Raygun Control Bindings Guide

"Raygun" *Star Citizen 4.0* T.16000M HOSAS Bindings, Version 2.0

Join the Linux Users Group (LUG!): Getting Started with *Star Citizen* on Linux.
Bindings and Guide by Aradayn. My referral code: STAR-QJ6Q-DSPB.

This is a guide and overview for a set of control bindings targeted at *Star Citizen* version 4.x, for a pair of T.16000Ms in HOSAS configuration.

The name "Raygun" is a callback to the rayguns of the Golden Age of Science Fiction, as the T.16000Ms invoke more of a sense of that slap-dash playfulness and joy of the early era of science fiction than more expensive joysticks.

Importing

The saved bindings have the left stick as device one and the right stick as device two. Pay attention to which of your devices correspond to the left and right sticks when importing the bindings; make sure to select the target bindings so they match your devices.

If any axes are not behaving as expected, these options are in the *Options* menu, *Controls* tab, *Inversion Settings*. The device being inverted can be changed by the device setting box on the bottom right of this screen. Remember which device numbers correspond to each of your devices so you invert the correct device.

Game Settings Configuration

Important

Turn on *Lock Ping Controls to Scanning Mode* because the bindings have conflicts if you do not.

Recommended

Turn off *Defaults - Flight - Automatic Slowdown On* for more control of your ship even when the landing gear are down.

Turn off *Defaults - Flight - Proximity Assist On* if you don't like losing engine power while close to the ground, even when moving very quickly toward it.

Turn on *Defaults - HUD - Advanced HUD on in SCM* and *Defaults - HUD - Advanced HUD on in NAV* if you like having more information shown on the HUD.

Set *Pilot - Velocity Indicator* to *Always On* so you are always aware of the direction your ship's traveling in.

Set your desired weapon default convergence distance in *Defaults - Weapons - Default Convergence Distance.* (1500 meters is the game default.)

Turn on *Defaults - Weapons - Precision Lines On* for more detail on where you can aim to hit enemies.

Set *Defaults - Weapons - Staggered Fire On* if you prefer that to the default "barrage" mode.

Turn on *Missiles - Armed Missile Count Can Loop* if you want that.

Turn off *Vehicles - Existing Combat Seats Requires Hold (250ms)*, it makes more sense for joystick users since we are less likely to hit Y by accident.

Turn on *Emissions HUD - Display Signature Values* for more feedback on your ship's stealth status.

Mnemonics

The left stick has more of a focus on defensive and passive actions such as movement, while the right stick is more focused on active actions such as combat, mining, and salvaging.

Up/right is "forward/increase." Down/left is "backwards/decrease."

Master and Operator Modes are all controlled by the left stick HAT.

All power bindings are always in Weapons, Engines, Shields order left to right, which also matches the MFDs in-game.
The left stick's base buttons are mostly power; the left side are power levels, the right side are power switches as well as controls dedicated to takeoff and landing.

The right stick's left base button cluster is a contextual cluster; the buttons will do different things based on the current operator mode.

The left stick's twist axis is like a screwdriver: turn clockwise to go down, as if driving a screw in, and counter-clockwise to go up, as if unscrewing a screw out.

Planetary Takeoff, Flight to Harbor Station, and Landing

Follow this guide for an introduction. More details for each category are listed later.

After entering your seat, you'll first need to turn on the ship's main power. Power and takeoff and landing controls are on the **left stick's right base buttons**. The **bottom-left button** controls main power. Press it once for on. For safety, to turn off the power you must double-tap it. Then, you'll need to activate the engines. The **top-middle button** controls engine power. The same as main power, it's tap to turn on and double-tap to turn off.

Weapons and shields will be on by default. They can be controlled by the **top-left** and **top-right buttons** respectively. Deactivate weapons if not needed to allow more power for other systems.

Next, you'll need to request takeoff permission. To do so, tap the **bottom-middle button**.

Move the **slider on the base of the left stick** down to a desired maximum safe speed, such as 30-50 meters per second. Then, use the **twist axis on the left stick counter-clockwise** to strafe up to take off.
If the hangar door is in front of you, you can press **forward on the left stick Y axis** to move your ship forward.

To verify that the hangar doors are open, press double-tap then hold the **right top button on the right stick** to enable free-look mode, or double-tap and release to toggle free-look mode, and move the right stick to look around. Additionally, if necessary, you can tap the same button to switch to the external camera view and back.
If you toggled free look mode, double-tap the **right top button on the right stick** again to turn off free-look when you're finished.

Once you've cleared the hangar, tap the **bottom-right button on the left stick's right base buttons** to retract your landing gear.
Return the **slider on the base of the left stick** to the top position to remove any speed limit.

Use the **X and Y axes of the right stick** to pitch and yaw your ship to orient it facing up, and then use the **right stick Y axis** to engage your throttle forward. Hold the **lower button on the top of the left stick** while the left stick is pushed forward then release to set the throttle trim, which will keep your ship moving even if you release the left stick. If you wish to release the trim, tap the button. Be aware of your trim being engaged, and be sure to always release it before navigating for landings and other delicate situations!

Press down on the **HAT on the left stick** to toggle Master Mode to NAV, which will allow a higher maximum speed after the ship's quantum drive has spun up.

Push up on the **HAT on the left stick** to toggle Flight Operator Mode as you leave the atmosphere to remove the distracting Quantum Travel indicators which are not currently needed.

Once you're clear of the atmosphere, push up on the **HAT on the left stick** to toggle Flight Operator Mode again, which will return to the default operator mode for the current mode, which is Quantum Operator Mode, as your are in NAV, and point your ship toward the harbor space station.

Once your ship's quantum drive is calibrated, press and hold the **right trigger on the right stick** to engage your quantum drive.

When you get within seven kilometers of the station, press the **down on the HAT on the left stick** to toggle Master Modes back to SCM mode.

When you get within five kilometers of the station, tap the **bottom-middle button on the left stick's right-side base buttons** to request landing permission, then tap the **bottom button on the top of the left stick** while holding the left stick forward to reset your throttle trim and return to manual throttle control.

You don't need to hold the stick forward to reset trim, but it will prevent sudden deceleration.

Use the **X axis of the left stick** to strafe horizontally, the **Z axis of your right stick to roll**, as well as the other axes you've already used to further control your ship to navigate to the landing site.

When you are within 200 meters of the landing site, tap the **bottom-right button on the left stick's right-side base buttons** to deploy your landing gear. If desired, use the **slider on the base of the left stick** to limit your max speed for safety on approach.

Once you've landed, turn off your engines and main power by double-tapping the **top-middle** and **bottom-left buttons on the left stick's right base buttons** respectively.

Flight Axes and Flight Control

The left stick strafes: Y forward and back (throttle), X left and right, Z up and down.
The right stick controls yaw, pitch, and roll, with X, Y, and Z respectively.

The left stick slider controls the speed limiter. The left stick trigger engages boost. Note that engaging boost with the throttle at zero is equivalent to spacebrake. Ships generally slow down faster if you are facing opposite the direction you're traveling, as the main engines will be able to fully counter your movement.

The bottom button on the top of the left stick controls trim. Holding it down for a moment will set trim, tapping it will reset trim.

The bottom button on the top of the right stick toggles coupled mode (drift mode.)

Pressing the top middle button on the right stick's right base buttons will toggle VTOL mode. Pressing the bottom middle button with toggle Gravity Compensation.

The right stick trigger engages the jump drive and QT.

Ground Vehicles

Use the left stick Y axis to move backward and forward, and the right stick X axis to turn. Use the right stick Y axis to pitch (if applicable.)

Use the bottom button on the top of the left stick to brake.

Use the bottom button on the top of the right stick for the vehicle horn.

Targeting

Right Stick HAT Directions:

- Up: Cycle in-view or lock the target under the reticle.
    - Double-tap: Cycle subtarget.
- Right: Cycle All Targets
- Left: Unlock Current Target

Guns

The right stick trigger fires guns.

Use the top-middle button on the right stick's left base buttons to cycle through gun groups.

Missiles

Switch to Missile Operator Mode by pressing up on the left stick HAT while in SCM mode, then use the top-right and top-left buttons on the right stick's left base buttons to cycle forward and back through types of missile to launch.

Select the number of armed missiles by pressing the top-middle button in the same cluster. Reset it by double-tapping the top-middle button.

Launch missiles using the right stick trigger.

Bombs

Switch to Missile Operator Mode by pressing up on the left stick HAT while in SCM mode, then select bombs by using the top-right or top-left buttons on the right stick's left base buttons.

The bottom-left and bottom-right buttons in the same cluster control the bomb HUD. Left will zoom out, right will zoom in. The bottom-middle button sets the desired impact point.

Press the right stick trigger to drop a bomb.

Precision and Untargeted Aiming

Tap down on the right stick HAT to toggle ADS. Hold down for ADS max zoom.

Use the right stick slider to manually control weapon convergence.

Countermeasures

The left stick head left button deploys Decoys (flares) and double-tapping will do a panic launch. The left stick head right button deploys Noise.

Emergency

Eject is the top-right button in the right stick's right base button cluster.

Self destruct is the bottom-right button in the same cluster.

Jettison volatile cargo with the top-right button in the right stick's left base button cluster.

View Control

Double-tap then hold the right button on the top of the right stick to enable free-look mode while holding, or double-tap and release to toggle free-look mode.

In free-look mode, move the right stick to look around.

Tap the same button to cycle the external camera view.

Master and Operator Modes

The HAT on the left stick controls your operator modes.

Pressing down toggles between NAV and SCM master modes.

Pressing forward toggles Flight Operator Mode (in NAV) and Missile Operator Mode (in SCM.)
Pressing it again will toggle back to the default Operator Mode (Guns in SCM and QT in NAV.)

Pressing left toggles Scanning Operator Mode, right toggles Mining/Salvaging operator mode, and pressing the same one again will go back to the default Operator Mode for the current Master Mode.

Power

The left stick's right base button cluster's top-left, top-middle, and top-right buttons control weapons, engines, and shield power respectively.
Weapons and shields can be toggled by tapping, engines can be turned on by tapping but must be double-tapped to turn off.
The bottom-left button on the same cluster controls main power. Tap it to turn on, double-tap it to turn off.

The left stick's left base button cluster's pairs of up and down buttons control weapons, engines, and shield power respectively from left to right. The up buttons raise power, the bottom buttons lower power.

Ship Physical Configuration

Cycle configurations with the top-left button on the right stick's right base button cluster. This applies to ships like the MISC Reliant and HULL series.
Toggle port lock/unlock with the bottom-left button in the same cluster.

Tap the bottom-right button on the left stick's right base button cluster to toggle landing gear.

Press the left button on the top of the right stick to toggle ship exterior lights.

Air Traffic Control (ATC)

The bottom-middle button on the left stick's right base button cluster contacts ATC for landing and takeoff permission.

Scanning

Press left on the left stick HAT to toggle Scanning Operator Mode.

Increase and decrease the radar ping angle with the top-left and top-right buttons on the right stick's left base button cluster. Press the top center button to ping.

Use the right stick trigger to start a scan.

Mining

Refer to Scanning for locating and scanning mining deposits.

Press the left stick HAT right to switch to Mining Operator Mode.

Press the right stick trigger to toggle the mining laser.

Use the right stick slider to control mining beam power.

Press the top-left button on the right stick's left base button cluster to switch mining lasers. (Normal and vacuum.)

Use the bottom three buttons on the same cluster to use mining gadgets one, two, and three respectively from left to right.

Jettison volatile cargo with the top-right button in the same cluster.

Salvage

Press the left stick HAT right to switch to Salvage Operator Mode.
Use the top-right and top-left buttons on the right stick's left base button cluster to toggle the right and left salvage heads, respectively.

Use the bottom-left and bottom-right buttons in the same cluster to cycle the left and right heads' modes respectively.

Press the top-middle button in the same cluster to toggle Fracture Mode, and the bottom-middle button to toggle Disintegrate mode.

Tractor Beam

The tractor beam is engaged by the trigger, either the right trigger on a ship with only a tractor beam or the left trigger if the left salvage head is the one with a tractor beam option.