

PTZ Control Center 操作指南

简介

PTZ Control Center 是一款在 Windows 系统上运行的应用软件。

通过在 Windows PC 上运行此软件，您可以非常轻松地远程操作本地网络上的 Panasonic 相机。

此外，通过链接 KAIROS Cloud Platform 可以远程操作远程位置的 Panasonic 相机。

主要特征

以下是本软件的主要特征。

1. 允许远程操作 PTZ camera

您可以在 Panasonic PTZ camera 上执行以下操作。

- 通过点击/触摸屏幕左右/上下转动摄像机
通过点击/触摸摄像机显示屏，您可以直接指定摄像机的移动位置并进行左右/上下转动操作。
- 通过指定画面范围控制摄像机的左右/上下转动/缩放
通过在显示的摄像机画面上指定范围，对摄像机进行左右/上下转动/缩放，以全屏显示指定范围。
- 使用按钮/滑块以左右/上下转动/缩放摄像机
您可使用软件的按钮/滑块 GUI 进行摄像机的左右/上下转动/缩放操作。
- 通过键盘/游戏控制器控制摄像机的左右/上下转动/缩放
可通过连接 PC 的键盘/游戏控制器，对摄像机进行左右/上下转动/缩放等操作。
- 注册/调用/删除摄像机的预设
您可以注册/调用/删除摄像机预设的左右/上下转动/缩放位置。
- 调整摄像机的图像质量
您可以调整摄像机的聚焦/光圈/增益/白平衡/快门/减光镜。
- 开始/停止摄像机的 SD 卡记录
您可以开始/停止带有 SD 卡记录功能的摄像机的录制进程。

2. 您可以同时操作多台 PTZ camera

您可以在多台 Panasonic PTZ camera 上同时执行以下操作。

- 使用按钮/滑块以左右/上下转动/缩放摄像机
- 调用摄像机的预设
- 调整摄像机的图像质量（仅通过调节聚焦和光圈）

3.支持多种类型的摄像机

支持以下三种类型的摄像机。

- PTZ Camera + SUB Camera

PTZ Camera 拍摄的图像显示于屏幕顶部，控制辅助摄像机 AW-HEA10 或 AW-UE4 拍摄的图像显示于屏幕底部，且进行 PTZ 操作。

- PTZ Camera + 全景静态图像

PTZ Camera 拍摄的图像显示于屏幕顶部，而考虑到使用环境，全景静态图像将显示于屏幕底部，且进行 PTZ 操作。

您可使用 PTZ Camera 拍摄全景静态图像。

- 独立式的 PTZ Camera

您可展示仅由 PTZ Camera 机拍摄的图像，并进行 PTZ 操作。

4.可显示摄像机的 H.264 码流视频

可全屏显示 PTZ Camera 的 H.264 码流视频。

5.允许对 Camcoder 进行质量调整

您可以调整 Panasonic Camcoder 的质量。

6.可对摄像机进行网络设置

您可以自动删除网络上显示的摄像机并进行网络设置。

7.各用户可限定功能

您可设置功能限制，例如对每位用户限制其可访问的摄像机。

8.可进行设置数据迁移

您可在多台个人电脑间复制软件的设置数据。

9.支持触摸屏操作

本软件支持触摸屏操作。本手册中标记为“点击”的操作，也可通过触摸进行。

10.装有 EasyIP Setup Tool Plus 应用程序

装有 EasyIP Setup Tool Plus 应用程序，可轻松实现 PTZ Camera 的设置及更新。

11.可使用 SDI to UVC 转换器来实现摄像机的 SDI 输出图像显示（付费选项）

通过使用市售的 SDI to UVC 转换器，可显示自摄像机 SDI 输出的图像。

12.提供可轻松地同时调用多台摄像机预设的 GUI（付费选项）

提供可轻松地同时调用多台摄像机预设的 GUI。

可在屏幕上任一位置处设置预设调用图标，分配多台摄像机的预设。

也可以使用本公司的无线麦克风系统，通过在无线麦克风上说话来触发预设调用。

13.通过链接 KAIROS Cloud Platform 可以远程操作远程位置的相机

通过链接到 KAIROS Cloud Platform，可以像操作本地网络上的相机一样操作远程位置的相机。

操作环境

必须在下述环境使用本软件。

●操作系统

Windows 8.1 64 位

Windows 10 Home/Pro/Enterprise 64 位

Windows 11

●个人电脑

中央处理器（CPU）：酷睿 i5-2520M 2.50Ghz 或更高

内存：4GB 或更大

显示屏：1280×960 或更高（推荐 1920×1080 或更高）

本软件支持以下摄像机（截至 2023 年 2 月）。

* 可由以下网站上的 PTZ Control Center 产品页面查看最新的支持型号。

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

●Panasonic 网络摄像机

PTZ Camera

- AW-UE 160/163
- AW-UE 150/155
- AW-UE 100
- AW-UE80/AW-UE50/AW-UE40
- AW-UE70
- AW-UE20
- AW-UE4
- AW-HE145
- AW-HE130
- AW-HR140
- AW-HE40/70/65
- AW-HE42/68/75
- AW-HE20

控制辅助摄像机

- AW-HEA10

POVCAM

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

Camcoder

• AJ-UPX360

• AJ-UPX900

<注释>

- 在使用摄像机之前，请将固件升级至最新版本。您可从以下网站下载固件。

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

本文件中的描述

- 本文件中给出的说明和屏幕或与实物有所差异。
- 在本文件中，将个人电脑称为“PC”。

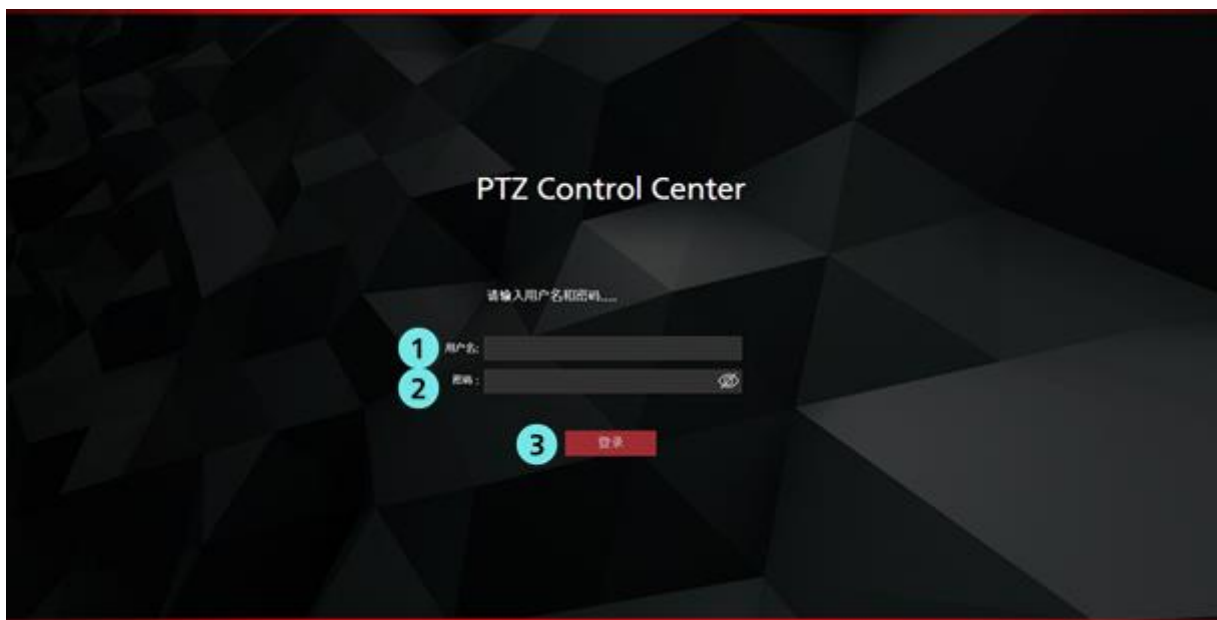
登记和注册的商标

- Microsoft、Windows 和 Internet Explorer 是美国微软公司注册的商标。
- 英特尔和英特尔酷睿 i5 都是英特尔公司或其在美国和其他国家的子公司所注册的商标。
- 此外，本文件提及的名称、公司名、产品名等都是商标或各公司注册的商标。在本文件中，TM 和® 标记均未明确说明。

屏幕说明

登录屏幕

启动软件后出现以下登录屏幕。



①用户名

输入登录此软件的用户名。

②密码

输入用户密码。

③登录按钮

使用您输入的用户名和密码登录软件。

查看屏幕

登录软件后出现以下查看屏幕。

在查看屏幕上，会显示注册的摄像机列表和缩略图之类的信息。

查看屏幕是由以下四个区域组成的。

- 应用程序标题部
- 摄像机列表显示器控制部分/摄像机列表显示器
- 摄像机控制器（当显示器开启时）



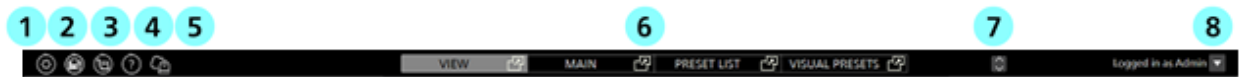
查看屏幕（摄像机控制器显示器关闭）



查看屏幕（摄像机控制器显示器开启）

• 应用程序标题部

各屏幕中，屏幕上方的显示相同。



①设置按钮

它将显示器变换至设置屏幕。

②AW-RP150 关联按钮

它将显示 AW-RP150 控制屏幕。

③EasyIP Setup Tool Plus 应用程序启动按钮

启动本软件中装入的 EasyIP Setup Tool Plus 应用程序。

④帮助按钮

它用来在单独的网页浏览器选项卡中显示帮助文件（本文件）。

⑤云按钮

移动至 KAIROS Cloud Platform 联动屏幕。

⑥屏幕切换选项卡

它用来对 预览 / 操作 / 预设列表 / 可视预设 屏幕进行切换。

可视预设 屏幕切换选项卡仅在付费选项 AW-SF300 激活时才会显示。

⑦摄像机控制器显示切换按钮

它用来对摄像机控制器的显示类型进行切换。

⑧注销/视图菜单

点击 ▼ 将显示以下菜单。

注销：您将退出本软件且显示屏将返回至登录屏幕。

版本：它将显示本软件的版本信息。

• 摄像机列表顶部

摄像机列表显示器的顶部有各式各样的按钮，包括用来切换列表显示的按钮。



①显示细化列表

您可使用下拉菜单筛选待显示的摄像机。

您可以在以下条件下筛选列表。

全部：显示所有摄像机

PTZ+SUB: 它将仅显示类型为 [PTZ Camera + SUB Camera] 的摄像机

其他：它将仅显示类型为 [PTZ Camera + Image] 或 [PTZ Camera] 的摄像机

检查：它仅显示摄影机列表中已开启检查字段的摄影机

云相机：仅显示要通过 KAIROS Cloud 联动控制的相机

[类别名称]: 它仅显示那些附属于设置屏幕类别中注册的摄像机种类

②显示计数切换列表

您可使用下拉菜单更改每页显示的摄像机数量。

③检查状态切换列表

您可使用下拉菜单打开/关闭已显示的所有摄像机的检查状态。

④页面切换按钮

它用来切换摄像机列表显示页面。

⑤摄像机控制器显示/隐藏切换按钮

您可在显示/隐藏摄像机控制器间进行切换。

• 摄像机列表显示器

它会显示摄像机列表显示器中每台摄像机的细节。

所选的摄影机背景将以红色显示。



① 摄像机检查区域

点击此处会在开/关间切换检查状态。

当开启摄像机的检查状态时，您可对其进行以下操作。

- 在筛选相机列表显示器选择 [检查] 时将显示的摄像机
- 在主屏幕上选择 [多选相机] 时将进行操作的摄像机

② 摄像机编号显示

显示用于表示该摄像机顺序的序号。

③ 摄像机名称显示

显示已注册的摄像机名称。

④ 缩略图显示

显示摄像机图像的缩略图。

当无法找到摄像机时（关闭电源供给，断开网络连接等。），

它会显示为“关闭”。

⑤ 相机类型的图标和名称显示

它会以图标和类型名称的形式显示设置的相机类型。



如果通过 KAIROS Cloud 联动控制相机，将显示带有云标记的图标。

⑥ 主显示器按钮

显示器将变更至主屏幕。

• 摄像机控制器

它提供了摄像机的各种操作功能。

若想了解更多有关操作方法的细节，请参考本文件中的“摄像机操作-摄像机控制器”。

主屏幕

单击屏幕顶部的主选项卡以显示主屏幕。

主屏幕是由以下三个区域组成的。

- 摄像机列表显示器
- 摄像机图像显示区域
- 摄像机控制器



主屏幕

• 摄像机列表显示器

在主屏幕的摄像机列表显示器中，每台摄像机都是垂直排列和放置的。



①显示摄像机列表的细化列表

您可使用下拉菜单筛选待显示的摄像机。

该功能与查看屏幕上的功能相同。

②检查状态切换列表

从下拉菜单中，您可打开/关闭已显示的所有摄像机的检查状态。

③页面切换按钮

它用来切换摄像机列表显示页面。

④摄像机列表显示器

它用来显示各摄像机的状态。

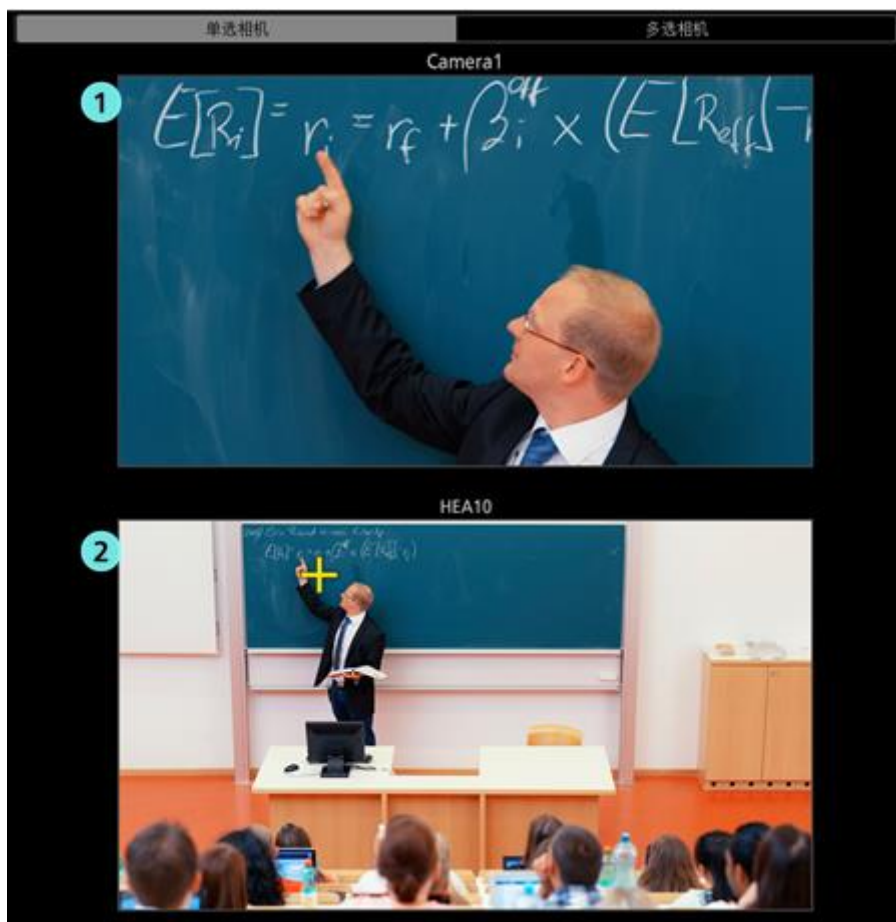
除了没有主按钮以外，该区域与查看屏幕相同。

• 摄像机图像显示区域

摄像机操作的图像显示于此区域。

摄像机操作模式选择选项卡位于顶部，您可选择是仅操作一台摄影机或同时操作多台摄影机。

- 当选择 [单选相机] 时：仅将操作一台选定的摄像机。
 - 当选择 [多选相机] 时：将操作所有已开启检查状态的摄像机。
-
- 选择 [单选相机] 后进行筛选



①顶部屏幕（PTZ Camera 机图像显示）

将会显示入选摄像机列表显示器的 PTZ Camera 图像。

点击摄像机图像将移动 PTZ Camera，使得点击的位置位于图像的中心。

②底部屏幕（前置摄像头图像/静态图像显示）

显示的详细信息会因相机类型而异。

[PTZ Camera + SUB Camera]: 将显示摄像机设置屏幕上指定的控制辅助摄像机
AW-HEA10 或 AW-UE4 图像。

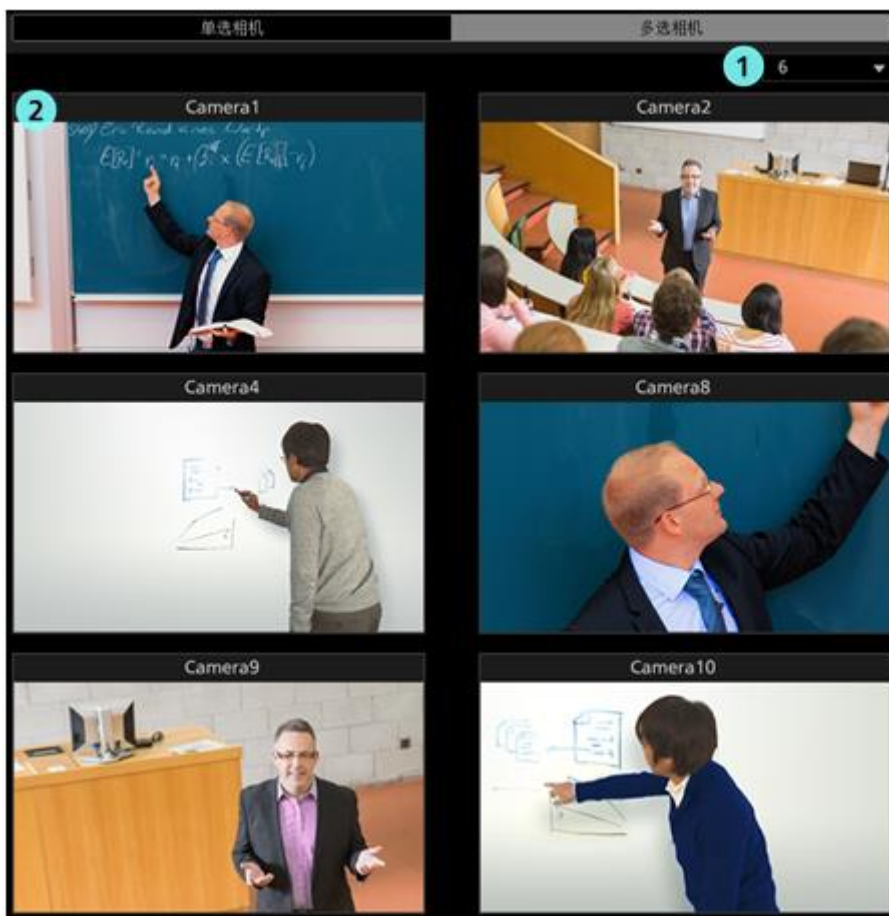
[PTZ Camera + Image]: 将显示摄像机设置屏幕上指定的全景静态图像。

[PTZ Camera]: 将不出现底部屏幕显示。

当相机类型是 [PTZ Camera + SUB Camera] 或 [PTZ Camera + Image]，

点击图像/静态图像将移动 PTZ Camera，使得点击的位置位于图像的中心。

- 选择 [多选相机] 后进行筛选



① 摄像机图像计数切换列表

您可使用下拉菜单更改将在单屏上显示的摄像机数量。

② 摄像机图像

所有已开启检查状态的摄像机将呈现摄像机图像。

• 摄像机控制器

该功能与查看屏幕上的功能相同。

预设列表屏幕

点击屏幕顶部的预设列表选项卡，将显示预设列表屏幕。

详情请参阅本手册的“预设列表屏幕的操作”。

可视预设屏幕

付费选项 AW-SF300 激活时，屏幕顶部将显示 可视预设 选项卡。

点击 可视预设 选项卡，将显示 可视预设 屏幕。

具体操作方法请参阅本手册的“可选付费功能” → “可视预设调用功能”。

设置-类别屏幕

此屏幕用于已注册摄像机的类别（群组）设置。

单击屏幕左上角的设置按钮，并选择屏幕中间的类别选项卡将显示器变换至此屏幕。

若想了解更多有关类别设置的细节，请参考本文件中的“默认设置 2- 摄像机的类别设置”。



①类别列表显示

显示已注册类别的列表。

②检索框

它用于搜索类别。

输入字符串将只显示名称中包含字符串的类别列表。

若要返回原始显示状态，请清除您输入的字符串。

③添加按钮

显示器将变换至注册类别屏幕。

④编辑按钮

显示器将变换至编辑类别屏幕。

⑤删除按钮

用于删除所选类别。

⑥页面切换按钮

您可以切换至您想看的页面。

设置-摄像机屏幕

此屏幕用于注册和设置与软件一同使用的摄像机。

单击屏幕左上角的设置按钮，并选择屏幕中间的摄像机选项卡将显示器变换至此屏幕。

若想了解更多有关摄像机设置的细节，请参考本文件中的“默认设置 1（摄像机设置）”。



①摄像机编号显示

显示用于表示该摄像机顺序的序号。

②摄像机名

显示已注册的摄像机名称。

③摄像机 IP

显示各摄像机的 IP 地址。

④端口号

它显示了每台摄像机用于通信的端口号。

⑤正在连接

● 符号将出现于正在连接的摄像机上。

⑥检索框

它用于按名称搜索摄像机。

输入字符串将只显示名称中包含字符串的摄像机列表。

若要返回原始显示状态，请清除您输入的字符串。

⑦添加按钮

显示屏将变换至注册摄像机屏幕。

⑧编辑按钮

显示屏将变换至编辑摄像机屏幕。

⑨删除按钮

用于删除所选的摄像机。

⑩页面切换按钮

您可以切换至您想看的页面。

设置-用户屏幕

此屏幕用于设置将使用该软件的用户帐户。

单击屏幕左上角的设置按钮，并选择屏幕中间的用户选项卡将显示器变换至此屏幕。

若想了解更多有关账户设置的细节，请参考本文件中的“默认设置 2 - 用户帐户设置”。



①账户列表显示

它将显示在软件中注册的帐户列表。

帐户名将显示在每个帐户的上半部分，而权限则将显示在下半部分。

②添加按钮

显示将变更至注册账户屏幕。

③编辑按钮

显示屏将变换至编辑账户屏幕。

④删除按钮

它用于删除选定的帐户。

⑤页面切换按钮

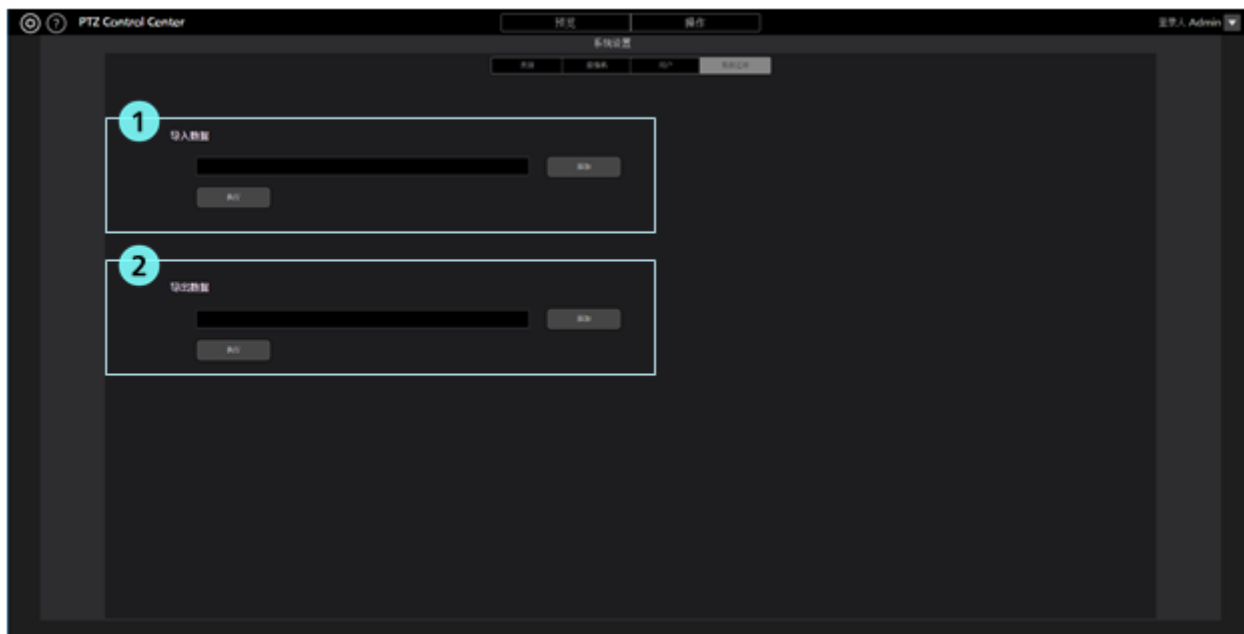
您可以切换至您想看的页面。

设置-数据迁移屏幕

此屏幕用于在另一台个人电脑上运行的软件间复制设置数据。

点击屏幕左上角的设置按钮，并选择屏幕中间的数据迁移选项卡将显示屏变换至此屏幕。

若要了解更多有关复制设置数据的细节，请参考本文件中的“复制设置数据”。



①导入数据

它用于将设置数据导入其他个人电脑中。

②导出数据

它用于将设置数据导出至其他个人电脑中。

设置 - 手柄屏幕

通过连接 PC 的游戏控制器来操作 PTZ Camera 时，在该屏幕下进行设置。

点击屏幕左上角的设置按钮，选择手柄选项卡后将跳转至此屏幕。

具体设置方法请参考本手册的“摄像机操作”→“基于游戏控制器的摄像机操作”。



①游戏控制器的设备设置栏

选择操作 PTZ Camera 的游戏控制器设备。

②游戏控制器的变焦操作设置栏

从 5 种类型中选择游戏控制器操控 PTZ Camera 变焦的方式。

③要操作的 PTZ Camera 设置栏

选择游戏控制器要操作的 PTZ Camera。

④设置按钮

使设置生效。

设置- 系统画面

该屏幕用于设置连接 PC 的键盘及图像截图设备。

点击画面左上方的“Settings”键并选择画面中央的“系统”选项卡，即可跳转至此画面。



①键盘操作设置栏

对以键盘操作 PTZ Camera 的有效性进行设置。

②图像截图设备设置栏

该设置栏仅在付费选项 AW-SF300 激活时才会显示。

设置用本软件来显示 PTZ Camera 的 SDI 输出图像时所使用的图像截图设备。详情请参阅本手册的“付费选项”→“摄像机的 SDI 输出图像显示”。

③无线麦克风接收器信息设置栏

该设置栏仅在付费选项 AW-SF300 激活时才会显示。

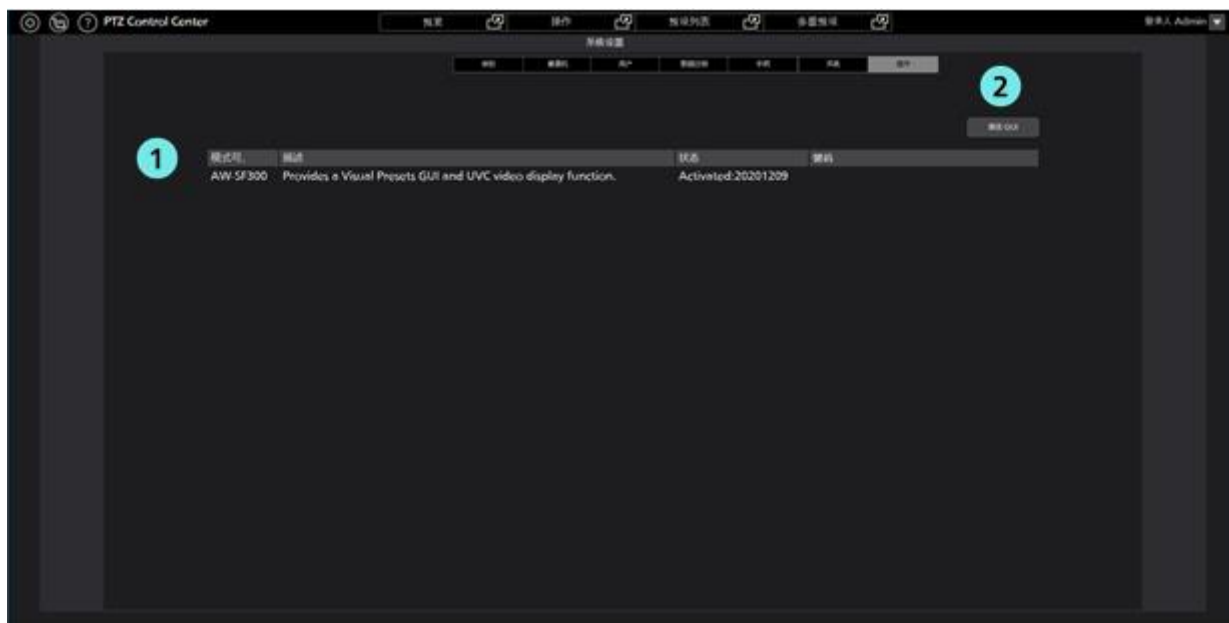
设置无线麦克风接收器信息，以通过本公司的无线麦克风系统进行预设调用。详情请参阅本手册的“付费选项”→“可视预设调用功能”

设置 - 插件屏幕

该屏幕用于管理本软件的付费选项（插件）的许可证。

点击屏幕左上角的设置按钮，选择插件选项卡后将跳转至此屏幕。

详情请参阅本手册的“付费选项” → “许可证管理”。



①付费选项的状态显示栏

显示本软件的付费选项(插件)的许可证状态等。

②Activation GUI 按钮

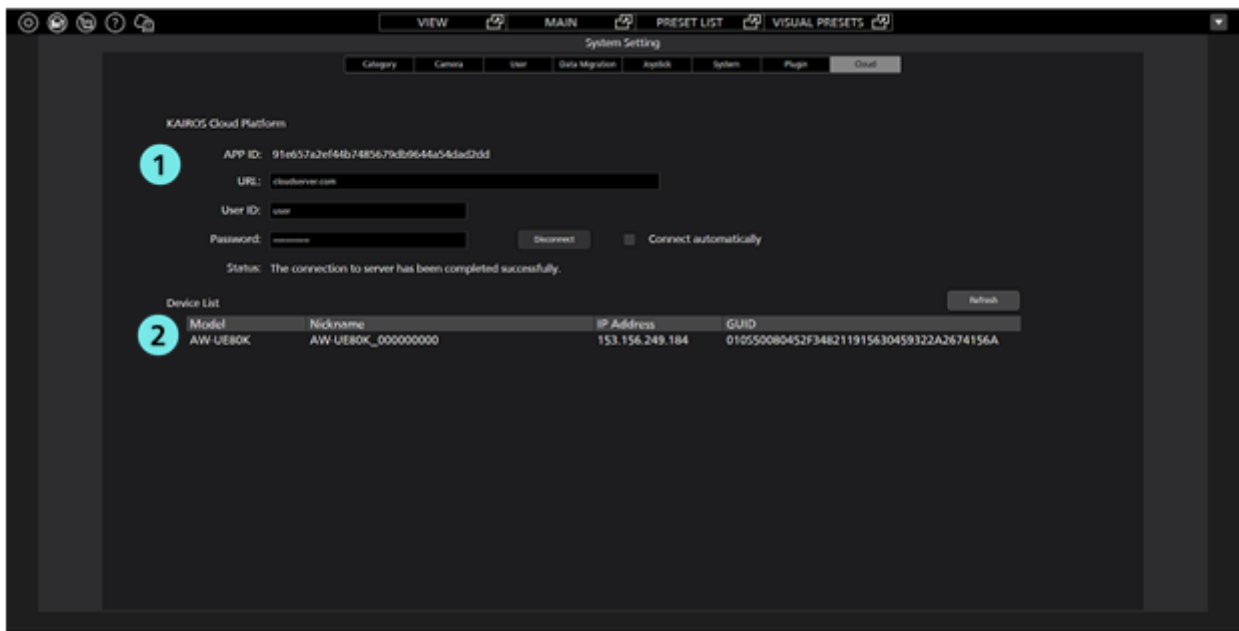
启动激活用应用程序。

设置 - 云屏幕

与 KAIROS Cloud Platform 链接的屏幕。

点击屏幕左上角的设置按钮并选择云选项卡或点击屏幕左上角的云按钮将移动至此屏幕。

有关详细信息，请参阅“KAIROS Cloud 联动功能。”



①KAIROS Cloud Platform 登录字段

用于登录 KAIROS Cloud Platform。

②相机信息显示字段

显示通过 KAIROS Cloud Platform 控制的相机列表。

默认设置 1（摄像机设置）

请在软件使用前设置摄像机。

支持以下三种类型的摄像机。

- PTZ Camera + SUB Camera

PTZ Camera 拍摄的图像显示于屏幕顶部，而控制辅助摄像机 AW-HEA10 拍摄的则显示于屏幕底部，且进行 PTZ 操作。

- PTZ Camera + Image

PTZ Camera 拍摄的图像显示于屏幕顶部，而考虑到使用环境，全景静态图像将显示于屏幕底部，且进行 PTZ 操作。使用 PTZ Camera 可创建全景静态图像。

- PTZ Camera

仅显示 PTZ camera 的视频和用于 PTZ 操作或质量调整的 Camcoder。

根据摄像机类型的不同，需要设置的细节会有所不同。此处解释各摄像机类型的设置流程。

<注释>

- 对于 Camcoder（AG-CX350、AJ-CX4000），只能使用 PTZ Camera 类型。
选择 PTZ Camera 类型，并根据“PTZ Camera 的设置”中的说明配置设置。

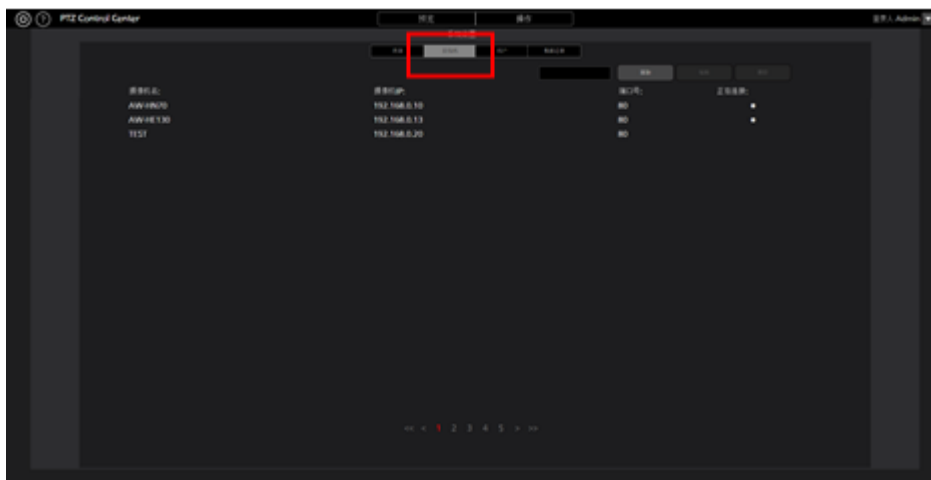
PTZ Camera + SUB Camera 的设置

- 摄像机设置步骤

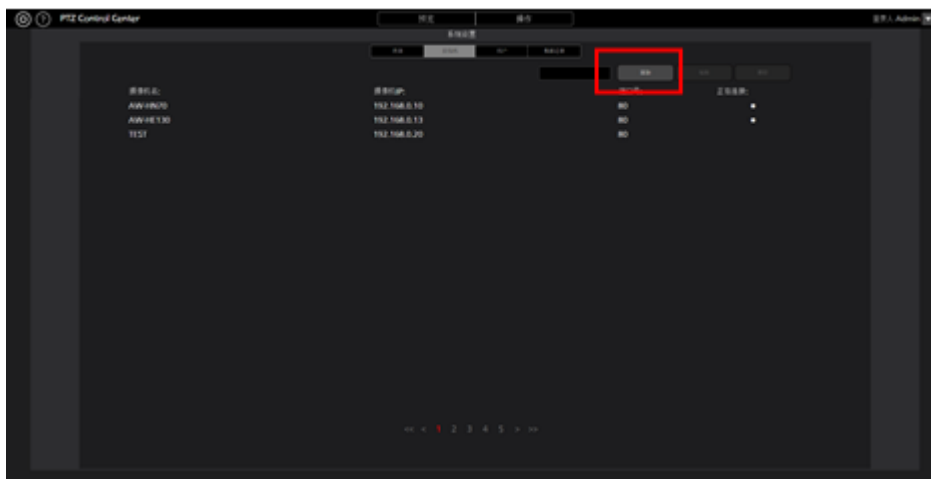
1. 登录软件。
2. 显示查看屏幕。单击位于屏幕左上角的设置按钮。



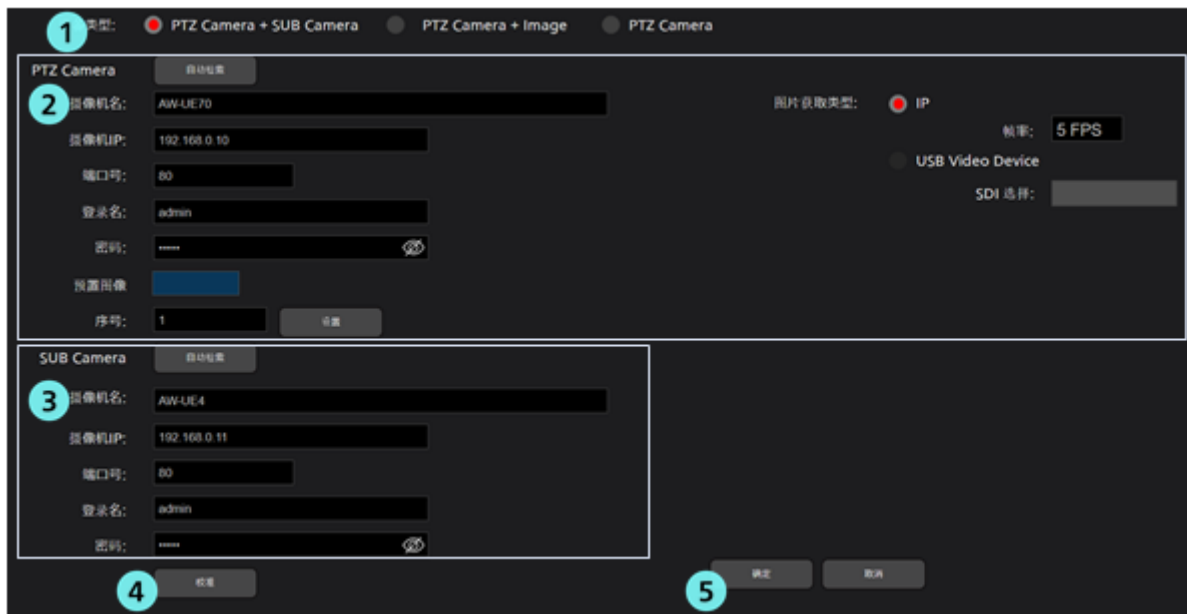
3.单击设置屏幕中间的摄像机选项卡。



4.单击添加按钮并移动到注册摄像机屏幕。



5.分别设置 PTZ Camera 和前置摄像头的信息。



(1) 在类型区域，选择 [PTZ Camera + SUB Camera]。

(2) 在 PTZ Camera 区域中输入 PTZ Camera 的信息。

摄像机名：摄像机名称

摄像机 IP：摄像机的 IP 地址

端口号：摄像机所使用的端口号（默认值为 80）

登录名：摄像机帐户

密码：摄像机密码

预置图像：选择有效的预设显示色

序号：相机的序号

图片获取类型：选择要在本软件中显示的 PTZ Camera 图像的获取方法。

[IP]：显示从 PTZ Camera 经由网络获取的图像。

通常情况下请选择此项。

对操作屏幕中以帧率显示的摄像机图像设置帧率。

[USB Video Device]：使用市售的 SDI to UVC 转换器来显示 PTZ Camera 的 SDI 输出图像时选择此项。

此项仅在付费选项 AW-SF300 激活时才会显示。详情请参阅本手册的“付费选项”→“摄像机的 SDI 输出图像显示”。

您可以手动输入项目或搜索摄像机，并自动输入项目。

- 当手动输入时

移动至各项目框并输入值。

- 当自动输入时

点击 PTZ Camera 区域中的自动检索按钮，将显示网络上出现的摄像机列表。从列表中选择任意一台摄像机，并按确定按钮关闭窗口，则将自动输入一些项目。

自动检索

编号	物理地址	IP地址	端口号	相机名字	相机机种	IP地址重复
1	20-C6-EB-EF-41-06	192.168.0.10	80	AW-UN70	CAM:UN70	
2	00-80-45-0D-00-02	192.168.0.12	80	AW-HE130	CAM:HE130	

检索 网络设置 确定 取消

(3) 在 SUB Camera 栏中输入控制辅助摄像机 AW-HEA10 或 AW-UE4 的信息。输入方法与 PTZ Camera 栏相同。

(4) 点击校准按钮，并前往校准屏幕进行校准。更多细节请参考本文件中的“默认设置 1 - 校准”。

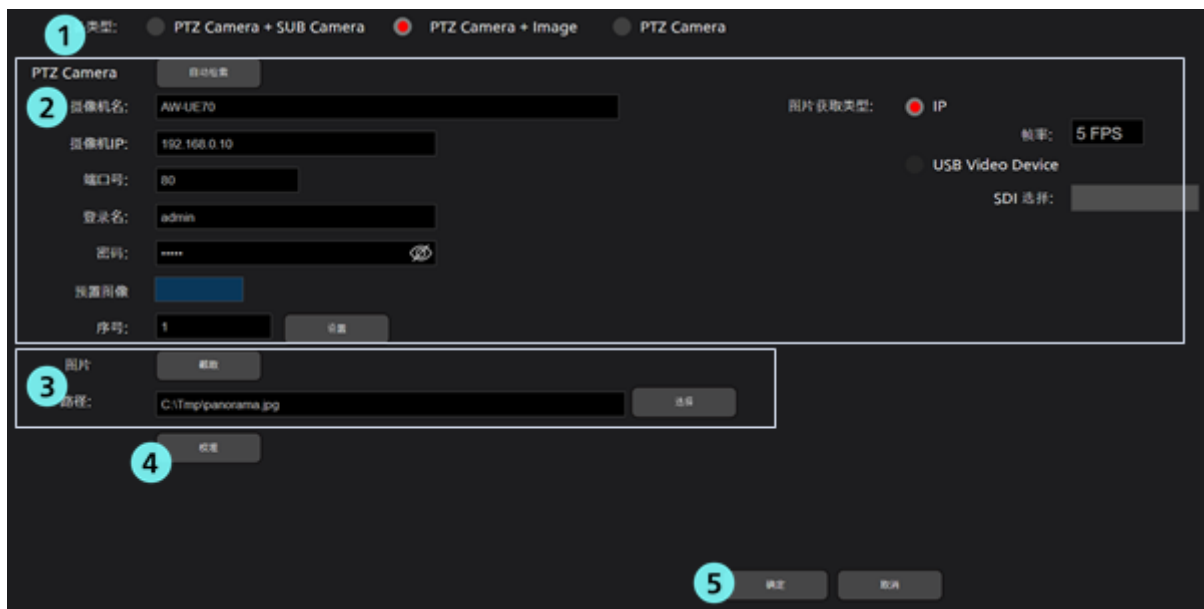
(5) 点击确定按钮退出注册摄像机屏幕。

6.这样，设置就完成了。

PTZ Camera + Image 的设置

• 摄像机设置步骤

- 1.按照上述“PTZ Camera + SUB Camera 的设置”中所述的步骤 1 至 4 的相同步骤进入注册摄像机屏幕。
- 2.分别设定 PTZ Camera 和静态图像的信息。



(1) 在类型区域，选择 [PTZ Camera + Image]。

(2) 在 PTZ Camera 区域中输入 PTZ Camera 的信息。

输入方法与“PTZ Camera + SUB Camera 的设置”相同。

(3) 设置将显示于图像字段的底部屏幕上的静态图像。

有两种设置静止图像的方法，即在个人电脑上设置现有图像，并使用 PTZ Camera 根据使用环境创建和设置全景图像。

- 在个人电脑上设置现有的图像时

点击选择按钮将显示文件选择对话框。在底部屏幕中选择要显示的静态图像。

- 当创建和设置全景图像时

请参考后续介绍的“创建全景图像的步骤”。

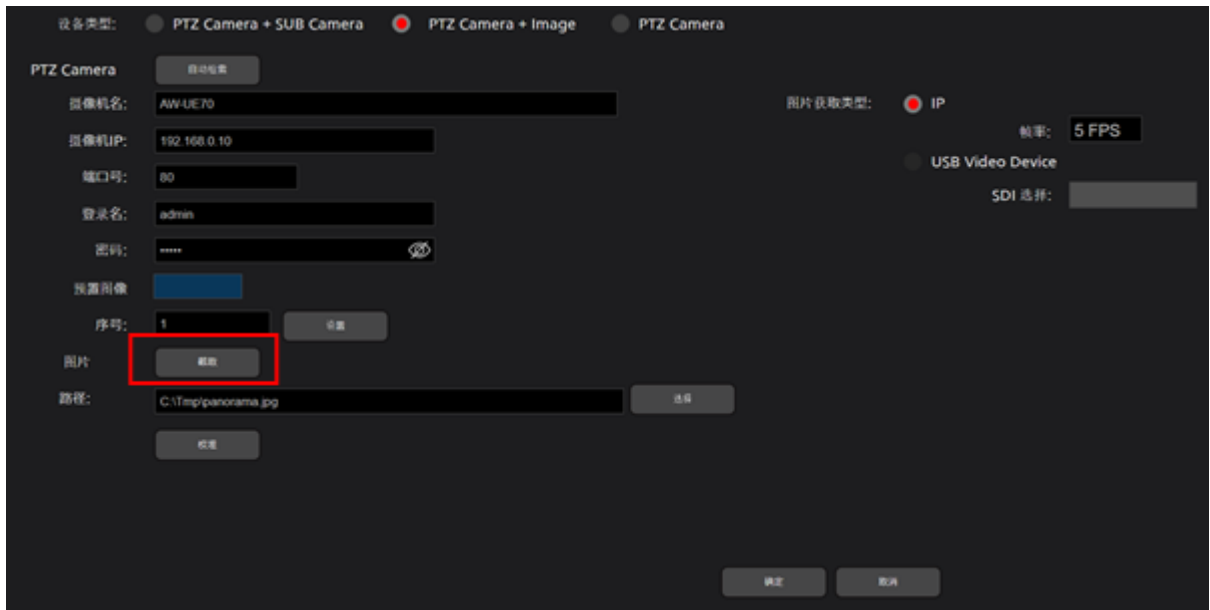
(4) 点击校准按钮，并前往校准屏幕进行校准。更多细节请参考本文件中的“默认设置 1 - 校准”。

(5) 点击确定按钮退出注册摄像机屏幕。

6.这样，设置就完成了。

• 拍摄全景图像的步骤

1. 单击注册摄像机屏幕上的截取按钮。



2. 创建全景图像屏幕将会打开。采用以下步骤创建全景图像。



- (1) 使用摄像机的方向调整按钮，并移动 PTZ Camera 至全景图像的起始位置。
- (2) 点击位置图像 - 开始字段中的“<SET”按钮。
将设定起始位置的图像（完成设置可能需要几秒钟）。
- (3) 使用摄像机控制器的方向调整按钮，并移动 PTZ Camera 至全景图像的结束位置。
- (4) 点击位置图像 - 结尾字段中的“<SET”按钮。
将设定结束位置的图像（完成设置可能需要几秒钟）。

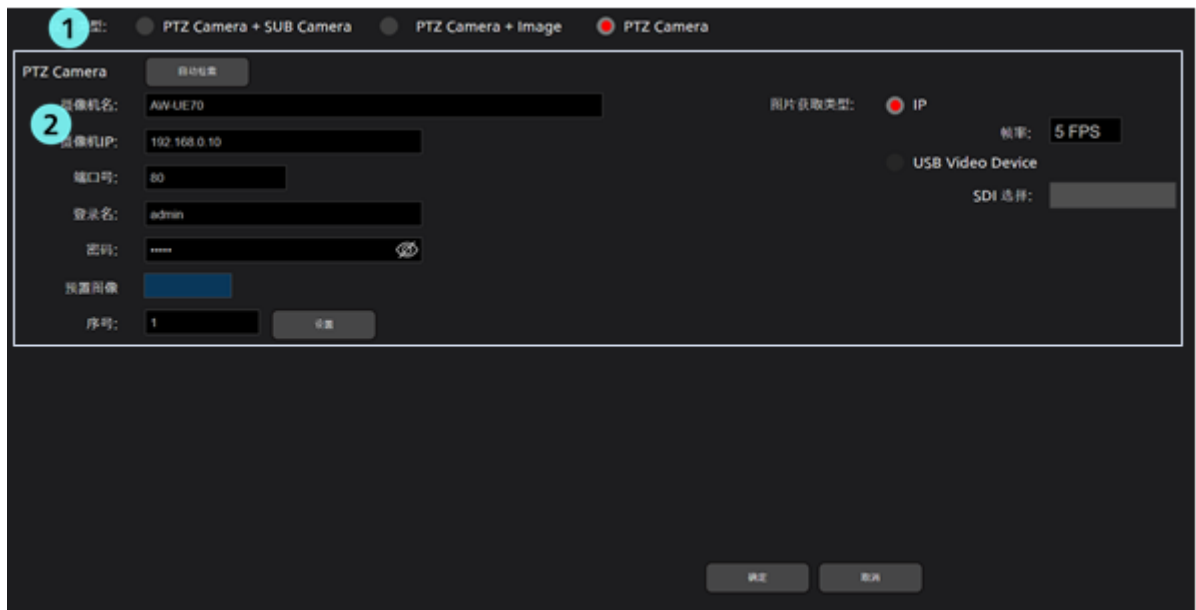
- (5) 点击位置图像字段底部的开始按钮，会自动将 PTZ Camera 从起始位置移动至您设置的结束位置，全景图像也将随之生成。
 - (6) 全景图像创建完成后，所创建的全景图像将显示于捕获图像字段中。
3. 点击屏幕底部的确定按钮退出创建全景图像屏幕。
- 您创建的全景图像文件将自动设定在注册摄像机屏幕的图像 - 路径字段中。

<注释>

- 未能正确创建全景图像时，请检查以下几点。
 - 当起始位置和结束位置间存在移动物时，请移除此物体并重新创建图像。
 - 变更起始位置和结束位置后重新创建图像。
- PTZ Camera 为 AW-UE4 的情况下，无法创建全景图像。

PTZ Camera 的设置

1. 按照上述“PTZ Camera + SUB Camera 的设置”中所述的步骤 1 至 4 的相同步骤进入注册摄像机屏幕。
2. 输入 PTZ camera 或 Camcoder 的信息。



- (1) 在类型区域，选择 [PTZ Camera]。
 - (2) 在 PTZ Camera 区域中输入 PTZ Camera 的信息。
输入方法与“PTZ Camera + SUB Camera 的设置”相同。
 - (3) 点击确定按钮退出注册摄像机屏幕。
3. 这样，设置就完成了。

<备注>

- 注册摄像机后，打开预览画面之前不会对摄像机进行连接操作。

- 注册摄像机（AG-CX350、AJ-CX4000）时的设置值如下。
 - 路由器地址：摄像机 IP 地址
 - 端口号：80
 - 登录名：空白（即使输入也会被忽略）
 - 密码：空白（即使输入也会被忽略）
- 连接到本软件时，需要对摄像机（AG-CX350、AJ-CX4000）的操作进行如下设置。
 - [NETWORK] -> [IP REMOTE] -> 将 [ENABLE/DISABLE] 设置为 [ENABLE (HOLD)]
- 启动本软件前需要关闭摄像机（AG-CX350、AJ-CX4000）的设置菜单或缩略图画面。

校准

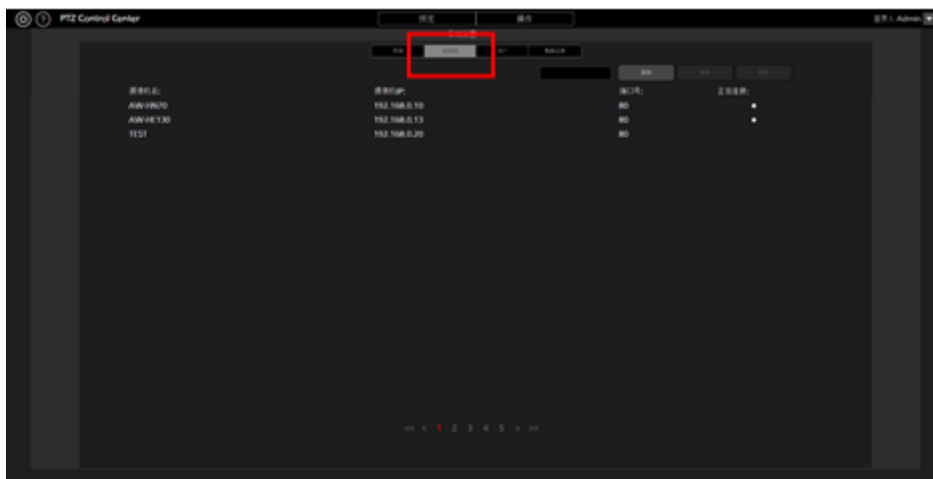
当在摄像机类型中选择 [PTZ Camera + SUB Camera] 或 [PTZ Camera + Image] 时，需要进行校准以正确调节顶部屏幕和底部屏幕的位置关系。

根据以下步骤进行校准。

1. 登录软件。
2. 显示查看屏幕。单击位于屏幕左上角的设置按钮。



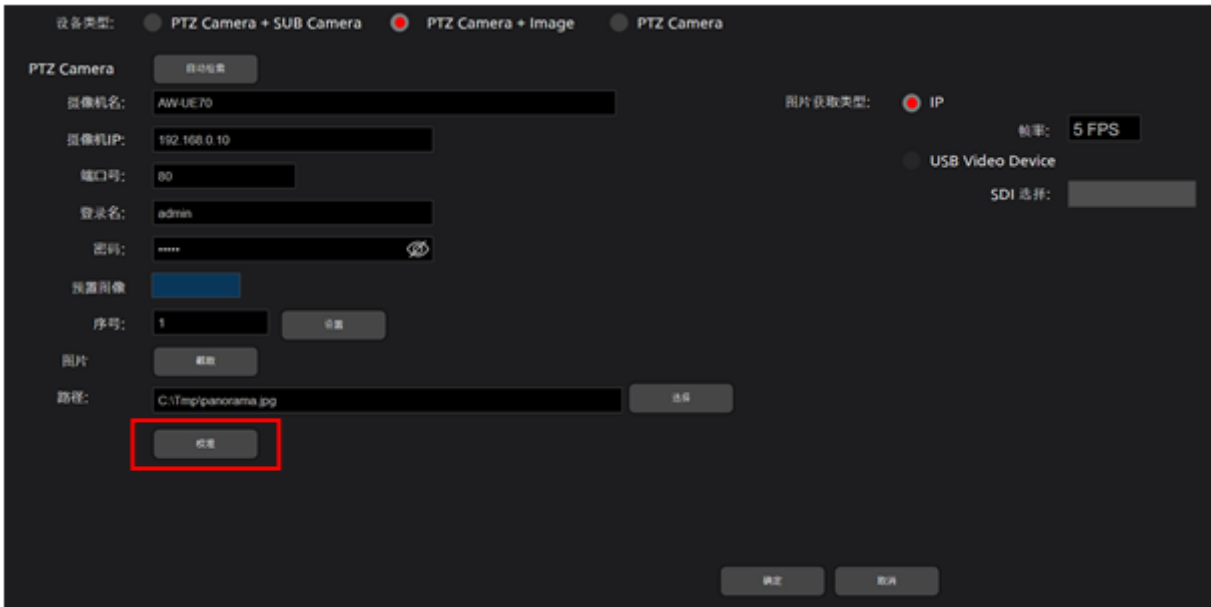
3. 单击设置屏幕中间的摄像机选项卡。



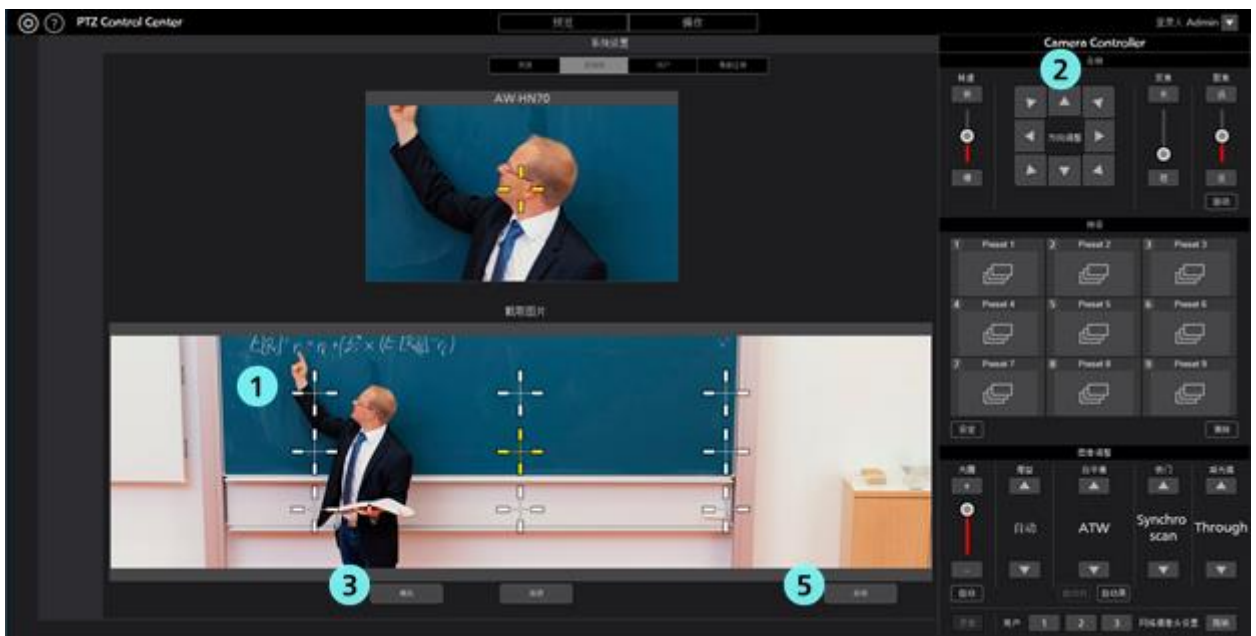
4. 选定目标摄像机后，点击编辑按钮并移动至编辑摄像机屏幕。



5. 单击编辑摄像机屏幕上的校准按钮。



6.将显示校准屏幕。根据以下步骤进行校准。



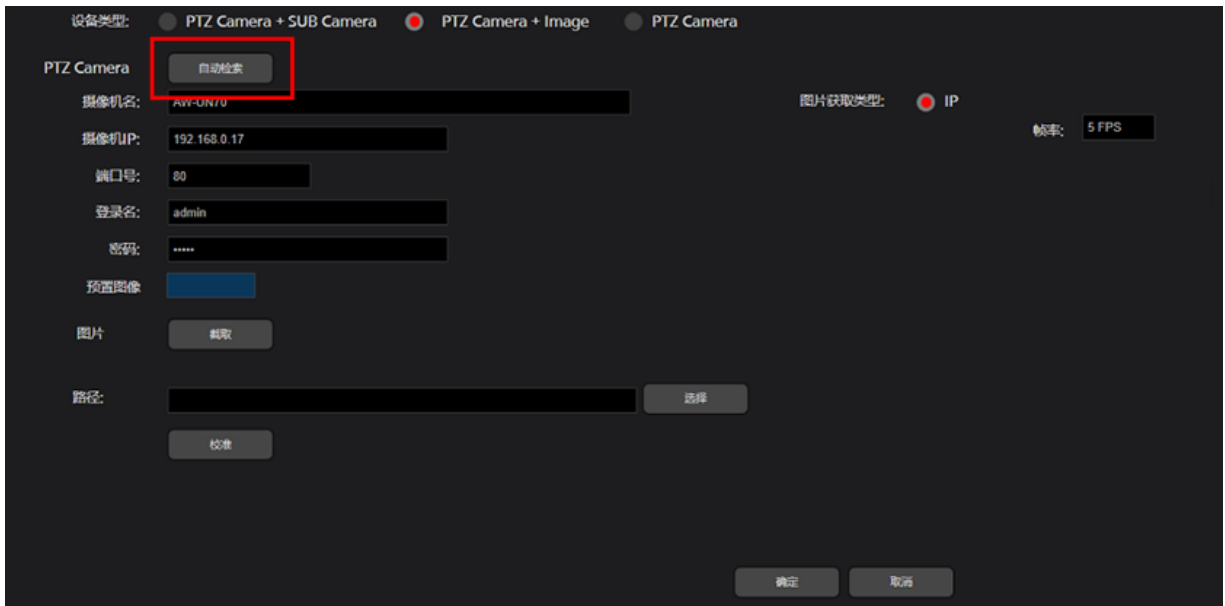
- (1) 单击出现在底部屏幕上的白色十字，然后将其转换为黄色显示的选定状态。
 - (2) 使用摄像机控制器的方向调整按钮，移动 PTZ Camera，使步骤 (1) 底部画面中选定的十字中心与顶部画面的十字中心处于同一位置。
 - (3) 点击确认按钮。黄色十字会变成蓝色。
 - (4) 对于出现在底部屏幕上的所有白色十字，执行上面的步骤 (1) 至 (3)。
 - (5) 点击结束按钮退出校准屏幕。
- 7.这样，校准就完成了。

更改网络设置

您可在软件上更改摄像机的网络设置。

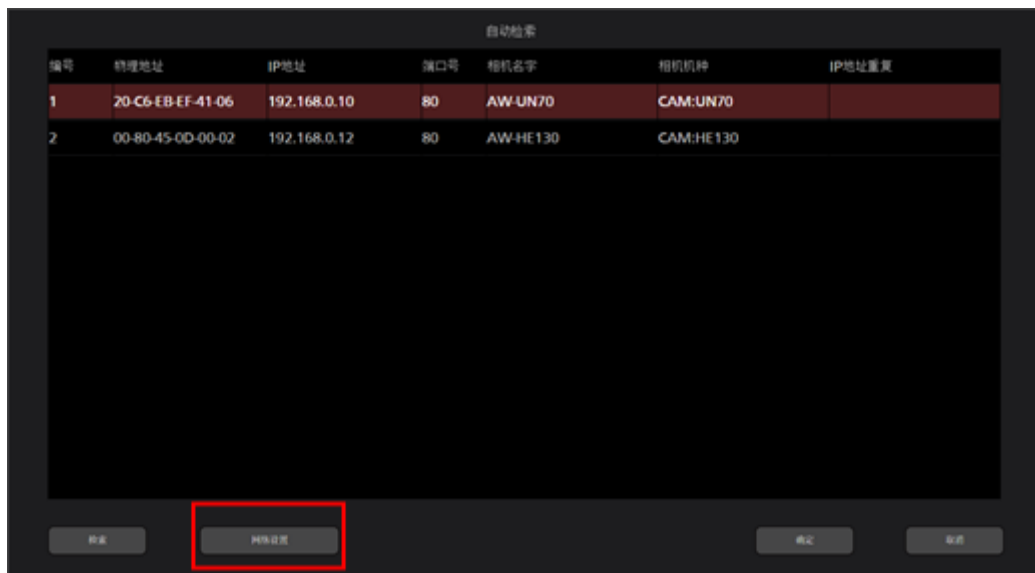
您可以按照以下步骤进行设置。

- 1.按照与“默认设置 1 - 校准”中的步骤 1 至 4 相同的步骤前往编辑相机屏幕。
- 2.点击编辑摄像机屏幕上的自动检索按钮。



- 3.将显示网络上出现的摄像机列表。

选择要设置的摄像机，然后点击网络设置按钮。



- 4.将打开网络设置屏幕。更改每个项目并单击确认按钮，这将更改相机的网络设置。



① 网络设置

您可选择 IP 地址的设置方法。

静态 IP: 用固定 IP 完成设置。

DHCP: 用 DHCP 完成设置。

② 端口号

它将设置摄像机将使用的端口号。

③ IPv4 地址

它用来设置摄像机的 IP 地址。

只有在网络设置中选择静态 IP 时，才能设置此项。

④ 子网掩码

它用来设置摄像机的子网掩码。

只有在网络设置中选择静态 IP 时，才能设置此项。

⑤ 默认网关

它用来设置摄像机的默认网关。

只有在网络设置中选择静态 IP 时，才能设置此项。

⑥ DNS 服务器地址

您可选择 DNS 服务器的设置方法。

自动: 它自动设置了 DNS 服务器。

手动: 您可以直接指定 DNS 服务器的地址。

⑦ 首选 DNS 服务器

它用来设置摄像机的首选 DNS（服务器）。

只有在 DNS 中选择“手动”时才能设置。

⑧ 备选 DNS 服务器

它用来设置摄像机的备选 DNS（服务器）。

只有在 DNS 中选择“手动”时才能设置。

⑨ 重启相机等待

选中此框并点击确认按钮更改设置时，摄像机将进入待机状态，直至设置完成。

⑩ 确定按钮

它将应用设置并关闭窗口。

⑪ 取消按钮

它将撤销设置并关闭窗口。

修改相机显示的顺序

您可以修改摄像机显示的顺序。

• 修改设置 - 摄像机画面上显示顺序的步骤

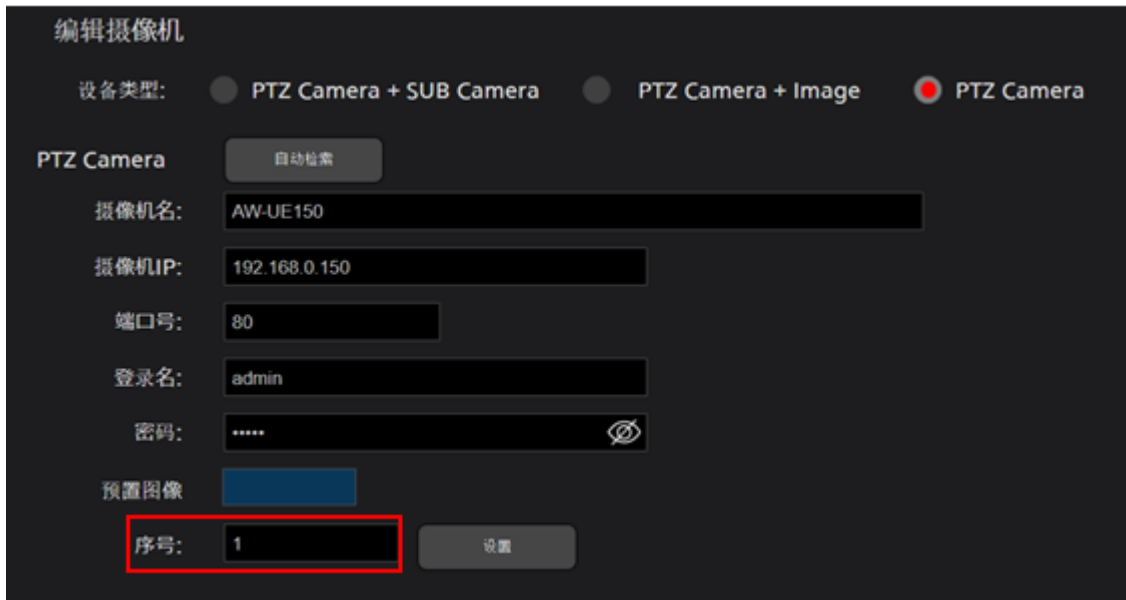
1. 按照“默认设置 1- 校准”中的步骤 1 至 步骤 3，移动到设置-摄像机画面。
2. 单击选中需要更改显示顺序的摄像机的显示行，然后将其拖动到另一个摄像机的显示行，然后两个摄像机的显示顺序就发生了替换。



编号:	摄像机名:	摄像机IP:	端口号:	正在连接:
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	●

• 在摄像机的编辑画面内更改显示顺序的步骤 (1)

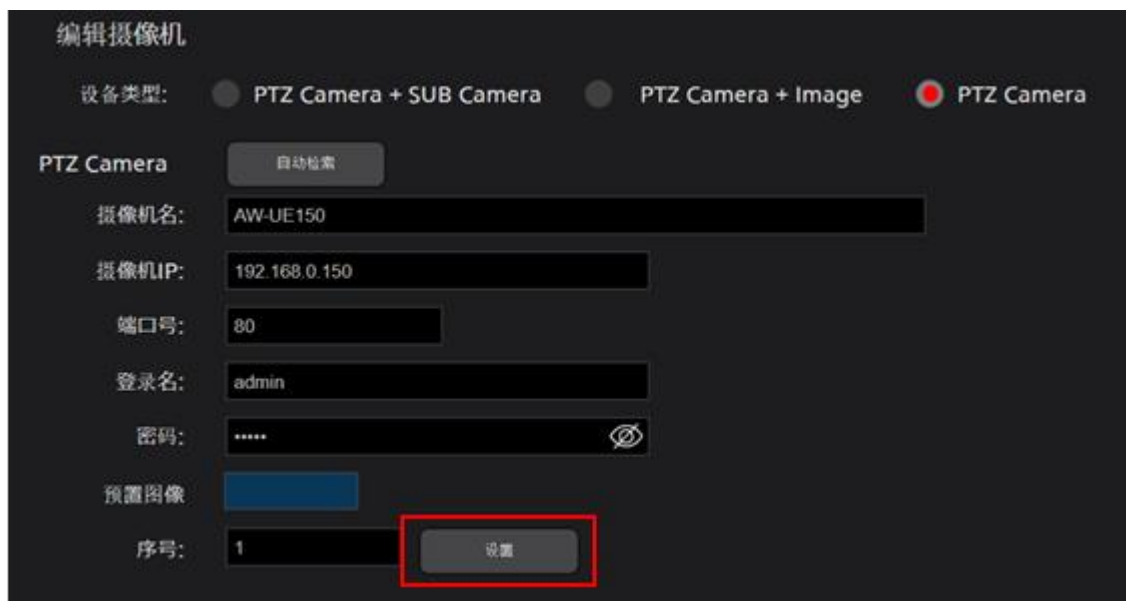
1. 按照“默认设置 1- 校准”中的步骤 1 至 步骤 4，移动到设置-摄像机画面。
2. 在编号的输入框中输入新的摄像机编号。您输入的摄像机编号必须是其他摄像机未使用的编号。



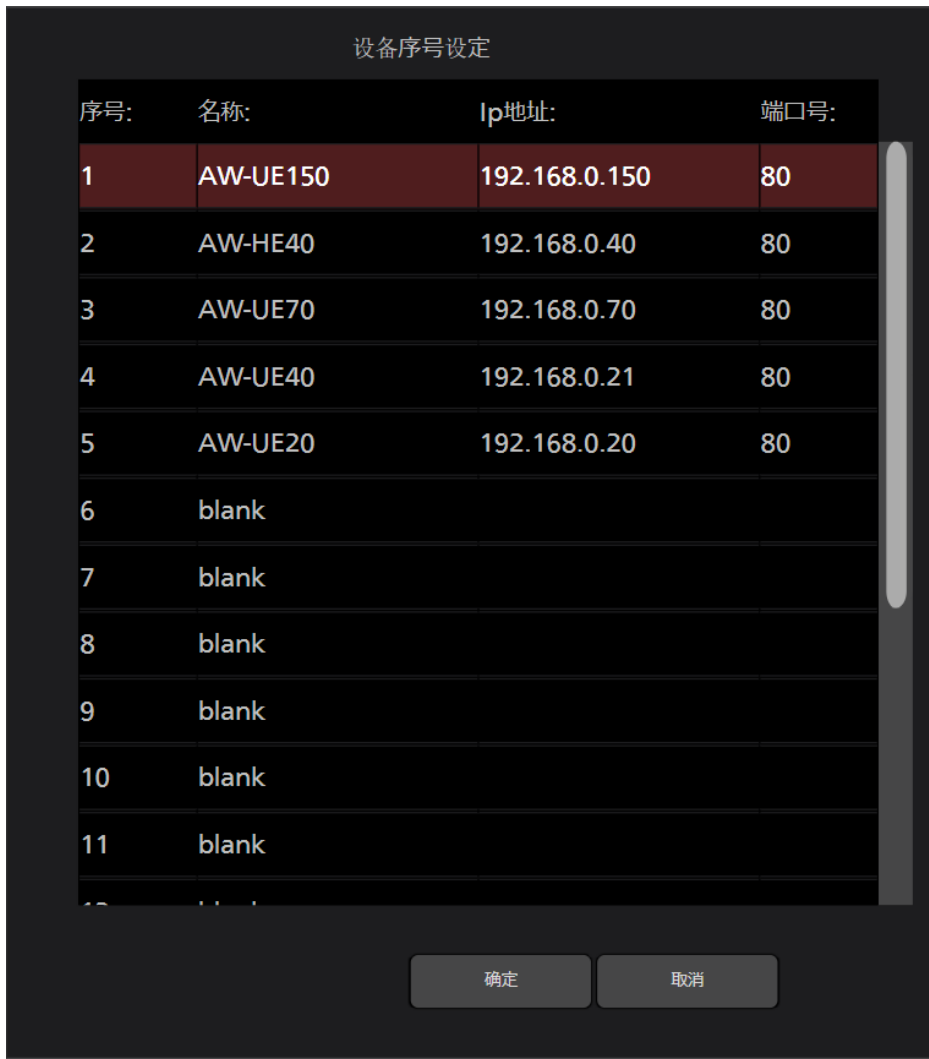
3. 当您按下 OK 按钮后将关闭摄像机编辑画面，并且更改显示顺序。

• 在摄像机的编辑画面内更改显示顺序的步骤 (2)

1. 按照“默认设置 1- 校准”中的步骤 1 至 步骤 4， 移动到设置-摄像机画面。
2. 单击设置按钮后显示摄像机显示顺序的画面。



3. 在摄像机顺序画面内，您可以通过单击并拖动列表中的行来更改摄像机显示顺序。 您可以交换已设置过相机的位置和没设置过相机的位置。 单击确定按钮后返回摄像机编辑画面。



4. 当您按下 OK 按钮后将关闭摄像机编辑画面，并且更改显示顺序。

<注释>

KAIROS 云联动功能控制的摄像机显示顺序无法更改。

默认设置 2（其他设置）

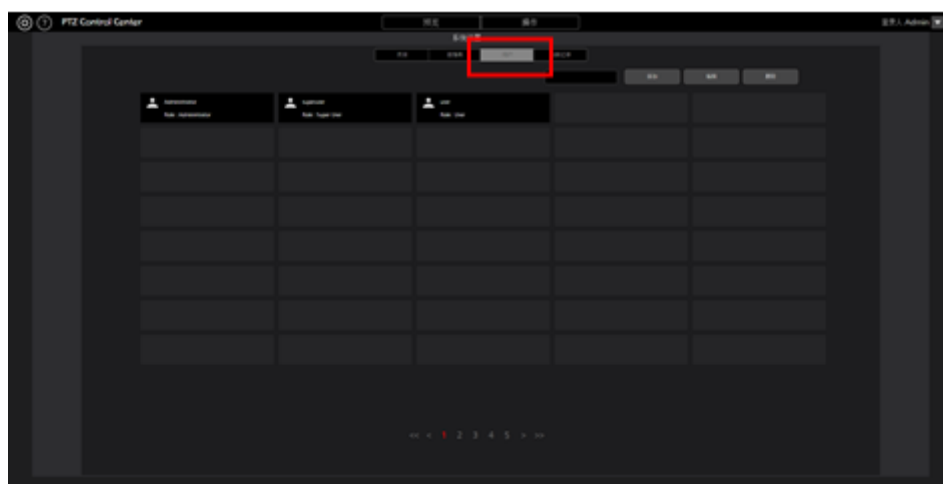
用户帐户设置

请在使用软件前设置用户账户。

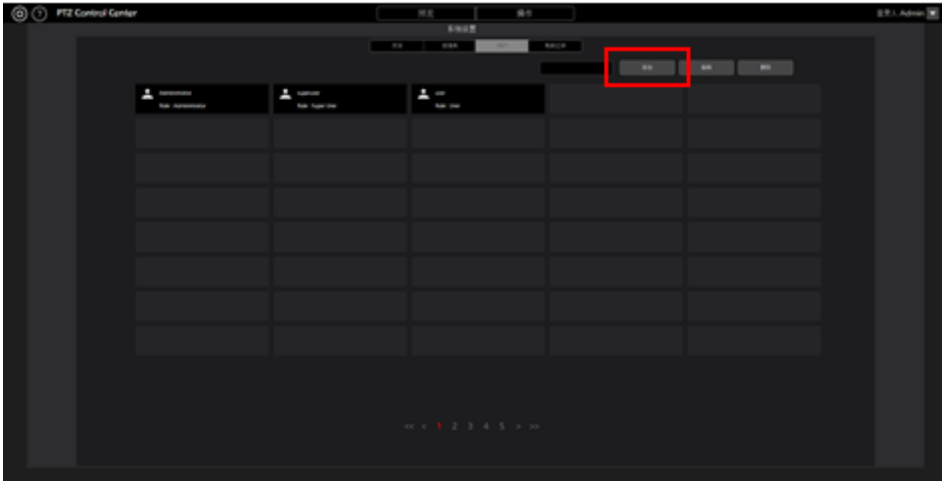
1. 登录软件。
2. 显示查看屏幕。单击位于屏幕左上角的设置按钮。



3. 单击设置屏幕中间的用户选项卡。



4.单击添加按钮并移动到注册用户屏幕。



5.在注册屏幕上输入待注册的用户账号信息。

A screenshot of the 'Add User' (添加用户) registration form. The form is set against a dark background and contains the following fields: 'Login Name' (登录名) with a text input field; 'Password' (密码) with a text input field; 'Password (re-enter)' (密码(再次输入)) with a text input field; and 'Role' (角色) with a dropdown menu currently showing 'User'. The title '添加用户' is positioned at the top left of the form area.

登录名: 用户帐户名

密码: 密码

密码(再次输入): 密码(用于确认)

角色: 帐户权限。您可从以下三类中选择:

管理员:

可访问摄像机: 它可访问所有摄像机。

摄像机操作: 它可进行所有操作。

设置屏幕上的设置: 它可以进行所有设置。

超级用户:

可访问摄像机: 它可访问所有摄像机。

摄像机操作: 它可进行所有操作。

设置屏幕上的设置: 它仅可进行类别设置。它无法访问其他设置。

用户:

可访问摄像机: 它仅可访问被准许的摄像机。

摄像机操作: 受限的(无法进行图像质量调整、注册/删除预设)

设置屏幕上的设置: 无权访问设置屏幕。

6.当在用户帐户的角色中选择用户时,摄像机的访问权限设置区域(下图中的蓝框)将出现在注册用户屏幕的底部。此处,您可设置用户有权访问的摄像机。



- (1) 当前登录的摄像机列表将显示在设置区域左侧的列表中。选择您允许访问的摄像机。
- (2) 点击设置区域中间的添加按钮，将在步骤 (1) 中选定的摄像机移动至设置区域右侧的列表中。

当前登录的用户已经登录时，只有设置区域右侧列表中的那些摄像机才会出现在查看/主屏幕上的摄像机列表中。

- (3) 删除您允许访问的摄像机时，请从设置区域右侧的列表中选择摄像机，并单击设置区域中间的“删除”按钮。

7. 点击确定按钮退出注册用户屏幕。

8. 这样，设置就完成了。

<注释>

- 有关各用户权限下可使用的功能详情，请参考本文档中的“附录 - 各账户权限的限制列表”。

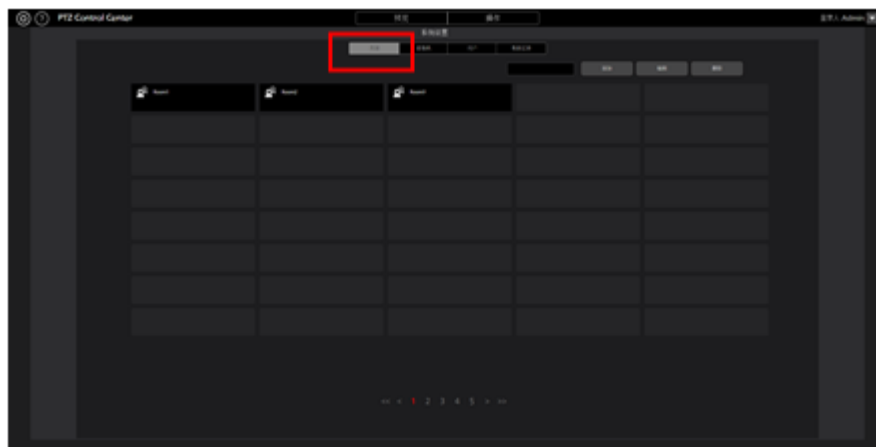
摄像机的类别设置

若需要，则设置摄像机的类别（摄像机群组）。

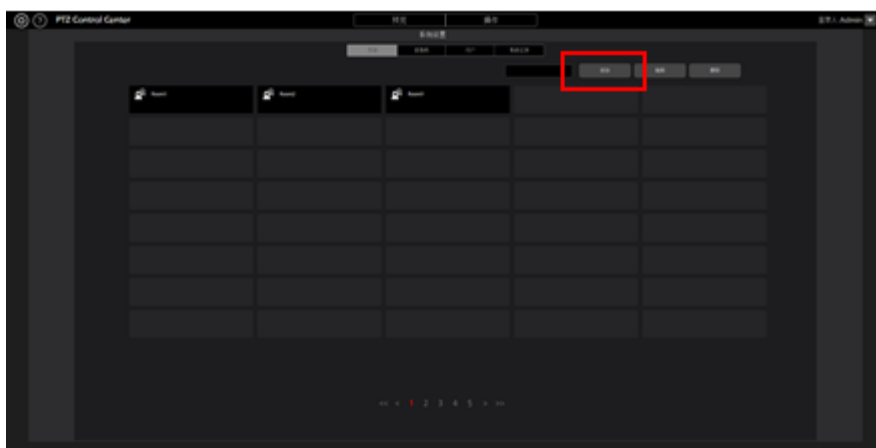
1. 登录软件。
2. 显示查看屏幕。单击位于屏幕左上角的设置按钮。



3. 单击设置屏幕中间的类别选项卡。



4. 单击添加按钮并移动至注册类别屏幕。



5.注册类别屏幕上的注册类别。

(1) 在“类别名”中输入待注册的类别名。

(2) 从左侧的摄像机列表中，选择您想要在类别中注册的摄像机，然后单击添加按钮。这会将摄像机添加至类别中（摄像机将移动至右侧的列表中）。



6.点击确定按钮退出注册类别屏幕。

7.这样，设置就完成了。

摄像机操作

在此处解释用软件操作摄像机的方法。

选择摄像机

按以下步骤选择要操作的摄像机。



1. 点击位于软件顶部中心的主选项卡，然后进入主屏幕。
2. 在主屏幕左侧的摄像机列表中，单击并选择您想要操作的摄像机。
您也可以在查看屏幕上选取摄像机。
3. 点击位于主屏幕顶部的[单选相机]选项卡。
4. 在主屏幕中央会出现您选定的摄像机图像。
显示的详细信息会因相机类型而异。

- 关于 PTZ Camera + SUB Camera

顶部屏幕: PTZ Camera 图像

底部屏幕: 控制辅助摄像机 AW-HEA10 或 AW-UE4 图像

- 关于 PTZ Camera + Image

顶部屏幕: PTZ Camera 图像

底部屏幕: 设置的静态图像

- 关于 PTZ Camera

顶部屏幕: PTZ camera 或 Camcoder 的图像

底部屏幕: 无

5.通过之后的“透过摄像机视频操作摄像机”、“基于摄像机控制器的摄像机操作”、“基于键盘的摄像机操作”、“基于游戏控制器的摄像机操作”等内容中记录的方法来操作摄像机。

<注释>

- 当摄像机列表显示器中的缩略图已关闭，且选定摄像机后仍未出现图像时，请检查个人电脑与摄像机间的网络连接是否正确。

透过摄像机视频操作摄像机

当选取的摄像机视频显示在主屏幕中心位置时，可进行以下操作。

- 点击顶部或底部屏幕，使 PTZ Camera 进行左右/上下转动

点击顶部或底部屏幕，操作 PTZ Camera 进行左右/上下转动，使点击位置转动到画面中心。

- 在顶部或底部屏幕指定范围，使 PTZ Camera 左右/上下转动/缩放

可在顶部或底部屏幕点击鼠标并拖拽，用黄色框圈定范围。拖拽完成并圈定范围后，PTZ Camera 将进行左右/上下转动/缩放等操作，令其能以全屏显示指定范围。

- 在顶部屏幕操作鼠标滚轮缩放 PTZ Camera

在光标位于顶部屏幕的状态下操作鼠标滚轮，对 PTZ Camera 进行缩放操作。

<注释>

- 如果点击底部屏幕时，PTZ Camera 的移动位置不准确，请参考本文档中的“默认设置 1- 校准”，并进行校准。
- 无法对 POVCAM 和 Camcoder 执行平移/倾斜操作。

基于摄像机控制器的摄像机操作

您可使用摄像机控制器进行相机的各种操作。

支持下列操作。

对于 PTZ camera/POVCAM 相机和 Camcoder，相机控制器的显示和可能的操作有所不同。

- PTZ 操作
- 预设操作
- 图像质量调整
- 开始/停止 SD 卡记录
- 调用网络屏幕

■各部说明（适用于 PTZ camera/POVCAM）



PTZ 操作部:

可对 PTZ Camera 的左右/上下转动、缩放、聚焦进行操作。

预设操作部:

可进行 PTZ Camera 的预设的注册/调用/删除。

Image Adjust 操作部:

可对 PTZ Camera 的图像质量进行调整。

<注>

• 点击各操作部右上方的  按钮，显示将变为放大显示。

在放大显示的状态下点击  按钮，显示将返回通常显示。

• PTZ 操作

可对 PTZ Camera 的左右/上下转动、缩放、聚焦进行操作。



① 转速控制部分

利用 Fast/Slow 按钮或滑块，设置摄像机的移动速度。利用滑块的红条显示当前的设定值。

② 方向调整按钮

点击各箭头的按钮，将朝对应的方向移动摄像头。

点击正中间的旋钮，显示将发生变化，可朝任意方向移动摄像头。

③ 变焦部分

您可通过 T/W 按钮或滑块设置摄像机的变焦位置。

滑块中的红条显示当前设置的值。

④ 聚焦控制部分

单击“自动”按钮以切换打开或关闭自动调焦。

当自动调焦开启时，摄像机将自动设置聚焦。

当自动聚焦关闭时，您可以通过“远/近”按钮与滑块设定摄像机的聚焦。

• 预设操作

- 注册/调用/删除摄像机的预设。

此外，您还可为每个预设指定一个您选取的名称。



• 预设注册

1. 使用方向调整按钮和变焦位置控制滑块/按钮，并移动摄像机至您想要记录的位置。
2. 开启（红色）预设区域左下方的“设定”按钮。

3. 点击预设区域中的预设 1 至预设 9 中的任意一张缩略图，将在预设中注册当前的摄像机位置。注册时的缩略图将出现在按钮中。

4. 点击缩略图上方显示的名称，您即可对其进行编辑，且可指定您选取的名称。

• 调用预设

1. 关闭（黑色）预设区域左下方的设置按钮和删除按钮。

2. 点击预设区域中的预设 1 至预设 9 中的任意一个按钮，将调用对应的预设。

• 删除预设

1. 开启（红色）预设区域左下方的“删除”按钮。


2. 点击预设区域中的预设 1 至预设 9 中的任意一个按钮，将删除对应的预设。

• 更改预设名称

1. 打开（红色）预设区域左下方的设置按钮。

2. 点击缩略图上显示的名称部，将进入名称的编辑状态，可对任意名称进行设置。

• 更新预设显示

点击预设区域左上方的  按钮，将从摄像机中获取最新的预设数据，并更新显示。

• 图像质量调整

您可以调整摄像机拍摄的图像质量。

您可调节以下项目。

- 光圈
- 增益
- 白平衡
- 快门
- 减光镜



① 光圈控制部分

点击自动按钮切换自动对焦的开/关功能。

当自动对焦开启时，摄像机将自动设置光圈。

当自动对焦关闭时，您可以通过“+/-”按钮与滑块设定摄像机的光圈。

② 增益控制部分

您可以通过上/下按钮设置摄像机的增益。

③ 白平衡控制部分

您可以通过上/下按钮设置摄像机的白平衡模式。

通过点击“自动白”按钮，相机将自动调整白平衡。

通过点击“自动黑”按钮，相机将自动调整黑平衡。

④ 快门控制部分

您可以通过上/下按钮设置摄像机快门。

⑤ 减光镜部分

您可以通过上/下按钮设置摄像机的减光镜。

<注释>

- 基于相机类型和操作模式的组合，您可能无法调节某些项目。想要了解更多细节，请参考操作指南。

• 开始/停止 SD 卡记录

您可以开始/停止带有 SD 卡记录功能的摄像机的录制进程。

点击位于相机控制器左下方的 **REC** 按钮，相机处于可录制状态，每次点击切换于录制开始/停止间。当摄像机正在记录时，**REC** 按钮将变成红色。当记录停止时，**REC** 按钮将变成灰色。

• 音量调节

您可以在相机控制器底部的音频音量部分调整相机的音量。如果摄像机支持多个音频通道，则会显示 Ch.1 的音量值，并对 Ch.1 和 Ch.2 进行设置。

• 调用网络屏幕

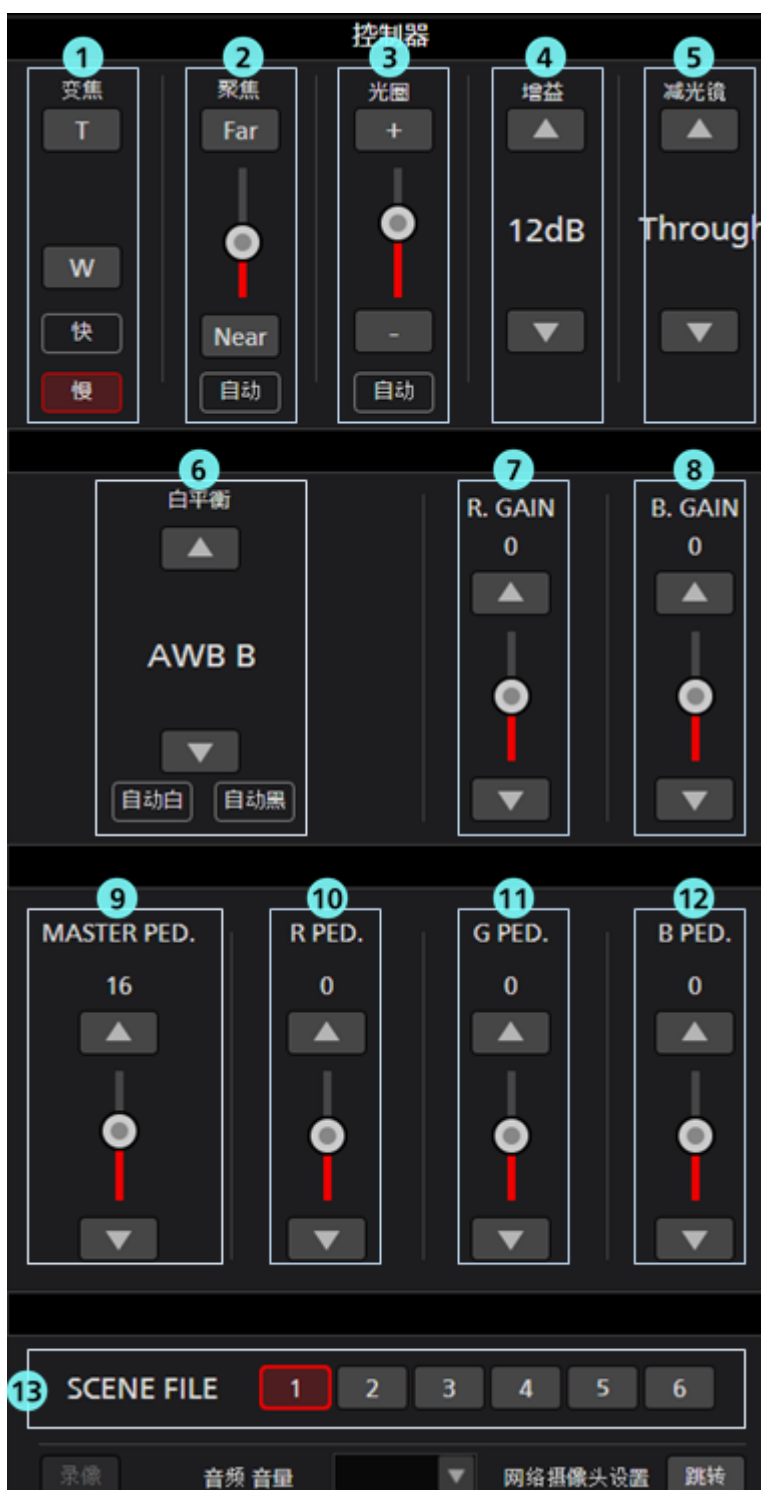
您可调用摄像机的网络屏幕。

点击摄像机控制器右下角的“前往”按钮，在网络浏览器中会打开摄像机的网络摄像机管理屏幕。

<注释>

- 取决于您所使用的网络浏览器，摄像机的网络摄像机管理屏幕中的部分内容可能无法正确显示。

■各部的说明和操作（适用于 Camcoder）



①变焦控制部分

使用 T/W 按钮操作相机的变焦位置。

可以通过 Fast 按钮和 Slow 按钮切换变焦速度。

②聚焦控制部分

点击自动按钮可以切换开启或关闭自动调焦。

当自动调焦开启时，相机将自动设置聚焦。

当自动调焦关闭时，可以通过远/近按钮与滑块设定相机的聚焦。

③光圈控制部分

点击自动按钮切换自动对焦的开启/关闭功能。

当自动对焦开启时，相机将自动设置光圈。

当自动对焦关闭时，可以通过+/-按钮与滑块设定相机的光圈。

④增益控制部分

可以通过上/下按钮设置相机的增益。

⑤减光镜控制部分

可以通过上/下按钮设置相机的减光镜。

⑥白平衡控制部分

可以通过上/下按钮设置相机的白平衡模式。

通过点击自动白按钮，相机将自动调整白平衡。

通过点击自动黑按钮，相机将自动调整黑平衡。

⑦R. GAIN 控制部分

使用上/下按钮和滑块设置相机的 R. GAIN。

⑧B. GAIN 控制部分

使用上/下按钮和滑块设置相机的 B. GAIN。

⑨MASTER PED.控制部分

使用上/下按钮和滑块设置相机的主基底。

⑩R. PED.控制部分

使用上/下按钮和滑块设置相机的红色基底。

⑪G. PED.控制部分

使用上/下按钮和滑块设置相机的绿色基底。

⑫B. PED.控制部分

使用上/下按钮和滑块设置相机的蓝色基底。

⑬场景文件选择部分

选择相机的场景文件。

<注释>

- Camcorder 的音量调节不起作用。

基于键盘的摄像机操作

可通过连接 PC 的键盘，对 PTZ Camera 进行各项操作。

按键对应的操作如下。

按键	操作
1	调用预设 1
2	调用预设 2
3	调用预设 3
4	调用预设 4
5	调用预设 5
6	调用预设 6
7	调用预设 7
8	调用预设 8
9	调用预设 9
↑	摄像机上下转动 上
↓	摄像机上下转动 下
←	摄像机左右转动 左
→	摄像机左右转动 右
↑ + →	摄像机左右/上下转动 右上
→ + ↓	摄像机左右/上下转动 右下
↓ + ←	摄像机左右/上下转动 左下
← + ↑	摄像机左右/上下转动 左上
Shift + ↑	摄像机上下转动 上（高速）
Shift + ↓	摄像机上下转动 下（高速）
Shift + ←	摄像机左右转动 左（高速）
Shift+→	摄像机左右转动 右（高速）
Shift + ↑ + →	摄像机左右/上下转动 右上（高速）
Shift + → + ↓	摄像机左右/上下转动 右下（高速）
Shift + ↓ + ←	摄像机左右/上下转动 左下（高速）
Shift + ← + ↑	摄像机左右/上下转动 左上（高速）
Ctrl + ↑	摄像机上下转动 上（低速）
Ctrl + ↓	摄像机上下转动 下（低速）
Ctrl + ←	摄像机左右转动 左（低速）
Ctrl +→	摄像机左右转动 右（低速）
Ctrl + ↑ + →	摄像机左右/上下转动 右上（低速）
Ctrl + → + ↓	摄像机左右/上下转动 右下（低速）
Ctrl + ↓ + ←	摄像机左右/上下转动 左下（低速）
Ctrl + ← + ↑	摄像机左右/上下转动 左上（低速）
Z	摄像机缩放 T 端
X	摄像机缩放 W 端
Shift + Z	摄像机缩放 T 端（高速）
Shift + X	摄像机缩放 W 端（高速）
Ctrl + Z	摄像机缩放 T 端（低速）
Ctrl + X	摄像机缩放 W 端（低速）

Alt + ↑	将选择的摄像机向上移动 1 个
Alt + →	将选择的摄像机向右移动 1 个
Alt + ↓	将选择的摄像机向下移动 1 个
Alt + ←	将选择的摄像机向左移动 1 个
Page UP	切换摄像机页面 正向
Page DOWN	切换摄像机页面 反向

<注>

- 键盘操作的有效性，可在“设置 - 系统 画面”的“键盘快捷键”设置中切换。

基于游戏控制器的摄像机操作

最多可通过连接 PC 的 10 台游戏控制器对 PTZ Camera 进行各项操作。

• 支持的操作

相应操作如下所示。

- 摄像机的左右/上下转动/缩放
- 调用预设
- 变更选择的摄像机

与游戏控制器的各轴/按键所对应的操作分配如下所示。

X 轴：摄像机左右转动

Y 轴：摄像机上下转动

Z 轴：更改摄像机左右/上下转动的速度

转动：摄像机缩放（在设置 - 手柄屏幕中设置使用哪个转动轴）

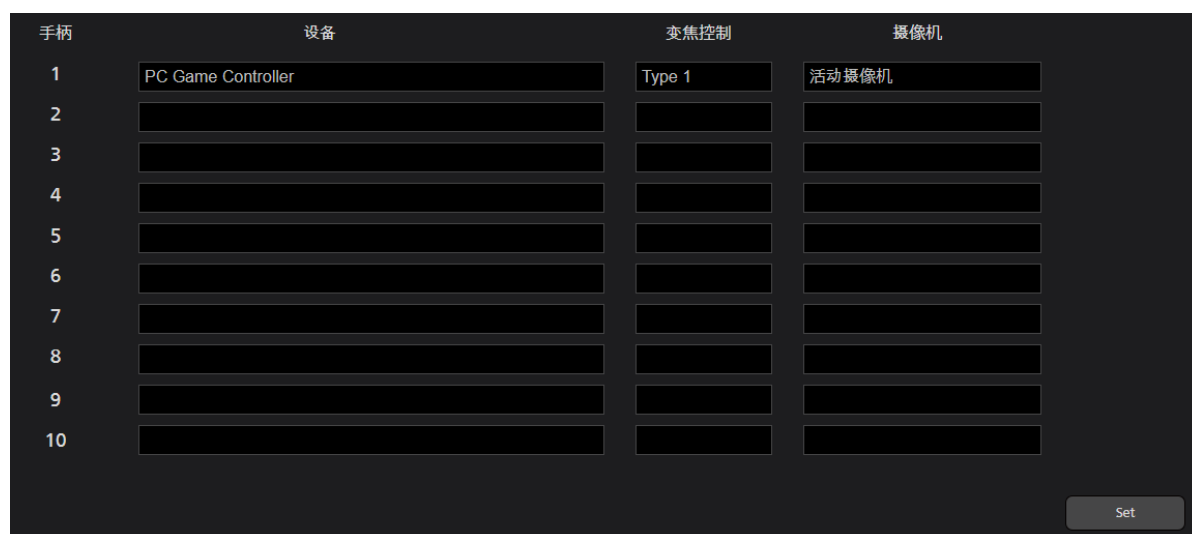
按键：调用与按键编号相应的摄像机预设

顶部切换键：变更选择的摄像机

• 动作设置

在设置 - 手柄屏幕中进行设置。

变更设置后请点击设置按钮，使设置生效。



- 设备设置

点击设置栏后，将显示连接 PC 的游戏控制器列表，选择操作过程中要使用的游戏控制器。

- 变焦控制设置

从 Type1~Type5 中选择将摄像机的变焦操作分配给手柄的哪个部分。最优设置根据游戏控制器的机型会有所不同。若使用的游戏控制器无法正常操控摄像机变焦，请将 Type 改为其他类型。

- 摄像机设置

选择手柄要操作的摄像机。

点击设置栏后，将显示“活动摄像机”项及本软件中注册的 PTZ Camera 名称列表。

如果选择了“活动摄像机”，则将对预览/操作屏幕中处于选定状态的摄像机进行操作。如果选择了特定摄像机，则无论预览/操作屏幕的摄像机的选定状态如何，都仅操作该特定摄像机。

在具有 AW-RP150 联动功能时，如果想使用操纵杆控制则需选择 AW-RP150。

<注>

- 如果启动本软件后再将手柄连接至 PC，则本软件可能无法识别手柄。这种情况下请重启本软件。
- 游戏控制器的操纵杆和按键所分配的轴、转动以及按键编号等信息可于 Windows 的“设备和打印机”画面上右键单击控制器图标，然后点击“游戏控制器的设置”→“属性”后所显示的属性页面上确认。
- 本软件不保证所有游戏控制器的动作。

请到本软件的下载网站确认已完成动作确认的游戏控制器。

摄像机的 H.264 码流视频显示

可全屏显示当前操作的 PTZ Camera 的 H.264 码流视频。

显示的 H.264 码流视频的分辨率和帧率取决于 PTZ Camera 的 H.264 码流设置。

另外，用于显示的 H.264 码流的优先顺序如下：H.264(1) → H.264(2) → H.264(3) → H.264(4)。

请于 PTZ Camera 的 Web 画面上，如下预设任一 H.264 码流。

- H.264 transmission

H.264(1)~H.264(4) 中，至少启用 1 个。

- Image capture size

对分辨率进行以下任意一个设置。

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

- Transmission priority

设为 “ Frame rate ”

- Frame rate

对帧率进行以下任意一个设置。

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

欲显示 H.264 码流的视频，须按以下步骤操作。

1. 按照上述“摄像机的选择”步骤选择摄像机，令主画面成为显示摄像机视频的状态。
2. 双击顶部屏幕显示的 PTZ Camera 视频。
3. PTZ Camera 的 H.264 码流视频将在 PC 的主屏幕上全屏显示。
4. 若要停止显示 H.264 码流视频，可再次双击，或者按下键盘上的 ESC 键或 Enter 键。

<注>

- 如果摄像机密码中包含@，则无法显示 H.264 码流视频。

同时操作多台摄像机

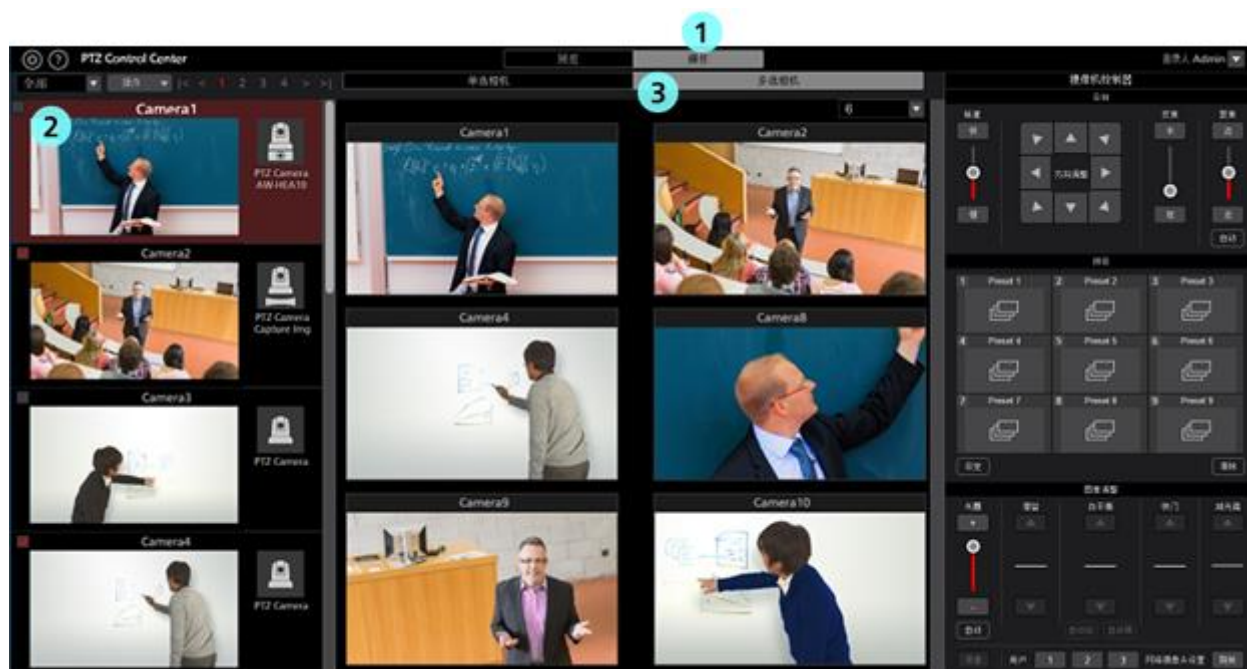
可同时操作多台连接的摄像机。

操作步骤

可同时进行的操作如下所示。

- 使用按钮/滑块以左右/上下转动/缩放摄像机
- 调用摄像机的预设
- 调整摄像机的图像质量（仅通过调节聚焦和光圈）

您可根据以下步骤进行操作。



1. 点击位于软件顶部中心的主选项卡，然后进入主屏幕。
2. 在主屏幕左侧的摄像机列表中，打开想要操作的摄像机检查选项卡。
您也可以在查看屏幕上进行检查。
3. 点击位于主屏幕顶部的[多选相机]选项卡。
4. 在主屏幕中央会出现您选定的用于操作的摄像机图像。

5. 采用以下任一方法操作摄像机。

操作方法与操作单一摄像机时相同。详情请参阅本手册内“摄像机操作”的各项目。

- 使用本软件的摄像机控制器操作摄像机
- 使用连接 PC 的键盘操作摄像机
- 使用连接 PC 的游戏控制器操作摄像机

<注释>

- 当摄像机列表显示器中的缩略图已关闭，且选定摄像机后仍未出现图像时，请检查个人电脑与摄像机间的网络连接是否正确。
- 无论检查状态如何，都可操作摄像机列表显示器中处于选定状态的摄像机。

预设列表屏幕的操作

点击屏幕顶部的预设列表选项卡，将显示预设列表屏幕。
能以列表形式显示摄像机的预设，并进行预设的调用操作等。

屏幕说明

屏幕通过以下三个区域进行配置。

- 显示选择部
- 预设列表显示部
- 摄像机操作部



预设列表屏幕

• 显示选择部

该区域用来对作为显示对象的摄像机进行选择等。



① 摄像机类别选择选项卡

对作为“②摄像机选择选项卡”的显示对象的摄像机的类别进行选择。

选择选项卡中的“全部”，将以列表形式显示已经在设置 - 类别屏幕中注册的摄像机的类别名称。

选择“全部”时，已在本软件中注册的所有摄像机将成为显示对象。

选择“云相机”时，要与 KAIROS Cloud 联动控制的相机为显示对象。

选择任意一个类别时，只有属于该类别的摄像机才是显示对象。

有五个以上类别的情况下，点击▼按钮，将显示类别选择窗口，因此可在窗口内选择类别。

② 摄像机选择选项卡

选择作为预设列表显示对象的摄像机。

有 5 台以上摄像机的情况下，点击▼按钮，将显示摄像机选择窗口，因此可在窗口内选择摄像机。

③ 预设显示更新按钮

点击后，将从摄像机中获取最新的预设数据，并更新预设列表显示。

④ 预设显示数量 切换按钮

它用来对预设列表显示部的预设显示数量进行切换。

可从显示 100 个预设和显示 50 个预设中进行选择。

• 预设列表显示部

显示摄像机的预设列表。已注册的预设的缩略图背景色将以在摄像机设置的预设颜色中设置的颜色进行显示。

• 摄像机操作部

该区域用来对作为显示对象的摄像机进行选择等。



① 设置按钮

在打开（红色）状态下点击预设列表显示部的任意一个预设，当前的摄像机位置将被注册为预设。

② 重命名按钮

在打开（红色）状态下点击预设列表显示部的任意一个预设，可更改预设的名称。

③ 删除按钮

在打开（红色）状态下点击预设列表显示部的任意一个预设，将删除已点击的预设的数据。

④ 整理按钮

打开（红色）后，将进入对预设列表显示部的预设进行重排的模式。

在该状态下，左键单击任意一个预设并拖到其他预设处，各自的显示位置将调换。

⑤ 重置按钮

可对利用整理按钮重排的预设进行重置，并返回到初始状态下的排列。

⑥ 2 步操作选框

对调用预设的操作进行选择。

如果勾选此项：选择预设列表显示部的预设后，点击“⑦变暗按钮”或“⑧执行按钮”，将调用预设。

如果未勾选此项：将在选择预设列表显示部的预设时调用预设。预设的调用速度取决于摄像机的设置。

⑦ 变暗滑块/按钮

可对从调用预设开始至摄像机完成移动为止的时间进行指定并进行操作。

利用滑块指定摄像机完成移动为止的时间。点击变暗按钮，将调用预设。

※只有在摄像机为 AW-UE150/AW-UE100 时才可执行本操作。

⑧ 执行按钮

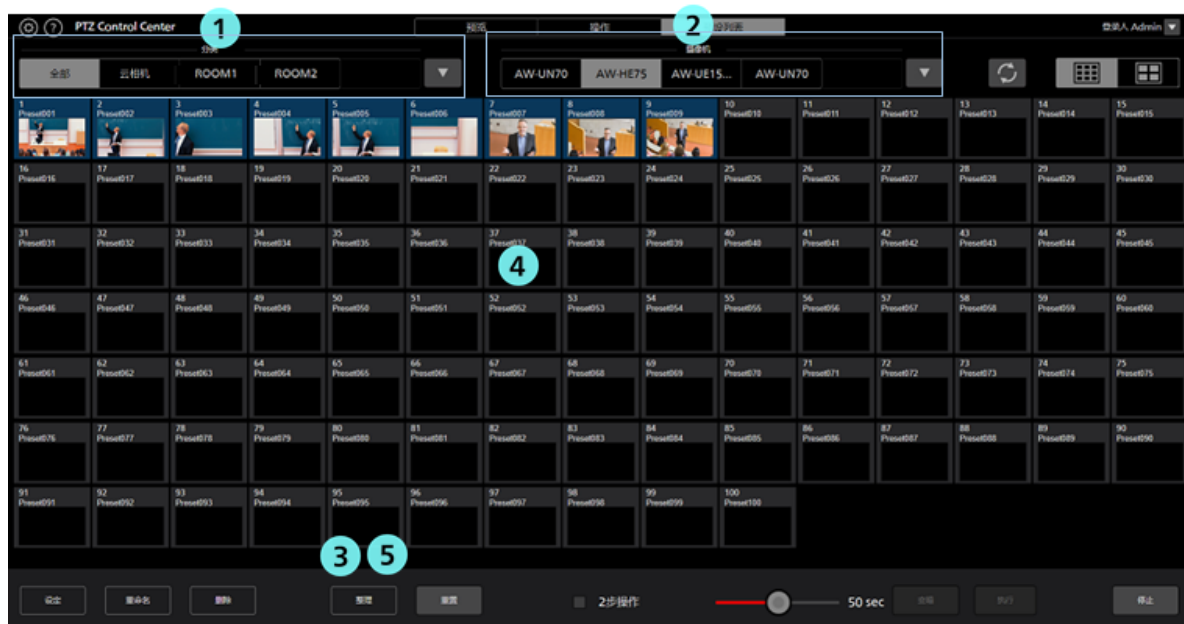
它用来以摄像机中设置的速度调用预设。

⑨ 停止按钮

可以停止调用预设的操作。

重排预设

要重排预设列表画面中的预设的情况下，按以下步骤进行操作。



1. 在摄像机类别选择选项卡中选择任意一个类别。
2. 在摄像机选择选项卡中选择要操作的摄像机。将在预设列表显示部中显示摄像机的预设列表。
3. 点击整理按钮，并将其开启（红色）。
4. 在预设列表显示部中点击移动源的预设，并直接拖到移动目的地的预设处，则移动源与移动目的地的预设的位置将被调换。
5. 点击整理按钮并将其关闭（黑色）。

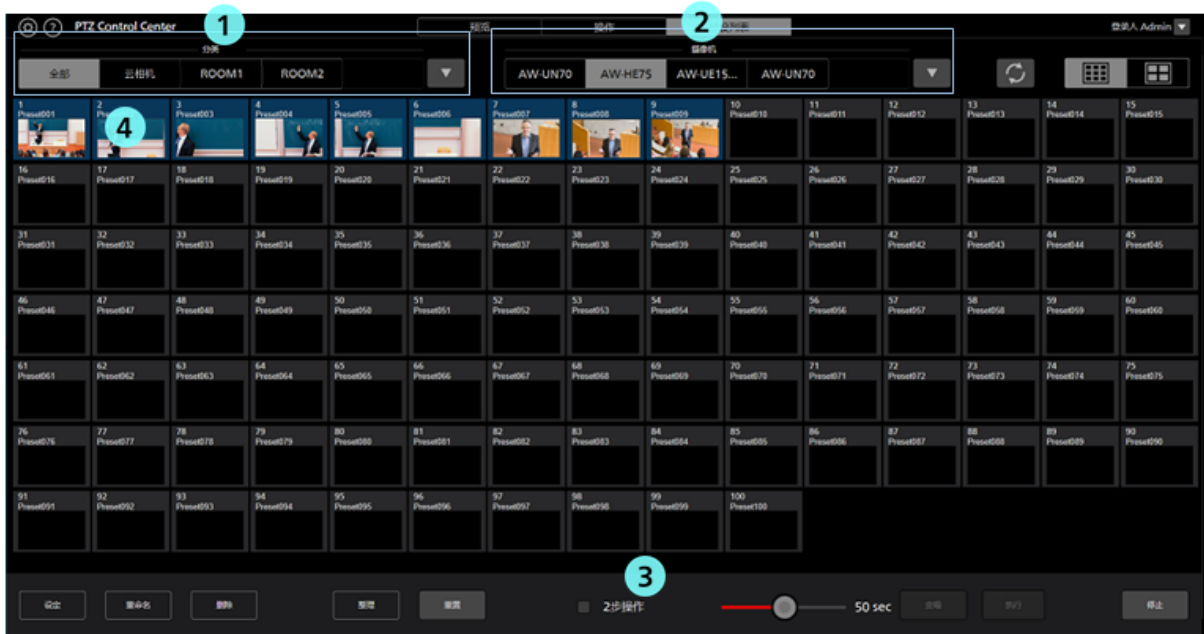
<注>

- 要将已经重排的预设返回至初始状态时，点击整理按钮右方的重置按钮。
- 当所选相机是使用 KAIROS Cloud 联动控制的相机时，将不会保存排序预设的内容。

调用预设

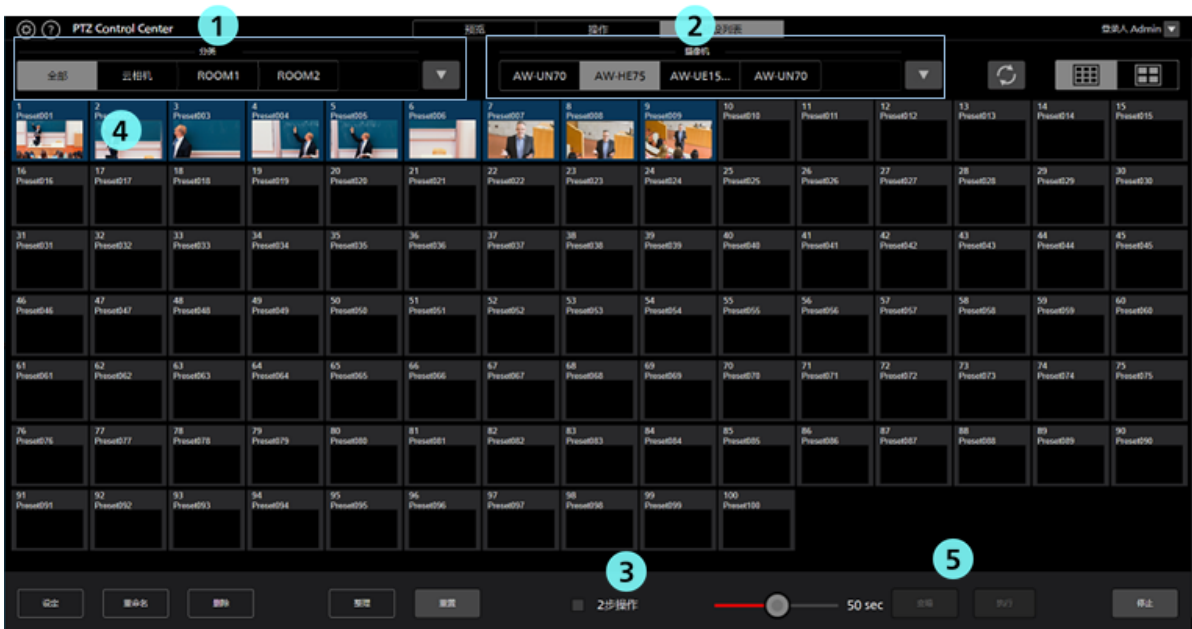
要调用预设时，按以下步骤操作。

- 选择预设后立即调用时



1. 在摄像机类别选择选项卡中选择任意一个类别。
2. 在摄像机选择选项卡中选择要操作的摄像机。将在预设列表显示部中显示摄像机的预设列表。
3. 不勾选“2 步操作”选框。
4. 在预设列表显示部点击任意一个预设后，将立即调用预设。预设的调用速度取决于摄像机的设置。

• 通过选择预设→操作按钮这两步操作来进行调用时



1. 在摄像机类别选择选项卡中选择任意一个类别。
2. 在摄像机选择选项卡中选择要操作的摄像机。将在预设列表显示部中显示摄像机的预设列表。
3. 勾选“2 步操作”选框。
4. 在预设列表显示部中点击任意一个预设并设置为选择状态。
5. 执行以下任意一个操作，调用预设。

- 点击执行按钮

它用来以摄像机中设置的速度调用预设。

- 利用变暗滑块设置时间后，点击变暗按钮

调用预设，以按照利用滑块设置的时间来完成摄像机的移动。只有在摄像机为 AW-UE150/AW-UE100 时有效。

<注>

- 在预设调用过程中点击停止按钮，将停止调用。

KAIROS Cloud 联动功能

通过链接到 KAIROS Cloud Platform，可以像操作本地网络上的相机一样操作远程位置的相机。

<注释>

- 有关 KAIROS Cloud Platform 的详细信息，请参阅 KAIROS Cloud Platform 的操作手册。
- 要使用 KAIROS Cloud Platform 的联动功能，PC 必须连接到互联网。
- 有关 KAIROS Cloud Platform 的详细信息，请参阅以下 URL。

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

使用联动功能的流程

使用软件与 KAIROS Cloud Platform 联动的流程如下所示。

1. 在 KAIROS Cloud Platform 注册软件（仅限首次）。

有关注册步骤，请参阅本章“在 KAIROS Cloud Platform 注册”。

2. 将相机连接到 KAIROS Cloud Platform。

有关相机连接步骤，请参考各应用程序的 KAIROS Cloud 服务实施指南和操作手册。

有关可被操作的相机，请参阅本章的“可被操作的摄像机”。

3. 将软件连接到 KAIROS Cloud Platform 并操作相机。

有关操作步骤，请参阅本章的“使用联动功能操作相机”。

可被操作的摄像机

可以操作连接到 KAIROS Cloud Platform 的以下相机。

- 连接到 KAIROS Cloud Platform 的相机有相机的设备路由功能
- 相机通过 Camera Gateway 应用程序连接到 KAIROS Cloud Platform

<注释>

- 有关设备路由功能、Camera Gateway 应用程序的概述和连接方法，请参阅 KAIROS Cloud 服务实施指南和每个应用的操作手册。

在 KAIROS Cloud Platform 注册

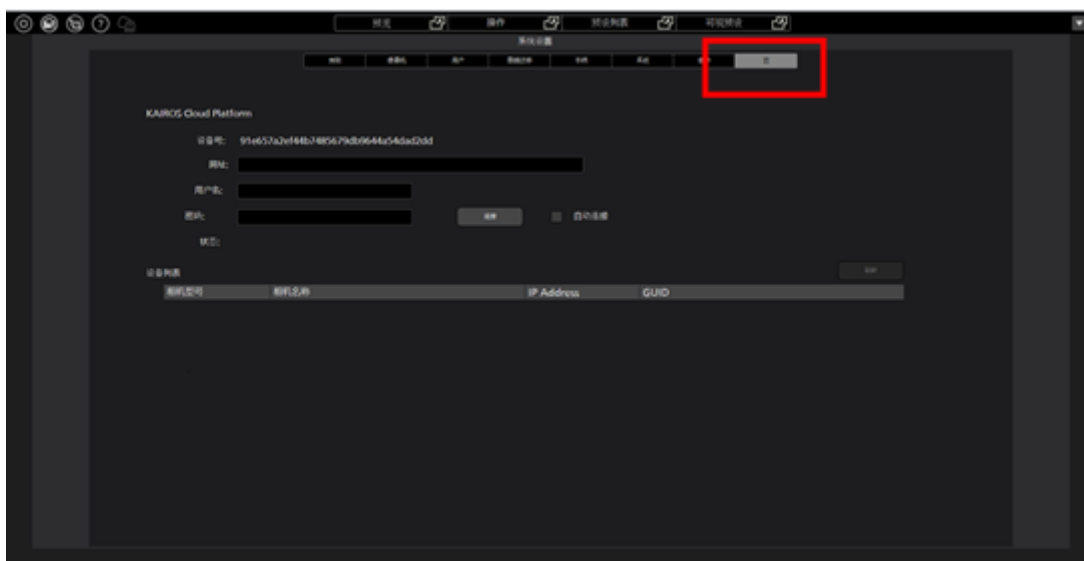
要使用与 KAIROS Cloud Platform 链接的软件，必须在 KAIROS Cloud Platform 注册该软件。
如果未注册，请按照以下步骤进行注册。

■ 操作软件

1. 点击软件屏幕左上角的设置按钮。



2. 点击设置屏幕中的云选项卡以移动到云屏幕。



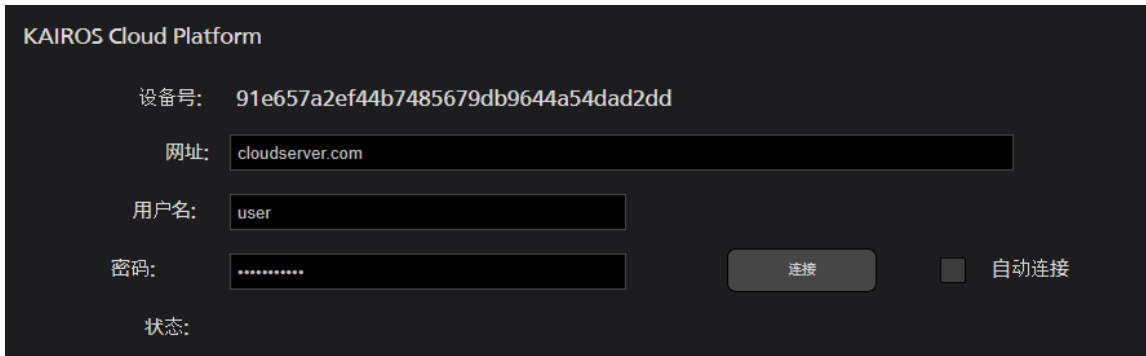
3. 在云屏幕输入 KAIROS Cloud Platform 的登录信息。

设备号：自动生成的软件的全局 ID。无法更改。

网址：KAIROS Cloud Platform 的网址。

用户名：输入 KAIROS Cloud Platform 的登录 ID。

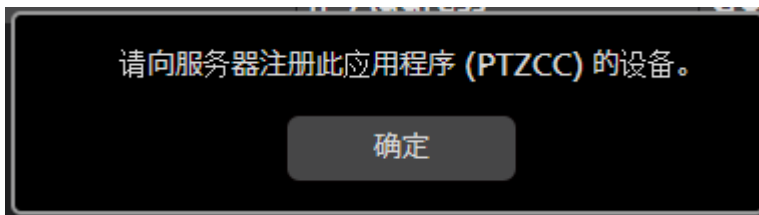
密码：输入 KAIROS Cloud Platform 的密码。



4. 点击连接按钮。

成功登录 KAIROS Cloud Platform 后，将显示以下消息窗口。

如果没有显示消息窗口，并且在状态字段中显示错误消息，请检查互联网的连接状态以及 KAIROS Cloud Platform 的登录信息是否正确。



5. 按照以下“操作 KAIROS Cloud Platform”的说明，继续在 KAIROS Cloud Platform 端进行注册程序。

■ 操作 KAIROS Cloud Platform

1. 使用网页浏览器登录 KAIROS Cloud Platform，打开 KAIROS Cloud Platform 的操作屏幕。
2. 在 KAIROS Cloud Platform 菜单中选择[配置]→[P2 设备] →[已注册设备] →[等待注册]，进入设备等待注册显示屏幕。
3. 点击以从等待注册的设备中选择满足以下条件的设备。

设备型号：PTZCC

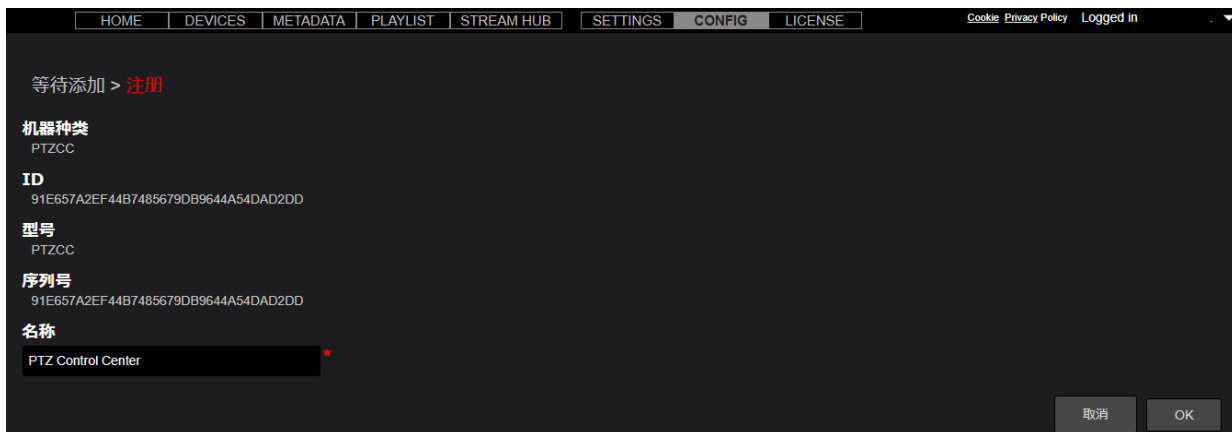
ID: [ID 在软件的云屏幕显示为 APP ID]



4. 点击 KAIROS Cloud Platform 屏幕中的注册按钮。



5. 在设备注册屏幕中，输入所需的昵称。



6. 在设备注册屏幕中点击 **OK** 以完成注册。

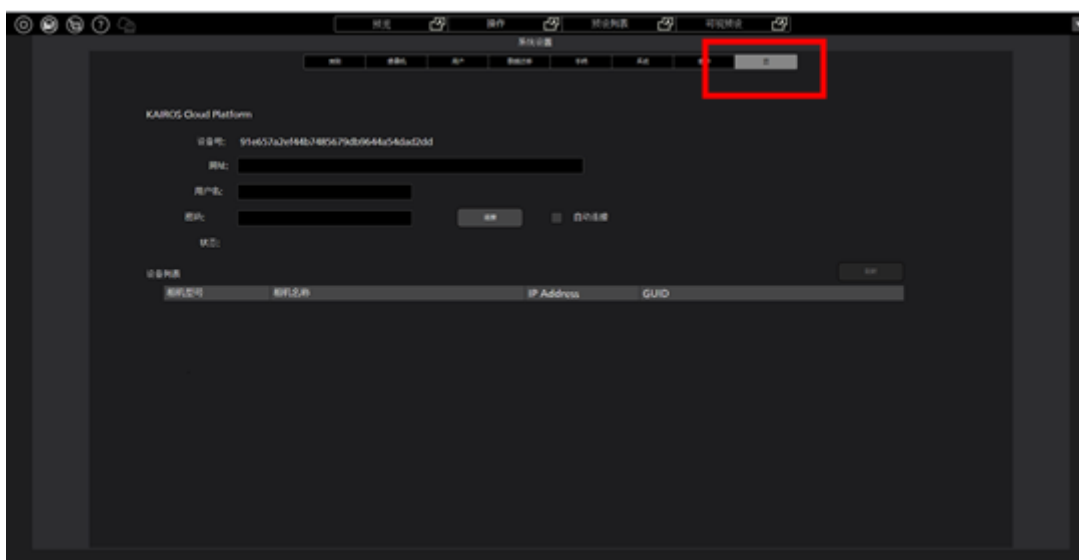
使用联动功能操作相机

通过链接 [KAIROS Cloud Platform](#) 来操作相机的步骤如下所示。

1. 点击软件屏幕左上角的设置按钮。



2. 点击设置屏幕中的云选项卡以移动到云屏幕。



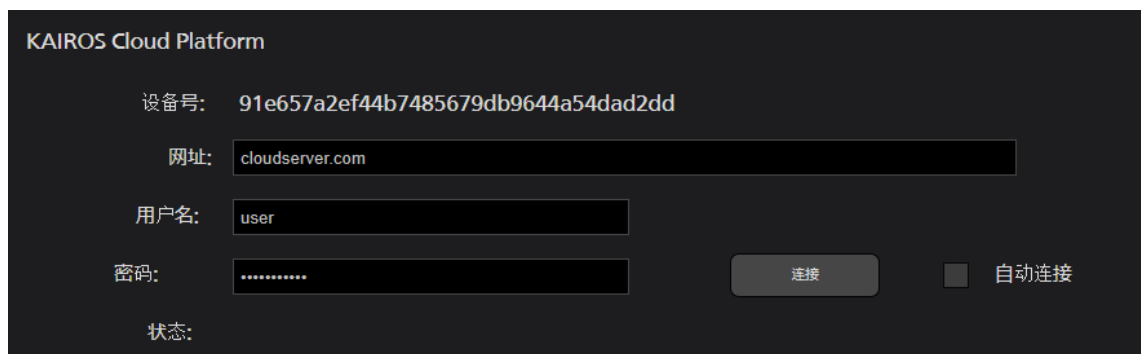
3. 在云屏幕输入 KAIROS Cloud Platform 的登录信息。

设备号：自动生成的软件的全局 ID。无法更改。

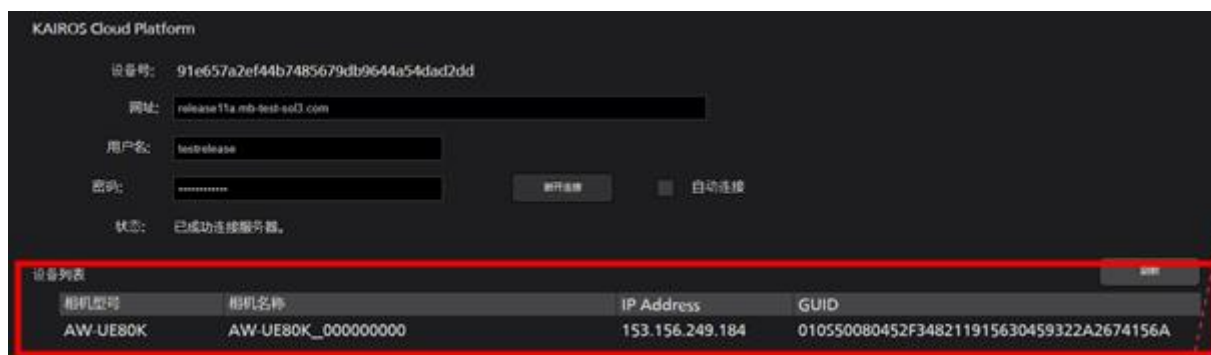
网址：KAIROS Cloud Platform 的网址。

用户名：输入 KAIROS Cloud Platform 的登录 ID。

密码：输入 KAIROS Cloud Platform 的密码。



4. 登录 KAIROS Cloud Platform 后，在云屏幕的设备列表字段中将显示连接到 KAIROS Cloud Platform 的相机列表。



5. 当返回到视图屏幕或主屏幕时，连接到 KAIROS Cloud Platform 的相机将显示带有云符号的图标



。选择该相机后，可以像操作本地网络上的相机一样操作该相机。

<注释>

- 勾选自动连接后，登录软件时会自动连接到 KAIROS Cloud Platform。
- 连接到 KAIROS Cloud Platform 的信息不会自动更新。要更新相机的信息，点击云屏幕中设备列表字段的刷新按钮。
- 对于以下操作，连接到 KAIROS Cloud Platform 的相机的行为不同于本地网络上的相机。
 - 未保存相机的连接信息（未显示在设置 - 相机屏幕中）
 - 只能使用 PTZ Camera 类型。不能使用 PTZ Camera + SUB Camera 或 PTZ Camera + Image 类型。
 - 主屏幕中显示的相机视频的分辨率会降低。此外，无法显示 H.264 码流视频。
 - 无法选择预设颜色。
 - 无法从相机控制器打开相机的网络屏幕。
 - 不会保存预设列表屏幕中的预设排序顺序。
 - 无法使用额外付费选项“可视预设调用功能”。

屏幕分离功能

您可以分开查看预览/主屏幕/预设列表的每个屏幕，并将其作为独立的窗口进行操作。

屏幕分离

单击 View / Main / PresetList 功能选项卡右端的分隔按钮，以将单击的功能选项卡的屏幕分隔到一个单独的窗口中。

<注释>

该软件将为每个用户单独保存分离后的窗口位置。

屏幕组合

单击分离的窗口功能选项卡右端的合并按钮，或单击窗口右上角的 X 按钮以将分离的窗口与原始窗口合并。

AW-RP150 联动功能

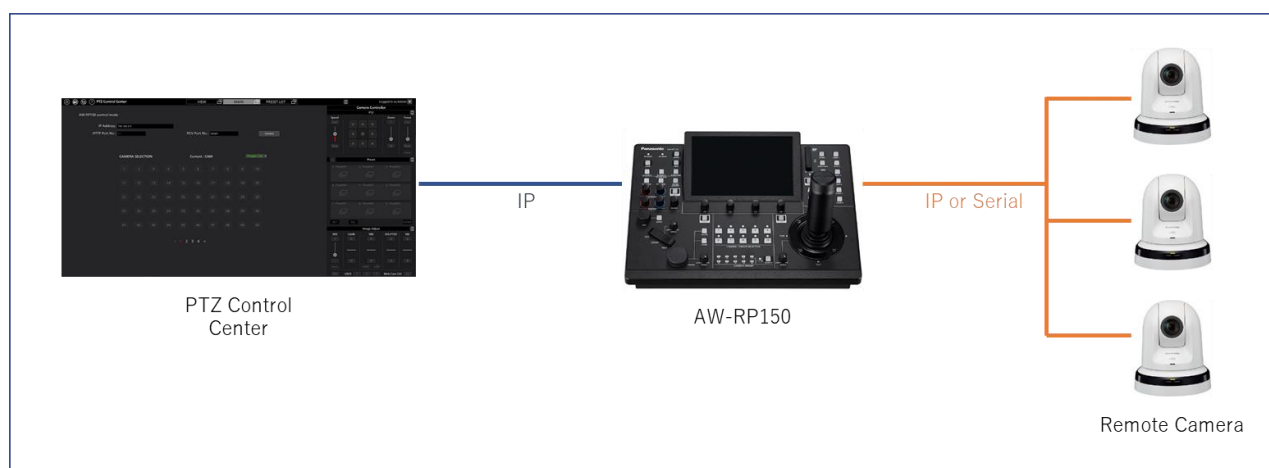
您可以用 Panasonic 远程摄像机控制器 AW-RP150 配合操作远程摄像机。

<注释>

- 在此模式下无法控制 Camcoder。

系统配置

使用此功能时的系统配置示例如下所示。



要使用此功能，必须满足以下条件。

- 运行此软件的 PC 和 AW-RP150 必须连接到同一网络
- AW-RP150 的固件为 Ver.2.20-00-0.00 或更高版本
- 远程摄像机必须可通过 AW-RP150 进行控制

此功能通过 AW-RP150 控制远程摄像机。操作目标不是本软件中注册的远程摄像机，而是 AW-RP150 中注册的远程摄像机。

因此，即使是无法通过该软件看到远程摄像机的情况下（例如，当 AW-RP150 和远程摄像机通过串行接口连接时），也可以通过该软件操作远程摄像机。

AW-RP150 设置


要使用此功能，请按如下设置 AW-RP150 的 [SYSTEM] - [12 PTZCC LINK] 。

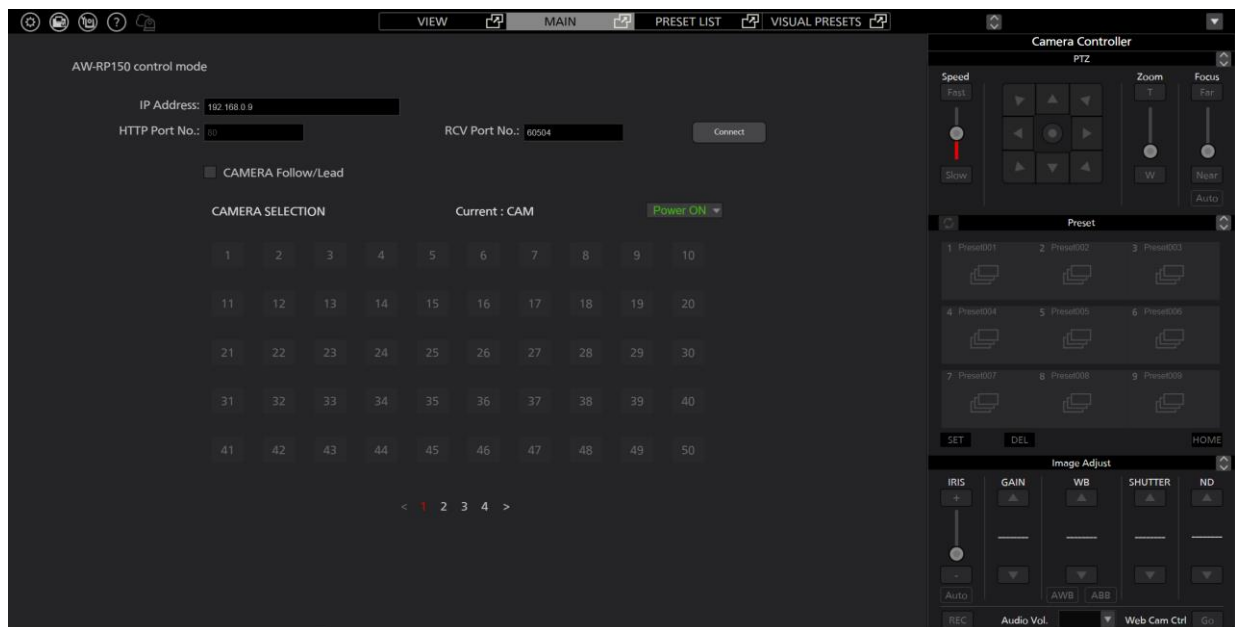
LINK: ON

RCV PORT: 如有必要，更改端口号

基于此软件操作



单击此软件屏幕左上角的  图标可移动到 AW-RP150 联动屏幕。



请按照以下步骤操作。

1. 设置与 AW-RP150 相关的参数。

IP Address: 设置 AW-RP150 的 IP 地址

HTTP Port No.: 固定为 80

RCV Port No.: 设置 AW-RP150 的 [SYSTEM] - [12 PTZCC LINK] - RCV PORT 中设置的端口号。

2. 单击连接按钮。

如果与 AW-RP150 连接成功，则 CAMERA SELECTION 栏将可用。

3. 在 CAMERA SELECTION 栏中选择要控制的远程摄像机（由 AW-RP150 控制的摄像机）。此栏中的摄像机选择按钮与 AW-RP150 上的摄像机选择按钮具有相同的功能。

4. 如果选择的摄像机被正常识别，则可以操作该软件屏幕右侧的摄像机控制器。

在这种状态下，可以进行以下操作。

Camera Controller 

- Pan/Tilt/Zoom
- Preset 设置/调用/删除
- Focus 操作, Auto 开/关切换
- Iris 操作, Auto 开/关切换

CAMERA SELECTION 区

- PowerON/Standby 切换


5. 要终止与 AW-RP150 的连接, 请单击断开连接按钮以终止与 AW-RP150 的连接。

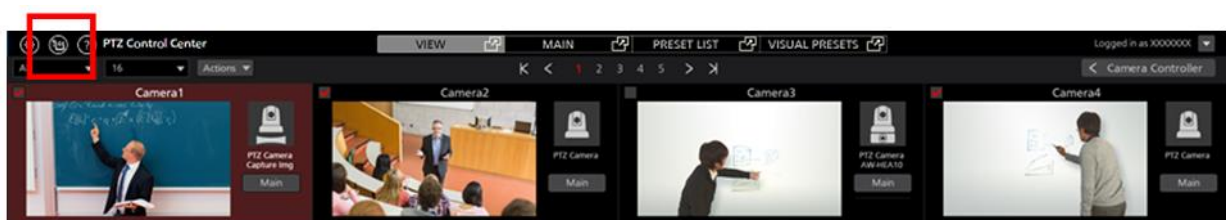
<注释>

- 当此模式下的受控摄像机为 AW-UE4 时, 无法进行 Zoom 操作。
- [Camera Follow / Lead] 开启时, 当前控制的摄像机在 AW-RP150 切换时, 本软件的摄像机也会切换。此功能在本软件的 VIEW / MAIN / PRESET LIST 画面上同时有效。

EasyIP Setup Tool Plus 应用程序

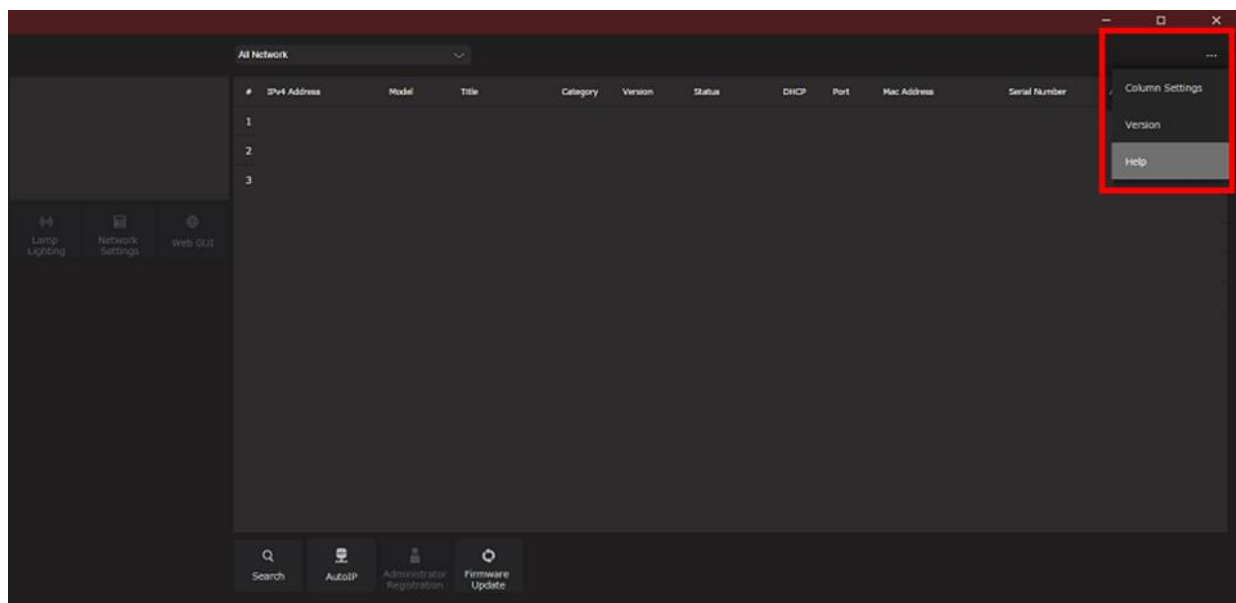
本软件装有 EasyIP Setup Tool Plus 应用程序，可轻松实现 PTZ Camera 的设置及更新。

点击本软件屏幕左上角的 EasyIP Setup Tool Plus 启动图标  后，将启动 EasyIP Setup Tool Plus 应用程序。



EasyIP Setup Tool Plus 应用程序的更多内容请参阅 EasyIP Setup Tool Plus 应用程序中的帮助文档。

点击 EasyIP Setup Tool Plus 应用程序屏幕右上角的菜单按钮，在显示的菜单中选择 **Help** 后，将显示帮助文档。



复制设置数据

您可以在另一台个人电脑上运行的软件间复制设置数据。
此处解释复制设置数据的步骤。

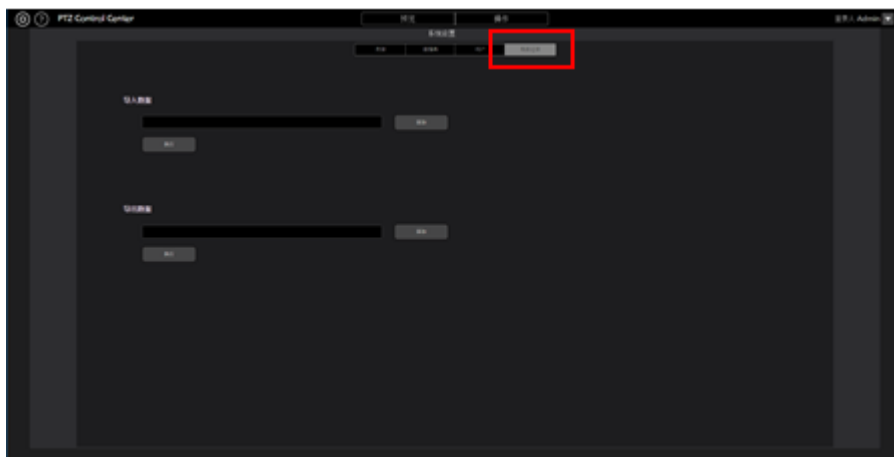
导出设置数据

您可通过以下步骤导出设置数据。

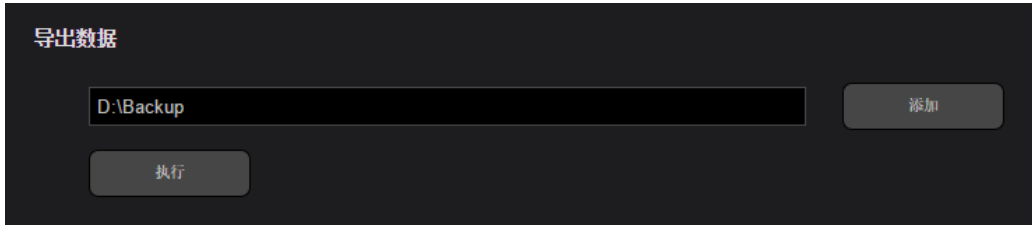
1. 登录软件。
2. 显示查看屏幕。单击位于屏幕左上角的设置按钮。



3. 单击设置屏幕中间的数据迁移选项卡。



4. 点击导出设置数据字段的选择按钮将显示文件夹选择对话框。在此处，选择你想要导出软件设置数据的地方。



5. 点击导出设置数据栏的执行按钮，将在步骤 4 中的指定位置创建名为 SoftROP 的文件夹，并将设置数据导出至该文件夹。

<注释>

- 当在另一台个人电脑上导出数据时，复制整个 SoftROP 文件夹。

导入设置数据

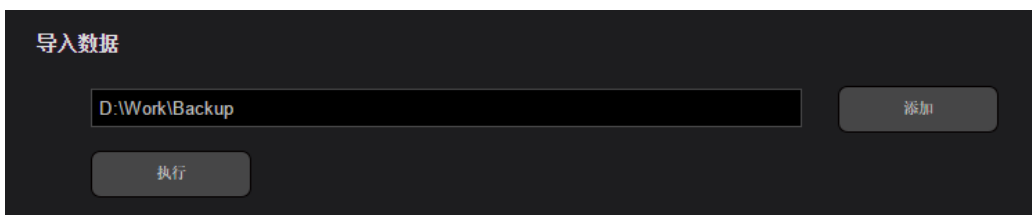
您可以通过以下步骤导入设置数据。

<注释>

- 通过此流程导入的设置数据将覆盖所有当前的设置数据。

若需保留当前的设置数据，请按照上述的“导出设置数据”步骤导出并保存设置数据。

1. 按照与上述“导出设置数据”中所述的步骤 1 至 3 相同的步骤前往数据迁移屏幕。
2. 点击导入设置数据字段的选择按钮，将显示文件夹选择对话框。在这里选择从软件中导出设置数据的文件夹（SoftROP 文件夹）。



3. 点击导入设置数据字段中的执行按钮将显示确认信息。
单击“是”将导入设置数据，且它会覆盖所有当前的设置数据。
4. 设置数据导入完成后，将会出现一条确认信息，要求重新启动软件。
点击“是”将自动重启软件。
5. 一旦软件重新启动，设置数据的导入便将完成。

可选付费功能

本软件有偿提供可选功能(插件)。

可选功能提供了免费试用期，试用开通后一段时间内可免费使用。

试用期结束后，如需继续使用相应功能需购买付费密钥代码后进行激活。

提供的可选功能

提供以下可选付费功能(插件)。

型号：AW-SF300

免费试用期：90 天

功能：提供以下功能。

- 使用市售的 SDI to UVC 转换器来显示摄像机的 SDI 输出图像的功能
- 提供可轻松地同时调用多台摄像机的预设的 GUI

许可证管理

• 关于许可证

在本软件的设置-插件屏幕下对付费插件的许可证进行管理。

设置-插件屏幕中可进行以下操作。

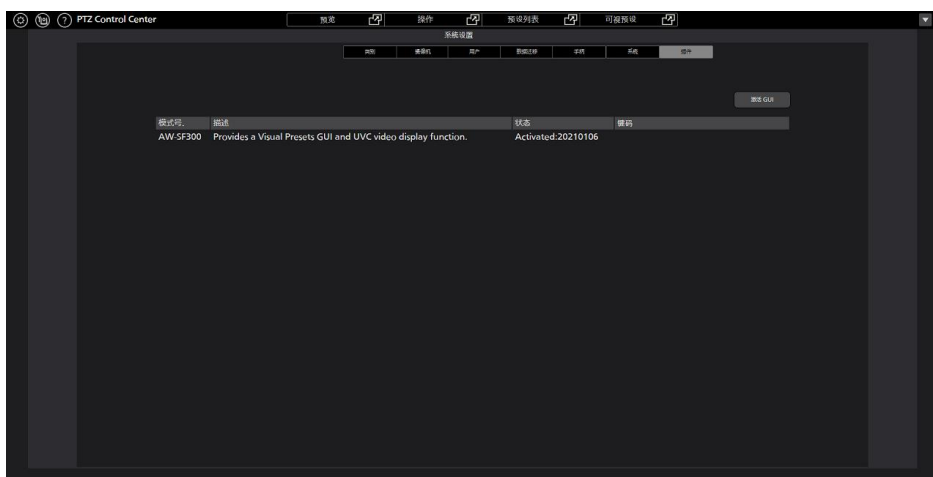
- 确认本软件提供的付费插件的内容及状态
 - 显示型号
 - 显示所提供的功能的概要
 - 显示许可证状态
- 开通付费插件试用
- 付费插件的激活/解除激活

进入设置-插件屏幕的步骤如下：

1. 点击本软件屏幕左上角的设置按钮。

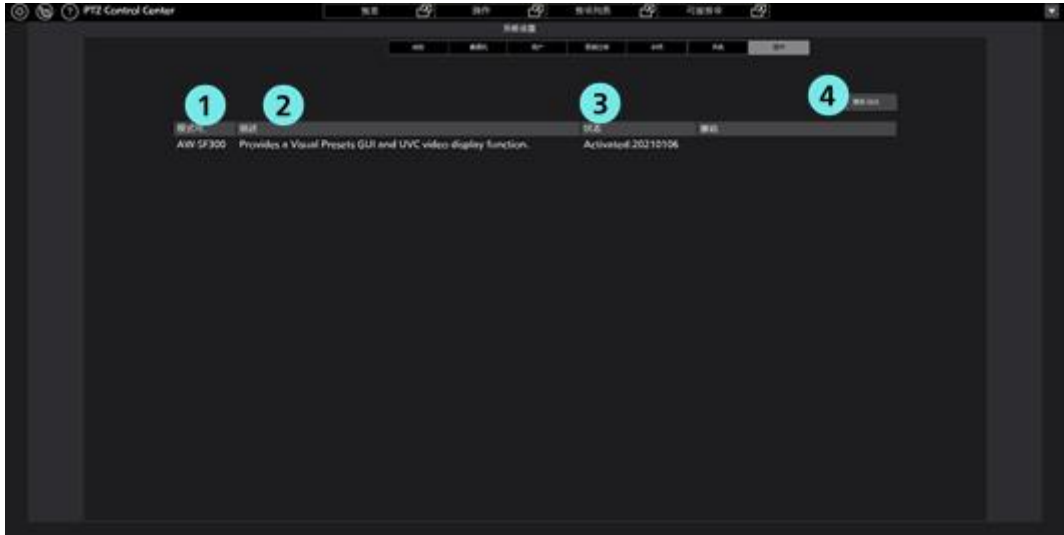


2. 点击设置屏幕中央的插件选项卡后将显示插件屏幕。



• 付费插件的状态确认

插件屏幕中央将显示付费插件的状态。



①显示型号

显示插件的型号。

②功能概要

显示插件所提供的功能的概要。

③许可证的状态

显示插件的许可证状态。

显示以下几种状态中的一种。

Initial: 初始状态（未开通试用且未激活的状态）

Activated: 已激活

Deactivated: 已解除激活

Trial: Remain **days: 正处于试用期（Remain 后显示的数字代表试用剩余天数）

Trial: Expired : 试用期结束

④密钥代码

插件已激活时，将显示密钥代码。

• 开通付费插件试用的方法

开通付费插件试用的步骤如下。

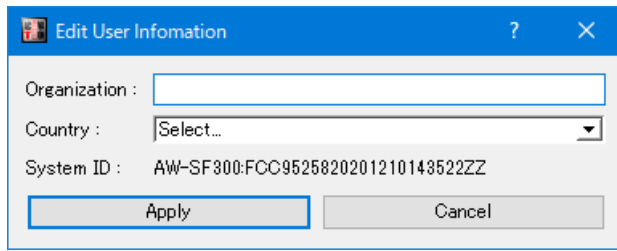
试用开通后，可在规定期间内免费使用付费插件的功能。

1. 点击 PTZCC 屏幕左上角的设置按钮（齿轮图标），进入设置屏幕。
2. 在设置屏幕中选择插件选项卡，进入插件屏幕。
3. 点击插件屏幕右上角的 **Activation GUI** 按钮启动激活应用程序。
4. 首次启动激活应用程序时将显示如下屏幕。

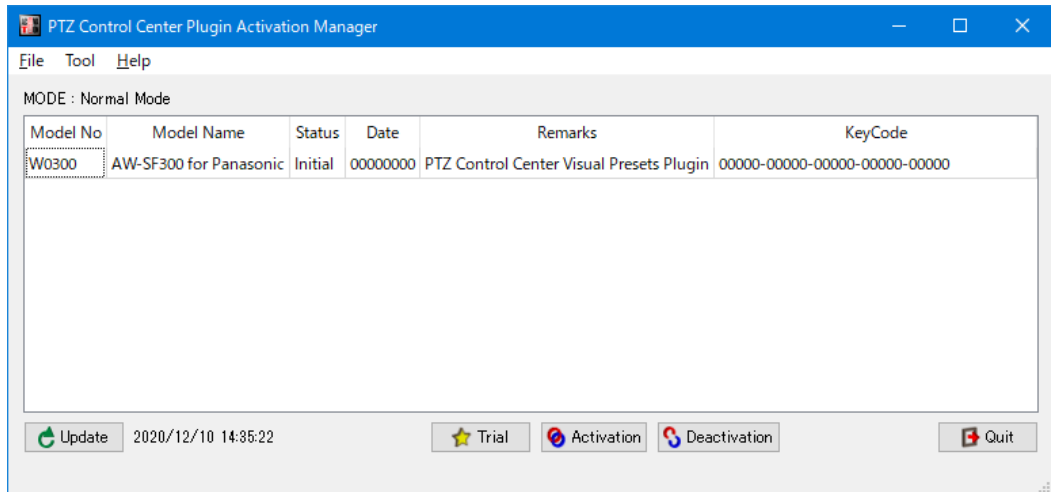
请输入以下项目并点击 **Apply**。

Organization: 输入公司名称

Country: 选择国家



5. 在激活应用程序中点击 W0300 一行选中。



6. 点击激活应用程序屏幕下方的 **Trial** 按钮。

7. 将进行试用开通处理。处理成功后，将显示[VISUAL PRESET]选项卡。

处理最长需要 1 分钟左右。

• 付费插件的激活方法

激活付费插件的步骤如下。

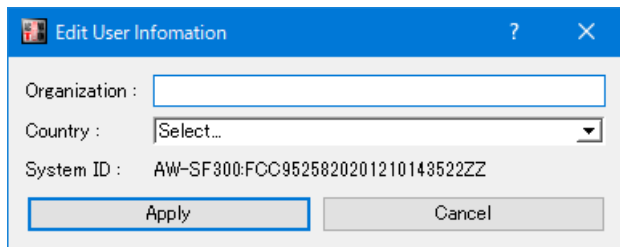
激活后，可无限地永久使用付费插件的功能。

1. 将 PC 连接到互联网。
2. 点击 PTZCC 屏幕左上角的设置按钮（齿轮图标），进入设置屏幕。
3. 在设置屏幕中选择插件选项卡，进入插件屏幕。
4. 点击插件屏幕右上角的 **Activation GUI** 按钮启动激活应用程序。
5. 首次启动激活应用程序时将显示如下屏幕。

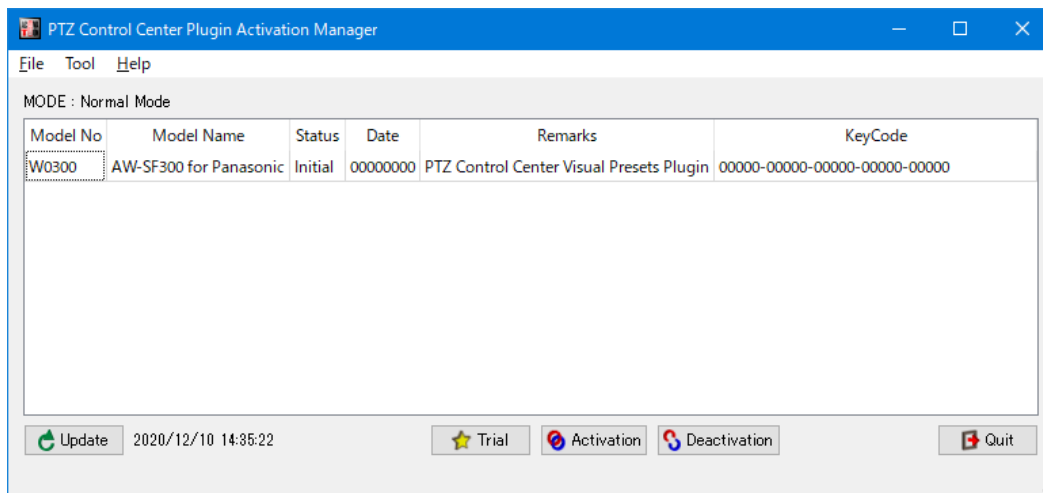
请输入以下项目并点击 **Apply**。

Organization: 输入公司名称

Country: 选择国家



6. 在激活应用程序中点击 W0300 一行选中。



7. 点击激活应用程序屏幕下方的 Activation 按钮。

8. 将显示密钥代码输入屏幕，输入密钥代码。

9. 正常激活后，W0300 行的 Status 显示将变成 Activated。

激活状态生效后，将显示[可视预设]选项卡。

处理最长需要 1 分钟左右。

<注>

输入了密钥代码后 W0300 行的 Status 显示没有变成 Activated 时，请确认激活应用程序左下角显示的状态消息。

显示 Invalid Key 时：输入的密钥代码不正确

显示 NoMoreLicense 时：输入的密钥代码已被其他 PC 激活

• 付费插件的激活解除方法

希望将付费插件的许可证转移至其他 PC 时，需要在已进行了激活的 PC 上进行激活解除操作。

解除激活的步骤如下。

1. 按照“付费插件的激活方法”中的步骤 1~5 同样地启动激活应用程序。
2. 在激活应用程序中点击 W0300 一行选中。
3. 点击激活应用程序屏幕下方的 Deactivation 按钮。

摄像机的 SDI 输出图像显示

可以使用市售的 SDI to UVC converter 和 SDI 路由器以低延迟和高帧频显示 PTZ 摄像机图像。

系统构成

要使用此功能，除了安装了此软件的 PC 和照相机外，还需要市售的 SDI to UVC converter。

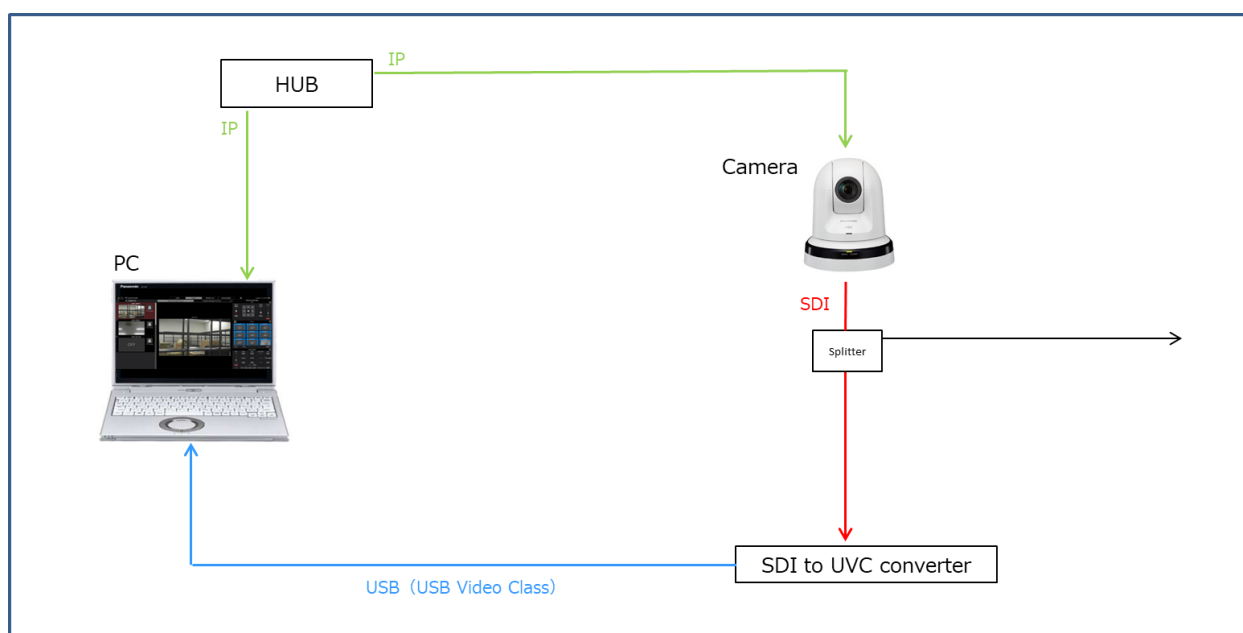
如果要多个 PTZ 摄像机的 SDI 输出视频切换显示，还需要 AJA SDI 路由器。

[单独使用相机时的配置示例]

必要的设备

- SDI to UVC converter

已完成动作确认的机种：MAGEWELL 公司 USB Capture SDI Plus



[与多台摄像机一起使用时的配置示例]

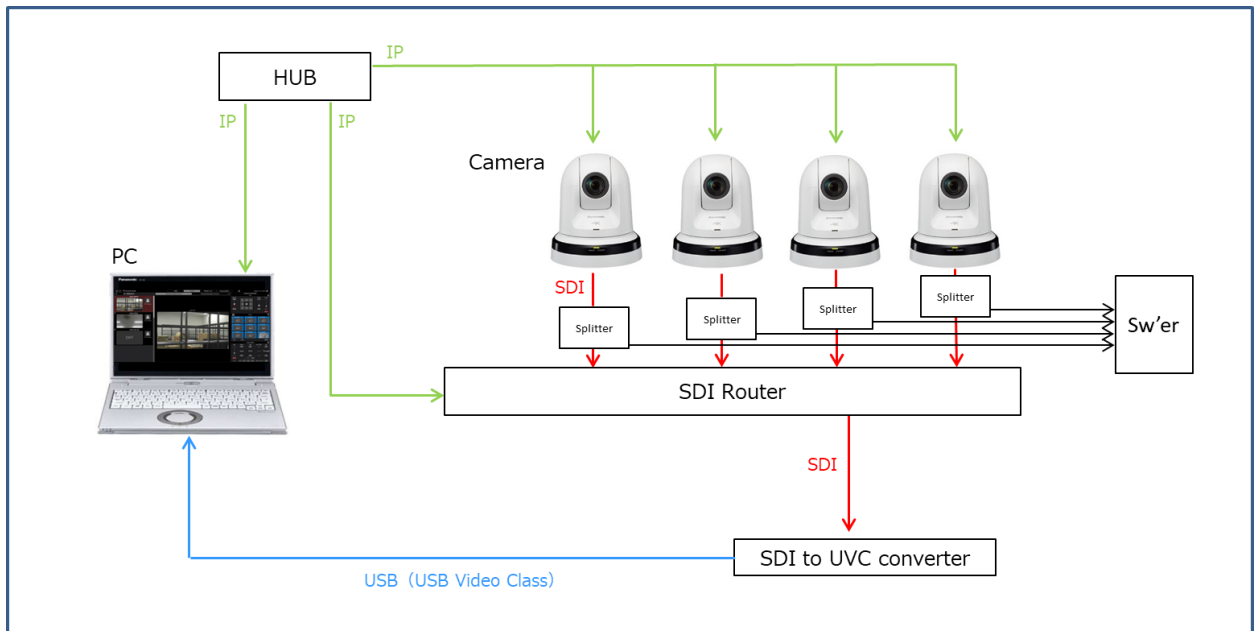
必要的设备

- SDI to UVC converter

已完成动作确认的机种：MAGEWELL 公司 USB Capture SDI Plus

- AJA 公司制造 SDI 路由器（可选的）

已完成动作确认的机种：AJA 公司 KUMO 1604（固件版本：4.5.0.30）



各设备的设置

请按照如下步骤实施各设备的设置。

• 摄像机设置

请设置摄像机的 SDI 输出格式，以使其在 SDI 路由器及 SDI to UVC converter 支持的范围内。存在多个摄像机的情况下，建议尽量将摄像机的输出格式设置成相同的格式。

• AJA 公司制造 SDI 路由器设置

请对 AJA 公司制造 SDI 路由器进行以下设置。

- 将[IP 地址类型]设置为[固定 IP]，并分配 IP 地址
- 将[用户身份验证]设置为[禁用]

• SDI to UVC converter 设置

请根据需要进行 SDI 的输入设置和输出设置。

请将 SDI 的输出设置（PC 中输入的 USB Video Class 的图像设置）设置为如下。

图像的分辨率：1920x1080 / 1280x720 / 640x360 中的任意一个

帧率：25fps / 30fps / 50fps / 60fps 中的任意一个

各设备的连接

请按照如下方式连接各设备。

使用 SDI 路由器时

- 各设备的网络连接

请将 PC 和摄像机、SDI 路由器连接在同一网络上。

- 摄像机和 SDI 路由器的连接

请将摄像机的 SDI 输出连接至 SDI 路由器的任意一个 SDI 输入。

- SDI 路由器和 SDI to UVC converter 的连接

请将 SDI 路由器的 SDI 输出 Ch.1 连接至 SDI to UVC converter 的 SDI 输入。

※不支持 Ch.1 以外的 SDI 输出。

- PC 和 SDI to UVC converter 的设置

请用 USB 线来连接 PC 和 SDI to UVC converter。

不使用 SDI 路由器时

- 各设备的网络连接

请将 PC 和摄像机连接在同一网络上。

- 摄像机和 SDI to UVC converter 的连接

将摄像机的 SDI 输出连接到 SDI 到 USB 转换器的 SDI 输入。

- PC 和 SDI to UVC converter 的设置

请用 USB 线来连接 PC 和 SDI to UVC converter。

本软件的设置

请在本软件上进行如下设置。

1. 打开设置- 系统画面。

2. 按照如下方式设置图像截图设备项目。

SDI 路由器地址: 使用 SDI 路由器时, 输入 SDI 路由器的 IP 地址。

不使用 SDI 路由器时, 请保留空白。

USB 视频设备: 将以列表形式显示已连接至 PC 的 USB Video Class 设备,

选择 SDI to UVC converter 设备。

分辨率: 设置为从 SDI to UVC converter 输入至 PC 的 USB Video Class 图像的分辨率。

刷新率: 设置为从 SDI to UVC converter 输入至 PC 的 USB Video Class 图像的帧率。

3. 打开设置 - 摄像机屏幕。

4. 对于要输出 SDI 的摄像机，请遵循以下步骤。

- 1) 在设置 - 摄像机屏幕中点击目标摄像机并设置为选择状态。
- 2) 点击设置 - 摄像机屏幕右上方的编辑按钮，进入编辑摄像机屏幕。
- 3) 在图片获取类型项目中选择 USB 视频设备
- 4) (使用 SDI 路由器时) 图片获取类型项目的 SDI Channel No.中设置作为该摄像机的 SDI 输出目的地的 SDI 路由器的 SDI 输入 Ch.编号。
- 5) 点击确定按钮以退出编辑摄像机屏幕。

<注>

- 对于不输出 SDI 的摄像机，请保留“图片获取类型”项目的 IP 设置。

摄像机的图像显示

完成各设备的连接和设置后，在本软件的操作屏幕中选择目标摄像机，从 SDI to UVC converter 输入的图像将显示在 PTZ Camera 图像部。

双击主屏幕上的 PTZ 摄像机图像部分，以全屏显示图像。

您可以在全屏显示的图像上执行以下操作。

- 单击图像以平移/倾斜 PTZ 摄像机
单击图像时，将执行 PTZ 摄像机的“平移/倾斜”操作，以使单击的位置位于屏幕中央。
- 通过在图像上指定范围来平移/倾斜/缩放 PTZ 摄像机
如果在图像上单击并拖动鼠标，则可以用黄色框指定范围。完成拖动并确认范围后，将执行 PTZ 摄像机的平移/倾斜/缩放操作，以便在整个屏幕上显示指定的范围。
- 通过操作图像上的鼠标滚轮来缩放 PTZ 摄像机
如果在鼠标光标停留在图像上的同时操作鼠标滚轮，则可以操作 PTZ 摄像机的“缩放”。

PTZ Camera 图像部未正确显示图像时，请对以下点进行确认。

症状：PTZ Camera 图像部没有任何显示。

对策：请确认 PC 是否正确识别 SDI to UVC converter，并且设置 - 系统屏幕的
图像截图设备 → USB 视频设备设置中是否已选择 SDI to UVC converter 的设备。

症状：即便在操作画面中更改了目标摄像机，但是 PTZ Camera 图像部的图像未发生更改。

对策：请确认 SDI 路由器是否已正确连接至 PC，并且设置 - 系统屏幕的
图像截图设备 → SDI 路由器地址设置中是否已正确设置 SDI 路由器的 IP 地址。

症状：在操作画面中选择了目标摄像机时，PTZ Camera 图像部显示其他摄像机的图像。

对策：请确认 SDI 路由器是否已正确连接至 PC，并且设置 - 摄像机屏幕中目标摄像机的

图片获取类型是否已设置为 USB 视频设备，SDI Channel No.的 Ch.编号
是否与目标摄像机的连接目的地 SDI 路由器的 SDI 输入 Ch.编号一致。

可视预设调用功能

该功能可轻松地同时调用多台摄像机的预设。

可在屏幕上任意位置处设置预设调用图标，分配多台摄像机的预设。

作为应用例，例如可在模拟会议会场的屏幕上设置各参会人员的图标，通过点击想要聚焦的参会人图标来使所有摄像机拍摄该人员。

另外，也可以使用本公司的无线麦克风系统，通过在无线麦克风上说话来触发预设调用。

<注释>

- 此功能无法与 KAIROS Cloud 联动使用。

• 屏幕说明

点击屏幕顶部的 VISUAL PRESETS 选项卡，将显示本功能的屏幕。



① 摄像机类别选择栏

将显示注册的摄像机类别列表。

在此栏选择要进行设置/操作的摄像机的摄像机类别。

②图标设置区域

可在该区域设置摄像机图标及预设调用图标。

设置的背景图像也将显示在该区域。

③计数守护设置

设置摄像机计数开启时的预设调用操作。

如果勾选，该颜色计数开启的摄像机不会调用预设。

④归位图标

可以将任意预设分配为摄像机的初始位置。

⑤全部清除按钮

单击以清除屏幕上的所有预设组图标，相机图标和背景图像。

所有分配给归位图标的预设也将被清除。

⑥图标设置按钮

点击该按钮后，将显示用于进行摄像机图标及预设调用图标的初始尺寸设置等的屏幕。

⑦设置操作区域

该区域显示用于进行预设调用图标、摄像机图标、背景图像的设置操作的按钮。

⑧预设调用数据显示区域

选择了预设调用图标后，将以列表形式显示分配的预设。

⑨预设调用操作区域

在该区域调用分配给所选预设调用图标的预设。

• 本功能的使用流程

下面介绍本功能的使用流程。

1. 在设置-类别屏幕设置摄像机的类别（群组）。
2. 选择要设置本功能的摄像机的类别（群组）。
3. 设置本功能在屏幕上显示的背景图像。（可选）
4. 设置图标的显示尺寸。（可选）
5. 在屏幕上设置摄像机图标。（可选）
6. 在屏幕上设置预设调用图标。
7. 为设置的预设图标分配摄像机的预设。
按照所需的摄像机数量进行分配。
8. 重复步骤 6、步骤 7，设置所需数量的预设调用图标。
9. 将摄像机初始位置的预设分配给归位图标。（可选）
10. 点击设置的预设调用图标后，将一次性调用分配的摄像机预设。

• 本功能的设置步骤

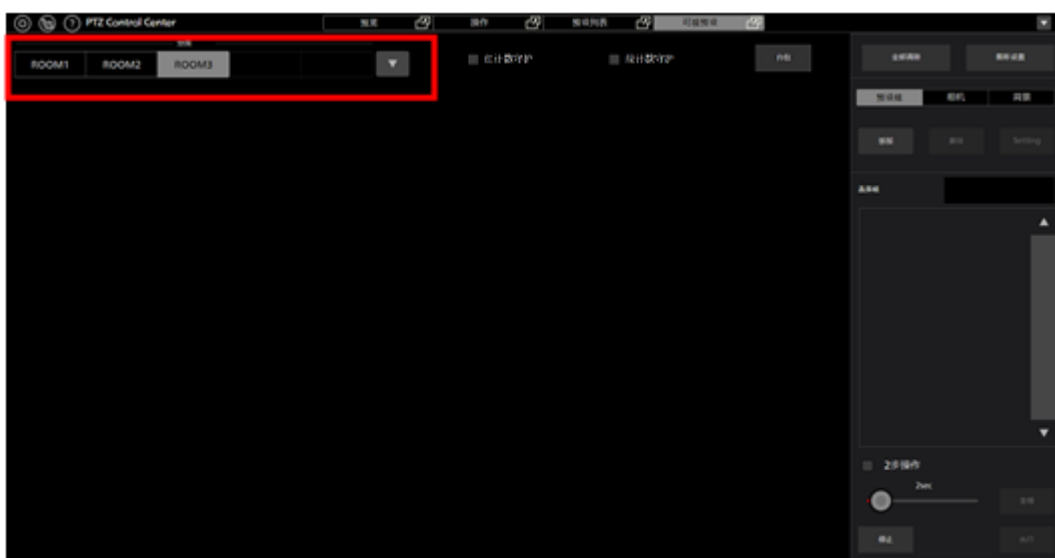
1. 摄像机类别（群组）的设置

使用本功能需设置 1 个以上的摄像机类别（群组），使用本功能前请务必设置摄像机的类别（群组）。摄像机类别设置的方法请参阅本手册的“默认设置 2 - 摄像机的类别设置”。

2. 选择要设置的摄像机的类别（群组）

本功能的设置内容（摄像机图标的设置、预设调用图标的设置、背景图像的设置）按摄像机类别进行保存。

本功能屏幕左上角将显示“1. 摄像机类别（群组）的设置”中设置的摄像机类别列表。从列表中选择要设置的摄像机的类别。

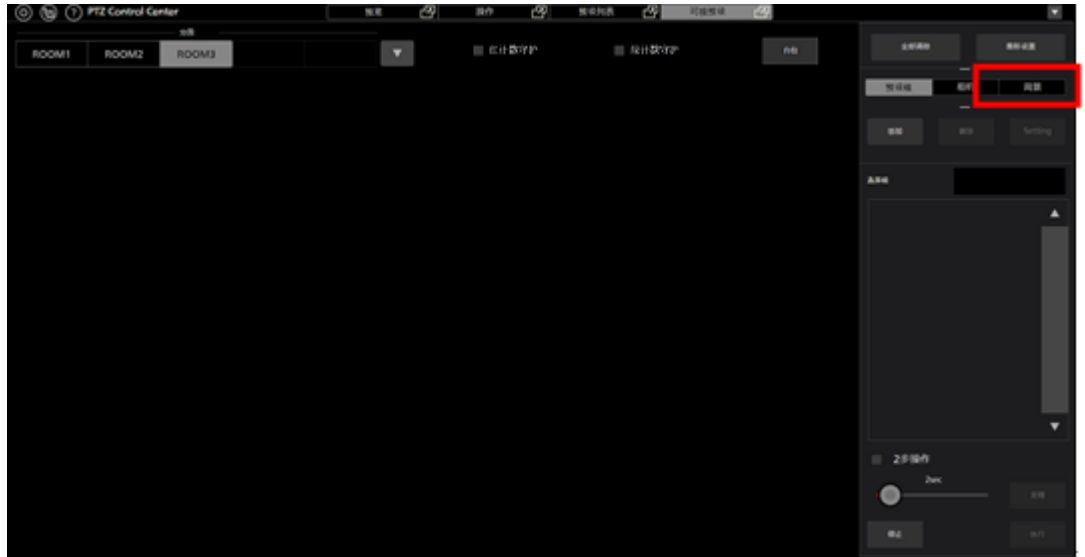


3. 背景图像的设置（可选）

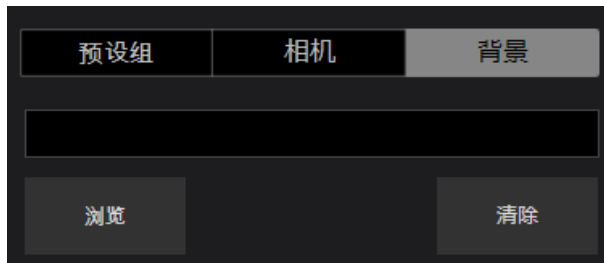
本功能的屏幕上可显示背景图像。背景图像的显示并非必须，但通过显示背景图像，可为摄像机图标及预设调用图标的配置提供位置参考。

按照下述步骤进行设置。

- 1) 点击此屏幕的设置操作区域的“背景”选项卡。



2) 点击 浏览 按钮选择要显示的图像后，屏幕上将显示图像。



<注>

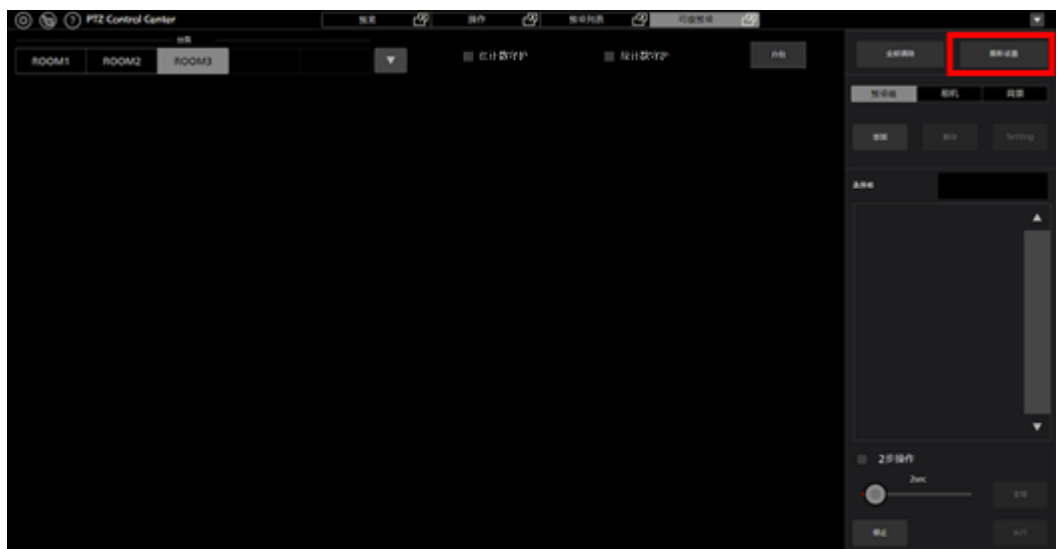
- 如需清除图像显示点击清除按钮。

4. 摄像机图标及预设调用图标的尺寸等的设置（可选）

可设置摄像机图标尺寸、预设调用图标尺寸及设置时的默认颜色。

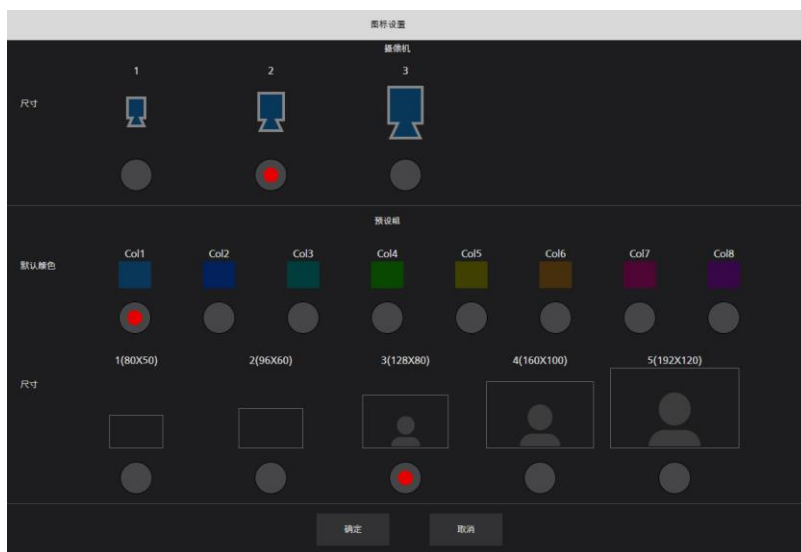
按照下述步骤进行设置。

1) 点击此屏幕的“图标设置”按钮。



2) 将显示设置窗口，在各窗口中分别进行设置。

摄像机图标及预设调用图标的尺寸设置也将反映到已完成设置的图标中。预设调用图标的默认颜色设置仅反映到新追加的图标中。

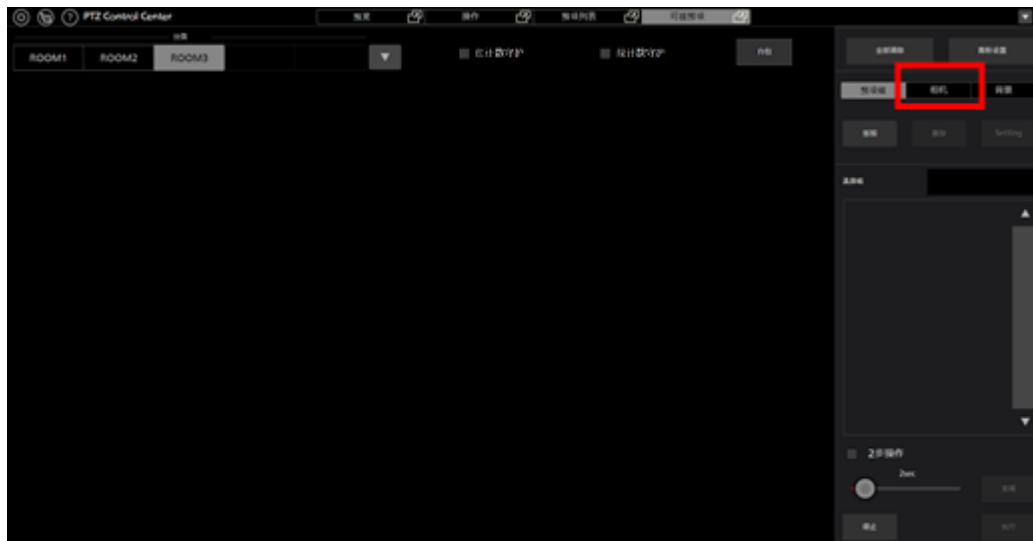


5. 摄像机图标的设置（可选）

可在屏幕的任意位置处设置摄像机图标。摄像机图标的设置并非必须，但设置摄像机图标后，可便于直观地掌握空间上哪个位置存在摄像机。

按照下述步骤进行设置。

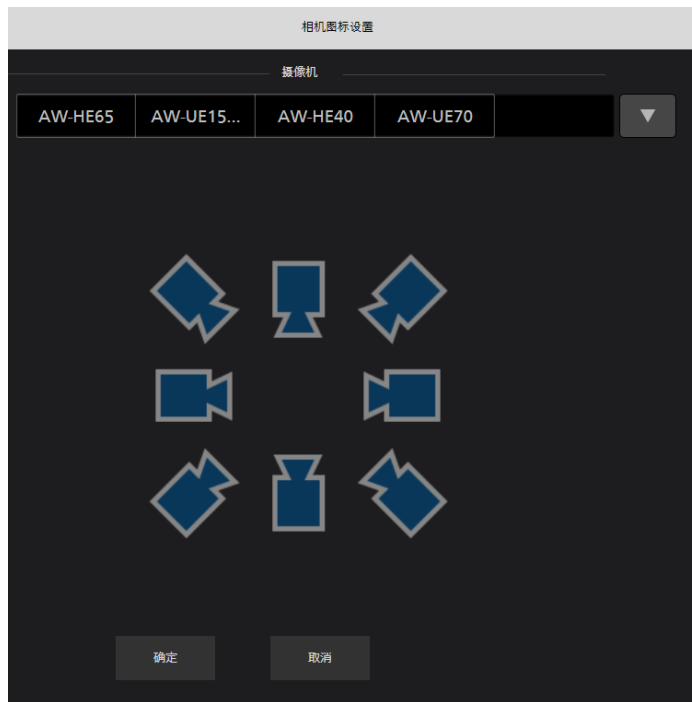
- 1) 点击此屏幕的设置操作区域的“相机”选项卡。



- 2) 点击添加按钮后将显示设置屏幕。



- 3) 在设置屏幕中选择分配给摄像机图标的摄像机及用于显示的图标，点击确定按钮，屏幕上将新增摄像机图标。



4) 可点击设置的摄像机图标进行拖动来改变位置。



<注>

- 如需删除摄像机图标，点击摄像机图标后，点击设置操作区域的“相机”选项卡内的 删除进行删除。
- 如需变更摄像机图标的设置内容，点击摄像机图标后，点击设置操作区域的“相机”选项卡内的 Setting。

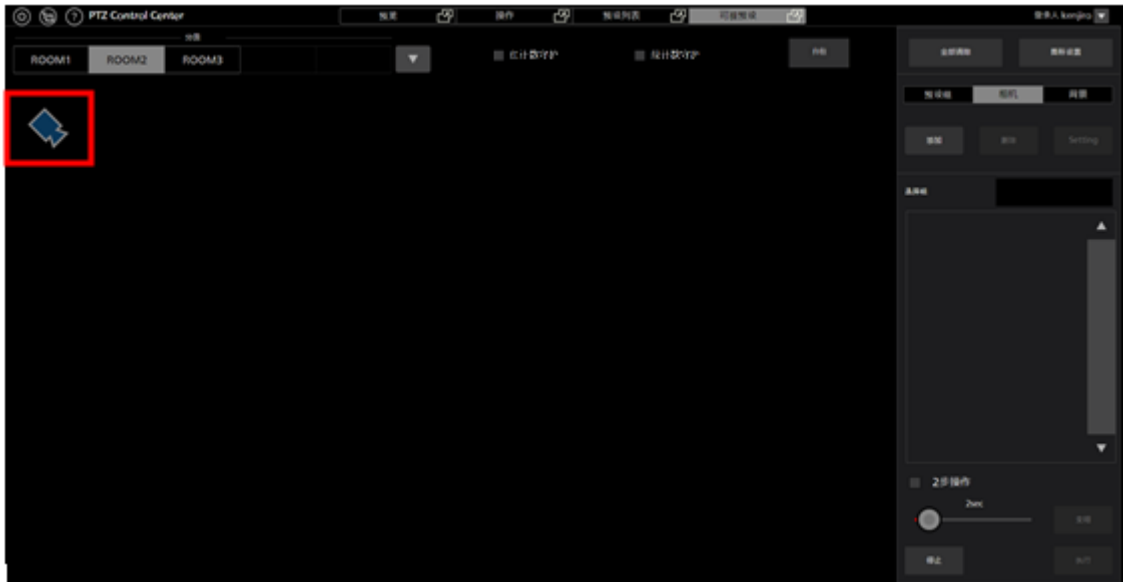
6. 预设调用图标的设置

可在屏幕的任意位置处设置预设调用图标。

通过为设置的预设调用图标分配各摄像机的预设，点击图标时可同时调用多台摄像机的预设。

按照下述步骤进行设置。

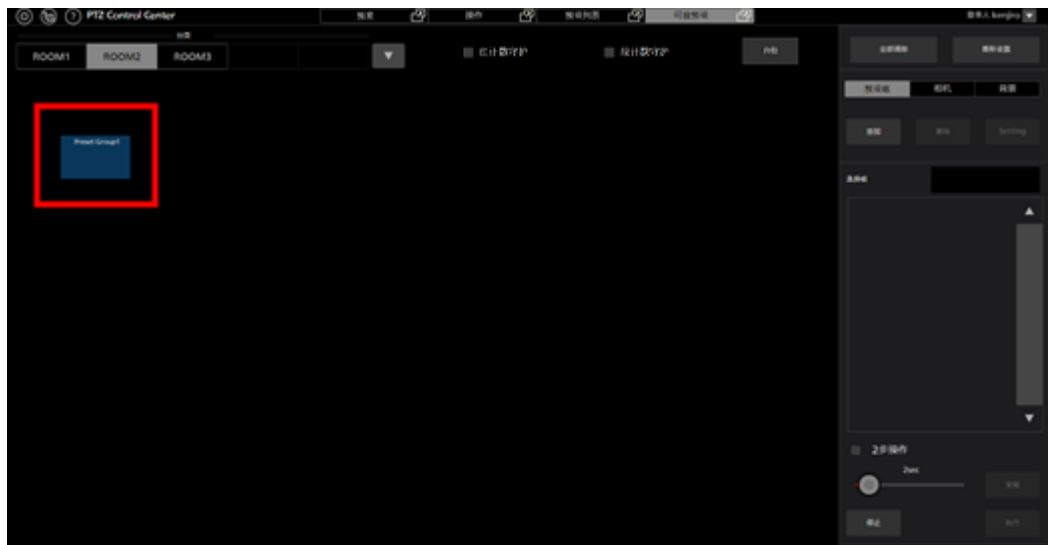
1) 点击此屏幕的设置操作区域的“预设组”选项卡。



2) 点击添加按钮，在屏幕上设置预设调用图标。



3) 可点击设置的预设调用图标进行拖动来改变位置。



<注>

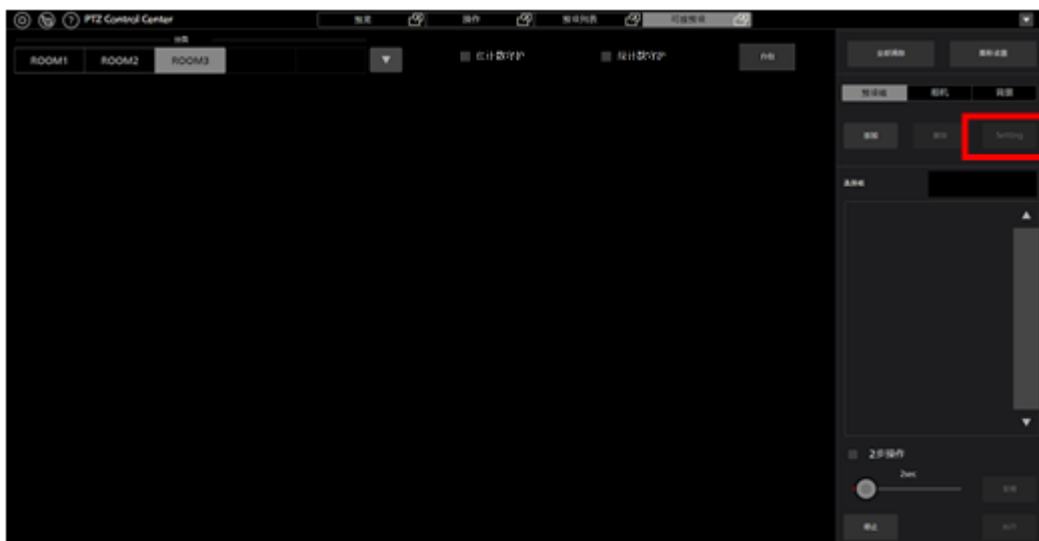
- 如需删除预设调用图标，点击图标后，点击设置操作区域的“预设组”选项卡内的 删除进行删除。

7. 为预设调用图标分配摄像机预设

按照下述步骤为设置的预设调用图标分配各摄像机的预设。

1) 点击要分配预设的预设调用图标将其选中。

- 2) 右键单击预设调用图标，或点击设置操作区域的“预设组”选项卡内的 **Setting** 按钮后，将显示设置屏幕。

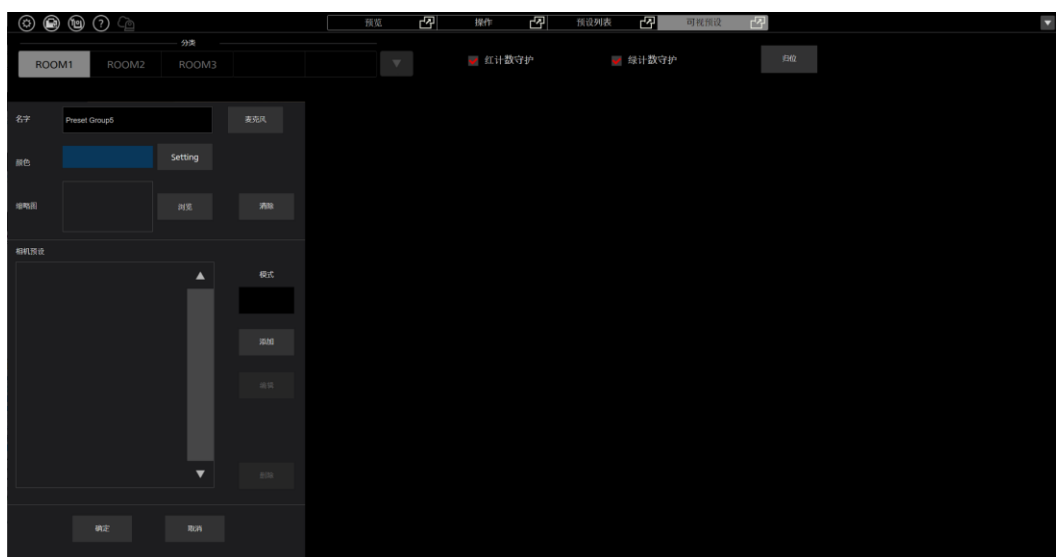


- 3) 在设置屏幕中进行以下设置。

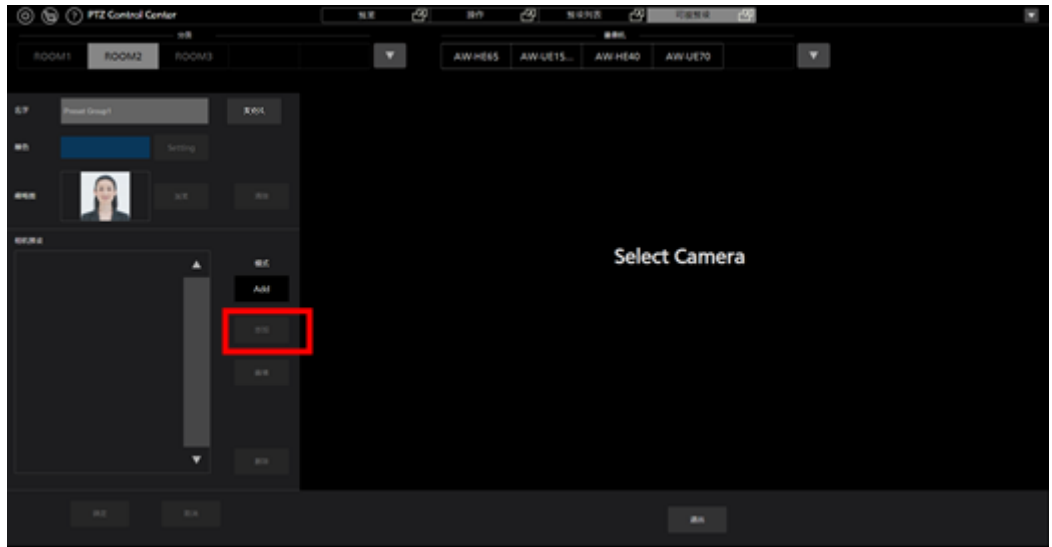
名字：输入预设调用图标的显示名称

颜色：通过 **Setting** 按钮选择预设调用图标的显示颜色

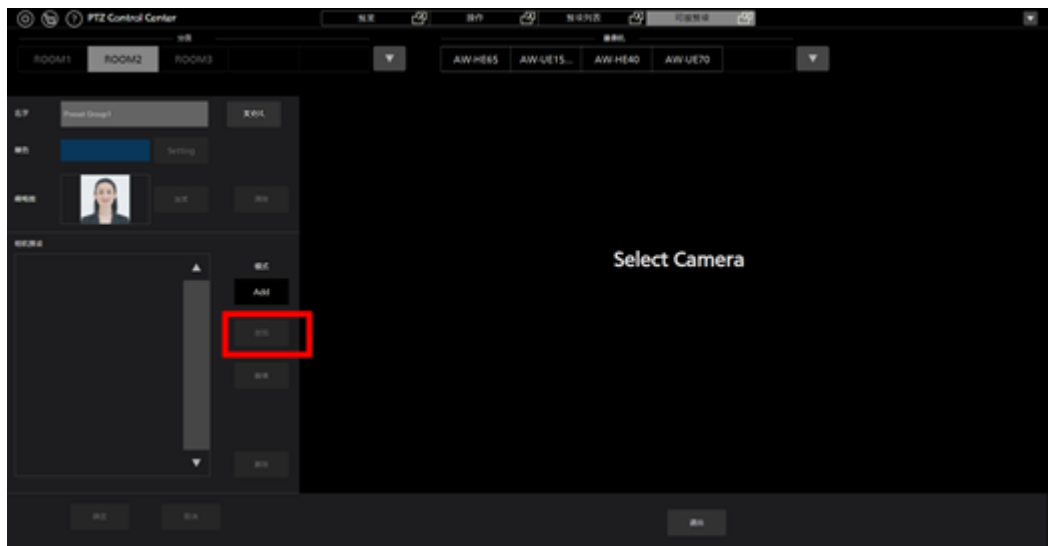
缩略图：通过浏览按钮选择预设调用图标中显示的图像



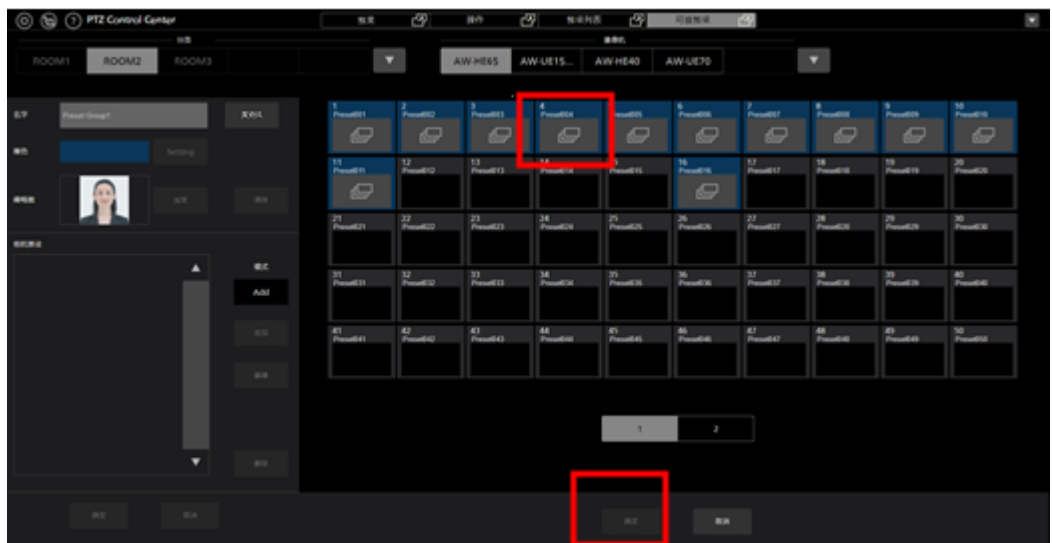
- 4) 点击设置屏幕的添加按钮后将跳转至摄像机选择模式，屏幕中央上方将显示摄像机列表。



5) 在屏幕中央上方的摄像机列表中点击希望进行预设分配的摄像机后，屏幕中央将显示预设列表。

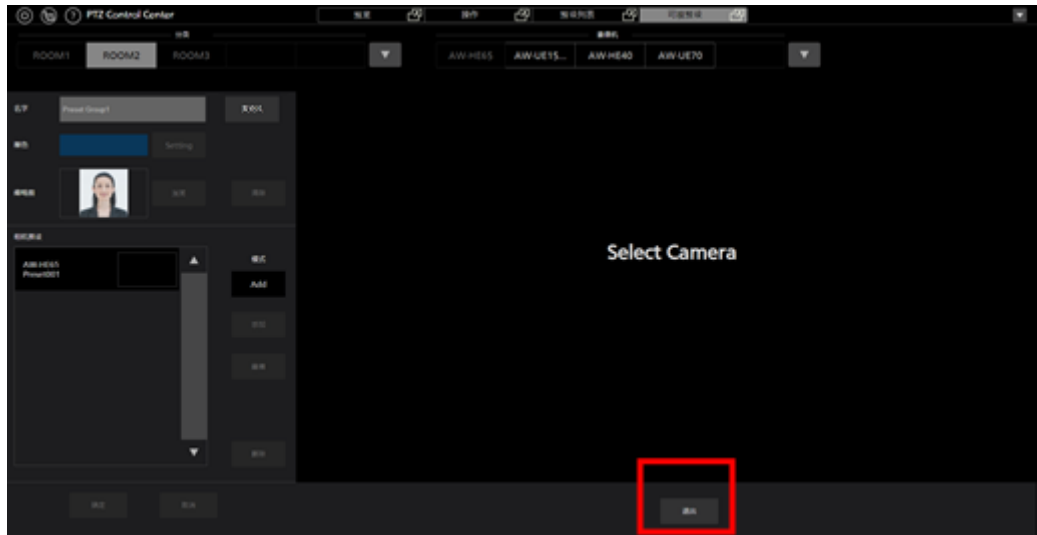


6) 在预设列表中点击想要分配的预设将其选中后，点击屏幕下方的 OK 按钮，进行预设分配。分配的预设将以列表形式显示于屏幕左侧的 Camera Preset 一栏。

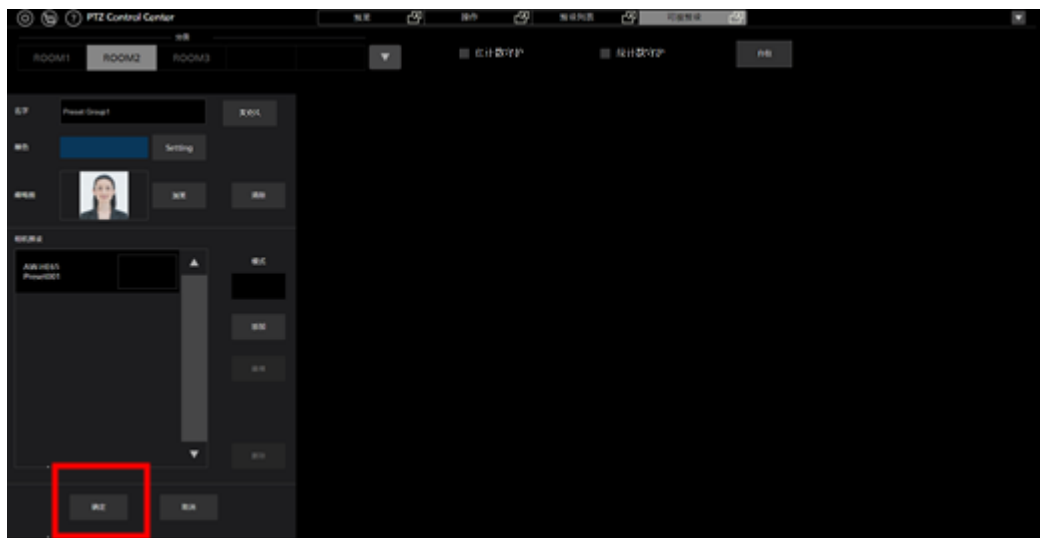


7) 按照想要进行预设分配的摄像机的数量，重复步骤 5)及步骤 6)，进行预设分配。

8) 结束分配时，点击屏幕中央下方的 Exit 按钮。



9) 点击确定按钮关闭设置屏幕。



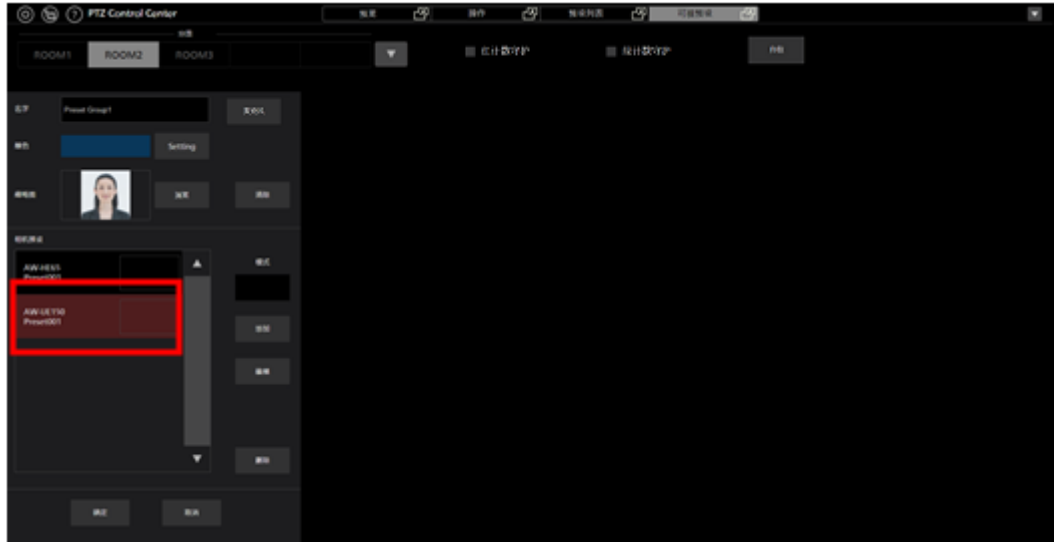
<注>

将摄像机图标拖放至预设调用图标，即可立刻显示预设分配屏幕。

8. 变更或删除分配给预设调用图标的摄像机预设

按照下述步骤变更或删除分配给预设调用图标的预设。

- 1) 点击要分配预设的预设调用图标将其选中。
- 2) 右键单击预设调用图标，或点击设置操作区域的“预设组”选项卡内的 **Setting** 按钮后，将显示设置屏幕。
- 3) 从设置屏幕的 相机预设 显示的预设列表中选择想要变更或删除的预设。

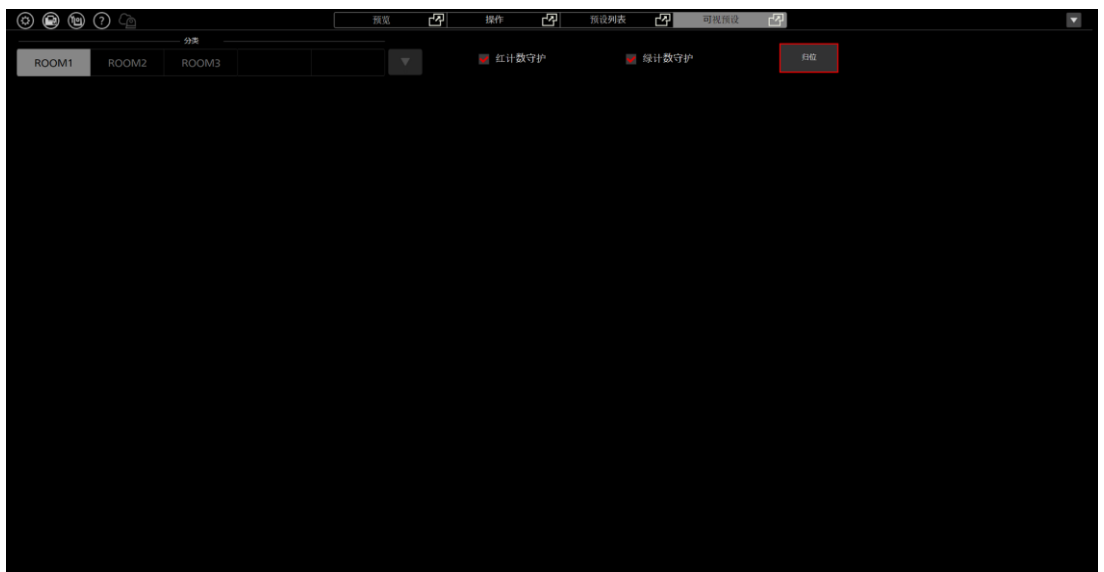


- 4) 变更时，点击设置屏幕的编辑按钮显示摄像机的预设列表，选择想要变更的预设，点击确定按钮。删除时，点击设置屏幕的删除按钮后将显示确认消息，点击确定按钮进行删除。

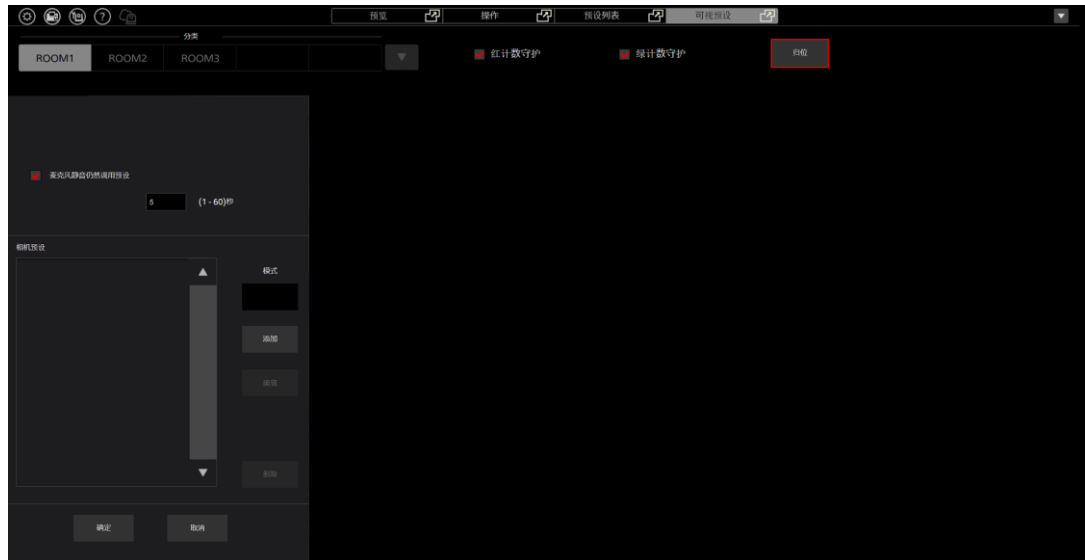
9. 将摄像机初始位置的预设分配给归位图标

请按以下步骤将预设分配给归位图标。

- 1) 点击归位图标，使其被选中。



- 2) 右键单击归位图标或单击设置操作区“预设组”标签内的设置按钮，显示设置画面。



- 3) 按照“7. 为预设调用图标分配摄像机预设”的步骤(4)~(9)的相同方式，将摄像机预设分配给归位图标。

10. 更改/删除分配给归位图标的摄像机预设

按照以下步骤更改/删除分配给归位图标的预设。

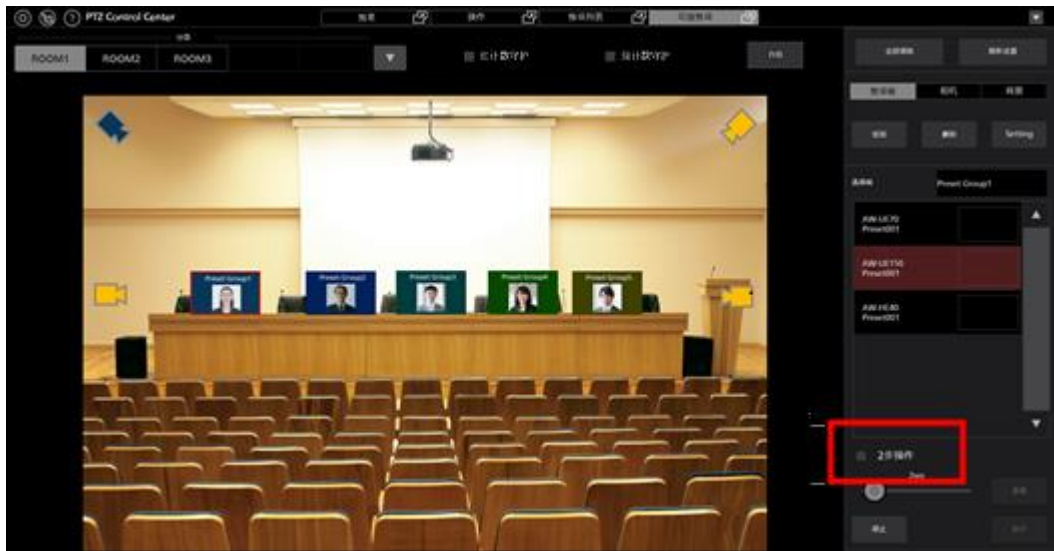
- 1) 点击归位图标，使其被选中。
- 2) 右键单击归位图标或单击设置操作区“预设组”标签内的设置按钮，显示设置画面。
- 3) 在设置画面的摄像机预设中显示的预设列表中更改或删除预设。
- 4) 要进行更改时，点击设置画面上的编辑按钮，从显示的摄像机预设列表中选择想要变更的预设，然后点击确定按钮。

要进行删除时，点击设置画面上的删除按钮将显示确认信息，点击确定按钮即可删除。

• 调用分配的预设

预设调用图标/分配给归位图标的预设调用按以下步骤操作。

- 点击预设调用图标/归位图标立即调用的情况
 - 1) 不勾选屏幕右下角的“2步操作”选框。



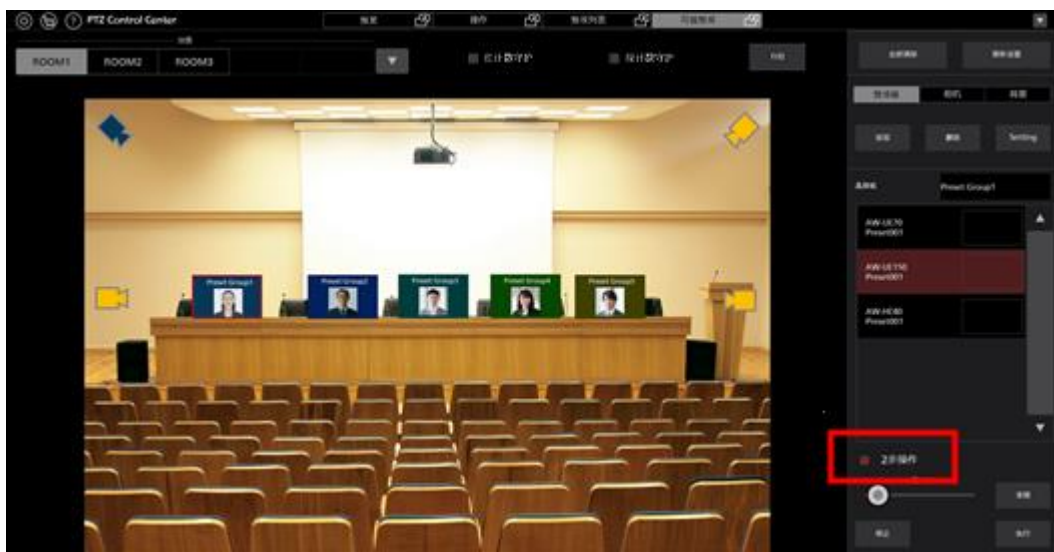
2) 点击预设调用图标/归位图标可以同时调用所有分配的预设。

<注>

预设调用时摄像机的移动速度取决于本软件启动时摄像机的 Preset Speed 设置。

• 点击预设调用图标/归位图标后通过其他按钮调用的情况

1) 勾选屏幕右下角的“2步操作”选框。



2) 点击屏幕右下角的执行按钮或变暗按钮后，将同时调用分配的所有预设。

点击执行按钮时：

所有摄像机的移动速度取决于本软件启动时摄像机的 Preset Speed 设置。

点击变暗按钮时：

摄像机为 AW-UE150/AW-UE100 时，将在规定时间内完成预设调用，上述规定时间可通过变暗按钮旁的滑块进行设置。

其他型号的摄像机的移动速度取决于本软件启动时摄像机的 Preset Speed 设置。

<注释>

当 [红计数守护] 开启时，开启红色提示的摄像机的预设调用，将不会被执行。同样，如果 [绿计数守护] 开启，开启绿色提示的摄像机的预设调用，将不会被执行。

只有 [红计数守护] 可与以下远程摄像机配合使用。

AW-UE70/AW-UN70

AW-HE130/AW-HN130

AW-HR140

AW-HE40/70/65, AW-HN40/70/65

AW-HE42/68/75

• 使用无线麦克风调用预设

将本公司无线麦克风系统的无线麦克风与预设调用图标相联，可以通过在无线麦克风上说话来触发预设调用。

在会议上可以轻松实现将摄像机对准发言人等操作。

如果不说话的状态持续，可以将摄像机返回到预定位置。

■ 操作环境

使用该功能需要以下无线麦克风系统（截至 2022 年 10 月）。

* 可由以下网站上的 PTZ Control Center 产品页面查看最新的支持型号。

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

无线麦克风接收器

WX-SR204P *固件版本 V6.0 或更高版本

WX-SR202DNP *固件版本 V6.0 或更高版本

WX-SR204DNP *固件版本 V6.0 或更高版本

扩展接收器

WX-SE200P *固件版本 V6.0 或更高版本

WX-SE200DNP

无线天线

WX-SA250P *固件版本 V6.0 或更高版本

无线麦克风

WX-ST200P

WX-ST400P

WX-ST700P

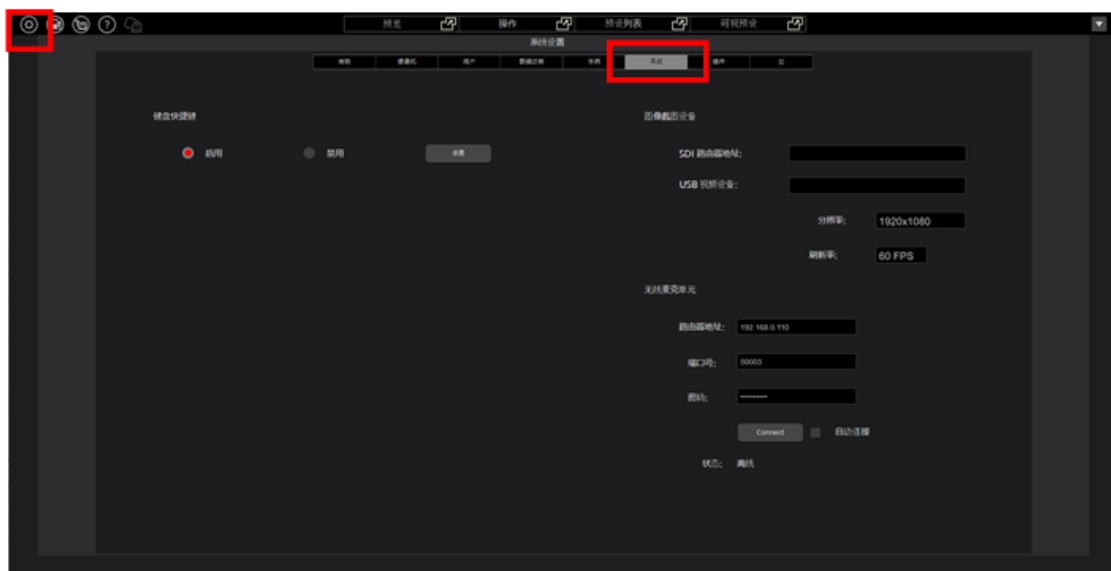
WX-ST600P + WM-KG645

■ 设置步骤

1. 无线麦克风接收器的连接设置

请按以下步骤连接无线麦克风接收器。

- 1) 点击屏幕左上方的设置按钮打开设置画面，然后选择屏幕中央的系统标签，进入系统设置画面。



- 2) 在系统设置画面的无线麦克单元栏进行设置，以匹配无线麦克风接收器。

路由器地址：

指定无线麦克风接收器的路由器地址。

端口号：

指定无线麦克风接收器的端口号。

密码：

指定无线麦克风接收器的密码。

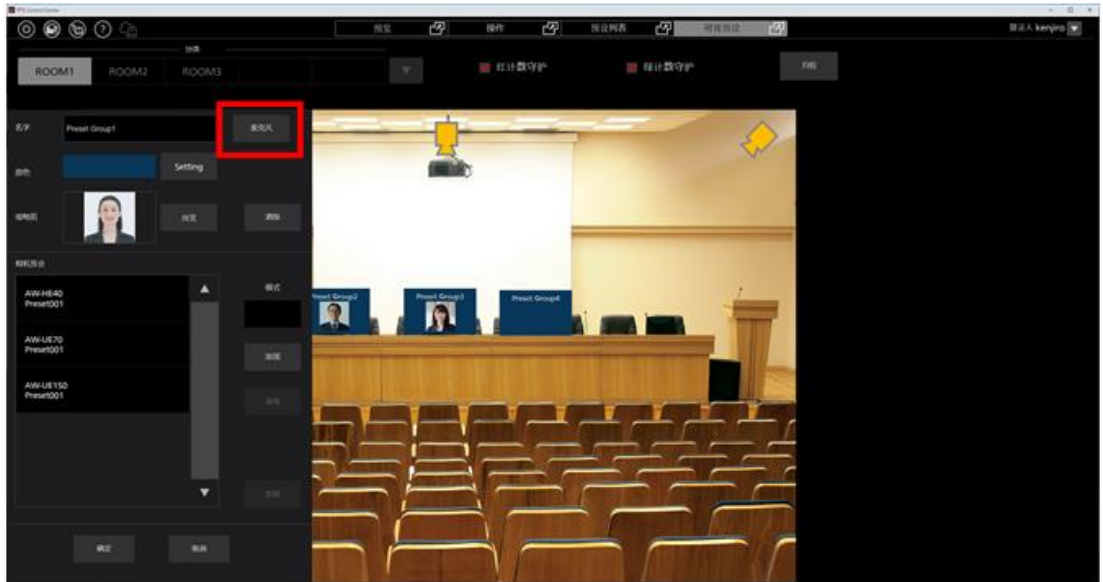
自动连接：

如果您想在本软件启动时自动连接到无线麦克风接收器，请勾选该选项。

2. 将无线麦克风分配给预设调用图标的设置

请按以下步骤将无线麦克风分配给预设调用图标。

- 1) 参考本章节中的“本功能的设置步骤”进行预设调用图标的设置。
- 2) 点击想要与无线麦克风相联的预设调用图标，使其被选中。
- 3) 右键单击预设调用图标或单击设置操作区“预设组”标签的设置按钮，显示预设调用图标设置画面。
- 4) 在预设调用图标的设置画面上点击麦克风按钮。



5) 在屏幕上显示的麦克风设置窗口中设置各项目。



麦克序号

指定想分配给正在设置的预设调用图标的无线麦克风注册号。

如果不想分配无线麦克风，请指定列表顶部的空白处。

音频阈值：

设置判断无线麦克风发出语音的音量，范围是 0~65535 的整数。

预设保持期间：

设置指定无线麦克风上的说话停止后预设位置保持固定的时间，范围是 0~10000 的整数（单位：毫秒）

指定无线麦克风上的说话停止后，直到这里设置的时间过去，即使在指定给另一个预设调用图标的无线麦克风上说话，该预设调用图标也不会调用预设。

6) 点击确定按钮，关闭麦克风设置窗口。

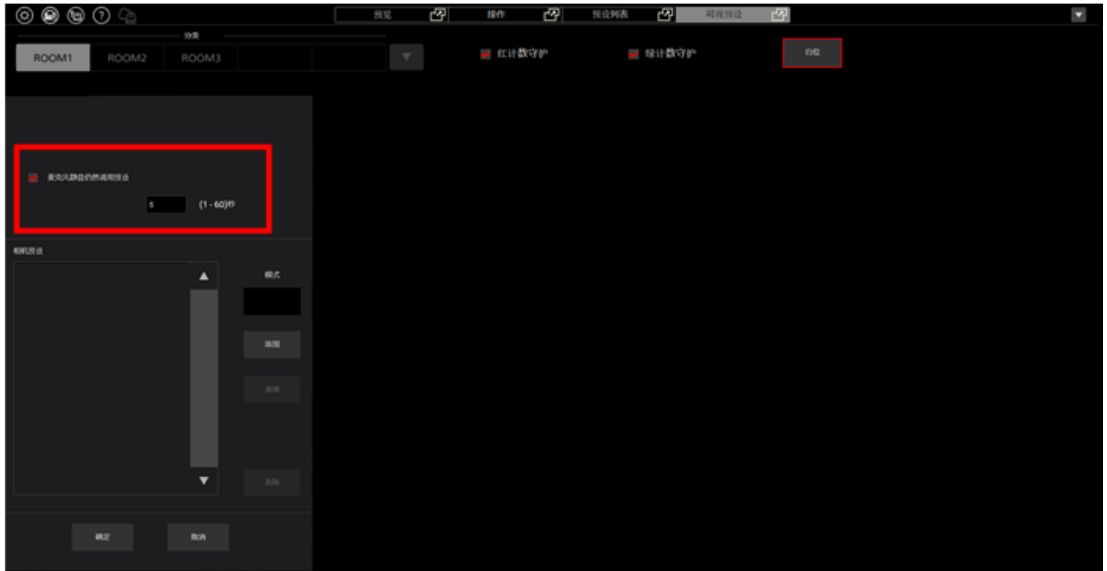
3. 设置不说话状态的归位图标预设调用

设置任何麦克风都不说话的状态持续时，分配给归位图标的预设调用。

1) 参考本章节中的“本功能的设置步骤”进行归位图标的设置。

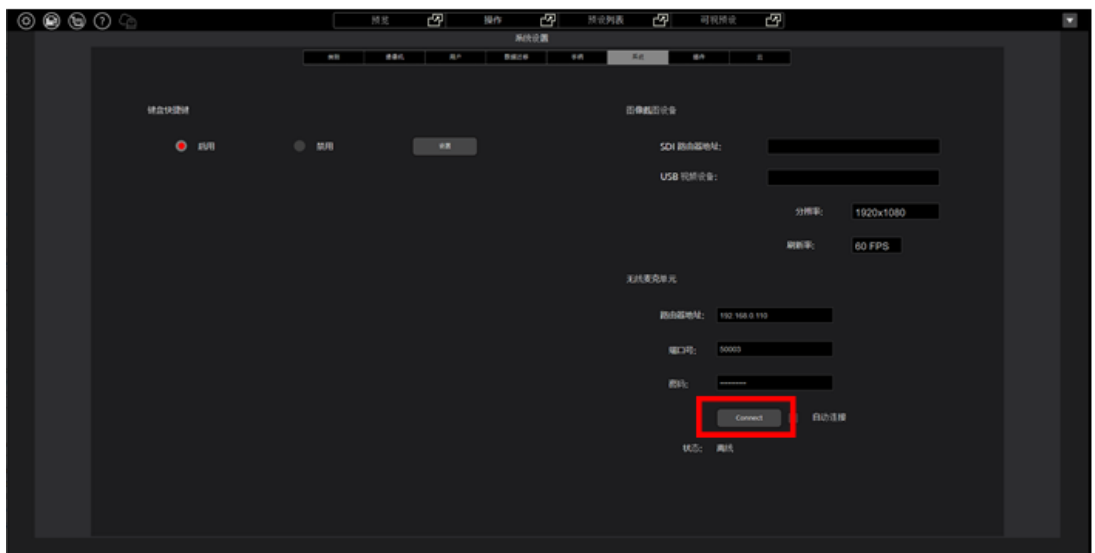
- 2) 点击归位图标，使其被选中。
- 3) 右键单击归位图标或单击设置操作区“预设组”标签内的设置按钮，显示归位图标的设置画面。
- 4) 在归位图标设置画面进行操作设置。

如果勾选“麦克风静音仍然调用预设”，在任意麦克风不说话的状态持续一段时间后就会调用分配给归位图标的预设。预设调用前的时间可以在 1 秒~60 秒之间设置。

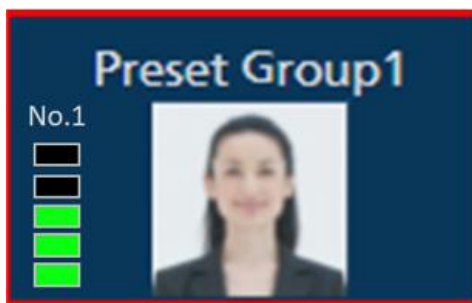


■ 使用步骤

- 1) 点击屏幕左上方的设置按钮打开设置画面，然后选择屏幕中央的系统标签，进入系统设置画面。
- 2) 点击连接按钮，连接至无线麦克风接收器。



- 3) 进入可视预设画面。
- 4) 如果分配的无线麦克风被正确识别并处于可以说话的状态，无线麦克风的音量值将显示在预设调用图标上。



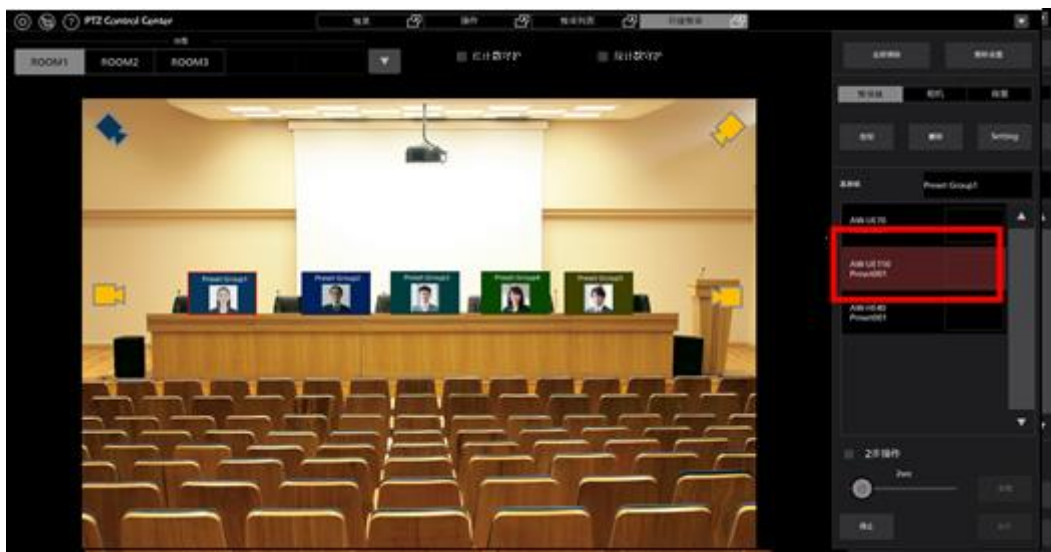
在用无线麦克风说话时，将调用分配给该无线麦克风的预设调用图标中的预设。

如果在归位图标设置中勾选“麦克风静音仍然调用预设”，在任意麦克风不說話的状态持续一段时间后就会调用分配给归位图标的预设。

• 预设调用后的微调操作

预设调用后想要对特定摄像机的位置进行细微调整时进行如下操作。

- 1) 参考本手册的“屏幕的窗口分离功能”，将操作屏幕与此屏幕分为两个窗口。
- 2) 从屏幕右侧的 Selected Group 显示的摄像机预设列表中点击希望进行细微调整的摄像机的预设将其选中。



- 3) 步骤 2) 中所选的摄像机在操作屏幕中处于选中状态，此时可通过摄像机控制器对位置进行细微调整。

附录

每个帐户权限的限制列表

本软件有三类帐户权限，即管理员/超级用户/用户。除管理员外的权限下可使用的功能会有所限制。

下表中用“○”标记的功能是可使用的功能，标有“×”的功能是不能使用的功能。

	管理员	超级用户	用户
查看屏幕			
可被操作的摄像机	所有	所有	仅限被准许的摄像机
摄像机显示器细化	○	○	○
更改缩略图数量	○	○	○
显示帮助文件	○	○	○
显示设置屏幕	○	○	×
主屏幕			
可被操作的摄像机	所有	所有	仅限被准许的摄像机
摄像机显示器细化	○	○	○
更改缩略图数量	○	○	○
显示帮助文件	○	○	○
显示设置屏幕	○	○	×
顶部屏幕操作	○	○	○
底部屏幕操作	○	○	○
预设列表			
Set	○	○	×
Rename	○	○	×
Del	○	○	×
Rearrange	○	○	×
Reset	○	○	×
Fade	○	○	○
Go	○	○	○
Stop	○	○	○
可视预设 屏幕			
图标设置	○	○	×
背景设置/清除	○	○	×

预设组设置 (添加, 删除, Setting)		○	○	×
变更摄像机图标位置		○	○	×
编辑摄像机图标		○	○	×
删除摄像机图标		○	○	×
预设组图标 变更位置		○	○	×
预设组图标 编辑		○	○	×
预设组图标 删除		○	○	×
变暗		○	○	○
执行		○	○	○
停止		○	○	○
设置屏幕				
类别设置		○	○	×
摄像机设置		○	×	×
用户设置		○	×	×
数据迁移设置		○	×	×
手柄设置		○	×	×
系统设置		○	×	×
插件设置		○	×	×
云设置		○	○	○
摄像机控制器				
PTZ 操作	转速控制	○	○	○
	左右/上下转动控制	○	○	○
	缩放	○	○	○
预设操作	名称设置	○	○	×
	注册一个位置	○	○	×
	调用一个位置	○	○	○
	删除名称和位置	○	○	×
图像质量调整	聚焦	○	○	○
	光圈	○	○	○
	增益	○	○	×
	白平衡	○	○	×
	快门速度	○	○	×
	减光镜	○	○	×
其他	开始/停止 SD 卡记录	○	○	○
	音量调节	○	○	○
	显示相机网络屏幕	○	○	○
同时控制多台摄像机		○	○	○
摄像机控制器 (Camcoder)				
	变焦	○	○	○
	聚焦	○	○	○
	光圈	○	○	○
	增益	○	○	×
	减光镜	○	○	×
	白平衡	○	○	×
	R. GAIN / G. GAIN	○	○	○
	MASTER PED.	○	○	○
	R. PED.	○	○	○

	G. PED.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	B. PED.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	SCENE FILE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

卸载 程序

1. 从 Windows 控制面板上选择“项目与功能”。
2. 从一系列项目中选择“Panasonic PTZ Control Center”，并点击“卸载”以显示确认屏幕。
3. 单击确认屏幕上的“是”以卸载软件。

本产品相关的软件信息

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

* (ey@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)"
```

* The word 'cryptographic' can be left out if the routines 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 may not 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 Danteney, 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

Avery Fay,

Aw

awesomenode on github,

Ax

Axel Morawietz, Axel Tillequin,

Ay

Ayoub Boudhar, Ayushman Singh Chauhan,

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 Snowton, Chris Young, Christian Fillion, Christian Grothoff, Christian Heimes, Christian Hägele, Christian Krause, Christian Kurz, Christian Robotom 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, coin hubs 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,

Cy

Cynthia Coan, Cyril B, Cyril 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

[dkjrr89 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 Bandler,

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 Volland, 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 Jasný, 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 Störner, 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

iammrtao 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 Pohlmeier, 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

Jojojob 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 Schnell, 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,

Jv

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 のねこ, kouzhudong on github, Kovalkov Dmitrii,

Kr

kreshano on github, Kris Kennaway, Krishnendu Majumdar, Krister Johansen, Kristian Gunstone, Kristian Köhnopp, 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, Luât 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 Kolechkin, Michael Kujawa, Michael König, Michael Lee, Michael Maltese, Michael Mealling, Michael Mueller, Michael Musset, Michael O'Farrell, Michael Olbrich, Michael Osipov, Michael Schmid, Michael Smith, Michael Stapelberg, Michael Steuer, Michael Stillwell, Michael Vittiglio, Michael Wallner, Michal Bonino, Michal Marek, Michal Rus, Michal Trybus, Michal Čaplygin, Michał Antoniak, Michał Fita, Michał Górny, Michał Janiszewski, Michał Kowalczyk, Michał 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 Prottis, 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, Nikitinskiy Dmitriy, Niklas Angebrand, Niklas Hambüchen, Nikolai Kondrashov, Nikos Mavrogiannopoulos, Nikos Tsipinakis, nimaje on github, niner on github, Ning Dong, Nir Soffer, Niranjana 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,

P

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 Pizar, 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,

Po

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, Quannah Gibson-Mount, Quentin Balland, Quinn Slack,

R.

R. Dennis Steed,

Ra

Radek Zajic, Radoslav Georgiev, Radu Simionescu, Rafa Muyo, Rafael Antonio, Rafael Sagula, Rafayel Mkrtychyan, 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, Randolph J, Randy Armstrong, Randy McMurphy, Raphael Gozzo, Rasmus Melchior Jacobsen, Raul Onitza-Klugman, Ravi Pratap, Ray Dassen, Ray Pekowski, Ray Satiro, Razvan Cojocar, Razvan Cojocar,

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 Burrige, 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-Buyse, 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, silveja1 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 Strogina, Stefan Telemann, 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 Gu, 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,

Sv

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,

Ta

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 Rühnen, 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,

Tj

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 Woerd, 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,

Too

Toon Verwaest,

Tor

Tor Arntsen, Torben Dannhauer, Torsten Foertsch,

Tos

Toshio Kuratomi, Toshiyuki Maezawa,

Tp

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,

Ty

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,

VI

Vlad Grachov, Vlad Ureche, Vladimir Grishchenko, Vladimir Kotal, Vladimir Lazarenko, Vladimir Panteleev, Vladimir Varlamov, Vlastimil Ovčáček,

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

Yecheil 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, localhost 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, l00p3r 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 Domeradski, Štefan Kremeň, Борис Верховский, Коваленко Анатолий Викторович, Никита Дорохин, ウさん, 不確定, 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

it.

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,

and the section as a whole is intended to apply in other circumstances.

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://www.pass.panasonic.co.jp/pro-av/support/content/download/EN/ep2main/ptzctl_e.htm