

# Introducing the Logitech Rally

Logitech's most recent contribution to enterprise collaboration is its Rally video conferencing system. The studio-quality solution fosters a more natural conferencing (audio and/or video) experience. More important than its specifications is the leap it represents in technology. Rally brings several advanced conferencing technologies to a suite of affordable USB peripherals.

The star component of the suite is the Rally camera. The 4K, pan/tilt/zoom (PTZ) USB camera is the center attraction. The complete solution involves the camera and its integrated family of Rally accessories such as microphone pods, wall speakers, mounting kits, and a clever cable management solution. The Rally camera can also be used on its own as an independent USB camera.

The solution is different than typical USB peripherals that rely on user-provided software. Rally has a number of advanced, built-in software features that elevate it into a new class of USB peripherals. That difference is vital because, as smartphone cameras consistently demonstrate, software has become nearly as critical to photography and video as the optical and mechanical components.

The Rally solution includes advanced, built-in software for image and audio processing. These enhancements are not intuitive. Most of us think of USB peripherals as mechanical or programmatic devices — for example, programmatic logic with an inverse relationship between light and aperture.



Logitech groups these software advances into a family of solutions called RightSense — a suite of proactive technologies built into the hardware that automate a better user experience. RightSense includes RightSight, RightLight, and RightSound described below.

## Facing Reality

Video meetings and content sharing have come a long way. Over the past few years, we've seen tremendous innovations in software applications, bandwidth availability, camera resolutions, and more. There have been so many improvements that it's reasonable to question what need the new Rally serves. In a word: usability.

While visual communications are becoming common on laptops and smartphones, meeting rooms still have a usability gap. This is because smartphones and laptops are all-in-one, personal devices. The camera, speakers, and microphone generally point in the right direction, and adjustments simply require changing the device's orientation.

Room systems are different, as they need to accommodate multiple participants. Room systems, with their multiple components, connections, and controls, introduce a series of additional challenges. For example:

- The camera needs to be far enough away to see all of the participants. Yet a wide-angle view makes the active speaker small and less engaging. The solution is to make ongoing adjustments during the conference.
- Microphones need to be distributed around a room to pick up all participants' voices. This requires a noise management solution to mitigate background sounds such as paper shuffling.
- The components need to be physically distributed. The system's cameras and speakers should be near the monitor, while the microphones need to be near the participants.

## QUICK QUESTIONS

### What is Rally?

The Logitech Rally is an advanced meeting solution that can be used with most conferencing services and applications running on a computer, including Cisco Webex, Google Hangouts Meet, Microsoft Skype for Business, Microsoft Teams, and Zoom. The solution entails an advanced USB camera, modular audio components, and a wiring hub that simplifies cable management. The solution is intended for medium to large conference rooms.

### Why not just use a video room system?

While dedicated room systems continue to have their place, using PC/laptop peripherals gives a powerful, low-cost alternative for mass deployments. After some 20 years of video conferencing, room systems have only been installed in an estimated 5-10% of conference rooms. Rally bridges the gap between room systems and USB peripherals with an integrated, yet affordable suite.

### Why did Logitech create another room solution?

There are many different types of rooms, and there will never be a single solution for all of them. Although many of the features made available with Rally are now supported on the previously launched MeetUp, Rally offers a more premium solution and supports larger rooms.

Thus room systems are more complex and require more overhead for a seamless experience. It isn't reasonable or practical to assume the participants will just do more, like actively manage the camera position, during conferences. Therefore, Logitech has implemented automated technologies that make conferencing more seamless.

Before Rally, the solutions have generally fallen into two categories at ends of a spectrum. An elaborate, comprehensive room system, or simpler USB peripherals. The Logitech Rally bridges these two extremes with an intelligent series of USB peripherals.

The Rally solution works together to create an automated experience that delivers the benefits of a comprehensive room solution at a fraction of the cost. Additionally, Rally has been certified to work with leading and well-known conferencing applications.



## Rally Camera

The new Rally Camera is the star of the solution. It has the specifications of a flagship camera offering 4K resolution at 30 frames per second (that delivers 1080p at 60 frames per second). Rally has a 15x optical/digital zoom, a 90-degree field of view, and a 13-megapixel sensor. It's mounted on a pan/tilt base that gives it 180 degrees of movement.

The pan and tilt speeds adapt to the level of zoom. Faster camera movements are used when zoomed out and slower movements when zoomed in. When not in use, the camera points down to protect the lens and visually signal privacy.

If that 4K resolution seems extraordinary for a USB conference camera, it's because Rally is among the first cameras to support USB 3.0 Type C. Most USB cameras on the market

today use USB 2.0, which doesn't have the bandwidth to support native 1080p. To accomplish 1080p, USB 2.0 cameras pre-compress the video before it even gets to the desktop video software (which may compress it again). Rally's use of uncompressed video makes it possible to do additional

image processing using software in supported video applications.

Like all Rally components, the camera is finished in matte black with gray accents. The camera itself can be table-mounted, wall-mounted, or mounted upside-down. It's controlled by an included radio-frequency remote or Logitech's soft remote via an Android or iOS mobile app. But the best part is you likely won't need the remote. More on that in the software discussion below.

The camera is such a significant upgrade that Logitech is offering it as a standalone solution, but it truly shines as a centerpiece to the complete

Rally solution for meeting rooms. The solution addresses sound, microphones, and cabling in a 'Right' way.

## Having a Sense for What's Right

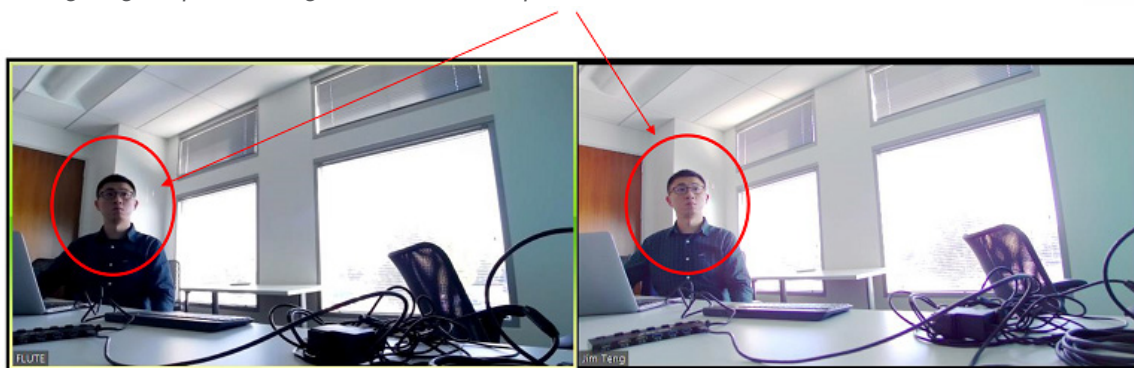
The solution is bolstered by RightSense, the suite of automated technologies that improve the audio and video experience. Logitech separately brands these enhancements as RightLight, RightSight, and RightSound.

### RightLight

In Rally's camera, Logitech has introduced an expanded set of optical technologies it calls RightLight. The product is an evolution of Wide Dynamic Range (WDR) technology. WDR evens and optimizes lighting by merging multiple frames at different exposures to create a well-lit, balanced image. WDR brightens low-light situations (shadows) and minimizes the impact of bright spots (such as windows).

WDR is similar to its more popular cousin High Dynamic Range (HDR), which also reduces the impact of uneven lighting. HDR typically brightens or darkens the entire picture (like our eyes do), while WDR adjusts specific pixels. RightLight specifically optimizes the WDR technology to prioritize the brightness of faces.

*RightLight optimizes light balance to emphasize faces, even in dim or backlit conditions.*



Without RightLight

With RightLight

Many people are familiar with the havoc windows cause in conference rooms. In very bright rooms, sunlight can cause dark or odd shadows across faces. WDR, or more specifically RightLight, will eliminate or reduce these effects and minimize needed adjustments to window coverings during a meeting. Because the technology is implemented in the camera itself, the feature is effectively added to all video conferencing applications that use the Rally camera.

Even in meeting rooms with bright windows, Logitech RightLight technology with WDR prioritizes faces and human figures over objects and surfaces. The result is a balanced image that renders participants in flattering light with reduced glare and softer shadows, even in dim or backlit conditions.

### RightSight\*

Perhaps the most significant new technology found in the Rally solution is RightSight, Logitech's new built-in, AI-powered technology for auto pan/tilt/zoom. Improper framing is the Achilles heel of video conferencing. No matter how great the image and sound processing, poor framing can cause a lack of engagement.

Logitech's RightSight automatically moves and adjusts the lens to comfortably frame meeting participants in rooms of all shapes and sizes. When we meet in person, sometimes we look at the whole room and all of the participants, and sometimes we look at one speaker. This process has been hard to recreate in video conferences. Manually framing via remote control, local or far-end, can be highly distracting to everyone.

Automated solutions using advanced array microphones and acoustic analysis were reasonably effective, but expensive. Rally approaches the problem with image analysis and processing, and at \$1,299, makes the technology accessible.



The Rally camera solves the issue with torso detection. Rally detects human faces and torsos and isn't concerned with whether someone is looking at the camera. This approach avoids the complex personal data issues associated with facial recognition and instead focuses on the simple problem of framing the video. The approach has the added benefit that torsos don't need to face the camera.

### RightSound

Audio isn't the first thing that comes to mind in video conferences, but it should be. Poor audio is very distracting. It's impossible to give 100 percent when the brain is taxed just trying to understand what is being said.

While cameras have specifications for resolution and megapixels, audio is harder to measure objectively. But RightSound's audio capabilities enable Rally to excel at delivering natural, crisp, and intelligible audio. The tool enhances voice clarity by suppressing background noise, auto-leveling voices, and focusing on active speakers.

To deliver these achievements, Logitech RightSound has three broad components: the speaker(s), microphone(s), and audio-processing software.

*\*RightSight was tested using a beta version during evaluation.*

## Speakers

Logitech created a new Rally speaker bar that addresses common problems with video room audio. In a video conference, the best location for the speaker is near the display. This video-first placement ensures that audio comes from where we see the person or people speaking.

It's common with low-cost systems to put the speaker on the table. This solution is simple, and arguably more familiar from an audio conferencing perspective. With audio conferences, the person or people speaking (the source) comes from the device on the table. But with video, tabletop audio can be disconcerting or confusing to the brain. To avoid this discord, Rally adheres to a video-first design by placing the speakers near the display

For a quality audio experience, it's not just where the audio goes, but the quality of the speaker. Thin screen displays have poor speakers, so most solutions now use external speakers. Unfortunately, most of these only address volume, not clarity. Rally's speaker bar is optimized for the mid-range frequencies of human voice and contains a large 3" speaker with a 76 mm driver. The Rally speaker bar can fill larger rooms with lifelike sound that's far superior to most speaker bars or thin-screen built-in speakers.

One or two speaker bars can be used, although one is sufficient for rooms as large as 40 feet x 25 feet. The speaker bar is intentionally a standalone component to eliminate the risk of interference from vibration.



## Microphone Pods

Rally also got a new tabletop microphone pod. Each pod is a disc, 4 inches wide and 3/4 inch tall. Each is covered in the same stain- and water-resistant material as the speaker bar. The pod contains four microphone elements, which create eight separate beams for optimal pickup and noise cancellation.

These pods can be placed anywhere in the room and can accommodate unusually shaped rooms. Each additional pod adds coverage for about six more participants. The pods can interconnect via daisy-chain cabling, or via an optional Mic Pod Hub for maximum flexibility. One Rally system can accommodate up to seven mic pods for meeting spaces that fit up to 56 people.

## Audio Processing Software

Although digital signal processing and noise cancellation technologies are now common in conference phones and headphones, the technology is still relatively young and experiencing significant improvements. The Rally solution incorporates very advanced AI-enhanced algorithms to improve the audio experience.

The Rally audio solution will automatically soften loud voices and amplify soft ones. It will amplify and soften a single speaker as he or she moves around the room or speaks facing a whiteboard instead of a microphone. Rally also uses its beamforming microphones in the pods to identify and cancel noise.

Rally's audio system is among the most advanced for video conferencing, yet packaged in an affordable USB solution. All this is achieved within the Rally system. Any further processing from the video conferencing solution starts with a clean source.

All of these technologies are built into the Rally hardware, so they will work with most conferencing services including Microsoft Teams and Zoom.

## Simplified Installation

Separate components are central to Rally's design. As a result, Logitech also addressed cable management, which is where most USB solutions trip up — literally and figuratively. Rally System includes a Display Hub and Table Hub to simplify wiring. While two more devices may seem counterintuitive, they dramatically reduce cable clutter. The two hubs are interconnected with a single, standard Cat-6 cable. Only one cable needs to connect the table area (on or above the table) to the display area.



Each Hub provides a full complement of necessary ports. That means, for example, the meeting computer can be near either Hub — a personal computer on the table or a shared room processor located near the display. A video input connection on the Table Hub eliminates the need to run a separate video cable for content sharing. The Display Hub can power up to two speakers, and its suspension design minimizes vibration. A wall mount option is available for the camera, two speakers, and hubs.

## Rally Offers Value and Quality

Visual communications are increasing due to the rising popularity of distributed teams, inexpensive meeting services, and the collaboration effectiveness of screen sharing. With a starting price of about \$1,299 for the standalone camera and \$1,999 for the entire solution, Rally offers a cost-effective way to video-enable meeting rooms for effective video and collaboration.

Last year, Logitech MeetUp offered a no-compromise conferencing solution intended for smaller rooms. Now, Rally addresses larger rooms and raises the bar with newer technologies and automation.

Logitech's RightSense bundle of technologies automates better video experiences. RightSight auto-frames participants regardless of their distance from the lens. RightLight prioritizes faces and renders natural-looking colors. RightSound picks up and levels all the presenters and suppresses background sounds.



*Dave Michels is founder and principal analyst at TalkingPointz. TalkingPointz offers research and analysis on enterprise communications. Dave has over 30 years of experience in telecommunications and unified communications, and is regular contributor to industry sites and conferences. Dave holds graduate degree in Telecommunications and lives in Boulder, CO.*

 @DaveMichels

\* Rightsight was tested using a beta version during evaluation. For information on availability please contact Logitech.

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