

XENONAUTS

GAME MANUAL

1. **GEOSCAPE:**

The Geoscape is a 2D representation of the entire world upon which most of the strategic action in the game takes place. You also control the flow of time in the game here – the four arrows at the top of the screen allow you to accelerate time (nothing will happen until you do this).

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* 1. **FUNDING REGIONS / FUNDING COUNCIL**

The Geoscape map consists of ten funding regions that collectively cover the entire in-game landmass. Each of these ten funding regions provides monthly funding to the Xenonauts, raising their payment if they are adequately protected and lowering it if not.

(These regions are not necessarily geographically correct: Mexico is not part of Central America in real life, nor is Greece part of the Middle East etc. The regions are set up this way so all of them have sufficient landmass to maintain game balance.)

Funding is mostly tied to how well you deal with the UFOs that spawn on the Geoscape. Shooting down a UFO improves your funding with the appropriate nation (the closest is used if the UFO is shot down over the sea). The funding increase is capped at twice the starting value.

UFOs will also damage your funding, as they have a chance to spawn an “event” which damages funding every hour. These events are displayed on the map and a description is shown in the text log below. Though you cannot interact with these events, they will give you a rough idea of where UFOs may be.

If a region’s relations score drops to zero, it will be lost to the aliens and cannot be recovered. **Lose enough regions and the game ends** – the number of regions differs depending on the difficulty setting.

Your current and predicted funding level is shown in the top-right corner of the screen. If you mouseover a specific region, this will update to show the current and predicted funding level for that particular region only.

Some ground missions will also affect your national relations score. The most notable are terror sites – completing the mission will grant a sizeable funding boost, but losing a battle can cause a catastrophic funding drop. Alien base missions will continually drain relations in their host nation, but also provide a boost if destroyed.

Completing crash site missions does NOT increase your local funding unless the UFO has landed (in which case you will gain the same increase as you would for having shot it down.)

* 1. **XENONAUT BASES:**

Xenonaut bases are built on the Geoscape. You are asked to place your first base when the game begins; additional bases can be built by clicking on the “Build New Base” text to the left of the Time Arrows at the top of the screen.

On the Geoscape, bases mostly serve to hold Xenonaut interceptors and house the Radar Arrays that detect UFOs as they move across the planet.

The detection range of a base is shown by a blue circle around the facility. Constructing additional Radar Array structures will expand the detection range, but this is capped at three Radar Arrays.

Any UFO which enters the detection range of a base will be detected almost immediately, irrespective of how far it is from the base or the number of Radar Arrays present at that base.

Xenonaut bases can be attacked by alien UFOs in the mid / late game. Unless the UFO is shot down by interceptors or the base’s defence batteries, this will force a combat mission where the soldiers stationed at the base must fight off the alien assault team. If they fail (or there are no soldiers at the base), the base is destroyed.

* 1. **ALIEN UFOs**

Alien UFOs periodically spawn on the strategic map. Shooting them down will grant you a relations bonus in the local country, but UFOs that are not dealt with can damage relations instead.

UFOs come in different shapes and sizes, each with different combat abilities and different strengths / weaknesses. More powerful vessels will appear as time passes, but more powerful vessels also grant greater rewards and unlock more advanced research when shot down.

A “wave” of three to seven UFO squadrons spawn on the Geoscape every few days. You will have to make decisions about how to deploy your available interceptors to deal with the different UFOs based on the threat that they pose.

As the game goes on, you will encounter UFOs with escort craft – these UFO squadrons contain a main craft and two smaller escort fighters. You will almost certainly want to send more than one interceptor against these squadrons, but be aware that only the main UFO need be destroyed. If this happens, any surviving escort craft will abort the mission and withdraw.

* 1. **XENONAUT AIRCRAFT**

Xenonauts have two types of aircraft: interceptors and dropships. Interceptors are designed to shoot down UFOs and dropships are used to carry troops to mission sites.

Aircraft of either type must be stationed at a base, but can only be constructed or purchased if the base has an empty Hangar structure. An unoccupied Hangar is also required at the destination base if an aircraft is relocated.

Starting aircraft (F-17 Condor and Charlie dropship) can be purchased on the Aircraft Equip screen, but more advanced aircraft must be constructed in the base Workshop.

Aircraft can be launched contextually by clicking on a target (i.e. a UFO or a mission) or can be launched manually by clicking the “Launch Interceptors” button to the right of the Speed Arrows on the Geoscape.

Be aware that it is not just your own aircraft that are able to initiate hostilities – alien fighter craft are highly aggressive and will attack your interceptors and dropships. Losing a dropship will usually also result in the loss of most of the soldiers inside, so be careful!

Aircraft have their own radar, shown by a blue circle around their icon. This works like a base radar and is capable of detecting nearby UFOs. It is also capable of detecting alien bases, so sending an aircraft to fly over a suspicious location (where UFOs land repeatedly) will reveal any bases present.

After a mission, an aircraft will return to base to be refuelled, rearmed and repaired. This process takes time, but any aircraft can be scrambled provided they have at least 50% fuel and health.

If an aircraft is shot down in combat (reduced to 0% health), it will crash land. It is not permanently destroyed, rather it will be recovered and repaired. This process takes much longer than normal repair work, so avoid losing your aircraft where possible.

* 1. **GROUND COMBAT MISSIONS**

Icons will appear on the Geoscape when a ground combat mission appears – a location to which you can deploy your ground troops.

There are several different types of ground combat mission in the game. A UFO shot down over land will leave a Crash Site that can be attacked with ground forces and Terror Sites and Alien Base missions are likely to appear later in the game.

To begin a mission, a dropship containing the soldiers must be sent to the mission site. The easiest way to do this is to select the mission icon, then click the Intercept button and select your dropship.

* 1. **AIRSTRIKE**

When a UFO is shot down over land, it will generate a Crash Site. This can be attacked with soldiers in a ground battle, or the player may Airstrike it instead.

Airstriking a UFO instantly provides the player with a small injection of cash. It will not provide as much money as a successful assault on the crash site, nor any alien materials or soldier experience – but it is risk-free.

As a player, you will have to balance whether the risk of losing soldiers or vehicles is worth the extra money and alien materials that would be gained from assaulting a crash site. Both courses of action are meant to be equally valid options.

1. **MANAGEMENT SCREENS:**

The strategic management screens in the game allow the player to manage their organisation. They are accessible from the row of ten buttons in the central section of the topbar.

If the player has multiple bases, they are able to use the “base selector” at the top and centre of the screen.

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**2.1 BASE MANAGEMENT SCREEN**

The Base Management screen provides information on the selected base, allows you to build or demolish base structures and also gives a breakdown of the total maintenance cost of the base and everything stationed there.

The top left panel contains relevant information on the base - the capacity of the facility, how much of it has been utilised and the number of personnel stationed there.

The bottom left panel contains the total maintenance cost of the selected base, broken down into different categories.

The central panel is a map of the existing base structures displayed on a 6x6 grid. You can mouseover any structure for a tooltip showing the name, maintenance cost and capacity of the structure. Detailed information on each structure can be found in the Xenopedia.

To construct a new building, selected it from the list in the right-hand panel and then click in the desired space on the 6x6 grid. A new structure can only be built in positions adjacent to a completed base structure. Large (2x1) structures such as Hangars can be rotated before placement using either the mousewheel or the Rotate button.

Base structures can be demolished with a right-click, recovering half of the money spent on constructing them. It is not possible to demolish a structure if it is in use (e.g. an occupied Hangar) or if demolishing the building will leave other connected buildings placed in an invalid location.

**2.2 RESEARCH MANAGEMENT SCREEN**

The Research screen has two tabs – the “Manage Research” tab and the “Hire / Fire Scientist” tab.

**2.2.1 MANAGE RESEARCH**

The Manage Research tab is selected by default and allows you to view what research projects are currently being undertaken by your scientists. Clicking on a project in the project list displays a brief summary of the likely rewards, plus a “Commence Project” button that orders your scientist to begin working on it.

The in-progress projects appear on the clipboard at the bottom of the screen. Scientists can be assigned or unassigned from projects by using the arrow buttons (the number of available scientists is shown in the column heading).

Scientists assigned to a project suffer from diminishing returns – the first scientist works at 100% efficiency, the second at 99% efficiency, the third at 98% and so on.

Unlike Workshop projects, scientists at different projects can work collaboratively on the same project with no penalties.

**2.2.2 HIRE / FIRE SCIENTISTS**

This tab allows you to hire or fire scientists at the selected base using the arrow keys.

To hire additional scientists, simply click the right arrow button to increase the number to the desired amount. The total scientists / space available / wage costs will change to reflect the new values. Scientists cannot be hired unless there is both Lab Space and Living Space for them.

Firing scientists is done by using the left arrow button – this will bring the total into negative numbers and the text of the button will change to “Fire Scientists.” You are not able to fire scientists that are assigned to a research project, so make sure you unassign them before you attempt to fire them!

**2.3 WORKSHOP MANAGEMENT SCREEN**

The Workshop screen has two tabs – the “Manage Construction” tab and the “Hire / Fire Engineers” tab.

**2.3.1 MANAGE CONSTRUCTION**

The Manage Construction tab is selected by default and allows you to view what construction projects are currently being undertaken by your engineers.

All the construction projects are split between four categories – Soldier Weapons, Armour, Vehicles and Aircraft (these are greyed out if empty). Selecting one brings up the available projects in that category, allowing you to select a project and view the cost, construction time and any required materials. To begin work, click the “Commence Project” button.

The in-progress projects appear on the clipboard at the bottom of the screen. You can increase the quantity of products being built on each project using the arrow buttons in the Quantity column, or assign / unassign engineers in the Engineers column.

Engineers assigned to a project suffer from diminishing returns – the first engineer works at 100% efficiency, the second at 99% efficiency, the third at 98% and so on.

Workshops in different bases cannot collaborate on the same project.

**2.3.2 HIRE / FIRE ENGINEERS**

This tab allows you to hire or fire engineers at the selected base using the arrow keys.

To hire additional engineers, simply click the right arrow button to increase the number to the desired amount. The total engineers / space available / wage costs will change to reflect the new values. Engineers cannot be hired unless there is both Workshop Space and Living Space for them.

Firing engineers is done by using the left arrow button – this will bring the total into negative numbers and the text of the button will change to “Fire Engineers.” You are not able to fire engineers that are assigned to a construction project, so make sure you unassign them before you attempt to fire them!

**2.4 BARRACKS SCREEN:**

The barracks screen has two tabs, “Manage Soldiers” and “Hire Soldiers”.

**2.4.1 MANAGE SOLDIERS:**

This tab allows you to view / fire / assign all the soldiers currently stationed at the base, including those who have been wounded and unable to fight (and therefore are not displayed on the Soldier Equip screen).

The clipboard at the bottom of the screen shows a list of all of the soldiers at the base. If there are more than 12 soldiers, a scrollbar will allow you to scroll further down the list. By default this list is sorted by rank, but all of the column headings are interactive – click on any of them to sort by that category instead.

The “Status” category is interactive. Clicking on the text field for a soldier brings up a dropdown that allows the player to assign / unassign them to a dropship. You will not be able to do this if the soldier is Wounded (i.e. below 50% health), but you can if they are Injured (above 50% health).

Double clicking on a soldier in the soldier list will take you to the Soldier Equip screen with that soldier selected, allowing you to customise their equipment.

The checkbox in the final column of the clipboard allows you to select one or more soldiers. The “Transfer Soldiers” and “Dismiss Soldiers” button then allow you to perform the appropriate action on all the selected soldiers.

**2.4.2 HIRE SOLDIERS**

The Hire Soldiers tab allows you to hire new soldiers to the selected base (provided the base contains enough living space for them). Soldiers cost $10,000 to hire and also have a $10,000 monthly salary.

The list of available soldiers is displayed in the centre of the screen. The list can be sorted by clicking on the various text headings, allowing the player to sort by their preferred attributes.

Click anywhere on a soldier’s stat line to select them – this is signified by a tick appearing in the checkbox at the end of the line. Once you have selected all the soldiers you wish to hire, press the “Hire Selected” button at the bottom of the tab.

The pool of soldiers is refreshed on a monthly basis or when you hire soldiers from it. Hiring large numbers of soldiers leads to a gradual decline in the stats of your recruits (although this effect resets each month).

**2.5 BASE STORES SCREEN**

The Base Stores screen allows you to manage the items in the currently selected base. You will have the choice to either “Sell” or “Transfer” items by using the appropriate tabs.

At the start of the game, the Stores screen is empty and displays an explanatory tooltip rather than the actual stores screen. This is because all starting equipment in the game is available freely and in unlimited quantities, and most items recovered on the battlefield are sold immediately in exchange for cash.

It is only when you recover either Alien Alloys / Alenium or produce some manufactured equipment of your own that you will have items to manage.

The Sell / Transfer tabs work in a similar way, the only difference being that one sells the chosen items for money and the other moves them between bases.

It is not possible to sell manufactured items for profit – you will generally receive 50% of the construction cost. This is a balance decision to ensure the player’s funding remains tied to their performance rather than an unconnected factor such as how quickly they can establish manufacturing bases.

**2.6 SOLDIER EQUIP SCREEN**

The Soldier Equip screen allows players to select the weapons, armour and equipment that their soldiers will carry into battle.

You can choose which soldiers you are viewing by using the bottom-left element. This shows the different dropships and unassigned soldiers at that base. Just click on a category to select it…unless the dropship is airborne (if so, it will be greyed out).

**2.6.1 SOLDIER PANEL**

This panel contains the vital information for the selected soldier. Their name is displayed at the top of the panel (click the link below to rename them), followed by their background information.

Below this is the row of medals that the soldier can earn in combat. These have minimal gameplay effect (+1 Bravery each) but will help you remember the brave deeds of your Xenonauts!

The Dropship Assignment line contains a black drop-down box. Click on this to (un)assign a soldier to / from the dropships stationed at the selected base.

The soldier statistics are displayed in the left-hand panel:

* Time Units: These control how far the unit can move each turn (shooting is based on a fixed %, so high TU will not allow additional shots).
* Health: This is the number of hit points a soldier has in battle.
* Strength: This affects the carrying capacity of the soldier, and when using heavy weapons (the lower of STR / ACC is used for aiming, with an additional penalty for those with less than 70 STR).
* Accuracy: This stat is used when calculating the to-hit chance for ranged weapons.
* Reflexes: This controls how likely a unit is to perform and sustain Reaction Fire (see the Reaction Fire ground combat page for full details).
* Bravery: This controls the starting morale of a soldier in combat. Low morale soldiers are more likely to panic or succumb to alien psionic attacks.

You can also Dismiss / Relocate soldiers using the links at the bottom of this panel.

**2.6.2 SOLDIER EQUIPMENT:**

The soldier paperdoll in the centre of the page and the right-hand armoury element together allow you to equip your soldiers for battle.

Once you have researched new types of armour, you can equip them by clicking on the blue “BASIC ARMOUR” text and choosing your preferred armour from the dropdown.

Weapons and other equipment can be equipped by dragging them from the right-hand element into the soldier’s hands / backpack / belt. Alternatively, a right-click will auto-equip or auto-remove an item from the soldier’s inventory.

The right-hand element contains two different tabs at the top – “Weapons” and “Equipment” – then a number of smaller tabs in each category. Additional categories are unlocked as you research new equipment.

Be aware that you can find the detailed stats of any item of equipment by mouseovering it until a tooltip appears!

Soldiers have a maximum combat load defined by their STR stat – this is represented by the stat bars beneath the weapon slots. Once the top bar turns red, the soldier is overloaded and will have reduced TU every turn (avoid this where possible).

**2.6.3 SOLDIER ROLES:**

The element at the top-right of the soldier paperdoll (above the backpack) allows you to control the Role of the selected soldier. **Soldier Roles do not have any in-game effect** – they are purely to help you organise and equip your soldiers!

Soldier roles allow you to equip your soldiers at a click. Click on the Role icon to assign a soldier a new role and click the “Equip Default Equipment” to update the soldier’s equipment to the default equipment assigned to the selected role. You can quickly update the loadout of multiple soldiers using this function.

Once you unlock new equipment, you may want to update the default loadout – to do this, just equip a soldier with the desired loadout and then click on the Role icon, then select “Set Equipment as Default”. All future soldiers of that class can then be changed to the updated loadout with a single click.

To create a new role, click “Change Role” and scroll to the bottom of the list and click “Add New Role”.

**2.7 VEHICLE EQUIPMENT SCREEN**

This screen allows the player to equip any vehicles stationed at the base – it is of limited use at the start of the game because all the vehicles in the game must be researched and built in the workshop before use.

When a vehicle is present, an image will be displayed in the centre of the screen and a stat panel (similar to that on the Soldier Equip screen) will be displayed on the left. This can be used to assign the vehicle to a dropship, or rename / decommission / relocate it.

On the right-hand side of the screen, the vehicle weapon dropdown will be displayed. Click the weapon name in the black box to choose the turret type from all of those available to instantly update the vehicle.

The bottom-left element of the screen shows if the base has available Garage slots. This element will appear even if there are no vehicles at the base (reading “Empty”), but will only display a single slot even if there are multiple slots free.

**2.8 AIRCRAFT EQUIP SCREEN**

The aircraft equip screen displays the aircraft stationed at the selected base, allowing you to buy basic aircraft, equip those you already own or arrange your soldiers in their dropship.

By default, the game displays the “Interceptors” tab when you load this screen. The left-hand panel shows the stats for the aircraft, while the right-hand panel allows you to select the available aircraft.

The selected interceptor is displayed in the centre of the screen, along with their weapon slots. You will generally not have to worry about the armament of your fighters, as they update automatically when a new class of weapons becomes available. However, be aware that Heavy Missile slots (found on the Foxtrot) are also capable of carrying Light Missiles if needed.

You can also select the “Dropships” tab at the top of the left-hand panel. This will display the dropships stationed at the base, and allow you to arrange your soldiers within it.

If an aircraft is airborne or refuelling / rearming, it will be displayed semi-transparent and you will not be able to change its armament or re-arrange the soldiers within it.

To purchase additional F-17 Condor or CH-47 Charlie aircraft, you must have a free Hangar slot at the base. If you do, a “BUY NEW PLANE” link will appear in the left-hand panel below the other aircraft stationed there. Click it to purchase a new aircraft – a Condor on the “Interceptors” tab or a Charlie on the “Dropships” tab.

**2.9 XENOPEDIA**

Whenever a research project is completed, the game will give you a pop-up window containing an image and some descriptive text. The Xenopedia is the in-game encyclopaedia that houses all research previously completed.

It also contains information on the starting equipment in the game – for instance, it has an entry on the F-17 Condor and all of the base structures. For certain types of entry, it will display specific stats in the bottom right corner panel.

The Xenopedia can be navigated using the top right panel – simply click a category to open it, then click on an project within to display it.

It is usually a good idea to read the descriptive text that accompanies a new research discovery – it will often contain hints about the capabilities of your new technology or the weaknesses of your enemies!

1. **AIR COMBAT:**

Air combat occurs when Xenonaut aircraft and alien UFOs make contact on the Geoscape. Up to three combatants on each side can take part – to form a squadron of aircraft, just select multiple aircraft when choosing which aircraft to launch at the target.

Any aircraft lost in combat will be recovered and rebuilt, but this is a time-consuming process. Avoid losing your aircraft where possible!

**3.1 AUTORESOLVE:**

Air combat is not a mandatory part of the game – it is perfectly possible to play through the game without doing any air combat at all (although skilled players will be able to gain an advantage by playing it).

If you would rather autoresolve the combat in the game, simply use the “Autoresolve” option when the combat window pops up. The button gives a % chance of victory that allows you to judge whether to fight the combat or disengage.

**The victory % simply gives the chance that the target is destroyed!** Even a 100% victory chance may also lead to your aircraft being destroyed, although this is unlikely.

The autoresolve formula is a rough approximation of the air combat and cannot account for all variables in combat, so you may find it gives you unexpected results. If an unusual combat occurs, you may want to fight it manually!

**3.2 AIR COMBAT CONTROLS:**

These are the key controls for the air combat:

**Left Mouse:** Move / Attack Target

**Right Mouse:** Deselect Aircraft

**Mousewheel:** Zoom In / Out

**Spacebar:** Pause / Unpause

**Q / E:** Roll Left / Right (if interceptor is capable of it)

You can select aircraft by left-clicking on the interceptor manually, or by clicking on the panel on the right of the screen. Remember that the combat can be paused / unpaused at any time. This is very useful if you are trying to time an evasive roll perfectly, or just want to consider your options for a few moments.

**3.3 AIR COMBAT MECHANICS:**

When air combat occurs, the game will load up a square battlefield containing the friendly aircraft and hostile UFOs. This battlefield grows larger as the UFOs increase in size, and the relative position of the UFOs and aircraft is based upon the angle of attack on the Geoscape.

Interceptors have three main resources:

**Health:** If reduced to zero, this interceptor is shot down and forced to crash-land. It will eventually be recovered and rebuilt free of charge, but it will be out of action for some time.

**Fuel:** This is the amount of combat fuel available to the aircraft. If it reaches zero, the unit will be forced to retreat from combat or be destroyed. Combat fuel is total fuel minus the fuel required to return to base (fighting closer to your base gives you much more combat fuel at the same overall fuel level).

**Ammo:** The aircraft in the game have limited ammunition – this is most obvious with missiles, which can only be fired once. Make sure you have enough ammo to actually destroy your target!

At the start of a battle, each interceptor has automatically selected a target to attack. This is shown in the top-right of their panel and their plotted flight path will be an attempt to intercept this enemy. You can choose to assign a new target by selecting an interceptor, then left-clicking on a target. This should update the image in the top-right of the aircraft panel.

The speed of the aircraft is shown on their panel, and can be controlled by the throttle slider just to the left of their information panel. You can drag this slider up and down manually, or you can max it out by pressing the Afterburner button on the information panel. With Afterburner enabled, aircraft gain 25% extra speed but burn fuel at a vastly higher rate.

There are two main types of weapon:

* **Cannon:** Cannons are short-ranged, but inflict a lot of damage. They will automatically fire at any unit that enters their fire arc.
* **Missiles:** Missiles have a long range and can inflict a lot of damage if they hit. However, more agile enemy craft will be able to avoid them with evasive rolls unless used carefully.

Missiles need to be in range to fire, but additionally require Missile Lock. Obtaining missile lock is as simple as keeping the target in front of your interceptor until the timer counts down to zero – this is not particular difficult to do, but does make heavier missiles less useful in a dogfight.

Finally, clicking on the various weapon panels will turn them from red to green – this disables autofire on that particular weapon. Pressing it again enables the weapon again (making it fire immediately if it can).

This is useful mostly on missiles, as agile UFOs can often simply dodge a salvo of missiles if they are all fired at once. If you stagger your missile launches a little, you can usually bait out the evasive roll and then hit the target with the second missile!

1. **GROUND COMBAT:**

The ground combat is the most involved part of Xenonauts. It has a number of complex systems and will take some time to master.

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**4.1 MISSION TYPES / OBJECTIVES**

There are four types of ground combat missions in the game:

**CRASH SITES:**

These are spawned whenever a suitable UFO is shot down over land on the Geoscape. If the UFO is shot down over the sea, no crashsite will be spawned, and some types of UFO (fighters, bombers, etc) will never spawn crash sites. Instead, these UFOs will automatically grant you some resources.

The mission objective in a Crash site is to eliminate all alien units in the mission, or to clear the UFO of all aliens and keep a soldier inside it for five turns.

If the UFO was shot down, some of the crew are likely to have been killed on impact. However, if the UFO is landed, the crew will be at full strength. Landed UFOs therefore contain more resources but are also more dangerous.

**TERROR SITES:**

Terror Sites appear on the Geoscape and will cause major funding damage if they are not dealt with. A terror site will never despawn if there is a dropship en-route.

UFOs on Terror missions spawn these missions. Only a few Terror missions are attempted each month and they can be prevented by shooting the UFOs down before they reach their targets – so if you are winning the air war, you will see many fewer terror sites.

The aliens in Terror Sites are numerous and well-equipped. Expect a relatively tougher fight than you would at a Crash Site. The only victory condition for either side is elimination of all enemy units.

**XENONAUT BASE DEFENCE:**

Base defence missions occur when a UFO attempts to assault a Xenonaut facility. If the UFO survives any attacks from the base defence turrets, it will unload troops (diminished accordingly if the UFO took damage). If there are soldiers stationed at the base, they will fight a base defence mission. If not, the base is immediately destroyed.

Base defence missions are fought in an accurate representation of your base. Your soldiers spawn in the Command Room and must eliminate all alien units to win. The aliens spawn in “pods” around the outer edge of your base (this can be in any structure, not just Hangars) and will attempt to capture the Command Room.

Base defence missions have much in common with Terror Sites – the aliens are tough and well-equipped, they can generally be avoided if you are doing well in the air war, and the penalties for failure are severe.

**ALIEN BASE ATTACK:**

Alien bases are built on the Geoscape by UFOs on Construction missions. Once a base has been set up, it will quickly be detected by Xenonaut agents. As it will continually drain funding from the region in which it is located, it is a good idea to send a dropship and attack the base.

Alien bases contain large numbers of aliens, most of them well-equipped. The size of the base and number of aliens within is defined by how advanced the alien invasion is – at certain points, all existing and future bases will be upgraded to a larger size, containing more powerful aliens.

There are two possible victory objectives for alien base missions. The most straightforward is the elimination of all alien units in the base. Doing this will destroy the base and grant the recovery / sale of all items within it.

Alternatively, the player can destroy the base core. Once this has happened, the mission will end in a victory and the destruction of the base whatever happens in the rest of the mission – you can abort the mission or suffer a squad wipe and it will still be a victory. However, if you do this then nothing will be recovered from the base.

This allows you to destroy the base without having to tackle the heavily-defended command room at the cost of reduced research / financial gains.

**4.2 TIME UNITS**

Time Units (“TU”) are consumed when a unit performs an action – moving, shooting, turning, reloading etc. Once a unit runs out of TU, they are unable to perform any more actions until the following turn when all units have their TU replenished.

Any TU that are not spent at the end of a turn are available for use if an enemy unit moves into the line of sight of that unit. If the unit has sufficient TU remaining to fire their weapon, they will interrupt the enemy turn and attempt to fire at the enemy. This is called “Reaction Fire” (and has its own manual section).

TU costs are as follows:

* Movement: 3 TU per tile
* Turning: 1 TU per 45 degree turn
* Use Door: 6 TU
* Fire Weapon: % of Max TU, depends on weapon and fire mode
* Reload Weapon: Static TU Cost, depends on weapon and fire mode

Time Units are an attribute, so some Xenonauts will have more TU than others and some alien races will have more TUs than others. Units that have a greater number of TU can move further and perform more actions each turn.

However, be aware that this does not apply to shooting: this is based on a % of max TU rather than a flat static cost. Units with high TU have many advantages, but it does not increase their raw firepower (accuracy does this).

TU also affects reaction fire. The more TU a unit has left, the more likely they are to perform reaction fire and the less likely they are sustain it – if you enter a room full of aliens, do so with high TU rather than low TU where possible. See section **4.6 Reaction Fire** for more details.

**RESERVING TU:**

Management of TU is therefore a key part of Xenonauts. When you click a tile to move a unit, the move path will show the amount of TU a unit will have remaining if they move to that tile. The move path will turn red if the soldier is unable to move the full distance in a single turn.

The TU Reserve slider (left-most UI element) allows a player to force a soldier to retain enough TU to fire their weapon when moving. This will reserve the required TU - shown as orange on the move path. Once a soldier has finished their movement, they can either fire the weapon immediately or save the TU for reaction fire during the alien turn.

**Remember that the cost of turning is not included in the reserve function!** If you need to turn your soldier to face a target once their move has finished, make sure you save enough TU to do so!

As the TU reserve panel shows the cost of the different fire modes, it is also possible to do more complex calculations using the remaining TU value displayed on the move path.

**4.3 LINE OF SIGHT**

Line of sight (LOS) is the term for the vision cone of each unit. This is an important mechanic – the game will only display enemy units and civilians that are currently in the LOS of a Xenonaut unit!

Each mission begins with the map covered in shroud (i.e. totally black). The contents of a tile are revealed when a unit gains line of sight on it, but it will be covered in fog of war as soon as vision is lost. The terrain will still be visible, but any units under the fog of war will be hidden.

Vision is not only lost when a unit turns away from an area, but also when doors are shut or when units are killed. As some weapons are capable of shooting well beyond visual range (e.g. sniper rifles), it can be important to avoid getting your spotter killed!

All starting Xenonaut soldiers have a 90-degree vision cone and a 18-tile sight range, and most aliens have the same. Xenonaut vehicles have a 20-tile sight range, allowing them to spot aliens before the aliens can spot them.

Units will only reaction fire at enemies that enter their line of sight. Therefore if you want to cover a door or a certain location, ensure your soldier is facing the correct direction!

**NIGHT MISSIONS:**

Night missions occur when a mission site is in darkness on the Geoscape. In most cases, Xenonauts will have a shorter visual range at night whereas the aliens will be unaffected – so are best avoided if possible!

For a tile to be visible during a night mission, it must be both within line of sight and lit up by a light source. Xenonaut soldiers are equipped with flashlights and will project light 12 tiles in front of them, but as their sight range is actually 18 tiles they are effectively losing 6 tiles of vision at night. Aliens will therefore often be shooting them from beyond visual range.

Environmental light sources can help regain this lost vision. Each Xenonaut is equipped with an unlimited number of flares in their Grenade Quickslot on the UI (if a different grenade type is displayed, right click to select flares). These flares can be thrown a long way and will illuminate the tiles around them, but the act of throwing them will consume TU.

Xenonaut vehicles have powerful headlights, which makes them particularly useful at night. Not only can they see their full vision range at night, but they can often light up aliens for the rest of the team simply by turning to face them.

Finally, many maps have environmental light sources built in – lamp posts etc. Use these to your advantage!

**4.4 COVER / SHOT ACCURACY**

When units fire weapons at one another, the fire cursor shows an accuracy percentage. The player can right-click to spend more TU on the shot and increase accuracy, but the chance of hitting is governed by many factors.

**ACCURACY CALCULATION:**

The accuracy of a shot is affected by:

* Unit Accuracy attribute
* Weapon accuracy and fire mode
* Intervening cover
* Range to target
* Crouching (from either the shooter or the target)
* Accuracy Cap – a shot can never be more than 95% accurate.

The basic / unmodified accuracy calculation is simply: *Unit Accuracy x Weapon Accuracy*

A soldier with 50 Accuracy firing an Aimed Shot from a Rifle (130 Accuracy) therefore has an unmodified chance to hit of 65% with each shot.

**ACCURACY MODIFIERS:**

This basic unmodified accuracy percentage is affected by a number of factors:

**Cover:** Intervening cover reduces the accuracy of the shot – explained in more detail later!

**Crouching (Shooter):** A crouching unit has a 1.25x accuracy modifier (65% becomes 81%)

**Crouching (Target):** A crouching target has a 0.8x accuracy modifier (65% becomes 52%)

**Short Range:** If the target is within five tiles of the shooter, +12% to hit per tile is added to accuracy. This is capped at +60%. (65% could become 125%, but would then be reduced to 95% by the accuracy cap)

**Long Range:** If a weapon is beyond its effective range, it loses accuracy and damage for each extra tile.

**COVER:**

All intervening cover objects have a Stopping Chance (set in the sub-map editor). These act as a modifier on the shot accuracy in a relatively straightforward manner; for instance, if a crate with a 40% Stopping Chance is on the fire path:

65% to hit x 0.6 = 39% to hit (i.e. the shot is 40% less likely to hit than it previously was).

There are two further rules that modify the use of cover:

1) Cover in an adjacent tile to the shooter is ignored. This allows you to shoot out from behind cover without affecting your aim. It can be used both ways – if an alien is behind cover, running up to the other side of the cover will negate it entirely.

2) Only one cover penalty is applied per shot – the highest. If a shot path passes through a crate with 40% Stopping Chance and a barrel with 50% Stopping Chance, only the 50% Stopping Chance penalty is applied.

**MISSED SHOTS:**

The miss / hit for a shot is calculated before a projectile is spawned. Missed shots are disallowed from hitting the target at which they were aimed at and scatter down a narrow cone in front of the soldier.

Xenonauts does not use a 3D engine so this is not a fully accurate simulation – you are likely to see some strange behaviours at times. However, be aware that these are as a result of the shot missing the target (rather than actually causing it to miss).

**4.5 DAMAGE CALCULATION**

If a projectile hits a unit, damage will be applied. The damage calculation is as follows:

*Weapon Damage (50%-150%) – (Target Armour – Weapon Mitigation)*

**WEAPON DAMAGE:** Damage is a property of the weapon being fired. It is subject to a high degree of randomisation; each shot can do between 50% and 150% of base damage when it strikes an enemy. This is a simple random roll and represents the chance for a bullet to hit a vulnerable / well-protected part of the target.

**TARGET ARMOUR:** Xenonaut units are usually equipped with armour, and robotic alien units (Androns / Drones) also have armour. The armour value of a unit is deducted from the damage taken as a flat value, so 40 damage against 8 armour would do 32 damage.

Armour degrades with damage. The armour value of a unit is reduced by 25% of all damage the armour sustains, so in the example above the armour value would be reduced to 6.

If a unit has enough armour to reduce the damage of a shot to 0, the text “RESISTED” will flash up above the target’s head.

**WEAPON MITIGATION:** Mitigation is another weapon property that flatly reduces the armour value of the target (although it can never fall below 0). It represents the penetrative power of that specific weapon.

Example: If a Xenonaut with 30 armour is hit by 50 points of damage from a 15 mitigation weapon, they will take 35 points of HP damage.

**4.6 REACTION FIRE**

If a unit has enough unspent TU to fire their weapon, they may take a Reaction Fire check when a hostile unit performs an action in the line of sight during the enemy turn.

Reaction fire operates as follows:

* + All units have an Initiative score.
  + Initiative = (unit Reactions stat) x (% of remaining TU) x (weapon modifier)
  + When a unit moves or shoots, its Initiative score is compared to that of any hostile units that have vision on it.
  + If a hostile unit has a higher Initiative score and also has enough remaining TU to fire its weapon, it will interrupt the enemy turn and perform a reaction shot.
  + Firing a weapon costs TU, thereby reducing Initiative.
  + If the hostile unit still has a higher Initiative score, it will fire until it no longer does. If not, control is handed back to the first player and the turn continues.

Weapons with a high reaction modifier (i.e. shotguns) are therefore much more likely to get the first shot off, often allowing you to kill the enemy before they can reaction fire.

Conversely, a unit on low TU or with a low modifier weapon like a sniper rifle is highly likely to provoke reaction fire. This makes them poor scouts and assault troops.

Aliens will use reaction fire to defend UFOs. There are several ways to deal with this:

* + Suppressing the target will prevent the Reaction Fire, plus reduce the TU the enemy unit will receive in the following turn;
  + Smoke grenades will make the incoming shots less accurate;
  + Using a Combat Shield to soak up the reaction fire;
  + Triggering the reaction fire with an expendable soldier will keep your veterans alive;
  + Killing the alien before it has a chance to reaction fire;

**4.7 SUPRESSION**

Suppression is a new mechanic in X-Com. In battle you will almost certainly see units being suppressed – signified by a blue icon above their heads.

**EFFECTS:**

Suppression has the following effects:

* Suppressed units will immediately crouch (this does not cost TU).
* Suppressed units immediately lose all remaining TU (so cannot reaction fire).
* Suppressed units only receive half their normal TU during their next turn.

**CALCULATION:**

Every unit has a Suppression score, starting at the unit’s Bravery attribute. Every turn, units will regenerate 25% of their maximum Suppression score – but it can never exceed Bravery.

Each weapon has a value for Suppression Damage that varies by fire mode. Burst fire is usually much better than single shots for suppression purposes. It will also have a radius for suppression that varies by fire mode (again, Burst is usually better).

When a shot hits a tile, it will apply Suppression Damage in the appropriate radius around the impact point. Any units within sustain Suppression Damage modified normally by armour and mitigation (so heavily armoured soldiers are often immune to suppression from light weapons).

If a unit is reduced to 0 Suppression score will be Suppressed.

**IMMUNITY:**

Be aware that some units cannot be suppressed – robotic enemies are immune to suppression. Some enemies are also particularly resistant to suppression, while others are particularly vulnerable.

Suppression is an enormously effective weapon against the aliens, but it must be used intelligently. Also, be careful with weapons that cause significant amounts of suppression: you can easily suppress your own men!

**4.8 UNIT MORALE**

Xenonaut soldiers have a Morale score. This is visible on the ground combat UI: it is the blue bar below the TU and health bars, next to the soldier portrait.

Soldiers on low morale can suffer a “morale event”. If they do so, one of the three following effects will occur:

* Panic (50%): The soldier will lose all TU for that turn.
* Flee (40%): The soldier will drop their weapon and flee in a random direction.
* Berserk (10%): The soldier will fire at a random unit in their line of sight (hostiles prioritised over friendlies).

**MORALE CALCULATION:**

A soldier has a 1.75% chance of panicking for every morale point below 40. A soldier on 20 Morale would have a 35% chance of panicking each turn.

Each unit regenerates 10 points of Morale per turn. Additionally, if they suffer a morale event they will regenerate an additional 40 points of Morale.

A soldier starts the battle with an unmodified morale equal to their Bravery score. This is then affected by the following modifiers:

* The highest-ranking Xenonaut provides a morale boost to all other Xenonauts on the mission. This bonus increases with rank.
* Soldiers gain morale when an alien is killed, and a large bonus if they kill the enemy themselves.
* Soldiers lose morale if team members are killed nearby, and suffer a minor loss if civilians are killed nearby.
* Soldiers lose a lot of morale for each point of HP damage they take.
* Soldiers lose small amounts of morale for each point of Suppression Damage they take.

**PSIONICS:**

Aliens will likely use psionic attacks on your men during the game. The “defence” check for psionic powers uses a soldier’s morale score, so maintaining a high morale can be beneficial in the late-game!

**4.9 COMBAT DEBRIEF / SKILL-UPS**

Once a mission ends, the Debrief screen is shown. This displays the number of soldiers you have lost, the number of aliens killed and the number of surviving civilians (the latter has a small effect on your funding).

**RECOVERED ITEMS:**

The bottom-left element displays the items that have been recovered from the battlefield. The majority of these are not usable items and are immediately sold to generate cash for the player – the proceeds of which are displayed next to each item sold.

This element will also list items recovered for research. New items are displayed in orange and listed as “Sent to Research Division”. However, once one item of this type has been sent to the research department, any further examples of it will be sold or destroyed instead (items are destroyed if they do not have a sell value).

**CASUALTY RECOVERY:**

The right-hand panel shows your combat team. Most likely your team will have injuries, wounds or deaths. A new system in Xenonauts is that of Casualty Recovery – a small chance that a “dead” soldier may actually survive the battle.

A soldier has a 50% chance of survival if they are reduced to 0 HP in combat, unless gibbed or zombified. This survival chance declines by 2.5% for every point of HP damage below 0, so a soldier reduced to -10 HP would have a 25% survival chance. At -20 HP or below, a soldier has no chance of survival.

**SOLDIER PROGRESSION:**

Soldiers that survive the battle may receive attribute increases, rank promotions and medals. Skill-ups are based on performing certain actions, listed below:

* TU: Gained by spending sufficient quantity of TU during the mission.
* HP: Increases incrementally based on the number of other skill-ups gained by the soldier.
* STR: Gained by spending TU on movement when carrying over 80% of carrying capacity.
* ACC: Gained by firing at enemies from within weapon range (you don’t have to hit them).
* RFL: Gained by reaction firing at enemies.
* BRV: Gained after suffering a morale event like panic.
* Rank promotions are based on the total number of skill-ups a soldier has gained.

A soldier can only gain 2 points in each attribute per battle.

Medals are granted for specific actions. They do not provide much in-game effect (+1 Bravery each) but are a way to remember the achievements of your soldiers!