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ADVANCED DISTRIBUTED SIMULATION TECHNOLOGY

TEST PLANS AND PROCEDURES

FOR THE

BASELINE SAF FOR BDS-D SITES

(MODSAF)

VOLUME 2 of 2

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This document provides formal test procedures for acceptance of the ModSAF system. The test procedures verify that the requirements of the ModSAF system have been met.

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TEST CASE 1.1 Architecture

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
11000	At the workstation prompt enter "modsaf -exercise 2 -database 4 -nogui -simulate"	After several messages the computer prompt will change to modsaf@<machine name>, displaying the SafSim.			
11010	On a second workstation enter in a window: "modsaf -exercise 2 -database 4 -gui -nosim"	After several messages the workstation will appear on the screen, displaying the SAFstation.			
11020	On a third workstation enter in a window: "logger -exercise 2 -database 4"	After several messages, the loggerShell appears on the screen.			
11030	Create a mission for an M1 Platoon to move along a route and start the data logger.	The platoon starts to move down the route and the data logger starts recording the mission.			
11040	Stop recording the mission.	The data logger stops recording the mission.			
11050	Replay the mission.	The mission is replayed on the SafSim and SAFworkstation.			

TEST CASE 1.2 Configuration

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
11000	At the workstation prompt enter "modsaf -exercise 2 -database 4"	After several messages the workstation will appear on the screen, displaying the SAFstation.			
11010	Create an overlay named "TestOverlay12".	This overlay is now the current overlay and any graphic you create will belong to this overlay by default.			
11020	Create a mission for an M1 Platoon to move along a route. Save this scenario as "TestCase12"	Observe that the SAFSim and SAFstation can both run on the same machine.			
11030	On another workstation, bring up a second SAFstation by entering in a workstation window: "modsaf -exercise 2 -database 4 -gui -nosim". Use the Overlay Editor to set the display setting of "TestOverlay12" to on.	Observe that this SAFstation shows the same mission that was running on the other workstation.			
11040	Exit the second SAFstation by selecting exit from the file menu.	The SAFstation user interface on the second workstation disappears.			
11050	On the second workstation, bring up a second SAFSim by entering in a workstation window: "modsaf -exercise 2 -database 4 -nogui -sim".	Observe that two SAFsims run with one SAFstation.			
11055	On the first workstation, create another platoon.				
11060	On the second SAFSim station, at the prompt enter: print vehicle.	Observe that the output contains some vehicle numbers in the local vehicle section to show that this SAFSim has taken control of some of the newly created vehicles.			

11070	Exit from the second SAFsim and restart the second workstation as a pocket ModSAF.	There are now two SAFsims and two SAFstations running.	
11080	On the first SAFstation, change the privilege to "sysop". Enter the password. Select New Scenarios from the File Menu to delete everything from the screen. Then load the scenario named TestCase12.	Observe that one SAFstation was able to load a scenario on all the SAF components.	

TEST CASE 1.3 Top Level Requirements

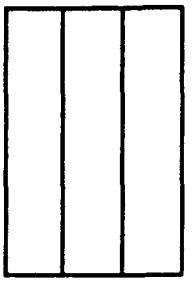
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
11000	On an SGI workstation start up modsaf.	After several messages the workstation will appear on the screen, displaying the SAFstation. Observe that modsaf runs on an SGI.			
11010	On a MIPS workstation, start up modsaf.	After several messages the workstation will appear on the screen, displaying the SAFstation. Observe that modsaf runs on a MIPS.			
11020	On one of the workstations, change the privilege level to "sysop". Create 5 companies. Assign the platoons in one of the companies, a route to follow.	Observe that the platoons follow the route. Observe that 5 companies can be created and run.			

TEST CASE 1.4 Versions

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
11000	Bring up ModSAF user interface. At the top of the screen, read the header.	The header should read "ModSAF Station Version 1.0 @ <machine name>"			

TEST CASE 1.6 - ModSAF Extensibility

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the standard entity parameters file named 'standard_params.rdr'.	The file named 'standard_params.rdr' holds the standard entity parameters. These values apply unless a different set of values is specified in a specific entity file.			
1020	Use the Unix 'more' command to view the specific entity files. The name for a specific entity file has the format: '<country>_<type>_ params.rdr'. An example is the file named 'US_M1_params.rdr' which holds the parameters specific to an M1 tank entity.	The parameters in the specific entity parameter file plus the parameters in the standard parameter file specify the characteristics of the entity and its behaviors.			
1030	Use the 'more modsaf.libs' command to view the names of the libraries that make up the ModSAF application.	These libraries are contained in the 'common/libsrc' directory on a ModSAF development machine.			
1040	On a ModSAF development machine, go to the directory 'common/libsrc' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The directory files name the directories holding the ModSAF library files.			

1020	On a ModSAF development machine, go to a library directory with the Unix 'cd' command. List the files in this library with the Unix 'ls' command. View the files in this library with the Unix 'more' command.	The ModSAF code is modularized with most code contained in the ModSAF libraries.	

TEST CASE 1.7

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The documentation files in this directory have an extension of '.texinfo'. These files make ModSAF documentation available in both hardcopy and on-line format on the ModSAF development machines.			
1010	On a ModSAF development machine, go to the directory 'common/info' with the Unix 'cd' command.	An emacs window opens on the screen.			
1020	In the emacs window, type ESC-x info.	The top node of the info tree appears in the emacs window.			
1030	Use the 'm ModSAF' command to access the modsaf directory of online documentation or use the 'h' command to access the primer for first-time users.				

TEST CASE 2.1.1 - Commander Mode

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
2.1.1000	Click Privilege in the Menu Bar.	A pull-down menu showing the privilege levels appears.			
2.1.1010	Click Commander in the Privilege pull-down menu.	The SAFstation is now set at Commander Privilege level.			
2.1.1020	Click the Unit button in the Button Column.	The Unit button will not recess and the unit editor will not appear in the Editor Area.			
2.1.1030	Click File in the Menu Bar.	The File pull-down menu appears. All items, except Save Scenario, Save Overlay to File, Load User Preferences, and Save User Preferences, are grey rather than black. The grey items are inactive in Commander mode.			
2.1.1040	Click on terrain in the Map to release the File menu.	The File pull-down menu disappears.			
2.1.1050	Click Local Force in the Menu Bar.	The Local Force pull-down menu appears. The items on the menu are grey rather than black to show that the SAFstation alignment can not be set in Commander mode.			
2.1.1060	Click on terrain in the Map to release the Local Force menu.	The Local Force pull-down menu disappears.			
2.1.1070	Select a unit on the screen and assign it a mission.	The user is allowed to command the commanders saf entities.			

TEST CASE 2.1.2 - Battlemaster Mode

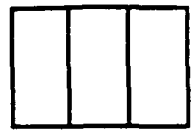
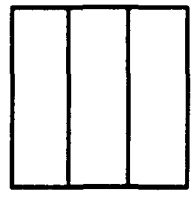
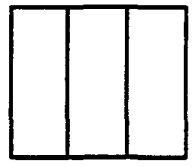
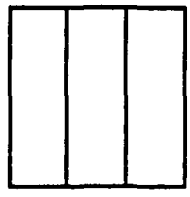
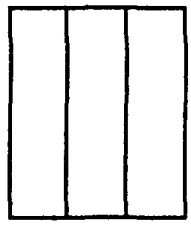
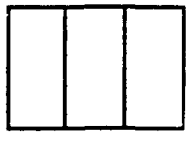
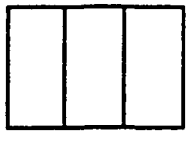
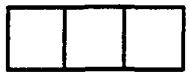
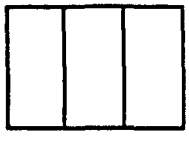
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
2.1.2000	Click Privilege in the Menu Bar.	A pull-down menu showing the privilege levels appears.			
2.1.2010	Click Battlemaster in the Privilege pull-down menu. Enter a password if prompted for one.	The SAFstation is now set at Battlemaster Privilege level.			
2.1.2020	Click the Unit button in the Button Column.	The Unit button will recess and the unit editor will appear in the Editor Area to permit the creation of a force.			
2.1.2030	Click Abort in the unit editor.	The Unit button will no longer appear recessed and the unit editor will disappear from the Editor Area.			
2.1.2040	Click File in the Menu Bar.	The File pull-down menu appears. The Load and the Save items on the menu are black to show that they are active in Battlemaster mode. The other items on the menu are grey to show that they are inactive in Battlemaster mode.			
2.1.2050	Click on terrain in the Map to release the File menu.	The File pull-down menu will disappear.			
2.1.2060	Click Local File in the Menu Bar.	The Local Force pull-down menu appears. The items on the menu are black rather than grey to show that the SAFstation alignment can be set in Battlemaster mode.			
2.1.2070	Click on terrain in the Map to release the local Force menu.	The Local Force pull-down menu will disappear.			

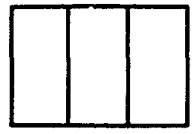
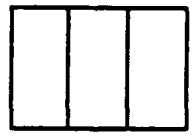
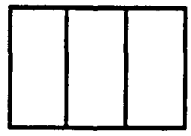
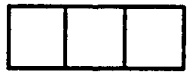
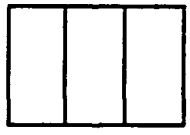
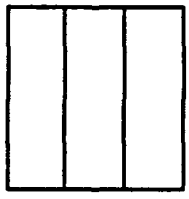
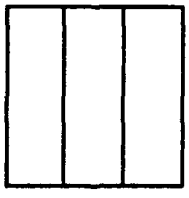
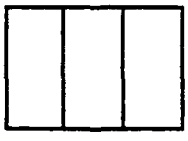
TEST CASE 2.1.3 - System Operator Mode

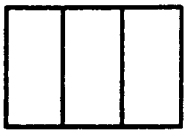
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
2.1.3000	Click Privilege in the Menu Bar.	A pull-down menu showing the privilege levels appears.			
2.1.3010	Click Sysop in the Privilege pull-down menu and enter a password.	The SAFstation is now set at System Operator Privilege level.			
2.1.3020	Click the Unit button in the Button Column.	The Unit button will recess and the unit editor will appear in the Editor Area to permit the creation of a force.			
2.1.3030	Click Abort in the unit editor.	The Unit button will no longer appear recessed and the unit editor will disappear from the Editor Area.			
2.1.3040	Click File in the Menu Bar.	The File pull-down menu appears. All items on the menu are black rather than grey to show that they are all active in System Operator mode.			
2.1.3050	Click on terrain in the Map to release the File menu without selecting an item.	The File pull-down menu will disappear.			
2.1.3060	Click Local Force in the Menu Bar.	The Local Force pull-down menu appears. The items on the menu are black rather than grey to show that the SAFstation alignment can be set in System Operator mode.			
2.1.3070	Click on terrain in the Map to release the Local Force menu without selecting an item.	The Force pull-down menu will disappear.			

TEST CASE 2.2.1.1 - Panning

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
11000	Click the green Pan button in the Mode Column	Pan button is recessed. The Map Mode Help message reads: Pan: click middle to set map center: click and drag right to change viewing area.			
11010	Move map arrow to set new location of map center and click middle	Map is redrawn at same scale with the selected point as the map center.			
11020	Click and hold right	Map disappears and a grid with a box appears representing the viewing area. The Map Mode Help message reads: New center *<xy coordinates>*			
11030	Drag the viewing area box to new location and release	As the viewing box moves, the xy coordinates change in the Map Mode Help message.			
11040	Release right	Map is redrawn for the selected viewing area. The Map Mode Help message displays the Pan message.			
11050	Click the Map Scale in the Menu Bar	A pull-down menu appears with the recessed toggle box next to the current map scale.			
11060	Note the current map scale and click on a new map scale	The pull-down menu disappears and the map is redrawn to the new scale.			
11070	Click and hold right.	The map disappears. The viewing box is drawn with respect to the new scale			
11080	Release right	The map is redrawn.			
11090	Click the green Zoom button in the Mode Column	The Pan button is released, and the Zoom button is recessed. The Map Mode Help message shows the Zoom message.			

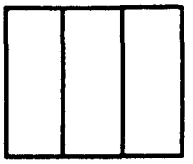
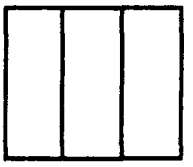
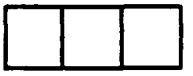
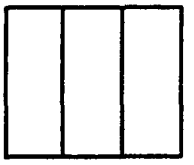
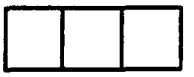
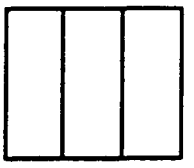
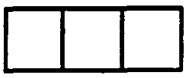
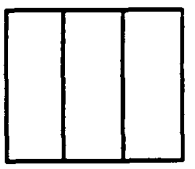
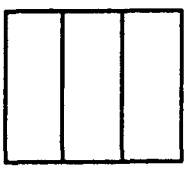
11100	Click on Show Editor.	The pull-down menu disappears. The Editor Area appears with four selection buttons.	
11110	Click on the User Preferences Editor button.	The User Preferences Editor appears in the Editor Area. The Map Scroll Bars has a recessed toggle next to Do Not Display.	
11120	Click on Top Left.	The recessed toggle is next to Top Left. Scroll bars appear on the top and left edges of the map area.	
11130	Click on Top Right.	The recessed toggle is next to Top Right. Scroll bars appear no the top and right edges of the map area. The left scroll bar disappears.	
11140	Click on the Bottom Left.	The recessed toggle is next to Bottom Left. Scroll bars appear no the bottom and left edges of the map area. The top and right scroll bars disappear.	
11150	Click on the User Preferences Editor's Done	The Editor Area is redrawn with four selection buttons.	
11160	Click Special in the Menu Bar.	A pull-down menu appears listing display options. The recessed toggle is next to Show Editor.	
11170	Click on Show Editor.	The pull-down menu disappears. The Editor Area disappears and the map is redrawn.	
11180	Click and hold the left scroll bar.	No change in the map.	
11190	Drag the scroll bar a short distance.	Map disappears and a grid with a box appears representing the viewing area.	

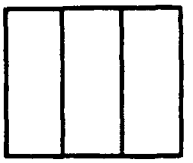
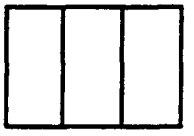
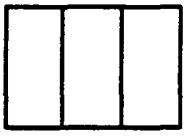
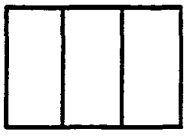
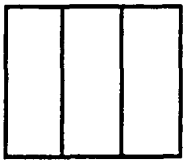
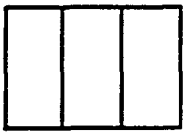
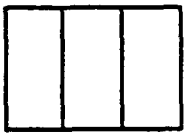
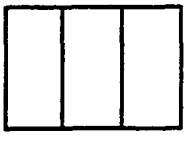
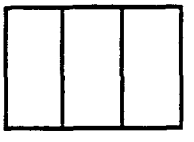
11200	Drag the scroll bar up and down.	The viewing box moves vertically with the movement of the scroll bar.	
11210	Release the scroll bar.	Map is redrawn for the selected viewing area.	
11220	Click and hold the bottom scroll bar.	No change in the map.	
11230	Drag the scroll bar a short distance.	Map disappears and a grid with a box appears representing the viewing area.	
11240	Drag the scroll bar left and right.	The viewing box moves horizontally with the movement of the scroll bar.	
11250	Release the scroll bar.	Map is redrawn for the selected viewing area.	
11260	Click Special in the Menu Bar.	A pull-down menu appears listing display options.	
11270	Click on Show Editor.	The pull-down menu disappears. The Editor Area appears with four selection buttons.	
11280	Click on the User Preferences Editor button.	The User Preferences Editor appears in the Editor Area. The Map Scroll Bars has a recessed toggle next to Bottom Left.	
11290	Click on Map Scroll Bars Do Not Display	The Map Scroll Bars has a recessed toggle next to Do Not Display. The bottom and left scroll bars disappear from the map area.	
11300	Click on the User Preferences Editor's Done	Editor Area is redrawn with four selection buttons.	
11310	Click Special in the Menu Bar.	A pull-down menu appears listing display options. The recessed toggle is next to Show Editor.	

11320	Click on Show Editor.	The pull-down menu disappears. The Editor Area disappears and the map is redrawn.	

TEST CASE 2.2.1.2 - Changing the Scale

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
12000	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the current map scale; 1:250,000 is the default setting.			
12010	Click on the 1:1,500,000 scale	The pull-down menu disappears. The map is redrawn to the 1:1,500,000 scale			
12020	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:1,500,000 scale.			
12030	Click on the 1:1,000,000 scale	The map is redrawn to the 1:1,000,000 scale			
12040	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:1,000,000 scale.			
12050	Click on the 1:500,000 scale	The map is redrawn to the 1:500,000 scale			
12060	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:500,000 scale.			
12070	Click on the 1:250,000 scale	The map is redrawn to the 1:250,000 scale			
12080	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:250,000 scale.			
12090	Click on the 1:100,000 scale	The map is redrawn to the 1:100,000 scale			

12100	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:100,000 scale.	
12110	Click on the 1:50,000 scale	The map is redrawn to the 1:50,000 scale	
12120	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:50,000 scale.	
12130	Click on the 1:25,000 scale	The map is redrawn to the 1:25,000 scale	
12140	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:25,000 scale.	
12150	Click on the 1:10,000 scale	The map is redrawn to the 1:10,000 scale	
12160	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:10,000 scale.	
12170	Click on the 1:5,000 scale	The map is redrawn to the 1:5,000 scale	
12180	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:5,000 scale.	
12190	Click on the 1:2,500 scale	The map is redrawn to the 1:2,500 scale	
12200	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:2,500 scale.	
12210	Click on the 1:1,000 scale	The map is redrawn to the 1:1,000 scale	

12220	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:1,000 scale.	
12230	Click on the 1:500 scale	The map is redrawn to the 1:500 scale	
12240	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:500 scale.	
12250	Click on the 1:250 scale	The map is redrawn to the 1:250 scale	
12260	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:250 scale.	
12270	Click on the 1:250,000 scale	The pull-down menu disappears. The map is redrawn to the 1:250,000 scale	
12280	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:250,000 scale.	
12290	Click on the Undo last Zoom/Pan	The pull-down menu disappears. The map is redrawn to the 1:250 scale	
12300	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:250 scale.	
12310	Click on the Undo last Zoom/Pan	The pull-down menu disappears. The map is redrawn to the 1:500 scale	
12320	Click the Map Scale in the Menu Bar	A pull-down menu appears listing map scales. The recessed toggle box is next to the 1:500 scale.	

12330	Click on the 1:250,000 scale	The pull-down menu disappears. The map is redrawn to the 1:250,000 scale	
12340	Click on the green zoom button. Click and drag the middle mouse button to set a new screen area.	Observe that the scale has changed.	
12330	Click on the Map Scale in the Menu Bar.	None of the scales should now be highlighted.	

TEST CASE 2.2.1.3 - Zooming In and Out

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
13000	Click the green Zoom button in the Mode Column	Zoom button is recessed. The Map Mode Help message reads: Zoom: click middle to zoom in around point; click right to zoom out around point; click and drag middle to set the screen area.			
13010	Click the Map Scale in the Menu Bar	A pull-down menu appears with the recessed toggle next to the current map scale			
13020	Note the current map scale, move the map arrow out of the menu area and click	The pull-down menu disappears.			
13030	Move map arrow to set new location of map center and click middle	Map is redrawn to next larger scale with center around the selected point			
13040	Click the Map Scale in the Menu Bar	A pull-down menu appears with the recessed toggle next to the current map scale which is the next larger scale from the scale noted in step 13020			
13050	Note the current map scale, move the map arrow out of the menu area and click	The pull-down menu disappears.			
13060	Move map arrow to set new location of map center and click right	Map is redrawn to next smaller scale with center around the selected point			
13070	Click the Map Scale in the Menu Bar	A pull-down menu appears with the recessed toggle next to the current map scale which is the next smaller scale from the scale noted in step 13050, and should be the same scale as noted in step 13020			
13080	Move the map arrow out of the menu area and click	The pull-down menu disappears.			

TEST CASE 2.2.1.3 - Zooming In and Out

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
13090	Move the map arrow to set a new corner of the viewing area,click and hold middle	A grey '+' cursor appears marking this corner of the viewing area			
13100	Drag the middle to select the desired viewing area and note the scale of the selected viewing area	A yellow box appears and indicates the selected viewing area. The map scale of the final viewing area is shown in the Map Mode Help message.			
13110	Release middle	The map is redrawn so that the selected viewing area now fills the screen at the non-standard scale required. The Map Mode Help message displays the Zoom message.			
13120	Click the Map Scale in the Menu Bar	A pull-down menu appears without any recessed toggle next to the map scales			
13130	Click on the 1:250,000 scale	The map is redrawn to the 1:250,000 scale			
13140	Move the map arrow to set a new corner of the viewing area,click, hold and drag middle until the selected viewing area is an approximate, but not greater than, scale of 1:50,000	A yellow box indicating the selected viewing area appears representing a scale of approximately 1:50,000. The scale is shown in the Map Mode Help message area.			
13150	Release middle	The map is redrawn so that the selected viewing area now fills the screen at the non-standard scale required.			
13160	Click the Map Scale in the Menu Bar	A pull-down menu appears without any recessed toggle next to the map scales			

13170	Click on the 1:50,000 scale	The map is redrawn to the 1:50,000 scale, and notice that the scale change is minimal from the non-standard scale.	

TEST CASE 2.2.1.3 - Zooming In and Out

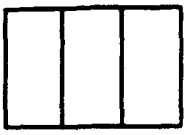
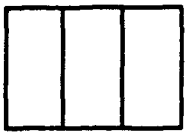
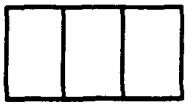
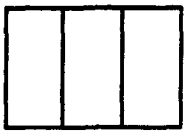
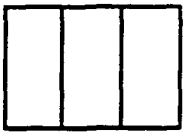
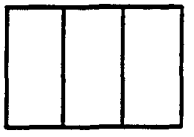
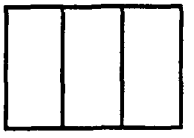
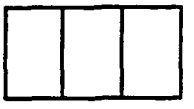
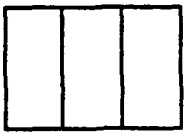
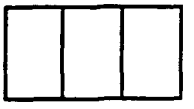
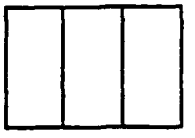
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
13180	Click the Map Scale in the Menu Bar	A pull-down menu appears. The recessed toggle box is next to the 1:50,000 scale.			
13190	Click on the 1:250,000 scale	The map is redrawn to the 1:250,000 scale			

TEST CASE 2.2.2.1 - Features

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
21000	Center the map around grid coordinates that reflect an area with several terrain features (such as roads, water, trees, etc.).	Map is redrawn.			
21010	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. Recessed toggle boxes are next to the current map features; the default settings are Trees and Canopies, Grid Lines, Water, Roads, Buildings, Pipelines, Political Boundaries, Railroads, Powerlines, and Towns.			
21020	Click on Trees and Canopies.	The pull-down menu disappears. The map is redrawn without trees and canopies.			
21030	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Trees and Canopies.			
21040	Click on Trees and Canopies.	The pull-down menu disappears. The map is redrawn with trees and canopies.			
21050	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Trees and Canopies.			
21060	Click on Grid lines.	The pull-down menu disappears. The map is redrawn without grid lines.			
21070	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Grid lines.			

21080	Click on Grid lines.	The pull-down menu disappears. The map is redrawn with grid lines.	
21090	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Grid lines.	
21100	Click on Water.	The pull-down menu disappears. The map is redrawn without water features.	
21110	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Water.	
21120	Click on Water.	The pull-down menu disappears. The map is redrawn with water features.	
21130	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Water.	
21140	Click on Roads.	The pull-down menu disappears. The map is redrawn without roads.	
21150	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Roads.	
21160	Click on Roads.	The pull-down menu disappears. The map is redrawn with roads.	
21170	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Roads.	
21180	Click on Buildings.	The pull-down menu disappears. The map is redrawn without buildings.	

21190	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Buildings.	
21200	Click on Buildings.	The pull-down menu disappears. The map is redrawn with buildings.	
21210	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Buildings.	
21220	Click on Pipelines.	The pull-down menu disappears. The map is redrawn without pipelines.	
21230	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Pipelines.	
21240	Click on Pipelines.	The pull-down menu disappears. The map is redrawn with pipelines.	
21250	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Pipelines.	
21260	Click on Political Boundaries.	The pull-down menu disappears. The map is redrawn without political boundaries.	
21270	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Political Boundaries.	
21280	Click on Political Boundaries.	The pull-down menu disappears. The map is redrawn with political boundaries.	
21290	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Political Boundaries.	

21300	Click on Railroads.	The pull-down menu disappears. The map is redrawn without railroads.	
21310	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Railroads.	
21320	Click on Railroads.	The pull-down menu disappears. The map is redrawn with railroads.	
21330	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Railroads.	
21340	Click on Powerlines.	The pull-down menu disappears. The map is redrawn without powerlines.	
21350	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Powerlines.	
21360	Click on Powerlines.	The pull-down menu disappears. The map is redrawn with powerlines.	
21370	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Powerlines.	
21380	Click on Towns.	The pull-down menu disappears. The map is redrawn without towns.	
21390	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Towns.	
21400	Click on Towns.	The pull-down menu disappears. The map is redrawn with towns.	
21410	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Towns.	

21420	Move arrow out of pull-down menu area and click.	The pull-down menu disappears.	
22430	Click Special in the Menu Bar.	A pull-down menu appears listing special display options.	
22440	Click on Show Editor.	The pull-down menu disappears, and the Editor Area appears. The map is redrawn.	
22450	Click on PVD Controls button in the Editor Area.	The PVD Control Editor appears in the Editor Area.	
22460	Click on Hypsometric background, Trees, tree lines, and tree canopies, Political boundaries, Water, Buildings, power pilons, structures, Railroads, Towns, Roads, Pipelines, Powerlines, and Grid lines in the Features selection area	The toggle next to Hypsometric background is recessed. The toggles next to Trees, tree lines, and tree canopies, Political boundaries, Water, Buildings, power pilons, structures, Railroads, Towns, Roads, Pipelines, Powerlines, and Grid lines are not recessed.	
22470	Click on Apply in the PVD Controls button area.	The map is redrawn with only and hypsometric tinting.	
22480	Click on Revert button.	The map is redrawn without hypsometric tinting and with all previous features. The toggles are reset to their previous state.	
22490	Click on Done in the PVD Controls button area.	The PVD Controls Editor disappears and three selction buttons appear in the Editor Area.	
22500	Click Special in the Menu Bar.	A pull-down menu appears listing special display options. A recessed toggle is next to Show Editor.	
22510	Click Show Editor in the Special menu.	The pull-down menu disappears, and the Editor Area disappears. The map is redrawn.	

TEST CASE 2.2.2.1 - Features

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
21000	Center the map around grid coordinates that reflect an area with several terrain features (such as roads, water, trees, etc.).	Map is redrawn.			
21010	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. Recessed toggle boxes are next to the current map features; the default settings are Trees and Canopies, Grid Lines, Water, Roads, Buildings, Pipelines, Political Boundaries, Railroads, Powerlines, and Towns.			
21020	Click on Trees and Canopies.	The pull-down menu disappears. The map is redrawn without trees and canopies.			
21030	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Trees and Canopies.			
21040	Click on Trees and Canopies.	The pull-down menu disappears. The map is redrawn with trees and canopies.			
21050	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Trees and Canopies.			
21060	Click on Grid lines.	The pull-down menu disappears. The map is redrawn without grid lines.			
21070	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Grid lines.			

21080	Click on Grid lines.	The pull-down menu disappears. The map is redrawn with grid lines.	
21090	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Grid lines.	
21100	Click on Water.	The pull-down menu disappears. The map is redrawn without water features.	
21110	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Water.	
21120	Click on Water.	The pull-down menu disappears. The map is redrawn with water features.	
21130	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Water.	
21140	Click on Roads.	The pull-down menu disappears. The map is redrawn without roads.	
21150	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Roads.	
21160	Click on Roads.	The pull-down menu disappears. The map is redrawn with roads.	
21170	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Roads.	
21180	Click on Buildings.	The pull-down menu disappears. The map is redrawn without buildings.	

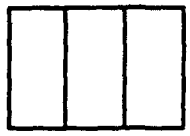
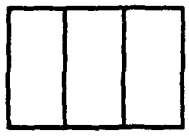
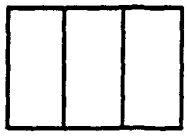
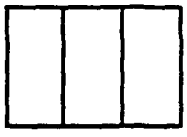
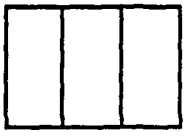
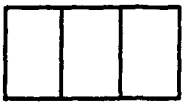
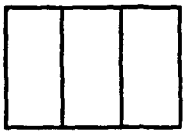
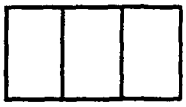
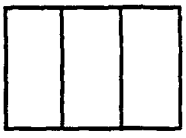
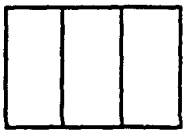
21190	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Buildings.	
21200	Click on Buildings.	The pull-down menu disappears. The map is redrawn with buildings.	
21210	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Buildings.	
21220	Click on Pipelines.	The pull-down menu disappears. The map is redrawn without pipelines.	
21230	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Pipelines.	
21240	Click on Pipelines.	The pull-down menu disappears. The map is redrawn with pipelines.	
21250	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Pipelines.	
21260	Click on Political Boundaries.	The pull-down menu disappears. The map is redrawn without political boundaries.	
21270	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Political Boundaries.	
21280	Click on Political Boundaries.	The pull-down menu disappears. The map is redrawn with political boundaries.	
21290	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Political Boundaries.	

21300	Click on Railroads.	The pull-down menu disappears. The map is redrawn without railroads.	
21310	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Railroads.	
21320	Click on Railroads.	The pull-down menu disappears. The map is redrawn with railroads.	
21330	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Railroads.	
21340	Click on Powerlines.	The pull-down menu disappears. The map is redrawn without powerlines.	
21350	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Powerlines.	
21360	Click on Powerlines.	The pull-down menu disappears. The map is redrawn with powerlines.	
21370	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Powerlines.	
21380	Click on Towns.	The pull-down menu disappears. The map is redrawn without towns.	
21390	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Towns.	
21400	Click on Towns.	The pull-down menu disappears. The map is redrawn with towns.	
21410	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Towns.	

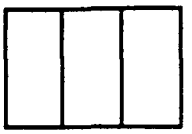
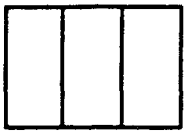
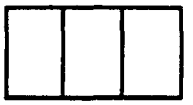
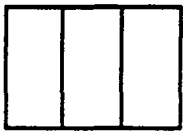
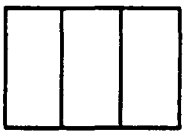
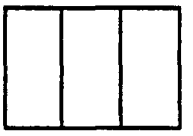
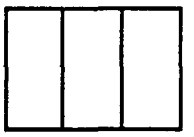
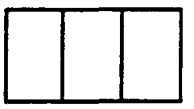
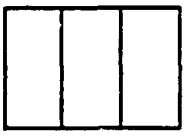
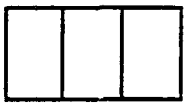
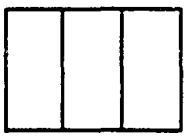
21420	Move arrow out of pull-down menu area and click.	The pull-down menu disappears.	
22430	Click Special in the Menu Bar.	A pull-down menu appears listing special display options.	
22440	Click on Show Editor.	The pull-down menu disappears, and the Editor Area appears. The map is redrawn.	
22450	Click on PVD Controls button in the Editor Area.	The PVD Control Editor appears in the Editor Area.	
22460	Click on Hypsometric background, Trees, tree lines, and tree canopies, Political boundaries, Water, Buildings, power pilons, structures, Railroads, Towns, Roads, Pipelines, Powerlines, and Grid lines in the Features selection area	The toggle next to Hypsometric background is recessed. The toggles next to Trees, tree lines, and tree canopies, Political boundaries, Water, Buildings, power pilons, structures, Railroads, Towns, Roads, Pipelines, Powerlines, and Grid lines are not recessed.	
22470	Click on Apply in the PVD Controls button area.	The map is redrawn with only and hypsometric tinting.	
22480	Click on Revert button.	The map is redrawn without hypsometric tinting and with all previous features. The toggles are reset to their previous state.	
22490	Click on Done in the PVD Controls button area.	The PVD Controls Editor disappears and three selction buttons appear in the Editor Area.	
22500	Click Special in the Menu Bar.	A pull-down menu appears listing special display options. A recessed toggle is next to Show Editor.	
22510	Click Show Editor in the Special menu.	The pull-down menu disappears, and the Editor Area disappears. The map is redrawn.	

TEST CASE 2.2.2.1 - Features

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
21000	Center the map around grid coordinates that reflect an area with several terrain features (such as roads, water, trees, etc.).	Map is redrawn.			
21010	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. Recessed toggle boxes are next to the current map features; the default settings are Trees and Canopies, Grid Lines, Water, Roads, Buildings, Pipelines, Political Boundaries, Railroads, Powerlines, and Towns.			
21020	Click on Trees and Canopies.	The pull-down menu disappears. The map is redrawn without trees and canopies.			
21030	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Trees and Canopies.			
21040	Click on Trees and Canopies.	The pull-down menu disappears. The map is redrawn with trees and canopies.			
21050	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Trees and Canopies.			
21060	Click on Grid lines.	The pull-down menu disappears. The map is redrawn without grid lines.			
21070	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Grid lines.			

21080	Click on Grid lines.	The pull-down menu disappears. The map is redrawn with grid lines.	
21090	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Grid lines.	
21100	Click on Water.	The pull-down menu disappears. The map is redrawn without water features.	
21110	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Water.	
21120	Click on Water.	The pull-down menu disappears. The map is redrawn with water features.	
21130	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Water.	
21140	Click on Roads.	The pull-down menu disappears. The map is redrawn without roads.	
21150	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Roads.	
21160	Click on Roads.	The pull-down menu disappears. The map is redrawn with roads.	
21170	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Roads.	
21180	Click on Buildings.	The pull-down menu disappears. The map is redrawn without buildings.	

21190	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Buildings.	
21200	Click on Buildings.	The pull-down menu disappears. The map is redrawn with buildings.	
21210	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Buildings.	
21220	Click on Pipelines.	The pull-down menu disappears. The map is redrawn without pipelines.	
21230	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Pipelines.	
21240	Click on Pipelines.	The pull-down menu disappears. The map is redrawn with pipelines.	
21250	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Pipelines.	
21260	Click on Political Boundaries.	The pull-down menu disappears. The map is redrawn without political boundaries.	
21270	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Political Boundaries.	
21280	Click on Political Boundaries.	The pull-down menu disappears. The map is redrawn with political boundaries.	
21290	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Political Boundaries.	

21300	Click on Railroads.	The pull-down menu disappears. The map is redrawn without railroads.	
21310	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Railroads.	
21320	Click on Railroads.	The pull-down menu disappears. The map is redrawn with railroads.	
21330	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Railroads.	
21340	Click on Powerlines.	The pull-down menu disappears. The map is redrawn without powerlines.	
21350	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Powerlines.	
21360	Click on Powerlines.	The pull-down menu disappears. The map is redrawn with powerlines.	
21370	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Powerlines.	
21380	Click on Towns.	The pull-down menu disappears. The map is redrawn without towns.	
21390	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Towns.	
21400	Click on Towns.	The pull-down menu disappears. The map is redrawn with towns.	
21410	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Towns.	

21420	Move arrow out of pull-down menu area and click.	The pull-down menu disappears.	
22430	Click Special in the Menu Bar.	A pull-down menu appears listing special display options.	
22440	Click on Show Editor.	The pull-down menu disappears, and the Editor Area appears. The map is redrawn.	
22450	Click on PVD Controls button in the Editor Area.	The PVD Control Editor appears in the Editor Area.	
22460	Click on Hypsometric background, Trees, tree lines, and tree canopies, Political boundaries, Water, Buildings, power pilons, structures, Railroads, Towns, Roads, Pipelines, Powerlines, and Grid lines in the Features selection area	The toggle next to Hypsometric background is recessed. The toggles next to Trees, tree lines, and tree canopies, Political boundaries, Water, Buildings, power pilons, structures, Railroads, Towns, Roads, Pipelines, Powerlines, and Grid lines are not recessed.	
22470	Click on Apply in the PVD Controls button area.	The map is redrawn with only and hypsometric tinting.	
22480	Click on Revert button.	The map is redrawn without hypsometric tinting and with all previous features. The toggles are reset to their previous state.	
22490	Click on Done in the PVD Controls button area.	The PVD Controls Editor disappears and three selction buttons appear in the Editor Area.	
22500	Click Special in the Menu Bar.	A pull-down menu appears listing special display options. A recessed toggle is next to Show Editor.	
22510	Click Show Editor in the Special menu.	The pull-down menu disappears, and the Editor Area disappears. The map is redrawn.	

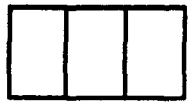
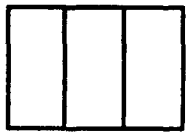
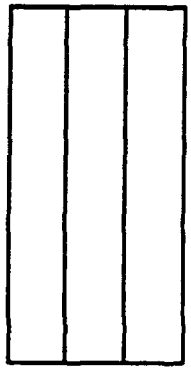
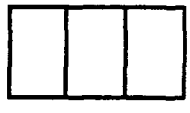
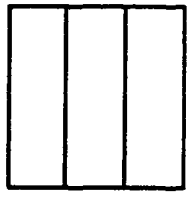
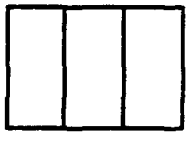
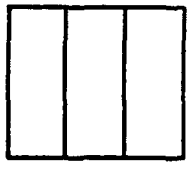
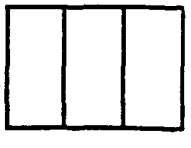
TEST CASE 2.2.2.1 - Features

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
21000	Center the map around grid coordinates that reflect an area with several terrain features (such as roads, water, trees, etc.).	Map is redrawn.			
21010	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. Recessed toggle boxes are next to the current map features; the default settings are Trees and Canopies, Grid Lines, Water, Roads, Buildings, Pipelines, Political Boundaries, Railroads, Powerlines, and Towns.			
21020	Click on Trees and Canopies.	The pull-down menu disappears. The map is redrawn without trees and canopies.			
21030	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Trees and Canopies.			
21040	Click on Trees and Canopies.	The pull-down menu disappears. The map is redrawn with trees and canopies.			
21050	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Trees and Canopies.			
21060	Click on Grid lines.	The pull-down menu disappears. The map is redrawn without grid lines.			
21070	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Grid lines.			

21080	Click on Grid lines.	The pull-down menu disappears. The map is redrawn with grid lines.	
21090	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Grid lines.	
21100	Click on Water.	The pull-down menu disappears. The map is redrawn without water features.	
21110	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Water.	
21120	Click on Water.	The pull-down menu disappears. The map is redrawn with water features.	
21130	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Water.	
21140	Click on Roads.	The pull-down menu disappears. The map is redrawn without roads.	
21150	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Roads.	
21160	Click on Roads.	The pull-down menu disappears. The map is redrawn with roads.	
21170	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Roads.	
21180	Click on Buildings.	The pull-down menu disappears. The map is redrawn without buildings.	

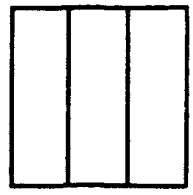
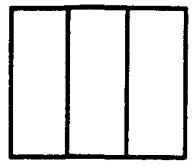
21190	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Buildings.	
21200	Click on Buildings.	The pull-down menu disappears. The map is redrawn with buildings.	
21210	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Buildings.	
21220	Click on Pipelines.	The pull-down menu disappears. The map is redrawn without pipelines.	
21230	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Pipelines.	
21240	Click on Pipelines.	The pull-down menu disappears. The map is redrawn with pipelines.	
21250	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Pipelines.	
21260	Click on Political Boundaries.	The pull-down menu disappears. The map is redrawn without political boundaries.	
21270	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Political Boundaries.	
21280	Click on Political Boundaries.	The pull-down menu disappears. The map is redrawn with political boundaries.	
21290	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Political Boundaries.	

21300	Click on Railroads.	The pull-down menu disappears. The map is redrawn without railroads.	
21310	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Railroads.	
21320	Click on Railroads.	The pull-down menu disappears. The map is redrawn with railroads.	
21330	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Railroads.	
21340	Click on Powerlines.	The pull-down menu disappears. The map is redrawn without powerlines.	
21350	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Powerlines.	
21360	Click on Powerlines.	The pull-down menu disappears. The map is redrawn with powerlines.	
21370	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Powerlines.	
21380	Click on Towns.	The pull-down menu disappears. The map is redrawn without towns.	
21390	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is not next to Towns.	
21400	Click on Towns.	The pull-down menu disappears. The map is redrawn with towns.	
21410	Click Map Features in the Menu Bar.	A pull-down menu appears listing the map features. A recessed toggle box is next to Towns.	

21420	Move arrow out of pull-down menu area and click.	The pull-down menu disappears.	
22430	Click Special in the Menu Bar.	A pull-down menu appears listing special display options.	
22440	Click on Show Editor.	The pull-down menu disappears, and the Editor Area appears. The map is redrawn.	
22450	Click on PVD Controls button in the Editor Area.	The PVD Control Editor appears in the Editor Area.	
22460	Click on Hypsometric background, Trees, tree lines, and tree canopies, Political boundaries, Water, Buildings, power pilons, structures, Railroads, Towns, Roads, Pipelines, Powerlines, and Grid lines in the Features selection area	The toggle next to Hypsometric background is recessed. The toggles next to Trees, tree lines, and tree canopies, Political boundaries, Water, Buildings, power pilons, structures, Railroads, Towns, Roads, Pipelines, Powerlines, and Grid lines are not recessed.	
22470	Click on Apply in the PVD Controls button area.	The map is redrawn with only and hypsometric tinting.	
22480	Click on Revert button.	The map is redrawn without hypsometric tinting and with all previous features. The toggles are reset to their previous state.	
22490	Click on Done in the PVD Controls button area.	The PVD Controls Editor disappears and three selction buttons appear in the Editor Area.	
22500	Click Special in the Menu Bar.	A pull-down menu appears listing special display options. A recessed toggle is next to Show Editor.	
22510	Click Show Editor in the Special menu.	The pull-down menu disappears, and the Editor Area disappears. The map is redrawn.	

TEST CASE 2.2.3.1 - Terrain Ruler

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
31000	Click the Terrain Tool button in the button column.	The Terrain Tool button will appear recessed. The terrain tool editor will appear in the Editor Area. The Editor Help Line message appears: Click and drag on map.			
31010	Click and drag left on terrain in the Map	A color-coded intervisibility line will be drawn on the map. The length of the line will be appear as the Distance in the terrain tool editor. The default unit for distance is kilometers.			
31020	Click on the meters toggle in the Distance selection area.	The Meters toggle will appear recessed, the Kilometers toggle will no longer be recessed, and the distance will now be expessed in meters rather than kilometers.			
31030	Click on the Feet toggle in the Distance selection area.	The Feet toggle will appear recessed, the Meters toggle will no longer be recessed, and the distance will now be expessed in feet rather than in meters.			
31040	Click on the Miles toggle in the Distance selection area.	The Miles toggle will appear recessed, the Feet toggle will no longer be recessed, and the distance will now be expessed in miles rather than in feet.			
31050	Click on the NM toggle in the Distance selection are	The NM toggle will appear recessed, the Miles toggle will no longer be recessed, and the distance will now be expessed in nautical miles.			

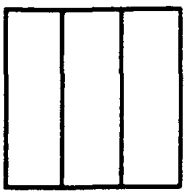
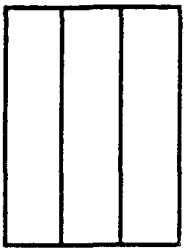
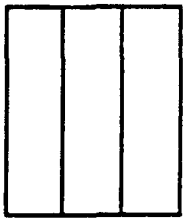
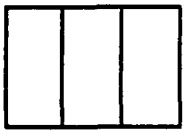
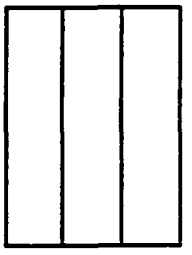
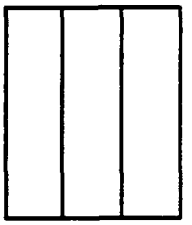
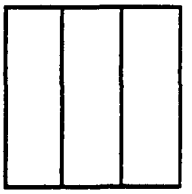
31060	Click on the Meters toggle in the Distance selection area.	The Meters toggle will appear recessed, the NM toggle will no longer be recessed, and the distance will now be expessed in meters.	
31070	Click the Done button in the terrain tools editor.	The terrain tools editor will disappear from the screen. The Terrain Tool button will no longer be recessed.	

TEST CASE 2.2.3.2 - Cross-Section Tool

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
32000	Click the Terrain Tool button in the Button Column.	The Terrain Tool button will appear recessed. The terrain tool editor will apear in the Editor Area. The Editor Help Line will show: Click and drag on the map.			
32010	Click and drag on the map.	A color-coded intervisibility line will be drawn on the map. The cross section of terrain between the line's two end points will appear in the Cross Section area of the terrain tool editor. The length of the line will be displayed in the distance editable.			
32020	Click the Done button on the terrain tool editor.	The terrain tool editor will disappear from the screen. The Terrain Tool button will no longer appear recessed.			

TEST CASE 2.2.3.3 - Inter-Visibility Tool

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
33000	Click the Terrain Tool button in the Button Column.	The Terrain Tool button will appear recessed. The terrain tool editor will appear in the Editor Area. The Editor Help Line message will show: Click and drag on map.			
33010	Click and drag left on the map.	A color-coded intervisibility line will be drawn on the map. The color-coding uses green for visible, black for blocked, and green and black dithered for partial visibility.			
33020	Click on the Area toggle in the Intervisibility selection area.	The intervisibility line will be redrawn as an intervisibility area. The color-coding uses clear for visible, black for blocked, and clear and black dithered for partial visibility.			
33021	Change the Eye Height value in the editor	Observe the intervisibility area change due to the eye Height change.			
33040	Click the Unit button in the Button Column.	The Unit button will appear recessed. The unit editor will appear in the Editor Area. The Editor Help Line message will show: You must provide a location for the unit.			
33050	Click in the Map to set a location.	The coordinates of the selected location will appear in the Location selection area in the unit editor.			

33060	Hold left on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click M1 Platoon.	A military icon for an M1 platoon will appear in the Map.	
33070	Click Done in the unit editor.	The tank platoon icon will be replaced with four tank vehicle pictures. The unit editor will disappear from the screen. The Unit button will no longer be recessed.	
33080	Click the Terrain Tool button in the Button Column.	The Terrain Tool button will appear recessed. The terrain tool editor will appear in the Editor Area. The Editor Help Line message will show: Click and drag on map.	
33090	Click the Click Here for Map Input button in the Unit selection area of the terrain tool editor.	The Editor Help Line shows: Choose a vehicle from the map.	
33100	Click on one of the tank pictures.	The selected vehicle will receive a temporary Unit label. Intervisibility lines will be drawn to the other tank vehicles. These lines will shown the visibility percentage.	
33110	Click on the Area toggle in the Intervisibility selection area.	The intervisibility lines will be replaced by an intervisibility area which is a circle whose center is the selected vehicle and whose radius is 35000 meters.	
33120	Click the Done button in the terrain tool editor.	The intervisibility circle and the terrain tool editor will disappear. The Terrain Tool button will no longer be recessed.	

TEST CASE 2.2.3.4 - Terrain Query Tool

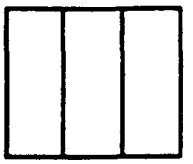
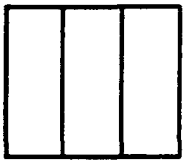
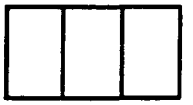
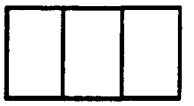
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
34000	Click the green Info button in the Button Column.	Info button is recessed. At the bottom of the viewing area, the Map Help message Information appears: click middle on vehicle for description; click middle on map for coordinates.			
34010	Move map arrow to a point over the blue ocean (if the database contains it) and click/hold middle.	The following information appears in the Map Help message: Grade: 0 degrees Soil type: 4 Center: <*current xy*> Altitude: 0 meters			
34020	Release middle.	The Map Help message Information reappears.			
34030	Move map arrow to a point over a blue lake in the land area and click/hold right.	The following information appears in the Map Mode Help message: Grade: 0 degrees Soil type: 4 Center: <*current xy*> Altitude: *current altitude of point*			
34040	While holding right, slowly move map arrow around terrain.	Observe change in terrain information.			
34050	Release right.	The Map Help message Information reappears.			
34060	Click the green Zoom button in the Button Column.	Zoom button is recessed. The Map Help message Zoom appears.			

TEST CASE 2.2.3.5 - Coordinate Calculator

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
35000	Click the Terrain Tool button in the button column.	The terrain tool editor will appear in the Editor Area. The Editor Help Line message appears: Click and drag on map.			
35010	Click on terrain in the map.	The coordinates of the selected terrain point will appear as the Start Point in the terrain tool editor. A recessed toggle box appears for UTM since that is the default coordinate system.			
35020	Click on Lat/Long in the Start Point selection area.	The toggle for Lat/Long will become recessed and the toggle for UTM will no longer appear recessed. The coordinates of the selected point will now be shown in the Lat/Long coordinate system.			
35030	Click on UTM in the Start Point selection Area.	The toggle for UTM will become recessed and the toggle for Lat/Long will no longer appear recessed. The coordinates of the selected point will now be shown in the UTM coordinate system.			
35040	Click on XY (TCC) in the Start Point selection area.	The toggle for XY (TCC) will become recessed and the toggle for UTM will no longer appear recessed. The coordinates of the selected point will now be shown in the XY (TCC) coordinate system.			
35050	Click Done in the Terrain Tool button area.	The terrain tool editor will disappear from the screen.			

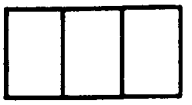
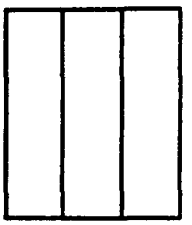
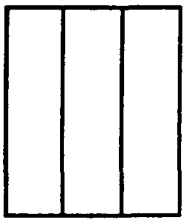
TEST CASE 2.2.4 - Displaying the Situation

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
2.2.4000	Click on the Line/Area Editor button.	The Line/Area Editor appears at the bottom of the display.			
2.2.4010	Click on a land point in the map.	An arrow appears pointing to the spot you clicked on.			
2.2.4020	Click on a land point about 4 inches above the point to which the arrow points.	The two points are connected and the arrow points to the new point.			
2.2.4030	Click on Done and then click on the Unit Editor button.	The Unit Editor appears at the bottom of the display.			
2.2.4040	Click on a land point about 1 inch below the line you just created, and select Done.	A platoon icon appears, which is then replaced by 4 individual unit icons. Note: Zoom in to the point where you can distinctly see all four unit icons, and the beginning of the line that you created earlier.			
2.2.4050	Click on one of the vehicles closest to the line.	The Unit Operations editor appears at the bottom of the display.			
2.2.4060	Click on the Unit Tasking button, click the Select Task Frame button and select the Move Frame.	The Move task appears at the bottom of the display.			
2.2.4070	Click on a point at the top of the line.	A route pointer appears.			
2.2.4080	Click on Done. Click on Done again. Click on Assign.	The units begin moving to the assigned route point.			
2.2.4090	Click on Done again.	The four editor buttons appear.			
2.2.4100	Click on PVD Controls.	The PVD Controls editor appears.			

2.2.4110	In the Update Rate box, click on the top rightmost arrow five times, and click on Apply.	Now, the vehicle positions are updated every five seconds on the map.	
2.2.4120	In the Update Rate box, click on the bottom rightmost arrow five times, and click on Apply.	Now, the vehicle positions are back to being updated continuously on the map.	
2.2.4130	Click on Special/Freeze Display.	The vehicle positions are not being updated on the map at all.	
2.2.4140	Wait a few seconds, then click on Special/Freeze Display.	The vehicle positions have been updated on the map.	

TEST CASE 2.2.4.1 - Military Units

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
41000	Click the Unit button in the Button Column.	The Unit button will appear recessed. The unit editor will appear in the Editor Area. The Editor Help Line message will show: You must provide a location for the unit.			
41010	Click in the Map to set a location.	The coordinates of the selected location will appear in the Location selection area in the unit editor.			
41020	Hold left on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click M1 Company.	A military icon for an M1 company will appear in the Map.			
41030	Click on the Done button in the unit editor.	The tank company icon will be replaced with tank vehicle pictures. The unit editor will disappear from the screen. The Unit button will no longer be recessed.			
41040	Click Show As in the Menu bar.	A pull-down menu will appear showing the display templates.			
41050	Click on Company Icons in the Show As pull-down menu.	The vehicle pictures will be replaced by a company icon.			
41060	Click Show As in the Menu bar	A pull-down menu will appear showing the display templates.			
41070	Click on Platoon Icons in the Show As pull-down menu.	The company icon will be replaced by platoon icons.			
41080	Click Show As in the Menu bar.	A pull-down menu will appear showing the display templates.			

41090	Click on Vehicle Icons in the Show As pull-down menu.	The platoon icons will be replaced by vehicle icons.	
41100	Click on the Information button in the Button Column.	The Information button will appear recessed. The Map Help Line will show: Click middle on vehicle for description; click middle on map for coordinates.	
41110	Hold middle on one of the tank vehicle icons on the Map	The icon will highlight via an outline box and the Map Help Line will show: Vehicle ID, Vehicle Marking, Vehicle Type, Vehicle Location, and Vehicle Speed.	

TEST CASE 2.2.4.2 - Entities

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
42000	Click the Unit button in the Button Column.	The Unit button will appear recessed. The unit editor will appear in the Editor Area. The Editor Help Line message will show: You must provide a location for the unit.			
42010	Click in the Map to set a location.	The coordinates of the selected location will appear in the Location selection area in the unit editor.			
42020	Hold left on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click M1.	A military icon for an M1 tank will appear in the Map.			
42030	Click on the Degrees toggle in the Direction selection area. Click on 90 inside the dial of the Direction selection area.	The military icon for the M1 tank will face East in the Map.			
42040	Repeated click inside the Direction dial to change the degrees from 90, to 75, to 45, to 30, to 0.	The military icon for the M1 tank will change from facing East, to Northeast, to North.			
42050	Click on the Done button in the unit editor.	The tank platoon icon will be replaced with a tank vehicle picture. The unit editor will disappear from the screen. The Unit button will no longer be recessed.			
42060	Position the mouse pointer on the tank vehicle icon in the Map	The vehicle will highlight via an outline box.			
42070	Click on the outlined tank vehicle in the Map.	The unit operation editor for the selected vehicle will appear in the Editor Area.			

42080	Click the Edit button in the unit operations editor.	The unit editor for the selected vehicle will appear in the Editor Area.	
42090	Click on 90 inside the dial of the Direction selection area.	A vehicle icon that faces East will be written over the tank vehicle in the Map.	
42100	Click on the Done button in the unit editor.	The vehicle icon will disapear and the tank vehicle will now face East in the Map. The unit operations editor will appear in the Editor Area.	
42110	Repeat steps 42080 thru 42100 several times to change the vehicle's direction.	The tank vehicle in the Map will face the specified direction. The unit operations editor will appear in the Editor Area.	
42120	Click the Done button in the unit operations editor.	The unit operations editor will disappear from the editor Area.	
42130	Click the Zoom button and then repeated zoom in on the tank until you can clearly view the gun tube.	The gun tube will move to show the gun tube direction of the simulated tank.	
42135	Create an M1 Vehicle and a T72M vehicle and show them as vehicle pictures. Assign the M1 a Move frame with the Route a point near the T72M. Have the Status Monitor displayed for the M1.	Observe that the M1 speed for the move task can be displayed as well as other mission status.	
42140	When the M1 kills the T72M...	Observe that the T72M vehicle shows catastrophic damage and turns black.	

42150	Show the vehicles as vehicle icons.	The T72M vehicle should appear as a black icon which identifies it as damaged.	
42160	Show the vehicles as vehicle pictures. From the PVD Controls editor, change the vehicle picture scale to different values and select apply	Observe the size of the vehicle pictures changes.	
42170	Show the vehicles as vehicle icons. From the PVD Controls editor, change the Fm 101-5 Icon Size to different values and select apply	Observe the size of the vehicle icon changes.	

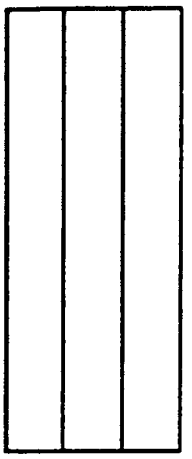
TEST CASE 2.2.4.3 - Designations

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
43000	Click the Unit button in the Button Column.	The Unit button will appear recessed. The unit editor will appear in the Editor Area. The Editor Help Line message will show: You must provide a location for the unit.			
43010	Click in the Map to set a location.	The coordinates of the selected location will appear in the Location selection area in the unit editor.			
43020	Hold left on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click M1.	A military icon for an M1 tank will appear in the Map.			
43030	Click inside the Call Sign box and type A11.	The military icon for the M1 tank will be labeled A11 in the Map.			
43040	Click on the Done button in the unit editor.	The tank platoon icon will be replaced with an unlabeled tank vehicle picture. The unit editor will disappear from the screen. The Unit button will no longer be recessed.			
43050	Click on the PVD Controls button in the Editor Area.	The PVD controls editor will appear in the Editor Area.			
43060	Click on the Call Sign toggle in the Map Notations selection area and then click the Done button.	The tank vehicle will be shown with its designation label.			

TEST CASE 2.2.4.4 - Simulation Events

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
44000	Zoom in on a small region (3 km x 3 km).	The map displays the zoomed-in region.			
44010	Click the Unit button in the Button Column.	The Unit button will appear recessed. The unit editor will appear in the Editor Area. The Editor Help Line message will show: You must provide a location for the unit.			
44020	Click in the Map to set a location.	The coordinates of the selected location will appear in the Location selection area in the unit editor.			
44030	Hold left button on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click on M1 Platoon.	A military icon for an M1 platoon will appear in the Map.			
44040	Click inside the Call Sign box and type B1.	The military icon for the M1 tank will be labeled B1 in the Map.			
44050	Click on the Done button in the unit editor.	The tank platoon icon will be replaced with blue tank vehicle pictures. The unit editor will disappear from the screen. The Unit button will no longer be recessed.			
44060	Repeat steps 44000 thru 44040 to create a T72M platoon labeled A3 about 1KM East of platoon B1.	The red tank platoon icon will be represented with orange tank vehicle pictures. The unit editor will disappear from the screen. The Unit button will no longer be recessed.			
44070	Click on the Line/Area button in the Button Column.	The line/area editor will appear in the Editor Area.			

44080	Click in the Map to create a line that travels from the blue platoon to the orange platoon.	The line will appear in the map.	
44090	Click in the Label box and type brt. Click on the Done button in the line/area editor.	The line/area editor will disappear and the line will be labeled "brt".	
44100	Repeat steps 44080 thru 44100 to create a line from the orange platoon to the red platoon. Label the line "ort".	The line, labeled "brt", will appear in the Map.	
44110	Click on a blue vehicle.	The unit editor for the blue platoon will appear in the Editor Area	
44120	Click on the platoon icon, then click on the Unit Tasking button in the unit operations editor.	The execution matrix editor for the blue platoon will appear in the Editor Area.	
44130	Click on the Select Task Frame button in the execution matrix editor.	The frame editor for the blue platoon will appear in the Editor Area	
44140	Click the 'Move' button in the frame editor.	The move task editor for the blue platoon will appear in the Editor Area to request a route.	
44150	Click on the label "brt" in the Map.	The temporary label, "Route", will point to the selected route.	
44160	Click Done in the Move task editor.	The Move frame editor will appear in the editor Area.	
44170	Click Done in the Move frame editor.	The execution matrix editor will appear in the Editor Area.	
44180	Click the Assign button in the execution matrix editor.	The unit operations editor will appear in the Editor Area.	
44190	Click the Done button in the unit operations editor.	The unit operations editor will no longer appear in the Editor Area.	

44200	Repeat steps 44120 thru 44200 to task the orange platoon to Move on the route labeled "ort".	The unit operations editor will no longer appear in the Editor Area. The vehicles will drive towards each other and will shoot if they detect an enemy vehicle. Shots that hit are gold colored and shots that miss are gray. The circle indicates the explosion location, and the line from the circle indicates where the shot came from.	

TEST CASE 2.3 Exercise Initialization Parameters

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
11000	Change the privilege to Battlemaster. Create an M1 vehicle, and M1 platoon. Set the competence of the M1 vehicle to Novice.	The units are created. Observe that the skill level can be set by the battlemaster.			
11010	Create a route. Save the vehicles and route to a scenario file named "Scenario23"	The units and route are saved in a scenario file.			
11020	Change the privilege to SysOp. Enter the password. Delete all graphics, units, and entities by selecting "New Scenario" from the file menu. Change the privilege back to Battlemaster. Load "Scenario23" by selecting it from the file menu. Assign the M1 platoon a mission to move down the route with a Move Frame.	The scenario of entities and route is loaded. Observe that the platoon follows the route and that the battlemaster can make these units move.			
11030	Create a T72 platoon and a T72 vehicle. Change the supply levels of the T72 vehicle.	The units are created and appear on the screen. Observe that the Battlemaster can request simulation of a single entity or a group of entities. Also observe that the supply levels can be set.			
11040	Select a T72 and delete with the scissors mode button.	The unit is deleted.			
11050	Change the privilege to SysOp. Enter the password. Delete all units and graphics by selecting "New Scenario" from the file menu.	Observe that all units and missions were deleted with one operation.			

TEST CASE 2.4 Exercise Control Parameters

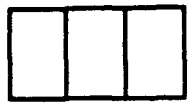
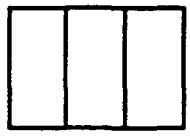
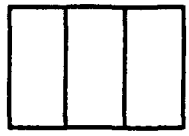
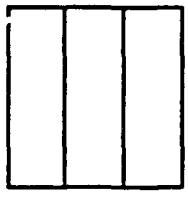
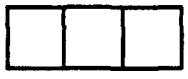
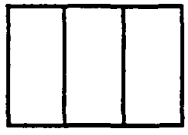
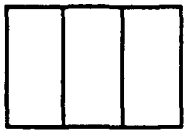
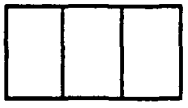
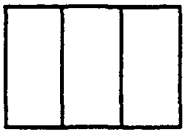
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
11000	Change the Privilege Mode to Battlemaster. Create an M1 vehicle, and M1 platoon. Set the competence of the M1 vehicle to Novice and the competence of the platoon to .50.	The units are created. Observe that the skill level can be set or modified in realtime.			
11010	Create a T72 vehicle. Change the supply levels of the T72 vehicle.	The vehicle is created and appears on the screen. Observe that the supply levels can be set or modified in realtime.			

TEST CASE 2.4.1 Minefields

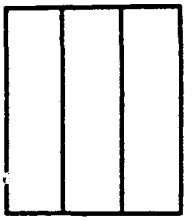
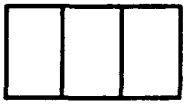
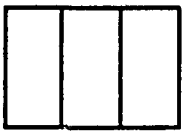
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
241000	Click on the line editor.	The line editor appears at the bottom of the screen.			
241010	Click on two points on the screen. Change the Style to Minefield and change the Minefield Width to 20.	A Minefield appears on the screen as a rectangle with some circles in the center.			
241020	Repeat this test for styles of AT Minefield and AP Minefield	The respective minefields appear on the screen.			

TEST CASE 2.5

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
2.5.1000	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
2.5.1010	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
2.5.1020	Click on 'Done' in the Unit Editor.	The Unit Editor editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
2.5.1030	Point to blue tank and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.			
2.5.1040	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.			
2.5.1050	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.			
2.5.1060	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.			
2.5.1070	Click on the 'Move' button in the Task Frames editor.	A 'Move' editor appears.			
2.5.1080	Click on a point on the map where the M1 platoon is to move to.	A point symbol with the 'Route' label appears.			
2.5.1090	Click on 'Done' in the Move editor.	Another 'Move' editor appears.			
2.5.1100	Click on 'Done' in the Move task frame editor.	The Execution editor appears.			

2.5.1110	Click the 'Create Phase' button in the Execution editor.	A 'Phase Options' editor appears.	
2.5.1120	Click the 'Control Measure' button in the Phase Options editor.	A 'Control Measure' editor appears.	
2.5.1130	Click on the line tool icon in the button column.	The line tool icon is recessed and the 'Line/Area Editor' editor appears.	
2.5.1140	Click on the start point of a line which specifies the control measure (phase line).	A blue arrow points to the map location that was selected.	
2.5.1150	Click on the end point of the line which specifies the control measure.	A line from the start point to the end point is drawn. A blue arrow points to the end point. The line is labeled 'Control Measure'.	
2.5.1160	Click on 'Done' in the Line/Area Editor editor.	The Control Measure editor appears.	
2.5.1170	Click on 'Done' in the Control Measure editor.	The Execution editor appears with a 'Select Task Frame' button in the second column.	
2.5.1180	Click on 'Select Task Frame' in the Execution editor.	The Task Frames editor appears.	
2.5.1190	Click on 'Assault' in the Task Frames editor.	An 'Assault' editor appears.	
2.5.1200	Click on the line tool icon in the button column.	The line tool icon is recessed and the 'Line/Area Editor' editor appears.	
2.5.1210	Click on the start point of a line which specifies the assault objective.	A blue arrow points to the map location that was selected.	
2.5.1220	Click on the end point of the line which specifies the assault objective.	A line from the start point to the end point is drawn. A blue arrow points to the end point.	
2.5.1230	Click on 'Done' in the Line/Area Editor editor.	The Assault editor appears.	

2.5.1240	Click on 'Done' in the Assault editor.	Another Assault editor appears.	
2.5.1250	Click on 'Done' in the Assault task frame editor.	The Execution editor appears.	
2.5.1260	Click on 'Assign' in the Execution editor.	The Unit Operations editor appears.	
2.5.1270	Click on the 'File' menu.	A pulldown menu appears under 'File'.	
2.5.1280	Click on 'Save Scenario' from the File menu.	A 'Save Scenario' popup menu appears.	
2.5.1290	Click on the 'Selection' box in the Save Scenario popup menu.	A black rectangle appears around the Selection box and a blinking cursor appears in the Selection box.	
2.5.1300	Type 'test' and press 'Enter'.	The Save Scenario popup menu and File menu disappear. The current scenario has been saved in a file called 'test.1'.	
2.5.1310	Click on 'Quit...' in the File menu.	A popup menu appears asking whether or not to quit the program.	
2.5.1320	Click on 'Quit' in the Quit popup menu.	The application quits.	
2.5.1330	Restart modsaf by typing 'modsaf' at the command line.	The modsaf application starts up.	
2.5.1340	Click on 'Load Scenario' from the 'File' pulldown menu.	A 'Load Scenario' popup menu appears.	
2.5.1350	Click on 'test.1' in the Load Scenario popup menu.	The text 'test.1' appears in the Selection box in the Load Scenario popup menu.	

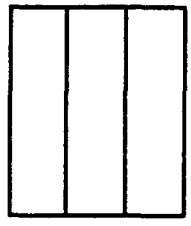
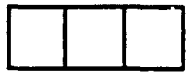
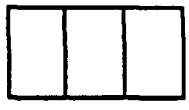
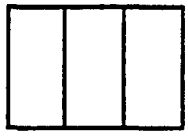
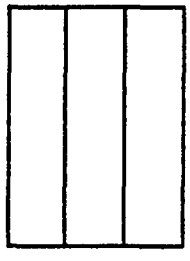
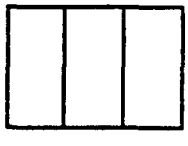
2.5.1360	Click on 'OK' in the Load Scenario popup menu.	The platoon, route point, and control measure that were previously specified appear on the map display, and the previously assigned mission resumes.	
2.5.1370	Click on one of the tanks in the platoon.	The Unit Operations editor will appear.	
2.5.1380	Click on the platoon icon (above the four M1 tank icons).	A red box appears around the platoon icon.	
2.5.1390	Click on 'Unit Tasking' in the Unit Operations editor.	The Move and Assault task frames will appear in the Execution editor as were previously assigned.	

TEST CASE 2.6.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
2.6.2000	Zoom in on a small region (3 km x 3 km).	The map displays the zoomed-in region.			
2.6.2010	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
2.6.2020	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
2.6.2030	Click on 'Done' in the Unit Editor.	The Unit Editor editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
2.6.2040	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
2.6.2050	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
2.6.2060	Click on 'Enemy' in the 'Side' section of the Unit Editor.	The diamond symbol beside 'Enemy' is recessed and the platoon icon turns red.			
2.6.2070	Click on 'Done' in the Unit Editor.	The Unit Editor editor disappears, and a platoon of red tanks appears on the map where it was placed.			
2.6.2080	Point to one of the blue tanks on the map and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.			

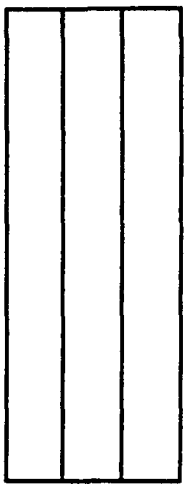
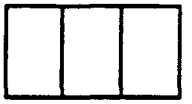
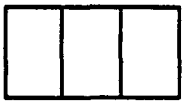
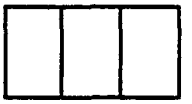
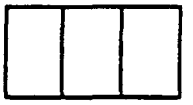
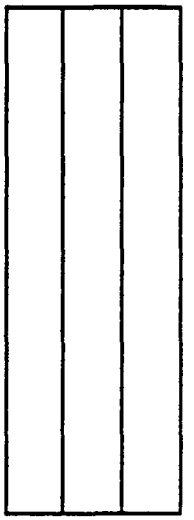
2.6.2090	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.	

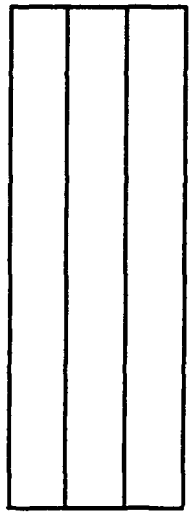
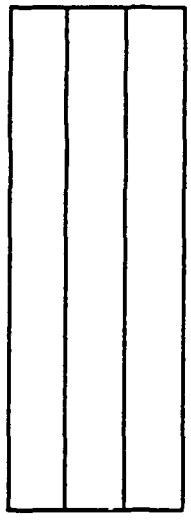
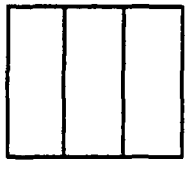
TEST CASE 2.6.2.1

2.6.2100	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.	
2.6.2110	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.	
2.6.2120	Click on the 'Move' button in the Task Frames editor.	A 'Move' editor appears.	
2.6.2130	Click on a point on the map where the M1 platoon is to move to. This point should be placed such that the red tanks are between the blue tanks and the point.	A point symbol with the 'Route' label appears.	
2.6.2140	Click on 'Done' in the Move task editor.	Another 'Move' editor appears.	
2.6.2150	Click on 'Actions on Contact' in the 'Move' frame editor.	An 'Actions on Contact' editor appears.	
2.6.2160	Click on 'Assault' under 'Not Under Fire, High Threat Reaction'.	The "Not Under Fire, High Threat" reaction has been changed from "Contact Drill" to "Assault".	
2.6.2170	Set the "Not Under Fire Threat Threshold" to 2.	This means that if the blue tanks detect an enemy platoon of more than 2 vehicles and are not under fire, the platoon will react with an assault on the enemy platoon.	
2.6.2180	Click on 'Done' in the 'Actions On Contact' editor.	The 'Actions On Contact' editor disappears, and a 'Move' frame editor appears.	
2.6.2190	Click on 'Done' in the Move frame editor.	The Execution editor appears.	

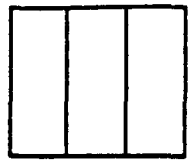
TEST CASE 2.6.2.2.

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
2.6.2200	Click the Actions on Contact button in the Move frame editor.	The Actions on Contact task editor appears.			
2.6.2210	Click on the current value in the 'Not Under Fire, Low Threat Reaction' selection area. Select 'No Action' from the list of offered reactions.	The value for the 'Not Under Fire, Low Threat Reaction' is now 'No Action'.			
2.6.2220	Click the Done button in the 'Actions on Contact' task editor.	The first platoon is now pre-programmed to move in in the deault wedge formation on the route labeled 'r1'. If a low threat enemy is spotted, the first platoon vehicles are pre-programmed to stay on the route and not shoot.			
2.6.2230	Click the Done button in the Move frame editor	The execution matrix editor appears.			
2.6.2240	Click on the first Select Task Frame button in the row labeled 'A2'. This button in the execution matrix will let you set the second platoon's frame for the first phase of the mission. Repeat steps 2.6.2170 thru 2.6.2230 to assign a Move frame on the route labeled 'r2' to the second platoon and to set the value in the 'Not Under Fire, Low Threat Reaction' selection area to 'Contact Drill'	The second platoon is now pre-programmed to move in the deault wedge formation on the route labeled 'r2'. If a low threat enemy is spotted, the platoon has been pre-programmed to continue in formation and shoot.			

2.6.2250	Click on the first Select Task Frame button in the row labeled 'A3'. This button in the execution matrix will let you set the third platoon's frame for the first phase of the mission. Repeat steps 2.6.2170 thru 2.6.2230 to assign a Move frame on the route labeled 'r3' to the third platoon and to set the value in the 'Not Under Fire, Low Threat Reaction' selection area to 'No Action'.	The third platoon is now pre-programmed to move in the deault wedge formation on the route labeled 'r3'. If a low threat enemy is spotted, the platoon has been pre-programmed to continue in formation without shooting.	
2.6.2260	Click on the Create Phase button in the execution matrix editor	The phase options editor appears in the Editor Area.	
2.6.2270	Click on the Control Measure button in the phase options editor.	The control measure editor appears in the Editor Area.	
2.6.2280	Click on the phase line labeled 'line1' in the map.	The label 'Control Measure' points to the selected phase line.	
2.6.2290	Click the Done button in the control measure editor	The execution matrix editor appears.	
2.6.2300	Click on the second Select Task Frame button in the row labeled 'A1'. This button in the execution matrix will let you set the first platoon's frame for the second phase of the mission. Repeat steps 2.6.2170 thru 2.6.2230 to assign a Move frame on the route labeled 'r1' to the first platoon and to set the value in the 'Not Under Fire, Low Threat Reaction' selection area to 'No Action'.	Phase two of the mission for the first platoon has now been pre-programmed to order a continuation of movement in the wedge formation on the route labeled 'r1'. If a low threat enemy is spotted, the platoon has been pre-programmed to continue in formation without shooting.	

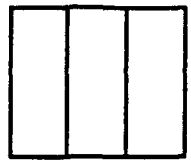
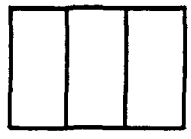
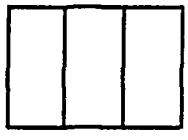
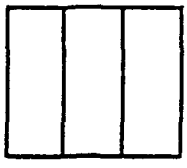
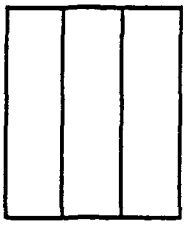
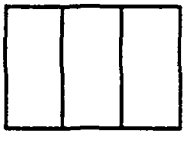
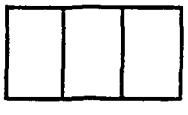
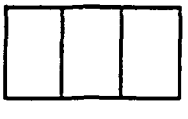
2.6.2310	Click on the second Select Task Frame button in the row labeled 'A2'. This button in the execution matrix will let you set the second platoon's frame for the second phase of the mission. Repeat steps 2.6.2170 thru 2.6.2230 to assign a Move frame on the route labeled 'r2' to the second platoon and to set the value in the 'Not Under Fire, Low Threat Reaction' selection area to 'Contact Drill'.	Phase two of the mission for the second platoon has now been pre-programmed to order a continuation of movement in the wedge formation on the route labeled 'r2'. If a low threat enemy is spotted, the platoon has been pre-programmed to continue in formation and shoot.	
2.6.2320	Click on the second Select Task Frame button in the row labeled 'A3'. This button in the execution matrix will let you set the third platoon's frame for the second phase of the mission. Repeat steps 2.6.2170 thru 2.6.2230 to assign a Move frame on the route labeled 'r3' to the second platoon and to set the value in the 'Not Under Fire, Low Threat Reaction' selection area to 'No Action'.	Phase two of the mission for the third platoon has now been pre-programmed to order a continuation of movement in the wedge formation on the route labeled 'r3'. If a low threat enemy is spotted, the platoon has been pre-programmed to continue in formation without shooting.	
2.6.2330	Click on the Assign button in the execution matrix editor.	The execution matrix editor disappears and the unit operations editor appears in the Editor Area.	

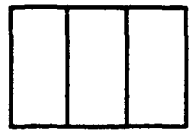
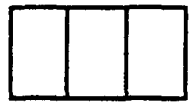
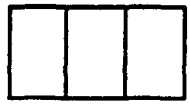
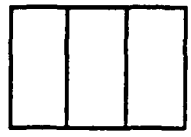
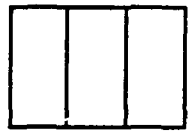
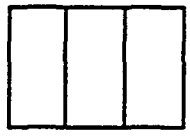
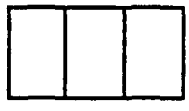
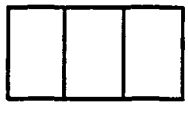
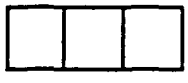
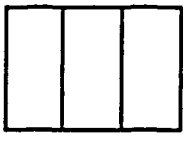
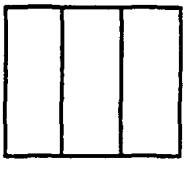
2.6.2340	Click Show As in the Menu Bar and select the Vehicle Pictures option.	The Company icon will be replaced by vehicle pictures in the map. The tanks move in the default wedge formation on their assigned routes. A platoon will stop moving at the phase line to wait for the other platoons to arrive. When each platoon has arrived at the phase line, then the second phase of the mission starts and the platoon vehicles continue on their assigned routes.	
2.6.2350	Place one enemy vehicle within range of the blue A1 platoon. Place one enemy vehicle within range of the blue A2 platoon.	Observe that only the blue A2 platoon can shoot in reaction to the enemy detection. This is in accordance with the Actions on Contact settings.	
2.6.2360	Repeat the above test varying movement parameters such as formations and speeds. Before assigning the mission, click the 'On Order' toggle to ON on the frame for the first phase frame of the first platoon.	This time the vehicles of the first platoon will not start moving when the mission is assigned. An "ON ORDER" menu will appear in the Menu Bar. To have the first platoon vehicles move, click on 'ON ORDER'. Click on the authorization for the first platoon in the pull-down menu. Then the first platoon vehicles will start to move.	
2.6.2370	Create a M1 Platoon somewhere else on the database.	The four vehicles of the platoon will appear on the map.	
2.6.2380	Task the platoon to follow a long route.	The vehicles will move along the route.	
2.6.2390	Task one vehicle of the platoon to assault an area off the route.	The newly tasked vehicle will leave its platoon route and will advance to the Assault Objective.	

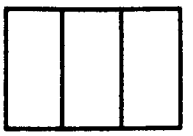
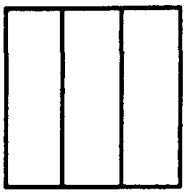
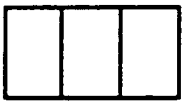
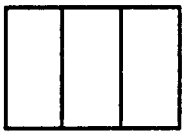
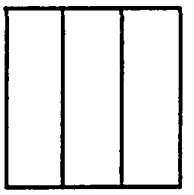
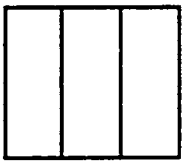
2.6.2400	Click on the assaulting vehicle. In the unit operations editor, click on the "Resume suspended mission" button.	The newly tasked vehicle will abandon its Assault mission and will rejoin its platoon.	

TEST CASE 2.6.3.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
31000	Select 'Show Editor' from the 'Special' pulldown menu.	The editor appears below the map.			
31010	Select 'Overlay Editor' from the editor.	The 'Overlay Editor' editor appears.			
31020	Replace '<Unnamed>' in the text box in the 'Overlay Editor' with 'overlay1'.	The string 'overlay1' appears in the 'Overlay Display' section of the 'Overlay Editor'.			
31030	Click on 'Create New Overlay' in the 'Overlay' section of the 'Overlay Editor'.	The text box clears and waits for the user to type in the name of another overlay.			
31040	Type 'overlay2' in the text box in the 'Overlay Editor'.	The string 'overlay2' appears in the 'Overlay Display' section of the 'Overlay Editor'.			
31050	Click on the black color bar in the 'Overlay Editor'.	A variety of color bars appear in a popup menu.			
31060	Click on the red color bar in the color bar selection menu.	The color bar menu disappears and a single red bar is shown.			
31070	Click on 'Done' in the 'Overlay Editor'.	The 'Overlay Editor' editor disappears.			
31080	Click on the line tool icon in the button column.	The line tool icon is recessed and the 'Line/Area Editor' appears.			
31090	Click on two locations on the map.	A line is drawn between the two selected locations on the map.			
31100	Click on 'Press For Other Overlays' in the 'Overlay' section of the 'Line/Area Editor'.	A small popup menu with the two selections: 'overlay1' and 'overlay2' appears.			

31110	Click on 'overlay1'.	The small popup menu disappears, 'overlay1' appears in the 'Overlay' section, and the color bar turns black.	
31120	Click on 'Done' in the 'Line/Area Editor'.	The 'Line/Area Editor' disappears.	
31130	Click on the line tool icon in the button column.	The line tool icon is recessed and the 'Line/Area Editor' appears.	
31140	Click on two locations on the map.	A line is drawn between the two selected locations on the map.	
31150	Click on 'Press For Other Overlays' in the 'Overlay' section of the 'Line/Area Editor'.	A small popup menu with the two selections: 'overlay1' and 'overlay2' appears.	
31160	Click on 'overlay2'.	The small popup menu disappears, 'overlay2' appears in the 'Overlay' section, and the color bar turns red.	
31170	Click on 'Done' in the 'Line/Area Editor'.	The 'Line/Area Editor' disappears. There are two lines on the map: one black and one red. The black line belongs to 'overlay1', and the red one belongs to'overlay2'.	
31180	Click on the 'Overlay Editor' button in the editor.	The 'Overlay Editor' editor appears.	
31190	Click on 'overlay1' in the 'Overlay Display' section of the 'Overlay Editor'.	The small box beside 'overlay1' is no longer recessed.	
31200	Click on 'Done' in the 'Overlay Editor'.	The 'Overlay Editor' disappears as well as the black line on the map.	
31210	Click on the 'Overlay Editor' button in the editor.	The 'Overlay Editor' editor appears.	

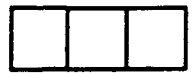
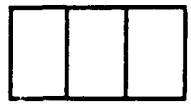
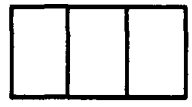
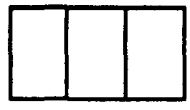
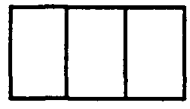
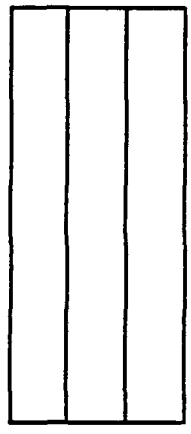
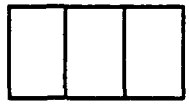
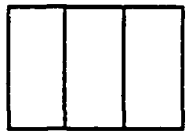
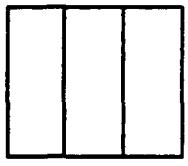
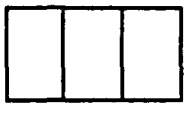
31220	Click on 'overlay2' in the 'Overlay Display' section of the 'Overlay Editor'.	The small box beside 'overlay2' is no longer recessed.	
31230	Click on 'Done' in the 'Overlay Editor'.	The 'Overlay Editor' disappears as well as the red line on the map.	
31240	Click on the 'Overlay Editor' button in the editor.	The 'Overlay Editor' editor appears.	
31250	Click on 'overlay1' in the 'Overlay Display' section of the 'Overlay Editor'.	The small box beside 'overlay1' is recessed.	
31260	Click on 'overlay2' in the 'Overlay Display' section of the 'Overlay Editor'.	The small box beside 'overlay2' is recessed.	
31270	Click on 'Done' in the 'Overlay Editor'.	The 'Overlay Editor' disappears. The red and black lines previously drawn reappear.	
31280	Click on 'Save Overlay to File...' in the 'File' pulldown menu.	A small popup menu with two entries: 'overlay1' and 'overlay2' appears.	
31290	Click on 'overlay1'.	A 'Save Overlay' popup menu appears. 'overlay1' is in the text box.	
31300	Click 'OK' in the 'Save Overlay' popup menu.	The 'Save Overlay' popup menu disappears.	
31310	Click on the 'Overlay Editor' button in the editor.	The 'Overlay Editor' editor appears.	
31320	Click on 'Press For Other Overlays' in the 'Overlay' menu in the 'Overlay Editor' editor.	A small popup menu with the selections 'overlay1' and 'overlay2' appears.	
31330	Click on 'overlay1'.	The small popup menu disappears and 'overlay1' is displayed in the text box in the 'Overlay' section.	

31340	Click on 'Delete Overlay' in the 'Overlay' section of the 'Overlay Editor' editor.	A 'Confirm Delete' popup menu appears.	
31350	Click on 'Delete' in the 'Confirm Delete' popup menu.	The black line on the map disappears, as well as 'overlay1' from the 'Overlay Display' section of the 'Overlay Editor' editor.	
31360	Click on 'Done' in the 'Overlay Editor' editor.	The 'Overlay Editor' editor disappears.	
31370	Click on 'Load Overlay File...' in the 'File' pulldown menu.	A 'Load Overlay' popup menu appears.	
31380	Click on 'overlay1.1' in the 'Load Overlay' popup menu.	'overlay1.1' appears in the text box in the 'Load Overlay' popup menu.	
31390	Click on 'OK' in the 'Load Overlay' popup menu.	The 'Load Overlay' popup menu disappears and the black line previously deleted reappears.	
31400	Click on 'Overlay Editor' in the editor.	The 'Overlay Editor' editor appears. 'overlay1' is back in the 'Overlay Display' section of the 'Overlay Editor' editor.	
31400	On another workstation, bring up the modsaf user interface.	Observe that the same overlays that have been created in this test are available in the second workstation.	

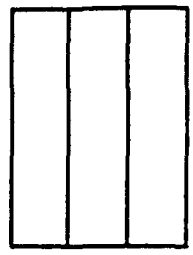
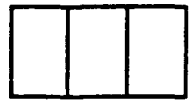
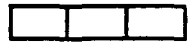
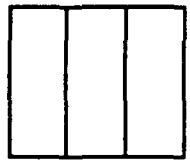
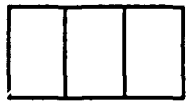
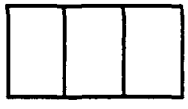
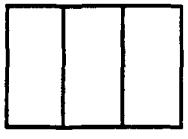
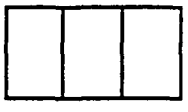
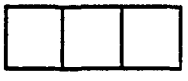
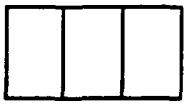
TEST CASE 2.6.3.2

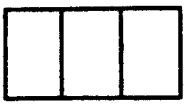
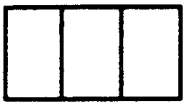
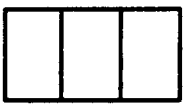
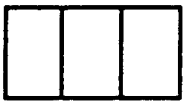
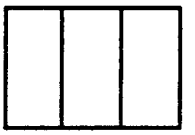
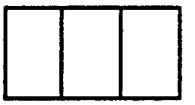
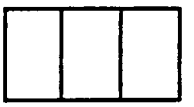
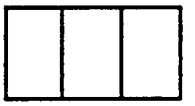
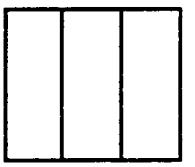
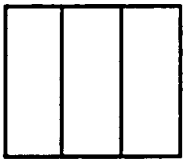
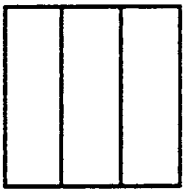
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
32000	Click on the blue Line/Area button.	The Line/Area Editor appears on the bottom of the screen.			
32010	Click on the map.	A blue arrow appears.			
32020	Click on the map about an inch across from the blue arrow.	A blue line appears, connecting the two points, and the blue arrow is at the new location.			
32030	Click on the map about an inch above the blue arrow.	A blue line appears, connecting this point to the end of the previous line, and the blue arrow is at the new location.			
32040	Place the mouse pointer over the second point that was created.	A black circle appears surrounding this point.			
32050	Click and drag this circle to another location.	The lines are redrawn to connect to the new point.			
32060	Click in the rectangular box under Label in the Line/Area Editor.	The box has a red outline.			
32070	Type "route1". Click on Done in the Line/Area Editor.	"route1" appears in the box.The blue line segments become black, and the label, "route1", appears next to the route on the map.			
32080	Click on the line that was just created on the map. Set the Editing Mode to Whole and the Append Modes to After. Click on another point on the terrain. Click on Done.	The new point should be added to the line after the last point that was created.			
32090	Click on the blue Unit button.	The Unit Editor appears at the bottom of the screen.			

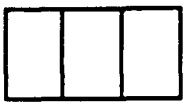
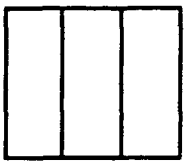
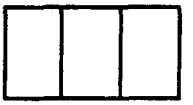
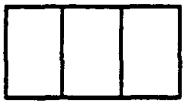
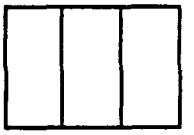
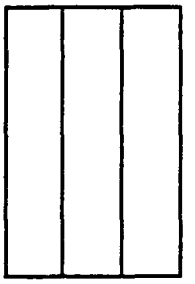
32100	Click on the map near the first point of the route.	A unit graphic appears near the beginning of the route.	
32110	Click on the button under Vehicle Type in the Unit Editor.	A list of vehicle types appear in a column.	
32120	Click on T72M.	The unit graphic is shaped like a diamond.	
32130	Click on Done in the Unit Editor.	The Unit Editor disappears, and in a moment, a red vehicle appears where the diamond graphic was.	
32140	Click on the red vehicle.	The Unit Operations Editor appears at the bottom of the screen.	
32150	Click on Unit Tasking from the Unit Operations Editor.	An Execution Matrix appears at the bottom of the screen.	
32160	Click on "Select Task Frame" from the Execution Matrix.	The Task Frame Editor appears at the bottom of the screen.	
32170	Click on the Move button from the Task Frame Editor.	The Move Editor appears at the bottom of the screen.	
32180	Click on route1 from the map.	A red arrow and the word "Route" point to route1.	
32190	Click on Done from the Move Editor.	A list of tasks that make up this frame appear at the bottom of the screen.	
32200	Click on Done from the Move Editor.	The Execution Matrix appears at the bottom of the screen.	
32210	Click on Assign from the Execution Matrix Editor.	The Unit Operations Editor appears at the bottom of the screen.	
32220	Click on Done from the Unit Operations Editor.	The red vehicle will now follow route1.	
32230	Click on the Scissors button.	The Delete Tool appears at the bottom of the screen.	

32240	Click on route1.	A large red X appears on route1.	
32250	Click on Done under Delete Tool.	Route1 disappears, and the Delete Tool at the bottom also disappears.	
32260	Click on the Line/Area button.	The Line/Area Editor appears on the bottom of the screen.	
32270	Click on "Use Roads" under Points in the Line/Area Editor.	A red box appears around "Use Roads".	
32280	Click on a road that is near a bunch of other roads.	A blue arrow appears on the road near where the click was.	
32290	Click on a road that is connected to the first road that was selected.	A black line appears between the two points, and a blue arrow appears at the last click point. (This black line is the shortest road path between the two points. Please note: Not all roads that appear next to each other are connected. Please try again somewhere else on the map if the shortest path does not appear.)	
32300	Click on "parts" in the Line/Area Editor under Points.	A red box appears around "parts" in the Line/Area Editor.	
32310	Click on an open area on the map that is next to a river and a road that crosses the river.	A blue arrow appears at the click point.	
32320	Click on the other side of the river. Make the line dashed.	A blue dashed line appears crossing the river, and a blue arrow appears at the new click point.	
32330	Click on Done in the Line/Area Editor.	The new route becomes black, and the Line/Area Editor disappears.	

32340	Click on the blue Unit button.	The Unit Editor appears at the bottom of the screen.	
32350	Click on the map near the first point of the route that crosses the river.	A unit graphic appears near the beginning of the route.	
32360	Click on the button under Vehicle Type in the Unit Editor.	A list of vehicle types appear in a column.	
32370	Click on M1.	An M1 graphic appears on the map at the click point.	
32380	Click on Done in the Unit Editor.	The Unit Editor disappears, and in a moment, a red vehicle appears where the M1 graphic was.	
32300	Click on the M1 vehicle.	The Unit Operations Editor appears at the bottom of the screen.	
32310	Click on Unit Tasking from the Unit Operations Editor.	An Execution Matrix appears at the bottom of the screen.	
32320	Click on "Select Task Frame" from the Execution Matrix.	The Task Frame Editor appears at the bottom of the screen.	
32330	Click on the Move Button from the Task Frame Editor.	The Move Editor appears at the bottom of the screen.	
32340	Click on the route that goes through the river.	A red arrow, and the word "Route" point to this route.	
32350	Click on Done from the Move Editor.	A list of tasks that make up this frame appear at the bottom of the screen.	
32360	Click on Done from the Move Editor.	The Execution Matrix appears at the bottom of the screen.	
32370	Click on Assign from the Execution Matrix Editor.	The Unit Operations Editor appears at the bottom of the screen.	

32380	Click on Done from the Unit Operations Editor.	The vehicle will follow the route, but when the vehicle notices that the river is along its path, it will detour and cross at the road instead. The vehicle will then follow the rest of the route.	
32390	Click on the blue Line/Area button.	The Line/Area Editor appears on the bottom of the screen.	
32400	Click on the map.	A blue arrow appears.	
32410	Click on the map about three inches across from the blue arrow.	A blue line appears, connecting the two points, and the blue arrow is at the new location.	
32420	Click on the button under Style in the Line/Area Editor.	A list of styles appear in a column.	
32430	Click on "Front(1)".	A series of half-circles appear along the line.	
32440	Click on the button under Style in the Line/Area Editor.	A list of styles appear in a column.	
32450	Click on "Front(2)".	A series of half-circles (facing the other direction) appear along the line.	
32460	Click on the button under Style in the Line/Area Editor.	A list of styles appear in a column.	
32470	Click on "Minefield".	A series of mines appear along the line.	
32480	Click on the button under Style in the Line/Area Editor.	A list of styles appear in a column.	
32490	Click on "Berm".	A series of overlapped ovals appear along the line.	
32500	Click on the button under Style in the Line/Area Editor.	A list of styles appear in a column.	

32510	Click on "AT Ditch(1)".	A series of black triangles appear along the line.	
32520	Click on the button under Style in the Line/Area Editor.	A list of styles appear in a column.	
32530	Click on "Fortification".	A series of open-ended squares appear along the line.	
32540	Click on the button under Style in the Line/Area Editor.	A list of styles appear in a column.	
32550	Click on "Wire".	A series of X's appear along the line.	
32560	Click on Done in the Line/Area Editor.	The blue line segment becomes black, and the Line/Area Editor disappears.	
32570	Click on the blue Line/Area button.	The Line/Area Editor appears on the bottom of the screen.	
32580	Click on the map.	A blue arrow appears.	
32590	Click on the Area button under Type in the Line/Area Editor.	A red rectangle appears around the Area button.	
32600	Clink on the Parts button under points in the Line/Area Editor.	A red rectangle appears around the Parts button.	
32610	Click on the map about an inch below the blue arrow.	A blue line appears connecting the two points, and the blue arrow appears at the bottom point.	
32620	Click on the map about an inch to the right of the blue arrow.	A blue line appears connecting these two points, and a black line connects this new point to the first one.	
32630	Click on the map about an inch above the blue arrow.	A blue line appears connecting the two new points, the previous black line is gone, and a new one connects this point to the first one.	

32640	Click in the rectangular box under Label in the Line/Area Editor.	The box has a red outline.	
32650	Type "Assembly Area".	"Assembly Area" appears in the box.	
32660	Click on done in the Line/Area Editor.	The line segments become black, and the label "Assembly Area" appears next to the square on the map.	
32670	Click on the blue Text Editor button.	The Text Editor appears at the bottom of the screen.	
32680	Click on the map.	The X and Y locations appear in the location boxes in the Text Editor.	
32690	Click on the rectangular box under Text in the Text Editor.	A red rectangle appears around this box.	
32700	Type multiple lines of text in the box.	The multiple lines of text appear in the box, and on the map where the click point was.	
32710	Click on the Done button in the Text Editor.	The text Editor disappears.	
32720	Click on the blue Point editor button. Create each of the following types of points: general, target reference point, coordinating, contact, control, fortification, named area of interest and decision.	Observe that each of these points can be created and are represented by the appropriate shape on the map.	

TEST CASE 2.6.4

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
2.6.4000	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
2.6.4010	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
2.6.4020	Click on 'Done' in the Unit Editor.	The Unit Editor editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
2.6.4030	Point to the blue tank icon and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.			
2.6.4040	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.			
2.6.4050	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.			
2.6.4060	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.			
2.6.4070	Click on the 'Assault' button in the Task Frames editor.	An 'Assault' editor appears.			
2.6.4080	Click on the line tool icon in the button column.	The 'Line/Area Editor' appears.			
2.6.4090	Click on a point on the map which defines the start of the assault objective.	A blue arrow appears on the map where the mouse was clicked.			

2.6.4100	Click on a point on the map which defines the end of the assault objective.	A line that represents the assault objective is drawn on the map.	
2.6.4110	Click on 'Done' in the 'Line/Area Editor'.	The 'Line/Area Editor' disappears and the 'Assault' editor appears.	
2.6.4120	Click on 'Done' in the Assault editor.	Another 'Assault' editor appears.	
2.6.4130	Click on 'Done' in the Assault task frame editor.	The Execution editor appears.	
2.6.4140	Click on 'Show Messages' in the Special pulldown menu.	The message log area appears at the right side of the map.	
2.6.4150	Click on 'Assign' in the Execution editor.	The Unit Operations editor appears and the platoon begins moving toward the assault objective. When the tanks have reached the assault objective, a blue line (the battle front) is drawn near the assault objective, and the tanks occupy the battle front. A message appears in the message log stating that the battle area is secured.	

TEST CASE 2.6.7

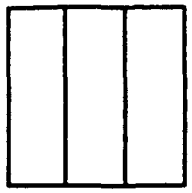
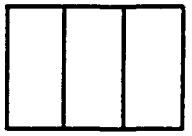
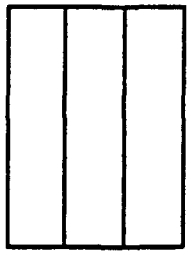
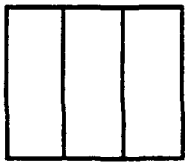
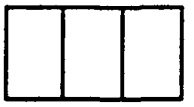
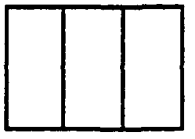
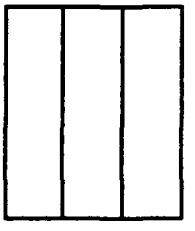
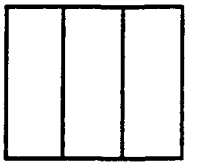
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
70000	Click on the Stealth arrow.	The Stealth Control Editor appears. From here, the stealth can be teleported, or attached to a vehicle, in a variety of attachment modes.			
70010	Create a vehicle, then, in the Stealth Control Editor, click on the button under "Attach To", labeled "Click here for Map Input", then click on the new vehicle.	The Stealth will teleport to that vehicle, and will follow that vehicle around. Note that the arrow is pointing in the direction the stealth is pointing.			
70020	Change the angle under Teleport Azimuth.	This changes the angle of view for the stealth.			
70030	Select one of the values under Attach Mode.	This shows a list of different Attach Modes available for the stealth.			
70040	Click on the button under "Attach To" that is labeled "Detach". Select the XY coordinate system by clicking on the "X/Y(TCC)" toggle in the "Teleport To" box. Click on the middle of the screen.	The numbers in the boxes under Teleport To correcpond to the X and Y coordinates at this point on the map.			
70050	Change both coordinate numbers in Teleport To to zero.	The Stealth arrow has moved to the lower left hand corner of the screen.			
70060	Select Done from the Stealth Control Editor.	Exits the Stealth Control Editor.			

TEST CASE 2.6.8

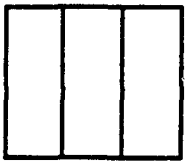
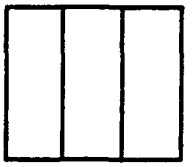
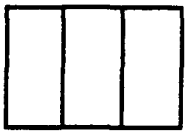
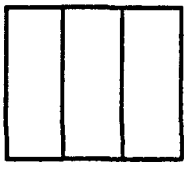
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
2.6.8000	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
2.6.8010	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
2.6.8020	Click on 'Done' in the Unit Editor.	The Unit Editor editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
2.6.8030	Point to the blue tank icon and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears. One of the tank icons (the one representing the selected tank) is recessed.			
2.6.8040	Click on each of the tasks in the 'Other Tasks' section of the 'Unit Operations' editor.	As each task is selected, the small square beside it is recessed, and its corresponding status is displayed in the status monitor (the black box that appears at the bottom of the 'Unit Operations' editor).			

TEST CASE 2.7.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
2.7.1000	Click on the 'Special' pulldown menu.	The 'Special' pulldown menu appears.			
2.7.1010	Click on 'Show Editor' in the 'Special' pulldown menu.	The editor appears on the lower third of the display.			
2.7.1020	Click on 'User Preferences Editor'.	The 'User Preferences Editor' editor appears.			
2.7.1030	Click on 'Lat/Long' in the 'Coordinate System' section.	A red rectangle appears around 'Lat/Long' and the button beside it is recessed.			
2.7.1040	Click on 'Feet/Sec' in the 'Speeds' section.	A red rectangle appears around 'Feet/Sec' and the button beside it is recessed.			
2.7.1050	Click on 'Mils' in the 'Angles' section.	A red rectangle appears around 'Mils' and the button beside it is recessed.			
2.7.1060	Click on 'Feet' in the 'Distances' section.	A red rectangle appears around 'Feet' and the button beside it is recessed.			
2.7.1070	Click on 'Miles' in the 'Altitudes' section.	A red rectangle appears around 'Miles' and the button beside it is recessed.			
2.7.1080	Click on 'Gallons' in the 'Fuel' section.	A red rectangle appears around 'Gallons' and the button beside it is recessed.			
2.7.1090	Click on 'Whole' in the 'Line Editing Mode' section.	A red rectangle appears around 'Whole' and the button beside it is recessed.			
2.7.1100	Click on 'Only Standard' in the 'Zoom Scales' section.	A red rectangle appears around 'Only Standard' and the button beside it is recessed.			

2.7.1110	Click on 'Bottom Right' in the 'Map Scroll Bars' section.	A red rectangle appears around 'Bottom Right' and the button beside it is recessed. Scroll bars appear to the right and bottom of the map.	
2.7.1120	Click on 'Done' in the 'User Preferences Editor'.	The 'User Preferences Editor' disappears and is replaced by the editor.	
2.7.1130	Click on the 'Info' icon in the button column (the question mark inside the triangle).	The 'Info' icon appears in reverse video.	
2.7.1140	Point to a location on the map and hold the middle mouse button down.	Observe that in the status line just below the map, the location is expressed in latitude/longitude, the grade is expressed in mils, and the altitude is expressed in miles.	
2.7.1150	Click on the line editing icon in the button column.	The 'Line/Area Editor' appears with the button next to 'Whole' in the 'Editing Modes' section recessed.	
2.7.1160	Click on 'Abort' in the 'Line/Area Editor'.	The 'Line/Area Editor' disappears and is replaced by the editor.	
2.7.1170	Click on the 'Zoom' icon in the button column (the four arrows pointing to a square).	The 'Zoom' icon appears in reverse video.	
2.7.1180	Select a region on the map by pointing to its upper-left corner, pressing the middle mouse button, dragging it to the lower-right corner, and releasing the button.	The selected region of the map is displayed in the nearest standard zoom factor.	
2.7.1190	Click on 'Map Scale' in the menu bar above the map.	One of the standard zoom factors has a diamond beside it, indicating that it is the current zoom factor.	

2.7.1200	Click anywhere on the map with the left mouse button.	The 'Map Scale' pulldown menu disappears.	
2.7.1210	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit. Note that the fuel is expressed in gallons and the direction is in mils.	
2.7.1220	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.	
2.7.1230	Click on 'Done' in the Unit Editor.	The Unit Editor editor disappears, and a platoon of blue tanks appears on the map where it was placed.	
2.7.1240	Point to the blue tank icon and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.	
2.7.1250	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.	
2.7.1260	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.	
2.7.1270	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.	
2.7.1280	Click on the 'Move' button in the Task Frames editor.	A 'Move' editor appears.	
2.7.1290	Click on a point on the map where the M1 platoon is to move to.	A point symbol with the 'Route' label appears.	
2.7.1300	Click on 'Done' in the Move editor.	Another 'Move' editor appears.	

2.7.1310	Click on 'Done' in the Move editor.	The Execution editor appears.	
2.7.1320	Click on 'Assign' in the 'Execution' editor.	The 'Unit Operations' editor appears.	
2.7.1330	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.	
2.7.1340	Click on 'Traveling' in the 'Move' section of the Unit Operations editor.	A line of text beginning with 'Traveling' appears in the black status box. Note that the speed is expressed in Feet/Sec.	
2.7.1350	Click on the terrain tool icon in the button column.	The 'Terrain Tool' editor appears. Note that the 'Distance' box expresses its distances in feet.	
2.7.1360	Modify some of the user preferences in the User Preference Editor. Save the User Preferences and Load them again.	Observe that the preferences loaded were the ones just saved.	

TEST CASE 2.7.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
72000	Create several types of units, and click on "Show As" from the menu bar at the top of the screen.	A list of different types of graphical symbols appear. These types of symbols are used to represent different entities on the map.			
72010	Select each of the symbol types from the list, one at a time.	The graphics of the units will change, depending upon the type of symbol chosen from the "Show As" menu.			
72020	Click on the button "User Preferences Editor" from the bottom of the screen. (If it is not there, click on "Special" from the top menu bar, and select "Show Editor" from the list.)	A group of options appear at the bottom of the screen.			
72030	Click on the UTM button under Coordinate System in the User Preferences Editor, then click on the Info button and select a point on the screen.	The coordinate system is now set to UTM. Observe that the center is displayed in UTM coordinates.			
72040	In the User Preferences Editor select Lat/Long under Coordinate Systems.	The coordinate system is now set to Lat/Long. Observe that the center is displayed in Lat/Long coordinates.			
72050	Click on the Done button in the User Preferences Editor.	The editor disappears.			
72060	Create a F14D vehicle and a M1 tank.	A picture of a plane and a picure of a tank appear on the screen.			
72070	Select "Show As" from the menu bar and select "Vehicle Icons".	Observe the army and navy military symbology.			
72080	Select "Show As" from the menu bar and select "Vehicle Pictures".	Observe that the vehicles redisplay as pictures.			

72090	Draw a line (with four or more points) using the Line/Area Editor.	The line appears on the screen.	
72100	Select the line for editing by clicking on one of its vertices or segments.	The Line/Area Editor appears.	
72110	Click on the "Whole" toggle under Points.	Editing is now set to apply to the whole line.	
72120	Highlight a segment of the line. While keeping the left button pressed, drag the segment to a new location.	The whole line is moved to the new location.	
72130	Click on the "Delete" toggle under Points in the Line/Area Editor.	Editing is now set to delete points rather than add them.	
72140	Click on a vertex point on the line.	The point that was clicked on is removed.	
72150	Click on the "Parts" toggle under Points in the Line/Area Editor.	Editing is now set to apply to parts of the line rather than the whole line.	
72160	Highlight a vertex of the line. Keeping the left button pressed, drag the mouse to drag the vetex point to a new location.	The vertex and line segments at the click point move to accommodate the new vertex location.	

TEST CASE 2.8 - Interaction Between Workstations

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
2.8.1000	Start ModSAF on two platforms, using the same terrain DB, and the default network option. Also, ensure that both machines have access to the same "overlays" directory.	ModSAF is running on two platforms.			
2.8.1010	Decide which machine you will call "machine1" and which machine you will call "machine2".	This is how each ModSAF platform will be referred to during the test.			
2.8.1020	On machine1, click on the Area Editor button.	The Area Editor appears.			
2.8.1030	Click on a point in the middle of the map.	An arrow pointing to the point which you clicked appears.			
2.8.1040	Click on another point about two inches to the right of the arrow which appeared in the last step.	A line joins the two points, and the arrow is now pointing to the point last created.			
2.8.1050	Click on the Label box and enter "Route 1". Then click on Done, and then Done again.	The text "Route 1" appears by the line that was just created in the map. Also, all of the editor buttons are visible a the bottom of the display.			
2.8.1060	Click on Overlay Editor.	The Overlay Editor appears.			
2.8.1070	Enter "Overlay1" in the Overlay field, and click Done.	The Overlay Editor disappears.			
2.8.1080	Click on File/Save Overlay To File / Overlay1.	The Save Overlay dialog box appears.			
2.8.1090	Click on Ok.	The overlay "Overlay1" is saved, and the Save Overlay dialog box disappears.			

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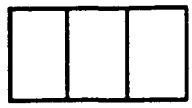
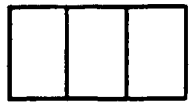
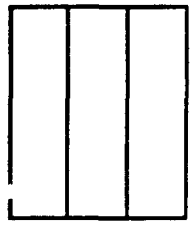
TEST CASE 2.9

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Refer to the following tests: 5.3 Parameter Database Interfaces, 5.3.1 - Organizational Parameters, 5.3.2 - Entity Parameters, 5.3.3 - Weapon Parameters, 5.3.4 - Behavioral Parameters, 5.3.5 - User Interface Parameters, 5.3.6 - Sensor Parameters, and 5.3.7 - Exercise Parameters.	These tests refer to the parameter database.			
1010	Refer to Test 5.1 - DIS Database Interface.	This test refers to the simulation (DIS) database.			
1020	Refer to the following tests: 5.2.1 Command and Control, and 5.2.2 - Command and Control Overlays.	These tests refer to the PO database.			
1030	Refer to the following tests: 5.4 Terrain Database Interface, and 5.4.1 - Terrain Data.	These tests refer to the terrain database.			

TEST CASE 3.1.1 - Entity Creation

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
3.1.1000	Start ModSAF on two different platforms on the network, and specify the same terrain database.	ModSAF is running on two platforms.			
3.1.1010	Designate the platforms as "machine1" and "machine2". This is how the two platforms will be referred to throughout the test.	Decide which platform you will call "machine1" and which you will call "machine2".			
3.1.1020	On machine1, click on the Unit Editor button.	The Unit Editor appears.			
3.1.1030	On machine1, click on any point in the map, and then click on Done.	A platoon icon appears momentarily, and shortly after pressing Done, is replaced by individual unit icons.			
3.1.1040	From the Parser command line on machine1, issue "print vehicle". Vehicles will not necessarily get simulated on a local machine.	Local and remote info. is given. Record the local vehicle numbers.			
3.1.1050	Repeat steps 3.3.1020 - 3.3.1040 on machine1.	Steps are repeated. Also, notice that there are now vehicles listed under "Remote vehicle" in the Parser window. i.e. These newly created vehicles have been created and are being controlled by the remote machine.			
3.1.1060	For verification, repeat step 3.3.1040 on machine2.	You will see that the vehicle ids that were recorded earlier are listed under "Local vehicle" on this machine.			
3.1.1070	On machine2, click on the Delete Tool button, then click on one of the vehicles that is local to machine2. Click on Done in the Delete Tool window.	The vehicle is deleted.			

3.1.1080	Repeat step 3.3.1040.	Notice that there is one less vehicle id listed under "Remote vehicle".	
3.1.1090	On machine1, issue "ctrl-c". Wait about 15 seconds.	ModSAF on machine1 is killed.	
3.1.1100	From the Parser command line of machine2, issue "print vehicle".	The vehicles which were local to machine1 have now been transferred to local vehicles on machine2. The ids will be identical to the ids recorded earlier.	

TEST CASE 3.2 Command Interface

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
11000	Select the blue unit icon and create an M1 Platoon.	An M1 platoon appears on the map.			
11010	Select the M1 Platoon on the map.	The Unit Organization editor appears at the bottom of the screen.			
11020	Select "Subordinate Unit Tasking". Select a Task Frame for each of the units in the platoon and then select the Assign button from the execution matrix.	The units each start executing their missions.			

TEST CASE 3.3.1.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
11000	Zoom in on the map in an area that has many tree lines.	The map will show many tree lines.			
11010	Create a ground vehicle from the Unit Editor.	The vehicle appears on the map. Look at the vehicle from the Stealth and the vehicle's orientation can be viewed. The vehicle's orientation was determined by the direction and underlying terrain.			
11020	Create a route that goes through a bunch of tree lines and also through buildings, and assign it to the vehicle.	The vehicle will follow the route as close as possible while avoiding the buildings but driving through the tree lines. Look at the Stealth to view how the vehicle moves through various slopes and terrain types.			
11030	Zoom in very close to the moving vehicle.	The vehicle should make many turns and possibly turn backwards to get around a building.			
11040	Find an area on the map that has few objects.	The map should not have many tree lines or other objects in this area.			
11050	Create a Tracked Ground Vehicle, such as an M1 tank, and assign this vehicle a route that has a sharp turn in it.	The vehicle follows the route, and turns as much as it can around the sharp turn. Keep in mind that the terrain, slope, type and speed of the vehicle are all factors in how much it can turn.			
11060	Create a Wheeled Ground Vehicle, such as an M977, and assign it to the same route.	The vehicle follows the route, and it turns as much as it can around the sharp turn. Notice the slight difference between this vehicle turning and the tracked vehicle.			

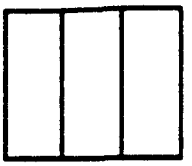
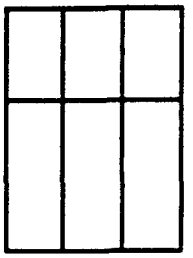
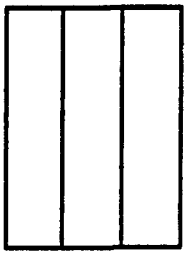
TEST CASE 3.3.1.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
11000	Click on the blue Unit button.	The Unit Editor appears at the bottom of the screen.			
11010	Click on the 'PVD Controls' button in the Editor Area. (If the Editor Area is not displayed, then hit Alt E to display it). Click on the Call Sign toggle and on the Speed toggle under 'Map Notations', then click on Done.	The PVD Controls editor now has both its call sign display toggle and its speed display toggle set to ON in the Map Notations selection area. This means that the DI will have its call sign and speed displayed along with its icon in the map.			
11020	Click on the map, and select a "DI" type from the list of vehicles in the Vehicle Type selection area. Notice the type of ammunition that is listed in the Munitions selection area. Give this DI a label of "bdi", then click on the Done button.	A blue DI icon labeled "bdi" appears on the map.			
11030	Repeat steps 11000 thru 11010 to create "DI" of the same type near the blue DI and give this DI a label of "rdi". Before clicking on the Done button in the Unit Editor, click on the Enemy toggle in the Side selection area.	A red DI icon labeled "rdi" appears on the map.			
11040	Click on the blue DI labeled "bdi" on the map.	The Unit Operations Editor appears at the bottom of the screen.			
11050	Click on Unit Tasking from the Unit Operations Editor..	The Execution Editor appears at the bottom of the screen.			
11060	Click on the "Select Task Frame" button in the execution matrix.	The Task Frame Editor appears at the bottom of the screen.			

11070	Click on the "Move (Contact)" button from the Task Frame Editor.	The Move Task Editor appears at the bottom of the screen.	
11080	Click on the map to position a point just beyond the red DI and then click on Done from the Move Task Editor	The "Move (Contact)" Editor appears at the bottom of the screen.	
11090	Click on Done from the "Move (Contact)" editor.	The Execution Editor appears at the bottom of the screen.	
11110	Click on the Assign button from the Execution Editor, and on Done from the Unit Operations Editor.	The blue DI will move towards their assigned point. Use the Stealth to view the DI as it moves and then shoots when it can detect the red DI.	
11120	Repeat test using the other types of DI.	Use the Stealth to observe.	
11130	Click on the 'sysop' item in the Privileges pulldown menu. Then click on the 'Quit' item in the File pulldown menu.	The ModSAF application quits.	
11140	In the directory 'common/src/ModSAF', list the files with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'	
11150	Use the Unix 'more' command to view the standard entity parameters file named 'standard_params.rdr'.	The file named 'standard_params.rdr' holds the standard entity parameters. These values apply unless a different set of values is specified in a specific DI type file.	
11160	Use the Unix 'more' command to view the specific DI type files. The name for a specific file has the format: '<country>_<DI type>_ params.rdr'. An example is the file named 'USSR_DI_GRP_MG_params.rdr' which holds the parameters specific for the DI type 'DI_GRP_MG'.	The parameters in the specific DI type parameter file plus the parameters in the standard parameter file specify the characteristics of that DI type.	

TEST CASE 3.3.1.3

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
11000	Click on the blue Unit button.	The Unit Editor appears at the bottom of the screen.			
11010	Click on the map, and select "F14D" from the list of vehicles in the Vehicle Type button, then click on the Done button.	The fixed wing aircraft F14D appears on the map.			
11020	Click on the blue Line/Area button.	The Line/Area Editor appears at the bottom of the screen.			
11030	Create a route for the vehicle to follow.	The route appears on the map.			
11040	Click on the blue Point button.	The Point Editor appears at the bottom of the screen.			
11050	Create a point for the vehicle to use as its refuel point.	The point appears on the map.			
11060	Click on the F14D plane.	The Unit Operations Editor appears at the bottom of the screen.			
11070	Click on Unit Tasking from the Unit Operations Editor.	The Execution Editor appears at the bottom of the screen.			
11080	Click on the "Select Task Frame" button in the execution matrix.	The Task Frame Editor appears at the bottom of the screen.			
11090	Click on the "Sweep" button from the Task Frame Editor.	The Follow Route Task Editor appears at the bottom of the screen.			
11100	Click on the line that was created with the Line/Area Editor, then click on Done from the Follow Route Task Editor.	The Bingo Fuel Task Editor appears at the bottom of the screen.			

11110	Click on the point that was created with the Point Editor, then click on Done from the Bingo Fuel Task Editor.	The "Sweep" Editor appears at the bottom of the screen.	
11120	Click on Done from the "Sweep" editor.	The Execution Editor appears at the bottom of the screen.	
11130	Click on the Assign button from the Execution Editor, and on Done from the Unit Operations Editor.	The F14D plane will now follow the route. Use the Stealth to view the F14D plane as it follows the route.	
11140	Repeat test changing the movement type in the follow route task of the sweep task frame to contour.	The F14D plane will now follow the route. Use the Stealth to view the F14D plane as it follows the route. Observe that the plane follows the contour of the earth in its flight pattern.	

TEST CASE 3.3.1.4

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
11000	Click on the blue Unit button.	The Unit Editor appears at the bottom of the screen.			
11010	Click on the map, and select "AH-64" from the list of vehicles in the Vehicle Type button, then click on the Done button.	The rotary wing aircraft AH-64 appears on the map.			
11020	Click on the blue Line/Area button.	The Line/Area Editor appears at the bottom of the screen.			
11030	Create a route for the vehicle to follow.	The route appears on the map.			
11040	Click on the AH-64 plane.	The Unit Operations Editor appears at the bottom of the screen.			
11050	Click on Unit Tasking from the Unit Operations Editor.	The Execution Editor appears at the bottom of the screen.			
11060	Click on the "Select Task Frame" button in the execution matrix.	The Task Frame Editor appears at the bottom of the screen.			
11070	Click on the "Sweep" button from the Task Frame Editor.	The follow task appears at the bottom of the screen.			
11080	Click on the route that was created with the Line/Area Editor, then click on Done from the Follow Route Editor.	The bingo fuel task editor appears.			
11090	Click on the screen to select a return to base point, then select Done from the bingo fuel editor and Done from the Sweep task frame.	The execution matrix appears with the sweep task frame in the first phase.			

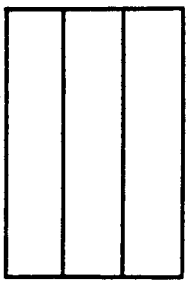
11100	Click on the Assign button from the Execution Editor, and on Done from the Unit Operations Editor.	The AH-64 plane will now follow the route using a low level movement type. Use the Stealth to view the AH-64 plane as it follows the route.	
11110	Repeat this test changing the movement type in the follow route task editor to contour.	The AH-64 plane will now follow the route using a contour movement. Use the Stealth to view the AH-64 plane as it follows the route.	
11120	Repeat this test changing the movement type in the follow route task editor to nap of earth.	The AH-64 plane will now follow the route using a nap of earth movement. Use the Stealth to view the AH-64 plane as it follows the route.	

TEST CASE 3.3.1.5

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
15000	Place an M2 and a T72, facing each other and about 1 km apart, on open terrain.	The intervisibility tool will show 100% for M2-to-T72.			
15010	Assign "Halt" with Actions on Contact set at "No Action" to the T72 and a "Halt" with Actions on Contact set at "Contact Drill" to the M2.	The M2 will shoot the T72 with its TOW missiles.			
15020	Place an F-14D on the left end of the map, and a MiG-29 on the right end of the map, facing each other. Zero the MiG missile counts.	At the magnification in effect when ModSAF starts, the two vehicles will be approximately 50 km. apart.			
15030	Assign a "Sweep" to each aircraft, toward each other's starting location (point "s1" near the F-14 and "s2" near the MiG)	The F-14 will shoot down the MiG with its Phoenix (long-range, radar-guided) missiles.			
15040	Place a MiG at the F-14's starting location, without missiles. Assign it a "Sweep" toward the F-14's destination ("s2"). Assign the F-14 a "Sweep" toward it's starting location ("s1")	The F-14 will shoot down the MiG with its Sparrow (medium-range, radar-guided) missiles.			
15050	Place a MiG-29 at the east end ("s2"), without missiles, and assign it a "Sweep" toward the F-14's destination ("s1"). Assign the F-14 a "Sweep" (Using "Interrupt Mission") toward the MiG ("s2").	The F-14 will shoot down the MiG with its Sidewinder (short-range, IR-guided) missiles.			

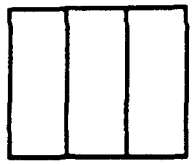
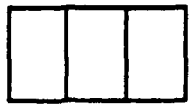
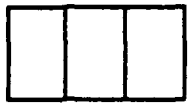
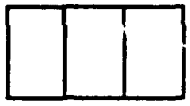
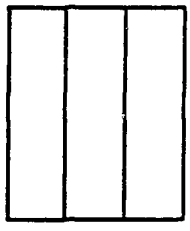
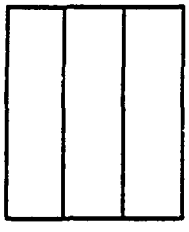
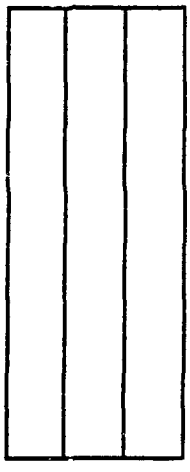
TEST CASE 3.3.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
20000	Click on the blue tank icon in the button column.	The Unit editor appears on the lower part of the screen.			
20010	Click on a location on the map.	A platoon icon appears on the map.			
20020	Select M1 from the Vehicle Type pull-down list of vehicles.	A military icon for the M1 tank will appear on the map.			
20030	Click on Done in the Unit editor.	The Unit editor disappears, and the M1 appears on the map.			
20040	Zoom in on the vehicle so that you can see the turret moving.	Notice the turret scanning the area.			
20050	Create a T72M Platoon the same way that the M1 tank was created, and place it above the M1 tank.	The red T72M platoon appears on the map above the M1 vehicle.			
20060	Click on the M1 tank, then on Unit Tasking from the Unit Operations editor.	The Execution matrix appears.			
20070	Click on the Select Task Frame editor from the Execution Matrix.	The Task Frames editor appears.			
20080	Click on the Halt button in the Task Frames editor. When the Halt editor appears, click on the Actions on Contact button. Set the Actions on Contact reactions to "Assault". Click on Done in the Actions on Contact editor.	The Actions on Contact editor disappears and the Halt frame editor appears.			

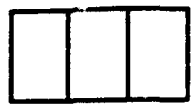
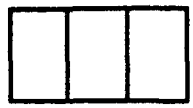
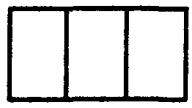
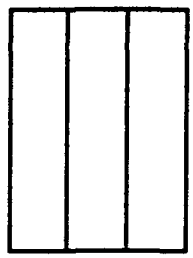
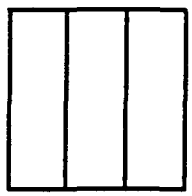
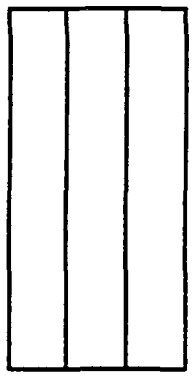
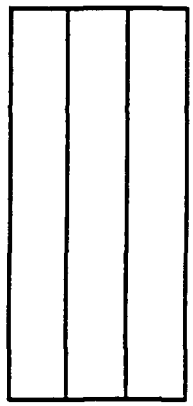
20090	Click on Done in the Halt frame editor, then on Assign.	The Unit Operations editor appears. Notice how the turret moves to track, target, and shoot the enemy vehicles. View this M1 tank with the Stealth, and you should see that the turret moves up and down also.	

TEST CASE 3.3.3.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
3.3.3000	Zoom in on a small region (3 km x 3 km).	The map displays the zoomed-in region.			
3.3.3010	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
3.3.3020	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
3.3.3030	Click on 'Done' in the Unit Editor.	The Unit Editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
3.3.3040	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
3.3.3050	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
3.3.3060	Click on 'Enemy' in the 'Side' section of the Unit Editor.	The diamond symbol beside 'Enemy' is recessed and the platoon icon turns red.			
3.3.3070	Click on 'Done' in the Unit Editor.	The Unit Editor disappears, and a platoon of red tanks appears on the map where it was placed.			
3.3.3080	Click on one of the blue tanks on the map.	A 'Unit Operations' editor appears.			

3.3.3090	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.	
3.3.3100	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.	
3.3.3110	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.	
3.3.3120	Click on Move (vehicle) button in the Task Frames editor.	A 'Move' task editor appears.	
3.3.3130	Click on a point on the map where the M1 platoon is to move to. This point should be placed such that the red tanks are between the blue tanks and the point.	A point symbol with the 'Route' label appears.	
3.3.3140	Click on 'Done' in the Move editor.	Another 'Move' editor appears.	
3.3.3150	Click on 'Done' in the Move editor. The Actions on Contact task is not being edited so the "Contact Drill" default reactions will be in effect.	The Execution editor appears.	
3.3.3160	Click on 'Assign' in the Execution editor.	The Execution editor disappears and the 'Unit Operations' editor appears. The blue platoon will begin to move toward the route point. Since all the Actions on Contact reactions are set (by default) to Contact Drill, the blue platoon will use its weapons to fire at the red platoon as soon as it is detected.	
3.3.3170	Click on 'Done' in the Unit Operations editor.	The Unit editor disappears.	

3.3.3180	Click on the 'PVD Controls' button in the lower half of the screen.	The PVD Controls editor appears.	
3.3.3190	Click on 'Speed' under Map Notations in the PVD Controls editor, then click on 'Done'.	The speed will be displayed on all vehicles that appear on the map.	
3.3.3200	Click on the blue tank icon in the button column.	The Unit Operations editor appears.	
3.3.3210	Click on a location on the map. Choose an area that is not full of obstacles.	A platoon icon appears on the map.	
3.3.3220	Hold the left button on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click on M2.	A military icon for the M2 tank will appear on the map.	
3.3.3230	Click on the box for 'US M792' under Munitions in the Unit editor, then press the spacebar.	This gives the M2 tank no munitions of type US M792.	
3.3.3240	Click on the box for 'US M59' under Munitions in the Unit editor, then press the spacebar.	This gives the M2 tank no munitions of type US M59. (Notice that it has only Tow missiles available for shooting.)	
3.3.3250	Click on 'Done' in the Unit editor.	The Unit editor disappears, and the M2 appears on the map.	
3.3.3260	Click on the blue tank icon in the button column.	The Unit editor appears.	
3.3.3270	Click on the map about an inch above the M2 vehicle.	A platoon icon appears on the map.	
3.3.3280	Hold the left button on the pull-down menu of other types appears. Click on T72M Platoon, then click on 'Done'.	The T72M platoon appears above the M2 tank.	

3.3.3290	Click on the blue M2 tank on the map.	The 'Unit Operations' editor appears.	
3.3.3300	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.	
3.3.3310	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.	
3.3.3320	Click on Move (with Actions on Contact reactions set to "Contact Drill") and the threshold limits set to one vehicle) button in the Task Frames editor.	A 'Move' task editor appears.	
3.3.3330	Click on a point on the map above the T72M platoon. Click on 'Done' in the Move editor,	A point symbol with the 'Route' label appears. The Move Task Frames editor appears with a button for each task in the Move frame.	
3.3.3340	Click on the "Actions on Contact' button in the Move task frame editor. When the Actions on Contact task editor appears, check that all the reactions are set to "Contact Drill" and set the threshold limits to one vehicle. Click 'Done' in the Actions on Contact task editor.	The execution editor appears.	
3.3.3350	Click on 'Assign' in the Execution editor.	The Execution editor disappears and the 'Unit Operations' editor appears. The blue M2 tank will move toward the route point, and when any of the red vehicles are in sight, the vehicle will stop to shoot the TOW missiles. (Note, it takes about one minute for the TOW launcher to get ready to shoot.)	

TEST CASE 3.3.3.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the standard entity parameters file named 'standard_params.rdr'.	The file named 'standard_params.rdr' holds the standard parameters. These values apply unless a different set of values is specified in a specific missile file.			
1020	Use the Unix 'more' command to view the specific missile files. The name for a specific missile file has the format: '<country>_<missile type>_ params.rdr'. An example is the file named 'US_TOW_params.rdr' which holds the parameters specific to a TOW missile.	The parameters in the specific missile parameter file plus the parameters in the standard parameter file specify the performance characteristics of the missile.			

TEST CASE 3.3.4

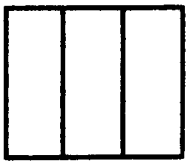
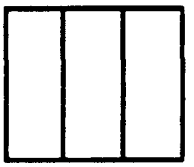
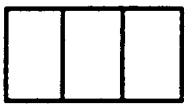
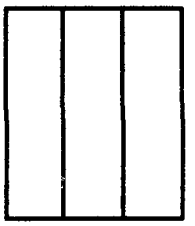
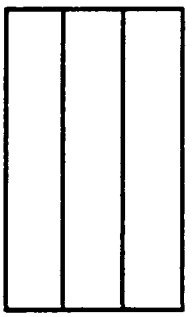
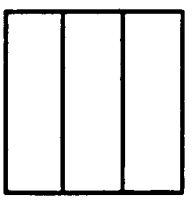
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the standard entity parameters file named 'standard_params.rdr'.	The file named 'standard_params.rdr' holds the standard entity parameters. These values apply unless a different set of values is specified in a specific entity file.			
1020	Use the Unix 'more' command to view the specific entity files. The name for a specific entity file has the format: '<country>_<vehicle type>_ params.rdr'. An example is the file named 'US_M1_params.rdr' which holds M1 tank parameters (including sensor data).	The parameters in the specific entity parameter file plus the parameters in the standard parameter file specify the characteristics of the entity including its sensor simulation data.			

TEST CASE 3.3.4.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the standard entity parameters file named 'standard_params.rdr'.	The file named 'standard_params.rdr' holds the standard entity parameters. These values apply unless a different set of values is specified in a specific entity file.			
1020	Use the Unix 'more' command to view the specific entity files. The name for a specific entity file has the format: '<country>_<vehicle type>_ params.rdr'. Examples include the file named 'US_F14D_params.rdr' which hold parameters (including radar data) specific to an F14D airplane.	The parameters in the specific entity parameter file plus the parameters in the standard parameter file specify the characteristics of the entity including its radar model data.			

TEST CASE 3.3.5

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
3.3.5000	In the directory src/ModSAF/entities, change the file US_M1_params so that the direct fire damage filename is "dfdam_vulnerable.rdr". Start modsaf.	The modsaf GUI appears.			
3.3.5010	Zoom in on a small region (3 km x 3 km).	The map displays the zoomed-in region.			
3.3.5020	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
3.3.5030	Click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
3.3.5040	Click on 'Done' in the Unit Editor.	The Unit Editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
3.3.5050	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
3.3.5060	Click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
3.3.5070	Click on 'Enemy' in the 'Side' section of the Unit Editor.	The diamond symbol beside 'Enemy' is recessed and the platoon icon turns red.			
3.3.5080	Click on 'Done' in the Unit Editor.	The Unit Editor disappears, and a platoon of red tanks appears on the map where it was placed.			

3.3.5090	Point to one of the blue tanks on the map and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.	
3.3.5100	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.	
3.3.5110	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.	
3.3.5120	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.	
3.3.5130	Click on the 'Move' button in the Task Frames editor.	A 'Move' editor appears.	
3.3.5140	Click on a point on the map where the M1 platoon is to move to. This point should be placed such that the red tanks are between the blue tanks and the point.	A point symbol with the 'Route' label appears.	
3.3.5150	Click on 'Done' in the Move editor.	Another 'Move' editor appears.	
3.3.5160	Click on 'Done' in the Move editor.	The Execution editor appears.	
3.3.5170	Click on 'Assign' in the Execution editor.	The Execution editor disappears and the 'Unit Operations' editor appears. The blue platoon will begin to move toward the route point. When the red platoon is in sight, the blue platoon will use its weapons to fire at it.	
3.3.5180	Go back to step 3.3.5000, change the filename to "dfdam_invincible.rdr", or set your own values by directly editing the selected dfdam file.	Note the effect of changing the damage probabilities on how quickly the tanks are destroyed.	

TEST CASE 3.3.6 - Entity Projections

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
3.3.6000	See test procedures for Test Case 3.3.6.1.	This test handles the US entity projections.			
3.3.6010	See test procedures for Test Case 3.3.6.2.	This test handles the Russian entity projections.			

TEST CASE 3.3.6.1

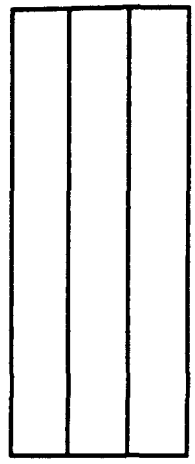
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
11000	Click the blue unit button (labeled with a tank) in the Button Column.	The unit editor will appear.			
11010	Click in the map to provide a location.	An icon appears at the selected location on the map.			
11020	Select a US vehicle from the available list under the Vehicle Type selection area. Click 'Done' in the Unit Editor.	The unit editor disappears. Look at the Stealth to view how the vehicle appears when it is projected onto the simulation network.			
11030	Click the blue delete button (labeled with scissors) in the Button Column.	The delete editor appears.			
11040	Click on the vehicle you just created in the map.	A large red "X" appears on the vehicle.			
11050	Click on the Done button. vehicle you just created in the mon the vehicle you just created in the map.	The vehicle you just created will be deleted from the map and from the stealth view.			
11060	Repeat steps 11000 thru 11050 to create the other US vehicles such as an M1, M2, M977, A10, AH-64, etc.	The vehicle you create will be projected onto the Stealth view.			

TEST CASE 3.3.6.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
11000	Click the blue unit button (labeled with a tank) in the Button Column.	The unit editor will appear.			
11010	Click in the map to provide a location.	An icon appears at the selected location on the map.			
11020	Select a Russian vehicle from the available list under the Vehicle Type selection area. Click 'Done' in the Unit Editor.	The unit editor disappears. Look at the Stealth to view how the vehicle appears when it is projected onto the simulation network.			
11030	Click the blue delete button (labeled with scissors) in the Button Column.	The delete editor appears.			
11040	Click on the vehicle you just created in the map.	A large red "X" appears on the vehicle.			
11050	Click on the Done button. vehicle you just created in the mon the vehicle you just created in the map.	The vehicle you just created will be deleted from the map and from the stealth view.			
11060	Repeat steps 11000 thru 11050 to create the other Russian vehicles such as a T72M, a BMP, a Flogger, and a Frogfoot etc.	The vehicle you create will be projected onto the Stealth view.			

TEST CASE 3.3.7

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the parameter file named 'taskframes.rdr'.	The file named 'taskframes.rdr' lists the assignable frames and shows initialization parameters of the frame's tasks.			
1020	Use the Unix 'more' command to view the standard parameter file named 'standard-params.rdr'.	The vehicle task parameters (shown under SM_<task name> with the task name beginning with 'V" for vehicle) and the unit task parameters (shown under SM_<task name> with the task name beginning with 'U" for unit) specify parameters for various behavioral tasks.			
1030	Use the Unix 'more' command to view the specific vehicle type parameter files and the specific weapon type parameter files.	The task parameters shown in the specific parameter files specify parameters for various behavioral tasks, such as the vehicle spotter task parameters (see SM_VSpotter) and the vehicle search task parameters (see SM_VSearch).			
1040	Go to the directory 'common/data' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			

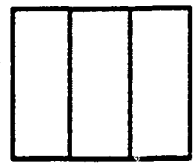
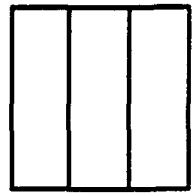
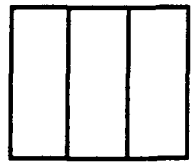
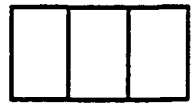
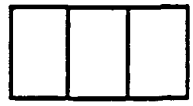
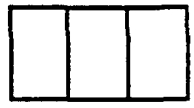
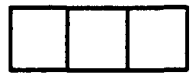
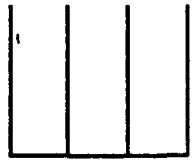
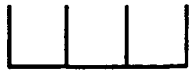
1050	Use the Unix 'more' command to view the unit task parameter files and the vehicle task parameter files.	The parameters shown in the unit task or vehicle task parameter files specify parameters that the user can modify when ModSAF is running. An example of a vehicle task parameter file is vsptr_params.rdr for the vehicle spotter task. An example of a unit task parameter file is uactcohntact.rdr for the unit actions on contact task.	

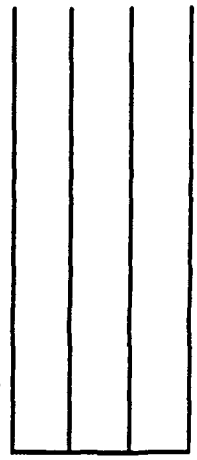
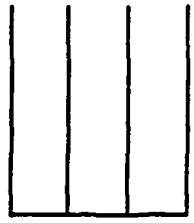
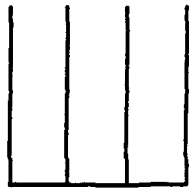
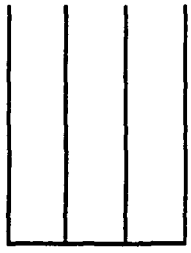
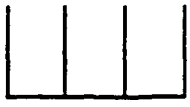
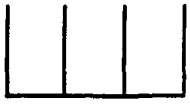
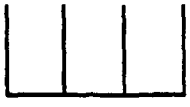
TEST CASE 3.3.7.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
3.3.7000	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
3.3.7010	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
3.3.7020	Click on 'Done' in the Unit Editor.	The Unit Editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
3.3.7030	Point to the blue tank graphic on the map and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.			
3.3.7040	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.			
3.3.7050	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.			
3.3.7060	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.			
3.3.7070	Click on the 'Move' button in the Task Frames editor.	A 'Move' editor appears.			
3.3.7080	Click on a point on the map where the M1 platoon is to move to.	A point symbol with the 'Route' label appears.			
3.3.7090	Click on 'Done' in the Move editor.	Another 'Move' editor appears.			

3.3.7100	Click on 'Done' in the Move editor.	The Execution editor appears.	
3.3.7110	Click on 'Assign' in the Execution editor.	The Execution editor disappears, the Unit Operations editor appears, and the tanks move to the destination point, going around obstacles such as buildings, tree canopies, tree lines, rivers, etc.	
3.3.7120	Click on 'Done' in the Unit Operations editor.	The Unit Operations editor disappears and the editor appears.	
3.3.7130	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.	
3.3.7140	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.	
3.3.7150	Click on 'Done' in the Unit Editor.	The Unit Editor disappears, and a platoon of blue tanks appears on the map where it was placed.	
3.3.7160	Point to the blue tank graphic on the map and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.	
3.3.7170	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.	
3.3.7180	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.	
3.3.7190	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.	

3.3.7200	Click on the 'Move' button in the Task Frames editor.	A 'Move' editor appears.	
3.3.7210	Click on the line tool in the button column.	A 'Line/Area Editor' appears.	
3.3.7220	Click on 'Use Roads' in the 'Points' section of the Line/Area Editor.	The square beside 'Use Roads' is recessed.	
3.3.7230	Click on a road segment where the tanks are to begin their road route.	An arrow points to the selected segment.	
3.3.7240	Click on a road segment where the tanks are to end their route.	The road route that the tanks are to follow is shown in black.	
3.3.7250	Click on 'Done' in the Line/Area Editor.	The Line/Area Editor disappears and the Move editor appears.	
3.3.7260	Click on 'Done' in the Move editor.	Another 'Move' editor appears.	
3.3.7270	Click on 'Done' in the Move editor.	The Execution editor appears.	
3.3.7280	Click on 'Assign' in the Execution editor.	The Execution editor disappears, the Unit Operations editor appears, and the tanks move to the destination point, following the specified road route.	
3.3.7290	Click on 'Done' in the Unit Operations editor.	The Unit Operations editor disappears.	
3.3.7230	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.	
3.3.7240	With the left mouse button, click on a location on the map that is near a river, and close to a road that crosses that river.	A platoon appears on the map.	

3.3.7250	Click on 'Done' in the Unit Editor.	The Unit Editor disappears, and a platoon of blue tanks appears on the map where it was placed.	
3.3.7260	Point to the blue tank graphic on the map and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.	
3.3.7270	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.	
3.3.7280	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.	
3.3.7290	Click on the 'Select Task Frame' button in the Unit Operations editor.	A 'Task Frames' editor appears.	
3.3.7300	Click on the 'Move (hold)' button in the Task Frames editor.	A 'Move' editor appears.	
3.3.7310	Click on the line tool in the button column.	A 'Line/Area Editor' appears.	
3.3.7320	Click on the map that is near the platoon, then click on the map in a location that will draw a line through a river.	The line that goes through the river is shown.	
3.3.7330	Click on 'Done' in the Line/Area Editor.	The Line/Area Editor disappears and the Move editor appears.	
3.3.7340	Click on 'Done' in the Move editor.	Another 'Move' editor appears.	
3.3.7350	Click on 'Done' in the Move (Hold) editor.	The Execution editor appears.	

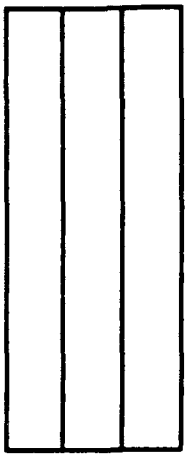
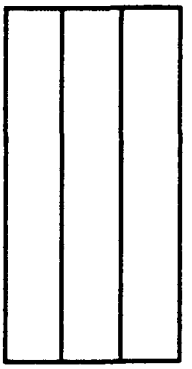
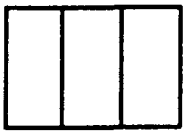
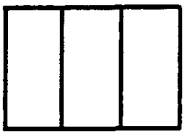
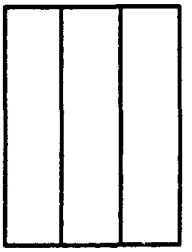
3.3.7360	Click on 'Assign' in the Execution editor.	The Execution editor disappears, the Unit Operations editor appears, and the tanks follow the route, but when the tanks know that there is a river in the way, they will try to find another way to get to the destination. The platoon will cross the river at a bridge if one is close by, or go around the river if it ends soon.	
3.3.7370	Create a USSR-DI-Mg. (Follow the instructions above that create a M1 Platoon, but select USSR-DI-Mg under 'Vehicle Type' in the Unit editor).	A DI icon appears on the map. It is a small blue dot with a large white arrow.	
3.3.7380	Assign the USSR-DI-Mg a 'move (Hold)' task. (Follow the instructions above that assign the same task to the M1 Platoon).	The USSR-DI-Mg moves toward the destination point.	
3.3.7390	Zoom out to a large area on the map, then create a F14D plane. (Follow the instructions above that create a M1 Platoon, but select F14D under 'Vehicle Type' in the Unit editor.	The F14D plane appears on the map.	
3.3.7400	Click on the F14D plane.	The Unit Operations editor appears.	
3.3.7410	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.	
3.3.7420	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.	
3.3.7430	Click on the 'Sweep' button in the Task Frames editor.	A 'Follow Route' editor appears.	

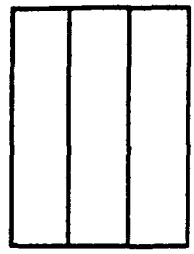
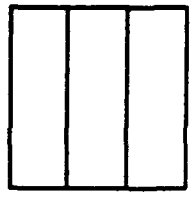
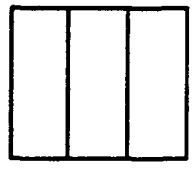
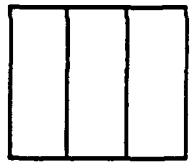
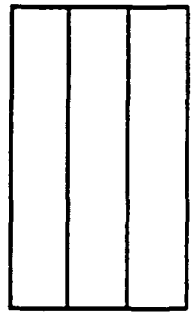
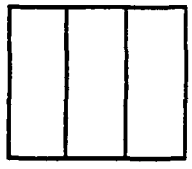
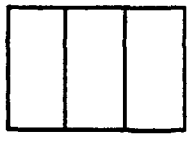
3.3.7440	Create a route for the plane to follow with the Line/Area editor.	The route appears on the map.	
3.3.7450	Click on 'Done' in the Follow Route editor, then click on the map for a Bingo Fuel location, then click on 'Done'.	The Sweep editor appears.	
3.3.7460	Click on 'Done' in the Sweep editor, and then on 'Assign' in the Execution editor.	The plane will follow the route and orbit around the end point.	

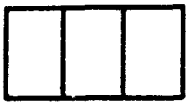
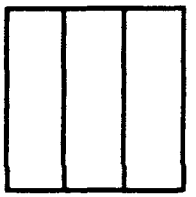
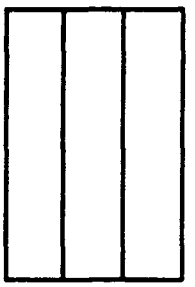
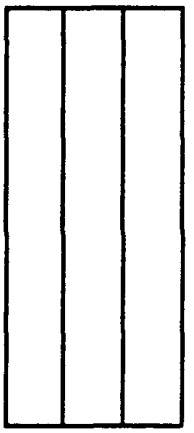
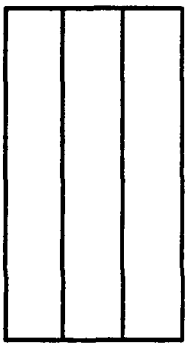
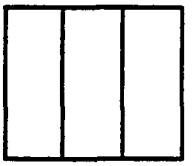
TEST CASE 3.3.7.3

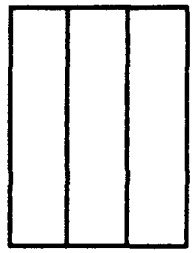
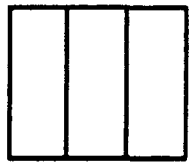
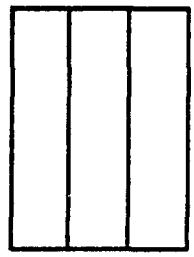
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
73000	Zoom in on a small region (3km x 3km).	The map displays the zoomed-in region.			
73010	Click on the blue tank icon in the button column.	The Unit editor appears on the lower part of the screen.			
73020	Click on a location in the middle of the map.	A platoon icon appears on the map.			
73030	Hold the left mouse button down on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click on M1.	A military icon for the M1 tank will appear on the map.			
73040	Click on Done in the Unit editor.	The unit editor disappears, and the M1 appears on the map.			
73050	Click on the blue tank icon in the button column again.	The Unit editor appears.			
73060	Click on a location on the map that is to the left of the M1 tank.	A platoon icon appears on the map.			
73070	Hold the left mouse button on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click on T72M Platoon.	A military icon for the T72M Platoon appears on the map.			
73080	Click on Done in the Unit editor.	The Unit editor disappears and the T72M Platoon appears on the map.			
73090	Click on the blue tank icon in the button column again.	The Unit editor appears.			
73100	Click on a location on the map that is to the right of the M1 tank.	A platoon icon appears on the map.			

73110	Hold the left mouse button on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click on T72M Platoon.	A military icon for the T72M Platoon appears on the map.	
73120	Click on Done in the Unit editor.	The Unit editor disappears and the T72M Platoon appears on the map.	
73130	Click on the blue tank icon in the button column again.	The Unit editor appears.	
73140	Click on a location on the map that is far away from the M1 tank.	A platoon icon appears on the map.	
73150	Hold the left mouse button on the current value in the Vehicle Type selection area. A pull-down menu of other types appears. Click on T72M Platoon.	A military icon for the T72M Platoon appears on the map.	
73160	Click on Done in the Unit editor.	The Unit editor disappears and the T72M Platoon appears on the map.	
73170	Click on the blue M1 tank on the map.	The Unit Operations editor appears.	
73180	Click on the Unit Tasking button in the Unit Operations editor.	The Execution matrix appears.	
73190	Click on the Select Task Frame button in the Execution matrix.	The Task Frames editor appears.	
73200	Click on the Halt button in the Task Frames editor.	The Halt editor appears.	

73210	Click on Done in the Halt editor, then on Assign in the Execution matrix editor.	The Unit Operations editor appears, and the M1 tank will begin shooting at the T72M tanks that are within its range. Notice that the M1 tank does not shoot at tanks that are beyond visual range and that are beyond the range of the weapon begin fired. Also notice that the M1 tank shoots at the enemy vehicles that are closest to itself first.	
73220	In the Unit Operations editor, click on the Unit Targeting button under Halt , when it appears.	The Unit Targeting message appears in the black box in the bottom part of the screen. The message should say something like this: "Unit Targeting: Running. Fire Permission: Free, Fire Technique: Simultaneous, Assessment Mode: Closest to Self, Range: 3500."	
73230	Click on the Override mission parameters button in the Unit Operations editor.	The Override Halt editor appears.	
73240	Click on the Targeting button.	The Targeting editor appears.	
73250	Click on Closest to Location under Assessment Mode in the Targeting editor.	The Assessment Mode Closest to Location is selected.	
73260	Click on a coordinate system button under Fire At Position in the Targeting editor. Then click just to the right of the red vehicles located on the right of the blue M1 tank.	This designates the location about which the M1 tank will shoot vehicles that are closest to this point.	

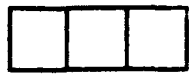
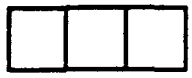
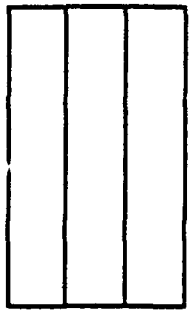
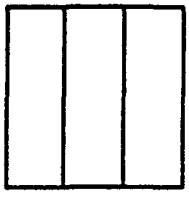
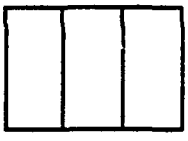
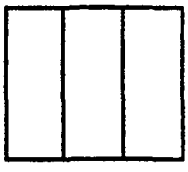
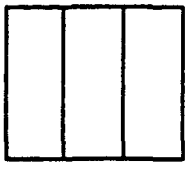
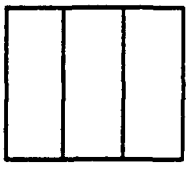
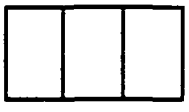
73270	Click on Done in the Targeting editor, and on Done again in the Override Halt editor.	The vehicle should shoot at the enemy vehicles that are closest to the designated point. In the black message box, Unit Targeting will have an Assessment Mode of Closest to Location.	
73280	Click on Edit in the Unit Operations editor.	The Unit editor will appear.	
73290	Set all of the munitions to zero, then click on Done in the Unit editor.	The vehicle will not shoot, and the turret will stop scanning. The turret will also stop if damaged, or if the vehicle is dead.	
73300	Click on Edit in the Unit Operations editor.	The Unit editor will appear.	
73310	Set all of the munitions to Unlimited by typing 'u' in each box, then click on Done in the Unit editor.	The vehicle will begin shooting again, and the turret will scan again.	
73320	Click on the Override mission parameters button in the Unit Operations editor, then click on the Targeting button.	The Targeting editor appears.	
73330	Click on the Hold Fire button under Fire Permissions in the Targeting editor, then click on Done, and on Done again.	The Unit Operations editor appears, and the vehicle will not shoot anymore. The Targeting message: Permission is HOLD will appear in the black box. (Note: This can also be done by editing the Actions on Contact Task.)	
73340	Create a red T72M vehicle just below the M1 tank. Do this the same way that the other vehicles were created.	A red T72M vehicle appears on the map.	
73350	Click on the new red T72M vehicle.	The Unit Operations editor appears with the red icon picture in the blue box.	

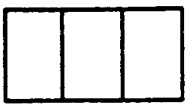
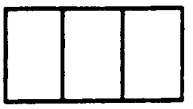
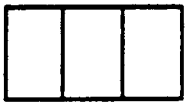
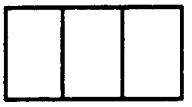
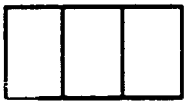
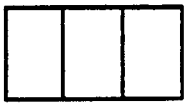
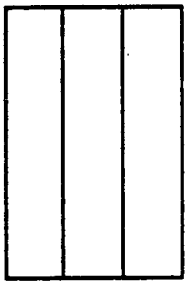
73360	Click on the Unit Tasking button in the Unit Operations editor.	The Execution matrix appears.	
73370	Click on the Select Task Frame button in the Execution matrix, then click on the Occupy Position button in the Task Frames editor.	The Occupy position editor appears.	
73380	Create a battle position with the Line Area editor, and select left, right, and engagement area TRPs (Target Reference Points). Create these so that the blue M1 tank is the target.	The targeting area is defined on the map.	
73390	Click on Done in the Occupy Position editor, and click on Done again. Then click on Assign in the Execution editor.	Look at the Threats message in the black box at the bottom. (If this is not on, click on the Threats button under Other Tasks). The message will indicate the best target. type of weapon to use, and fire permission. (Example: Best target is: r11, usinf Main Gun, permission VASSESS_FIRE_AT_WILL)	
73400	Zoom out to view a very large area, about 60 KM.	A large part of the map will be shown.	
73410	Create two F14D planes (one friendly with weapons and one enemy with zero weapons) the same way the other vehicles were created. Place one on the left edge of the map, facing East, and the other on the right edge of the map, facing West.	The planes will appear on the map.	
73420	Click on the blue plane, then click on Unit Tasking, then on Select Task Frame, and then on Sweep.	The Sweep editor appears.	

73430	Click on the middle of the map for the route point, click on Done, click somewhere else on the map for the refuel point, click on Done, click on Done again, then click on Assign.	The plane begins to move, and will shoot at the enemy once it is spotted by the radar.	
73420	Click on the red plane, then click on Unit Tasking, then on Select Task Frame, and then on Sweep.	The Sweep editor appears.	
73430	Click on the middle of the map for the route point, click on Done, click somewhere else on the map for the refule point, click on Done, click on Done again, then click on Assign.	The plane begins to move. Since it has no weapons, t will not shoot at the enemy even if it is spotted by the radar.	

TEST CASE 3.3.7.4

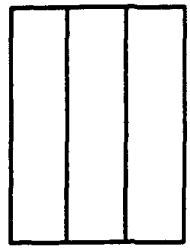
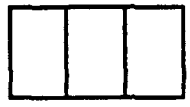
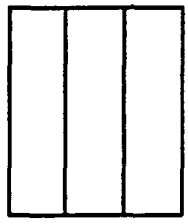
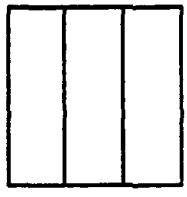
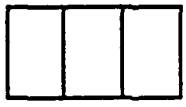
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
3.3.7000	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.			
3.3.7010	With the left mouse button, click on a location on the map to place the M1 Platoon. Place the platoon near a bridge.	A platoon icon appears on the map.			
3.3.7020	Click on 'Done' in the Unit Editor.	The Unit Editor editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
3.3.7030	Point to the blue tank icon and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.			
3.3.7040	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.			
3.3.7050	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.			
3.3.7060	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.			
3.3.7070	Click on the 'Move' button in the Task Frames editor.	A 'Move' editor appears.			
3.3.7080	Click on a point on the map where the M1 platoon is to move to. Make sure this point is on the other side of a bridge.	A point symbol with the 'Route' label appears.			

3.3.7090	Click on 'Done' in the Move editor.	Another 'Move' editor appears.	
3.3.7100	Click on 'Done' in the Move editor.	The Execution editor appears.	
3.3.7110	Click on 'Assign' in the Execution editor.	The Execution editor disappears, the Unit Operations editor appears, and the tanks move to the destination point, slowing down before the bridge, lining up, and resuming formation after crossing the bridge.	
3.3.7120	Click on 'Done' in the Unit Operations editor.	The Unit Operations editor disappears and the editor appears.	
3.3.7130	Click on the blue tank icon in the button column.	The blue tank icon is recessed. A 'Unit Editor' editor appears. A line at the bottom reads: You must provide a location for this unit.	
3.3.7140	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.	
3.3.7150	Click on 'Done' in the Unit Editor.	The Unit Editor editor disappears, and a platoon of blue tanks appears on the map where it was placed.	
3.3.7160	Point to the blue tank icon and wait for a black box to appear around it, then press the left mouse button.	A 'Unit Operations' editor appears.	
3.3.7170	Click on the platoon icon in the Unit Operations editor. The platoon icon is the one that is above the four M1 icons.	A red box appears around the platoon icon.	
3.3.7180	Click on the 'Unit Tasking' button in the Unit Operations editor.	An 'Execution' editor appears.	

3.3.7190	Click on the 'Select Task Frame' button in the Execution editor.	A 'Task Frames' editor appears.	
3.3.7200	Click on the 'Move' button in the Task Frames editor.	A 'Move' editor appears.	
3.3.7210	Click on the line tool in the button column.	A 'Line/Area Editor' appears.	
3.3.7220	Click on 'Use Roads' in the 'Points' section of the Line/Area Editor.	The square beside 'Use Roads' is recessed.	
3.3.7230	Click on a road segment where the tanks are to begin their road route.	An arrow points to the selected segment.	
3.3.7240	Click on a road segment where the tanks are to end their route.	The road route that the tanks are to follow is shown in black.	
3.3.7250	Click on 'Done' in the Line/Area Editor.	The Line/Area Editor disappears and the Move editor appears.	
3.3.7260	Click on 'Done' in the Move editor.	Another 'Move' editor appears.	
3.3.7270	Click on 'Done' in the Move editor.	The Execution editor appears.	
3.3.7280	Click on 'Assign' in the Execution editor.	The Execution editor disappears, the Unit Operations editor appears, and the tanks move to the destination point, going around obstacles such as buildings, tree canopies, tree lines, rivers, etc.	

TEST CASE 3.3.7.5

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
75000	Zoom out to a large area on the map. (about 70km wide)	A large section of the map is shown.			
75010	Create a friendly F14D plane on the left edge of the map, facing East.	A blue F14D plane appears on the left side of the map.			
75020	Click on the 'PVD Controls' button on the lower part of the screen. (If it is not there, then hit Alt E to bring up the editors).	The PVD Controls editor appears.			
75030	Click on the Altitude button under 'Map Notations', then click on Done.	This will display the altitudes of vehicles on the map.			
75040	Click on the blue F14D plane.	The 'Unit Operations' editor appears.			
75050	Assign a 'Return To Base' task to this plane.	The plane begins on the ground, takes off, flies to the Base point, and then lands. The altitude number next to the plane will indicate whether the plane is in the air, or is on the ground.			
75060	Click on the 'Interrupt mission' button in the Unit Operations editor.	The Task Frames editor appears.			
75070	Click on the 'Sweep' button in the Task Frames editor.	The Follow Route editor appears.			
75080	Click on the map to designate a point for the plane to fly to, then click on the 'Done' button.	The Bingo Fuel editor appears.			
75090	Click on the map for a refuel point, then click on the 'Done' button.	The Sweep editor appears.			

75100	Click on the 'Done' button.	The plane will fly to the designated point and orbit around the end of the route. The altitude number next to the plane will indicate whether the plane is on the ground or in the air.	
75110	Create an AH-64 helicopter, and assign it a Sweep task.	The rotary wing aircraft will hover when it gets to the end of the route.	
75120	Create a friendly F14D plane, and assign it a Sweep task. This Sweep task should have a route and a bingo fuel point that are far away from each other.	The blue F14D plane appears on the map, and begins to follow the route.	
75130	In the Unit Operations editor, click on the 'Edit' button.	The Unit editor appears.	
75140	Change the fuel amount to 50 gallons, then click on 'Done'.	The plane will now move toward the re-fuel point, and hopefully get there before it runs out of fuel. The plane will get more fuel at this point.	
75150	Create another friendly F14D plane, and give it a sweep task.	The blue F14D will fly toward the desired point.	
75160	Set the fuel for this plane to zero.	The plane will crash on the ground.	

TEST CASE 3.3.7.6

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
76000	Zoom out to a large area on the map.	A large section of the map is shown.			
76010	Create a friendly F14D plane on the left edge of the map, facing East.	A blue F14D plane appears on the left side of the map.			
76020	Click on the 'PVD Controls' button on the lower part of the screen. (If it is not there, then hit Alt E to bring up the editors).	The PVD Controls editor appears.			
76030	Click on the Altitude button under Map Notations, then click on Done.	This will display the altitudes of vehicles on the map. The altitude number next to the plane is in thousand feet above sea level. Use this altitude number to determine when the plane is on the ground or in the air.			
76040	Click on the blue F14D plane.	The 'Unit Operations' editor appears.			
76050	Click on the 'Unit tasking' button in the Unit Operations editor, then click on 'Select Task Frame' in the Execution editor.	The Task Frame editor appears.			
76060	Click on the 'Sweep' button in the Task Frame editor.	The Follow Route editor appears.			
76070	Click on the 'Low Level' button under 'Movement Type' in the Follow Route editor, then select a route, and click on the Done button.	The Bingo Fuel editor appears.			

76080	Click on the map for a bingo fuel point, then click on the Done button. Click on Done in the Sweep editor.	The Execution editor appears.	
76090	Click on the 'Assign' button.	The F14D plane takes off and flies to the desired point, using a low-level terrain flight. The black message box at the bottom can display the desired speed and average altitude AGL of the plane if the 'Follow Route' button (in the Unit Operations Editor) is depressed.	
76100	Create another friendly F14D plane, and assign it a sweep task with a long route.	The plane will follow the route.	
76110	With the 'Interrupt mission' button in the Unit Operations editor, assign another sweep task to this vehicle that goes in the other direction.	The plane will now follow the new route.	

TEST CASE 3.3.7.7

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
77000	Zoom out to a large area on the map.	A large section of the map is shown.			
77010	Create a friendly AH-64 helicopter on the left edge of the map, facing East.	A blue AH-64 helicopter appears on the left side of the map.			
77020	Click on the 'PVD Controls' button on the lower part of the screen. (If it is not there, then hit Alt E to bring up the editors).	The PVD Controls editor appears.			
77030	Click on the Altitude button under Map Notations, then click on Done.	This will display the altitudes of vehicles on the map. The altitude number next to the helicopter is in thousand feet above sea level. Use this number to determine when the helicopter is on the ground or in the air.			
77040	Click on the blue AH-64 helicopter.	The 'Unit Operations' editor appears.			
77050	Assign this helicopter a Sweep task, and select 'Contour' flight from 'Movement Type' in the Follow Route editor.	The helicopter follows the route in contour flight. When the helicopter reaches the end of its route, it will hover around that location.			

TEST CASE 3.4.1 Minefields

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
341000	Click on the line editor.	The line editor appears at the bottom of the screen.			
341010	Click on two points on the screen. Change the Style to Minefield and change the Minefield Width to 20.	A Minefield appears on the screen as a rectangle with some circles in the center.			
341020	Repeat this test for styles of AT Minefield and AP Minefield	The respective minefields appear on the screen.			

TEST CASE 3.5.1

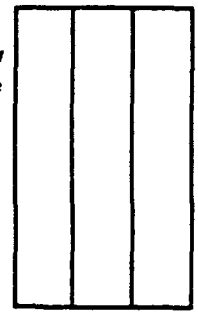
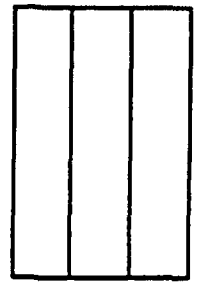
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
11000	Click the blue unit button (labeled with a tank) in the Button Column.	The unit editor will appear.			
11010	Click in the map to provide a location.	An icon appears at the selected location on the map.			
11020	Click on the entry in the Vehicle Type selection area.	The list of available unit types will appear.			

TEST CASE 3.5.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
20000	Zoom in on a small region (3km by 3km).	The map displays the zoomed-in region.			
20010	Create a friendly M1 platoon that is located at the bottom of the map, and is facing North.	The blue platoon appears at the bottom of the map.			
20020	Assign this platoon a Move frame with a destination point near the top of the map.	The platoon will follow the route.			
20030	With the 'Interrupt Mission' button in the Unit Operations editor, select the left vehicle (not the whole platoon), and give it a Move frame with a destination point somewhere to the left of the vehicle.	The left vehicle will move toward the new point while the rest of the platoon follows the platoon route.			
20040	Select 'Resume suspended mission' from the Unit Operations editor.	The vehicle will rejoin the platoon and continue following the platoon's route.			

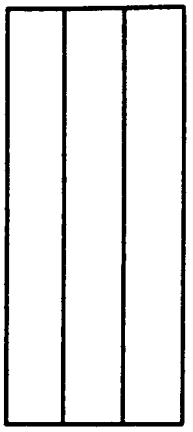
TEST CASE 3.5.3

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
31000	Click on Special from the menu bar at the top, then select "Show Messages" from the list that appears.	The message box appears on the right hand side of the screen.			
31010	Create a friendly vehicle	The vehicle is created.			
31020	Assign the vehicle a route to follow from the execution matrix.	The Execution Matrix appears with the move task in the first box.			
31030	Click on "Create Phase" from the Execution Editor.	The Phase Options Editor appears.			
31040	Click on the "Control Measure" button.	The Control Measure Editor appears.			
31050	Create a control measure by using the Line/Area Editor, and label it P1. The control measure should be on the route, and at a point where the vehicle has not traveled yet.	The control measure appears on the screen, and the execution matrix appears at the bottom of the screen.			
31060	Click on the "Select Task Frame" button in the Execution Matrix.	The Task Frame Editor appears.			
31070	Click on the "Occupy Position" button.	The Prep Occupy Position Editor appears on the bottom of the screen.			
31080	Create the battle position with the Line/Area Editor and specify the other parameters for the occupy battle position task.	The battle position line appears on the screen.			

31090	Assign this task frame to the vehicle.	When the vehicle reaches the phase line, these new tasks will begin, and the message box on the right hand side will display "Crossed Phase line P1". "Area Secured - at location (x,y)" will appear when the Occupy Position Task is done.	
31100	Create a friendly and an enemy unit that can see each other.	Messages will appear in the message box when enemy vehicles are detected. When an enemy is in sight, the displayed message is "Contact Report - 1 enemy vehicle(s) at (x,y)".	

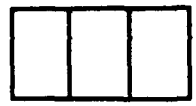
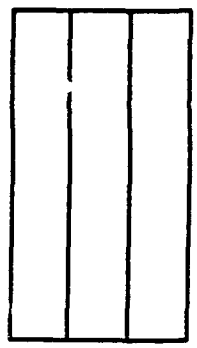
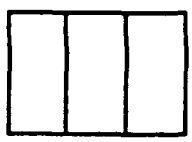
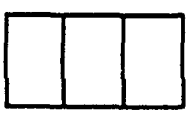
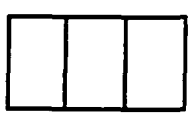
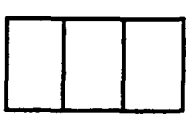
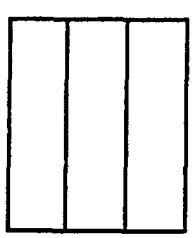
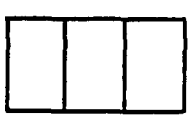
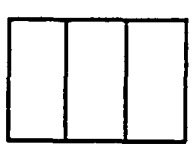
TEST CASE 3.5.4.1 - Ground Unit Tasks

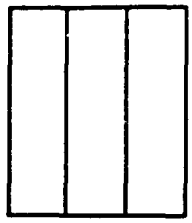
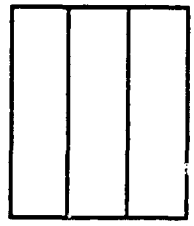
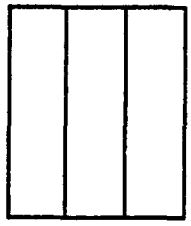
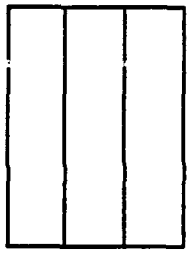
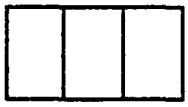
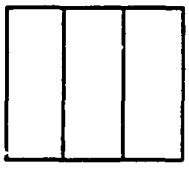
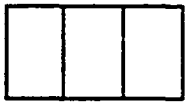
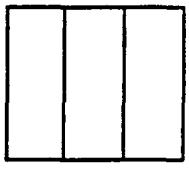
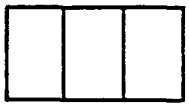
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
354.1000	Create an M1 Platoon in a wedge formation.	M1 Platoon appears on screen.			
354.1010	Create a route that crosses a bridge and continues on.	Route appears on screen.			
354.1020	Assign the M1 Platoon to the route.	M1 Platoon will follow the route, the vehicles will move from their current formation into a single file formation and return to the current formation once the bridge is crossed.			
354.1030	Create a route that crosses a river and then continues on.	Route appears on screen.			
354.1040	Assign the M1 platoon to this river crossing route.	M1 Platoon will figure out a way to cross the river and return to its formation once the river is crossed.			
354.1050	Repeat steps 1000 to 1040 for each of the other formations.				
354.1060	Create a T72M platoon.				
354.1070	Create an M1 Platoon that faces that T72 platoon.				
354.1080	Create a route that goes from the T72M platoon to the M1 platoon and assign the T72M platoon a Move on this route.	When the platoon detects enemy, the targeting reaction will start and the platoon's fire permission will be automatically set to fire at will.			

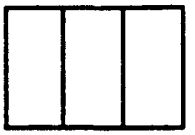
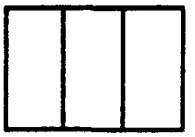
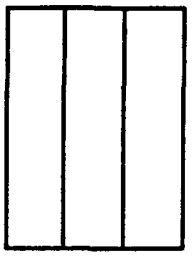
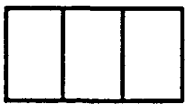
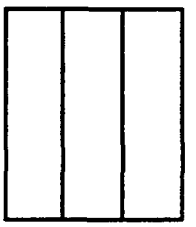
354.1090	Create another route that goes from the M1 platoon to the T72M platoon and assign the M1 platoon a Move on this route.	When the M1 platoon detects enemy, the targeting reaction will start and the platoon's fire permission will be automatically set to fire at will. Observe that each vehicle in the M1 platoon is targeting a different vehicle in the T72M platoon (no two vehicles should be shooting at the same T72M vehicle)	

TEST CASE 3.5.5.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
3.5.5100	Click on the Unit button (labeled with the blue tank icon) in the button column.	The Unit button is recessed. The unit editor appears. A line at the bottom reads: You must provide a location for this unit.			
3.5.5110	With the left mouse button, click on a location on the map to place the M1 Platoon.	A platoon icon appears on the map.			
3.5.5120	Click the Done button in the unit editor.	The unit editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
3.5.5130	Point to the blue tank graphic on the map and wait for a black outline box to appear around it, then press the left mouse button.	The unit operations editor appears.			
3.5.5140	Click on the platoon icon button of the unit hierarchy graph in the unit operations editor. The platoon icon button is the one that is above the four M1 icon buttons.	The platoon icon button appears recessed.			
3.5.5150	Click on the Unit Tasking button in the unit operations editor.	The execution matrix editor appears.			
3.5.5160	Click on the Select Task Frame button in the execution matrix editor.	The task frames editor appears.			
3.5.5170	Click on the Move button in the task frames editor.	A 'Move' task editor appears.			
3.5.5180	Click on a point on the map where the M1 platoon is to move to.	A point symbol with the 'Route' label appears.			

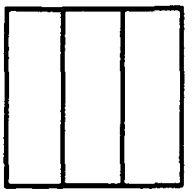
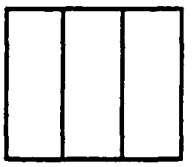
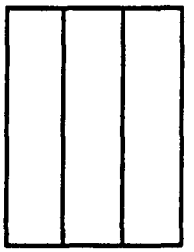
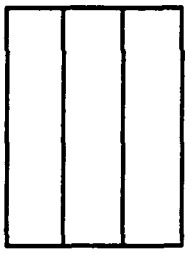
3.5.5190	Click on the Done button in the 'Move' task editor.	The Move frame editor appears.	
3.5.5200	Click the Done button in the Move frame editor.	The execution matrix editor appears.	
3.5.5210	Click on the Assign button in the execution matrix editor.	The execution matrix editor disappears and the tanks move in the default wedge formation to the destination point, going around obstacles such as buildings, tree canopies, tree lines, rivers, etc. The unit operations editor appears in the Editor Area.	
3.5.5220	Click on 'Interrupt mission' in the unit operations editor.	The unit operations editor disappears and the task frames editor appears.	
3.5.5230	Click on 'Halt' in the task frames editor.	The Halt frame editor appears.	
3.5.5240	Click on 'Done' in the Halt frame editor.	The unit operations editor appears. The vehicles stop moving	
3.5.5250	Click on 'Resume suspended mission' in the unit operations editor.	The platoon of blue tanks continues its movement to its destination point.	
3.5.5260	Click on 'Interrupt mission' in the unit operations editor.	The task frames editor appears.	
3.5.5270	Click on 'Occupy Position' in the task frames editor.	An 'Occupy Position' task editor appears. The Editor Help line reads: You must specify a Battle Position (Select a line on the map or create one using the Line Tool).	
3.5.5280	Click on the Line/Area tool button in the button column.	The line/area editor appears.	
3.5.5290	Repeatedly click on location(s) in the map to set the points of the battle position line.	An arrow points to the end point.	

3.5.5300	Click the Done button in the editor.	The newly created line is shown in black and is labeled 'Battle Position'. The line/area editor disappears and the 'Occupy Position' task editor appears.	
3.5.5310	Click on the 'Click Here for Map Input' button in the 'Left TRP' selection area of the 'Occupy Position' task editor and then click in the map to position the Left TRP.	A Left TRP point appears in the map.	
3.5.5320	Click on the 'Click Here for Map Input' button in the 'Right TRP' selection area of the 'Occupy Position' task editor and then click in the map to position the Right TRP.	A Right TRP point appears in the map.	
3.5.5330	Click on the 'Click Here for Map Input' button in the 'Engagement Area TRP' selection area of the 'Occupy Position' task editor and then click in the map to position the Engagement Area TRP.	An Engagement Area TRP point appears in the map.	
3.5.5340	Click the Done button in the 'Occupy Position' task editor.	The 'Occupy Position' frame editor appears.	
3.5.5350	Click the Done button in the 'Occupy Position' frame editor.	The unit operation editor appears. The tanks will position themselves in the area designated by the Battle Position line.	
3.5.5360	Click on 'Interrupt mission' in the unit operations editor.	The task frames editor appears.	
3.5.5370	Click on 'Assault' in the task frames editor.	The 'Assault' task editor appears. The Editor Help line reads: You must provide an objective to assault..	
3.5.5380	Click on the Line/Area tool button in the button column.	The line/area editor appears.	

3.5.5390	Click on a location in the map to set one end point of the Assault Objective line.	An arrow points to the selected location.	
3.5.5400	Click on a location in the map to set the other end point of the Assault Objective line.	An arrow points to the selected location.	
3.5.5410	Click the Done button on the line/area editor.	The newly created line is shown in black and it is labeled "Assault Objective". The line/area editor disappears and the 'Assault' task editor appears.	
3.5.5420	Click the Done button in the 'Assault' task editor.	The 'Assault' frame editor appears.	
3.5.5430	Click the Done button in the 'Assault' task frame editor.	The unit operation editor appears. The tanks will position themselves in the line formation and will advance to the line designated as the Assault Objective.	

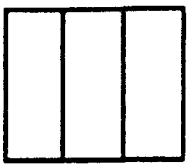
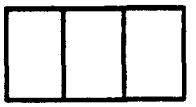
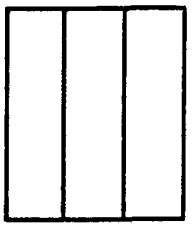
TEST CASE 3.5.5.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
52000	Zoom out to a large area on the map.	A large section of the map is shown.			
52010	Create a friendly AH-64 helicopter on the left edge of the map, facing East.	A blue AH-64 helicopter appears on the left side of the map.			
52020	Click on the blue AH-64 helicopter.	The 'Unit Operations' editor appears.			
52030	Click on the 'Unit tasking' button in the Unit Operations editor, then click on 'Select Task Frame' in the Execution editor.	The Task Frame editor appears.			
52040	Click on the 'Sweep' button in the Task Frame editor.	The Follow Route editor appears.			
52050	Create a route for the helicopter to follow, then click on the Done button.	The Bingo Fuel editor appears.			
52060	Click on the map for a bingo fuel point, then click on the Done button. Click on Done in the Sweep editor.	The Execution editor appears.			
52070	Click on the 'Assign' button.	The AH-64 helicopter takes off and flies to the desired point. When the helicopter reaches the point, it will orbit around that point.			
52080	Create another friendly AH-64 helicopter.	A blue helicopter appears on the map.			
52090	Click on the blue AH-64 helicopter.	The 'Unit Operations' editor appears.			

52100	Click on the 'Unit Tasking' button in the Unit Operations editor, then click on 'Select Task Frame' in the Execution editor.	The Task Frame editor appears.	
52110	Click on the 'CAP' button in the Task Frame editor.	The Follow Route editor appears.	
52120	Create a point, and click on the Done button.	The Bingo Fuel editor appears.	
52130	Click on the map for a bingo fuel point, then click on the Done button. Click on Done in the Sweep editor.	The Execution editor appears.	
52140	Click on the 'Assign' button.	The AH-64 helicopter takes off and flies to the desired point (or route). When the helicopter reaches the point, it will perform a racetrack orbit using that point as a base.	
52150	Create another friendly AH-64 helicopter, and assign it a 'Return To Base' task. Do this the same way as the other CAP and Sweep tasks were created for the other planes.	The helicopter will fly to the Base and then land.	

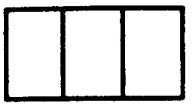
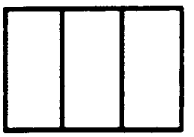
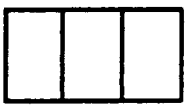
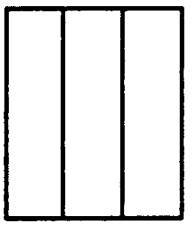
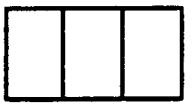
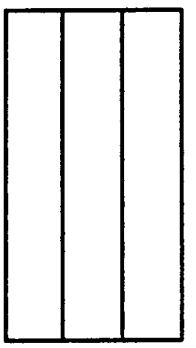
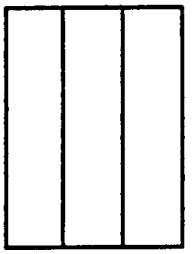
TEST CASE 3.5.5.3

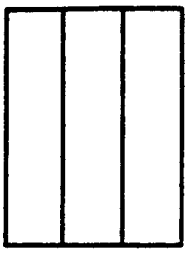
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
53000	Zoom out to a large area on the map.	A large section of the map is shown.			
53010	Create a friendly F14D plane on the left edge of the map, facing East.	A blue F14D plane appears on the left side of the map.			
53020	Click on the blue F14D plane.	The 'Unit Operations' editor appears.			
53030	Click on the 'Unit tasking' button in the Unit Operations editor, then click on 'Select Task Frame' in the Execution editor.	The Task Frame editor appears.			
53040	Click on the 'Sweep' button in the Task Frame editor.	The Follow Route editor appears.			
53050	Create a route for the plane to follow, then click on the Done button.	The Bingo Fuel editor appears.			
53060	Click on the map for a bingo fuel point, then click on the Done button. Click on Done in the Sweep editor.	The Execution editor appears.			
53070	Click on the 'Assign' button.	The F14D plane takes off and flies to the desired point.			
53080	Create another friendly F14D plane.	A blue plane appears on the map.			
53090	Click on the blue F14D plane.	The 'Unit Operations' editor appears.			
53100	Click on the 'Unit Tasking' button in the Unit Operations editor, then click on 'Select Task Frame' in the Execution editor.	The Task Frame editor appears.			
53110	Click on the 'CAP' button in the Task Frame editor.	The Follow Route editor appears.			

53120	Create a route, and click on the Done button.	The Bingo Fuel editor appears.	
53130	Click on the map for a bingo fuel point, then click on the Done button. Click on Done in the Sweep editor.	The Execution editor appears.	
53140	Click on the 'Assign' button.	The F14D plane takes off and flies to the desired point (or route).	
53150	Create another friendly F14D plane, and assign it a 'Return To Base' task. Do this the same way as the other CAP and Sweep tasks were created for the other planes.	The plane will fly to the Base and then land.	

TEST CASE 3.5.6.1

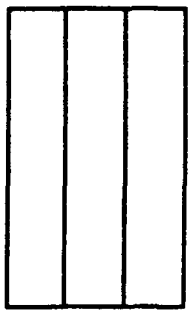
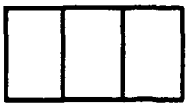
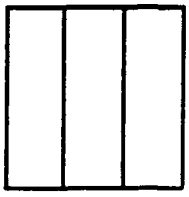
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
3.5.6100	Click on the Unit button (labeled with the blue tank icon) in the button column.	The Unit button is recessed. The unit editor appears. A line at the bottom reads: You must provide a location for this unit.			
3.5.6110	With the left mouse button, click on a location on the map that is in level ground and that does not have many obstructions such as tree lines to place the M1 Platoon. Click the Done button in the unit editor.	The unit editor disappears, and a platoon of blue tanks appears on the map where it was placed.			
3.5.6120	Repeat steps 3.5.6100 and 3.5.6110 to create an enemy T72M vehicle that will be visible and in range (within 3500 meters) of the M1 platoon.	The unit editor disappears, and an orange tank vehicle appears on the map where it was placed.			
3.5.6130	Point to the blue tank graphic on the map and wait for a black outline box to appear around it, then press the left mouse button.	The unit operations editor appears.			
3.5.6140	Click on the platoon icon button of the unit hierarchy graph in the unit operations editor. The platoon icon button is the one that is above the four M1 icon buttons.	The platoon icon button appears recessed.			
3.5.6150	Click on the Unit Tasking button in the unit operations editor.	The execution matrix editor appears.			
3.5.6160	Click on the Select Task Frame button in the execution matrix editor.	The task frames editor appears.			

3.5.6170	Click on the Move button in the task frames editor.	A 'Unit Traveling' (Move) task editor appears.	
3.5.6180	Click on a point on the map near the T72M vehicle to tell the M1 platoon where to move to.	A point symbol with the 'Route' label appears.	
3.5.6190	Click on the Done button in the 'Unit Traveling' task editor.	The Move frame editor appears.	
3.5.6200	Click the 'Actions on Contact' button in the Move frame editor.	The Actions on Contact task editor appears.	
3.5.6210	Click on the current value in the 'Not Under Fire, Low Threat Reaction' selection area. Select 'Assault' from the list of offered reactions.	The value for the 'Not Under Fire, Low Threat Reaction' is now 'Assault'.	
3.5.6220	Click the Done button in the 'Actions on Contact' task editor.	The Move(Hold) frame editor appears.	
3.5.6230	Click the Done button in the Move frame editor	The execution matrix editor appears.	
3.5.6240	Click on the Assign button in the execution matrix editor.	The execution matrix editor disappears and the tanks move in the default wedge formation toward the destination point. When the enemy tank is spotted, the platoon vehicles come on line and shoot it. The unit operations editor appears in the Editor Area.	
3.5.6250	Repeat steps 3.5.6100 thru 3.5.6240 on a different portion of the database but set the value in the 'Not Under Fire, Low Threat Reaction' selection area to 'Contact Drill'.	The blue tanks will move in the default wedge formation toward the destination point. When the enemy tank is spotted, the platoon will continue in formation and shoot it.	

3.5.6260	Repeat steps 3.5.6100 thru 3.5.6240 on a different portion of the database but set the value in the 'Not Under Fire, Low Threat Reaction' selection area to 'No Action'.	The blue tanks will move in the default wedge formation toward the destination point. When the enemy tank is spotted, the platoon will continue in formation but will not shoot.	

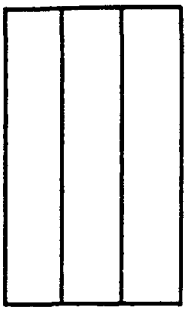
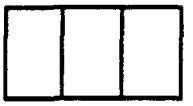
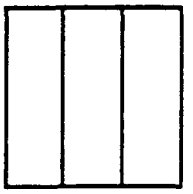
TEST CASE 3.5.6.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
75000	Click on the 'PVD Controls' button in the Editor Area. (If the Editor Area is not displayed, then hit Alt E to display it). Click on the Altitude toggle under 'Map Notations', then click on Done.	The PVD Controls editor now has its Altitude display toggle set to On in the Map Notations selection area. this means that a vehicle will have its altitude displayed along with its vehicle picture in the map.			
75010	Create an AH-64 helicopter.	A blue helicopter icon appears on the map.			
75020	Click on the blue AH-64 helicopter in the map.	The Unit Operations editor appears.			
75030	Click on the 'Unit tasking' button in the Unit Operations editor.	The Execution Matrix editor appears			
75040	Click on the 'Select task frame' button.	The Task Frames editor appears.			
75050	Click on the 'Sweep' button in the Task Frames editor.	The Follow Route task editor appear			
75060	Click on the map to designate a point for the plane to fly to, then click on the 'Done' button.	The Bingo Fuel task editor appears.			
75070	Click on the map for a refuel point that is a few KMs from the route point, then click on the 'Done' button.	The Sweep frame editor appears.			
75080	Click on the 'Done' button.	The Execution Matrix editor appears.			

75090	Click on the 'Assign' button.	The helicopter will fly to the designated point and hover around the end of the route. The altitude number next to the plane will indicate whether the plane is on the ground or in the air. The Unit Operations editor appears.	
75100	In the Unit Operations editor, click on the 'Edit' button.	The Unit editor will appear.	
75110	Change the fuel amount to 50 gallons, then click on 'Done'.	The helicopter will fly toward the refuel point, and land there before it runs out of fuel. The plane will be refueled at this point.	

TEST CASE 3.5.6.3

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
75000	Click on the 'PVD Controls' button in the Editor Area. (If the Editor Area is not displayed, then hit Alt E to display it). Click on the Altitude toggle under 'Map Notations', then click on Done.	The PVD Controls editor now has its Altitude display toggle set to On in the Map Notations selection area. This means that a vehicle will have its altitude displayed along with its vehicle picture in the map.			
75010	Create a friendly F14D plane.	A blue F14D plane appears on the map.			
75020	Click on the blue F14D plane	The Unit Operations editor appears.			
75030	Click on the 'Unit tasking' button in the Unit Operations editor.	The Execution Matrix editor appears			
75040	Click on the 'Select task frame' button.	The Task Frames editor appears.			
75050	Click on the 'Sweep' button in the Task Frames editor.	The Follow Route task editor appear			
75060	Click on the map to designate a point for the plane to fly to, then click on the 'Done' button.	The Bingo Fuel task editor appears.			
75070	Click on the map for a refuel point that is a few KMs from the route point, then click on the 'Done' button.	The Sweep frame editor appears.			
75080	Click on the 'Done' button.	The Execution Matrix editor appears.			

75090	Click on the 'Assign' button.	The plane will fly to the designated point and orbit around the end of the route. The altitude number next to the plane will indicate whether the plane is on the ground or in the air. The Unit Operations editor appears.	
75100	In the Unit Operations editor, click on the 'Edit' button.	The Unit editor will appear.	
75110	Change the fuel amount to 50 gallons, then click on 'Done'.	The plane will fly toward the refuel point, and land there before it runs out of fuel. The plane will be refueled at this point.	

TEST CASE 3.6

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
3.6.0000	At the command line interface prompt (which should read 'Modsaf @ <host>, where <host> is the name of the workstation), type '?'.	A list of commands appears.			
3.6.0010	Type one of the commands that appears on the list and press <return>.	A description of the next required parameter appears.			
3.6.0020	Type each parameter, followed by a <return>, until all parameters have been entered. For a list of possible options for a given parameter, type '?'.	Observe the effects of the command on the simulator.			
3.6.0030	For example, using the GUI, put an M1 Platoon on the map. Use the 'Info' icon in the button column to obtain the vehicle ID for one of the tanks (the 4-digit number). Type 'vehicle <vid> query', where <vid> is the vehicle ID.	Information on the vehicle is displayed.			

TEST CASE 3.7

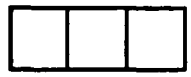
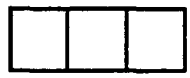
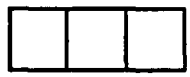
STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Refer to the following tests: 5.3 Parameter Database Interfaces, 5.3.1 - Organizational Parameters, 5.3.2 - Entity Parameters, 5.3.3 - Weapon Parameters, 5.3.4 - Behavioral Parameters, 5.3.5 - User Interface Parameters, 5.3.6 - Sensor Parameters, and 5.3.7 - Exercise Parameters.	These tests refer to the parameter database.			
1010	Refer to Test 5.1 - DIS Database Interface.	This test refers to the simulation (DIS) database.			
1020	Refer to the following tests: 5.2.1 Command and Control, and 5.2.2 - Command and Control Overlays.	These tests refer to the PO database.			
1030	Refer to the following tests: 5.4 Terrain Database Interface, and 5.4.1 - Terrain Data.	These tests refer to the terrain database.			

TEST CASE 4.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
4.1.0010	On an X workstation, running Motif, start up the logger by entering: "logger".	Observe that the data logger provides a graphical user interface running X/Window and Motif and that all the data logger functionality is available from here.			

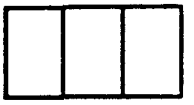
TEST CASE 4.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
4.2.0010	Start Logger with vehicles on network. Use the switch, -terrain knox-0311. when you start the Logger since its default terrain is Hunter-Liggett.				
4.2.0020	Open new file (New Log).	File is opened for recording.			
4.2.0030	Select one or more of: Simulation, Data Collection, Persistent Object, DIS.	Selected protocol(s) will be recorded.			
4.2.0040	Specify appropriate exercise ID (Exercise)	Logger will record specified exercise ID.			
4.2.0050	Specify File Start Date (YYMMDD) and File Start Time (HHMM).	This time is useful during playback for seek and loop play operations.			
4.2.0060	Start recording (Record)	Logger records PDUs.			
4.0.0070	Observe displays for packet rate (PPS), entity count (Vehicles), logger data size (Data Size), and elapsed exercise time (Elapsed Time).	Statistics are updated in real time.			
4.2.0080	Select Auto Shut Off	Button is highlighted.			
4.2.0090	Enter Date (YYMMDD) and Time (HHMM) for a time in the near future.				
4.2.0100	Observe that Logger automatically stops recording when the specified time is reached.	Logger stops recording.			
4.2.0110	Open new file (New Log).	File is opened for recording.			
4.2.0120	Specify appropriate exercise ID (Exercise).				

4.2.0130	Start recording (Record).		
4.2.0140	Select Studio Mode (Studio).	New Logger interface appears.	
4.2.0150	Open second file (New Log).		
4.2.0160	Start simultaneous recording to second file.	Logger records to two files at same time.	
4.2.0170	Stop recording for each Logger (Stop).		
4.2.0180	Start playback on one Logger.	Logger is playing back one file.	
4.2.0190	Open new file on other Logger (New Log).		
4.2.0200	Start recording on other Logger.	Logger records played back data.	
4.2.0210	Stop recording for this Logger (Stop).		
4.2.0211	Open two different log files and play them.	Both log files are played back simultaneously.	

TEST CASE 4.3

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	SA	U
4.3.0010	Must have access to Stealth and PVD.				
4.3.0020	Start Logger				
4.3.0030	Open (Open Log) a previously recorded file that recorded SIMNET packets.				
4.3.0040	Select one or more of: Simulation, Data Collection, Persistent Object, DIS.	Selected protocol(s) will be played back.			
4.3.0050	Start playback (Playback).	Observe action on Stealth.			
4.3.0060	Observe displays for packet rate (PPS), entity count (Vehicles), entity tick rate (Tick Rate), elapsed exercise time (Elapsed Time), and remaining exercise time (Remaining Time).	Statistics are updated in real time.			
4.3.0070	Change exercise ID (Exercise). Quit and restart 'modsaf' with only the gui and no simulation (-nosim) and with the new exercise ID.	Observe that the action is now being played back on the new exercise ID.			
4.3.0080	Vary playback speed (Speed slider) from .1x to 50x.	Observe on Stealth that vehicles still move smoothly.			
4.3.0090	Click 'Stop' and select remap site/host.	Observe on PVD that vehicle IDs are changed. (You can see the vehicle IDs by using the information button in the button column).			
4.3.0100	Pause playback (Pause).	Observe on Stealth that vehicles don't time out.			
4.3.0110	Stop playback (Stop).				

4.3.0120	Start looping playback (Loop)		
4.3.0130	Adjust Start and End sliders (Loop Play Controls).	Observe that playback loops over specified range.	
4.3.0140	Stop playback (Stop).		

TEST CASE 4.4

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
4.4.0010	Must have access to Safstation				
4.4.0020	Start Logger.				
4.4.0030	Open a previously recorded file (Open Log)				
4.4.0040	Set Time slider to time that scenario file is desired.				
4.4.0050	Start playback (Playback).				
4.4.0060	Make scenario file (Save Scenario)	Note battlefield situation.			
4.4.0070	Stop playback (Stop)				
4.4.0080	Load scenario to ModSAF	Observe that restored scenario duplicates battlefield situation.			

TEST CASE 5.3

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/data'. This directory acts as a repository for data files defined in ModSAF libraries. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr', '.xrdb', or '.map'.			
1010	Go to the directory 'common/src/ModSAF/entities'. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			

TEST CASE 5.3.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/data' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameters file in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the parameter file named 'formdb.rdr'.	The file named 'formdb.rdr' holds the parameters for the formations used by the SAF units.			
1020	Use the Unix 'more' command to view the file named 'echelondb.rdr'.	The file named 'echelondb.rdr' holds the parameters for the echelons used by the SAF units.			

TEST CASE 5.3.2

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the standard entity parameters file named 'standard_params.rdr'.	The file named 'standard_params.rdr' holds the standard entity parameters. These values apply unless a different set of values is specified in a specific entity file.			
1020	Use the Unix 'more' command to view the specific entity files. The name for a specific entity file has the format: '<country>_<vehicle type>_ params.rdr'. An example is the file named 'US_M1_params.rdr' which holds the parameters specific to an M1 tank entity.	The parameters in the specific entity parameter file plus the parameters in the standard parameter file specify the characteristics of the entity and define the component physical models for each vehicle type.			

TEST CASE 5.3.3

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the standard entity parameters file named 'standard_params.rdr'.	The file named 'standard_params.rdr' holds the standard entity parameters. These values apply unless a different set of values is specified in a specific entity file.			
1020	Use the Unix 'more' command to view the specific weapon files. The name for a specific weapon file has the format: '<country>_<weapon type>_ params.rdr'. An example is the file named 'US_TOW_params.rdr' which holds the parameters specific to a TOW missile.	The parameters in the specific weapon parameter file plus the parameters in the standard parameter file specify the characteristics of the weapon.			

TEST CASE 5.3.4

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the parameter file named 'taskframes.rdr'.	The file named 'taskframes.rdr' lists the assignable frames and shows initialization parameters of the frame's tasks.			
1020	Use the Unix 'more' command to view the standard parameter file named 'standard-params.rdr'.	The vehicle task parameters and the unit task parameters shown in the standard parameter file specify parameters for various behavioral tasks.			
1030	Use the Unix 'more' command to view the specific vehicle type parameter files and the specific weapon type parameter files.	The vehicle task parameters shown in the specific parameter files specify parameters for various behavioral tasks, such as the vehicle spotter task (SM_VSpotter parameters) and the vehicle search task (SM_VSearch parameters).			

TEST CASE 5.3.5

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/data'. This directory acts as a repository for data files defined in ModSAF libraries. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr', '.xrdb', or '.map'.			
1010	Go to the directory 'common/src/ModSAF'. Look at the files in this directory with the Unix 'more' command.	The parameter files in this directory with an extension of '.rdr' are used by the SAFstation and the SAFsim at run time. The parameter files in this directory with an extension of '.xrdb' are X windows resource definition database files. The files are incorporated into the X Server resource Database at, or just prior to, run time. The data files in this directory with an extension of 'map' are binary format files used by 'libhm'.			

TEST CASE 5.3.6

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'common/src/ModSAF' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The parameter files in this directory have an extension of '.rdr'.			
1010	Use the Unix 'more' command to view the standard entity parameters file named 'standard_params.rdr'.	The file named 'standard_params.rdr' holds the standard entity parameters. These values apply unless a different set of values is specified in a specific entity file.			
1020	Use the Unix 'more' command to view the specific entity files. The name for a specific entity file has the format: '<country>_<vehicle type>_ params.rdr'. An example is the file named 'US_F14D_params.rdr' which holds the parameters specific to an F14D airplane.	The parameters in the specific entity parameter file plus the parameters in the standard parameter file specify the characteristics of the entity including the parameters of its sensor system(s).			

TEST CASE 5.3.7

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Go to the directory 'etc' with the Unix 'cd' command. List the files in this directory with the Unix 'ls' command.	The file named 'assoc.def' should be in this directory.			
1010	Use the Unix 'more' command to view the file named 'assoc.def'.	The file named 'assoc.def' should hold site/host information.			

TEST CASE 5.4

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Refer to the following tests: 2.2.2.1 - Features, 2.2.3.2 Cross-Section Tool, 2.2.3.3 - Intervisibility, 2.2.3.4 Terrain Query Tool, 2.2.3.5 Coordinate Calculator, and 5.4.1 Terrain Data.	These tests support the following queries; intervisibility, cross-section, elevation, soil type, coordinate conversion, and terrain features.			
1010	Create a platoon near some water and then assign it a Move frame to a point that is on the other side of the water.	The platoon should cross the water by going around it, or by way of a bridge or fordable water.			
1020	Click the Line button in the Button Column. Create a road route by clicking the "Use Roads" toggle to ON in the Line editor and by selected vertices that are on non-adjacent road segments.	Notice that ModSAF makes use of the road network to create a road route that contains the two vertices plus all the road segments that are between them.			
1030	Assign the platoon a Move frame to a point in hilly terrain and edit the Move task so that the toggle for the "Conform to Terrain" parameter is set to ON.	Use the Stealth to watch the platoon move. Notice that the platoon drives in a valley whenever possible.			

TEST CASE 5.4.1

STEP	OPERATOR/SYSTEM ACTION	EXPECTED RESULT	STATUS S	STATUS SA	STATUS U
1000	Click on the green information icon that is on the lower left side of the screen.	This information mode gives the user information about a specified point on the terrain, or information about a vehicle.			
1010	Click and hold down with the middle button on the map somewhere.	The information line at the bottom of the screen displays the grade, soil type, center, and altitude about a particular point on the map.			
1020	Click on various places on the map, such as rivers, roads, and hills.	Notice the different grades, soil types, centers, and altitude at various locations.			