

DESIGNING A MISSION

Before you start learning the nuts and bolts of mission design, take a step back for a minute and think about what you're trying to accomplish.

A great deal of time can be saved if a mission's design can be fully (or mostly, or even partially) thought out before the design implementation is begun. Many of the elements of design are interactive, and having an idea of what will happen in the mission will make it easier to design events in a logical order.

DESIGN QUESTIONS

The more that can be decided beforehand, the easier it is to create a mission. It is useful to have answers to at least the following questions.

- How many flights of what friendly aircraft?
- What type of loadouts?

(Allied loadouts should complement yours, but not overwhelm it. You don't want other aircraft killing all the opposition before you get there.)

- What type of ground targets?
- How many?
- How many flights of enemy fighters?
- What type?
- What kind of loadout will they have?
- Where do you want the individual enemy flights to arrive?
- When?

(A common mistake is to have most of the enemies near the start of the mission, leaving the rest of the flight empty.)

- Will you have "non-threat" enemies, such as aircraft on bombing runs, that will ignore the player? Non-threat enemies means the player has to think more.
- How much thinking should the player have to do?
- How many "realism" details (i.e., non-mission specific aircraft and objects) do you want?
- What events do you want to be mentioned in the debrief?

TESTING QUESTIONS

- Does the mission work under "normal" circumstances? (I.e., in the correct waypoint order, default loadout, etc.)
- If you start it up, and don't play it for 20 minutes or so, do you get a "Mission Accomplished" message? You don't want the computer AI to be

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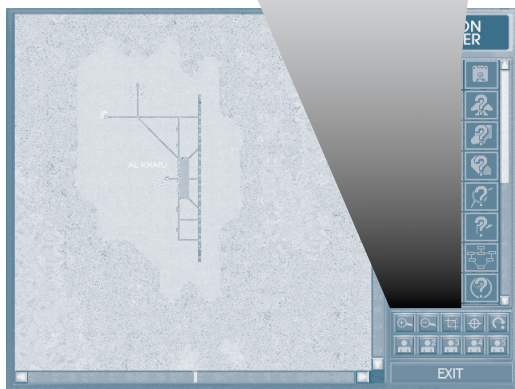
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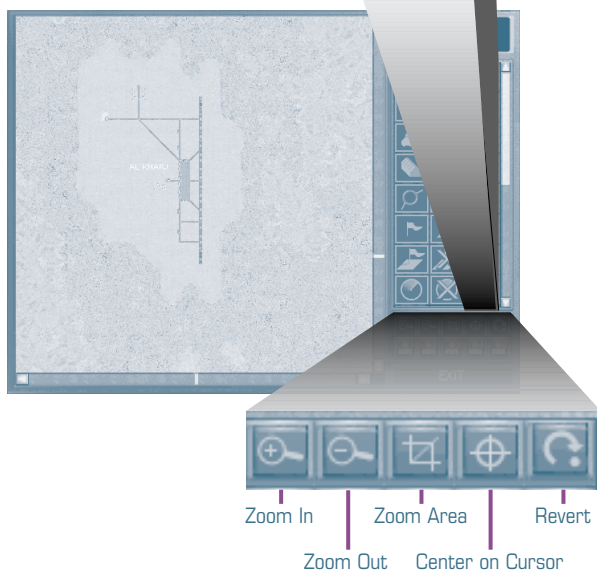
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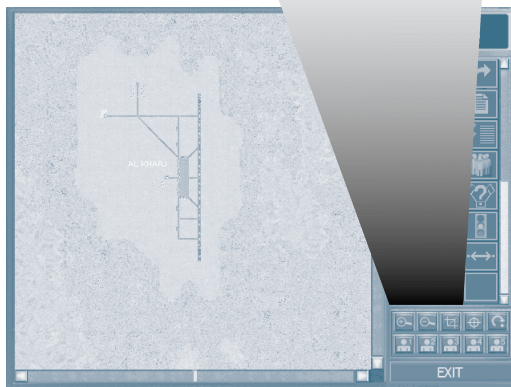
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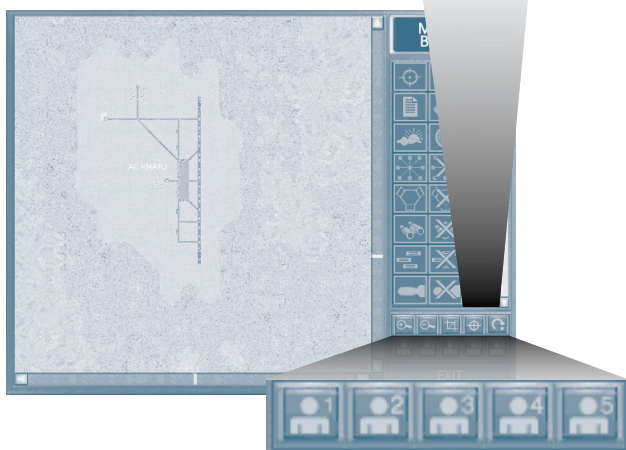
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Filters 1-5

SAMPLE MISSION CREATION ORDER

This is one way (out of many ways) to create a mission. Use it as an example of how you might proceed.

1. Place the player's aircraft. (**Add Aircraft**, p. 5.14)
2. Set up Initial Action (p. 5.21).

Usually this is Takeoff. Put the F-15 on the runway, centered on one end so it has enough room to take off.

3. Place a ground object. (**Add Ground Object**, p. 5.24)

Notice that objects placed by you have a black box around them.

Ground objects are more important in Air-to-Ground type missions. If you're planning a CAP mission, ground objects have less importance.

4. Set Goal. Must Destroy. (**Goal**, p. 5.41)
5. Place Ground Defenses, SAM sites, Early Warning Radar. (p. 5.24)
6. Add GCI links as appropriate (p. 5.58).
7. Make sure filters are all on (p. 5.57).
8. Make Groups (**Add Group**, p. 5.59).

It adds to the overall re-playability if you add a few Packages. For instance, Team 1 (40% Chance of Appearing), Team 2 (30%), and Team 3 (30%).

9. Add enemy aircraft.

MiGs are always good enemy aircraft. Don't forget to change the Type to enemy.

10. Set the Initial Action (p. 5.21).

CAP is a good one to start off with. Set direction and range. Make sure the Range is at least as long as the distance between that aircraft and a target or the player. Otherwise it'll never become part of the action.

11. Plot player's route into target. (**Add Waypoint**, p. 5.27)

At least one waypoint should be over the target.

12. Set Action to Bomb (p. 5.31).

13. Set Aircraft 1 to bomb target.

The Bombing screen appears automatically when the Action Bomb Target is selected.

14. Set player's Altitude, etc. (p. 5.18).
15. Add friendly aircraft, assign Actions.
16. Place the rest of the Ground Objects.

Don't forget to place: a TACAN at player's home base, a tanker if the mission is more than 200 nautical miles, AWACS, etc.

17. Make a Briefing describing the mission's purpose (p. 5.52).
18. Make Debrief, based on goals (p. 5.53).

Debriefs are complex, but remember the game is just as fun if the debriefs are short, non-existent (or even incorrect). Concentrate on messages pertaining to the mission goals.

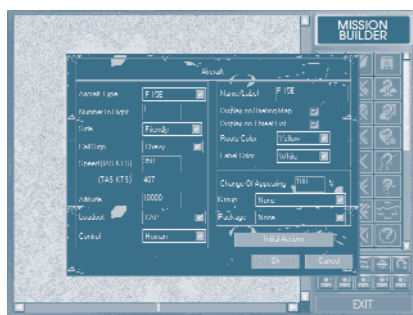
19. SAVE MISSION!

INTRO TO MISSION BUILDER

The Mission Builder function, available from the Single Main Screen, is the same program that *Jane's F-15* designers used to create the game missions. It is a powerful and complex tool that allows you to implement designs for custom missions.

- Select builder from the Single Mission main screen.

The Mission Builder interface is straightforward.



Screens, Windows and Maps. Throughout this section there will be references to *screens*, *windows* and *maps*.

Maps are the image of the mission terrain that appears to the left of the button panel.


Screens refer to the entire visible Mission Builder editor, and includes both the image of the mission terrain on the left, and the button panel on the right. The screen generally remains the same, but will change to accommodate complex design situations.

Windows are “pop-up” data entry interfaces.

OK and Cancel. These appear at the bottom of every information window.

Clicking **OK** at the bottom of a window will record all the new information, and return to the previous window or screen. Pressing **Enter** is usually, but not always, the equivalent of pressing **OK**.

Clicking CANCEL (pressing **Esc**) will close the window, and will erase any new information that was input while that window was open.

-  **Drop Down Menu.** A text box with a white triangle “arrow” indicates a drop down menu for choice selection. An example would be the Select Aircraft window. Clicking on a white arrow will show the list of all possible aircraft. Use the scroll arrows to see the entire list. To select an item from a list, double-click on it.

On/Off Toggle. A box beside an option (with or without a black check mark) indicates an element that can be either on or off, such as “Display on Briefing Map.” When there is a black check mark in a box, that element is **ON**. Clicking on the black check mark turns it off, and the check mark disappears. Clicking on an empty box turns the option on, and displays the black check mark.

Text boxes. To make changes in a text box, click in the box and use to back over the default entry. Type in the new information.

Click-and-drag. An object that is placed on the Mission Map can be moved at any time by simply left-clicking on it, and dragging the cursor to the new location. (If there is a discrepancy between the icon and the cursor, the icon will “snap to” the place where the cursor is when the mouse button is released.)

Occasionally objects will be too small to “grab.” In these cases, zoom closer and try again.

MISSION BUILDER FEATURES

The features of the Mission Builder fall roughly into four categories: Builder, Placement, Function and Mission Text.

Builder features are the buttons (such as New Mission and Open Mission) that are used in creating custom missions. They are tools to aid in the development stage, and will not appear in the mission.

Placement features allow you to put objects into the mission. Nearly everything that appears in the game, from fighters to storage sheds, is put there one at a time. Placement itself is a straightforward process, and can be done with a high degree of realism (including objects that have nothing to do with the mission you’re designing) or with no more than the necessary objects to complete the mission.

Function features provide the action in the game. They are essentially “scripting”, a kind of programming, where you designate what the situation is, how objects interact with one another, and when actions will occur. Like Placement, Function can be more or less realistic depending on your aspirations. In a realistic scenario, most of your time is spent working out the details of the mission’s functions.

Mission Text give the player instructions and feedback on the mission. Any text that the player sees must be first entered by you. Although the game cannot spontaneously create text itself, it can vary what text is shown according to whether certain goals were accomplished during the mission. These variations need to be anticipated by you if they are going to seem authentic.

BUILDER

New Mission

Create a new mission template.

Open Mission

Open a previously saved mission template.

Save Mission

Save changes to the mission template.

Aircraft Information

Show list of the aircraft placed in the mission.

Moving Vehicle Information

Show list of the Moving Vehicles placed in the mission.

Ground Object Information

Create text that appears whenever you wants a list of the ground objects.

Waypoint Information

Show list of the Waypoints placed in the mission.

Goal Information

Show list of the mission goals.

JSTAR Information

Show information on any JSTARs in the mission.

Builder Options

Set up custom settings for the Mission Builder itself.

TACAN Information

Show list of the TACANs placed in the mission.

Distance Between Two Points

Gives the distance, in nautical miles.

PLACEMENT

Add/Remove Aircraft

Place/remove an aircraft on the map.

Add/Remove Moving Vehicle

Place/remove a ground vehicle on the map.

Add/Remove Ground Object

Place/remove a stationary ground object.

Add/Remove Waypoint

Place/remove a waypoint.

Add/Remove Goal

Place/remove a mission goal.

Add/Remove Area Goal

Define/remove an area goal.

Destroy/Undestroy This Object

Destroy the object, leaving a crater.

FUNCTION

Edit Aircraft

Provide details for the aircraft, including actions.

Edit Waypoint

Provide details for the waypoint, including actions.

Add JSTAR

Define what targets will be “called out” to the player.

Remove JSTAR

Remove a target from the game’s list of “called out” targets.

Add/Remove Bullseye

Set/remove a secret reference point that the player and his computer allies will use to “code” locations.

Alternate Path

Simulate an emergency sub-mission that occurs during flight.

Debrief

Create the mission summary text that the player receives after the mission.

Environment

Choose the weather for the mission.

Filters

Select what is visible on the mission map to the player during the mission briefing.

Add/Remove GCI Link

Connect/disconnect radar stations GCI links that have been created for the mission.

Groups

Simulate random Aircraft appearances in missions.

Add/Delete TACAN

Place/remove “homing beacons” that feed location information to the player.

Add/Delete FAC

Place/remove a Forward Air Controller on the map that can tell the player precisely where targets are.

Rules of Engagement

Sets the rules of engagement for the mission.

Event

Set up actions that will occur whenever certain conditions are met.

Zoom In/Out/Area, Revert, Center Adjusts the map view.

Filters

Makes certain objects “invisible” in the Mission Builder.

TEXT

Briefing

Create the explanatory text that the player reads during the Mission Briefing.

Mission Information

Create text that appears in the upper-left window of the Load Game screen when the Mission Name is highlighted.

Mission Label/Delete Mission Label Create/delete a label for the mission.

Appears in the Load Mission Screen, to provide some information on the mission the player is about to load.

COMMON INSTRUCTIONS

These instructions apply throughout the following instructions. Rather than repeating for each “Remove” or “Information” button, they’re listed here, at the beginning, just once.

REMOVE ITEM

- Click the appropriate REMOVE button.
- Click on the icon of the item to be deleted.
- Confirm the deletion by clicking OK.

Removing items is only applicable to items that you have placed. (I.e., if the item appears on a brand-new map, it cannot be removed.) Designer-placed items are identifiable by the black box around each item. Upon selecting an item for deletion, a window will appear to confirm the item removal. It is not uncommon that the design map for a mission becomes cluttered with a variety of objects, so be sure to double-check before confirming deletion.

You cannot remove an item that has an assigned role in a mission (e.g., goal marker, etc.). Once you remove the role, you can remove the object.

ITEM INFO

View a list of all items assigned to the Mission Map by clicking the appropriate item INFO button.

Objects are listed in chronological order (i.e., the first object added is at the top of the list). The information includes the information typed in when the goal marker was assigned.

MISSION FEATURES

NEW MISSION

Clicking the NEW MISSION button gives a blank slate, so to speak, of the Middle Eastern area. What actually exists in real life (what you’d see on a satellite photo) has already been placed, but anything else must be added by you. Before a player will be able to do so much as fly around, some basic objects (such as an F-15 to fly) must be added to the blank map.

OPEN MISSION

Previously saved missions can be opened from the pop-up list, to be either completed or modified.

- Click the **OPEN MISSION** button.
- Double-click on the mission to be revised.

SAVE MISSION

- Click the **SAVE MISSION** button.
- Click on the **MISSION** folder.
- Click in the name field.
- Type in the name of the new mission.
- Click **SAVE**.

It's a good idea to save often during the process of creating a mission.

Save As. If there are no previously saved the mission designs, the pop-up window will be a "Save As" window. The new mission must be named at this point. Mission names can be difficult to read if longer than approximately 25 letters.

Saving with names longer than eight letters can cause error problems if you are saving to a network drive that only supports eight-character file names.

Save. If the mission has previously been saved, press **Enter** to save the mission.

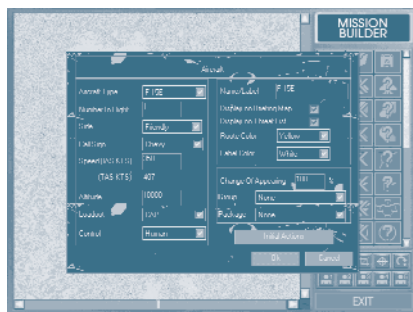
If a different name is entered before **Enter** is pressed, there will be two versions of the mission: one (with a new name) with all of the changes made since the last time you saved, and one (with the old name) with all of the changes made prior to the last save. (See below for how to delete a mission.)

DELETE MISSION

To delete a mission, exit the game entirely and go to the *F-15* Mission folder. (Double-click **MY COMPUTER**, **F-15**, **MISSIONS**.) Any custom missions will have a **.MMP** (Mission Maker) extension.

- Find the name of the mission to delete.
- Click on the file name to highlight it.
- Select **DELETE** from the File menu.

ADD AIRCRAFT



- Click on the ADD AIRCRAFT button.
- Click on the place on the map where the aircraft will begin the mission.
- Adjust elements in the Aircraft Selection window.
- Click ok.

Repeat the above procedure for each aircraft to be added.

Adding aircraft can be a simple or a multi-step process, depending on how much detail and realism will go into the mission.

There are 14 different elements to adding an aircraft, and although almost all of them may be skipped, the more elements that are included, the more “finished” the mission will look.

Any mission has to have at least one aircraft — the one the player flies. Most missions will include enemy aircraft to fly against or to add flavor to the environment. Enemy aircraft are not always necessary, since a mission’s threats could be exclusively AAA and SAMs, but enemy aircraft can add a real challenge to a mission.

TYPE AIRCRAFT

Keep in mind that in *Jane's F-15*, the only aircraft the player can fly is an F-15E. Any other type of aircraft will be part of the environment, as an enemy, ally or neutral force.

Some Available Aircraft

707	Commercial passenger jet
A-50	AWACS (Airborne Warning and Control System); looks for air targets
AC-130	Ground support gunship
B-52G	Heavy strategic bomber
C-130	Cargo aircraft
C-17	Modernized cargo aircraft, designed to operate from smaller airfield
<i>Cruise Missile</i>	Missile that can fly long distances to target
E-3	AWACS (Airborne Warning and Control System); looks for air targets
E-8	JSTARS (Joint Surveillance Target Attack Radar System), battlefield command-and-control, side-looking radar; finds tanks
EA-6B	Escorts friendly strike packages, jams enemy radar, SEAD capable
EF-111	Escorts friendly strike packages, jams enemy radar
F/A-18	Naval fighter/bomber
F-111	Low-level precision attacker
F-117A	Stealth tactical fighter/bomber
F-14	Long-range air interceptor
F-15C	Air superiority fighter
F-15E	All purpose fighter/bomber (only aircraft the player can fly)
F-16	All purpose fighter/bomber; SEAD & Wild Weasel capable
F-4	Multi-role fighter/bomber
F-4G	SEAD, Wild Weasel
F-5	Lightweight day fighter
Il-76	Cargo aircraft
<i>Jaguar</i>	Tactical support aircraft, strike fighter
KC-135	Tanker refueler aircraft

<i>Mi-17</i>	Transport helicopter, one of the best in the world
<i>MiG-21</i>	Lightweight day fighter
<i>MiG-23</i>	High-speed sweep-wing air superiority fighter
<i>MiG-25</i>	High-speed interceptor/recon aircraft (set world speed record for fighter aircraft)
<i>MiG-29</i>	4 th -generation lightweight fighter
<i>Mirage F-1</i>	Fighter/strike aircraft
<i>Su-22</i>	Fighter/bomber
<i>Su-25</i>	CAS (Close Air Support) aircraft
<i>Su-27</i>	4 th generation air superiority fighter (same class as F-15)
<i>Tornado</i>	Low-level strike aircraft
<i>Tu-22</i>	Medium bomber

NUMBER IN FLIGHT

The Mission Builder will support up to eight aircraft per strike package.

The aircraft in any given flight will always be the same type of aircraft, but you can always have multiple flights of different aircraft flying along the same waypoints.

SIDE

- Choose whether the aircraft will be friendly, enemy or neutral.

It is not necessary to have enemy aircraft always aligned with the enemy side, but it certainly makes things more readily apparent to the player. If MiG-29s fly as allies, or F-16s fly for Iraq, it is a good idea to mention it prominently in the Mission Briefing.

Any aircraft, regardless of model, can be called a “friendly” aircraft. The computer doesn’t care what kind of aircraft it is. If it’s called “friendly” in the Mission Builder, it will be an ally in the game — i.e., you *can* assign MiGs to the American side, if you want.

Friendly and enemy computer aircraft will attack each other on sight, under the higher Rules of Engagement. The player doesn’t have to be in the area for combat to begin.

Available Sides

Enemy	Friendly	Neutral
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CALLSIGN

Callsigns are dependent on the aircraft/object type. Certain types of objects get their callsigns from a specific list, and they can only be changed within those parameters.

Callsign groupings: SAR; FAC; JSTAR, AWAC & Tanker; F-15Es; Fighters, Bombers & Everybody Else.

If there is more than one aircraft in a flight, all aircraft use the same callsign, numbered in sequence (e.g., Dodge 1, Dodge 2, and so forth). The callsign by itself (without a number) refers specifically to the flight leader. In the player's strike package, the player is always #1.

Available F-15E Callsigns

Chevy	Edsel	Charger	Dodge
Firebird	Outlaw	T-Bird	Buick
Deputy	Packard	Stingray	Sheriff

SPEED (IAS KTS / TAS KTS)

There are two ways to specify an aircraft's speed: indicated airspeed and true airspeed. Both are measured in knots.

True airspeed is how fast an aircraft is moving, corrected for variations due to air density and altitude. This is the speed that can be manually adjusted.

Indicated airspeed is how fast the aircraft is apparently moving, based on current air density and altitude.

Common sense should be applied when setting an aircraft's speed. If an aircraft is grounded at the time of the mission's start, it should have a speed of 0.

True airspeed could also be called "ground speed" — it's the speed of the aircraft's shadow. Indicated airspeed will decrease as altitude increases.

450 knots (the default) is a good cruising speed for fighter/strike aircraft. If a speed is too high for the aircraft, the simulation will automatically adjust it down.

ALTITUDE

Altitude sets the aircraft's height above sea level at the time the mission starts. Grounded aircraft can be placed at an altitude of zero, while most aircraft feel comfortable at anywhere from 5000 to 15,000 feet or more.

Some care must be taken in placing an aircraft in relation to its environment. If it is important to the mission design that friendly flights appear at a certain waypoint later in the game, don't start them off at a medium altitude in the middle of a SAM corridor. Likewise, don't give an aircraft an altitude of 500ft and expect it to make it across a nearby mountain range. The lower the altitude, the greater the risk of a computer pilot not being able to recover from an unexpected obstacle or problem.

The default altitude of 10,000ft is a good cruising altitude for most aircraft, although this might vary according to mission and type of aircraft.

For the F-15, 200ft or less is usually good to avoid detection on an attack run. If there are AAA *and* light SAMs, 8000ft or above is good. If there is ever a heavy SAM threat, stay under 200ft or use terrain to mask your approach.

LOADOUT

Loadouts vary with aircraft. Each aircraft has its own selection of loadouts to choose between.

Loadouts are used in assigning ordnance to non-player aircraft only.

Loadouts assigned to the player will be overridden by the default loadout for that type of mission (although the player can always adjust his ordnance in the Briefing stage).

CONTROL

Aircraft control will always be Computer, except in the case of the player's aircraft. There can only be one human-controlled aircraft.

Available Controllers

Human	Computer
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NAME/LABEL

- Accept default.

Or

- Click in text box.
- Backspace over current label.
- Type in new label.

Labeling the items that are placed in the mission map is a way of keeping track of everything during the complex process of game design. Labels can be displayed next to the icon on the map, and are worth the few seconds it takes to type in some basic information. The most useful label information is what the aircraft is, and what it is going to do (e.g., F-15 tankplink). It needs to be short, however, as there is only a limited amount of room per label.

Labels appear in the Aircraft Info list, and next to the map icon.

DISPLAY ON BRIEFING MAP

- Toggle on/off.

Displays the aircraft on the Briefing Map.

The Briefing Map isn't supposed to show everything out there. That would clutter up the map and make the important objects difficult to locate and decipher.

The best approach is to only put those things on the map that are important to the mission about to be flown: player wingmen and waypoints, locations of known enemy bases, possible backup support and targets.

DISPLAY ON THREAT LIST

- Toggle on/off.

Displays the aircraft on the Threat List.

ROUTE COLOR

Having separate route colors for different items, flights, or for sides, is a convenient way to keep them easily identifiable. They are for design purposes only, and are visible to the player only when the aircraft is "Displayed on Briefing Map."

LABEL COLOR

The designated label (see **Name/Label**, p. 5.19) can be assigned different colors. In the same way that choosing separate route colors helps keep different aircraft's routes separate, Label Colors can keep different elements distinct in the editor. Labels are invisible to the player, and are only used in distinguishing different elements of the mission.

Although Labels can be chosen to correspond with Route Colors, they can be used to distinguish any number of elements, including type of aircraft or vehicle, type of mission, friendly vs. enemy, etc.

CHANCE OF APPEARING

- Click in the text box next to CHANCE OF APPEARING.
- Backspace over the text.
- Add the percent chance for that aircraft to appear.

Chance of Appearing is exactly what it sounds like: you are assigning a percentage chance of an aircraft appearing in the mission.

This is used primarily to give a mission replay value: aircraft won't appear in the same places every time a player flies through a certain area. Sometimes there may be MiGs lurking behind the mountains, other times they may encounter nothing more than a recon flight in the distance.

Any aircraft (or moving vehicle) that has a goal attached must, of course, have a 100% chance of appearing. The same goes for the player's aircraft: it must also be assigned a 100% chance. For more detail, see **Packages and Chance of Appearing**, p. 5.60.

When adding a Group aircraft, it will already have a percentage chance of appearing assigned to it, and this percentage will appear in the Chance of Appearing box. A Group aircraft's Chance of Appearing cannot be altered by changing the number in this box; the number will be fixed. To change a Group aircraft's Chance of Appearing, modify it in the Group window (p. 5.59).

GROUP

- Click on the white arrow in the GROUP box to view a drop-down menu of every group you've created. See **Group**, p. 5.59.
- Click on the name of the group to which the new aircraft will belong.

PACKAGE

Packages are sets of specific aircraft in groups, and are established during the process of creating a **Groups** (see p. 5.59).

- Click on the white arrow in the Package box to view the drop-down menu of packages created in that Group.
- Click on the name of the specific package to which the new aircraft will belong.

INITIAL ACTIONS

Initial Actions are identical to Waypoint Action choices (pp. 5.29-5.40).

Aircraft have actions associated with them at each waypoint. Initial Actions are only associated at the first waypoint. All other waypoint actions are simply called "Actions." Not all Actions are available as Initial Actions (e.g., Bomb Target), and are not listed.

EDIT AIRCRAFT

- Right-click on the aircraft's icon.

It is possible to return to the Aircraft window and adjust previously entered information.

REMOVE AIRCRAFT

See **Common Command: Remove Item**, p. 5.12.

AIRCRAFT INFO

See **Common Command: Item Information**, p. 5.12.

ADD MOVING VEHICLE

- Click on the **ADD MOVING VEHICLE** button.
- Click on the place on the map where the vehicle will originate.
- Adjust elements on the Moving Vehicle Selection window.
- Click **OK**.

Repeat the above procedure for each aircraft to be added.

"Moving Vehicles" include all ground-based objects that *can* move, regardless of whether they actually *do* move. Only after a vehicle is assigned waypoints will it actually travel from one point to another.

Assign waypoints in the same way that you assign waypoints for aircraft. (See **Add Waypoint**, p. 5.27.)

VEHICLE TYPE

Choose the type of vehicle to be placed. There are a wide variety of types, including land-based vehicles and ships. There are also some aircraft available that can be used to simply taxi on a runway.

NUMBER

Choose how many (1-8) of the currently selected vehicle to appear.

SIDE

Choose whether the vehicle will be friendly, enemy or neutral.

CHANCE OF APPEARING

Reflects the package's percentage chance of appearing. This is determined when the Group is designed, and cannot be changed in the Add Moving Vehicle window. For details, see **Groups** and **Chance of Appearing**, pp. 5.59, 5.60.

A moving vehicle does not have to be assigned to a group or package, but that is the only way to assign a moving vehicle a percentage chance of appearing.

GROUP

- Click on the white arrow in the Group box to view a drop-down menu of every group you've created. See **Groups**, p. 5.59.
- Click on the name of the group to which the new vehicle will belong.

The GROUP button under ADD MOVING VEHICLE is for assigning a vehicle to a group, and placing it on the map. Before assigning it to a group, at least one group must have been created by using the GROUP button on the Mission Builder's main screen.

PACKAGE

- Click on the white arrow in the Package box to view the drop-down menu of packages you've created in that Group.
- Click on the name of the specific package to which the new vehicle will belong.

Packages are specific sets of vehicles in groups, and are established during the process of creating a Group (see p. 5.59).

TIME

Set the time, in minutes, to elapse before the vehicle begins to move to its next waypoint. Zero minutes (default) sets it moving immediately.

FLAG

Choose the event (see **Event**, p. 5.43) that will signal when the vehicle begins to move to its next waypoint.

INVISIBLE UNTIL START

All objects in the group will stay invisible until the appropriate conditions (Starting Condition flags) are met.

DISPLAY ON BRIEFING MAP

This is the same as in Add Aircraft. See **Add Aircraft: Display on Briefing Map**, p. 5.19.

DISPLAY ON THREAT LIST

This is the same as in Add Aircraft. See **Add Aircraft: Display on Threat List**, p. 5.19.

NAME/LABEL

This is the same as in Add Aircraft. See **Add Aircraft: Name/Label**, p. 5.19.

ROUTE COLOR

This is the same as in Add Aircraft. See **Add Aircraft: Route Color**, p. 5.19.

LABEL COLOR

This is the same as in Add Aircraft. See **Add Aircraft: Label Color**, p. 5.20.

STARTING CONDITION

This is the same as in Event. See **Event: Starting Condition**, p. 5.46.

REMOVE MOVING VEHICLE

See **Common Command: Remove Item**, p. 5.12.

MOVING VEHICLE INFO

See **Common Command: Item Information**, p. 5.12.

ADD GROUND OBJECT

- Click **ADD GROUND OBJECT** button.
- Select the Ground Object Type, and other options.
- The object will be “attached” to the cursor.
- Click on the map to place the object.

Many Ground Objects are too small to be seen on the default view of the Mission Builder. Zoom in three or four times, until the Ground Object is visible.

Objects placed by the player have a black outline. Objects that “came with the map” cannot be deleted.

There are certain types of ground objects that cannot be placed next to other ground objects. If you have trouble placing an object on the map, try placing it farther away from other objects.

GROUND OBJECT TYPE

A Ground Object is any man-made structure that does not fall into the categories of Vehicle or Aircraft. Primarily, however, Ground Objects comprise offensive weapons such as AAA, SCUD and SAM sites.

See below for a brief explanation of types.

Some Possible Objects

<i>AAA</i>	<i>Oil Refinery</i>
<i>Airfield</i>	<i>Oil Tank Farm</i>
<i>Ammo Depot</i>	<i>Power Plant</i>
<i>Armored Position</i>	<i>Republican Guard Armored Position</i>
<i>Artillery</i>	<i>Ruin</i>
<i>Artillery Site</i>	<i>SAM Site</i>
<i>Communications Relay Site</i>	<i>Satellite Uplink</i>
<i>Early Warning Radar/Operations</i>	<i>SCUD</i>
<i>Electric Substation</i>	<i>Special Forces</i>
<i>Factory</i>	<i>Straight Flush</i>
<i>Fire Trench</i>	<i>Tank Park</i>
<i>Oil Field</i>	<i>Target</i>
<i>Oil Pumping Station</i>	<i>Warehouse</i>

SIDE

Label which side the object is on: friendly, enemy or neutral.

With a few notable exceptions of deep penetration forces, J-STARS, etc., it's best to keep the sides fairly straightforward. Objects in enemy territory should usually be enemy objects. Objects in the player's territory should generally be friendly. If there is going to be an Iraqi airfield allied with the player, it's best to make that clear in the Mission Briefing.

DISPLAY ON BRIEFING MAP

When deciding whether an object should appear on the Briefing Map, consider a few things.

Would military intelligence know about the object? If the object is a herd of camels, probably not. If it is a commercial airstrip, they've known where it is for years. If it is a SAM site, they probably know about some, and don't know about others, since they can be built quickly and under cover of darkness.

Is the object integral to the mission? If it is a target, definitely display it. If it is an empty airstrip, or off the beaten path, probably not.

It's generally a good idea to let the player know what sort of things to expect, such as the existence of AAA in the ingress corridor, but not to tell them how many. Surprises are half the fun in any mission.

DISPLAY ON THREAT LIST

A good general rule of thumb is that if an object is shown on the Briefing Map, and has offensive capabilities, it should be displayed on the threat list.

In other words, known SAM sites should be listed, but enemy factories may be omitted.

EDIT GROUND OBJECT

- Right-click on the Ground Object.

It is possible to return to the Ground Object window and adjust the previously entered information.

REMOVE GROUND OBJECT

See **Common Command: Remove Item**, p. 5.12.

GROUND OBJECT INFO

See **Common Command: Item Info**, p. 5.12.

ADD WAYPOINT

First Waypoint.

- Click on the **ADD WAYPOINT** button.
- Click on the icon of an aircraft or vehicle.
- Click on the location on the map where the aircraft/vehicle will go.

Subsequent Waypoints.

- Click on the **ADD WAYPOINT** button.
- Click on the last waypoint of the aircraft or vehicle.
- Click on the location on the map where the aircraft/vehicle will go.

Waypoints are defined destinations for vehicle and aircraft movement. At the beginning of the mission, the aircraft/vehicle appears where its icon was placed (see **Add Aircraft**, p. 5.14, or **Add Moving Vehicle**, p. 5.21). Unless it has been given other instructions (see **Actions**, p. 5.29), it will immediately proceed to the next waypoint, performing whatever actions have been specified.

You can move a waypoint, once placed, by click-and-dragging it to a new location.

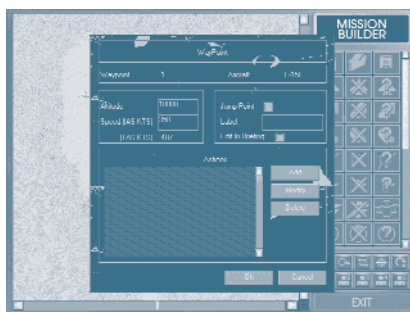
Information about distance appears between consecutive waypoints: Nautical Miles and Estimated Time of Arrival (ETA).

Nautical miles. Nautical miles is a straight, as-the-crow-flies measurement of distance. If the terrain is hilly, the actual ground distance may be greater. Nautical miles is the most applicable unit of measurement for aircraft.

The notation of miles between waypoints is useful due to the necessity of zooming in and out during mission creation. Because neither the size of the aircraft (or vehicle) icons or the waypoint circles change size as the map zooms in and out, it can be difficult to gauge distance between two points by looking at the length of the waypoint line.

ETA. Estimated Time of Arrival for a waypoint is when that waypoint should be reached. It is calculated based on the assigned speed of the plane or vehicle and the total distance covered to reach that waypoint. It *does not* take into account any time delay assigned in Initial Action.

WAYPOINT DETAILS — ADDING/EDITING



- Right-click on the Waypoint circle on the Mission Map to bring up the Waypoint window.

Waypoints have two purposes: mid-mission aircraft destinations, and locations where specific events are assigned on an aircraft-by-aircraft basis.

Even with living, thinking pilots, mission briefings are never as simple as “get in your aircraft and fly in a big circle,” or “go out and find some tanks and blow them up.” Pilots need coordinates, destinations and specific targets. Computer pilots need much, much more. Waypoints, at their simplest and with no added details, are a way of saying “go here, then here, then here.”

When details are added, you program the computer pilot’s actions. Altitude and speed can be adjusted, and specific tasks assigned to take place at that location. Therefore, if an aircraft is going to accomplish a specific task, such as bombing a tank farm, a waypoint must be placed over the tanks themselves.

WAYPOINT

Waypoints are referred to by number, with an aircraft’s first assigned destination being Waypoint 1. The information in the Waypoint field cannot be changed manually, but will automatically adjust as you add and delete waypoints.

AIRCRAFT

The type of aircraft is determined in the Aircraft window, and cannot be changed in the Waypoint window.

ALTITUDE

Altitude is how many feet above ground the aircraft is when it arrives at the waypoint. The default height is 10,000ft.

The plane gradually changes altitude while it is on the way to the waypoint. It is at the correct altitude when it arrives.

SPEED (IAS KTS/TAS KTS)

See **Add Aircraft: Speed** on p. 5.17.

JUMP POINT

A Jump Point is like a stop sign that can be assigned to a waypoint: it tells the player's aircraft where to stop after the aircraft "jumps" to that point. It's a good idea to check JUMP POINT for each of the player's waypoints, but it is not necessary for computer-controlled aircraft.

LABEL

Labels are invisible to the player, but can greatly help a designer keep track of what activities/events are planned for what locations.

EDIT IN BRIEFING

Edit in Briefing gives the player the opportunity to adjust waypoint details during the mission briefing.

This is a courtesy generally extended to the player, although not always. For instance, if the mission is a combat air patrol and all the challenges could be avoided by moving the waypoints around, you might decide that the waypoints not be movable.

Edit in Briefing is unnecessary when designing waypoints for computer-controlled aircraft. Computer pilots never ask to edit their upcoming missions.

ACTIONS

A well designed mission will give the appearance that there is a human-like intelligence guiding all the aircraft in the environment. This is the result of careful planning, however, not something that is automatically created when an aircraft is placed on the map.

Without the appropriate commands, a computer-controlled aircraft will blindly travel from Waypoint A to Waypoint B, although it will defend itself from threats. The careful assignment of actions is the first step to a realistic-looking mission.

Note that the computer always performs actions from top to bottom, exactly as they appear in the Actions list.

ALERT INTERCEPT

This action should only be used for aircraft on runways — it is specific to aircraft waiting for takeoff.

Reaction Range. This establishes the distance, in nautical miles, at which an aircraft will respond to an enemy threat. This can be set at any range, but a good average is forty nautical miles.

ALTERNATE PATH

This triggers an Alternate Path for the player.

An Alternate Path is a predetermined route for an alternative mission that overrides the original mission partway through flight. For example, the player might be en route to bomb a runway. Part way through the mission he is told that there are downed pilots needing air support. The new waypoints that appear, leading the player to the downed pilots, marks the Alternate Path.

Alternate waypoints will be invisible to the player until the Alternate Path is triggered. Once on an Alternate Path, the player will not be able to return to the primary path.

Assigning an Alternate Path to an aircraft is one part of a three-stage process. There must also be a flag set (See **Action Types: Alternate Path**, p. 5.30) to indicate when the player should be given the new assignment, and the Alternate Path waypoints must be created (**Alt Path**, p. 5.30).

Even though you know that the original mission won't be completed, all the Primary Path waypoints should be put in anyway, so that the Primary Path appears complete to the player in the briefing. Likewise, the Alternate Path should have an ending, i.e., a final waypoint and a landing site.

AWACS PATTERN

This can only be assigned to an AWACS aircraft: they patrol a certain area and feed target information to nearby F-15s. Assigning an action of AWACS to an aircraft sets it on an orbital patrol around the waypoint.

Duration

Duration establishes how long the AWACS patrol will last. When the time elapses or the flag is set, the aircraft will proceed to the next waypoint.

Time

Time (in minutes) that the aircraft will perform the action.

Flag

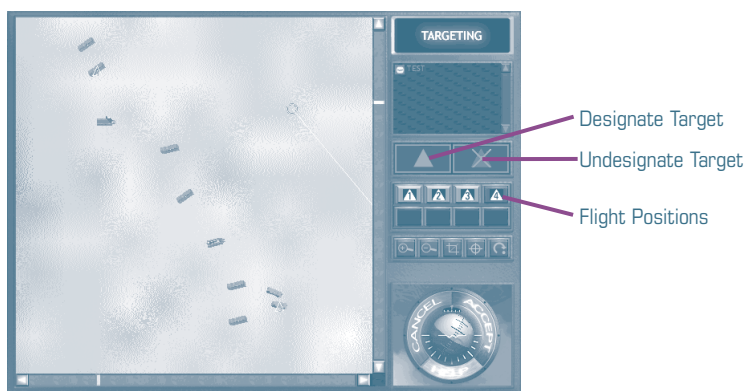
Certain events will signal the end of the action.

Indefinite — The action will continue until the end of the mission.

Ammo Depleted — action ends when all ammunition is spent.

User Flag — action ends when a certain flag is set. (See **User Flags**, p. 5.44.)

BOMB TARGET



When creating an aircraft with orders to bomb specific targets, it is best to first zoom in close enough that the intended target is clearly visible. The aircraft can always be dragged to the appropriate starting location after assigning its target.

When selecting Bomb Target, the Create Mission screen will change to a Bomb Target screen. The new screen is easily recognizable by the predominantly gray color, and eight large numbered buttons.

Note that an aircraft can only bomb one target per waypoint. You can send in multiple aircraft, each with its own assigned targets, and can also assign multiple aircraft to the same target.

TARGETING

The exact target must be designated for each bomber. All potential targets have small white dots, and one of these dots must be selected to designate the bombing target. This is easier to do if the area is close enough to see individual objects clearly.

Designate Target



- Locate the target to be bombed in the Mission Builder window.
- Choose among those in your flight, 1 through 8. (Player is #1.)
- Click on the target (white dot) to be bombed.

Undesignate Target



- Click on the designated target to erase it as a target.

Bomb Profile



- Choose the method of bomb delivery.

In general, **Level** delivery is best if the bomber is approaching from a low altitude or is too big (like a B-52). **Loft** is best for bomb delivery in stand-off attacks, when you don't want to overfly the target. **Pop-Up** is best for delivery when you're in a low-attack profile against a target. **Dive** is best for high-altitude attacks.

Available Profiles

Level	Loft	Pop-Up	Dive
-------	------	--------	------

Add Label/Delete Label



Use the labels to keep track of which objects are targeted by which aircraft.

Flight Position



This button is used in conjunction with the **DESIGNATE TARGET** button to assign certain targets to certain wingmen. The numbers are wingmen numbers.

Zoom In/Zoom Out/Centering



For explanation, see **Zoom In** and **Zoom Out**, p. 5.64.

Exit

- Select EXIT when finished selecting a bombing target for the aircraft.

CAP

During Combat Air Patrol missions, there is no particular target, but rather a patrol over friendly territory searching for enemy aircraft to engage. An aircraft will continue this patrol for either the duration of the mission, or until an event occurs that triggers it to change mission plans.

Where the CAP is designated (either the starting position or a waypoint) an elliptical orbit is begun. If an aircraft encounters an enemy aircraft, it will engage in combat until either it or the enemy is destroyed.

Heading

- The heading establishes the long axis of an elliptical orbit. This should be set in the direction of the expect threat.

Available Headings

North	East	South	West
North East	Southeast	Southwest	Northwest

Range

Range is how close an intruding aircraft must be before the CAP aircraft reacts, expressed in nautical miles.

Duration

Duration establishes how long the Combat Air Patrol will last. When the time elapses or the flag is set, the aircraft will proceed to the next waypoint.

Time

Time (in minutes) that the aircraft will perform the action.

Flag

Certain events will signal the end of the action.

Indefinite — The action will continue until the end of the mission.

Ammo Depleted — action ends when all air-to-air missiles are spent.

User Flag — action ends when a certain flag is set. (See **User Flags**, p. 5.44.)

CAS

Close Air Support is similar to a Combat Air Patrol, except that the goal is to protect allies on the ground by doing an advance sweep of the enemy, concentrating on ground targets.

On CAS, an aircraft will be less likely to chase more distant enemy aircraft, concentrating instead on preventing immediate threats to the ground troops.

Search Range

Search Range is the distance, in nautical miles, that the aircraft will be able to search for and attack enemy ground units.

Duration

Duration establishes how long the Close Air Support will last. When the time elapses or the flag is set, the aircraft will stop whatever it is doing and proceed to the next waypoint.

Time

Time (in minutes) that the aircraft will perform the action.

Flag

Certain events will signal the end of the search.

Indefinite — The action will continue until the end of the mission.

Ammo Depleted — action ends when all air-to-ground ammunition is spent.

User Flag — action ends when a certain flag is set. (See **User Flags**, p. 5.44.)

DESTROY THIS OBJECT

Assigns the aircraft to destroy all the aircraft in that flight. This guarantees that a specific object will be attacked, to provide an exciting environment or kamikaze effect.

Assigning a “Destroy This Object” Action to a Moving Vehicle can provide terrorist-type attacks.

ESCORT

This assigns an aircraft the task of safely escorting another aircraft through an area: the task of the escorting aircraft is to deter any air threats. The Waypoint path which the escort and escorted aircraft follow are double-lined. This will continue until the Action **RELEASE ESCORT** (p. 5.38) is assigned to a waypoint by the escorted aircraft.

Escort is only available during certain conditions: at least two aircraft must be on the map, and you must assign the action to the *last* waypoint of the escorting aircraft. (After the escort is over, the aircraft may do other things.)

- Right-click on the last waypoint of the escorting aircraft.
- Click ACTION.
- Select ESCORT.
- Click ok.
- Click on the aircraft to be escorted.
- Confirm by clicking ok.

FIGHTER SWEEP

If a flight reaches a Fighter Sweep waypoint, the aircraft will search for any enemy aircraft in range *ahead of them* until the duration is over, or until they reach the next waypoint. This is similar to a mobile CAP, except that enemies *behind* the flight will not be engaged.

Search Range

Search Range is the maximum distance, in nautical miles, within which the aircraft will be able to detect enemy aircraft.

Duration

Time

Time (in minutes) that the flight will look for enemies, or engage in combat between this particular waypoint and the next. After the time is up, the flight will continue to the next waypoint.

Flag

Certain events will signal the end of the action.

Indefinite — action will not be called off, ever. It will continue until the end of the mission.

Ammo Depleted — action ends when all air-to-air missiles are spent.

User Flag — action ends when a certain flag is set. (See **User Flags**, p. 5.44.)

FORM ON

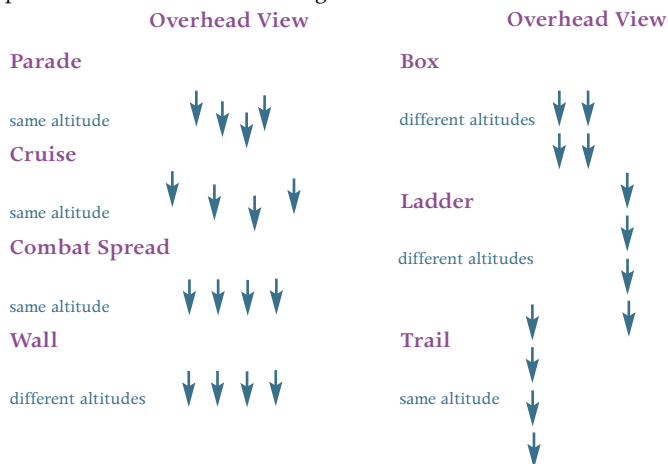
Form On is identical to Escort, except the “attached” aircraft will not break and attack any enemies — it will only accompany the “master” aircraft. The waypoint path which the master and following aircraft fly along are double-lined. This will continue until the Action RELEASE FORM ON (p. 5.38) is assigned to a waypoint.

Form On is only available during certain conditions: at least two aircraft must be on the map, and the action must be assigned to the *last* waypoint of the escorting aircraft. (After the escort is over, the aircraft is free to do other things.)

- Right-click on the last waypoint of the aircraft to “form on” the other’s wing.
- Click ACTION.
- Select FORM ON.
- Click OK.
- Click on the aircraft to be followed.
- Confirm by clicking OK.

FORMATION

Aircraft with the Action of Formation will proceed through their waypoints in the chosen formation. The formation is changed when they reach a waypoint with a new formation assigned.



LAND

An aircraft with the Action of Land will land at the nearest airstrip on its assigned course.

This is used primarily to give a feel of realism. Not all aircraft are starting their missions when the player enters the game. Some aircraft should begin in mid-mission, and others should be returning to base.

Only use this when the waypoint is near an airport.

MESSAGE

Messages can be text (maximum 320 characters), sound (any .wav file) or both. They are usually triggered by the player coming within range of another aircraft, but they can also be triggered by a flag being set (see **User Flags**, p. 5.44).

Messages are the only “secondary” Action that can be assigned to an aircraft’s waypoints.

Text Message

- Type in the message the player will see.

Sound File

- Type in the location of the sound file the player will hear.

Browse

If the exact location of the sound file is unknown, and therefore cannot be typed into the Sound File text box, browse for it by clicking the **BROWSE** button. Click through the directories until the appropriate file is found, then select it by double-clicking on it.

ORBIT

The Orbit command tells an aircraft to circle over one location.

Duration

Time

Time (in minutes) that the aircraft performs the action.

Flag

Certain events will signal the end of the action.

Indefinite — action will not be called off, ever. It will continue until the end of the mission.

Ammo Depleted — action ends when all ammunition is spent.

User Flag — action ends when a certain flag is set. (See **User Flags**, p. 5.44.)

Or Until

None

Player Arrives — orbiting enemy aircraft will break and attack; orbiting friendly aircraft will fly to next assigned waypoint.

Escort Arrives — orbiting aircraft will fly to next assigned waypoint.

Form On — an aircraft that has been assigned a Form On Action arrives at the last waypoint of its “Form On” assignment.

RELEASE ESCORT

This ends the escorting action of the attached aircraft, from that waypoint on.

RELEASE FORM ON

This ends the “following” action of the attached aircraft, subsequent waypoints will have other assignments.

SEAD

Suppress Enemy Air Defense missions are the predecessors to airstrikes. Specialized aircraft are sent to take out as many SAM sites and AAA as can be found, making a corridor of relative safety for the slower bombers.

Search Range

Search Range is the maximum distance, in nautical miles, within which the aircraft will be able to perform the action.

Duration

Time

Time (in minutes) that the aircraft will perform the action.

Flag

Certain events will signal the end of pursuit.

Indefinite — action will not be called off, ever. It will continue until the end of the mission.

Ammo Depleted — action ends when all air-to-ground weapons are expended.

User Flag — action ends when a certain flag is set. (See **User Flags**, p. 5.44.)

STANDOFF JAMMER

Tells a jamming aircraft (e.g., EA-6b Prowler) to attempt to jam ground defenses along a certain heading.

Heading

- Choose the heading it will concentrate its jamming on. The closer the ground defense, the more effective the jamming.

Duration

Time

Time (in minutes) that the aircraft will perform the action.

Flag

Certain events will signal the end of the action.

Indefinite — action will not be called off, ever. It will continue until the end of the mission.

Ammo Depleted — action ends when all ammunition is spent.

User Flag — action ends when a certain flag is set. (See **User Flags**, p. 5.44.)

TAKEOFF

Even during wartime, not all aircraft are in the air at all times. You can place aircraft on the ground (0 altitude) that either take off a certain amount of time after the mission begins, or in response to user flags.

The level of detail is up to you. Airstrips that the player will likely never see can be designed to have regularly departing air patrols, or they can be left empty. Aircraft can take off when enemy territory is bombed, when the player reaches certain waypoints, at the start of the mission, or any other Condition. The most realistic missions have grounded aircraft that respond to enemy activity.

When

Time

How long after the start of the mission, in minutes, before the aircraft takes off.

Be careful when using Time, rather than a specific User Flag, to establish when an aircraft's takeoff occurs. Sometimes the player will delay between starting the mission and actually taking off. If such a delay would cause the game's timetable to get out of synch (such as all the enemies having come and gone before the player's delayed arrival), it is better to use a flag, rather than a set time.

Flag

Immediately — the aircraft takes off as soon as the mission begins. See the caution, above, about using time rather than a user flag to establish takeoff time.

User Flag — the aircraft takes off as soon as a certain flag is set. (See **User Flags**, p. 5.44.)

TANKER PATTERN

This can only be assigned to tanker aircraft: they orbit a certain area and provide a refueling opportunity to F-15s on longer missions. Assigning an action of TANKER PATTERN to an aircraft sets it on an orbital patrol around the waypoint.

Duration

Time

Time (in minutes) that the aircraft will perform the action.

Flag

Certain events will signal the end of the action.

Indefinite — action will not be called off, ever. It will continue until the end of the mission.

Ammo Depleted — action ends when all ammunition is spent.

User Flag — action ends when a certain flag is set. (See **User Flags**, p. 5.44.)

REMOVE WAYPOINT

See **Common Command: Remove Item**, p. 5.12.

When one waypoint is removed, the aircraft's path is automatically adjusted to go from the previous waypoint to the next consecutive waypoint. All subsequent waypoints are renumbered

WAYPOINT INFO

See **Common Command: Item Information**, p. 5.12.

GOAL

- Click the **GOAL** button.
- Click on the individual target's icon or targeting dot.

Goal

- Select whether the target must be destroyed, or must survive.

Label

- Type in a label to describe the goal.

This is important! See **Goal State (Change) Event** below and on p. 5.47.

- Click **OK**.
- Repeat until all are appropriate targets are labeled.

Goals are what give a mission purpose; it is justification for the time, expense and danger that a flight into enemy territory entails. Each time a player takes off, there should be a clear understanding of what should be accomplished (see also **Briefing**, p. 5.52). Should a truck be destroyed? Should a flight of MiGs be eliminated? Perhaps the mission is an escort — in that case, there must be a “target” aircraft designated as “must survive.”

In the context of creating a mission, the goal — or purpose — of the mission is what the player is trying to accomplish. For instance, a mission's goal could be the destruction of a tank farm. In this case, there could be approximately 14 goal markers, one on each tank that must be destroyed.

It's possible to designate a target without assigning a goal, but in order to give the player feedback, you need to assign the target goal.



Goal Markers. By tagging an individual object with a goal marker, the mission designer is saying “this is part of the overall goal.” There are two types of goal markers. A green flag with an “X” on it means that particular object must be destroyed for the mission to be successful. A green flag with a dot on it means that target must *not* be destroyed; the mission is only successful if it survives.

Ground vs. Airborne. Structures, vehicles and aircraft can all be targets. They are tagged with a goal marker in the same way, with one exception. Airborne and vehicular targets have icons that you select. Ground targets have white dots, one per target site, that must be selected.

Often, these white dots cannot be seen from the default view of the Mission Map, so you must zoom in on the individual target until the white targeting dots can be seen. Smaller targets, such as vehicles or structures, will have only one targeting dot per object. Larger objects, such as runways, may have a dozen or more.

Goal Labels. It is important to clearly label the goals. After goals have been assigned to the mission, you will set up Goal State Events. (See **Mission Events: Goal State (Change) Event**, p. 5.47.)

Setting events can get complicated, and it’s worth the extra time to make goal labels understandable. One good way to label goals is to use short descriptions of the object, if it is friendly, and numbers to differentiate between similar targets. Example: tank goal, factory goal, MiG goal 1, MiG goal 2, friendly factory.

Essentially, a Goal State Event dictates that if the state of a specific goal is A, the game will respond one way, and if the state is B, the game will respond another way. For example, if the mission goal is to destroy a factory, you will want a message saying “Congratulations, you succeeded!” if the factory is destroyed, and a message saying “You failed, report back to base!” if the factory is not destroyed.

DELETE GOAL

- Click REMOVE GOAL.
- Click on the goal to be deleted — either the icon or the white dot.
- Confirm the deletion by clicking ok.

REMOVE GOAL deletes a previously placed goal marker.

If a goal is being used by an event or debrief condition, it cannot be deleted.

GOAL INFO



See **Common Command: Item Info**, p. 5.12.

AREA GOAL



- Click the AREA GOAL button.
- Click-and-drag on the Mission Map to place the Area Goal.

A mission can only have one Area Goal.

An Area Goal is a way of determining a player's proficiency. The computer keeps track of how much ordnance was used, and compares it to how much damage was inflicted. From that information is calculated the success ratio.

Different levels of success can be used to trigger different debriefs. (See **Event: Area Event**, p. 5.46 and **Debrief: Select the Conditions**, p. 5.54.) Rather than just win or lose, proficiencies can be cited. For instance, if the player uses two bombs to take out four targets, the debrief can be more positive than if the player dropped eight bombs and only hit one target.

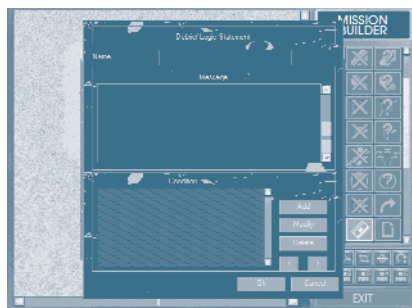
DELETE AREA GOAL



- Click DELETE AREA GOAL.

Because there can be only one Area Goal on the Mission Map, simply clicking the DELETE AREA GOAL button is sufficient to remove it.

EVENT



Events are the heart of the Mission Builder. Designing Events into a mission makes things move, makes things happen at the right time, makes things react to what the player does. When a player gets the feeling of “reality” — that *Jane's F-15* is as close to a real combat situation as a computer game can get — it is the result of careful Event design.

An Event is essentially a way of saying “Make this *Action* happen, whenever that *Condition* occurs,” in such a way that the computer program can understand it.

The interactivity of Events can quickly become a complex network of actions and reactions. You should expect setting up Events to take time, forethought and practice.

Before Setting Up Events

Events rely heavily on the mission environment. For example, it's impossible to make an aircraft react to the destruction of a target if either the aircraft or the target haven't been placed on the Mission Map. It is easiest to have everything ready before setting up the events.

Therefore, the probable order of design is:

- Place any aircraft, friendly and enemy, that will have an active role in the mission.
- Assign each of them waypoints.
- Place any other objects that will have an active role in the mission, particularly those that will be used as targets.
- Assign the Goals (including the Area Goal, if there is one) for the mission.
- Place other aircraft and objects to make the mission feel realistic.

USER FLAGS

A User Flag is a name assigned to an occurrence that you consider important to the mission. For instance, if you want a flight of MiGs to take off when a SAM site is destroyed, then the destruction of the SAM site could be labeled User Flag 1. Then, when assigning an action to the MiGs, you would select the action Take Off and then select User Flag 1 from the Flag drop-down menu.

(User flags start in the FALSE or OFF state. They can only be set to TRUE or turned on.)

- Click **EVENT** button.
- Click **ADD** to add a Mission Event.
- Select the type of Event — User Flags are usually, but not always, Goal State Events, since they tend to hinge on whether a goal has been destroyed. (See **Event Types**, next page)
- Fill out information specific to the type of event. (See **Event Types**, next page.)

Action — Set up User Flag “name”

- Click ADD under Action.
- Click on SET FLAG.
- Select a User Flag number.
- Set the Operator to “=”.
- Set the Value to True.
- Click OK.

The User Flag name (User Flag 1, User Flag 2, etc.) which you have assigned should then have an event/condition assigned to it.

Condition_— Set up event that triggers User Flag

The drop-down menu lists possible events (See **Condition Types**, p. 5.48). At the bottom of the list are the mission goals.

- Click ADD under Condition.
- Click on the check mark on the Goal/Flag menu to bring up a list of all possible events.
- Select the event that will trigger the new User Flag.

EVENT TYPES

- Click the EVENT button.
- Click ADD to add a Mission Event.
- Select the type of Event.
- Fill out information specific to the type of event.
- Select Actions. See **Event Action Types**, p. 5.47.
- Select Conditions. See **Condition Types**, p. 5.48.

TIME EVENT

A time event says “When this *Starting Condition* is met, this *Action* will take place, if these *Conditions* are met.”

(See also **Event Action Types**, p. 5.47, and **Condition Types**, p. 5.48)

Starting Condition

You have a choice of a starting condition of Time or a User Flag.

Time. Setting time as a starting condition is good if you want to have something happen at a certain time, regardless of where the player is. However, having an event hinge on the passage of a certain amount of time can be a problem if the player *must* be in a certain place at a certain time. Don't assume the player will take off the first moment of the mission, and fly in a straight line at a predetermined speed. It's usually better to set up a User Flag to act as the Starting Condition.

User Flag. Using a Flag to set off an event is a much better way of controlling when an event takes place. Of course, you must create a User Flag (**Event: User Flag**, p. 5.44) before it can be assigned as a Starting Condition.

Label. The Label for a Time Event doesn't have to outline everything that occurs, but it should be distinguishable from any other Time Event.

Timer. Setting a timer, in minutes, delays how long after the Flag and any Conditions are met before the action takes place. For example, the Flag is the destruction of two certain targets, the Condition is the death of the Wingman, the Action is that a MiG takes off — and the Timer is set to 10. Consider that the player destroys the targets 3 minutes into the mission, and then 8 minutes later his wingman is killed — 10 minutes after that, the MiG will take off.

Area Event

- Click the AREA EVENT button.
- Click-and-drag to establish a blue Area Event box.
- Enter the details, including Action and Condition.
- Click OK.

An Area Event says, "*When the player enters the Area Event box, this Action will take place, if these Conditions are met.*"

(See also **Action Types**, p. 5.47, and **Condition Types**, p. 5.48.)

When. An Area Event is based on the player ENTERING or EXITING the designated Area Event box. EVERY TIME means that as long as the conditions are met, the Action will happen when the player enters *or* exits the area.

Label. The Label for an Area Event should make it distinctive from other Area Events.

Do not confuse the Area Event Box with the Area Goal. There can only be one Area Goal. There can be many Area Event boxes, each with one or more events associated with it.

Duration.

Always. The Action will occur every time the player enters (or exits) the Area.

1 Time. The Action will occur only the first time the player enters (or exits) the Area.

GOAL STATE (CHANGE) EVENT

An Goal State Event says, “When this *Goal’s* state changes (such as no damage becomes 20% damage, or no damage becomes destroyed), this *Action* will take place, if these *Conditions* are met.”

(See also **Action Types**, below, and **Condition Types**, p. 5.48.)

Goal. You choose the Goal whose state change will trigger an Action. Only targets that have been marked as Goals will appear in the drop-down menu.

Label. The Label for a Goal State Event should make it distinctive from other Goal State Events.

Extra care should be taken when labeling Goal State Events, as there will probably be more of these than any other kind of Mission Event.

ACTION TYPES (EVENT ACTION TYPES)

Do not confuse these with Aircraft Actions! Aircraft actions take place at waypoints. Event Actions take place at certain times, and under certain Conditions.

Event Actions (Actions that are assigned in the Events window) are what happens when all the given Conditions are met.

MESSAGE (EVENT ACTION MESSAGE)

Event Action Messages can be text, sound or both. They are triggered by a set of conditions, and are usually from allies either on the ground or in the air.

Event Action Messages can be spawned by any Condition. If User Flag 1 is “Pilot enters Area Goal,” the message might be “Ready for Action!” If it is “Out of A/G,” the message could be “I’m out of bombs, you guys are on your own.” If it is linked to the destruction of your wingman, then it might be a death scream.

Text messages have a 320- character maximum.

Sound files must be .wav format.

Text Message

- Type in the message the player will see.

Sound File

- Type in the location of the sound file the player will hear.

Browse

If the exact location of the sound file is unknown, and therefore cannot be typed into the Sound File text box, browse for it by clicking the **BROWSE** button. Click through the directories until the appropriate file is found, then select it by double-clicking on it.

ALTERNATE PATH

See **Action: Alternate Path**, p. 5.30.

SET FLAG

This assigns a “name” to a set of conditions: User Flag 1, User Flag 2, etc. The User Flag is later named as a Condition for either an Aircraft or Event Action.

There are two reasons to use the Set Flag to name a set of conditions.

The most important one is that some drop-down menus only have the capability to choose from a list of User Flags. Therefore conditions must be named as User Flags before they can be chosen. (For example, you can’t assign conditions for an aircraft to end an Orbiting Action unless those conditions are part of a User Flag. See **Orbiting Action**, p. 5.37.)

The second reason is that some sets of Conditions are used more than once, and it saves you the trouble of entering in the same Conditions over and over again.

FAC

The FAC, as an action, turns the FAC (Forward Air Controller — soldier locating valuable enemy targets) on. It keeps the FAC from talking constantly to the player from the beginning of the mission.

The FAC will stop broadcasting when the mission is successful, or the FAC object is destroyed.

EVENT CONDITION TYPES

GOAL/FLAG

User Flag

A set of conditions may be designated as a User Flag. (See **Events: User Flags**, p. 5.44. See also, **Action Types: Set Flag**, p. 5.48.) The User Flag can then be used as a Condition.

Out of A/G

Out of Air-to-Ground Ammunition usually signals the end of an aircraft's usefulness. Often this condition triggers a message (**Event Action Message**, p. 5.47) stating the situation.

Out of A/A

Out of Air-to-Air Ammunition, similar to Out of A/G (above), means an aircraft is helpless should it encounter opposition. This condition usually triggers a message (**Event Action Message**, p. 5.47).

Flight 1 (Player) Destroyed

The mission may not have failed, but the game is definitely over — except for any last message (**Event Action Message**, p. 5.47) the player can get out before the crash.

Flight 2 (Wingman) Destroyed

This can be accompanied by an Event Action message of his last words, comments by other flight members, or even an Alternate Path.

Flight 3 (through Flight 8) Destroyed

Same as above, for Wingman Destroyed.

Crossed Fence

Crossed Fence refers to crossing the line between friendly and enemy territory.

Mission Goals

Mission Goals are the most common sort of conditions, as they hinge on the actual purpose of the mission. At the end of the list of Event Conditions, the labels that were assigned to each Goal object, and whether they must be destroyed or must survive, appear in the order in which they were created.

EVENT OPERATOR

There are only two operators in the Mission Event Conditions.

“=” means “equal to” the Value.

“!=” means “is not equal to” the Value.

JSTAR

- Click JSTAR.
- Click on a ground object.
- Repeat for every object the JSTAR will “see.”

Assigning objects to a JSTAR is one part of a two-step process. You must also place a JSTAR aircraft somewhere on the map, within 200 nautical miles of its target.

A JSTAR (pronounced Jay-star) is a type of reconnaissance aircraft, fitted with a similar type of radar as an F-15E. The JSTAR flies over the combat theater, finds moving ground targets and relays the information, via radio, to the F-15E pilots.

In Desert Storm, the JSTARs were converted Boeing 707s designated as E-8s.

DELETE JSTAR

- Click DELETE JSTAR.
- Click on the object with the JSTAR marker.

JSTAR INFO

See **Common Command: Item Info**, p. 5.12.

BULLSEYE

- Click on BULLSEYE.
- Click the place on the map where this mission's Bullseye will be.

A mission can have only one Bullseye.

A Bullseye is a location on the Mission Map, determined prior to a mission and kept secret from everyone not having “need to know” status. It is used to help pilots refer to locations over radio, without having the enemy know where they are, where they are going, or where exactly the target is.

The Bullseye should be in a noticeable location, near something the player will see, pass by or notice.

For instance, consider a fighter pilot who is shot down en route to Baghdad. He's on the ground and needs to use his radio to let Search and Rescue know where to find him. If he says “I'm five miles south of Baghdad,” then any listening enemy — and they *are* listening — knows exactly where to find

him. If the Bullseye is exactly 20 miles south of Baghdad, he can say “I’m fifteen miles north of Bullseye.” Search and Rescue will know where he is, but listening enemies won’t.

Bullseyes are changed daily.

If you set a Bullseye, don’t forget to let the player know where it is during the Mission Briefing.

DELETE BULLSEYE

Selecting **DELETE BULLSEYE** automatically erases the current Bullseye from the mission. You don’t have to click on the Bullseye itself, since there’s only one.

ALT PATH

- Click **ALT PATH**.
- Click the location on the map where the replacement mission will start.
- Right-click the new waypoint.
- Add details to the new waypoint. See **Waypoint Details: Adding/Editing**, p. 5.28.
- Continue to add waypoints to complete the mission.

Also

- Create a Flag to trigger the Alternate Path. (See **User Flags**, p. 5.44)
- Create a Message to announce the Alternate Path. (See **Message Info**, p. 5.37)

Alternate Paths only affect the Player. You cannot assign an Alternate Path to a computer-controlled aircraft. Computer controlled aircraft can *respond* to the events that occur during an Alternate Path mission, but their waypoints will not change.

An Alternate Path is a predetermined route for an alternative mission that overrides the original mission partway through flight. For example, the player might be en route to bomb a runway. Part way through the mission he is told that there are some downed pilots needing air support. The new waypoints that appear, leading the player to the downed pilots, mark the Alternate Path.

Alternate waypoints will be invisible to the player until the Alternate Path is triggered. Once on an Alternate Path, the player will not be able to return to the primary path.

Assigning an Alternate Path to an aircraft is one part of a two-stage process. There must also be a flag set to indicate when the player should be given the new assignment (See **Action Types: Alternate Path**, p. 5.30).

Paths between the Alternate Path waypoints appear to you as dotted lines on the Mission Map. However, the path between the Primary Path and the Alternate Path will not appear, because the Alternate Path might be triggered by many things, and may not always start at the same place.

Alternate waypoints will be invisible to the player until the Alternate Path is triggered. Also, once on an Alternate Path, the player will not be able to return to the primary path.

Even though you know that the original mission won't be completed, all the Primary Path waypoints should be put in anyway, so that the Primary Path appears complete to the player in the briefing. Likewise, the Alternate Path should have an ending, i.e., a final waypoint and a landing site.

BRIEFING

- Click the BRIEFING button.
- Click in the text field.
- Type in the briefing information.
- Click OK to save the briefing text.

The Briefing is the what the player is told prior to the mission. It can be as brief or as detailed as you would like.

Minimal information should include what type of mission (CAP, SEAD, bombing run, etc.) is about to be flown. The player needs to know what to expect in order to choose the appropriate loadout.

A more detailed briefing would include possible enemy threats, the current military situation (are the player's allies about to make a strike? are they on the defensive?), and the goals the player is expected to achieve.

Of course, nothing limits the amount of information that can be given. Current weather conditions, time of day, recommended loadout, etc., can be included at your discretion.

EDIT BRIEFING

- Click the **BRIEFING** button.
- Edit the text.
- Click **OK** to save changes.

There is only one briefing per mission.

Most common text editor commands work in *Jane's F-15* text boxes.

[Backspace] deletes the letter directly before the cursor, or any highlighted text.

[Delete] erases the letter directly after the cursor, or any highlighted text.

Click-and-drag highlights text.

[↑][←][→][↓] move the cursor in one-space steps.

[↑][←][→][↓] + **[Ctrl]** move the cursor in one-word steps.

[Ctrl] + **[C]** copies text, **[Ctrl]** + **[V]** pastes text.

[Home]/[End] moves the cursor to the front/end of the text line.

[Ctrl] + **[Home]/[End]** moves the cursor to the start/end of briefing.

DEBRIEF

Creating a Debrief is essentially assigning a message to any (or each) of a long list of possible events. There are many different flags, and the first 50 or so are repeated for each of the 8 flights. It is up to you which of these Events deserve to be mentioned in the debriefing.

- Click the **DEBRIEF** button.
- Click **ADD** to create a new Debrief.

STOP DEBRIEF

- Click the Condition in the Condition Statement list that will end the Debrief process.
- Click in the **STOP DEBRIEF PROCESSING IF TRUE** box.

Note that letting the debriefing process continue will often result in a more robust debriefing message. It is not necessary to halt the debriefing process.

- Repeat for any other Conditions that should halt the Debrief process.

While the mission is being played, as each specified Condition is achieved, a message is coded to the Debrief. When the mission is over, the player sees a debrief which has been built “behind the scenes.” If you decide that with a

certain Condition (such as the player being shot down) no more messages should be added, then the STOP DEBRIEF PROCESSING IF TRUE should be clicked for such Conditions.

DEBRIEF LOGIC GROUP

- Name the Logic Group.
- Click ADD to add Condition Statements.

DEBRIEF LOGIC STATEMENT

This is the meat of the Debriefing, where each Condition, or set of Conditions, is given a message to be read by the player after the mission is over. Debriefings will occur even in the event of the Player's destruction (unless you choose otherwise).

NAME THE LOGIC STATEMENT

- Type in the name of the Logic Statement.

A Logic Statement is the name of a certain Condition or set of Conditions, and appears in the Logic Group List.

A Logic Statement name will usually be the same as the Condition, unless more than one Condition is selected. For example, if "Flight 2 Crew MIA" creates a debriefing statement of "You lost your wingman!" the Logic Statement might be named either "Flight 2 Crew MIA" or "Wingman MIA."

If you combine the Conditions that Flight 2 *and* Flight 3, 4 and 5 are all MIA, the Logic Statement might be named "All crew MIA" with a Logic Statement message of "You lost ALL your wingmen!"

SELECT THE CONDITIONS

- Click ADD to create a Condition Statement.

Goal/Flag

- Select the Condition(s) for that Condition Statement.

Note that each window of possible Goal/Flags is nine entries long. Clicking on the scroll bar (as opposed to the scroll arrows) scrolls down ten entries, and therefore every tenth Goal/Flag can be accidentally skipped.

Operator

- Add a message to appear to the player. Make sure the message is applicable to all conditions included in that Logic Group.

There are six possible Operators for the Debrief Conditions.

"!=" means "is not equal to."

"=" means "is."

"<" means "is less than."

">" means "is greater than."

"<=" means "is less than or equal to."

">=" means "is greater than or equal to."

Flag

In cases when the action is True or False (such as being Shot Down, Killed, or Crossed Fence Boundary), Flag should be used, and True or False chosen.

Value

In cases where there is a number involved (such as Number of Bombs, Neutral Aircraft kills, or A/G Bomb hit ratio), Value should be used, and a number typed into the field. For Instance the Number of Bombs could be less than or equal to 4, or the Hit Ratio could be greater than 50 (percent).

Message

The Messages are what the player actually sees at the end of a mission; all the logic groups and statements will be invisible.

All applicable Messages will appear on the Debriefing, in the order that the Conditions occurred.

MISSION INFO

After a mission is created, it will appear as a choice in the *Jane's F-15* Load Mission list. It is up to you to create the explanatory text that the player will see.

The Mission Info window is primarily for convincing players that they want to play the mission.

TITLE

The name of the mission. This will appear in the Load Mission list.

AUTHOR

This is who designed the mission. This is invisible to the player, and is mostly used in the event that changes will be incorporated into a mission by someone who did not originally create the mission. When only one designer is working on a mission, this is not a vital piece of information. However, when several people add details to the same mission, the Author should be the one who has overall design control.

MISSION SUMMARY DESCRIPTION

This serves as a brief summary of what the mission is about. When the player clicks on the Mission Title in the Load Mission list, this appears in the upper-left window.

COMMENTS

This is useful reminder when you feel that further design features would improve the mission, but cannot take the time to stop and implement them immediately. Comments are invisible to the player.

ENVIRONMENT

Time and weather add not only visual variety to the game, they change the mission itself. A night mission is a different thing entirely from a daytime mission, just as a Combat Air Patrol with cloudy skies provides more of a challenge than one with clear skies.

TIME OF DAY

Dawn is from 5am to 7am. Dusk is from 5pm to 7pm. Daylight is between Dawn and Dusk, Night is between Dusk and Dawn. Choosing a Time of Day sets the start of the mission at the start of the time period. Time then progresses throughout the mission.

WEATHER

The four choices are Clear, Partly Cloudy, Overcast and Stormy.

FILTER

- Put/remove check marks in the boxes to have those objects visible/invisible during the design process.
- Click SET.
- Click on a button to assign it to the chosen filter selection.
- Click OK.

Filters are a design tool that allows you to choose what objects are visible on the Mission Map at one time. By the time a mission is fully created, the map can be full of objects, icons and lines. Filtering out specific items makes it easier to concentrate on the task at hand.

The filter icons at the bottom of the Mission Builder panel will enable you to easily alternate between types of filters during the design process.

Remap Filter Icon. There are five filter icons at the bottom of the Mission Builder panel. These can be assigned to certain filters. For instance, one icon could make only friendly aircraft and objects visible, while another would show only enemy forces. Another icon could filter out everything but aircraft. It is up to you to decide what filters would be most useful.

Remember that all objects will appear in the game. Be careful not to filter something out and forget about it. The final check of a mission should have all the objects visible.

BUILDER OPTIONS

The Mission Builder is designed to give more or less information to you, the designer, according to what you find convenient. These customizations can be adjusted at any time during the design process.

ICON LAYOUT

Each aircraft icon can be surrounded by information about the aircraft it represents. Up to six pieces of data can be assigned locations around the icon: one piece of info on the top/bottom, and two on each side.

You cannot choose to have separate Icon Layouts for individual aircraft or waypoints. The layout applies to all aircraft.

Possible Aircraft Data	Possible Waypoint Data
None	None
Call Sign	Call Sign
Aircraft Type	Aircraft Type
Aircraft Name	Aircraft Name
Number In Flight	Waypoint Name
Altitude	Altitude
Speed	Speed
Heading	Jump Point
Control Group	Top Action (i.e., not a secondary Message Action)
Side	Waypoint Number
Loadout	
Top Action (I.e., not a secondary Message Action)	

GCI LINK



First

Place a series of Radar Stations (see **Add Ground Objects**, p. 5.24) on the Mission Map.

Next

- Click the GCI LINK button.
- Click on the first Radar Station (or radar-directed SAM/AAA site) to be linked.
- Click on the Radar Station nearest to the first to establish a link.

Continue connecting the Radar Stations until the GCI network is satisfactory.

Ground Control Interception is a way of coordinating the information between one radar station and the next. It's an air control information relay system, in which one station's information is passed on to all other radar stations in the network. The GCI sites coordinate the air defenses of that side; if one air-defense attacks an aircraft, the others know there's something out there. SAM sites can also be tied into the network and be alerted. There is no limit and no range — it's all modern telecommunications.

GCI links appear as thin black lines between Radar Stations.

DELETE GCI LINK

- Click **DELETE GCI LINK**.
- Click on the Radar Station that is to be removed from the network.

A Radar Station that is not on the GCI Link network can still pass information to local SAM and AAA sites, but it cannot pass the information to another radar station, and thus give the “advanced warning.”

GROUPS

Groups can be either aircraft or ground vehicles. In the following description, the groups and packages are composed of aircraft, but the same description applies to ground vehicles.

Create a group.

- Click the **GROUP** button.
- Click **ADD** to create a new group.
- Type the name of the group into the Name field at the top of the new window.

Add a package to the group.

- Click **ADD** to add a package (one or more aircraft) to this group.
- Type a brief description of the package.
- Assign a 1 - 100 percent chance of appearing.
- Click **ACCEPT**.
- Continue adding packages until the group is complete.
- Click **DONE** when the group is complete.

How many packages per group is a designer decision. There are no restrictions on how many groups can be created, or how many packages each can have. However, only one package per group will appear.

The purpose of using Groups is to add a random element to the mission. If a mission has no randomization, there will be no reason for the player to replay the mission — the same aircraft will arrive at the same place in the same way, every time the mission is played. When a Group is created, however, and packages are assigned to it, only one of those packages will appear per mission. That adds a random element to the enemy forces that the player faces each time he flies the mission.

NAMES

Giving groups simple, descriptive names helps keep their purposes separate. Some examples could be “MiGs from the south,” “Iraqi tank ambush” or “Waypoint 3 scramble.”

PACKAGES AND CHANCE OF APPEARING

Packages are assigned a percentage chance of appearing, and at the beginning of the mission the computer determines which will appear. The result of careful group planning is that sometimes enemies will arrive from the south, sometimes from the north, sometimes they’ll be more dangerous than at other times, etc.

Packages can be made up of different types of aircraft, flying different missions. This way you can arrange that each package contains strike aircraft, their escorts, SEAD aircraft, tankers, etc.

If there is no Group assignment, the aircraft will always show up.

Only one package appears. Only one package per group will appear. If, for instance, there are three packages, each with a 40% chance of appearing, the computer will look at them in the order in which they were created. It will compute the first package’s chance of appearing, and if it *does* appear, the computer will not check the other packages. If the first package does *not* appear, the computer will continue, and compute the second package’s chance. If the second package is “chosen,” then the third package will not be checked, and will not appear for that group.

100% chance to appear. If the first aircraft created is given 100% chance to appear, then it will always appear, and no other packages assigned to that group will ever be seen: it will have been wasted effort to put other aircraft in at all. However, if the second aircraft has 100% chance of appearing, you are guaranteeing that *something* will appear each time, either the first aircraft, or failing that, the second.

The last package. The percentage chance of a package increases when previous packages fail their chance to appear. The last package will have a 100% chance of appearing if all other packages fail to appear.

TACAN

- Click TACAN.
- Click on a ground object or (refueler) aircraft.

When an object has a TACAN assigned to it, the player receives information useful in approach.

Tactical Aid to Navigation is a UHF transmitter that sends out a constant message relaying distance and directional information. All military airports have them, and the signal lets the player know where he is in relation to the landing strip. It also enables the F-15 to create a graphical display of where friendly aircraft are in relation to each other, useful information to have during combat.

In general, TACAN stations have very wide ranges, and will usually extend far enough into enemy territory so as to preclude any gaps in the information. TACAN stations should be assigned to airstrips friendly to the player, and to tankers.

CHANNEL NUMBER

Each TACAN station operates on a unique channel. Assign a channel number from 1 to 123 to the station.

STATION ID

Each station needs an ID to make it more easily recognizable to the player. The ID can be either descriptive or numeric.

FIND NEXT AVAILABLE CHANNEL NUMBER

Select this button to have the computer scan through the TACAN information and offer the next available channel number. Click ok to accept.

DELETE TACAN

- Click DELETE TACAN.
- Click on the TACAN icon to be deleted.

Deleting the TACAN emitter from an object makes it more difficult for the player to approach it during the mission.

It can sometimes be difficult to click on the object when the view is zoomed out. Zoom closer to see details.

TACAN INFO

See **Common Command: Item Info**, p. 5.12.

FAC

- Click FAC.
- Click on a Mission Map object that will act as an FAC.

Placing an FAC is one part of a two-step process. After the FAC is placed, an Event must be designed to make it “work.” See **Event: FAC**, p. 5.48. There’s only one FAC per mission.

Forward Air Controllers are essentially soldiers with walkie-talkies. They can be in tanks, in buildings, or elsewhere. They are in enemy territory to find ground targets, then call the information in for an air strike.

When designing the mission, for realism’s sake it’s best to place the FAC near to one of the mission’s goals. FACs don’t usually have fancy equipment to help them see more than a couple of miles in any direction.

DELETE FAC

- Click DELETE FAC.
- Click on the FAC icon to be deleted.

RULES OF ENGAGEMENT

You can set the Rules of Engagement (when it’s “legal” to fire) for each side.

It is described in military terms of “alerts.”

Green (Alert) — Weapons Hold. It’s a non-combative situation. Don’t fire on anyone unless they fire on you first, or lock you up in preparation to fire a missile. (With Realistic TEWS the player would know this by the threat being closer to the center.)

Yellow (Alert) — Weapons Tight. Fire only on confirmed enemies.

Red (Alert) — Weapons Free. It’s an emergency situation. Fire at will.

MISSION LABEL

- Click **MISSION LABEL**.
- Click on the location on the Mission Map where the label will be added.
- Enter the text that will appear.
- Click **OK**.

Important locations on the map may sometimes require a label to help the player recognize them. Bases, cities, anything that would be discernible from a cruising height can be labeled. This can be fine-tuned during the testing stage of mission creation.

Labels are up to your discretion.

DELETE MISSION LABEL

- Click **DELETE MISSION LABEL**.
- Click on the Mission Label to be deleted.

DISTANCE BETWEEN TWO POINTS

- Click on the first position on map.
- Click on the second position on map.

The distance in nautical miles between the two points will then be displayed.

DESTROY THIS OBJECT

- Click on **DESTROY THIS OBJECT**.
- Click on an object's white dot.

A war zone very rarely looks clean and unblemished. If you want to put down some battle-scars, he can use **DESTROY THIS OBJECT** to replace some objects with burned-out craters. This can be used both on objects that you have put down and on objects that are inherent to the map.

UNDESTROY

- Click on **UNDESTROY**.
- Click on the white dot in the center of a crater.

You can undo a Destroy This Object command, in case you change your mind.

ZOOM IN

- Click on the **ZOOM IN** button.

Each time the **ZOOM IN** button is clicked, the Mission Map scale approximately doubles in size. The closer the zoom, the more detail you can see, but the less actual territory is shown in the Mission Map window. The map can be zoomed in until the window display is approximately .75 nautical miles on a side.

The map zooms in on the center of the Mission Map window. To zoom in on a particular object, first center it using the **CENTER** button.

ZOOM OUT

- Click on the **ZOOM OUT** button.

The reverse of Zoom In, Zoom Out shows more map and less detail per click. The map can be zoomed out until the territory displayed is approximately 1,425nm on a side.

ZOOM AREA

- Click on the **ZOOM AREA** button.
- Click-and-drag the cursor to “box” an area.
- Click again to zoom.

This allows you to zoom in on a specific area in the Mission Map. The smaller the box, the greater the magnification.

CENTER ON CURSOR

- Click the **TARGET** button.
- Click on the Mission Map.

Centering an object in the Mission Map is primarily used in preparation to zoom in on it. When centering an icon, try to click as close to the exact center of the icon as possible. As the zoom increases, any deviation from clicking the *exact* center of the icon will be magnified, and the icon will begin to edge off the visible map.

REVERT

- Click on the **REVERT** button.

Returns the Mission Builder to the previous view.

FILTERS 1 - 5



Turns predetermined filters on. See **Filters**, p. 5.57.

EXIT

Leave the Mission Builder and return to the Single Main Menu.

Any design information added subsequent to the last Save Mission will be lost! As such, when you click on EXIT, you will be prompted to confirm your decision to exit. Answer YES only if you have saved your work.