andrew Benham, Andrew Biggs, Andrew Bushnell, Andrew de los Reyes, Andrew Francis, Andrew Fuller, Andrew Ishchuk, Andrew Krieger, Andrew Kurushin, Andrew Lambert, Andrew Moise, Andrew Potter, Andrew Robbins, Andrew Wansink, Andrey Gursky, Andrey Labunets, Andrii Moiseiev, Andrius Merkys, Andrés García,

Andy

Andy Cedilnik, Andy Fiddaman, Andy Serpa, Andy Tsouladze,

Ang

Angus Mackay,

Ani

anio on github,

Ans

anshnd on github,

Ant

Antarpreet Singh, Anthon Pang, Anthony Avina, Anthony Bryan, Anthony G. Basile, Anthony Hu, Anthony Ramine, Anthony Shaw, Antoine Aubert, Antoine Calando, Anton Bychkov, Anton Gerasimov, Anton Kalmykov, Anton Malov, Anton Yabchinskiy, Antoni Villalonga, Antonio Larrosa, Antony74 on github, Antti Hätälä,

Ap

April King,

Ar

arainchik on github, Archangel_SDY on github, Arkadiusz Miskiewicz, Armel Asselin, Arnaud Compan, Arnaud Ebalard, Arnaud Rebillout, Aron Bergman, Aron Rotteveel, Artak Galoyan, Arthur Murray, Artur Sinila, Arve Knudsen, Arvid Norberg, arvids-kokins-bidstack on github,

As

asavah on github, Ashish Shukla, Ashwin Metpalli, Ask Bjørn Hansen, Askar Safin,

At Ates Goral, Au Augustus Saunders, Austin Green, Av Av Avery Fay, Aw awesomenode on github, Ax Axel Morawietz, Axel Tillequin, Ay

Ba

Bachue Zhou, Balaji Parasuram, Balaji S Rao, Balaji Salunke, Balazs Kovacsics, Balint Szilakszi, Barry Abrahamson, Barry Pollard, Bart Whiteley, Baruch Siach, Bas Mevissen, Bas van Schaik, Bastian Krause, Bastien Bouclet, Basuke Suzuki, baumanj on github,

Bd

bdry on github,

Be

beckenc on github, Ben Boeckel, Ben Darnell, Ben Greear, Ben Kohler, Ben Madsen, Ben Noordhuis, Ben Van Hof, Ben Voris, Ben Winslow, Benau on github, Benbuck Nason, Benjamin Gerard, Benjamin Gilbert, Benjamin Johnson, Benjamin Kircher, Benjamin Riefenstahl, Benjamin Ritcey, Benjamin Sergeant, Benoit Neil, Benoit Sigoure, Bernard Leak, Bernard Spil, Bernat Mut, Bernd Mueller, Bernhard Iselborn, Bernhard M. Wiedemann, Bernhard Reutner-Fischer, Bernhard Walle, Bert Huijben, Bertrand Demiddelaer, Bertrand Simonnet, beslick5 on github, Bevan Weiss,

Bi

Bill Doyle, Bill Egert, Bill Hoffman, Bill Middlecamp, Bill Nagel, Bill Pyne, billionai on github, Billyzou0741326 on github, Bin Lan, Bin Meng,

Bj

Bjarni Ingi Gislason, Bjoern Franke, Bjoern Sikora, Bjorn Augustsson, Bjorn Reese, Björn Stenberg,

Bl

Blaise Potard, Blake Burkhart,

Bn

bnfp on github,

Bo

Bo Anderson, Bob Relyea, Bob Richmond, Bob Schader, bobmitchell1956 on github, Bodo Bergmann, Bogdan Nicula, Boris Rasin,

Br

Brad Burdick, Brad Fitzpatrick, Brad Harder, Brad Hards, Brad King, Brad Spencer, Bradford Bruce, bramus on github, Brandon Casey, Brandon Dong, Brandon Wang, Brendan Jurd, Brent Beardsley, Brian Akins, Brian Bergeron, Brian Carpenter, Brian Chaplin, Brian Childs, Brian Chrisman, Brian Dessent, Brian E. Gallew, Brian

Inglis, Brian J. Murrell, Brian Prodoehl, Brian R Duffy, Brian Ulm, Brock Noland, Bru Rom, Bruce Mitchener, Bruce Stephens, BrumBrum on hackerone, Bruno Baguette, Bruno de Carvalho, Bruno Grasselli, Bruno Thomsen, Bryan Henderson, Bryan Kemp,

Bs

bsammon on github,

Bu

Bubu on github, buzo-ffm on github,

Bx

bxac on github,

By

Bylon2 on github, Byrial Jensen,

Ca

Caleb Raitto, Calvin Buckley, Cameron Cawley, Cameron Kaiser, Cameron MacMinn, Camille Moncelier, Cao ZhenXiang, Caolan McNamara, Captain Basil, Carie Pointer, Carl Zogheib, Carlo Cannas, Carlo Marcelo Arenas Belón, Carlo Teubner, Carlo Wood, Carlos ORyan, Carsten Lange, Casey O'Donnell, Catalin Patulea, causal-agent on github,

Cb

cbartl on github,

Cc

cclauss on github,

Ce

Cesar Eduardo Barros,

Cha

Chad Monroe, Chandrakant Bagul, Charles Kerr, Charles Romestant,

Che

Chen Prog, Cherish98 on github, Chester Liu,

Chi

Chih-Chung Chang, Chih-Hsuan Yen,

Chr

Chris "Bob Bob", Chris Araman, Chris Carlmar, Chris Combes, Chris Conlon, Chris Deidun, Chris Faherty, Chris Flerackers, Chris Gaukroger, Chris Maltby, Chris Mumford, Chris Paulson-Ellis, Chris Roberts, Chris Smowton, Chris Young, Christian Fillion, Christian Grothoff, Christian Heimes, Christian Hägele, Christian Krause, Christian Kurz, Christian Robottom Reis, Christian Schmitz, Christian Stewart, Christian Vogt, Christian Weisgerber, Christoph Krey, Christoph M. Becker, Christophe Demory, Christophe Dervieux, Christophe Legry, Christopher Conroy, Christopher Head, Christopher Palow, Christopher R. Palmer, Christopher Reid, Christopher Stone,

Chu

Chungtsun Li,

Ci

Ciprian Badescu, civodul on github,

Cl

Claes Jakobsson, Clarence Gardner, Claudio Neves, clbr on github, Clemens Gruber, Cliff Crosland, Clifford Wolf, Clint Clayton, Clément Notin,

Cm

cmfrolick on github,

Co

codesniffer13 on github, Cody Jones, Cody Mack, COFFEETALES on github, coinhubs on github, Colby Ranger, Colin Blair, Colin Hogben, Colin O'Dell, Colin Watson, Colm Buckley, Constantine Sapuntzakis, Cory Benfield, Cory Nelson, Costya Shulyupin,

Cr

Craig A West, Craig Andrews, Craig Davison, Craig de Stigter, Craig Markwardt, crazydef on github, Cris Bailiff, Cristian Greco, Cristian Morales Vega, Cristian Rodríguez,

Cu

Curt Bogmine,

Су

Cynthia Coan, Cyril B, Cyrill Osterwalder,

D.

D. Flinkmann,

Da

Da-Yoon Chung,

Dab

daboul on github,

Dag

Dag Ekengren, Dagobert Michelsen,

Dai

Daiki Ueno, Dair Grant,

Dam

Dambaev Alexander, Damian Dixon, Damien Adant, Damien Vielpeau, Damien Walsh,

Dan

Dan Becker, Dan Cristian, Dan Donahue, Dan Fandrich, Dan Jacobson, Dan Johnson, Dan Kenigsberg, Dan Locks, Dan McNulty, Dan Nelson, Dan Petitt, Dan Torop, Dan Zitter, Daniel at touchtunes, Daniel Bankhead, Daniel Black, Daniel Carpenter, Daniel Cater, Daniel Egger, Daniel Gustafsson, Daniel Hwang, Daniel Jeliński, Daniel Johnson, Daniel Kahn Gillmor, Daniel Krügler, Daniel Kurečka, Daniel Lee Hwang, Daniel Lublin, Daniel Marjamäki, Daniel Melani, Daniel Mentz, Daniel Romero, Daniel Schauenberg, Daniel Seither, Daniel Shahaf, Daniel Silverstone, Daniel Steinberg, Daniel Stenberg, Daniel Theron, Daniel Woelfel,

Dap

Daphne Luong,

Dar

Dario Nieuwenhuis, Dario Weißer, Darryl House, Darshan Mody, Darío Hereñú,

Das

dasimx on github,

Dave

Dave Dribin, Dave Halbakken, Dave Hamilton, Dave May, Dave Reisner, Dave Thompson, Dave Vasilevsky, Davey Shafik,

Davi

David Bau, David Benjamin, David Binderman, David Blaikie, David Bohman, David Byron, David Cohen, David Cook, David Demelier, David E. Narváez, David Earl, David Eriksson, David Garske, David Goerger, David Houlder, David Hu, David Hull, David J Meyer, David James, David Kalnischkies, David Kierznowski, David Kimdon, David L., David Lang, David LeBlanc, David Lopes, David Lord, David McCreedy, David Odin, David Phillips, David Rosenstrauch, David Ryskalczyk, David Sanderson, David Schweikert, David Shaw, David Strauss, David Tarendash, David Thiel, David Walser, David Woodhouse, David Wright, David Yan, davidedec on github,

Db

dbrowndan on github,

De

dEajL3kA on github, Dengminwen, Denis Baručić, Denis Chaplygin, Denis Feklushkin, Denis Goleshchikhin, Denis Laxalde, Denis Ollier, Dennis Clarke, Dennis Felsing, Derek Higgins, Desmond O. Chang, destman on github, Detlef Schmier,

Dh

Dheeraj Sangamkar,

Di

Didier Brisebourg, Diego Bes, Diego Casorran, Dietmar Hauser, Dilyan Palauzov, Dima Barsky, Dima Pasechnik, Dima Tisnek, Dimitar Boevski, Dimitre Dimitrov, Dimitrios Apostolou, Dimitrios Siganos, Dimitris Sarris, Dinar, Dirk Eddelbuettel, Dirk Feytons, Dirk Manske, Dirk Wetter, Dirkjan Bussink, Diven Qi, divinity76 on github,

Dk

dkjjr89 on github, dkwolfe4 on github,

Dm

Dmitri Shubin, Dmitri Tikhonov, Dmitriy Sergeyev, dmitrmax on github, Dmitry Bartsevich, Dmitry Eremin-Solenikov, Dmitry Falko, Dmitry Karpov, Dmitry Kostjuchenko, Dmitry Kurochkin, Dmitry Mikhirev, Dmitry Popov, Dmitry Rechkin, Dmitry S. Baikov, Dmitry Wagin,

Dn

dnivras on github,

Do

Dolbneff A.V, Domenico Andreoli, Dominick Meglio, Dominik Hölzl, Dominique Leuenberger, Don J Olmstead, Dongliang Mu, Doron Behar, Doug Kaufman, Doug Porter, Douglas Creager, Douglas E. Wegscheid, Douglas Kilpatrick, Douglas Mencken, Douglas R. Horner, Douglas R. Reno, Douglas Steinwand, Dov Murik,

Dp

dpull on github,

Dr

Drake Arconis,

Dt

dtmsecurity on github,

Du

Duane Cathey, Duncan Mac-Vicar Prett, Duncan Wilcox, Dustin Boswell, Dusty Mabe, Duy Phan Thanh,

Dw

Dwarakanath Yadavalli,

Dy

Dylan Ellicott, Dylan Salisbury,

Ea

Early Ehlinger, Earnestly on github, Eason-Yu on github,

Eb

Ebe Janchivdorj, ebejan on github, Ebenezer Ikonne,

Ed

Ed Morley, Eddie Lumpkin, Edgaras Janušauskas, Edin Kadribasic, Edmond Yu, Eduard Bloch, Edward Kimmel, Edward Rudd, Edward Sheldrake, Edward Thomson,

Ee

Eelco Dolstra, Eetu Ojanen,

Eg

Egon Eckert,

Eh

Ehren Bendler,

El

Eldar Zaitov, elelel on github, elephoenix on github, Eli Schwartz, Elia Tufarolo, Elliot Saba, Ellis Pritchard, Elmira A Semenova, elsamuko on github,

Em

emanruse on github, Emanuele Bovisio, Emil Engler, Emil Lerner, Emil Romanus, Emiliano Ida, Emmanuel Tychon,

En

Enrico Scholz, Enrik Berkhan,

Er

Eramoto Masaya, Eric Cooper, Eric Curtin, Eric Gallager, Eric Hu, Eric Landes, Eric Lavigne, Eric Lubin, Eric Melville, Eric Mertens, Eric Musser, Eric Rautman, Eric Rescorla, Eric Ridge, Eric Rosenquist, Eric S. Raymond, Eric Sauvageau, Eric Thelin, Eric Vergnaud, Eric Wong, Eric Wu, Eric Young, Erick Nuwendam, Erik Jacobsen, Erik Janssen, Erik Johansson, Erik Minekus, Erik Olsson, Erik Stenlund, Ernest Beinrohr, Ernst Sjöstrand, Erwan Legrand, Erwin Authried,

Es

Estanislau Augé-Pujadas,

Et

Ethan Glasser Camp, Etienne Simard,

Eu

Eugene Kotlyarov,

Ev

Evan Jordan, Evangelos Foutras, Even Rouault, Evert Pot, Evgeny Grin, Evgeny Turnaev,

Ex

eXeC64 on github,

Ey

Eygene Ryabinkin, Eylem Ugurel,

Fa

Fabian Frank, Fabian Hiernaux, Fabian Keil, Fabian Ruff, Fabrice Fontaine, Fabrizio Ammollo, Fahim Chandurwala, Faizur Rahman, Fawad Mirza,

Fd

fds242 on github,

Fe

Federico Bianchi, Fedor Karpelevitch, Fedor Korotkov, Feist Josselin, Felipe Gasper, Felix Hädicke, Felix Kaiser, Felix von Leitner, Felix Yan, Feng Tu, Fernando Muñoz,

Fi

Filip Salomonsson, Firefox OS,

Fl

Flameborn on github, Flavio Medeiros, Florian Pritz, Florian Schoppmann, Florian Van Heghe, Florian Weimer, Florin Petriuc,

Fo

Forrest Cahoon,

Fr

Francisco Moraes, Francisco Munoz, Francisco Sedano, Francois Petitjean, Francois Rivard, Frank Denis, Frank Gevaerts, Frank Hempel, Frank Keeney, Frank McGeough, Frank Meier, Frank Ticheler, Frank Van Uffelen, František Kučera, François Charlier, François Rigault, Fred Machado, Fred New, Fred Noz, Fred Stluka, Frederic Lepied, Frederik B, Frederik Wedel-Heinen, Fredrik Thulin,

Fu

FuccDucc on github, fullincome on github,

Ga

Gabriel Kuri, Gabriel Simmer, Gabriel Sjoberg, Gambit Communications, Ganesh Kamath, Garrett Holmstrom, Gary Maxwell, Gaurav Malhotra, Gautam Kachroo, Gautam Mani, Gavin Wong, Gavrie Philipson, Gaz Iqbal, Gaël Portay,

Gc

gclinch on github,

Ge

Gealber Morales, Geeknik Labs, Geoff Beier, Georeth Zhou, Georg Horn, Georg Huettenegger, Georg Lippitsch, Georg Wicherski, George Liu, Gerd v. Egidy, Gergely Nagy, Gerhard Herre, Gerrit Bruchhäuser, Gerrit Renker,

Gh

Ghennadi Procopciuc,

Gi

Giancarlo Formicuccia, Giaslas Georgios, Gil Weber, Gilad, Gilbert Ramirez Jr., Gilles Blanc, Gilles Vollant, Giorgos Oikonomou, Gisle Vanem, git-bruh on github, GitYuanQu on github, Giuseppe Attardi, Giuseppe D'Ambrosio, Giuseppe Persico,

Gl

Gleb Ivanovsky, Glen A Johnson Jr., Glen Nakamura, Glen Scott, Glenn de boer, Glenn Sheridan, Glenn Strauss,

Go

Godwin Stewart, Google Inc., Gordon Marler, Gorilla Maguila, Gou Lingfeng,

Gr

Grant Erickson, Grant Pannell, Greg Hewgill, Greg Morse, Greg Onufer, Greg Pratt, Greg Rowe, Greg Zavertnik, Gregor Jasny, Gregory Jefferis, Gregory Muchka, Gregory Nicholls, Gregory Szorc, Griffin Downs, Grigory Entin,

Gu

Guenole Bescon, Guido Berhoerster, Guillaume Arluison, guitared on github, Gunter Knauf, Gustaf Hui, Gustavo Grieco, Guy Poizat,

Gw

GwanYeong Kim, Gwenole Beauchesne,

Ha

Hagai Auro, Haibo Huang, Hamish Mackenzie, hamstergene on github, Han Han, Han Qiao, Hang Kin Lau, Hang Su, Hannes Magnusson, Hanno Böck, Hanno Kranzhoff, Hans Steegers, Hans-Christian Noren Egtvedt, Hans-Jurgen May, Hao Wu, Hardeep Singh, Haris Okanovic, Harold Stuart, Harry Sintonen, Harshal Pradhan, Hauke Duden, Hayden Roche,

He

He Qin, Heikki Korpela, Heinrich Ko, Heinrich Schaefer, Helge Klein, Helmut K. C. Tessarek, Helwing Lutz, Hendrik Visage, Henri Gomez, Henrik Gaßmann, Henrik Storner, Henry Ludemann, Henry Roeland, Herve Amblard,

Hi

Hidemoto Nakada, Himanshu Gupta,

Ho

Ho-chi Chen, Hoi-Ho Chan, Hongli Lai, Hongyi Zhao, Howard Blaise, Howard Chu,

Hs

hsiao yi,

Ht

htasta on github,

Hu

Hubert Kario, Hugh Macdonald, Hugo van Kemenade, Huzaifa Sidhpurwala, huzunhao on github,

Hy

hydra3333 on github,

Hz

Hzhijun,

Ia

iammrtau on github, Ian D Allen, Ian Fette, Ian Ford, Ian Gulliver, Ian Lynagh, Ian Spence, Ian Turner, Ian Wilkes,

Ig

Ignacio Vazquez-Abrams, Igor Franchuk, Igor Khristophorov, Igor Makarov, Igor Novoseltsev, Igor Polyakov,

Ih

Ihor Karpenko, ihsinme on github,

Ii

Iida Yosiaki,

Ik

Ikko Ashimine,

Il

Ilguiz Latypov, Ilja van Sprundel, Illarion Taev, Ilya Kosarev,

Im

imilli on github, Immanuel Gregoire,

In

Inca R, infinnovation-dev on github, Ingmar Runge, Ingo Ralf Blum, Ingo Wilken, Inho Oh,

Io

Ionuț-Francisc Oancea,

Ir

Irfan Adilovic, Ironbars13 on github, Irving Wolfe,

Is

Isaac Boukris, Isaiah Norton, Ishan SinghLevett,

It

Ithubg on github,

Iv

Ivan Avdeev, IvanoG on github, Ivo Bellin Salarin,

Iz

iz8mbw on github,

J.

J. Bromley,

Jac

Jack Boos Yu, Jack Zhang, Jackarain on github, Jacky Lam, Jacob Barthelmeh, Jacob Hoffman-Andrews, Jacob Meuser, Jacob Moshenko, Jactry Zeng,

Jad

Jad Chamcham,

Jai

Jaime Fullaondo,

Jak

jakirkham on github, Jakub Wilk, Jakub Zakrzewski,

Jam

James Atwill, James Brown, James Bursa, James Cheng, James Clancy, James Cone, James Dury, James Fuller, James Gallagher, James Griffiths, James Housley, James Knight, James Le Cuirot, James MacMillan, James Slaughter, Jamie Lokier, Jamie Newton, Jamie Wilkinson,

Jan

Jan Alexander Steffens, Jan Chren, Jan Ehrhardt, Jan Koen Annot, Jan Kunder, Jan Mazur, Jan Schaumann, Jan Schmidt, Jan Van Boghout, Jan Verbeek, JanB on github, Janne Johansson,

Jar

Jared Jennings, Jared Lundell, Jari Aalto, Jari Sundell,

Jas

jasal82 on github, Jason Baietto, Jason Glasgow, Jason Juang, Jason Lee, Jason Liu, Jason McDonald, Jason S. Priebe,

Jav

Javier Barroso, Javier Blazquez, Javier G. Sogo, Javier Navarro, Javier Sixto,

Jay

Jay Austin, Jayesh A Shah,

Jaz

Jaz Fresh,

Jea

Jean Fabrice, Jean Gressmann, Jean Jacques Drouin, Jean-Claude Chauve, Jean-Francois Bertrand, Jean-Francois Durand, Jean-Louis Lemaire, Jean-Marc Ranger, Jean-Noël Rouvignac, Jean-Philippe Barrette-LaPierre, Jean-Philippe Menil,

Jef

Jeff Connelly, Jeff Hodges, Jeff Johnson, Jeff King, Jeff Lawson, Jeff Luszcz, Jeff Mears, Jeff Phillips, Jeff Pohlmeyer, Jeff Weber, Jeffrey Tolar, Jeffrey Walton, jeffrson on github,

Jen

Jens Finkhaeuser, Jens Rantil, Jens Schleusener,

Jer

Jeremie Rapin, Jeremy Falcon, Jeremy Friesner, Jeremy Huddleston, Jeremy Lainé, Jeremy Lin, Jeremy Maitin-Shepard, Jeremy Pearson, Jeremy Tan, Jeremy Thibault, Jeroen Koekkoek, Jeroen Ooms, Jerome Mao, Jerome Muffat-Meridol, Jerome Robert, Jerome Vouillon, Jerry Krinock, Jerry Wu,

Jes

Jes Badwal, Jesper Jensen, Jesse Chisholm, Jesse Noller, Jesse Tan,

Jet

jethrogb on github,

Ji

Jie He, Jim Drash, Jim Freeman, Jim Fuller, Jim Hollinger, Jim Meyering, Jimmy Gaussen, Jiri Dvorak, Jiri Hruska, Jiri Jaburek, Jishan Shaikh, Jiří Malák,

Jm

jmdavitt on github,

Jn

jnbr on github,

Joc

Jocelyn Jaubert, Jochem Broekhoff,

Joe

Joe Halpin, Joe Malicki, Joe Mason, Joel Chen, Joel Depooter, Joel Jakobsson, Joel Teichroeb, joey-l-us on github,

Jof

Jofell Gallardo,

Joh

Johan Anderson, Johan Lantz, Johan Nilsson, Johan van Selst, Johann150 on github, Johannes Bauer, Johannes Ernst, Johannes G. Kristinsson, Johannes Lesr, Johannes Schindelin, John A. Bristor, John Bradshaw, John

Butterfield, John Coffey, John Crow, John David Anglin, John DeHelian, John Dennis, John Dunn, John E. Malmberg, John Gardiner Myers, John Hascall, John Janssen, John Joseph Bachir, John Kelly, John Kohl, John Lask, John Levon, John Lightsey, John Marino, John Marshall, John McGowan, John P. McCaskey, John Schroeder, John Simpson, John Starks, John Suprock, John V. Chow, John Wanghui, John Weismiller, John Wilkinson, John-Mark Bell, Johnny Luong,

Joj

Jojojov on github,

Jon

Jon DeVree, Jon Grubbs, Jon Johnson Jr, Jon Nelson, Jon Rumsey, Jon Sargeant, Jon Seymour, Jon Spencer, Jon Torrey, Jon Travis, Jon Turner, Jon Wilkes, Jonas Forsman, Jonas Minnberg, Jonas Schnelli, Jonas Vautherin, Jonatan Lander, Jonatan Vela, Jonathan Cardoso Machado, Jonathan Hseu, Jonathan Moerman, Jonathan Nieder, Jonathan Watt, Jonathan Wernberg, Jongki Suwandi,

Joo

Joombalaya on github, Joonas Kuorilehto,

Jor

Jordan Brown,

Jos

Jose Alf, Jose Kahan, Josef Wolf, Joseph Chen, Josh Bialkowski, Josh Kapell, Josh Soref, joshhe on github, Joshua Kwan, Joshua Swink, Josie Huddleston, Josip Medved, Josue Andrade Gomes, José Joaquín Atria,

Joz

Jozef Kralik,

Jp

JP Mens,

Ju

Juan Barreto, Juan F. Codagnone, Juan Ignacio Hervás, Juan RP, Judson Bishop, Juergen Hoetzel, Juergen Wilke, Jukka Pihl, Julian Montes, Julian Noble, Julian Ospald, Julian Romero Nieto, Julian Taylor, Julian Z, Julien Chaffraix, Julien Nabet, Julien Royer, Jun Tseng, Jun-ichiro itojun Hagino, Jun-ya Kato, jungle-boogie on github, Junho Choi, Jurij Smakov, Juro Bystricky, Justin Clift, Justin Ehlert, Justin Fletcher, Justin Karneges, Justin Maggard,

 $\mathbf{J}\mathbf{v}$

jveazey on github,

Jz

jzinn on github,

K.

K. R. Walker,

Ka

ka7 on github, Kael1117 on github, Kai Engert, Kai Noda, Kai Sommerfeld, Kai-Uwe Rommel, Kalle Vahlman, Kamil Dudka, Kane York, Kang Lin, Kang-Jin Lee, Kari Pahula, Karl Chen, Karl Moerder, Karol Pietrzak, Kartik Mahajan, Kaspar Brand, Katie Wang, Katsuhiko YOSHIDA, Kazuho Oku,

Ke

Kees Cook, Kees Dekker, Keith MacDonald, Keith McGuigan, Keith Mok, Ken Brown, Ken Hirsch, Ken Rastatter, Kenneth Davidson, Kenny To, Kent Boortz, Kerem Kat, Keshav Krity, Kevin Baughman, Kevin Burke, Kevin Fisk, Kevin Ji, Kevin Lussier, Kevin R. Bulgrien, Kevin Reed, Kevin Roth, Kevin Smith, Kevin Ushey,

Ki

Kim Minjoong, Kim Rinnewitz, Kim Vandry, Kimmo Kinnunen, Kirill Efimov, Kirill Marchuk,

Kj

Kjell Ericson, Kjetil Jacobsen,

Kl

Klaus Crusius, Klaus Stein, Klevtsov Vadim,

Ko

Kobi Gurkan, Koen Dergent, Koichi Shiraishi, kokke on github, Konstantin Isakov, Konstantin Kushnir, kotori Oa

Kr

kreshano on github, Kris Kennaway, Krishnendu Majumdar, Krister Johansen, Kristian Gunstone, Kristian Köhntopp, Kristian Mide, Kristiyan Tsaklev, Kristoffer Gleditsch,

Ku

Kunal Chandarana, Kunal Ekawde, Kurt Fankhauser,

Kw

Kwon-Young Choi,

Ky

Kyle Abramowitz, Kyle Edwards, Kyle J. McKay, Kyle L. Huff, Kyle Sallee, Kyohei Kadota, Kyselgov E.N,

La

Lachlan O'Dea, Ladar Levison, Lance Ware, Laramie Leavitt, Larry Campbell, Larry Fahnoe, Larry Lin, Larry Stefani, Larry Stone, Lars Buitinck, Lars Gustafsson, Lars J. Aas, Lars Johannesen, Lars Nilsson, Lars Torben Wilson, Laurent Bonnans, Laurent Dufresne, Laurent Rabret, Lauri Kasanen, Laurie Clark-Michalek, Lawrence Gripper, Lawrence Matthews, Lawrence Wagerfield,

Le

Legoff Vincent, Lehel Bernadt, Leif W, Leigh Purdie, Leith Bade, Len Krause, Len Marinaccio, Lenaic Lefever, Lenny Rachitsky, Leo Neat, Leon Breedt, Leon Winter, Leonardo Rosati, Leonardo Taccari, Leszek Kubik,

Li

Li Xinwei, Liam Healy, lijian996 on github, Lijo Antony, lilongyan-huawei on github, Linas Vepstas, Lindley French, Ling Thio, Linos Giannopoulos, Linus Lewandowski, Linus Nielsen Feltzing, Linus Nordberg, Lior Kaplan, Lisa Xu, Liviu Chircu, Liza Alenchery,

Ll

lllaffer on github, Lloyd Fournier, Lluís Batlle i Rossell,

Lo

locpyl-tidnyd on github, Loganaden Velvindron, Loic Dachary, Loren Kirkby,

Lu

Luan Cestari, Luca Altea, Luca Boccassi, Lucas Adamski, Lucas Clemente Vella, Lucas Holt, Lucas Pardue, Lucas Servén Marín, Lucas Severo, Lucien Zürcher, Ludek Finstrle, Ludovico Cavedon, Ludwig Nussel, Lukas Ruzicka, Lukasz Czekierda, lukaszgn on github, Luke Amery, Luke Call, Luke Dashjr, Luke Granger-Brown, Luo Jinghua, Luong Dinh Dung, Luz Paz, Luật Nguyễn,

Ly

Lyman Epp, Lyndon Hill,

M.

M.R.T on github,

Mac

Maciej Karpiuk, Maciej Puzio, Maciej W. Rozycki,

Mad

madblobfish on github,

Mah

Mahmoud Samir Fayed,

Mak

Maks Naumov, Maksim Kuzevanov, Maksim Stsepanenka,

Mal

Malik Idrees Hasan Khan,

Mam

Mamoru Tasaka, Mamta Upadhyay,

Man

Mandy Wu, Manfred Schwarb, Manuel Massing, Manuj Bhatia,

Marc

Marc Aldorasi, Marc Boucher, Marc Deslauriers, Marc Doughty, Marc Hesse, Marc Hörsken, Marc Kleine-Budde, Marc Renault, Marc Schlatter, Marc-Antoine Perennou, marc-groundctl on github, Marcel Hernandez, Marcel Raad, Marcel Roelofs, Marcelo Echeverria, Marcelo Juchem, Marcin Adamski, Marcin Gryszkalis, Marcin Konicki, Marco Deckel, Marco G. Salvagno, Marco Maggi, Marcos Diazr, Marcus Hoffmann, Marcus Klein, Marcus Sundberg, Marcus Webster,

Mari

Marian Klymov, Mario Schroeder,

Mark

Mark Brand, Mark Butler, Mark Davies, Mark Dodgson, Mark Hamilton, Mark Incley, Mark Karpeles, Mark Lentczner, Mark Nottingham, Mark Salisbury, Mark Snelling, Mark Swaanenburg, Mark Tully, Mark W. Eichin, Mark Wotton, Markus Duft, Markus Elfring, Markus Koetter, Markus Moeller, Markus Oberhumer, Markus Olsson, Markus Westerlind,

Maro

Maros Priputen,

Marq

Marquis de Muesli,

Mart

Martijn Koster, Martin Ankerl, Martin Bašti, Martin C. Martin, Martin Dorey, Martin Drasar, Martin Dreher, Martin Frodl, Martin Galvan, Martin Gartner, Martin Hager, Martin Halle, Martin Hedenfalk, Martin Howarth, Martin Jansen, Martin Kammerhofer, Martin Kepplinger, Martin Lemke, Martin Skinner, Martin Staael, Martin Storsjö, Martin V, Martin Vejnár, Marty Kuhrt,

Maru

Maruko,

Mas

Masaya Suzuki, masbug on github, Massimiliano Fantuzzi, Massimiliano Ziccardi, Massimo Callegari,

Mat

Mateusz Loskot, Mathias Axelsson, Mathias Gumz, Mathieu Legare, Matias N. Goldberg, Mats Lidell, Mats Lindestam, Matt Arsenault, Matt Ford, Matt Holt, Matt Kraai, Matt McClure, Matt Veenstra, Matt Witherspoon, Matt Wixson, Matteo Bignotti, Matteo Bignottignotti, Matteo Rocco, Matthew Blain, Matthew Clarke, Matthew Hall, Matthew Kerwin, Matthew Whitehead, Matthias Bolte, Matthias Gatto, Matthias Naegler, Mattias Fornander, Matus Uzak,

Mau

Maurice Barnum, Mauro Iorio, Mauro Rappa,

Max

Max Dymond, Max Katsev, Max Kellermann, Max Khon, Max Peal, Max Savenkov, Max Zettlmeißl, Maxim Ivanov, Maxim Perenesenko, Maxim Prohorov, Maxime Larocque, Maxime Legros,

Mb

mbeifuss on github,

Mc

mccormickt12 on github,

Me

Mehmet Bozkurt, Mekonikum, Melissa Mears, Melroy van den Berg, Mert Yazıcıoğlu, Mettgut Jamalla,

Mic

Michael Afanasiev, Michael Anti, Michael Baentsch, Michael Benedict, Michael Brehm, Michael Brown, Michael Calmer, Michael Cronenworth, Michael Curtis, Michael Day, Michael Felt, Michael Forney, Michael Gmelin, Michael Goffioul, Michael Hordijk, Michael Jahn, Michael Jerris, Michael Kalinin, Michael Kaufmann, Michael Kilburn, Michael Hordijk, Michael Kujawa, Michael Jerris, Michael Lee, Michael Maltese, Michael Mealling, Michael Mueller, Michael Musset, Michael O'Farrell, Michael Olbrich, Michael Osipov, Michael Schmid, Michael Steuer, Michael Stillwell, Michael Vittiglio, Michael Wallner, Michael Bonino, Michael Marek, Michael Trybus, Michael Čaplygin, Michael Antoniak, Michael Fita, Michael Górny, Michael Janiszewski, Michael Kowalczyk, Michael Piechowski, Michel Promonet, Michele Bini,

Mig

Miguel Angel, Miguel Diaz, migueljcrum on github,

Mih

Mihai Ionescu,

Mik

Mikael Johansson, Mikael Sennerholm, Mikalai Ananenka, Mike Bytnar, Mike Crowe, Mike Dobbs, Mike Dowell, Mike Frysinger, Mike Gelfand, Mike Giancola, Mike Hasselberg, Mike Henshaw, Mike Hommey, Mike Mio, Mike Norton, Mike Power, Mike Protts, Mike Revi, Mike Tzou, Miklos Nemeth,

Mil

Miloš Ljumović,

Min

Mingliang Zhu, Mingtao Yang,

Mir

Miroslav Franc, Miroslav Spousta,

Mis

Mischa Salle,

Mit

Mitz Wark,

Mk

mkzero on github,

Mo

modbw on github, Mohamed Lrhazi, Mohamed Osama, Mohammad AlSaleh, Mohammad Hasbini, Mohammed Naser, Mohun Biswas, momala454 on github, Momoka Yamamoto, moohoorama on github, Morten Minde Neergaard, Mostyn Bramley-Moore, Moti Avrahami,

Mr

MrdUkk on github, MrSorcus on github,

Mu

Muhammad Herdiansyah, Muhammed Yavuz Nuzumlalı, Murugan Balraj, Muz Dima,

My

Myk Taylor,

Na

Nach M. S., Nagai H, naost3rn on github, Nate Prewitt, Nathan Coulter, Nathan O'Sullivan, Nathanael Nerode, Nathaniel J. Smith, Nathaniel R. Lewis, Nathaniel Waisbrot, Naveen Chandran, Naveen Noel,

Ne

Neal Poole, nedres on github, neex on github, Nehal J Wani, neheb on github, Neil Bowers, Neil Dunbar, Neil Kolban, Neil Spring, nevv on HackerOne/curl,

Ni

Niall O'Reilly, niallor on github, nian6324 on github, nianxuejie on github, Nic Roets, Nicholas Maniscalco, Nick Draffen, Nick Gimbrone, Nick Humfrey, Nick Miyake, Nick Zitzmann, Nicklas Avén, Nico Baggus, nico-abram on github, Nicolas Berloquin, Nicolas Croiset, Nicolas François, Nicolas Grekas, Nicolas Guillier, Nicolas Morey-Chaisemartin, Nicolas Sterchele, Niels van Tongeren, Nikita Schmidt, Nikitinskit Dmitriy, Niklas Angebrand, Niklas Hambüchen, Nikolai Kondrashov, Nikos Mavrogiannopoulos, Nikos Tsipinakis, nimaje on github, niner on github, Ning Dong, Nir Soffer, Niranjan Hasabnis, Nis Jorgensen,

Nk

nk,

No

Noam Moshe, NobodyXu on github, Nobuhiro Ban, Nodak Sodak, nopjmp on github, Norbert Frese, Norbert Kett, Norbert Novotny, nosajsnikta on github,

Nt

NTMan on Github,

Oc

Octavio Schroeder,

Of

Ofer,

Ok

Okhin Vasilij,

Ol

Ola Mork, Olaf Flebbe, Olaf Hering, Olaf Stüben, Oleg Pudeyev, Oleguer Llopart, Olen Andoni, olesteban on github, Oli Kingshott, Oliver Gondža, Oliver Graute, Oliver Kuckertz, Oliver Schindler, Oliver Urbann, Olivier Berger, Olivier Brunel,

Om

Omar Ramadan, omau on github,

Or

Orange Tsai, Oren Souroujon, Oren Tirosh, Orgad Shaneh, Ori Avtalion, orycho on github,

Os

osabc on github, Oscar Koeroo, Oscar Norlander, Oskar Liljeblad,

Ou

Oumph on github,

Ov

ovidiu-benea on github,

Р

P R Schaffner,

Pal

Palo Markovic,

Pao

Paolo Mossino, Paolo Piacentini,

Par

Paras Sethia, parazyd on github,

Pas

Pascal Gaudette, Pascal Terjan, Pasha Kuznetsov, Pasi Karkkainen,

Pat

Pat Ray, patelvivekv1993 on github, patnyb on github, Patrice Guerin, Patricia Muscalu, Patrick Bihan-Faou, Patrick Dawson, Patrick McManus, Patrick Monnerat, Patrick Rapin, Patrick Schlangen, Patrick Scott, Patrick Smith, Patrick Watson, Patrik Thunstrom,

Pau

Pau Garcia i Quiles, Paul B. Omta, Paul Donohue, Paul Dreik, Paul Groke, Paul Harrington, Paul Harris, Paul Hoffman, Paul Howarth, Paul Johnson, Paul Joyce, Paul Marks, Paul Marquis, Paul Moore, Paul Nolan, Paul Oliver, Paul Querna, Paul Saab, Paul Vixie, Paulo Roberto Tomasi,

Pav

Pavel Cenek, Pavel Gushchin, Pavel Löbl, Pavel Orehov, Pavel Pavlov, Pavel Raiskup, Pavel Rochnyak, Pavel Volgarev, Pavol Markovic,

Paw

Pawel A. Gajda, Pawel Kierski, Paweł Wegner,

Pe

Pedro Larroy, Pedro Monreal, Pedro Neves, pendrek at hackerone, Peng Li, Peng-Yu Chen, Per Jensen, Per Lundberg, Per Malmberg, Per Nilsson, Pete Lomax, Peter Bray, Peter Forret, Peter Frühberger, Peter Gal, Peter Heuchert, Peter Hjalmarsson, Peter Korsgaard, Peter Körner, Peter Lamare, Peter Lamberg, Peter Laser, Peter O'Gorman, Peter Pentchev, Peter Piekarski, Peter Silva, Peter Simonyi, Peter Su, Peter Sumatra, Peter Sylvester, Peter Todd, Peter Varga, Peter Verhas, Peter Wang, Peter Wu, Peter Wullinger, Peteris Krumins, Petr Bahula, Petr Novak, Petr Pisar, Petr Voytsik,

Ph

Phil Blundell, Phil Crump, Phil E. Taylor, Phil Karn, Phil Lisiecki, Phil Pellouchoud, Philip Craig, Philip Gladstone, Philip Langdale, Philip Prindeville, Philipp Klaus Krause, Philipp Waehnert, Philippe Hameau, Philippe Marguinaud, Philippe Raoult, Philippe Vaucher,

Pi

Pierre, Pierre Brico, Pierre Chapuis, Pierre Joye, Pierre Yager, Pierre Ynard, Pierre-Yves Bigourdan, Piotr Dobrogost, Piotr Komborski,

Ро

Po-Chuan Hsieh, Pontus Lundkvist, Pooyan McSporran, Poul T Lomholt,

Pr

Pramod Sharma, Prash Dush, Praveen Pvs, Priyanka Shah, Przemysław Tomaszewski,

Ps

pszemus on github,

Pu

puckipedia on github, Puneet Pawaia,

Qi

qiandu2006 on github,

Qu

Quagmire, Quanah Gibson-Mount, Quentin Balland, Quinn Slack,

R.

R. Dennis Steed,

Ra

Radek Zajic, Radoslav Georgiev, Radu Simionescu, Rafa Muyo, Rafael Antonio, Rafael Sagula, Rafayel Mkrtchyan, Rafaël Carré, Rafał Mikrut, Rainer Canavan, Rainer Jung, Rainer Koenig, Rainer Müller, Rajesh Naganathan, Rajkumar Mandal, Ralf S. Engelschall, Ralph Beckmann, Ralph Langendam, Ralph Mitchell, Ram Krushna Mishra, ramsay-jones on github, Ran Mozes, Randall S. Becker, Randolf J, Randy Armstrong, Randy McMurchy, Raphael Gozzo, Rasmus Melchior Jacobsen, Raul Onitza-Klugman, Ravi Pratap, Ray Dassen, Ray Pekowski, Ray Satiro, Razvan Cojocaru,

Rc

rcombs on github,

Re

Red Hat Product Security, Reed Loden, Reinhard Max, Reinout van Schouwen, RekGRpth on github, Remco van Hooff, Remi Gacogne, Remo E, Renato Botelho, Renaud Allard, Renaud Chaillat, Renaud Duhaut, Renaud Guillard, Renaud Lehoux, Rene Bernhardt, Rene Rebe, Reuven Wachtfogel, Reza Arbab,

Ri

Ricardo Cadime, Ricardo Gomes, Ricardo Martins, Rich Burridge, Rich FitzJohn, Rich Gray, Rich Mirch, Rich Rauenzahn, Rich Salz, Rich Turner, Richard Adams, Richard Alcock, Richard Archer, Richard Atterer, Richard Bowker, Richard Bramante, Richard Clayton, Richard Cooper, Richard Gorton, Richard Gray, Richard Hosking, Richard Hsu, Richard Marion, Richard Michael, Richard Moore, Richard Prescott, Richard Silverman, Richard van den Berg, Richard Whitehouse, Richy Kim, Rici Lake, Rick Deist, Rick Jones, Rick Lane, Rick Richardson, Rick

Welykochy, Rickard Hallerbäck, Ricki Hirner, Ricky Leverence, Ricky-Tigg on github, Rider Linden, RiderALT on github, Rikard Falkeborn,

Rl

rl1987 on github,

Rob

Rob Cotrone, Rob Crittenden, Rob Davies, Rob Jones, Rob Sanders, Rob Stanzel, Rob Ward, Robert A. Monat, Robert B. Harris, Robert D. Young, Robert Dunaj, Robert Foreman, Robert Iakobashvili, Robert Kolcun, Robert Linden, Robert Olson, Robert Prag, Robert Ronto, Robert Schumann, Robert Weaver, Robert Wruck, Robin Cornelius, Robin Douine, Robin Johnson, Robin Kay, Robson Braga Araujo,

Rod

Rod Widdowson, Rodger Combs, Rodney Simmons, Rodric Glaser, Rodrigo Silva,

Rog

Roger Leigh, Roger Orr, Roger Young,

Rol

Roland Blom, Roland Hieber, Roland Krikava, Roland Zimmermann, Rolf Eike Beer, Rolland Dudemaine,

Rom

Romain Coltel, Romain Fliedel, Romain Geissler, romamik om github, Roman Koifman, Roman Mamedov, Romulo A. Ceccon,

Ron

Ron Eldor, Ron Parker, Ron Zapp, Ronnie Mose,

Ros

Rosimildo da Silva, Ross Burton,

Roy

Roy Bellingan, Roy Li, Roy Shan,

Ru

Rui LIU, Rui Pinheiro, Rune Kleveland, Ruslan Baratov, Ruslan Gazizov, Rutger Hofman, Ruurd Beerstra, RuurdBeerstra on github,

Ry

Ryan Beck-Buysse, Ryan Braud, Ryan Chan, Ryan Mast, Ryan Nelson, Ryan Schmidt, Ryan Scott, Ryan Sleevi, Ryan Winograd, ryancaicse on github, Ryuichi KAWAMATA,

S.

S. Moonesamy,

Sa

Sai Ram Kunala, Salah-Eddin Shaban, Saleem Abdulrasool, Salvador Dávila, Salvatore Sorrentino, Sam Deane, Sam Hurst, Sam Roth, Sam Schanken, Samanta Navarro, Sampo Kellomaki, Samuel Díaz García, Samuel Henrique, Samuel Listopad, Samuel Marks, Samuel Surtees, Samuel Thibault, Samuel Tranchet, Sander Gates, Sandor Feldi, Santhana Todatry, Santino Keupp, Saqib Ali, Sara Golemon, Saran Neti, Sascha Swiercy, Saul good, Saurav Babu, sayrer on github,

Sb

SBKarr on github,

Sc

Scott Bailey, Scott Barrett, Scott Cantor, Scott Davis, Scott McCreary,

Se

Sean Boudreau, Sean Burford, Sean MacLennan, Sean McArthur, Sean Miller, Sean Molenaar, Sebastiaan van Erk, Sebastian Haglund, Sebastian Mundry, Sebastian Pohlschmidt, Sebastian Rasmussen, Senthil Raja Velu, Sergei Kuzmin, Sergei Nikulov, Sergey Markelov, Sergey Ogryzkov, Sergey Tatarincev, Sergii Kavunenko, Sergii Pylypenko, Sergio Ballestrero, Sergio Barresi, Sergio Borghese, Sergio Durigan Junior, sergio-nsk on github, Serj Kalichev, Seshubabu Pasam, Seth Mos, Sevan Janiyan,

Sh

Sh Diao, Shachaf Ben-Kiki, Shailesh Kapse, Shankar Jadhavar, Shao Shuchao, Sharad Gupta, Shard, Sharon Brizinov, Shaun Jackman, Shawn Landden, Shawn Poulson, Shikha Sharma, Shine Fan, Shiraz Kanga, shithappens2016 on github, Shlomi Fish, Shmulik Regev,

Si

Siddhartha Prakash Jain, Sidney San Martín, Siegfried Gyuricsko, silvejal on github, Simon Chalifoux, Simon Dick, Simon H., Simon Josefsson, Simon Legner, Simon Liu, Simon Warta, Siva Sivaraman,

Sl

SLDiggie on github,

Sm

smuellerDD on github,

Sn

sn on hackerone,

So

sofaboss on github, Somnath Kundu, Song Ma, Sonia Subramanian,

Sp

Spacen Jasset, Spezifant on github, Spiridonoff A.V, Spoon Man, Spork Schivago,

Ss

sspiri on github, sstruchtrup on github,

Sta

Stadler Stephan, Stan Hu, Stan van de Burgt, Stanislav Ivochkin, Stanislav Zidek, Stathis Kapnidis,

Ste

steelman on github, Stefan Agner, Stefan Bühler, Stefan Eissing, Stefan Esser, Stefan Grether, Stefan Huber, Stefan Kanthak, Stefan Karpinski, Stefan Krause, Stefan Neis, Stefan Strogin, Stefan Teleman, Stefan Tomanek, Stefan Ulrich, Stefan Yohansson, Stefano Simonelli, Steinar H. Gunderson, steini2000 on github, Stepan Broz, Stepan Efremov, Stephan Bergmann, Stephan Lagerholm, Stephan Mühlstrasser, Stephan Szabo, Stephane Pellegrino, Stephen Brokenshire, Stephen Collyer, Stephen Kick, Stephen M. Coakley, Stephen More, Stephen Toub, Sterling Hughes, Steve Green, Steve H Truong, Steve Havelka, Steve Holme, Steve Lhomme, Steve Little, Steve Marx, Steve Oliphant, Steve Roskowski, Steve Walch, Steven Bazyl, Steven G. Johnson, Steven M. Schweda, Steven Parkes, Steven Penny,

Sti Stian Soiland-Reyes, Sto Stoned Elipot, stootill on github,

Stu

Stuart Henderson,

Su

SumatraPeter on github, Sune Ahlgren, Sunny Bean, Sunny Purushe,

 $\mathbf{S}\mathbf{v}$

Sven Anders, Sven Blumenstein, Sven Neuhaus, Sven Wegener, Svyatoslav Mishyn,

Sw

swalkaus at yahoo.com,

Sy

sylgal on github, Sylvestre Ledru, Symeon Paraschoudis,

T.

T. Bharath, T. Yamada,

Та

Tadej Vengust, Tae Hyoung Ahn, Taiyu Len, Taneli Vähäkangas, Tanguy Fautre, tarek112 on github, Tatsuhiro Tsujikawa, tawmoto on github,

Tb

tbugfinder on github,

Te

Teemu Yli-Elsila, Temprimus, Terri Oda, Terry Wu,

Th

thanhchungbtc on github, The Infinnovation team, TheAssassin on github, Theodore Dubois, therealhirudo on github, tholin on github, Thomas Bouzerar, Thomas Braun, Thomas Danielsson, Thomas Gamper, Thomas Glanzmann, Thomas J. Moore, Thomas Klausner, Thomas L. Shinnick, Thomas Lopatic, Thomas M. DuBuisson, Thomas Petazzoni, Thomas Ruecker, Thomas Schwinge, Thomas Tonino, Thomas van Hesteren, Thomas Vegas, Thorsten Schöning,

Ti

Tiit Pikma, Till Maas, Tim Ansell, Tim Baker, Tim Bartley, Tim Chen, Tim Costello, Tim Harder, Tim Heckman, Tim Mcdonough, Tim Newsome, Tim Rühsen, Tim Sedlmeyer, Tim Sneddon, Tim Stack, Tim Starling, Tim Tassonis, Tim Verhoeven, Timo Lange, Timo Sirainen, Timotej Lazar, Timothe Litt, Timothy Gu, Timothy Polich, Timur Artikov, Tinus van den Berg,

Тj

TJ Saunders,

Tk

Tk Xiong,

Tl

tlahn on github,

Tm

tmkk on github,

Tob

Tobias Blomberg, Tobias Gabriel, Tobias Hieta, Tobias Hintze, Tobias Lindgren, Tobias Markus, Tobias Nießen, Tobias Nyholm, Tobias Rundström, Tobias Stoeckmann, Toby Peterson,

Tod

Todd A Ouska, Todd Kaufmann, Todd Kulesza, Todd Short, Todd Vierling,

Tom

Tom Benoist, Tom Donovan, Tom G. Christensen, Tom Grace, Tom Greenslade, Tom Lee, Tom Mattison, Tom Moers, Tom Mueller, Tom Regner, Tom Seddon, Tom Sparrow, Tom van der Woerdt, Tom Wright, Tom Zerucha, Tomas Berger, Tomas Hoger, Tomas Jakobsson, Tomas Mlcoch, Tomas Mraz, Tomas Pospisek, Tomas Szepe, Tomas Tomecek, Tomasz Kojm, Tomasz Lacki, Tommie Gannert, tommink[at]post.pl, Tommy Chiang, Tommy Odom, Tommy Petty, Tommy Tam,

Ton

Ton Voon, Toni Moreno, Tony Kelman, tonystz on Github,

Тоо

Toon Verwaest,

Tor

Tor Arntsen, Torben Dannhauer, Torsten Foertsch,

Tos

Toshio Kuratomi, Toshiyuki Maezawa,

Тр

tpaukrt on github,

Tr

Traian Nicolescu, Travis Burtrum, Travis Obenhaus, Trivikram Kamat, Troels Walsted Hansen, Troy Engel,

Ts

Tseng Jun,

Tu

Tuomas Siipola, Tuomo Rinne, Tupone Alfredo,

Ту

Tyler Hall,

Ul

Ulf Härnhammar, Ulf Samuelsson, Ulrich Doehner, Ulrich Telle, Ulrich Zadow,

Ur

UrsusArctos on github,

Us

User Sg, ustcqidi on github,

Va

Vadim Grinshpun, Valentin David, Valentin Richter, Valentyn Korniienko, Valentín Gutiérrez, Valerii Zapodovnikov, vanillajonathan on github, Varnavas Papaioannou, Vasiliy Faronov, Vasily Lobaskin, Vasy Okhin,

Ve

Venkat Akella, Venkataramana Mokkapati,

Vi

Vicente Garcia, Victor Magierski, Victor Snezhko, Victor Vieux, Vijay Panghal, Vikram Saxena, Viktor Szakats, Vilhelm Prytz, Ville Skyttä, Vilmos Nebehaj, Vincas Razma, Vincent Bronner, Vincent Grande, Vincent Le Normand, Vincent Penquerc'h, Vincent Sanders, Vincent Torri, vitaha85 on github, Vitaly Varyvdin,

Vl

Vlad Grachov, Vlad Ureche, Vladimir Grishchenko, Vladimir Kotal, Vladimir Lazarenko, Vladimir Panteleev, Vladimir Varlamov, Vlastimil Ovčáčík,

Vo

Vojtech Janota, Vojtech Minarik, Vojtěch Král, Volker Schmid,

Vs

Vsevolod Novikov, vshmuk on hackerone,

Vy

Vyron Tsingaras,

W.

W. Mark Kubacki,

Wa

Waldek Kozba, Walter J. Mack, Ward Willats, Warren Menzer, Wayne Haigh,

We

Wenchao Li, Wenxiang Qian, Werner Koch, Werner Stolz, Wes Hinsley, wesinator on github, Wesley Laxton, Wesley Miaw, Wez Furlong,

Wh

Wham Bang,

Wi

Wilfredo Sanchez, Will Dietz, Will Roberts, Willem Sparreboom, William A. Rowe Jr, William Ahern, William Desportes,

Wm

wmsch on github,

Wn

wncboy on github,

Wo

Wojciech Zwiefka, Wouter Van Rooy,

Wu

Wu Yongzheng,

Wy

Wyatt O'Day, Wyatt O'Day,

Xa

Xavier Bouchoux,

Xh

XhmikosR on github, XhstormR on github,

Xi

Xiang Xiao, Xiangbin Li, Xiaoyin Liu,

Xm

XmiliaH on github,

Xn

xnynx on github, Xw xwxbug on github, Ya Yaakov Selkowitz, Yang Tse, Yaobin Wen, Yarram Sunil, Yasuharu Yamada, Yasuhiro Matsumoto, Ye Yechiel Kalmenson, Yehezkel Horowitz, Yehoshua Hershberg, Yg ygthien on github, Yi Yi Huang, Yiming Jing, Yingwei Liu, Ym Ymir1711 on github, Yo Yonggang Luo, Yongkang Huang, Younes El-karama, youngchopin on github, Yousuke Kimoto, Yu Yu Xin, Yukihiro Kawada, Yun SangHo, Yuri Slobodyanyuk, Yuriy Sosov, Yusuke Nakamura, Yv Yves Arrouye, Yves Lejeune, Za Zachary Seguin, Zd Zdenek Pavlas, Ze Zekun Ni, zelinchen on github, Zenju on github, Zero King, Zh Zhang Xiuhua, Zhao Yisha, Zhaoyang Wu, Zhibiao Wu, Zhouyihai Ding, Zi ZimCodes on github, Zl zloi-user on github, Zm Zmey Petroff, Zv Zvi Har'El, Zz zzq1015 on github, Non A-Z names

0xee on github, 0xflotus on github, 1ocalhost on github, 3dyd on github, 3eka on github, 8U61ife on github, a1346054 on github, b9a1 on github, Cédric Connes, Cédric Deltheil, d4d on hackerone, d912e3 on github, Dániel Bakai, Gökhan Şengün, Götz Babin-Ebell, h1zzz on github, H3RSKO on github, János Fekete, Jérémy Rocher, Jörg Mueller-Tolk, Jörn Hartroth, Jürgen Gmach, 100p3r on Hackerone, Rémy Léone, Sébastien Willemijns, T200proX7 on github, Török Edwin, x2018 on github, z2-2z on github, z2_ on hackerone, Ádler Jonas Gross, Érico Nogueira, İsmail Dönmez, Łukasz Domeradzki, Štefan Kremeň, Борис Верховский, Коваленко Анатолий Викторович, Никита Дорохин, ウさん, 不确定, 加藤郁之,

Mozilla Public License

Version 2.0

1. Definitions

1.1. "Contributor"

means each individual or legal entity that creates, contributes to the creation of, or owns Covered Software.

1.2. "Contributor Version"

means the combination of the Contributions of others (if any) used by a Contributor and that particular Contributor's Contribution.

1.3. "Contribution"

means Covered Software of a particular Contributor.

1.4. "Covered Software"

means Source Code Form to which the initial Contributor has attached the notice in Exhibit A, the Executable Form of such Source Code Form, and Modifications of such Source Code Form, in each case including portions thereof.

1.5. "Incompatible With Secondary Licenses"

means

a.that the initial Contributor has attached the notice described in Exhibit B to the Covered Software; or

b.that the Covered Software was made available under the terms of version 1.1 or earlier of the License, but not also under the terms of a Secondary License.

1.6. "Executable Form"

means any form of the work other than Source Code Form.

1.7. "Larger Work"

means a work that combines Covered Software with other material, in a separate file or files, that is not Covered Software.

1.8. "License"

means this document.

1.9. "Licensable"

means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.

1.10. "Modifications"

means any of the following:

a.any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or

b.any new file in Source Code Form that contains any Covered Software.

1.11. "Patent Claims" of a Contributor

means any patent claim(s), including without limitation, method, process, and apparatus claims, in any patent Licensable by such Contributor that would be infringed, but for the grant of the License, by the making, using, selling, offering for sale, having made, import, or transfer of either its Contributions or its Contributor Version.

1.12. "Secondary License"

means either the GNU General Public License, Version 2.0, the GNU Lesser General Public License, Version 2.1, the GNU Affero General Public License, Version 3.0, or any later versions of those licenses.

1.13. "Source Code Form"

means the form of the work preferred for making modifications.

1.14. "You" (or "Your")

means an individual or a legal entity exercising rights under this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants and Conditions

2.1. Grants

Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

a.under intellectual property rights (other than patent or trademark) Licensable by such Contributor to use, reproduce, make available, modify, display, perform, distribute, and otherwise exploit its Contributions, either on an unmodified basis, with Modifications, or as part of a Larger Work; and

b.under Patent Claims of such Contributor to make, use, sell, offer for sale, have made, import, and otherwise transfer either its Contributions or its Contributor Version.

2.2. Effective Date

The licenses granted in Section 2.1 with respect to any Contribution become effective for each Contribution on the date the Contributor first distributes such Contribution.

2.3. Limitations on Grant Scope

The licenses granted in this Section 2 are the only rights granted under this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License. Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor:

a.for any code that a Contributor has removed from Covered Software; or

b.for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or

c.under Patent Claims infringed by Covered Software in the absence of its Contributions.

This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section 3.4).

2.4. Subsequent Licenses

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under a subsequent version of this License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).

2.5. Representation

Each Contributor represents that the Contributor believes its Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

2.6. Fair Use

This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

2.7. Conditions

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted in Section 2.1.

3. Responsibilities

3.1. Distribution of Source Form

All distribution of Covered Software in Source Code Form, including any Modifications that You create or to which You contribute, must be under the terms of this License. You must inform recipients that the Source Code Form of the Covered Software is governed by the terms of this License, and how they can obtain a copy of this License. You may not attempt to alter or restrict the recipients' rights in the Source Code Form.

3.2. Distribution of Executable Form

If You distribute Covered Software in Executable Form then:

a.such Covered Software must also be made available in Source Code Form, as described in Section 3.1, and You must inform recipients of the Executable Form how they can obtain a copy of such Source Code Form by reasonable means in a timely manner, at a charge no more than the cost of distribution to the recipient; and

b. You may distribute such Executable Form under the terms of this License, or sublicense it under different terms, provided that the license for the Executable Form does not attempt to limit or alter the recipients' rights in the Source Code Form under this License.

3.3. Distribution of a Larger Work

You may create and distribute a Larger Work under terms of Your choice, provided that You also comply with the requirements of this License for the Covered Software. If the Larger Work is a combination of Covered Software with a work governed by one or more Secondary Licenses, and the Covered Software is not Incompatible With Secondary Licenses, this License permits You to additionally distribute such Covered Software under the terms of such Secondary License(s), so that the recipient of the Larger Work may, at their option, further distribute the Covered Software under the terms of either this License or such Secondary License(s).

3.4. Notices

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability) contained within the Source Code Form of the Covered Software, except that You may alter any license notices to the extent required to remedy known factual inaccuracies.

3.5. Application of Additional Terms

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any

Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

4. Inability to Comply Due to Statute or Regulation

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Termination

5.1. The rights granted under this License will terminate automatically if You fail to comply with any of its terms. However, if You become compliant, then the rights granted under this License from a particular Contributor are reinstated (a) provisionally, unless and until such Contributor explicitly and finally terminates Your grants, and (b) on an ongoing basis, if such Contributor fails to notify You of the non-compliance by some reasonable means prior to 60 days after You have come back into compliance. Moreover, Your grants from a particular Contributor are reinstated on an ongoing basis if such Contributor notifies You of the non-compliance by some reasonable means, this is the first time You have received notice of non-compliance with this License from such Contributor, and You become compliant prior to 30 days after Your receipt of the notice.

5.2. If You initiate litigation against any entity by asserting a patent infringement claim (excluding declaratory judgment actions, counter-claims, and cross-claims) alleging that a Contributor Version directly or indirectly infringes any patent, then the rights granted to You by any and all Contributors for the Covered Software under Section 2.1 of this License shall terminate.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or Your distributors under this License prior to termination shall survive termination.

6. Disclaimer of Warranty

Covered Software is provided under this License on an "as is" basis, without warranty of any kind, either expressed, implied, or statutory, including, without limitation, warranties that the Covered Software is free of defects, merchantable, fit for a particular purpose or non-infringing. The entire risk as to the quality and performance of the Covered Software is with You. Should any Covered Software prove defective in any respect, You (not any Contributor) assume the cost of any necessary servicing, repair, or correction. This disclaimer of warranty constitutes an essential part of this License. No use of any Covered Software is authorized under this License except under this disclaimer.

7. Limitation of Liability

Under no circumstances and under no legal theory, whether tort (including negligence), contract, or otherwise, shall any Contributor, or anyone who distributes Covered Software as permitted above, be liable to You for any direct, indirect, special, incidental, or consequential damages of any character including, without limitation, damages for lost profits, loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses, even if such party shall have been informed of the possibility of such damages. This limitation of liability shall not apply to liability for death or personal injury resulting from such party's negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not apply to You.

8. Litigation

Any litigation relating to this License may be brought only in the courts of a jurisdiction where the defendant maintains its principal place of business and such litigation shall be governed by laws of that jurisdiction, without reference to its conflict-of-law provisions. Nothing in this Section shall prevent a party's ability to bring cross-claims or counter-claims.

9. Miscellaneous

This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not be used to construe this License against a Contributor.

10. Versions of the License

10.1. New Versions

Mozilla Foundation is the license steward. Except as provided in Section 10.3, no one other than the license steward has the right to modify or publish new versions of this License. Each version will be given a distinguishing version number.

10.2. Effect of New Versions

You may distribute the Covered Software under the terms of the version of the License under which You originally received the Covered Software, or under the terms of any subsequent version published by the license steward.

10.3. Modified Versions

If you create software not governed by this License, and you want to create a new license for such software, you may create and use a modified version of this License if you rename the license and remove any references to the name of the license steward (except to note that such modified license differs from this License).

10.4. Distributing Source Code Form that is Incompatible With Secondary Licenses

If You choose to distribute Source Code Form that is Incompatible With Secondary Licenses under the terms of this version of the License, the notice described in Exhibit B of this License must be attached.

Exhibit A - Source Code Form License Notice

This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at https://mozilla.org/MPL/2.0/.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice.

You may add additional accurate notices of copyright ownership.

Exhibit B - "Incompatible With Secondary Licenses" Notice

This Source Code Form is "Incompatible With Secondary Licenses", as defined by the Mozilla Public License, v. 2.0.

You can download the source code from the following URL. https://github.com/Haivision/srt/tree/v1.4.1

FFmpeg

・ライセンス情報

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.

51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts

as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights. We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you". A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee. 2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

 a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein.You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time.Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free

programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

- source code

You can download the source code from the following URL.

https://eww.pass.panasonic.co.jp/pro-av/support/content/download/EN/ep2main/ptzctl_e.htm