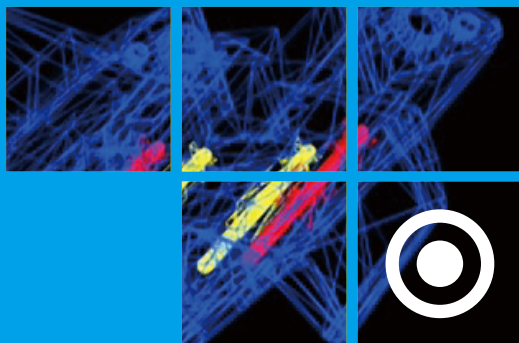


Wing Commander Saga

○ Mission Creation Documentation



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FRED2



Create Worlds

INTRODUCTION



NOTE: Before playing with FRED2, you are strongly encouraged to complete the main Wing Commander Saga campaign. Certain surprises may be spoiled otherwise.

Welcome to FRED2, the mission editor for Wing Commander Saga. This powerful, easy-to-use program lets you create your own Wing Commander Saga missions and campaigns.

The help is divided into two sections: **template overview** and **extended walkthrough**.

If you are new to designing missions, begin with the original FRED2 guide. You'll learn about the Editors and SEXPs along the way. Finally, check out this guide.





AUTOPILOT TEMPLATE



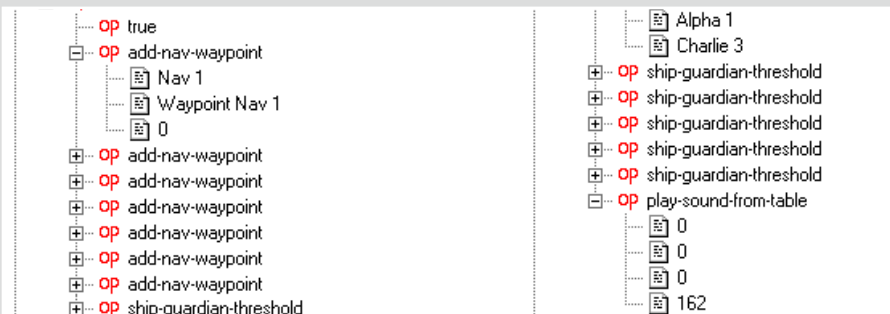
This chapter describes the various aspects of our autopilot template. It explains how to use SEXPs, or symbolic expressions, to adjust autopilot and launch scripts to suit your needs.

The autopilot template is easy to use and is enormously **flexible** and **powerful**.

The template already has three full 4-fighter wings. Alpha, Bravo and Charlie. It is not relevant for this template when any of the Bravo/Charlie wings show up, as long as they are in the mission somewhere. If they are not, or they don't have the full 4 fighter compliment but 3 or less you have to modify events that reference these wings.

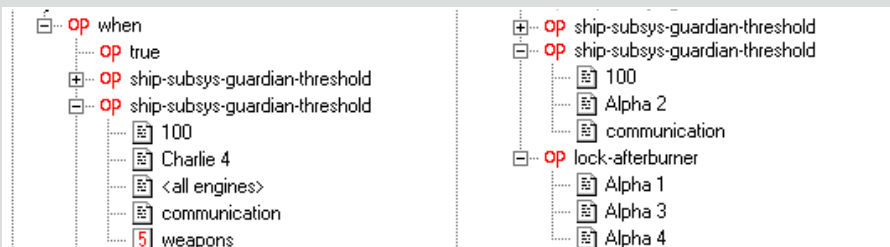
Init Mission Event

The **Init Mission** event is used to setup the navpoint layout, guard friendly fighters and play the mission startup sound.



Guard wingmen subsystems Event

The **Guard wingmen subsystems** event protects engines, communications and weapons subsystems on all friendly ships that take part in the mission. It also protects communication subsystem on PC's ship in a similar fashion and locks afterburner on all fighters scheduled for launch.

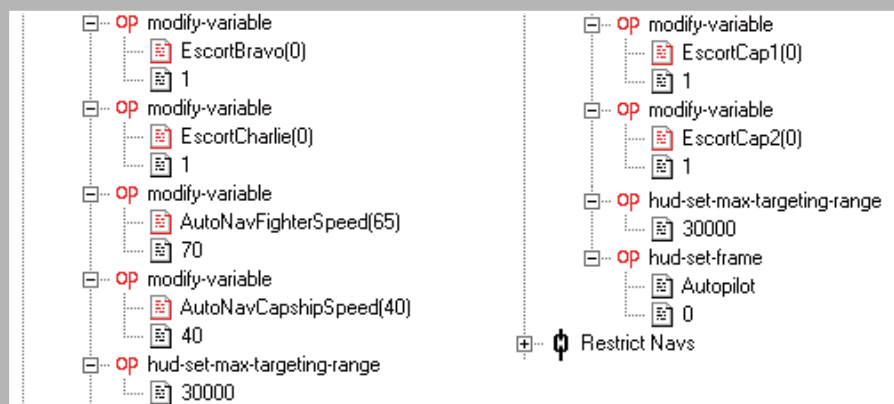


AutoNav and Radarrange Event

The **AutoNav and Radarrange** event is used to adjust the max. radarrange. The velocity of fighters and (if applicable) capital ships during flyby sequences can be altered here as well.

You can also select whenever or not Bravo & Charlie wings and/or capital ships are visible during autopilot sequences. Set the variables to '1' if you want to have the respective wing in your formation. This is not needed for Alpha since obviously Alpha must be in the formation, but it is needed for Bravo and Charlie. If one of those Wings is only with you for some time then activate it by setting to '1' as soon as you meet them and deactivate it by setting the variable to '0' again when they leave you.

Same goes for capital ships. Set these variables to '1' if you need the capships in your formation from that point on. The first variable is for the first capship group, the second for the 2nd capship group. This is due to limitations of FRED, because it can only handle a certain number of SEXPs per event before it crashes.



Finally, the autopilot custom HUD gauge is created via this SEXP.

Restrict Navs Event

The **Restrict Navs** event hides all newly created NAVs from view. Don't forget to adjust values in this expression you add new nav points or delete one or several nav points defined in the **Init Mission** event.

Launch Helper

With the **Launch Helper**, you can make launching fighters behave intelligently (or at least appear to do so). The launch helper consists of several events. **Launch Helper Alp 1 and Alp 3** and **Launch Helper Alp 4** are located near the bottom of the event tree. They ensure that fighters do not deviate from their flight path during launch.

Launch Alpha 1/3/4 events tell the Alpha wing to leave carrier's hangar. **Player outside of hangar** and **Orders Alpha** events are used to determine that the player has left the hangar bay, assign the remainder of the Alpha wing to follow the player and unlock their afterburner.

Finally, **Player and wingmen launched** event is a trigger for any SEXPs (for example message lists) that are supposed to be triggered after the initial launch.

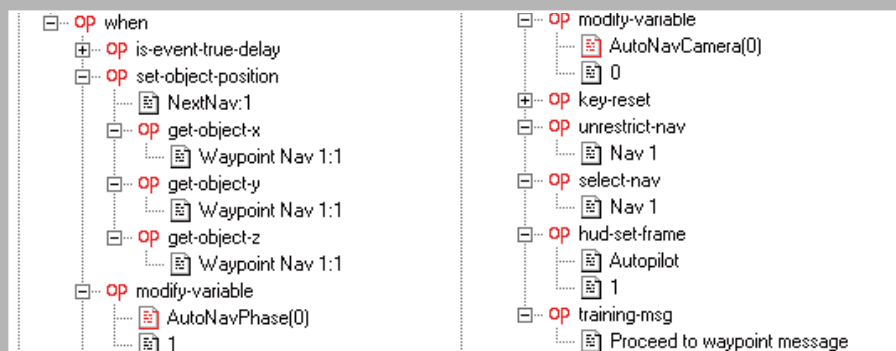
Activating Navpoints

There are 7 NAVs already present in the template as well as the events activating and deactivating them. All you need to do is delete and/or move the navpoints and the events activating/deactivating them.

	Activate Nav 1		Activate Nav 2
	Proceed to Nav 1		Proceed to Nav 2
	AI Goals Nav 1		AI Goals Nav 2
	Restrict Nav 1		Restrict Nav 2

Each Nav point uses 4 events: **Activate Nav** (see below), **Proceed to Nav** (mission objective, it is also used to vanish ships no longer used in the mission), **AI Goals** (initial orders upon arriving at the nav point) and **Restrict Nav** (hides nav point from view).

The **Activate Nav** event handles autopilot settings for individual nav points. You can select the position of the NAV using the *set-object-position* SEXP. You can select the autopilot camera by setting the *AutoNavCam* variable to a number 0-9. For example, setting it to '1' will activate camera 1. The default for this variable is '0', and if you're content with just using that camera you don't need to change this variable at all and you can delete the SEXP. The **Activate Nav** event will also unrestrict and preselect next nav point. Make sure that the values in these SEXPs match. Additionally, custom HUD autopilot gauge is made active and *procced to next waypoint* computer message is played.

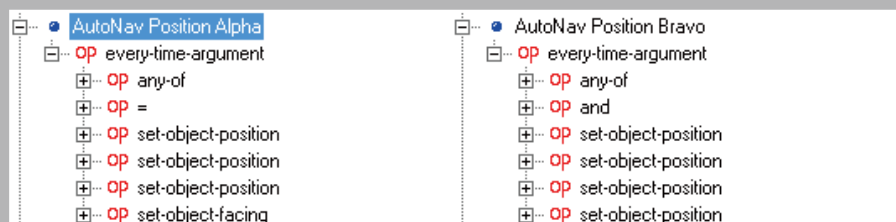


More cameras can be added of course and the time of the animation can be adjusted for each camera.

Autopilot Script

While the usage of autopilot script is fairly simple, the event chains handling autopilot cutscenes are highly complex. They provide object positioning, camera angles and so on.

AutoNav Position Alpha/Bravo/Charlie events handle Alpha, Bravo and Charlie wings. There's a *set-object-position* SEXP for every fighter in each wing (except Alpha 2 which is handled separately since that's the player). If any wing doesn't have 4 fighters, simply delete the SEXP handling that fighter.




If an entire wing (only Bravo or Charlie) is not present, delete the entire event handling that wing. This also applies to **AutoNav Update Alpha/Bravo/Charlie** and **AutoNav Deactivate Alpha/Bravo/Charlie** events. Please note that the update events don't have SEXPs for each fighter but simply use arguments, so just delete any fighter that doesn't exist from that argument list.

Now for the capital ships. This template can handle up to 9 escorted capships in 2 separate groups handled by two events: **AutoNav Position Capships 1/2**. All 9 ships are already waiting at Nav 1.

If you have only 5 ships or less, simply delete any event handling the first group. Otherwise you need to delete the SEXPs for not-present capships. Which ones to delete is your decision. As before, make sure to update **AutoNav Update Capships 1/2** and **AutoNav Deactivate Capships 1/2** events.

A word to the wise: never create your escorted capships on your own. Instead take the already present warships and change their class and rename them. That way they will automatically be renamed in the events as well

Delete all ships you don't need and keep the ships which are on those slots which you'd like to see in the formation later. If you rename TCS Armageddon to TCS McFaul and make it a destroyer then that ship will fly at exactly that slot position later and it will arrive in that formation position at the new nav point.

 ...  AutoNav Position Capships 1	 ...  AutoNav Update Capships 2
 ...  AutoNav Position Capships 2	 ...  AutoNav Deactivate Capships 1
 ...  AutoNav Update Capships 1	 ...  AutoNav Deactivate Capships 2

Additional Notes

The template has the TCS Hermes battlegroup already in it. In fact, there are two battlegroups due to performance consideration. The first will depart as soon as you arrive at Nav 1, the second will arrive when you reach Hermes Nav again.

If you're making a mission where you need to escort the Hermes, don't use the template's TCS Hermes. Delete both of those and instead rename one of the escort capships (1-9) to TCS Hermes depending on where it should be in the formation.

This also applies to any ship in her battlegroup. Do not create those - rename a escort capship to that name and change the class.

Another important thing to keep in mind is that it doesn't matter if a ship is destroyed, the event chain will simply ignore it and will not display it. That's it.

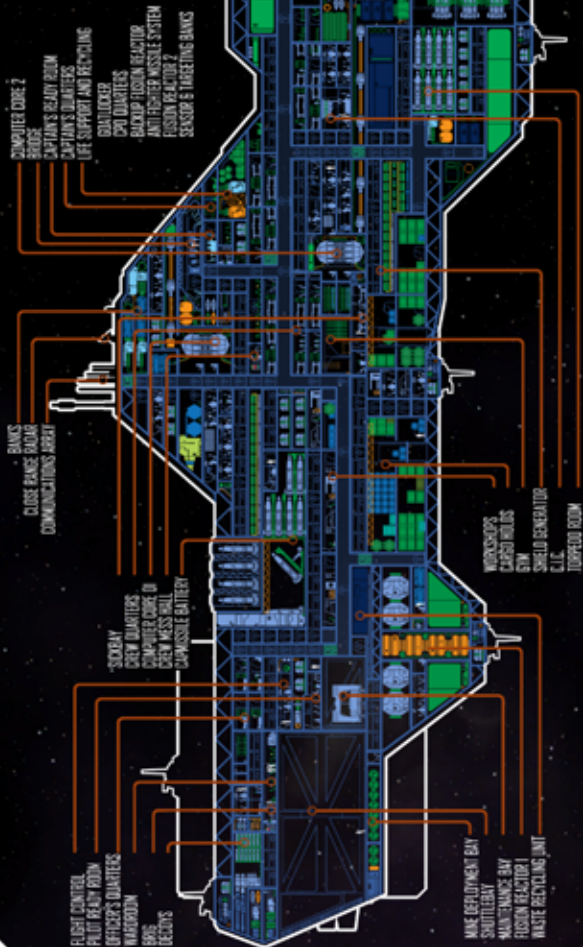
The animation doesn't take place at a random location. It is always exactly in the middle between the player's old position and the new nav point. So when you start at (0,0,0) and Nav 1 is at (100.000,0,0) then the animation will take place at (50.000,0,0)

This can be used by you. If for example you want to see an asteroid field or a space station during the flight animation, simply place it along the player's way exactly in the middle between two navs and you WILL see it (if the camera angle is right of course).

You also don't need to let the player end up at the next nav, the player will end up at the NextNav waypoint. Where you put that, at the next navpoint or before, that is up to you. For example, let the player select Nav 2 but place NextNav at certain waypoints before that where you want something to happen.



TERRAN CONFEDERATION SPACE NAVY - DESTROYER





EXTENDED WALKTHROUGH



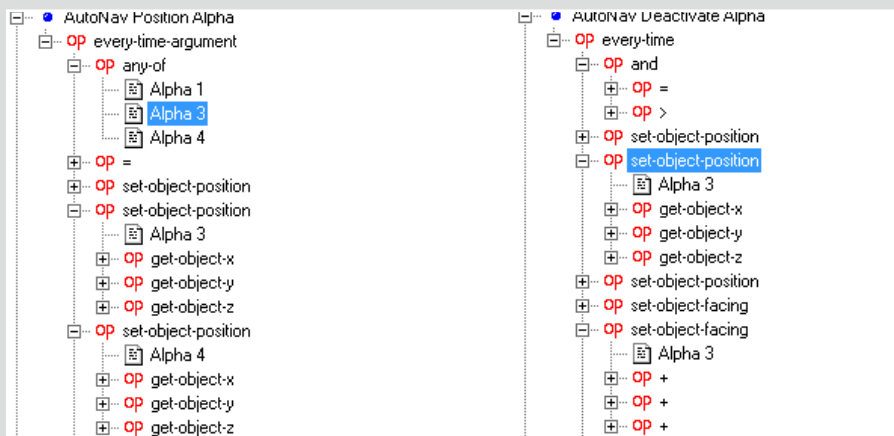
This section will walk you through the process of creating your own mission. It assumes you've already read the **Autopilot Template** section. This may take a couple of hours, so pour yourself a beverage.

In this walkthrough we will recreate the first mission from **Wing Commander III** using the autopilot template.

In this mission, Maverick (Alpha 1) and Hobbes (Alpha 2) are to fly a routine patrol of these three zones and sweep the area of any hostiles they encounter. Since the template is geared towards the player being Alpha 2, we will need to address this issue at a later stage.

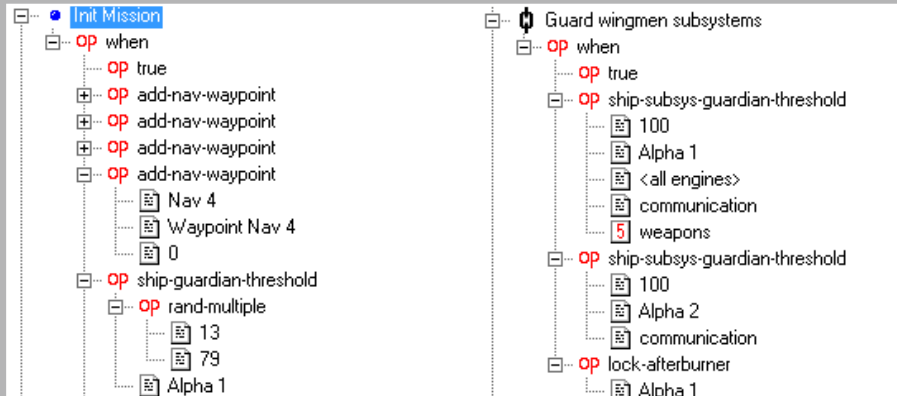
You'll begin by opening the autopilot template and deleting all unused assets. Start by removing following events: **AutoNav Position Bravo**, **AutoNav Position Charlie**, **AutoNav Position Capships 1**, **AutoNav Position Capships 2**, **AutoNav Update Bravo**, **AutoNav Update Charlie**, **AutoNav Update Capships 1**, **AutoNav Update Capships 2**, **AutoNav Deactivate Bravo**, **AutoNav Deactivate Charlie**, **AutoNav Deactivate Capships 1** and **AutoNav Deactivate Capships 2**. Close the event editor by hitting OK and save the mission. Remember to save your work early and often because FRED2 is prone to crashing!

Now open the Event Editor again and remove all Alpha 3 and 4 referencies from the autopilot script. This involves updating following events: **AutoNav Position Alpha**, **AutoNav Update Alpha** and **AutoNav Deactivate Alpha**.

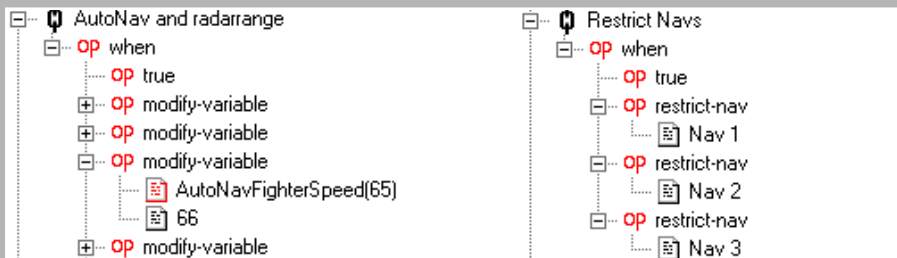


It is also essential to update the nav points. Since our mission consists of three nav points, we need to adjust the *init mission* event chain. First thing first, expand the **Init Mission** event and delete add-nav-waypoint SEXPs which create NAVs 5-7. While we are

at it, remove all *ship-guardian-threshold* minus the one guarding Alpha 1. Adjust **Guard wingmen subsystems** event accordingly.



Change *AutoNavFighterSpeed* value to 66 (Hellcat's top speed) in the **AutoNav** and **radarrange** event and clean up the **Restrict Navs** event.



It is also essential to update the launch helper script. Delete the **Launch Helper Alp 4**, **Launch Alpha 3** and **Launch Alpha 4** events and remove Alpha 3 reference from the **Launch Helper Alp 1 and Alp 3** event. Expand the **Orders Alpha** event and replace *Launch Alpha 4* event reference with *Launch Alpha 1* and *Alpha 4* object reference with *Alpha 1*. This is a good time to save the mission once again.

Now you may want to clean up the event tree and remove all remaining unused events. This mission is a simple three point patrol and consists of just four nav points which means it is safe to remove all events displayed in the following screenshot.

Alpha resume course Nav 4	AI Goals Nav 6
Activate Nav 5	Restrict Nav 6
Proceed to Nav 5	Alpha resume course Nav 6
AI Goals Nav 5	Activate Nav 7
Restrict Nav 5	Proceed to Nav 7
Alpha resume course Nav 5	AI Goals Nav 7
Activate Nav 6	Restrict Nav 7
Proceed to Nav 6	Mission Failed

Replace *Proceed to Nav 7* with *Proceed to Nav 4* in **Mission Complete** and **Landing clearance** events.

Expand the **Proceed to Nav 1** event, change *unset-nav-visited* to *Nav 4* and delete following arguments from the *ship-vanish* SEXP: *TCS Olympia* and *TCS Fletcher*. Close the **Event Editor**, select these two ships and their duplicates and remove them from the mission.

<div> <div>op when</div> <div> <div>op <</div> <div> <div>op unset-nav-visited</div> <div>Nav 4</div> </div> </div> <div> <div>op ship-vanish</div> <div> <div>TCS Hermes</div> <div>TCS John Paul Jones</div> <div>TCS Bentley</div> </div> </div> </div>	<div> <div>TCS Astoria</div> <div>TCS Olympia</div> <div>TCS John Paul Jones</div> <div>TCS Fletcher</div> <div>TCS Bentley</div> <div>TCS Hermes#1</div> <div>TCS Astoria#1</div> <div>TCS Olympia#1</div> <div>TCS John Paul Jones#1</div> <div>TCS Fletcher#1</div> </div>	<div> <div>Waypoints</div> <div>Ships</div> <div>Friendly</div> <div>Hostile</div> <div>Neutral</div> <div>Unknown</div> <div>Traitor</div> </div>
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Select the second battlegroup and adjust the arrival cue to reflect modified nav point structure.

<div> <div>Cue:</div> <div> <div>Update Cue</div> <div> <div>op and</div> <div> <div>op is-event-true-delay</div> <div> <div>Activate Nav 4</div> <div>0</div> </div> </div> <div> <div>op ></div> <div> <div>AutoNavPhase(0)</div> <div>1</div> </div> </div> </div> </div> </div>	<div> <div>TCS Icarus</div> <div>TCS Norwich</div> <div>TCS Hermes</div> <div>TCS Astoria</div> <div>TCS John Paul Jones</div> <div>TCS Bentley</div> <div>TCS Hermes#1</div> <div>TCS Astoria#1</div> <div>TCS John Paul Jones#1</div> <div>TCS Bentley#1</div> </div>	<div> <div>Waypoints</div> <div>Ships</div> <div>Friendly</div> <div>Hostile</div> <div>Neutral</div> <div>Unknown</div> <div>Traitor</div> </div>
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Save the mission again.

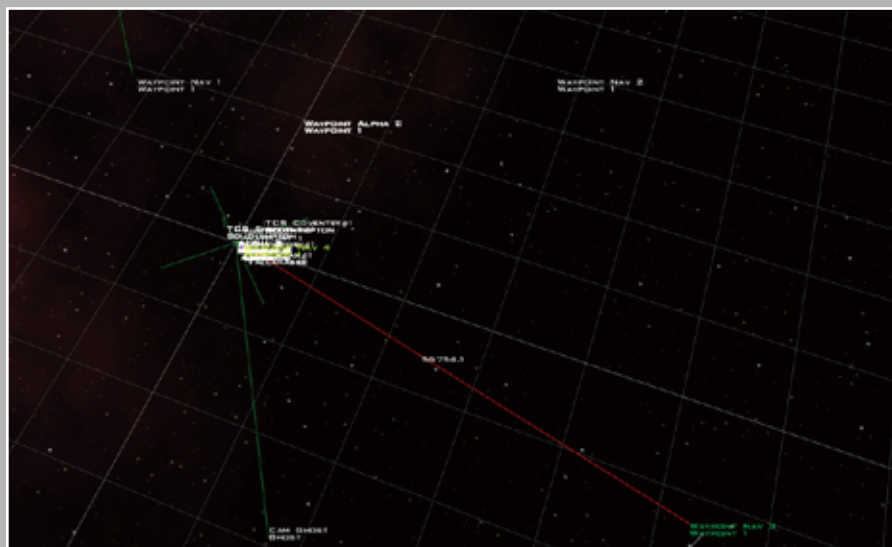
Before we can delete the TCS Armageddon battlegroup from the mission file, we need to remove all SEXP references. Locate the **Proceed to Nav 3** event in the Event Editor and replace the *ship-vanish* operator with *do-nothing*. Now you can remove the entire battlegroup.

In the next step, you will need to rename remaining Confederation warships and replace the Jutland with the Yorktown model.

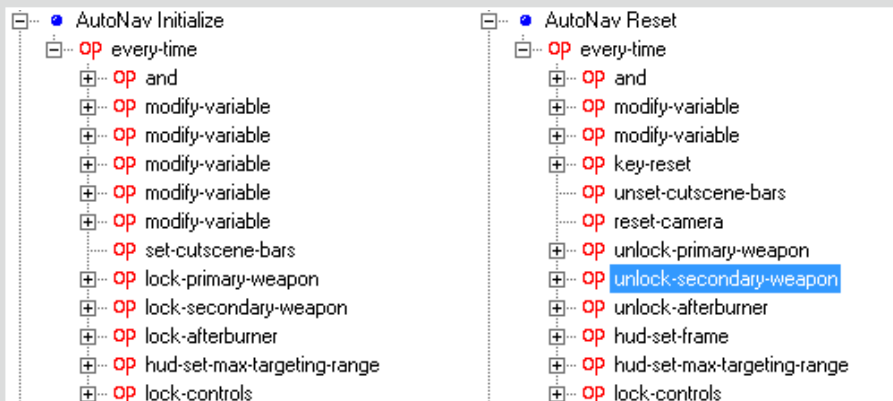
Ship Name	TCS Victory	TCS Victory	<input checked="" type="checkbox"/> Player starting points
Ship Class	Yorktown-class	TCS Ajax	<input checked="" type="checkbox"/> Waypoints
AI Class	Captain	TCS Sheffield	<input checked="" type="checkbox"/> Ships
Team	Friendly	TCS Coventry	<input checked="" type="checkbox"/> Friendly
Cargo	Nothing	TCS Victory#1	<input checked="" type="checkbox"/> Hostile
		TCS Ajax#1	<input checked="" type="checkbox"/> Neutral
		TCS Sheffield#1	<input checked="" type="checkbox"/> Unknown
		TCS Coventry#1	
		Cam Ghost	
		NextNav:1	

Don't forget to adjust Waypoint Nav 4 position and to place it in close proximity of your home carrier. Use the Objects Editor to make the position exact.

Depending on your navpoint layout, your mission should now look something like this:



Finally, we need to remove obsolete fighters from the mission. Once again, you need to purge any remaining references in the **Event Editor**. Expand the **Orders Alpha** event and remove *Alpha 3/4* arguments. Repeat for all **Ai Goals Nav** events if necessary. Expand **AutoNav Initialize** and **AutoNav Reset** events and remove all unused Alpha, Bravo and Charlie references.



While you are at it, delete **Sandman order comms** and **Taunt Drakhai** events located near the bottom of the event tree. Now you can delete Alpha 3 & 4 as well as Bravo and Charlie wings.

Save the mission again, and try it out if you wish. You will notice several things wrong:

- Alpha wing's spawn position is wrong,
- No music is played during the mission,
- Autopilot cam between the first and second NAV is too far away,
- Final mission objective tells you to land on the Hermes.

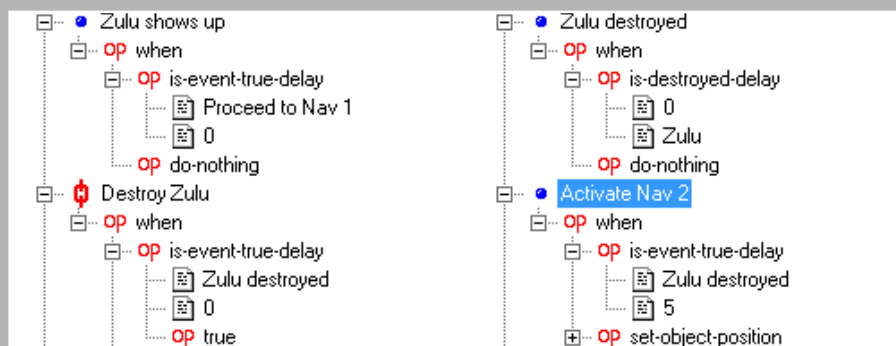
Fixing these problems is fairly straight forward. Select Alpha 1 and Alpha 2 and set their y-coordinate to '-7.2'. Open the **Mission Specs** editor and set *Default Mission Music* to *Proxima*. Open the **Event Editor** once again and locate the **Activate Nav 2** event. Change the *AutoNavCamera* value to '1'. Go to **Proceed to Nav 4** event and modify default *Directive text*. Confirm your changes. Save the mission, give it another try and enjoy autopilot cinematics.

You're probably about ready for some combat now. Never fear, you're about to bring in the Cats.

Two Darkets are to attack Maverick and his wingman at Nav 1. First, just place these fighters, form a wing *Zulu*, adjust arrival cue (set it to *Proceed to Nav 1*) and give them attack orders. Don't forget to tick *No Warp Effect* and *Do Not Log* checkboxes. Finally set *Arrival Location* to *In Front of the Ship (Alpha 2)* and distance to 4200 clicks. Select both fighters, open **Ships Editor**, *Misc* properties and activate death screams (always scream on death). Repeat for Nav 3.

A one-sided battle isn't very interesting, so it's time to adjust friendly AI goals. In the **Event Editor** locate *Ai Goals Nav* events and set the AI orders to guard the player.

This is a good time to add mission objectives. In the **Event Editor** add three events as showcased in the screenshot below. Repeat for Nav 3 and make adjustments where necessary. Don't forget to tweak triggers in *Activate Nav 2/4* events.

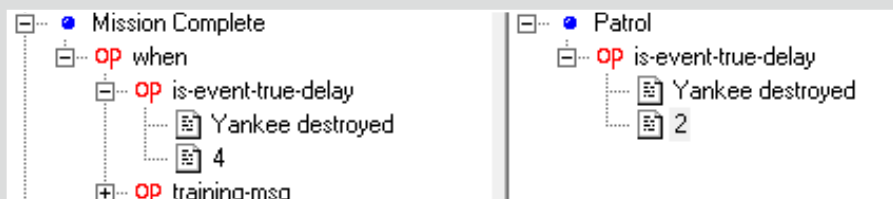


Navigate to the **Taunt** event and add Zulu and Yankee wings.



Select Alpha 1, open the **Ship Editor**, select *Misc* and disable *built-in messages*. Save the mission.

Open the **Event Editor** and locate the *Mission Complete* event. Change the trigger to *Yankee destroyed*. Open the **Mission Objectives** editor and adjust events as shown below. Don't forget to adjust mission goals while you are at it. Re-enable briefing in the **Mission Specs** editor - otherwise the player will be thrown straight into the mission. Don't uncheck *Scramle Mission*, because in this mission player should have no access to ship and loadout selection screens. You may also want to delete the **Player turned traitor** event and tick the *No Traitor* checkbox in the **Mission Specs** editor, unless you record your own traitors debriefing (or your PC is Sandman).



Save the mission again and go enjoy the fireworks.

To make the mission more interesting, add a few basic voice overs from Wing Commander 3. If you read the original FRED documentation you should be familiar with the required steps.

If you want to take a look at our implementation, you can open the file *WC3-01.fs2* in *FRED*. Even if you are familiar with FRED, you might want to take a look because some bits of SEXP wrangling are a little complicated and use newly written functions.

Adding cutscenes before or after the various stages of a mission has to be done via notepad - there is no GUI for this.

For your convenience we added a number of cutscenes to the example mission.

Please note that multiple movies will be played in the order they were parsed in from the mission.

Syntax is as follows:

#Cutscenes

\$Cutscene Type: Cutscene File Name
+formula

#end

Valid types are

\$Fiction Viewer Cutscene:
\$Command Brief Cutscene:
\$Briefing Cutscene:
\$Pre-game Cutscene:
\$Debriefing Cutscene:
\$Campaign End Cutscene:

Heave a sigh of relief that the hard part is over. Select *Alpha 1* and open the **Ships Editor**. Add callsign *Hobbes*. In the **Mission Specs** editor adjust mission name to *Orsini 1*. Enter any Mission Description and Designer's Notes you feel are appropriate.

The last step is fixing fighter order in the Alpha wing. Open the mission file in notepad. Perform following search & replace operations:

- rename Alpha 1 to Alpha 3
- rename Alpha 2 to Alpha 1
- rename Alpha 3 to Alpha 2

Locate Alpha wing's entry in the mission file and adjust it as displayed below.

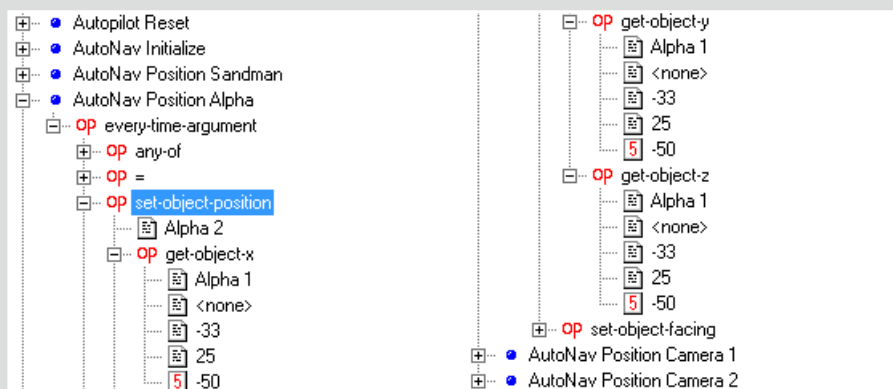
\$Name: Alpha
\$Waves: 1
\$Wave Threshold: 0
\$Special Ship: 0 :1 Alpha 1

\$Arrival Location: Hyperspace
\$Arrival Cue: (true)
\$Departure Location: Hyperspace
\$Departure Cue: (false)

```
$Ships: (                                ;! 2 total
    "Alpha 1"
    "Alpha 2"
)
+Hotkey: 0
+Flags: ( "no-arrival-warp" "no-departure-warp" "no-arrival-log" "no-departure-log" )
```

Fixing Alpha 1's position during the autopilot cutscene is a little complicated. The easiest way is to copy coordinates from an existing mission, in which the player is the leader of Alpha wing.

In this particular case, open the **Event Editor** and expand the *AutoNav Position Alpha* event, locate *set-object-position* SEXP and invert all values as displayed below.



Repeat for the *AutoNav Deactivate Alpha* event.

Congratulations, you're done!



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