

Elite AGB

Elite AGB is my interpretation for the Game Boy Advance of *Elite A*, a version of *Elite* modified by Angus J. C. Duggan made available in the mid 1990s. *Elite* was originally written by David Braben and Ian Bell in 1984 for the BBC Microcomputer.

The name Elite AGB is a slight play on 'Elite A' and the fact that the Game Boy Advance is sometimes referred to using the acronym AGB, I assume that this is from the days when Nintendo called their prototype the 'Advanced Game Boy'.

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Introduction

Elite AGB is an enhanced version of Elite for the Game Boy Advance (GBA). In order to play it you will require a [flash cartridge](#) or an [emulator](#).

It has been created using disassembled code from Elite, Elite A as well as other Elite versions taken from the BBC Microcomputer, Commodore 64 and ZX Spectrum. I have also made use of the the original Elite tape version source code provided by Ian Bell at <http://www.iancgbell.clara.net/elite/>. Those familiar with an earlier port of *The New Kind* (TNK) I did a couple of years ago may be surprised to hear that this version shares no code with Christian Pinder's now-defunct remake, though similarities are inevitable due to the processes used in remaking both TNK and Elite AGB.

Differences between *Elite AGB* and *Classic Elite*

There are several differences between Elite AGB and the classic BBC version of Elite. These are detailed in the following sections.

Player ships

You are no longer restricted to flying just a Cobra Mk III. There are 15 types of ship that you can buy, should you have the sufficient funds, and you trade in your old ship automatically when purchasing the new one. Not all 15 types will be available at lower tech planets. Each ship has several different attributes to consider when making an upgrade.

<i>Attribute</i>	<i>Description</i>
Armaments	<i>The overall strength of fitted lasers. Pulse lasers always do less damage than Military ones, but Pulse lasers on an Anaconda will do more damage than those fitted to an Adder.</i>
Missiles	<i>The maximum amount of missiles that can be fitted.</i>
Hull	<i>The relative hull strength. Stronger hulls take less damage from heavy laser fire and collisions.</i>
Energy Unit	<i>All ships regenerate their energy banks slowly. Those fitted with extra energy units do so more rapidly.</i>
Speed	<i>The maximum velocity that the ship can travel at.</i>
Cargo	<i>Cargo and equipment capacity. Larger ships have higher cargo capacity but generally lower maneuverability.</i>
Fuel	<i>The amount of hyperspace fuel that can be carried. More fuel means that hyperspace jumps of greater distances can be made.</i>
Economy	<i>Spare parts for some ships are more expensive than for others. Every new owner should take this into account when shopping for a new ship!</i>
Agility	<i>How tight a turn the ship can make, effects pitching and rolling. Some large ships find it difficult to dock as they cannot turn sharply enough.</i>

An overview of the ship details can be seen by opening the Trading Panel and selecting Buy Ship > Ship > Data on Ship.

When a new ship is bought you must be careful to not lose money needlessly. If you have any cargo in your current ship, sell it all before you change ships. If you have too much equipment fitted and it will not fit into the new ship, then you must sell excess pieces ¹.

Special Cargo

As well as regular trade goods, special cargoes are now available for the intergalactic entrepreneur. To view a list of current contract offers, select Special Cargo. These low bulk cargoes have to be delivered to their destination as quickly as possible. A deposit for the contract must be paid up front, but large rewards can be earned for delivering the goods to the destination on time.

To make as much money as possible it is recommended that new pilots plan their route carefully before taking up a contract. Planets occasionally look temptingly close by, but hyperspace fuel limits may

¹ *Historical note:* in Elite A when changing ships you can often lose equipment. Also, ship prices shown in Elite AGB are the actual prices you pay. In Elite A, the ship price shown is the 'show room' price for someone who buys a ship without having one to trade in. As you start off in a ship that you will automatically trade in, this trade in price is deducted from the show room price and shown as a less confusing final what-you-pay price.

require a large round trip to be taken resulting in lower payments. Stopping at space stations takes time, so for maximum speed ships should be fitted with fuel scoops, use the sun-skimming technique to gain fuel and thus avoid the time lost when docked. Occasional illegal goods with high rewards are available on the special cargo list, though usually only to those who already have a bad reputation with the law and a good reputation with their laser.

Bug fix: A bug in version 0.4 caused the special cargo list and the menu controls to be out of sync on occasions.

Equipment changes

The extra cargo bay and energy bomb are no longer available. Instead, new ships can be bought to increase cargo capacity. The Energy Bomb was seen as a bit '*cheaty*' and removing it balances up the universe. It has been replaced with the Emergency Hyperspace Unit (think Defender, Asteroids).

A new piece of equipment, the I.F.F. System, can be obtained at planets of tech level 2 and above. This displays different types of stellar object in different colours on the radar display and identifies craft types when missile locked.

The second new piece of equipment, the Emergency Hyperspace Unit, is available at planets of tech level 8 and above. When triggered, it will jump the ship from the current position to a random planet in the galaxy. Useful as a last resort to get out of a tight spot, the drive can also be used to speed up financial gain for any adventurous pilot feeling lucky...

Encyclopedia

The *Encyclopedia Galactica* contains information on nearly all types of ship seen in the universe. It also has detailed information on the ship equipment available and ship controls². Select Encyclopedia from the panel, then choose from the menu the information required. Pressing B returns to the previous menu.

Viper S.O.S

According to the Space Traders Flight Training Manual, when in the Orbit Space, the station's *own defences will come to your immediate assistance*. In Elite AGB, we actually mean it. When a particularly persistent pirate chases you into the safe zone and does not give up, the station's fleet of Viper class fighters will scramble to assist you. Any kills made by the police force will not count towards your rating, but at least you will be free to fight another day. The tired GalCop law enforcers will not come to the aid of a criminal, of course, so don't expect any help if your legal status is anything but clean.

Controls

The original home computer versions uses a keyboard to select the various screens, control the on-screen cursors and fly the ship. Only the Nintendo Entertainment System (NES) version differs from this scheme. It uses an on screen menu with icons representing the ship controls. In the GBA version I have opted for a system similar to the NES version, but due to screen constraints the menu is 'pop up'

² *HN*: The controls originally showed the BBC keyboard controls. This has been replaced with descriptions of the GBA icon system.

and appears only when required. To access the menu, use the L and R shoulder buttons. To select an option, press A. To hide the menu again, press B or wait a few seconds.

If you have played the GBA port of TNK then the menu idea should be familiar – here it uses some of the same icons for the same functions – though I've tried to make things simpler and more comfortable for use on the 'GBA SP' by using the shoulder buttons. GBA TNK used Start to toggle the menu on and off, but the position of the Start and Select buttons on the SP is a lot harder to reach than the traditional GBA design. I found the GBA version of Elite TNK quite awkward to play on this new hardware. It takes a bit of getting used to at first, but I think it works better. One possible regression is the loss of the configurable buttons, but the new menu is easier to use and makes them less of a necessity.

Summary

When Docked

<i>Button</i>	<i>Action</i>
d-pad	Change menu selection. Move cursor on chart screen.
A	Accept current menu/panel selection. View planet information on chart screen.
B	Cancel/go back to previous menu/Hide Trading Panel. Return chart cursor to current planet on chart screen.
L, R	Show Trading Panel, change current panel selection.
Start	Show options screen for Save, Load, Video options, Sleep mode, Quit (quit/reset is hardware dependent. It does not work on all flash cartridges and 'shells' and may just freeze the game!)
Select	Chart screen: calculate the best route to the target planet. (new!)

When in space

<i>Button</i>	<i>Action</i>
d-pad	Fly ship and change speed – up/down for dive/climb, left/right for roll. With B to change speed.
A	Fire laser (if fitted). Accept current panel selection.
B	Hide Flight Panel. B + up/down to increase/decrease speed. Tap B to reselect the current panel selection.
L, R	Show Flight Panel, change current panel selection.
Start	Show options screen for Video options, Sleep mode, Quit. Save and Load may only be performed while docked.
Select	Enable Galactic Hyperspace icon on Flight Panel (if fitted).

Meaning of panel icons

For more details on the meaning of the icons shown in the panels, select Encyclopedia > Controls > Flight/Combat/Navigation/Trading. When in space, the Flight Panel only shows icons that you can

actually use. As you fit more equipment or change your status, other icons will become active. For example, the icon that arms a missile is only shown if you have a missile fitted. The icon to launch a missile is only shown when a missile is successfully targeted.

Miscellaneous Changes

Some other changes to classic Elite and difference to GBA TNK that may not be obvious at first are detailed in this section.

Sun Compass

Select the Toggle Compass icon to toggle between planet and sun compasses. When Planet is selected, the compass shows the position of the planet. When Sun is selected, the compass shows the position of the sun. Only available when the space station icon is not shown.

Galactic Hyperspace

A Galactic Hyperspace may be fitted on planets of tech level 11 upwards. In order to activate it, first exit the space station. Press the Select button then open the Flight menu and select the Galactic Hyperspace icon. The press-select-first safety measure ensures no accidental engaging of the GH takes place.

Changes to Status Screen, Equipment Screen

Due to the limited space on the GBA screen and the additions made to the game, there was no longer space on the Status Screen to show all the fitted equipment. This information has been moved to the new 'Equipment Screen'³.

Intro Sequence

The 'intro sequence' is shown when starting a new game, press B on the start screen, or by loading the Default Commander. It may be skipped by pressing Start on the first screen, the one with the spinning Cobra Mk III. This sequence has been inspired by the NES and BBC Executive versions. The 3D Elite logo model is taken from the Executive version, for example, though it required minor adjustment to get it to look right 'filled in'.

Trumbles

When you reach a certain level of wealth, this extra 'mission' will become available. A trumble is a small creature that lives aboard your space ship and multiplies rapidly. Trumbles eat food and narcotics (!) and are most allergic to extreme heat. A novel challenge is to try and keep a small colony of trumbles aboard your ship, but not so many that they become hazardous to space flight...

Kill Values

To reflect the fact that it is harder to kill a dangerous pirate ship than, say, an asteroid Commodore 64 Elite introduced the idea of kill values. Until then every stellar object you destroyed increased your score by 1. Now an asteroid gave you half a point and the pirate gave you a point and a half, for example.

³ *Trainspotter's note*: this was inspired by fan-hacked C64 *Elite*128.

Each ship type has a different score, with the values used in Elite AGB being loosely based on the relative scores in the C64 version. Overall they have been increased to make the game a bit more interesting. A problem in the C64 version was that the average score for a ship was less than 1, which made increasing from one rating to the next an even slower task. For example to go to Mostly Harmless on the BBC requires 4 kills, but on the C64 it usually takes twice that. The ship kill values used are shown in [Appendix A](#).

Quick Save

The Quick Save option is available at any time when you are outside the space station. The idea is to allow you to save and quit, so you can resume later. Only one Quick Save slot is available and after saving the game returns you to the main title screen. When restoring a Quick Save, the save is lost. So remember to save when you reach the next space station.

Memory Save

Each time you dock, the game remembers your status. This way, if you are killed and didn't save you only lose the progress made since you last docked.

Galactic Chart Path Finder

On the Galactic Chart, pressing the Select button plots the best course to the current hyperspace target planet. The path chosen takes into account each planet's government rating to plot the safest but shortest route. The chart tells you how many jumps are required and the real distance, rather than the distance “as the Thargoid flies”, to the planet. If the planet is not reachable with your current ship's hyperspace fuel limit then another message is shown. This tool is a great help when determining which special cargo to buy.

Bug Fix: 0.5.1 On the chart screens, if you chose the “metallic” colour scheme, the chart was shown in black and white.

Credits

Elite AGB makes use of code and data from various versions of Elite by Ian Bell and David Braben *et al*. This code and data is used without permission and infringes several copyrights, though it's anyone's guess as to exactly who owns the copyrights infringed. For the interested, here is a non-comprehensive list of things used and their origins and is roughly in order of 'copyright infringing seriousness' as I see it:

Universe generation: Elite source, Elite A disassembly.

Ship models and statistics: Converted from Elite A and Elite Executive disc files.

Goat Soup strings: Elite A disassembly.

Scanner and compass: ZX Spectrum Elite disassembly.

Planet graphics: Elite source, Elite A disassembly.

Trumble mission: Commodore 64 Elite disassembly.

Intro sequence: Elite NES observations and Elite Executive disassembly.

Music Data: Converted from the midi files distributed with The New Kind. Elite NES music midis.

Computer controlled ship AI: Elite source, Elite A and Elite NES disassemblies.

Vector graphics, ship motion, etc: Elite source.

Docking Bay mini-sequence: Elite (+A) disassembly.

Sound FX Data: Uses 'static emulation' of BBC sound registers taken from Elite under emulation in a specially modified version of *PocketBeeb*.

Trading screens, including Encyclopedia: Elite A disassembly.

Special Cargo calculations: Elite A disassembly.

Bugs Features

Though I have tested the game a fair amount, it is the nature of software that some unwanted errors inevitably slip through the net. If you spot a problem, or have a feature that doesn't sound too difficult to add, then drop me an email at richard.quirk@gmail.com and I'll see what I can do. Source code is provided so any good patches you come up with are welcome too.

Appendix A : Ship Kill Values

Ship	Kill Value Elite AGB	Kill Value C64 Elite
<i>Space Junk</i>		
Missile	0.980469	0.582031
Space Station	N/A	N/A
Escape Capsule	0.460938	0.062500
Alloys	0.437500	0.039062
Cargo Cannister	0.437500	0.039062
Boulder	0.421875	0.023438
Asteroid	0.429688	0.031250
Splinter	0.437500	0.039062
Shuttle	0.460938	0.062500
Transporter	0.464844	0.066406
Rock Hermit	0.730469	0.332031
<i>Traders</i>		
Cobra Mk III	1.312500	0.914062
Python	1.062500	0.664062
Boa	1.230469	0.832031
Anaconda	1.398438	1.000000
Monitor	1.132812	N/A
Ophidian	0.937500	N/A
Ghavian	1.023438	N/A
Iguana	0.898438	N/A
Salamander ⁴	1.023438	N/A
Chameleon	1.023438	N/A
Chameleon (alternate stats)	1.062500	N/A
?????	1.398438	N/A
<i>Police</i>		
Viper	0.500000	0.101562
<i>Pirates</i>		
Sidewinder	1.230469	0.332031
Bushmaster	1.230469	N/A
Cobra Mk I	1.230469	0.332031
Mamba	1.398438	0.500000
Krait	1.230469	0.332031
Adder	1.250000	0.351562
Gecko	1.230469	0.332031
Python	1.562500	0.664062
Worm	1.093750	0.195312
<i>Hunters / Lone Wolves</i>		
Boa	1.792969	0.894531
Cobra Mk III	2.125000	1.226562
Cobra Mk III (alternative stats)	2.062500	N/A
Asp Mk II	1.980469	1.082031

4 *HN*: Salamander is the name given to this ship by avid Elite A fans.

<i>Ship</i>	<i>Kill Value Elite AGB</i>	<i>Kill Value C64 Elite</i>
Asp Mk II (alternative stats)	2.042969	N/A
Python	2.062500	1.164062
Fer-de-lance	2.148438	1.250000
Moray	1.648438	0.750000
Thargoid	3.562500	2.664062
Tharglet	1.027344	0.128906
Constrictor	6.230469	5.332031

A value of 1 kill is equivalent to a single kill in BBC Elite. The 'Right On Commander' message is shown every 256 kill points.