Panasonic
CONNECT

**PTZ camera and software combination
for more efficient and easier remote operation and shooting**

Highly Efficient Software-based Remote Operation

PTZ cameras are being used for a growing range of applications of varying scales–classroom lectures, conference presentations, broadcast programs, competitions in stadiums and other diverse types of events–offering versatile options for not only the creation of recordings but also delivering live streaming and webinars. For many years, Panasonic has been a leading provider of PTZ cameras and related equipment and solutions that meet diverse customer needs. Today, as the role of software continues to expand in many fields, Panasonic's extensive lineup of PTZ cameras is being increasingly integrated with easy-to-use software for more efficient PTZ Camera System Solutions.

Software Packages for Streamlined Operation

Auto Tracking Software Key

90-day free trial

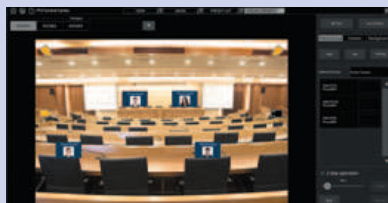Facial recognition and human body detection for high-precision tracking

>>> See page **3** for details.

Visual Preset Software Key

90-day free trial

Preset to switch subject of multiple PTZ Cameras with single click

>>> See page **7** for details.

PTZ Control Center

Free software

Central control of multiple PTZ Cameras with PC while viewing video

>>> See page **8** for details.
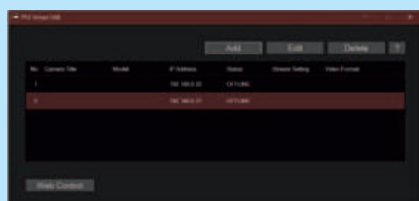
Panasonic PTZ Camera Lineup

>>> See page **11** for details.

PTZ Virtual USB Driver

Free software

Software for using LAN-based PTZ Cameras as virtual USB cameras

>>> See page **10** for details.

EasyIP Setup Tool Plus

Free software

Freeware for efficient setup and operation of PTZ Cameras
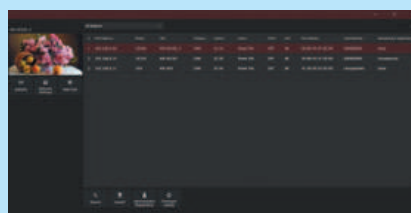
>>> See page **11** for details.

Software packages for streamlined setup

Facial Recognition and Human Body Detection for High-precision Tracking, Intuitive and Flexible Shooting

90-day free trial[1]

Auto Tracking Software Key

Standalone and Web-application versions
AW-SF100

Server versions
AW-SF200

2 additional licenses
AW-SF202

3 additional licenses
AW-SF203

Facial Recognition + Deep Learning

Auto Tracking

4K/HD Integrated Camera

Tracking PC

Simple, accurate and functional auto-tracking. Various functions are also available to achieve advanced operations.

Watch video

Core features for high-precision auto tracking

Facial recognition
Registered facial data for detecting face positions in videos

Deep learning function[2]
Learns bodily characteristics to accurately identify humans

[1] Simply install the Auto Tracking Software for a 90-day free trial, after which a software key may be purchased to continue using auto tracking.
[2] Software update may be required before use. Restrictions may apply depending on user's server or PC. See "Auto Tracking Software."
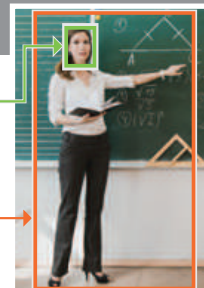
1. Facial Recognition and Human Body Detection for Accurate Auto-tracking

Detects registered faces even in challenging conditions

Using software-registered faces, the system detects faces in videos for highly accurate auto-tracking. From auditorium lectures to dimly lit environments, Panasonic's proprietary database can quickly detect and authenticate small, hard-to-see faces.

Note: Uses facial recognition software from Panasonic Connect Co., Ltd.

Wider-angle view if speaker is lost and then auto-tracking once target is reconfirmed

The screen switches smoothly to a wider home-position view if the camera loses track of the person speaking, and then back to auto-tracking once the target is reconfirmed. Quiet, stable images allow operators to deliver viewer-friendly content and students to focus with minimal distraction.

Accurate human-body detection even tracks masked faces

Under the New Normal, there now are many occasions when people speak while wearing a mask or face shield. Thanks to deep learning, however, Panasonic's solution can accurately track masked speakers based on their bodily characteristics. Tracking can be initiated the moment a person is detected in the video, even without registering for facial recognition. Targets occupying a mere 1-2% of the total screen can be detected and tracked, even if they move around on a stage, crouch down or are partially hidden by a podium or lectern.

Note: The software may need to be updated before use. Restrictions may apply depending on the user's server or PC. See "Auto Tracking Software."

2. Easy Installation and Operation

GUI for intuitive settings

The intuitive GUI includes just essential icons to greatly reduce operator burdens.

Notes: Provisions for manual override by an operator are recommended if usage conditions result in the camera making a false detection or failing to detect a target.
The screen layout may differ depending on the software version.

IP-based software for remote operation

IP-based software and connections for streaming and control enable cameras to be operated in remote classrooms.

Simple, low-cost installation without sensors or other devices

After installing the Auto Tracking Software in a server or PC, simply connect a 4K/HD Integrated Camera and your auto-tracking system is ready to go. Sensors or other equipment are not required, keeping the configuration simple and the startup cost low.

3. Advanced Auto Tracking Functions

Auto Zoom[1]

Clicking the Auto button[2] below the GUI's zoom slider initiates auto-zoom to maintain the size of the subject constant. The default size can be adjusted as required with Auto Zoom Size. Tracking and capturing a subject with the desired screen composition is possible even if the person actively moves around a stage.

[1] Not available with AW-UE4.
[2] Not displayed when Tracking Mode is set to Crop.
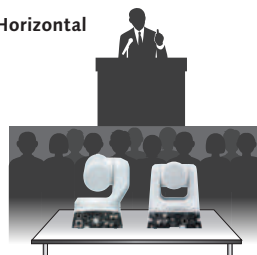
Watch video

Linking a wide-angle camera (AW-SF100 only)

Tracking stability can be improved by linking a wide-angle camera[1] for a bird's-eye view. As long as this camera captures the subject, it can immediately rediscover the tracking target and resume tracking[2] even if the tracking camera ever loses the target. The bird's-eye view camera also can be used for scene overviews, including to support camera operation when video-production errors are unacceptable, such as in live streaming.

<Suggested orientation examples>

Horizontal   **Vertical**
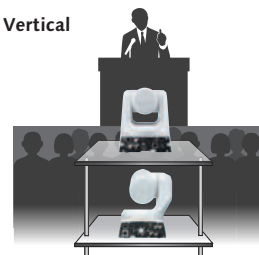
[1] Only Panasonic PTZ Cameras supporting this software can be used as wide-angle cameras. The AW-UE4 cannot be used as a tracking camera.
[2] Does not use facial recognition for tracking.

Watch video

Linkage with FreeD[1]
(AW-UE150W/K, UE100W/K and UE80W/K only)

FreeD can be linked to the Auto Tracking Software for easy AR/VR shooting without the need for a large system.

[1] FreeD is a camera tracking-data protocol for AR/VR systems.

Presets

Various settings can be registered as presets for easy operation.

Main screen

- **Start/end position of tracking**
- **Facial recognition**
- **View angle (upper, full or whole body, or none)**
- **Pan/tilt range**

Tracking

- **Operation when tracking target detected**
- **Operation when preset activated**
- **Camera tracking sensitivity**
- **Range without auto-tracking**

4. Software Options

AW-SF100 (standalone/web versions) and AW-SF200 (on server)

The AW-SF100 can be used as a web application to support control via a tablet, smartphone, desktop, etc. The AW-SF200, meanwhile, uses a floating license for flexible operations matched to the user environment, providing centralized control of multiple cameras.

Software Key examples

AW-SF100	AW-SF200
Auto-tracking eliminates the need for full-time manual tracking, enabling the simple operation of remote cameras for recording fluid video scenes.	Auto-tracking and centralized control of multiple cameras can be performed simultaneously with simplified, server-based operations, such as for lectures involving students in multiple classrooms.

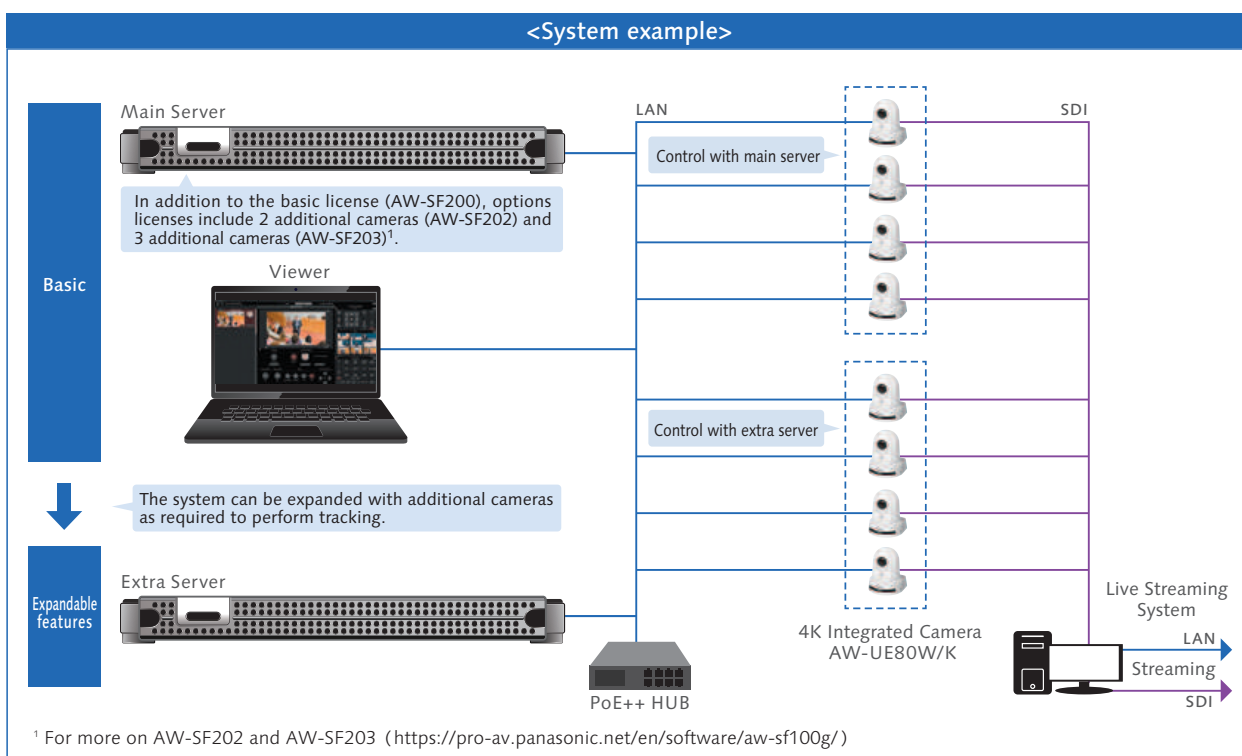ROOM **1**　ROOM **2**　ROOM **3**　ROOM **4**

Tracking-control server

Video editing and camera operation

Client PC　Video editing　Camera operation

● Auto-tracking Applications

Lectures

Presentations
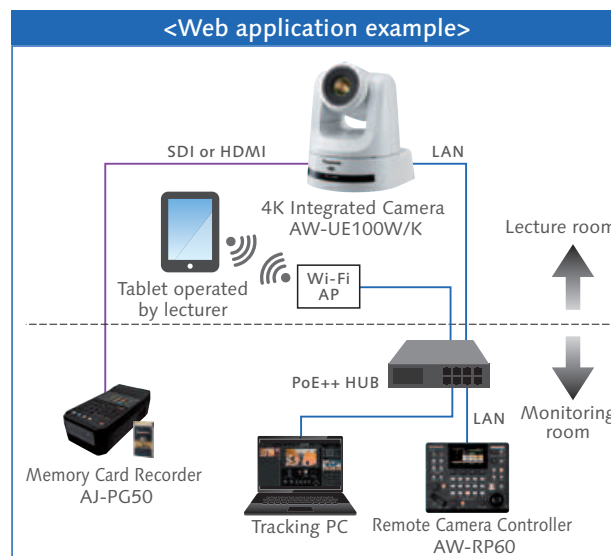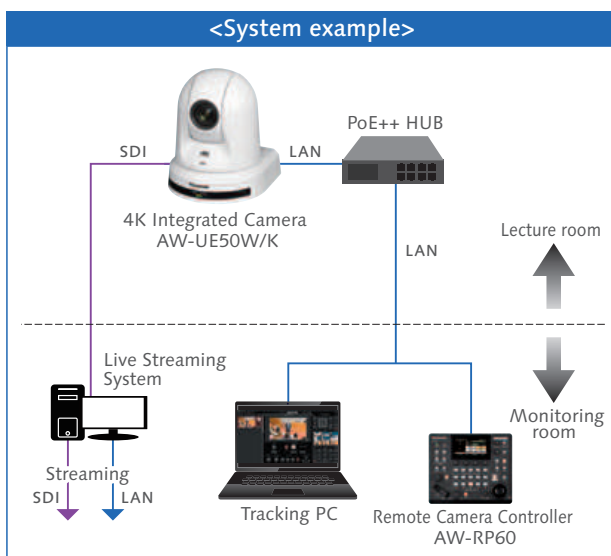

News studios

In-company training

Press conferences

• AW-SF200 Example: Campus-wide Lecture

Using a centralized server for simultaneous auto tracking and to control multiple cameras in a large hall as well as multiple classrooms

<System example>

In addition to the basic license (AW-SF200), options licenses include 2 additional cameras (AW-SF202) and 3 additional cameras (AW-SF203)[1].

Main Server

Viewer

Basic

Control with main server

Control with extra server

The system can be expanded with additional cameras as required to perform tracking.

Extra Server

Expandable features

PoE++ HUB

4K Integrated Camera AW-UE80W/K

Live Streaming System

LAN

Streaming

SDI

[1] For more on AW-SF202 and AW-SF203（https://pro-av.panasonic.net/en/software/aw-sf100g/）

• AW-SF100 Example: Classroom Lecture

Auto tracking and control of one camera with one PC

<System example>

4K Integrated Camera AW-UE50W/K

PoE++ HUB

SDI

LAN

LAN

Lecture room

Live Streaming System

Streaming

SDI   LAN

Tracking PC

Monitoring room

Remote Camera Controller AW-RP60

<Web application example>

4K Integrated Camera AW-UE100W/K

SDI or HDMI

LAN

Lecture room

Tablet operated by lecturer

Wi-Fi AP

PoE++ HUB

LAN

Monitoring room

Memory Card Recorder AJ-PG50

Tracking PC

Remote Camera Controller AW-RP60

PC system requirements

https://pro-av.panasonic.net/en/software/aw-sf100g/

Note: GPU required for Version 5.0.7 or later.

Device-integration APIs for external control

https://eww.pass.panasonic.co.jp/pro-av/support/content/guide/EN/top.html#PTZ

Watch video about Auto Tracking and Visual Preset software (from downloading to operation):

PTZ Step by Step Tutorials

Preset to Switch Subject of Multiple PTZ Cameras with Single Click

90-day **free** trial[1]

Visual Preset Software Key

AW-SF300

GUI screen for switching subject of multiple PTZ Cameras with single click

Watch video

Note: PTZ Control Center required to use this product.

[1] 90-day free trial available after Visual Preset Software installed. To continue using visual preset, please purchase separate software key.

One-click centralized control

1. Efficient, Centralized Control

Simultaneous control of multiple PTZ Cameras for multi-angle views

All cameras registered in a group can be directed toward a subject just by tapping the GUI's Preset Group icon. Intuitive mouse/GUI control is ideal for users unfamiliar with video equipment operation.

2. Easy Registration and Operation

GUI simplifies operation and preset registration

A separate GUI screen can be set for each shooting location, making it easy to manage the Preset Group for the registered camera subjects. Camera positions can be set with icons on the GUI screen and each camera's icon in the active Preset Group is highlighted, enabling cameras in operation to be confirmed at a glance.

Switch registered-room information

Icon indicating camera positions. Can be placed anywhere on screen. Active Preset Group cameras highlighted.
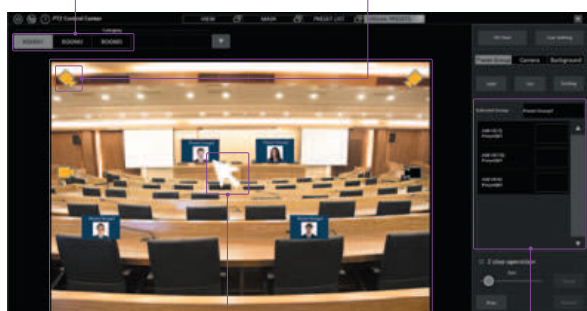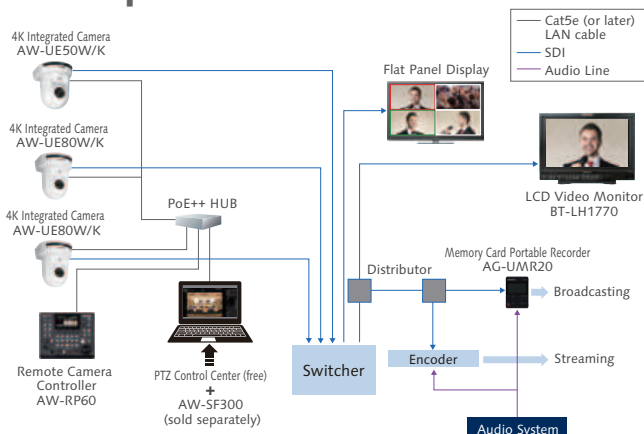
Photos or diagrams can be used for GUI background screens.

Preset Group icon recalls presets of associated cameras with one click.
Note: Two-step preset recall possible.

Cameras registered to active Preset Group are listed with their respective preset numbers.

● Example: Conference room

Cat5e (or later) LAN cable
SDI
Audio Line

4K Integrated Camera AW-UE50W/K

4K Integrated Camera AW-UE80W/K

4K Integrated Camera AW-UE80W/K

PoE++ HUB

Flat Panel Display

LCD Video Monitor BT-LH1770

Distributor

Memory Card Portable Recorder AG-UMR20

Broadcasting

Remote Camera Controller AW-RP60

PTZ Control Center (free) + AW-SF300 (sold separately)

Switcher

Encoder

Streaming

Audio System

● Visual Preset applications

Lectures

Sporting events

Musical performances

PC system requirements

https://pro-av.panasonic.net/en/software/aw-sf300/

7

Central Control of Multiple PTZ Cameras with PC while Viewing Video

Free software

PTZ Control Center

Free software enables centralized management and control of multiple PTZ Cameras while viewing video with a PC. Pan, tilt, zoom and other camera functions can be controlled from the GUI screen.

- Operation via **GUI**
- Operation via commercial **joystick**
- Operation via commercial **controller**

LAN

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1. Intuitive Management and Control of Multiple PTZ Cameras while Viewing Video
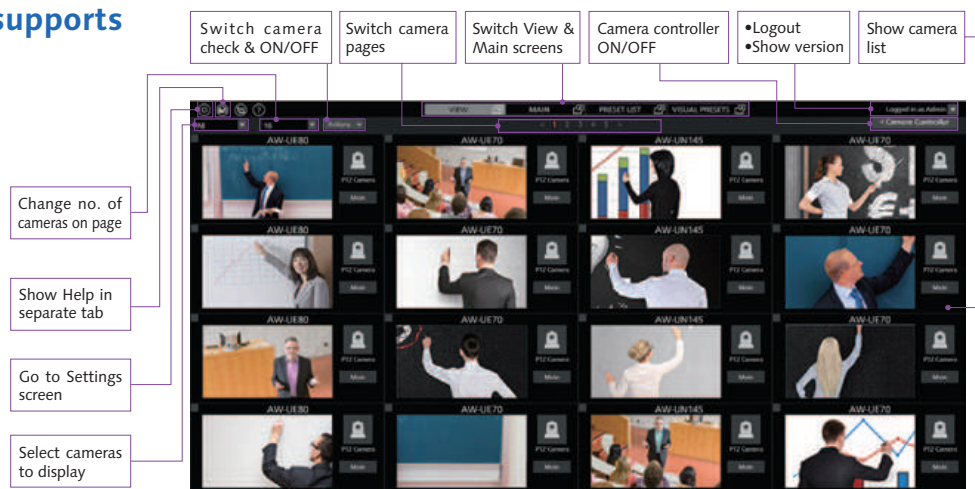
GUI for intuitive control and operation

The GUI makes it easy to use a PC for intuitive control of multiple PTZ Cameras, including pan, tilt and zoom as well as adjustments such as focus, iris, gain, white balance, shutter, and ND filter. Up to 100 presets can be registered with thumbnails for quick recall.

AW-RP150 linkage tab button
EasyIP Setup Tool Plus software
Work area
Visual Preset tab button
Camera controller
PTZ control
Focus control
Preset button
Video adjustment
Registered camera list
Full-screen H.264 video display via double click

Pan/Tilt control of live video is possible just by touching a panoramic still picture taken in advance, enabling quick switching of shooting angles even in large venues. A wide video shot with a Control Assist Camera (AW-HEA10W/K; discontinued) can also be used.

Touch panel supports pan and tilt
Panoramic still

Camera-feed GUI supports max. 16 cameras

Switch camera check & ON/OFF
Switch camera pages
Switch View & Main screens
Camera controller ON/OFF
• Logout
• Show version
Show camera list

Change no. of cameras on page

Show Help in separate tab

Go to Settings screen

Select cameras to display

Preset List for easy management

Presets can be listed, registered, modified, and reordered. View, Main, and Preset List screen tabs can be displayed separately on multiple PCs. The Preset List background color is customizable.

Efficient, centralized control and management of multiple cameras

Pan/tilt/zoom, preset register/recall/delete, focus, iris, and other functions can be controlled simultaneously on any number of PTZ Cameras. Also, multiple PTZ Camera presets can be recalled simultaneously with the Visual Preset Software Key (AW-SF300[1] sold separately) EasyIP Setup Tool Plus[2], a free bundled software, simplifies management, including batch updates of camera firmware.

[1] See page 7 for details   [2] See page 11 for details

2. PC-enabled PTZ Camera Management and Control

Easy management through networking

Networked cameras can be detected/configured automatically and settings can be transferred between PCs. Also, camera access can be limited to designated users.

Simple, intuitive operation with common devices

When using a mouse, simply move the cursor over an image and then zoom in and out with the mouse wheel. Zooming within a specified range also is possible with two fingers on a touch screen. To specify the range with a mouse, left click and drag. Common tools such as numeric keypads, keyboard arrow keys and commercial game controllers (USB joystick with max. 10 controllers) also are supported.

<Main Supported Operations>
PTZ Camera pan, tilt and zoom
Preset recall
Switching between cameras
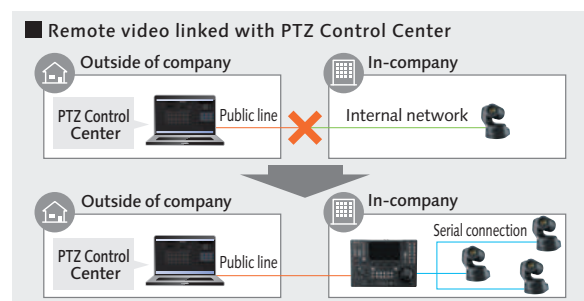
PC system requirements

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

3. Optional Equipment for Enhanced Operability

Secure remote production via public network

The PTZ Control Center can be linked with the Remote Camera Controller (AW-RP150) for a secure remote-production configuration capable of satisfying strict corporate-security policies for remote video. A fully internal network can be established by connecting the PTZ Control Center's on-site PC to the AW-RP150 at the user's office via a public line and then serially connecting the AW-RP150 to an on-site camera. The PTZ Control Center's GUI controls camera pan, tilt and zoom as well as presets.

■ Remote video linked with PTZ Control Center

Outside of company / In-company
PTZ Control Center — Public line — Internal network

Outside of company / In-company
PTZ Control Center — Public line — Serial connection

Other remote control and management

Panasonic's Professional Portable Recorder System (AG-UMR20/AG-UCK20GJ), Surgical Image Recording System (AG-MDR25/AG-MDC20GJ), and Professional Camcorder/Recorders (AJ-CX4000GJ) are supported for enhanced camera control and management.

Software for Using LAN-based PTZ Cameras as Virtual USB Cameras

Free software

PTZ Virtual USB Driver

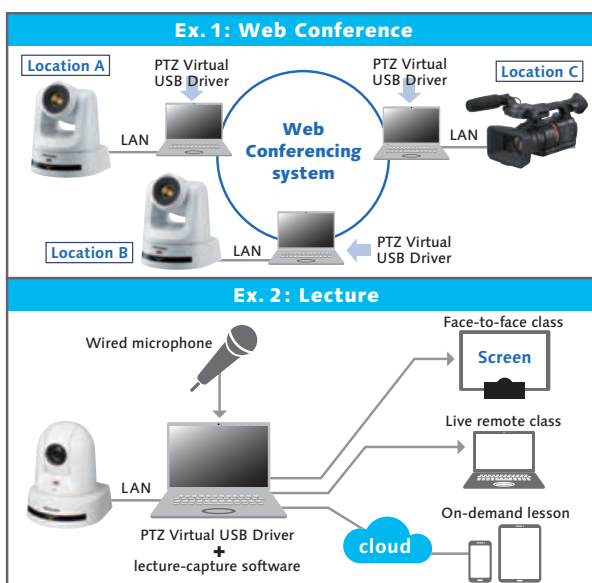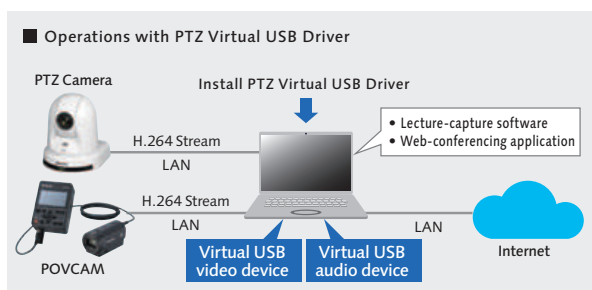Any Panasonic PTZ camera or professional camera recorder[1] on your LAN can be recognized and used as a USB camera.

[1] Professional Camcorder/Recorder (AG-CX350 & AJ-CX4000GJ)

Virtual USB camera

LAN

Ceiling-mounted PTZ camera

1. High-quality Video for Web Conferencing and Lectures

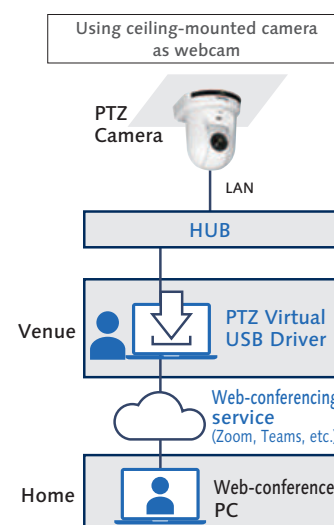### Using LAN-based PTZ Cameras as virtual USB cameras

Panasonic PTZ Cameras and Professional Camera Recorders lacking a USB port can be recognized as virtual USB cameras via LAN connection, enabling Web-conferencing applications or lecture-capture software to be used for high-quality video.

■ Operations with PTZ Virtual USB Driver

PTZ Camera
Install PTZ Virtual USB Driver
H.264 Stream
LAN
• Lecture-capture software
• Web-conferencing application
H.264 Stream
LAN
LAN
POVCAM
Virtual USB video device
Virtual USB audio device
Internet

Ex. 1: Web Conference

Location A
PTZ Virtual USB Driver
LAN
Location C
PTZ Virtual USB Driver
LAN
Web Conferencing system
Location B
LAN
PTZ Virtual USB Driver

Ex. 2: Lecture

Wired microphone
Face-to-face class
Screen
Live remote class
LAN
PTZ Virtual USB Driver + lecture-capture software
On-demand lesson
cloud

2. Remote PTZ Cameras Used as Webcams

Achieving remote operation when USB cable connection not possible

PTZ cameras installed in ceilings or other places not accessible via USB cable can be used as virtual USB cameras. Also, multiple PTZ Cameras can be connected to a PC via a single LAN cable for a simple system design.

Using ceiling-mounted camera as webcam

PTZ Camera
LAN
HUB
Venue
PTZ Virtual USB Driver
Web-conferencing service (Zoom, Teams, etc.)
Home
Web-conference PC

3. PTZ Camera Operation via Panopto GUI

Efficient remote lectures

PTZ Cameras can be controlled with the Panopto Lecture Capture Software GUI.

Note: Functions may vary depending on app being used.

PC system requirements

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

Freeware for Easy Setup & Operation of PTZ Cameras

Note: The Visual Preset Software Key (AW-SF300) and PTZ Control Center are included and do not require separate installation.

Free software

EasyIP Setup Tool Plus

EasyIP Setup Tool Plus is a freeware for the centralized management of diverse network settings and firmware updates, making it easy to set up and operate multiple PTZ Cameras in a range of situations, including installation and setup for events.

LAN

Centralized management & configuration

PTZ Cameras

1. Efficient Operation

On-site preparation

Panasonic PTZ Cameras connected to a PC can be detected and listed. Users can check camera information such as IP address and version number, and configure camera settings. For example, Auto IP assigns a series of IP addresses to PTZ Cameras, Identify[1] makes the power indicator of the active cameras flash for quick identification, and Administrator Registration[2] simultaneously assigns administrator accounts to selected PTZ Cameras. The HD Studio Camera (AK-HC3900/3900S), Camera Control Unit (AK-HCU250/HUC250S) and AK-UCU600/UCU600S (requires AK-NP600G) are supported for the combined operation of PTZ cameras and studio cameras.

2. PTZ Camera Status at a Glance

Streamlined daily management and maintenance

Network Settings allows any PTZ camera to be configured from the GUI screen and Web GUI uses the browser of the selected PTZ camera. Also, Firmware Update[3] automates PTZ camera firmware updates without accessing the website. NDI® | HX activation is also available[3].

[1] AW-UE150W/K, AW-UE100W/K, AW-UE80W/K, AW-UE50W/K and AW-UE40W/K only
[2] For AW-UE150W/K, AW-UE100W/K, AW-UE80W/K, AW-UE50W/K, AW-UE4-W/K and AW-UE4WGN/KGN only. Once set, the administrator account cannot be reassigned.
[3] PC must be connected to network

PC system requirements

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

PTZ Camera System Lineup

4K 60p/50p[1] output, high-magnification zoom and wide-angle shooting for flexible video production

4K Integrated Camera
AW-UE150W/K V-Log Support[2]

HD PTZ camera that enables high-quality video production even in dark environments

NEW

HD Integrated Camera
AW-HE145W/K
US and Europe only model

4K 60p/50p[1] NDI®[3]&SRT[4] supported PTZ Camera with a compact body and a wide range of features

4K Integrated Camera
AW-UE100W/K

Models to respond to a wide range of video production needs, such as recording of reality shows and events

NEW

4K Integrated Camera
AW-UE80W/K

Standard models suitable for use in online classes and briefing sessions

NEW

4K Integrated Camera
AW-UE50W/K
AW-UE40W/K

Compact 4K entry model suitable for use in meeting rooms and classrooms with limited space

NEW

4K Integrated Camera
AW-UE20W/K

Compact PTZ Camera suitable for use in meeting rooms and classrooms with limited space

NEW

HD Integrated Camera
AW-HE20W/K

Compact 4K PTZ Camera equipped with an ultra-wide-angle lens with a 111° field of view and perfect for fixed point shooting
(If the Auto Tracking Software Key is added, the camera can only be used as a bird's-eye view camera.)

4K Integrated Camera
AW-UE4WG/KG

Outdoor integrated pan-tilt full-HD camera with high sensitivity, high S/N ratio, and high resolution
(Auto Tracking Software Key is not supported.)

Full-HD Outdoor Integrated Camera
AW-HR140

[1] Actual output format is UHD (3840 x 2160) 59.94p/50p. [2] A version software update may be required on the device. [3] NDI® is a new protocol developed by NewTek, Inc. that supports IP video production workflow. NDI® is a registered trademark of NewTek, Inc. in the United States and other countries. In this instance, NDI® is used to indicate low latency with high bandwidth NDI®. [4] Abbreviation of Secure Reliable Transport.

To use the Auto Tracking function

When installing Auto Tracking Software, 90-day free trial is available. To continue the usage of the Auto Tracking function, purchase and installation of the Auto Tracking Software Key is required. Please contact Sales company to purchase a software key.

1) **Install the Auto Tracking Software.**
2) **Order the Auto Tracking Software Key from a vendor.**
3) **A box contains the key code will be delivered.**
4) **The box will contain a sheet with the key code and an Installation Guide.**

Activate according to the Installation Guide.

Eligible users of the 90-day free trial extension are limited to those using the free AW-SF100/200 trial for the first time and those who have started using the free trial within the last 90 days. If you have already started using the free trial, a software version upgrade will be required.

To use the Visual Presets function

When installing Visual Presets Software, 90-day free trial is available. To continue the usage of the Visual Presets function, purchase and installation of the Visual Presets Software Key is required. Please contact Sales company to purchase a software key.

1) **Install the Visual Presets Software.**
2) **Order the Visual Presets Software Key from a vendor.**
3) **A box contains the key code will be delivered.**
4) **The box will contain a sheet with the key code and an Installation Guide.**

Activate according to the Installation Guide.

Eligible users of the 90-day free trial extension are limited to those using the free AW-SF300 trial for the first time and those who have started using the free trial within the last 90 days. If you have already started using the free trial, a software version upgrade will be required.

Handling of personal information registered in our software

We do not collect, store, or share within our organization any personal information, including photographs of individuals registered on the software listed in this catalog. Any information registered in the software will be stored only in the system environment (PC or server) where the Auto Tracking Software is installed and will not be stored in any other location.

Panasonic®

For more information, please visit Panasonic web site
https://pro-av.panasonic.net/en/qr/

ISO 14001
JACO
EC98J2010

UKAS
MANAGEMENT
SYSTEMS
0051

Factories of Panasonic Connect Co., Ltd. have received ISO14001:2015-the Environmental Management System certification. (Except for 3rd party's peripherals.)

Broadcast and Professional AV Website

Contact Information

Facebook

Mobile App

SP-PTZSoftPEWEB

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