ILRIS OFFSET AND GEOREFENCING

0,0,0 Location
Center of bolt hole on the surface plane
NOTE: All data is referenced to this point regardless if the pan/tilt is attached or tilted

Vertical Offset from GPS antenna mount (bottom center of bolt) to ILRIS
0,0,0 is 0.281m

Vertical Offset from Pan/tilt bottom to ILRIS 0,0,0 is 0.18m

Example 1: GPS Point collected with Antenna Mounted to the GPS antenna mount:

GPS COORDINATE FOR ILRIS = GPS point - Antenna Height (Z) - 0.281m (Z)

Note: The equation is the same with or without the pan/tilt attached.
It is also the same with tilted scans using the pan/tilt as long as the GPS point is collected when the scanner is level

Example 2: Control point on the ground with ILRIS only:

CONTROL COORDINATE FOR ILRIS = CONTROL Coordinate + Tripod Height (Z)

Example 3: Control Point on ground with ILRIS and Pan/tilt:

CONTROL COORDINATE FOR ILRIS = CONTROL Coordinate + Tripod Height (Z) + 0.18m (Z)

Pan/tilt calibration

Internal camera calibration
External camera calibration

External camera calibrations are specific to the instruments used; the following calibration parameters were provided to UNAVCO by Optech specifically for the UNAVCO Optech Ilris 3D scanner with a Nikon D300 camera and a Nikon 20mm lens. These parameters serve only as an external camera calibration example.

Online URL: