

Technical Brief – Extending the Polycom Eagle Eye Cameras

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Running Polycom Eagle Eye camera on long cable runs

The connection on the Polycom HDX series video input for cameras is referred to as an HDCI connection. HDCI is an acronym for High Density Camera Interface. The main input on the HDX series provides IR and power for the Polycom EagleEye HD camera. Additional inputs or using other cabling besides an HDCI cable will require the use of the optional external power supply (1465-52621-036).

Polycom offers two standard Eagle Eye camera cables, a 3m (2457-23180-003) and a 10m (2457-23180-010). Additionally the Polycom Custom Product group offers a 15m (7230-25659-015) and 30m (7230-25659-030) cables, both include the appropriate power supply. There are two standard EagleEye 1080 cables, a 3m (2457-28153-001) and a 10m (2457-28154-001), as well as a 15m (2457-28154-050) and 30m (2457-28154-100) available from Custom Products. These solutions are in the price list and can be ordered from your Polycom partner.

The Polycom EagleEye View camera is an Electronic Pan-Tilt-Zoom (EPTZ) camera which in addition to providing video has 2 embedded microphones which carry the independent audio signals in the HDCI cable. The cables which have audio pins have a brown over-mold on the connectors. It comes in two lengths 3m (2457-29759-001) and 10m (2457-29759-010). When using the EagleEye View and the appropriate cables the microphones are used unless there is a CLink2 connection, which then disables the EagleEye View internal microphones.

In order to run the cable longer than these Polycom offers an HDCI breakout cable (2457-23521-001), this cable breaks the video out to five BNC connectors and the serial com and IR to a DB-9 connector. In the case of the Eagle Eye camera three of the five BNCs (G,B,R) carry the component video (YPbPr), the other two BNCs carry Hsync and Vsync which are not used in the Eagle Eye camera. The DB-9 connector carries the RS-232 as well as the IR control signal from the camera to the codec (carried on pin 9).

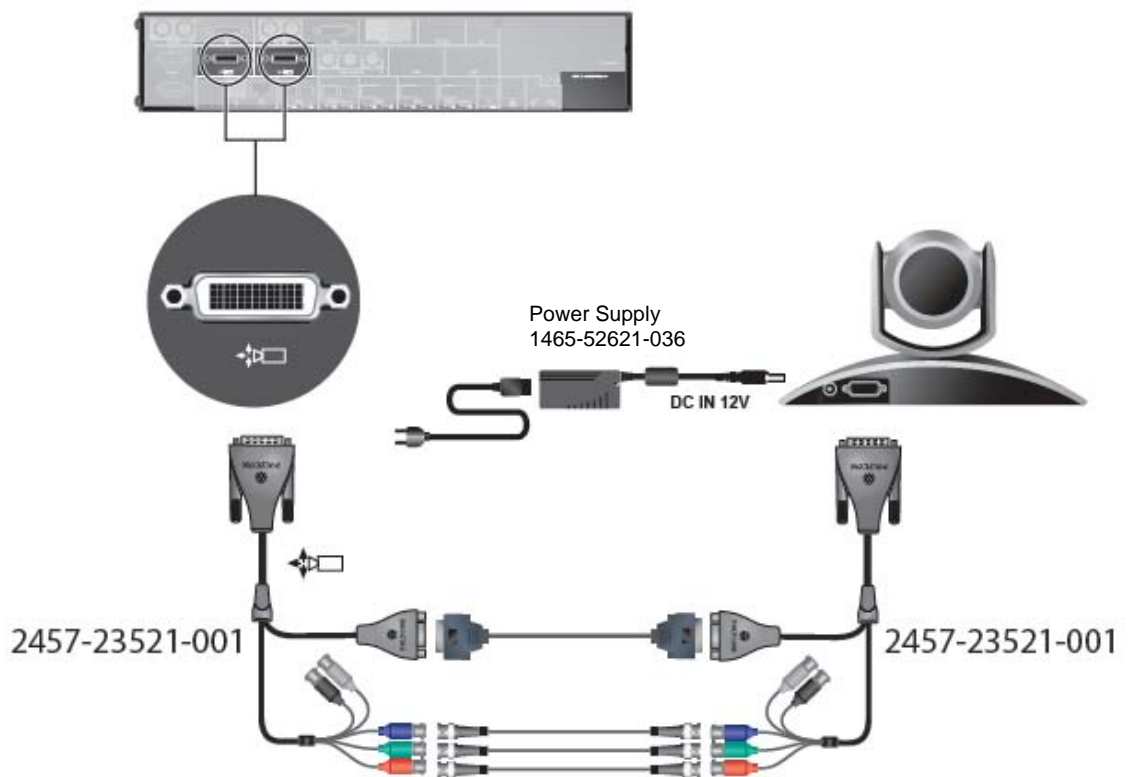
By using two of the HDCI breakout cables, one for the camera and one for the codec end, the user can extend the cable run by purchasing RS-232 cables and BNC component cables, and connecting them to the breakout cables. The camera will need to be powered by using the external power supply plugged into the external power connector on the camera.



A one hundred (100) foot solution was tested in the lab. A 125 foot RS232 cable was purchased from L-com (100' was not available off the shelf); the PN tested was CSMN9MM-125. A 100 foot plenum rated BNC component video cable was purchased from L-com, PN CTL3PL-100.

Note that our serial camera control runs at 9600 baud. The RS232 cable is a straight thru cable.

This combination of breakout cables and extension cables was functionally tested and observed to work; video, serial and IR control. Further testing comparing the data revealed there is an approximately 3 % loss of video amplitude when using the 100 foot cable over a five foot cable. The pixel skew is insignificant. Overall the 100 foot cable tested works very well in delivering the video from camera to codec, but high grade cabling must be used to assure these results.



There are two companies which offer solutions for the EagleEye cameras which allow extension of the cameras over Cat5 cables. They are Vaddio (www.vaddio.com) and their WallView Pro camera systems and Sound Control (www.soundcontrol.net) and their RemoteCam 2™.

The Polycom EagleEye Director, a dynamic locating camera technology from Polycom, is limited to the standard HDCI cables of 3m and 10m. If there is a requirement to extend beyond this distance the company mentioned above, Sound Control, offers the RC2-Director which can be used.

Please contact these companies for assistance as Polycom works with both of them and this is not an endorsement for either one of these fine partners but is provided as a guideline for solutions which complement the Polycom video systems.

Please refer to the Integrator's Reference Manual for Polycom HDX Systems (www.polycom.com/videodocumentation) for additional information and other references for room design, API commands, cable pin-outs and other camera installations.