

PLATO Madison
Inexpensive Equipment
for Hybrid Meetings
(Google Meet or Zoom)
8/20/2023

Assumptions:

- host use of Windows or Mac laptop with USB ports
- reliable internet connection and bandwidth
- HDMI output to in-room TV or projector
- adequate room lighting

Webcam

A laptop or other device's **internal webcam** may be useful to show speaker/host (with internal microphone and speakers muted), but its field of view (typically 60-70 degrees) is too narrow for capture of the full room.

To capture the full room, you'll need a **wide-angle (90-degree) USB webcam** connected to a laptop or other device rather than that device's internal webcam.

One can use multiple cameras in a room (one for each active device) - for example, an internal webcam capturing the host and a wide-angle webcam attached to a separate laptop capturing the full room.



For capture of the room, the wide-angle webcam should be positioned at the end of the conference table (people on both sides), or back from one side of the conference table (people all on other side of table), or at the front of the room (people sitting in one or two rows at front of room).

The wide-angle webcam can be mounted on a **tall table tripod** or a **floor-standing tripod**, with lens 11+” above the table or 40+” above the floor (to see over laptop screens, if any).

“Speakerphone”

For room audio (room's only microphone and speakers), you'll benefit from a quality **“speakerphone”**, a microphone/speaker combo connected by USB or Bluetooth to a laptop or other device connected to the Google Meet or Zoom session. A USB connection may offer slightly better clarity, but Bluetooth is useful especially for tablet or mobile phone use. Many speakerphones support both options.



For best audio performance, the “speakerphone” should be positioned in the middle of the conference table or in the middle of the room's seating arrangement.

All other active devices in the room must have their microphones and speakers muted. In-room participants could use headphones or earbuds if desired, but would still need to mute their microphones.

Purchase List

wide-angle (90-degree) USB webcam:

TaoTuo 1080P USB webcam (93-degree; slight fisheye distortion)
\$12.65 <https://www.ebay.com/itm/265918662811>

Aukey PC-LM1E 1080P USB webcam (96-degree; Greenland distortion)
\$14.99 <https://www.newegg.com/aukey-pc-lm1e-overview-full-hd-video-1080p-webcam/p/1EF-01DY-00003>

Aukey PC-LM7 1080P USB webcam (96-degree; Greenland distortion)
\$8.99 <https://www.walmart.com/ip/AUKEY-1080p-Webcam-USB-Web-Camera-with-Privacy-Cover-Compatible-with-Windows-Mac-PC-and-Laptops-Black-PCLM7/278414883>

USB 2.0 extension cables:

12ft 3-pack \$12.99 <https://www.amazon.com/gp/product/B097QD72B9>

6ft 3-pack \$10.99 <https://www.amazon.com/gp/product/B097QCD5DB>

5ft 2-pack \$7.64 <https://www.amazon.com/gp/product/B0BWK26BVD>

Bluetooth-or-USB speakerphone:

Jabra Speak 510 UC Optimized (price can vary from \$70 to \$140)
\$70+ <https://www.amazon.com/Jabra-Wireless-Bluetooth-Softphone-Packaging/dp/B00AQUO5RI>
(to save money, consider both "UC" variants and "Used-Very Good" listings from Amazon/Amazon Warehouse; these are new merchandise with damaged packaging or possibly customer returns)

CA Essential Speakerphone SA-2000 (untested; worth a try?)
\$39.99 <https://www.amazon.com/Essential-Speakerphone-SP-2000-Cancelling-Microphone/dp/B092X3Z53W>

USB-only speakerphone:

EMEET M1A USB-powered speakerphone
\$69.99 <https://emeet.com/products/speakerphone-m1a>
\$63.99 <https://www.ebay.com/itm/295316272037>
?????? <https://www.amazon.com/dp/B09WWYKP42>

table tripod (height 10" or more):

Goocong Flexible Tripod (10" height)
lightweight; twistable legs; includes mobile phone holder and Go-Pro mount
\$10.55 <https://www.amazon.com/dp/B0B81RBV96>

floor-standing tripod (height 39" or more)

Coordinators will probably need to use their own laptop, mouse, and mousepad. Consider having a grab-and-go carrying bag to keep all additional equipment together that might be needed to assemble hybrid equipment. This might include an extra laptop power supply, speakerphone, a few USB cables, a USB extension cable, and two AC extension cords which can accommodate grounded or ungrounded plugs. Some laptops these days have very few ports, so they might also require a USB hub. Specific needs will depend on the host location's facilities.