Return of the Vortons

It is 140 years in the future. The evil Vortons from Tau Ceti have invaded every star system within 12 light years of Earth. As the Captain of the Star Destroyer I.S.S. Olympia, you must eliminate this threat before the Vortons can complete their conquest. The Olympia is equipped with 5 fighter ships, 50 Ten Gigaton Plasma Torpedoes, a 198 PW Pulse Laser and the new Nova Burst weapon to help you defeat the agile and fast moving saucer ships. The saucers have powerful missiles and travel in armadas of up to twentyfive ships. The Vortons also have Mother Ships that can deploy more saucers.

In addition to accurately simulating the positions and look of most major objects in our Solar System, Return of the Vortons calculates hull temperature, relative ship time, ETA's, gravitational drift and more!

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Game Modes:

Story Mode

Your mission is to eliminate the Vorton threat by destroying all their ships and the Vorton defense station. The farther a star system is away from Earth, (up to Tau Ceti) the more enemies the system will contain. In addition, the amount of time it takes for a mother ship to produce a new saucer is reduced. Systems farther than Tau Ceti have fewer saucers but the mother ship produces saucers quickly. In the Tau Ceti system there are four mother ships and a defense station.

Score:

When you destroy an enemy, your score is increased as follows:

Saucers: 100
Mother Ship: 1,000
Defense Station: 10,000

The score is adjusted according to difficulty and the amount of time taken to clear the sector.

Discovering an uncharted system is worth 100 points. Bonus points are the same as in Explore mode.

At key points in the story, the view screen will display communications from the Star Command Admiral. He will notify you of away missions and other important information. When the Admiral is talking, all controls are inoperative.

Away missions must be finished in the Sol and Alpha Centauri systems before you can leave either system. The Tau Ceti system can not be entered unless the enemies in all the other sectors have been defeated. Completing the away mission in the Tau Ceti system is the final challenge.

Story Mode must be completed to make the other modes available.

Battle Mode

Each system has twentyfive enemy ships that must be destroyed.The Tau Ceti system contains four Mother Ships and a Defense Station. When entering a system, the enemies are regenerated. Landing on planets is not allowed.

Score is determined by difficulty level and how quickly the sector is cleared. Discovering an uncharted system is worth 100 points. Twentyfive new enemy ships will be there. Be careful, there aren't any spacestations in uncharted systems.

Explore Mode

No enemies. The goal is to find uncharted systems, and orbit new planets.

In the known star systems, when a new planet is orbited, score is increased by 100. If a small moon is orbited, 150 points are added to the score. Discovering an unexplored system is worth 10,000 points, but no additional score is added for orbiting the planets or moons in the new system.

Bonus Points

When on a planet, an item marked with "?" can increase or decrease your score. Each planet contains three of these bonus point items.

The Menu Screen:

Use the mouse, Up/Down keys or the DPad to change the menu selection. Click, press Enter or the A button to perform the selected action.

- New Game – Starts a new game. This menu item changes to "Resume" after starting a game. If you were defeated, score is reduced by 500 points upon resume.
- Restart – Available after returning to the menu while playing. This is selected to start over.
- Load – Opens the Load Game Screen.
- Save – Opens the Save Game Screen.
- High Scores – Opens the High Scores Screen for the selected game mode.
- Help – If adobe acrobat reader is not installed on your system a chart of keyboard and gamepad commands is displayed. Otherwise, this document is shown.
- Exit – Ends the game and saves the high scores.

On the left side of the screen, various options are displayed. The current player's name can be changed with the keyboard when the mouse cursor is hovering over the word "PLAYER:". The desired game mode, full screen option and difficulty are selected with a click of the mouse.(Increasing the difficulty decreases the amount of damage your ship enflicts on enemies and increases the damage enemies cause to the Olympia.) Click on the Up/Down buttons to change the intensity of sunlight as it shines on the planets Options are saved when leaving the menu screen.

Loading and Saving:

Available only in Story Mode. These screens display a list of previously saved games by player. (If you change your player name, games saved under your previous name will not be displayed.) The selected game is shown in gold on the upper right. Use the Up/Down keys, mouse, the DPad or the up down buttons on the screen to change the selection. To save or load an existing file, click the selection or the Ok button. You can also press the Enter key or the A button. To enter a file name that is not in the list, type it on the keyboard. The file extension .UFO will be added automatically if you don't add it. The Escape key or Back button cancels the operation.

Controlling the Olympia:

Weapons:

- **Laser** (Left trigger / mouse or F)
  The laser can quickly destroy a saucer. Lasers draw power from an exclusive reserve that is recharged over time. In Story Mode, the laser is upgraded after completing the Alpha Centauri away mission. This upgrade is automatically added in Battle Mode.
- **Torpedoes** (Right trigger / mouse or Space)
  Five torpedo hits will destroy a saucer when playing Easy difficulty. The Olympia is equipped with 50 torpedoes. After the Sol system away mission is completed in Story Mode, torpedo strength is doubled. This upgrade is automatically added in Battle Mode.
- **Nova Burst** (Fire Laser and Torpedoes simultaneously) Is capable of destroying all the saucers in range and will severely damage a mother ship. The Nova Burst reduces the Olympia's shield strength and will not fire if it is too low.
- **Fighters** (Start or F5) Can be deployed when available. Your fighters will attack and destroy many enemies while their fuel supplies last. When fighters are deployed, the Nova Burst weapon is unavailable. The fighters are refueled over time or when docked at a space station.
- **Sights** – The green crosshairs turn purple when an enemy or other object is targeted. Torpedoes will lock on to an enemy that has been targeted as long as it stays in range. When torpedoes are locked, the crosshairs turn blue.

Engines:

- **Star Drive**
  Forward Thrust: Left Shoulder or W
  Back Thrust: Right Shoulder or S
  Maximum Safe Speed: X button or X while applying thrust
  The Star Drive is the ship's cruising engine. The top safe speed is 6.18 times the speed of light. The number keys 1 – 8 can also be used to increase or decrease the current speed to the corresponding light speed factor. The 0 (zero) key sets the Olympia's speed to the maximum safe orbital approach speed. When the Olympia is travelling faster than 6.18c, the hull temperature will rise quickly.
- **Hyper Drive**
  A button or Enter when a destination is selected and HD indicator is green
  Arrive at a destination almost instantly. Using the Hyper drive reduces main fuel. The Hyper drive will not operate if the ship is too close to a planet or if fuel is too low.
- **Thrusters**
  Forward Thrust: Left Stick forward or T.
  Backward Thrust: Left Stick back, or G
  Thrusters are primarily used for turning, but can also be used to propel the ship to a top speed of 185,144 kps. (U doubles thrust.)
- **Brakes** – Y key/button or use opposite thrust. The Y key/button can also be used to hold position.
- **Plot Course** – P key or B button to plot a course to the selected planet or star in the current system.
- **Manual, Evasive** or **Attack Patterns**.
  F4 or Left & Right Stick Buttons together
  DPad or Keyboard Up/Down to select.
  Enter or A Button to activate.
  Manual is the player controlled mode. Evasive and Attack actions are computer controlled. Using any control key or gamepad button resets the mode to manual.
- **FTL** – When Faster Than Light speed is achieved, the screen will flash.

Enemies:

- **Saucers** – Very fast with high energy missiles. They are displayed as red dots when out of range.
- **Mother Ships** – Fire missiles and plasma torpedoes. They deploy saucers after an amount of time. When out of range they are displayed on the view screen as a large blue dot.
- **Defense Station** – Orbits Vorton. Fires missiles and has a strong defense screen. Also displayed as a blue dot when out of range.
- **Missile Lock** – If the defense Station or a Mother Ship achieves a missile lock, multiple missiles will be fired.

Other:

- **Achieving Orbit** - If you approach a planet too quickly, you will crash and burn. To attain orbit, approach the planet at a safe speed. The read-out below the view screen will inform you if you are approaching too fast and the alert will sound. Use reverse thrust to leave orbit.
- **Space station** – Dock with a space station to refuel, restock torpedoes, regain shield power and refuel the fighters. Docking is achieved just like an orbit. If you come in too fast, you will ricochet off the station's shields and damage your ship slightly. Enemies do not know the locations of these stations until the Olympia is within range of one. If the enemy destroys a station, the game is over.
- **Landing** - L key or DPad Up when in orbit around a planet where landing is possible.
- **Away Mission** – After landing on a planet, movement and weapons fire are controlled the same way as they are in space. To take off, walk into the fighter ship's ladder.
- **Asteroids** – When in an asteroid belt, a stray asteroid may appear in your flight path. If you collide with it, your shields will lose some power. The stray asteroid can be fired upon and blown up, but torpedoes will not lock.
- **Warnings** and **Status** – The computer voice and the readout below the view screen will inform you of important messages. The Red Alert will sound when enemies are in range or if the ship is in danger. A high pitched warning will sound if destruction is imminent.
- The **Cockpit** display can be toggled on/off with the F7 key.
- **Gravity –** If the Olympia is not moving, it will be pulled toward the closest planet or star. If the ship is moving near a planet or moon but not on an orbital approach, a gravity assist (slingshot) is calculated, increasing the ship's speed and altering its trajectory. Use thrusters (steer) to counteract the assist.

Cockpit Screen:

- 🌀 The Main Viewing Screen displays the objects in front of your ship. When an object is targeted (crosshair purple) the name of the object is displayed below the crosshairs. If an enemy is out of range, it appears on the screen as a dot.
- 🌀 Fuel Gauge – On top and in blue is the indicator for main engine fuel. On the bottom in red is the indicator for thruster fuel. (If your thruster fuel is depleted, you can not maneuver.)
- 🌀 Laser – Indicates laser power by color. Green is full power.
- 🌀 Ships – Scanner that shows the locations of enemies and fighters in the sector.
    - ◀ Enemy In Front: Blue
    - ◀ Enemy Behind: Light Blue
    - ◀ Fighter In Front: Green
    - ◀ Fighter Behind: Light Green
- 🌀 Planets – Scanner that shows the location of the planets and stars in the sector.
    - ◀ Planet In Front: Blue
    - ◀ Planet Behind: Light Blue
    - ◀ Star In Front: The star's color
    - ◀ Star Behind: Lighter star color
- 🌀 Speed – Indicates speed in factors of light speed. Kilometers per second are displayed below. When moving forward, the speedometer is green. When travelling backward, the speedometer is red. If you are holding position or in orbit, the speedometer is blue. The speedometer also contains an indicator to show if the Hyper Drive (HD) is available.

- Data Section:
  - Displays Earth and Ship date and time. Ship time Calculated: $st * 1/\sqrt{1-((v*v)/(c*c))}$ where st = ship time v = velocity c = speed of light
  - Ship position in relation to main star of the system in a 3 dimensional vector.
  - Number of targets in the system and the number in range.
  - Current ship control mode. Manual, Evasive or Attack.
  - The last targeted planet and ETA, or star system if the Star System Map is displayed. (The selection can be changed with the DPad or Up/Down arrows.) Pressing Enter on the keyboard or the A button on the gamepad will enable the hyper drive, if available, taking you to the selection instantly. If another object is in the flight path, you will stop at the obstruction instead. Pressing P on the keyboard or B on the gamepad will point the ship in the direction of the targeted planet.
  - Indicates how many fighters are available to deploy.
- Radiation / Hull Temp Gauge – Indicates the outer hull temperature and radiation. If you get too close to a star, the hull won't be able to take the heat and the game will end. Calculated: $394 / \sqrt{d}$ where d is distance to star in AU's. The hull temperature also increases when travelling too fast.
- Shields Gauge – Shield strength and overall power is indicated by color from Green (Full strength) to Red (Lowest Strength). The game is over if the indicator reaches the far right. Shields will recharge over time.
- Torpedoes – Shows the number of torpedoes available. If you have a torpedo lock on a target, the word "LOCK" is displayed below and the crosshairs turn blue.
- Pitch, Yaw and Roll indicate the ship's direction and rotations related to the planetary plane. If the ship is adrift, the indicators may spin.
- Ship Status – The status of the closest (or targeted) enemy within scanner range is indicated by color. If no enemies are within the scanner's range or the letter O key is pressed, the status of the Olympia is shown.
- The cockpit can be toggled on/off with the F7 key.

Star System Map: (Press F3 or the Right Stick Button)
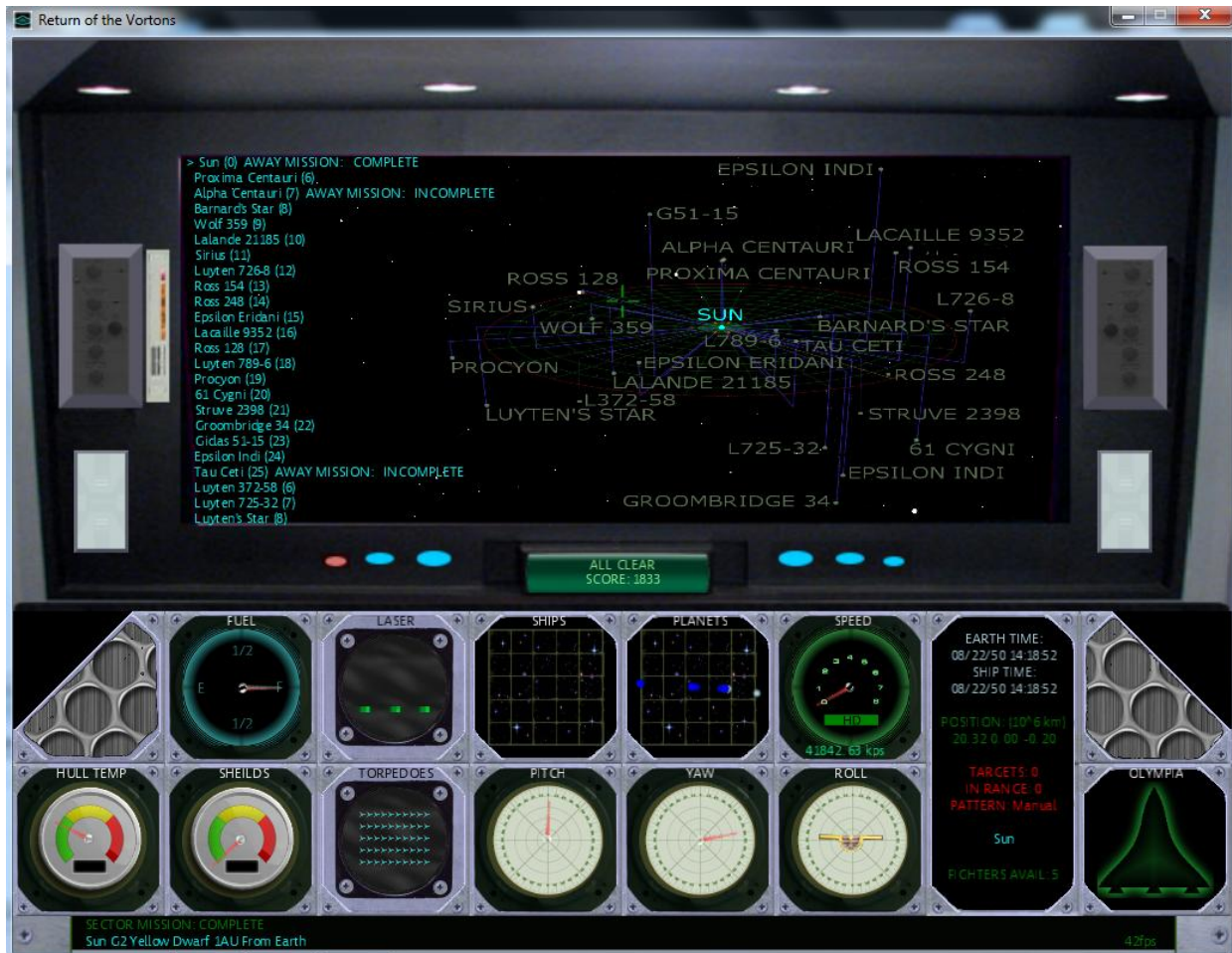
Change the selection in the list with the DPad or Page Up/Down keys. Press the A button or the Enter key to use the hyper drive and warp to the selected sector. The HD indicator in the speedometer must be green before you can use the hyper drive. The list also shows the number of enemies in the sector. When entering our solar system, the actual positions of the planets are calculated within a few degrees or so using Kepler's Equation. The positions are based on the current date and time.

The Star Systems:

Star	Type	Distance	Comment
Sun	G2	1 AU	Yellow Dwarf. Our home system.
Proxima Centauri	M5	4.22 ly	This Red Dwarf is the closest star to the sun. It is actually a member of the Alpha Centauri System. It would take the Olympia almost 12.5 days at top speed to get to Alpha Centauri from Proxima Centauri, so it is in its own system for the game.
Alpha Centauri A,B	G2, K0	4.39 ly	An orange and a yellow dwarf star. Alpha Centauri is home to Earth's allies.
Barnard's Star	M5	5.94 ly	Has the largest motion of any star, travelling 0.29 degrees in the sky every century.
Wolf 359	M6	7.80 ly	The site of Star Trek's battle with the Borg. A very dim Red Dwarf.
Lalande 21185	M2	8.31 ly	One of the brightest Red Dwarves.
Sirius A, B	A1, DA	8.60 ly	A very bright White star with the first known White Dwarf.
Luyten 726-8 A, B	M5, M5	8.73 ly	aka UV Ceti This is where Carl Sagan's aliens lived in "Contact". It contains two Red Dwarves.
Ross 154	M4	9.69 ly	A single Red Dwarf.
Ross 248	M6	10.33 ly	Another Red Dwarf.
Epsilon Eridani	K2	10.50 ly	An Orange Dwarf. A Jupiter sized planet was discovered here in 2001.
Lacaille 9352	M2	10.73 ly	A bright Red Dwarf.
Ross 128	M4	10.89 ly	Another Red Dwarf.
Luyten 789-6 A,B,C	M5, M5, M7	11.10 ly	Three Red Dwarves quite close to each other.
Procyon A, B	F5, DA	11.41 ly	Large Yellow-White star with a White Dwarf companion.
61 Cygni A, B	K5, K7	11.41 ly	Two Orange Dwarves.
Struve 2398 A, B	M4, M5	11.60 ly	Two Red Dwarves.
Groombridge 34 A,B	M2, M6	11.64 ly	Two more Red Dwarves.
Giclas 51-15	M6	11.80 ly	A very dim Red Dwarf.
Epsilon Indi A,B,C	K5, T1, T6	11.830 ly	An Orange Dwarf with two Brown Dwarves.
Tau Ceti	G8	11.90 ly	Home of the Vortons. The system is similar to our own.
Luyten 372-58	M5	12.10 ly	Dim Red Dwarf.
Luyten 725-32	M5	12.10 ly	Red Dwarf.
Luyten's Star	M3	12.39 ly	Red Dwarf

Solar System Map: (Press F2 or the Left Stick Button)

The Solar System Map is a larger version of the planet scanner. When the main star of the system is selected, the planets will be shown on the radar. If a planet is selected, the planet and its moons will be shown. Objects in front of the ship are in blue. Objects behind the ship are light blue. If the ship is in range and pointing at a planet or star, it automatically becomes the selection. Otherwise, the selection can be changed with the DPad or Page Up/Down keys. Press the A button or the Enter key to use the hyper drive and warp to the selected planet. The HD indicator in the speedometer must be green before you can use the hyper drive. If another planet or star is in the flight path to the selected destination, the Olympia will stop at the obstructing planet or star. The list also shows the ETA to the planets in the sector.

The Positional Solar System Map opens with the F6 key. It lets you see the location of the Olympia in relation to the planets. When the positional map is open, the + and – keys at the top of the keyboard are used to zoom in or out. If the system has an asteroid belt, a double blue circle indicates the approximate position of the belt.

On A Planet:

When in orbit around a planet that is safe to land on, press "L" on the keyboard or "Up" on the gamepad DPad. You will be whisked away to the planet in one of your fighter ships, so at least one fighter must be available. Once you have landed, use the gamepad, mouse or keyboard to control movement and weapons fire the same way the Olympia is controlled. (Hold the X key or X button down to run.)

Since you never know where enemy troops may be located, you'll be wearing a protective space suit after landing on a planet. (Even on Earth) The suit provides you with shields, protection from harsh environments, and oxygen. If your air or shields run out, the game is over.

When running over ramps and other objects, you may become airborne. Your space suit is equipped with jets that will propel you forward and help control your descent. The distance and height that you fly depends on the gravity of the planet. Your suit jets are not designed for takeoff.

On the bottom left of the screen is a small map that shows your location as a yellow arrow that points in the direction you are facing. The map also displays the location of your fighter ship as a light blue dot and enemies as red dots. The positions of bonus items are indicated as well.
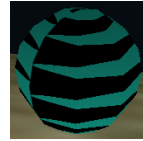
To the right of the map are three indicators. "S" shows your shield strength, "A" displays the status of your oxygen supply and "B" indicates how much ammunition remains. On each planet there are tanks of oxygen, boxes of ammo, and power spheres that will replenish your supplies.

| Oxygen | Ammunition | Power Sphere |

On the bottom right there are five inventory boxes that display icons of the items you have picked up. Walk over an item to pick it up. Inventory items are only found in Story Mode.

Below the inventory display is a 3d vector showing your position in relation to the center of the map and underneath that, your score.

Each planet also has three bonus items that randomly increase or decrease your score.

Bonus Item

Story Mode Away Missions:

After defeating the enemies in the Sol sector, you will be required to upgrade your handheld weapon in order to destroy the sub space beacon the Vortons have placed on Earth. The needed upgrades are found on Mars and the Moon. Upon success, the Olympia will receive the torpedo upgrade.

In the Alpha Centauri sector you will have to land on the third planet and retrieve the gadolinium the Vortons have stolen. The mineral must be returned to the second planet and deposited in the proper receptacle. After completing this mission, the Olympia will get a laser upgrade.

Story mode is complete after you have blown up the manufacturing plant on the Vorton home planet.

Use an XBOX gamepad or the mouse and keyboard to control the Olympia:

COMMAND	KEYBOARD/MOUSE	GAMEPAD
Forward Thrust	W	Left Shoulder
Backward Thrust	S	Right Shoulder
Instant Top Speed	S or W with X	Right, Left Shoulder with X
Light Speed Factor	1 - 8	N/A
Max. Approach Speed	0 (zero)	N/A
Forward Thrust(Thrusters)	T	Left Stick Forward
Backward Thrust(Thrusters)	G	Left Stick Back
Brake / Hold Position	Y	Y
Plot Course	P	B
Roll	A/D	Left Stick Right or Left
Pitch, Yaw	Mouse	Right Stick
Reverse Course	R	N/A
Land (When in orbit)	L	DPad Up
Fire Lasers	F, Left Mouse Button	Left Trigger
Fire Torpedoes	Space, Right Mouse Button	Right Trigger
Fire Nova Burst	Laser/Torpedoes together	Laser/Torpedoes together
Deploy Fighters	F5	Start
Solar System Map	F2	Left Stick Button
Star System Map	F3	Right Stick Button
Pattern Selection	F4	Left and Right Stick Buttons
Positional Solar System Map	F6	N/A
Toggle Cockpit On/Off	F7	N/A
Warp To Closest Enemy (Must be in scanner range)	C	Left and Right Shoulder
Change Selection	Up/Down Arrows	DPad Up/Down
Make Selection	Enter	A
Exit / Return To Previous	Escape	Back

I.S.S. Olympia

- Class - Star Destroyer
- Crew - 125
- Star Drive:
    Multi Cold Fusion Ion drive
    Max. Velocity: 6.18c
- Hyper Drive:
    Dark Matter Conversion
    Max. Velocity: n/a
- Weapons:
    50 Ten Gigaton Phase Torpedoes
    Variable Frequency 198 PW Pulse Laser
    Nova Burst
    Five fighter ships
- Shields:
    Gravity Well Deflection to 45 Gigatons
    Phase Sponge absorption 24 PW/sec.
- Scanners:
    FTL Ronar Planetary Scanner
        Range – 400 million kilometers
        Delay – 0.001ms/1 million kilometers
    SOL Lonar Proximity Scanner
        Range – 1 million kilometers
        Delay – 0.01ns/10k kilometers
    SRL Short Range Ronar Ship Scanner
        Range – 10 million kilometers
        Delay - Negligible
- Artificial Gravity 0.89 to 0.94 g

Known Issues

When playing in windowed mode, some anti-virus or other background software may temporarily steal focus from the game, causing the menu screen to be displayed.

This does not occur in full screen mode.

Speeds less than approximately 400kps will result in inaccurate ETA calculations. This is due to floating point limitations.

Estimated ETA calculations have a ~ before and after the displayed results and do not include seconds.

Gravity is not considered when plotting courses. A course to a distant destination may need to be re-plotted on route.