X-COM: UFO Defense Strategy Guide

by Csabi_B   Updated to v1.11 on Jul 27, 2020

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Title: Strategy Guide 1.11 for X-COM: Enemy Unknown (PSX)
Description: Strategic and tactical tips and lists.


Revision Log:


1.11 I added details to the UFO Flights section.
1.10 I added cheat codes and revised the table of alien squad & equipment.
1.02 I did some corrections and additions.
1.01 Minor update.
1.00 The Guide was created and posted in this form in December of 2005.


Contents:
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1. Introduction

I love to see that people still play this old game. I wrote this guide to
share with you what I experienced playing numerous missions. This document is
far from perfection, I know, but, as I have more time, I will probably rewrite
it.
 I hope both beginners and superhumans find the info they want, however, this
isn't a how-to-play for beginners, that's for sure.

2. Strategic Tips

2.1. Memory Cards

First of all, you should prepare three Memory Cards because the program is
unable to handle multiple saves, and I recommend at least three saves in case
you got in and saved a nasty situation at a mission site or did something
wrong on the Geoscape (your plan failed).

Memory Card No. 1:
Back-up save: The Geoscape is in a peaceful state, everything (almost) is
ready for action or change; End of month in the last hour; etc.

Memory Card No. 2:
UFO is reported; Terror Site reported; Squad Mission in 1st Turn; etc.

Memory Card No. 3:
Interceptors fight UFOs; Battleship approaches your base; Squad Mission,
right before a critical shot; etc.

Check-load your important save files before you exit game or go on playing
(see Bug #17).

2.2. X-COM Bases

2.2.1. Where To Place Them?

Put them in the centers of the largest dry lands, because aliens have nothing
to do with seas. It is all the same where you place your first base, for the
game will generate one of the first alien activities around your base anywhere
it shall be. As you will learn, UFOs do not pop up chaotically everywhere on
the globe, but they are tied down to areas. The more areas are under your
control the better. And there will be invasions concerned with towns, so
Antarctica, for one, would be distant and problematic for a choice.
 Try to scatter the further bases so that you can observe the whole planet.
 Some ideas for places: Central Asia is a good choice to monitor North Africa,
Europe, Siberia, South East Asia, and Central Asia; these areas will be within
range of your Interceptors. Bases between two areas can even detect UFOs by
radars; Crete (Europe-North Africa), Los Angeles (North America-Pacific),
the Horn Cape (South America-Antarctica), etc. Two major bases with lots of

crafts and soldiers right on the two poles and some locator bases here and there; it is a simple strategy. Interceptors can reach beyond the Equator.

2.2.2. Special Bases

Specialize your bases. Your first base will be a mixed one anyway, but the others can be planned.

Main Base:
Your first missions are launched from here. Alien artefacts, captured aliens are taken here to research. Your beginner equipment is produced here. Special units: Alien Containment, Laboratory, Workshop.

Scout Base:
It is just to spot UFOs, especially on Arctic-Antarctica where aliens rarely do missions though they hit the atmosphere often. And it is to also track UFO movement in the area. Special unit: Observation Facility (Radar, Decoder).

Fleet Base:
It has room for an interception fleet (various crafts with various weapons), and also the seriously damaged ones that take a long time to repair. Special units: Hangar (max 8), General Stores (for craft arms and Elerium-115).

Factory Base:
The simplest way to explain is showing you around my Factory Base. It has:
-four Workshops with 164 Engineers (they produce an Avenger in nine days);
-four Living Quarters;
-two General Stores (for the production material);
-five Hangars (to receive the newly produced crafts);
-a Hyper-Wave Decoder;
-a Grav Shield with three Fusion Ball Defences (2-4 hits destroy the UFO).

Dummy Base:
A mini base to be the target of Alien Retaliation. Must have Living Quarters and General Stores for the defense squad, and NO Hangars. Aliens will assault it without those terror weapons (Cyberdisc, Sectopod, etc.) and in moderate numbers.

Store Base:
You keep surplus Soldiers here. They wait for wound recovery, or train in Psi Labs. You store squad & craft equipment and supply here. Special Units: Living Quarters, General Stores, Psi Lab, Fusion Ball Defences.

Otherwise every base for general purposes ought to have Living Quarters & General Stores (defense squad), a Hangar (with an Avenger equipped with a pair of Plasma Beam to defend the base for any case), and an Observation Unit (Hyper-Wave Decoder preferably).

2.3. Alien Activities

The game (randomly) schedules alien missions in the beginning of each month. Every month has a Terror Mission, and depending on the date there will be one or more other missions. Early on there will be only missions of no significance as Research, Abduction with small or medium sized UFOs, and executed by the two weakest species, the Sectoid and the Floater. Later comes the harder part, large vessels, sometimes in groups, invade Earth, leaving a great stir and Alien Bases behind themselves, and your soldiers will meet such nasty opponents as Mutons and Ethereals.

AND each shot-down UFO may bring a Retaliation Mission about. A Retaliation
Mission may be also scheduled as other missions monthly (usually after half
year from the start on Superhuman and after a year and three months on
Beginner). Then they seem to begin with your first built base even if you have
been most careful in that area. When the retaliation activity is not finished
in the end of month, then they begin to search for your second built base.
  But don't be afraid. Actually it is I who plans the aliens' missions, and you
can do it as well. You save game in the end of a month, and right after the
next month has begun, you make another save to another Memory Card. Roll the
month down, and see what kind of missions and areas the UFOs fly and what
races are on them. If they meet your wish, your game will be the latter saved
game, if they do not, just reload the first save, and see what the randomizer
pushes next time. This way you can play a colorful game; you can avoid the
randomizer keep on giving the same boring missions and races.
  If you don't have H-W Decoders, to tell the missions will be harder. However,
every mission has its special UFO types and actions. Here is a list of these
flights, and it is also valuable information what preparations you have to
make to capture all UFOs ever.

2.3.1. UFO Flights

V=very high
H=high
L=low
W=very low
G=ground

Mission (Races)
UFO Type   Altitude and Speed

Terror (All)
1. Medium Scout V2400 L1824 L480 W1056 G0 W480 L768 W1560 G0 W2400
2. Large Scout V2700 L2052 L540 W1188 G0 W540 L864 W1755 G0 W2700
3. Terror ship V4800 H3552 W1344 W2256 L4800
4. Terror ship V4800 H2880 L1440 W960 Terror Site

Research (All)
1. Small Scout V2200 H1628 W616 W1034 L2200
2. Medium Scout V2400 H1368 L624 W1200 G0 W2400
3. Large Scout V2700 L1809 L1404 W1080 G0 W810 L540 W810 G0 W2700
4. Large Scout V2700 L1809 L1404 W1080 G0 W810 L540 W810 G0 W2700

Abduction (Sectoid, Floater)
1. Small Scout V2200 H1628 W616 W1034 L2200
2. Medium Scout V2400 L1824 L480 W1056 G0 W480 L768 W1560 G0 W2400
3. Large Scout V2700 H810 L675 W540 G0 W2700
4. Abducter   V4300 H1290 L1075 W860 G0 W4300
5. Abducter   V4300 L2881 L2236 W1720 G0 W1290 L860 W1290 G0 W4300
   Abducter   V4300 L2881 L2236 W1720 G0 W1290 L860 W1290 G0 W4300

Harvest (Sectoid, Floater, Muton)
1. Small Scout V2200 H1628 W616 W1034 L2200
2. Small Scout V2200 H1254 L572 W1100 G0 W2200
3. Medium Scout V2400 H1368 L624 W1200 G0 W2400
4. Large Scout V2700 H1998 W756 W1269 L2700
5. Large Scout V2700 H810 L675 W540 G0 W2700
6. Harvester   V4000 L2680 L2080 W1600 G0 W1200 L800 W1200 G0 W4000
7. Harvester   V4000 L2680 L2080 W1600 G0 W1200 L800 W1200 G0 W4000
   Battleship   V5000 H2850 L1300 W2500 G0 W5000

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Infiltration (All)
1. Small Scout  V2200 H1628 W616 W1034 L2200
2. Medium Scout V2400 L1824 L480 W1056 G0 W480 L768 W1560 G0 W2400
3. Medium Scout V2400 H1200 L600 W384 G0 W2400
4. Large Scout  V2700 H1620 L810 W540 G0 W2700
5. Large Scout  V2700 H1620 L810 W540 G0 W2700
   Terror ship  V4800 H2880 L1440 W960 G0 W4800
   Supply ship  V3200 H1920 L960 W640 G0 W3200
   Battleship   V5000 H3000 L1500 W1000 G0 W5000
   Battleship   V5000 H3000 L1500 W1000 G0 W5000
   Alien Base

Base (All)
1. Small Scout  V2200 L1672 L440 W968 G0 W440 L704 W1430 G0 W2200
2. Medium Scout V2400 L1200 L480 W360 G0 W480 L696 W1008 G0 W2160
3. Large Scout  V2700 L1350 L540 W405 G0 W540 L783 W1134 G0 W2430
   Supply ship  V3200 L1600 L640 W480 G0 W640 L928 W1344 G0 W2880
   Supply ship  V3200 L1600 L640 W480 G0 W640 L928 W1344 G0 W2880
   Battleship   V5000 H2500 L1250 W800 G0 W5000
   Alien Base

Supply (All)
1. Supply ship  V2560 G0 W3200

Retaliation (All)
1. Small Scout  V2200 W1320 W440 W660 W440 W924 W1232 V2200
2. Medium Scout V2400 W1440 W480 W720 W480 W1008 W1344 V2400
3. Medium Scout V2400 W1440 W480 W720 W480 W1008 W1344 V2400
4. Large Scout  V2700 W1620 W540 W810 W540 W1134 W1512 V2700
5. Large Scout  V2700 W1620 W540 W810 W540 W1134 W1512 V2700
6. Large Scout  V2700 W1620 W540 W810 W540 W1134 W1512 V2700
7. Battleship   V5000 W3000 W1000 W1500 W1000 W2100 W2800 V5000
8. Battleship   V5000 W3000 W1000 W1500 W1000 W2100 W2800 V5000
n. Battleship   W5000 Base Attack
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The Infiltration activity repeats as many times as many countries are in the area.

2.3.2. How To Prevent Alien Missions

You cannot cut their missions off, but you can hinder them and slow the process by shooting the UFOs down. You can also separate the grouped UFOs by quickly shooting down the vessel that has just arrived to Earth as forerunner. The others will be a few days late.
 You can prevent Terror ships of attacking towns. Shoot them down. Well, I like Terror Sites, so I always let them land.
 You can prevent aliens of attacking your base by intercepting the scouts, but you have to attack the Battleships as well, for they also seek for your base (oddly these Battleships won't attack, they are only looking for the base). Of course the search of all the scouts may fail, and your base is spared. I like base defense missions very much, so sometimes it is I who help aliens to find my base when I have some idle days. If you want them attack your base: -Firstly you have to shoot down a UFO in the area of the base, but you save your game before that. If a Small Scout appears few days later surveying the area of the base, the invitation has been accepted, otherwise you have to reload game and smash the UFO again, because the randomizer decides whether there will be a Retaliation Mission or not, after the successful interception.

-When the Small Scout arrives, save your game again, and wait until it has
 spotted your base. How will you know? Well, the next few days a Battleship
 will be coming. If just another surveyor comes, then you have to reload game,
 and try again.
-Be careful. After the Small Scout has gone, it is wise to save game to
 another Memory Card, because it happens that your radars aren't able to
 detect the Battleship when it hits your base too fast.
-After the attack there will be no more UFOs in that Retaliation Mission.
-See also Bug #8.

2.4. UFOs and How To Intercept Them

First you must spot them. There are two types of Radars and the H-W Decoder
that may detect UFOs within range, and when a UFO moves out of range the
radars will lose tracking. But you won't see any UFO if your radars do not
cover the whole globe. If you are rolling game-time daily, you can notice
Geoscape start to slow down in case a UFO arrived. Then you should set time to
5 secs, and check out the Graphs. The most important diagram is the "Alien
Activities". It gathers UFO sightings from all over the world, and if alien
activity is out of range of your radars, this is the only way of knowing about
them. If an area shows a change in activity, you send an aircraft there, and
find the UFO by the patrol. Unfortunately, the diagram display is not numeric,
so you will be unable to make out fine changes when activities grow too much.
 An important fact is that a detection always may occur ONLY in every half
hours. So if a UFO stays for five hours, you've got ten opportunities to spot
it.

I prefer assaulting them with transports while they are on "Ground" because I
gain some advantages that way:
-The UFO won't be damaged, I will get more Alloys and Power Sources;
-I don't waste craft weapon ammo;
-Ground Assaults do not bring Retaliation Missions about.

But as you can see from the UFO Flights list, you must fight some of them and
force them to crashland, because they wouldn't land no other way. And UFOs are
landed on Ground for just a few hours, it's sometimes hard to catch them by a
slow Skyranger. A Crash Site remains for a couple of days on the map, you have
choice to check it out by daylight.
 UFOs are damaged various ways in Crash Recovery Missions. For example I found
a Medium Scout without a scratch and there was one that I got 1 piece of Alien
Alloys altogether from it.
 When you shoot down a UFO, you will get prestige points from that, plus there
is the Crash Site, so you will get more prestige in the end than ground
assaulting them.

 You can intercept any UFO by Interceptors, even Battleships, but the problem
is that they often outrun your slow crafts. The best fighter craft is the
Avenger, it can catch up with the fastest Battleships.
 When you start a New Game, you have two fighters already. You have to buy
more Avalanche Launchers and rockets and you will be able to handle Terror
ships.

2.4.1. Air Combat

When you hit the UFO with a rocket, the game generates random damage depending
on missile damage potential and checks for UFO hit points for each rocket even
if it seems the missiles from double craft weapons hit the target at the same
time. When the UFO is damaged over the half of UFO defense power, it will go

down. When UFO hit points get to zero, it will be destroyed.

Small sized UFOs can be destroyed by certain craft weapons. Larger UFOs cannot
be, because they crashland before you could damage them more. MAYBE medium
sized UFOs can be destroyed if you hit them properly by Fusion Balls. When
you cannot afford a Crash Recovery Mission or UFO is above waters, it's a good
option to annihilate it, you will get double prestige points. You won't get
any prestige points when the air defense facilities destroy a UFO attacking
your base. However, you can weaken an approaching UFO by an Avenger in case
your base has low defense potential. Another fact: an attack UFO never
crashlands, your defences always have to destroy it to save your base.

Missiles may miss target. It depends on UFO size and missile accuracy. When
your fighter or UFO moves out of range, you will always miss target. See also
Bug #9.

UFOs return fire. Battleships are dangerous opponents, however, you can defeat
them by even Interceptors equipped by Fusion Ball Launchers if you practice
enough and use the benefits of Save/Load.

2.4.1.1. UFO Data

UFO Type	SS	MS	LS	Ar	Hr	TS	SS	Bs
Defense Power	50	200	250	500	500	1200	2200	3000
Weapon Power	0	20	20	40	40	120	60	140
Weapon Range	0	120	272	160	176	336	288	520
Max Speed	2200	2400	2700	4300	4000	4800	3200	5000
Downed	50	75	125	250	250	500	400	700
Destroyed	100	150	250					
Components:								
Alloys	1	11	35	70	97	92	141	231
Navigation	0	2	2	5	10	8	4	4
Power Source	0	1	1	2	2	4	3	4
Elerium-115	0	50	50	100	100	200	150	200
Entertainment	0	0	0	0	0	8	0	24
Food	0	0	0	0	14	0	20	0
Surgery	0	0	0	0	8	0	2	0
Exam Room	0	0	0	4	0	0	0	0

2.4.1.2. Combat Controls

When you catch up with a UFO, you will get the combat screen. In the combat
screen you should act promptly lest the UFO escape.

Follow Button

Click on it not to attack but follow target. It is used when your craft is a
transport, and you wait for the UFO to land, or if you want to attack the
opponent in a wolfpack and wait for the others. In follow mode UFOs do not
escape from your crafts.

Combat Buttons

StandOff:
You are StandOff by default. StandOff means a safe distance from the opponent.
From here you can advance to fight and then you can return back if you need

some time to decide to resume fighting.

Standard Attack:
You approach target within range of your both weapons, and will StandOff automatically when your ammo is gone (see Bug #9) or you got serious damage.

Cautious Attack:
You approach target within range of at least one of your weapons. You will StandOff automatically when your ammo is gone or you got some damage. You will advance closer when your longer ranged weapon has fired all its rounds away. Especially used when you want to avoid UFO fire.

Aggressive Attack:
You approach target in a close distance. You will StandOff only when you want to, however, your craft may even be destroyed. The most successful attack, because you can hit UFO even if it starts to escape in the moment of launch; it may not be able to get out of range before your missiles hit, nor your craft won't pull off in the moment of launch due to damage or empty weapons.

Check:
It swaps the launch display window and the UFO portrait.

Disengage:
Combat screen closes and your craft returns to base.

2.4.1.3. Craft Weapons

Cannon and Rounds

It's difficult to shoot down any UFO with this, but it's possible. Especially used against Small Scouts if you want a Crash Site.

Stingray Launcher and Missiles

It is used to smash alien scout vessels. Even Stingray may destroy a Small Scout.

Avalanche Launcher and Missiles

It has fine range and attack power, but it is more expensive than Stingray, so save it for larger UFOs.

Laser Cannon

Well, it does not need ammo, but it is the best I can tell about it.

Plasma Beam

Excellent craft weapon. It outshines every craft weapon above. It has decent power and range, and with its charge (100) it can defeat numerous alien crafts in a row.

Fusion Ball Launcher and Missiles

The most powerful craft weapon. It has also the best range though you cannot
fight Battleships with it safely either. It's a typical wolfpack weapon; armed
with this, you can defeat a Battleship even if you have no other than
Interceptors. With short aggressive fall-ons (and good luck of course) you can
smash your target without your planes destroyed. And even a 99% damaged
Interceptor repairs faster than an Avenger with slight damage.

2.5. X-COM Soldiers

They are important part of the X-COM forces. A soldier has certain parameters
that have great impact to the success of your missions. These parameters
develop as the soldier takes his part in combats until they reach a maximum
point. Sometimes this maximum point may be surpassed by a small amount when a
soldier does a great job in a combat. You can use this fact: when a soldier
is one point away from the parameter limit, throw him into the greatest fights
to overdevelop. Sometimes that bonus point is what you need. I list the
parameters, showing rookie fluctuation and maximums.

2.5.1. Soldiers' Parameters

Time Units 50..60, 80
It is the speed of the soldier. It determines how much s/he can walk, operate
on things. It develops when damaging aliens usually.

Stamina 40..70, 100
It determines how much s/he can walk without pause. It develops when damaging
aliens usually.

Health 25..40, 60
It determines how much damage s/he can stand. Not a great deal, aliens may
kill anybody by one plasma shot. It develops when damaging aliens usually.

Bravery 10..60, ?
It determines Morale reduction. It develops by berserking and panicking.

Reactions 30..60, 100
Time Units and Reactions together determine initiative shots, reaction shots.
It develops by reaction shots.

Firing Accuracy 40..70, 120
With weapon accuracy and aiming status (both hands, kneeling) it determines
the chance of a hit. It develops by damaging aliens by guns or grenades.

Throwing Accuracy 50..80, ?
It determines both the chance of hitting a spot and, with strength, range. It
develops by throwing objects. (It is rather silly that combatants of both
sides can throw grenades farther than they can see, and more accurately than
they shoot in this game.)

Strength 20..40, 70
Stronger soldiers can carry more items. Maybe it has impact to close fights
(Reaper, Chryssalid). It develops when damaging aliens usually.

Psionic Strength 1..100, N/A
It is the resistance against alien mind controls. It does not develop. It is a
hidden parameter, it is revealed by psi-training.

Psionic Skill N/A, ?
It determines the chance of a successful Psi-Amp use. This parameter is void
until psi-training, and it develops under psi-training and by Psi-Amp uses.

2.5.2. Soldier Selection

Some rookies can be very useless or even dangerous. It is wise to keep only
the best and sack the others. What are the criteria that I select my soldiers
by? The most important is Psionic Strength, because it does not develop and
causes much trouble. Unfortunately it is hidden until psi-training, but you
can estimate it during missions. Which soldier has been put under mind control
even once, that you may as well sack.
 When you start a new game you have eight soldiers. You will have these
everytime you turn off/on your PS, but if you abandon game and then start a
new one, you will get random soldiers. Well, of the default soldiers, the
third has 95, the seventh has 99 Psi Strength, sack the rest, and recruit new
soldiers. This way you have some chances that in the replacement there will be
one or two who has at least 90 PS. Soldiers under 90 Psi Strength are
potential trouble makers in Superhuman.
 Reactions is also a critical one. Under 50 it starts to develop like for
ever. Firing Accuracy under 50 can be also a problem. Above 60 it is good
enough. The rest of the parameters doesn't matter, they will be okay.
 Early on you have some time without UFOs, so you can recruit some fine
rookies using the benefits of Save/Load. Save game and buy a soldier and save
game to another Memory Card. When s/he arrives, check her/him out. If you like
her/him, load the latter, if you do not, load the former save. Then go on as
many times as many soldiers you need for a start. Don't worry about their Psi
Strength, these rookies will still be useful later; against Snakemen, Mutons,
etc. they will be good, and against Sectoids and Ethereals just don't send
them.
 After you have built a Psionic Laboratory, the procedure is more difficult,
because you have to put the rookie into the Lab and roll down a month for each
check. This time Psionic Strength is the only thing that matters, because you
will probably have enough good but psionically weak fighters by that time. So
keep the psionically strong (90<) only. It is slow, but these soldiers are
worth it, you will avoid many nervous breakdowns due to Bug #22.
 You can also edit the soldier data if you have a cheating tool (Gameshark).
See Section 5.

2.6. Research Tips

You ought to research those things first that you need very much.

First you need a good weapon for your soldiers because the original arsenal is
not a great deal. Laser Rifle or Plasma Rifle, both are powerful enough to
send almost any alien form to the ground.
 Hint: After you have researched an alien weapon, you will be allowed to fire
with it, but you won't be allowed to load/unload it until its clip has also
been researched, so you will have to obtain a loaded one on the battlefield.

When you have a decent laser or plasma weapon, you should choose among these
research paths:
-Medi-kit: it is essential to be able to heal fatal wounds and to wake up
 stunned aliens or soldiers;
-Hyper-Wave Decoder: I like to know everything about alien activities. After
 I have this researched, I no longer need the Radars; the sooner I have HWD,
 the fewer Radars I have to build; sometimes I build my second base with HWD
 already;

-Plasma Beam: it is the craft weapon you need;
-Flying Suit: it is the armor you need;
-Mind Probe: it is important when you want to capture aliens;
-Psi Lab: I, for one, do not use Psi-tactics, but I need the lab to know about
 my soldiers' psi strength;
-Avenger: it is the craft you need;
-Blaster Launcher: I, for one, hate to use this tactics, but if I can't avoid
 aliens using it, I have to sometimes; it is better them than me to die;
-Fusion Ball Launcher: against Battleships;
-Fusion Ball Defences: protect your bases;
-Grav Shield: doubles defense power;
-How to defeat the aliens once and for all: it is what the game is all about.

The other things are not so important. I always research everything, but to
finish the aliens that are in the Alien Containment is important for me, so I
could dismantle the AC sooner.
 You have to research UFO parts before you can research other important things
(Avenger, Flying Suit), but you don't have to keep these "money bags" in your
base, you just assign zero ("None") scientist to every alien artefacts and
researchable items and sell them.

Research advances by the day. Make a better use of your scientists: when you
begin a new project, assign many to it, and when they are near to finish, let
few complete the work. The last day of a project may be done by hundreds of
scientists as well as by even one or two.
 And there is the silly research check of the program to utilize: it checks
the projects in a certain order. When it finds a finished one, it reports you
about the results, and asks you to decide what to do with the free scientists.
If you assign them to projects in the order of the check, you can finish many
other projects in a row with the same scientists, because it calculates
research advancement from the scientists assigned at the moment; it cannot
tell the newly assigned ones from the others. I usually research things till
"Excellent" or "Good", then finish them all by this trick.

2.6.1. Aliens To Capture

You have to capture live aliens and imprison them in the Alien Containment for
further investigation. Here is a list for an optimal capture & research
procedure:

Sectoid Navigator: Sectoid, Infiltration > Hyper-Wave Decoder, Alien Origins
Sectoid Navigator: Base
Sectoid Navigator: Abduction
Sectoid Navigator: Research
Sectoid Navigator: Supply
Sectoid Navigator: Harvest
Sectoid Engineer: Small Scout
Sectoid Engineer: Medium Scout
Sectoid Engineer: Large Scout
Sectoid Engineer: Abducter
Sectoid Engineer: Harvester
Sectoid Engineer: Terror ship
Sectoid Engineer: Supply ship
Sectoid Engineer: Battleship
Floater Navigator: Floater, Terror
Muton Navigator: Muton, Retaliation
Sectoid Leader: None > Psi-Lab, The Martian Solution
Snakeman Commander: Snakeman > Cydonia or Bust
Sectoid Medic: Chryssalid

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Sectoid Medic: Celatid
Sectoid Medic: Silacoid
Sectoid Medic: Reaper
Sectoid Medic: Ethereal
Sectoid Medic: Sectopod
Sectoid Medic: Cyberdisc
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Notes:
-You should research these officers in this order.
-Before you would research the Medics, you should research all the corpses.
-It is more to your scores to research Sectoid Medics and kill the terrorists.
-Sectopod and Cyberdisc cannot be captured alive.
-It is randomized what mission or vessel or life form will be reported.

3. Tactical Tips

3.1. Your Adversary, the Aliens

Sectoid

Weak opponents, but sometimes they might be serious trouble-makers with their
psionic skills and high Reactions. They may be your first enemy to meet.

Cyberdisc

This is a machine, so it never loses morale. It has thick armor and some
resistances against explosions, so it is tough, all right, especially in the
beginning. But the reason I "hate" this thing is its self-annihilating way: it
blows up when defeated. This explosion destroys items and its own corpse on
the ground, and wounds your soldiers nearby. You can avoid its sacrifice:
-Disable it by Stun Rod (scored as corpse);
-Burn it to death by Incendiary Ammo;
-Shoot it down by snap or aimed shots. Auto-shots and reaction shots always
 make it pop up;
When it floats in the air, it is the best time to shoot it down, because the
explosion will hit only the air, and its corpse will fall to the ground.

Floater

They are a little bit tougher than Sectoids, but the easiest enemy for me.
Their ability to fly may lead to surprises from unexpected directions. They
may be your first enemy to meet.

Reaper

It is almost a moveable object to destroy. Keep some distance or stay behind
obstacles and you can train your soldiers for reactions safely.

Snakeman

They appear later in the game. They are slow (low TUs and Reactions), so I
usually let them approach my prepared soldiers who will tear them apart by
reaction shots.
```

Chryssalid

They are very dangerous in close terrain (bases, buildings, UFOs). They have
high TUs, so they are able to change their locations quickly and surprise your
soldiers. I order one or two agile soldiers to watch at full TUs (for reaction
shots), and I have a scout look around in every turn. When a Chryssalid has
gotten too close to us, I have the scout shoot it dead by an auto-shot with
the rifle barrel put right into the ass of the creature. When we are being
approached by one that is coming from a distance, the agile men will open a
defensive fire hopefully. If they miss, then my men may be turned into more
Chryssalids. If the situation is not safe enough, I retreat one or two rooms
back.


Ethereal

They are very hard opponents. They can easily slaughter a squad of rookies in
no time, and plus they all have psi skills. When I get tired of the save/load
"tactics", I pull the Blaster Launcher out of the boot-leg, and clear the
field a bit. Bring only the psi-strong men or hovertanks in Ethereal missions.
You have some time to prepare for them, because they appear later in the game.


Sectopod

Not just the Ethereals, but this almost indestructible machine to deal with.
Double trouble! When you place a blaster bomb under its "armpit", that will
solve the problem, but there may be civilians and own men nearby whom you do
not want to kill. Use Heavy Laser or Laser Rifle maybe. Even one shot from
Heavy Laser may push the thing over.


Muton

After you have plasma or laser weapons, they are not so hard, and by the time
they will come, you will have researched both. They are tough, they may easily
stand one or two Heavy Plasma shots, so the more of your soldiers are able to
open fire, the better.


Celatid

Not too hard opponent because it can shoot from a limited distance and arch, so
in open terrain, you can train your soldiers for Reactions. UFOpedia says that
a Celatid can search your soldiers up. Well, all aliens seem to be able to
find your men due to the "cheating" A.I., so not an importance.


Silacoid

This creature is slow and has only close attack, but it is hard to kill. And it
can be annoying when it burns the field on you or destroys the corpses and
items everywhere it goes. It happens that alien corpses with equipment "gather
up" at a door (who came through that died), and a Silacoid passes and erases
this "gold mine" in a single moment. Its track tells you where it goes.


3.1.1. Aliens' Parameters and Scores

```
              TUs Egy Hlt Brv Rea FAc TAc Str PSt PSk Fro Sde Bck Und Kil
Sectoid
 Soldier      62 104  30  80  78  64  58  32            4   3   2   2  10
 Navigator    62 104  30  80  78  64  58  32            4   3   2   2  12
 Medic        62 104  30  80  78  64  58  32            4   3   2   2  14
 Engineer     62 104  30  80  78  64  58  32            4   3   2   2  16
 Leader       62 104  30  80  78  64  58  32  58  58    4   3   2   2  20
 Commander    62 104  30  80  78  64  58  32  58  69    4   3   2   2  25
Floater
 Soldier      58 104  35  80  62  62  58  43            8   6   4  12  12
 Navigator    58 104  35  80  62  62  58  43            8   6   4  12  14
 Medic        58 104  35  80  62  62  58  43            8   6   4  12  16
 Engineer     58 104  35  80  62  62  58  43            8   6   4  12  18
 Leader       63 110  40  80  74  74  58  50           16  12   8  12  25
 Commander    69 116  45  80  81  78  65  51           24  18  12  16  35
Snakeman
 Soldier      46  92  45  80  55  71  65  50           20  18  16  12  15
 Navigator    46  92  45  80  55  71  65  50           20  18  16  12  17
 Engineer     46  92  45  80  55  71  65  50           20  18  16  12  20
 Leader       46  92  45  80  68  80  65  50           20  24  22  20  28
 Commander    52  97  55  80  80  71  65  50           26  26  22  20  36
Ethereal
 Soldier      78 111  55  80  93  91  80  51  58  46   35  35  35  35  20
 Leader       78 111  55  80  93  91  80  51  69  52   40  40  40  40  30
 Commander    78 111  55  80  93  91  80  51  75  58   45  45  45  45  40
Muton
 Soldier      64 104 125  80  74  66  62  75           20  20  20  10  15
 Navigator    64 104 125  80  74  66  62  75           24  24  24  15  17
 Engineer     64 104 125  80  74  66  62  75           28  28  28  20  19

Cyberdisc    71 104 120 110  79  74   0  97           34  34  34  34  20
Reaper       71 104 148  90  79   0   0  97           28  28  28   4  25
Chryssalid  127 162  96 100  86   0   0 118           34  34  34  34  25
Sectopod     71 104  96 110  79  74   0  97          145 130 100  90  30
Celatid      81 104  68  90  49 124   0  75           20  20  20  20  20
Silacoid     46  92 114 100  49   0   0  75           50  50  50  10  20

Zombie       40 140  84 110  40   0   0  84            4   4   4   4
Civilian     35  65  30  80  30  30  50  20            0   0   0   0
```

3.1.2. Alien Squads

Every UFO type has its typical crew; there is difference in numbers, ranks,
and equipment. Early on aliens are equipped with pistols and rifles, later
Heavy Plasma becomes dominant. Here is a table showing what ranks fly the UFOs
with their equipment.

Numbers = The max what I have met so far (in Superhuman);
Ts = Terror ship, Terror Site;
Bs = Battleship, Base Defense, Alien Base;
H = Heavy Plasma;
R = Plasma Rifle;
P = Plasma Pistol;
B = Blaster Launcher;
L = Small Launcher;
. and : = Alien Grenade;
* = Mind Probe;
1, 2 and 3 = Clip(s) or missile(s) to weapon (the weapon is loaded);

```
, = Wrong Clip (see Bug #29).



           SS  MS  LS  Ar  Hr  Ts  Ss  Bs
Crew:
Soldier     1   6   8   9  12   7  13  12
Navigator   0   3   2   2   2   2   2   2
Medic       0   0   0   4   2   2   2   2
Engineer    0   0   3   2   2   2   2   2
Leader      0   0   0   1   2   1   2   4
Commander   0   0   0   0   0   0   0   1
Terrorist   0   0   0   0   0  10   0   6
Total       1   9  13  18  20  24  21  28
Equipment:
Soldier   P1* P1  P1  P   P   P1  P1  P1
          R,* R1  R1  R1  R1  R1. R1  R1
          H*  H.  H1  H1. H.  H1. H1. H1.
Navigator     P*  P*  P1  P   P1  P1  P1
              R   R1  R1  R.  R1  R1  R1
              H   H1. H1. H1  H1  H1. H1.
Medic                 P1  L2  P1. P1  P1
                      R1. L3  R1. R1  H1.
                      H1.     L2  L2  L2
                      H2
Engineer          P*  P1  P1  P1  P1  P1
                  R1* R1  R1  R1  R1  R1
                  L2  H1. H   H1. H1. B3
Leader                PP, P1. P1  P1  R1
                      R1  R1. R1  R1  H1.
                      H1. H1: H1. H1. B3
Commander                         H1:
                                  B3
                                  H1.



Exceptions:
Ethereal Leader = Navigator, Medic, Engineer;
Muton Soldier = Medic, Leader, Commander;
Snakeman Soldier = Medic.



3.1.3. The Cydonia Alien Squad


Let me make a report of my latest mission to Cydonia to show you what awaits
in the final fight. I had 242 scientists to research, 164 engineers to make
the Avenger-1, and only 8 soldiers to fight, so I could launch for Mars very
early: 25th of February. My men had Heavy Cannons and Auto Cannons with
AP ammo as the best weapons and a Tank/Cannon for the challenge.
 I fought Sectoids outside: Soldier x6, Leader x5, Commander x5, and four
Cyberdiscs. Their weapons were random: P or R or H., but the regular player
gets to Cydonia later when all carry H. by the Heavy Plasma rule. It is dark
no matter when you go. The terrain, the number and type of the pyramids are
random.
 The Cydonia Base is very similar to an alien base on Earth, it is a little
bigger, but the places are not random. The staff inside was:
Ethereal Soldier with B3 x4
Ethereal Leader with H1. x3
Ethereal Commander with H1. x5
Chryssalid x5
Celatid x5
```

Silacoid x5
Sectopod x4

To hunt down the Sectopods were hard still possible. They could be hurt by
the cannons from behind only. This explains well how the game works. The
Sectopod has 100 for rear armor, the UFOpedia says the Heavy Cannon has 56
for damage (AP ammo). This is the average value, so a Heavy Cannon may do 112
damage, and you may do 12 damage to a Sectopod for a start. Each hit which
wounds takes a few points from armor too, so when the Sectopod has around 40
hit points, it will have around 90 armor, and you may do 22 damage. Did you
see a soldier shoot dead a Floater (35 HP) with one Pistol shot (26 damage)
or a Reaper (148 HP) with one Heavy Laser shot (85 damage)? Average values.

All in all, the Cydonia mission isn't hard if you bring psi strong men or
even HWPs. You can do it with one single Hovertank/Launcher. And you know I
just play X-COM without the final fight. The war on Earth is the fun, not a
mere Martian Alien Base even if it is a double mission.

3.1.4. The Alien A.I.

Do not expect a plan or any cunning from aliens. They simply walk up and down
on the terrain and MAY open fire at your soldiers. They act completely out of
reason, so it may appear to you that it was a trick when it caused you
trouble, however, they usually do stupid movements.

They generally move where your men are. And they KNOW where your men are as
far as the program knows where your men are. They can find a soldier's hiding
place though he hasn't been seen move there. They can psi-attack anybody
without a look. So the A.I. cheats.

If they made use of their equipment better and more frequently (Heavy Plasma-
auto-shots, Blaster Launcher, Alien Grenade) and their better stats, you would
lose every mission.

3.2. Your Arsenal

Pistol

A good weapon against Sectoid and Floater, especially Sectoid: when you have
Personal Armor or better, your soldiers won't kill each others under mind
control or berserking or simply missing their target and hitting the wrong
one. I often equip some soldiers with two pistols in both hands: when one
pistol happens to go empty, there will be the other to fire. I also use the
Pistol+Stun Rod combo when I enter the UFO, to capture aliens. I put a Pistol
in heavy weapon men's belt.

Rifle

It is similar to Pistol, but I equip my good shooters with Rifles. My shooters
are in the back, and take out anything the scouts have spotted. For reaction
shots Pistol is better.

Heavy Cannon

It has three kinds of ammo, but I always use the AP. HE ammo is "good" for
destroying the "money bags" on the ground and killing each other. I use Heavy
Cannons while the default ammo lasts, then I sell them. If you haven't got any
better than default weapons facing Cyberdiscs or Reapers, Heavy Cannons will
prove useful, and nowhere else.

Auto-Cannon

An auto-shot with its barrel touching the skin, and any Sectoid or Floater
should die. Use this weapon for nothing else, because it is easier to hit
something with a stone. You can use it as a lamp firing incendiary ammo into
the night.

Rocket Launcher

An open terrain heavy weapon; you don't even need to hit the target, just a
shot into the ground close to it and your men will rule that turn. And, if an
alien is camping in cover, it is safer to send the whole place up in the air.

Laser Pistol

Powerful lil'friend of your soldiers. You can do four auto-shots in a turn, so
it is the winner of the auto-shot award. I love this weapon especially on
Alien Bases; I can comb the place most safely, if I meet something, an
auto-shot or two in the face, and it is not often that any alien is still
standing afterwards. I generally combine it with Stun Rod, Blaster Launcher,
Mind Probe, and Medi-kit.

Laser Rifle

Excellent weapon for general use.

Heavy Laser

Excellent weapon for agile soldiers to camp beside doors. Laser Rifle happens
to fail to kill even weak opponents (Sectoid, Floater, Snakeman), Heavy Laser
does very rarely. It may kill even a Muton in one shot.

Plasma Pistol

Powerful weapon, but later in the game you won't find enough clips to equip
your squad, and who the hell wants to manufacture silly pistol clips.

Plasma Rifle

Excellent weapon for general use.

Heavy Plasma

The best weapon. It isn't astounding that aliens do not use other weapons than
this later in the game: they can shoot down any soldier wrapped in the
thickest armor and any HWP in one shot.

Small Launcher

It is good to capture live aliens, but I usually research this artefact last,

there are things of higher priority, so I catch them all by Stun Rod by that
time.

Blaster Launcher

This weapon ruins the fun of the game. It is very powerful, and its waypointed
shooting makes any other tactics useless. You can bring any place down to
earth equal without even getting out of the transport. You can make holes on
UFOs, and burn the hiding aliens out of there by further bombs. And it is LUCK
and not your wits, that you can clear a mission when aliens carry these
hellish things. When you have gotten in a nasty situation, you can "cheat your
way through" by this item.

3.3. What To Do on Missions

3.3.1. UFO Ground Assault

You may have a bad time coming out of your craft. The first soldiers should be
equipped with weapons that can do auto-shots (triple-shot) and are powerful
enough (Heavy Plasma) to shoot the target dead in one hit. The second group is
supposed to cover the first group (that probably used up their TUs clearing
the nearby area) by reaction shots, so they should not move farther than the
line of the first group. The rest should take good firing positions; in the
next turn they will be the execution force from behind the scouts.
 After you have cleared the outside area, you generally have to enter the UFO
to smoke the fox out. Place your most agile men beside doors in case aliens
want to come out to look around. And you will need auto-shots again. The
scouts should open the doors but not enter the room by pressing the O button
instead of the X. If an alien is standing before you, shoot it, if you face
more barrels pointing at you, just step aside out of their sights. If you have
a faraway shooter, you can get him shoot into the UFO through the open door.
If you see an alien with its back to you, walk up close, and auto-shot only
then, hitting it thrice.

3.3.2. Crash Site

You should do similarly as above. Crash recovery missions usually have fewer
opponents and some corpses in a damaged UFO. The survivors may be wounded
already or even faint, so you can kill them more easily. Also, their morale
may be reduced from the very start. The damaged UFO has sometimes better
"entrances" besides its doors.

3.3.3. Terror Site

You should act fast to save as many civilians as you can. Aliens are not
grouping in their UFO this time, but are scattered all over town and making
havoc of the place and searching for targets. And some towns are hard to comb:
aliens may hide in huge buildings; parks make aiming and shots difficult.
 Your soldiers should have max TUs (80) and high Stamina to be able to walk
much without a rest.
 Use Bug #4 to avoid a night mission.

3.3.4. Base Defense

Aliens are coming from Hangars and the Access Lift. You have some time to hide and camp well in the other facilities of the base. Have your lone soldiers join and help each other. Choose places to have some rooms to retreat in danger. A General Store is an excellent camping place. Don't leave anybody on a corridor for fear of Blaster Launcher attacks. Defend the Laboratory and the Workshop! Aliens can destroy the objects upstairs and you will lose them (and the linked facilities too) even if you have won! And I noticed that the game mysteriously puts an alien there just for destruction about twenty turns.
 After your soldiers have taken their firing posts, just wait for the aliens to enter your traps and finish them one by one. Reactions is the most important ability this time. The faster weapons are the better (pistols).
 Near the end you will have to search for some panicked aliens. You may find them by looking for their dropped weapons. Easy practice for rookies.

3.3.5. Alien Base

It is a bit harder than an X-COM base, because all the place isn't but corridors and halls, nowhere to hide from Blaster Bombs. You will need fast walkers (TUs=80 with high Stamina) to be able to surprise aliens or retreat.
 Leave the green room quickly and hunt down as many aliens as you can to break their morale down. If you find their command center, assault it with full force to get rid of the high officers. You don't need to destroy it and escape. I always clear the mission by killing all aliens to score more prestige and items to sell.

3.4. Poured Tips

3.4.1. The Save/Load "Tactics"

When one of my soldiers dies, I reload game. It is hard to complete a mission without casualties, but easier than with fewer men and dead morale. And I cannot keep all my soldiers in mind if they come and go daily.

3.4.2. Off Transport

When you have a hard time getting out of the transport because your soldiers are under alien reaction fire:
-Wait a turn; aliens may move and they won't be at top TUs.
-Blow up two Smoke Grenades, one in the transport, and another on the ramp.
-Save/Load "tactics".

3.4.3. Night Mission

Aliens are dangerous in dark due to Bug #32, but the case is not hopeless:
-Scatter Electro-flares around your squad and wait for the aliens instead of
 searching for them in the dark.
-If there are buildings around or the UFO itself, hide in them camping. Close
 combat is better than blind combat.

3.4.4. Item Circle

Soldiers have TUs, so their actions per turn are limited, but items have not limits. You can fire with a weapon (Blaster Launcher) as many times as many soldiers can handle it. Shoot-drop-step-step-take-load-drop-step-step-take-

-shoot-drop-step...
A grenade crosses the whole battlefield: prime-drop-step-step-take-throw-take-
-throw...take-throw-bang!

3.4.5. Stun Rod Warning

When you crept up to an alien from behind and used Stun Rod, but it is still
standing, never walk away right after that, because the WALK may cause a
reaction shot. Click on somebody else then back, THEN you can walk away
safely.

3.4.6. Make Doors

It is faster to destroy obstacles than to walk them around.

3.4.7. Reaction Shot Tactics

Camp your soldiers with full TUs at good posts and wait for the aliens to
come. You really need not to do anything but click on "Next Turn" all along
the mission. You don't have to click on here and there all the time and walk
through and through the whole site. Plus your soldiers will gain high
Reactions. I move on only when they are stuck in their UFO and don't budge.

3.4.8. Flying Suit against Grenades

Keep your men in the air and let the aliens waste their useless grenades. They
throw at you, but the grenades will fall to the ground where they hurt no one.

3.4.9. Prepare for Psi-attacks

When you have problems with a soldier, just keep his weapon on the ground and
take it when you want to shoot. He won't be able to return fire, but he won't
be dangerous either if he is turned over under mind control or goes berserk.

3.4.10. Grav Lift Tip

You can go up and down in the Grav Lift kneeling, so you should do like when
you look around the floors to be able to open fire at once with a better aim.

4. Bug Report

This section helps you to avoid some nasty surprises, and you can even use
some of the bugs to cheat. But the main cause of this list of mine is serve
those who wish to rejuvenate this classic someday. It's a crying shame that
this great game suffers from such ugly and numerous bugs. Microprose had a
year to recover and correct these errors until the PSX release.
 I list not just the programming errors but also the parts that they
accomplished the wrong way in my opinion.

#1 Waypoint Bug
There are some events when a Waypoint remains on the Geoscape permanently.
When an aircraft leaves a base which will be destroyed by aliens, the craft
will disappear, but its Waypoint will stay. It's an extreme case, but once, I

don't remember how, a Waypoint was left on the globe and was gazing at me from then on.

#2 Bug Targetted by
When an Alien Base appears on the globe, sometimes the Interceptors that are in the air at the moment will be shown in the check window as "Targetted by" crafts, but they aren't heading for there.

#3 Refuelling Bug
When you transfer a craft at 100% fuel to another base and it arrives, it will have 0% fuel though "ready" status. If you launch this craft, it will be able to stay in the air until the end of the world. This way you can install a "mini locator" in a blind area, or you can equip an Avenger with Plasma Beam and get it shoot down everything from the sky while the 2x100 rounds last. If

you don't want to cheat, then you have to make the craft do a short flight, and refuel it well.

#4 Terror Site Awaiting
A Terror Site won't disappear from the globe while it is targetted by a craft. This way you can choose when you want to do the mission (wait for daylight!). And you don't have to worry whether your slowest craft get to the farthest spot on the globe in time.

#5 Infiltration Landing Fatal Error
An alien vessel landed on Jakarta, and when I wanted to attack it on ground, the program wasn't be able to load the mission; it crashed all the time I tried. It must be a data invalidation error.

#6 Battleship Suddenly Drops from the Heights
When a Battleship in Retaliation mission is spotted coming to destroy your base, it has 5000 speed and Very High altitude, but right after you check it again, it will have 5000 speed and Very Low altitude. It's Very Strange.

#7 The Confused Battleship Bug
One of my favorites: When a Battleship in Retaliation mission approaches your base, and you decide to dismantle everything and close the base down, the ship will be patrolling on the spot of the late base. Be careful, because after a while the program will crash.

#8 Aliens Keep Retaliating
Sometimes Battleships attack a base many times. If you are well prepared and able to handle the invasion with crafts and soldiers, your rating for the foundation will skyrocket and your money as well. If you rely on the defense facilities of the base, then you will watch them destroy the ships, but you gain nothing else.

#9 Last Rounds
When you fight an alien vessel, and your aircraft shoots its last rounds (Avalanche, Fusion Ball, etc.) at the target, they will miss due to outrange because your craft pulls back right after the shot. The program checks for range at the moment of hit not the shot. To avoid this, you have to attack aggressively with the last rockets, and pull back after they hit the UFO.

#10 Unequip Craft Problem
You can equip a craft or replace its weapons, but you cannot unequip them! So if you want to get rid of a useless craft, you have to throw two cannons away as well.

#11 Personnel Overflow Error

You are able to build 17 Living Quarters and Laboratories to research with 850 Scientists on one base, but do not apply more than 250 though, because the program has a Byte sized variable for them, and will go crazy above 255 scientists.

#12 Alien Containment and General Store Space
There is a limit of ten for AC, and fifty for GS. However, they can accept more from missions. It's a cheat of some kind. I would have been strict about this. I would have put the sell and sack window after a mission to make the player decide what to do when the GS or AC is full.

#13 Alien Containment Problem
Sometimes you get live aliens from missions even if you didn't want to (faint Soldier, for one). And the only way to empty an AC is research the prisoners. You can't just send to shoot one and shovel the thing outta there! I use the Medi-kit to wake them up and shoot them in the missions, because you can't shoot them dead lying on the ground either! And you cannot wake up a Reaper, so when it faints, reload the game and try again.

#14 Ghosts in Base Bug
Try this: attack agressively a Battleship with a Skyranger full of people. After the Skyranger has been destroyed, the soldiers' "ghosts" stay on the base, occupying space. You cannot sack them, cannot do anything. You are being haunted!

#15 Transfer Bug
When you transfer a craft, watch out not to pay for it twice or more times. If you want to transfer something else, transfer the items at the same time, or wait until the sent item arrives. Otherwise the program will add the cost of the craft each time you transfer something.
 And there is a limit of supplies, so you must wait until the transferred or bought items arrive. The program usually warns you, but sometimes it does not, and you just order and pay, but nothing is coming.

#16 Soldier Transfer Bug
You can transfer soldiers at zero cost. When you transfer armor, that costs some dollars. Put the armor on a soldier, and transfer the soldier instead, take the armor off, and return the soldier.

#17 Memory Card Errors
It happens that after "Save Successful" the next time "Load Unsuccessful". It may be Memory Card Connection fail, but who knows? When I save in the Geoscape, I always reload the game to be sure. If "Load Unsuccessful", then I save again; no problem, because I stay in the old game. But due to this, there is a very amusing bug: if "Load Unsuccessful" occurs in the main menu, you will be put in a New Game as you can't be put in an old game (there isn't an old game), and a variety of bugs begin to make a show (invisible base, homeless aircrafts, and so on).

#18 Base Selection Bug
For example you have two bases in a game and you load a game that has only one base, you will be put in an invalid base if you had operated on the second base in the old game.

#19 Base Defense Equipment and Soldier Problem
If you have lots of stuff in the General Stores, there will be two annoying problems due to item limits in missions:
-You will lose those weapons that haven't gotten within the limit as the
 mission starts.
-Killed aliens' corpses and weapons will disappear above the limit.

You can do two things: keep the General Stores "tidy" or pack the surplus on the transports of the base, and launch them before the attack ship lands at your base. After the mission, they return with their equipment not missing.
  There can be soldiers on the attacked base that you don't want to be present in the battle. You can do two things: transfer them or send them on the crafts and leave the place, just like the items above.
  If the base is full of soldiers (50-100), the game selects the first 40 people for the combat, and the place will be a bit crowded.

#20 Stupid Equipment Problem
When you start a mission, the game "helps" you to equip your soldiers giving them weapons, clips, grenades, and stuff. And you have to remove all the things before you can equip them as YOU wish. It's clear that each soldier has individual skills to fight. The one who's excellent shooter should get a rifle and clips, the one who's an athletic thrower should get grenades, and the one who's good for nothing carries Mind Probe, Medi-Kit, Motion Scanner, Rockets, and so on to support the others. It would be better that I could equip soldiers as I can give them armor.

#21 Stupid Order in Craft Problem
The program places the soldiers in the craft as they are serials in the soldier segment. I would prefer to place them by myself: the crips behind (out of the way), the natural born killers to the front.

#22 Unhandled Turn Based Error Complex
Here is a bunch of bugs, the origin the same: the programmers weren't able to accomplish the ideas of the design.
-If a soldier is lying unconscious, and the mission ends in the aliens' turn
 (reaction shot), s/he will disappear like a dream followed up by the message
 "X has become unconscious".
-If a soldier is lying unconscious out of the craft, and you abort the mission
 with nobody aboard, strangely s/he will leave with the craft...
-If a soldier is lying unconscious inside the craft, and you abort the mission
 with nobody able aboard, everybody and craft is gone.
-If a soldier is lying unconscious inside the craft, and you abort the mission
 with somebody able aboard, the unconscious one will be missing in action.
-If a mission ends with somebody under mind-control, s/he will be missing in
 action.
-If somebody faints while under mind-control (you disabled her/him with a Stun
 Rod), s/he will disappear like a dream in the end of mission.
-If somebody faints while under mind-control (you disabled her/him with a Stun
 Rod), and you wake her/him up (using a Medi-Kit), s/he will be an alien from
 then on.
-If you put a civilian under mind-control, s/he will be an alien from the next
 turn.
-If a civilian is killed by the aliens' grenade, s/he will be recorded as
 "Civilians killed by X-COM operatives".
-If a civilian is lying unconscious when you end the mission, s/he will be
 recorded neither killed nor saved.
-If a soldier or alien is lying unconscious and it is destroyed by an
 explosion, s/he won't be recorded anyway.
-Aliens don't get fatal wounds, but, while under your mind-control, they do.

#23 Alien Equipment Bug
You aren't supposed to access mind-controlled aliens' equipment, but you can page to them in the inventory menu. And look at that, how it is cheating, all weapons in the left boot-leg!

#24 Rifle Floating in the Air Bug
Listen: a soldier in Flying Suit has panicked, drops the gun, and drifts away,

but what's that, isn't his rifle that floats in the air? He was in a hurry, he
haven't waited until the gun could hit the ground!

#25 Abandoned Weapons on the First Floor Bug
What are these abandoned guns everywhere on the first floor? Well, they were
dropped by panicked aliens upstairs. Strangely they "fell through" the floors.
(Perhaps it is a Terror from the Deep bug.)

#26 Clip in the Corpse Bug
Sometimes explosions stuff the rifle clips into the corpses. As you pick up
the corpse, you can see the rounds shown. You can even unload the corpse.

#27 Disappearing Aliens Bug
Grenade explosions oddly erase the killed or faint targets because explosions
destroy items on the ground, and as the alien falls to the ground, the body
will be destroyed, as well.

#28 Invisible Soldiers Bug
When you restore a soldier or an alien from faint by Medi-Kit, s/he will be
invisible because the programmers forgot to put the figure on screen again
after the wake-up.

#29 Clip and Gun Matches Not Bug
When you defeat the pilot of a Small Scout, sometimes you will find a Plasma
Rifle (loaded) and a Heavy Plasma Clip. And once I found a Sectoid Leader in
an Abducter with two empty Plasma Pistols and a wrong clip.

#30 Chryssalid's Attack Bug
An attack of this being draws no reaction shots, and it seems the last attack
always corrupts the target even if it is the first. It is similar to Stun Rod
attack: you can stun an alien until you have TU's, the game does not check for
TUs-Reactions after a stun attack.

#31 Battleship Roof Error
When a soldier walks on the roof of a Battleship or you just fiddle with the
cursor on it, it happens the game freezes.

#32 Aliens in the Dark Problem
Do aliens see in dark better than humans? No. The area around your soldiers
are highlighted imitating the range of sights. But it also means to the A.I.
that your soldiers are like damned glow-worms. They can't see the aliens who
do see them. If you mind-control an alien it will be also a blind glow-worm.

#33 Grenade Sound Bug
When an alien throws a grenade, the sound effect will be the same as the
previous shot: Plasma Rifle, Laser Pistol, Rifle, and yes, sometimes the
sound of thrown items, too.

#34 Holes on Crafts
There are "holes" on alien ships and the Avenger at the edges where the
combatants can see each others and even shoot through. For example you stand
on the corner of the entrance-room of a Battleship, you can see through the
wall diagonally.

#35 Movement Bugs
There are a couple of bugs concerning to walking on battlefields.
-When you move a soldier two squares and after one square s/he halts having
 seen an alien, he will lose 8 TU's instead of 4. So you ought to move your
 scouts step by step.
-When you move a soldier on stairs/ramps, s/he needs more TU's to walk, but if

you move her/him THROUGH it, it will take normal TU cost (4 per square).
 A very illustrative example: to get out of the Skyranger to beside the ramp
 (two squares and one level) takes 8 TU's, but step by step it will take more
 (s/he have to walk down the ramp, because s/he can't pass between the ramp
 and the wall, and moving on the ramp will cost more TU's regardless s/he
 moves downwards) plus the latter method will draw reaction shots.
-Jump into an alien's skin: from the roof of a house your soldier can jump
 into an alien. The soldier's TUs must turn to 0..3 on the place where the
 alien is standing so the soldier should halt, and the alien must be unseen
 otherwise the soldier would walk it round.
-The alien detector: sometimes you cannot tell your soldier to walk where an
 unseen alien is standing.
-Under the ramp: your two men will be in the way if they stand between the
 two rear wheels of the transport. The others may not pass through as though
 the two were standing one level upper.

#36 Unconscious Bug
An unconscious soldier/alien's stun level (white bar in the Health bar) will
drop only when somebody is standing on the same square between the turns, or
the unconscious body is in somebody's hand or backpack. If somebody is "left
alone", that will never wake up by his/her own. An unconscious Reaper (four
square sized) will never wake up.

#37 Alien Stupidity Problems
-Aliens reload their weapons right before they want to shoot again only.
-Aliens do not pick up weapons or anything from the ground even if they stand
 on something and they are completely unarmed.

#38 Berserker Bug
Once a Floater was firing at my soldiers until the rifle ran out of ammo. It
is far more than three auto-shots weapons can generally do per turn.

#39 Infinite Laser Weapons Problem
Laser weapons do not need ammo (or energy) to fire. It seems X-COM invented
the Perpetuum Mobile; you just tie down the trigger and it works for ever.

#40 Mind Control Gives You Time Bug
When aliens put a soldier under mind control, s/he will get full TUs no matter
how much s/he has acted already.

5. Edit Codes

If you have a cheat device like Gameshark, you can edit the soldier data. It
means you can provide parameters to any soldier as you wish. You may have 250
soldiers in X-COM: Enemy Unknown. Each soldier occupies 68 bytes in the RAM,
this is called a record or structure. The soldier data takes 68x250=17000
bytes. You can address this area by the cheat engine and overwrite words
(word=double byte), because its location is fixed. The first soldier starts at
80015084. The 2nd one starts at 80015084+44=800150C8; the 44 is 68 in
hexadecimal. The address is also in hexadecimal as cheat codes are in
hexadecimal. If you wish to modify the tenth soldier's data for example, you
should calculate the address: 68x10=680 is 2A8 in hex, so the address will be
80015084+2A8=8001532C. If you have Windows, the calc.exe can take this
headache from you.
 The soldiers' row is by the order you recruit them. If one dies or is sacked,
the next recruit will occupy its place. If you are not sure, transfer all of
them in one base, and they will be listed in the proper order.
 I explain what each byte of the data structures means, so you can tell what
you wish to modify. I just leave the '8001' from the addresses to be shorter.

5084 0001 This is the rank of the soldier. From 0000 (Rookie) to 0005
         (Commander). Now it is set to Squaddie. Do not modify this word,
         especially when the original is Rookie, because the program uses
         other bytes, too, to promote operatives, and it may result a bug.
         You can change ranks if you no longer recruit new ones, and the game
         no longer promotes rookies and anybody.
5086 ???? Do not modify.
5088 FFFF Craft. Now it is set to NONE. Do not modify, because it is a bit
         complicated to edit this word properly and safely, and you do not
         need to cheat this anyway. However, you can handle numerous missions
         with just a few men by sending out only empty crafts for a group of
         UFOs to intercept. Edit the crew on the craft right before landing
         for a mission, and remove them to another craft after the mission to
         do a new one.
508A ???? It is a logical variable used for selections in menus like sell/sack
         and transfer. Do not modify.
508C 03E8 Missions. Now it is set to 1000, to call him a feasting veteran.
508E 05DC Kills. Now it is set to 1500. He killed 1.5 alien per mission, for
         the statistics.
5090 0000 Wound recovery. Set it to zero days just like this to heal them.
5092 ???? Do not modify.
5094 654A Name begins.
5096 6E61
5098 4A2D
509A 6361
509C 7571
509E 7365
50A0 5220
50A2 756F
50A4 7373
50A6 6165
50A8 0075 Name ends. Now the name is "Jean-Jacques Rousseau". The game allows
         21 characters for names. The characters (letters) are by ASCII. Note
         the 00 in the last word. You must indicate the end of every name by
         a zero coded character so the program know how long is the name. And
         note the "-" character which you cannot use normally, unfortunately,
         just the stupid underline.
50AA ???? Do not modify.
50AC ???? Do not modify. (These two words are probably not used.)
50AE 1932 Health and Time Units. Now they are set to the lowest rookie
         parameters, 25 and 50. These are permanent values.
50B0 1E28 Reactions and Stamina, 30 and 40.
50B2 2814 Firing Accuracy and Strength, 40 and 20.
50B4 ??32 Unknown and Throwing Accuracy, not set and 50.
50B6 0001 Psi Skill and Psi Strength, 0 and 1. If the Psi Skill is 00, these
         parameters will be invisible (though Psi Strength is valid all the
         time), otherwise they are shown.
50B8 0B0A Time Units+ and Bravery. Bravery is a bit tricky. 0A does not mean
         10 nor 100, but it means 110-100=10. If it is set to 00, the man
         will be a golem (Bravery: 110)! If it is set to 04, the man has 70
         for Bravery. 0B for Time Units+ means that the program adds 11 to
         Time Units, so the actual TUs will be 61. This makes the stat bars
         show in two shades.
50BA 0B0A Stamina+ and Health+, 40+11=51 and 25+10=35.
50BC 0B0A Strength+ and Reactions+, 20+11=31 and 30+10=40.
50BE 0B0A Throwing Accuracy+ and Firing Accuracy+, 50+11=61 and 40+10=50.
50C0 03?? Bravery+ and Unknown, 10+30=40 and not set.
50C2 0003 Improvement (in the Psi Lab menu) and Armor. The armor is set to
         Flying Suit. 00 is NONE, 01 is Personal Armor, 02 is Power Suit.

```
50C4 ??00 Unknown and In Psi Training (a logical value: 00 is for no, any for
          In Psi Training). Do not modify.
50C6 0600 Face and Gender. The Face indicates what the soldier looks like in
          the mission inventory menu; the Gender indicates whether the soldier
          appears a man or a woman on the combat scene, and whether they say
          "Argh" or "Eek" when they die. The actual setting means a black
          male. The 0601 would look like a black man in the inventory menu
          and a woman on the scene. So you have to set both bytes properly for
          transsexualism. Gender 00 means male, any means female; Face from
          00 to 03 woman of blonde, brown, black, brown hair, from 04 to 07
          man of blonde, brown (red), black, brown hair. To be closer to the
          truth, only three bits are used of the Face byte: 00000010 (this is
          binar) is a black woman, 00000110 is a black man; the third binar
          digit from the right means the "gender of the face" (0 or 1), the
          1st and 2nd bits make the code for hair and skin. Why do I tell you
          this? Because I cannot be sure whether the game uses the other bits
          for anything.
```

So that is the structure. I guess the most useful modification is of the Psi
Strength. So the initial eight soldiers will be practically immune to mind
control (100 Psi Strength) if you input these codes in the cheat device:
```
800150B6 0064
800150FA 0064
8001513E 0064
80015182 0064
800151C6 0064
8001520A 0064
8001524E 0064
80015292 0064
```
Then save and reload your game to play normally with these boosted stats as if
it were a very lucky rookie picking.

6. Credits

X-COM: Enemy Unknown is Copyright 1994 Mythos Games Ltd., 1995 Microprose Ltd.

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Thanks to:

Amore, who introduced "UFO" to me, I hope we meet again;

GameFAQs, Neoseeker for being at gamers' disposal.

That's all, folks!