



VI. Set Data Requests

Set data requests affect the state or behavior of a simulation object, such as its speed or posture. They take effect immediately. Assignment of a set data request does not override the task that a simulation object is executing. By contrast, if you assign a simulation object a task, it stops its current task and begins the new task. You can send set data requests from a plan or from the Set menu.

You can create new set data requests using the same Lua scripting process that you can use to create scripted tasks.

Some set data requests only apply to entity-level scenarios. Others only apply to aggregate-level scenarios. These set data requests indicate the applicable simulation type with an entity () or unit () icon in the margin.

The Set menu is context sensitive. It only shows the options that apply to the selected simulation object.

The graphical user interface does not necessarily know about the state of a simulation object. When you open a dialog box for a Set command, any data in the dialog box represents either default values or the most recently used value. Do not assume that a dialog box shows current values.

 You can check the current status of most simulation object state data in the Information dialog box.

You can filter simulation object selection lists. For details, see "Filtering the Object Selection Lists".

The instructions for setting simulation object state direct you to use options on the Set menu. However, all the options available on the main menu are also available on context-sensitive menus. A limited number of set data requests are available on the Sets Toolbar and on the Last Selected Objects Panel.

You can also set the state of tactical graphics. For details, see "Setting the State of Tactical Graphics".



2. Setting the State of Entity-Level Simulation Objects

This chapter explains how to set simulation object states for entities and units in entity-level scenarios. Some of the set data requests also apply to aggregate-level scenarios. They are cross-referenced from "Chapter 3. Setting the State of Aggregate-Level Simulation Objects" on page 53.

 You can also use the Entity Control Panel to set an individual entity's state. See "Using the Buttons in the Entity Control Panel".

Set data requests for aerodromes and runways are covered in "Aerodrome and Runway Set Data Requests".

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2.1. Active Sonar Mode

If an entity has an active sonar system, you can set the sonar mode.



- RPR FOM 1.0 does not support active sonar.
- To disable the active sonar, use the Subsystem Enabled set data request. See "2.81. Subsystem Enabled" on page 43.

► To set the active sonar mode:

1. Select the entity.
2. Choose **Set > Sensors > Active Sonar Mode**. The Active Sonar Mode dialog box opens.
3. In the System ID list, select the sonar system that you are setting. The entities provided with VR-Forces just have one active sonar system.
4. In the Mode list, select a sonar mode.
5. Click OK.

2.2. Add Jamming Target

The Add Jamming Target set data request lets you specify a target for an entity to jam. You can only specify one target at a time using this set, but you can issue it multiple times to specify multiple jamming targets.

► To specify a jamming target:

1. Select the entity that has a jamming capability.
2. Choose **Set > Jammer > Add Jamming Target**. The Add Jamming Target dialog box opens.
3. Select the entity that you want to jam.
4. Click OK.

2.3. AI Enabled

The AI Enabled set data request lets you disable intelligent decision making by simulation objects. By default, simulation objects can respond to their environment by avoiding obstacles (excluding aircraft), firing on targets, and so on. In some cases, exercise participants do not want simulation objects to take any actions other than those specifically tasked to them by plans or human players. AI Enabled lets you remove independent action from simulation object behavior.

AI Enabled disables these behaviors:

- Collision avoidance.
- Automatic firing at other entities.
- Reacting to being fired upon. That is, there is no suppression or fleeing.

 Aircraft entities do not have obstacle avoidance. The artificial intelligence for aircraft, when enabled, does not attempt to avoid collisions with obstacles in their flight path.

► **To enable or disable artificial intelligence:**

1. Select the simulation object.
2. Choose **Set > Action > AI Enabled**, or click the AI Enabled button () on the Sets Toolbar. The AI Enabled dialog box opens.
3. In the Enabled list, select Yes or No.
4. Click OK.

2.4. AIS Data

You can set the AIS (automatic identification system) data for surface entities. The information displays in the AIS page of the Information dialog box. All values are optional.

The values you can specify are:

- **MMSI.** The Maritime Mobile Service Identity is a unique nine-digit number that automatic identification systems (AIS) use to identify a vessel.
- **IMO Number.** The International Maritime Organization number begins with the prefix "IMO" and is followed by a unique seven-digit number. It is also used to identify a vessel.
- **ETA.** The estimated date and time at which the entity will arrive at its destination.
- **Destination.** The surface objects destination.
- **Navigation Status.** Select the vessel's navigation status from the list.

► **To set the AIS data for a surface entity:**

1. Select the entity.
2. Choose **Set > AIS data**. The AIS Data parameters display.
3. Specify the values for the entity.
4. Click OK.

2.5. Aiming

The Aiming set data request tells an entity to aim at a point, an object, or an angle. It does not cause the entity to shoot. If the entity acquires a target, it aims at the target and fires. Then it returns to the aiming behavior specified by the set data request.

An entity can move while it is aiming. If an entity is moving and it can no longer reasonably aim in the specified direction, it stops aiming. For example, if the entity is aiming at a point and the entity's movement causes the point to be behind it, the entity stops aiming (unless it has a turret that can aim in that direction). If the entity stopped aiming while it was moving, when it stops moving, it turns to aim in the specified way.

You can also use this set data request to stop the aiming behavior.

► **To have an entity aim at a location or object:**

1. Select the entity.
2. Choose **Set > Engagement > Aiming**. The Aiming dialog box opens.
3. Select the aiming option you want.
4. Specify the appropriate parameter for the aiming choice:
 - Aim at Point – specify the location.
 - Aim at Object – select the object.
 - Aim at Angle – specify the azimuth and elevation.
 - Cease Aiming – no parameters required.
5. Click OK.

2.6. Aircraft Lighting

The Aircraft Lighting set data request causes a fixed-wing aircraft to publish its lighting information as specified. The 3D visuals on the fixed-wing model reflect the lighting if the model is configured with those lights.

For tankers, there is another set data request. See "2.85. Tanker Lighting" on page 44.

► **To set the lights on a fixed-wing aircraft:**

1. Select the entity.
2. Choose **Set > Appearance > Aircraft Lighting**. The Aircraft Lighting dialog box opens.
3. Specify the settings for the lights.
4. Click OK.

2.7. Altitude

The Altitude request changes the altitude of simulation objects immediately. If you want a fixed-wing or rotary-wing entity to move to an altitude, assign a Move to Altitude or Fly Altitude task or use the Entity Control Panel. You can set the altitude manually or place an entity at a specific level in a multi-level terrain feature, such as a building.

► **To set an entity's altitude:**

1. Select the entity.
2. Choose **Set > Position > Altitude**, or click the Altitude button () on the Sets Toolbar or the Last Selected Object panel. The Altitude dialog box opens. It displays the entity's current altitude.

3. Select MSL (mean sea level) or AGL (above ground level) to specify the base for the altitude value.
4. Type the new altitude.
5. Click OK.

2.8. Appearance

You can set appearance attributes for simulation objects. The appearance attributes that are available for a simulation object are determined by its entry in `./appData/settings/vrfGui/SISO-REF-010.xml`. The default list of appearance attributes is based on the DIS standard.

The Lifeform State field of the Appearance dialog box sets the posture for an entity. If VR-Forces does not support a selected posture, it simulates the entity using the closest similar posture. If a posture involves walking or running, VR-Forces chooses the posture to use based on the entity's speed. For more information about setting posture, see "2.60. Posture (Human)" on page 33.

If you want to set the appearance of a human character, use the DI-Guy Appearance set data request, described in ("2.25. DI-Guy Characteristics (Appearance, Head, Body Weight)" on page 16).

i In aggregate-level scenarios, the Appearance set data request is included in the list of commands for the Send Radio Set task and the list of commands available on the Command menu in plans. However, it is not supported and if used, will fail. Its presence is due to the lack of context sensitivity for these menus.

► To set appearance values:

1. Select the simulation object.
2. Choose **Set > Appearance > Appearance**. The Appearance dialog box opens. The settings displayed are the current settings for the simulation object.
3. Change appearance settings as desired.
4. Click OK.

2.9. Armed

IEDs, car bombs, and suicide bombers must be armed to detonate. They are all armed by default. You can disarm them and re-arm them.

i IEDs, car bombs, and suicide bombers have radios. Therefore, you can arm and disarm them using the Send Radio Set task.

► To arm or disarm an explosive device:

1. Select the explosive device.
2. Choose **Set > Engagement > Armed**. The Armed dialog box opens.

3. Select an option from the list.
4. Click OK.

2.10. Articulated Part

The Articulated Part set data request allows you to set the position of a simulation object's articulated part at runtime. This applies only to articulated parts that are not controlled by another system.

 VR-Forces does not support manually articulating a part that is controlled by a system because that would cause conflicts between a set controller and the system.

► **To set the position of an articulated part:**

1. Select the simulation object.
2. Choose **Set > Appearance Articulated Part**. The Articulated Part dialog box opens.
3. Select the articulated part.
4. Specify the translation or rotation for the articulated part.
5. Click OK.

2.11. Assume Unknown is Hostile

The Assume Unknown is Hostile set data request means that a simulation object associated with an engagement zone can assume that any unknown simulation object that enters the engagement zone is hostile.

► **To set unknown objects in an engagement zone to be hostile:**

1. Select the simulation object.
2. Choose **Set > Disposition > Assume Unknown is Hostile**. The Assume Unknown is Hostile dialog box opens.
3. Select No or Yes.
4. Click OK.

2.12. Attached

Use the Attached set data request to attach a tactical graphic to an entity. You can specify the relative orientation for the graphic:

- **Entity Orientation.** The tactical graphic moves as the heading, pitch, and roll of the entity changes.
- **World Orientation.** The attached tactical graphic maintains a specific distance and altitude in the world, regardless of the entity's orientation or altitude.
- **Entity Heading.** The tactical graphic moves as the entity's heading and altitude changes. Its pitch and roll remain constant.

► **To set the tactical graphic's attachment to an entity:**

1. Select the tactical graphic.
2. Choose **Set > Disposition > Attached**. The Attached dialog box opens.
3. In the Name box, enter the entity to which you want to attach the tactical graphic.
4. Select the orientation you want.
5. Click OK.

2.12.1 Detaching a Tactical Graphic

You can also use the Attached set data request to detach a tactical graphic from an entity. This method works for both tactical graphics attached using this set data request and those attached using the methods described in "Attaching Tactical Graphics to a Simulation Object".

► **To set the tactical graphic's attachment to an entity:**

1. Select the tactical graphic.
2. Choose **Set > Disposition > Attached**. The Attached dialog box opens.
3. Select the Detach From Parent check box.
4. Click OK.

2.13. Attention Grabbing

The Attention Grabbing set data request specifies how interesting an object should be to humans as they randomly pay attention to other objects in their environment.

► **To set the level of attention for an object:**

1. Select the object whose level of attention you want to set.
2. Choose **Set > Disposition > Attention Grabbing**. The Attention Grabbing dialog box opens.
3. Select an option for the amount of attention that this object should receive.
4. Click OK.

2.14. Automatically Close Doors

If Automatically Close Doors is enabled, when a human entity goes through a door that can be opened or closed and there is no one else behind it, the door closes automatically. Default: enabled.

You can also close doors with the Close Door task ("Close Door"). For more information about opening and closing doors, see the chapter [Dynamic Terrain](#) in the *Adding Content to MAK ONE Applications Reference Manual*.

► **To enable or disable automatically closing doors:**

1. Select the entity.
2. Choose **Set > Action > Automatically Close Doors**. The Automatically Close Doors dialog box opens.
3. Select Yes to enable, No to disable.

2.15. Base

Use the Base set data request to assign a base aerodrome to an aircraft. The assigned Base displays in the Last Selected Object Panel and the State Data page of the aircraft's Information dialog box. You can task an aircraft to return to its assigned base; see "Return To Base".

This set data request requires use of a terrain database that has aerodrome data. For details, see "Aerodromes".

► **To assign a base aerodrome to an aircraft:**

1. Select the aircraft entity.
2. Choose **Set > Base**.
3. In the Aerodrome box, enter the ICAO code of the aerodrome. You can type the code, select an aerodrome in the Objects List, or select from the list of aerodromes at the bottom of the window. In the last case, any managed aerodromes are listed at the top of the list, and then all other aerodromes in the terrain are listed below those.
4. Click OK.

 You can also assign an aircraft to a base from the Edit dialog box for that entity. As with the Base set data request, there must be an aerodrome in the terrain.

2.16. Callsign

You can specify a callsign for an entity or a unit. By default, the NETN callsign attribute uses a simulation object's marking text. The Callsign set data request allows you to define a custom callsign for a simulation object. The attribute is published on the network.

► **To set the NETN Callsign attribute for a simulation object:**

1. Select the entity or unit.
2. Choose **Set > Disposition > Callsign**. The Callsign parameters display.
3. In the Callsign box, enter the desired value.
4. Click OK.

2.17. Capabilities

The capabilities that are available for a simulation object are determined by its entry in *./appData/settings/vrfGui/SISO-REF-010.xml*. The default list of capabilities is based on the DIS standard.

► **To set simulation object capabilities:**

1. Select the simulation object.
2. Choose **Set > Disposition > Capabilities**. The Capabilities dialog box opens. It displays the current settings for the simulation object.
3. Change the settings you want to change.
4. Click OK.

2.18. Collision Avoidance Enabled

You can completely disable collision avoidance for a ground entity. If you need to disable avoidance for only terrain features or other ground entities, see "2.19. Collision Avoidance Types" below.

► **To disable or enable collision avoidance:**

1. Select a ground entity.
2. Choose **Set > Action > Collision Avoidance Enabled**. The Collision Avoidance Enabled parameters display.
3. From the Enabled list, choose Yes to enable collision avoidance or No to disable it.
4. Click OK.

2.19. Collision Avoidance Types

Sometimes ground entities exhibit undesired collision avoidance behavior because they try to avoid objects that are close to their line of travel, but not necessarily blocking it. You can enable and disable avoidance of entities or terrain features such as buildings and trees on a per-entity basis. This option overrides the collision avoidance settings in the object parameter database entry for the entity.



- Collision avoidance settings are saved in an entity's process state repository. However, there is no indication in the GUI what these settings are. Therefore, we recommend that you not change collision avoidance settings through the GUI indiscriminately because you may lose track of which entities are avoiding which types of objects. To permanently set collision avoidance for an entity, edit its components in the object parameter database.
- When the Collision Avoidance Types dialog box opens, it does not reflect the settings for the selected entities. It only provides a default setting. Make sure that you review all the settings in the dialog box to be sure you do not inadvertently enable or disable a setting that you do not want to change.
- The Collision Avoidance Types set data request allows you to specify collision avoidance only for broad categories of objects. You can set collision avoidance more specifically in the object parameter database.
- To enable or disable collision avoidance completely, see "2.18. Collision Avoidance Enabled" on the previous page.

► **To set collision avoidance for specific object types:**

1. Select a ground entity.
2. Choose **Set > Action > Collision Avoidance Types**. The Collision Avoidance Types parameters display.
3. Select the check boxes for object types to avoid and clear the check boxes for the object types that the entity should not try to avoid.
4. Click OK.

2.20. Concealed

The Concealed request sets a simulation object's concealment attribute to True or False. For entity-level scenarios, this only affects the DIS or RPR FOM data sent over the network. It does not affect the simulation. For aggregate-level scenarios, when a simulation object is concealed, its sensor signature is changed so that it is harder to detect.

► **To set the concealment attribute:**

1. Select the simulation object.
2. Choose **Set > Disposition > Concealed**. The Concealed dialog box opens.
3. Select an option from the list.
4. Click OK.

2.21. Countermeasures Auto Launch

The Countermeasures Auto Launch set data request lets you enable and disable automatic launching of countermeasures. If you disable automatic countermeasures, you can still launch them manually using the Launch Countermeasures task ("Launch Countermeasures").

► **To enable or disable automatic launch of countermeasures:**

1. Select the entity.
2. Choose **Set > Engagement > Countermeasures Auto Launch**. The Auto Launch dialog box opens.
3. Select an option from the list.
4. Click OK.

2.22. Current Speed

The Current Speed set data request sets the speed of a simulation object immediately and changes the ordered speed to this new speed value. By contrast, Ordered Speed ("2.58. Ordered Speed" on page 31) causes a simulation object to accelerate or decelerate to the desired speed.

A negative value causes the entity to go backwards if it supports backwards movement.

i For all simulation objects except humans and fixed-wing aircraft that are in the air, if you set the current speed and the object does not have a task, it begins to move at that speed and then slows down until the speed reaches 0. Fixed-wing aircraft that are in a default orbit mode change their speed to the new current speed. Humans might take a step, but then will stop moving.

► **To set current speed:**

1. Select the simulation object.
2. Choose **Set > Action > Current Speed**. The Current Speed dialog box opens.
3. In the Current Speed text box, set the speed.
4. Click OK.

2.23. Destroyed

You can set a simulation object's state to be destroyed. This can be helpful when you want a simulation object to be destroyed without having to first simulate its destruction by another simulation object.

► **To set an object's state to destroyed:**

1. Select the simulation object.
2. Choose **Set > Disposition > Destroyed**. The simulation object is immediately destroyed.

2.24. Detonation Fuse Type

The Detonation Fuse Type set data request lets you configure detonation of improvised explosive devices (roadside IED entity), suicide bombers, and car bombs. You can set them to detonate immediately, at a certain time delay, or based on the proximity of a target

entity. If you specify proximity detonation, you can set the radius of the proximate area. If you specify time, you must set the time in seconds until detonation. Detonation Fuse Type implicitly arms the device. (For details about arming devices, see "2.9. Armed" on page 9.)

i IEDs, car bombs, and suicide bombers have radios. Therefore, you can detonate them using the Send Radio Set task.

► **To set the detonation fuse type:**

1. Select the object that you want to configure.
2. Choose **Set > Engagement > Detonation Fuse Type**. The Detonation Fuse Type dialog box opens.
3. In the Fuse Type list, select the fuse type (Timed, Immediate, or Proximity).
4. If you selected a Timed fuse, in the Time box, specify the elapsed time, in seconds, at which the IED should detonate.
5. If you selected a Proximity fuse, in the Proximity box, specify the radius of the area in which a simulation object will trigger the detonation.
6. Click OK.

2.25. DI-Guy Characteristics (Appearance, Head, Body Weight)

The DI-Guy Characteristics set data request determines the clothing and physical characteristics of a lifeform when it is displayed in a 3D simulation that uses DI-Guy characters.

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- The DI-Guy Characteristics set data request applies only to lifeform entities.
- The Apply Selected Appearance Immediately check box gives you the option to update the selected entity with the new appearance as you make selections. When the check box is selected, clicking Cancel does not reset the appearance to what it was before you made changes. You can only see the changes in the 3D view.

► **To set DI-Guy appearance, head, or body weight:**

1. Select the entity.
2. Choose **Set > Appearance > DI-Guy Characteristics**. The DI-Guy Characteristics dialog box opens.
3. Optionally, select the Apply Selected Appearance Immediately check box. This makes the changes before you click OK.
4. Optionally, filter the appearance list by choosing options in the various filter lists.
5. To change the appearance, select an appearance from the DI-Guy Appearance list.
6. To change the head, select an option in the DI-Guy Head list.

7. To change the weight of the character, slide the DI-Guy Body Weight slider or change the value in the text box (the range is 0.5 - 5.0).
8. Click OK.

2.26. DI-Guy Hand Item

The DI-Guy Hand Item set data request lets you change the hand item that a character has. DI-Guys can have a variety of hand items. For example, a civilian can have a cell phone, a pistol, or a camcorder, while a soldier can have a variety of weapons.

► **To set a DI-Guy's hand item:**

1. Select the entity.
2. Choose **Set > Appearance > Hand Item**. The DI-Guy Hand Item dialog box opens.
3. Select a hand item from the list.
4. Optionally, in the 3D view only, select the Apply Selected Hand Item Immediately check box. This displays the selected entity with the new hand item so that you can see what it looks like before you apply the change.
5. Click OK.

2.27. Disembarked

The Disembarked set data request immediately disembarks a simulation object (as opposed to simulating disembarkation, as done by the Disembark task). It is the equivalent of the **Objects > Disembark** command. However, Disembarked allows you to include immediate disembarkation in a plan.

► **To set a simulation object to be disembarked:**

1. Select the simulation object. (If you are using the 2D icon model, embarked simulation objects are not displayed, so you have to select it in the Objects List Panel.)
2. Choose **Set > Embarkation > Disembarked**.

2.28. Embarked

The Embarked set data request immediately embarks a simulation object (as opposed to simulating embarkation, as done by the Embark task). It is the equivalent of the **Objects > Embarkation > Embark On** command. However, Embarked allows you to include immediate embarkation in a plan.

The default location for this set data request is the center of the parent simulation object (0,0,0). It does not use preconfigured slots like the Embark task does. If you are using a Stealth observer mode and want placement of embarked simulation objects to look good, you will have to calculate offsets for each simulation object you embark.



If you are using HLA and want to use the embarkation feature, you must use RPR FOM 2, draft 17 or later.

► **To set a simulation object to be embarked:**

1. Select the simulation object to be embarked.
2. Choose **Set > Embarkation > Embarked**. The Embarked dialog box opens.
3. Select the simulation object to embark on.
4. Optionally, specify an embarkation offset.
5. Click OK.

2.29. Emergency Beacon

The US Air Force human entity is equipped with an emergency transponder, which can be turned on or off by using the Emergency Beacon set data request. When the transponder is on, it is easier for an entity with the Search and Rescue Sensor to identify. Even if the transponder is off, however, the sensor can detect it when the sensor is close to the transponder. (Detecting the transponder is limited by the sensor's maximum range.)

► **To turn an emergency beacon on or off:**

1. Select the entity.
2. Choose **Set > Sensors > Emergency Beacon**. The Emergency Beacon dialog box opens.
3. From the Emergency Beacon list, select either On or Off.
4. Click OK.

2.30. Emitter

The Emitter set data request enables or disables the publication of emitter data for simulation objects that have emitters. This models basic electromagnetic emissions.

Some sensors have an active emitter system that you must enable for the sensor to detect targets. The emitters publish one or more beams with the sensor-specific data to the network. That information displays in the entity's information dialog under Emitters. Currently, three types of sensors use emitter systems: active radar, jamming radar, and active sonar.

Emission properties (azimuth, elevation, effective radiated power, and so on) for each beam are specified in the sensor component descriptor in the object parameter database. Emission properties are published by the sensor component. A sensor component can publish its emission data as a standard beam type or a tracking beam type.

- ❗
 - Setting a target does not cause the beam to actually track the target. The beam's behavior is determined by the parameters in its description in the object parameter database.
 - The emitter continues to publish the targeted entity as its tracking target until you set another target, regardless of the status of that entity in the exercise. There is no way to set the target to "none".
 - See "Configuring Emitters" for an explanation of how to configure individual and multiple emitters in the object parameter database.

► **To turn on electromagnetic emissions:**

1. Select the simulation object.
2. Choose **Set > Sensors > Emitter**. The Emitter dialog box opens.
3. Select the Radar ID from the list, or you can choose All.
4. In the Emitter list, select On.
5. Click OK.

2.31. Engagement Zones

The Engagement Zone set data request lets you associate one or more engagement zones with a simulation object.

► **To associate a simulation object with an engagement zone:**

1. Select the simulation object.
2. Choose **Set > Engagement > Engagement Zones**. The Engagement Zones dialog box opens.
3. Select one or more engagement zones in the list.
4. Click OK.

2.32. Force

You can change a simulation object's force during runtime. This might be useful in a simulation in which neutral forces begin assisting one force or another, or in which opposing forces capture friendly force weaponry and begin using it. You can also set the force for combat engineering objects in aggregate-level scenarios.

When you change a simulation object's force, its:

- Echelon ID changes to reflect the new force.
- Icon changes to the appropriate force color and type.
- Force ID changes.

The entity enumeration does not change.

► **To set the force of an object:**

1. Choose **Set > Disposition > Force**. The Force dialog box opens.
2. Select a force from the list.
3. Click OK.

2.33. Formation

VR-Forces supports these formations:

- Column (default)
- Line
- Wedge
- Vee
- User-defined formations

Formations are defined in formation files in the directory `./data/simulationModelSets/<model_set>/vrfSim/formation`. Formation files have the extension `.frm`. In addition to the named formations provided by MAK, VR-Forces supports user-defined formations. If you create a new formation in the Simulation Object Editor, it is automatically added to the formation list for the unit types that support it. For information about configuring formations and about how to create user-defined formations, see "Configuring Formations".

 The vee and wedge formations provided with VR-Forces place the unit leader at the end of one of the arms of the formation. If a unit has fewer than seven or eight members, it will not be symmetrical.

When you set the formation for a unit, the simulation objects that make up the unit snap to formation immediately. If you want simulation objects to simulate moving into formation, rather than snapping to formation, use the Move Into Formation task.

► **To set a unit's formation:**

1. Select the unit whose formation you want to set.
2. Choose **Set > Unit > Formation**. The Formation dialog box opens.
3. In the Formation list, select the formation that you want the unit to use.
4. Click OK.

2.34. Freeze Fuel Levels

You can set an entity to stop depleting fuel by freezing the resource. The entity behaves normally in the scenario; it simply no longer expends its fuel resources as it moves.

► **To freeze or unfreeze an entity's fuel levels:**

1. Select the entity.
2. Choose **Set > Action > Freeze Fuel Levels**. The Freeze Fuel Levels dialog box opens.
3. In the Freeze Fuel Levels list, select Yes or No.
4. Click OK.

2.35. Freeze Movement

The Freeze Movement request freezes an entity's movement system. It prevents any physics- or simulation-related change to the object's spatial attribute (location in the simulated world). The end user can move the entity within the UI, but during the normal simulation the entity publishes the same location and orientation.

Tasks that require an entity to move, such as Move to Location, pause while Freeze Movement is set to Yes. The entity's other systems, such as weapons, remain active, and the entity will attempt reactive tasks that do not require a spatial change. For example, a tank's turret may move to fire, a soldier may move his arms to aim a weapon, and so on.

► **To freeze or unfreeze an entity's movement:**

1. Select the entity.
2. Choose **Set > Action > Freeze Movement**. The Freeze Movement dialog box opens.
3. In the Freeze Movement list, select Yes or No.
4. Click OK.

2.36. Freeze Munition Levels

You can set an entity to stop depleting munitions by freezing the resource. The entity behaves normally in the scenario; it simply no longer expends munitions while using its weapon(s). This includes countermeasures.

► **To freeze or unfreeze an entity's munition levels:**

1. Select the entity.
2. Choose **Set > Action > Freeze Munition Levels**. The Freeze Munition Levels dialog box opens.
3. In the Freeze Munition Levels list, select Yes or No.
4. Click OK.

2.37. GPS Jammer

The GPS Jammer set data request enables and disables GPS jamming for an entity equipped with the GPS Jammer system. This causes air entities with the GPS Receiver system—such as aircraft, UAVs, and missiles—to perceive that their current location is different from that of their ground truth and, as a result, go off course.

The offset vector that determines how the jammed entity's perceived location differs from its true location is calculated based on:

- The power of the GPS jammer
- The distance of the jammed entity from the jamming entity

► **To set the jammer state:**

1. Select the entity.
2. Choose **Set > Jammer > GPS Jammer**. The Set GPS Jammer parameters display.
3. From the Operational Status list, select On or Off.
4. Click OK.

2.38. Ground Clamp Fidelity

By default, individual human entities clamp to the ground with high fidelity, so that they move around on the terrain in a realistic manner. You can set human entities to clamp with low fidelity, clamping them to the navigation mesh instead of the terrain. This improves performance but the human characters can appear to move through the terrain instead of on it. For performance reasons, when you add a crowd simulation object, the entities in it default to low fidelity clamping.

Low fidelity clamping only works in navigation areas. If there is no navigation area specified for the terrain, the human entities use high fidelity clamping.

► **To set the ground clamp fidelity for human entities:**

1. Select the entity or entities.
2. Choose **Set > Action > Ground Clamp Fidelity**. The Ground Clamp Fidelity dialog box opens.
3. In the Ground Clamp Fidelity list, select Low or High.
4. Click OK.

2.39. Heading

The Heading request instantly sets a simulation object's heading. If you want a simulation object to move to a new heading by pivoting or executing a K-turn, use the Turn To Heading task. You can also set a simulation object's heading manually. For details, see "Specifying an Object's Heading Dynamically".

► **To set an object's heading:**

1. Select the simulation object.
2. Choose **Set > Position > Heading**, or click the Heading button () on the Sets Toolbar or the Last Selected Object panel. The Heading dialog box opens. It displays the simulation object's current heading.
3. In the Heading text box, enter a heading.
4. In the Relative To list, select one of:

- True North. Turn to the specified absolute heading.
- Magnetic. Turn to the specified heading relative to magnetic north.
- Host Object (if embarked). If embarked, turn to the specified heading relative to the host simulation object.
- Current Heading. Turn the specified number of degrees relative to the current heading.

5. Click OK.

2.40. Hide Occupants

The Hide Occupants set data request overrides the Show Occupants setting on the Entity Display Settings page for the entity for which you set it. VR-Forces can automatically a human in the driver or pilot's seat of a vehicle. These occupants are not simulated objects; they are simply visualized. You might want to disable this setting for performance reasons or because you are embarking a simulated person in the vehicle. You can also set a vehicle to display the occupant that you previously set to be hidden.

For more information about the global setting for displaying occupants in a vehicle, see "Displaying DI-Guys in Vehicles".

► To display or hide occupants of a vehicle:

1. Select the simulation object.
2. Choose **Set > Appearance > Hide Occupants**. The Hide Occupants dialog box opens.
3. Select an option in the Occupant Visibility list.
 - Hide Occupants. Hides the driver or pilot.
 - Show Occupants. Displays the occupant that was previously set to hidden.
4. Click OK.

2.41. IFF

Aircraft can model a NATO Identification Friend or Foe (IFF) transponder.



- VR-Forces implements the NETN FOM, based on RPR FOM 2.0, with IFF extensions from RPR FOM 3.0. If you use HLA Evolved, use the FOM provided by MAK.
- The dialog box does not force you to enter valid codes. It truncates invalid entries to the correct length (but not necessarily valid data).
- When you open the dialog box, it reflects the current IFF settings for the entity, if any.
- You can view an entity's IFF settings on the IFF tab of its Information dialog box.

If an aircraft has an IFF Code Changer system and it enables the IFF Code Changer reactive task, its IFF code changes every 30 minutes based on the entries in a CSV file. By default, entities are not configured with this system and the task is inactive. A sample CSV file is provided: `./data/simulationModelSets/EntityLevel/extra/iff-codes.csv`.

► **To set the IFF transponder:**

1. Select the entity.
2. Choose **Set > Sensors > IFF**. The appropriate IFF dialog box opens (either Figure 1 or Figure 2 below).

Figure 1. IFF dialog box (military aircraft)

The IFF dialog box for military aircraft is divided into three main sections: Mode 1, Mode 2, and Mode 3/A. Each section has a 'CODE' field. Mode 1 has a 'CODE' field with '00'. Mode 2 has a 'CODE' field with '0000'. Mode 3/A has a 'CODE' field with '0000'. There are also checkboxes for 'Mode 3/C', 'Emergency', 'I/P Pulse Control', 'Unmanned Aircraft', and 'Pin Command'. The 'Mode S' section includes a 'Squitter On' checkbox, 'Aircraft Address (Hex)' field, 'Aircraft Identification Type' dropdown, 'Aircraft Identification' field, 'Capability Report' dropdown, and 'Aircraft Present Domain' dropdown. The 'Mode 5' section includes a 'Squitter On' checkbox, 'Mode 5 Level Selection' dropdown, 'Antenna Selection' dropdown, 'Mode 5 IFF Mission' dropdown, 'National Origin' field, 'Mode 5 Platform Type' dropdown, 'PIN' field, 'Pseudo Code (Hex)' field, 'Figure of Merit' field, and 'Navigation Source' dropdown. The 'TCAS' section includes a 'TCAS I/II Type' dropdown. The dialog box has 'OK' and 'Cancel' buttons at the bottom right.

Figure 2. IFF dialog box (civilian aircraft)

The IFF dialog box for civilian aircraft is similar to the military version but with some differences. It has 'Mode 3/A' and 'Mode 3/C' sections, each with a 'CODE' field. 'Mode 3/A' has a 'CODE' field with '0000'. 'Mode 3/C' has a 'CODE' field with '0000'. There are also checkboxes for 'Emergency', 'I/P Pulse Control', 'Unmanned Aircraft', and 'Pin Command'. The 'Mode S' section includes a 'Squitter On' checkbox, 'Aircraft Address (Hex)' field, 'Aircraft Identification Type' dropdown, 'Aircraft Identification' field, 'Capability Report' dropdown, and 'Aircraft Present Domain' dropdown. The 'TCAS' section includes a 'TCAS I/II Type' dropdown. The dialog box has 'OK' and 'Cancel' buttons at the bottom right.

3. Fill out fields as desired.
4. Click OK.

i You can use this set data request for an entity that does not exist yet, such as an entity that will be created by a Spawn Pattern's spawn point. In that case, the request assumes that all IFF modes are supported by the entity, even if the created entity does not.

2.42. Invisible

The Invisible set data request causes simulation objects to be invisible on the map display in 2D or 3D. They are still listed in the Objects List Panel.

► **To set a object to be invisible:**

1. Select the simulation object.
2. Choose **Set > Appearance > Invisible**. The Invisible dialog box opens.
3. Select an option from the Invisible list.
4. Click OK.

2.43. Invulnerable

If a simulation object is invulnerable, it does not take damage from munitions.

► **To set an object to be invulnerable:**

1. Select the entity.
2. Choose **Set > Disposition > Invulnerable**, or click the Invulnerable button (). The Invulnerable dialog box opens.
3. Select an option from the list.

2.44. Jammer State

The Jammer State set data request enables and disables radar jamming for an entity. For more information about jamming, see "Electronic Warfare".

► **To set the jammer state:**

1. Select the entity.
2. Choose **Set > Jammer > Jammer State**. The Jammer State parameters display.
3. From the State list, select On or Off.
4. Click OK.

2.45. Jamming Mode

The Jamming Mode set data request lets you specify the emitter ID for a jammer and the mode it uses. The options are:

- Deception jamming
- Mixed mode jamming
- Mixed noise

For more information about jamming, see "Electronic Warfare".

► **To specify the jamming mode:**

1. Select the jamming entity.
2. Choose **Set > Jammer > Jamming Mode**. The Jamming Mode dialog box opens.
3. The Emitter ID is Jamming Emitter.

4. Select a mode in the Mode list.
5. Click OK.

2.46. Laser Code

The Laser Code set data request sets the code for laser beams sent by an entity and the code that the entity's missiles seek when they fire. By default, VR-Forces calculates a laser code for each laser-capable entity when it is created. You can change the laser code to a code of your choice. For information about the consequences of setting laser codes, see "Lasing Targets".

► **To set a laser code:**

1. Select the entity.
2. Choose **Set > Laser Designator > Laser Code**. The Laser Code dialog box opens.
3. Type a number between 1111 and 1788, using only the digits 1-8.
4. Click OK.

2.47. Laser Power and Wavelength

The Laser Power and Wavelength set data request lets you specify the power and wavelength for a laser designator. VR-Forces does not use these settings when it simulates laser designators. However the information is sent over the network for use by applications that can use it. For example, the color of the laser designator can be set based on the wavelength if it is visualized in another application.

The dialog box does not report the current value, so if you only want to change one value, set the other one to -1 to keep the current value.

► **To set the laser power and wavelength for a lasing entity:**

1. Select the entity.
2. Choose **Set > Laser Designator > Laser Power and Wavelength**. The Laser Power and Wavelength dialog box opens.
3. Specify the Power value, in watts. Setting it to -1 preserves the current value.
4. Specify the Wavelength value, in microns. Setting it to -1 preserves the current value.
5. Click OK.

2.48. Loadout

The F/A-18 Hornet is able to use the Loadout set data request, which changes the number of different kinds of missiles currently loaded on the entity. This enables you to change the missiles available for use by the entity during the course of a simulation.

You can use `./data/simulationModelSets/EntityLevel/scripts/set-loadout.lua` as an example for creating your own script to change the current missile loadouts for an entity.

Table 1. Loadout settings

Loadout	Missile Distribution
Default	• Maverick = 2 • Sidewinder = 2 • AMRAAM = 2 • Harpoon = 0
Intercept	• Maverick = 0 • Sidewinder = 2 • AMRAAM = 6 • Harpoon = 0
Surface	• Maverick = 0 • Sidewinder = 0 • AMRAAM = 2 • Harpoon = 4
Ground	• Maverick = 4 • Sidewinder = 0 • AMRAAM = 2 • Harpoon = 0

► **To set the missile loadout for an F/A-18 Hornet:**

1. Select the entity.
2. Choose **Set > Disposition > Loadout**. The Loadout dialog box opens.
3. Specify the Loadout. Table 1 shows the missile counts in each setting.
4. Click OK.

2.49. Location

To move a simulation object instantly from one place to another, you can set its location or you can drag it to a new location. For information about dragging simulation objects, see "Dragging an Object to a New Location". For ground entities, specifying an altitude lets you place an entity at different levels (floors) in buildings that have interior geometry.

► **To set location:**

1. Select the simulation object.
2. Choose **Set > Position > Location**. The Location dialog box opens. It displays the simulation object's current location. The cursor changes to input mode.

3. Specify the location where you want to move the simulation object. You can click on the terrain or expand the location group box by clicking the arrow next to the coordinates and altitude to enter a specific location.
4. Optionally, set the altitude, as described in "Specifying an Object's Altitude".
5. Click OK.

2.50. Look At

The Look At set data request tells a human entity to look at a point, an object, or an angle. This set causes the entity's head to move, not its body. It will move up to 90 degrees to either side (azimuth) and up to 45 degrees of elevation (where looking straight ahead is 0 degrees). If the target object or location is at a greater angle than the maximum allowed amount, the head does not turn.

 The range of head motion is configurable in `./data/simulationModelSets/EntityLevel/vrfSim/platforms/human.ope` in the **look-at-actuator**. It is specified in radians.

You can also use this set data request to stop the look at behavior.

► **To have an entity look at a location or object:**

1. Select the entity.
2. Choose **Set > Action > Look At**. The Look At dialog box opens.
3. Select the Look At option you want.
4. Specify the appropriate parameter for the aiming choice:
 - Look at Point – specify the location.
 - Look at Object – select the object.
 - Look at Angle – specify the azimuth (heading) and elevation.
 - Cease Looking – no parameters required.
5. Click OK.

2.51. Markings

Some vehicles are configured with texture maps that let you dynamically change exterior markings, such as a national flag, unit type, and other emblems. You can change the markings at run time. Figure 3 shows a C-130 aircraft with U.S.A.F. markings and desert camouflage, and the same model with R.A.F. markings and forest camouflage.

Figure 3. Changing markings



If you assign this set to a unit, the markings are passed to its subordinates.

For details about configuring markings, please see "Specifying Visual Markings", and also "[Adding Dynamically Changeable Markings to Models](#)" in the *Adding Content to MAK ONE Applications Reference Manual*.

► **To set a simulation object's markings:**

1. Select the entity.
2. Choose **Set > Appearance > Markings**. The Markings dialog box opens.
3. In each list, select the markings that you want to set for this object.
4. Click OK.

2.52. Name Tag

For soldier entities, you can set a name tag to display on the soldier's chest. The default is "SMITH". The name tag can display up to 31 characters. It is case sensitive, displaying both upper- and lower-case characters. At this time, you cannot specify a name for all soldier characters.

The Update Name Tag Immediately check box allows you to specify whether you want the name to update as you enter it. If this is selected, you might notice some flickering while you type. If you clear the check box, the name displays when you click OK.

You can also specify a rank and unit, as described in "2.64. Rank Patch" on page 35 and "2.94. Unit Patches" on page 48.

► **To specify a soldier's name:**

1. Select the soldier entity.
2. Choose **Set > Appearance > Name Tag**. The Name Tag parameters display.
3. Optionally, clear the Update Name Tag Immediately check box.
4. Enter the desired name.
5. Click OK.

2.53. Navigation Enabled

By default, ground vehicles and humans use the navigation data in navigation areas to plan movement. The Navigation Enabled set data request lets you disable use of navigation data.

Navigation is disabled on a per-entity basis. If you disable navigation for an entity, other entities still treat that entity as an obstacle for navigation purposes.

► **To enable or disable use of navigation data:**

1. Select the entity.
2. Choose **Set > Action > Navigation Enabled**. The Navigation Enabled dialog box opens.
3. Select an option from the Enabled list.
4. Click OK.

2.54. Navigation Preferences

The Navigation Preferences set data request allows you to specify that when an entity plans its path using navigation data, it should take into account road data, if it is available.

When an entity is set to Prefer Roads, the entity gives preference to all segments along the preferred graph over those on the non-preferred movement graph. This is typically used to have vehicles prefer movement along roads, rather than cutting across open terrain, even if the distance along roads is longer.

If the movement mode is Avoid Roads, entities try not to move along roads. If they must cross a road, they take the shortest path across the road.

Entities can also ignore roads.

You can configure an entity to start up with a navigation preference or to ignore roads by editing the **initial-road-preference** parameter in the **navigation-preference** controller in the movement system definition file for this entity type.

► **To set navigation preferences:**

1. Select the entity.
2. Choose **Set > Action > Navigation Preferences**. The Navigation Preferences dialog box opens.
3. To have the entity take road data into account, select Prefer Roads or Avoid Roads from the Navigation Preferences list. To have an entity plan its path as if there were no road data, select Ignore Roads.
4. Click OK.

2.55. Navigation Priority

The Navigation Priority set data request allows you to specify whether the entity should have more time for path planning. High priority entities have more path planning time than low priority entities, allowing them to move more effectively. By default, crowds are set to low and all other entities are set to high.

► **To set navigation priority:**

1. Select the entity.
2. Choose **Set > Action > Navigation Priority**. The Navigation Priority dialog box opens.
3. To give the entity higher priority for path planning time, select High Priority from the list. To reduce the time the entity has for path planning, select Low Priority.
4. Click OK.

2.56. Notify Level

You can set the notification level for simulation object console messages without opening the Information dialog box. You can also set the notification level for combat engineering objects in aggregate-level scenarios.

► **To set the notification level:**

1. Choose **Set > Other > Notify Level**. The Notify Level dialog box opens.
2. Select a notification level in the list.
3. Click OK.

2.57. Orbit

The Orbit set data request lets you specify the orbit for a satellite. You can specify a Kepler orbit or a geostationary orbit. Kepler orbits are specified by two-line elements. They are available at <http://celestrak.org> and <https://www.space-track.org>.

► **To set the orbit for a satellite:**

1. Select the satellite.
2. Choose **Set > Position > Orbit**. The Orbit dialog box opens.
3. To set a Kepler orbit:
 - a. Select the Kepler Orbit option. The input window is enabled.
 - b. Paste in the two-line element that you want to use.
4. To set a geostationary orbit:
 - a. Select the Geostationary Orbit option.
 - b. Type the longitude of the orbit, in degrees.
5. Click OK.

2.58. Ordered Speed

The ordered speed is the speed at which you want a simulation object to move. It may not move at that actual speed due to soil type, slope, and so on. In aggregate-level scenarios, speed may be affected by modifiers. If you set the speed while a simulation object is moving, it accelerates or decelerates from the current speed to the new ordered speed, if it can.

A negative value causes the entity to go backwards if it supports backwards movement.



- Regardless of the speed that you enter, a simulation object's speed cannot exceed the value set by the **max-speed** parameter in the object parameter database.
- The Ordered Speed request sets the ordered speed of a fixed-wing entity in its current context – air or ground. The entity will not exceed the maximum speed for that context. However, if the maximum allowable ground speed is greater than the lift speed of the entity, and you assign an ordered speed greater than the lift speed, when the entity reaches that speed, it tries to take off.
- If you want a simulation object's speed to change instantly, use the Current Speed set data request ("2.22. Current Speed" on page 15).
- If a simulation object is not moving, this set data request has no effect.
- You can quickly change the ordered speed for an aircraft or marine entity using the Entity Control Panel. For details, see "Assigning Tasks Using the Entity Control Panel".
- During a session, the speed measurement for aircraft entities defaults to the one you last specified in the Ordered Speed dialog box. This allows you to easily use the same speed for multiple entities.

► **To set the ordered speed of an object:**

1. Select the simulation object.
2. Choose **Set > Action > Ordered Speed**. The Ordered Speed dialog box opens.
3. In the Ordered Speed text box, set the speed.
4. For aircraft entities, specify the measurement of the speed: Ground Speed, TAS (true airspeed), IAS (indicated air speed), or Mach.
5. Click OK.

2.59. Pitch

Some simulation objects allow you to set the pitch. The Pitch request instantly sets a simulation object's pitch. You can also set a simulation object's pitch manually. For more information, see "Specifying an Object's Pitch Dynamically".

► **To set an object's pitch:**

1. Select the simulation object.
2. Choose **Set > Position > Pitch**. The Pitch dialog box opens, displaying the simulation object's current pitch.
3. In the Pitch text box, type a pitch, in degrees. You can enter a number between 90 and -90.
4. Click OK.

2.60. Posture (Human)

A human entity (civilian or dismounted infantry) has a posture that determines its position when it is not moving and its type of movement when it is moving. Table 2 lists the position and movement relationships for each posture.

Table 2. Posture relationships

Posture	When it is not moving, it is:	When it is moving, it is:
standing	standing	walking or running
kneeling	kneeling	crawling
prone	prone	crawling
running	standing	walking or running
walking	standing	walking or running
crawling	prone	crawling
parachuting	standing	walking or running
jumping	standing	walking or running
sitting	standing	walking
squatting	prone	crawling
crouching	prone	crawling
wading	standing	walking or running



- For those postures listed as "walking or running", VR-Forces sets the movement posture based on the entity's speed.
- If an entity does not support a particular posture, it is set to the closest supported posture.
- Setting posture in the Lifeform State field of the Appearance dialog box has the same effect as setting the posture using the Posture set data request.
- Some embarkation slots specify the posture of occupants.

► To set a lifeform's posture:

1. Select the lifeform.
2. Choose **Set > Action > Posture**. The Posture dialog box opens.
3. Select a posture from the list.
4. Click OK.

2.61. Preferred Trajectory Height

The Preferred Trajectory Height set data request specifies the preferred height for indirect fire munitions, such as Fire for Effect tasks and munitions that are not triggered by a task. Indirect fire tasks override the preferred trajectory height if they need to use a different trajectory to hit the target.

► **To specify a preferred trajectory height:**

1. Select an entity that has indirect fire capability.
2. Choose **Set > Engagement > Preferred Trajectory Height**. The Preferred Trajectory Height dialog box opens.
3. Specify the desired altitude.
4. Click OK.

2.62. Promote From Clutter

You can take a clutter object and convert it an entity, which you can then assign tasks, set data requests, and so on. Clutter objects are created by Aircraft Clutter Area and Ship Clutter Area. Once you promote it, you cannot demote it to its previous existence as a clutter object.

► **To promote a clutter object to an entity:**

1. Select the clutter object.
2. Choose **Set > Promote From Clutter**.

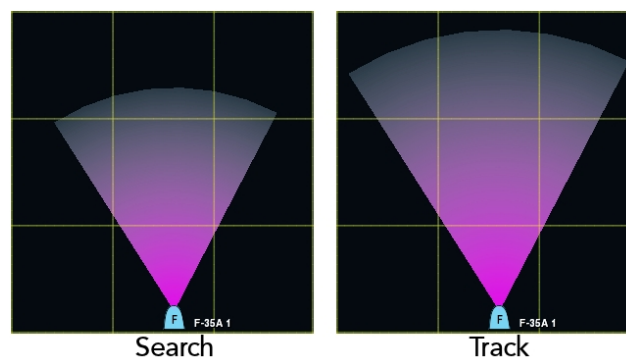
i You can also click Promote from Clutter () on either the Last Selected Object or Command Panel.

2.63. Radar Mode

Use the Radar Mode set data request to change the type of beam that an entity emitter publishes. By default, each fixed-wing aircraft has one emitter that has two beam types, search and track.

Figure 4 illustrates the difference in appearance between the beams for the two radar modes in the 2D view. (The beams do not display unless you enable Show Emitter Volumes in Entity Display Settings.)

Figure 4. Radar mode beams



For more information about emitter beams, see "Configuring Emitters".

► **To set the radar mode:**

1. Select the entity whose radar mode you want to set.
2. Choose **Set > Sensors > Radar Mode**. The Radar Mode dialog box opens.
3. If the entity has more than one emitter, select the emitter ID you want to set in the Emitter ID list.
4. Select the mode in the Mode list.

i You can use this set data request for an entity that does not exist yet, such as an entity that will be created by a Spawn Pattern's spawn point. In that case, the Emitter ID and Mode options are free text boxes. You are responsible for entering values that are supported by the entity, otherwise the set data request will fail.

2.64. Rank Patch

For soldier entities, you can set a rank patch to display. At this time, not all soldiers are configured with ranks.

The Apply Selected Patch Immediately check box allows you to specify whether you want the patch to update when you select it. This is selected by default. If you clear the check box, the rank patch changes after you click OK.

You can also specify a name and unit, as described in "2.52. Name Tag" on page 29 and "2.94. Unit Patches" on page 48.

► **To specify a soldier's rank:**

1. Select the soldier entity.
2. Choose **Set > Appearance > Rank Patch**. The Rank Patch parameters display.
3. Optionally, clear the Apply Selected Patch Immediately check box.
4. Select the desired rank from the list.
5. Click OK.

2.65. Remote Sensor

The Remote Sensor set data request lets an entity use another entity's sensors to discover sensor contacts. This set data request is only available to entities that have a Remote Sensor Receiver system.

An example of using a remote sensor is the Patriot Missile Battery. The Patriot Engagement Control System has a Remote Sensor Receiver system. It receives spot reports from the Patriot Radar AN/MPQ-65.

► **To specify a remote sensor for an entity:**

1. Select the entity that needs to receive remote spot reports.
2. Choose **Set > Sensors > Remote Sensor**. The Remote Sensor dialog box opens.

3. Select the remote entity (the entity from which this entity wants to receive spot reports).
4. Click OK.

2.66. Remove Jamming Target

The Remove Jamming Target set data request tells an entity to stop jamming the specified target. You can only remove one target at a time using this set, but you can issue it multiple times to remove multiple jamming targets. The Remove Jamming Target dialog box lists all entities. There is no list available that only lists jamming targets.

► **To remove a jamming target:**

1. Select the entity that is jamming.
2. Choose **Set > Jammer > Remove Jamming Target**. The Remove Jamming Target dialog box opens.
3. Select the target to stop jamming.
4. Click OK.

2.67. Reorganize

If automatic reorganization is not enabled, you can reorganize a unit by issuing the Reorganize set data request.

► **To reorganize a unit:**

1. Select the unit that you want to reorganize.
2. Choose **Set > Unit > Reorganize**.

The change takes place immediately. For more information about reorganization, see "Reorganizing Units".

2.68. Resources

You can specify the value to assign to a resource. In entity-level scenarios, the resources provided with VR-Forces that you can set are fuel and ammunition. The object parameter database lists the ammunition types available for each type of simulation object. In aggregate-level scenarios a simulation object might not have any resources, depending on how it is configured in the Simulation Object Editor.

► **To specify a resource:**

1. Select the simulation object.
2. Choose **Set > Disposition > Resources**. The Resources dialog box opens.
3. Select a resource from the Resource list. The dialog box displays the maximum amount of the resource allowed, as configured in the object parameter database.
4. Specify a value for the resource.
5. Click OK.

2.69. Restore

Restoring a simulation object returns its resources to the default values specified in the Simulation Model Set. If the simulation object is destroyed, it returns it to life.

► **To restore an object:**

1. Select the simulation object.
2. Choose **Set > Disposition > Restore**.

2.70. Rules of Engagement

Rules of engagement specify the conditions under which a simulation object will fire at the enemy. The options are:

- **Fire at Will.** If an entity detects a target, it can fire automatically.
- **Fire When Fired Upon.** Do not fire at detected targets unless the simulation object has already been under fire.
- **Fire When In Engagement Zone.** If a detected target is in an engagement zone that is associated with the firing simulation object, it may fire at the target at will.
- **Fire on Priority Targets Only.** Fire only at targets in the simulation object's target priority list. See "2.87. Target Priority List - Add" on page 45 to learn how to add targets to the priority list.
- **Hold Fire.** Do not fire at targets.

 The rules of engagement for a fixed-wing entity are in effect whether it is on the ground or in the air. If you do not want fixed-wing entities to fire missiles while they are on the ground, you must change the rules of engagement.

► **To specify the rules of engagement:**

1. Select the simulation object.
2. Choose **Set > Engagement > Rules of Engagement**, or click the Rules of Engagement button () on the Sets Toolbar. The Rules of Engagement dialog box opens.
3. In the Rules of Engagement list, select the rule you want to apply.
4. Click OK.

2.70.1 How Fire-When-Fired-Upon Works

A simulation object considers itself under fire when:

- An "Entity Impact" detonation interaction that targeted this entity has recently (within **underFireTime** seconds (default 120)) been received.
- Any detonation has happened within **underFireDistance** (default 1000 meters) of this entity.

There is no attempt to return fire specifically at the attacking entity. If a simulation object thinks that it is under fire and is equipped with a weapon, it fires at any enemies that it can target.

i The **underFireTime** and **underFireDistance** parameters are part of the under-fire-determination-sensor component in a simulation object's platform (OPE) file.

2.71. Sector Blanking

When Sector Blanking is enabled, targets within the specified sector are not spotted. This set data request is available to simulation objects that have a radar sensor. Sector blanking parameters are stored on a per-entity basis and are saved in the scenario and checkpoint files.

Sectors are defined by a start azimuth and end azimuth. They are relative to the entity orientation, with 0 degrees being directly ahead.

► **To enable or disable sector blanking:**

1. Select a simulation object that has a radar sensor.
2. Choose **Set > Sensors > Sector Blanking**. The Sector Blanking dialog box opens.
3. Select or clear the Enable Sector Blanking check box.
4. If you enable sector blanking, specify a start azimuth and end azimuth, with 0 degrees being directly ahead of the simulation object.
5. Click OK.

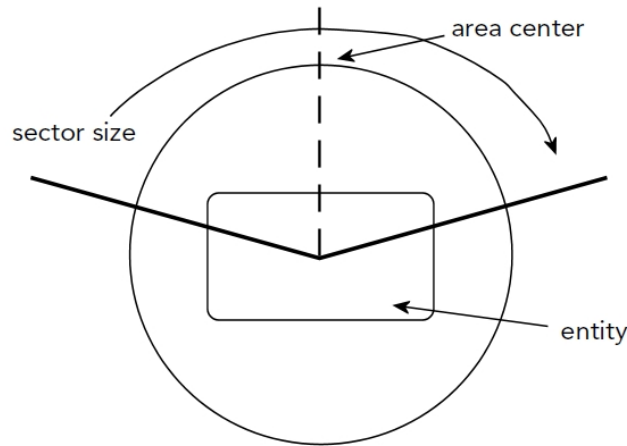
2.72. Sector of Responsibility

A simulation object's sector of responsibility is used with detection tables to determine the priority of targets. Normally, the priority of targets that are outside a simulation object's sector of responsibility is lower than the priority of targets in its sector of responsibility. For information about the target detection tables, see "Detection Tables".

You must specify a sector center and a sector size. Sector center is the center of the area you wish to designate, and sector size is the size of the area, both in degrees. Degrees are measured as 0 to the front (based on the heading), increasing clockwise. If the Turret Scan Controller is mounted on an entity with an articulating turret, then the turret scans the sector of responsibility specified. Sector center is the midpoint of the area. Figure 5 illustrates these parameters. The sector size is approximately 140 degrees, a bit less than half the circle. The sector center is at 0 degrees.

i The default sector of responsibility is 90 degrees, centered at zero degrees.

Figure 5. Sector of responsibility parameters



► **To set an object's sector of responsibility:**

1. Select the simulation object.
2. Choose **Set > Engagement > Sector of Responsibility**. The Sector of Responsibility dialog box opens.
3. In the Size text box, set the size of the area to be scanned, in degrees.
4. In the Center text box, set the center of the scan area, in degrees.
5. Click OK.

2.73. Sensor Aim

The Sensor Aim set data request specifies where a gimbaled sensor should look.

You can also aim a gimbaled sensor from the Sensor View Control Panel. For details, see "Controlling the Sensor View".

► **To aim a sensor:**

1. Select an entity that has a gimbaled visual sensor.
2. Choose **Set > Sensors > Sensor Aim**. The Sensor Aim dialog box opens.
3. Choose an aiming option and provide the required input:
 - Aim at Point. Click on the terrain or type in coordinates. By default, the altitude is the altitude of the entity.
 - Aim at Object. Select the simulation object to aim at.
 - Aim at Angle. Specify the Azimuth (the horizontal angle relative to the sensing entity) and elevation (the vertical angle that the sensor aims at).
 - Scan. By default, the sensor scans back and forth within a 180 degree range. You can change the elevation and azimuth angles in the gimbaled sensor system definition file.
4. Click OK.

2.74. Sensor Field of View Color

The Sensor Field of View Color set data request lets you override the color that VR-Forces automatically assigns to the field of view.

► **To specify the color of a sensor field of view:**

1. Select an entity that has a sensor.
2. Choose **Set > Sensors > Sensor Field of View Color**. The Sensor Field of View Color dialog box opens.
3. In the Sensor list, select the sensor you want to specify the color of.
4. Click the color swatch. A color picker dialog box opens.
5. Select the color you want.
6. Click OK to close the color picker.
7. Click OK.

2.75. Sensor Zoom

The Sensor Zoom set data request lets you change the field of view of a gimbaled visual sensor, essentially zooming in on the aim point.

You can also zoom a gimbaled sensor from the Sensor View Control Panel. For details, see "Controlling the Sensor View".

► **To zoom a visual sensor:**

1. Select the entity whose sensor you want to zoom.
2. Choose **Set > Sensors > Sensor Zoom**. The Sensor Zoom dialog box opens.
3. If the entity has more than one sensor, in the Sensor list, select the sensor you want to zoom.
4. Type the zoom level you want or drag the slider.
5. Click OK.

2.76. Set TACAN Transmitter

The Set TACAN Transmitter set data request allows you to set fixed-wing aircraft and TACAN Ground Station entities to publish tactical air navigation aids. These are published on the network as a type of radio transmission.

► **To set the TACAN transmitter:**

1. Select the entity.
2. Choose **Set > Sensors > Set TACAN Transmitter**. The Set TACAN Transmitter dialog box opens.
3. From the Operational Status list, choose either On or Off.
4. Enter an identification code.
5. Enter a channel number between 1 and 126.

6. In the list next to Channel, select X or Y to indicate the pulse band.
7. Click OK.

2.77. Skill Level

The Skill Level set data request allows you to specify an entity's level of skill with hand-held or ballistic weapons systems. There are three levels: Novice, Experienced, and Expert. The skill level is a modifier on the probability of a hit for hand-held or ballistic weapons. On indirect fire, it acts as a modifier on the error of the shot. The default skill level for all simulation objects is Expert.

Each weapon system has a configurable maximum effect that the skill level can have on its probability. For example, a weapon with built-in corrections would not be affected as much as a hand-held M16. The skill level is a percentage modifier that is applied to the probability to hit. The maximum effect can be set differently for different weapon systems in the Simulation Object Editor. If the maximum effect is set to .20 (20%), then the probability can shift as much as 20% for a novice, 10% for an experienced entity, and 0% for an expert.

In addition, the modifier affects the three positional errors on indirect artillery and mortars, which are also set in the Simulation Object Editor. The error of indirect fire is set to be close to standard error data points. You can also edit the object to vary the error of indirect fire based on the range at which the munition is being fired.

► **To set an entity's skill level:**

1. Select the entity whose skill level you want to adjust.
2. Choose **Set > Disposition > Skill Level**. The Skill Level dialog box opens.
3. In the Skill Level list, select the level that you want the entity to have.
4. Click OK.

2.78. Sonar Depth

The Sonar Depth set data request lets you set the depth at which an entity's sonar operates. This allows you to simulate a helicopter dipping a sonar sensor into the water or a vessel dipping a sensor to a lower depth. Since sonar only works when the sensor is in the water, setting the sonar depth is the only way for helicopter-born sonar to work.

The sonar stays at this depth regardless of the altitude or depth of the entity. If you set the depth to be the depth of the entity with the Use Entity Depth option, it has the effect of retracting the sonar. If you set the sonar to the depth of the entity and the entity changes depth, the sonar stays at the assigned depth.

► **To set sonar depth:**

1. Select the entity.
2. Choose **Set > Sensors > Sonar Depth**. The Sonar Depth dialog box opens.
3. Specify the depth.
4. Optionally, select Use Entity Depth to set a dipped sonar to the depth of the entity.
5. Click OK.

2.79. Spot Reports

A spot report is a report by a simulation object to members of its force that it has detected a member of another force. You can use spot reports for display only (meaning you see spot-reported entities but members of your force are not aware of them), or for avoidance and targeting (meaning members of your force can "see" them too).

For display purposes, you can set spot reports on or off for all simulation objects (global setting) from the Spot Report Settings page of the Application Settings dialog box. For more information about spot reports, including setting them globally, see "Displaying Spot-Reported Simulation Objects".

For avoidance and targeting purposes, you must enable the display of spot-reported simulation objects as described in "Displaying Spot-Reported Simulation Objects", and also set each simulation object you want to avoid/target either to broadcast spot reports or to send spot reports to particular simulation objects in your force, as described here. That is to say, you must set entities of Force A to send spot reports about Force B to allow Force A's entities to avoid/target the entities of Force B

 You cannot set a unit in an entity-level scenario to send spot reports; you can only set spot reports for individual simulation objects. However, you can select multiple individual simulation objects and set spot reports for all of them at the same time.

► **To set spot reports on or off:**

1. Select the simulation object.
2. Choose **Set > Sensors > Spot Reports**. The Spot Reports dialog box opens. If you are turning spot reports off, skip to step 5.
3. Select one of these options:
 - Only to GUI. Send spot reports only to the GUI. Do not send spot reports to other sim. engines or to other simulation objects. This option can improve performance. However, since entities do not receive the spot reports, they cannot use that information for targeting purposes. Choose this option if you simply want to display the objects sensed by this entity.
 - Broadcast. Send spot reports to all simulation objects in the same unit as the entity sending the spot report. (This is based on the behavior of radio messages because spot reports are transmitted as radio messages.)
 - Send to Specific Entities. Send spot reports to simulation objects that you specify.
 - Superiors and Peers. Send spot reports to simulation objects in the same unit.
4. If you selected Send to Specific Entities, the simulation object list is enabled. Select the simulation objects to which you want this simulation object to send spot reports.
5. Select an option from the Spot Reports Enabled list. If you choose On or Off, the setting persists regardless of the global spot report setting. If you want the simulation object to use the global spot report setting, choose Use Global Setting.
6. Click OK.

2.80. Stow Hand Item

The Stow Hand Item set data request hides or displays a hand item for a human character.

► **To stow or display a hand item:**

1. Select the entity.
2. Choose **Set > Appearance > Stow Hand Item**. The Stow Hand Item dialog box opens.
3. In the Stow Item list, select Yes or No.
4. Click OK.

2.81. Subsystem Enabled

The Subsystem Enabled set data request enables or disables one of the entity's subsystems. Only certain subsystems can be enabled or disabled, such as sensors and weapons.

► **To enable or disable a subsystem:**

1. Select the entity.
2. Choose **Set > Subsystems > Subsystem Enabled**. The System Enabled dialog box opens.
3. In the subsystem list, select the subsystem that you want to enable or disable, or select All.
4. In the Enabled list, select Yes or No.
5. Click OK.

2.82. Superior

The Superior set data request lets you add a simulation object (individual or unit) to a unit or move a simulation object from a unit to the force level. The superior unit must already exist. For aggregate-level scenarios, the superior must be a higher echelon unit.

► **To specify an object's superior:**

1. Select the simulation object.
2. Choose **Set > Other > Superior**. The Superior dialog box opens.
3. Optionally, filter the list.
4. Select the unit that you want to be this simulation object's superior. If you want to move the simulation object out of a unit to the force level, select the Set Force As Superior check box.
5. Click OK.

2.83. Surrendered

The Surrendered set data request only applies to lifeforms. When a lifeform is in the surrendered state, it does not fire at other simulation objects and other simulation objects do not fire at it.

► **To set an entity to be surrendered:**

1. Select the entity.
2. Choose **Set > Disposition > Surrendered**. The Surrendered dialog box opens.
3. Select an option from the list.
4. Click OK.

2.84. Synchronize Laser Code

The Synchronize Laser Code set data request lets an entity with laser-guided weapons easily synchronize its laser code with the laser code of the lasing entity. The alternative to this command would be to use the Laser Code set data request to set the code for the lasing entity and the firing entity.

► **To synchronize laser codes:**

1. Select the entity that has a laser-guided weapon.
2. Choose **Set > Laser Designator > Synchronize Laser Code**. The Synchronize Laser Code dialog box opens.
3. Select the lasing entity that you want this entity to synchronize with.
4. Click OK. The laser code for the selected entity is changed to match that of the lasing entity.

2.85. Tanker Lighting

The Tanker Lighting set data request causes an air tanker to publish its lighting information as specified. The 3D visuals on the fixed wing model reflect the lighting if the model is configured with those lights.

There is also a generic lighting set data request for all fixed-wing aircraft. See "2.6. Aircraft Lighting" on page 8.

► **To set the lights on a air tanker:**

1. Select the entity.
2. Choose **Set > Appearance > Tanker Lighting**. The Tanker Lighting dialog box opens.
3. Specify the settings for the lights.
4. Click OK.

2.86. Target

You can command an entity to specifically target another entity. For this set data request to be effective, the target must be visible to the targeting entity. When you set a target, you override the priorities set by the target selection controller. If the specified target is in the list of candidate targets, it gets the highest priority as a target. However, if the specified target is not visible as a target to the targeting entity, the entity fires at the other available targets. It does not keep looking for the specified target.

► **To set an entity's target:**

1. Select the entity.
2. Choose **Set > Engagement > Target**. The Target dialog box opens.
3. Optionally, filter the entity selection list.
4. In the Target list, or on the terrain, select the entity to target.
5. Click OK.

2.87. Target Priority List - Add

The Target Priority List - Add set data request allows you to set a simulation object's priority for targeting other entities in the scenario. You can specify that the simulation object should only target the entities in the priority list using the Rules of Engagement set data request as described in "2.70. Rules of Engagement" on page 37. To remove all items from a target priority list, use the Clear Target Priority List set data request; see "2.88. Target Priority List - Clear" below for more information.

► **To add a target to the priority list:**

1. Select the simulation object.
2. Choose **Set > Engagement > Target Priority List - Add**. The Target Priority list dialog box opens.
3. From the Priority list, select High, Medium, or Low.
4. Optionally, filter the entity selection list. The default is Opposing Entities unless there are no opposing entities in the scenario.
5. In the Target list or on the terrain, select the entity to target.
6. Click OK.

2.87.1 Viewing the Target Priority List

You can view an entity's list of prioritized targets using the viewing the State Data page of the Information dialog box or the Target Priority List -Update set data request. (For the latter, see "2.89. Target Priority List - Update" on the next page.)

► **To view the current target priority list in the State Data page:**

1. Select the entity.
2. Choose **Objects > Information**.
3. Select the State Data page.
4. Scroll to the Target Priority List line.

2.88. Target Priority List - Clear

Use the Target Priority List - Clear set data request to remove all targets from an entity's priority list. This applies to all targets that were added to or updated in the target priority list. See "2.87. Target Priority List - Add" above and "2.89. Target Priority List - Update" on the next page.

- To remove entities from a target priority list, select the entity and then choose **Set > Engagement > Target Priority List - Clear**.

2.89. Target Priority List - Update

The Target Priority List - Update set data request allows you to add and remove targets from an entity's priority list, as well as change the priority for each target.

 You cannot use the Target Priority List - Update set data request in plans. Use it to manage an entity's target priority list outside of plans.

➤ To update an entity's target priority list:

1. Select the entity.
2. Choose **Set > Engagement > Target Priority List - Update**. The Update Target Priority List dialog box opens.
3. Manage the list of targets:
 - To add a target to the list, click the Add button (). In the Add to Target Priority List dialog box, select the priority and the target, and then click OK.
 - To remove a target from the list, select the row and then click the Delete button ().
 - To change a target's priority, select High, Medium, or Low from that target's Priority list.
4. Click OK.

2.90. Tasked by Superior

You can order a simulation object that is part of a unit, and which is executing its own plan or is conducting an independent task, to stop executing those tasks and take commands from its unit. When you order a simulation object to be tasked by its superior, it stops conducting independent tasks and waits for the next order from the unit. (It does not execute the unit's current task, if any.) For more information about being tasked by superior, see "Independently Tasking Unit Members".

➤ To order an object to be tasked by its superior:

1. Select the simulation object.
2. Choose **Set > Other > Tasked by Superior**.

2.91. TDL Messaging

The TDL Messaging set data request enables or disables TDL messages for a simulation object or sets it to use the global setting.

► **To specify TDL messaging:**

1. Select the simulation object.
2. Choose **Set > Other > TDL Messaging**. The TDL Messaging dialog box opens.
3. Select an option from the TDL Messaging Enabled list.
4. Click OK.

2.92. Tracer Use

You can specify use of tracer rounds for entities that have weapons that support them. To see tracers, you must enable them for the observer you are using. They are not supported in 2D observer modes.

► **To enable or disable use of tracers:**

1. Select the entity for which you want to enable or disable use of tracers.
2. Choose **Set > Engagement > Tracer Use**. The Tracer Use dialog box opens.
3. Choose an option from the Use Tracers list.
4. Click OK.

2.93. Undetectable

The Undetectable set data request sets any simulation object to be undetectable by other objects. The undetectable, or stealth state, has these characteristics:

- Objects in stealth mode can take damage. They are not invulnerable. This means that missiles/bullets can still impact with stealth mode entities. Missiles already launched at an entity while it is not in stealth mode will continue to track an entity even after it is turned to stealth mode, and may hit and destroy it.
- Stealth mode entities can trigger mines.
- Lua scripts using the `getObjectsNear()` function will find stealth objects in the list, but may check the "stealth" property of the object if the particular script should ignore stealth entities.
- Collision avoidance takes into account stealth entities.
- Stealth entities block line of sight checks that pass through them, just as they would if they were not stealth.

► **To set a simulation object to be undetectable:**

1. Select the entity you want to be undetectable.
2. Choose **Set > Disposition > Undetectable**. The Undetectable dialog box opens.
3. Select an option in the Undetectable list.
4. Click OK.

2.94. Unit Patches

For soldier entities, you can set unit patches to display. At this time, not all soldiers are configured with units.

The Apply Selected Patches Immediately check box allows you to specify whether you want each patch to update when you select it. This is selected by default. If you clear the check box, the unit patches change after you click OK.

You can also specify a name and rank, as described in "2.52. Name Tag" on page 29 and "2.64. Rank Patch" on page 35.

► **To specify a soldier's unit patches:**

1. Select the soldier entity.
2. Choose **Set > Appearance > Unit Patches**. The Unit Patches parameters display.
3. Optionally, clear the Apply Selected Patches Immediately check box.
4. Select the desired unit from each list (primary and secondary).
5. Click OK.

2.95. Urgency (Human)

The Urgency set data request controls the speed at which a human entity performs animations, such as transitions between postures.

► **To set a human's urgency:**

1. Select the entity.
2. Choose **Set > Action > Urgency**. The Urgency dialog box opens.
3. Use the Urgency list to specify the level of urgency, from Slowest to Immediate. Immediate skips any transition animations. The other urgency settings move through the animations at various speeds.

2.96. Set Data Requests for Units

Some set data requests are specifically for use by units.

2.96.1 Assign Transport

Use the Assign Transport set data request to designate a vehicle for a squad or team to use for mount and dismount tasks. You can also clear a previously designated vehicle from a unit.

► **To set the vehicle for a squad or team:**

1. Select the unit.
2. Choose **Set > Embarkation > Assign Transport**.
3. Select the ground entity.
4. If the unit was previous assigned to a designated vehicle and you do not want it to have that designation anymore, select Clear Assignment.
5. If you want the assignment (or the clearing of the assignment) to apply to any of its subordinate units, select Apply to Subordinate Units.
6. Click OK.

2.96.2 Dismounted

The Dismounted set data request immediately dismounts a platoon, squad, or team from a vehicle (as opposed to simulating the unit dismount, as done by the Dismount Platoon, Dismount Squad, or Dismount Team tasks).

► **To set a platoon, squad, or team to be dismounted:**

1. Select the unit.
2. Choose **Set > Embarkation > Dismounted**. The unit becomes dismounted from the vehicle.

2.96.3 Dismounted Headquarters Section

The Dismounted Headquarters Section set data request immediately dismounts the members of a headquarters section from the vehicle or vehicles they are mounted on (as opposed to simulating the HQ section dismount, as done by the Dismount Headquarters task). Optionally, you can specify whether the platoon sergeant or other habitually mounted entities remain on board.

► **To set a headquarters section to be dismounted:**

1. Select the headquarters section.
2. Choose **Set > Embarkation > Dismounted Headquarters Section**. The Dismounted Headquarters Section dialog box opens.
3. Optionally, select or clear the Retain Habitual Mountees check box.
4. Click OK. The unit becomes dismounted from the vehicle.

2.96.4 Lock Embarkation

Use the Lock Embarkation set data request to instruct a vehicle crew to ignore mount or dismount tasks. You can also clear a previous lock.

► **To lock or unlock a vehicle crew response to mount and dismount tasks:**

1. Select the crew and then choose **Set > Embarkation > Lock Embarkation**. The Lock Embarkation dialog box opens.
2. Select or clear the lock check box.
3. Click OK.

2.96.5 Mounted

The Mounted set data request immediately mounts the subordinates of a platoon, squad, or team on a vehicle (as opposed to simulating the unit mount, as done by the Mount Platoon, Mount Squad, or Mount Team tasks). The vehicle they mount is the one specified by the Assign Transport set data request. See "2.96.1 Assign Transport" on the previous page.

► **To set a platoon, squad, or team to be mounted:**

1. Select the unit.
2. Choose **Set > Embarkation > Mounted**. The unit becomes mounted on the assigned vehicle.

2.96.6 Mounted Crew

The Mounted Crew set data request immediately mounts a vehicle crew on its assigned transport (as opposed to simulating the unit mounting the vehicle, as done by one of the Mount tasks). The vehicle they mount is the one specified by the Assign Transport set data request. See "2.96.1 Assign Transport" on the previous page.

► **To set a vehicle crew to be mounted:**

1. Select the crew.
2. Choose **Set > Embarkation > Mounted Crew**. The crew becomes mounted on the assigned vehicle.

2.96.7 Mounted Headquarters Section

The Mounted Headquarters Section set data request immediately mounts the members of a headquarters section on one or more vehicles (as opposed to simulating the mount, as done by the Mount Headquarters task). The Platoon Leader and Radio Telephone Operator mount the first vehicle you specify, and the Platoon Sergeant and Forward Observer mount the second.

► **To set an headquarters section to be mounted:**

1. Select the HQ section.
2. Choose **Set > Embarkation > Mounted Headquarters Section**. The Mounted Headquarters Section dialog box opens.

3. Select the vehicles in the Objects List or on the terrain. They are added to the Transports list.

2.96.8 Ordered Formation

Use the Ordered Formation set data request to specify the formation that the unit should assume while moving.

This does not change their formation when a unit is not in motion. If you want a unit that is currently stationary to change its formation, see "Move Into Formation".

► **To set the ordered formation of unit:**

1. Select the unit.
2. Choose **Set > Action > Ordered Formation**. The Set Ordered Formation parameters display.
3. Select the formation that you want the unit to assume.
4. Click OK.

2.96.9 Unloaded

The Unloaded set data request causes a vehicle to immediately dismount its passengers. This applies to both mounted and embarked passengers.

► **To unload passengers from a vehicle:**

1. Select the vehicle.
2. Choose **Set > Embarkation > Unloaded**. The passengers are immediately dismounted from the vehicle.



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3.1. Activity

You can give a simulation object an activity. Activities are configured by simulation object type, so they may vary from one simulation object to another. Some of the available activities include:

- Unknown
- Attacking
- Bivouacking
- Defending
- Emplacing Obstacle
- Indirect fire
- Jamming
- Other
- Patrolling
- Probing
- Retreating

► **To specify an activity:**

1. Select the simulation object.
2. Choose **Set > Disposition > Activity**. The Activity dialog box opens.
3. Select an activity from the list.
4. Click OK.

3.2. Ammunition

You can specify the amount of each type of ammunition that a simulation object has.

► **To set the ammunition level:**

1. Select the simulation object.
2. Choose **Set > Disposition > Ammunition**. The Ammunition dialog box opens.
3. Select the check box for each type of ammunition that you want to set.
4. For each selected type of ammunition, adjust the slider or type a value.
5. Click OK.

3.3. Ammunition Pacing/Tracking

Ammunition Pacing/Tracking lets you specify that a particular ammunition type be marked as pacing, tracking, or neither. Pacing indicates that the status of this item is critical to the mission. Tracking indicates that the commander is interested in the status of this item. These designations do not affect the simulation. They are reported for use by external systems.

► **To specify pacing or tracking for a unit's ammunition:**

1. Select the simulation object.
2. Choose **Set > Disposition > Ammunition Pacing/Tracking**. The Ammunition Pacing/Tracking dialog box opens.
3. Select the check box for each type of ammunition for which you want to specify pacing or tracking.
4. For each selected ammunition type, select an option from the list.
5. Click OK.

3.4. Assign Aircraft

The Assign Aircraft set data request lets you assign aircraft to an air base, edit existing assignments, and remove aircraft from the air base.

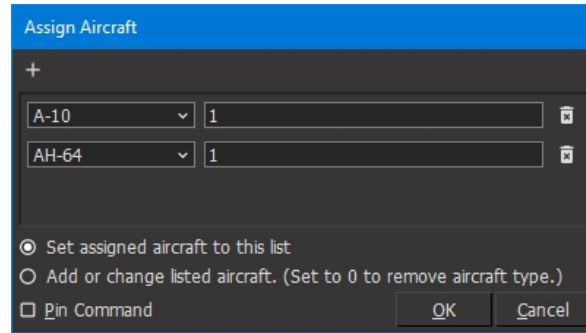
The aircraft assignments process works differently depending on whether you are using it directly from the Set menu or as part of a plan. When you assign aircraft from the Set menu, the Assign Aircraft shows all of the aircraft types currently assigned to the air base and the amount of each type of aircraft. By default (the Set Assigned Aircraft to This List option), when you click OK the new or updated list of assigned aircraft replaces whatever the previous list was. This is the way set data requests typically work.

If you include an Assign Aircraft set data request in a plan, there is no way to know what the state of aircraft assignments will be when the plan statement is executed. Therefore, the default behavior for Assign Aircraft when used in a plan is to add or change only the specific aircraft assignments listed in the Assign Aircraft dialog box, rather than resetting all aircraft assignments (the Add or Change Listed Aircraft option).

The Assign Aircraft dialog box has a set of option buttons whose default settings support the different use cases described in previous paragraphs. However, you can choose the alternative options if you want to.

► **To add an aircraft type to an air base:**

1. Select the air base.
2. Choose **Set > Air Base > Assign Aircraft**. The Assign Aircraft parameters display (Figure 6). If the air base already has aircraft assigned to it, they are listed in the window along with the number of each type assigned. (If you are editing a plan, the current aircraft assignments are not listed.)

Figure 6. Assign Aircraft dialog box

3. For each aircraft type that you want to assign to the air base:
 - a. Click the Add button (+). A row is added to the dialog box window.
 - b. In the aircraft list, select the type of aircraft you want to add.
 - c. In the text box, type the number of this type of aircraft you want to add.
4. Optionally, edit any existing aircraft assignments.
5. Select the appropriate option button. (It is usually best to accept the default option.)
6. Click OK.

3.4.1 Editing Aircraft Assignments

You can add or remove aircraft types for an air base and you can change the number of aircraft of a specific type. When you add aircraft, they are added in the Available state. No fuel, munitions, or air crews are added.

If you reduce the number of aircraft of a specific type, the aircraft are taken from the Available aircraft first, followed by In-Repair and Assigned. If Assigned aircraft are removed, their fuel, munitions, and air crews are returned to the air base.

3.4.2 Deleting Aircraft Assignments

► **To delete an aircraft assignment for an air base:**

1. Select the air base.
2. Choose **Set > Air Base > Assign Aircraft**. The Assign Aircraft dialog box opens. If the air base already has aircraft assigned to it, they are listed in the window along with the number of each type assigned. (If you are editing a plan, the current aircraft assignments are not listed.)
3. If you are not editing a plan, click the Delete button next to the row that you want to delete or set the number of aircraft to zero. If you are editing a plan, add the aircraft type that you want to delete and set its amount to 0.
4. Select the appropriate option button. (It is usually best to accept the default option.)
5. Click OK.

3.5. Assume Unknown is Hostile

For details, please see "2.11. Assume Unknown is Hostile" on page 10.

3.6. Capabilities

For details, please see "2.17. Capabilities" on page 13.

3.7. Concealed

For details, please see "2.20. Concealed" on page 14.

3.8. Contamination

The Contamination set data request lets you set the contamination type for a simulation object.

► **To set contamination:**

1. Select the simulation object.
2. Choose **Set > Disposition > Contamination**. The Contamination dialog box opens.
3. Select a contamination type from the list.
4. Click OK.

3.9. Current Speed

For details, please see "2.22. Current Speed" on page 15.

3.10. Destroyed

For details, please see "2.23. Destroyed" on page 15.

3.11. Disembarked

For details, please see "2.27. Disembarked" on page 17.

3.12. Embarked

For details, please see "2.28. Embarked" on page 17.

3.13. Emitter

For details, please see "2.30. Emitter" on page 18.

3.14. Engagement Zones

For details, please see "2.31. Engagement Zones" on page 19.

3.15. Engagement Results

An engagement result is a text string included in entity state update messages that are sent over the network. The purpose is for a human participant to comment on the current state of a simulation object as a simulation progresses. Once specified, the text string

continues to be sent until the expiration time is reached or a new engagement result is set.

► **To set engagement results:**

1. Select the simulation object.
2. Choose **Set > Engagement > Engagement Results**. The Engagement Results dialog box opens.
3. Specify the engagement result. This can be any text you want to enter.
4. Set the expiration time in days and hours:minutes:seconds.
5. Click OK.

3.16. Equipment Pacing/Tracking

Equipment Pacing/Tracking lets you specify that a particular type of equipment be marked as pacing, tracking, or neither. Pacing indicates that the status of this item is critical to the mission. Tracking indicates that the commander is interested in the status of this item. These designations do not affect the simulation. They are reported for use by external systems.

► **To specify pacing or tracking for a unit's equipment:**

1. Select the simulation object.
2. Choose **Set > Disposition > Equipment Pacing/Tracking**. The Equipment Pacing/Tracking dialog box opens.
3. Select the check box for each type of equipment for which you want to specify pacing or tracking.
4. For each selected ammunition type, select an option from the list.
5. Click OK.

3.17. Facilities

Use the Facilities set data request to specify all of the capabilities of an air base:

- Runways. Specify a name, length, width, and main direction for each runway.
- Has Night Support. Able or not able to launch missions at night.
- ORP Aircraft Capacity. The number of units that can be in operational readiness platform parking spaces.
- Apron Area. The size of the apron. VR-Forces calculates the number of aircraft that can be on the apron based on their footprints.
- Repair Hangar Aircraft Capacity. The number of aircraft that can be in the repair hangar at one time.
- Aviation Fuel Capacity. The amount of aviation fuel the air base can store.
- Munition Storage Capacity. The amount of munitions the air base can store.

- Barracks Capacity. The number of personnel that can be on the air base and in the barracks.
- Is Apron Concealed.
- Is Hangar Concealed.

► **To specify air base facilities:**

1. Select an air base.
2. Choose **Set > Air Base > Facilities**. The Facilities dialog box opens.
3. To add a runway:
 - a. Click the Add button (+). A new runway is added to the runway list.
 - b. Type values in each column of the runway description.
4. To delete a runway:
 - a. Put the cursor in a cell in a runway row.
 - b. Click the Delete button (✕).
5. To enable night support, select Yes in the list.
6. For the storage capacities, enter the amount of that item that you want to store in the air base.
7. To revert any settings or the configured runways to their original values, click the Revert button (↺) for that setting.
8. To set the concealment status of the apron or hangar, select an option in the appropriate list.
9. Click OK.

3.18. Food, Water, Fuel, Oil and Lubricant

You can set the resources for a simulation object.

► **To set the level of food, water, fuels, and lubricants:**

1. Select the simulation object.
2. Choose **Set > Disposition > Food, Water, Fuel, Oil and Lubricant**. The Food, Water, Motor-Gas, Aviation-Fuel, Diesel Fuel, Oil, Lubricant dialog box opens.
3. Select the check box for each type of resource you want to specify.
4. For each selected resource type a value.
5. Click OK.

3.19. Food, Water, Fuel, Oil and Lubricant Pacing/Tracking

Food, Water, Fuel, Oil, and Lubricant Pacing/Tracking lets you specify that a particular resource be marked as pacing, tracking, or neither. Pacing indicates that the status of this item is critical to the mission. Tracking indicates that the commander is interested in the status of this item. These designations do not affect the simulation. They are reported for use by external systems.

► **To set pacing and tracking for food, water, fuel, and lubricants:**

1. Select the simulation object.
2. Choose **Set > Disposition > Food, Water, Fuel, Oil and Lubricant Pacing/Tracking**. The Food, Water, Motor-Gas, Aviation-Fuel, Diesel Fuel, Oil, Lubricant Pacing/Tracking dialog box opens.
3. Select the check box for each type of resource for which you want to specify pacing or tracking.
4. For each selected resource select an option from the list.
5. Click OK.

3.20. Force

For details, please see "2.32. Force" on page 19.

3.21. Has Drag Chute

The Has Drag Chute set data request specifies whether the aircraft in an air unit have drag chutes.

► **To set a drag chute:**

1. Select an aircraft unit.
2. Choose **Set > Disposition > Has Drag Chute**. The Has Drag Chute dialog box opens.
3. Select an option from the Has Drag Chute list.
4. Click OK.

3.22. Heading

For details, please see "2.39. Heading" on page 22.

3.23. Health

Health is a value based on a simulation object's total personnel, equipment, and weapons. The Health set data request lets you restore personnel to their full values or set the overall health of the simulation object. For details about simulation object health, see "The Aggregate Warfare Model".

► **To set an object's health:**

1. Select the simulation object.
2. Choose **Set > Disposition > Health**. The Health dialog box opens. It displays the current state of personnel, equipment, and weapons.
3. To restore all personnel, select Reset Kill, Captured, Wounded, Missing.
4. To specify the overall health of the simulation object, adjust the Health slider or type a number in the Health box. As you move the slider to the left, the amount of

personnel, equipment, and weapons decreases.

5. Click OK.

3.24. IFF

For details, please see "2.41. IFF" on page 23.

3.25. Loadout

The Loadout set data request lets you specify the loadout for an air unit. It lists the contents of the selected loadout.

► **To set the loadout for an air unit:**

1. Select an air unit.
2. Choose **Set > Disposition > Loadout**. The Loadout dialog box opens.
3. Select an option from the Loadout Name list. The number of munitions available in the loadout displays.
4. Click OK.

3.26. Location

For details, please see "2.49. Location" on page 27.

3.27. MOPP Level

When you set a unit's MOPP level, the MOPP level changes instantly. To change MOPP level over time, and for details on how MOPP levels work, see the Change MOPP Level task in "Change MOPP Level".

► **To set the MOPP level:**

1. Select the simulation object.
2. Choose **Set > Disposition > MOPP Level**. The MOPP Level dialog box opens.
3. Select an option from the list.
4. Click OK.

3.28. Morale

► **To set a unit's morale:**

1. Select the simulation object.
2. Choose **Set > Disposition > Morale**. The Morale dialog box opens.
3. Adjust the slider or type a value from 0 through 100.
4. Click OK.

3.29. Notify Level

For details, please see "2.56. Notify Level" on page 31.

3.30. Ordered Speed

For details, please see "2.58. Ordered Speed" on page 31.

3.31. Percent Complete

Percent Complete lets you set the degree of completion for combat engineering objects.

► **To set the percent complete:**

1. Select a combat engineering object.
2. Choose **Set > Disposition > Percent Complete**. The Percent Complete dialog box opens.
3. Adjust the slider or type a value in the box.
4. Click OK.

3.32. Personnel and Supplies

The Personnel and Supplies set data request lets you specify the number of air crews and ground crew available to an air base. You can also set the amount of munitions and aviation fuel. The total of air crews and ground crew cannot exceed the barracks capacity, which is set using the Facilities set data request. You also use the Facilities set data request to specify the maximum amount of munitions and aviation fuel that an air base can have.

► **To specify personnel and supplies for an air base:**

1. Select an air base.
2. Choose **Set > Air Base > Personnel and Supplies**. The Personnel and Supplies dialog box opens.
3. Optionally, type a value for Ground Crew Available.
4. Optionally, type a value for Air Crew Available.
5. Optionally, type a value for the amount of munitions.
6. Optionally, type a value for the amount of aviation fuel.
7. To revert any setting to its original value, click the Revert button () for that setting.
8. Click OK.

3.33. Posture (Unit)

You can set the posture of a unit. The posture changes instantly. To change posture over time, use the Change Posture task.

► **To set an object's posture in an aggregate-level scenario:**

1. Select the simulation object.
2. Choose **Set > Disposition > Posture**. The Posture dialog box opens.
3. Select an option from the list.
4. Click OK.

3.34. Preferred Targets

Units can target up to three simulation objects. By default, they target the three simulation objects that are most vulnerable to attack. If you want a simulation object to target specific simulation objects that it might not choose automatically, the Preferred Targets set data request lets you specify them as preferred targets.

► **To specify preferred targets:**

1. Select a unit.
2. Choose **Set > Engagement > Preferred Targets**. The Preferred Targets dialog box opens.
3. Select up to three simulation objects.
4. Click OK.

3.35. Radar Mode

For details, please see "2.63. Radar Mode" on page 34.

3.36. Reorganize

For details, please see "2.67. Reorganize" on page 36.

The change takes place immediately. For more information about reorganization, please see "Reorganizing Units".

3.37. Resources

For details, please see "2.68. Resources" on page 36.

3.38. Resources Pacing/Tracking

Resources Pacing/Tracking lets you specify that a resource type be marked as pacing, tracking, or neither. Pacing indicates that the status of this item is critical to the mission. Tracking indicates that the commander is interested in the status of this item. These designations do not affect the simulation. They are reported for use by external systems.

► **To set pacing and tracking for a resource:**

1. Select the simulation object.
2. Choose **Set > Disposition > Resources Pacing/Tracking**. The Resources Pacing/Tracking dialog box opens.
3. Select Resources.
4. Click OK.

3.39. Restore

For details, please see "2.69. Restore" on page 37.

3.40. Resupply Mode

Resupply Mode specifies one of these resupply modes for simulation objects:

- **None.** The simulation object does not resupply itself.
- **From Supply Units.** When a resupply unit is in range, the unit receives supplies from it.
- **From Self-Continuous.** The unit resupplies itself continuously based on its resupply rate parameters. For details, see "Logistics".
- **From Self-Periodic.** The unit periodically resets all of its supplies, except health, to the base level. This level is reduced by health losses.

► **To specify the resupply mode:**

1. Select the unit.
2. Choose **Set > Logistics > Resupply Mode**. The Resupply Mode dialog box opens.
3. Select a resupply mode from the Resupply Mode list.
4. If you select From Self-Periodic, specify the resupply period in the Periodic Resupply Period boxes.
5. Click OK.

3.41. Role

The Role set data request lets you specify the role of an air unit, such as fighter, attack, bomber, or QRA.

► **To set the role of an air unit:**

1. Select an air unit.
2. Choose **Set > Disposition > Role**. The Role dialog box opens.
3. Select an option in the Role list.
4. Click OK.

3.42. Rules of Engagement

For details, please see "2.70. Rules of Engagement" on page 37.

3.43. Sector of Responsibility

For details, please see "2.72. Sector of Responsibility" on page 38.

3.44. Spot Reports

For details, please see "2.79. Spot Reports" on page 42.

3.45. Subsystem Enabled

For details, please see "2.81. Subsystem Enabled" on page 43.

3.46. Superior

For details, please see "2.82. Superior" on page 43.

3.47. Supplying

The Supplying set data request sets a supply unit to stop providing supplies or to start providing supplies.

► **To stop or start a supply unit providing supplies:**

1. Choose **Set > Logistics > Supplying**. The Supplying dialog box opens.
2. Select Stop or Start.
3. Click OK.

3.48. Tasked by Superior

For details, please see "2.90. Tasked by Superior" on page 46.

3.49. TDL Messaging

For details, please see "2.91. TDL Messaging" on page 46.

3.50. Weapons Pacing/Tracking

Weapons Pacing/Tracking lets you specify that a weapon be marked as pacing, tracking, or neither. Pacing indicates that the status of this item is critical to the mission. Tracking indicates that the commander is interested in the status of this item. These designations do not affect the simulation. They are reported for use by external systems.

► **To set pacing or tracking for a unit's weapons:**

1. Select the simulation object.
2. Choose **Set > Disposition > Weapons Pacing/Tracking**. The Weapons Pacing/Tracking dialog box opens.
3. Select the check box for each weapon for which you want to specify pacing or tracking.
4. For each selected weapon type, select an option from the list.
5. Click OK.