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## Camera Mount for Headset

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## Camera Mount for Headset

### ABSTRACT

Virtual Reality (VR) headsets have multiple cameras mounted on the headset. For proper operation, the relative positions of the cameras need to be maintained during use. In particular, cameras that are the reference cameras for the headset need to maintain extremely tight positional tolerance during strap tensioning of the headset. This disclosure describes a camera mount design for high positional tolerance. The main structural piece of the headset is manufactured using a stamping process. A stereo bracket is attached to pedestal mounts associated with the reference cameras. This enables the reference cameras to be decoupled from the rest of the system and maintain a tight relative positional tolerance. A slot is cut away within the main stamped structure to mitigate structural coupling between the reference cameras and the rest of the structure.

### KEYWORDS

- Positional tolerance
- Camera mount
- Virtual reality (VR)
- Headset
- Pedestal mount
- Stereo bracket

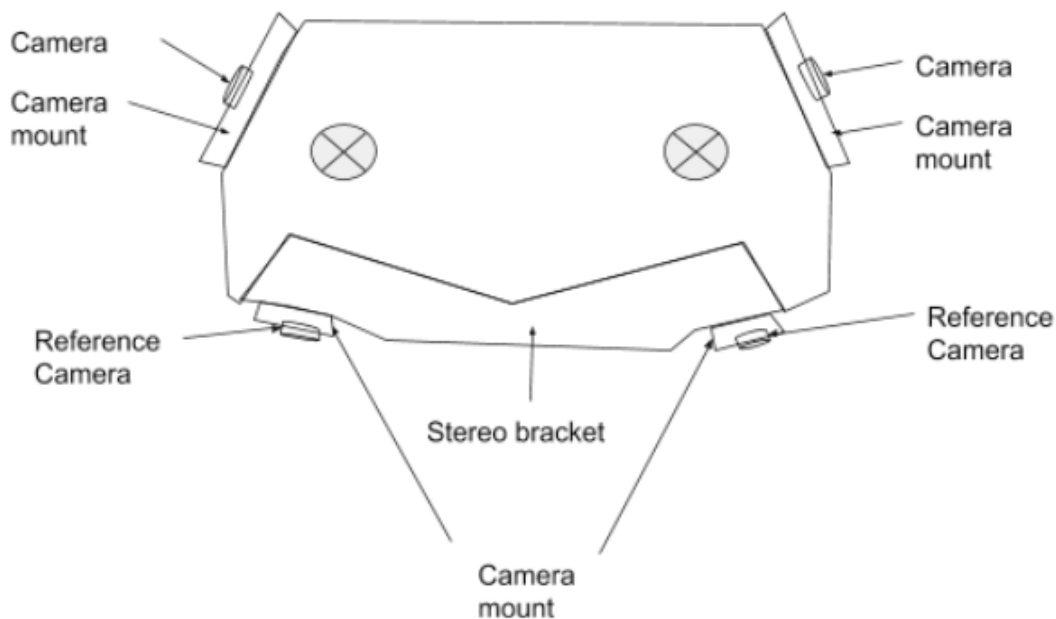
### BACKGROUND

VR headsets include multiple cameras that are mounted on the headset. During use of the headset, it is important that the cameras maintain positional tolerances. In particular, cameras

that are the reference cameras for the headset have to maintain extremely tight positional tolerance during strap tensioning of the headset.

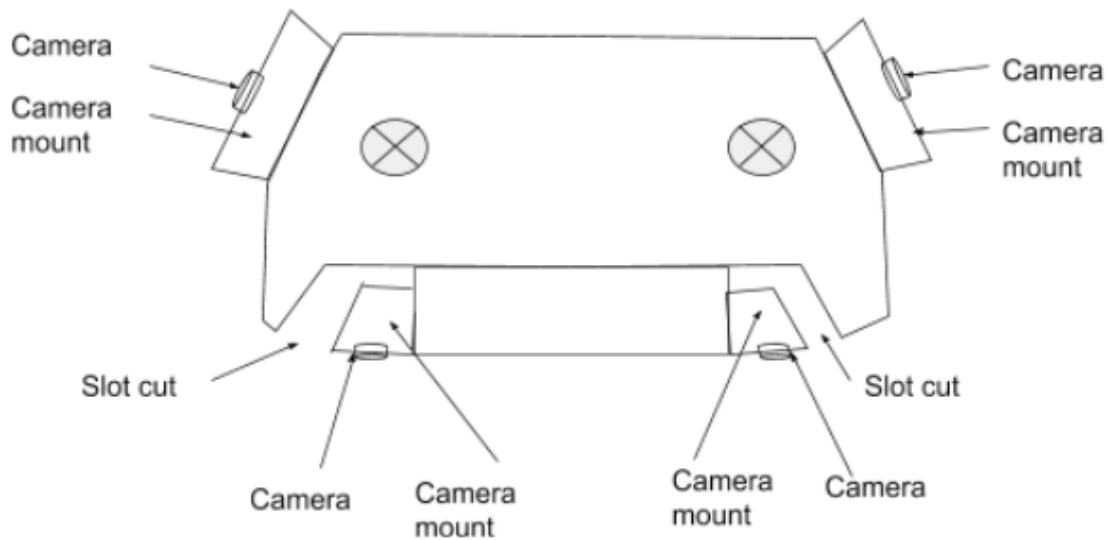
## DESCRIPTION

This disclosure describes a camera mount design that provides high positional tolerance of the cameras of a VR headset. Per techniques of this disclosure, the main structural piece of the headset is manufactured using a stamping process.



**Fig. 1: A stereo bracket used to couple cameras for high positional tolerance**

Fig. 1 illustrates elements of the camera mount design, per techniques of this disclosure. As depicted in Fig. 1, cameras are attached to the main structure using pedestal mounts. The pedestal mounts are manufactured using an overmolding process to provide high positional tolerance. A stereo bracket is attached to the pedestal mounts associated with the reference cameras. This enables the reference cameras to be decoupled from the rest of the system and maintain a tight relative positional tolerance.



**Fig. 2: A slot cut relieves structural coupling of cameras with the main structure**

Fig. 2 depicts additional design elements for the camera mount. As illustrated in Fig. 2, a slot is cut away within the main stamped structure to mitigate structural coupling between the reference cameras and the rest of the structure. As described earlier with reference to Fig. 1, the stereo bracket recouples the camera mounts relative to each other instead of to the main structure. Consequently, the recoupled reference cameras maintain a high degree of positional tolerance.

## CONCLUSION

This disclosure describes a camera mount design for high positional tolerance. The main structural piece of the headset is manufactured using a stamping process. A stereo bracket is attached to pedestal mounts associated with the reference cameras. This enables the reference cameras to be decoupled from the rest of the system and maintain a tight relative positional tolerance. A slot is cut away within the main stamped structure to mitigate structural coupling between the reference cameras and the rest of the structure.